

2.0 SPECIFICATIONS

2.1 ANALOG INPUT

Model 202A-E

Range	4-20 mA	1-5 V	0-10 V
Input resistance	13	1 M	1 M
Bias current	50 pA	10 pA	5 pA
Maximum input	55 mA	250 V	250 V
Ratiometric reference	0.05 - 0.2 V dc or 0.5 - 2 V dc		

Model 202A-S

Range			
Most-sensitive scaling	± 19.99 mV, 10 μ V resolution		
Least-sensitive scaling	± 2.5 V, 1 mV resolution (limited by CMV)		
Input resistance	1 G Ω min without bridge balance		
Bias current	1 nA typ, 5.5 nA max		
Maximum voltage	50 V		
Configuration	Differential, ratiometric, bipolar		
Coarse preamplifier gains	1, 3, 10, 30, 100		
Bridge-balance range	± 1.5 mV with 350 Ω bridge		
Zero-adjustment range	-1000 to +1000 counts		
Span-adjustment range	0 to 2000 counts		

2.2 ACCURACY AT 25°C

Models 202A-E and 202A-S

Warmup to rated accuracy	10 minutes
Full-scale step response	1.0 second
Maximum error	$\pm 0.05\%$ of reading ± 1 count
Span tempco, ratiometric	$\pm 0.01\%$ of reading/ $^{\circ}$ C
Span tempco, non-ratiometric	$\pm 0.03\%$ of reading/ $^{\circ}$ C

Model 202A-E

Zero tempco	± 0.01 of offset/ $^{\circ}$ C
-------------	------------------------------------

Model 202A-S

Balance tempco	± 0.3 μ V/ $^{\circ}$ C typ, ± 1.0 μ V/ $^{\circ}$ C max
Zero tempco	$\pm 0.01\%$ of zero/ $^{\circ}$ C

2.3 NOISE REJECTION

Models 202A-E and 202A-S

CMR, SIG GND to SIG HI	120 dB at gain 100, DC to 60 Hz
CMR, SIG GND to PWR GND	120 dB, DC to 60 Hz
CMV, SIG GND to PWR GND	1500 Vp test; 354 Vp per IEC spacing

Model 202A-E

NMR, SIG HI to SIG LO	56 dB, 50/60 Hz
-----------------------	-----------------

Model 202A-S

CMV, SIG GND to SIG HI or LO	+2.5 V dc
NMR, SIG HI to SIG LO	70 dB, 50/60 Hz

2.4 EXCITATION SUPPLY

Model 202A-S

Output voltage	Adjustable from 10 to 24 V dc
Output current, max	30 mA at 10 V dc, decreasing to 20 mA at 24 V dc
Load regulation	$\pm 0.5\%$
Line regulation	$\pm 0.01\%/V$ of AC power
Tempco	$\pm 0.02\%/^{\circ}$ C
Ripple at 50/60 Hz	$\pm 0.01\%$

2.5 ANALOG-TO-DIGITAL CONVERSION

Models 202A-E and 202A-S

Technique	Dual-slope, average-value
Signal Integration Period	100 milliseconds
Read rate	2.5/seconds

2.6 DISPLAY

Models 202A-E and 202A-S

Type	7-segment, red LED
Digit height	14.2 mm (0.56 in)
Symbols	-1.8.8.8
Decimal points	Three positions programmable by jumpers behind lens or at connector, 10 mA sink
Overrange Indication	Three least-significant digits blank

2.7 POWER

Models 202A-E and 202A-S

AC voltages	115 or 230 V ac, $\pm 15\%$
AC frequency range	49 to 440 Hz
DC voltages	9-32 V dc, isolated to 300 Vp 26-56 V dc, isolated to 300 Vp
Power consumption	3.7 watts
Output voltages	+4.7 V dc and -4.7 V dc $\pm 5\%$, 10 mA max

2.8 ENVIRONMENTAL

Models 202A-E and 202A-S

Operating temperature	0 to 60°C
Storage temperature	-40 to +85°C
Relative humidity	95% to 40°C (non-condensing)

2.9 MECHANICAL

Models 202A-E and 202A-S

Bezel	96 x 48 x 8.0 mm (3.78 x 1.89 x 0.31 inches)
Depth behind bezel with connector	104,2 mm (4.10 inches)
Panel cutout	92 x 45 mm (3.62 x 1.77 inches)
Weight	425 g (15 oz)
Case material	94V-0 UL-rated polycarbonate
D1 connector	PCB edge connector with double row of 18 pins; 3.96 mm (0.156 inches) between pins
D4 connector	Barrier strip with #6 screw terminals for power and signal inputs (removes these inputs from D1)