Solid State DC Contactors

SSC30 Series

Solid state DC contactor with over current shutdown protection offers many advantages over mechanical solenoid contactors.

InPower's SSC30 Series is a family of solid state high current DC contactors with positive voltage activated control. These single channel power switches are available in current ratings of 225 amps and 300 amps. As they have zero battery current draw in the off state they make ideal master battery disconnect switches. An additional benefit is that they can be installed directly in the battery cable with smaller control wires running to the remote activation switches. Other applications include the remote control of high current DC loads such as blower motors, auxiliary air conditioner units, lights, and hydraulic pump motors.

These advanced technology products also feature automatic shutdown for over current, high temperature, and loss of ground conditions. A key design element is the product's extremely efficient, low on-resistance DC power switch. This results in superior performance by producing a low voltage drop and generating only a small amount of internal heat.

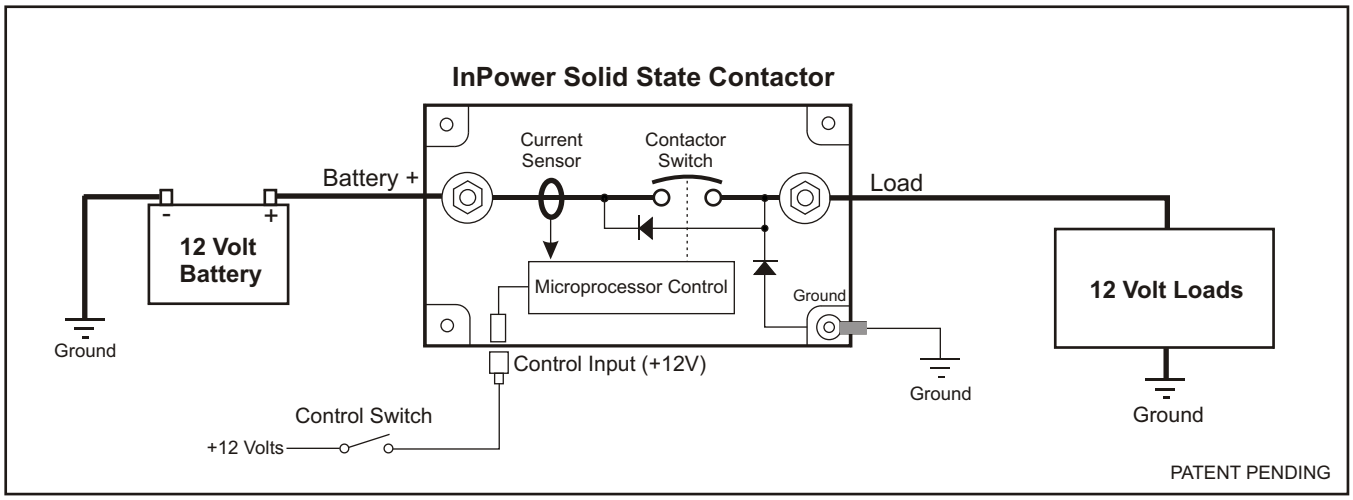
Over current protection employs an advanced software-controlled scheme that incorporates a three-stage current/time profile, unlike fuses and mechanical circuit breakers that have one fixed curve determined by their thermal characteristics. The benefit of this approach is that the over current shutdown protection more closely matches the characteristics of the different types of loads with their individual turn-on surges and running amperages.

The contactor is packaged in a totally sealed case, and its four mounting hole pads provide the required connection to ground. The control input utilizes a ¼ inch Faston blade terminal. Connections for the high current DC cables utilize 3/8-16 threaded stainless steel studs with brass contact pads for low contact resistance. They also contain detent grooves that allow rubber terminal boots to be used for additional protection from the environment, as well as from accidental shorting.

Key Features

- 100% solid state design - No moving parts to cause arcing and electrical noise.
- Automatic shutdown protection for short-circuit, over-current and high temperature.
- Sealed construction is resistant to mechanical shock and vibration.
- Low on-resistance power switch has low voltage drop and temperature rise.
- Zero Standby Battery Current Draw.
- Compact Size and Low Profile.
- Loss of Ground Shutdown.
- Rubber Terminal Boot Cover Option.

System Diagram



Product Data Sheet

PDS-51A

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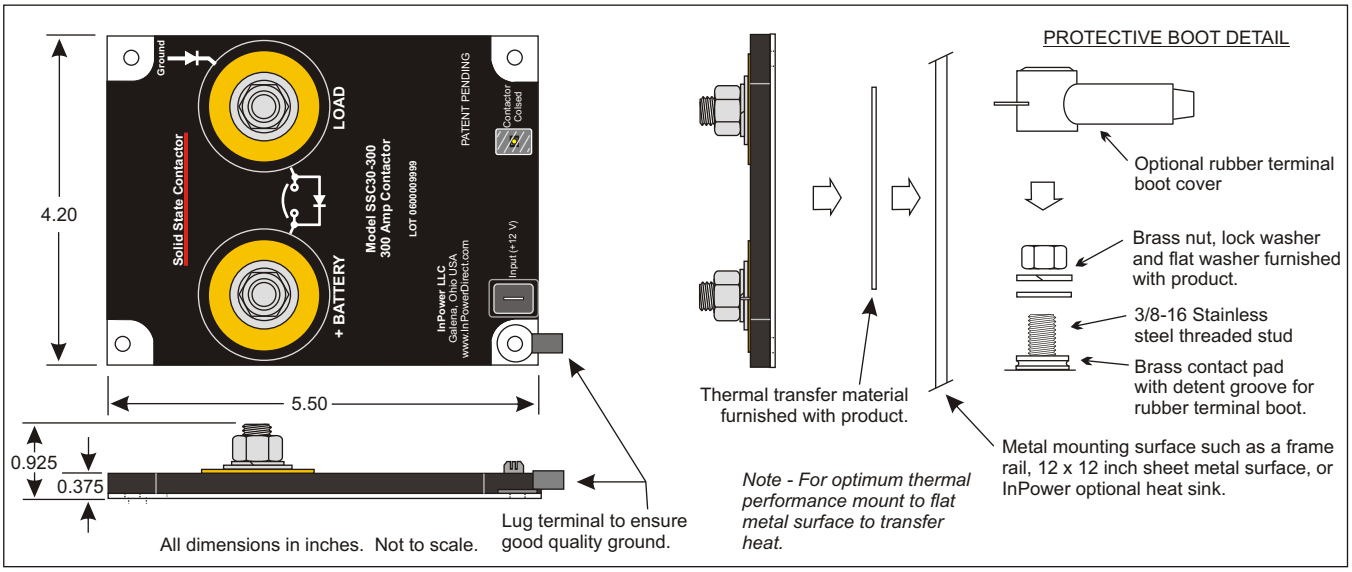
Specifications

Operating Voltage Range:	+5.0 to +18.5 volts (14.2 volt nominal)
Low Voltage Shutoff:	+4.7 volts
Current Rating:	
Model SSC30-225:	225 Amps
Model SSC30-300:	300 Amps
Case Operating Temperature Range:	-40° F to +145° F
On-resistance at maximum current:	2.0 milliohms
Turn-On Delay:	2 milliseconds
Turn-Off Delay:	2 milliseconds
Control Input:	
Connector Type:	0.250 inch faston blade terminal (Male terminal on contactor)
Control Voltage:	>+8.5 Vdc to activate <+7.5 Vdc to deactivate
Weight:	0.70 lbs (0.317 kg)
Dimensions:	4.20 x 5.50 x 0.925 inches (106.7 x 139.7 x 23.5 mm)
Power Terminals:	Two (2) 3/8 - 16 threaded stainless steel studs, with nuts and lock washers. Rubber terminal boot covers are optional.
Mounting Surface:	For optimal performance a metal mounting surface should be provided. This could be a vehicle frame rail, a 12 inch x 12 inch sheet metal plate, or the optional InPower heat sink.

Mechanical Drawing



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