

# DCS30 Series

# 100 to 600 Amp DC Current Sensors

*Electronic Battery Current Sensor interfacing  
with Electronic Instrument Systems.*



## Technical Description

The DCS30 Series is a family of highly accurate electronic sensors for measuring DC current, and are available in maximum capacities of 100, 200, 300, 400, 500 and 600 amps. The current sensor consists of a Hall-effect based sensor unit with an electronic interface circuit that operates conventional 50 or 100 millivolt ammeter meter movements. The non-intrusive design allows the sensors to be installed without the need to cut and re-terminate the high current DC cables as required with the installation of mechanical meter shunts. Unlike mechanical meter shunts, the DCS 30 sensors are smaller, do not generate heat and do not have exposed electrical potentials.

The sensor's opening diameter is 1.23 inches, accommodating typical battery cables. Connections are made using a four-pin Packard Metri-Pak 150 sealed connector.

The DCS30 sensors are designed to operate with standard 50 or 100 millivolt ammeters with internal resistance of 20 ohms or greater. They require a power source of +12 volts @ 8.1 milliamps. The DCS30 models measure bi-directional current (e.g., -400 to +400 amps).

## Key Features

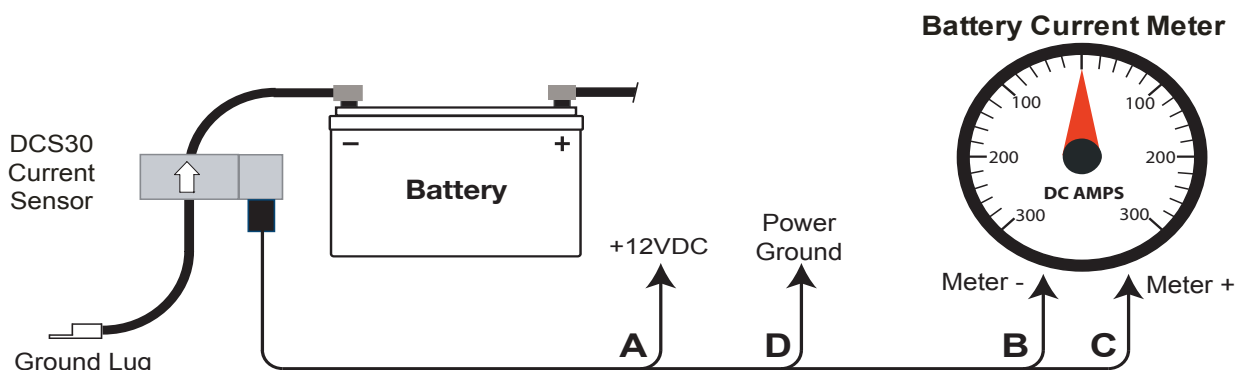
- Electronic Hall-Effect Sensor Design - Eliminates the need for heat-producing mechanical shunts.
- Sealed Construction - No exposed electrical potentials as in mechanical meter shunts.
- Non-Intrusive - No need to cut and re-crimp battery cables.
- Analog Voltage Output - 0.5 to 4.5 V or 0 to 5.0 V output interfaces to electronic instrument systems.
- Fits Most Vehicle and Marine Applications - Available in 100 through 600 Amp Capacities.
- Weather Resistant Connector - Allows use in severe environments.
- Other calibrations available upon request.

### DC Current Sensor Models

Model	Current Range	Sensor Output
DCS30-XXX-1	±XXX Amps	±50 Millivolts
DCS30-XXX-2	±XXX Amps	±100 Millivolts

XXX stands for the amperage of the unit.

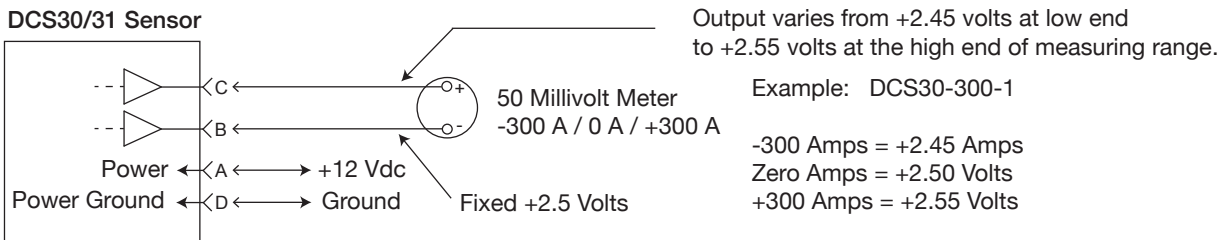
## System Diagram



## Specifications

Sensor Type:	Open loop Hall-effect			
Linearity:	1.5%			
Supply Voltage Range:	+7 to + 20 Vdc			
Current Consumption:	8.1 milliamps maximum			
Output:	Models DCS30-XXX-1	±50 millivolts		
	Models DCS30-XXX-2	±100 millivolts		
	Note - Meter internal resistance must be 20 ohms or greater.			
Operating Temperature:	-40° C to +125° C			
Storage Temperature:	-40° C to +125° C			
Aperture Size:	1.23 inches			
Weight:	0.30 lbs			
Connector System:	Packard Sealed Metri-Pak 150. Note - Mating plug not supplied with sensor. (See InPower Technical Bulletin TB-31 for details and purchasing source).			
Connector Interface:	Pin A	+ Vdc Supply	Pin C	Ground (Signal Return)
	Pin B	Output	Pin D	Ground (Power Return)
Sensor Wiring:				

### Floating Differential Output



## Mechanical Drawing

