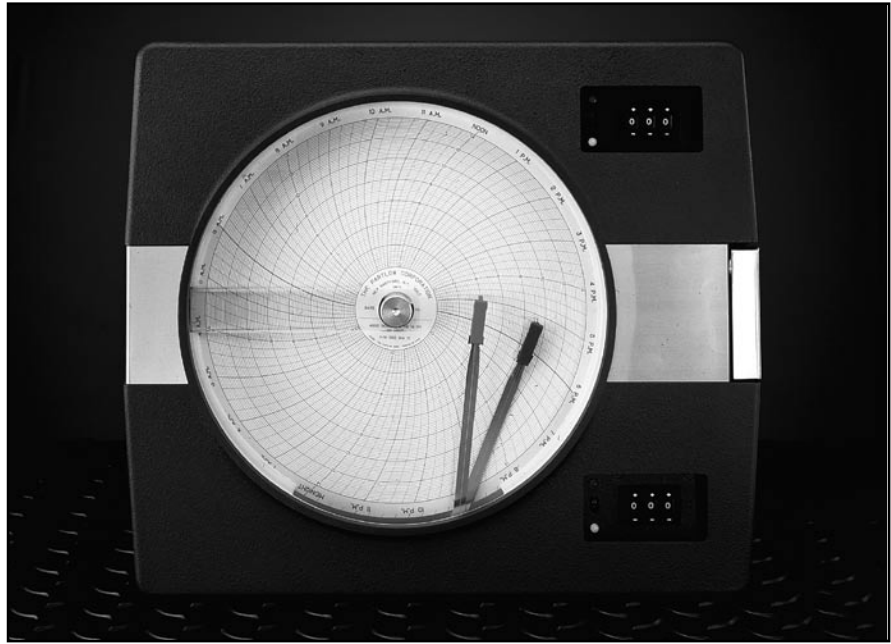


# ARC 4100



*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

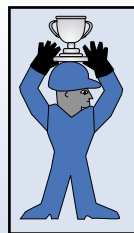
**Chart:** 10" circular chart; 100 charts furnished with each instrument.

**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, mA DC, 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

# ARC 4100 MODEL CONFIGURATION



PEN 1 TYPE/OUTPUT	CODE	PRICE
Recorder only	1	1100
High Limit	2	1310
On-Off Controller Relay	3	1185
On-Off Controller SSR Driver	4	1185
Time Prop. Relay	5	1460
Time Prop. SSR Driver	6	1460
4-20mA	7	1490

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

PEN 1 SECOND OUTPUT	CODE	PRICE
None	0	N/C
On-Off/Alarm Relay	1	82
On-Off/Alarm SSR Driver	2	82

PEN 2 TYPE/OUTPUT	CODE	PRICE
None	0	N/C
Recorder Only	1	465
High Limit	2	680
On-Off Controller Relay	3	572
On-Off Controller SSR Driver	4	572
Time Proportioning Relay	5	800
Time Prop. SSR Driver	6	800
4-20mA	7	837

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

PEN 2 SECOND OUTPUT	CODE	PRICE
None	0	N/C
On-Off/Alarm Relay	1	82
On-Off/Alarm SSR Driver	2	82

OPTION SUFFIX	CODE	PRICE
None	Blank	N/C
NEMA†	N3	89
Remote Thumbwheel only	AV	N/C
RTD Depression on Pen 2	AW	122
Reverse Range Pen 1	HA	N/C
Reverse Range Pen 2	HB	N/C
Reverse Range Pen 1 & 2	HC	N/C
N3 plus Reverse Pen 1	NA	89
N3 plus Reverse Pen 2	NB	89
N3 plus Reverse Pen 1 & 2	NC	89

VOLTAGE	CODE	PRICE
115V AC 60 Hz	1	N/C
230V AC 60 Hz	2	44
115V AC 50 Hz	3	N/C
230V AC 50 Hz	4	44
<u>CSA Approved</u>		
115V AC 60 Hz	5	40
230V AC 60 Hz	6	75
115V AC 50 Hz	7	40
230V AC 50 Hz	8	75

CHART ROTATION	CODE	PRICE
24 hour	1	N/C
7 day	2	6
12 hour	3	41
48 hour	4	56
72 hour	5	131

ENCLOSURE OPTION***	CODE	PRICE
Standard Cover (Plastic windows)	2	N/C
Door Lock	4	62
Sealed Conduit Connectors	6	62
Combination of 4 and 6	7	124

INTERNAL OPTIONS	CODE	PRICE
None	0	N/C
Chart Pin in Chart Flange	1	21
Event Pen (115 volts only)	2	169
Tamperproof Platen	3	30
Combination 1 & 2	4	188
Combination 1 & 3	5	48
Combination 2 & 3	6	194
Combination 1,2,3	7	217

\* 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, P/N 64402001 at \$15.00, if needed. Red replacement cartridge (5 per pkg.) \$30. Green replacement cartridges (5 per pkg.) \$30

Prices Subject to Change