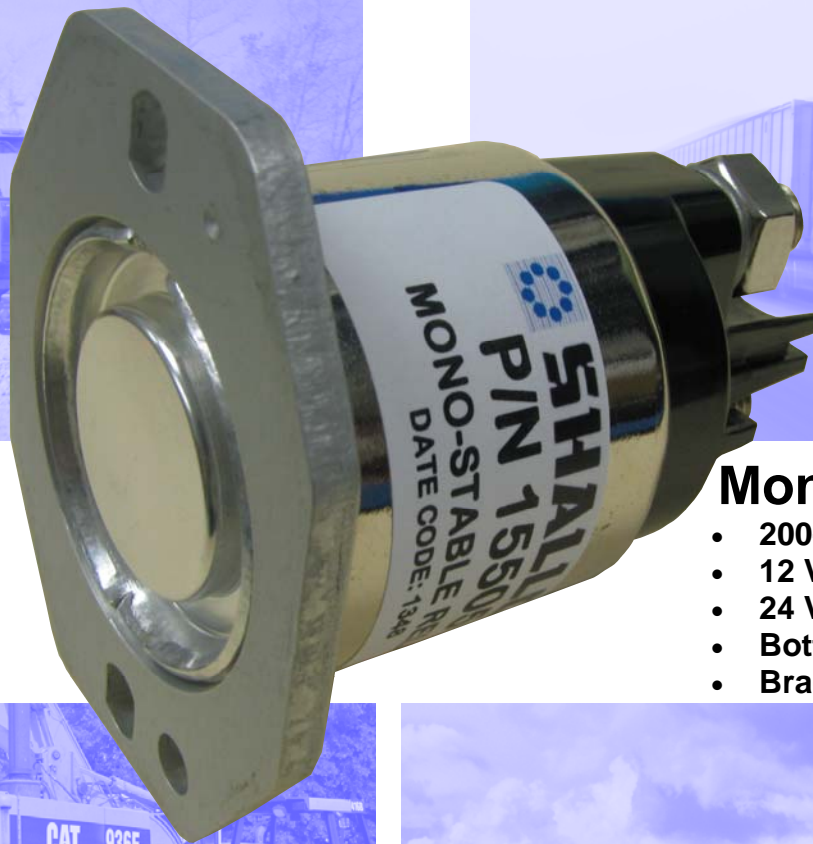


SHALLCO

DC Power Relays "MR" Series



Mono-Stable Relay

- 200-300 Amp
- 12 Volt
- 24 Volt
- Bottom Mounted
- Bracket Mounted



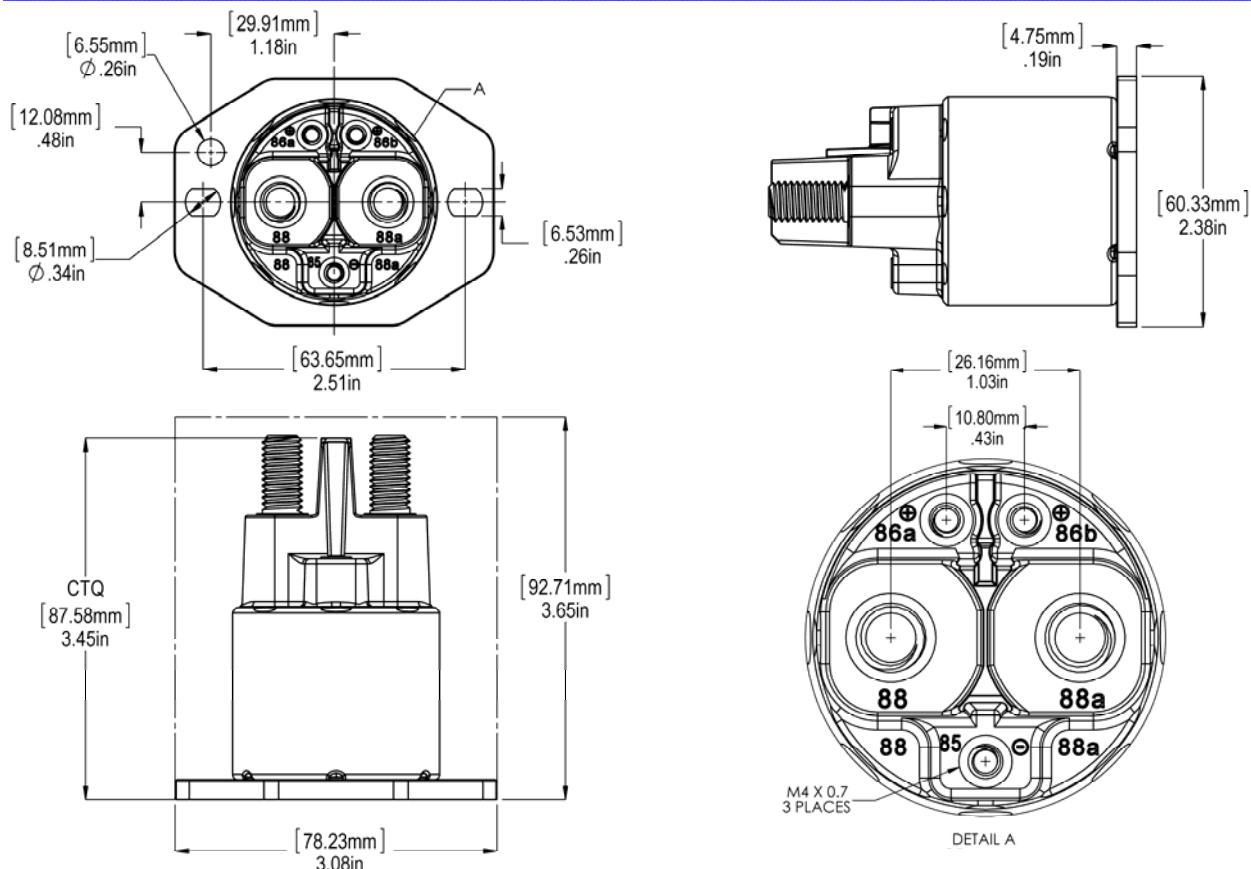
P.O. Box 1089
308 Components Drive
Smithfield, North Carolina 27577

Phone: 919-934-3135
Fax: 919-934-3298
E-mail: Shallco@shallco.com
Website: www.shallco.com

DC Power Relays

Introducing our **NEW** line of **DC Power Relays**. Designed and manufactured in the **USA** to meet the most demanding applications. We have incorporated our **Sealed** contact system to increase **Reliability** and **Performance**. This **Robust** enclosure allows various mounting methods while still retaining **Shock** and **Vibration Resistance**. The **Sealed** system increases resistance to most fluids and cleaning agents without influencing the **Compact** size and weight. The relays have been **Optimized** to **Increase Voltage Delivery** to **Critical** components. Our relays have been tested to meet or exceed an assortment of industry standards including **Heavy Equipment** and **Transportation**.

Physical Data - 200 Amp - 12 & 24 VDC



Technical Data

| | |
|-----------------------|---|
| Temperature range: | -40 C to +85°C -40°F to +185°F |
| Max. Altitude rating: | 50,000 ft. |
| Seal: | IP67: IEC 60529 |
| Shock: | 6g, 11ms, Saw Tooth |
| Vibration: | SAE J1455, Appendix A, Category 2, 4g - 10Hz-2000Hz |

Rated Contact Load

| | |
|-----------------|---------------------|
| Resistive load: | 50,000 cycles 300 A |
| Inductive load: | 10,000 cycles 150 A |
| Motor load: | 50,000 cycles 300 A |
| Bounce: | ≤ 5 ms |
| Break: | ≤ 5 ms |

Electrical Characteristics

| | |
|----------------------------------|-----------------|
| Min. Insulation Resistance: | 100 M Ω |
| Dielectric withstanding voltage: | 1050 V / 1 min. |
| Max. Contact drop, initial: | 150 mV |
| Duty rating, Continuous: | 200 A |

Coil Data - 12 VDC Only

| | |
|------------------|----------------------------|
| Nominal voltage: | 12 VDC |
| Voltage range: | 9-16 VDC |
| Coil resistance: | 18.1 Ω , $\pm 10\%$ |
| Wattage: | 8.0 |

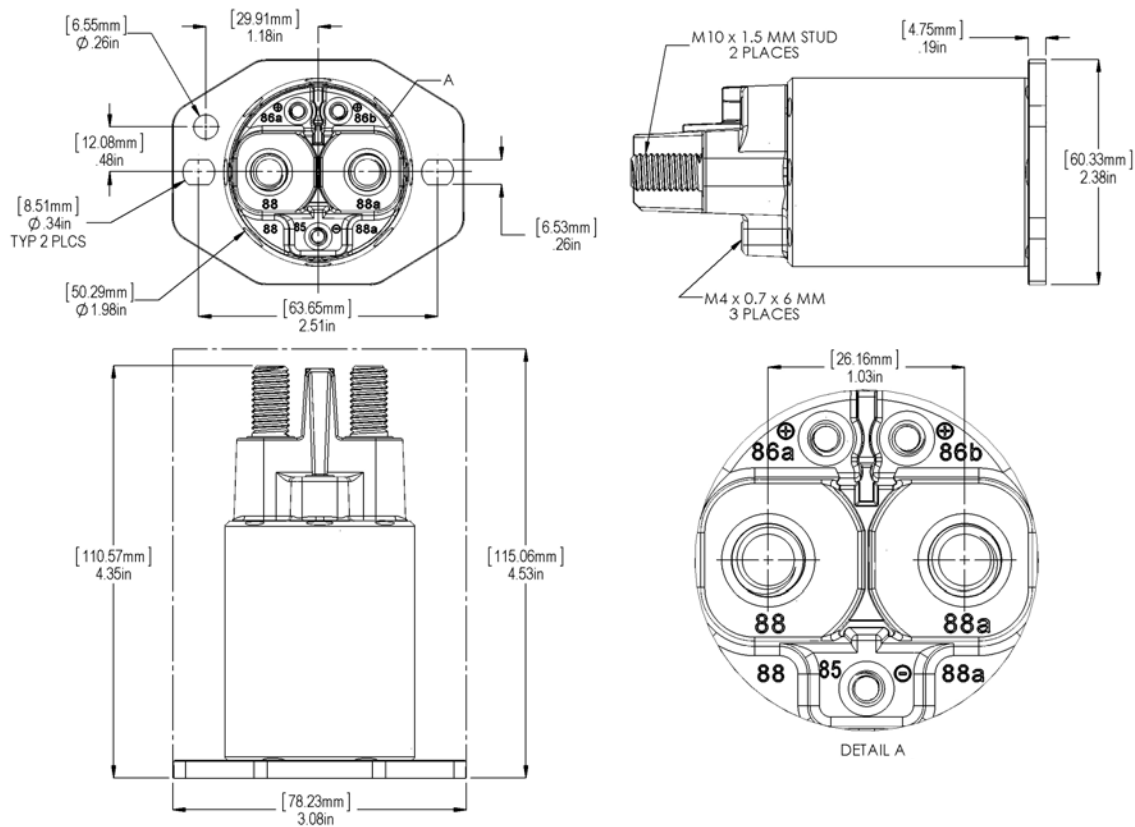
Coil Data - 24/28 VDC Only

| | |
|------------------------------|---------------------------|
| Nominal voltage: | 24/28 VDC |
| Voltage range: | 18-32 VDC |
| Pull closed coil resistance: | 7.3 Ω , $\pm 10\%$ |
| Pull open coil resistance: | 8.4 Ω , $\pm 10\%$ |
| Max. Operating time: | 2.5 sec |
| Max. Cycles per minute | 6 |

“MR” Series - Mono-Stable Relay

Our **NEW** line of “Latching” Bi stable relays are designed and manufactured in the **U.S.A.** It has been extensively tested for **Reliable** switching in the most demanding environments thanks to its **Sealed contact System**. The **Extended Temperature Range** coupled with **Shock** and **Vibration Resistance** are integrated into its **Compact** size allowing for various mounting locations. The relay requires a signal pulse to change state of the magnetically maintained contacts while offering **Repeatable** operation times throughout the life of the product.

Physical Data - 300 Amp - 24 VDC (12V Version - Under development)



Technical Data

| | |
|-----------------------|---|
| Temperature range: | -40 C to +85°C -40°F to +185°F |
| Max. Altitude rating: | 50,000 ft. |
| Seal: | IP67: IEC 60529 |
| Shock: | 6g, 11ms, Saw Tooth |
| Vibration: | SAE J1455, Appendix A, Category 2, 4g - 10Hz-2000Hz |

Rated Contact Load

| | |
|-----------------|---------------------|
| Resistive load: | 50,000 cycles 300 A |
| Inductive load: | 10,000 cycles 150 A |
| Motor load: | 50,000 cycles 300 A |
| Bounce: | ≤ 5 ms |
| Break: | ≤ 5 ms |

Electrical Characteristics

| | |
|----------------------------------|-----------------|
| Min. Insulation Resistance: | 100 MΩ |
| Dielectric withstanding voltage: | 1025 V / 1 min. |
| Max. Contact drop, initial: | 150 mV |
| Duty rating, Continuous: | 300 A |

Coil Data - 12 VDC Only

**UNDER
DEVELOPMENT**

Coil Data - 24/28 VDC Only

| | |
|------------------------------|--------------------------|
| Nominal voltage: | 12 VDC |
| Voltage range: | 9-16 VDC (CTQ @ 7VDC) |
| Pull closed coil resistance: | 1.92 Ω, ± 10% |
| Pull open coil resistance: | 2.38 Ω, ± 10% |
| Max. Operating time: | 2.5 sec |
| Max. Cycles per minute | 6 |

DC POWER RELAY ORDERING INFORMATION

| Switch Series | Current Rating | | | Coil Voltage | | Mounting Method | | Special Modifier | |
|---------------|----------------|-----|-----|--------------|----|-----------------|---------|------------------|-------|
| | 100 | 200 | 300 | 12 | 24 | 1 | 2 | 3 | 4 |
| | | | | | | Bottom | Bracket | Hardware | Diode |
| BR | - † | 0 | 0 | - 0 | 0 | - 0 | † | - 0 | 0 |
| MR | - † | 0 | † | - 0 | 0 | - 0 | † | - 0 | 0 |
| LT | - † | 0 | 0 | - 0 | 0 | - X | X | - 0 | 0 |
| BD | - † | 0 | 0 | - X | X | - X | X | - X | X |

Ordering Example:

| | | | | | | | | | |
|----|---|-----|---|----|---|---|---|---|---|
| BR | - | 300 | - | 12 | - | 1 | - | 3 | 4 |
|----|---|-----|---|----|---|---|---|---|---|


| | |
|-------------------------|-----------------------|
| Part Number Ordered as: | BR-300-12-1-34 |
|-------------------------|-----------------------|


| | |
|----------|------------------------------------|
| 0 | - Available option |
| † | - Contact Factory for Availability |
| X | - Unavailable Series option |


Reads as:

| | | | | | |
|-----------|----------|----------|-----------------|---------------|------------------------|
| Bi Stable | 300 Amps | 12 Volts | Bottom Mounting | With Hardware | With Diode Suppression |
|-----------|----------|----------|-----------------|---------------|------------------------|

Also Available in the DC Power Relay Line

| BR Series - Bi-Stable Relay | Bi-Stable Relays available in: | Our NEW line of "Latching" Bi stable relays are designed and manufactured in the U.S.A. It has been extensively tested for Reliable switching in the most demanding environments thanks to its Sealed contact System. The Extended Temperature Range coupled with Shock and Vibration Resistance are integrated into its Compact size allowing for various mounting locations. The relay requires a signal pulse to change state of the magnetically maintained contacts while offering Repeatable operation times throughout the life of the product. |
|--|--|--|
|  | <ul style="list-style-type: none"> 200-300 Amp 12 Volt 24 Volt Bottom Mounted Bracket Mounted | |

| LT Series - Lockout - Tag out Relay | Lockout - Tag Out Relays available in: | Our NEW "Lockout Tag out" relay carries a Patent Pending and is an Industry First. It is manufactured and designed in the U.S.A. It offers the same Visible Identification of a mechanical disconnect with the Reliable benefits of remote electronic actuation. In the past to interrupt power, relays required remote location lock out and or removal of the attached cables to ensure the main power has been Disconnected. Our relays ability to Mechanically Break closed contacts and Prevent Reclosures when the lock is applied using lockout standards is the separating factor. Safety is first and foremost no matter the location. |
|---|--|---|
| <p style="color: red; font-weight: bold; font-size: small;">Under Development</p>  | <ul style="list-style-type: none"> 200-300 Amp 12 Volt 24 Volt Bracket Mounted For "BR" Series only | |

| BD Series - Battery Disconnect | Battery Disconnect Switches available in: | Our NEW Battery disconnect switch offers Lockout Tag out Features along with Standard Panel mounting. It is manufactured and designed in the U.S.A. It offers a Large knob to operate with "Gloved Hands". It also has a Compact Streamlined Footprint behind the panel allowing More Room to work. It has our Sealed contact System to increase Reliability and Performance. We offer it with or without Delay on Break Main to Auxiliary contacts. |
|---|---|--|
| <p style="color: red; font-weight: bold; font-size: small;">Under Development</p>  | <ul style="list-style-type: none"> 200-350 Amp 12 Volt 24 Volt w/Auxiliary Contacts w/o Auxiliary Contacts Standard Panel Mount | |