

Specification DataFile

■ **Universal process input**

- mA, mV, V, Thermocouples and Resistance

■ **Signal linearization**

- full range of linearizers included as standard

■ **6-digit indicator panel**

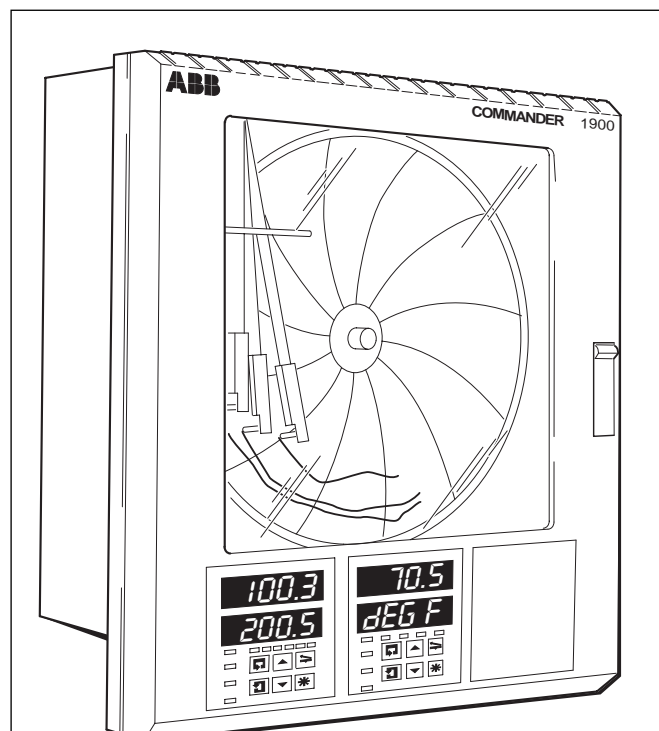
- continuous display of process value

■ **NEMA 4X/IP66 construction**

- hosedown protection

■ **Optional Totalizer function**

- 8-digit Flow totalizer



*COMMANDER 1901 – a rugged,
reliable recorder for all single
channel recording applications*

COMMANDER 1901

The COMMANDER 1901 is a single pen fully programmable circular chart recorder. The COMMANDER's straightforward operator controls and robust construction make it suitable for a variety of industrial environments.

Designed to Survive

NEMA 4X protection ensures the COMMANDER 1901 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-mounted or pipe-mounted instruments.

Specification

General

Construction

Size:	15.23" (h) x 15.04" (w) x 5.57" (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 EEPROM

Power Supply

Voltage:	115/230V ac $\pm 15\%$, 50/60Hz
Consumption:	< 40 VA
Line interruption:	Up to 60ms

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)
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Analog Input

Signal types:	mV, V, mA, Ω
Thermocouple types:	B, E, J, K, N, R, S, T
Resistance Thermometer:	Pt 100
Other linearizations:	$x^{1/2}$, $x^{3/2}$, $x^{5/2}$, sq. 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" or 105mm
Chart speed:	1 to 167 hours or 7 to 32 days per revolution

Display and Operator Panels

Displays

Type:	6-digit red LED, 0.56" (14mm) high
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Panel keys

Function:	Programming access, increment/decrement, pen lift and user-defined function key.
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Totalizer

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

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 20µV
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 Lo	Range Hi	Range Lo	Range Hi	
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

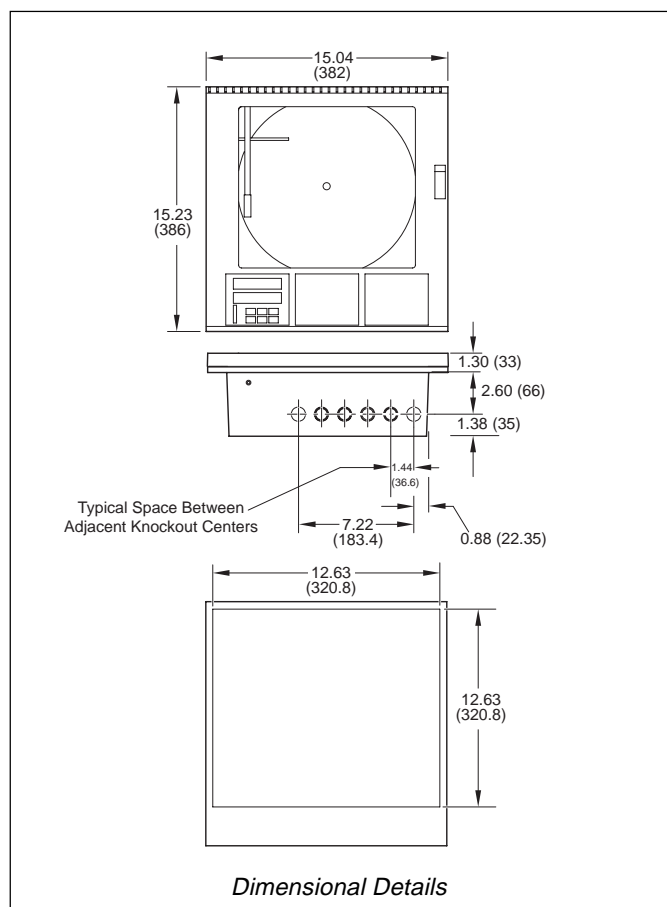
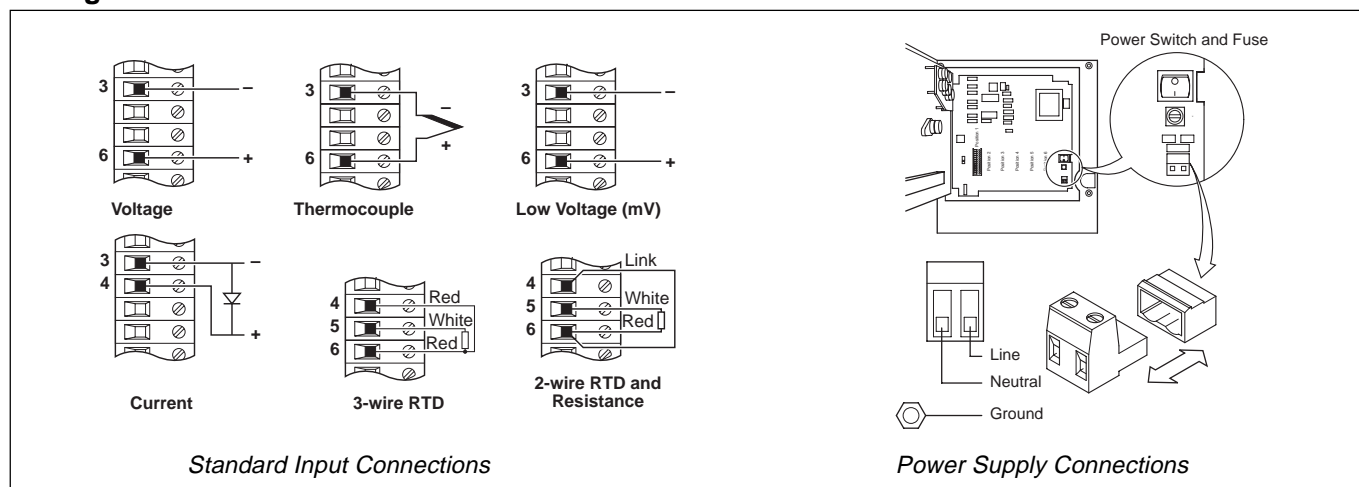
Ordering Guide

COMMANDER 1900 Recorder		1901	X	X	0	X	X	X	0	0	0	0	0	0	XXX
One pen (Red) basic, non-upgradeable															
Chart Type	Standard KPC 105 PX and PXR type charts Chessel brand charts		J	K	C										
Electrical Code	Standard CSA		A	B											
Options	None Totalizer					0	3								
Door Lock	Not fitted Fitted							1	2						
Power Supply	115V a.c. 230V a.c. 115V a.c. with On/Off switch 230V a.c. with On/Off switch							1	2	4	5				
Special Settings	Company standard Customer setting														STD CUS

Instrument Coding Example

	C1901	J	A	0	0	1	2	0	0	0	0	0	STD	
COMMANDER 1901 Universal Recorder														
Standard Chart														STD Config.
Standard Instrument														230V a.c.
Options – None														Door – No lock

Wiring Connections



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.

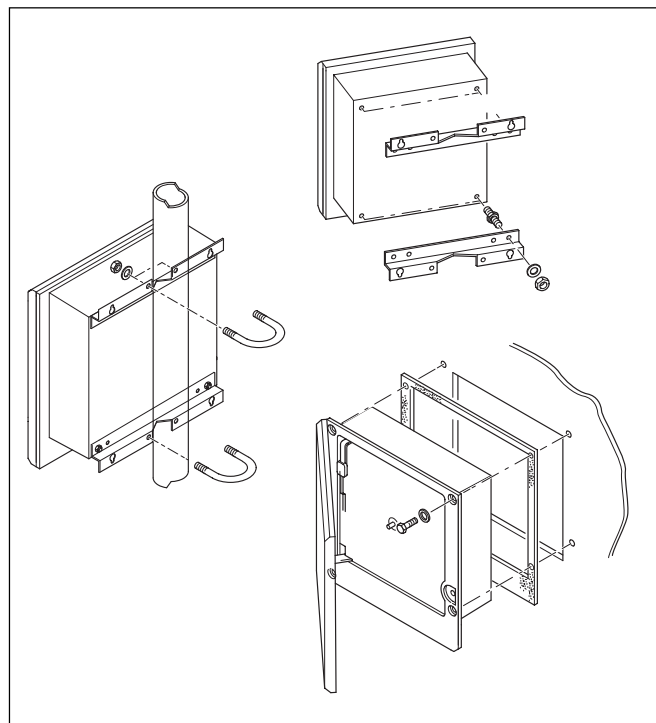


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