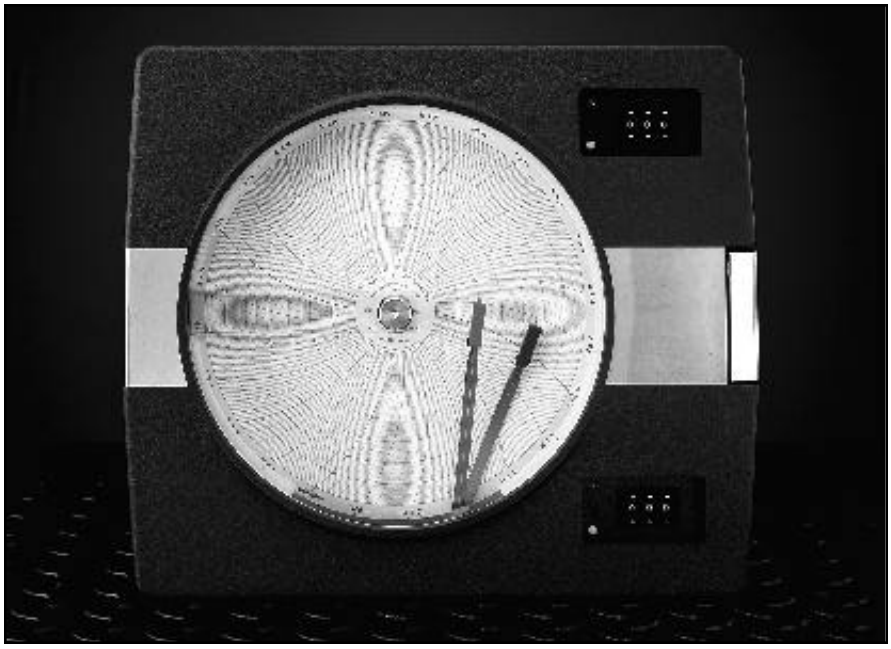
ARC 4100



The ARC 4100—highly dependable analog recording for up to two process variables.

Utterly Dependable

and easy to operate.

The ARC 4100 is a circular chart recorder capable of measuring, recording, and controlling up to two process variables. Its analog design provides protection from electronic noise interference, making it a highly dependable device. Applications for this instrument are many and include temperature, relative humidity, pH, level, electrical measurement, and flow. The ARC 4100 operates with either 115V AC or 230V AC line voltage at 50 or 60Hz; voltage and frequency are selected when ordering.

It accepts a variety of inputs and can be ordered with RTD, thermocouple, and analog inputs. The process input for each pen is configured at the factory according to the range ordered and directly connects to either thermocouple, RTD, mVDC, VDC, or mADC inputs. Changes to input type are easily accomplished in the field simply by changing the range module. Outputs include On/Off, time proportioning, and 4 to 20mA with full PID. All recording, controlling, and alarm capabilities/options are selected from the order matrix for factory implementation.

This recorder incorporates a 10” circular chart. These charts are available in a wide selection of zero-based, non-zero based, reverse, and dual-scale ranges. The pens, disposable fiber-tip types, are quickly and easily replaced.

The ARC 4100 is backed by a one-year warranty as well as free technical support throughout the life of the product.

ARC 4100 SPECIFICATIONS

PROCESS INPUT

Thermocouples: Type J, K, T, R, S
Cold junction compensated with thermocouple break protection. 8.5mV min. span, 100mV max. span
RTD: 100Ω, 2 or 3 wire
20Ω min. span
200Ω max. span
0.00385Ω/Ω/°C
DC Voltage:
0V DC min., 10V DC max.
1V DC min. span
DC Millivolts:
0mV min., 100mV max.
10mV min. span
Milliamps:
4 to 20mA
Accommodated with an internal 249Ω jumper-selectable shunt resistor

Call your distributor for available ranges and charts.

REMOTE SETPOINT INPUT

DC Voltage
0 to 5V DC
1 to 5V DC
Milliamp
0 to 20mA
4 to 20mA
Accommodated with an internal 249Ω jumper selectable shunt resistor
Potentiometric
Accommodated by three-wire connection
The unit provides +5V DC and ground to the potentiometer

PERFORMANCE

Measurement Error Limit: All input types: 1.0% of span
Ambient Temperature Error: 0.04% of span per °C deviation from 25°C
Noise Rejection: Normal mode: 65dB min. at 60Hz or greater
Common mode: 85dB min., 24V AC max., 33V DC max.
Line Voltage: Standard 115V AC +/- 10%, 50 or 60Hz
Optional: 230V AC +/-10%, 50 or 60Hz—Soldered jumper configurable to 115V AC
Power Consumption: 25VA max.
Operating Temperature: 32° F to 131°F , 0°C to 55°C
Storage Temperature: -40°F to 149°F, -40°C to 65°C
Humidity: 0 to 90% RH non-condensing
Dimensions: 13.19" H x 15.13" W x 3.63" D
Weight: 20 pounds max.
Vibration: 0.5 to 100Hz @ 0.2g
Sensor Fault Detection: Jumper selectable for upscale or downscale sensor break. Only downscale break is available for milliamp inputs due to the use of a low ohm shunt resistor.
Agency Approvals: UL Spec. - 1092 File #E67237 Listed
CSA Spec. - C22.2 File #LR39885

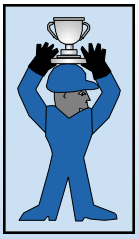
OUTPUTS

Control Output 1 and 2 (each pen)
Relay: SPDT
115V AC: 5.0A Resistive, 1/8HP, 250VA
230V AC: 2.5A Resistive, 1/8HP, 250VA
SSR Driver: Open collector output
Short circuit protected @ 40mA max.
Provides 5V DC at 23mA or 3V DC at 30mA.
Current: 4 to 20mA - 0 to 450Ω grounded load
max. Output span may exceed the stated span, but shall cover the minimum span of 4 to 20mA
Alarm Output
Relay: SPDT
115V AC: 5.0A Resistive, 1/8HP, 250VA
230V AC: 2.5A Resistive, 1/8HP, 250VA
SSR Driver: Open collector output
Short circuit protected @ 40mA max.
Provides 5V DC @ 23mA or 3V DC @ 30mA.
Control/Alarm Outputs
Output 1: User configurable:
On/Off, Time Proportioning, 4 to 20mA - User selectable Direct or Reverse Acting, or high limit
Output 2: User configurable:
On/Off Direct or Reverse Acting Control Output
High or Low Process Alarm
High or Low Deviation Alarm
Deviation Band Alarm - Open or Closed within the band

NOTE : Up to two outputs provided for each pen (Pen 1 or 2)

RECORD AND DISPLAY

Chart: 10" circular chart; 100 charts furnished with each instrument.
Chart Drive: AC synchronous motor
Chart Rotation: Counter-clockwise
Pen Type: Disposable fiber-tip
Pen Color: Pen 1–Red, Pen 2–Green



ARC 4100 Benefits:

A variety of input capabilities—RTD, thermocouple, mADC, VDC, and mVDC provide flexibility

Many output choices—On/Off, time proportioning, and 4 to 20mA with full PID for many output options

Front access thumbwheel—easily changes the setpoint

Analog design—provides protection from electronic noise interference

Structural foam enclosure—suitable for panel mounting or surface mounting

Remote setpoint input capability—change the setpoint without needing to be in the vicinity of the device

Variety of charts for your particular recording needs—zero based, non-zero based, reverse, and dual-scale range

Alarm outputs available for each pen—safety shut-off and over- or under-temperature alarms

One-year warranty—protects you against factory defects

ARC 4100 MODEL CONFIGURATION

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PEN 1 TYPE/OUTPUT	CODE
Recorder only	1
High Limit	2
On-Off Controller Relay	3
On-Off Controller SSR Driver	4
Time Prop. Relay	5
Time Prop. SSR Driver	6
4-20mA	7

PEN 1 SETPOINT	CODE
Recorder only	0
Local 3 Digit Pos. Only	1
Local 3 Digit Pos./Neg.*	2
Local 4 Digit Pos. Only*	3
Remote Setpoint (1-5V DC/4-20mA DV)**	4

PEN 1 SECOND OUTPUT	CODE
None	0
On-Off/Alarm Relay	1
On-Off/Alarm SSR Driver	2

PEN 2 TYPE/OUTPUT	CODE
None	0
Recorder Only	1
High Limit	2
On-Off Controller Relay	3
On-Off Controller SSR Driver	4
Time Proportioning Relay	5
Time Prop. SSR Driver	6
4-20mA	7

PEN 2 SETPOINT	CODE
None or Recorder only	0
Local 3 Digit Pos. Only*	1
Local 3 Digit Pos./Neg.*	2
Local 4 Digit Pos. Only*	3
Remote Setpoint**	4

PEN 2 SECOND OUTPUT	CODE
None	0
On-Off/Alarm Relay	1
On-Off/Alarm SSR Driver	2

OPTION SUFFIX	CODE
None	Blank
NEMA†	N3
Remote Thumbwheel only	AV
RTD Depression on Pen 2	AW
Reverse Range Pen 1	HA
Reverse Range Pen 2	HB
Reverse Range Pen 1 & 2	HC
N3 plus Reverse Pen 1	NA
N3 plus Reverse Pen 2	NB
N3 plus Reverse Pen 1 & 2	NC

VOLTAGE	CODE
115V AC 60 Hz	1
230V AC 60 Hz	2
115V AC 50 Hz	3
230V AC 50 Hz	4
CSA Approved	
115V AC 60 Hz	5
230V AC 60 Hz	6
115V AC 50 Hz	7
230V AC 50 Hz	8

CHART ROTATION	CODE
24 hour	1
7 day	2
12 hour	3
48 hour	4
72 hour	5

ENCLOSURE OPTION***	CODE
Standard Cover (Plastic windows)	2
Door Lock	4
Sealed Conduit Connectors	6
Combination of 4 and 6	7

INTERNAL OPTIONS	CODE
None	0
Chart Pin in Chart Flange	1
Event Pen (115 volts only)	2
Tamperproof Platen	3
Combination 1 & 2	4
Combination 1 & 3	5
Combination 2 & 3	6
Combination 1,2,3	7

* Ranges with top of span of 1000 are 3-digit ranges with setpoint maximum of 999.
** If remote setpoint is selected, local setpoint is not available. This is a 1-5V DC/4-20mA DC remote setpoint input type.
*** Options 6 or 7 should not be ordered without the N3 suffix.
† NEMA3 Equivalent Spray Resistant Enclosure

Call for available ranges on Pen 1 and Pen 2. Each instrument will be provided with a box of 100 charts. Surface mounting brackets, are optional, if needed.