RaceGrade Specification

Document Number		RG_SPEC-0110	
Title		Single Channel Current Sensor	
Revision	**Date**	**Prepared By**	**Change History**
1.0	05/18/2021	H. Westbrook	Initial Release

The RaceGrade Single Channel Current Sensor is a bi-directional hall effect device used to monitor in-line current of an individual circuit. The 0-5v output of the sensor can be connected to an Analog voltage input on a MoTeC ECU or Data System for logging or feedback control. The device can measure negative and positive current flow from -5.00A to +5.00A

Part # RG.DV.PV0258.01

Specifications:

Current Range:	+/-5.00 A
Resolution:	2.5 mA
Hardware Filter:	100 Hz low pass
Supply Voltage:	5 VDC
Supply Current:	10 mA
Temperature Range:	-20°C to +85°C
Dimensions:	143.9 x 19.3 x 23.9 mm
	1.72 x 0.76 x 0.94 in
Ingress Protection Rating:	IP 68 Potted

Calibration:

0.5v = -5.00 A

2.5v = 0.00A

4.5v = +5.00 A

Connection:

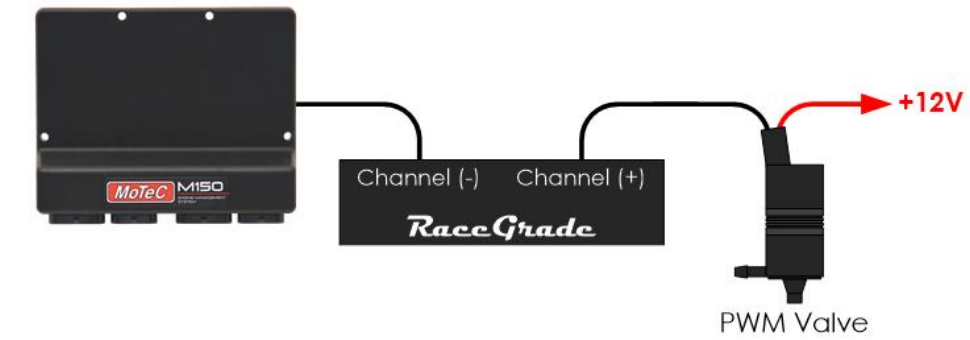
The current module must be placed in series with the circuit of the device you are measuring. The module can be placed anywhere in the circuit, but it must interrupt the circuit when the 6-pin connector is unplugged. In the 6-pin connector you will find two terminals are used to conduct current flow through the sensor. One is positive (+) and one is negative (-). This defines the polarity of the current flow through the current sensor. In DC electrical system current flows from the negative to the positive of the supply. The current sensor measures current in either direction, so if the circuit is completed in reverse, the measurement will read negative current when the load being monitored is activated. See the wiring chart and wiring examples below for reference.

Mating Connector	DTM-6SK
Pin Number	**Function**
1	Ground
2	Sensor output (0-5v)
3	Supply (5v)
4	Current 1 (-)
5	Current 1 (+)
6	N/C

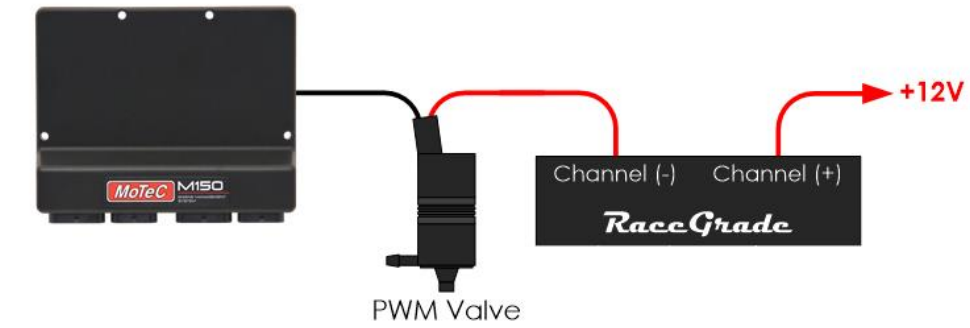
Wiring Examples:

The following examples show how to correctly wire the device in a circuit for positive current measurement when the device is powered.

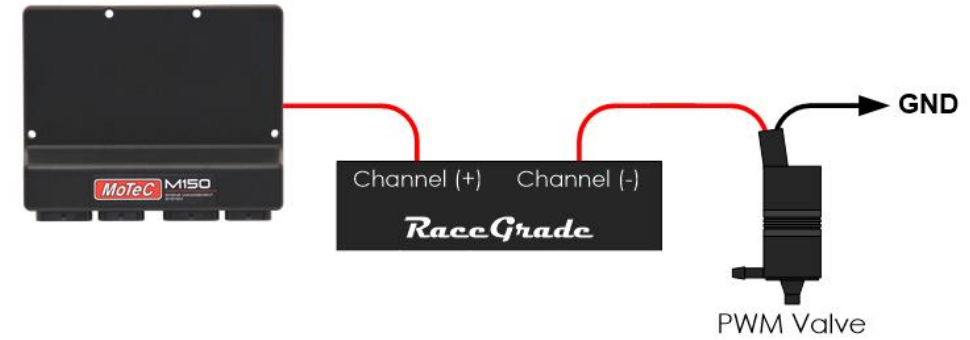
Low Side Control Example A



Low Side Control Example B



High Side Control Example A



High Side Control Example B