

InPower Technical Bulletin

Subject: Fault Shutdown Reset Procedure

Products: SSC10-100
SSC10-150
SSC10-200

Background:

The referenced power contactor products contain a feature that will “trip” (turn off) the DC power switch, resulting in no +12 volt power on the output (*Load* terminal). When this occurs, the power switch will remain latched in this off state until the unit is reset. The fault conditions that can cause power switch to turn off include:

1. Over Current (Load current exceeds specifications)
2. Over Temperature (Case temperature exceeds 85° C)
3. Loss of Ground (A poor connection between the power contactor ground and vehicle ground)
4. Low Control Voltage (The DC voltage on the control input dropping below +8.0 volts)

Reset Procedure:

To reset the power contactor when it is in the latched off state due to a fault condition the control input voltage must be removed, then re-applied to turn the power switch back on. Note that on this product family (other power contactor products are different) the control voltage must be taken below +8.0 Vdc to turn off (or reset) the power switch. It must go above +9.5 Vdc to turn the power switch back on.

Normally the control input is connected to +12 volts (battery positive) through a contact closure such as a toggle switch or relay contact. However, in some applications there may be a control circuit that could keep a positive DC voltage on the power contactor’s control input, thereby preventing it from resetting (going below +8.0 volts). To verify that it is getting the correct reset, check the control input voltage with a voltmeter. Place the positive probe on the control input terminal and the negative probe on the ground connection on the power contactor. (The ground connection is the square pad on each of the four mounting holes.) Verify that the voltage measured is below +8.0 Vdc when removing the control input, and that it goes above +9.5 Vdc when re-applying the control input.

An alternative method of resetting the power contactor after a fault shutdown is to disconnect the +12 volt battery cable from the *Battery +* terminal, then re-connect the cable. Removing the 12 volts from the power contactor will reset the unit.

If you verify that the power contactor is being correctly reset after a fault shutdown and there is no 12 volt power on the load terminal when the control input is activated you have a faulty power contactor.

Reference Documents:

1. Owners Manual for SSC10-100/150/200 InPower document OM-39