

OWNERS MANUAL

DCS30 Series

Hall-Effect Current Sensors



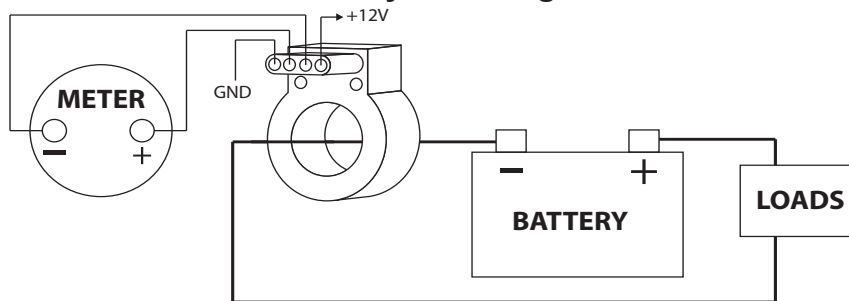
INTRODUCTION

The DCS30 Series family of Hall-effect DC current sensors is designed to operate standard 50 or 100 millivolt ammeters. Although typically used in vehicle and marine applications to measure battery currents, they are suitable for any DC current monitoring. The sensors measure positive and negative current values. Models are available for measuring current ranges from +/- 100 amps up to +/- 600 amps, and they can output to either a +/- 50 millivolt meter or a +/- 100 millivolt meter.

DC Current Sensor Models

Model	Current Range	Output	Model	Current Range	Output
DCS30-100-1	± 100 amps	± 50 millivolts	DCS30-400-1	± 400 amps	± 50 millivolts
DCS30-200-1	± 200 amps	± 50 millivolts	DCS30-500-1	± 500 amps	± 50 millivolts
DCS30-300-1	± 300 amps	± 50 millivolts	DCS30-600-1	± 600 amps	± 50 millivolts
DCS30-100-2	± 100 amps	± 100 millivolts	DCS30-400-2	± 400 amps	± 100 millivolts
DCS30-200-2	± 200 amps	± 100 millivolts	DCS30-500-2	± 500 amps	± 100 millivolts
DCS30-300-2	± 300 amps	± 100 millivolts	DCS30-600-2	± 600 amps	± 100 millivolts

System Diagram



SPECIFICATIONS

Sensor Type:	Open loop Hall-effect
Linearity:	1.5%
Supply Voltage Range:	+7 to +20Vdc
Current consumption:	8.1 milliamps maximum
Output to Meter:	±50 millivolts or ±100 millivolts
	<i>Note: Meter internal resistance must be 20 ohms or greater.</i>
Operating Temperature:	-40°C to +125°C
Storage Temperature:	-40°C to +125°C
Aperture Size:	1.23 inches
Weight:	0.30 lbs
Dimensions:	2.66 x 2.10 x 1.10
Connector System:	Packard Sealed Metri-Pak 150. Mating plug not supplied with sensor. See Technical Bulletin TB-31 for details.

INSTALLATION

1. Getting Started

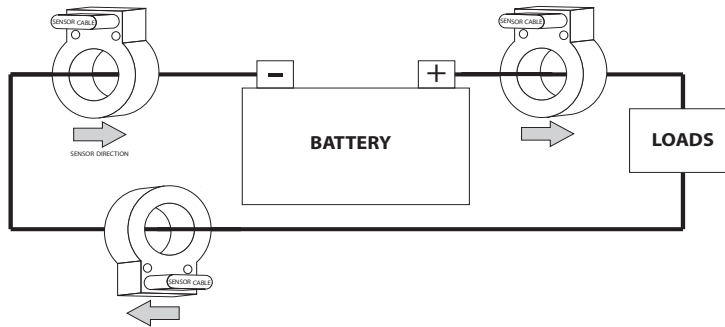
Before starting, make sure you have the correct connector plug parts, cable, sensor mounting bracket and screws, and tools. Exercise appropriate caution when working with vehicle battery systems and ensure battery is disconnected during installation.

Determine the location for mounting the sensor and the required cable length and routing to the meter. Avoid mounting the sensor close to very hot engine parts such as the exhaust manifold.

2. Installing the Sensor

Mount the sensor and route the battery cable through the aperture. The sensor may be secured to the battery cable using tie wraps or a customer-made mounting bracket. If using a bracket, use 3 #6 self-tapping screws to attach the sensor via the three bracket holes. Make sure the screws do not protrude more than 0.30 inches into the sensor.

Be sure to mount the sensor in the proper direction to ensure correct measurements of charging (plus) and discharging (minus) battery current. See below diagram for suitable sensor mounting locations:



3. Installing the Cable

The DCS Series current sensors use a four pin Packard Sealed Metri-Pak 150 connector. You may either supply your own or purchase a pre-made 12 inch pigtail from InPower, LLC (P/N: CA-DCS-12). Pin A is for +12V power, Pins B and C output to the meter, and Pin D is for ground. See Mechanical Drawing below for further details.

4. Check Sensor & Meter Operation

Apply power to the sensor and verify that the meter is working correctly by checking battery charging and discharging conditions. We recommend using a clamp-on ammeter, such as a Fluke, when verifying proper operation.

Mechanical Drawing

