# solenoids & relays

#### PLASTIC BODY SOLENOIDS

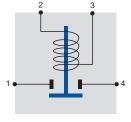
Glass-filled nylon construction - lightweight, durable and resistant to corrosion.

# **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).

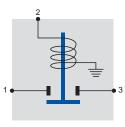


Insulated. Shown: F bracket, stud terminals.





Grounded. Shown: F bracket, stud terminal.



#### **36V**

#### 24636 insulated

L bracket, two 10-32 stud coil terminals.

#### **24V**

#### 24624-10 insulated

F bracket, two 10-32 stud coil terminals.

## **12V**

#### 24512-10 insulated **BP**

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 **B2**

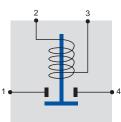
F bracket, one 10-32 stud coil terminal.

# **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).

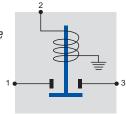


Insulated. Shown: L bracket, blade terminals.





Grounded. Shown: L bracket, blade terminal.



#### **Insulated 12V**

## 24512-03 blade terminals, L bracket 📴

5/16" -24 large studs, two blade coil terminals.

#### 24512-13 blade terminals F bracket

5/16" -24 large studs, two blade coil terminals.

### 24612-03 stud terminals. L bracket 🔢

5/16" -24 large studs, two 10-32 stud coil terminals.

## 24612-13 stud terminals, F bracket

5/16" -24 large studs, two 10-32 stud coil terminals.

### 24712-S6 sealed, L bracket

1/4" -20 large studs, two 8-32 stud coil terminals.

#### 24712-S7 sealed, F bracket

1/4" -20 large studs, two 8-32 stud coil terminals.

## **Grounded 12V**

#### 24612-G13 BP

5/16" -24 large studs, one 10-32 stud coil terminal.

#### 24712-GS7 sealed **B**

1/4" -20 large studs, one 8-32 stud coil terminal.





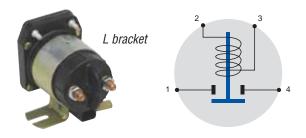


PLASTIC BODY SOLENOIDS

# **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.

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. 36V type: maximum operating voltage 36V DC, cycle life 50,000 minimum. 48V type: maximum operating voltage 48V 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). Other types available by special order.



# **Continuous Duty**

225A make and break. 600A inrush.

#### 24848 48V

Silver contacts.

## 24836 36V

Silver contacts.

#### 24824-01 24V

Silver contacts.

#### 24812 12V

Copper contacts.

#### 24812-01 12V

Silver contacts.

# **Intermittent Duty**

600A inrush.

#### 24824-04 24V

Copper contacts.

## 24812-04 12V

Copper contacts.

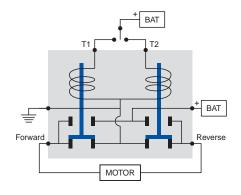
# **Motor Reversing Solenoid 12V**

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.







# 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.

# solenoids & relays

**H5** 

**RELAYS** 

# **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).

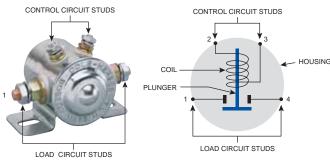
Use with Tyco (AMP) terminals 42281 or Ark-Les 3000H112A series (consult terminal manufacturers for full specs).

# solenoids & relays

## 16 INFORMATION ON SOLENOIDS

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.

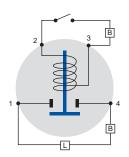
Solenoids are commonly used to control starter and winch motors, and they have many other uses on vehicles of all kinds.



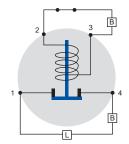
A typical 4-stud solenoid

4-stud solenoid diagram

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.

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