Cole Hersee Co.

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Manufacturers of DC electrical and electronic switches and connectors for the vehicle industry

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T 617.268.2100 F 617.268.9490 www.colehersee.com

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rocker switches

A1 WEATHER-RESISTANT ROCKER SWITCHES

Sealed Switches with Pilot Lights

25A at 12V DC. LED or incandescent. These general purpose switches are suitable for many kinds of applications. They are weather-resistant with contact areas sealed to IP66 (high pressure wash resistant). Switches snap into standard rocker switch holes 1.45" x 0.08" (36.8 x 21.1mm) in panels from 0.09" to 0.19" thick (2.4 x 4.7mm). Pilot lights are independent or dependent, as noted. They have silver contacts, which give superior switching performance. Housing is matte black.

Wiring your switch: *There are up to 6 terminals on this switch series. Identify each type of switch by matching it with the appropriate wiring diagram in each section. Diagrams represent the switch as seen from the back. Dotted lines indicate the internal connections of the pilot light(s).*

LED Wide Lens 58312 Series

These have bright LED illumination with high-visibility wrap-around lenses. Corrosion-resisitant nickel-plated brass blade terminals provide good electrical contact. For switches without pilot lights see 58311 series on page 3.

NEW LED

Dependent/Independent

Dependent pilot light is On when the switch is actuated and the load is energized. Independent pilot is turned On by an external switch, with load either On or Off.

Regular Lens 58328 Series

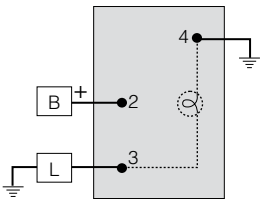
These have incandescent illumination and brass blade terminals. The BP kits come with a selection of snap-in lenses. For switches without pilot lights see 58027 series on page 3.

Small Lens 56327/58327 Series

These are identical to 58238 series with incandescent bulbs, but they have one or two small circular lenses. 56327 series has brass screw terminals, 58327 series has brass blade terminals. For switches without pilot lights see page 3.

SPST On-Off, Dependent

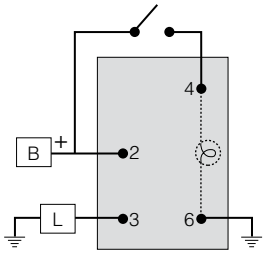
Single Pole, Single Throw, with dependent illumination. Three blade terminals.



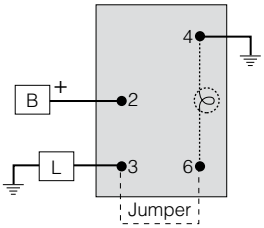
Lens color	LED wide lens	Incandescent
Red	58312-R4	58328-04 56327-01 BP 58327-01 BP
Green	58312-G4	58328-11 ★
Clear	58312-C4	58328-12
Amber	58312-A4	58328-13 ★
One lens of each color	–	58328-100BP BP

SPST On-Off, Independent

Single Pole, Single Throw, with independent illumination. Four blade terminals. To convert an independent switch to dependent, connect a jumper wire between terminals 3 and 6, and ground terminal 4 as shown.



Independent

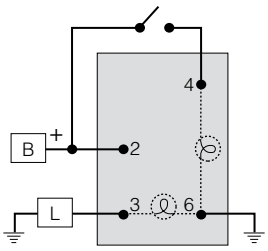


Independent converted with jumper wire to dependent

Lens color	LED wide lens	Incandescent
Red	58312-R2	58328-01
Green	58312-G2	58328-02
Amber	–	56328-10
One lens of each color	–	58328-101BP BP

SPST On-Off, Two Pilots, Dependent and Independent

Single Pole, Single Throw. Four blade terminals.

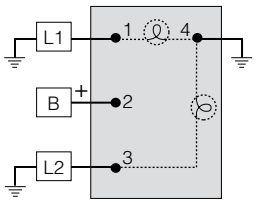


Lens color	LED wide lens	Incandescent
Red Red	–	58328-40
Green Amber	–	58328-47
Red Green	–	58328-49
Lenses of each color	–	58328-104BP BP

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

SPDT On-On, Two Pilots, Dependent

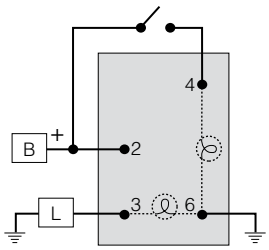
Single Pole, Double Throw. Both pilots are dependent illumination. Four blade terminals.



Lens color	LED wide lens	Incandescent
Green Green	–	58328-08
Red Red	58312-RR2	58328-16, 58327-06
Red Green	–	56328-22
Lenses of each color	–	58328-102BP BP

SPDT On-Off-On, Two Pilots, Dependent and Independent

Four blade terminals.



Lens color	LED wide lens	Incandescent
Red Clear	–	58328-06
Green Green	–	58328-25
Red Red	58312-RR	58328-26, 58327-06
Amber Green	–	58328-33
Amber Red	58312-AR	58328-35
Red Green	–	56328-36
One lens of each color & size	–	58328-103BP BP

Sealed Switches without Pilots

25A at 12V DC, 15A at 24V DC. General specifications are the same as for the preceding 'Sealed Switches with Pilot Lights'. Sealed to IP66 for water resistance. (high pressure wash.)

58311 Series

These match the 'LED Wide Lens 58312 Series' on page 1. Nickel-plated brass blade terminals.

58027 Series

These match the 'Regular Lens 58328 Series' on page 2. Brass blade terminals.

56327/58327 Series

These match the 'Small Lens 58328 Series' on page 2. 56 Series has brass screw terminals, 58 Series has brass blade terminals.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

SPST On-Off

Single Pole, Single Throw. Two Terminals.

56027-01 On-Off BP ★

58027-01 On-Off ★

58311-01 On-Off

58027-02 Mom On-Off BP ★

58311-02 Mom On-Off

SPDT On-Off-On

Single Pole, Double Throw. Three Terminals.

58027-03 On-Off-On BP ★

58311-03 On-Off-On

58027-04 Mom On-Off-Mom On BP ★

58311-04 Mom On-Off-Mom On

DPST On-Off

Double Pole, Single Throw. Four Termninals.

58027-06 On-Off

58311-06 On-Off

DPDT Ignition-Start

Double Pole, Double Throw. Four Terminals.

58022-03 Mom On-On-Mom Off
Suitable for use as an ignition switch. Blade terminals. Differs from 58327 series by having a glossy black finish.

58311-13* **Mom On-On-Off**

58311-11 On-Off-On

DPDT On-On and On-Off-On

Double Pole, Double Throw. Six Terminals.

58027-08 On-On

58311-08 On-On

58027-07 On-Off-On BP ★

58311-07 On-Off-On

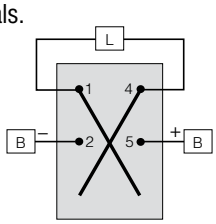
58027-11 Mom On-Off-Mom On

DPDT Forward & Reverse

Double Pole, Double Throw. Four Terminals.

58027-18
Mom On-Off-Mom On

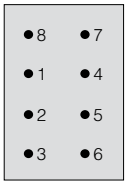
58311-18
Mom On-Off-Mom On



Sealed 58031 & 58332 Series

20A at 12V, 15A at 24V DC. Switches with LED pilot lights must be used at the stated voltage only. M-58031 switches have a black actuator; 58332 switches are supplied in retail BP only and are supplied with one black and one gray snap-on actuator.These general-purpose switches are suitable for all kinds of applications. They are weather-resistant with contact areas sealed to IP66 (high pressure wash-resistant). Switches are uniform with Round Pilot Light series of switches and are recognized at UL 1500 (Ignition protection for marine products). With neoprene gasket/panel seal. These switches conveniently snap into a standard rectangular mounting hole 1.48" x 0.83" (36.8 x 21.1mm) in panels from 0.09" to 0.19" thick (2.4 x 4.7mm). Plastic housing, bezel and actuator. Silver contacts, Brass blade terminals. Imprinting available.

Wiring your switch: There are up to 8 terminals on this series of switches. Identify each type of switch by matching it with the appropriate wiring diagram in each section. Diagrams represent the switch as seen from the back.



SPST

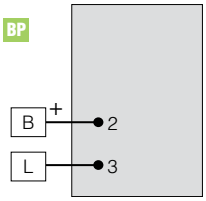
Single Pole, Single Throw. Two Blade Terminals.

M-58031-01 SPST On-Off BP

M-58031-07BP SPST Mom On-Off BP

58332-20BP SPST Mom On-Off BP

M-58031-07 BP and 58332-20 BP are available in BP only.

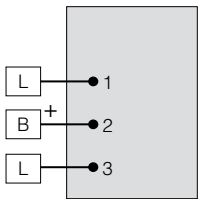


SPST On-Off

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

SPDT

Single Pole, Double Throw.
Three Blade Terminals.



SPDT On-Off-On

M-58031-02BP SPDT On-Off-On BP

58332-21BP SPDT On-Off-On Amber, 24V BP
Two amber LED pilot lights.

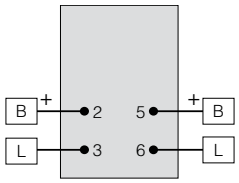
58332-22BP SPDT Mom On-Off-Mom On BP

58332-23BP SPDT On-Off-Mom On, Amber, 24V BP
One amber LED pilot light. Recommended for use with 48513 Compact Low Voltage Disconnect. See page 98.

58332-24BP SPDT Mom On-Off-Mom On BP
Mom On 2&3-Off-Mom On 1&2.

DPST

Double Pole, Single Throw.
Four Blade Terminals.



DPST On-Off

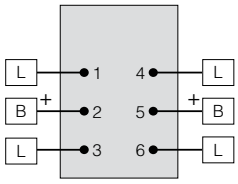
M-58031-04BP DPST On-Off BP

58332-28BP DPST Mom On-Off BP

58332-29BP DPST On-Off, Amber 24V BP
One amber pilot light.

DPDT

Double Pole, Double Throw.
Six Blade Terminals.



DPDT On-On or On-Off-On

M-58031-05 DPDT On-Off-On

M-58031-06 DPDT On-On

M-58031-09 DPDT Mom On-Off-Mom On

58332-25BP DPDT On-Off-Mom On, Amber 24V BP
One amber LED pilot light. Pilot connects internally between terminals 4 & 6.

58332-26BP DPDT On-Off-On, Amber 24V BP
Two amber LED pilot lights. Pilot 1 connects internally between terminals 3 & 7, Pilot 2 between 1 & 7.

58332-27BP DPDT Mom On-Off-Mom On BP

8-Terminal Switches

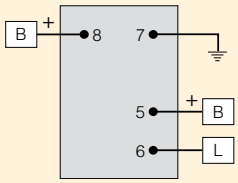
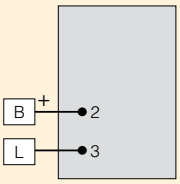


Diagram L



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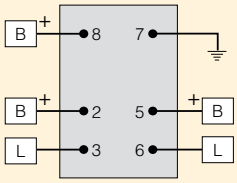
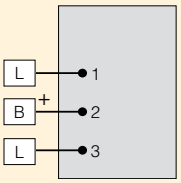


Diagram M



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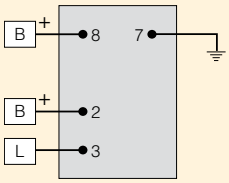
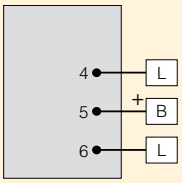


Diagram N



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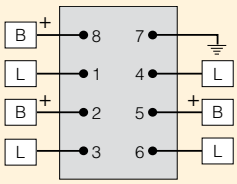


Diagram O

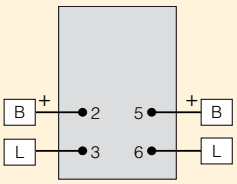


Diagram T

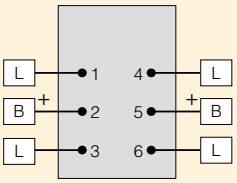


Diagram P

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

58500 Milliamp Rocker Switches

Compatible with microprocessor-based electrical/electronic systems, the Milliamp Rocker switch is a low-current membrane switch with a user-friendly conventional rocker switch feel. Complete with reliable LED backlighting. Water-resistant switch is suitable for marine, off-highway or adverse conditions.

Readily customizable silicone rubber actuator can be customized by Cole Hersee at low cost, utilizing laser etching. Options include different colors, custom imprint and graphics and shape, color and location of LED lens.

NEW

Specifications:

Accepts a standard Molex connector or pin x 0.025" square pin x 0.100" centers connector.

LED power source: 5V DC.

Maximum contract rating: 30mA at 24V DC.

Operating temperature range: -40° C to 85°C

Designed to meet SAE J1455 environmental standard.

Fits standard panel opening: 1.734" x 0.867" (44.0 x 22.0mm), and panel thickness of 0.032" to 0.187" (0.80 to 4.75mm).

40205 Milliamp Switch with Alarm

Uniform with the Milliamp Switch 58500, the Alarm Switch features a highly audible warning signal all contained in a standard rocker switch package. Momentary switch provides a convenient user interface:

Alarm condition override (snooze feature).
Remote input to system controller (ECU).
Remote maintenance reset switch.

The alarm switch can indicate status of various inputs such as door ajar, high/low pressure, high/low temperature, on-off status, and many other applications, as well as providing alarm and override for the Cole Hersee SureStart™ Low Voltage Disconnect Switches 48510 and 48512.

NEW

Specifications:

Same as 58500 Milliamp Rocker, except-

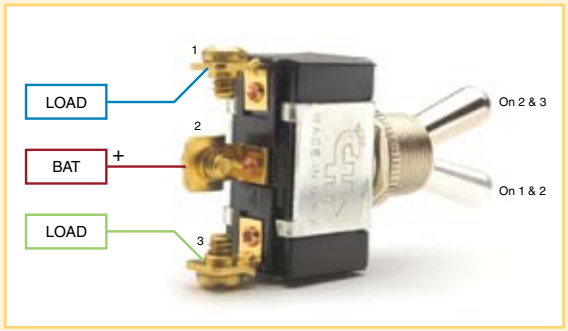
Wire Leads: GXL wire, 18AWG (0.80mm sq) x 6" long (152.4mm).

LED power source: 5V or 12 V DC.

Alarm power source: 12V DC.

SPST, DPDT?

Understand what these electrical descriptions mean.
See page 28.



Saves Batteries

NEW

No more dead batteries! Low Voltage Disconnect Switches automatically disconnect non-critical loads when battery voltage is low; automatically reconnect when battery is being charged. See page 98.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

25A at 12V DC. Moisture-resistant plastic housings, bezels and actuators. Glossy finish actuators and bezels except where noted. Snap-in mounting to fit panels .060" through .250" (1.5mm to 6.4mm). Silver contacts, brass blade or screw terminals. White actuators except where otherwise indicated. Fits standard panel hole .83" x 1.45" (21.1 x 36.8mm).

SPST

56000-08 On-Off
Two screw terminals. Diagram A.

57000-23 On-Off
Two blade terminals. Diagram A.

56001-04 Mom On-Off
Two screw terminals. Diagram A.

56300-14 On-Off, With Pilot
Three screw-terminals. Red pilot light inside the actuator. Pilot is rated for 12V DC. Diagram A except ground is terminal 6.

57300-22 On-Off, With Pilot
Three blade terminals. Red pilot light inside the actuator. Pilot is rated for 12V DC. Diagram A except ground is terminal 6.

57000-33 On-Off, Red Actuator
Typically used for a safety switch.
Two blade terminals. Diagram A.

57001-15 Mom On-Off
Two blade terminals. Diagram A.

58034-07 On-Off, Yellow Actuator
State of Florida requirement for school buses.
Two blade terminals. Matte Finish. Diagram A.

SPDT

56003-03 On-Off-On
Three screw terminals. Diagram B.

57003-16 On-Off On
Three blade terminals. Diagram B.

56012-04 Mom On-Off- Mom On
Three screw terminals. Diagram B.

57004-10 Mom On-Off- Mom On
Three blade terminals. Diagram B.

DPST

56009-03 On-Off
Four screw terminals. Diagram C.

DPDT

56006-04 On-Off- Mom On
Six screw terminals. Diagram D.

56013-03 Mom On-Off- Mom On
Six screw terminals. Diagram D.

57005-11 On-On
Six blade terminals. Diagram D.

57006-07 On-Off-On
Six blade terminals. Diagram D.

57008-08 Off-On-On
Headlamp switch. Five blade terminals. Diagram B.

57013-08 Mom-On-Off-Mom On
Six blade terminals. Diagram D.

57014-03 Mom On-Off-Mom On
Four blade terminals. Sealed. Reversing switch.
See diagram below.

Reversing Polarity Switches

For changing the direction of permanent magnet motors.

Sealed Rocker Switches (Section A)

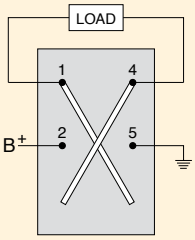
57014-03	Mom On - Off - Mom On
58027-18	Mom On - Off - Mom On

Toggle Switches (Section B)

55018-01	On-On
55046	Mom On - Off - Mom On
55046-06	Mom On - Off - Mom On

Rotary Switches (Section D)

90005-03	Mom On - Off - Mom On
90005-01	Mom On - Off - Mom On. Keyed

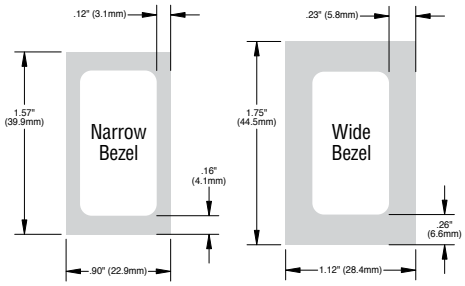


★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

Single and Double Pole. Universal application. Bright nickel plate or black bezel, narrow or wide. Plastic housing and actuator. Snap-in to fit panels 040" through .100: (1.0 to 2.5mm). Screw or blade terminals. 25A at 12V DC. Circuit diagrams, see page 13.

White actuator, bright bezel

Black actuator, black bezel



SPST

Narrow Bezel

56000-01 On-Off
White actuator, bright bezel. Up: On, Down: Off, two screw terminals.

56000-04 On-Off
Black actuator, bright bezel. Up: On, Down: Off, two screw terminals.

57000-01 On-Off
White actuator, bright bezel. Up: On, Down: Off, two blade terminals.

57000-04 On-Off
Black actuator, black bezel, Up: On, Down: Off, two blade terminals.

57000-10 On-Off, Imprinted
Black actuator, black bezel, Up: On, Down: Off, two blade terminals. imprinted “On, Off”

56001-01 Mom On -Off
White actuator, bright bezel. Up: Mom On, Down: Off, two screw terminals.

57001-01 Mom On -Off
White actuator, bright bezel. Up: Mom On, Down: Off, two blade terminals.

57001-04 Mom On -Off
Black actuator, black bezel, Up: Mom On, Down: Off, two blade terminals.

57001-09 Mom On – Off, Imprinted
White actuator, black bezel. Up: Mom On, Down: Off, two blade terminals. Imprinted ‘On, Off’

Wide Bezel

56000-02 On-Off
White actuator, bright bezel. Up: On, Down: Off, two screw terminals.

57000-02 On-Off
White actuator, bright bezel. Up: On, Down: Off, two blade terminals.

SPST with Pilot Light

Narrow Bezel

Wide Bezel

Narrow Bezel

56300-01 On-Off
White actuator, bright bezel. Red dependent pilot light. Up: On, Down: Off, three screw terminals. Diagram F.

56300-11 On-Off
White actuator, bright bezel. Amber dependent pilot light. Up: On, Down: Off, three screw terminals. Diagram F.

57300-01 On-Off
White actuator, bright bezel. Red dependent pilot light. Up: On, Down: Off, three blade terminals. Diagram F.

57300-03 On-Off
Black actuator, bright bezel. Red dependent pilot light. Up: On, Down: Off, three blade terminals. Diagram F.

57300-11 On-Off, Imprinted
White actuator, black bezel. Red dependent pilot light. Up: On, Down: Off, four blade terminals. Imprinted “On, Off”. Diagram G1.

Wide Bezel

56300-02 On-Off
White actuator, bright bezel. Red independent pilot light. Up: On, Down: Off, three screw terminals. Diagram F.

56300-08 On-Off
White actuator, bright bezel. Green dependent pilot light. Up: On, Down: Off, three screw terminals. Diagram F.

★ Rapid ship item. BP Available in retail clamshell pack. ✶ Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.

56300-09 On-Off
White actuator, bright bezel. Amber dependent pilot light. Up: On, Down: Off, three screw terminals. Diagram F.

57300-02 On-Off
White actuator, bright bezel. Red dependent pilot light. Up: On, Down: Off, three blade terminals. Diagram F.

57300-10 On-Off
Black actuator, bright bezel. Red dependent pilot light. Up: On, Down: Off, three blade terminals. Diagram F.

SPDT

Narrow Bezel

56002-01 On-On
White actuator, bright bezel. Up: On, Down: On, three screw terminals. Diagram B.

56003-01 On-Off-On
White actuator, bright bezel. Up: On, Center: Off, Down: On, three screw terminals. Diagram B.

57003-01 On-Off-On
White actuator, bright bezel. Up: On, Center: Off, Down: On, three blade terminals. Diagram B.

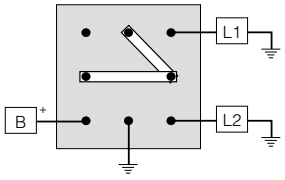
57003-08 On-Off-On, Imprinted
Black actuator, black bezel. Up: On, Center: Off, Down: On, three blade terminals. Imprinted “Hi, Off, Lo.” Diagram B.

57007-01 On-On-Off
White actuator, bright bezel. Up: On, Center: On, Down: Off, three blade terminals. Diagram B.

57007-08 On-On-Off
Black actuator, black bezel. Up: On, Center: On, Down: Off, three blade terminals. Diagram B.

57007-11 On-On-Off, Imprinted
Black actuator, black bezel. Up: On, Center: On, Down: Off, three blade terminals. Imprinted “Off, Lo, High.” Diagram B.

57007-07 On-On-Off
Black actuator, bright nickel narrow bezel. Red dependent pilot light. Up: On, Center: On, Down: Off, four screw terminals. Diagram B.



DPDT

Narrow Bezel

56006-01 On-Off-On
White actuator, bright bezel. Up: On, Center: Off, Down: On, six screw terminals. Diagram D.

56006-08 On- Off - On, Imprinted
White actuator, black bezel. Up: On 2&3, 5&6, Center: Off, Down: On 1&2, 4&5, six screw terminals. Imprinted “Lights, Park” and with SAE headlight symbol. Diagram D.

57006-01 On-Off-On
White actuator, bright bezel. Up: On, Center: Off, Down: On, six blade terminals. Diagram D.

58007-04 On-On-On
Black actuator, black bezel. Up: B-F, Center: B-F, Down: B-A, four blade terminals.

58007-07 On-On-Off, Imprinted
White actuator, black bezel. Four blade terminals. Imprinted “Hi-Lo-Off”. Up: B-H, Center: B-L, Down: B-P.

Wide Bezel

56006-02 On-Off-On
White actuator, bright bezel. Up: On, Center: Off, Down: On, six screw terminals. Diagram D.

57006-02 On-Off-On
White actuator, bright bezel. Up: On, Center: Off, Down: On, six blade terminals. DPDT. Diagram D.

Special Use

Rocker switches in this group have special applications. All fit into a standard mounting hole.

Day signaling switches
56000-01, 56000-02, 57001-01, 57001-02, 57001-04

Two-speed field wound motor
56006-08

Two-speed heater
57001-07, 57007-02

Two-speed heater/defroster
57001-01

Two-speed windshield wiper
57007-07 Use with permanent magnet motor, without dynamic parking.

Headlight
57008-10

Ignition/Start
58022-03

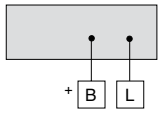
A5 NARROW BODY SWITCHES, 10A

Two SP switches in one body. Universal application switches. Snap-in mounting. Phenolic housing and plastic actuator. Circuit diagrams, see page 13.

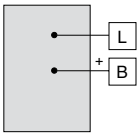
Angled Actuators

To fit panels .020" through .250" (.5mm to 6.4mm).

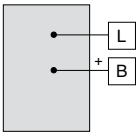
54000-03* SPST On-Off, Horizontal Mount
Black actuator, Left: On,
Right: Off, imprinted "On, Off".
Two blade terminals.



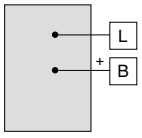
54001-02* SPDT On-Off-On
White actuator, Up: On, Center: Off, Down: On.
Three blade terminals.



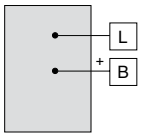
54003 SPST On-Off, Lighted Red
Red lighted actuator, Up: On, Down: Off. Three blade terminals.



54003-01 SPST On-Off, Lighted Amber
Amber lighted actuator, Up: On,
Down: Off, Three blade terminals.



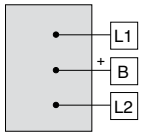
54004* SPST Off- Mom On
White actuator, Up: On, Down: Off.
Two blade terminals.



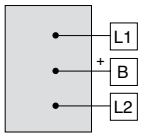
Curved Actuators

Curved matte finish actuator. Fits panels .025" through .200" (.64 to 5.2mm). Three blade terminals.

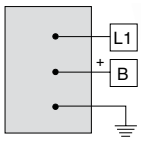
54007* SPDT On-On Two Color Actuator
Rocker with black face, red edge that shows in the On position.
Can also be used as an On-Off by isolating terminal 3.



54010 SPDT On-On
Black rocker. Can also be used as an On-Off by ignoring and isolating terminal 1 or 3.



54012 SPST Off-On Red Lighted
Red rocker, lighted in On position.
Three blade terminals.



rocker switches

A6 BRACKET-MOUNTING SWITCHES, 25A

SPST On-Off switches with red dependent pilot light. Designed for use with customized faceplates. Heavy duty, 25A at 12V DC. Plated steel brackets fit panels .040" through .100" (1.0 to 2.5mm) thick. Bracket mounting holes are bossed and tapped to take 6-32 UNC-2A mounting screws or to clear .16" (4.1mm) diameter screws. Silver contacts, screw or blade terminals. White actuator. Diagram F.

56300 SPST Three Screw Terminals

57300 SPST Three Blade Terminals

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

Two SP switches in one body. Universal application switches. Snap-in mounting. Phenolic housing and plastic actuator. Circuit diagrams, see page 13.

Narrow Body, 25A

25A at 12V DC. Switch snaps into panel hole 1.45" x .83" (36.8 x 21.1mm), and fits panels .040" through .100" thick (1.0mm to 2.5mm).

Silver contacts, brass blade terminals. Black or white actuators, imprinted in contrasting black or white. Black narrow steel bezel 1.57" x .90" (39.0mm x 22.9mm) except where noted.

SPST

58506-08 On-Off/Mom On-Off
Left switch, black: On-Off, imprinted “On, Off”
Right switch, white : Mom On – Off, imprinted “On, Off”.
Four terminals.

58506-09 Hi-Lo/On-Off
Left switch: white actuator imprinted “Hi, Lo”. Right switch: black actuator imprinted “On, Off”. Three terminals. The On-Off switch controls power to the Hi-Lo switch.

58506-11 On-Off/On-Off
Left switch: On-Off, imprinted “On, Off”
Right switch: On-Off, imprinted “On, Off”
Black actuators with white imprints. Four terminals.

SPDT

58506-07 Hi-Off-Lo/Hi-Off-Lo
Left switch: On-Off-On, imprinted “Hi, Off, Lo”
Right switch: On-Off-On, imprinted “Hi, Off, Lo”
Black actuators with white imprints. Six terminals.

58506-15 Hi-Lo-Off/Hi-Lo-Off
Left switch: On-On-Off, imprinted “Hi, Lo, Off”
Right switch: On-On-Off, imprinted “Hi, Lo, Off”
Black actuators with white imprints. Six terminals. Plastic bezel.

Wide-Body, 10A

10A at 12V DC. Pair of switches snaps into panel hole 1.0"W (25.4mm) 1.125"H (28.6mm), and fits panels .030" through .250" thick (.76 to 6.35mm). Actuators are black, white, red or ivory rockers or paddles, with imprint in contrasting black or white. Black plastic bezel. Copper blade terminals.

54201-01 Two Black Rockers, On-Off/On-Off
Left switch: On-Off, imprinted “On, Off”
Right switch: On-Off, imprinted “On, Off”
Four blade terminals.

54202-01 On-Mom Off/Off-Mom On
Left red paddle switch: On-Mom Off, imprinted “Off”
Right ivory paddle switch: Off-Mom On, imprinted “On”
Four blade terminals.

54203-01 On-Off/Mom On-Off
Left black paddle switch: On-Off, imprinted “On, Off”
Right ivory paddle switch: Mom On-Off, imprinted “On”
Four blade terminals.

54204-01 Hi-Off-Lo/Hi-Off-Lo
Left black rocker switch: On1-Off-On2, imprinted “Hi, Lo”
Right black rocker switch: On1-Off-On2, imprinted “Hi, Lo”
Six blade terminals.

54300-01 Red Pilot & Paddle, Mom On-Off
Left: Red independent pilot light
Right ivory paddle switch: Mom On-Off, imprinted “On, Off”
Four blade terminals.

54401-01 One Rocker, Mom On-Off
Left: Black panel
Right black rocker switch: Mom On-Off, imprinted “On”
Two blade terminals.

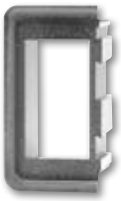
54403-01 One Rocker, On-Off-On
Left: Black panel
Right black rocker switch: On1-Off-On2, imprinted “Hi, Lo”
Three blade terminals.

Rocker Switch Accessories

Bezels for Mounting Switches Side by Side

For snap-in mounting of any regular size switch such as 56027, 58031, 58332, 58311 and 58312 series. Bezels can be arranged in a parallel array of any length. Bezels themselves can snap into a panel, or be mounted with the Bracket Mounting Kit. Height 1.90" (48.3mm). Two units are 2.37"W x 2.30"H (60.2 x 58.4mm). Mounting hole in panel should be 2.02"W x 1.90"H (51.3 x 48.3mm) for two bezels.
Add 1.03"W (26.2mm) for each additional unit.

82159-1 End Bezel BP



82159-2 Center Bezel
Can be ganged, and used with end bezels.

82159-3 Independent Bezel
Fits panel opening 1.9" x 0.98" (48.3 x 25.0mm).

98628 Plug
Snaps in to 82159-1 or 82159-2 or standard rocker switch cutouts.

82159-02BP BP
Contains 2 end bezels, one center bezel, one plug.

Bracket Mounting Kit 87167-01BP BP

87167-01BP BP
For installing an array of switches onto a panel, when through-mounting isn't possible. Use in conjunction with 82159 bezels. Holds from 2 to 6 bezels (not included). Snap-together assembly: no special tools needed. Available only as a retail BP unit, which contains two bracket sections and brass stabilizing rods.

Kit brackets engage with bezels. Brass rods snap into brackets to stabilize the unit.

Assembled kit mounts on top of or under the panel. Mounting holes .710" x .265" (18.0 x 6.7mm).

Build Your Own Switch

Five handy kits cover all the electrical types and pilot light combinations. Each kit comes with a set of snap-in pilot light lenses, so it's easy to make up a switch with the lens color you need.

The five kits are individually retail-packed in clamshell BP units.

58328-100BP On-Off SPST, dependent
With one each Amber, Clear, Green, and Red lens.

58328-101BP On-Off SPST, independent
WIth one each Amber, Clear, Green and Red lens.

58328-102BP On-On SPDT, dependent
With two each Amber, Clear, Green and Red lenses.

58328-103BP On-Off-On, dependent
With one each large Amber, Clear, Green, Red and one each small lenses.

58328-104BP On-Off SPST, one dependent, one independent
With one each large Amber, Clear, Green, Red and one each small lenses.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

SP & DP Switches with 6 Terminal Locations

Diagrams represent both momentary contact or maintained contact switches.

Switches without Pilot Lights

SPST Off-On

Two terminals.

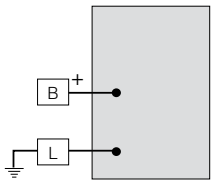


Diagram A

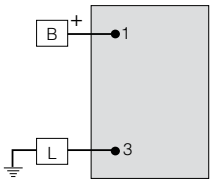


Diagram A1

SPDT On-Off-On

Three terminals.

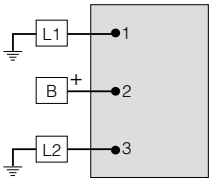


Diagram B

DPST Off-On

Four terminals.

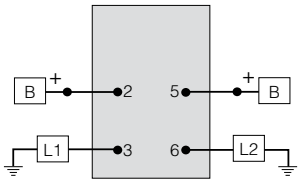


Diagram C

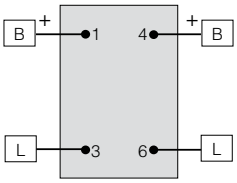


Diagram C1

DPDT On-On

Six terminals.

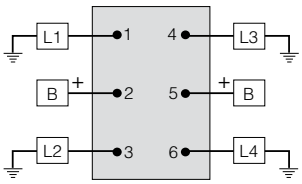


Diagram D

DPDT On-Off-On

Six terminals.

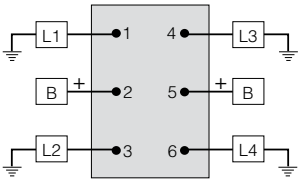


Diagram E

Switches with One Pilot Light

SPST Off-On, Dependent

Dependent illumination.
Three terminals.

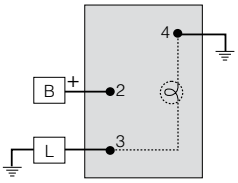


Diagram F

SPST Off-On, Independent

Independent illumination. Four terminals.To convert an independent switch into dependent, connect a jumper wire from terminal 3 to terminal 6, and connect terminal 4 to ground.

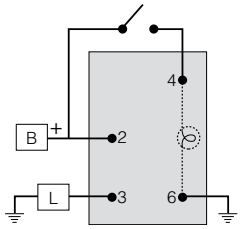


Diagram G1
Independent illumination

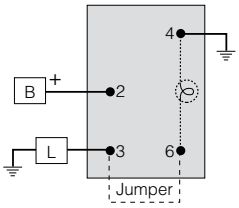


Diagram G2
Independent illumination
switch converted to dependent

Switches with Two Pilot Lights

SPST Off-On, Dependent & Independent

Four terminals.

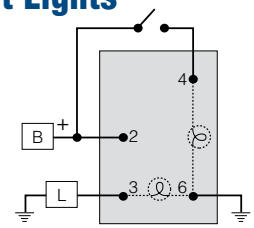


Diagram H

SPDT On-Off-On, or On-On, Dependent

Four terminals.

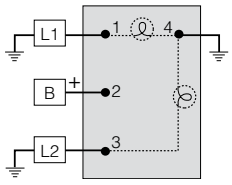


Diagram J

SPDT On-Off-On, or On-On, Independent

Four terminals.

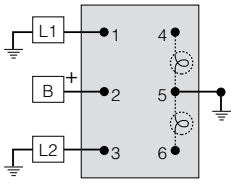


Diagram K

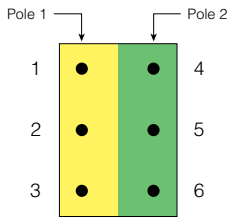
★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

How to Identify a 6-Terminal Switch

You can find out the type of rocker or toggle switch by a quick visual inspection.

Look at the back of the switch, where the terminals are. Notice that there are six possible terminal positions.

Toggle and rocker switches are designed so that each vertical set of terminals makes up one pole.

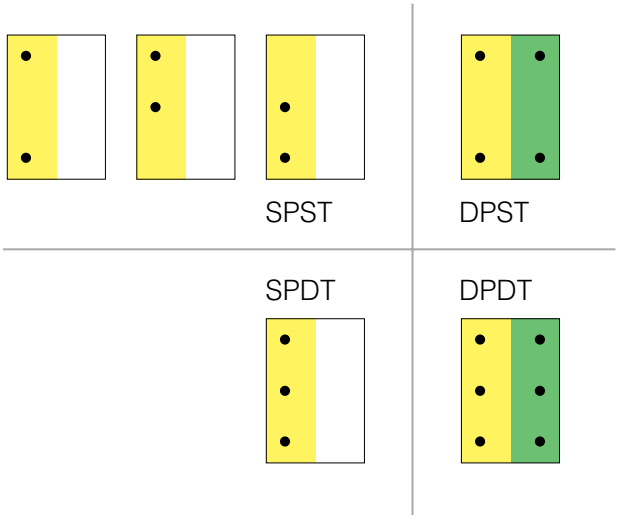


You can see immediately that a switch with three vertically-organized terminals must be a SPDT. Now check the actuator (rocker or toggle handle) to see if the switch is 2-position or 3-position.

If it only has two terminals, it must be a SPST, the simplest of all switch configurations. Notice that the two terminals are organized vertically (never side-by-side). Terminals can be located at 1 and 2, 1 and 3, or 2 and 3.

If it has terminals at 1, 3, 4 and 6, it must be a DPST. You can see that it utilizes the left side (pole 1) and right side (pole 2) of the switch — two poles (DP).

If it has six terminals, it's a DPDT. Check the actuator to see if the switch is 2-position or 3-position.

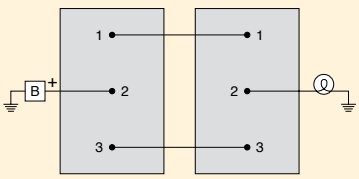


For explanation of SPST, DPST, SPDT, DPDT, see Page 28.

3- and 4-Way Lighting

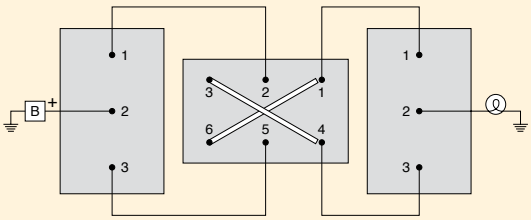
3-way lighting permits a light (or set of lights) to be controlled from either one of two switches usually mounted in different locations. Similarly, 4-way lighting enables control from three switch locations.

3-WAY LIGHTING



Use two SPDT On-On switches such as 58328-16 or 58027-05

4-WAY LIGHTING



58328-16 or 58027-05 | 58027-08 DPDT. Add Jumper. | 58328-16 or 58027-05

Super-Bright LEDs

New 58312 series rocker switches have long lasting LED lights and high-visibility wrap-around lenses. See page 1.

FLAT HANDLE	B1
LIGHTED TIP	B2
PADDLE HANDLE	B3
FREIGHTLINER REPLACEMENT	B4
HEAVY DUTY 25A	B5
ON - OFF	B6
HEAVY DUTY 20A & 30A	B7
SPECIALIZED APPLICATIONS	B8
ACCESSORIES	B9
INFORMATION	B10

toggle switches

B1 54100 SERIES

54100 Series, 25A

Standard or lighted handle – black nylon or clear plastic, 11/16" (17.5mm) long. Silver contacts. Mounting stem 15/32" -32 thread, 15/32" (11.9mm) long, fits panels up to 1/8" (31.8mm) thick. Includes mounting hardware: black metal facenut and nickel-plated hexnut. 25A at 12V DC. Terminals: .250" blade or 6-32 screw.

Standard Switch

Illuminated Switch

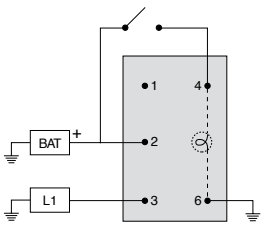
SPST

54100 On-Off BP ★
Up: On, Down: Off. Two screw terminals.

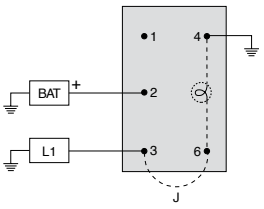
54100-01 On-Off BP
Up: On, Down: Off. Two blade terminals.

54101 Mom On-Off
Up: Mom On, Down: Off. Two screw terminals.

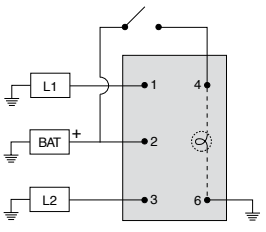
54101-01 Mom On-Off
Up: Mom On, Down: Off. Two blade terminals.



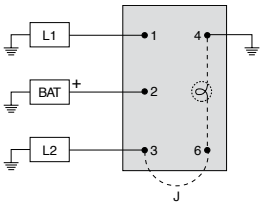
54109 & 54109-01
Independent Wiring



54109 & 54109-01
Dependent Wiring



54110 & 54110-01
Independent Wiring



54110 & 54110-01
Dependent Wiring

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

54109 On-Off, Illuminated BP ★
Up: On/Red, Down: Off/White. Four screw terminals.
O-ring seal in bushing.

54109-01 On-Off, Illuminated ★
Up: On/Red, Down: Off/White. Four blade terminals.
O-ring seal in bushing.

SPDT

54103 On-Off-On BP
Up: On, Center: Off, Down: On. Three screw terminals.

54103-01 On-Off-On
Up: On, Center: Off, Down: On. Three blade terminals.

54104 Mom On-Off-Mom On BP
Up: Mom On, Center: Off, Down: Mom On.
Three screw terminals.

54104-01 Mom On-Off-Mom On
Up: Mom On, Center: Off, Down: Mom On.
Three blade terminals.

54110 On-Off-On, Illuminated
Up: On/red, Center: Off/White, Down: On/White.
Five screw terminals. Weather-resistant: O-ring seal in bushing.
Independent illumination.

54110-01 On-Off-On, Illuminated
Up: On/red, Center: Off/White, Down: On/White.
Five blade terminals. Weather-resistant: O-ring seal in bushing.
Independent illumination.

DPST

54105 On-Off
Up: On, Down: Off. Four screw terminals.

54105-01 On-Off
Up: On, Down: Off. Four blade terminals.

DPDT

54107 On-Off-On
Up: On, Center: Off, Down: On. Six screw terminals.

54107-01 On-Off-On BP ★
Up: On, Center: Off, Down: On. Six blade terminals.

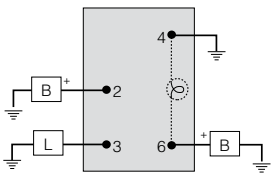
toggle switches

M-54111 Lighted Tip Switches 25A

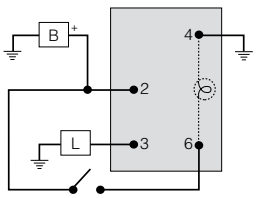
Independent illumination switches can be wired for dependent operation. Tip of handle is illuminated red in the On position, clear in the Off position. Tip of handle is illuminated Red in the On position, illuminated Clear in the Off position. Silver contacts. 15/32" -32 thread mounting stem. Nickel-plated brass hexnut. Black plastic handle, housing and facenut. Keyway in the down position. Blade terminals. 25A at 12V DC. Plastic facenut can be replaced with black metal facenut 83252 on page 27.

M-54111-01 SPST On-Off BP ★
Up: On, Down: Off. Four blade terminals.

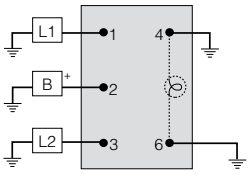
M-54111-02 SPDT On-Off-On BP
Up: On, Center: Off, Down: On. Five blade terminals.



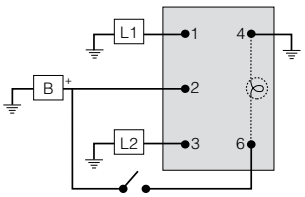
M-54111-01
Independent Illumination



M-54111-01
Dependent Illumination



M-54111-02
Independent Illumination



M-54111-02
Dependent Illumination

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

59024-000 Series 1" Paddle Handle Switches 25A

Silver contacts, 15/32" -32 thread mounting stem. Fits panels up to 1/4" (6.4mm) thick. Includes mounting hardware: black knurled facenut, hexnut. Keyway is in the down position. 1" (25.4mm) handle, black plastic, matte finish. 25A at 12V DC. Terminals: Brass 8-32 screw or .250 quick connect blade.

SPST

59024-100 On-Off
Up: On, Down: Off. Two blade terminals.

59024-101 On-Off
Up: On, Down: Off. O-ring seal in the stem.
Two blade terminals.

59024-102 Mom On-Off
Up: Mom On, Down: Off. Two blade terminals.

59024-144 Mom On-Off
Up: Off, Down: Mom On. Two blade terminals.

59024-200 On-Off BP
Up: On, Down: Off. Two screw terminals.

59024-201 On-Off
Up: On, Down: Off. O-ring seal in the stem.
Two screw terminals.

59024-202 Mom On-Off
Up: Mom On, Down: Off. Two screw terminals.

Wiring Diagrams

See page 13.

SPDT

59024-104 On-On
Up: On, Down: On. Three blade terminals.

59024-106 On-Off-On
Up: On, Center: Off, Down: On. Three blade terminals.

59024-108 Mom On-Off-Mom On
Up: Mom On, Center: Off, Down: Mom On.
Three blade terminals.

59024-204 On-On
Up: On, Down: On. Three screw terminals.

59024-206 On-Off-On
Up: On, Center: Off, Down: On. Three screw terminals.

59024-208 Mom On-Off-Mom On
Up: Mom On, Center: Off, Down: Mom On.
Three screw terminals.

DPST

59024-110 On-Off
Up: On, Down: Off. Four blade terminals.

59024-210 On-Off
Up: On, Down: Off. Four screw terminals.

DPDT

59024-116 On-On
Up: On, Down: On. Six blade terminals.

59024-118 On-Off-On
Up: On, Center: Off, Down: On. Six blade terminals.

59024-126 Reversing Switch For Electrical Motors
Reversing (polarity) switch for changing direction of permanent magnet electrical motors. Up: Mom On, Center: Off, Down, Mom On. Four blade terminals.

59024-216 On-On
Up: On, Down: On. Six screw terminals.

59024-218 On-Off-On
Up: On, Center: Off, Down: On. Six screw terminals.

★ Rapid ship item. BP Available in retail clamshell pack. ✶ Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.

59024-00 Freightliner Replacement Switches 25A

Terminals are arranged to match OEM wiring connectors. With or without brackets. Silver contacts. Black phenolic switch housing with metal cap. 15/32" -32 thread mounting stem.
Fits panels to .093" (2.4mm) with spacer provided, or to .25" (6.4mm) without spacer. Includes mounting hardware: black metal facenut. Keyway is in the down position. Black plastic 1" (25.4mm) handle, matte finish. Tin-plated blade terminals. 25A at 12V DC.

Without Bracket

With Bracket

With Bracket

59024-33 SPST On-Off ★
Up: On, Center: Off. Two blade terminals.
Dual contacts for extra durability.

59024-34 SPDT On-Off-On
Up: On, Center: Off, Down: On. Three blade terminals.
Dual contacts for extra durability.

59024-35 DPST On-Off
Up: On, Center: Off. Four blade terminals.

59024-36 DPDT On-Off-On
Up: On, Center: Off, Down: On. Six blade terminals.

59024-37 DPST On-Mom Off
Center: On, Down: Mom Off. Four blade terminals.

59024-38 DPDT Mom On-On-Mom On
Up: Mom On, center: On, Down: On. Six blade terminals.

Without Bracket

59024-12 SPST On-Off ★
Up: On, Down: Off. Two blade terminals.
Dual contacts for extra durability.

59024-13 SPDT On-Off-On
Up: On, Center: Off, Down: On. Three blade terminals.
Dual contacts for extra durability.

59024-14 DPST On-Off
Up: On, Center: Off. Four blade terminals.

59024-15 DPDT On-Off-On ★
Up: On, Center: Off, Down: On. Six blade terminals.

59024-16 DPST On-Mom Off
Center: On, Down: Mom Off. Four blade terminals.

Relays & Microrelays

Heavy Duty 40A at 12V DC,
High Power 70A at 12V DC
and Microrelays 25A at 12V DC.
See page 80.

12V, 24V, 36V Rating

Generally, Cole Hersee heavy duty 12V non-illuminated* toggle and rocker switches can be used at higher voltage but lower current.

Example: By calculation, 25A 12V switch will derate to 8.3A at 36V, or 12.5 at 24V.

This calculated de-rating gives a conservative result. 25A at 12V toggle switches* can actually be used at 15A at 24V, and 10A at 36V.

** **Exception:** This does not apply to illuminated switches. The pilot light must only be supplied with the stated voltage. Do not derate any illuminated switches.*

Standard or long handle. Universal application. Silver contacts. Mounting stem is nickel-plated brass 15/32" -32 thread, 15/32" (11.9mm) long, and fits panels up to 9/32" (7.1mm) except where stated otherwise. phenolic housing, with plated steel cap. Nickel-plated brass mounting hardware. Blade terminals: .250 quick connect. Screw terminals: 6-32 screws. 25A at 12V, 15A at 24V, and 10A at 36V DC.

Standard handle, 11/16" (17.5mm) long.

Long handle, 1 1/2" (38.1mm) long.

PVC coated housing with wire leads.

SPST

5520 On-Off BP ★
Up: On, Down: Off. Two screw terminals. O-ring seal.

5582 On-Off BP ★
Up: On, Down: Off. Two screw terminals.

5582-10 On-Off, PVC Coated ★
Up: On, Down: Off. Two 8" (203.2mm) leads. O-ring seal. Mounting stem is 11/32" (8.7mm) long, and fits panels up to 3/16" (4.8mm) thick.

55014 On-Off BP ★
Up: On, Down: Off. Two blade terminals.

55014-05 On-Off
Up: On, Down: Off. Two blade terminals. O-ring seal in the stem.

55023 On-Off
Up: On, Down: Off. Two screw terminals with 2 blades attached.

55055 On-Off, Long Handle BP
Up: On, Down: Off. Two blade terminals.

55055-01 On-Off, Long Handle
Up: On, Down: Off. Two screw terminals.

SPST Momentary

55020 Mom On-Off BP
Up: Off, Center: Mom On. Two screw terminals.

55020-02* **Mom On-Off**
Up: Off, Down: Mom On. Two screw terminals. O-ring seal.

55020-04 Mom On-Off, PVC Coated ★
Moisture- and dirt-resistant. PVC coated and sealed with an O-ring seal in the stem. Up: Off, Down: Mom On. Two 8" (203.2mm) leads.

55037 Mom On-Off
Up: Off, Center: Mom On. Two blade terminals.

55049-01 On-Mom Off
Up: On, Down: Mom Off. Two blade terminals.

55052-01 On-Mom Off, Long Handle
Up: On, Center: Mom Off. Two blade terminals.

SPST, DPDT?

See page 28.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

SPDT

5584 On-On ★
Up: On, Down: On. Three screw terminals.

5586 On-Off-On BP ★
Up: On, Center: Off, Down: On. Three screw terminals.

55015 On-On
Up: On, Down: On. Three blade terminals.

55016 On-Off-On
Up: On, Center: Off, Down: On. Three blade terminals.

55016-06 On-Off-On
Up: On, Center: Off, Down: On. O-ring seal in the stem.
Three blade terminals.

55036 On-Off-On, PVC Coated BP ★
Up: On, Center: Off, Down: On. PVC coated housing, with three 9.5" (241.3mm) leads. Leads have tinned brass terminals. O-ring seal in the stem.

SPDT Momentary

55021 Mom On-Off-Mom On BP ★
Up: Mom On, Center: Off, Down: Mom On.
Three screw terminals.

55021-04 Mom On-Off-Mom On
Up: Mom On, Center: Off, Down: Mom On. O-ring seal in the stem. Three screw terminals.

55021-07 Mom On-Off-Mom On,PVC Coated BP ★
Up: Mom On, Center: Off, Down: Mom On. PVC coated housing with three 8" (203.2mm) leads. O-ring seal in the stem.

55021-08 Mom On-Off-Mom On, Long Handle
Up: Mom On, Center: Off, Down: Mom On.
Three screw terminals.

55033-01 Mom On-Off-Mom On ★
Up: Mom On, Center: Off, Down: Mom On.
Three blade terminals.

55033-02 Mom On-Off-Mom On, Long Handle
Up: Mom On, Center: Off, Down: Mom On.
Three blade terminals.

55088 On-Off-Mom On ★
Up: On, Center: Off, Down: Mom On. Three screw terminals.

DPST

5588 On-Off BP ★
Up: On, Down: Off. Four screw terminals.

55017 On-Off ★
Up: On, Down: Off. Four blade terminals.

55017-02 On-Off
Up: On, Down: Off. O-ring seal in the stem.
Four blade terminals.

DPDT

5590 On-On ★
Up: On, Down: On. Six screw terminals.

5592 On-Off-On BP ★
Up: On, Center: Off, Down: On. Six screw terminals.

55018 On-On ★
Up: On, Down: On. Six blade terminals.

55019 On-Off-On BP ★
Up: On, Center: Off, Down: On. Six blade terminals.

55057 On-Off-On, Long Handle ★
Up: On, Center: Off, Down: On. Six blade terminals.

DPDT Momentary

55054 Mom On-Off-Mom On BP ★
Up: Mom On, Center: Off, Down: Mom On. Six screw terminals.

55054-04 Mom On-Off-Mom On, Long Handle
Up: Mom On, Center: Off, Down: Mom On. Six screw terminals.

55065-02 Mom On-Off-Mom On, Long Handle ★
Up: Mom On, Center: Off, Down: Mom On. Six blade terminals.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

55065-03 Mom On-Off-Mom On ★
Up: Mom On, Center: Off, Down: Mom On. Six blade terminals.

55081 On-Off-Mom On
Up: On, Center: Off, Down: Mom On. Six blade terminals.

*55094** Mom On-On-Off, Ignition/Start
Up: Mom On terminals 2&3, 5&6, Center: On terminals 2&3, Down: Off. Four screw terminals. For starting and running coil type ignition engines.

DPDT Reversing Polarity
Forward/reverse switches for use with permanent magnet motors.

55018-01 On-On
Up: On, Down: On. Four blade terminals.

55046 Mom On-Off-Mom On ★
Up: Mom On, Center: Off, Down: Mom On. Four blade terminals.

55046-06 Mom On-Off-Mom On, Long Handle
Up: Mom On terminals 1&5, 2&4, Center: Off, Down: Mom On terminals 1&2, 4&5. Four blade terminals. O-ring seal.

13-pole

12300 socket and 12301 plug provide six additional circuits within the dimensions of a standard 7-pole connector! See page 137.

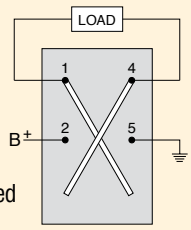
Reversing Polarity Switches

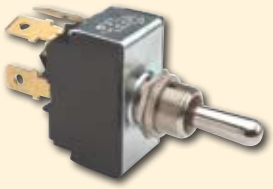
For changing the direction of permanent magnet motors.

Toggle Switches (Section B)
55018-01 On-On
55046 Mom On - Off - Mom On
55046-06 Mom On - Off - Mom On

Rotary Switches (Section D)
90005-03 Mom On - Off - Mom On
90005-01 Mom On - Off - Mom On. Keyed

Rocker Switches (Section A)
57014-03 Mom On - Off - Mom On
58027-18 Mom On - Off - Mom On





Saves Batteries

No more dead batteries! Low Voltage Disconnect Switches automatically disconnect non-critical loads when battery voltage is low; automatically reconnect when battery is being charged. See page 85 and 86.

NEW

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

toggle switches

B6 ON –OFF

Down: Off, Up: On. Standard or ball handle. In chrome plated brass or nickel-plated brass handle, facenut and mounting stem. Silver contacts. Mounting stem has 15/32" -32 thread, 15/32" (11.9mm) long, and fits panels up to 9/32" (7.2mm) thick. Screw or blade terminals, or wire leads. Phenolic housing with plated steel frame. Keyway is in the down position. 10A at 12V DC.

Ball handle: 3/8" (9.52mm) long.

Standard handle: 11/16" (17.46mm) long.

Nickel-Plated Brass Handle

5507 Ball Handle, Two Screw Terminals

5558 Standard Handle, Two Screw Terminals BP ★

5568 Ball Handle, Two 6" Leads

5570 Standard Handle, Two 6" Leads

55012 Ball Handle, Two Blade Terminals

55013 Standard Handle, Two Blade Terminals

Chrome-Plated Brass Handle

M-484 Standard Handle, Two Screw Terminals BP ★
Also available by special order as a panel assembly.
(M-515-01, M-516-01, M-517.)

M-493 Ball Handle, Two Screw Terminals BP

M-584 Standard Handle, Two 6" Leads BP ★

M-586 Standard Handle, Two Blade Terminals

toggle switches

B7 HEAVY DUTY 20A & 30A

551800 Series Heavy Duty & Extra Heavy Duty Switches 20A and 30A

Universal application. Diecast housing. For stem- or bracket-mounting. 15/32" -32 thread mounting stem, with keyway.

Brackets: .170" (4.3mm) diameter holes, 1.72" (43.7mm) on centers. Fits panels up to 3/16" (4.8mm) thick. Chrome plated brass handle, 1 1/16" long (27.0mm). Steel screw or blade terminals. Plated steel hexnut.

Heavy Duty

20A at 6-12V DC.

551001 SPST Mom On-Off
Up: Mom On, Center: Off. Two blade terminals.

551800 SPST On-Off ★
Up: On, Center: Off. Two screw terminals.

551801 SPST Mom On-Off
Up: Mom On, Center: Off. Two screw terminals.

551802 SPDT On-Off-On
Up: On, Center: Off, Down: On. Three screw terminals.

551805 DPST On-Off
Up: On, Center: Off. Four screw terminals.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

551806 DPDT On-Off-On
Up: On, Center: Off, Down On. Six screw terminals.

M-594 SPST On-Off
Up: On, Center: Off. Two screw terminals.
Golden dichromate dip housing, brass terminals.

M-595 SPDT On-Off-On
Up: On, Center: Off, Down: On. Three screw terminals.
Golden dichromate dip housing, brass terminals.

Extra Heavy Duty

30A at 6-12V DC, 15A at 24-36V DC. Silver-plated contacts.

551840 SPST On-Off BP ★
Up: On, Center: Off. Two screw terminals.

551841 SPST Mom On-Off
Up: Mom On, Center: Off. Two screw terminals.
This universal switch can also be used to control day signaling lamps.

551842 SPDT On-Off-On ★
Up: On, Center: Off, Down: On. Three screw terminals.

551843 SPDT On-Off-Mom On
Up: On, Center: Off, Down: Mom On. Three screw terminals.

551844 SPDT Mom On-Off-Mom On ★
Up: Mom On, Center: Off, Down: Mom On.
Three screw terminals.

551845 DPST On-Off
Up: B-2, Center: Off. Four screw terminals.

551846 DPDT On-Off-On ★
Up: On, Center: Off, Down: On. Six screw terminals.

551849 SP3C On-On-Off
Up: B-T-H, Center: B-P-T, Down: Off. Four screw terminals.
This universal switch can also be used to control headlamps and Park & Tail lamps.

551850 SPDT On-On
Up: On, Center: On. Three screw terminals.

12V, 24V 36V Rating

Generally, Cole Hersee heavy duty 12V non-illuminated* toggle and rocker switches can be used at higher voltage but lower current.

Example: By calculation, 25A 12V switch will derate to 8.3A at 36V, or 12.5A at 24V.

This calculated de-rating gives a conservative result. 25A at 12V toggle switches* can actually be used at 15A at 24V, and 10A at 36V.

***Exception:** This does not apply to Illuminated switches. The pilot light must only be supplied with the stated voltage. Do not derate any illuminated switches.*

551851 SPST On-Mom Off
Up: Mom Off, Center: On. Two screw terminals.
This universal switch can also be used to control night signaling lamps.

551852 SP2C On-On-Off
Up: B-H, Center: B-L, Down: Off. Three screw terminals.
This universal switch can also be used to control heaters/defrosters. Supplied without resistors.

551855 SP1C Mom Off-On-Off
Up: Mom Off, Center: On, Down: Mom Off.
Two screw terminals. This universal switch can also be used to control signaling and marker lamps.

551861* **SP2C On-Off**
Up: On B-1&2, Center: Off. Three screw terminals.

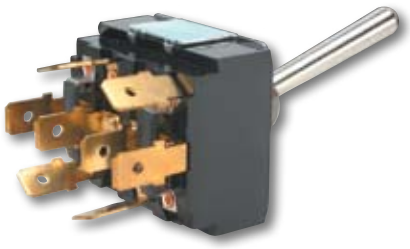
551862 DP2C Mom On-Run-Off
Up: Mom S-S, Center: Open, Down: Off M-M. Four screw terminals. This universal switch is primarily used to control magneto ignition. For battery ignition see 59071 and 55094 on page 25.

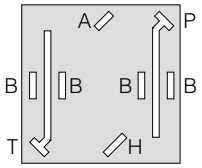
★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Silver contacts. 15/32" -32 thread mounting stem, .46" (11.9mm) long, mounts in panels up to 9/32" (7.1mm) thick. Nickel-plated brass handle: standard .687" (17.5mm) or long 1.5" (38.1mm). Brass blade terminals. Black phenolic housing with metal frame. Nickel-plated brass hardware. Keyway is in the down position. 25A at 12V DC, except as noted.

55058-01 4-Pole, 4-Circuit Headlamp Switch

Allows splitting of a heavy load into four separate circuits. Eight blade terminals. Long handle. Up: Park, Tail & Headlamps - Center: Off - Down: Park, Tail & Auxiliary Lamps.

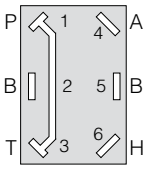




A Auxiliary lamps
B Battery+
H Headlamps
P Parking lights
T Tail lights

55064 DPDT 4-Circuit Headlamp Switch

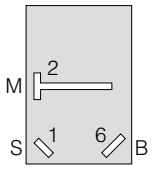
Up: Park, Tail & Headlamps - Center: Off - Down: Park, Tail & Auxiliary Lamps. Six blade terminals. Long handle.



A Auxiliary lamps
B Battery+
H Headlamps
P Parking lights
T Tail lights

55071 DP 2-Circuit Marker Lamp Switch

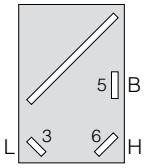
Up: Mom On B, 1&2 (day signaling) - Center: On 1&2 - Down: Mom Off (night signaling). Three blade terminals. Standard handle.



B Battery+
M Marker lamps
S To Marker lamps switch

55093 DPDT Two-Speed Heater Fan Switch ★

Double pole, two-circuit. Three blade terminals. Up: Battery & High - Center: Battery & Low - Down: Off. Standard handle. Terminal connections: 3 low speed, 5 Battery +, 6 high speed.



B Battery+
H High speed
L Low speed

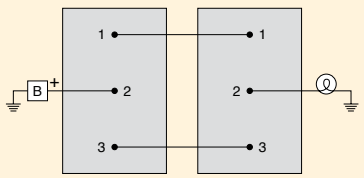
55015-03 3-Way Lighting Switch

SPDT On-On. See sidebar below. Three blade terminals.

3- and 4-Way Lighting

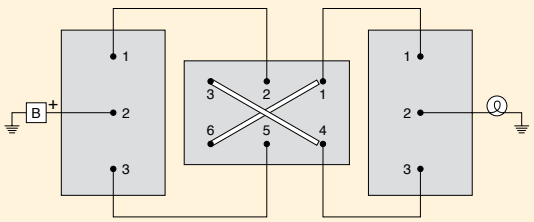
3-way lighting permits a light (or set of lights) to be controlled from two switches usually mounted in different locations. Similarly, 4-way lighting enables control from three switch locations.

3-WAY LIGHTING



Use two SPDT On-On switches such as 55015-03 or 55015

4-WAY LIGHTING



55015 SPDT | 55018-01 DPDT reversing polarity | 55015 SPDT

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

DP Ignition/Start

25A at 12V DC.

59071 Mom On-On-Off

Down: Off, Center: On 4&5, Up: Mom On 1, 4&5. White plastic handle. Three blade terminals.

*55094** Mom On-On-Off

Up: Mom On 2&3, 5&6, Center: On 2&3, Down: Off. Standard handle. Four screw terminals.

Other Specialized Application Switches

Silver contacts. 15/32" -32 thread mounting stem, .46" (11.9mm) long, mounts in panels up to 9.32" (7.1mm) thick. Brass blade terminals. Black phenolic housing with metal frame. Keyway is in the down position.

5543 SPST On-Off In Recessed Plate ★

5558 switch mounted in 5543-15 recessed plate to prevent damage or accidental actuation inside a trailer or other location. Plate fits into a 2" dia (50.8mm) panel hole. Depth is 1.75" minimum (44.5mm).Two screw terminals.

55089 SPST Light Duty Grounding Switch

Up: Off, Down: On. Terminal is grounded to switch frame. Mounts with two hexnuts into panels up to .189" (4.8mm) thick. One blade terminal. Standard handle. 5A at 12V DC.

M-597 Marine Emergency Cutoff BP

Weather-resistant switch provides added safety for boat operators. The lanyard connects the boater to a switch which kills the ignition circuit if the boater falls overboard, or is at an unsafe distance from the controls, thus preventing a dangerous runaway situation. Unlike other devices, the M-597 can be turned on again if need be by a boater other than the operator.

Switch can be installed either in boat systems that require a grounded emergency stop, or in systems that have an open circuit emergency stop. The switch works on virtually any powerboat with an inboard or outboard motor. Full wiring instructions are included. ***For safety, this switch should only be installed by a technically competent person.***

Switch housing dimensions 2 3/4" x 2" (69.9 x 50.8mm) requires a space of 1/2" (12.7mm) behind the panel, and mounts in a 1 1/2" (38.1mm) diameter hole. Rubber coated toggle switch is sealed to IP-66 to protect against salt spray and water ingress. Strong self-retracting coiled lanyard has a clip for attachment to the operator. 10A at 12-24V DC.

With the lanyard out of the housing.

For safety or lifesaving applications, the switch should be installed by a qualified individual. User assumes all responsibility for determining the suitability of this product for his application.

M-598 Replacement Lanyard BP

We recommend that the lanyard be replaced annually or in cases of extreme wear, as necessary.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

Switch Guards

Switch guards help prevent accidental actuation of a toggle switch and protect it from damage.

Typical uses:

- ***Switch is in a vulnerable position – like a light switch in a truck cargo section.***
- ***Switch controls a vital function that must not be accidentally operated – like the hose return switch on an oil truck.***
- ***Switch is important, but infrequently used – like an emergency switch.***

Cole Hersee switch guards give you a choice of protection from the simple flanged faceplate to the recessed faceplate, or the complete protection of the 82468 flip cover. For complete lockout protection of electrical circuits, we recommend rotary Master Disconnect Switches with lockout/tagout protection, such as 2484 with 24505.

82465 Walled Faceplate Switch Guard

Guard is easily added to an already installed switch, providing lateral mechanical protection. For switches with 15/32" diameter mounting stems with a keyway. Stamped On, Off. 1" x 2.125" (25.4 x 54.0mm). Two .140" (3.6mm) mounting holes 1.87" (47.6mm) on centers.

5543-15 Recessed Faceplate Switch Guard

Faceplate only: does not include switch. Needs to be countersunk in a 2" (50.8mm) hole. 3 3/16" (81.0mm) diameter with three 7/32" (5.6mm) holes on a 2 3/4" (69.9mm) diameter circle. Requires a clearance depth of .890" (22.6mm), not including clearance for a switch. Other colors, metals and finishes are available on special order. Contact Cole Hersee.

82468 Flip Cover Switch Guard BP ★

With cover up.

With cover closed.

Provides the maximum protection, and can be easily added to an already installed switch by unscrewing and replacing the facenut. Spring-loaded snap action cover returns the switch to the 'safe' position when closed, and secures it there. Rugged red melamine cover is colorfast at temperature extremes and is resistant to most contaminants, like fuel oil. Other colors are available by special order. Recommended for use with standard 11/16" toggle handle Off-On or On-On switches with a keyway in the bushing. Steel faceplate with black glossy finish. Height closed 1.08" (27.4mm); height open 1.71" (43.5mm). 1.80" (45.8mm) long x .67" (17.0mm) wide. Mounting hole diameter .47" (11.9mm). Accepts switches with standard 15/32" diameter mounting stems.

Handle Extensions

Rigid plastic extension snaps over standard or ball handled toggle switches, extending a standard handle to 1 7/8" (47.6mm) long. Enables switches to be easily color-coded. Packed 10 of each color per package.

81271 Red

81272 Yellow

81273 Black

81261* **Fluorescent Green**

81262 Fluorescent Blue

81263 Fluorescent White

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Toggle Boot Seals

Durable silicone rubber bonded to a standard 15/32" -32 thread nickel plated brass hexnut. When the nut is tightened to the stem of a toggle switch, the rubber forms an O-ring seal with the panel. Full boots completely cover a standard 11/16" (17.5mm) handle. Boot seals protect switches from moisture and dirt; colored boots provide color-coding for ready identification of switches.

81264 Gray BP ★
81264-01 Black BP
81264-02 Blue
81264-03 Clear
81264-04 Green
81264-05 Red
81264-06 Brown
81264-07 Yellow
81264-08 Orange

Half-Boot Seal

81255 BP ★

Allows any length of handle to protrude, yet seals tightly to handle. Suitable for all toggle switches in this catalog excepting paddle handle switches in section B3.

83252 Black Facenut

Brass facenut, black finish.
For 54100 series switches, to replace plastic facenut.

Terminal Blade Adapter

55023-10

Attaches to a No. 6 screw terminal, converting to a standard 1/4" wide blade terminal. Brass.

100 pieces per package.

Faceplates

Fit all toggle switches with standard 15/32" diameter mounting stem and keyway.

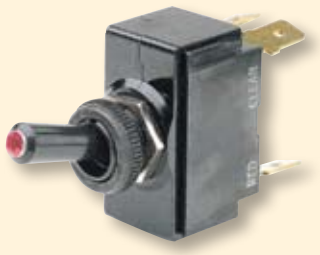
8250 Nickel-Plated ★
Nickel-plated steel. 1"x 5/8" (25.40 x 15.87mm). Stamped On, Off.

M-518* **Chrome-Plated**
Same as 8250, except chrome-plated brass.

Economical

Illuminated tip toggle switches M-54111-01 and M-54111-02 combine the properties of a switch and a pilot light. Switch tips are illuminated White when Off – which makes it easier to locate in the dark.

When the switch is On, the tip is illuminated Red.



★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

SPST SPDT DPST DPDT

SP and DP refer to single pole and double pole, ST and DT refer to single throw and double throw.

Pole *refers to the number of circuits controlled by the switch:*
SP switches control only one electrical circuit.
DP switches control two independent circuits (and act like two identical switches that are mechanically linked).
Do not confuse 'pole' with 'terminal'. The DPST switch, for example, has four terminals, but it is a DP, not a 4P switch.

Throw *refers to the extreme position of the actuator:*
ST switches close a circuit at only one position.
The other position of the handle is Off.
DT switches close a circuit in the Up position, as well as the Down position (On-On). A DT switch can also have a center position (frequently On-Off-On).

The following switch diagrams illustrate the most common types of toggle and rocker switch.

SPST On-Off

SPDT On-On
Only one of the loads can be energized at a time.

SPDT On-Off-On
Only one of the loads can be energized at a time.

DPST On-Off
Both load terminals can be energized at the same time. They are independent of each other and could be of different voltages.

DPDT On-On
Functions like two separate SPDT switches operated by the same actuator. Only two loads can be On at a time.

DPDT On-Off-On
Functions like two separate SPDT switches operated by the same actuator. Only two loads can be On at a time.

Single pole/throw and double pole/throw switches are by far the most common switches, but triple and quadruple configurations are also available. They are commonly denoted 3PST, 3PDT, 4PDT, etc. For our switches of this type, see Rotary Switches, section D1.

SEALED KEY SWITCHES	C1
956 SERIES SWITCHES	C2
UNIVERSAL START SWITCHES	C3
MARINE SWITCHES	C4
SPECIALIZED IGNITION SWITCHES	C5
ACCESSORIES	C6
INFORMATION	C7

ignition switches

C1 SEALED KEY SWITCHES

Sealed Key Switches BP

With integral sealed Deutsch connector. Rugged plastic construction, with fully sealed contact area, using O-rings and ultrasonic welding. Contacts sealed front and back to IP67 (with connector installed). Available with or without key boot, with or without anti-restart, with or without spring return to Ignition/Accessory position. Key is removable only at the Off position. Tested to SAE J259 for ignition switches. Supplied with two matching tumbler keys. 31101 pigtail assembly fits all 95060 Series Switches. Contact rating 10A at 12V DC, 5A at 24V DC.

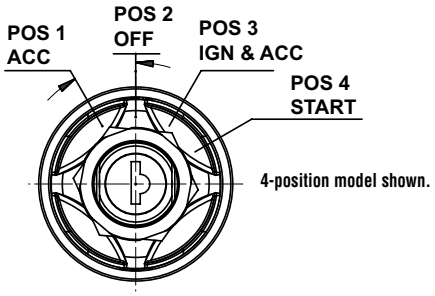
NEW

c UL us

The above Underwriters Laboratories logo is the mark for recognized components that meet the test standards of UL in the USA and Canada.

Part No.	Positions	Spring Return	Key Boot	Anti-restart
95060	4: Acc-Off-Ign/Acc-Start	✓	✓	-
95060-01	4: Acc-Off-Ign/Acc-Start	✓	✓	✓
95060-02	4: Acc-Off-Ign/Acc-Start	-	✓	-
95060-03	3: Off-Ign/Acc-Start	✓	✓	-
95060-04	3: Off-Ign/Acc-Start	✓	✓	✓
95060-05	3: Off-Ign/Acc-Start	-	✓	-
95060-06	3: Acc-Off-Ign/Acc	-	✓	-
95060-07	2: Off-Ign/Acc	-	✓	-
95060-50BP	Same as 95060 with harness (Deutsch connector & wires)			
95060-60BP	Same as 95060-03 with harness (Deutsch connector & wires)			

**Other circuitries are available. Consult Cole Hersee.*



	Battery Terminals 1&6	Start Terminal 2	Accessory Terminal 3	Ignition Terminals 4&5
Position 1	✓	-	✓	-
Position 2	✓	-	-	-
Position 3	✓	-	✓	✓
Position 4	✓	✓	-	✓

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

All ignition switches in this series with blade terminals accept Delphi (Packard) connector 2962912.

Heavy Duty

Dependable switches with an array of options for every application.

Coded tumbler lock and two keys.

Patented Hencol lock and two keys. With short handle Hencol key "Hencol S".

With Short handle lever knob "Lever S".

Letter Code in tables in this section:
Hencol S = Short handle Hencol keys 83357
Lever S = Short handle lever knob 81254
S = Shutter lock seal
G = Gasket seal
O = O-Ring seal in stem

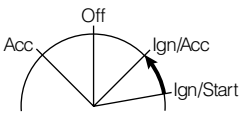
Terminals: Brass blade, 1/4" (6.4mm) wide, which accept Delphi (Packard) connector No. 2962912 or equivalent, or screw terminals with lock washers. Sealed terminal insulator.

Housing: Corrosion-resistant diecast construction.

Mounting: 1" -24 bushings fit panels from .030" (.76mm) through .090" (2.3mm) thick. All other bushing sizes fit panels .060" (1.5mm) up to .110" (2.7mm) thick.

4-Position

Part No.	Terminals	Actuation/ Lock	Seal	Ground Terminal	Bushing
956-4100	4 blade	Coded	S	-	1"-24
956-4104	4 screw	Coded	S	-	1"-24
956-4107	4 screw	Hencol S	G O	-	1"-24
956-4111	4 blade	Lever S	-	-	1"-24
956-4124	4 screw	Lever S	G O	-	1"-24
956-4154	5 screw	Coded	S	✓	1"-24
956-4304	4 screw	Coded	-	-	3/4"-24
956-4307	4 screw	Hencol S	G O	-	3/4"-24
956-4311	4 blade	Coded	O	-	3/4"-24
956-4704	4 screw	Coded	S	-	7/8"-24
With identical key code CH-528					
956-4148	4 blade	Coded	S	✓	1"-24



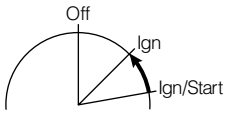
Spring return to IGN/ACC. Key is removable only in the Off position.

Electrical ratings at 12V DC: 10A Accessory, 10A Ignition, 5A Start, 1A Ground

3-Position

Off – Ignition – Ignition/Start

Part No.	Terminals	Actuation/ Lock	Seal	Ground Terminal	Bushing
956-5307	3 screw	Hencol S	G O	-	3/4"-24

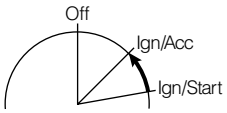


Spring return to IGN. Key is removable only in the Off position.
Electrical ratings at 12V DC: 10A Ignition, 5A Start, 1A Ground.

Off – Ignition/Accessories – Ignition/Start

Part No.	Terminals	Actuation/ Lock	Seal	Ground Terminal	Bushing
956-5109†	4 screw	Lever	G	-	1"-24
956-5122	5 screw	Coded	G S O	✓	1"-24
*956-5124**	*4 screw*	*Hencol S*	G O	-	*1"-24*
*956-5348**	*5 screw*	*Hencol S*	G O	✓	*3/4"-24*

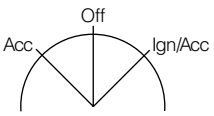
▲ Military lever. † Silver contacts.



Spring return to IGN/ACC. Key is removable only in the Off position. Electrical ratings at 12V DC:
956-5109: 20A Accessory, 10A Ignition, 10A Start
956-5122: 20A Accessory, 20A Ignition, 10A Start, 1A Ground
956-5124: 10A Accessory, 10A Ignition, 5A Start
956-5348: 10A Accessory, 10A Ignition, 5A Start, 1A Ground

Accessory – Off – Ignition/Accessories

Part No.	Terminals	Actuation/ Lock	Seal	Ground Terminal	Bushing
*956-6107**	*3 screw*	*Hencol S*	G O	-	*1"-24*
956-6307	3 screw	Hencol S	G O	-	3/4"-24



Key is removable only in the Off position.
Electrical ratings at 12V DC: 10A Accessory, 10A Ignition

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

All ignition switches in this series with blade terminals accept Delphi (Packard) connector 2962912.

Extra Heavy Duty Ignition and Starter Switches

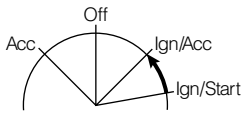
Specially designed for demanding applications with higher energy circuits, typically 30A or 20A at 12V DC.

4-Position

Accessory – Off – Ignition/Acc – Ignition/Start

Part No.	Terminals	Actuation/ Lock	Seal	Ground Terminal	Bushing
956-4113	4 blade	Hencol S	S O	-	1"-24
*956-4116**	*4 blade*	*Coded*	S G	-	*1"-24*
956-4138 ★	4 blade	Coded	-	-	1"-24
956-4141†	4 screw	Hencol S	S O	-	1"-24

† Silver contacts.



Key is removable only in the Off position. Spring return to IGN/ACC.

Electrical ratings at 12V DC:

30A Accessory, 10A Ignition, 5A Start: switches 956-4113, 956-4125.

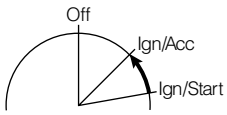
30A Accessory, 10A Ignition, 10A Start: switch 956-4116.

20A Accessory, 20A Ignition, 10A Start: switches 956-4138, 956-4141.

3-Position

Off – Ignition/Accessory – Ignition/Start

Part No.	Terminals	Actuation/ Lock	Seal	Ground Terminal	Bushing
*956-5108**	*4 screw*	*Coded*	S G	-	*1"-24*

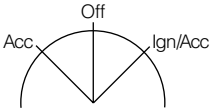


Key is removable only in the Off position. Spring return to IGN/ACC. Silver contacts.

Electrical ratings at 12V DC: 30A Accessory, 10A Ignition, 10A Start.

Accessory – Off – Ignition/Accessory

Part No.	Terminals	Actuation/ Lock	Seal	Ground Terminal	Bushing
*956-6310**	*3 screw*	*Hencol S*	S O	-	*3/4"-24*

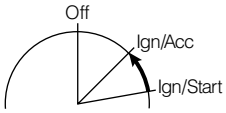


Key is removable only in the Off position.
Electrical ratings at 12V DC: 30A Accessory, 10A Ignition.

Anti-Restart Ignition Switches

When the engine is running, the starter circuit cannot be energized. This prevents accidental damage to the starter motor, and is highly recommended in situations such as package delivery vehicles or in noisy locations where it might not be evident that the motor is running. The switch must be turned to the Off position before the start circuit can be re-energized

Part No.	Terminals	Actuation/ Lock	Seal	Ground Terminal	Bushing
956-3122	5 screw	Coded	G S O	✓	1"-24
956-3124 ★	5 screw	Lever S	O	✓	1"-24
956-3125 ★	4 screw	Coded	G S	-	1"-24
956-3126	4 screw	Hencol S	G	-	1"-24
956-3127	3 screw	Lever S	G O	-	1"-24



Spring return to IGN/ACC. Key is removable only in the Off position.

Electrical ratings at 12V DC:

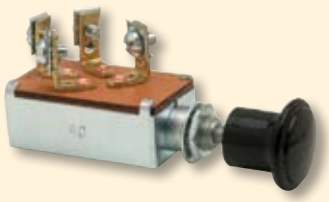
10A Accessory, 10A Ignition, 5A Start, 1A Ground: switches 956-3122, 956-3124, 956-3126.

30A Accessory, 10A Ignition, 10A Start: switches 956-3125, 956-3134.

10A Ignition, 5A Start, 1A Ground: switch 956-3127.

Letter Code in tables in this section:
Hencol S = Short handle Hencol keys 83357
Lever S = Short handle lever knob 81254
S = Shutter lock seal
G = Gasket seal
O = O-Ring seal in stem

Push-Pull Ignition



Push-pull ignition and start switch 9576. See page 39.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

Letter Code in tables in this section:
Hencol S = Short handle Hencol keys 83357
Lever S = Short handle lever knob 81254
S = Shutter lock seal
G = Gasket seal
O = O-Ring seal in stem

Case A
Zinc diecast, coded tumbler lock. Fits panels up to 3/8" (9.5mm).

Case B
Plated steel, coded tumbler lock. Fits panels up to 1/2" (12.7mm).

Case C
Plated steel. Non-tumbler Hencol lock: either short handle key (Hencol S), or long handle key (Hencol L). Fits panels up to 1/8" (3.2mm).

Case D
Zinc diecast, military lever. Fits panels up to 11/64" (4.4mm).

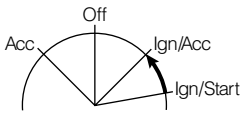
Case F
Plated steel. Lever knob: either short (Lever S), or long (Lever L). See Section C6. Fits panels up to 1/8" (3.2mm).

Case G
Plated steel. Non-tumbler Hencol lock: either short handle key (Hencol S), or long handle key (Hencol L). Fits panels up to 1/4" (6.4mm).

4-Position

Accessory – Off – Ignition/Acc – Ignition/Start

Part No.	Terminals	Actuation/ Lock	Seal	Case	Bushing
9579 BP ★	4 screw	Coded	-	A	3/4"-20
95535	4 screw	Coded	-	B	13/16"-24
95515-A	4 screw	Hencol S	-	C	5/8"-32
95525-A	4 screw	Hencol S	O	C	5/8"-32
With identical key code CH-505					
9579-02	4 screw	Coded	-	A	3/4"-20

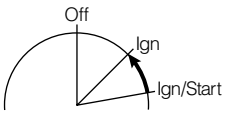


Key is removable only in the Off position. Spring return to IGN/ACC. Electrical ratings at 12V DC: 10A Accessory, 10A Ignition, 5A Start.

3-Position

Off – Ignition – Ignition/Start

Part No.	Terminals	Actuation/ Lock	Seal	Case	Bushing
9513	3 screw	Coded	-	A	3/4"-20
95534	3 screw	Coded	-	B	13/16"-24
95514-A ★	3 screw	Hencol S	-	C	5/8"-32
95524-A	3 screw	Hencol S	O	C	5/8"-32
95582	3 screw	Coded	O	A	3/4"-20
95634-01	3 screw	Lever S	O	D	3/4"-20

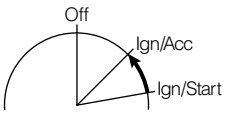


Key is removable only in the Off position. Spring return to IGN/ACC. Electrical ratings at 12V DC: 10A Ignition, 5A Start.

Off – Ignition/Accessory – Ignition/Start

Part No.	Terminals	Actuation/ Lock	Seal	Bushing
95591	4 screw	Lever L	O	5/8"-32

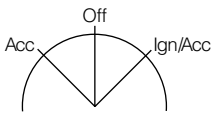
Case F, but with long lever knob.



Spring return to IGN/ACC. Electrical ratings at 12V DC: 10A Accessory, 10A Ignition, 5A Start.

Accessory – Off – Ignition/Accessory

Part No.	Terminals	Actuation/ Lock	Seal	Case	Bushing
9578	3 screw	Coded	-	A	3/4"-20



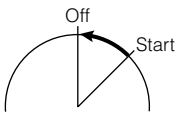
Key is removable only in the Off position. Electrical ratings at 12V DC: 10A Accessory, 10A Ignition.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

2-Position

Off – Start

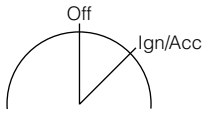
Part No.	Terminals	Actuation/ Lock	Seal	Case	Bushing
*95564-01**	2 blade	Hencol S	O	G	5/8"-32



Key is removable only in the Off position. Spring return to Off.
Accepts Delphi (Packard) connector 2965454
Electrical ratings at 12V DC: 20A

Off – Ignition/Accessory

Part No.	Terminals	Actuation/ Lock	Seal	Case	Bushing
95608	3 screw	Coded	-	A	3/4"-20
95633-A ★	3 screw	Lever S	-	D	3/4"-20



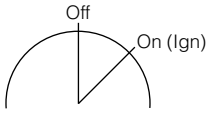
Key is removable only in the Off position.
95633 is moisture- and fungus-resistant per MIL-JAN-T-152
Electrical ratings at 12V DC: 10A Accessory, 10A Ignition

Off – On (Ignition)

Part No.	Terminals	Actuation/ Lock	Seal	Case	Bushing
9577 ★	2 screw	Coded	-	A	3/4"-20
95532	2 screw	Coded	-	B	13/16"-24
95512-A	2 screw	Hencol S	-	C	5/8"-32
95522-A	2 screw	Hencol S	O	C	5/8"-32
9518	2 screw	Coded	-	A	3/4"-20

Key is removable only in the Off position, except 9518 where the key is removable in both positions. 9518 is suitable for security alarm applications.

See also page 39 for compact keyed switch 9622-01.



Electrical ratings at 12V DC: 10A Ignition

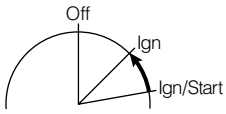
Extra Heavy Duty

3-Position

Off – Ignition – Ignition/Start

Part No.	Terminals	Actuation/ Lock	Seal	Case	Bushing
95610	3 screw	Lever S	-	F	5/8"-32
95612 ★	3 screw	Lever S	O	F	5/8"-32
95613	3 blade	Lever S	O	F	5/8"-32
95561-01	3 blade	Hencol S	O	G	5/8"-32
95521-01	3 screw	Lever S ▲	O	G	5/8"-32
95511-B	3 screw	Hencol S	-	G	5/8"-32
95521-B	3 screw	Hencol L	O	G	5/8"-32

▲Lever is dichromate finish.

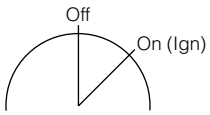


Key is removable only in the Off position, spring return to IGN.
95561-01 accepts Delphi (Packard) connector 2973386
Electrical ratings at 12V DC:
10A Ignition, 5A Start: 95561-01
20A Ignition, 20A Start: 95613
25A Ignition, 20A Start: 95610, 95612,
25A Ignition, 70A Start: 95521-01, 95511-B, 95521-B

2-Position

Off - On (Ignition)

Part No.	Terminals	Actuation/ Lock	Seal	Case	Bushing
95597	2 screw	Hencol L	O	G	5/8"-32
M-288	2 screw	Lever L	O	G	5/8"-32



Key is removable only in the Off position.
Electrical ratings at 14V DC: 50A, silver contacts.

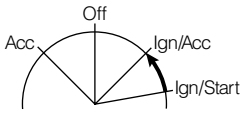
Foot-Operated Starters

See page 40.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Marine switches are highly suitable for harsh environments whether on land or at sea. They are corrosion-resistant, often with brass cases and extra seals. Moisture-repellent insulators, coded locks with 2 brass keys. For 6-36V DC applications.

4-Position



Key is removable only in the Off position, spring return to IGN/ACC.

Electrical ratings at 12V DC:

10A Accessory, 5A Ignition, 5A Start.

M-712 BP ★

Four brass screw terminals. Brass case and mounting hardware, chrome-plated brass facenut. Brass mounting stem 13/16" -24, 1 7/32" (31.0mm) long, fits panels up to 1" (25.4mm).

M-712-02 Weather-Resistant

Same as M-712, except with O-ring seal in the mounting stem, and with spring-actuated shutter in the lock face to protect the cylinder when not in use.

M-712-09 With Rubber Boot Assembly BP

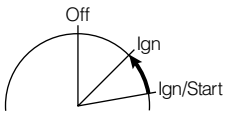
Same as M-712, except with weather-resistant rubber boot and mounting nut assembly to protect against moisture and dirt with or without the key inserted.

M-700 With Diecast Case

Four brass screw terminals. Diecast case with protective finish. Mounting stem 3/4" -20, 13/16" (20.6mm) long, fits panels up to 1/4" (6.4mm). Knurled aluminum adapter facenut permits mounting in 3/4" (19.1mm) to 7/8" (22.2mm) diameter holes.

3-Position

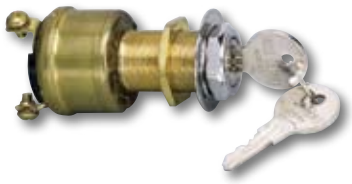
Off – Ignition – Ignition/Start



Key is removable only in the Off position, spring return to IGN. Electrical ratings at 12V DC: 10A Ignition, 5A Start.

M-550 With Screw Terminals BP ★

Three brass screw terminals. Brass case and mounting hardware, chrome-plated brass facenut. Brass mounting stem 13/16" -24, 1 7/32" (31.0mm) long, fits panels up to 1" (25.4mm).



M-6110-01 Weather-Resistant

Same as M-550, except with O-ring seal in the mounting stem, and with spring-actuated shutter in the lock face to protect the cylinder when not in use.

M-550-14 With Rubber Boot Assembly BP

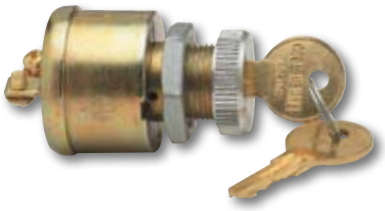
Same as M-550, except with weather-resistant rubber boot and mounting nut assembly to protect against moisture and dirt with or without the key inserted.

M-550-25 With Protective Cap

Same as M-550, except with a captive plastic cap that snaps over a special facenut to protect the lock when not in use. Fits panels up to 5/8" (15.9mm).

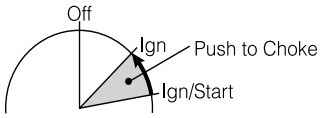
★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

M-711 With Diecast Case
Three brass screw terminals. Diecast case with protective finish. Mounting stem 3/4" -20, 13/16" (20.6mm) long, fits panels up to 1/4" (6.4mm). Knurled aluminum adapter facenut permits mounting in 3/4" (19.1mm) to 7/8" (22.2mm) diameter holes.

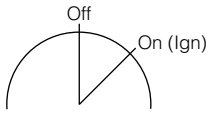


M-850 Plastic Body BP ★
Key is removable only in the Off position, spring return to IGN.Electrical ratings at 6-36V DC: 15A Ignition, 5A Start. Three nickel-silver screw terminals. Durable plastic case and stem with PVC boot for added weather protection. Mounting stem fits panels up to 7/8" (22.2mm) thick, with 7/8" diameter hole. Fits many boats, including Baja, Celebrity, Chapparal, ChrisCraft, Crestliner, Crownline, Four Winns, Larson, Luhrs, Mariah, Powerquest, Rinker, S2 Yachts, Silverton Yacht, Thompson, Thunderbird (Formula), Wellcraft.

M-832 With Push-To-Choke BP ★
Key is removable only in the Off position, spring return to IGN. Electrical ratings at 6-36V DC: 15A Ignition, 5A Start. Six nickel-silver screw terminals. Durable plastic case and stem with PVC boot for added weather protection. Long mounting stem 2.00" (50.8mm) long, fits panels up to 1 3/8" (34.9mm) thick, and with 7/8" diameter hole (22.2mm) Fits many boats, including Bayliner, ChrisCraft, Sea Ray.



2-Position
Key is removable only in the Off position.



M-489 BP ★
Electrical ratings at 12V DC: 10A Ignition. Two brass screw terminals. Brass case and mounting hardware, chrome-plated brass facenut. Brass mounting stem 13/16" -24, 1 7/32" (31.0mm) long, fits panels up to 1" (25.4mm).

M-489-03 Weather-Resistant
Electrical ratings at 12V DC: 10A Ignition.
Same as M-489, except with O-ring seal in the mounting stem, and with spring-actuated shutter in the lock face to protect the cylinder when not in use.

M-497 With Lever ★
Electrical ratings at 12V DC: 10A Ignition. Two brass screw terminals. Brass case, brass mounting stem 1/2" -20, 1 1/4" (31.8mm) long, fits panels up to 7/8" (22.2mm). chrome-plated diecast long lever.

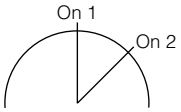
M-702 With Diecast Case
Electrical ratings at 12V DC: 10A Ignition.
Two brass screw terminals. Diecast case with protective finish. Mounting stem 3/4" -20, 13/16" (20.6mm) long, fits panels up to 1/4" (6.4mm). Knurled aluminum adapter facenut permits mounting in 3/4" (19.1mm) to 7/8" (22.2mm) diameter holes.

M-676 BP ★
Electrical ratings at 12V DC: 5A Ignition.
Two brass screw terminals. Brass case with chrome-plated integral bezel. Brass mounting stem 3/4" -27, 3/4" (19.1mm) long, fits panels up to 5/8" (15.9mm). Double bit keys.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

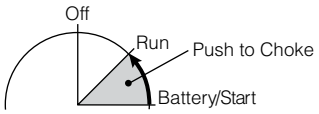
Marine 2-Circuit Switch

M-703
Key removable in both positions.Electrical ratings at 12V DC: 10A both positions.Three brass screw terminals. Diecast case. Mounting stem 3/4" -20, 13/16" (20.6mm) long, fits panels up to 1/4" (6.4mm). Knurled aluminum adapter facenut permits mounting in 3/4" (19.1mm) to 7/8" (22.2mm) diameter holes.



Marine 3-Position Magneto Switch

M-924
Magneto ignition and battery start switch with push-to-choke. Key removable in Off position, spring return to RUN. Electrical ratings at 12V DC: 2A Magneto, 10A Battery/Ignition, 3A Choke, 5A Start. Six brass screw terminals. Brass case and mounting hardware, chrome-plated brass facenut. Brass mounting stem 13/16" -24, fits panels up to 15/16" (23.8mm). O-ring seal in the mounting stem.



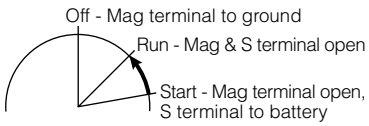
ignition switches

Magneto Ignition and Battery Start Switches

Dependable switches suitable for golf and utility carts, lawn and garden tractors and similar applications.

3-Position

Off – Run – Start (Start Terminal to Battery)

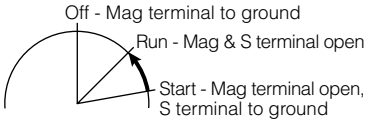


Key removable in Off position, spring return to RUN. Self-grounding in the Off position in metal panels.

95520-B 70A Start
Electrical ratings at 12V DC: 70A Start, 1A Magneto. Three screw terminals. Plated steel case. 5/8" -32 mounting stem with O-ring seal, fits panels up to 1/4" (6.4mm). Long Hencol key.

95663-04 5A Start
Electrical ratings at 12V DC: 5A Start, 1A Magneto. Three blade terminals. Diecast zinc case. 5/8" -32 mounting stem with O-ring seal, fits panels up to 7/32" (5.5mm). Mates with Delphi (Packard) connector 2973422.

Off – Run – Start (Start Terminal to Ground)

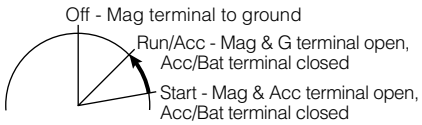


Key removable in Off position, spring return to RUN. Self-grounding in the Off position in metal panels. Electrical ratings at 12V DC: 5A Start, 1A Magneto

95526-A
Three screw terminals. Plated steel case. 5/8" -32 mounting stem, fits panels up to 9/16" (14.3mm). With O-ring seal.

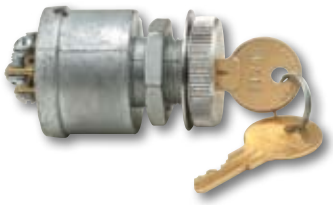
Rapid ship item. *Available in retail clamshell pack.* *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Off – Run/Accessories – Start



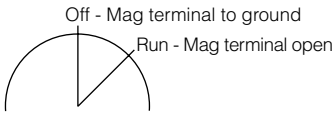
Key removable in Off position, spring return to RUN/ACC.
Self-grounding in the Off position in metal panels.
Electrical ratings at 12V DC: 10A Accessory, 5A Start,
1A Magneto.

95539
Four screw terminals. Diecast case. 3/4" -20 mounting stem, fits panels up to 1/2" (12.7mm).



95616
Four screw terminals. Diecast case. 5/8" -32 mounting stem with O-ring seal, fits panels up to 9/16" (14.3mm).

2-Position



Key removable in Off position.
Electrical ratings at 12V DC: 1A Run.

95517-A*
Two screw terminals. Plated steel case. 5/8" -32 mounting stem, fits panels up to 9/16" (14.3mm).

95566*
Two screw terminals. Plated steel case. 7/8" -27 mounting stem 1 7/32" (31.0mm) with O-ring seal, fits panels up to 15/64" (5.9mm).

13-pole

12300 socket and 12301 plug provide six additional circuits within the dimensions of a standard 7-pole connector! See page 137.

Custom Ignition Switches

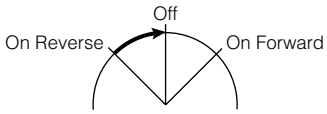
A customer recently asked us to design a totally new ignition switch, sealed to IP67 and with an integrated connector. Our engineers work closely with OE engineers to design switching soulutions. How can we help you?

Reversing Switches

These handy 3-Position switches can replace toggle or rockers. Keyed switches ensure that motors are locked in the Off position in cherrypickers, hoists, tailgate lifts, snowplows, walking-floor trailers, backhoes and many other applications. Typically one On is wired as Forward, the other On as Reverse.

On-Off-On (Reverse-Off-Forward)

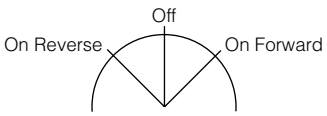
Spring Return



Key removable in Off position, spring return to Off from REVERSE.
Electrical ratings at 12V DC: 10A Reverse or Forward

95528-A*
Three screw terminals. Plated steel case. 5/8" -32 mounting stem. O-ring seal in mounting stem. Fits panels up to 9/16" (14.3mm) thick.

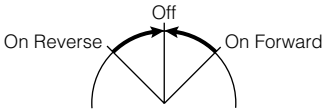
No Spring Return



Key removable in Off position.
Electrical ratings at 12V DC: 10A Reverse or Forward

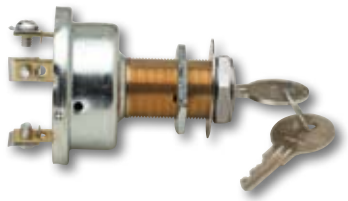
95593 With Tumbler Lock
Three screw terminals. Zinc diecast case. 3/4" -20 mounting stem, fits panels up to 11/64" (4.4mm).

Mom On-Off-Mom On (Mom Forward-Off-Mom Reverse)

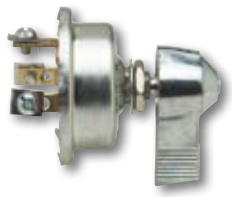


Key removable in Off position, spring return to Off.

75705-01 10A With Tumbler Lock
Electrical Ratings at 12V DC: 10A. Three screw terminals. Plated steel case. 13/16" -24 mounting stem with O-ring seal.



75701 20A With Lever
Electrical Ratings at 12V DC: 20A. Silver contacts. Three screw terminals. Plated steel case. 7/16" -28 mounting stem.

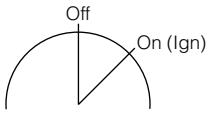


Reversing Switches

Reversing Switches
This type of switch has multiple applications: on cranes, hoists, winches, snowplows etc.— anything that calls for a motor to operate in forward-reverse, translating to motorized motion of up-down, left-right, open-close, in-out etc.

An alternate mechanism is to use Reversing Solenoids 24400, 24401, 24401-01, 24402, 24450 in conjunction with rocker, toggle, push-pull or rotary switches. These solenoids are also used for forward-reverse in simple automotive vehicles, such as golf carts and garden tractors.

Compact Ignition and Start Switches



Key removable at Off only

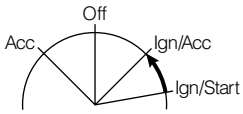
9500 10A With Lever

Electrical Ratings at 12V DC: 10A
Two screw terminals. Plated steel case. 1/2" -20 mounting stem fits panels to 13/64" (5.2mm).

9622-01 5A With Tumbler Lock ★

Key removable at Off and On. Electrical Ratings at 12V DC: 5A.
Two screw terminals. Plated steel case. 3/4" -24 mounting stem fits panels to 3/4" (19.1mm). See also 9518 on page 33.

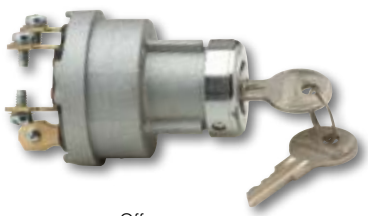
Delco Replacement Ignition and Start Switches



Key removable at Off, spring return to IGN/ACC

95400

Four screw terminals.
Replaces: *Delco D-1460, GMC 116508, Motorcraft SW-276.*



Key removable at Off, spring return to IGN/ACC

95408 5-Blade Terminals, for Delphi (Packard) 2984170

Without lock cylinder (order 95874, cylinder, 2 keys).
Five blade terminals.1" -24 UNS-2A thread.
Replaces: *Delco D-1469, D-1482, D-1482-A, GMC 1116672, 74, 85, 87, 1116704, 10. GMC Trucks '70.*

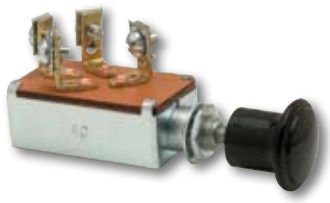
95410 7-Blade Terminals, for Delphi (Packard) 6288702 ★

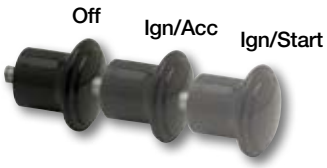
Without lock cylinder (order 95874, cylinder, 2 keys).
Seven blade terminals, includes two ground terminals for checking indicator bulbs. One additional battery terminal provides continuous hot feed for optional equipment. O-ring seal in the mounting stem. 1" -24 UNS-2A thread.
Replaces: *Delco D-1403-A, D-1406-A, D-1480, D-1498-A, GMC 1116712, 1116683, 95, 1116704, 09, 11, 2234285, Chevrolet Trucks 67-83, 85-89, GMC Trucks 67-83, 85-89.*

Push-Pull Battery Ignition and Starter Switch

9576

Spring return to IGN/ACC.
Electrical Ratings at 12V DC: 10A Accessory, 5A Ignition, 5A Start.
Four screw terminals. Plated steel case. 3/8" -24 mounting stem fit panels up to 3/16" (4.8mm). Includes hexnut and washer for mounting. Black plastic screw-on knob.





★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

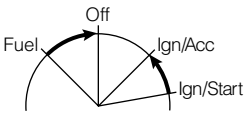
Diesel Ignition and Start Switches

These heavy-duty switches provide a superior pre-heat circuit to energize the glow plugs.

4-Position

956-9100

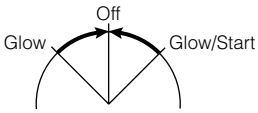
Key removable at Off, spring return to IGN/ACC, spring return from FUEL. Electrical Ratings at 12V DC: 10A Fuel, 10A Accessory, 5A Ignition, 5A start. Five screw terminals. Diecast case. 1" -24 mounting stem, with O-ring seal, fits panels up to 3/32" (2.4mm). Gasket-sealed terminal insulator.



3-Position

95033

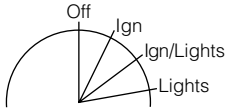
Spring return to Off.
Electrical Ratings at 12V DC: 50A Glow Plug, 10A Start.
Three screw terminals. Plated steel case. 5/8" -32 mounting stem, with O-ring seal, fits panels up to 1/4" (6.7mm).
Silver contacts.



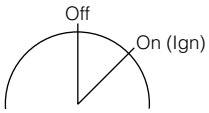
Battery Ignition and Light Switch

9621-01

Provides a light circuit in addition to the ignition function.
Electrical Ratings at 12V DC: 5A Ignition, 5A Lights.
Three screw terminals. Plated steel case. 5/8" -32 mounting stem, fits panels up to 9/64" (3.6mm).



Ignition Switch with Wire Lead Assembly



95614

Key removable in Off.
Electrical Ratings at 12V DC: 5A.
Two 12" 14AWG wire leads with attached ring terminals. Heavy duty steel case, plated to resist corrosion. Coded lock cylinder with two keys. Rubber boot seal for added moisture and dust protection. 13/16" (20.6mm) diameter mounting stem, 25/64" (9.9mm) long fits panels up to 7/32" (5.5mm).

Foot-Operated Starter Switches

Off – On, normally Off. On with plunger depressed, spring return to Off. Copper contacts and terminal studs.

9060 Long Plunger ★

1.83" (46.5mm) long plunger. Two stud terminals, 5/16" -24 thread with hexnuts and lockwashers. Mounting: two 9/32" (7.2mm) diameter holes, 1 3/4" (44.5mm) on centers.

Replaces: *Autolite SW-40001 (15-47), 15-50, 4001A, 4002, 4005, 4010, 4015 (15-51), Delco D900 (405C).*

9183 Short Plunger ★

Same as 9060, but with 1" (25.4) long plunger.

Replaces: *Autolite SW-4012 (15-49), Delco 1996478.*

91001 Angled Mount

.66" (16.8mm) long plunger. One stud terminal, 3/8" -16 thread with 8-32 stud for attaching external ground. Mounting: two 7/32 x 9/32" (5.6 x 7.1mm) holes, 1.40" (35.4mm) on centers.

Replaces: *Autolite 15-201, Delco 1930496 (D906).*

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Protective Boots

Mounting nut containing a durable rubber with a self-closing key slot.

83285-01 Aluminum ★
3/4" -20 thread, 7/16" (11.1mm) thickness.

83288 Chrome-Plated Brass BP ★
13/16" -24 thread, 17/32" (13.5mm) thickness.

Plastic Cap

97298 ★
Captive black protective cap, used with facenut 83295-A

Facenuts

Part No.	Thread	Hole to Clear	Type	Thickness
8367	3/4"-20	5/8"	Aluminum Round Knurl	19/64"
83337	13/16"-24	5/8"	Brass-Chrome Plate-Hex	15/64"
83295-A	13/16"-24	5/8"	Brass-Chrome Plate-Hex	15/32"
*83321-A**	*1"-32*	*15/16"*	*Zinc Die Cast Round*	*5/16"*

More facenuts – page 159.

Key Cover

Covers slip over Cole Hersee tumbler lock keys 83406, 83373 and 83379, and make key identification easy.

98635-01 Black

Keys for Cole Hersee Ignition Switches

Hencol Keys

Patented Hencol lock and key system gives trouble-free performance. Heavy gauge steel, plated to resist corrosion.

83357 Short
Used on all 956 Series ignition switches with Hencol locks and these Ignition switches:

95030-A	95522-A	95527-A	95616-01
95512-A	95523-A	95528-A	95617
95514-A	95524-A	95561-01	95663-01
95515-A	95525-A	95564-01	95663-04
95516-A	95526-A	95616	956-9100
95517-A			

83353 Long
In tables in Section C2, this key is denoted 'Hencol L'. Long key is on these switches:

95511-B	95521-B
95520-B	95597

Tumbler Key

83373
For these Ignition Switches:

956-3122	956-4304
956-3125	956-4311
956-4100	956-4704
956-4104	956-5122
956-4116	95582
956-4154	

83379
For these Ignition Switches:

9513	95535	M-550-25	M-924
9578	95539	M-712	
9579	95593	M-712-02	
9622-01	95608	M-712-09	
75705-01	90005-03	M-700	
95532	95614	M-550	
95534	M-489	M-703	
9579-02	M-550-14	M-711	

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

Actuators

Coded tumbler lock.

Hencol L. Long handle keys 83353.

Hencol S. Short handle keys 83353.

Lever L. Long handle lever knob 80101-B.

Lever S. Short handle lever knob 81254.

Military lever.

Contacts
Silver contacts are highly-conductive and give a long life to the switch, by minimizing arcing. They are available on many of our switches.

Grounding
Switches are offered with a grounded case design or with a separate ground terminal. A grounded case switch must be installed in a metal panel which is part of the vehicle ground system. For installation in non-grounded panels, select a switch with ground terminal.

Battery ignition switches with a ground circuit permit the operator to check panel indicator lights when the switch is turned to the start position.

Replacement Switches
We have Delco replacement switches, as well as other items that are not listed. Check with Cole Hersee.

Special Requirements
We design and manufacture switches for OEMs of all kinds of equipment. Our engineers can work with your staff to evolve the best design. We can work from the ground up to solve a switching problem...or we might be able to save you money by adapting an existing switch. Contact us.

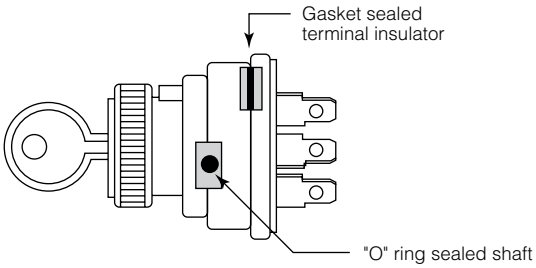
Other Applications for Ignition Switches
Our switches are designed to meet the rigors of use in land and marine vehicles, but they can also be used in any low voltage DC application.

Industry Standard Connectors
Sealed Keyswitch Series 95060 accepts standard Deutsch connector, and retail pack (BP) items contain the connector and wires.

All 956 Series Ignition Switches with blade terminals mate with Delphi (Packard) connector 2962912.

95663-04 accepts Delphi (Packard) 2973422.
95561-01 accepts Delphi (Packard) 2973386.
95564-01 accepts Delphi (Packard) 2965454.

Weather-Resistant Options
For inclement conditions, we can add an O-ring seal in the bushing and a gasket seal to protect the terminal insulator, or we can plastic coat the switch by special order. You can also use Rubber Boot/Mounting Nuts and Plastic Caps (see 'Accessories' in this section). Marine construction switches generally have brass cases and added protection against the wave and weather. You can also find different types of starter switches in Section A Rocker Switches, Section B Toggle Switches, Section G Push Button Momentary Switches and Section F Push-Pull Switches.



Circuitry
We have many options in 2- 3- and 4-Positions, for Battery Ignition and Magneto Switches. Anti-Restart switches prevent an engine from being accidentally re-energized when running, and protects the circuitry from an inadvertent overload.

Terminals
Screw terminals have lockwashers to ensure continued connection of wires. Blade terminals are made of brass, 1/4" (6.4mm) wide. Any switch can be fitted with wire leads by special order.

Custom Keys

We made this elegant key to grace the keyrings of Cobalt boat owners. The keys will start their beautiful boats using reliable Cole Hersee ignition switches. But we also make different styles of custom keys for workhorse vehicles.

Whether you want a glossy or embossed logo key, we can do that. Ask us!

Rapid ship item. *Available in retail clamshell pack.* *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

rotary & headlamp switches

D

UNIVERSAL ROTARY SWITCHES	D1
ROTARY REVERSING SWITCHES	D2
ROTARY HEADLAMP & LIGHT SWITCHES	D3
RHEOSTAT, AC AND DEFROSTER SWITCHES	D4
PUSH-PULL HEADLAMP SWITCHES	D5
ELECTRONIC DIMMER SWITCHES	D6
FOOT-OPERATED SWITCHES	D7

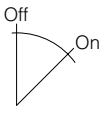
rotary & headlamp switches

D1 UNIVERSAL ROTARY SWITCHES

In a full range of styles and circuitries for lighting, ignition and similar applications. Plated steel cases.

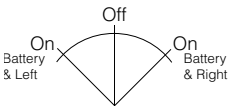
9500 10A 2-Position

10A at 12V DC. Mounting stem 1/2"-20 thread. Two screw terminals.



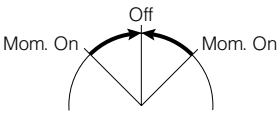
24054 10A 3-Position

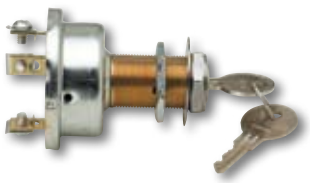
10A at 12V DC. Lever actuator. Mounting stem 1/2"-20 thread. Three screw terminals.



75705-01 10A Momentary 3-Position

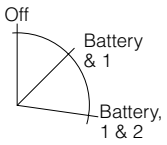
10A at 12V DC. Mom On1 – Off – Mom On2, spring return to Off from both positions. Key actuator with coded tumbler lock. Mounting stem 13/16"-24 thread. Internal O-ring seal. Three screw terminals.

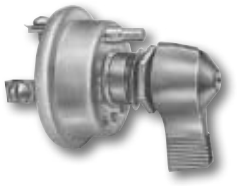




9802 20A 3-Position

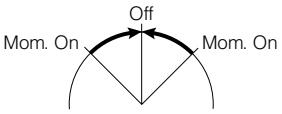
20A at 12V DC. Lever actuator and indexing pin. Mounting stem 5/8"-32 thread. Silver contacts. Three screw terminals.

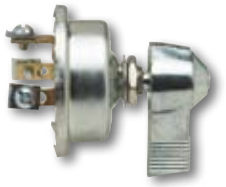




75701 20A Momentary 3-Position

20A at 12V DC. Lever actuator, spring return to Off from both On positions. Silver contacts. Mounting stem 7/16"-28 thread. Three screw terminals.





★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

72150 Series

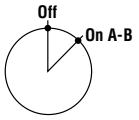
Compact plastic switches, with durable nylon 6/6 body, knob and stem, aluminum hardware, and plated brass terminals. Knobs snap on, and have a very positive detent action. Sealed to IP-53 for protection against dust and contaminants. Terminals accept connectors 99022 or 99021 with standard .250 quick-connect or Faston terminals. 10A or 20A at 12V DC.

Rotation diagrams: an arrow indicates a momentary switch. "On A-B" for example, indicates that terminals A & B are connected in the indicated position.

Part numbers refer to the switch complete with knob.

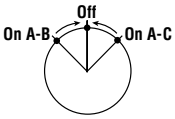
10A

SPST On-Off



72150-01 72150-02

SPDT Momentary



72154-02

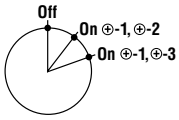
Connector For 72150 Series Switches

99022

20A

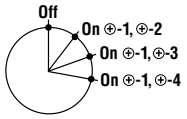
Switches are make before break.

SP3T

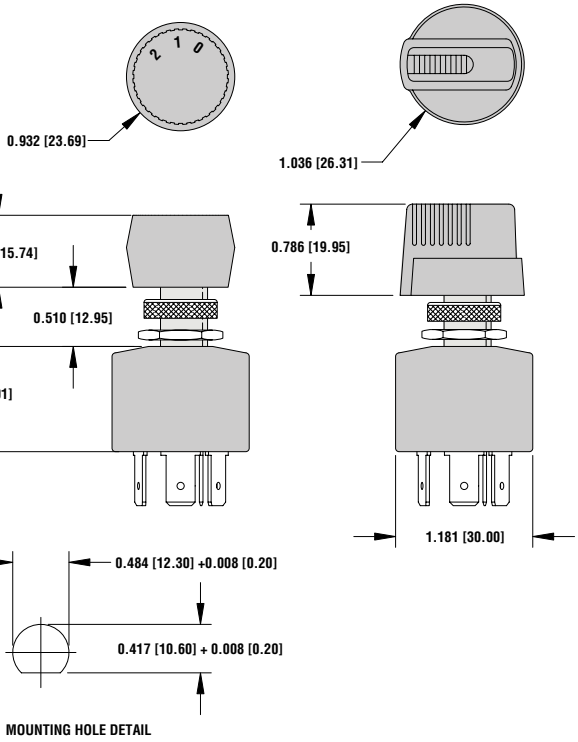


72171-02 72171-04

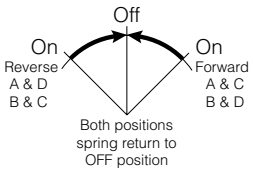
SP4T



72170-04



★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*



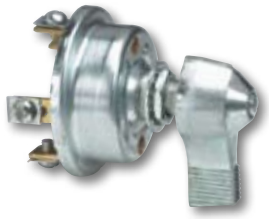
For forward-reverse operation of a motor, to give a motion such as Up/Down, Left/Right, In/Out, Rotate/Counter-rotate. Suitable for control of tailgates, winches, windlasses, snowplows and other applications. DPDT. Spring return to Off from both On positions. Four screw terminals. Plated steel case.

90005-01 15A, Lever ★

15A at 12V DC. Lever actuator. Silver contacts. Mounting stem 1/2"-20 thread, 1 1/4" (31.8mm) long.

*90005-04** 15A, Lever

15A at 12V DC. Lever actuator. Silver contacts. Mounting stem 1/2"-20 thread, 13/32" (10.4mm) long.



90005-03 15A, Lock ★

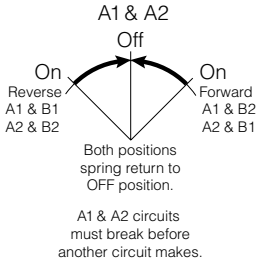
15A at 12V DC. Key actuator with coded tumbler lock. Spring return to Off from both On positions. O-ring seal in stem. Mounting stem 13/16"-24 thread.

Forward & Reverse Module

Sealed module handles high power motor reversing and features dynamic braking. See page 99.

75712-04 50A, Lever BP ★

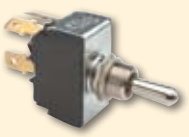
Heavy duty 50A switch allows forward and reverse motion of a motor without the need for a relay, especially for operation of tarps on trucks. Heavy duty component parts: 3/32" thick terminals, silver-laminated contacts to resist arcing over a long working life. 2.09" diameter (53.1mm) steel case. 10-32 x .375" (9.5mm) terminal screws with lockwashers. Mounting stem 1/2" -20 thread.



Forward & Reverse Switches

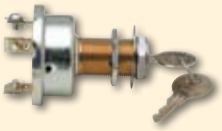
Cole Hersee manufactures several rotary switches that can be used in Forward-Reverse applications. These switches are DPDT Momentary On - Off - Momentary On, such as the 90005 series switches (15A at 12V DC). For demanding applications, there's the 75712-04, rated at 50A at 12V DC.

But we make other types of controls that can switch a motor to forward or reverse mode:



55046
Toggle Switch
25A at 12V DC

58027-18
Rocker Switch
25A at 12V DC



90005-03
Keyed Switch
15A at 12V DC

Cole Hersee switches: always lots of choices.

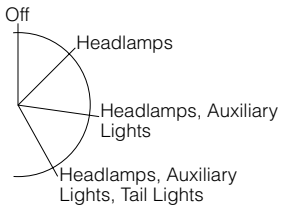
★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

72079-01 With Knob

With black knob imprinted with SAE headlamp symbol. Silver contacts. Five screw terminals. Plated steel case. Mounting stem 5/8"-32 thread. With O-ring seal in the mounting stem. 20A per circuit at 12V DC.

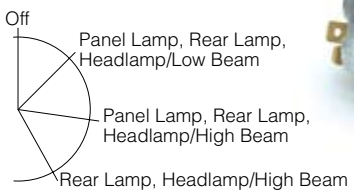
72023-01 With Short Lever

With short diecast lever. Four screw terminals. Plated steel case. Mounting stem 5/8"-32 thread. With O-ring seal in the mounting stem. 20A per circuit at 12V DC.



72051-03 With Black Lever

With black nickel-plated lever actuator. Five blade terminals, accepts Delphi (Packard) connector 2962912. Plated steel case. Mounting stem 5/8"-32 thread. With O-ring seal in the mounting stem. 20A per circuit at 12V DC.



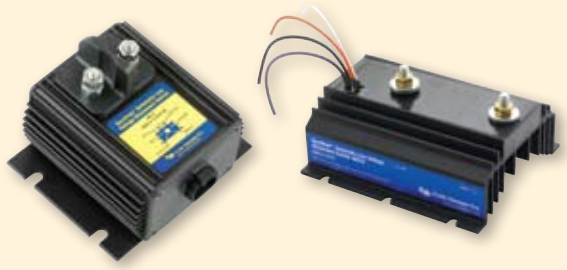
*72058-01** With Lever

Lever actuator and indexing pin. Four screw terminals. Plated steel case. Mounting stem 1/2"-20 thread. With O-ring seal in the mounting stem. Silver contacts. 30A total at 12V DC.

Fog Light Rocker Switch

As an alternate, fog light rocker switch 58027-17 matches other rocker switches that might be installed on the dashboard. For other switches of this type see Section A1.

No More Dead Batteries!



SureStart™ Low Voltage Disconnect switches automatically disconnect ancillary loads before battery power is insufficient to start the vehicle. They automatically reconnect when voltagehas been restored.

Prolongs battery life by preventing irreversible damage due to excessive discharge. See page 85.

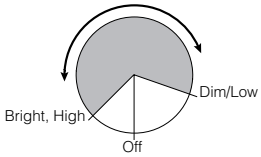
Air Conditioning Switch

68159-05

Off - Low - Medium - High. Clutch circuit is energized in L, M and H. No electrical break between positions. Silver contacts. 7/16" -28 thread mounting stem, .34" (8.6mm) long. Five blade terminals. Plated steel case, 1.39" (35.3mm) diameter, .50" (12.2mm) long. Black plastic knob with SAE arrow symbol and with metal insert and set screw.

Air Conditioning Switches

For 12V DC systems. Ceramic insulator with embedded coil for effective heat dissipation. 7/16" -28 thread mounting stem, 15/32" (11.9mm) long. Plated steel case, 1.32" (33.5mm) diameter, .88" (22.4mm) long. Black plastic knob with metal insert and set screw.



7493 with round/bar knob

7493 8 Ohm

With round/bar black knob. Two screw terminals.

7493-01 3 Ohm

With round/bar black knob. Two screw terminals.

7496 8 Ohm

With round/bar black knob. Two blade terminals.

7493-07 8 Ohm, Imprinted

With round/bar black knob imprinted “Panel Lamps”. Two screw terminals.

7496-04 8 Ohm, Imprinted

With round/bar black knob imprinted “Panel Lamps”. Two blade terminals.

7496-11 18 Ohm, Imprinted

With round black knob imprinted with SAE variable symbol. Two blade terminals

Heater-Defroster Switches

Four positions: Off-High-Medium-Low. 12V DC 3 Ohms or 24V DC 6 Ohms. Two screw terminals. Coil embedded in ceramic insulator for effective heat dissipation. Connections are welded to the resistance coil. Plastic round/bar knob with metal insert and set screw. Mount through a 5/8" hole (15.9mm) or with an optional bracket.

68362 12V, Black Knob

68363 24V, Black Knob

68366 24V, Tan Knob

With faceplate

Knobs

See page 157.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

3-Position

Three knob pull positions: In – Mid – Out.
In = Headlamps Off; Mid = Parking Lights and Tail Lights On;
Out = Headlights and Tail Lights On

7124 With Black Knob 'Lights'

Four screw terminals, plated steel case, mounting stem with 7/16"-28 thread. 15A per circuit at 12V DC.

7124-06 With SAE Headlamp Symbol

Same as 7124, but with black knob imprinted with SAE headlamp symbol.

72100 With Black Knob 'Lights' ★

O-ring seal in mounting stem, gasket seal at terminal insulator. Four screw terminals, diecast case, silver contacts, mounting stem with 7/16"-28 thread. 20A per circuit at 12V DC.

7152 With Ivory Knob 'Lights'

Four screw terminals, plated steel case, silver contacts, mounting stem with 3/8"-24 thread. 15A per circuit at 12V DC.

7157 With Breaker

With 30A at 12V circuit breaker, ivory knob imprinted 'Lights'. Three screw terminals, plated steel case, silver contacts, mounting stem with 7/16"-28 thread.

72101 With Breaker

With 30A at 12V circuit breaker, black knob imprinted 'Lights'. O-ring seal in mounting stem and gasket seal at terminal insulator. Three screw terminals, diecast case, silver contacts, mounting stem with 7/16"-28 thread.

72102 With Breaker

Same as 72101, but without sealing.

7127 With Fuse

With 20A at 12V glass fuse, black knob imprinted 'Lights'. Four screw terminals, plated steel case, mounting stem with 7/16"-28 thread.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

3-Position with Dimmer

Headlamp/Parking Lights/Tail Lights function the same as in the 3-position switches, but with the addtion of a rotary dimmer function for panel/dome lights.

71092-02 4.5 Ohm, With Internal 15A Breaker ★

In = All lights Off, except dome light on rotary dimmer.
Mid = Parking lights & rear lights On; panel lights & dome light on rotary dimmer. Out = Headlights & rear lights On; panel lights & dome light on rotary dimmer.4.5 Ohm Dimmer, 15A at 12V internal Circuit Breaker. With black knob imprinted with SAE headlamp symbol. Eight blade terminals accept Delphi (Packard) connector 2977645 or 2984169. Plated steel case. Mounting stem 7/16"-28 thread. Terminal connections: 1 to battery +; 2 to panel lights; 3 to rear lights; 4 to rear lights; 5 to battery +; 6 to headlights; 7 to parking lights; A to dome light. Connect frame ground terminal to ground.

71092

Same as 71092-02, but without knob and shaft.

7178 3.75 Ohm, With 30A Breaker

Rotation of knob dims panel lights in Mid and Out knob positions. 3.75 Ohm Dimmer, 30A at 12V Circuit Breaker. With black knob imprinted 'Lights'. Four screw terminals. Plated steel case. Mounting stem 3/8"-24 thread.

71016 11 Ohm, With 20A Breaker

Rotation of knob dims panel lights in Mid and Out knob positions. 11 Ohm Dimmer, 20A at 12V Circuit Breaker. With tan knob imprinted 'Lights'. Four screw terminals. Plated steel case. Mounting stem 3/8"-24 thread.

71016-01 11 Ohm, With 30A Breaker

Same as 71016, but with 30A at 12V Circuit Breaker.

71042 7 Ohm

Rotation of knob dims panel lights in Mid and Out knob positions. 7.0 Ohm Dimmer. With ivory knob imprinted 'Lights'. Three single and three double blade terminals. Plated steel case. Mounting stem 3/8"-24 thread.

4-Position Switch

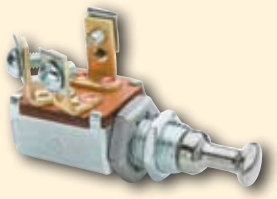
Four knob pull positions: In – Mid1 – Mid2 – Out.

7112 Headlamp Switch

Five screw terminals. Plated steel case. Mounting stem 3/8"-24 thread. With tan knob imprinted 'Lights'. 10A at 12V DC.

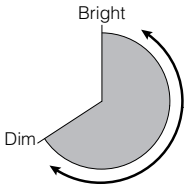
Universal

We have a wide selection of general purpose Push-Pull Switches: SPST, SPDT, DPST in steel case, brass case, and PVC-coated. See Section F.



★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

For variable intensity control of panel and interior vehicle lighting only. For 12V DC negative ground systems, 14.7V maximum. Black plastic knob with metal insert and set screw. Knob imprinted in white with the SAE variable symbol. Diecast case, 1 9/16" (39.7mm) diameter, .883" (22.4mm) long. 7/16" -28 thread mounting stem, .45" (22.4mm) long. O-ring seal.



74600-02 4 Amps, Delphi (Packard) Connector BP

Three wires (load, battery, ground) with Delphi (Packard) connector 2984378 on 3" (76.2mm) leads. Duty cycle: 0-100%.

74600-09 4 Amps, Leads

Same as 74600-02, except with two wires, no connector. Two wires (load, battery) 1 25/32" (45.3mm) long. Duty cycle: 1-99%.

74603 6 Amps, AMP Connectors

Two wires (load, battery) 2" (50.8mm) long, with two AMP connectors (load 480054-3, battery 480053-3). Duty cycle: 1-99%.

74601-01 7 Amps BP ★

Two wires (load and battery) 1 25/32" (45.2mm) long. Duty cycle: 1-99%.

Advantages

Electronic dimmers have several advantages:

Intensity settings are not load-sensitive.

Cool operation due to low heat generation.

Resistant to contamination: sealed case with O-ring seal in shaft.

Electronic circuit is protected from damage or malfunction due to: Power supply noise; Reverse polarity; Field decay; RF radiation; Load dump (per SAE J1113a).

Quick-Tap Wire Splicer

No need to strip the wire!

To make a Tap Splice

With the splicer open:
Press the existing circuit wire (red wire in the picture) into the outer channel.
Press the tap wire (yellow) into the inner channel.
Snap the splicer cover into place.
Squeeze with pliers.

To make an Inline Splice

With the splicer open:
Press one wire (yellow) into the outer channel.
Press the other wire (red) into the inner channel.
Snap the splicer cover into place.
Squeeze with pliers.

To make a Pigtail Splice

With the splicer open:
Press one wire (red) into the outer channel.
Press the other wire (yellow) into the inner channel.
Snap the splicer cover into place.
Squeeze with pliers.

See page 130.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

Headlamp Dimmer Switches

SPDT On - On. Depress-release for low beam, depress-release for high beam. Corrosion-resistant diecast metal housings, moisture-repellent insulators.

Through-floorboard mounting

7700 With Three Wire Terminals

PVC-coated case and leads gives added protection.Three 16AWG leads 5.75" (146.1mm) long. 27/32" (21.4mm) diameter stem. Three 1/4" -20 tapped mounting holes, 1 3/4" and 1 3/4" on centers (19.1 and 44.5mm).

7786 With Three Screw Terminals ★

1 1/16" (27.0mm) diameter stem. Three 1/4" -20 tapped mounting holes, 3/4" and 1 3/4" (19.0 and 44.4mm) on centers.

Replaces: Delco 1997014, D-805.

7787 With Three Screw Terminals

7/8" (22.2mm) diameter stem. Two 1/4" -20 tapped mounting holes, 1 3/4" (44.4mm) on centers.

Replaces: AMC 803870, 811681, Chrysler 1689512, Delco A-800, Ford A8AZ-13A024A, 7RA, 8A-13532, Motorcraft SW-256, 260.

7769 With Three Screw Terminals ★

27/32" (21.4mm) diameter stem. Three 1/4" -20 tapped mounting holes, 3/4" and 1 3/4" (19.0 and 44.4mm) on centers.

Replaces: Delco 465A-Z, 471P-Z, 1997002, 1997008, 1997009, 199870014, D-805, U-802, Ford 81A, 11A13532, Mack 1MR-234.

7784 With Three Screw Terminals, And Weather-Resistant Seal ★

7/8" (22.2mm) diameter stem. Three 1/4" -20 tapped mounting holes, 3/4" and 1 3/4" (19.0 and 44.4mm) on centers. Weather-resistant seal in the case.

7789-02 With Three Blade Terminals

55/64" (21.8mm) diameter stem. Two 1/4" -20 tapped mounting holes, 1 3/4" (44.4mm) on centers. Drain hole in the case.

On-floorboard mounting

7702 ★

Two 7/32" (5.6mm) diameter mounting holes,1 5/8" (41.3mm) on centers. Three blade terminals.

Replaces: Delco U803, Ford C0TF, C0TZ-13A024A, Motorcraft SW-263.

7776

Two 7/32" (5.6mm) diameter mounting holes,1 5/8" (41.3mm) on centers. Three blade terminals.

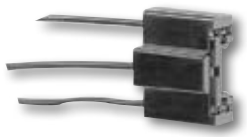
Replaces: AMC 3156124, 3160926, Chrysler 1841895, 1881938, 2097628, 2291202, 3488882, CH-247, Delco U-801, Ford B9A-13532-A.

7762 ★

Two 9/32" (7.1mm) diameter mounting holes,1 3/4" (44.4mm) on centers. Three blade terminals.

Replaces: AMC 5457282, Delco 1997028, 1997031, 1997035, 1997037, 1997040, 1997043, D-803, D-804, D-808, D-809, D-810, GMC 5834446, 578005, 1539288.

30156 Connector



Fits Cole Hersee switches 7702 and 7776.

Ford trucks 60-87, Dodge trucks 59-86.

30155 Connector

Fits Cole Hersee switch 7762.

Trucks: Autocar 68-80, Chevrolet 61-86, GMC 69-86, International 61-80, Freightliner 63-67, 72-80, Kenworth 65-67, 72-74, 77-80.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Turn Switches

Through-floorboard mounting. Depress to On, spring return to Off. Two switches are needed for left and right turn signals.

7785 Sealed, With Wire Leads

7/8" (22.2mm) diameter stem.
Three 1/4" -20 tapped mounting holes, 3/4" and 1 3/4" (19.0 and 44.4mm) on centers.
Plastic-coated, providing protection against moisture, dust and roadsplash.

7792-01 With Screw Terminals

7/8" diameter stem. Three 1/4" -20 tapped mounting holes, 3/4" and 1 3/4" (19.0 and 44.4mm) on centers.

7792 Sealed, With Screw Terminals

7/8" diameter stem.
Three 1/4" -20 tapped mounting holes, 3/4" and 1 3/4" (19.0 and 44.4mm) on centers.
Plastic-coated, providing protection against moisture, dust and roadsplash.

Starter Switches

Off-On, normally Off. Depress to On, spring return to Off.

9060 Through-Floorboard Mounting ★

Two stud terminals, 5/16" -24 thread with hexnuts and lockwashers.

Plunger is 1.83" (46.5mm) long.
Two 9/32" (7.2mm) diameter mounting holes, 1 3/4" (44.5mm) on centers.

Replaces: Autolite SW-40001 (15-47), 15-50, 401A, 4002, 4005, 4010, 4015 (15-51), Delco D900 (405C).

9183 Through-Floorboard Mounting, Short Stem ★

Two stud terminals, 5/16" -24 thread with hexnuts and lockwashers.

Plunger is 1" (25.4mm) long.
Two 9/32" (7.2mm) diameter mounting holes, 1 3/4" (44.5mm) on centers.

Replaces: Autolite SW-4012 (15-49), Delco 1996478.

91001 On-Floorboard Mounting

One stud terminal, 3/8" -16 thread for attaching external ground wire.
Plunger is 21/32" (16.7mm) long. Two .218" x .265" (5.5 x 6.7mm) mounting holes, 1.40" (35.6mm) on centers.

Replaces: Autolite 15-201, Delco 1930496 (D906).

When A Floor Switch Is Impracticable

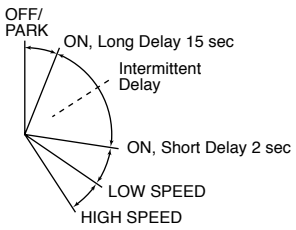
Panel-mount Dimmer and Headlamp Switch 7112 is frequently spec'd in delivery vans requiring stand-up operation, and in vehicles for the physically-impaired. See Section D5.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

wiper switches

E1 ELECTRONIC SWITCHES

With intermittent delay feature for permanent magnet electric wiper motors. Ensures dependable control of windshield wipers on heavy-duty vehicles. For 12V DC or 24V DC vehicles as noted, with or without dynamic parking, negative ground only. 4 positions: Off/Park - Intermittent Range - Low - High. Push-to-wash (one to three wipes after the knob is released). Black plastic knob with metal insert and set screw, white imprint. Diecast case 2 7/32" (56.4mm) square, 1 13/16" (46.0mm) long. 7/16 -28 thread mounting stem, .45" (11.3mm) long. Hexnut and lockwasher included. Switches conform to SAE J1455, SAE J112a and J234. Switches control most two-speed wiper motors.



With Dynamic Parking

Controls one or two motors.

75600-04 One Motor, Leads, 12V DC

Microprocessor design. Six color-coded wire leads, 5" (127.0mm) long. With round knob imprinted with SAE washer-wiper symbol.

75602-04 One Motor, Leads, 24V DC

Microprocessor design. Same as 75600-04, except 24V.

*75600** One Motor, Delphi (Packard), 12V DC

Microprocessor design. Same as 75600-04, but with Delphi (Packard) 8-way female connector 2965977 (mates with 2965972.) With round knob imprinted with SAE washer-wiper symbol.

75600-02 One Motor, Delphi (Packard), 12V DC

Controls one motor. One Delphi (Packard) 6-way male connector 2977042 (mates with 2977044). Lead and connector assembly: 5.625" (142.9mm) long. With round knob imprinted with SAE washer-wiper symbol.

75600-05 One Motor, Delphi (Packard), 12V DC

Controls one motor. One Delphi (Packard) 4-way male connector 6294544 (mates with 2977048) and one Delphi (Packard) 4-way female connector 2977048 (mates with 6294544). With round knob imprinted with SAE washer-wiper symbol. Lead and connector assembly: 5.625" (142.9mm) long.

*75600-07** One Motor,12V DC

Controls one motor. One 7-pole connector. Supplied with hexnut and lockwasher for mounting, no knob. Lead and connector assembly: 5.625" (142.9mm) long.

75600-01 Two Motors, 12V DC

Controls two motors. One Delphi (Packard) 4-way male connector 6294544 (mates with 2977048) and one Delphi (Packard) 6-way male connector 2977042 (mates with 2977044). With round knob imprinted with SAE washer-wiper symbol. Lead and connector assembly: 5.625" (142.9mm) long.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

Without Dynamic Parking

Controls one or two motors. 12V DC. Includes motors by Johnson Electric (formerly United Technologies) and Sprague Devices. Lead and connector assembly: 5.625" (142.9mm) long. Delphi (Packard) 8-way male connector 2965972 (mates with 2965977).

75601-14 With Knob
With round knob imprinted with SAE washer-wiper symbol.

75601-15 Without Knob
Includes hexnut and lockwasher for mounting.

For Permanent Magnet Electric Wiper Motors

For 12V and 24V DC, except where noted. For use with heavy-duty permanent magnet electric wiper motors. 3 positions: Off/Park - Low - High.

Without Dynamic Parking

For use with Johnson Electric (formerly United Technologies) motors. Black plastic knob with metal insert and set screw, white imprint. Plated steel case 1 3/8" (34.9mm) diameter, 3/8" (9.5mm) long. Mounting stem 7/16" -28 thread, .38" (9.6mm) long.

75212-04 Single Motor, With Push-To-Wash
4 blade terminals.

75221-06 Single Motor, Without Push-To-Wash
4 blade terminals. Internal 6A circuit breaker at 12V DC.

75221-09 Single Motor, With Push-To-Wash
5 blade terminals. Internal 6A circuit breaker at 12V DC.

75217-04 Dual Motor, Without Push-To-Wash
6 blade terminals.

75226 Dual Motor, With Push-To-Wash
7 blade terminals.

With Dynamic Parking

For use with motors with dynamic parking, including Robert Bosch and Sprague Devices motors. Sealed construction, including O-ring on the shaft. Black plastic knob with metal insert and set screw, white imprint. Mounting stem 7/16" -28 thread, .45" (11.4mm) long. Diecast case 1 5/8" (41.3mm) diameter.

75228-03 Single Motor, With Push-To-Wash
6 blade terminals.

75228-07 Single Motor, With Push-To-Wash
Same as 75228-03, but with Delphi (Packard) connector 6288538.

75228-04 Single Motor, With Push-To-Wash
5 blade terminals.

75236 Dual Motor, With Push-To-Wash
8 blade terminals.

Knobs

See page 157.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

ONE CIRCUIT F1
TWO CIRCUIT F2
MARINE CONSTRUCTION F3
SPECIAL APPLICATIONS F4

push-pull switches

F1 ONE CIRCUIT

SPST, Off-On. Universal application. Mounting hardware included.

Normally Off, 10A

Heavy duty, 10A at 12V DC, 6-36V.

5007 Screw Terminals BP ★

Aluminum mounting stem 3/8"-32 thread, 5/8" (15.9mm) long. Tan plastic knob with 10-32 threaded metal insert. Two screw terminals, plated steel case.

5011 Screw Terminals BP ★

Steel mounting stem 1/2"-20 thread, 5/8" (15.9mm) long. Chrome-plated knob. Two screw terminals, plated steel case.

50070 Silver Contacts, Blade Terminals

Same as 5011, except with two blade terminals.

5053 Glass Fuse, Chrome Knob

Steel mounting stem 1/2"-20 thread, 5/8" (15.9mm) long. Chrome-plated knob. Two screw terminals, plated steel case. 20A SFE fuse.

5067 Glass Fuse, Plastic Knob

Same as 5053, except with ivory plastic knob.

50077 Sealed Case

O-ring in stem, and gasket-sealed terminal insulator. Brass mounting stem 7/16"-28 thread, 5/16" (7.9mm) long. Black plastic knob with 10-32 threaded metal insert. Two screw terminals, zinc case.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Normally Off, 20A

Extra heavy duty, 20A at 12V DC, 6-36V.

50001 Black Knob

Silver-laminated contacts. Brass mounting stem 1/2"-20 thread, 5/8" (15.9mm) long. Black plastic knob with 10-32 threaded metal insert. Two screw terminals, plated steel case.

50002 Metal Knob

Same as 50001, except with chrome-plated brass integral knob.

50066 Sealed

Same as 50001, except with O-ring seal in stem, and gasket-sealed terminal insulator.

Normally On

50046

Heavy Duty: 10A at 12V DC, 6-36V. Aluminum mounting stem 3/8"-32 thread, 5/8" (15.9mm) long. Black plastic knob with 10-32 threaded metal insert. Two screw terminals, plated steel case.

push-pull switches

Independent Circuits

Switches energize two independent circuits simultaneously.

5027 SPST, On-Off, Normally On

18A at 12V DC, 6-36V. Three screw terminals and ivory plastic knob, imprinted 'Lights', with 10-32 thread and set screw.

5050 SPST, On-Off, Normally Off

20A total, 6-36V. With 30A circuit breaker (available with other values). Silver contacts. Plated steel mounting stem 1/2"-20 thread, 5/8" (15.9mm) long. Black plastic knob 10-32 thread with set screw, imprinted 'Lights'. Two screw and one stud terminals, plated steel case.

50047-01 DPST, On-Off, Normally Off

10A at 12V DC, 6-36V. Plated steel mounting stem 1/2"-20 thread, 5/8" (15.9mm) long, and integral chrome-plated knob. 4 screw terminals, plated steel case.

Common Circuits

SPDT, Off-On circuit 1 - On circuit 2. Switches energize two circuits alternately from a common feed.

5066 Screw Terminals

10A at 12V DC. Three screw terminals. Steel mounting stem 1/2"-20 thread, 5/8" (15.9mm) long, and integral chrome-plated knob. Plated steel case.

50082 Blade Terminals

8A at 12V DC. Three blade terminals. Steel mounting stem 1/2"-20 thread, 5/8" (15.9mm) long, and integral chrome-plated knob. Plated steel case.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

10A at 12V DC, 6-36V DC. Brass mounting hardware included.

One Circuit

Brass housing, brass mounting stem 3/8" -32 thread, 1 1/4" (31.8mm) long. Fits panels up to 3/4" (19.1mm) thick.

SPST On-Off, Normally Off

M-480 Plastic Knob BP

Two brass screw terminals. Ivory plastic knob, 10-32 thread.

M-482 Sealed, Screw Terminals BP ★

Two brass screw terminals. Chrome-plated brass knob. Gasket-sealed case.

M-482-01BP Sealed, Blade Terminals BP

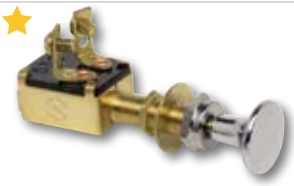
Two brass blade terminals. Chrome-plated brass knob. Gasket-sealed case.

M-606 PVC-Coated BP ★

Brass housing, plasticized. Two insulated copper wire leads, 12" (304.8mm) long. Chrome-plated brass knob, 10-32 thread.

M-628 Chromed Knob BP ★

Two brass screw terminals. Chrome-plated brass knob, 10-32 thread.



SPST On-Off, Normally On

M-530

Gasket-sealed brass housing. Two brass screw terminals. Chrome-plated brass knob. Brass mounting stem, 3/8" -32 thread, 1 1/4" (31.8mm) long.

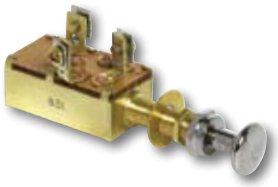
Two Circuits

M-527 SPST On-Off BP

Normally Off. Brass housing. Three brass screw terminals. Chrome-plated brass knob 10-32 thread. Brass mounting stem, 3/8" -32 thread, 1 1/4" (31.8mm) long, fits panels up to 1" (25.4mm) thick. With brass facenut, washer and hexnut.

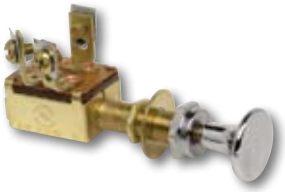
M-531 SPST On-On-Off BP

Off - On A&B - On B&H. Brass housing. Three brass screw terminals. Chrome-plated brass knob 10-32 thread. Brass mounting stem, 3/8" -32 thread, 1 1/4" (31.8mm) long, fits panels up to 1" (25.4mm) thick. With brass facenut, washer and hexnut.



M-630 SPDT On-On BP

Brass housing. Three screw terminals. Chrome-plated brass knob. Brass mounting stem, 3/8" -32 thread, 1 1/4" (31.8mm) long, fits panels up to 1" (25.4mm) thick. With brass facenut, washer and hexnut.



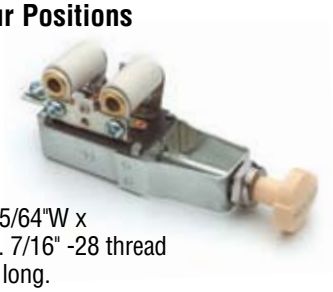
Three Circuits

M-532 SPDT On-On-Off BP

Off-On (B, R & A) - On (B, R & H) Brass housing. Four brass screw terminals. Chrome-plated brass knob 10-32 thread. Brass mounting stem, 3/8" -32 thread, 1 1/4" (31.8mm) long, fits panels up to 1" (25.4mm) thick. With brass facenut, washer and hexnut.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

7014 Heater Switch, Four Positions



Off-Low-Med-Hi. 12V DC.
Coil resistance 3 Ohms.
Two screw terminals.
Ivory plastic knob, imprinted "Heater" in gold lettering, with 10-32 threaded metal insert.
Plated steel case 3 5/64"L x 1 5/64"W x 3/4"H (78.2 x 27.4 x 19.1mm). 7/16" -28 thread mounting stem, .26" (6.7mm) long.

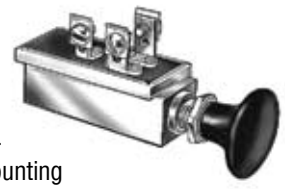
7019 Heater-Defroster Switch

Three positions: Off - Low - High.
10A at 12V DC. Two screw terminals. Without knob, shaft is 10-32. Three female bullet terminals. Case 1.625" x .85" x .635" (41.3 x 21.6 x 15.9mm).
7/16" -28 thread mounting stem, .34" (8.6mm) long.Replaces: Ford FAA-18578-A.

50071 Heater Switch

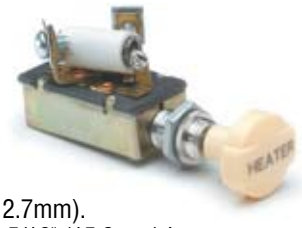
Two-circuit, SP Off - On (low speed) - On (high speed).
Energizes two circuits alternately from a common feed.
Heavy-duty: 10A at 12V DC, 6-36V DC.
Plated steel housing and mounting stem, 1/2" -20 thread, 1/4" (6.4mm) long. Integral chrome-plated brass knob. Three female bullet terminals.
Mounting hardware included.

50088 Headlamp Switch



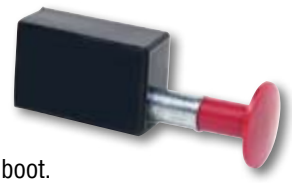
Extra Heavy-duty: SPST
Off - On, normally Off. 30A at 12V DC, 6-36V DC. Energizes two circuits simultaneously from a common feed for headlamps and taillamps. Brass mounting stem, 7/16" -28 thread. 5/16" (7.9mm) long.
Black plastic knob, 10-32 thread with set screw.
Zinc housing. Silver contacts. Sealed with a gasket under the terminal insulator. Mounting hardware included.

68028 Heater Switch, Three Positions



Off-Hi-Lo. 12V DC.
Coil resistance 3 Ohms.
Two screw terminals.
Ivory plastic knob, imprinted "Heater" in gold lettering, with 10-32 threaded metal insert.
Plated steel case 1 13/16"W x 1 19/32" x 1/2"H (46.0 x 40.5 x 12.7mm).
7/16" -28 thread mounting stem, 5/16" (15.8mm) long.

50036 Two-Speed Axle Switch BP



Two-circuit, On-On.12V DC. For mounting on gear shift lever with a clamp (not supplied).
Red plastic knob, 1 1/4" (31.8mm) diameter.
Three female bullet terminals.
Zinc case with protective rubber boot.
For use with 9283 and 40102.

Replaces: Diamond T/Reo 9935-H, 319305, Dodge 1390517, Eaton 32861, Ford 8QH-4078, SW-1535, GMC 2274282, International 79348-R91, Mack IMR-201, White 716913.

9283 Terminal Block Limit Switch

Controls Eaton two-speed axle shift.
Use with 50036.
Mounts in axle shift motor housing.
Heavy plastic insulator base, two 8-32 studs, 3/4"(19.1mm) long and two 8-32 studs 7/32" (5.6mm) long.

Replaces: Chevrolet 2279014, 3854312, Diamond T/Reo 9913-H, 356005, Dodge 1390517, 1508375, 1508404, Eaton 32382, 32414, 62252, Ford B2Q-4107-A, SW-1356, GMC 2279002, International 79050-R91, White 716920.

40102 Connector & Cable Assembly

Wire harness connects 9283 and 50036.

Replaces: Eaton 38810, Ford FAB-14668-B

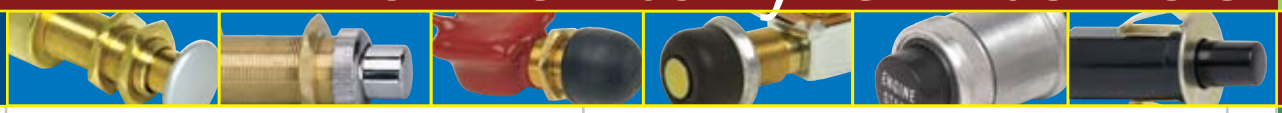
*50040** Magneto Switch, In-Run

In-Run (magneto terminal open), out-Off (magneto terminal grounded).
10A at 12V DC, 6-36V DC.
Integral nickel-plated knob.
One screw terminal.
Plated steel housing.
Aluminum mounting stem
3/8" -32 thread, 5/8" long (15.9mm).

50203 Magneto Switch, Out-Run

In-Off (magneto terminal grounded) out-Run (magneto terminal open).
10A at 12V DC, 6-36V DC.
Integral nickel-plated knob.
One screw terminal.
Plated steel housing.
Aluminum mounting stem
3/8" -32 thread, 5/8" long (15.9mm).

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*



NORMALLY OFF PUSH-BUTTON SWITCHES	G1
NORMALLY ON PUSH-BUTTON SWITCHES	G2
TWO CIRCUIT PUSH-BUTTON SWITCHES	G3
MARINE CONSTRUCTION PUSH-BUTTON SWITCHES	G4
SPECIAL MOMENTARY SWITCHES	G5
FLEXIBLE CAPS FOR PUSH-BUTTON SWITCHES	G6
DOOR MOMENTARY SWITCHES	G7

momentary switches

G1 NORMALLY OFF PUSH-BUTTON SWITCHES

For applications to 36V DC. Off - On, Normally Off. On with button depressed, spring return to Off. Silver contacts. Chrome plated button and face nut (except where noted).

Cylindrical Housing
35A at 12V, 20A at 24V DC.

9095 BP ★
Two screw terminals. Mounting stem: 5/8"-32 thread, 21/32" (16.7mm) long.

9216 With Seal
Same as 9095, except with O-ring seal in the mounting stem.

9216-03 With Seal and Screw-On Cap
Same as 9095, except with O-ring seal in the mounting stem, and screw-on black rubber protective cap (83280-03).

9245 With Seal and Snap-On Cap BP ★
Same as 9095, except with O-ring seal in the mounting stem, snap-on black rubber protective cap (407-03), and black plastic button.

90036-02 With Blade Terminals
Same as 9095, except with 2 blade terminals to fit Delphi (Packard) 2973407 two-way connectors, or similar.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

*9155** With Large Button
15/16" diameter button. 2 screw terminals with lockwashers. Mounting stem: 5/8"-32 thread, 21/32" (16.7mm) long.

9231 With Protected Button ★
With recessed facenut designed to prevent accidental actuation. 2 screw terminals. Mounting stem: 5/8"-32 thread, 21/32" (16.7mm) long.

*90000-01** With Protected Button, and Seal
Same as 9231, except with O-ring seal in the mounting stem.

90030 With Plastic Button, and Screw-On Cap BP ★
Two screw terminals. Mounting stem: 5/8"-32 thread, 21/32" (16.7mm) long. With screw-on black rubber protective cap 83280-03.

90030-01 With Plastic Button, and Oil-Resistant Cap
Same as 90030, except with brown oil-resistant cap 83280-05.

90030-04 With Plastic Button, and Red Screw-On Cap
Same as 90030, except with Red screw-on protective cap 83280-02.

*90011** With Plastic Button, and Button Terminals
Two male button head terminals, accept Delphi (Packard) connector 2962679, or equivalent. Mounting stem: 5/8"-32 thread, 5/8" (15.9mm) long. Accepts screw-on protective cap 83280-03. Black plastic button.

Rectangular Housing
10A at 12V DC, except where noted.

9044
2 screw terminals. Mounting stem: 5/8"-32 thread, 1.06" (26.9mm) long. Gasket seal in the case.

9023 ★
15A resistive, 10A inductive at 12V DC, 8A resistive, 5A inductive at 24V DC. Two screw terminals. Mounting stem: 5/8"-32 thread, .87" (22.1mm) long.

9023-09 With Cap
Same as 9023, but with screw-on black rubber protective cap 83280-03.

9238 With Blade Terminals ★
Same as 9023, but with blade terminals.

9238-01 With Blade Terminals, and Cap
Same as 9023, but with blade terminals and black rubber screw-on cap 83280-03.

More Moms

You'll find more moms (or momentary switches) in the following catalog sections:

Rocker Switches – Section A
Toggle Switches – Section B
Ignition Switches – Section C
Rotary Switches – Section D

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

9115 ★
Two screw terminals with lockwashers. Mounting stem: 5/8"-32, 7/8" thread (22.2mm) long.

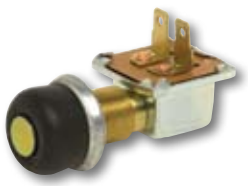
*90028**
Same as 9115, but with blade terminals.

90002 Sealed
Weather-resistant and dust-resistant. Gasket-sealed case and O-ring in stem. Two screw terminals with lockwashers. Mounting stem: 5/8"-32 thread, 1 1/16" (26.9mm) long.

90002-01 Sealed, Heavy-Duty
Same as 90002, except with silver contacts for heavy duty applications up to 36V DC.

91126 PVC-Coated
PVC-coated body for moisture and dirt protection. Two 7" (177.8mm) wire leads. Mounting stem: 7/16"-20 thread, .44" (11.2mm) long. Steel button, .38" (9.7mm) diameter.

90043 Sealed, with Rubber Cap ★
Two blade terminals accept 2-pole Delphi (Packard) connector 2977647 or equivalent. Mounting stem: 5/8"-32 thread, .625" (15.9mm) long. Gasket seal in the case. Steel plunger protrudes through the cap. Black rubber cap snaps into a special groove on the nut, which is deep-threaded and gives a positive seal.

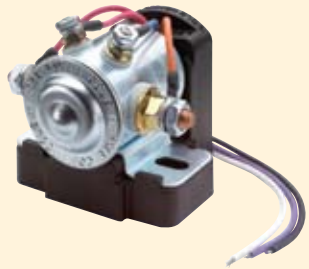


90043-07 PVC-Coated, Sealed, with Rubber Cap ★
Same as 90043, except with PVC-coated body and two 7" (177.8mm) 18AWG wire leads.

9212
2 blade terminals. Mounting stem: 7/16"-20 thread, 1/2" (12.7mm) long. 1/2" (12.7mm) plunger with nylon cap.

Smart Battery Isolators

Prevents loads on an auxiliary battery from draining the starting battery. More versatile than conventional isolators, it works with all types of alternator, and allows bi-directional charging from alternator to shore power. See page 92.



★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

G3 TWO CIRCUIT PUSH-BUTTON SWITCHES

On-Off. Two circuits are simultaneously energized. Normally Off is On with plunger depressed, spring return to Off. Normally On is Off with plunger depressed, spring return to On.

9165 Normally Off

10A per circuit at 12V DC. Three screw terminals with lock-washers. Mounting stem: 5/8"-32 thread, 21/32" (16.7mm) long with two steel hexnuts and facenut.

9276-09 Normally Off

35A at 12V, 20A at 24V, 10A at 36V DC. Silver contacts, three screw terminals. Mounting stem 5/8" - 32 thread, 21/32" (16.7mm) long. Black plastic button and screw-on rubber cap 83280-03.

9211 Normally On

Commonly used in school bus stepwell and door control. Four blade terminals. Mounting stem: 7/16" -20 thread. .33" (8.4mm) diameter button. 10A per circuit at 12V DC.

momentary switches

G4 MARINE CONSTRUCTION PUSH-BUTTON SWITCHES

Extra Heavy Duty

35A at 12V, 20A at 24V, 10A at 36V DC.

M-490 SPST Normally Off BP ★

Two brass screw terminals. Mounting stem; brass 5/8" -32 thread, 1 3/8: (34.9mm) long, fits panels up to 1" (25.4mm) thick. Silver contacts.

M-626 SPST Normally Off with Snap-On Cap BP ★

Same as M-490, but with snap-on black rubber cap 407-03.

M-626-02 SPST Normally Off with Screw-On Cap ★

Same as M-490, but with screw-on black rubber cap 83280-03.

M-612 SPST Normally Off with Recessed Button BP

Same as M-490, but with recessed facenut, designed to prevent accidental actuation.

M-491 SPST Normally Off with Large Button BP

Same as M-490, but with large anodized aluminum button, 15/16" (23.8mm) diameter.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Heavy Duty

10A at 12V DC. For 6-36V DC applications.

M-492 SPST Normally Off BP ★

Two brass screw terminals. Brass mounting stem 5/8" -32, 1 3/8" (34.9mm) long. Fits panels up to 1" (25.4mm) thick.

M-485 SPST Normally Off BP ★

Two brass screw terminals. Brass mounting stem 5/8" -32, 1" (25.4mm) long. Fits panels up to 3/4" (19.1mm) thick. Gasket-sealed case.

M-524 With Snap-On Cap

Same as M-485 except with snap-on black rubber cap. 407-03.

*M-485-02** With Screw-On Cap

Same as M-485 except with screw-on black rubber cap 83280-03.

M-639 SPST Normally On

Chrome-plated brass plunger. Two brass screw terminals. Brass mounting stem 5/8" -32 thread, 1" (25.4mm) long. Fits panels up to 3/4" (19.1mm) thick.

M-914-01 SPST Normally On

Two brass screw terminals. Brass mounting stem 3/8"-32 thread, 1" (25.4mm) long. Fits panels up to 3/4" (19.1mm) thick.

Marine Construction

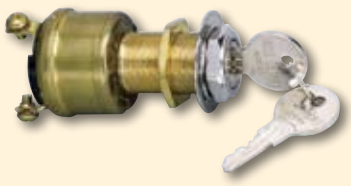
'Marine Construction' means 'for demanding applications'

Our marine construction switches are designed to stand up to conditions like ocean water spray that can destroy other switches. So these exceptional switches are also suitable for situations where dust infiltration and water spray can be a problem... like off-road equipment, agricultural vehicles, and other demanding applications.

Special features include rubber caps to protect the plunger, gasket-sealed cases (with rectangular housing switches), moisture-repellent insulators, brass construction, or chrome-plated brass, or the ultimate plasticized switch where the wire leads, body and part of the stem are dipped in a resilient PVC coating to completely seal the switch mechanism

Ignition

See Section C.



For specific applications

9250 Momentary Windlass Switch

35A at 12V, 20A at 24V DC. Picture shows typical vertical mounting location. Mounting plate and diaphragm are not supplied. Off-Momentary On, spring return to Off. Brass case and mounting hardware. Silver contacts. Two brass screw terminals. Brass mounting stem 5/8"-32 thread, 7/16" (11.1mm) long, fits panels up to 3/16" (4.8mm) thick. Anodized aluminum button 15/16" (23.8mm) diameter. Plunger button is loose, and must be held in place with rubber diaphragm.

Momentary Pull Switches

M-486 Normally Off

10A at 12V DC. Normally Off. Pull On, spring return to Off. Brass case and mounting hardware. Two brass screw terminals. Brass mounting stem 3/8"-32, 1 1/4"(31.8mm) long. Fits panels up to 7/8" (22.2mm) thick. Chrome-plated brass knob, debossed 'PULL', 7/8" (22.2mm) diameter. Moisture-repellent insulator.

9109 Normally Off. Use With Cable or Lever

10A at 12V DC. Normally Off. Pull On, spring return to Off. Brass case and mounting hardware. Two screw terminals with lockwashers. Mounting stem 1/2"-20 thread, 5/8"(15.9mm) long. No knob: shaft has 3/32" (2.4mm) hole for the attachment of a cable or lever.

Horn Buttons

96101 Surface Mount BP ★

5A at 12V DC. Two screw terminals. Black plastic button, 13/16" (20.6mm) diameter.

96100 Clamp Mount

5A at 12V DC. Same as 96101, but with clamp that allows attachment on a steering column up to 1" (38.1mm) diameter.

96102 Large Button, Clamp Mount

5A at 12V DC. Two screw terminals. Ivory plastic button 1 3/4" (44.5mm) diameter. Clamp allows attachment on a steering column up to 1 1/2" (38.1mm) diameter.

Give Warning

Looking for a pilot light or audible warning to connect to your switch? See Section N1: Buzzers & Alarms, and Section N2: Pilot Lights.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

Engine Start/Engine Stop

35A at 12V, 20A at 24V DC. Two screw terminals with lockwashers. Mounting stem 7.8"-24 thread, keyed to prevent switch from turning, fits panels .04" - .10" thick (1.0 - 2.5mm). Silver contacts.

Impact-resistant molded plastic button with imprint, white on color, repels oil, water and other liquids. Diecast housing, with knurled aluminum facenut. 2.2"L overall, 1.1" case diameter (56.1 and 28.5mm).

90047 With Black 'Start' Button ★

90048 With Red 'Stop' Button

90047-01 Weatherproof with 'Start' Imprint

Same as 90047, but with special facenut with built-in lip seal for added weather-resistance.

90048-01 Weatherproof with 'Stop' Imprint

Same as 90048, but with special facenut with built-in lip seal for added weather-resistance.

Momentary Grounding Switches

Self-grounding in metal panels. Contacts normally open. Contacts close (terminal to ground) with plunger depressed, spring return to open.

9059 Snap Mount

5A at 12V DC. Chrome-plated brass button with chrome-plated faceplate. One bullet terminal. Snaps into 15/16" (23.8mm) diameter hole.

92118-06

5A at 24V DC. One blade terminal. Gasket-sealed case. 3/8" -24 UNF-2A thread, 1/4" long (3.18mm).

Compact Design

5A at 12V DC, except where stated. Normally Off is Push to Mom On, spring return to Off. Normally On is Push to Mom Off, spring return to On. Toggled type is Push to On, Push to Off.

9075 Normally On ★

Snaps into .80 - .85" (20.3 - 21.6mm) diameter hole. Fits panels .03 - .07" thick (.76 - 1.8mm). Moisture-resistant molded plastic case. Two female bullet terminals, plastic plunger 9/16" (14.3mm) long.

Replaces: Delco 1972534, Ford B0A, B9a, B9MF, C3AZ, C5AZ, C607, FEW, OA-13713-A, Jeep 805699, Motorcraft SW-265, 395, Peterbilt 16-03030.

9100 Normally Off ★

6A at 125V, 3A at 250V. Push On, spring return to Off. For AC or DC. UL-approved. Plastic body, nickel-plated plunger. Two screw terminals. 15/32" –32 mounting stem, 9/16" (14.3mm) long.

UL LISTED

9105 SPST Push On, Push Off

10A at 12V, 5A at 24V. Two 6" (152.4mm) wire leads, 16AWG (1.00mm²). Phenolic body, 1.080"L x .530"W x 1.10"H (27.4 x 13.5 x 28.0mm). Push-button diameter .410" (10.4mm). Stem: .470" long (11.9mm). Can be used as a foot switch in dry environments.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

9187 Normally Off, Black Button BP

5A at 12V to 24V DC. Two blade terminals .250" wide (6.4mm). Nickel-plated brass hexnut and facenut. Nylon push-button, .410" diameter (10.4mm). Body size (to top of terminal): .890"L x .560"W x .773"H (22.6 x 14.2 x 19.6mm).

9187-01 Normally Off, White Button

Same as 9187, except with white/natural nylon color button.

9187-02 Normally Off, Red Button BP

Same as 9187, except with red button.

momentary switches

G6 CAPS FOR PUSH BUTTON SWITCHES

Threaded Caps

Rubber cap is permanently fastened to the integral mounting nut by a rolled brass bezel. The deep threaded 5/8"-32 aluminum mounting nut assures a positive seal. Durable, resilient rubber, embossed 'PUSH'. Fits Cole Hersee and all other push button switches with a 5/8"-32 thread mounting stem.

83280-03 Black BP

83280 Gray

83280-02 Red

83280-05 Oil-Resistant

For use on fuel delivery trucks. Cap is molded from resilient Hydrin which provides excellent resistance to fuel oils. Brown color.

Snap-On Caps

Ribs on the inside of the rubber cap engage with the switch facenut. Facenuts – page 159.

407-03 Black BP

407-01 Gray BP

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

SPST Normally On

Off with plunger depressed, spring return to On.

Without Faceplate

9055 With 1/2" Plunger

7/16" -20 thread mounting stem, 7/16" long (11.1mm), two flats on stem for mounting in double-D hole. Two screw terminals, plated steel case. 10A at 12V DC.

9055-02

Same as 9055 except with one hexnut and one pal nut.

9264 With 1/2" Button End Plunger

7/16" -20 thread mounting stem, 7/16" long (11.1mm), two flats on stem for mounting in double-D hole. Two screw terminals, plated steel case. 10A at 12V DC.

9264-02

Same as 9264 except with 7/8" (22.2mm) mounting stem. 10A at 12V DC.

9003

1/2" -20 thread mounting stem, 1/4" long (6.4mm), two screw terminals, 13/32" plunger (7.9mm). 5A at 12V DC

With Faceplate

9001 With Screw Terminals ★

Two screw terminals. Two 9/64" diameter (3.6mm) mounting holes, 1 3/8" (34.9mm) on centers. 45/64" diameter (17.9mm) plated steel case. Plunger: 7/16" long (11.1mm). 5A at 12V DC

9270 With Blade Terminals

Similar to 9001, but with two blade terminals.

9050-01 Self-Grounding

Same as 9001, but with one screw terminal.

9087 With Screw Terminals, Four Mounting Holes BP

Four 3/16" diameter mounting holes, 1 3/8" and 2 1/16" on center (34.9, 51.0mm). 45/64" diameter (4.8mm) plated steel case. Plunger: 7/16" long (11.1mm). 5A at 12V DC.

9270-01 With Sealed Plunger, and Wire Leads

Two screw terminals. Two 9/64" diameter (3.6mm) mounting holes, 1 3/8" (34.9mm) on centers. 45/64" diameter (17.9mm) plated steel case. Plunger: 7/16" long (11.1mm). Black rubber cap on plunger, and PVC coating on 8" (203.0mm) wire leads protect against moisture and dirt. 5A at 12V DC.

9006 Switch with Boot BP ★

Black rubber boot covers and protects the face of the switch, making it dust-resistant. Plastic button. 4A at 12V DC lamp load. Two 2mm x 5mm blade terminals. 4A at 12V DC.

International Trucks OEM replacement part 3579984C1 for trucks in these series: 2007, 4000, 7000, 8000, 9000.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

SPST Normally Off

On with plunger depressed, spring return to Off

9002 With Screw Terminals

Two 9/64" (3.57mm) diameter mounting holes, 1 3/8" (34.9mm) on centers. 45/64" (17.9mm) diameter plated steel case. Two screw terminals. Plunger: 7/16" long (11.1mm). 5A at 12V DC.

9269 With Blade Terminals

Same as 9002, but with two blade terminals, and mounting holes 1 1/2" (38.1mm) on centers.

DPST Normally On

Off with plunger depressed, spring return to On.For energizing two circuits simultaneously. Popular for use in school bus stepwell and door control. 10A at 12V DC

9118 On – Mom Off ★

7/16" -20 thread mounting stem, 7/16" (11.1mm) long, two flats on stem for mounting in double-D hole. Four screw terminals. Plunger 19/64" (7.54mm) long.

91801 On – Mom Off ★

Same as 9118, except with four blade terminals.

9118-04 On – Mom Off

Same as 9118, except with 7/8" (22.2mm) long mounting stem and two hexnuts and one lockwasher.

91801-01 On – Mom Off

Same as 91801, except with one insulated, one grounded circuit and three blade terminals.

DPST Normally Off

On with plunger depressed, spring return to Off.

9180

7/16" -20 thread mounting stem, 7/16" (11.1mm) long, two flats on stem for mounting in double-D hole. Four screw terminals, plunger 15/32" (11.9mm) long.

School Bus Switches, Normally On

Designed for use in 8 light warning systems in school buses. 10A at 12V DC

91811 Two-Circuit SPDT

Plunger travel alternates the circuits. Normally On - Momentary On. 7/16" -28 thread mounting stem, 3/4" (19.0mm) long, flat on stem for mounting in D hole. Four screw terminals, Plunger 23/64" (9.2mm) long. Extra-heavy duty.

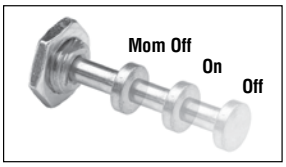
91804 Four-Circuit DPDT

On - Momentary On. 7/16" -28 thread mounting stem, 3/4" (19.0mm) long, flat on stem for mounting in D hole. Six screw terminals, Plunger 23/64" (9.2mm) long. Extra-heavy duty.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

91800 With Stationary Off and Momentary Off Positions. 3 Positions.

Normally On. Pull-out feature permits circuit to be shut off manually when the door must remain open and operation is not required. 7/16" -20 thread mounting stem, 7/16" (11.1mm) long. Two flats on stem for mounting in double-D hole. Two screw terminals. Plunger is 7/32" (5.6mm) long at On, 3/4" (19.0mm) at Off. 10A at 12V DC.



91050 5-Circuit Door Switch

For school bus door operation. 7/16" -28 thread mounting stem, 7/8" (22.2mm) long. Eight blade terminals, plunger 5/16" (8.0mm) long. Silver-laminated contact surfaces. On position: door open, terminals 1&2, 5&7, 6&8 closed. Momentary On position: door closed terminals 1&2, 7&9, 9&10 closed. Terminals 1&2 momentarily Open as plunger travels from On to momentary On, to reset the relay. Terminal 1 to relay, terminal 2 to ground, terminals 5&6 to red flashing lights, terminals 7&8 to flasher terminals, terminals 9&10 to amber flashing lights. 10A at 12V DC.

Power On, Power Off

Color-coded buttons make it easy to select On and Off functions. See page 65.

Normally Grounded Switches

On - Mom - Off. Self-grounding in metal panels. Contacts Open with plunger depressed, spring return to Ground.

Single-Circuit

91812 On – Mom Off

7/16" -20 thread mounting stem, 7/16" (11.1mm) long, two flats on stem for mounting in double-D hole. One blade terminal, plunger 33/64" (13.1mm) long. 5A at 12V DC.

9266 On – Mom Off

3/8" -24 self-tapping thread, mounting stem 5/16" (8.0mm) long. One female bullet terminal, plunger 5/8" (15.9mm) long, self-adjusting to 3/16" (4.8mm) long. Operates with 7lbs (3.2 kg) minimum pressure. 5A at 12V DC.

Replaces: AMC 3662814, Chrysler 1971931, 1972329, 2770849, 2822592, 3843643, GMC 4891633, Motorcraft SW-518.

9251 On – Mom Off ★

5/16" -18 self tapping thread, mounting stem 1/2" (12.7mm) long. One female bullet terminal, plunger 7/16" (11.1mm) long, operates with 35oz (.99 kg) minimum pressure. 5A at 12V DC.

Replaces: Chrysler 1571542, 1594751, 1688514, 1838957, GMC 4882978, 6276718, Motorcraft SW-690 (one terminal application).

91822 On – Mom Off

3/8" -24 self tapping thread, mounting stem 7/32" (5.6mm) long. One blade terminal, plunger 5/16" long, self adjusting to 1/4" long. Operates with 6lbs (2.7 kg) minimum pressure. 3A at 12V DC.

Replaces: GMC 9665205, 9839085, 20057138.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Two-Circuit

Two circuits grounded simultaneously. 5A at 12V DC.

91823 ★

3/8" -24 thread, mounting stem 7/32" (5.6mm) long. Two blade terminals, plunger 3/16" (4.8mm) long, self-adjusting to 1/4" (6.4mm) long. Operates with 7lbs (3.2 kg) minimum pressure. 5A at 12V DC.

Replaces: AMC 3631896, 3662814, Chrysler 2497590, 2889084, GMC 9852254, 20603498, Motorcraft SWG-1115.

91843*

3/8" -24 self-tapping thread, mounting stem .33" (8.38mm) long. Two blade terminals, plunger .85" (21.6mm) long, self-adjusting. 5A at 12V DC.

Replaces: GMC 20545277, 20591843.

Lockouts

Lockouts and tagouts prevent operators, technicians and maintenance personnel from unanticipated power-ups that might cause injury or death.

According to OSHA, "A lockout device utilizes a positive means such as a lock to hold an energy isolating device in a safe position and prevent the energization of a machine." A tagout is a tag or seal that states 'Do not operate or remove this tag' and is signed by the person who places the tagout. Procedures specify that nobody but that person may remove the tag.

A lockout on a battery switch not only keeps a vehicle safe, but also immobilizes it. A locked out vehicle is less vulnerable to battery drain or theft. See page 94 for lockout kits.

Integral Lockout

75920 Master Battery Disconnect Switch has a built-in lockout that satisfies OSHA regulations. See page 87.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

STEEL & PHENOLIC BODY SOLENOIDS	H1
PVC COATED SOLENOIDS WITH STEEL HOUSINGS	H2
PLASTIC BODY SOLENOIDS	H3
MODULES	H4
RELAYS	H5
INFORMATION ON SOLENOIDS	H6

solenoids & relays

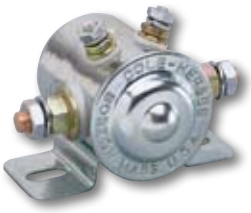
H1 STEEL & PHENOLIC BODY SOLENOIDS

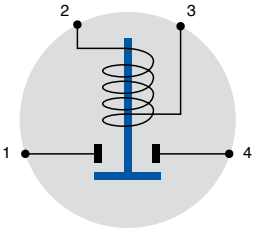
Continuous Duty

85A except where noted. Normally Open Contacts, SPST, One circuit: Off - On Housings: Plated steel (Phenolic where noted). Contacts: Copper 5/16" -24 thread, hexnuts and lockwashers included. 200A solenoids have silver contacts. Coil, ignition and ground terminals: Steel 10-32 thread, hex-nuts and lockwashers included. Bracket mounting holes 5/16" x 19/32" (7.9 x 15.1) on 2 13/64" centers (56.0mm).

36V Insulated

24080





PVC coated model: see 24135

24080-01 UL-Listed

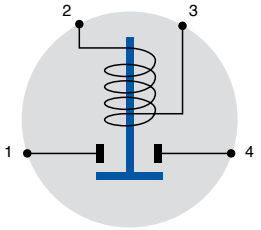
Same as 24080, but UL and CE rated.
Continuous Rating: 65A at 36V DC.
Intermittent rating: 120A make, 65A break.
10 sec On, 30 min Off.

MARINE UL LISTED CE

24V Insulated

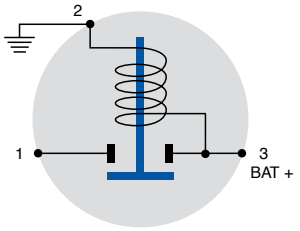
Also available in Plastic Body (section H3): 24624-10.

24063 ★

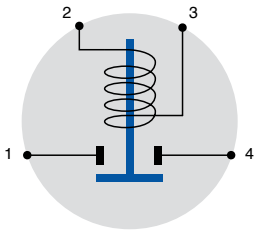


PVC coated and UL-rated model: see 24063-08

24107



24144 200A ★

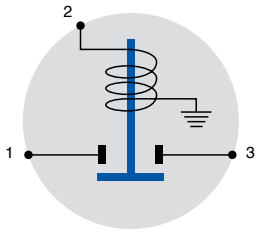


Electrical Rating: 200A carry only.
Not to break 200A at 24V DC. Silver contacts.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

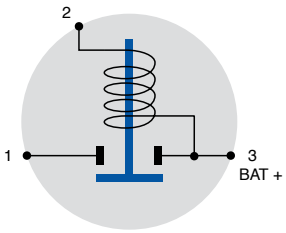
24V Grounded

24124 ★

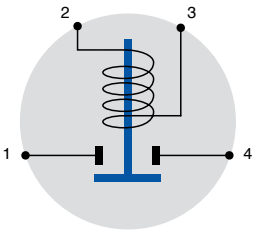


12V Insulated

24115



24059 BP ★

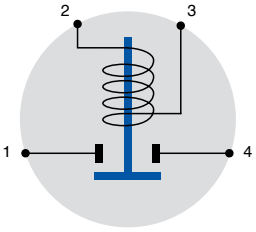


PVC coated model: see 24117

24059-08 UL Listed BP ★

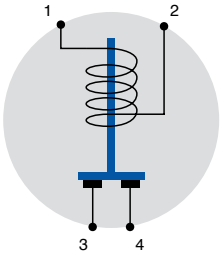
Same as 24059, but UL and CE rated.
Continuous Rating: 65A at 12V DC.
Intermittent rating: 750A make, 100A break.
10 sec On, 30 min Off. Circuit G1.
PVC coated model: see 24117-01

24143 200A ★



Electrical Rating: 200A. Silver contacts.

24420 Normally On

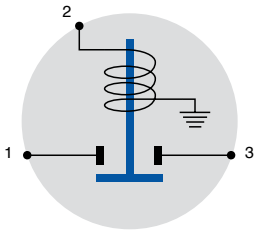


Continuous Duty 35A.

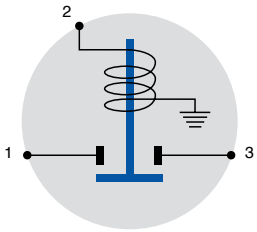
12V Grounded

Also available in Plastic Body (section H3): 24612-G10.

24106 BP ★

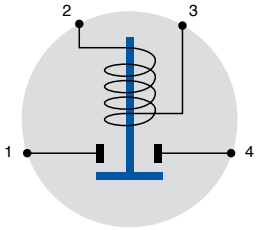


24082 Curved Bracket ★



6V

24097 Insulated

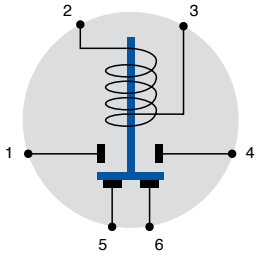


★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Two Circuits, DPST

Normally Off and Normally On. Special application: for forward and reverse systems in electric golf carts, garden tractors, fork lift trucks, winches, etc. Housing: Steel. Continuous Duty, Normally Closed contacts 35A, Normally Open contacts 85A.

24400 36V Insulated



24402 24V Insulated

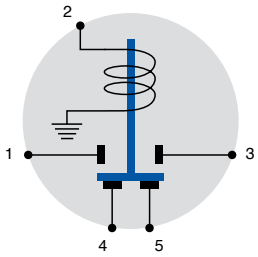
Schematic and picture same as 24400.

24401 12V Insulated ★

Schematic and picture same as 24400.

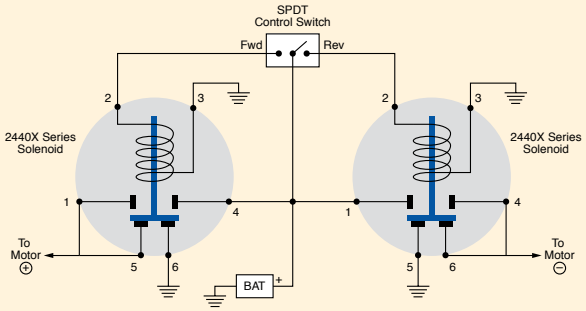
PVC coated model: see 24401-04.

24401-01 12V Grounded ★



Motor Reversing

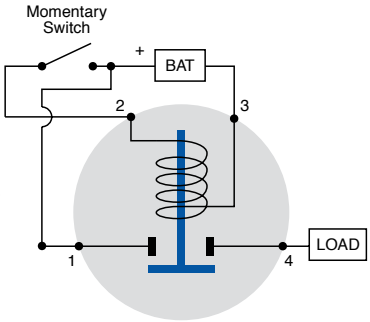
Typical DC series wound permanent magnet circuit, using a pair of double-action solenoids. Use pairs of the following solenoids: 24401 (12V), 24402 (24V), or 24400 (36V).



Latching Solenoid

12V Continuous Duty, 110A (carry only). Insulated. Plated steel housing. Requires only a momentary application of coil power to operate. Very little heat is generated, because the coil is de-energized when the solenoid is On.

24200



The Latching Solenoid

This special solenoid toggles On and Off, and requires no current to maintain the continuity of the power circuit. Use it with a momentary switch (see Momentary Switches). Actuation of the momentary switch causes current to flow in the solenoid coil, locking the contact in place, maintaining the load circuit in an On position. A second actuation of the momentary switch releases the plunger, turning the load circuit Off.

Suggested momentary switches: 55037, 58027-02.

Special Applications
See page 83.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

Intermittent Duty

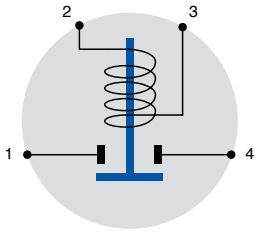
Normally Off, SPST, One circuit: Off - On

750A make, 100A break, 10sec On, 20min Off, except where noted. Contacts: Copper. Terminals: Copper. Small ignition and ground terminals are 10-32 thread. Large contact terminals are 5/16" -24 thread. Hexnuts and lockwashers are included. Bracket mounting holes 5/16 x 19/32," 2 13/64" on centers (7.9 x 15.1, 56.0mm) and plated steel housing, except where noted.

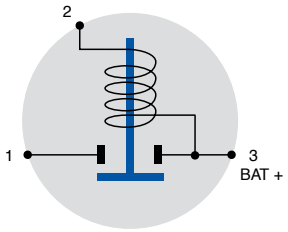
24V Insulated

120A make, 65A break. 10 sec On, 30 min Off.

24008 ★

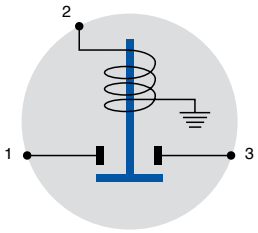


24104



12V Grounded

Also available in Plastic Body (section H3): 24712-GS7.



24037 ★

PVC coated model: see 24071.

M-202 Marine

Marine construction. Clear protective finish, brass hexnuts and lockwashers.

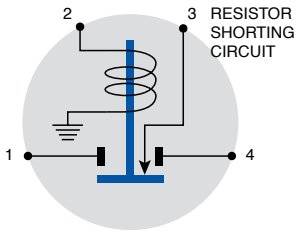
24044, Curved Bracket ★

24022 Phenolic Housing ★

Bracket mounting holes 9/32" x 25/64," 2 7/64" on centers (7.1 x 9.9, 53.6mm).

12V Grounded, Resistor Shorting Circuit

In this application, 3 is Normally Open. It becomes common with 1 and 4 when the solenoid is energized. Commonly used in engine starting applications.



24103

24021 Phenolic Housing ★

Bracket mounting holes 9/32 x 1/2," 2 13/64" on centers (7.2 x 12.7, 56.0mm). Contact terminal 5/16" -24 thread.

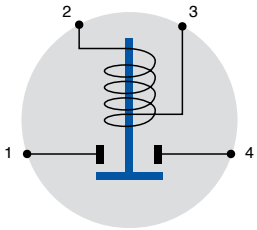
★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

12V Insulated

Also available in Plastic Body (page 77).

24047 ★

PVC coated model: 24076



M-200 Marine BP

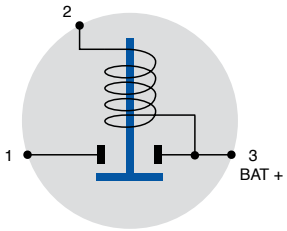
Same as 24047, but marine construction. Clear protective finish, brass hexnuts and lockwashers.

M-200-01 Marine, UL Listed

Same as M-200, but with UL & CE listing.
Intermittent rating: 750A make,
100A break. 10 sec On, 30 min Off.

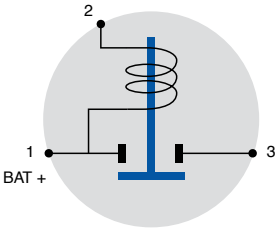
MARINE UL LISTED CE

24060



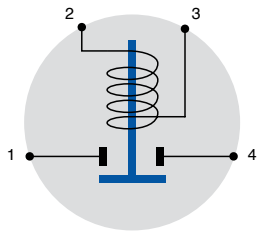
24046

PVC coated model: 24077

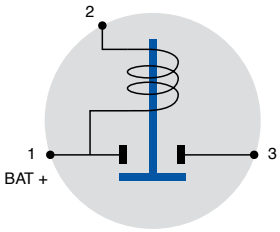


24023 Phenolic Housing

Bracket mounting holes 5/16" x 9/32,"
2 9/16" on centers (8.1 x 7.2, 65.1mm).

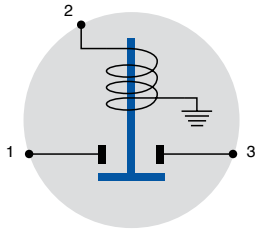


2430 Phenolic Housing

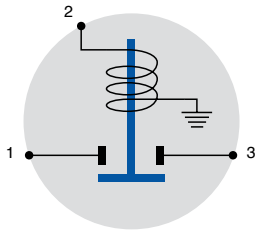


6V Grounded

24041



24039 Curved Bracket



Electronic Solenoid

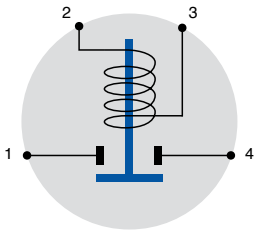
See page 79.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

Weatherproof: Housing is completely PVC coated.

Continuous Duty

Insulated SPST, Normally Off (except 24401-04). One circuit: Off - On. Bracket mounting holes 5/16" x 19/32" (7.9 x 15.1) on 2 13/64" centers (56.0mm).



36V

24135
Continuous Duty: 85A. *Without PVC coating: see 24080*

24V

24063-08 UL Listed ★
Continuous Duty: 65A at 24V DC
Intermittent Duty: 120A make, 65A break. 10 sec On, 30 min Off.
Without PVC coating and UL rating: see 24063

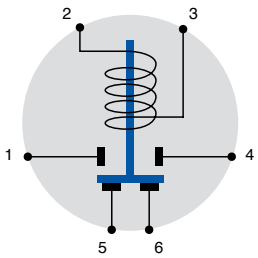
12V

24117 ★
Continuous Duty: 85A. *Without PVC coating: see 24059*

24117-01 UL Listed BP ★
Continuous Duty: 65A at 12V DC
Intermittent Duty: 750A make, 100A break. 10 sec On, 30 min Off.
Without PVC coating: see 24059-08

12V SPDT

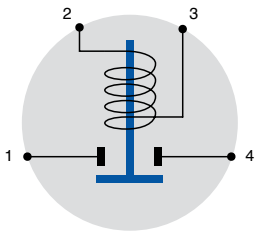
24401-04
Normally Closed contacts 35A, Normally Open contacts 85A.
Without PVC coating: see 24401



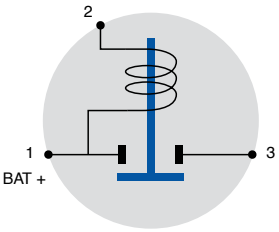
Intermittent Duty

SPST normally Off, 750A make, 100A break 750A make, 100A break. 10 sec On, 20 min Off. Bracket mounting holes 5/16 x 11," 2 13/64" on centers (7.9 x 15.1, 56.2mm). Contact terminals 5/16" -24 thread.

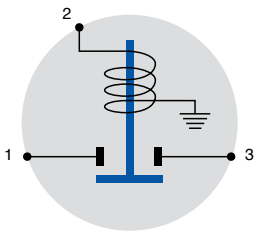
24076, Insulated ★
Without PVC coating: see 24047



24077, Insulated
Without PVC coating: see 24046



24071, Grounded
Without PVC coating: see 24037

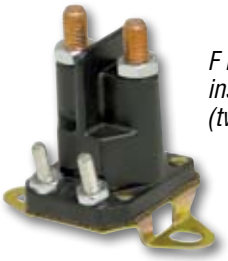


Solenoid Info

See page 83, and visit our website for an interactive training session on Solenoids.

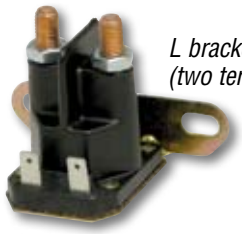
★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

Glass-filled nylon construction - lightweight, durable and resistant to corrosion.

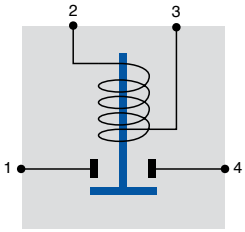


F bracket, insulated (two terminals)

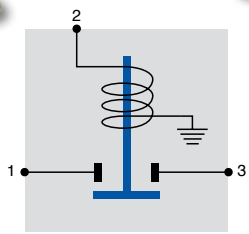
F bracket, grounded (one terminal)



L bracket, insulated (two terminals)



Insulated



Grounded

Continuous Duty, 100A

For starting small engines, including lawn tractors, golf carts and sweepers. SPST normally open contacts. 100A make and break, 400A inrush. Silver contacts. Large studs: 5/16"-24. 12V type: maximum operating voltage 14V DC. 24V type: maximum operating voltage 27V DC. 36V type: maximum operating voltage 36V DC. Cycle life: 50,000 minimum. *Bracket mounting holes 5/16" x 19/32" (7.9 x 15.1) on 2 13/64" centers (56.0mm).*

24V

24624-10 Insulated
F bracket, two 10-32 stud coil terminals.

12V

24512-10 Insulated
F bracket, two blade coil terminals.

24612 Insulated
L bracket, two 10-32 stud coil terminals.

24612-10 Insulated
F bracket, two 10-32 stud coil terminals.

24612-G10 Grounded
F bracket, one 10-32 stud coil terminals.

Intermittent Duty, 200A

For starting small engines, including lawn tractors, golf carts and sweepers. 12V DC. SPST normally open contacts. 200A make and break, 5 secs On, 5 secs Off, 300A inrush. (Sealed solenoids 200A make and break, 5 secs On, 5 secs Off. 500A inrush, maximum On time 20 secs.) Allow at least 40 secs cooling after maximum On time. *Copper contacts. Maximum operating voltage 14V DC. Cycle life: 10,000 minimum. Sealed solenoids are protected against ingress of contaminants such as oil or gasoline, dirt and moisture. Bracket mounting holes 5/16" x 19/32" (7.9 x 15.1) on 2 13/64" centers (56.0mm).*

24612-03 Insulated, 12V BP
L bracket, 5/16" -24 large studs, two 10-32 stud coil terminals.

24612-13 Insulated, 12V
F bracket, 5/16" -24 large studs, two 10-32 stud coil terminals.

24712-GS7 Grounded, 12V, Sealed
F bracket, 1/4" -20 large studs, one 8-32 stud coil terminals.

New Ignition Switches

New 95060 Series is fully sealed and has an integral Deutsch connector. See page 29.

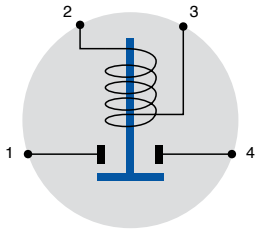
★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

Heavy Service, 225A

For use with heavy vehicles, materials handling, hydraulic systems, large DC machinery, and electric vehicles. SPST normally open contacts. Insulated. 12-48V DC. Continuous duty, 225A make and break, 600A inrush.

L bracket. Large studs: 5/16"-24, two 10-32 stud coil terminals. 12V silver contact, 50k cycles. Copper contact. Maximum operating voltage 14V DC, cycle life 25,000 minimum. Bracket mounting holes 5/16" x 19/32" (7.9 x 15.1) on 2 13/64" centers (56.0mm). Other types available by special order.

L bracket



24824-01 24V
Silver contacts.

24812 12V
Copper contacts.

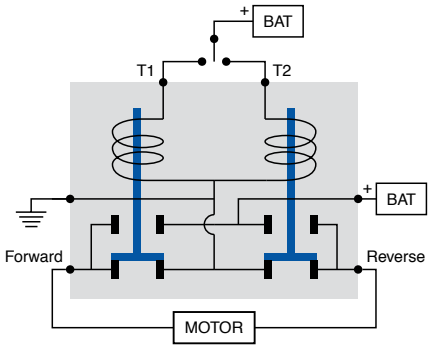
24812-01 12V
Silver contacts.

24812-04 12V
Copper contacts.

24450 Motor Reversing Solenoid BP

DPDT intermittent duty. 12V DC. Common ground coil. Two blade coil terminals, 5/16" -24 large studs. Copper contacts. F bracket. 75A make and break, maximum On time 5 mins. 125A make and break, maximum On time 30 secs. 150A make and break, maximum On time 0.5 secs. Allow 5 mins Off after max On time. Maximum operating voltage 14.5V DC. Cycle life 10,000 cycles at 5 secs On, 25 secs Off. Shipped with mounting hardware.

Use in conjunction with one of many types of Cole Hersee SPDT momentary switches: rocker (such as 58027-04), rotary (such as 72154-01/02) or ignition-type keyed switch (such as 75705-01). Also available as 24V: 24450-02 with same rating as 24450. Contact Cole Hersee.



Super-Bright LEDs

New 58312 series rocker switches have long lasting LED lights and high-visibility wrap-around lenses. See page 9.

Reversing Solenoid

For reversing motors such as hoists, winches, windlasses, ATVs and snowplow blades. Two solenoids in one for cost and space savings and simpler wiring. Two integral solenoids provide dynamic braking for permanent magnet motors when neither coil is energized.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

48785 Electronic Solenoid ★

85A, 9V-31V DC. Fully solid-state, with no moving parts to wear out. The Electronic Solenoid stands up to over 20 million On-Off cycles. It is completely sealed, ignition protected, and withstands vibration and adverse environments. Perfect for vehicles that are always on the move. Use the Electronic Solenoid in both 12V or 24V applications... or any voltage between 9 and 31V.

- **Solenoid can be used in both High Side and Low Side switching applications.**
- **Needs only a very low control current.**
- **Suitable for high inrush demand circuits.**

Specifications:

9 - 31V DC, 85A continuous or 175A intermittent.

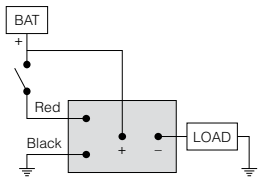
Low On resistance of .005Ω

Low control current of .02A (max) means lighter wires, smaller harnesses.

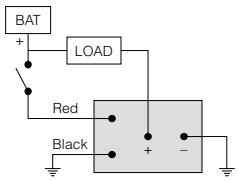
On/Off control voltage must be identical to the system voltage.

Wide temperature operating range -40°C to + 85°C without derating.

Protected from transient voltage spikes or surges.



High side switching application



Low side switching application

200A Dual Relay

Can be wired as a Latching Relay or as a Normally Open Relay. See page 99.

24452 Forward & Reverse Relay Module

Reversing module carries a heavy load and is suitable for intermittent or continuous operation at 12V DC. Ideal for tarp or lift applications as well as for hoists, hatches, winches/windlasses, snowplows, intake/exhaust fans, vehicle outriggers and many other direction reversing applications. Fully sealed to accommodate harsh environments. Dynamic braking stops the motor when the control switch is turned to Off. Low profile module (less than 2" high) saves space in cramped installations. Studs are securely secured in epoxy. Protective cover 97297 is also available.

NEW

Specifications:

High performance silver tin oxide contacts assure long cycle life.

70A at 12V DC intermittent, max On time 5 mins, Off time 3 mins. 50A at 12V DC Continuous. For intermittent operation. Control switch should be Mom On – Off – Mom On; for continuous operation On – Off – On.

Load current inrush: 150A. Pull-in voltage 7.8V max.

Low coil current draw. Coil resistance 82 Ohms ± 10%.

Vibration resistance: 10-55Hz. Double amplitude 1.55mm.

Environmental: -40°C to 85°C. Rust and moisture-resistant plastic housing.

Fully sealed to IP67 with high strength epoxy for total moisture protection.

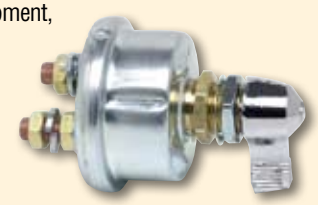
Ignition protected.

Tin-plated brass studs and hardware for corrosion resistance.

Dielectric strength: 500V RMS between coil and contact.

Emergency Cutoff

Emergency cutoff switches are commonly mounted on many types of vehicles such as buses, and those used in construction and agriculture. Fire departments routinely familiarize themselves with the location of cutoffs, so that vehicles can quickly be isolated in case of emergency. Additionally, OSHA requires cutoffs on certain vehicles, particularly those with ancillary motorized equipment, such as garbage trucks. See Section J2.



★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Heavy Duty & High Power Relays

General purpose relays fit many vehicles. Typical applications include: lighting, starting, horn, heating and cooling. Standard ISO terminal footprint for Form A (SPST), Form C changeover (SPDT) and Form 2A (SPST, 2 terminals). Relays are available sealed and unsealed (unsealed are supplied with snap-in brackets.)

Specifications:

Ignition protected to SAE J1171

Pull-in voltage: 7.8V maximum at 12V DC, 15.6V at 24V DC.

Release voltage: 1.2V minimum at 12V DC, 2.4V at 24V DC.

Temperature range: -40°C to 85°C.

Operational life: Electrical to 100,000 cycles; Mechanical to 10 million cycles.

Contact Material: Silver alloy.

Dielectric strength: 500V rms between coil and contact.

Insulation resistance: 100MΩ minimum (500V DC).

Vibration resistance: 10-40Hz double amplitude 1.5mm.

Ignition protected to SAE J1171, Section 5.

Cole Hersee Relays are rated based on a steady state resistive load. De-rate according to the type of load: Motor load: Inrush can be 5 to 10 x steady state current. Solenoid load: Inrush can be 10 to 20 x steady state current. Incandescent lamp load: Inrush can be 10 to 15 x steady state current.

Relays are also available with PC terminals. Contact Cole Hersee.

Heavy Duty Relays 40A at 12V DC

Specifications:

Contact rating (Resistive load) at 20°C:

12V DC: Normally Open 40A, Normally Closed 30A.

24V DC: Normally Open 20A, Normally Closed 15A.

Contact arrangement: Available as Form A (SPST), Form C (SPDT) and Form 2A (SPST, 2 terminals).

High Power Relays 70A at 12V DC

Specifications:

Contact rating (Resistive load) at 20°C:

12V DC: Normally Open 70A, Normally Closed 60A.

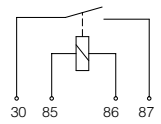
24V DC: Normally Open 35A, Normally Closed 30A.

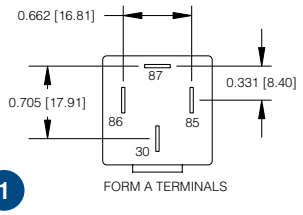
Contact arrangement: Available as Form A (SPST) and Form C (SPDT).

Relay Schematics & Terminal Layouts

Other configurations are available by special order.

Form A (SPST)

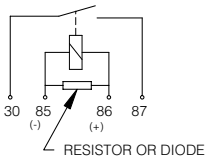


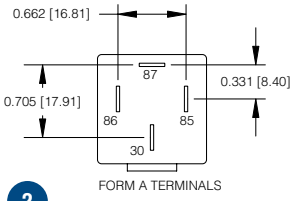


1

40A Type has .250" terminals. 70A Type has .375" terminals.

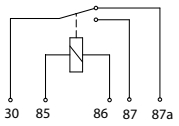
Form A (SPST) with suppression

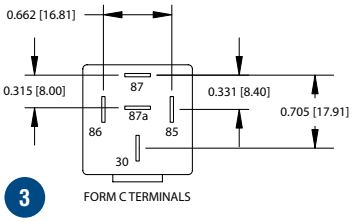




2

Form C (SPDT)





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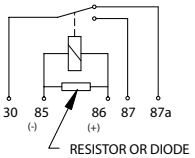
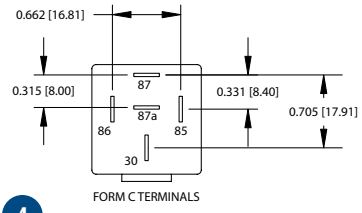
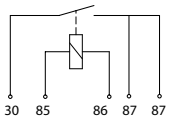
Form C (SPDT) with suppression

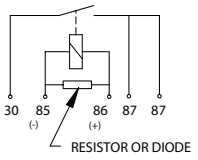




4

Form 2 (SPST) with suppression





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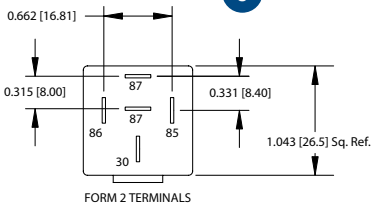


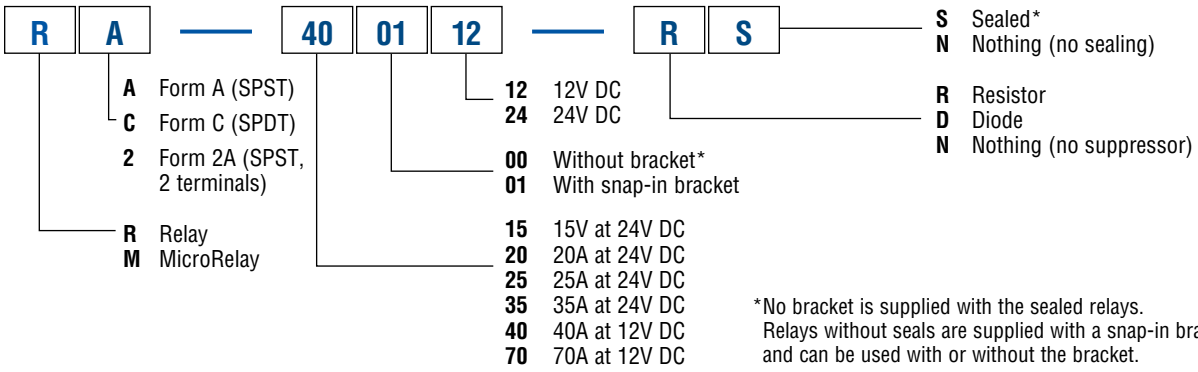
★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Relay Stock Items

Other configurations, and PC terminals are available. Contact Cole Hersee.

FORM	AMPERAGE	BRACKET	VOLTAGE	SUPPRESSOR	SEAL	PART NUMBER	DIAGRAM
A: SPST	40	01 Snap-in	12	N: none	N: no seal	RA-400112-NN	1
A: SPST	40	01 Snap-in	12	R: resistor	N: no seal	RA-400112-RN	2
A: SPST	40	01 Snap-in	12	D: diode	N: no seal	RA-400112-DN	2
A: SPST	20	01 Snap-in	24	N: none	N: no seal	RA-200124-NN	1
A: SPST	20	01 Snap-in	24	R: resistor	N: no seal	RA-200124-RN	2
A: SPST	20	01 Snap-in	24	D: diode	N: no seal	RA-200124-DN	2
A: SPST	40	00 None	12	D: diode	S: sealed	RA-400012-DS	2
A: SPST	20	00 None	24	D: diode	S: sealed	RA-200024-DS	2
C: SPDT	40	01 Snap-in	12	N: none	N: no seal	RC-400112-NN	3
C: SPDT	40	01 Snap-in	12	R: resistor	N: no seal	RC-400112-RN	4
C: SPDT	40	01 Snap-in	12	D: diode	N: no seal	RC-400112-DN	4
C: SPDT	20	01 Snap-in	24	N: none	N: no seal	RC-200124-NN	3
C: SPDT	20	01 Snap-in	24	R: resistor	N: no seal	RC-200124-RN	4
C: SPDT	20	01 Snap-in	24	D: diode	N: no seal	RC-200124-DN	4
C: SPDT	40	00 None	12	D: diode	S: sealed	RC-400012-DS	4
C: SPDT	20	00 None	24	D: diode	S: sealed	RC-200024-DS	4
2: SPST	20	01 Snap-in	24	R: resistor	N: no seal	R2-200124-RN	5
2: SPST	40	01 Snap-in	12	R: resistor	N: no seal	R2-400112-RN	5
A: SPST	70	01 Snap-in	12	N: none	N: no seal	RA-700112-NN	1
A: SPST	70	01 Snap-in	12	R: resistor	N: no seal	RA-700112-RN	2
A: SPST	70	01 Snap-in	12	D: diode	N: no seal	RA-700112-DN	2
C: SPDT	70	01 Snap-in	12	N: none	N: no seal	RC-700112-NN	3
C: SPDT	70	01 Snap-in	12	R: resistor	N: no seal	RC-700112-RN	4
C: SPDT	70	01 Snap-in	12	D: diode	N: no seal	RC-700112-DN	4

Relay & MicroRelay Part Number Structure



*No bracket is supplied with the sealed relays. Relays without seals are supplied with a snap-in bracket, and can be used with or without the bracket.

Relay Sockets

Accepts Cole Hersee relays and standard ISO relays. Modular – sockets dovetail together. Accepts standard quick-connect terminals. Easy mount bracket. Constructed of rugged glass-filled polyamide. Temperature range -40F to 85C.

99025 High Power Socket

For use with Cole Hersee High Power Relays. Form A (SPST)

Use with Tyco (AMP) terminals 280756 or 280755 (consult terminal manufacturers for full specs).

99026 Heavy Duty Socket

For use with Cole Hersee Heavy Duty Relays. Form A (SPST) or Form C (SPDT).

Use with Tyco (AMP) terminals 42281 or Ark-Les 3000H112A series (consult terminal manufacturers for full specs).

Rapid ship item. *Available in retail clamshell pack.* *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

MicroRelays 25A at 12V DC

MicroRelays fit many vehicles and applications. They have a reduced size, but can accept a 25A load. Typical applications include: lamp control, horns, power windows, fuel pumps, fans and lifts gates. Standard terminal footprint for Form A (SPST), Form C changeover (SPDT) MicroRelays are available sealed and unsealed.

Specifications:

Contact rating (Resistive load) at 20°C:
12V DC: Normally Open 25A, Normally Closed 20A. 24V DC: Normally Open 15A, Normally Closed 10A. Contact arrangement: Available as Form A (SPST), and Form C (SPDT). Ignition protected to SAE J1171. Vibration resistance: 10-40Hz double amplitude 1.27mm. Pull-in voltage: 7.8V maximum at 12V DC, 15.6V at 24V DC. Release voltage: 1.2V minimum at 12V DC, 2.4V at 24V DC. Temperature range: -40°C to 85°C. Operational life: Electrical to 100,000 cycles. Mechanical to 10 million cycles. Contact Material: Silver alloy. Dielectric strength: 500V rms between coil and contact. Insulation resistance: 100MΩ minimum (500V DC).

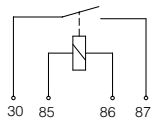
Cole Hersee Relays are rated based on a steady state resistive load. De-rate according to the type of load:

Motor load: Inrush can be 5 to 10 x steady state current. Solenoid load: Inrush can be 10 to 20 x steady state current. Incandescent lamp load: Inrush can be 10 to 15 x steady state current. *MicroRelays are also available with PCB terminals: contact Cole Hersee.*

MicroRelay Schematics & Terminal Layouts

Other configurations are available by special order.

Form A (SPST)



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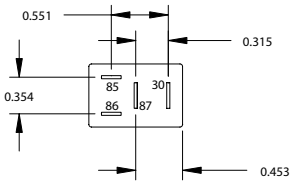
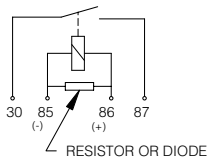


Form A (SPST) with suppression



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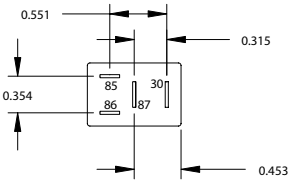
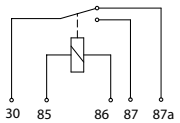


Form C (SPDT)



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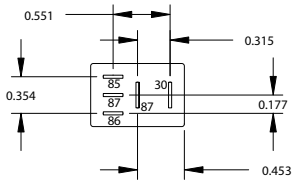
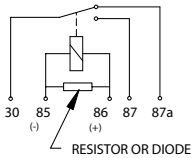


Form C (SPDT) with suppression



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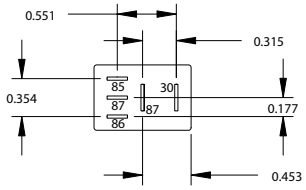


MicroRelay Stock Items

Other configurations, and PC terminals are available. Contact Cole Hersee.

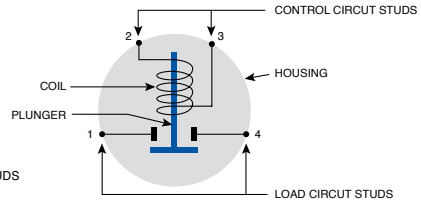
FORM	AMPERAGE	VOLTAGE	SUPPRESSOR	SEAL	PART NUMBER	DIAGRAM
A: SPST	25	12	R: resistor	N: no seal	MA-250012-RN	7
A: SPST	25	12	R: resistor	S: sealed	MA-250012-RS	7
A: SPST	25	12	D: diode	N: no seal	MA-250012-DN	7
A: SPST	25	12	N: none	N: no seal	MA-250012-NN	7
A: SPST	15	24	N: none	N: no seal	MA-150024-NN	6
C: SPDT	25	12	R: resistor	N: no seal	MC-250012-RN	9
C: SPDT	25	12	R: resistor	S: sealed	MC-250012-RS	9
C: SPDT	25	12	D: diode	N: no seal	MC-250012-DN	9
C: SPDT	25	12	N: none	N: no seal	MC-250012-NN	8
C: SPDT	15	24	R: resistor	N: no seal	MC-150024-RN	9
C: SPDT	15	24	N: none	N: no seal	MC-150024-NN	8

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

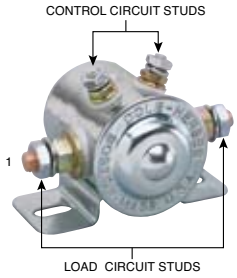
How Solenoids Work

Solenoids are relays which are commonly used to remotely switch a heavier current. By using a solenoid, the amount of heavy wiring needed to power the load is reduced, since the control circuit mounted inside the cab typically utilizes a smaller wire gauge.

Solenoids are commonly used to control starter and winch motors, and they have many other uses on vehicles of all kinds.

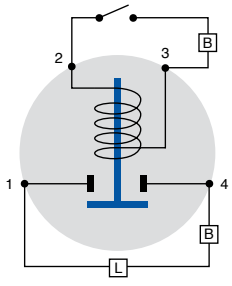


4-stud solenoid diagram

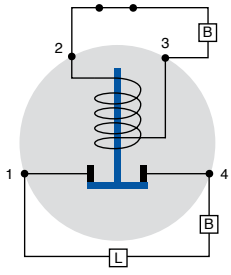


A typical 4-stud solenoid

The diagram shows a magnetic coil surrounding a contact plunger. Before energization, the plunger is not electrically connected to the control circuit. When the control circuit is energized, the electromagnetic force induced in the coil attracts the plunger, which moves to close the load circuit. When the control circuit is de-energized, the spring-loaded plunger returns to its normal state and the load circuit is broken. In continuous duty applications, energization of the coil causes heating, therefore the solenoid housing will become warm even in normal operation.



Solenoid in its normal state
Control circut and load circuit open



Energized solenoid
Control circut and load circuit closed

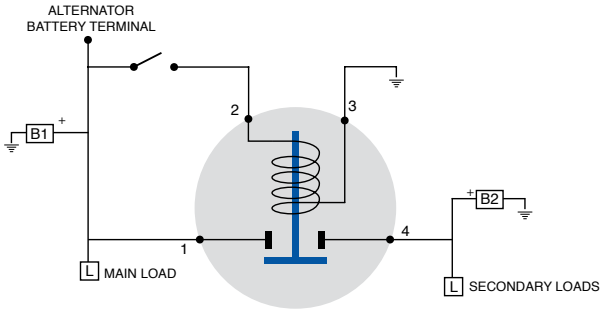
For more information on solenoids, visit the interactive training section of the Cole Hersee website:

www.colehersee.com > Resource Center > Training

Latching Solenoid Applications

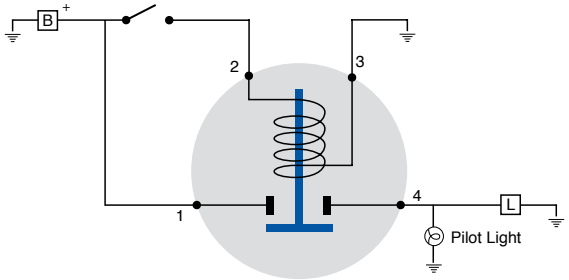
A Remote Battery Isolator

In a two-battery system, use the Latching Solenoid to isolate the batteries from each other, and prevent battery drain from the higher into the lower. It has an advantage over electronic Battery Isolators (see Battery-Related Products), in that it will not produce a voltage drop during operation.



A Remote Battery Disconnect

Use it as a remote Battery Disconnect Switch. This eliminates the need for heavy gauge wiring between the control panel and the battery.



Largest amp capacity for the dollar of any competitive switch

500A intermittent, 310A continuous, 6-36V DC

Large knob for easy grip... even when wearing gloves.

Flange for easy flush mounting. Can also mount through a panel.

Heavy spring ensures rock-solid electrical contact and provides strong detent action to the switch.

3/8" - 24 copper studs are solidly machined to the contact plates and cannot come apart.

All-weather hardware: heavy copper studs and brass nuts for maximum current capacity.

Max Starting Power
Delivers maximum starting power: allows either or both batteries to be used. Can be switched between batteries even when the engine is running.

Impact-Resistant
Rugged polyester thermoplastic case and knob. Stands up to impact, maintains its water-resistant integrity.

Water-Resistant
High-performance synthetic rubber o-ring keeps out water, contaminants and vapors. Many battery switches have no o-ring!

500 Amp Capacity
Solid copper contact plates. Easily handles amperages as high as 500A intermittent. Largest amp capacity for the dollar of any battery switch.

Corrosion-Proof
Stainless steel screws securely hold the plate against the o-ring, and keep the switch watertight.

Rapid ship item. *Available in retail clamshell pack.* *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

LOW VOLTAGE DISCONNECT SWITCHES	J1
MASTER DISCONNECT SWITCHES	J2
BATTERY SELECTOR/MASTER DISCONNECT SWITCHES	J3
BATTERY ISOLATORS	J4
ACCESSORIES	J5

battery-related products

SureStart™ Compact Low Voltage Disconnect Switch

NEW

48513	**Compact LVD**
48513-01	**LVD & Harness**
12804	**Harness**

12 or 24V, 125A at 60ºC, 100A at 85ºC

Electronically senses battery voltage and conserves starting power. Automatically disconnects and reconnects loads based on battery condition; no operator action is required to protect the batteries. Prolongs battery life by preventing damage due to excessive discharge.

Eliminates the need for both separate timer or voltage sensing delay relay devices and high current relay or solenoid, and simplifies wiring and installation. Small size and lightweight design means easier and more discrete mounting, to use space more efficiently, eliminate hardware, and give better routing of wires.

When battery voltage falls below programmed voltage setting for 2 minutes non-critical loads are automatically disconnected. Waterproof and dustproof to IP67 international standard. (Submersible to 3 feet.) Sealed connector makes it ideal for harsh environments. Advanced technology enables a robust product in a small lightweight package. Programmable timer feature automatically disconnects loads after key off, regardless of battery condition. 12804 Harness fits this LVD.

Specifications

4.5"W x 4.3"L x 3.1"H (114.3 x 108.6 x 79.0mm).

Operating Temperature Range: -40° to +85°C (-40° to +185°F). 100A at 85°C, 125A at 60°C.

Ingress Protection: IP66 per IEC 529.

Humidity: 0 to 90 %RH.

Vibration: 10-500 Hz per SAE J1455.

Shock and Thermal Shock: per SAE J1455.

Inductive Transient: +/- 600V per SAE J1455.

Load Dump: + 100V per SAE J1455.

Battery Terminal Torque: 50 in-lbs max.

Operating Voltage: 9V min, 12V typical, 16V max if used with 12V DC systems.

Disconnect Voltage: 12.05V min, 12.1V typical, 12.15V max When voltage drops below 12.1V, system activates the alarm for one minute and then disconnects loads.

Quiescent Current: 1mA typical, 2mA max. Circuit operating current.

Load Current: 100A at 85°C, 125A at 60°C.

Overcurrent Protection: 150A. System will disconnect load and sound alarm after 5 seconds of excessive current.

Key-Off Ttimer: 5 minutes minimum, 15 minutes typical. Option feature. After key off, unit will wait a set time before activating alarm. One minute later loads are shut off.

SureStart™ Automatic Low Voltage Disconnect Switch

Ensures ample starting capacity and prolongs battery life. Automatically disconnects non-critical loads from a battery when the battery voltage falls below a predefined threshold. Automatically reconnects the loads to the battery when it is being charged. Manual override permits a user to make or break the connection, regardless of battery voltage. Overcurrent, short-circuit and over-temperature protection.

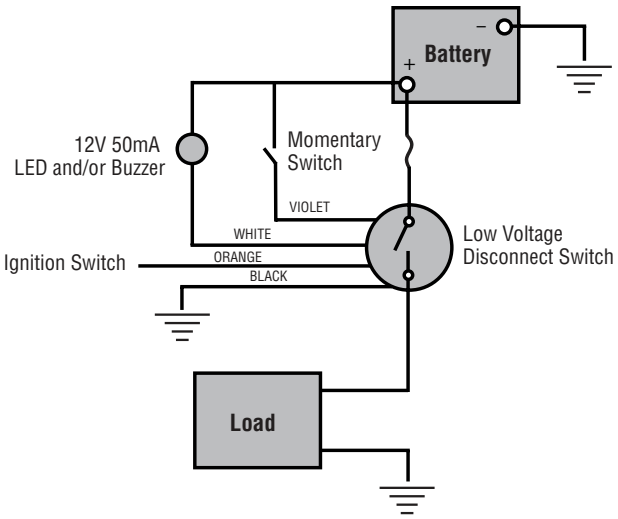
NEW

48510 **200A at 12V DC**
48512 **150A at 12V DC**

No more stranded vehicles! Avoid the time and expense of getting your vehicles towed. The SureStart™ LVD ensures there's enough power to start, and saves the batteries on vehicles that aren't used every day.

Specifications

6.0"L x 5.1"W x 3.0"H (152.4 x 130.2 x 76.2mm).
Environmental: -40˚C to 85˚C. SAE J1455 & J1113.
Electrical: 150A or 200A continuous. Inrush: 500A (for 5 seconds). 2mA max quiescent current.
Ignition-proof to ISO 8846.
Disconnects when battery drops below 12.1V for 2 minutes, reconnects when battery meets or exceeds 13.0V for 10 seconds. (Factory programmable).
Alarm: Active low, 50mA.
Activates 1 minute before disconnect. (Factory programmable)
Accuracy: ±100mV.
Electronics sealed to IP67.



LVD Accessories

58036-06 Rocker Switch

Mom On-Off-On SPST switch for use with LVDs. Uniform with series 58031 & 58332 switches on page 4. Use with 48513.

12804 Harness

Harness kit (Deutsch connector & wires) fits 48513 Compact LVD.

40205 Milliamp Rocker & Alarm

Digital switch with piezo alarm. Use with 48510 and 48512.

Inactive Vehicles

If you leave a fully charged battery connected in an inactive vehicle it could be dead in as little as two months. Today's vehicles have electronics that continue to draw small quiescent currents to maintain their memory, even when the vehicle is off. Over an extended time even this small current can kill an uncharged battery. Complete discharge of the battery can cause permanent damage by building up insoluble sulfur crystals on the lead plates, which prevent proper battery recharging.

Strategies for protecting your battery. Fully recharge the battery before storing the vehicle.

If you need short term storage and you have a lot of electronics that do not have to be on: (computer, TV, stereo, etc.) hook them up via the Low Voltage Disconnect (page 103). Each time you shut off your vehicle these items will be disconnected from the battery. This lengthens the storage life of your battery.

If you do not have a power source where the vehicle is stored, install a master disconnect switch between the battery and the electrical system. Turing this off eliminates any quiescent loads and lengthens the storage life of your battery. All batteries have a self discharge rate - they will slowly discharge even when disconnected. If you have power at the storage site, install a set of exterior battery jumper studs (page 95) and hook the vehicle up to a good three stage charger. That will keep you battery in good health for a long life.

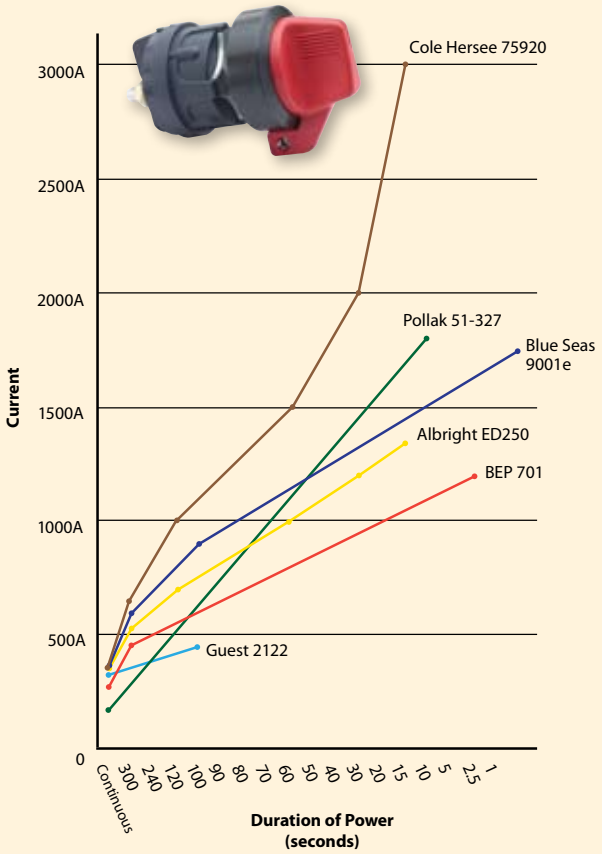
75920 Single Pole Master Disconnect

NEW

Protects vehicles against tampering, theft and battery drain. Protects from hazards during vehicle servicing,and can be locked-out or tagged-out. Provides an effective emergency power cutoff.

High amperage capacity: 300A at 12V DC. Can be used in both positive or in negative path applications. Waterproof and dustproof to IP67 (immersible). Switch can be located in the best location, regardless of environment. Composite engineered polymer housing will not rust or corrode. Tested per SAE 1455 for salt corrosion. Large red knob is easy to operate with gloved hands; 90º switch travel makes it easy to identify the switch position. Built-in lockout satisfies OSHA requirements for an energy isolation device. Attractive styling suitable for visible mounting close to operator. Large divider on base prevents accidental shorting of high energy cables. Fits standard Master Disconnect mounting pattern. Knob is secured in place with a set screw.

Performance of the 75920



Performance graph (Duration vs. current) of the Cole Hersee 75920 and some competitive marine switches.

Horizontal axis: Time. From continuous (maintained) current (on the left) down to one second (on the right).

Vertical axis; Current withstood by a given switch for the duration noted along the horizontal axis.

Specifications

Operating temperature range: -40 to 85°C.

Ingress protection rating: IP67.

Corrosion test: 96 hours salt spray test to ASTM standard.

Vibration test: 10-500Hz to SAE J1455.

Shock test: To SAE J1455.

Torque, Battery terminals: 5/16" – 24, 70-90 in-lbs (8-10Nm).

Torque, Mounting hardware: 3/4" - 16, 18 ft-lbs max (24.4Nm).

Operating voltage: 6V min, 36V max.

Continuous current: 300A max at 12V, 250A max at 24V, 200A max at 36V.

Intermittent current: 1000A at 12V, 90 sec on, 5 min off; 1500A at 12V, 60 sec on, 5 min off; 2000A at 12V, 30 sec on, 5 min off; 3000A at 12V, 15 sec on, 5 min off.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Single Pole

Two positions: Off-On. For 6-36V DC systems. Will disconnect the battery circuit only.

Electrical Ratings (unless noted):

1000A intermittent, 175A continuous.

UL Listed 707B: 800A intermittent, 175A continuous.

UL Listed 375M: 250A at 6V, 125A at 12V intermittent; 40A at 6V, 20A at 12V continuous.

Electrical ratings on UL labels are conservative.

With Diecast Lever

2484-16 ★

Mounting stem: Brass, 3/4" -16 thread, 23/32" (18.3mm) long. Fits panels up to 3/16" (4.8mm) thick. Terminals: Two 3/8" -24 studs. Case: Plated steel. Contacts: Silver.

MARINE UL LISTED

2484-A ★

Same as 2484-16, but without UL label.

2484-09 ★

Same as 2484-16, but with copper contacts, and without UL label.

2484-06 ★

Same as 2484-16, but without UL label, and with weather-resistant with O-ring seal in operating shaft, gasket-sealed terminal insulation and sealant in mounting stem and case.

2484 ★

Same dimensions as 2484-16, but with copper contacts and ratings.

UL LISTED

Waterproof

Some manufacturers claim that their switches are 'water-proof'. We, on the other hand, maintain that 'waterproof' refers only to an article that is specifically intended to function underwater. You'll find that many of our switches are designated 'weather-resistant', meaning that they are designed to function reliably in an environment that may be damp, perhaps subject to being splashed with salt spray, etc. These weather-resistant switches are also a good choice for dusty environments, such as those encountered in agriculture and construction.

M-284-01 Long Stem, Brass Case BP ★

Mounting stem: Brass 3/4" -16 thread (19.1mm), 1 13/32" (46.1mm) long. Fits panels up to 15/16" (23.8mm) thick. Terminals: Two 3/8" (9.5mm) diameter studs. Actuator: Chrome-plated lever. Silver-laminated contacts.

MARINE UL LISTED

M-284 BP ★

Same as M-284-01, but with copper contacts, and without UL label.

M-284-A ★

Same as M-284-01, but without UL label.

M-284-02 Weather-Resistant ★

Same as M-284-01, but with O-ring seal in operating shaft, gasket-sealed terminal insulator and diecast lever with protective dichromate finish, and without UL label.

Also available with faceplate (M-284-09BP)

M-288 50 Amps

Rated at 50A at 14V DC. Mounting stem: 5/8" (15.9mm) diameter, 3/4" (19.1mm) long. Fits panels up to 17/32" (13.5mm) thick. Terminals: Two 10-32 brass screw terminals. Actuator: Diecast lever. Contacts: Silver. Case: Plated steel.

75908 2000A Intermittent, Weather-Resistant ★

Disconnects battery circuit only. Electrical rating: 2000A intermittent. 30 seconds On, 3 minutes Off, 300A continuous. Mounting stem: 3/4" -16 thread. Fits panels up to 1/4" (6.4mm) thick. Terminals: Two 1/2" -20 copper studs. Case: Plated steel. Sealing: sealed between shaft and mounting stem; case and terminal insulator.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

With Hencol Lock

2484-02

Mounting stem: Brass, 3/4" -16 thread 17/32" (13.5mm) long. Fits panels up to 1/4" (6.4mm) thick. Terminals: Two 3/8" -24 studs. Plated steel case, silver-laminated contacts. Hencol lock and 2 keys. Indexing pin.

2484-03

Same as 2484-02, but with O-ring seal in the operating shaft.

2484-19 Weather-Resistant

Same as 2484-02, with gasket-sealed terminal insulator and with O-ring seal in operating shaft.

Double Pole

Two positions: Off-On. For 6-36V DC systems. Will disconnect the battery and the alternator or generator field circuit. Electrical ratings: Large studs: 1000A intermittent. 15 seconds On, 5 minutes Off. 125A continuous (unless noted). Small studs: 20A continuous.

With Diecast Lever

75903 Steel Case ★

Chrome-plated diecast lever. Plated steel case. Brass contacts. Brass mounting stem 3/4" -16 thread 23/32" (18.3mm) long. Fits panels through 3/16" (4.8mm) thick. Two 3/8" -24 and two 10-32 studs.

75904 Steel Case, Silver Contacts ★

Same as 75903, but with laminated silver contacts.

M-289 Brass Case

Chrome-plated diecast lever. Brass contacts. Brass mounting stem 3/4" -16 thread 1 13/32" (46.1mm) long. Fits panels through 15/16"

Standards

Cole Hersee makes switches and connectors that meet industry standards, generally understood to be those of the SAE and the automotive industry. Many of our switches meet other standards as well, such as USCG, ABYC, US Mine Safety & Health Administration. For OEMs we can design a switch to meet or exceed any standard.

For over a century, Underwriters' Laboratories (UL) has been a third-party trusted source worldwide for product compliance.

Having the UL mark on our products means that UL has tested and evaluated representative samples of that product and determined that they meet the stringent UL requirements. Products are continually checked by UL to make sure they continue to meet those requirements – UL inspectors visit the Cole Hersee factory every quarter to check on certified products. UL marks may be only used on products certified by UL and under the terms of a written agreement between UL and Cole Hersee.

Visit the UL website, www.ul.com where you can find us listed under 'Cole-Hersee'.

UL certified products are accepted in the US and Canada by OSHA, insurance companies, labor unions, fire officials and electrical inspectors.

The UL Listing Mark

One of the most common UL Marks, found on many Cole Hersee products. It means UL found that samples of this product met the UL safety requirements that are primarily based on UL's own published Standards for Safety.

The UL Marine Mark

These products have been tested specifically for marine use, and have been evaluated to UL's published Marine Safety Standards and other applicable standards and codes. These requirements specifically relate to hazards that can occur as a result of exposure to harsh marine environments - vibration, impact, ignition protection, water ingress and salt spray corrosion common on pleasure craft and boats.

Many of our marine switches also conform to applicable ABYC and USGC standards.

American Boat & Yacht Council: www.abycinc.org
United States Coast Guard: www.uscg.mil

We provide UL certification because our customers may be mandated to install UL-marked products. There are costs associated with UL certification and ongoing testing and auditing, and therefore UL-labeled switches may be slightly more expensive than their unmarked counterparts.

The CE Mark

The CE mark is a European mark analogous to UL. It similarly denotes that a product has undergone assessment procedures complies with European standards that apply to the product. The designation "CE" is French for "Conformité Européen

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

M-290 Brass Case, Silver Contacts
Same as M-289, but with laminated silver contacts.

M-290-01
Same as M-290, but with O-ring seal in operating shaft.

M-290-05 UL Listed ★
Brass case. Silver laminated contacts. Chrome-plated diecast lever. Brass mounting stem 3/4" -16 thread 1 13/32" (46.1mm) long. Fits panels through 15/16" (23.8mm) thick. Two 3/8" -24 and two 10-32 studs.

75904-01 Weather-Resistant, with Indexing Pin and O-Ring ★
Diecast lever. Plated steel case. Silver-laminated contacts. Brass mounting stem 3/4" -16 thread 17/32" (13.5mm) long. Fits panels through 1/4" (6.4mm) thick. Two 3/8" -24 and two 10-32 studs. O-ring seal in the operating shaft, and gasket-sealed terminal insulator.

75907 2000A Intermittent, Weather-Resistant ★
Electrical ratings: Large studs: 2000A intermittent, 30 seconds On, 3 minutes Off. 300A continuous. Small studs: 20A continuous. Plated steel case. Chrome-plated diecast lever. Mounting stem 3/4" -16 thread, fits panels through 1/4" (6.4mm) thick. Two 1/2" -20 copper and two 10-32 studs. Sealed between shaft and mounting stem, and case and terminal insulator. With indexing pin.

Also available as single pole (75908).

For Two High Current Loads

75912
Electrical ratings: 125A continuous, 750A intermittent; 15secs On, 5min Off. Up to 36V DC max, carry only. Silver contac surfaces. Both poles are separately insulated. Four 3/8" -24 studs. Lockwasher and two brass hexnuts per stud are provided. 3/4" -16 brass mounting stem. Operating temperature range: -40° to 85°F (-40° to 29°C). O-ring seal in mounting stem; gasket seal at terminal insulator. Epoxy seal at case, mounting stem and locating pin. Heavy duty plated steel case. With indexing pin. Mounting torque 20ft lbs (27Nm); stud torque 4.4 to 7.4 ft lbs (6-10Nm).

With Hencol Key

75904-02
Two Hencol keys. Plated steel case. Silver-laminated contacts. Brass mounting stem 3/4" -16 thread 17/32" (13.5mm) long. Fits panels through 1/4" (6.4mm) thick. Two 3/8" -24 and two 10-32 studs. With indexing pin.

Pilot Lights

See page 111.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

For any vehicle that needs to use two batteries where one battery is used for starting the engine, while the other is used to power auxiliary loads. This is a common situation in trucks, boats, RVs, police and rescue vehicles, and in ambulances and fire equipment. See wiring diagrams, on page 95.

M-750 Basic Switch BP ★

M-751 With Keys BP

Back of Switch

Model M-754 is shown. The three small terminals in the middle are for connection to the pilot light circuit.

Models M-752 and M-753 have two small terminals in the middle marked F1 and F2 for connection to the Alternator Field Disconnect circuit.

M-750 and M-751 have no small terminals in the middle. Full wiring instructions are included.

A selector switch allows use of the first battery, the second battery, or both batteries simultaneously. This provides back-up starting power in an emergency. Either or both batteries can be selected for energizing.

These switches combine the functions of Battery Selector and Master Disconnect Switches to give four battery power options:

- *Power cut off at the source.*
- *Power On, Battery 1.*
- *Power On, Battery 2.*
- *Power On, both Batteries.*

Battery selector switches provide a positive battery disconnect, which has many advantages:

- *It gives a reliable shutdown of power during maintenance.*
- *The version with the key protects against theft of the vehicle, when unattended.*
- *It helps protect against electrical fires, when the vehicle is not in use, and minimizes battery drain.*

Electrical Ratings
Labeled UL 707B. Rating: 500A intermittent, 310A continuous, 6-36V DC

Electrical ratings on UL labels are conservative. Use with either alternators or generators. Make before break design permits operation through the three On positions with the engines running. Engines should always be shut down before turning to Off. Wiring instructions are included.

Heavy-Duty Construction
Vaporproof, weather-, dust- and corrosion-resistant. Durable, fracture-resistant high temperature plastic case, knob and insulator. Switches conform to USCG section 183.410 for ignition protection. Resistant to impact, and temperature extremes.

Heavy duty copper stud terminals, with brass hexnuts. Can be surface mounted, or installed through a 3 5/16" diameter hole in the panel. Dimensions: Flange: 6" (152.4mm) diameter, overall height 2 5/8" (66.7mm). Terminals: 3 copper studs, 3/8" (9.5mm) diameter.

Eight Models For Every Application:

MODEL	Lock	AFD	Pilots	Pilot Circuit
M-750 BP ★				
M-751 BP	✔			
M-752 BP		✔		
M-753 BP	✔	✔		
M-754 BP				✔
M-754-01 BP			✔	✔

Lock: *With key lock and two keys.*

AFD: *Alternator field disconnect circuit switch. Prevents possible alternator diode failure if the switch is accidentally turned to Off with the engines running.*

Pilots: *Supplied with two separate green pilot lights PL-118-GC001.*

Pilot Circuit: *With pilot indicator light circuit.*

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

For vehicles with two batteries, these devices electrically isolate the batteries to prevent the battery with the higher charge from draining into that with the lower charge. In addition, both batteries can be charged simultaneously from one source. Use general purpose Battery Isolators for 12-36V DC negative ground systems (48051 is for 12V DC only). The electronic components are embedded to give excellent protection from adverse conditions, such as contamination and vibration. The integral heat sink provides efficient heat dissipation. The amp rating of each item is the maximum alternator rating. For wiring instructions, see page 96.

Most alternators on new vehicles have an integral electronic voltage regulator that requires the use of the 4-stud battery isolator. The small 4th stud is for connection to a circuit switched by the ignition switch. The newer alternators were first introduced by Delco and are therefore sometimes called 'Delcotron-type alternators'. A 4-stud battery isolator can be used with older pattern alternators (in this case the 4th stud will remain unconnected), but a 3-stud battery isolator cannot be used with the Delcotron-type alternator.

Battery isolators also have a 'per leg' rating which indicates the maximum current it can deliver to either battery. All Cole Hersee battery isolators have a per leg rating equal to half the alternator rating. Thus a 48092 with a rating of 90A has a per leg rating of 45A per leg.

Smart Battery Isolators

NEW

48525 85A at 12V DC
48530 200A at 12V DC

Prevents loads on auxiliary battery from draining the starting battery, a Smart Isolator is more flexible than traditional Battery Isolators:

- It works with all types of alternator.
- Smaller and lighter than traditional isolators.
- There are no efficiency losses due to diodes.
- It allows bi-directional charging from the alternator or from shore power.
- It reduces the load on the charging system by not connecting the auxiliary battery until the primary battery is charged to 13.2V. This extends the life of expensive charging components.

Simple to install – connect to starting battery, auxiliary battery and ground. Optional start assist: momentary switch allows the auxiliary battery to assist the starting battery. LED status indicator.

Specifications

Operating temperature range: -40 to 85ºC.
Ingress protection: IP66 per IEC,
(high pressure wash resistant).
Humidity: to 90% RH.
Vibration: 10-500Hz per SAE J1455.
Shock & thermal shock: per SAE J1455.
EMI/RF: Per SAE J1455 & J1113.
Battery terminals torque: 50 in-lbs (5.78Nm).
Normal input voltage: 9V min, 16V max.
Continuous current: 48525 85A; 49530 200A.
Connect voltage: 13.2V typical after two minutes at this level.
Disconnect voltage: 12.7V after one minute at this level.
Quiescent current: 5mA typical, 8mA max.
Relay off, start signal input open or grounded.

4-Stud Battery Isolators

For use with Delcotron-type alternators.

48092 90 Amp

90A at 12V DC, 12-36V. Terminations: three 1/4" (6.4mm) studs and one No. 10 stud. Two 9/32" (7.2mm) diameter mounting holes. Size: 6 1/2"L x 3 1/4"W x 2 13/16"H (165.0 x 82.6 x 71.0mm).

48122 140 Amp

140A at 12V DC, 12-36V. Terminations: three 5/16" (7.9mm) studs and one No.10 stud. Four 9/32" (7.2mm) diameter mounting holes. Size: 6"L x 4 13/16"W x 3 11/32"H (152.4 x122.2 x 84.9mm).

48162 200 Amp

200A at 12V DC, 12-36V. Terminations: three 5/16" (7.9mm) studs and one No.10 stud. Four 9/32" (7.2mm) diameter mounting holes. Size: 8 1/2"L x 4 3/16"W x 3 13/32"H (215.0 x 122.2 x 86.5mm).

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

3-Stud Battery Isolators

For use with alternators that do not have an integral electronic voltage regulator.

48080 42 Amp

42A at 12V DC, 12-36V. Terminations: one 10AWG 6" (152.4mm) wire lead, two 12AWG wire leads. Two 13/64" (5.2mm) diameter mounting holes. Size: 5"L x 3 1/4"W x 2 3/16"H (127.0 x 82.6 x 71.0mm).

48070 70 Amp

70A at 12V DC, 12-36V. Terminations: three 1/4" (6.4mm) studs. Two 9/32" (7.2mm) diameter mounting holes. Size: 5"L x 3 1/4"W x 2 3/16"H (127.0 x 82.6 x 71.0mm).

48090 90 Amp

90A at 12V DC, 12-36V. Terminations: three 1/4" (6.4mm) studs. Two 9/32" (7.2mm) diameter mounting holes. Size: 6 1/4"L x 3 1/4"W x 2 3/16"H (165.0 x 82.6 x 71.0mm).

48120 140 Amp

140A at 12V DC, 12-36V. Terminations: three 5/16" (7.9mm) studs. Four 9/32" (7.2mm) diameter mounting holes. Size: 6 1/4"L x 4 3/16"W x 3 11/32"H (152.4 x 122.2 x 84.9mm).

48160 200 Amp

200A at 12V DC, 12-36V. Terminations: three 5/16" (7.9mm) studs. Four 9/32" (7.2mm) diameter mounting holes. Size: 8 1/2"L x 4 3/16"W x 3 13/32"H (215.0 x 122.2 x 86.5mm).

For Ambulances

Used to isolate medical equipment batteries from vehicle batteries. With Schottky diode, to comply with Federal Specification KKK-A-1822B for ambulances.

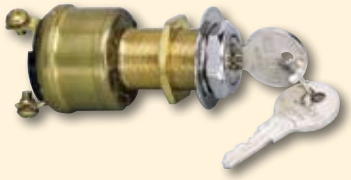
48051 75 Amp at 12V DC

48161 250 Amp

250A at 12V DC, 12-36V. Same as 48160, but with Schottky diodes. Terminations: three 5/16" (7.9mm) studs. Four 9/32" (7.2mm) diameter mounting holes. Size: 8 1/2"L x 4 3/16"W x 3 13/32"H (215.0 x 122.2 x 86.5mm).

Ignition

See Section C.



★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

24505 Lockout Lever Kit ★

Special lever and flange plate accept a padlock to securely lock a Disconnect Switch in the Off position, which is required by many lock-out/tag-out safety regulations. For use with Cole Hersee lever actuated master disconnect switches with a 3/4" diameter (19.1mm) mounting stem: 2484, 2484-A, 2484-06, 2484-09, 2484-16, 75903, 75904, 75904-01, 75907, 75908, M-284, M-284-A, M-284-01, M-284-02, M-289, M-290, M-290-01, M-290-05. (We recommend the use of a padlock with a 5/16" (7.9mm) diameter shackle.)

80101-B Replacement Lever

Chrome-plated diecast lever. Fits Cole Hersee lever-actuated Master Disconnect Switches on pages 88-90.

83353 Hencol Key

For Hencol trouble-free locks. Heavy gauge plated steel resists corrosion.

Face Plates

82065 Without Indexing Hole BP

For Master Disconnect Switches. Polished aluminum with enamel finish. Fits Cole Hersee Master Disconnect Switches without indexing pin. 2 1/2" (63.5mm) diameter.

82065-02 With Indexing Hole

Same as 82065, but with hole for indexing pin.

Battery Jumper Terminals and Studs

Use them to make easily-accessible battery connections, inside or outside the vehicle. Can be used individually or in pairs. Easy to install. Solid brass posts. Includes brass hexnut and lockwasher. Jumper terminals have contact post 13/16" (20.6mm) diameter, 1 1/8" (28.8mm) long, which is grooved to accept standard jumper cables 6 -48V DC.

46210-02 Post with Red Cap ★ for Positive Terminals

Replacement red cap: 97846-A

46210-03 Post with Black Cap ★ for Negative Terminals

Replacement black cap: 97846-B

46211-R Red Battery Feeder Stud

Brings 6-36V DC power through bulkheads or firewalls. Impact-resistant plastic isolator/mounting bushing, 1 17/64" (32.1mm) diameter, 5/8" (15.6mm) long. Two 3.8" -16 thread brass stud terminals, 5/8" (15.9mm) long.

46211-01 Black Battery Feeder Stud ★

Same as 46211-R, only black plastic.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

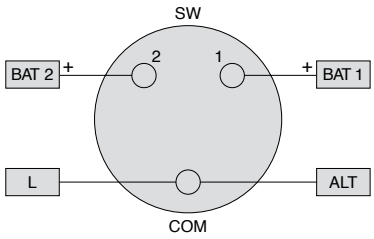
Battery Selector & Master Disconnect Switches

Key to diagrams: L = starter & load, SW = Battery Selector & Master Disconnect Switch, BAT = battery, ISO = Battery Isolator, COM = common, ALT = alternator REG = Regulator

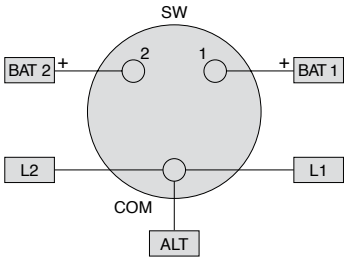
M-750 & M-751

Download instruction form IF-63 from our website.

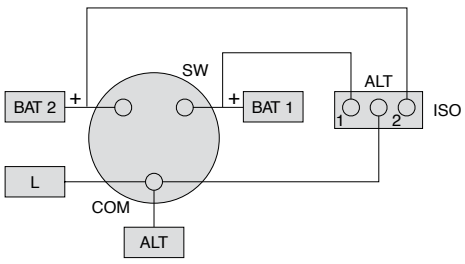
One Engine and Two Batteries



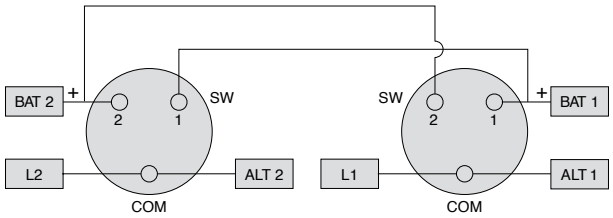
Two Engines and Two Batteries



One Engine, Two Batteries, with Battery Isolator



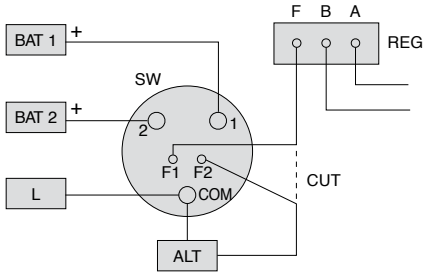
Two Engines, Two Batteries, Two Switches



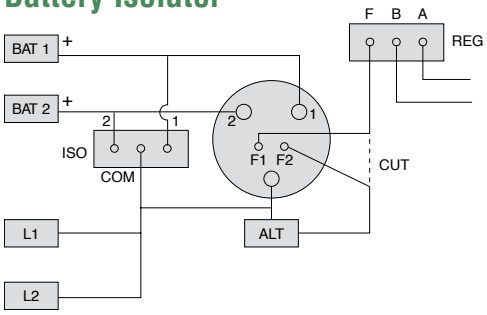
M-752 & M-753

Download instruction form IF-130 from our website.

One Engine and Two Batteries



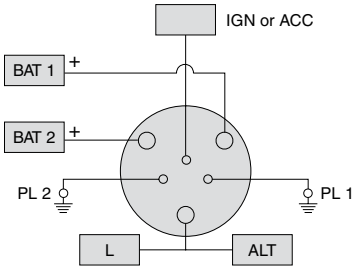
Two Engines and Two Batteries, with Battery Isolator



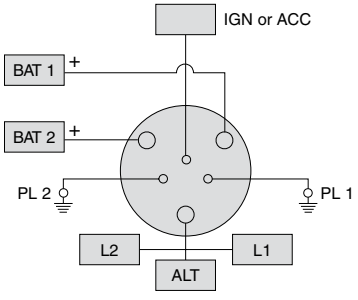
M-754 & M-754-01

Download instruction form IF-121-1 from our website.

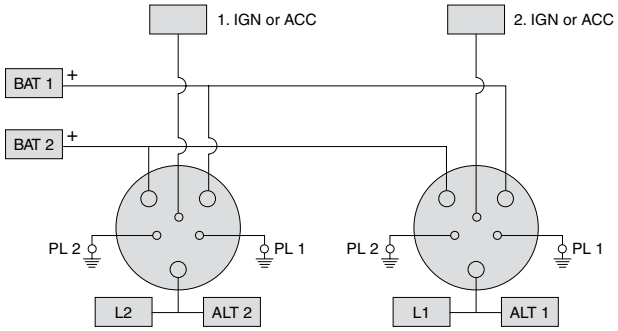
One Engine and Two Batteries



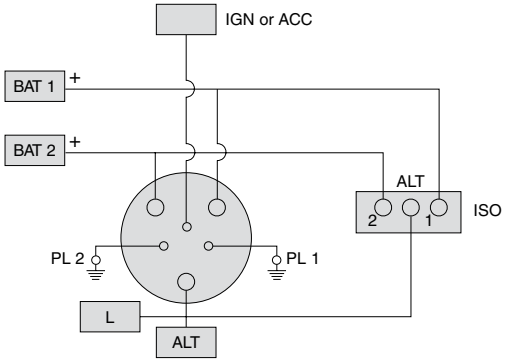
Two Engines and Two Batteries



Two Engines, Two Batteries, Two Switches



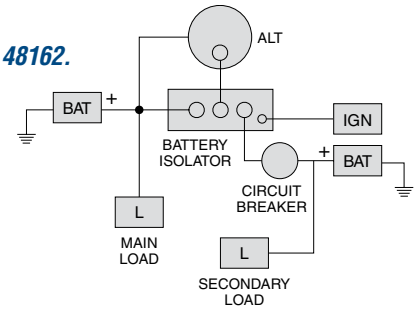
One Engine and Two Batteries, with Battery Isolator



Battery Isolators

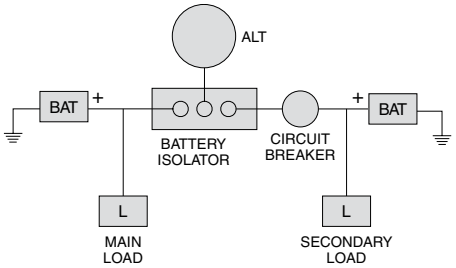
4-Stud Type

48092, 48122 and 48162.



3-Stud Type

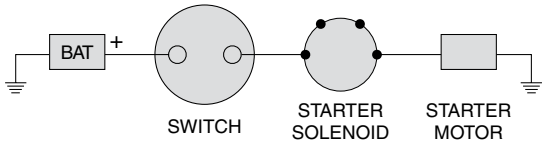
48070, 48080, 48090, 48120, 48160, and 48161.



Master Disconnect Switches

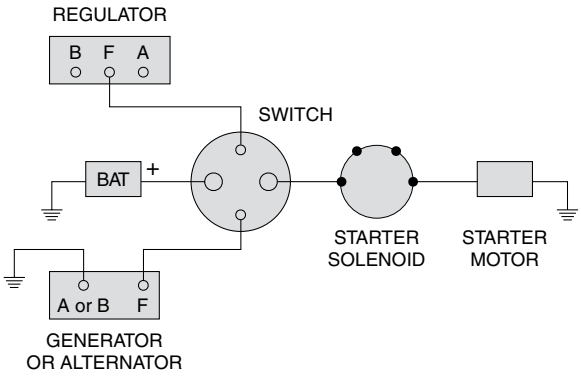
SPST Switches

Download instruction form IF-126 from our website.



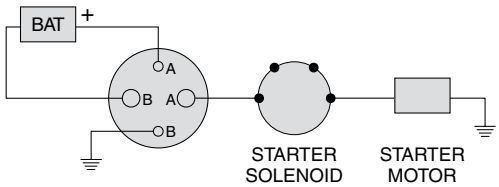
DPST Switches

Download instruction form IF-109 from our website.



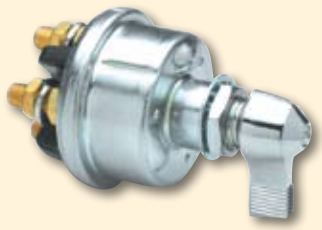
75912 Switch

For two high current loads.



The Versatile 75912

1. Use the 75912 for switching two motors or two battery banks simultaneously. The two circuits can be different voltages such as 12V and 24V.
2. Extra safety. When used in one circuit the 75912 controls the negative and positive sides of the circuit.



★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

electronic devices

K1 LOW VOLTAGE DISCONNECT SWITCHES

SureStart™ Compact Low Voltage Disconnect Switch

48513	**Compact LVD**
48513-01	**LVD & Harness**
12804	**Harness**

12 or 24V,
125A at 60ºC, 100A at 85ºC

Electronically senses battery voltage and conserves starting power. Automatically disconnects and reconnects loads based on battery condition; no operator action is required to protect the batteries. Prolongs battery life by preventing damage due to excessive discharge.

Eliminates the need for both separate timer or voltage sensing delay relay devices and high current relay or solenoid, and simplifies wiring and installation. Small size and lightweight design means easier and more discrete mounting, to use space more efficiently, eliminate hardware, and give better routing of wires.

Solid state switch is inherently better for use with electronic devices. It creates less noise and interference and protects electronics from switching spikes.

When battery voltage falls below programmed voltage setting for 2 minutes non-critical loads are automatically disconnected. Waterproof and dustproof to IP67 international standard. (Submersible to 3 feet.) Sealed connector makes it ideal for harsh environments. Advanced technology enables a robust product in a small lightweight package. Programmable timer feature automatically disconnects loads after key off, regardless of battery condition. 12804 Harness fits this LVD.

Specifications

4.5"W x 4.3"L x 3.1"H (114.3 x 108.6 x 79.0mm).

Operating Temperature Range: -40° to +85°C (-40° to +185°F). 100A at 85°C, 125A at 60°C.

Ingress Protection: IP66 per IEC 529.

Humidity: 0 to 90 %RH.

Vibration: 10-500 Hz per SAE J1455.

Shock and Thermal Shock: per SAE J1455.

Inductive Transient: +/- 600V per SAE J1455.

Load Dump: + 100V per SAE J1455.

Battery Terminal Torque: 50 in-lbs max.

Operating Voltage: 9V min, 12V typical, 16V max if used with 12V DC systems.

Disconnect Voltage: 12.05V min, 12.1V typical, 12.15V max When voltage drops below 12.1V, system activates the alarm for one minute and then disconnects loads.

Quiescent Current: 1mA typical, 2mA max. Circuit operating current.

Load Current: 100A at 85°C, 125A at 60°C.

Overcurrent Protection: 150A. System will disconnect load and sound alarm after 5 seconds of excessive current.

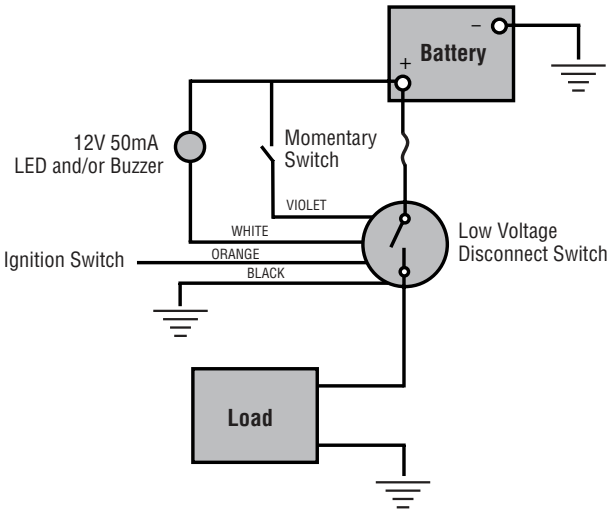
Key-Off Ttimer: 5 minutes minimum, 15 minutes typical. Option feature. After key off, unit will wait a set time before activating alarm. One minute later loads are shut off.

SureStart™ Automatic Low Voltage Disconnect Switch

Ensures ample starting capacity and prolongs battery life. Automatically disconnects non-critical loads from a battery when the battery voltage falls below a predefined threshold. Automatically reconnects the loads to the battery when it is being charged. Manual override permits a user to make or break the connection, regardless of battery voltage. Overcurrent, short-circuit and over-temperature protection.

NEW

48510 200A at 12V DC
48512 150A at 12V DC



No more stranded vehicles! The SureStart™ LVD ensures there's enough starting power to get home, and saves the batteries on vehicles that are not used every day.

Specifications

6.0"L x 5.1"W x 3.0"H (152.4 x 130.2 x 76.2mm).

Environmental: -40˚C to 85˚C. SAE J1455 & J1113.

Electrical: 150A or 200A continuous. Inrush: 500A (for 5 seconds). 2mA max quiescent current.

Ignition-proof to ISO 8846.

Disconnects when battery drops below 12.1V for 2 minutes, reconnects when battery meets or exceeds 13.0V for 10 seconds. (Factory programmable).

Alarm: Active low, 50mA.
Activates 1 minute before disconnect. (Factory programmable)
Accuracy: ±100mV.

Electronics sealed to IP67.

LVD Accessories

58036-06 Rocker Switch

Mom On-Off-On SPST switch for use with LVDs. Uniform with series 58031 & 58332 switches on page 4. Use with 48513.

12804 Harness

Harness kit (Deutsch connector & wires) fits 48513 Compact LVD.

40205 Milliamp Rocker & Alarm

Digital switch with piezo alarm. Use with 48510, and 48512.

Super-Bright LEDs

New 58312 series rocker switches have long lasting LED lights and high-visibility wrap-around lenses. See page 1.

Forward & Reverse Relay Module 24452

Reversing module carries a heavy load and is suitable for intermittent or continuous operation at 12V DC. Ideal for many applications and many other direction reversing applications. Fully sealed to accommodate harsh environments. Dynamic braking stops the motor when the control switch is turned to Off. Low profile module (less than 2" high) saves space in cramped installations. Studs are securely secured in epoxy. Protective cover 97297 is also available.

24452 F&R Module

Module only.

NEW

97297 Protective Cover

Specifications:

High performance silver tin oxide contacts assure long cycle life.

70A at 12V DC intermittent, max On time 5 mins, Off time 3 mins. 50A at 12V DC Continuous. For intermittent operation. Control switch should be Mom On – Off – Mom On; for continuous operation On – Off – On.

Load current inrush: 150A. Pull-in voltage 7.8V max.

Low coil current draw. Coil resistance 82 Ohms ± 10%.

Vibration resistance: 10-55Hz. Double amplitude 1.55mm.

Environmental: -40°C to 85°C. Rust and moisture-resistant plastic housing.

Fully sealed to IP67 with high strength epoxy for total moisture protection.

Ignition protected.

Tin-plated brass studs and hardware for corrosion resistance.

Dielectric strength: 500V RMS between coil and contact.

200A Electronic Dual Relay 48521

Functions as a Normally Off relay or as a Latching Relay, depending on which wires are connected by the user. For use on all vehicle electrical systems such as heavy truck, off-road, construction, material handling, refuse collection or marine. Non-arcing and ignition-protected – can be used in hazardous environments. Solid-state reliability – withstands conditions that would 'kill' an electromechanical solenoid – and stands up to roadsplash and vibration. Low control and quiescent currents make this Dual Relay ideal for idle reduction, battery saving, and electronic control applications. Allows electronic systems to directly drive a high current switch without the need for an extra relay. Easy to install. Safe operation – protected against misconnect, overcurrent, short circuit and overheating. Optional; remote status LED gives warning to vehicle operator. 200A at 12V DC – big enough to control onboard vehicle equipment like winches, tailgates and other heavy motors.

NEW

Specifications:

Continuous current: 200A at 12V DC.

Inrush current: 500A for 5 seconds at 12V DC.

Overcurrent: 250A, shutdown after 5 seconds.

Control current: 1mA

Quiescent current: 2mA

Ingress protection: IP67 per IEC 529

Ignition protection to ISO 8846

Vibration, shock and EMI/RF to SAE J1455

Stud terminals are 5/16-18, torque 65 in-lbs (7.34Nm)

Electronic Solenoid 48785 ★

Fully solid-state, with no moving parts to wear out. The Electronic Solenoid stands up to over one million On-Off cycles. It is completely sealed, ignition protected, and withstands vibration and adverse environments. Use the Electronic Solenoid in both 12V or 24V applications... or any voltage between 9 and 31V.

- Solenoid can be used in both High Side and Low Side switching applications.
- Needs only a very low control current.
- Suitable for high inrush demand circuits.

Specifications:

9 - 31V DC, 85A continuous or 175A intermittent.

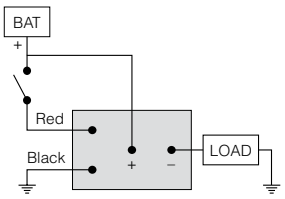
Low On resistance of .005Ω.

Low control current of .02A (max) means lighter wires, smaller harnesses.

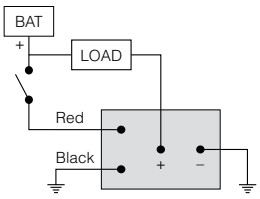
On/Off control voltage must be identical to the system voltage.

Wide temperature operating range -40°C to + 85°C without derating.

Protected from transient voltage spikes or surges.



High side switching application



Low side switching application

No More Dead Batteries!

SureStart™ Low Voltage Disconnect switches automatically disconnect ancillary loads before battery power is insufficient to start the vehicle. They automatically reconnect when voltage has been restored.

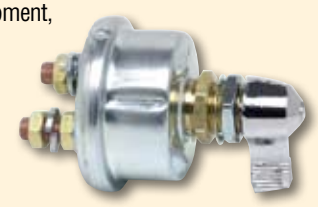
Prolongs battery life by preventing irreversible damage due to excessive discharge. See page 97.

Smart Battery Isolators

Prevents loads on an auxiliary battery from draining the starting battery. More versatile than conventional isolators, it works with all types of alternator, and allows bi-directional charging from alternator to shore power. See page 92.

Emergency Cutoff

Emergency cutoff switches are commonly mounted on many types of vehicles such as buses, and those used in construction and agriculture. Fire departments routinely familiarize themselves with the location of cutoffs, so that vehicles can quickly be isolated in case of emergency. Additionally, OSHA requires cutoffs on certain vehicles, particularly those with ancillary motorized equipment, such as garbage trucks. See Section J2.



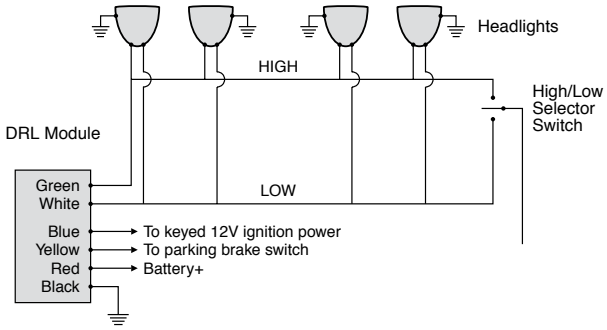
48600 Daytime Running Light Module

Automatically turns on low-beam headlights when the ignition is turned on (after a 10 second delay, thus reducing the initial starting load. Activated when the parking brake is released; deactivated when the parking brake is set (with ignition On). Deactivates when high beams are flashed for signaling. Completely solid-state construction. Supplied with 15A mini-fuse.

Extends the life of the headlights, because (for daytime running) they are powered at 75% of the high-beam intensity. For two or four headlamp systems.

Complies with FMVSS 108 for headlamp intensity. CMVSS-108 and CAN/CSA D-603-88, type 2. Six 28" (711mm) long wire leads, six 30223 Quick Tap wire splicers (see Section P5), and two self-tapping mounting screws.

Also available without splicers and screws: order part number 48600-01.



New Master Disconnect

75920 Sealed Master Disconnect - See page 87.

Build Your Own Rockers

Five handy kits cover all the electrical types and pilot light combinations. Each kit comes with a set of snap-in pilot light lenses, so it's easy to make up a switch with the lens color you need.

The five kits are individually retail-packed in clamshell BP units.

58328-100BP On-Off SPST, dependent
With one each Amber, Clear, Green, and Red lens.

58328-101BP On-Off SPST, independent
WIth one each Amber, Clear, Green and Red lens.

58328-102BP On-On SPDT, dependent
With two each Amber, Clear, Green and Red lenses.

58328-103BP On-Off-On, dependent
With one each large Amber, Clear, Green, Red and one each small lenses.

58328-104BP On-Off SPST, one dependent, one independent
With one each large Amber, Clear, Green, Red and one each small lenses.

48000 Trailer Tail Light Converter

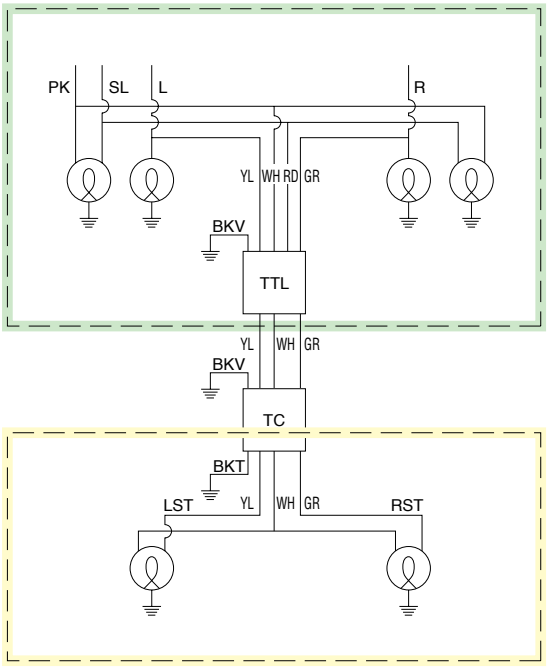
Permits a towing vehicle with two lighting circuits for each side to operate lights on a trailer with a single circuit each side. Eliminates the need to rewire the trailer, or to add additional lights. US laws require stoplights, turn signals and taillights on trailers.

For use with 12V DC negative ground systems only. Using the Converter, towing vehicles with four lighting circuits (left stop, left turn, right stop, right turn) can properly operate trailers with two lighting circuits (left stop and turn, right stop and turn). Solid state circuitry provides high reliability and is embedded, giving complete protection against moisture and vibration. Color-coded18AWG wire leads are 24" (607.6mm) long for towing vehicle connections, 36" (914.4mm) long for attachment to trailer connector.

Operation of trailer lights is unaffected by a burned-out bulb in the towing vehicle.

Includes wiring and installation instructions, and self-splicing wire connectors for fast installation. Converter has self-adhesive pad for easy mounting inside a trunk, fender wall or other smooth surface.

Typical vehicle tail light system.



Typical trailer tail light system.
Trailer ground is not provided.

Key to the diagrams

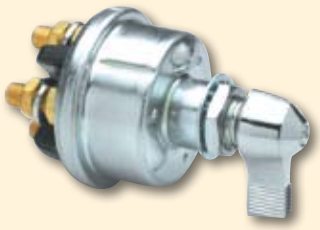
PK	=	Parking lights.
SL	=	Stop lights.
L	=	Left turn signal.
R	=	Right turn signal.
YL	=	Yellow.
WH	=	White.
RD	=	Red.
GR	=	Green.
BKV	=	Black, vehicle ground.
BKT	=	Black, trailer ground.
TTL	=	Trailer tail light module.
TC	=	Trailer connector.
LST	=	Left stop & turn signal light.
RST	=	Right stop & turn signal light.

New Ignition Switches

New 95060 Series is fully sealed and has an integral Deutsch connector. See page 29.

The Versatile 75912

1. Use the 75912 for switching two motors or two battery banks simultaneously. The two circuits can be different voltages such as 12V and 24V.
2. Extra safety. When used in one circuit the 75912 controls the negative and positive sides of the circuit.



See page 90.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

stoplamp switches

L1 HYDRAULIC

SPST, Normally Off. Contacts close at rising pressure. Operate at 60 to 120 psi (414 to 827 kPa). Thread is NPTF dryseal thread for use without a sealant.

8626 ★
Two 6-32 screw terminals. 1/8" -27 thread mounting stem, 11/32" (8.73mm) long.

Replaces: Delco 476S, 4760, FWD 4760, 4765, GMC 403936, 476592, 1316600, Ford 100810B, 510C, Mack 5CG-114, 11MR-1152, Motorcraft SW-311, Wagner FC-1201, FC5106, White 58012-F, 443106, 1319522.

8628
Two female bullet terminals. 1/8" -27 thread mounting stem, 11/32" (8.73mm) long.

Replaces: AMC 99469, Chrysler 1450341, Delco 4765, Ford 91A-13480, Jeep 647801, Motorcraft SWC-312, Wagner FC-5550, FC-6370.

8629 ★
Two male bullet terminals. 1/8" -27 thread mounting stem, 11/32" (8.73mm) long.

Replaces: AMC 300356, 3145198, 3192194, 4488306, Delco 4766, 4733, D850, Ford B8A, B9SF, C1AZ-13480A, GMC 1320938, 1328118, 1997725, Jeep 70034, 201466, 647801, Motorcraft SW-24, Wagner FC-6780, FC-7715, 179-318, AC5812W.

8638*
Two button head terminals accept standard female terminals. Will mate with Packard connector 2962679 or equivalent. 1/8" -27 thread mounting stem, 11/32" (8.73mm) long.

Replaces: AMC 991216, Delco 4769, GMC 1171472, 1363959, Jeep 931126, International 257854C91, 258298C91, Motorcraft SWG-314, Wagner FC-23808.

Give Warning

Looking for a pilot light or audible warning to connect to your switch? See Section N1: Buzzers & Alarms, and Section N2: Pilot Lights.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

Single Pile Single Throw switches that are Normally On (Spring return to On) or Normally Off (Spring return to Off)

8645 Normally On*
1/2" -20 thread mounting stem, 3/8" long. Plunger 11/32" long.

8715 Normally On ★
Moisture-resistant plastic body and plunger. 1/2" diameter mounting stem, 1 5/32" long.

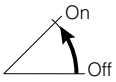
Replaces: AMC 3189147, 3194569, 4488295, 5352620, 9770419, Chrysler 2809033, Delco D864, D866, D868, D873, U850, U851,U852, D885, Ford C8ZZ-13480A, C7TZ, D2TZ-13480B, GMC 536289, 1261219, 1362835, 959, 1993509, 1998192, 196, 667, 3631535, 3889606, 3889607, 3952426, 9772188, 9776994, 14074323, 25524844, International 312739C91, 358560C91, Motorcraft SWG-535, SW-691A, SW-1512, VW 175957656A, Wagner FC-32200, FC-32085, FC-66780.

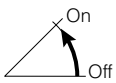
8486 Righthand Lever, Normally On
When viewed from the terminals, the lever projects to the right (see also 8487). Lever is 2 7/8" overall length. Two tapped 10-32 mounting holes, 5/8" on centers. For a similar switch, but Normally Off, see 8486-05 on page 152.

Replaces: Delco D851, D853, D855, GMC 1997901, 1997915, 1997922, Motorcraft SWG-317, Wagner FC-21630.

8487 Lefthand Lever, Normally On
When viewed from the terminals, the lever projects to the left. Otherwise, the switch is identical to 8486.

Replaces: Delco D852, D854, DR-2401, GMC 1997913, 1997921, Motorcraft SWG-318, 319, Wagner FC-21632.





8757 Normally Off
Contacts close at 5 to 8 lbs pressure.
9/16" diameter mounting holes.

Replaces: Ford E3FZ, E6FZ-13480A, E1FZ-13480A, B, Motorcraft SW-1639, SW-1640, SW-1640-A.

Buzzers & Alarms

Can be used with manual switches (toggles, rockers, etc.) or with switches in Section M.

New Master Disconnect

75920 Sealed Master Disconnect - See page 87.

TEMPERATURE SWITCHES M1
OIL PRESSURE SWITCHES M2
MISCELLANEOUS SWITCHES M3

monitoring devices

M1 TEMPERATURE SWITCHES

All items are self-grounding, normally Off. Heavy duty, corrosion-resistant. Switches utilize PTF or NPTF dryseal thread which requires no sealant. Switches close a ground circuit to indicator lights or other warning devices that warn of a 'hot' or 'cold' condition. Cannot be used with gages. .250" blade (6.4mm) terminal except where noted. For use with indicator light or buzzer.

84210 On at 239° to 271°F. 1/2" -14 Thread.

1/2" -14 dryseal thread mounting stem (PTF-SAE short). Mounting hex flat 15/16". (115.0 – 132.8°C).

Replaces: Delco 1993426, 427, D-1879, GMC 6490970, 25036512, Motorcraft SWG-485.

84218 On at 184° to 216°F. 1/2" -14 Thread.

1/2" -14 dryseal thread mounting stem (PTF-SAE short). Mounting hex flat 15/16". (84.4 – 102.2°C).

84227 On at 232° to 264°F. 1/2" -14 Thread.

1/2" -14 dryseal thread mounting stem (PTF-SAE short). Mounting hex flat 15/16". (111.1 – 128.9°C).

Replaces: Delco 1993444, 445, 508, 513, 582, 588, 1994061, D1858, 59, 68, GMC 6490152, 25036507, Motorcraft SWG-485.

84236 On at 251° to 283°F. 1/2" -14 Thread.

1/2" -14 dryseal thread mounting stem (PTF-SAE short). Mounting hex flat 15/16". (122.0 – 139.4°C).

Replaces: Delco 1993445, 1993496, 1994061, D1867, D1879, GMC 6489179, 6489395, 6489766, 6490694, 6490970, 25036512, Motorcraft SWG-1187, SWG-1340.

84248 On at 253° to 273°F. 3/8" -18 Thread. ★

3/8" -18 dryseal thread mounting stem (NPTF). Mounting hex flat 13/16". (122.8 – 133.9°C).

Replaces: Delco D-1896, GMC 8992347, 8993427, 25036035, 042, 139, 300, 371, 452, 468, 535, Motorcraft SWG-2051.

84251 On at 190° to 210°F. 3/8" -18 Thread. ★

3/8" -18 dryseal thread mounting stem (NPTF). Mounting hex flat 13/16". (87.8 – 98.9°C). Part of Cole Hersee marine engine warning kit M-40177BP on page 110.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Self-grounding SPST Normally On (except 86302-02). Contacts open at rising pressure, close at falling pressure. Heavy duty construction. Weather-resistant. Plated steel case. Molded moisture-repellent insulators. Conservative burst pressure: 750 psi (5171.1 kPa).

8606 Off at: 2 - 6 psi. 1/8" -27 Thread. ★

Normally On, Off at: 2 - 6 psi (13.8 – 41.4 kPa).
.250" blade terminal. 1/8" -27 mounting stem.

Replaces AMC 1539889, 3142826, Chrysler 4169629, Delco 499581, 534598, 1359289, 1408319, 1508319, 668, 1598319, 1994214, 1998713, 3200422, 3818783, 5653196, 397, 462, D-2471, Ford D0RY-9278-A, International 280891-C91, 356079-C, 425491-R91, 31428266, Motorcraft Sw-334, SWG-334, SWE-1030, Trucks: Chevrolet 85-89, Dodge 85-86, GMC 85-89, International 59-67, 78-80.

8609 Off at: 4.5 - 7.5 psi. 1/8" -27 Thread.

Normally On, Off at: 4.5 - 7.5 psi (31.0 – 51.7 kPa).
8-32 stud terminal. 1/8" -27 mounting stem.

8610 Off at: 4.5 - 7.5 psi. 1/8" -27 Thread.

Same as 8609, but with combination blade and stud terminal.

Build Your Own Switch

Five handy kits cover all the electrical types and pilot light combinations. Each kit comes with a set of snap-in pilot light lenses, so it's easy to make up a switch with the lens color you need.

The five kits are individually retail-packed in clamshell BP units.

58328-100BP On-Off SPST, dependent
With one each Amber, Clear, Green, and Red lens.

58328-101BP On-Off SPST, independent
WIth one each Amber, Clear, Green and Red lens.

58328-102BP On-On SPDT, dependent
With two each Amber, Clear, Green and Red lenses.

58328-103BP On-Off-On, dependent
With one each large Amber, Clear, Green, Red and one each small lenses.

58328-104BP On-Off SPST, one dependent, one independent
With one each large Amber, Clear, Green, Red and one each small lenses.

Types Of Thread

Information on most threads can be found in the ANSI standards, the SAE Handbook, and the National Institute of Standards and Technology Handbook H-28.

UNC is the most commonly used thread on general-purpose fasteners. UNC threads are deeper than UNF threads and are easier to assemble without cross threading. Manufacturing tolerances can be larger than for finer threads, allowing for higher plating tolerances. Because of their looser fit, UNC threads are usually easier to remove when corroded.

UNF thread has a larger minor diameter than UNC thread, which gives UNF fasteners slightly higher load-carrying and better torque-locking capabilities than UNC fasteners of the same material and OD. UNF threads have a smaller lead angle that allows for finer tension adjustment. They also have more stringent manufacturing tolerances than UNC threads.

The most common thread systems in the US are:

- UNC – Unified National Coarse
- UNF – Unified National Fine
- UNEF – Unified National Extra Fine
- NC – American National Coarse
- NF – American National Fine
- NEF – American National Extra Fine

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

Oil Pressure/Electric Choke Switches

SPST, Insulated, Normally Off

86272 On at: 2 - 6 psi. 1/8" -27 Thread.

On at 2 - 6 psi (13.8 – 41.4 kPa).
Mounting stem: 1/8"-27 dryseal thread.

Replaces Delco 45784, 10012967, 10018158, 10002798, 25036001, Motorcraft SWG-1702.

*86277** On at: 2 - 6 psi. 1/4" -18 Thread.

On at 2 - 6 psi (13.8 – 41.4 kPa).
Mounting stem: 1/4"-18 dryseal thread.

Replaces Delco 1260636, 25500672, 25502419, D-1819, Motorcraft SWG-1705.

86284 On at: 2 - 6 psi. 1/8" -27 Thread.

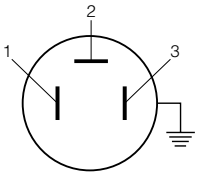
On at 2 - 6 psi (13.8 – 41.4 kPa).
Mounting stem: 1/8"-27 dryseal thread.

Replaces AMC 5758695, Delco 10001858, 14004902, 25036279, 533, D-1818, International 1324244-R91, Motorcraft SWG-1709.

86302-02 On at: 4-11 psi. 1/8" -27 Thread.

On at: On at 4-11 psi (27.5 - 75.8 kPa).
Two silver-plated male blade terminals .25" (6.4mm) wide.

DPST, One Grounded, One Insulated Circuit



8659 1/8" -27 Thread.

Mounting stem: 1/8"-27 dryseal thread. Operation: circuit 1 – terminal 2 normally closed to ground, opens at 9 - 16 psi (62.1 – 110.3 kPa); circuit 2 - terminals 1 & 3 normally open, close at 9 - 16 psi.

86281 1/8" -27 Thread.

Mounting stem: 1/8"-27 dryseal thread. Operation: circuit 1 – terminal 2 normally closed to ground, opens at 2 - 8 psi (13.8 – 55.2 kPa); circuit 2 - terminals 1 & 3 normally open, close at <11 psi (75.9 kPa).

Replaces AMC 331347, Chrysler 3747431, Delco 14057554, Jeep 4186352, Motorcraft SWG-1708.

Vacuum Switches

9253 Normally On ★

SPST, insulated. Contacts open at rising vacuum, contacts close at falling vacuum. Mounting stem: 1/8" -27 dryseal thread. Operating range: 9-12 inches of mercury (30.5-40.6kPa).

Replaces AMC 3156149, Chrysler 1770093, CH-2569, Ford C2TA-11516-A.

92007 Normally Off

Insulated. Contacts close at rising vacuum, contacts open at falling vacuum. Operation: Make at 7 - 13 inches of mercury, (23.7 - 44.0 kPa). Mounting stem: 1/8" -27 dryseal thread.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Air Pressure Switches

For dependable operation of low air pressure warning systems. Sealed contact design prevents short circuits caused by moisture and contaminants. Switches are Normally On (Contacts open at rising pressure) or Normally Off (Contacts close at rising pressure.)

8604 Normally On

Mounting stem: 1/4" -18 dryseal thread 15/32" long. Insulated. Normally closed, open at 55 - 65 psi (379.2 - 448.2 kPa). 8-32 screw terminal.

8640 Normally On ★

Mounting stem: 1/4" -18
dryseal thread. Normally closed, open at 60 - 70 psi (413.7 – 482.6 kPa). 8-32 stud terminal.

Replaces Chrysler 1787025, 1788700, Delco 3750911, 3929518, Ford B6Q, B8Q-18737A, C5TZ-2A574A, International 194702-R91, Motorcraft SW-377.

8646 Normally On

Mounting stem: 1/4" -18 dryseal thread. Normally closed, open at 60 - 70 psi (413.7 – 482.6 kPa). 8-32 screw terminal.

Replaces Chrysler 1787025, Mack 1MR-1169AP1, White 495537.

8658 Normally Off

Contacts close at 2 - 5 psi (13.8 – 34.5 kPa). 8-32 screw terminals. Insulated.

Fuel Pump Switch

8647 ★

Normally Off electric fuel pump switch. Operation: Contacts close at 3.5 - 6.5 psi (44.9 - 24.2 kPa) Mounting stem: 1/8" -27 dryseal thread 11/32" long.
.250" blade terminals. Insulated contacts.

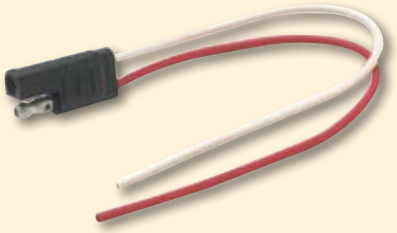
Replaces Chrysler 1841416. 2510026. International 217552-R-91.

Red Light On - White Light Off

Illuminated toggle switch clearly identifies On and Off positions. Available in SPST On-Off and SPDT On-Off-On.
See page 16.

Connectors

See page 144.



★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

WARNING DEVICES	N1
HEAVY-DUTY PILOT LIGHTS	N2
MARINE PILOT LIGHTS	N3
HOODED PANEL LAMPS	N4
LAMP SOCKETS & ACCESSORIES	N5

warning devices, pilot lights, panel lamps, sockets

Buzzers & Alarms

4099 Universal Buzzer 12V DC BP

Hundreds of uses. For 'door ajar' warning, bus driver alert, low air pressure, temperature, etc. Works with any temperature, pressure, door or momentary switch. Electrical contacts are designed for instant response and uninterrupted signal.

Impact-resistant ABS resin case. Moisture-repellent insulator. Two screw terminals with lockwashers. Size: 1 7/32"L x 2 1/2"W x 2 17/32"H (30.9 x 63.2 x 64.3mm). 24V buzzer available. Order number 40151

Replaces: Ford FDM-2938-A, GMC 1116882, Superior Coach 76032, Divco-Wayne E-11811-A.

4112-RC000 Buzzer/LED Pilot Light "Dual Alarm" BP

Rugged combination warning light and buzzer give audible and visible alert. Universal application: use with any electrical switch. Red lens, long-life LED. 11/16" (17.46mm) diameter mounting stem, 17/32" (13.88mm) long. Body size: 1 7/8"L x 1"W x 1 11/32"H (47.6 x 25.4 x 34.1mm). Wiring instructions provided. 12V DC. Also available as 24V. Item No. 4124-RD000.

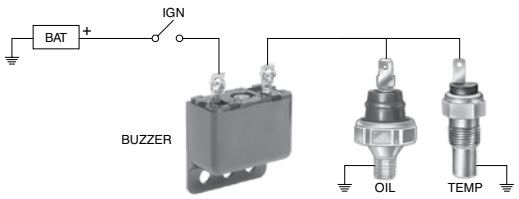
40100 Buzzer Pull Switch

Attaches to a cord. For use by passengers in buses and rapid transit vehicles. Extra heavy duty construction. Use with Cole Hersee buzzers or buzzer/flashers: 4099, 4112-RC000, 4124-RD000. SPST Off-Mom. On. Normally Off, pull to On, spring return to Off. For use with systems up to 36V DC. Two screw terminals. Neutral gray enamel finish cover. Operates with a pull cord.

Replaces: Delco 1998723, 18998802, 1998020.

M-40177BP Marine Engine Warning Kit BP

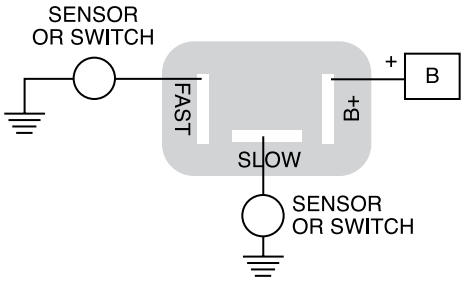
For inboard and outboard engines with 12V DC electrical system. Handy kit includes buzzer 4099, temperature switch 84251, see page 105, and pressure switch 8606, see page 106. Alarm sounds when oil pressure is too low and/or engine coolant temperature is too high. Installation instructions included. Available in BP only.



40212 Dual Rate Electronic Alarm 12V DC

Utilizes advanced integrated circuit surface mount technology. Negative ground. Use with two input sources to warn of two different hazardous conditions. Sounds at two different rates: one sensor triggers a fast-rate alarm, the second actuates a slower rate alarm tone.

Minimum sound level: 90dB. Lightweight molded plastic housing. Solid-state circuitry. Size: 2.005"L x 1.185"W x .930"H (50.4 x 30.3 x 23.6mm). Plugs into Cole Hersee Sealed Beam Connector 3032 or 3029, Delphi (Packard) 12033871, or accepts individual connectors for 1/4" (6.4mm) blades. (Not supplied)



3261-01 Low Air Pressure Flasher Kit

Lamp flashes when pressure switch triggers at 60+10 psi (413+69kPa). Includes heavy duty Air Pressure Switch 8640 (has 1/4-18 NPTF thread). Aluminum faceplate with red enamel finish, 2.94"W x 2.09"H (74.7 x 52.1mm). Pilot light with flashing bulb. Two 16AWG wire leads, one 18" (457.2mm) and one 8" (203.0mm). Installation instructions included.

Super-Bright LEDs

New 58312 series rocker switches have long lasting LED lights and high-visibility wrap-around lenses. See page 1.

Back-Up Alarm Switch

The 75125 switch is designed for vehicles without an automatic back up switch circuit. Simply mount the switch adjacent to the reverse switch. Spring handle allows overtravel. See page 153.

LED Pilot Lights

NEW

12V DC. With rugged light-emitting diode light source that ensures long hours of service. Never needs bulb replacement. Mounting hole: 0.546" diameter(13.9mm). Quick connect .250" (6.4mm) terminals are polarized for ease of wiring. Body length 1.248" (31.7mm), maximum bezel diameter 0.630" (16.0mm). Fits into panels .020" through .300" thick (0.5 to 7.6mm). Nickel-plated washer and hexnut. Also available in 24V- Contact Cole Hersee.

PL-612-R Red Lens BP

PL-612-G Green Lens BP

PL-612-B Blue Lens BP

PL-612-A Amber Lens BP

Incandescent Pilot Lights

Corrosion-resistant construction. Spring-actuated brass contacts assure proper contact with the bulb. 16AWG (1.0mm²) insulated stranded copper leads, 8" (203mm) long. Many items are available with custom imprinting: contact Cole Hersee

Single Contact, Insulated

Smooth Lens

Plastic socket.

PL-6-RC000 With Small 5/16" Lens, Chrome Bezel

Red lens. Chrome-plated brass bezel, 7/8" (22.2mm) diameter. 3/4" (19.1mm) diameter mounting stem, 11/16" (17.5mm) long, 3/4-32 UN-2A. 5/16" (7.9mm) diameter lens. 12V #56 bulb supplied.

PL-2 Series With Small 3/16" Lens

12V #53 bulb supplied. 3/16" (4.76mm) diameter lens. 5/16" (7.9mm) diameter mounting stem, 3/8" (9.5mm) long. Plated brass bezel, satin finish, 1/2" (12.7mm) diameter.

PL-2-AC000* **Amber Lens**

PL-2-BC000 Blue Lens

PL-2-GC000 Green Lens

PL-2-RC000 Red Lens

PL-118 Series, Rear Mounting

Mount through rear of the panel. Satin finish or black aluminum bezel, 15/16" (23.8mm) diameter. 12V #1893 bulb supplied. 5/8" (15.9mm) diameter lens. 11/16" (7.5mm) diameter mounting stem, 1/4" (6.4mm) long. Available with custom imprinting: contact Cole Hersee.

PL-118-AC000 Satin Bezel, Amber Lens

PL-118-GC000 Satin Bezel, Green Lens

PL-118-RC000 Satin Bezel, Red Lens

PL-118-AC001 Black Bezel, Amber Lens

PL-118-GC001 Black Bezel, Green Lens

PL-118-RC001 Black Bezel, Red Lens

24 Volt

All incandescent pilot lights are supplied with a 12V bulb. To convert to 24V use, replace the supplied bulb with a 24V bulb. Cole Hersee can provide pilot lights with 24V bulbs – contact us.

PL-116 Series, Front Mounting

Mount from the front of the panel, fasten from the back. Satin finish or black aluminum bezel, 15/16." (23.8mm) diameter. 12V #1893 bulb supplied. 5/8" (15.9mm) diameter lens. 3/4" (19.1mm) diameter mounting stem, 3/8" (9.5mm) long. Available with custom imprinting: contact Cole Hersee.

PL-116-GC000 Satin Bezel, Green Lens

PL-116-RC000 Satin Bezel, Red Lens

PL-116-RC001 Black Bezel, Red Lens

PL-20 Series with Extra Wire For Ground

12V #53 bulb supplied. 17/32" (13.5mm) diameter lens. 3/4" (19.1mm) diameter mounting stem, 11/16" (17.5mm) long. Chrome-plated brass bezel, 7/8" (22.2) diameter. Available with custom imprinting: contact Cole Hersee.

PL-20-AC000 Amber Lens

PL-20-BC000* **Blue Lens**

PL-20-GC000 Green Lens

PL-20-RC000 Red Lens

PL-20-RC033* **Red Lens, 'Oil' Imprint**

Faceted Lens

PL-36 Series with Honeycomb Lens, Stainless Bezel

Lenses have honeycomb pattern on the internal side, smooth on the outside. Satin finish stainless steel bezel, 3/4" (19.1mm) diameter. 1/2" (12.7mm) diameter mounting stem, 3/8" (9.5mm) long. 5/16" (8.0mm) diameter lenses. 12V #53 bulb supplied.

PL-36-AC000 Amber Lens

PL-36-BC000 Blue Lens

PL-36-GC000 Green Lens

PL-36-RC000 Red Lens

Single Contact, Grounding

Self-grounding to metal panels.

Smooth Lens

PL-1 Series with Small 3/16" Lens, Chrome Bezel

12V #53 bulb supplied. 3/16" (4.8mm) diameter lens. 5/16" (7.9mm) diameter mounting stem, 3/8" (9.5mm) long. Chrome-plated brass bezel, satin finish, 1/2" (12.7mm) diameter.

PL-1-BC000 Blue Lens

PL-1-GC000 Green Lens

PL-1-RC000 Red Lens

PL-5-RC000 With Small 5/16" Lens, Chrome Bezel

Red lens. Chrome-plated brass bezel, 7/8" (22.2mm) diameter. 3/4" (19.1mm) diameter mounting stem, 11/16" (17.5mm) long. 5/16" (7.9mm) diameter lens. 12V #53 bulb supplied.

PL-19 Series with Chrome Bezel

12V #53 bulb supplied. 17/32" (14.5mm) diameter lens. 3/4" (19.1mm) diameter mounting stem, 11/16" (17.5mm) long. Chrome-plated brass bezel, 7/8" (22.2mm) diameter. Available with custom imprinting: contact Cole Hersee.

PL-19-AC000 Amber Lens

PL-19-BC000 Blue Lens

PL-19-GC000 Green Lens

PL-19-RC000 Red Lens

PL-117 Series with Extended Snap-In Lens.

Mount through rear of the panel. Satin finish or black aluminum bezel, 15/16" (23.8mm) diameter. 12V #1893 bulb supplied. 5/8" (15.9mm) diameter lens. 11/16" (7.5mm) diameter mounting stem, 1/4" (6.4mm) long. Available with custom imprinting: contact Cole Hersee.

PL-117-RC000 Red Lens, Satin Bezel

PL-117-RC001 Red Lens, Black Bezel

Faceted Lens

PL-85 Series

12V #67 bulb supplied. 15/16" (23.8mm) diameter lens, gasket-sealed. 7/8" (22.2mm) diameter mounting stem, 3/4" (19.1mm) long. Plated brass bezel, 1 1/4" (31.8mm) diameter. Faceted outer lens surface.

PL-85-AC000 Amber Lens

PL-85-GC000 Green Lens

PL-85-RC000 Red Lens

PL-35-RC000 with Honeycomb Lens, Stainless Bezel

Red lens with honeycomb pattern on the internal side, smooth outer surface. Satin finish stainless steel bezel, 3/4" (19.1mm) diameter. 1/2" (12.7mm) diameter mounting stem, 3/8" (9.5mm) long. 12V #53 bulb supplied. 5/16" (8.0mm) diameter lenses.

Double Contact

PL-86 Series large 15/16" Lens

Insulated. 12V #68 bulb supplied. 15/16" (23.8mm) diameter faceted lens, gasket-sealed. 7/8" (22.2mm) diameter mounting stem, 3/4" (19.1mm) long. Plated brass bezel, 1 1/4" (31.8mm) diameter.

PL-86-AC000 Amber Lens

PL-86-BC000 Blue Lens

PL-86-GC000 Green Lens

PL-86-RC000 Red Lens

Forward & Reverse Module

Sealed module handles high power motor reversing and features dynamic braking.
See page 99.

Single Contact

Plastic socket. Insulated 16AWG (1.0mm2) insulated stranded copper leads, 8" (203mm) long. Many items are available with custom imprinting: contact Cole Hersee

M-320 Series With Smooth Lens

17/32" (13.5mm) diameter lens. Chrome-plated brass bezel, 7/8" (22.2mm) diameter. 3/4" (19.1mm) diameter mounting stem, 1 1/16" (27.0mm) long. 12V #53 bulb supplied. Available with custom imprinting: contact Cole Hersee.

M-320-GC Green Lens

M-320-RC Red Lens BP

M-328-RC With Honeycomb Lens

Red lens, 5/8" (15.9mm) diameter with honeycomb pattern on the internal side. Satin finish stainless steel bezel, 3/4" (19.1mm) diameter. 1/2" (12.7mm) diameter mounting stem, 7/8" (22.2mm) long. 12V #53 bulb supplied.

Double Contact

Metal socket.

PL-16 Series With Smooth Lens

17/32" (13.5mm) diameter lens. Chrome-plated brass bezel, 1 1/8" (28.6mm) diameter. 7/8" (22.2mm) diameter mounting stem, 1 1/8" (28.6mm) long. 12V #68 bulb supplied. Moisture-repellent insulator. Available with custom imprinting: contact Cole Hersee.

PL-16-AC000 Amber Lens

PL-16-GC000 Green Lens

PL-16-RC000 Red Lens

M-326 Series With Faceted Lens

15/16" (23.8mm) diameter lens, gasket-sealed. Plated brass bezel, 1 1/4" (31.8mm) diameter. 7/8" (22.2mm) diameter mounting stem, 1 1/4" (31.8mm) long. 12V #68 bulb supplied. Moisture-repellent insulator.

M-326-AC Amber Lens

M-326-RC Red Lens

Economical

Illuminated tip toggle switches M-54111-01 and M-54111-02 combine the properties of a switch and a pilot light. Switch tips are illuminated White when Off – which makes it easier to locate in the dark.

When the switch is On, the tip is illuminated Red.
See page 16.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

For illumination of maps or other items, with minimal interference of driving visibility. Hood can be rotated to direct the light beam (except DL-75-12V, which has a fixed hood). 16AWG (1.0mm²) insulated stranded copper leads, 8" (203mm) long, except where noted.

Single Contact, Self-Grounding

Self-grounding in metal panels.

DL-13 Wide-Aperture, Chrome Hood BP

Bright chrome-plated brass hood with wide aperture. Mount through the panel. 11/16" (17.5mm) diameter mounting stem, 3/8" (9.5mm) long. Accommodates single-contact bayonet bulb. Suggested lamps (not included): #63 (6V), #67 (12V), #623 (24V).

DL-21 Wide-Aperture, Black Hood

Same as DL-13, but with black finish steel hood.

DL-3 Small Aperture

Bright chrome-plated brass hood with low illumination aperture. 3/8" (9.5mm) diameter mounting stem, 23/32" (18.3mm) long. Bulb not included. Suggested lamps: #51 (6V), #53 (12V), #356 (24V).

New Ignition Switches

New 95060 Series is fully sealed and has an integral Deutsch connector. See page 29.

Multi-Purpose Utility Light With Fixed Hood

DL-75-12V

Snap-in mounting. Brass socket. One 18AWG (0.8mm) wire lead, 30" long (793mm), with blade terminal. Snaps into 1 1/4" (31.8mm) holes in panels .150" to .250" (3.8 to 6.4mm) thick. One spring prong is eliminated for indexing in keyed holes. Gasket-sealed lens and weatherproof sleeve. Frosted non-glare lens. Chrome-plated brass bezel/hood 1.52" (38.7mm) diameter. Supplied with 12V #67 bulb.

Double Contact, Insulated

Chrome-plated brass construction for exposed applications.

M-458 Through-Panel Mount

Bright chrome-plated brass hood. 11/16" (17.46mm) diameter mounting stem, 3/8" (9.5mm) long. Bulb not included: suggested lamps: #64 (6V), #68 (12V), #1252 (24V).

M-451 Flange Mount, With Switch BP

Bright chrome-plated brass hood. Flange mounting, with two 9/64" (3.6mm) diameter mounting holes, 1 3/16" (30.16mm) on centers. Two screw terminals. Integral On-Off switch in the stem. Bulb not included: suggested lamps: #64 (6V), #68 (12V), #1252 (24V).

Bayonet Base Sockets

Sockets accept incandescent or LED bulbs with corresponding bases.16AWG (1.0mm²) insulated stranded copper leads, 8" (203mm) long, except where noted.

Single contact sockets accept BA15s base lamps.
Suggested lamp numbers: 63, 67, 81, 87, 93, 97,103, 209,1073, 1129, 1133, 1141, 1156.

Double contact sockets accept BA15d base lamps.
Suggested lamp numbers: 64, 68, 82, 88, 90, 210,1004, 1076, 1130, 1142, 1158, 1176, 1178.

Double contact indexed sockets accept BA15z base lamps.
Suggested lamp numbers: 1154, 1157, 1157A, 1157NA, 1534, 2057, 2057NA, 2357, 2357NA.

Standard Base

Single Contact

26145
For back-up, tail, stop, turn signal and cornering. Ground wire.
Replaces: GMC 8909518, International 57121C91, Motorcraft LS-22.

Double Contact, Indexed

Indexed with J-slots.

26152
For back-up, marker, park, turn signal and cornering.
Replaces: GMC 8919916, 12013813.

26146
For tail, stop and turn signal. Accepts BAZ15d.
Replaces: Ford D0AZ, D1AZ, D2OZ-13410B.

26162
For tail, stop, park and turn signal. Ground wire.
Replaces: AMC 3690736, 8124663, Chrysler 3588833, 3764123, Ford D4ZZ-13234A, D5VY-13410A, D3AZ-13410B.

Wedge Base

Accept lamp socket BA9 base lamps, lamp numbers 158, 161, 168, 194, 194A, 194NA (amber bulb).

25104
For side marker, tail, cornering and license plate.
Replaces: AMC 4489535, Ford D0DZ-15A434B, D4)Z-13410E, D5VY-15A442A, D7AZ, DD7FZ-13412A, E1FZ-13410A, GMC 6294015, 6298886, 6298892, 6298935, 8918527, International 4189977C91, Motorcraft LS-18.

25106*
For marker, stop, tail, turn signal, cornering and license plate.
Replaces: Ford E0SZ-15A442B, GMC 12001470.

25102*
For side marker and license plate.
Replaces: Chrysler 3588314, 3588650, Ford E25Y-13410B.

With Flange

2035* **Single Contact, Front Mount**
Flange has two 9/64" (3.6mm) holes, 1 3/16" (30.2mm) on centers. Screw terminals, molded plastic insulator. Socket accepts BA15s base bulb.

26041* **Single Contact, Wire Lead, Front Mount**
Flange has two 3/16" (4.8mm) diameter holes 1 1/2" (38.1mm) on centers. Socket accepts BA15s base bulb.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Without Flange

*2645** Single Contact
43/64" (17.1mm) outside diameter.

*2601** Single Contact
11/16" (17.5mm) outside diameter.

*2602** Double Contact
Same as 2601, but double contact, two wire leads. Socket accepts BA15d base bulb.

*2006** Double Contact
11/16" (17.5mm) outside diameter. Screw terminals, molded plastic insulator.

2316 Double Contact
11/16" (17.5mm) outside diameter. Screw terminals. Can be used with 2911 brass sleeve for quicker socket assembly or replacement.

*26114** Double Contact, Indexed
Indexed J slots. 3/4" (19.0mm) outside diameter. 8" (203.0mm) wire leads.

26100 Double Contact, Brass Socket BP
11/16" (17.5mm) outside diameter. Molded plastic insulator.

Snap-In Mounting
Plated steel, snap-in mounting sockets.

*2611** Single Contact
Mounting fits 3/4" (19.0mm) diameter hole.

2612 Double Contact
Mounting fits 3/4" (19.0mm) diameter hole.

Bracket Mounting
Plated steel.

2609 Single Contact, Side Bracket
Plated steel side bracket, with one 3/16" (4.8mm) hole.

2610 Double Contact, Side Bracket
Plated steel side bracket, with one 3/16" (4.8mm) hole.

3575 Single Contact, Bottom Bracket
Plated steel bottom bracket, with two 13/64" (5.2mm) holes, 1/2" (12.7mm) on centers.

Smart Battery Isolators

Prevents loads on an auxiliary battery from draining the starting battery. More versatile than conventional isolators, it works with all types of alternator, and allows bi-directional charging from alternator to shore power. See page 92.

Nut & Lockwasher Mounting

Screw terminals. 11/16" -32 mounting stem. Nut and lockwasher are included.

*2106** Double Contact

2203 Single Contact

2014 Double Contact

Molded plastic insulator. Same as 2013, except socket accepts BA15d base bulb.

*2356** Double Contact

Miniature Base Sockets

Plated steel sockets. Snap-In Mounting. Single contact, snaps in to 5/8" (15.9mm) diameter hole. 8" (203.0mm) wire lead. Sockets accept BA9 base bulb.

Accepts BA9 base lamps.
Suggested lamp numbers: 51 (6V), 53 (12V), 356 (24V).

2505

Also available: socket with spacer rings to fit other panel thicknesses. Consult Cole Hersee.

2506

Ground lead is attached to the shell.

Pigtail Assemblies

Cole Hersee supplies pigtail assemblies for replacement and OEM applications. For different lead lengths, colors and materials, please contact Cole Hersee. Leads are made from high quality 16AWG (1.0mm²) thermoplastic jacketed wire. Phenolic washers insulate the assemblies.

2560 Single Contact

Fits the following sockets: 2601, 2609, 2611, 2645, 2670, 3575, 26003, 26041.

2564 Double Contact, Standard

Ears in line with contacts. Fits the following sockets: 2602, 2608, 2610, 2612, 26041.

*2561** Single Contact Miniature

Fits the following sockets: 2504, 2505, 2506, 2526, 2520.

Lamp Bases

Lamp bulbs are frequently classified by industry standard numbers (63, 103, 1156 etc.) which indicate the type of bulb.

Automotive-type bayonet base 15 (BA15) has other numbers to further characterize it: BAs refers to a single contact on the base of the socket (and bulb), and BAd refers to a double contact, with two projections on the lamp base. The Z (as in BAZ15d) refers to a special type in which the two bayonet projections on the base of the bulb are offset.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Prefocus Sockets
Plated steel.

Single Contact
Accepts single contact prefocus P30s-10.3 base lamps.

2723-Y* With Screw Terminals
1 3/4" (22.45mm) outside diameter. Four 1/8" (3.2mm) holes, screw terminals.

2721* With Wire Lead Terminal
1 3/4" (44.4mm) outside diameter. Four 1/8" (3.2mm) holes. 8" (203.0mm) wire lead.

Double Contact
Accepts double contact prefocus P30d-10.3 base lamps.

27018 With Screw Terminals
Unique configuration minimizes interference. 1 3/4" (44.4mm) outside diameter. Three 1/8" (3.2mm) holes, screw terminals.

2702* With Wire Lead Terminal, Snap-In
Snap-in or press fit mounting. 1 5/16" (33.4mm) outside diameter. 8" (203.0mm) wire leads.

Wedge Base Sockets
Molded plastic shell, brass contacts. Twist lock into slotted hole. Accept lamp numbers 158, 161, 168, 192, 193, 193E, 194, 194A, 194NA (amber bulb).

25100 Fits 1/2" Hole
Fits 1/2" (12.7mm) diameter slotted hole.

25101* Fits 5/8" Hole
Fits 5/8" (15.9mm) diameter slotted hole.

Lamp Socket Accessories

1624 Accessory Plug
Single contact. Permits the use of a 12V double wire circuit from a standard automotive accessory plug. .822" (20.9mm) diameter.

3573 Boot
Protects wire connections for sockets with 11/16" (17.5mm) outside diameter.

1465 Converter Plug
Converts double wire to single contact. .800" (15.2mm) diameter.

Long and Short Stud

Connect the short stud to battery + ;long stud to auxiliary. It makes sense - there will typically be only one connection from the breaker to the battery, but there might be several connections to loads on the longer stud.

Metal or Plastic?

Which body best suits your application?
There's not a lot of difference between metal body and plastic body circuit breakers: both are about the same weight and structural integrity, but the plastic type is more resistant to denting and corrosion. One type of plastic-body breaker, the 30427 series (on page 124), is also weather-resistant.

CIRCUIT BREAKERS	P1
BLOCKS & BUSBARS	P2
TERMINAL BLOCKS	P3
CONNECTORS, TERMINALS & FUSES	P4
CLAMPS, CLEATS, CLIPS & TIES	P5
ACCESSORIES	P6

circuit protection & wiring accessories

P1 CIRCUIT BREAKERS

Circuit breakers and fuses are a cost-effective solution to protecting wiring, equipment and subsystems. While fuses are a one-time, disposable solution, circuit breakers can be re-used after overload. Part number suffixes indicate the amperage. eg: 30409-15 is a 15 ampere Type I ATC/ATO breaker.

Plug-In Style, 12V

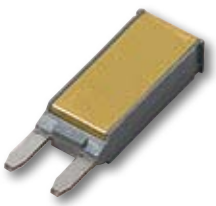
Mini Breakers

Conform to SAE J553

30418 Type I

Gray plastic housing with gold cover. Amperages 10, 15, 20, 25 available in bulk or box.

Order Nos. 30418-25 or 30418-25BP etc.



30419 Type II

Gray plastic housing with silver cover. Amperages 10, 15, 20, 25 available in bulk or box.

Order Nos. 30419-25 or 30419-25BP etc.

ATC/ATO Breakers

Conform to SAE J553. Replacement for ATC or ATO fuses. Color-coded housings with rating marked on the top: 10A red, 15A blue, 20A yellow, 25A silver, 30A green.

30409 Type I

Long terminals, as supplied

One segment snapped off

Two segments snapped off

Terminals are grooved so that they can be easily snapped off with pliers to fit the electrical blocks of different vehicles. Amperages 10, 15, 20, 25, 30 available in bulk, box or BP.

Use as is (long terminals) for Kenworth trucks. Use with one segment snapped off each terminal for: Dodge trucks, Ford heavy trucks, Navistar trucks. Use with two segments snapped off (short terminals) for Ford pickup trucks.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

30411 Type II

Silver housing with rating marked on the top.
Amperages 10, 15, 20, 25, 30 available in bulk or box.

Order Nos. 30411-30 or 30411-30BP etc.

30413 Type III

Gold housing with rating marked. Amperages 10, 15, 20, 25, 30 available in bulk or box.

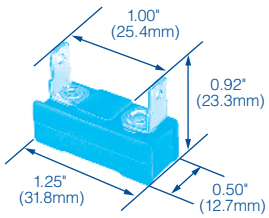
Order Nos. 30413-30 or 30413-30BP etc.

Special Applications

30403 Mack Truck

Type II fits Mack breaker blocks. Amperages 15, 20, 25, 30 available in bulk or box.

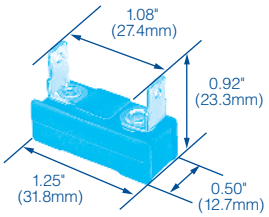
Order Nos. 30403-30 etc.



30408 Navistar Truck

Type II fits Navistar breaker blocks. Amperages 10, 15, 20, 25, 30, 35 available in bulk or box.

Order Nos. 30408-30 or 30408-30BP etc.

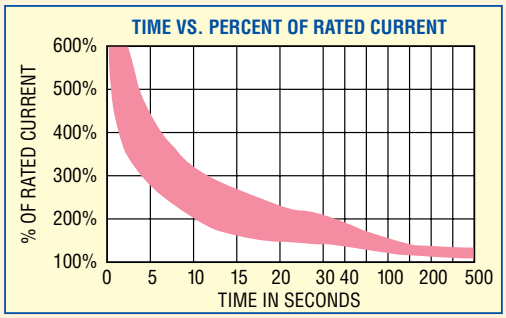


SAEJ553 For Circuit Breakers

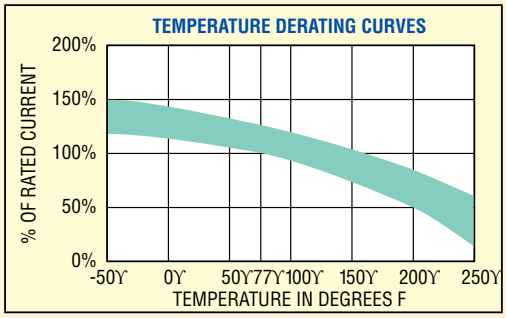
Society of Automotive Engineers Standard J553 defines testing and performance requirements for three types of circuit breakers up to 50A for 6V, 12V, and 24V operation: Type I, Type II and Type III.

Conforming circuit breakers:
Must carry 100% of rated current continuously for a minimum of 1 hour.
Must open at 135% of rated current within 30 minutes.
Must open at 200% of rated current within 1 minute.

The specific current capacity of the circuit breaker is a function of the particular electrical system being utilized. It is recommended that the actual performance be verified through testing experimentally in the proposed application. Several factors should be considered:



Ambient temperature
Circuit breakers are thermal devices. Changes in the ambient temperature will have an effect on the current carrying capacity and on the effective limitation of current during overload cycling.



Wire and Terminations
The connecting wires and their terminations will affect the heat dissipation characteristic of the breakers. Deviations from the breaker application specifications may affect the current carrying capacity or the effective limitation of current during overload cycling.

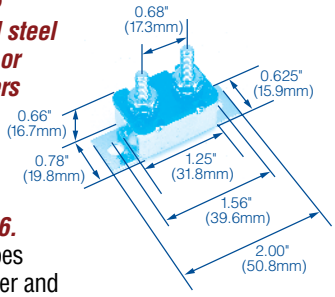
Voltage Rating
The rating marked on breakers is the maximum value recommended. Use at higher voltages may significantly shorten product life under load conditions, and possibly cause damage to your equipment.

Circuit Protection components are thermal devices that create an open circuit under overcurrent conditions. They are deliberately designed as the sacrificial weakest link in a system, protecting components from costly damage. It is important to select a fuse or circuit breaker with a current rating equal to or lower than the lowest current rating of any part of the circuit.

Stud or Blade Style

Conform to SAE J553. Plated steel or rugged plastic cases with or without bracket. Metal breakers without brackets snap securely into steel brackets (Series 30090) or attach with the stud to nylon brackets (Series 87128), see section P6.

Studs are 10-32, two blade types are .250" (6.4mm) wide. Breaker and bracket dimensions shown are similar on all breakers in this section.



24V With Studs, Steel Case

30171 Type I

Amperages 10, 15, 20, 30 available in bulk or box.

Order Nos. 30171-30 etc.

30172 Type I, With Bracket

Amperages *10**, 15, 20, 30 available in bulk or box.

Order Nos. 30172-30 etc.

12V With Studs, Steel Case

30055 Type I, With Bracket

Amperages 6, 8, 10, 15, 20, 25, 30, 40, 50 available in bulk or box. Amperages 15, 20, 25, 30, 40, 50 available in BP ★.

Order Nos. 30055-50 or 30055-50BP etc.

30056 Type I

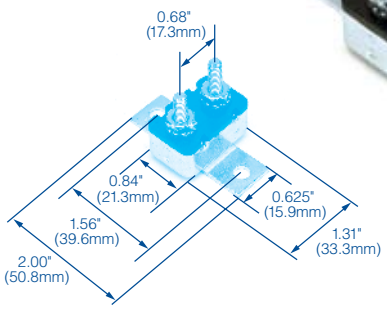
Amperages 6, 8, 10, 15, 20, 25, 30, 40, 50 available in bulk or box. Amperages 20, 30 available in BP ★.

Order Nos. 30056-40 or 30056-40BP etc.

30128 Type I, With Cross-Bracket

Amperages *6**, 10, 15, 20, 25, 30, 40 available in bulk or box.

Order Nos. 30128-40 etc.



30137 Type I, Sealed Stud

Stud insulator is sealed.
Amperages *6, 10**, 15, 20, 25, 30, 40 available in bulk or box.

Order Nos. 30137-40 etc.

30138 Type I, With Bracket, Sealed

Stud insulator is sealed.
Amperages *6**, 10, 15, 20, *25**, 30, *40** available in bulk or box.

Order Nos. 30138-40 etc.

30144 Type II

Amperages *10*,15**, 20, 30 available in bulk or box.

Order Nos. 30144-30 etc.

30145 Type II, With Bracket

Amperages 6, 10, 15, 20, 25, 30, 40 available in bulk or box.

Order Nos. 30145-15 etc.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

12V With Studs, Plastic Case

30406 Type III
Amperages 15, 20, 25, 30, 40, 50 available in bulk or box.

Order Nos. 30406-50 etc.

30407 Type III, With Cross-Bracket
Amperages 15, 20, *25**, 30, 40, 50 available in bulk or box.

Order Nos. 30407-50 etc.

30414 Type I, With Cross-Bracket
Internally sealed. Amperages 30 & 50 available in bulk or box.

Order Nos. 30414-50 etc.

12V With Studs, Gray Plastic Case

30427 Type I
Weather-resistant. Amperages 15 & 40 available in bulk or box.

Order Nos. 30427-40 etc.

24V With Studs, Plastic Case

30423 Type III
Amperages *10** & 15 available in bulk or box.

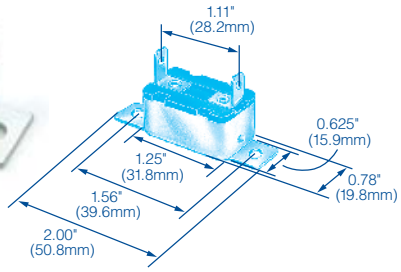
Order Nos. 30423-50 etc.

12V With Blades
Steel case

30401 Type I
Amperages 10, 15, 20 available in bulk or box.

Order Nos. 30401-20 etc.

30402 With Bracket
Amperages 4 & 20 available in bulk or box.
Order Nos. 30402-20 etc.



30404 Blade & Stud
Amperages 20 & 30 available in bulk or box.

Order Nos. 30404-30 etc.

Metal or Plastic?

Which body best suits your application?
There's not a lot of difference between metal body and plastic body circuit breakers: both are about the same weight and structural integrity, but the plastic type is more resistant to denting and corrosion. One type of plastic-body breaker, the 30427 series (on this page), is also weather-resistant.

PVC Coated, Type I

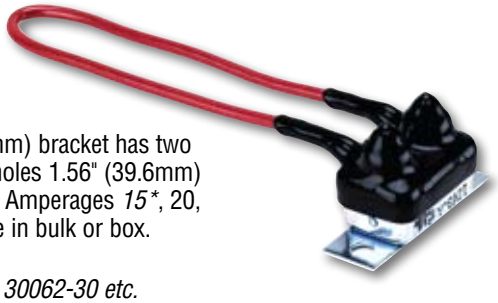
With PVC coated leads and body for added weather protection. Steel case. 10" (254.0mm) wire loop is readily cut to form two leads for splicing into the circuit. Wire is color-coded: 10A green 16AWG, 15A yellow 16AWG, 20A black 14AWG, 25A white 14AWG, 30A red 12AWG.12V DC.

30063

Amperages 10, 20, *25**, 30 available in bulk or box.

Order Nos. 30063-30 etc.

30062 With Bracket



2.0" (50.8mm) bracket has two mounting holes 1.56" (39.6mm) on centers. Amperages *15**, 20, 30 available in bulk or box.

Order Nos. 30062-30 etc.

Double Breaker Assemblies

12V, Type I. For high amp applications.

3088

2.0" (50.8mm) bracket has two mounting holes 1.56" (39.6mm) on centers. Amperages 50, 60, 80 available in bulk or box.
Order Nos. 3088-80 etc.

30507 Sealed

Same as 3088, but stud insulator is sealed. Amperages 60 and 80 available in bulk or box.

30510 With Snap-In Bracket

4.81" (122.2mm) bracket, has two mounting holes 4" (101.6mm) on centers.

80A available in bulk or box.

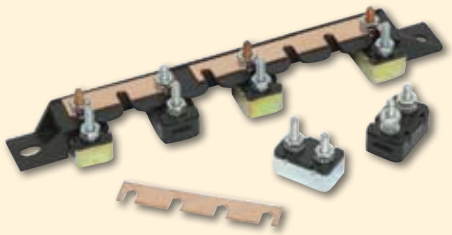
Glass Fuse Style, 12V DC

30410 Type II

Breaker replaces 3AG (AGC) and SFE glass fuses: snaps into standard clips on Cole Hersee fuse blocks. See section P2. Amperages in 10, 15, 20, 25, 30, 40A available in bulk or box.

10A replaces Ford DOHB-14526-A, 15A DOVB-14526-A, 20A DOVB-14526-B, 25A DOHB-14526-B, 30A DOVB-14526-C.

Brackets & Busbars



Nylon Brackets and Busbars
Brackets in a range from 4-gang to 13-gang conveniently house and organize the stud-type circuit breakers and can be used with slotted busbars from 2-gang to 12-gang to create a variety of circuitries. See page 135.

Breaker Types

SAE Type I
Automatic. Continuously resets until the overload is corrected.

SAE Type II
Remains open as long as the overload exists. Resets after the power is turned Off and the overload is corrected.

SAE Type III
Manual. Remains open until manually reset, using the button on the breaker.

SAE Type III

For Plug-In Breakers & Fuses

For ATC and ATO fuses and circuit breakers. Fuse/breaker contacts are recessed for safety. Recessed area in the center of the block accepts a label. Electrical ratings: 25A maximum per circuit at 12V to 24V DC. 150A maximum total for the block at 12V DC. For 24V DC applications use only ATC or ATO fuses.

Black thermoplastic block. Blade terminals are .25" wide (6.4mm). Stud terminal is 10-32 with hexnut, flat washer and lockwasher. Four .218" (5.5mm) diameter mounting holes take #10 screws. Size: 3.375" wide x .812" high (85.7 x 20.6mm). Mounting holes 1.06" (27.0mm) on centers, widthwise.

With Common Hot Feed Only

46377-6 6-Gang BP ★
Length: 2.47" (62.7mm). Mounting holes .625" (15.9mm) on centers.

46377-8 8-Gang ★
Length: 3.09" (78.5mm). Mounting holes 1.25" (31.8mm) on centers.

46377-10 10-Gang BP
Length: 3.72" (94.5mm). Mounting holes 1.875" (47.6mm) on centers.

46377-12 12-Gang
Length: 4.34" (110.0mm). Mounting holes 2.5" (63.5mm) on centers.

46377-14 14-Gang
Length: 4.97" (126.2mm). Mounting holes 3.125" (79.4mm) on centers.

46377-18 18-Gang
Length: 6.22" (158.0mm). Mounting holes 4.375" (111.1mm) on centers.

With Common Hot Feed & Common Ground

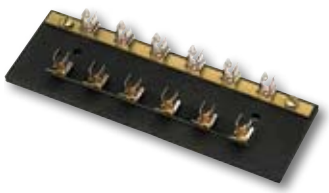
46379-6 6-Gang
Length 3.77" (95.8mm). Mounting holes .625" (15.9mm) on centers.

46379-8 8-Gang
Length 4.39" (111.5mm). Mounting holes 1.25" (31.8mm) on centers.

46379-10 10-Gang BP
Length 5.02" (127.5mm). Mounting holes 1.88" (47.6mm) on centers.

Other Blocks

4766 Common Hot Feed with Blade Terminals
6-gang. Blade terminals on one side of the fuse clip. 5 3/4"L x 1 7/8"W x 23/32"H (146.6 x 47.6 x 18.3mm). Brass terminal screws with lockwashers. Solid brass busbar. Two mounting holes 11/16" (4.3mm) diameter, 3.75" (95.3mm) on centers.



M-674 Combination Fuse Block & Terminal Block BP
For SFE 20A or 3AG (AGC) fuses. Common hot feed to four independently-fused circuits, and common ground strip for four circuits. Solid brass busbars, terminals and terminal screws. Nickel-plated phosphor-bronze fuse clips. Two eye-let holes for mounting with 3/16" (4.8mm) screws, 2.25" (57.2mm) on centers. 3 1/2"L x 2 3/4"W x 25/32"H (88.2 x 69.8 x 19.8mm).

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

For Glass Fuses and 30410 Breakers

For SFE 20A or 3AG (AGC) fuses, and 30410 circuit breakers.

Individual Hot Feed

Fiber base. Nickel-plated phosphor-bronze plated fuse clips. Hard fiber insulator base with 11/64" (4.4mm) diameter mounting holes. Width: 2 1/4" (57.2mm), height 5/8" (15.9mm). Plated steel terminals and screws or (with M- prefix numbers) with brass terminals and screws. Mounting holes .75" (19.0mm on centers.

4622* **Steel 2-Gang**
Length: 1 1/4" (31.8mm).

4623* **Steel 3-Gang**
Length: 2" (50.8mm).

4624 Steel 4-Gang
Length: 2 3/4" (69.9mm).

4625 Steel 5-Gang
Length: 3 1/2" (88.9mm).

4626 Steel 6-Gang
Length: 4 1/4" (108.0mm).

M-412 Brass 2-Gang
Length: 1 1/4" (31.8mm).

M-413* **Brass 3-Gang**
Length: 2" (50.8mm).

M-414 Brass 4-Gang BP
Length: 2 3/4" (69.9mm).

M-415 Brass 5-Gang
Length: 3 1/2" (88.9mm).

Common Hot Feed

Fiber base, 2.24" (56.9mm) wide, with 11/64" (4.4mm) diameter mounting holes. Solid brass busbar, phosphor-bronze fuse clips. Height: 5/8" (15.9mm). Brass terminals and screws.

M-414-01 Brass 4-Gang BP
Length: 2 3/4" (98.5mm).

M-415-01 Brass 5-Gang
Length: 3 1/2" (88.9mm).
Also available with steel terminals and screws: 4625-01.

M-641-01 Brass 6-Gang BP ★
Length: 4 1/4" (108.0mm).
Also available with steel terminals and screws: 4626-01.

M-643-01 Brass 8-Gang BP
Length: 5 3/4" (146.1mm).

M-645-01 Brass 10-Gang
Length: 7 1/4" (184.2mm).

M-647-01 Brass 12-Gang
Length: 8 3/4" (222.3mm).

Connectors

See page 144.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

Terminal Blocks, Individual Feed

Moisture-repellent molded Bakelite insulator base with barrier strips. Nickel-plated brass terminal links and 8-32 binding head screws. Width: 1.31" (33.3mm), height: .67" (17.0mm).

M-426 4-Gang BP ★

Length: 3.22" (81.8mm). Paired mounting holes 2.81" (71.4mm) on centers.

M-427 6-Gang BP ★

Length: 4.33" (110.1mm). Paired mounting holes 3.93" (99.9mm) on centers.

M-428 8-Gang BP ★

Length: 5.46" (138.7mm). Paired mounting holes 5.06" (128.5mm) on centers.

M-429 10-Gang BP ★

Length: 6.59" (167.4mm). Paired mounting holes 6.19" (157.2mm) on centers.

M-456 14-Gang

Length: 8.84" (224.5mm). Paired mounting holes 8.44" (214.4mm) on centers.

With Stud Terminals

Square End Pattern

10-32 thread stud terminals with hexnuts, flat washers and lockwashers. Two eyelet mounting holes for 3/16" (4.8mm) screws (screws not included). Moisture-repellent phenolic insulator base. 5/8" (15.9mm) wide x 27/32" (21.4mm) high.

4721-P2 2-Gang

Length: 2.62" (66.5mm). Eyelets are 1.87" (47.5mm) on centers.

4721-P3 3-Gang

Length: 3.25" (82.6mm). Eyelets are 2.50" (63.5mm) on centers.

4721-P4 4-Gang

Length: 3.87" (98.3mm). Eyelets are 3.12" (79.2mm) on centers.

4721-P5 5-Gang

Length: 4.5" (114.3mm). Eyelets are 3.75" (95.3mm) on centers.

4721-P6 6-Gang ★

Length: 5.12" (130.0mm). Eyelets are 4.38" (111.3mm) on centers.

4721-P8 8-Gang ★

Length: 6.37" (161.8mm). Eyelets are 5.62" (142.7mm) on centers.

4721-P10 10-Gang

Length: 7.62" (193.5mm). Eyelets are 6.87" (174.5mm) on centers.

4721-P12 12-Gang

Length: 8.87" (225.3mm). Eyelets are 8.12" (206.2mm) on centers.

4721-P14 14-Gang

Length: 10.12" (257.0mm). Eyelets are 9.37" (238.0mm) on centers.

Round End Pattern

10-24 thread stud terminals, hardware not included. Two mounting holes for 1/4" (6.3mm) screws (screws not included). Moisture-repellent molded insulator base with barrier strips. 5/8" (15.9mm) wide x 27/32" (21.4mm) high.

4758 4-Gang

Length: 4.5" (114.4mm). Two mounting holes 3.75" (95.3mm) on centers.

4755 5-Gang

Length: 5.25" (133.3mm). Two mounting holes 4.50" (114.3mm) on centers.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Truck-Trailer Lighting Pattern with Stud Identification

4744
Six-gang, with circuit identification printed in white lettering. Two mounting holes 5.25" (133.4mm) on centers. 10-24 thread stud terminals, with hexnuts. 4 7/8"L x 1 3/16"W x 3/4"H (149.2 x 38.1 x 19.1mm).

Terminal Blocks, Common Busbar

With One Busbar
Available in solid brass or tin-plated solid brass.

M-449 10-Gang BP ★
Solid brass busbar safely carries up to 150A. Two 1/4-20 brass studs with hexnuts. 8-32 round head screws for attachment of wires. Two mounting holes accept No.10 countersink flathead screws. Moisture-resistant molded thermoplastic insulator base. 5 3/4"L x 1 1/4"W x 1 1/32"H (146.0 x 31.7 x 26.1mm). Two mounting holes 5.19" (131.8mm) on centers.

M-448 20-Gang
Same as M-449, but with 20 outlets. Length: 8 7/8" (225.4mm). Two mounting holes 8.31" (211.1mm) on centers.

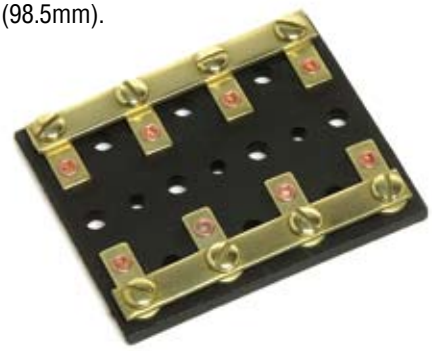
M-449-04 10-Gang, Tin-Plated Brass BP
Same as M-449, but all brass is tinned for corrosion-resistance.

M-448-02 20-Gang, Tin-Plated Brass
Same as M-448, but all brass is tinned for corrosion-resistance.

46206-04 BP ★
4-gang, with solid brass busbar. 10-32 stud terminals with hexnuts and lockwashers. Two eyelets for mounting with 3/16" (4.76mm) screws (not included). Eyelets are 3.125" (79.4mm) on centers. Moisture-repellent thermoset plastic insulator base. 3 7/8"L x 5/8"W x 27/32"H (44.4 x 15.9 x 21.4mm).

With Two Busbars
Two solid brass busbars, hard fiber insulator base, 8-32 screws. Width: 2.25" (57.2mm), height: 3/8" (9.5mm). Mounting holes .75" (19.1mm) on centers.

M-649-04 4-Gang
2.75" long (98.5mm).



M-649-06 6-Gang BP
4.25" long (108.0mm).

M-649-08 8-Gang
5.75" long (146mm).

New Master Disconnect

75920 Sealed Master Disconnect - See page 87.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Quick-Connect Taps

Female molded plastic tap connector provides a fully insulated connection. Tap leg (see below) is disconnectable for added flexibility.

*30244** For 12AWG Wire

Coded yellow. 25 per pack.

*30243** For 18-14AWG Wires

Coded blue. 25 per pack.

*30242** For 22-18AWG Wires

Coded red. 25 per pack.

31729 Tap Leg For 16-14AWG

Male blade tap leg. Use with 30243 tap. Coded blue. 50 per pack.

31728 Tap Leg For 22-18AWG

Male blade tap leg. Use with 30242 tap. Coded red. 50 per pack.

30223 Quick-Tap Splicer and Tap BP

Use Quick-Tap to connect two wires or create a tap without stripping the wires. Two wires can be connected in-line or as a pigtail. Consists of a small molded plastic hinge unit. Insert the wires, close and snap shut with pliers. Fully insulated to prevent short circuits. Splicing instructions are included. 10 per pack.

30245 Quick-Connect Bullet Socket

Mates with bullet terminals (31731 and 31739). Self-stripping connector provides fast and easy connect and disconnect for many vehicle applications, including vehicle to trailer connections. For 18AWG to 14AWG wires. 20 per pack.

Fuses

MAX98111 Maxi Blade Fuse

Amperages 30 & 40 available in bulk or box.

Order Nos. MAX98111-20 or MAX981011-20BP etc.

Inline Fuse/Breaker Holders

Protect circuits and equipment from damaging overloads.

30183 Mini Fuse Holder BP

Accepts Mini Fuses, or breakers 2-30A. Body material withstands high temperatures. Up to 32V at 30A.

30186 Maxi Fuse Holder

Accepts Maxi Fuses or breakers 20-60A. Up to 32V at 30A.

30147 For ATC/ATO Type BP

Accepts ATO and ATC fuses and circuit breakers from 3A to 20A. Easy to install and easy to change the fuse. 16AWG insulated copper wire leads, 4" (101.6mm) long. Brass contacts. Supplied without a fuse.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

3031 For Glass Fuses

Accepts SFE fuses through 20A and 3AG (AGC) fuses through 30A. Positive twist-lock seal will not open accidentally; large brass contacts maintain solid contact with the fuse for maximum efficiency. 14AWG wire leads, 8" (203.2mm) long. Brass contacts.To install, cut wire loop.

3031-0 Without Fuse BP ★

3031-4* **With 4A Fuse**

3031-14 With 14A Fuse

3031-20 With 20A Fuse BP ★

3031-30 With 30A Fuse

Integral Lockout

75920 Master Battery Disconnect Switch has a built-in lockout that satisfies OSHA regulations. See page 87.

Quick-Connect Terminals

For fast wiring installation on vehicles and equipment. Molded insulators are made of durable, flexible polypropylene, which provides excellent resistance to moisture, chemicals and abrasion. Brass quick-connect terminals. Packaged 100 pieces per box.

31100 Female Terminal For 14-16AWG Wire

31595-A Male Terminal For 14-16AWG Wire

*30200** One-Pole Insulator

*30201** One-Pole Two Piece Male Insulator

Receives one female terminal.

*30202** One-Pole Two Piece Female Insulator

30204 Female Insulator

Receives two male terminals 31595-A.

*30205** Three-Pole Two Piece Male Insulator

Receives three female terminals 31100.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

Bullet Terminals

Brass. Terminals are packed 100 per box.

3050 Male, For 14-16AWG Wire

3055 Male, For 14-15AWG Wire

3125* Female, For 14-16AWG Wire

3056* Male, For 12AWG Wire

3013 Dual Female Bullet Connector

For bullet terminals. Packed 25 per box. Bakelite. Mates with 3055 and 3056 bullet terminals. Connects three wires, one wire common to two leads.

Insulated Terminals and Connectors

For use with crimping tool. Tin-plated copper for resistance to corrosion and maximum conductivity. Vinyl insulator has ridge for positioning of crimping tool, and is flared for easy insertion of wire. Color-coded by wire size: 22-18AWG wire: red, 16-14AWG wire: blue, 12-10AWG wire: yellow

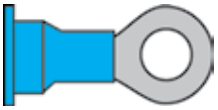
Ring Terminals

Terminals are packed 100 per box.

31302* For 22-18AWG Wire, Stud size 8. Red

31304* For 22-18AWG Wire, Stud size 10. Red

31301* For 16-14AWG Wire, Stud size 6. Blue



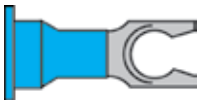
31305* for 16-14AWG wire, stud size 10. Blue

31734* for 12-10AWG wire, stud size 10. Yellow

Snap-On Spade Terminals

Terminals are packed 100 per box.

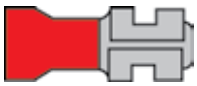
31323* For 16-14AWG Wire, Stud Size 8. Blue



Female Blade Terminals

Terminals are packed 100 per box.
Blade width .250" (6.4mm).

31341* For 22-18AWG Wire. Red



Butt Connectors

For efficient two-wire connections.
Blade width: 1.00" (25.4mm). Packed 50 per box.

30238 For 12-10AWG Wire. Yellow

30220* For 16-14AWG Wire. Blue

30240 For 16-14 AWG Wire. Blue

Moisture-resistant.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Special Purpose Connectors

3032 Flasher Connector

Accepts standard 3-prong flasher units (not included). Molded plastic connector has 14AWG wire leads, with phosphor-bronze contacts. Comes with plated steel bracket that has two .203" (5.2mm) diameter mounting holes.

*4028** Headlight Harness

For Chevrolet and GMC RVs. Accepts one 3-prong headlamp and one 2-prong headlamp. This harness attaches to a 3-pole Packard connector that is supplied with the vehicle chassis. Leads are 16AWG wire that connects into silvered bronze contacts in molded plastic connectors.

Sealed Beam Connectors & Parts

Accepts sealed-beam headlamp terminals. 8" (203.0mm) 14AWG thermoplastic wire leads with plated bronze contacts.

3029 Connector With 3 Leads BP

3051 Connector With 2 Leads

3028-1 Receptacle

Molded plastic connector/insulator accepts 3028-2 contacts.

3028-02 Receptacle With Contacts

Molded plastic connector/insulator with 3028-2 contacts. Without wire leads, supplied unassembled.

3028-2 Contacts

Plated bronze contacts which fit 3028-1, 3028-02, 3029, 3051.

Dimmer Switch Connectors

30155

Fits Cole Hersee foot switch 7762
Ford trucks 60-87, Dodge trucks 59-86.

30156

Fits Cole Hersee switches 7702 and 7776 *Trucks: Autocar 68-80, Chevrolet 61-86, GMC 69-86, International 61-80, Freightliner 63-67, 72-80, Kenworth 65-67, 72-74, 77-80.*

New Master Disconnect

75920 Sealed Master Disconnect - See page 87.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

Spring Clip

3118 BP

Teeth hold the clip in place after it is snapped over material up to 3/16" thick (4.8mm). Plated for corrosion resistance. 1/2" wide, 1 1/2" long (12.7 x 38.1mm).

Nylon Cable Ties

31118 5 1/2" Length (139.7mm)

31119 7 1/2" Length (190.5mm)

Steel Clamps

Plastic-Coated Clamps

Plastic-coated for corrosion protection. Mounting hole diameter .281" (7.13mm) unless noted.

31230 .187" ID, .281" Hole
.187" inside diameter (4.74mm).

31231 .281" ID, .281" Hole
.281" inside diameter (7.13mm).

31232 .312" ID, .281" Hole
.312" inside diameter (7.92mm).

31233 .437" ID, .281" Hole
.437" inside diameter (11.09mm).

31234 .562" ID, .281" Hole
.562" inside diameter (14.27mm).

31235 .750" ID, .250" Hole
.750" inside diameter (19.05mm), mounting hole diameter .250" (6.35mm).

31236 .875" ID, .281" Hole
.875" inside diameter (22.22mm).

31237 1.187" ID, .343 Hole
1.187" inside diameter (30.14mm), mounting hole diameter .343" (8.71mm).

Steel Clamps

Plated for corrosion resistance.

31017* 7/16" ID**
7/16" inside diameter (11.1mm), mounting hole diameter 13/32" (10.2mm).

Nylon Clamps

Inside edges are beveled to protect harnesses from chafing. Mounting hole diameter .167" (4.3mm) unless stated.

31240 3/16" ID BP
3/16" inside diameter (4.8mm).

31241 1/4" ID BP
1/4" inside diameter (6.4mm).

31242 5/16" ID
5/16" inside diameter (8.0mm).

31243 3/8" ID
3/8" inside diameter (9.52mm).

31244 1/2" ID
1/2" inside diameter (12.7mm).

31245 5/8" ID
5/8" inside diameter (15.9mm). Mounting hole diameter .203" (5.2mm).

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

31246 3/4" ID
3/4" inside diameter (19.1mm).
Mounting hole diameter .203" (5.2mm).

Steel Cleats

PVC Coated

Plastic coated for corrosion resistance.

31200* 1/4" ID**
1/4" inside diameter (6.4mm), mounting hole diameter 13/64" (5.2mm).

31201* 3/8" ID**
3/8" inside diameter (9.5mm), mounting hole diameter 13/64" (5.2mm).

31202* 1/2" ID**
1/4" inside diameter (12.7mm), mounting hole diameter 13/64" (5.2mm).

31203* 5/8" ID**
5/8" inside diameter (15.9mm), mounting hole diameter 17/64" (6.7mm).

31204* 3/4" ID**
3/4" inside diameter (19.1mm), mounting hole diameter 17/64" (6.7mm).

31205 1" ID
1" inside diameter (25.40mm), mounting hole diameter 17/64" (6.7mm).

Plated Steel

3161 3/8" ID
3/8" inside diameter (9.5mm), mounting hole diameter 13/64" (5.2mm).

3164* 3/4" ID**
3/4" inside diameter (19.1mm), mounting hole diameter 17/64" (6.7mm).

circuit protection & wiring

Busbars

For connecting circuit breakers to provide higher amperage ratings. Holes/slots are .910" (23.1mm) on centers. Hole size: .210" (5.3mm).

86046*, 2-gang, plated steel**
Same style as brass busbars 86099.

Brass Busbars

86099-2, 2-Gang

86099-3, 3-Gang

86099-4, 4-Gang

86099-5, 5-Gang

Copper Busbars

Slotted. Recommended for use with nylon mounting brackets 87128. Slots are .910" on centers. Slot width: .210" (5.3mm). Width of bar: .560" (14.2mm).

86126-2, 2-Gang
1.41" L (35.81mm).

86126-3*, 3-Gang**
2.32" L (58.4mm).

86126-4, 4-Gang
3.23" L (82.1mm).

86126-5*, 5-Gang**
4.14" L (105.2mm).

86126-6, 6-Gang
5.05" L (128.3mm).

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

86126-8, 8-Gang
6.87" L (174.5mm).

86126-9, 9-Gang
7.78" L (197.6mm).

***86126-10*, 10-Gang**
8.69" L (220.7mm).

86126-12, 12-Gang
10.51" L (267.0mm).

Breaker Mounting Brackets – Steel

For all steel case breakers without a bracket. Breakers snap into position, engaging with dimples in the case of the breaker. Heavy gauge steel. Brackets up to 12-gang are available. Contact Cole Hersee.

30090-2, 2-Gang
4.81" x 1.29" (122.2 x 32.8mm). Mounting hole 4.00" (101.6mm) on centers.

30090-3, 3-Gang
5.71" x 1.29" (145.0 x 32.8mm). Mounting hole 4.90" (124.5mm) on centers.

30090-4, 4-Gang
6.62" x 1.29" (160.1 x 32.8mm). Mounting hole 5.81" (147.6mm) on centers.

30090-6, 6-Gang
8.43" x 1.29" (214.1 x 32.8mm). Mounting hole 7.62" (193.5mm) on centers.

30090-8, 8-Gang
10.25" x 1.29" (260.4 x 32.8mm). Mounting hole 9.43" (239.5mm) on centers.

Breaker Mounting Brackets – Nylon

For use with Cole Hersee 30056 series and 30137 series breakers. Durable, lightweight molded nylon. Breakers mount securely using stud and hexnut. Mounting holes .280" x .440" (7.1 x 11.2mm). Slots are .910" (23.1mm) on centers, and .210" (5.3mm) wide.

87128-4, 4-Gang ★
5.69" long (114.5mm),
mounting holes 4.89" (124.2mm) on centers.

***87128-5*, 5-Gang**
6.60" long (167.6mm),
mounting holes 5.80" (147.3mm) on centers.

87128-6, 6-Gang
7.51" long (190.8mm),
mounting holes 6.71" (170.4mm) on centers.

***87128-7*, 7-Gang**
8.42" long (213.9mm),
mounting holes 7.62" (193.5mm) on centers.

87128-8, 8-Gang
9.33" long (237.0mm),
mounting holes 8.53" (216.7mm) on centers.

***87128-9*, 9-Gang**
10.24" long (260.1mm),
mounting holes 9.44" (239.8mm) on centers.

87128-10, 10-Gang
11.15" long (233.2mm),
mounting holes 10.35" (262.9mm) on centers.

***87128-12*, 12-Gang**
12.97" long (329.4mm),
mounting holes 11.26" (268.0mm) on centers.

87128-13, 13-Gang
13.88" long (352.6mm),
mounting holes 13.08" (332.2mm) on centers.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

TRACTOR-TRAILER CONNECTORS	Q1
1- TO 6-POLE CONNECTORS	Q2
SOCKET & PLUG INTERIORS	Q3
AUTOMOTIVE TRAILER CONNECTORS	Q4
FARM EQUIPMENT CONNECTORS	Q5
ACCESSORIES	Q6
INFORMATION ON ELECTRICAL CONNECTORS	Q7

electrical connectors

Q1 TRACTOR-TRAILER CONNECTORS

Heavy duty sockets, plugs and assemblies that withstand the rigors of trucking thousands of miles in dust and dirt, rain and snow, heat and cold, yet maintain the all-important electrical continuity between tractor unit and trailer. With the increased need for more circuits on the trailer comes the need for more poles in the connectors. The 13-pole connector contains added circuits, yet is able to link up with standard 7-pole trailers when necessary. Green connectors clearly indicate dedicated ABS plugs and sockets, yellow identifies a 13-pole connector. Tractor-trailer connectors are also employed in agricultural vehicles.

13-Pole Connectors

Provides six additional tractor-trailer circuits within the dimensions of traditional 7-pole connectors. Adaptable to a wide variety of wiring combinations, including multiplexed circuits. Surpasses SAE J560b performance standards. Conforms to this standard for interchangeability between 7-pole and 13-pole connectors. Distinctive bright yellow identifies 13-pole connectors. Robust glass-filled plastic housings cannot rust or corrode. Ground terminals accept up to 8AWG wire, 7 pole terminals up to 10AWG, smaller 6 pole terminals up to 14AWG.

12300 Socket ★

Gasket-sealed socket door is spring-loaded and locks onto the plug. Solid brass contact pins. Rain hood extends beyond the pins to protect the interior. The 5º downward pitch drain channel inside the socket reduces water retention. Three mounting holes on the flange: .33" (8.4mm) diameter, 2.93" (74.6mm) on centers. Includes six 31784 crimp-on connectors to mate with the six smaller pole terminals.
See page 148.

81356 Rubber Boot gives added protection to the terminals. Not included.
See page 147.

12301 Plug ★

Plug locks into the socket, utilizing the spring-loaded socket door. Spring-grip contacts have self-adjusting spring bands to maintain long-term uniform electrical contact with socket pins. O-ring at the plug end prevents water from reaching the contacts. Strain relief and grommet seal isolates the contacts from mechanical strain, and provides extra moisture protection. Cable retainer maintains secure cable connection. Replaceable interior. Includes six 31784 crimp-on connectors to mate with the six smaller pole terminals.
See page 148.

Cable

See page 147.

Interiors

See page 143.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

7-Pole Connectors

Sockets and plugs conform to ATA, RCCC (RP-102), SAE (J560b), FMVSS-121, FIEI TTMA (RP 40-73) standards or recommendations, and are compatible with other standard (J560b) connectors.

Sockets

Ground terminal accepts wires up to 8AWG, other terminals up to 10AWG. Solid brass contacts are aligned to assure proper contact and minimal voltage drop. Wiring codes are embossed on the insulator. The door is spring-loaded and fits over a mating ridge on the socket face to minimize penetration of dirt and moisture. Housings are constructed from corrosion-resistant diecast metal or rugged glass-filled plastic. Contacts are either self-grounding or insulated. See Section Q3 for socket interiors.

3 Mounting Holes

12310 High-Performance Socket

Surpasses SAE J560b performance standards. Accepts all seven-pole plugs conforming to SAE J560b or Cole Hersee 13-pole plug 12301. Superior environmental protection gives extended product life. Glass-filled plastic housing cannot rust or corrode.

Gasket-sealed socket door is spring-loaded and locks onto the plug. Solid brass contact pins. Rain hood extends beyond the pins to protect the interior: drain channel inside the socket has drain channel at 5°downward pitch to reduce water retention. Three mounting holes on the flange: .33" (8.4mm) diameter, 2.93" (74.6mm) on centers.

81356 Rubber Boot gives added protection to the terminals. Not included. See page 147 .

2 Mounting Holes

12080-11 ABS ★

Color-fast green glass-filled plastic insures quick identification. Spring-loaded door is marked 'Trailer ABS' to further lessen any chance of misconnection. Mounting holes on the flanges are oval, .488" x .328" (12.4 x 8.3mm), 2.93" (74.6mm) on centers. Mounts through 2" (50.8mm) diameter hole.

12080 Glass-Filled Plastic, Insulated ★

Mounting holes on the flanges are oval, .488" x .328" (12.4 x 8.3mm), 2.93" (74.6mm) on centers. Mounts through 2" (50.8mm) diameter hole. Black plastic.

12080-01 Glass-Filled Plastic, Insulated, Split Pins

Same as 12080, but with split-pin contacts.

12063 Diecast, Self-Grounding ★

Mounting holes on the flanges are oval, .488" x .328" (12.4 x 8.3mm), 2.93" (74.6mm) on centers. Mounts through 2" (50.8mm) diameter hole.

12063-01 Diecast, Self-Grounding, Split Pins ★

Same as 12063, but with split-pin contacts.

12075-01 Diecast, Insulated, Split Pins

With four mounting holes (two are knockout). Brass split-pin contacts.

12077-01 For ISO Type (24V) ★

Diecast housing, polarized ground terminal, insulated. Replacement for ISO 3731-1976 (E) road vehicles, type 24S (supplementary). Contact pins: one spring-grip female, and six solid male. Mounting holes on the flanges are oval, .488" x .328" (12.4 x 8.3mm), 2.93" (74.6mm) on centers. Mounts through 2" (50.8mm) diameter hole. Mates with Cole Hersee 11100-02 and 11100-01 plugs.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Plugs

Ground terminal accepts wires up to 8AWG, other terminals up to 10AWG. Cable protectors are constructed of plated steel, and provide strain relief and protection against abrasion.

With Quick Release Plug Interiors

Interiors can be readily removed by loosening the single set screw in the cable clamp, and then depressing on the spring clip release with a screwdriver. The interior then readily slides out. The interior slides back into the housing and locks securely into place with a high-tension metal clip. After the cable clamp is tightened, the plug is ready for use.

12091 Diecast ★

12092 Diecast, With Cable Protector ★

12081 Glass-Filled Plastic ★

12082 Glass-Filled Plastic, With Cable Protector ★

With Spring Grip Electrical Contacts

Cole Hersee spring grip contacts contain a self-adjusting spring band that maintains contact pressure from socket to pin. Greater contact pressure not only gives greater electrical efficiency, but also makes coupling and uncoupling uniform, and minimizes buildup of dirt. In competitive plugs, conventional contacts tend to widen after repeated use: the Cole Hersee plug has individually sprung sockets to insure maximum contact year after year.

Diecast metal housing. Replaceable interior. Wiring codes are identified on the insulator. Cable clamp holds all wires securely.

1222 ★

1255 With Cable Protector ★

Same as 1222, except with cable protector.

11100-01 ISO Type (24V)

Diecast housing, polarized ground terminal, insulated. Replacement for ISO 3731-1976 (E) road vehicles, type 24S (supplementary). Contacts: six spring-grip female, and one solid male pin. Mates with Cole Hersee 12077-01 ISO socket.

11100-02 ISO Type (24V), With Cable Protector

Same as 11100-01, except with cable protector.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

12311 High-Performance Plug

Surpasses SAE J560b performance standards. Superior environmental protection gives extended product life. Black glass-filled plastic housing cannot rust or corrode. Plug locks onto opening on spring-loaded socket door. Spring-grip contacts have self-adjusting spring bands to maintain long-term uniform electrical contact with socket pins. O-ring at the plug end prevents water from reaching the contacts. Strain relief and grommet seal isolates the contacts from mechanical strain, and provides extra moisture protection. Cable retainer maintains secure cable connection. Replaceable interior. Connects with all SAE J560b sockets, and Cole Hersee 13-pole sockets.

Assemblies

Available with one or two plastic or diecast metal plugs. Conform to ATA, RCCC, SAE and TTMA standards. Superior coil memory minimizes snagging, small diameter coil reduces tangling with other lines. Temperature-resistant coil will not crack or stiffen at -70°F (-57°C). Cable jacketing is abrasion- and cut-resistant, repels oil, gas and chemicals. 100% electrical copper conductors give maximum conductivity. Six 12AWG and one 10AWG wires. 12ft working length of coiled cable.

11247

With two 1255 plugs: metal housings, spring grip electrical contacts and cable protectors.

11247-01

With two 12092 plugs: metal housings, quick-release plug interiors and cable protectors.

Recommended Wire Sizes

Fire can result when a wire gets overheated because there's too much current flowing through it. It is important to use the correct wire size that's appropriate to the amperage and length of the wire that you're using. Use the wire rating next above the amperage needed.

Both fuses and ciruit breakers stop dangerous overcurrent by rapidly shutting down an overloaded circuit. Fuses are one-use devies; circuit breakers can be re-set.

Wire Size	Ohms per 1000ft	Ampacity inside the engine compartment	Ampacity outside the engine compartment
18AWG 0.8mm^2	6.385	20	17
16AWG 1mm^2	4.016	25	21.3
14AWG 2mm^2	2.525	35	29.8
12AWG 3mm^2	1.588	45	38.3
10AWG 5mm^2	0.9989	60	51
8AWG 8mm^2	0.6282	80	68
6AWG 13mm^2	0.3951	120	102
4AWG 19mm^2	0.2485	160	136
2AWG 32mm^2	0.1563	210	178.5
1AWG 40mm^2	0.1239	245	208
0AWG 50mm^2	0.09827	285	242.3
2/0AWG 62mm^2	0.07793	330	280.5
3/0AWG 81mm^2	0.06180	385	327.3
4/0AWG 103mm^2	0.04901	445	378.3

You can calculate the voltage drop (volts) across a length of wire (ft) at a given amperage (amps)... Voltage drop = wire length x amperage divided by 1000 x ohms per 1000ft.

Normally used with a trailer where limited functionality (taillights, brake lights) is needed. Ideal for boat trailers, or RVs towing a car on a flatbed trailer. See also Section Q4 Automotive Connectors' for a different kind of connector. Diecast metal housings. Screw terminals accept up to 12AWG wire. Replaceable interiors.

Sockets

Brass split-pin contacts are aligned to assure proper contact and minimal voltage drop. Spring-loaded socket doors, plug locks securely into the opening. Wiring codes are identified on the insulator. Two mounting holes on the flange 17/64" (6.7mm) diameter, 2 15/16" (74.6mm) on centers. Mount through 1 3/8" (34.9mm) diameter hole.

1258 6-Pole

Exposed terminal screws.

1268 6-Pole, Self-Grounding

Same as 1258, but self-grounding, and with recessed terminal screws.

1235 6-Pole, Protective Housing ★

Same as 1258, but with special housing that protects terminals from roadsplash.

1232 4-Pole, Protective Housing BP ★

With special housing that protects terminals from roadsplash.

1257 4-Pole

Same as 1232, but with exposed terminal screws.

Plugs

Contacts float for best alignment and connection. Cable clamps hold all size cables firmly in place. Cable protectors (where present) are constructed from plated steel, and provide strain relief and protection against abrasion.

1236 6-Pole ★

1254 6-Pole, Cable Protector ★

Same as 1236, but with cable protector.

1233 4-Pole BP ★

1253 4-Pole, Cable Protector ★

Same as 1233, but with cable protector.

Cable

See page 147.

Interiors

See page 143.

2-Pole Power Take-Off Connector

Provides a high-integrity two-circuit path for on- and off-road vehicles and in agricultural applications. Plug latches solidly with the socket cover. Suitable replacement for connectors in tarping applications. Vertically-aligned machined brass contacts, diecast zinc plug and socket housings, engineering-grade plastic. Terminations accept 6AWG wire. Polarized.

11041-06 Socket

Gasket-sealed socket keeps out dirt and moisture when plug is not in use.

11042-05 Plug

For use with 2-pole socket 11041-06.
Durable, flexible spring coil protects the cable.

11250-01 Plug and Socket

Set of 11041-06 and 11042-05.

1-Pole Power Take-Off Connector

Provides power to auxiliary equipment. Accepts up to 0AWG cable. Diecast metal housings. Electrical conductors and connections are designed for maximum efficiency and long life.

11041 Socket ★

Self-grounding. Solid brass 3/8" (9.5mm) diameter male contact, with insulated tip to prevent short circuits. Rubber boot protects the terminals and connections from moisture and dirt. Fits 2" (50.8mm) diameter hole. Two mounting holes on the flange 21/64" (8.6mm) diameter, 2 5/16" (74.6mm) on centers.

11042 Plug ★

With ground return terminal. Brass female contact with spring grip tension provides solid engagement with the mating socket. Cable clamp holds cable firmly in place.

Tarping Apps

Photo: Roll-Rite LLC.

The two-pole power take-off is perfect for tarping applications… but it's also used in liftgate connections and to supply power to a broad range of auxiliary equipment that's part of the truck or utility vehicle. It also finds use in powering on-site equipment.

Super-Bright LEDs

New 58312 series rocker switches have long lasting LED lights and high-visibility wrap-around lenses. See page 1.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

Impact-resistant insulators repel oil and water. Permanent molded-in wire codes provide easy identification. Contacts and connections are carefully designed to ensure maximum electrical efficiency. Terminal screws, socket mounting or plug mounting screws are provided.

7-Pole

1286 Plug Interior

Accept up to 8AWG and 10AWG wire. Spring-grip contacts have self-adjusting spring bands that ensure uniform contact with socket pins. Contacts float for best alignment and connection. Bumper construction protects the end of the plug housing.

For plugs 1222, 1255, 12081 and 12082.

6-Pole

Accept up to 12AWG wire.

1296 Plug Interior

For 1236 and 1254 plugs.

1158 Plug Interior, Straight Body

For 1236 and 1254 plugs, and many other makes of plug.

1159 Socket Interior

For 1235 socket. Split contact pi

4-Pole

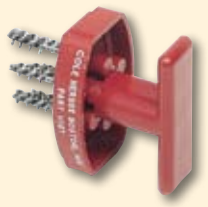
Accept up to 12AWG wire.

*1295** Plug Interior

For 1253 and 1233 plugs.

Keep Plugs Clean

For 7-pole plugs. Stainless steel wire brush cleans corroded contacts in seconds. See page 148.



Build Your Own Rockers

Five handy kits cover all the electrical types and pilot light combinations. Each kit comes with a set of snap-in pilot light lenses, so it's easy to make up a switch with the lens color you need.

The five kits are individually retail-packed in clamshell BP units.

58328-100BP On-Off SPST, dependent
With one each Amber, Clear, Green, and Red lens.

58328-101BP On-Off SPST, independent
WIth one each Amber, Clear, Green and Red lens.

58328-102BP On-On SPDT, dependent
With two each Amber, Clear, Green and Red lenses.

58328-103BP On-Off-On, dependent
With one each large Amber, Clear, Green, Red and one each small lenses.

58328-104BP On-Off SPST, one dependent, one independent
With one each large Amber, Clear, Green, Red and one each small lenses.

See also Section Q2 '1- to 6-pole Connectors'.

In-line Trailer Connectors

Flat profile design provides a robust 7-pole or 12-pole connection. Housings are molded thermoplastic material, resistant to ultraviolet solar radiation. Nickel-plated brass terminals with split contact pins give a positive connection. Insulators between each terminal provide protection from short circuits. Spring-loaded socket lid protects the terminals when not in use. Insulated cable clamp secures the cable, minimizing vibration and strain. Terminal covers are easily removed for access to terminals.

Circuit Identification:

1. Left turn signal
2. Accessory
3. Ground
4. Right turn signal
5. Accessory
6. Brake lights
7. Rear, clearance and side marker lamps
8. Accessory
9. Accessory
10. Ground
11. Accessory
12. Accessory

7-pole connectors have circuits 1-7 only.

7-Pole

Connectors accept up to 14AWG wire.

12400 Socket

12401 Plug

12-Pole

Pins 1-7 accept up to 14AWG wire, pins 8-12 accept up to 8AWG wire.

12500 Socket

Accepts 12-pole plug or 7-pole plug.

12501 Plug

Universal Trailer Connectors

Weatherproof connectors & wire lead assemblies. Polarized to assure proper mating of circuits. Molded bodies. Color-coded 16AWG wire, 6" long (152.4mm). Conductors are properly aligned and bonded into the insulation, to assure minimal voltage drop, and for ease in connecting.

11135 5-Pole Pair

11134 4-Pole Pair BP ★

11134-08BP 4-Pole Pair, with Splicers BP

Retail pack with 11134 and eight 30223 Quick-Tap wire splicers.

11173 3-Pole Pair BP

11172 2-Pole Pair BP ★

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

Connectors with Screw-On Caps

Molded insulator bodies. Precision-machined contacts. Knurled caps unscrew for easy connection of wires, and protect against weather and dirt. Terminal ID .110" (2.8mm) accepts up to 12AWG stranded wire.

*1107-F** 2-Pole Female Plug

*1107-M** 2-Pole Male Plug

11076 1-Pole Female Plug

Mates with 11075 socket on page 146.

*1107** 2-Pole Pair

One 1107-M (male) and one 1107-F (female).

*1102** 2-Pole Pair, Polarized

Same as 1107, except polarized.

M-118 2-Pole Pair, Polarized, Brass Screws BP

Same as 1107, except polarized, and with brass terminal screws.

1102-F 2-Pole Plug, Polarized

Female polarized plug.

1238 2-Pole Polarized Plug and Socket

Screw-on cap protects the socket from dirt and moisture when not in use. Polarized for proper mating of circuits. Includes one 1102-F plug. Mount in 45/64" (17.9mm) diameter hole in panels up to 3/8" (9.5mm) thick. Plated steel cap and housing.

*1292** 2-Pole Socket with Variable Spacer

Mounting nut, lockwasher and spacer are adjustable for different panel thicknesses. Mounts flush in 11/16" (17.5mm) diameter hole. Polarized for proper mating of circuits. Mates with 1102-F plug (not supplied).

Connectors with Rubber Caps

Polarized to assure proper mating of circuits. Molded insulator bodies. Precision-machined brass contacts. Rubber caps protect connectors.

1134 4-Pole Pair

Circuit identification printed on the insulator.

M-115 4-Pole Pair, Brass Screws BP

Same as 1134, but with brass terminal screws.

M-114 3-Pole Pair, Brass Screws

Brass terminal screws.

M-121 2-Pole Pair, Brass Screws BP ★

Brass terminal screws.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Flush-Mount Flanged Socket Connectors

Corrosion-resistant socket housings. Two .147" (3.73mm) diameter mounting holes, 1/19" (30.23mm) on centers.

*11075** 1-Pole Male Socket

Insulated male contact. Mates with 11076 plug on page 145.

*1110** 2-Pole Male Socket

Mates with 1107-F plug.

*1109** 2-Pole Female Socket

Mates with 1107-M plug.

1214 2-Pole Male Socket, with Cover And Plug

1102-F plug. Polarized.

Two-pole breakaway unit: plug automatically releases at approximately 20lbs pull. Mate with all connectors of comparable design. Polarized. 20A maximum capacity.

1282 Socket with Mounting Bracket

Plated steel housing. High impact-resistant molded plastic insulator. Brass contacts and brass screw terminals. Stainless steel spring on the cover locks the plug in place. Integral mounting bracket with two .218" (5.6mm) diameter mounting holes, 1.25" (31.8mm) on centers.

*12001** Flanged Socket

Plated steel housing. Molded plastic insulator. Cover locks firmly in place when not in use. Two .20" (5.2mm) diameter mounting holes, 1.87" (47.4mm) on centers.

*1283-325** Plug

Plated brass housing. Threaded cable grip.

Ag. App.

Several of the 'tractor trailer' plugs are also useful in agricultural applications. Two of the most popular are the 7-pole connectors 12080/12081/12082 and 12310/12311 as well as the 13-pole connectors 12300/12301.

See Section Q1.

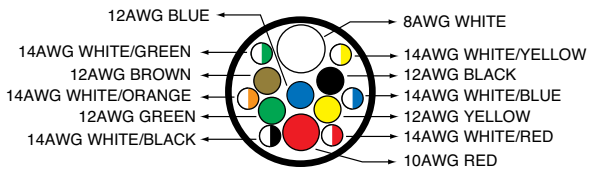
★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.*

Cable

Straight cable, available by the foot. Conductor wires are color-coded for easy recognition. Durable insulation resists abrasion.

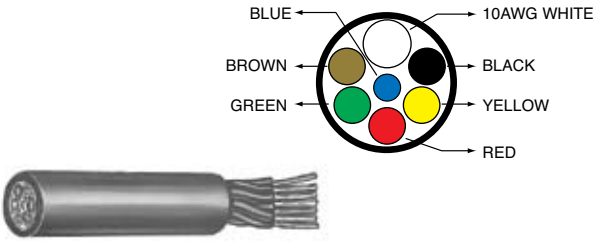
98647 13-Conductor

Will not crack or stiffen at -70°F (-57°C). One 8AWG, one 10AWG, five 12AWG and six 14AWG wires, 100% electrical copper for maximum conductivity.



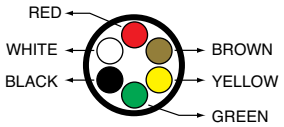
4077 7-Conductor

Six 12AWG wires and one 10AWG white wire.



4076 6-Conductor

Six 14AWG wires.



Cable Protector

81192 Cable Protector

Protects against strain and kinking. Plated steel. For Cole Hersee plugs: 11042-05, 12081, 12082, 12091, 12092.

Trailer Connector Adapter

These adapter assemblies are useful to conveniently connect a 6-pole system to a 7-pole system, and eliminate makeshift jumpers. Connect the appropriate adapter to your existing cable assembly to link a vehicle with a 6-pole male socket to a vehicle with a 7-pole male socket. Brass pins, brass female contacts.

11017 For Use with a 6-Pole Cable Assembly

Consists of a 6-pole male plastic plug connected by a 12" cable to a 7-pole female diecast plug. This adapter assembly is useful for connecting a 6-pole to a 7-pole system, eliminating makeshift jumpers.

Protective Boots

Protect against road splash, dirt and moisture.

81356 Boot for Sockets

Fits over the back of the flange, and covers the terminal connectors. Protects against road splash, dirt and moisture. For 12310 7-pole socket and 12300 13-pole socket.

11178 Boot for Plugs ★

Inner ridge locks over the heads of the terminal screws and to the edge of the casting. Fore Cole Hersee sockets 12063, 12063-01, 12080, 12080-01, 12080-11, 12077-01 and other 7-pole sockets of comparable design.

Surface Mounting of Sockets

For attachment of 4-, 6-, and 7-pole sockets of standard design (without integral circuit breakers).

11167 Adapter Plate

Heavy duty adapter provides secure seating for attachment of sockets, and permits installation of fuse/breaker block or terminal block in the rear. Mounting holes 5/16" (7.9mm) diameter, 4 1/2" (114.3mm) on center. Mounting hardware included.

11165 Mounting Bracket

Eliminates the need for cutting a hole in the trailer to accept a socket.Mounting hardware included. Center hole is 2" (50.8mm) diameter. Mounting hardware included.

11164 Mounting Gasket for Sockets

Neoprene gasket for plastic or metal sockets. For Cole Hersee sockets 12063, 12063-01, 12080, 12080-01.

11187 Plug Cleaner Brush

For 7-pole plugs. Durable plastic body with snap-on cover. Stainless steel wire will not rust. Brush cleans corroded contacts in seconds, and with regular use extends the life of connectors.

11750 Stor-A-Way Plug Holder ★

Cole Hersee patent. Keeps plugs clean when not in use, and extends life, by protecting electrical contacts from dirt and roadsplash. For all SAE J560b 7-pole plugs and 13-pole plugs. Spring-loaded for secure locking. Heavy duty glass-filled plastic housing. Fits 11100-02, 12311, 1222, 1255, 12091, 12092, 12081, 12082, 12301 and 11042-05.

31784 Female Pin Terminal

Crimp-on brass connector mates with the 6 smaller pins in the 12301 13-pole plug and 12300 13-pole socket. Pre-tinned brass. 6 required for each 13-pole plug.

1160 License Holder Tube

Weatherproof tube protects important papers. 5" x 1 1/8" (127.0 x 28.6mm). Captive brass screw-on cap. Brass flange, aluminum body. Three 3/16" (4.8mm) diameter mounting holes in the flange.

Super-Bright LEDs

New 58312 series rocker switches have long lasting LED lights and high-visibility wrap-around lenses. See page 1.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* ✶ *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Wiring Colors

Colors are not universal, so it's wise to check proprietary instructions, and to make an electrical test.

The following colors are very commonly used.

4-Pole

Green - Right turn and brake lights
Yellow - Left turn and brake lights
Brown - Taillights and clearance lights
White - Ground

5-Pole

In addition to the above.
Red - Backup lights

6-Pole

Typical Coding Convention for 6-Pole Circuits

Wire Color	Conductor Number	CH Terminal Marking	Function
White	1	GD	Ground return to towing vehicle
Brown	2	TM	Clearance, side and tail marker, and identification lamps
Yellow	3	LT	Left turn signal and hazard lamps
Red	4	S	Stop lamps and antilock device
Green	5	RT	Right turn signal and hazard lamps
Black or Blue	6	A	Continuou s ABS power/Auxiliary

Tail lamp load goes with marker circuit 2.

7-Pole

SAE Coding Convention for 7-Pole Connectors

Wire Color	Conductor Number	CH Terminal Marking	Function
White	1	W	Ground return to towing vehicle
Black	2	BK	Clearance, side marker, and identification lamps
Yellow	3	Y	Left turn signal and hazard lamps
Red	4	R	Stop lamps and ABS device
Green	5	G	Right turn signal and hazard lamps
Brown	6	BR	Tail and license plate lamps
Blue	7	BL	Continuous ABS power/ Auxiliary

AWG Conversion

American Wire Gauge (AWG) is a US standard set of non-ferrous wire conductor sizes. Non-ferrous' usually implies copper, but it includes aluminum and other metals and alloys.

The "gauge" refers to the diameter. Typical household wiring is AWG number 12 or 14. Telephone wire is much thinner at 22, 24, or 26. The higher the gauge number, the smaller the diameter and the thinner the wire and the less current it will safely carry. Thicker wire carries more current because it has less electrical resistance over a given length. Thus larger wire is used with high currents and when the voltage drop along its length must be minimized. For example: High output alternator wiring might be 2 AWG and the starter cable for a mid-sized engine 1 or 0 AWG.

The metric equivalent is simply the diameter expressed in millimeters, and thus can be easily measured with calipers.

AWG	mm	AWG	mm	AWG	mm
26	0.128	16	1.308	6	13.292
25	0.162	15	1.652	5	16.755
24	0.205	14	2.088	4	21.137
23	0.255	13	2.629	3	26.653
22	0.322	12	3.302	2	33.606
21	0.411	11	4.156	1	42.384
20	0.516	10	6.271	0	53.454
19	0.653	9	6.626	00	67.399
18	0.823	8	8.350	000	84.004
17	1.039	7	10.544	0000	104.091

Trailer Tail Light Converter

Electronic unit permits a towing vehicle with two lighting circuits for each side to operate lights on a trailer with a single circuit each side. Eliminates the need to rewire the trailer or to add additional lights. US laws require stoplights, turn signals and tail lights on trailers. See page 102.

Inline Trailer Connectors

12400, 12401, 12500, 12501

Not supplied with wire, but the terminals are identified by numbers.

7-Pole Connectors

Accept wire up to 14AWG

1. Left turn signal
2. Accessory
3. Ground
4. Right turn signal
5. Accessory
6. Brake lights
7. Rear, clearance and side marker lights

12-Pole Connectors

Pins 1-7 accept wire up to 14AWG, pins 8-12 up to 8AWG.

1. Left turn signal
2. Accessory
3. Ground
4. Right turn signal
5. Accessory
6. Brake lights
7. Rear, clearance and side marker lights
8. Accessory
9. Accessory
10. Ground
11. Accessory
12. Accessory

13-Pole Connectors

Pins 1-7 accept wire up to 14AWG, pins 8-13 up to 8AWG.
Pins 1-7 as for 7-pole connector, pins 8-13 auxiliary.

Keeps Plugs Clean

When the plug is not in use, keep it secure in the Stor-A-Way housing. Accepts all SAE 7-pole plugs and 13-pole plugs.
See page 148.

Best Practice for Assembly of Plugs and Sockets

Properly installed tractor-trailer connectors are critical to the safe performance of a rig, which are routinely subjected to vibration, extreme weather conditions, as well as mechanical forces. We highly recommend that a trained technician performs the installation. It is the responsibility of the end-user to take into account the mounting location and environment, conductor type, size, flexibility and other installation parameters.

Review the assembly procedure before assembly. A common error is to not slide a clamp, boot or housing onto the cable before connecting the wires. Recommended tools: screwdriver (preferably with torque limiter); soldering iron (preferably a solder pot), solder and flux; wire stripper and cutter; and ruler.

Cut the cable, and strip the jacket to the recommended length.

Strip the wires to the recommended length, and tin them. Maintain a tight strand bundle before tinning, so that there are no loose strands. Re-tin if necessary. This makes it easier to insert the wires into the terminal, and helps to properly position the tinned strands at the right depth.

Slide the housing, spring coil or boot over the cable.

Properly insert and position the tinned conductor into each terminal. Locate the tinned portion under the terminal screw before tightening the screw. Tighten the termination screws to the appropriate torques.

Inspect the terminated connection for cut or loose strands, fragments of wire insulation between the terminal/conductor connection, bent terminals, loose or stripped terminal screws and other visible problems.

Check that the correct connections have been made, by re-checking that the conductor jacket color matches the insulator coding.

Carefully slide the insulator into the connector housing, making sure that the insulator is fully seated. Don't twist or lever the terminated conductor after it has been inserted and locked into the insulator. This may damage the terminal and put stress on the terminated connection.

Finally tighten the housing screw or cable clamp.

In order to keep a plug clean when not inserted in a socket, we recommend the use of the 11750 Stor-A-Way Plug Holder – see Section Q6.

MECHANICAL NEUTRAL SAFETY SWITCHES	R1
NEUTRAL SAFETY & BACK-UP SWITCHES	R2
OVERDRIVE KICKDOWN SWITCHES	R3
HEAVY-DUTY WEATHER-RESISTANT SWITCHES	R4
FOOT-OPERATED TURN SWITCHES	R5
VOLTAGE REDUCERS	R6

special purpose switches

R1 MECHANICAL NEUTRAL SAFETY SWITCHES

Heavy-duty switches for applications to 36V DC.

Normally Off Ball Switches

SPST. On with ball depressed, spring return to Off. Silver contacts. 35A at 12V DC, 20A at 24V DC, except where noted. Moisture-resistant insulators, corrosion-resistant metal housings.

9242 ★
Two screw terminals. Mounting stem 9/16" -18 UNF-2A thread, 5/16" (7.9mm) long. *Replaces: International 863187-R91.*

9242-01
Same as 9242, but with brass gasket/washer.

9242-04 with Delphi (Packard) Connector
22" (559mm) harness includes 2-pole Delphi (Packard) connector 2984855, with two female blade terminals 6288106. Mounting stem 9/16" -18 UNF-2A thread, 5/16" (7.9mm) long. Plasticized housing provides protection against moisture and dirt. Internal gasket seal. *Replaces: GMC 702733.*

92102
15A at 12V DC. Two-button head accepts standard female blade terminals, and will mate with Delphi (Packard) 2-pole connector 2962679, or equivalent. Mounting stem 9/16" -18 UNF-2A thread, 21/32" (16.7mm) long.

92107-04
20A at 12V DC. Two-screw terminals. Mounting stem 3/4" -16 UNF-2A thread, 31/64" (12.3mm) long.

9162
35A at 12V DC. Two female bullet terminals. Mounting stem 3/4" -16 UNF-2A thread, 31/64" (12.3mm) long. *Replaces: Chrysler 1527835, Clark 73631.*

9162-03
Same as 9162, except with gasket on the mounting stem. *Replaces: Massey 181140M94.*

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Normally On Ball Switches

SPST. Off with ball depressed. Spring return to On. Silver contacts. 5A at 12V DC, 3A at 24V DC, except where noted. Moisture-resistant insulators, corrosion-resistant metal housings.

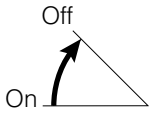
9224 ★
Two screw terminals.
Mounting stem 3/4" -16 UNF-2A thread, 31/64" (12.3mm) long, with aluminum gasket/washer.
Replaces: Clark 224620

9224-07
Two screw terminals.
Mounting stem 9/16" -18 UNF-2A thread.

92105*
Two female bullet terminals.
Mounting stem 3/4" -16 UNF-2A thread, 31/64" (12.3mm) long, with aluminum gasket/washer.

Lever-Actuated Switch

8486-05
10A at 12V DC. SPST, Normally Off, contacts Open. Lever-actuated to On, spring return to Off. Two bullet terminals. Two 10-32 tapped mounting holes, 5/8" (15.9mm) on centers. 2 7/8" (73.0mm) long lever. For a similar switch that is Normally On, see 8846 on page 104. *Replaces: John Deere AM38713*



Vacuum Switches

See page 107.

Types of Thread

Information on most threads can be found in the ANSI standards, the SAE Handbook, and the National Institute of Standards and Technology Handbook H-28.

UNC is the most commonly used thread on general-purpose fasteners. UNC threads are deeper than UNF threads and are easier to assemble without cross threading. Manufacturing tolerances can be larger than for finer threads, allowing for higher plating tolerances. Because of their looser fit, UNC threads are usually easier to remove when corroded.

UNF thread has a larger minor diameter than UNC thread, which gives UNF fasteners slightly higher load-carrying and better torque-locking capabilities than UNC fasteners of the same material and OD. UNF threads have a smaller lead angle that allows for finer tension adjustment. They also have more stringent manufacturing tolerances than UNC threads.

The most common thread systems in the US are:

- UNC – Unified National Coarse
- UNF – Unified National Fine
- UNEF – Unified National Extra Fine
- NC – American National Coarse
- NF – American National Fine
- NEF – American National Extra Fine

SPST, normally Off. On with plunger depressed, spring return to Off.

9134 Back-Up Switch 35A
35A at 12V DC. Silver contacts. Transmission-mounted, extra heavy-duty. Compact design for mounting in areas where space is limited. Two female bullet terminals. 9/16" -18 thread mounting stem, 5/16" (7.9mm) long. *Replaces: Chrysler 1343998, 2198779, Motorcraft SW-410*

91113 Back-Up Switch 20A ★
20A at 12V DC. Silver contacts. Transmission-mounted, extra heavy-duty. Compact design for mounting in areas where space is limited. Two screw terminals. 9/16" -18 thread mounting stem, 5/16" (7.9mm) long. *Replaces: Autocar 8E-01360, Brockway 128537, Diamond Reo 560-65, Kenworth AT-91-69 Mack 1MR-1320, Oshkosh 13320-F1, White 1743529.*

*9025** Back-Up Switch 10A
10A at 12V DC. Two screw terminals. 7/16" (7.9mm) diameter mounting stem, 7/16" –20 (7.9mm) long, with two flats for mounting in double-D hole. 1/2" (12.7mm) long plunger. *Replaces: Superior School Bus B67176.*

75125 Back-Up Alarm Switch
SPST. Normally Off. Spring lever actuated to On, spring return to Off. Two screw terminals. Two 13/64" (5.2mm) diameter mounting holes, 1/2" (12.7mm) on centers. 5" (127mm) lever.

9052
10A at 12V DC. Two screw terminals. 7/16" (7.9mm) diameter mounting stem, 7/16" –20 (7.9mm) long, with two flats for mounting in double-D hole. 1/2" (12.7mm) long button-head plunger. *Replaces: Ford B9AF, C0AF, 51-A15520A, Jeep 710412, 721028, Motorcraft SW-410.*

91105 Back-Up Lamp Switch
10A at 12V DC. PVC coated housing protects against moisture and dirt. Two 18AWG wire leads, 7" long. Button-head actuator, 3/8" (9.5mm) long. 7/16" –20 (7.9mm) diameter mounting stem with two flats for mounting in double-D holes. *Replaces: AMC 3171244.*

83377 Protective Boot
For Neutral Safety and Back-up Lamp Switches.

Molded of durable PVC to resist moisture and dirt. Internal ring forms a seal with the groove around the switch housing.

Fits Cole Hersee switches with a 1 1/8" (28.6mm) hex housing: 9134, 9162, 9224, 9242, 9242-07, 92102, 92103, 92105, 92107-04.

SPST, Normally On

Off with plunger depressed, spring return to On.

9096-02
15A at 12V DC. With special diaphragm/mounting bracket, sealed to protect the mounting shaft. Plasticized body protects against moisture and dirt. Two 16AWG wire leads, 3" (76.2mm) long with female bullet terminals. Insulator sleeves protect the connections. 13/64" (5.2mm) diameter mounting holes, 1 1/2" (38.1mm) on centers. 1/4" (6.4mm) long plunger.

SPST, On - Momentary On

9106-02*
10A at 12V DC per circuit. Two circuits: No.1 normally On, No.2 On with plunger depressed, spring return to No.1. Four screw terminals. 7/16" –20 (7.9mm) diameter mounting stem, 7/8" (22.2mm) long with flat on stem for mounting in D-shaped hole. Gasket-sealed terminal insulator. Plunger: 7/32" (5.6mm) long. *Replaces: Chrysler 1479527, Jeep 717589.*

Universal application. Suitable for Back-up Lamp, Neutral Safety, Overdrive Switches.

SPST Normally On

Off with plunger depressed, spring return to On.

91042
10A at 12V DC. Rubber cap/seal snaps into grooves in the plunger and mounting stem to protect the operating shaft from moisture and dirt. Two blade terminals mate with two-pole Delphi (Packard) connector 2977647 or equivalent. 5/8" –32 (15.9mm) diameter mounting stem, 11/16" (17.5mm) long. Gasket-sealed terminal insulator. 3/8" (9.5mm) long plunger, protrudes through the cap.

91042-05*
Same as 91042, except with two screw terminals.
Replaces: Fiat Allis 7307175501.

90043 ★
20A at 12V DC, 10A at 24V DC. Silver contacts. Rubber cap snaps into special groove and is secured to the mounting stem by a deep-threaded nut for a positive seal.Two blade terminals mate with two-pole Delphi (Packard) connector 2977647 or equivalent. 5/8" -32 thread mounting stem, .625" (15.9mm) long. Gasket-sealed case. Steel plunger protrudes through the cap.

SPST Normally Off

On with plunger depressed, spring return to Off.

92116
20A at 12V DC, 10A at 24V DC. Silver contacts. Rubber cap/seal snaps into grooves in the plunger and mounting stem to protect the operating shaft from moisture and dirt. Two blade terminals mate with two-pole Delphi (Packard) connector 2977647 or equivalent. 5/8" –32 (15.9mm) diameter mounting stem, 11/16" (17.5mm) long. Gasket-sealed terminal insulator. 3/8" (9.5mm) long plunger, protrudes through the cap.

★ *Rapid ship item.* BP *Available in retail clamshell pack.* * *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

R5 FOOT-OPERATED TURN SWITCHES

Through-floorboard mounting. Depress to On, spring return to Off. Two switches are needed for left and right turn signals. Sealed switches are plastic coated, providing protection against moisture dust and roadsplash. 7/8" (9.5mm) diameter stem. Three 1/4" -20 tapped mounting holes, 3/4" (19.0mm) and 1 3/4" (44.4mm) on centers. 12A at 12V DC.

7792-01 With Screw Terminals

7792 Sealed, with Screw Terminals

7785 Sealed, with Wire Leads

Pilot Lights

See page 111.

special purpose switches

R6 VOLTAGE REDUCERS

Allow the use of 6V accessories in 12V electrical systems. The resistor coil is embedded into the ceramic insulator for effective heat dissipation. Voltage reducers can be wired singly in series or in parallel. For use with low amperage load accessories. Two screw terminals with lockwashers. 7/16" -28 thread mounting stem. Size: 2" x 2 9/16" x 1 1/2."

68068 For 6A Maximum Load

1.0 Ohm resistance, 35W.

68003 For 4A Maximum Load

1.5 Ohm resistance, 25W.

Rapid ship item. *Available in retail clamshell pack.* *Minimum order quantity may apply.* *Part numbers needed in BOX require a -BX suffix on the purchase order.*

Wire Gauge

Values in the table are the appropriate American Wire Gauge cable at 12V DC.

Cable length	2.5ft	5ft	10ft	20ft	30ft	40ft	50ft	60ft	80ft	100ft
1	20AWG	20	20	20	20	20	20	20	20	18
1.5	20	20	20	20	20	20	20	20	18	18
2	20	20	20	20	20	20	18	18	16	16
3	20	20	20	20	20	18	18	16	16	14
4	20	20	20	20	18	18	16	16	14	12
5	20	20	20	18	18	16	14	14	12	12
6	20	20	20	18	16	16	14	14	12	12
7	20	20	20	18	16	14	14	12	12	10
8	20	20	20	16	16	14	12	12	10	10
10	20	20	18	16	14	12	12	12	10	10
11	20	20	18	16	14	12	12	10	10	8
12	20	20	18	16	14	12	12	10	10	8
15	20	20	18	14	12	12	10	10	8	8
18	20	20	16	14	12	10	10	8	8	6
20	20	18	16	12	12	10	10	8	8	6
22	20	18	16	12	10	10	8	8	8	6
24	20	18	16	12	10	10	8	8	6	6
36	20	16	14	10	8	8	8	6	6	4
50	18	16	12	10	8	6	6	4	4	2
100	14	12	10	6	4	4	2	2	1	0
150	14	10	8	4	2	2	1	0	00	000
200	12	8	6	4	2	1	0	00	000	0000
	0.762m	1.524m	3.048m	6.096m	9.144m	12.192m	15.240m	18.288m	24.384m	30.480m

knobs & nuts

S1 STANDARD KNOBS

Plated Brass Knobs

Chrome-plated solid brass, no imprint

8113-10
Face diameter 7/8" (22.2mm),
10-32 thread.

8197-10
Face diameter 3/4" (19.0mm),
10-32 thread.

8106* **With Set Screw**
Face diameter 7/8" (22.2mm).
8-32 thread tapped set screw hole.
Accepts shaft 3/16" (4.8mm) diameter.

81355*
Face diameter 1/2" (12.7mm),
10-32 thread.

Plastic Knobs

Knurled Disk Design

Available with or without imprint.

Cole Hersee stocks many knobs of this type with a wide variety of standard SAE imprints – contact Cole Hersee. Black plastic with textured matte finish. 1 3/16" (30.2mm) face diameter.

81270-508* **10-32, No Imprint**
10-32 thread.

81298-03 Headlamp Symbol
10-32 thread. Imprinted with upper beam headlamp symbol.

81298-04* **Headlamp Symbol**
Accepts 3/16" (4.9mm) diameter shaft. Imprinted with upper beam headlamp symbol.

81298-01* **Wiper Symbol**
10-32 thread. Imprinted with windshield wiper symbol.

81298-02 Wiper Symbol
Accepts 3/16" (4.9mm) diameter shaft. Imprinted with windshield wiper symbol.

81298-34 Wiper-Washer Symbol
Accepts 1/4" (6.4mm) diameter shaft. Imprinted with windshield wiper symbol.

81298-13* **10-32 Temperature**
10-32 thread. Imprinted 'Temperature, Hot'

Bar Design
Knobs are without imprint unless specified.

Metal Insert With Set Screw
Face diameter 7/8" (22.2mm).
8-32 thread tapped set screw hole.

8155-01 Black, 3/16" Shaft
Accepts 3/16" (4.9mm) diameter shaft.

8166-01* **Black, 1/4" Shaft**
Accepts 1/4" (6.4mm) diameter shaft

Metal Insert Without Set Screw
Face diameter 7/8" (22.2mm), shaft size 10-32 thread.

8163-01 Black

8163-02 Ivory

8163-12 Black, Imprinted 'Lights'

Other Designs
Black. 1" (25.0mm) face diameter. 8-32 thread tapped set screw hole.

1" round design

8138-03* **No Imprint**
10-32 thread.

8138-06* **Imprinted 'Lights'**
10-32 thread.

81363 Imprinted 'Wiper'
Imprinted 'Wiper' and with a right to left arrow.
Accepts 3/16" (4.8mm) diameter shaft.

Black. 1 3/16" (30.2mm) face diameter, 10-32 thread.

81260 No Imprint

Flared design

Black. 1 1/4" (31.8mm) long, 1/4" (6.4mm) diameter shaft. With set screw. White line on the pointer.

8145 With Metal Insert
No imprint.

Pointer design

Lever

80101-B
Chrome-plated cast zinc actuator 2.21L x 1.50W x 0.82"H (56.1 x 38.1 x 20.8mm) fits Cole Hersee lever-actuated Master Disconnect switches.

Facenuts

Chrome-plated brass, nickel-plated brass or aluminum.

More facenuts – page 41.

Brass

83274 For Protection of Button

Deep design protects the switch button against accidental operation. Round knurl 29/32" (23.0mm) diameter, 9/16" (14.3mm) thickness. 5/8"-32 thread. Chrome-plated brass.

8340 to fit 3/16" Shaft

5/8" (15.9mm) hex, 1/4" (6.4mm) thickness. 3/8"-24 thread to fit 3/16" (4.8mm) shaft. Chrome-plated brass.

8343 to fit 1/4" Shaft

5/8" (15.9mm) hex, 1/4" (6.4mm) thickness. 7/16"-28 thread to fit 1/4" (6.4mm) shaft. Chrome-plated brass.

8304

Round knurl 3/4" (19.0mm) diameter, 1/4" (6.4mm) thickness. 5/8"-32 thread. Chrome-plated brass.

83307 For Toggle Switches

Nickel-plated brass. Round knurl 9/16" (14.3mm) diameter, 1/16" (1.6mm) thickness. 15/32"-32 thread.

Aluminum

8361 7/8" Diameter for use with Rubber Caps

Round knurl 7/8" (22.2mm) diameter, 17/64" (6.8mm) thickness. 5/8"-32 thread to fit 1/2" (12.7mm) shaft.

Use with snap-on rubber caps 407-01 and 407-03. See Section G6.

8367 1" Diameter

Round knurl 1" (25.0mm) diameter, 19/64" (7.5mm) thickness. 3/4"-20 thread to fit 5/8" (15.9mm) shaft.

Inactive Vehicles

If you leave a fully charged battery connected in an inactive vehicle it could be dead in as little as two months. Today's vehicles have electronics that continue to draw small quiescent currents to maintain their memory, even when the vehicle is off. Over an extended time even this small current can kill an uncharged battery. Complete discharge of the battery can cause permanent damage by building up insoluble sulfur crystals on the lead plates, which prevent proper battery recharging.

Strategies for protecting your battery. Fully recharge the battery before storing the vehicle.

If you need short term storage and you have a lot of electronics that do not have to be on: (computer, TV, stereo, etc.) hook them up via the Low Voltage Disconnect (page 103). Each time you shut off your vehicle these items will be disconnected from the battery. This lengthens the storage life of your battery.

If you do not have a power source where the vehicle is stored, install a master disconnect switch between the battery and the electrical system. Turing this off eliminates any quiescent loads and lengthens the storage life of your battery. All batteries have a self discharge rate - they will slowly discharge even when disconnected. If you have power at the storage site, install a set of exterior battery jumper studs (page 95) and hook the vehicle up to a good three stage charger. That will keep you battery in good health for a long life.

Hexnuts
Brass or plated steel

For Mounting of Switches

8348 3/8 -32 Brass
1/2" (12.7mm) hex, 3/32" (2.4mm) thick.

8338 5/8 -32 Brass
7/8" (22.2mm) hex, 1/8" (3.2mm) thick.

8310 3/8 -24 Plated Steel
9/16" (14.3mm) hex, 3/32" (2.4mm) thick.

8311 3/8 -32 Plated Steel
1/2" (12.7mm) hex, 3/32" (2.4mm) thick.

8322 7/16 -20 Plated Steel
5/8" (15.9mm) hex, 1/8" (3.2mm) thick.

8334 7/16 -28 Plated Steel
5/8" (15.9mm) hex, 1/8" (3.2mm) thick.

83272 15/32 -32 Plated Steel
9/16" (14.3mm) hex, 3/32" (2.4mm) thick.

8325 1/2 -20 Plated Steel
5/8" (15.9mm) hex, 1/8" (3.2mm) thick.

8328 5/8 -32 Plated Steel
3/4" (19.0mm) hex, 3/32" (2.4mm) thick.

8307 5/8 -32 Plated Steel
7/8" (22.2mm) hex, 1/8" (3.2mm) thick.

DL-21-7 11/16 -32 Plated Steel
7/8" (22.2mm) hex, 1/8" (3.2mm) thick.

85753 3/4 -32 Plated Steel
7/8" (22.2mm) hex, 1/8" (3.2mm) thick.

84002 3/4 -20 Plated Steel Pal Nut
1 1/16" (27.0mm) hex, 13/64" (5.2mm) thick.

For Threaded Terminals
Brass or plated steel

84000 3/8-16 Brass
9/16" (14.3mm) hex, 21/64" (8.3mm) thick.

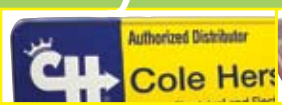
8249 10-32 Steel
3/8" (9.5mm) hex, 1/8" (3.2mm) thick.

Caps for Ignition Switches

See page 41.

13-Pole

12300 socket and 12301 plug provide six additional circuits within the dimensions of a standard 7-pole connector! See page 137.



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DISPLAY CARDS	T2
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displays & literature

T1 CLAMSHELL PACKAGING

Clamshell Packaging

Many of our popular product items are packaged in see-through clamshells. Items that are available in clamshell are denoted throughout this catalog with a symbol, and in the price list with the suffix 'BP'. If you want clamshell items, be sure to order using the BP suffix. Order suffix -BX for boxed items, and without a suffix for bulk items.

Planogramming of clamshells is easy because most items fit in one of three clamshell pegboard profiles. Clamshell packaging is crush resistant and recloseable, and protects the contents during shipping. Product description and information is trilingual (English, Spanish and French.)

For more information on how the clamshell can maximize planogram space, download sheet D-597 from our website.

All BP items are packed 6 per inner-pack, 6 inner-packs per case pack, 36 items per case pack.

Display Cards

These single-SKU displays are ready to merchandise. Each display consists of items of one SKU, individually poly-bagged and affixed to a backer card. Card display measures 10 1/2"W x 13 1/2"H (267 x 343mm) and has holes from which the display can be hung or fixed on two peghooks.

Display Order No.	Product Description	Product Item No.
SD-19-RC	12 Red pilot lights	PL-19-RC
SD-626	9 Momentary push-button switches	M-626
SD-3031-0	18 In-line fuse holders without fuse	3031-0
SD-5007	12 Push-pull switches	5007
SD-5582	18 Toggle switches	5582
SD-9095	12 Pushbutton momentary switches	9095
SD-9579	9 Ignition starter switches	9579
SD-11134	12 4-Pole in-line connectors	11134
SD-46210-02	6 Positive jumper terminals	46210-02
SD-46210-03	6 Negative jumper terminals	46210-03
SD-90030	12 Momentary pushbutton switches	90030
SD-551840	12 Toggle switches	551840

Merchandising Aids

These signs are available free of charge.

F-1245 Metal Sign

Lightweight aluminum sign is supplied with foam tape for adhesion to any smooth flat surface, or it can be tacked to a wall. Size: 24" X 15" (610 x 381mm).

F-1244 Large Card Sign

Two-sided card sign can be hung, or attached to a pegboard display of Cole Hersee products. Size: 19" x 7" (483 x 178mm).

F-1243 Small Card Sign

Two-sided card sign can be hung, or attached to a pegboard display of Cole Hersee products. Size: 10 1/2" x 5" (267 x 127mm).

F-1240 Decal

With adhesive on the back: suitable for counters, walls, windows, and vehicles.

F-1241 With Adhesive on the Front

Same as F-1240, but with adhesive on the front: suitable for windows, and glass doors.

Demonstration Kits

Demonstration kits contain an assortment of rotary switches, and is helpful at the counter to assist a customer in making a purchase. Plastic compartment box measures 8" x 6" x 1 7/8" (203 x 158 x 46mm).

*SD-40 Relays Demo Kit**

Contains a selection of 40A and 70A relays. For more details, request sheet D-608 or view it on the Cole Hersee website.

displays & literature

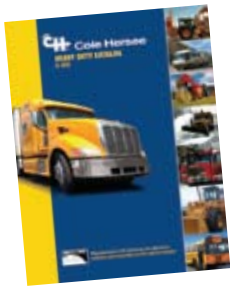
Literature

D-275 Master Catalog

Contains the broadest range of our products. Also available in downloadable PDF format on our website.

D-400 Heavy Duty Catalog

Contains products suitable for heavy duty and off-road vehicles.



D-100 Marine Catalog

Contains products suitable for marine applications.

'Hot Feed' Spec Sheets

A range of sheets giving details on specific products or product groups. For a complete listing see our website: Resource Center > Our Literature – where they are available in downloadable PDF format.

notes

notes

notes

notes

what's new?

Super-Bright LED Pilot Lights

PL-612 Series LED Pilot Lights, page 111.

Two-Pole Power Take-Off

Provides a high integrity two circuit path.

11041-06 Socket & 11042-05 Plug, page 142.

LED Rocker Switches

A new series of wide-lens rocker switches featuring super-bright LEDs. **58312 Series page 1.**

NEW

Milliamp Rocker Switches

Compatible with microprocessor-based systems.
58500 Milliamp Rocker Switches, page 6.

NEW

Milliamp Switch with Alarm

Highly audible alarm contained in rocker switch.
40205 Milliamp Rocker Switch/Alarm, page 6

NEW

Sealed Key Switches

Complete series for every need, including ignition..
95060 Key Switch Series, page 29.

NEW

Latching Solenoid

Needs no current to maintain continuity of the power circuit.
24280 Latching Solenoid, page 73.

Motor Reversing Solenoid

Two solenoids in one!
24450 Motor Reversing Solenoid, page 78

Electronic Solenoid

Functions at any voltage between 9 and 31V DC. Use in high side or low side applications. **48785 Electronic Solenoid, page 79.**

Forward and Reverse Relay Module

70Amp, with dynamic braking. **24452 Forward & Reverse Relay Module, page 79.**

NEW

what's new?

SureStart™ Compact Low Voltage Disconnect Switch

Electronically senses battery voltage and sheds loads when low; automatically reconnects. 100A. **48513 Compact LVD, page 85.**

NEW

SureStart™ Automatic Low Voltage Disconnect

Electronically senses battery voltage and sheds loads when low; automatically reconnects. Up to 200A continuous. **48510 & 48512, page 86.**

NEW

Master Disconnect Switch

Easy to lockout or tagout. High amperage 300A. **Master Disconnect Switch, page 87.**

NEW

Cole Hersee switches. Always lots of choices.

Two Circuit Master Disconnect Switch

Use to switch two loads, or for disconnect of both positive and negative, as required in critical applications. **Master Disconnect Switch, page 90.**

Smart Battery Isolators

More flexible than conventional battery isolators. **48525 & 48530 Smart Battery Isolators, page 92.**

NEW

Electronic Dual Relay

Functions as a normally Off relay or as a Latching Relay, depending upon which wires the user connects. **48521 Relay/Latching Relay, page 99.**

NEW

Combined Buzzer/LED Alarm

Gives audible and visual alert. **4112-RC000 Buzzer & LED Alarm, page 109.**

Cole Hersee Co. 20 Old Colony Ave, Boston, MA 02127-2467
T 617.268.2100 **F** 617.268.9490 **www.colehersee.com**

table of contents

Cole Hersee Co

Cole Hersee Co has been manufacturing reliable electrical products since 1924.

This Master Catalog describes our complete line, but we can adapt many of these products to order by changing terminals, knobs, by adding seals or by PVC-coating (to name but a few variants). Contact us to discuss the possibilities. Our engineers are on hand to design from the ground up the best switching solution to your application.

Cole Hersee is trusted world wide for reliable switches.

Availability of products:

- ★ Rapid Ship: Items that are likely to be in stock at Cole Hersee 95% of the time, on average.
- * Minimum order quantities may apply to these items. Consult Cole Hersee.
- BP Available in retail clamshell pack.

  Part numbers needed in BOX require a -BX suffix on your purchase order.

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T 617.268.2100 F 617.268.9490 www.colehersee.com

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