



MP7ER Cold Cathode Ionization Active Vacuum Gauge

Part Number: 2-7950-XXY

Operating Specifications

Operating Range	1*10 ⁻⁸ Torr to 1*10 ⁻² Torr
Display	LED
Analog Output	Selectable 0 V DC to 10 V DC
Programmable Set Points	1
Set Point 1	Relay
Supply Voltage	22 V DC to 26 V DC
Maximum Power	5 W
Calibration Medium	Dry air or nitrogen
Overpressure	150 PSI
Analog Output Resolution	12-Bit
Operating Temperature	0 °C to 50 °C
Storage Temperature	-20 °C to 60 °C
Bakeout Temperature	150 °C (electronics removed)
Response Time	≤150 ms
Accuracy	
	1*10 ⁻⁷ to 1*10 ⁻² Torr ±0.2 decade
Display Readable Distance	3 m (10 ft)

Ordering Information

MP7ER Active Gauge	Part Number
Logarithmic Output: 10 ⁻⁸ to 10 ⁻² (2 to 8 VDC)	X = 1
Linear Output: 10 ⁻⁶ to 10 ⁻² (0 to 10 V DC)	X = 2
Logarithmic Output: 10 ⁻⁸ to 10 ⁻² (3 to 9 V DC)	X = 3
1" Straight Stainless Steel	2-7950-X13
NW16 (DN16 ISO-KF) Stainless Steel	2-7950-X30
NW25 (DN25 ISO-KF) Stainless Steel	2-7950-X31
NW40 (DN40 ISO-KF) Stainless Steel	2-7950-X32
2.75" CF (DN40 ISO-CF-F) Stainless Steel	2-7950-X52

Replacement 7E Sensors	Part Number
1" Straight	2-2142-013
NW25 (DN25 ISO-KF)	2-2142-031
NW40 (DN40 ISO-KF)	2-2142-032
2.75" CF (DN40 ISO-CF-F)	2-2142-052

Replacement Parts	Part Number
7E Anode Assembly	2-7900-075

D-Sub 9 Pin Cable (flying leads terminated)	Part Number
10 ft (3 m)	2-9852-010
20 ft (6 m)	2-9852-020
35 ft (11 m)	2-9852-035
50 ft (15 m)	2-9852-050

Wall Power Supply	Part Number
Type A (USA); 100-240 V AC/47-63 Hz	2-7900-093

Related Products

Name	Operating Range	Part Number
MP7FR	10 ⁻¹¹ to 10 ⁻² Torr	2-7970-X52
MX2A	10 ⁻³ to 10 ³ Torr	2-8910-1XX
MX4A	10 ⁻³ to 10 ³ Torr	2-8930-1XX

When combined with the MX2A or MX4A, the MP7ER will provide full range vacuum measurement from 10⁻⁸ to 1000 Torr. This is an optimal solution for heat treat and vacuum furnaces where calibration frequency requirements according to AMS 2769 vary between rough vacuum (MX2A and MX4A) and high vacuum (MP7ER) gauges.



Description

The Televac® MP7ER Active Gauge utilizes a cleanable 7E double inverted magnetron cold cathode. It has a variety of features including a wide range of measurement from 10⁻⁸ to 10⁻² Torr, a configurable analog output, a programmable set point, and a bright LED display.

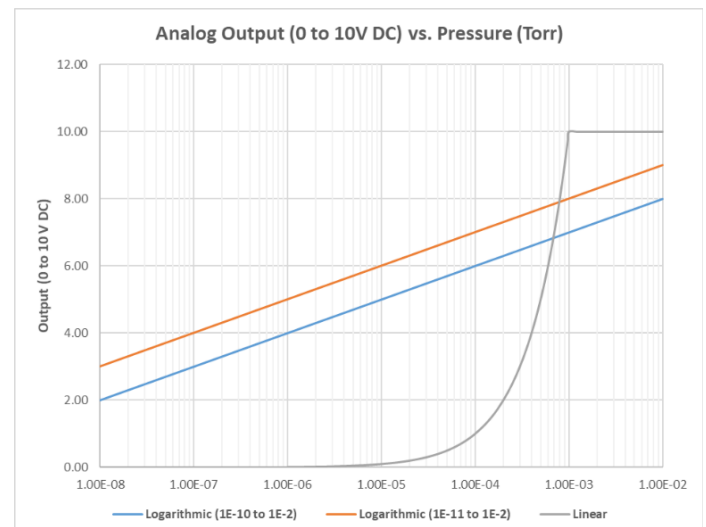
The selection of fittings, simplicity of use, ease of sensor cleaning, and low cost of the MP7ER make it an excellent choice for a variety of vacuum applications and industries. This gauge is designed for use with the MX2A and MX4A active gauges to provide full range vacuum measurement from 10⁻⁸ to 10³ Torr.

Applications

- Heat treatment and vacuum furnaces
- Thin film deposition and coating processes

Visit our website www.frederickscompany.com for a full list of applications.

Analog Output Behavior



MP7ER Cold Cathode Ionization Active Vacuum Gauge Part Number: 2-7950-XXX



Benefits

- Low cost with a compact design and LED display
- Reliable double inverted magnetron cold cathode technology
- Easily cleaned for extended sensor lifetime
- Excellent customer service and support
- Rapid turn-around for calibration and service
- Designed and manufactured in the USA

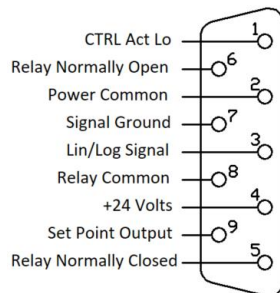
Ratings and Compliance

- IP40

Electrical Connections

Pin Description

Pin	Description
1	Sensor Voltage Control
2	Supply Voltage (Ground)
3	Analog Output (0 to 10 V)
4	Supply Voltage (+)
5	Set Point Relay NC
6	Set Point Relay NO
7	Analog Output (Ground)
8	Set Point Relay C
9	Set Point Output



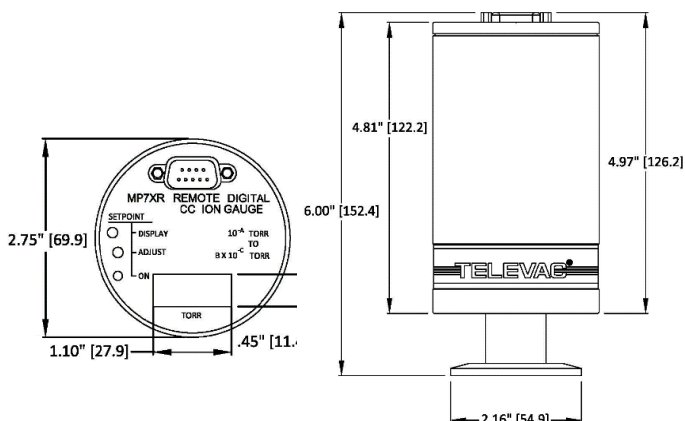
Set Points

The MP7ER has one set point. The setpoint uses a Form C contact relay. The DPDT contact has the following specifications:

- Rated Load (DC): 2 A at 30 V DC
- Rated Load (AC): 0.5 A at 125 V AC
- Maximum Switching Voltage (AC): 125 V AC
- Maximum Switching Voltage (DC): 125 V DC
- Maximum Rated Current: 2 A
- Maximum Switching Power (AC): 62.5 VA
- Maximum Switching Power (DC): 60 W

The relay datasheet can be found on the manufacturer's website:
<https://www.components.omron.com/product-detail?partId=227>

Dimensional Drawing



Physical Characteristics

Enclosure/Housing	Aluminum
Electrical Connections	D-Sub 9-pin male
Weight with Sensor	0.7 kg (1.6 lbs.)
Weight without Sensor	0.3 kg (0.8 lbs.)
Dimensions	See dimensional drawing

Materials Exposed to Vacuum

Stainless Steel
Ceramic
Fluorocarbon Elastomer

Company Information

High performance products designed and manufactured with pride in the USA - For over 80 years Televac has been a global provider and U.S. manufacturer and designer of high performance vacuum measurement products. Built to last, our products are made with state-of-the-art sensing technology, proven processes, and an intrinsic passion for the trade. Offering simple integration and quality and safety benchmarks, our customers benefit not just from standard-setting reliability, but from our commitment to competitive pricing and performance.

A partnership that prioritizes uptime, lead time, and service - Televac guarantees customer satisfaction and our 'not too big, not too small' operation is what enables us to offer a true partnership experience. Our dedicated representatives and engineers offer exceptionally responsive service and some of the fastest lead times in the industry, knowing that uptime is the key to your success. With anytime-access to our leadership team and solutions that enhance your products, you will feel the Televac difference.

Vacuum measurement tools built for the toughest jobs - Televac's world-class vacuum sensors, gauges, and control instrumentation are engineered for the most demanding applications and environments. Our Televac® and ETI vacuum brands feature cold-cathode technology, thermocouple and convection gauges, and precision-manufactured hot ionization gauges. Dedicated solely to vacuum gauging and calibration services, we provide industrial heating, national laboratories, cryogenics, and industrial gas applications, among many others, with fast lead times and industry-leading performance. Covering the entire practical vacuum range, our products deliver rapid response vacuum readings and superior sensitivity.

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