

# Junior Series Digital Panel Meters

Screwdriver adjusted 3 1/2 digit indicators in a 1/8 DIN case



## Features

- Low cost indicators - no control outputs.
- Easy screwdriver adjustments - no programming.
- 3 1/2 digit display for readout to  $\pm 1999$ .
- Optional dummy right-hand zero for readout to  $\pm 19990$ .
- High-brightness red or green LED digits.
- Compact 1/8 DIN case, only 93 mm required behind panel.
- 99.9% accuracy of full scale for DC & process.
- Choice of signal conditioners for process, DC, AC avg, AC rms.
- 10 or 24 Vdc transducer excitation standard with process version.
- Safety certified (CE Mark).

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## Description

**Junior Series Digital Panel Meters** are ideal for general purpose monitoring applications which require an accurate digital display, but no control or data outputs. The standard meters have a 3 1/2 digit LED display for readout to  $\pm 1999$ . A dummy right-hand zero can be specified at the time of order for display to  $\pm 19990$ . The display can be specified as red or green. Digit height is 14.2 mm (0.56").

**Very easy to install and set up.** Junior Series meters fit in a 1/8 DIN panel cutout and require a depth of only 93 mm (3.66") behind the panel. The signal range and decimal point position are jumper selectable. Zero and span adjustments are via multiturn potentiometers, which are accessible from the front. This allows adjustments to be made while the meter remains panel mounted. To make installation and maintenance easy and trouble-free, all electrical connections are via detachable screw clamp connectors.

**Choice of signal conditioners.** The Junior Series is available for DC voltage and current, AC avg voltage and current, and process signals. Six process ranges are jumper selectable: 4-20 mA, 0-1 mA, 1-5 V, 0-10 V, 0-20 mA, and 0-5 V. The process meters also include a regulated transducer excitation output of 10 or 24 Vdc (jumper selectable). Reading accuracy is 0.1% of range for the DC and process versions, and 0.25% of range for the AC versions.

**Display Only.** The Junior Series is for indication only. Please go to the [Laureate Series](#) if you require setpoint control, analog output, or data I/O (RS-232/485 or parallel BCD).

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# Specifications

## DC Voltage

DC Voltage Range	Resolution	Input Ohms	Error at 25°C
200.0 mV	0.1 mV	1 M	0.1% of range ±1 count to 200V input
2.000 V	1 mV	1 M	
20.00 V	10 mV	1 M	
200.0 V	100 mV	1 M	
500 V	1 V	10 M	

## DC Current

DC Current Range	Resolution	Input Ohms	Error at 25°C
2.000 mA	1 µA	100	0.1% of range ±1 count to 2A input
20.00 mA	10 µA	10	
200.0 mA	100 µA	1	
2.000 A	1 mA	0.1	
5.00 A	10 mA	0.05	

## Process Signal

Signal jumper selectable	Resolution	Input Ohms	Error at 25°C ±1 count
0-1 mA	1 part in 2000	200	0.1% of range ±1 count
0-20 mA		13	
4-20 mA		13	
0-5 V		1 M	
1-5 V		1 M	
0-10 V		1 M	

## AC avg Voltage (1% to 100% of full scale)

AC avg Voltage Range	Resolution	Input Ohms	Error at 25°C
200.0 mV	0.1 mV	1 M	0.25% of range ±1 count 40-5000 Hz
2.000 V	1 mV	1 M	
20.00 V	10 mV	1 M	
200.0 V	100 mV	1 M	
500 V	1 V	10 M	

## AC avg Current (1% to 100% of full scale)

AC avg Current Range	Resolution	Input Ohms	Error at 25°C
2.000 mA	1 µA	100	0.25% of range ±1 count 40-5000 Hz
20.00 mA	10 µA	10	
200.0 mA	100 µA	1	

2.000 A 5.00 A	1 mA 10 mA	0.1 0.05	
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## For All Signal Types

Display	
Readout type	3 1/2 digits, 7-segment LED, plus sign
Digit height	14.2 mm (0.56")
LED color	Red or green
Display range	-1999 to +1999 or -19990 to +19990
Decimal point selection	Via push-on jumpers on front of meter
Range & span adjust	Via screwdriver adjustments on front of meter
A/D Conversion	
Technique	Dual slope integration
Integration time	100 ms
Display update rate	2.5/sec
Power	
Voltage options	110 Vac, 230 Vac, 24 Vac, 48 Vac, 5 Vdc, 11-30 Vdc
Power consumption	< 4 W
Excitation Output (for process version)	
Output (selectable)	10 Vdc at 50 mA, or 24 Vdc at 30 mA, regulated.
Mechanical	
Bezel dimensions	48 x 96 mm (1.89" x 3.78"), H x W.
Panel cutout	45 x 92 mm (1.77" x 3.62"), H x W
Depth behind panel	93 mm (3.66")
Weight	250 g (9 oz)
Environmental	
Operating Temperature	0°C to 50°C (32°F to 122°F) -20°C to 70°C (-4°F to 158°F)
Storage Temperature	0-90% RH, non-condensing
Relative Humidity Protection	NEMA-12 (IP54) when panel mounted

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## Ordering Guide

### Junior Series Digital Panel Meters

Create a model number in this format: **JR2010P, BOX1**. This example calls out a Junior Series digital panel meter with red LEDs, 110 Vac power, an extra fixed digit of 0, standard connector, process input with default scaling of 4-20 mA = 0-1000, plus optional wall mounting polycarbonate enclosure sealed to NEMA-4X. Includes plug-in screw terminal connectors.



<b>Display Color</b>	<input type="checkbox"/> 1 Green LEDs.	NC
	<input type="checkbox"/> 2 Red LEDs.	NC
<b>Power</b>	<input type="checkbox"/> 0 110 Vac.	
	<input type="checkbox"/> 1 230 Vac.	NC
	<input type="checkbox"/> 2 24 Vac.	NC
	<input type="checkbox"/> 3 48 Vac.	\$40
	<input type="checkbox"/> 4 5 Vdc.	\$55
	<input type="checkbox"/> 5 11-30 Vdc.	\$70
	<input type="checkbox"/> 5 11-30 Vdc.	
<b>Digit Option</b>	<input type="checkbox"/> 0 None.	NC
	<input type="checkbox"/> 1 Extra zero digit, giving display range of $\pm 19990$ .	\$40
<b>Connector Options</b>	<input type="checkbox"/> 0 None.	NC
	<input type="checkbox"/> 1 4-20 mA	\$15
	<input type="checkbox"/> 2 Variable Brightness Adjustment.	\$35
<b>Signal Input</b>	<b>DC Volts</b>	
	<input type="checkbox"/> DCV1 $\pm 200.0$ mV.	NC
	<input type="checkbox"/> DCV2 $\pm 2.000$ V.	
	<input type="checkbox"/> DCV3 $\pm 20.00$ V.	
	<input type="checkbox"/> DCV4 $\pm 200.0$ V.	
	<input type="checkbox"/> DCV5 $\pm 500$ V.	
	<b>DC Amps</b>	
	<input type="checkbox"/> DCA1 $\pm 2.000$ mA.	NC
	<input type="checkbox"/> DCA2 $\pm 20.00$ mA.	
	<input type="checkbox"/> DCA3 $\pm 200.0$ mA.	
	<input type="checkbox"/> DCA4 $\pm 2.000$ A.	
	<input type="checkbox"/> DCA5 $\pm 5.00$ A.	
	<b>AC Volts (Average)</b>	
	<input type="checkbox"/> ACV1 200.0 mV.	\$30
	<input type="checkbox"/> ACV2 2.000 V.	
	<input type="checkbox"/> ACV3 20.00 V.	
	<input type="checkbox"/> ACV4 200.0 V.	
	<input type="checkbox"/> ACV5 500 V	
	<b>AC Amps (Average)</b>	
	<input type="checkbox"/> ACA1 2.0000 mA.	\$30
	<input type="checkbox"/> ACA2 20.000 mA.	
	<input type="checkbox"/> ACA3 200.00 mA.	
<input type="checkbox"/> ACA4 2.000 A.		
<input type="checkbox"/> ACA5 5.00 A.		

**Process Signals** (e.g., 4-20 mA, 0-5 V, etc.)

**P** Default Scaling. 4-20 mA = 0-10000. \$20

**P1** Custom Scaling.  
In the write-in field of your invoice, specify min input, min reading; max input, max reading. \$30

**Add-on  
Options**

**BOX1** Wall-mount enclosure.  Unselected. \$150

**BOX2** Wall-mount enclosure plus IPC cover.  Unselected. \$190

**IPC** Splash-proof cover.  Unselected. \$40