

# 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

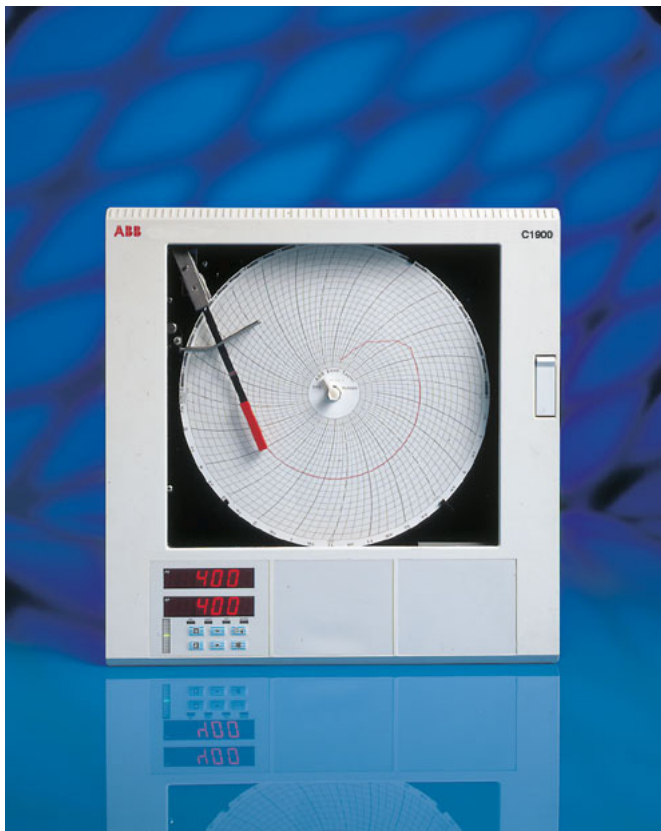
- 8-digit Flow totalizer

## C1901

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

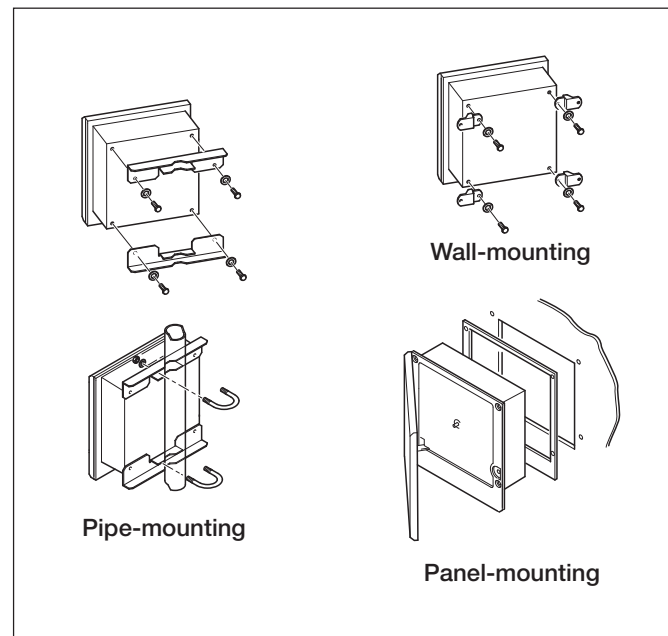
### Designed to Survive

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.



## Specification

### General

#### Construction

Size	15.23 in. (h) x 15.04 in. (w) x 5.57 in. (d) (386.8 x 128.0 x 141.5mm)
Weight	18lb (8.2kg)
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)

#### 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	
CSA	(option)
CSA/FM Class 1 Div. 2	(option)
UL	(option)

#### Power Supply

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

#### 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 1µV/°C
Long-term drift	<0.01% of reading 10µV annually
Input impedance	>10 MΩ (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 <sup>3/2</sup> , x <sup>5/2</sup> , square root
Sample interval	250ms
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 105mm
Chart speed	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. (14mm) 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

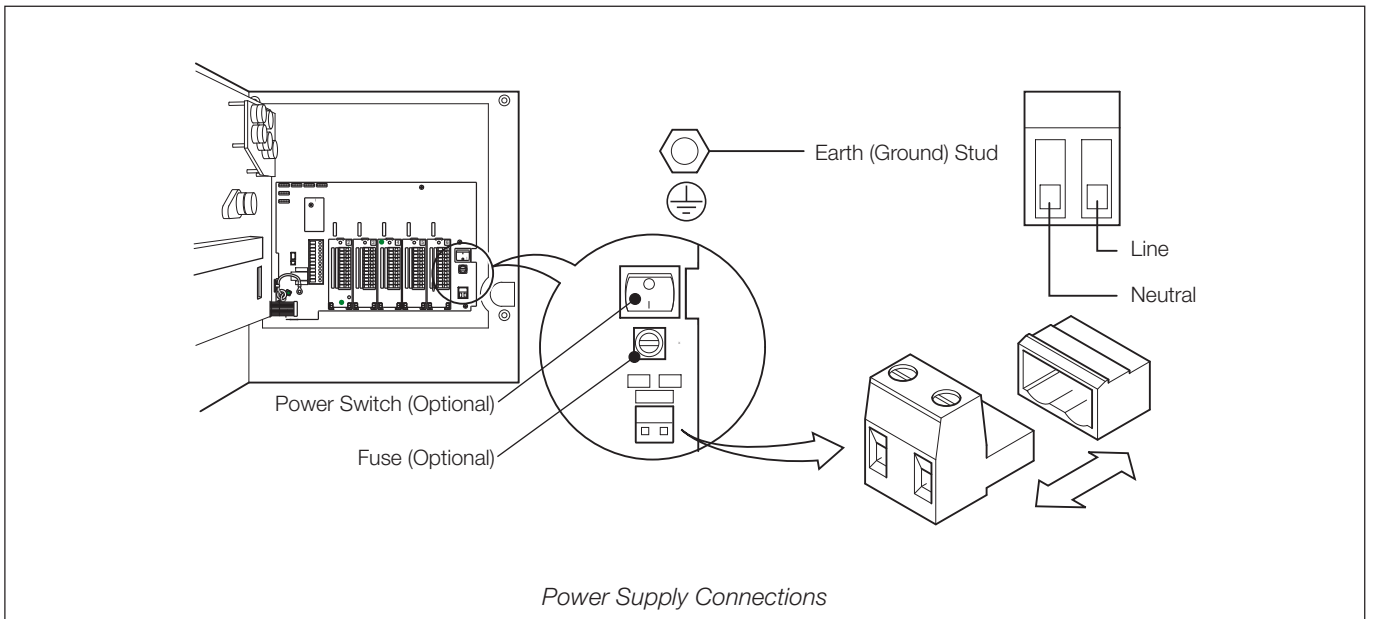
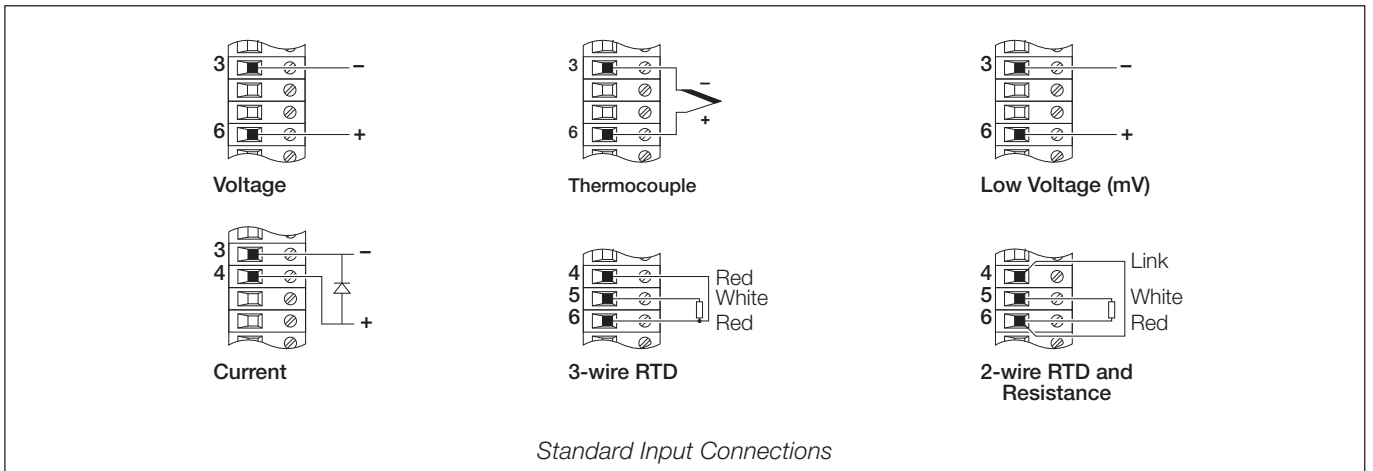
Meets requirements of:
EN50081-2
EN50082-2
EN61326 for an industrial environment
CE mark

## Analog Input Performance

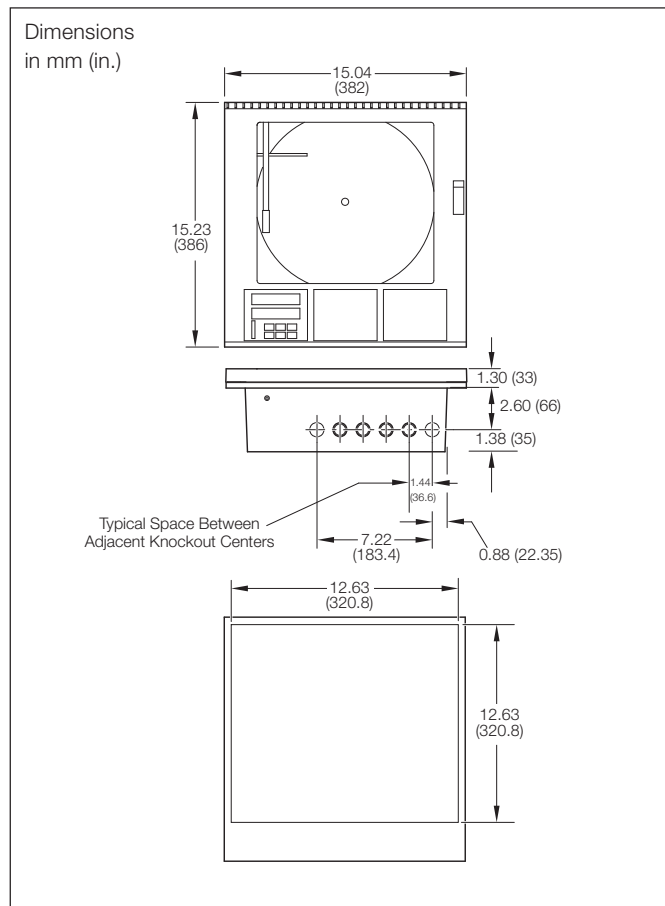
Type	Range Lo	Range Hi	Min. Span	Accuracy
mV	0	150	5	±0.1% reading or 10µV
V	0	5	0.1	±0.1% reading or 20mV
mA	0	50	1	±0.2% reading or 0.2µA
Ohms (low)	0	750	20	±0.2% reading or 0.1Ω
Ohms (high)	0	10k	400	±0.5% reading or 10Ω

Type	°C		°F		Accuracy (excl. CJC)
	Range Low	Range High	Range Low	Range High	
B	-18	1800	0	3270	±2.0°C (above 200°C)
E	-100	900	-140	1650	±0.5°C
J	-100	900	-140	1650	±0.5°C
K	-100	1300	-140	2350	±0.5°C
N	-200	1300	-325	2350	±0.5°C
R	-18	1700	0	3000	±1.0°C (above 300°)
S	-18	1700	0	3000	±1.0°C (above 200°C)
T	-250	300	-400	550	±0.5°C
Pt100	-200	600	-325	1100	±0.5°C

### Wiring Connections



### Overall Dimensions



**Ordering Information**

<b>C1901 Single Pen Circular Chart Recorder</b>		<b>1901</b>	<b>X</b>	<b>X</b>	<b>0</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>XXXX</b>
<b>Chart Type</b>															
Taylor (ER/C) charts			J												
KPC 105, Kent PX and Kent PXR type charts			K												
Chessel brand charts			C												
<b>Build</b>															
ABB Standard			A												
CSA approved			B												
CSA/FM Class 1 Division 2 approved			F												
UL approved			U												
<b>Options</b>															
None						0									
Totalizer						3									
<b>Door Lock</b>															
Not fitted								1							
Fitted								2							
<b>Power Supply</b>															
115V AC									1						
230V AC									2						
115V AC with On/Off switch									4						
230V AC with On/Off switch									5						
<b>Programming/Special Features</b>															
Configured to factory standard															STD
Configured to customer requirements															CUS
Special features															SPXX

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