

Document Number		RG_SPEC-0034	
Title		Battery Terminal Current Sensor	
Revision	Date	Prepared By	Change History
1.0	10/20/2014	SW	Initial release
1.1	09/29/2016	DG	Changed Doc Number

Introduction

The RaceGrade R CSB-100 is a **negative** battery post connector with integral current and temperature sensor. Designed to clamp to a conventional 16mm negative battery terminal, the sensor reads current flowing into or out of the battery. Range of amperage sensing is +/- 100A. Nominal sensor output is 2.5 volts. The sensor output is ratiometric to the 5v supply. Current sensing is performed by a lossless non-contact Hall Effect design. The temperature measurement is calibrated for a 1K Ohm pull up resistor to 5v as found on Motec AT inputs.

Specifications:

- 16mm Negative Battery Terminal Installation Only
- Resolves +/-100 amps
- Supply Voltage: 5 volts
- Current Consumption: 10mA
- Temperature Range: -50 to 200 C
- Current Sensor Calibration: 0.02V/A
 - 0.5v = -100A
 - 2.5v = 0A
 - 4.5v = +100A
- Integrated M8x1.25 stud for cable connection
- Weight: 98 grams
- Dimensions: 65x48mm
- includes wired pigtail
- Order number **R CSB-100**

Connection:

Mating connector: R-4-8853
 pin 1 – 5v supply ORA
 pin 2 – NTC thermistor BLU
 pin 3 – Ground BRN
 pin 4 – Current Sensor output GRN

Usage:

Battery state monitor.
 Alternator control.
 Battery temp monitor.
 Quantify loads of consumers such as pumps, lights, solenoids.

Temp		Volts	Ohms
degC	degF		
-50	-58	4.948	95154
-40	-40	4.900	49000
-30	-22	4.800	24000
-20	-4	4.650	13286
-15	5	4.557	10287
-10	14	4.465	8346
-5	23	4.341	6587
0	32	4.166	4995
10	50	3.851	3352
20	68	3.485	2300
30	86	3.060	1577
40	104	2.690	1165
50	122	2.320	865.7
60	140	1.970	650.2
70	158	1.650	492.5
80	176	1.370	377.4
90	194	1.130	292.0
100	212	0.920	225.5
110	230	0.750	176.5
120	248	0.620	141.6
130	266	0.510	113.6
140	284	0.420	91.7
150	302	0.350	75.3
160	320	0.290	61.6
170	338	0.240	50.4
180	356	0.200	41.7
190	374	0.170	35.2
200	392	0.140	28.8

