



# Compact Data Logger

Ideal for small applications

## Overview

The CR300 is a multi-purpose, compact measurement and control data logger. This small, low-cost, high-value data logger offers fast communications, low power requirements, built-in USB, and excellent analog input accuracy and resolution. The CR300 can measure most hydrological, meteorological, environmental, and industrial sensors. It concentrates data, makes it available over varied networks, and delivers it using your preferred protocol. It also performs automated on-site or remote decision making for control and M2M communications. The CR300 is ideal for small applications requiring long-term remote monitoring and control.

The CR300 series includes Wi-Fi, cellular, or the following radio options for different regions:

- › CR300-RF407: US and Canada
- › CR300-RF412: Australia and New Zealand
- › CR300-RF422: Europe

**Note:** Campbell Scientific does not recommend the CR300 for use as a PakBus router in networks with more than 50 devices. Large arrays or string variables may also reach memory limits. For such applications, a [CR1000X Measurement and Control Datalogger](#) is recommended.

## Benefits and Features

- › Connects directly to a computer's USB port
- › Differentiates even slight changes in data values with higher resolutions measurements (24 bit Adc)
- › Provides simple serial sensor integration and measurement with SDI-12 and/or RS-232
- › Supports full PakBus networking
- › Includes embedded web page for direct connection via web browser

## Specifications

-NOTE-

*Additional specifications are listed in the [CR300-Series Specifications Sheet](#).*

Operating Temperature Range	› -40° to +70°C (standard) › Non-condensing environment
Analog Inputs	6 single-ended or 3 differential (individually configured)

Pulse Counters	8 (P_SW, P_LL, C1, C2, and SE1 to SE4)
Voltage Excitation Terminals	2 (VX1, VX2)
Communications Ports	<ul style="list-style-type: none"> <li>› USB</li> <li>› RS-232</li> </ul>
Switched 12 Volt	1 terminal
Digital I/O	7 terminals (C1, C2, P_SW, and SE1 to SE4) configurable for digital input and output. Includes status high/low, pulse width modulation, external interrupt, and communication functions. Exception: The SE4 terminal doesn't do external interrupt.
Input Limits	-100 mV to +2500 mV
Analog Voltage Accuracy	<ul style="list-style-type: none"> <li>› Accuracy specifications do not include sensor or measurement noise.</li> <li>› <math>\pm(0.04\%</math> of measurement + offset) at 0° to 40°C</li> <li>› <math>\pm(0.1\%</math> of measurement + offset) at -40° to +70°C</li> </ul>
ADC	24-bit
Power Requirements	10 to 18 Vdc; 16 to 32 Vdc
Real-Time Clock Accuracy	$\pm 1$ min. per month
Internet Protocols	Ethernet, PPP, RNDIS, ICMP/Ping, Auto-IP(APIPA), IPv4, IPv6, UDP, TCP, TLS, DNS, DHCP, SLAAC, NTP, Telnet, HTTP(S), FTP(S), SMTP/TLS, POP3/TLS
Communication Protocols	PakBus, Modbus, DNP3, SDI-12, TCP, UDP, and others
Warranty	3 years (against defects in materials and workmanship)
CPU Drive/Programs	80 MB serial flash
Data Storage	30 MB serial flash
Idle Current Drain, Average	1.5 mA (@ 12 Vdc)
Active Current Drain, Average	<ul style="list-style-type: none"> <li>› 5 mA (@ 12 Vdc for 1 Hz scan with 1 analog measurement)</li> <li>› 23 mA (@ 12 Vdc with processor always on)</li> </ul>
Dimensions	13.97 x 7.62 x 4.56 cm (5.5 x 3.0 x 1.8 in.) Additional clearance required for cables and leads.
Weight	242 to 249.5 g (0.53 to 0.55 lb) depending on communication option selected

### CR300-RF407 Option

Radio Type	Frequency Hopping Spread Spectrum (FHSS)
Output Power	5 to 250 mW (user-selectable)
Frequency	902 to 928 MHz (US, Canada)
RF Data Rate	200 kbps
Receive Sensitivity	-101 dBm
Antenna Connector	RPSMA (External antenna required; see <a href="http://www.campbellsci.com/order/rf407">www.campbellsci.com/order/rf407</a> for Campbell Scientific antennas.)
Idle Current Drain, Average	12 mA (@ 12 Vdc)
Active Current Drain, Average	< 80 mA (@ 12 Vdc)

### CR300-RF412 Option

Radio Type	Frequency Hopping Spread Spectrum (FHSS)
Output Power	5 to 250 mW (user-selectable)
Frequency	915 to 928 MHz (Australia, New Zealand)
RF Data Rate	200 kbps
Receive Sensitivity	-101 dBm
Antenna Connector	RPSMA (External antenna required; see <a href="http://www.campbellsci.com/order/rf412">www.campbellsci.com/order/rf412</a> for Campbell Scientific antennas.)
Idle Current Drain, Average	12 mA (@ 12 Vdc)
Active Current Drain, Average	< 80 mA (@ 12 Vdc)

### CR300-RF422 Option

Radio Type	868 MHz SRD 860 with Listen Before Talk (LBT) and Automatic Frequency Agility (AFA)
Output Power	2 to 25 mW (user-selectable)
Frequency	863 to 870 MHz (European Union)
RF Data Rate	10 kbps
Receive Sensitivity	-106 dBm
Antenna Connector	RPSMA (External antenna required; see <a href="http://www.campbellsci.com/order/rf422">www.campbellsci.com/order/rf422</a> for Campbell Scientific antennas.)
Idle Current Drain, Average	9.5 mA
Active Current Drain, Average	20 mA

For comprehensive details, visit: [www.campbellsci.com/cr300](http://www.campbellsci.com/cr300) 



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