

Comparison Table for Smaller Dataloggers

FEATURE	CR200X series	CR800/CR850	CR1000
Max. Scan Rate (Hz)	1	100	100
Analog Inputs	5 SE (no diff) (see note 1)	6 SE or 3 diff	16 SE or 8 diff
Pulse Counters	2	2	2
Switched Excitation Channels	2 voltage	2 voltage	3 voltage
Digital Ports (see note 2)	2 I/Os	4 I/Os or 2 RS-232 COM (see note 3)	8 I/Os or 4 RS-232 COM (see note 3)
Continuous Analog Outputs	0	0	0
Communications/ Data Storage Ports	1 RS-232 (see note 4)	1 CS I/O, 1 RS-232	1 CS I/O, 1 RS-232 1 Parallel Peripheral
Input Voltage Range (Vdc)	0 ≤ V < 2.5	±5	±5
Analog Voltage Accuracy	±(0.25% of reading + 1.2 mV offset), -40° to +50°C	±(0.06% of reading + offset), 0° to 40°C	±(0.06% of reading + offset), 0° to 40°C
Analog Resolution	to 0.6 mV	to 0.33 μV	to 0.33 μV
A/D Bits	12	13	13
Temperature Range (°C)	-40 to +50	-25 to +50 (standard) -55 to +85 (extended, CR800) -30 to +80 (extended, CR850)	-25 to +50 (standard) -55 to +85 (extended)
Memory (bytes)	up to 19.6 k (compiled program), 512 k (data storage), 106 k (operating system)	2 M Flash (operating system) 4 M (CPU usage, program storage, and data storage)	2 M Flash (operating system) 4 M (CPU usage, program storage, and data storage)
Power Requirements (Vdc)	7 to 16	9.6 to 16	9.6 to 16
Typical Current Drain (mA)	~0.2 (quiescent, no radio) ~3 (active, no radio)	~0.6 (sleep mode) 1 to 16 (w/o RS-232 comm.) 17 to 28 (w/RS-232 comm.)	~0.6 (sleep mode) 1 to 16 (w/o RS-232 comm.) 17 to 28 (w/RS-232 comm.)
Dimensions (inches)	5.5 x 3.0 x 1.9	9.5 x 4.1 x 2	9.4 x 4.0 x 2.4
Weight (lbs)	0.5 (CR200X, CR295X) 0.6 (CR206X, CR211X, CR216X)	1.5	2.1
SDI-12 Supported	yes	yes	yes
PARBus Supported	leaf node only	yes	yes
Modbus Supported	no	yes	yes
DNP3 Supported	no	yes	yes
CE Compliant	CR200X, CR206X, CR211X, CR216X	yes	yes
Warranty	1 year	3 years	3 years

<i>Software Supported</i>			
Short Cut	yes	yes	yes
PC200W	yes	yes	yes
PC400	1.0 or higher	1.4 or higher	1.2 or higher
LoggerNet	2.1 or higher	3.3 or higher	3.0 or higher
RTDAQ	no	yes	yes
PConnect	3.0 or higher	3.3 or higher	3.1 or higher
PConnectCE	2.0 or higher	2.2 or higher	2.0 or higher

Notes:

1. The single-ended analog inputs on the CR200X-series dataloggers can also be used as control ports.
2. Certain digital ports can be used to count switch closures.
3. For the CR800, CR850, and CR1000, the I/O ports can be paired as transmit and receive for measuring smart serial sensors.
4. The CR295X has an additional RS-232 port for satellite communications.
5. We recommend you confirm system configuration and critical specifications with Campbell Scientific before purchase.

Comparison Table for Larger Dataloggers

FEATURE	CR3000	CR5000	CR9000X (see note 1)
Max. Scan Rate (Hz)	100	1667	100,000
Analog Inputs	28 SE or 14 diff	40 SE or 20 diff	28 SE or 14 diff per CR9050, CR9051E, or CR9055(E)
Pulse Counters	4	2	12 per CR9071
Switched Excitation Channels	4 voltage, 3 current	4 voltage, 4 current	10 voltage per CR9060
Digital Ports (see note 2)	3 SDM, 8 I/Os or 4 RS-232 COM (see note 3)	8 I/Os, 1 SDM	1 SDM; 8 outputs per CR9060 or 16 I/Os per CR9070
Continuous Analog Outputs	2	2	6 per CR9060
Communications/ Data Storage Ports	1 CS I/O, 1 RS-232 1 Parallel Peripheral	1 CS I/O, 1 RS-232	1 CS I/O, 1 RS-232, 1 10baseT/100baseT
Input Voltage Range (Vdc)	±5	±5	±5 w/CR9050 or CR9051E, ±50 w/CR9055(E), ±60 w/CR9058E
Analog Voltage Accuracy	±(0.04% of reading +offset), 0° to 40°C	±0.05% FSR, 0° to 40°C	±(0.07% of reading + 4 A/D counts), -25° to +50°C
Analog Resolution	to 0.33 μV	to 0.33 μV	to 0.76 μV
A/D Bits	16	16	16
Temperature Range (°C)	-25 to +50 (standard) -40 to +85 (extended)	-25 to +50 (standard) -40 to +85 (extended)	-25 to +50 (standard) -40 to +70 (extended)
Memory (bytes)	2 M Flash (operating system), 4 M (CPU usage, program, storage, and data storage)	128 k (program), 2 M (data storage)	128 k (program), 128 M (data storage)
Power Requirements (Vdc)	10 to 16	11 to 16	9.6 to 16
Typical Current Drain (mA)	2 (sleep mode), 3 (1 Hz sample rate), 10 (100 Hz sample rate)	1.5 (sleep mode) 4.5 (1 Hz sample rate) 200 (5 kHz sample rate)	750 to 1000 (processing), 750 to 4000 (analog meas.)
Dimensions (inches)	9.5 x 7.0 x 3.8	9.8 x 8.3 x 4.5	15.75 x 9.75 x 8 (lab enclosure), 18 x 13.5 x 9 (field enclosure), 10 x 11 x 9 (CR9000XC)
Weight (lbs)	10.7 (rechargeable battery), 8.3 (alkaline battery), 3.6 (w/o battery)	12.2 (w/battery), 4.5 (w/o battery)	~30 (lab enclosure), ~40 (field enclosure), ~27 (CR9000XC)
SDI-12 Supported	yes	yes	no
PAKBus Supported	yes	no	no
Modbus Supported	yes	no	no
DNP3 Supported	yes	no	no
CE Compliant	yes	yes	yes
Warranty	3 year	3 years	3 years

<i>Software Supported</i>			
Short Cut	yes	yes	no
PC200W	yes	yes	no
PC400	1.3 or higher	1.0 or higher	1.0 or higher
LoggerNet	3.2 or higher	2.0 or higher	2.0 or higher
RTDAQ	yes	yes	yes
PConnect	3.2 or higher	no	no
PConnectCE	2.1 or higher	no	no

Notes:

1. For the CR9000X, the current drain, weights, and specific number of input/output channels depend on the I/O modules chosen.
2. Certain digital ports can be used to count switch closures.
3. For the CR3000, the I/O ports can be paired as transmit and receive for measuring smart serial sensors.
4. We recommend you confirm your system configuration and critical specifications with Campbell Scientific before purchase.