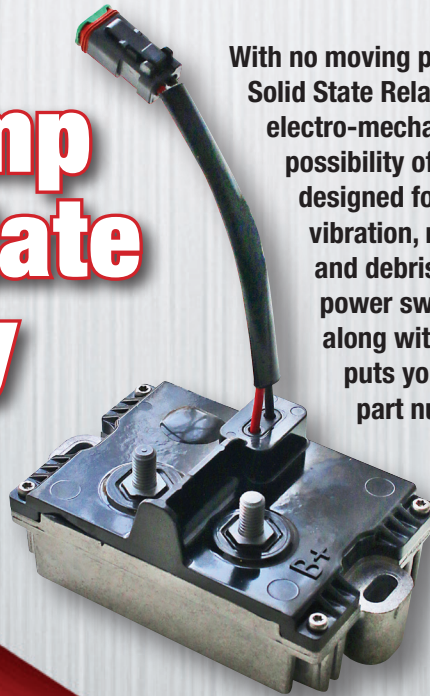


125 amp Solid State Relay

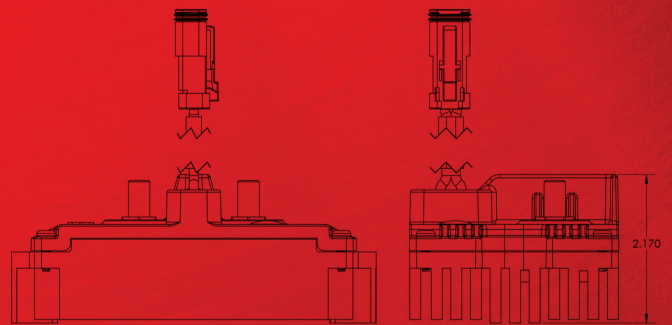
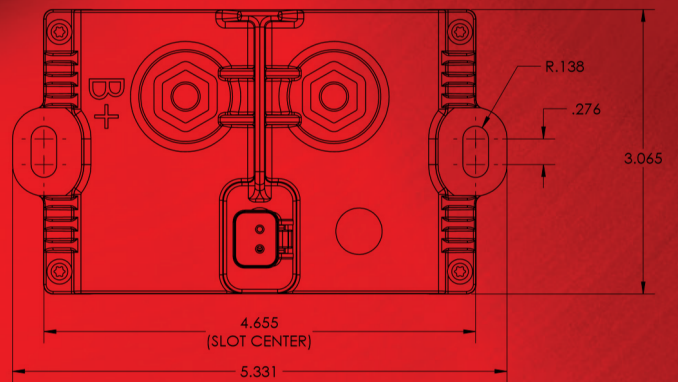
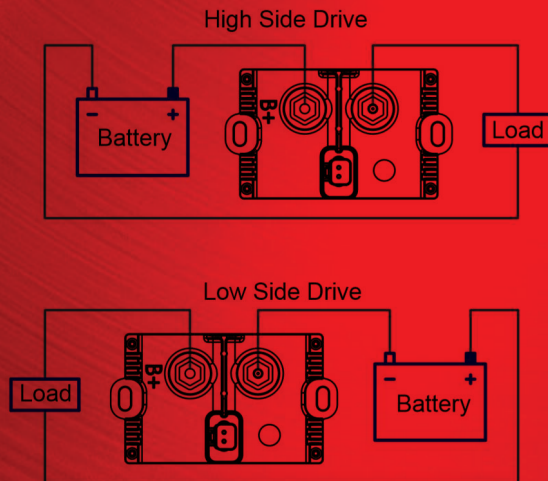
With no moving parts to wear it out, Trombetta's 125 amp Solid State Relay offers a longer life-span than traditional electro-mechanical contactors and eliminates the possibility of frosted/ iced contacts. The unit was designed for harsh environments, as it withstands vibration, moisture, large operating temperature ranges, and debris. Trombetta's long history of incorporating power switching components within our products, along with our ability to properly control them, puts you in a Solid State of mind. Ask for part number SSR-125-004 as shown.



Features

- Minimum life of 1,000,000 cycles
- Short circuit protection at 450A
- 125A continuous current capacity
- -40°C to 85°C operating temperature range

SSR-125-004 Connection Diagram



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DC Power Solutions for a Harsh World

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Recommended Operating Parameters & Limits

| Parameter | Min | Typical | Max | Notes |
|-------------------------------|------------------|--------------|------------------|--|
| TURN-ON | | 400uS +/-10% | | |
| TURN-OFF | | 10mS +/-10% | | |
| INPUT VOLTAGE WORKING RANGE | -40V | | 40V | Voltages outside of this range may damage unit. |
| INPUT ON THRESHOLD | | 6V | 8V | Will not turn on with leakage currents below 10mA |
| INPUT OFF THRESHOLD | 4V | 6V | | |
| INPUT CONTROL CURRENT (On) | 10mA | 25mA | 35mA | Normal operation |
| INPUT CONTROL CURRENT (Fault) | 50mA | 70mA | 80mA | Overcurrent or Overtemperature shutdown fault |
| SWITCHING VOLTAGE | 0V | | 48V | |
| OUTPUT LEAKAGE CURRENT | | | 1mA | |
| CURRENT CARRY CAPACITY | | | 125A | 85°C, Air movement to ensure casting temperature must not exceed 125°C. |
| VOLTAGE DROP (On) | | 110mV | | At 25°C ambient, still air, and 125A load. |
| CYCLE LIFE | 1,000,000 cycles | | | |
| INRUSH CURRENT | | | 450A | Up to short circuit for 200ms duration |
| SHORT CIRCUIT PROTECTION | 450A@25C | | | Self protecting, cycle input power to reset. 400A up to 80°C, above 90°C 300A. |
| DUTY CYCLE | 0% | | 100% | Maximum usable frequency = 15Hz |
| ONTIME | 0s | | Continuous | Less than 125A load current at less than 85°C ambient |
| JUMP START PROTECTION | | | 48V | No time duration limit |
| ELECTRICAL ISOLATION | | | 100VDC | Metallic case to live circuit components, continuous |
| OPERATING TEMPERATURE | -40°C | | 85°C | Moving air immediately surrounding the unit must not exceed max temp. Casting temperature must not exceed 125°C. |
| STORAGE TEMPERATURE | -40°C | | 125°C | Non-operational |
| UNIT MOUNTING TORQUE | | | 15Nm (133 in-lb) | |
| HIGH-CURRENT STUDS TORQUE | | | 15Nm (133 in-lb) | |

All parameters at 25°C unless noted otherwise.

Regulatory & Compliance Standards

| Parameter | Specification | Notes |
|------------------------------|-----------------------------------|---|
| Loss of Ground | | Unit functions in predictable manner. |
| Salt Spray | SAE J1455 JUN06, Section 4.3 | 96 Hrs. |
| Random Vibe | SAE J1455 JUN06, Section 4.9 | 6 Hours/Axis, Overall 15.3Grms |
| Mechanical Shock, Handling | SAE J1455 JUN06, Section 4.11.3.1 | |
| Thermal Shock Air to Air | SAE J1455, Section 4.1.3 | -50°C to 95°C, Transition Time < 1 minute, 2Hr Presoak 95°C, 1.5 Hour Soaks Unpowered, 5 shocks |
| Chemical Testing | SAE J1455 JUN06, Section 4.4 | Automotive Fluids (Engine Oil, DEF, Diesel Fuel, Alkaline Degreaser) |
| Ingress Protection | IEC 60529 | IP67 |
| Radiated Immunity | ISO11452-2, ISO11452-5 | Class I |
| Bulk Current Injection | ISO11452-4, SAEJ1113-4 | Class I |
| Conducted Transients | ISO7637-2 | |
| ESD Packaging and Handling | ISO10605 | 8kV Direct, 15kV Air Discharge |
| ESD Operating | ISO10605, EN61000-4-2 | Direct & Indirect, 8kV Direct, 15kV Air Discharge |
| Radiated Emissions | CISPR25, ISO133766 | Class 3 Levels, IS13766 Levels -6dB |
| Magnetic Field Immunity | EN61000-4-8 | 30A/m |
| RF Injection 150Khz to 80MHZ | EN61000-4-6 | 10V/m |
| Burst | EN61000-4-4 | +/-1kV 5/50 Tr/Th ns, 5Khz |
| Audio Frequency | MIL-STD-461F, CS101 | Curve 2, Power Lines Only |
| Surge | EN61000-4--5 | |
| Far Field Emissions | CISPR 16.2.3 | |
| Marine Emissions | EC-29 | |
| Load Dump | SAE J1113-11 | Pulse 5A, Vs = 151V, Ri = 3.5 Ohm, td = 350ms, tr = 10ms Pulse 5B, Vs = 151V, Vs* = 50V, Ri = 1 Ohm, td = 350ms, tr = 10ms |
| Inductive Switching | SAE J1113-11 | Pulses 1, 2A, 2B, 3A, 3B |
| Compliance | RoHS, REACH, Conflict Free | |

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