

## MX4A Active Convection Vacuum Gauge

Part Number: 2-8930-1XX

Operating Specifications	
Operating Range	1*10 <sup>-4</sup> Torr to 1000 Torr
Display	OLED
Digital Communications	RS-485
Analog Output	Selectable 0 V DC to 10 V DC
Programmable Set Points	2
Set Point 1	Open collector
Set Point 2	Relay
Supply Voltage	22 V DC to 26 V DC
Maximum Power	8 W
Calibration Medium	Dry air or nitrogen
Overpressure	150 PSI
Digital Output Resolution	2 significant digits with exponent
Analog Output Resolution	16-bits
Operating Temperature	0 °C to 50 °C
Storage Temperature	-20 °C to 60 °C
Bakeout Temperature	
Brass (PN: -110, -116, -125)	100 °C (electronics removed)
Stainless (PN: All Others)	200 °C (electronics removed)
Response Time	≤ 2 s
Accuracy (Vertical Mount)	
0.1 mTorr to 1 mTorr	0.1 mTorr resolution
1 mTorr to 10 mTorr	±1 mTorr
10 mTorr to 1000 Torr	±10% of reading
Analog Output	±10 mV
Display Readable Distance	3 m (10 ft)

Ordering Information	
<b>MX4A Active Vacuum Gauge</b>	<b>Part Number</b>
1/8" NPT Stainless Steel	2-8930-101
1/8" NPT Nickel-Plated Brass	2-8930-110
1/2" Straight Stainless Steel	2-8930-111
NW16 (DN16 ISO-KF) Nickel-Plated Brass	2-8930-116
NW16 (DN16 ISO-KF) Stainless Steel	2-8930-130
NW25 (DN25 ISO-KF) Nickel-Plated Brass	2-8930-125
NW25 (DN25 ISO-KF) Stainless Steel	2-8930-131
NW40 (DN40 ISO-KF) Stainless Steel	2-8930-132
1.33" CF (DN16 ISO-CF-F) Stainless Steel	2-8930-150
2.75" CF (DN40 ISO-CF-F) Stainless Steel	2-8930-152
VCR and VCO available upon request	

<b>D-Sub 6 Conductor Cable (flying leads)</b>	<b>Part Number</b>
20 ft (6 m)	2-9857-020
50 ft (15 m)	2-9857-050
100 ft (30 m)	2-9857-100

<b>D-Sub 15 Conductor Cable (flying leads)</b>	<b>Part Number</b>
20 ft (6 m)	2-9858-020
50 ft (15 m)	2-9858-050
100 ft (30 m)	2-9858-100

<b>Wall Power Supply</b>	<b>Part Number</b>
100-240 V AC/47-63 Hz, plug types A, C, G, I	2-7900-097

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### Description

The Televac® MX4A Convection Active Gauge utilizes an easily replaceable (no screws) Televac® 4A convection vacuum sensor. It has a variety of features including a wide range of measurement from 10<sup>-4</sup> Torr to 1000 Torr, RS-485 communications, two programmable set points, and a selectable analog output. The bright, color OLED display included on every unit makes it easy to read from a distance and allows settings and calibration to be adjusted at the unit without any additional equipment.



Options can be set from four capacitive touch controls located on the top of the unit or through RS-485 communications. The extensive selection of fittings, simplicity of use, ease of sensor replacement, and low cost make this unit an excellent choice for a variety of vacuum applications.

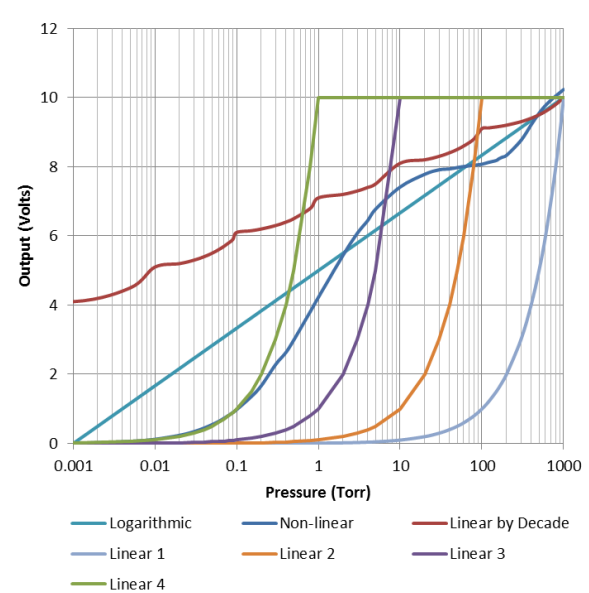
### Benefits

- Simple sensor replacement - no screws to remove
- Extremely fast lead times of 2 weeks or less
- Competitively priced
- Compact design with an easy to read color OLED display
- Excellent resolution and accuracy of measurements
- Superior unit to unit performance
- Excellent customer support

### Ratings and Compliance

- CE certified to EN 61010-1, EN 61236-1, EN 55011
- Certified to CAN/CSA C22.2 No. 61010-1-12
- RoHS compliant
- IP40
- EAC certified

### Analog Output Behavior



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### Additional Documentation

- Televac® Tolerances
- AN 3001 - Comparison of the MX2A and MX4A Active Gauges
- AN 3010 - Torr Scientific/Torr Decimal/mTorr/Micron Conversions
- AN 3015 - Televac® Recommended Practices for Vacuum Calibration
- AN 3020 - Vacuum Terminology Reference

### Set Points

The MX4A has two set points. Set point 1 is an N-Channel 60 V MOSFET open collector. It has a maximum current rating of 1 A. The data sheet can be found at [www.vishay.com/docs/69958/si2308bds.pdf](http://www.vishay.com/docs/69958/si2308bds.pdf). Set point 2 is a relay with a maximum switching voltage of 220 V DC (250 V AC) and a maximum switching current of 2 A. The data sheet can be found at [www.te.com/catalog/pn/en/1393788-3](http://www.te.com/catalog/pn/en/1393788-3).

### Electrical Connections

Pin	Description
1	Analog Out (Ground)
2	RS-485 A (-)
3	SP2 NC
4	SP2 NO
5	SP1 Open Drain
6	Floating
7	Floating
8	Supply Voltage (+)
9	Analog Out (0 to 10) V
10	RS-485 B (+)
11	SP2 Com
12	SP1 Source
13	Floating
14	Floating
15	Supply Voltage (-)

### Physical Characteristics

Housing	Aluminum
Electrical Connections	D-Sub 15-pin male
Weight with Sensor (typical)	350 g (0.77 lbs)
Weight without Sensor (typical)	200 g (0.44 lbs)
Dimensions	See dimensional drawings

### Sample RS-485 Commands (assume default address 0)

*0S1<CR>	Read vacuum
*0R1<cr>	Read units
*0R2<cr>	Read SP1L and SP1H

### Materials Exposed to Vacuum

MX4A PN: 2-8930-110, -116, -125	MX4A PN: All Others
Nickel	Nickel
Glass	Glass
Gold	Gold
Tophet	Tophet
Cupron	Cupron
Solder	Stainless Steel

### Related Products and Replacement Sensors

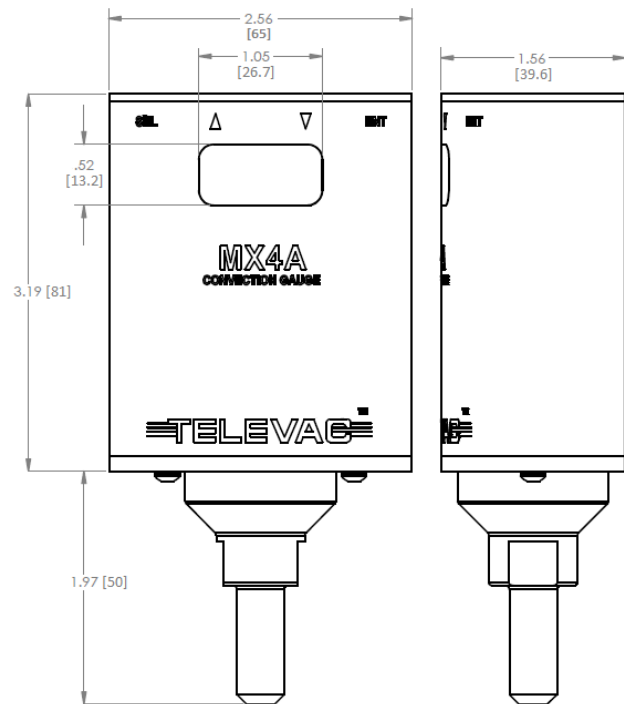
Description	Part Number
4A Sensor 1/8" NPT Nickel-Plated Brass	2-2119-010
4A Sensor NW16 (DN16 ISO-KF) Nickel-Plated Brass	2-2119-016
4A Sensor NW25 (DN25 ISO-KF) Nickel-Plated Brass	2-2119-025
4A Sensor 1/8" NPT Stainless Steel	2-2120-001
4A Sensor 1/2" Straight Stainless Steel	2-2120-011
4A Sensor NW16 (DN16 ISO-KF) Stainless Steel	2-2120-030
4A Sensor NW25 (DN25 ISO-KF) Stainless Steel	2-2120-031
4A Sensor NW40 (DN40 ISO-KF) Stainless Steel	2-2120-032
4A Sensor 1.33" CF (DN16 ISO-CF-F) Stainless Steel	2-2120-050
4A Sensor 2.75" CF (DN40 ISO-CF-F) Stainless Steel	2-2120-052

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Pair the MX4A with an MX7B for full range vacuum measurement from 1\*10<sup>-8</sup> Torr to 1000 Torr!



### Dimensional Drawings



\*Dimensions are drawn with 1/8" NPT fitting installed

### Contact Us

Televac® - The Fredericks Company  
 2400 Philmont Avenue  
 Huntingdon Valley, PA 19006  
 tel: +1 215 947 2500  
 fax: +1 215 947 7464  
 email: [sales@frederickscompany.com](mailto:sales@frederickscompany.com)  
 web: [www.frederickscompany.com](http://www.frederickscompany.com)

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