



Compact Data Logger with Ethernet

Ideal for small applications

Overview

The CR310 is a multi-purpose, compact, low-cost measurement and control data logger that includes an integrated 10/100 Ethernet port and removable terminal connectors. This entry-level data logger, with its rich instruction set, can measure most hydrological, meteorological, environmental, and industrial sensors. It will concentrate data, making it available over varied networks and deliver it using your preferred protocol. The CR310 also performs automated on-site or remote decision making for control and M2M communications. The CR310 is ideal for small applications requiring long-term, remote monitoring and control.

The primary differences between the CR300 and CR310 are that the CR310 offers removable connectors and a 10/100 Ethernet connection.

The CR310 has multiple radio options that are suitable for different regions:

- CR310-RF407: US and Canada
- CR310-RF412: Australia and New Zealand
- CR310-RF422: Europe

Note: Campbell Scientific does not recommend the CR310 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

- Set up easily with PC software and USB connectivity
- Measure with confidence analog and digital sensors
- Internet ready—email, FTP, HTTP/web, TCP—with required add-ons
- Trust in the Campbell Scientific quality, including integral surge and ESD protection
- Save money and space using the integrated Ethernet port
- Network wirelessly to another node or Internet gateway with integrated radio option
- CR310-WIFI ideal for short-range, wireless IP communication
- Wiring made easy through removable terminal block

Specifications

-NOTE-	Additional specifications are listed in the CR300-Series Specifications Sheet .
Operating Temperature Range	<ul style="list-style-type: none"> › -40° to +70°C (standard) › Non-condensing environment
Case Material	Powder-coated aluminum
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"> › USB Micro B › 10/100 Ethernet RJ45 › RS-232
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 to +2500 mV
Analog Voltage Accuracy	<ul style="list-style-type: none"> › ±(0.04% of measurement + offset) at 0° to 40°C › Accuracy specifications do not include sensor or measurement noise. › ±(0.1% of measurement + offset) at -40° to +70°C
ADC	24-bit
Power Requirements	16 to 32 Vdc for charger input (CHG)
Real-Time Clock Accuracy	±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	32 mA (@ 12 Vdc with Ethernet link idle)
Active Current Drain, Average	23 mA + 51 mA (@ 12 Vdc with Ethernet link active, processor always on)
Dimensions	16.26 x 7.62 x 5.68 cm (6.4 x 3.0 x 2.2 in.)
Weight	288 to 306 g (0.64 to 0.68 lb) depending on communication option selected

CR310-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 www.campbellsci.com/order/rf407 for Campbell Scientific antennas)
Idle Current Drain, Average	12 mA (@ 12 Vdc)
Active Current Drain, Average	< 80 mA (@ 12 Vdc)

CR310-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 www.campbellsci.com/order/rf412 for Campbell Scientific antennas)
Idle Current Drain, Average	12 mA (@ 12 Vdc)
Active Current Drain, Average	< 80 mA (@ 12 Vdc)

For comprehensive details, visit: www.campbellsci.com/cr310 



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