



APPLICATIONS

- Environmental monitoring.
- Water monitoring.
- Many others.

KEY 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.
- Includes integral surge and ESD protection.
- Network wirelessly to another node or Internet gateway with integrated radio option.
- Communicate from anywhere when using cellular or satellite peripheral.
- SR300-WiFi ideal for short-range, wireless IP communication.
- Integrated 12V battery solar charge regulator.
- Measure smart sensors using RS232 or SDI-12.
- Connect with PakBus, ModBus, DNP3, GOES and other standard communication protocols.
- Analyze and control with programmability and multiple general purpose I/O.
- Notify with event-driven communications and physical outputs.

SPC300 Compact Datalogger ideal for small applications



The SPC300 is a multi-purpose, compact, low-cost measurement and control datalogger that is ideal for small applications requiring long-term, remote monitoring and control.

This entrylevel datalogger, with his rich instruction set, can measure most hydrological, meteorological, environmental and industrial sensors. It will concentrate data, making the data available over varied networks and deliver the data using your preferred protocol.

The SPC300-series dataloggers also perform automated on-site or remote decision making for control and M2M communications.

- › **CPU:** ARM Cortex M4, running at 144 MHz
- › **Internal Memory:** 30 MB flash for data storage, 80 MB flash for CPU drive / programs, 2 MB flash for operating system
- › **Clock Accuracy:** ±1 min per month
- › **USB micro B** for direct connection to PC (limited power source during configuration), 2.0 full speed, 12 Mbps
- › **RS-232** for connecting RS-232 modems or serial sensors
- › **10/100 Ethernet RJ45** for LAN connection (CR310 only)
- › **One Switched 12 V Terminal (SW12V)** for powering sensors or communication devices, 1100 mA @ 20°C
- › **Two Sensor Excitation or Continuous 0.15 to 5 V Terminal (VX1, VX2)** for sensor excitation or output control
- › **Six Multipurpose Analog Input Terminals (SE1 - SE6)**
 - Analog functions (SE1 - SE6)
 - Analog inputs: 6 single-ended or 3 differential inputs with -100 to +2500 mV and ±34 mV ranges 24 bit ADC
 - 4 to 20 mA or 0 to 20 mA inputs (SE1, SE2 only)
 - Digital I/O functions (SE1 - SE4) consist of 3.3 V logic levels for:
 - High frequency counter (35 kHz)
 - Pulse width modulation
 - Interrupts and timer input
 - Period average (200 kHz, amplitude dependent)
- › **Two Pulse Counting Terminals (P_SW, P_LL)**
 - P_SW
 - Switch closure (150 Hz)
 - High frequency counter (35 kHz)
 - P_LL
 - Low level ac (20 kHz)
 - High frequency counter (20 kHz)
- › **Battery Terminal Pair (-BAT+)** for regulated 12 V power input or rechargeable 12 V VRLA for UPS mode
- › **Charge Terminal Pair (-CHG+)** for 16 to 32 V from dc power converter or 12 or 24 V solar panel (10 W)
- › **Power Consumption @ 12 Vdc:** 1.5 mA (sleep), 5 mA (1 Hz scan with one analog measurement), 23 mA (active processor always on), 32 mA (CR310 Ethernet idle), 51 mA (CR310 Ethernet active)
- › **Two Control Terminals (C1, C2):** C terminals are software configurable for digital functions
 - Digital I/O functions consist of 5 V output and 3.3 V input logic levels for:
 - SDI-12
 - High frequency counter (3 kHz)
 - Switch closure (150 Hz)
 - General status/control
 - Voltage source 5 V: 10 mA @ 3.5 V
 - Interrupts
 - Serial asynchronous communication Tx/Rx pair
- › **Best Analog Accuracy:** ±(0.04% of reading ±6 μV), 0° to 40°C
- › **Best Effective Resolution:** 0.23 μV (±34 mV range, differential measurement, input reversal, 50/60 Hz f_{NI})
- › **Operating Temperature Range:** -40° to +70°C
- › **Weight**
 - CR300: 242 g (0.53 lb)
 - CR300-WIFI/RF407/RF412/RF422: 249.5 g (0.55 lb)
- › **Dimensions:**
 - CR300: 14.0 x 7.6 x 5.1 cm (5.5 x 3.0 x 2.0 in)

Terminal Functions

Analog Input Function	C1	C2	P_SW	P_LL	VX1	VX2	SE1	SE2	SE3	SE4	SE5	SE6	RS-232	SW12	Ethernet	Max
Single Ended Voltage							✓	✓	✓	✓	✓	✓				6
Differential Voltage							H	L	H	L	H	L				3
4 to 20 or 0 to 20 mA							✓	✓								2
Analog Output Function	C1	C2	P_SW	P_LL	VX1	VX2	SE1	SE2	SE3	SE4	SE5	SE6	RS-232	SW12	Ethernet	Max
Switched-Voltage Excitation					✓	✓										2
5 V Source	✓	✓			✓	✓										4
12 V Source														✓		1
Digital I/O Function	C1	C2	P_SW	P_LL	VX1	VX2	SE1	SE2	SE3	SE4	SE5	SE6	RS-232	SW12	Ethernet	Max
RS-232 ± 6 V out													✓			1
RS-232 0-5 V out	Tx	Rx														1
SDI-12	✓	✓														2
Pulse-Width Modulation							✓	✓	✓	✓						4
Timer Input							✓	✓	✓	✓						4
Period Average							✓	✓	✓	✓						4
Interrupt	✓	✓					✓	✓	✓	✓						6
General I/O	✓	✓	✓				✓	✓	✓	✓						7
10/100 Ethernet, non-POE															CR310 only	1
Pulse Counting Function	C1	C2	P_SW	P_LL	VX1	VX2	SE1	SE2	SE3	SE4	SE5	SE6	RS-232	SW12	Ethernet	Max
Switch Closure	✓	✓	✓													3
High Frequency	✓	✓	✓	✓			✓	✓	✓	✓						8
Low Level AC				✓												1