



Western Solid State

8490 West Hillsborough Ave. #302

Tampa, FL 33615

Tel: 813-855-5996 Fax: 215-895-3054

www.wss-ltd.com

Commander 300 Device Specification



OVERVIEW

The **Commander 300 Power Disconnect Switch** is a high DC current disconnect switch. Its microprocessor-based technology provides an effective and efficient means of switching up to 300 amps (peak) of current in a relatively small module (5" X 3.4", 2.25" in height). The technology called Vstart provides very long life high power switching in a small package. It also eliminates contact arcing and does not require heat sinking. The device features a 5-minute automatic shutdown, which can be easily overridden if required. Also, the Commander 300 has been designed to operate in twelve-volt systems, which makes it ideal for vehicle and marine applications. It is commonly used as the main switch to disconnect the heavy DC power loads in emergency vehicles. All of the switching and electronic circuitry is contained in an environmentally sealed enclosure.

CONNECTIONS

The connections to the module consist of two 3/8-inch bolts labeled Power In and Power Out, and a color-coded 18 AWG five-wire harness.

Power Terminals:

Power In – This is a large 3/8-inch bolt that is used to bring power into the module. A high current cable is usually connected between this terminal and either the battery or the alternator output.



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Power Out – This is a large 3/8-inch bolt that is used to deliver power to the vehicle. The Power Out terminal is switched on (+12V) and off (high impedance) by the control input wires in the five-wire harness.

Five Wire Harness:

Black – **Ground** input-connect to the chassis ground of the vehicle.

White – **Ignition** input. ON = +12V. OFF = 0V or not connected.

Red – **Positive ON** input. ON = +12V. OFF = 0V or not connected.

Brown – **Negative ON** input. ON = 0V. OFF = +12V or not connected

Green – **Ignition Cancel** input. ON = 0V. OFF = +12V or not connected.

DEVICE OPERATION

The device can be activated by either applying +12V to the **Positive ON** input or by applying a ground (0V) to the **Negative ON** input. When there is +12V on the **Ignition** input and the device is turned on, the device will stay activated as long as the **Positive ON** or **Negative ON** signals are present. If the **ignition** input is turned OFF while the device is activated then the device will stay activated for 5 minutes and then shut off automatically. This is called override mode. Applying a ground (0V) to the **Ignition Cancel** input will disable this mode, and allow the device to remain activated as long as there is +12V to the **Positive ON** input or a ground (0V) to the **Negative ON** input.

With the device activated and **Ignition ON**, if the **Positive ON** or **Negative ON** signals are removed, the device will remain on for 5 minutes and then shut off automatically. In this case, applying a ground (0V) to the **Ignition Cancel** input will turn off the device immediately.

Whenever the device is activated, the green LED labeled “System On” will be illuminated. Whenever the device is in override mode (the device is on but will shut off within 5 minutes) the red LED labeled “override” will blink.

DEVICE SPECIFICATIONS

Power In	9VDC minimum input voltage. 16VDC maximum input voltage 20mA maximum current draw without switching activated 1 Amp maximum current draw with switching activated
Power Out	300 amp peak switching current @ 12.8 Volts DC 200 amps continuous @ 12.8 Volts DC
Ignition	minimum 9VDC to activate
Positive ON	minimum 9VDC to activate
Negative ON	maximum 0.3VDC (above ground) to activate



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Ignition Cancel	maximum 0.3VDC (above ground) to activate
Ground	20mA maximum current draw without switching activated 1 Amp maximum current draw with switching activated
Expected Life	1,000,000 operations @ 200 amps 14.0 Volts
Operating Temperature	-40 to +185 F