

DCDC18R

Boost Regulator



WHEN MEASUREMENTS MATTER

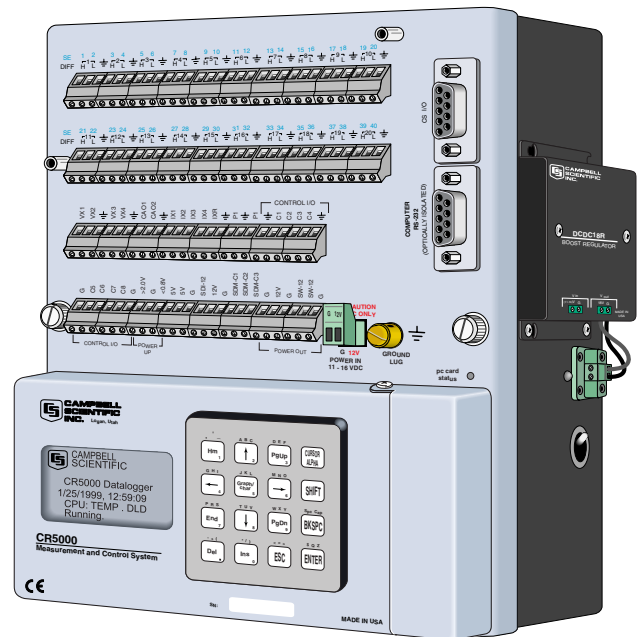
The DCDC18R Boost Regulator is intended to accept an 11 to 16 Vdc input and boost it to 18 Vdc. Its main use is to boost automobile supply voltages to the 17 Vdc minimum required to recharge the sealed rechargeable batteries of a CR3000 or CR5000 datalogger. Supply voltage from the vehicle is connected to the Vin terminals; regulated voltage to charge the datalogger's sealed rechargeable power supply are sourced from the Vout terminals.



Specifications

Input Voltage:	11 to 16 Vdc
Output Voltage:	18 Vdc \pm 5%
Quiescent Current:	4 mA
Output Current:	up to 1.0 A
Temperature Range:	-40° to +60°C
Maximum Input Current:	2.25 A*
Power Conversion Efficiency:	80% to 90%
Weight:	3 oz (91 g)
Dimensions:	2.5-in. x 3.4-in. x 1.1-in. 6.4-cm x 8.6-cm x 2.8-cm

A DCDC18R is shown connected to a CR5000 rechargeable base. The DCDC18R connects to the side of the sealed rechargeable base next to the charger input.



The boost regulator implements a soft-start circuit and typically starts regulating for input voltages greater than 10 V. Supply voltages below 10 V pass directly to Vout (through two Schottky diodes dropping the voltage by ~0.6 volts). With the DCDC18R operating at the maximum output current (18 V 1 A = 18 W) the input power required is up to 18 W / 0.8 efficiency = 22.5 W; that is a maximum current of 2.25 A at 10 V.

