

C1901

Single pen circular chart recorder

C1901 – a rugged, reliable recorder for all single channel recording applications



Universal process input

– mA, mV, V, thermocouples and resistance

Signal linearization

– full range of linearizers included as standard

6-digit indicator panel

– continuous display of process value

NEMA 4X/IP66 construction

– hosedown protection

Optional Totalizer function

– 8-digit flow totalizer

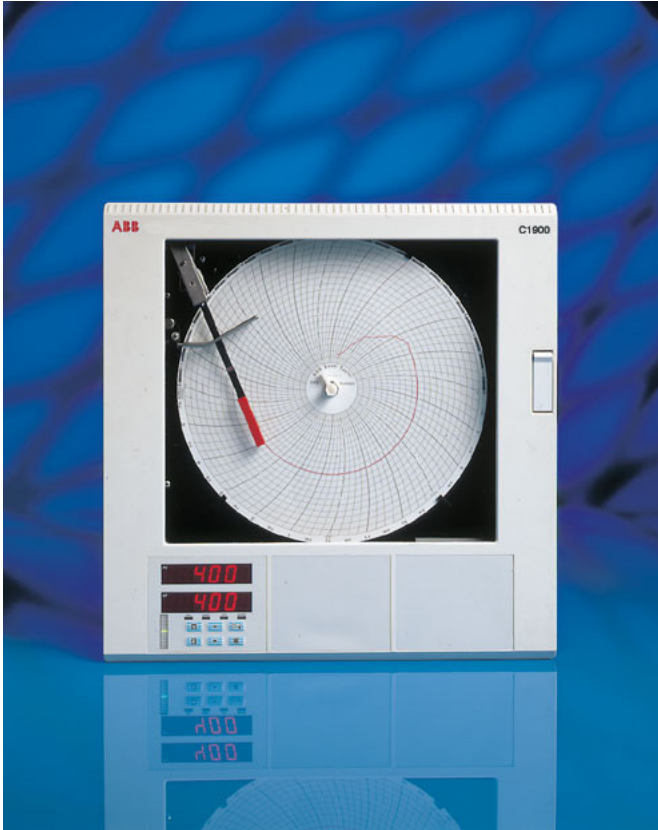
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The C1901 is a single pen, fully programmable circular chart recorder. The instruments straightforward operator controls and robust construction make it suitable for a variety of industrial environments.

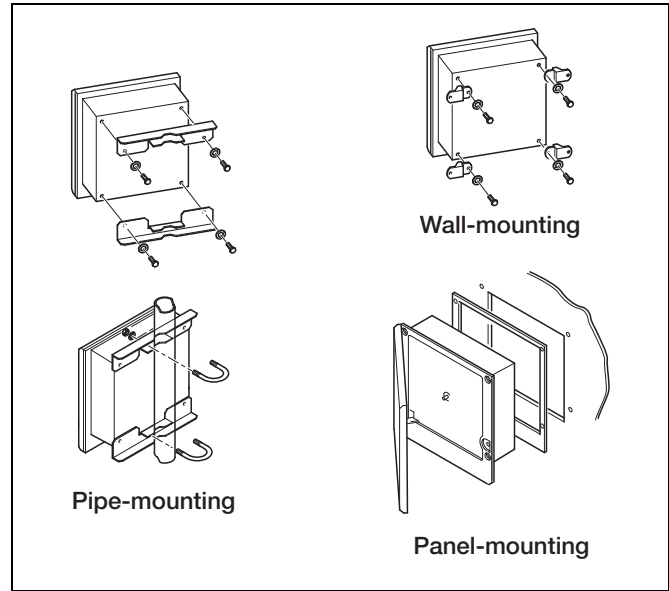
Designed to survive

NEMA 4X protection ensures the C1901 can survive in the harshest environments and makes the recorder ideal for use in panels which are regularly hosed down. The tough, acid-resistant case and secure cable-entry glands maintain the NEMA 4X rating for wall-mount or pipe-mount instruments.



Easy to install

A choice of mounting options enables simple installation of the recorder in a panel, on a wall or on a pipe. Mains isolation can be provided by an optional power switch within the instrument.



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Specification

General

Construction

Size	15.23 in. (h) x 15.04 in. (w) x 5.57 in. (d) (386.8 x 128.0 x 141.5 mm)
Weight	18 lb (8.2 kg)
Case material	Glassfiber-filled reinforced polyester
Window material	Polycarbonate
Door latch	High-compression with optional lock

Environmental

Operational temperature range	32 to 130 °F (0 to 55 °C)
Operational humidity range	5 to 95 % RH (non-condensing) 5 to 80 % RH (chart only)
Case sealing	NEMA 4X (IP66)
Fast transients	IEC 801-4 Level 3

Installation

Mounting options	Panel, wall or pipe
Terminal type	Screw
Wire size (max)	14 AWG (I/O), 12 AWG (power)
Fast transients	IEC 801-4 Level 3

Operation and configuration

Programming method	Via front panel keys
Security	Password protected menus

Safety

General safety	IEC348
Isolation	2kV DC (channel/ground)
Memory protection	Nonvolatile FRAM

Approvals

CE	Panel, wall or pipe
CSA	(option)
CSA/FM Class 1 Div. 2	(option)
UL	(option)

Power supply

Voltage	100 to 240V AC \pm 10 % (90V min. to 264V AC max.) 50 / 60Hz
Consumption	<30 VA
Line interruption	Up to 60 ms

Totalizer

Size	99,999,999 max.
Count direction	Up or down
Preset	User-programmable

Process input

General

Noise Rejection	Common mode >120dB at 50 / 60Hz Normal (series) mode >60dB at 50 / 60Hz
CJC rejection ratio	<0.05 °C / °C
Sensor break protection	Upscale or downscale drive
Out of range detection	0 to 100 % of engineering span
Temperature stability	<0.02 % of reading / °C or 1 μ V / °C
Long-term drift	<0.01 % of reading 10 μ V annually
Input impedance	>10 M Ω (mV and V inputs) 100 Ω (mA input)

Analog input

Signal types	mV, V, mA, Ω
Thermocouple types	B, E, J, K, N, R, S, T
Resistance thermometer	Pt 100
Other linearizations	$x^{3/2}$, $x^{5/2}$, square root
Sample interval	250 ms
Digital filter	0 to 60s programmable

Recording system

Pen

Color	Red
Response	7 seconds (full scale)
Resolution	0.1 % steps
Pen lift	Motor-driven, with optional auto-drop

Chart

Chart size	10 in. or 105 mm
Chart speed	7 seconds (full scale)1 to 167 hours or 7 to 32 days per revolution
Rotation accuracy	<0.5 % of rotation time

Display and operator panels

Displays

Type	6-digit red LED, 0.56 in. (14 mm) high
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Panel keys

Function	Programming access, increment / decrement, pen lift and user-defined function key
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EMC

Emissions and immunity

Meets requirements of:	EN50081-2 EN50082-2 EN61326 for an industrial environment CE mark
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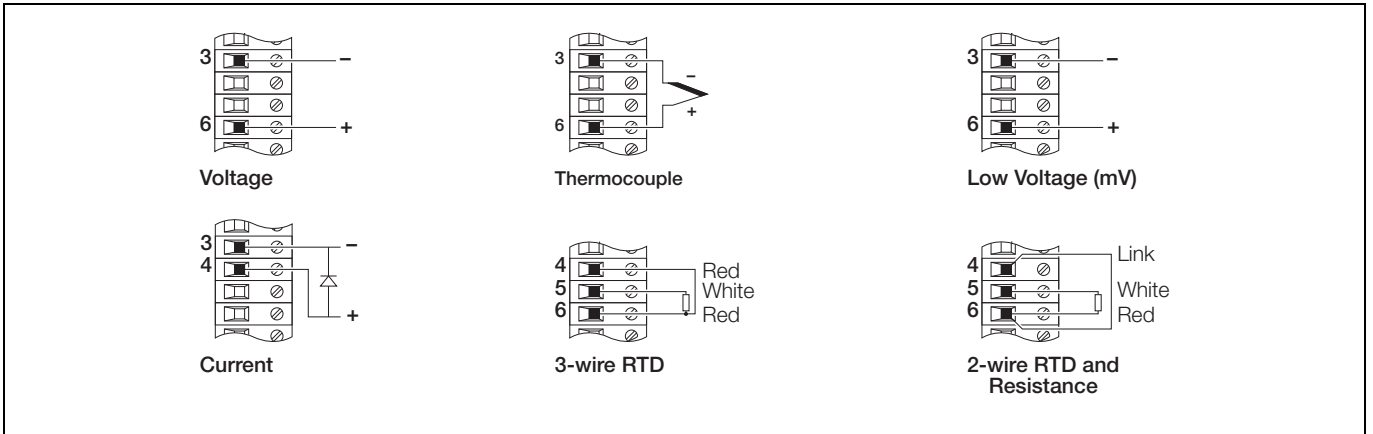
Analog input performance

Type	Range Lo	Range Hi	Min. Span	Accuracy
mV	0	150	5	± 0.1 % reading or 10 µV
V	0	5	0.1	± 0.1 % reading or 20 mV
mA	0	50	1	± 0.2 % reading or 0.2 µA
Ω (low)	0	750	20	± 0.5 % reading or 10 Ω
Ω (high)	0	10 k	400	± 0.5 % reading or 0.1 Ω

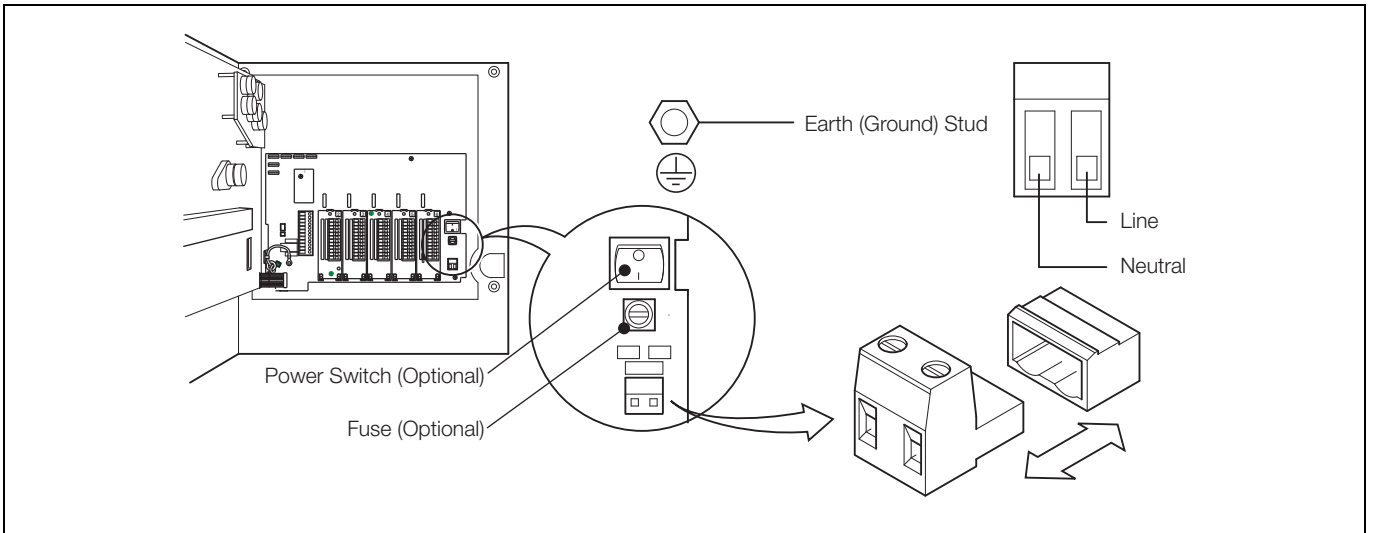
Type	°C		°F		Accuracy (excl. CJC)
	Range Lo	Range Hi	Range Lo	Range Hi	
B	-18	1800	0	3270	± 2 °C (above 200 °C) (3.6 °F above 434 °F)
E	-100	900	-140	1650	± 0.5 °C (± 0.9 °F)
J	-100	900	-140	1650	± 0.5 °C (± 0.9 °F)
K	-100	1300	-140	2350	± 0.5 °C (± 0.9 °F)
N	-200	1300	-325	2350	± 0.5 °C (± 0.9 °F)
R	-18	1700	0	3000	± 1 °C (above 300 °C) (1.8 °F above 572 °F)
S	-18	1700	0	3000	± 1 °C (above 200 °C) 1.8 °F above 572 °F)
T	-250	300	-400	550	± 0.5 °C (± 0.9 °F)
PT100	-200	600	-325	1100	± 0.5 °C (± 0.9 °F)



Wiring connections



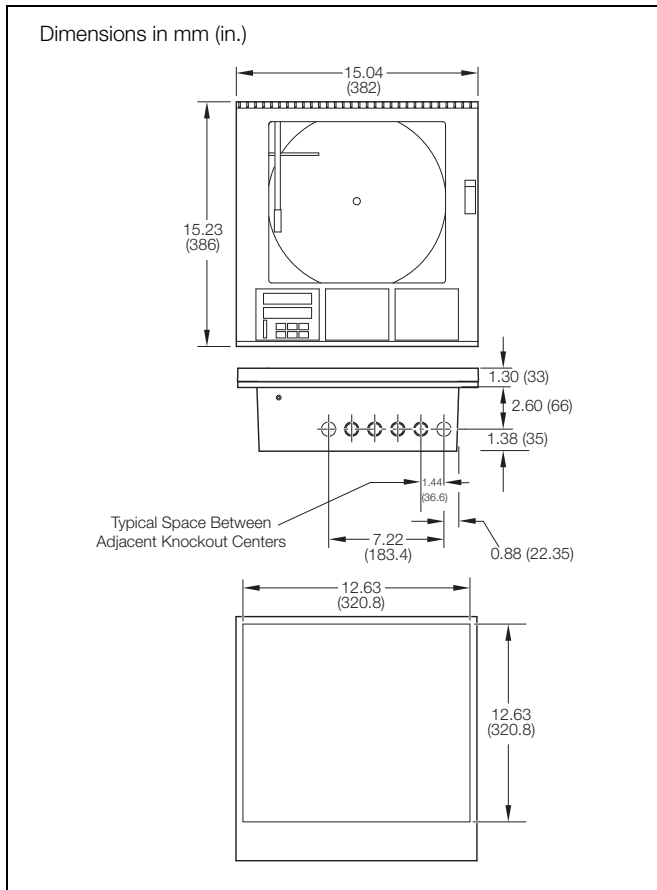
Standard input connections



Power supply connections

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Overall dimensions



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Ordering information

C1901 single pen circular chart recorder	1901	X	X	0	X	X	X	0	0	0	0	0	XXXX
Chart type													
Taylor (ER/C) charts		J											
KPC 105, Kent PX and Kent PXR type charts		K											
Chessell brand charts		C											
Build													
ABB standard			A										
CSA approved			B										
CSA/FM Class 1 Division 2 approved			F										
UL approved			U										
Options													
None					0								
Totalizer					3								
Door lock													
Not fitted						1							
Fitted						2							
Power supply													
115V AC							1						
230V AC							2						
115V AC with on/off switch							4						
230V AC with on/off switch							5						
Programming / Special features													
Configured to factory standard													STD
Configured to customer requirements (customer to complete and supply C1901 custom configuration sheet – INF08/031)													CUS
Special features													SXX
Engineered configuration (customer to supply configuration details required)													ENG

Accessories

ENG/REC After-sales engineered configuration service

