



MP7FR Cold Cathode Ionization Active Vacuum Gauge

Part Number: 2-7970-X52

Operating Specifications

Operating Range	1*10 ⁻¹¹ 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 70 °C
Bakeout Temperature	
Electronics removed with magnets	150 °C
Electronics and magnets removed	400 °C
Response Time	≤150 ms
Accuracy	
1*10 ⁻⁹ to 1*10 ⁻² Torr	±0.2 decade
Display Readable Distance	3 m (10 ft)

Ordering Information

MP7FR Active Vacuum Gauge	Part Number
Logarithmic Output: 10 ⁻¹⁰ to 10 ⁻² (0 to 8 VDC)	X = 1
Logarithmic Output: 10 ⁻¹¹ to 10 ⁻² (0 to 9 VDC)	X = 3
2.75" CF (DN40 ISO-CF-F) Stainless Steel	2-7970-X52
Replacement 7F Sensors	Part Number
2.75" CF (DN40 ISO-CF-F)	2-2144-052
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
MP7ER	10 ⁻⁸ to 10 ⁻² Torr	2-7950-X52
MX2A	10 ⁻⁴ Torr to 1000 Torr	2-8910-1XX
MX4A	10 ⁻⁴ Torr to 1000 Torr	2-8930-1XX

When combined with the MX2A or MX4A, the MP7FR 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 vary between rough vacuum (MX2A and MX4A) and high vacuum (MP7FR) gauges.



Description

The Televac® MP7FR Active Vacuum Gauge utilizes a 7F double inverted magnetron cold cathode passive vacuum gauge. It has a variety of features including a wide range of measurement from 10⁻¹¹ to 10⁻² Torr, a configurable analog output, a programmable set point, and a bright LED display.

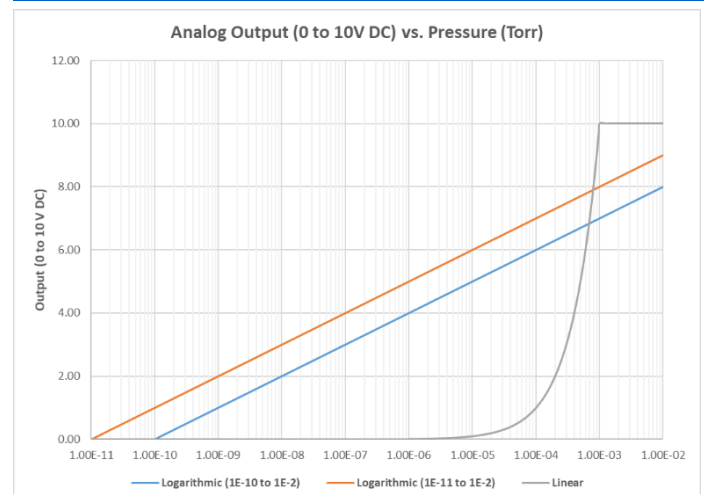
The simplicity of use, wide range of measurement, and low cost of the MP7FR make it an excellent choice for a variety of vacuum applications and industries. This gauge is designed for use with the MX2A and MX4A active gauges to provide full range vacuum measurement from 10⁻¹¹ to 10³ Torr.

Applications

- National labs, universities, and research and development
- Thin film deposition and coating processes

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

Analog Output Behavior



MP7FR Cold Cathode Ionization Active Vacuum Gauge Part Number: 2-7970-X52



Benefits

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

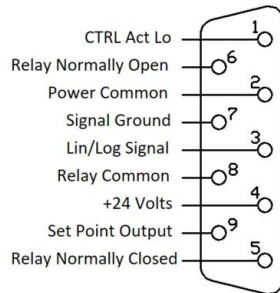
Ratings and Compliance

- 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



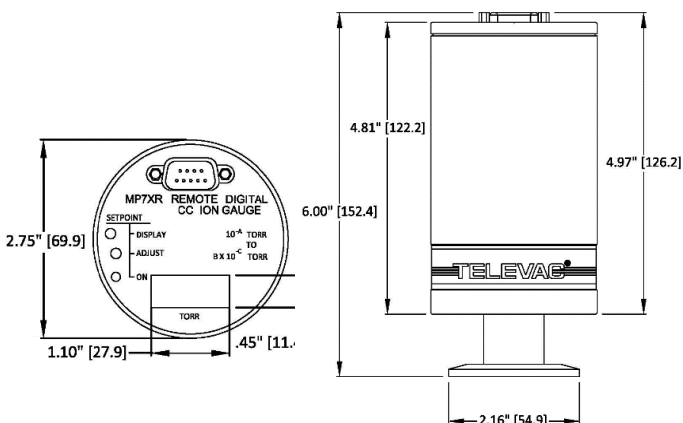
Set Points

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

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	1.0 kg (2.1 lb)
Weight without Sensor	0.4 kg (0.8 lb)
Dimensions	See dimensional drawing

Materials Exposed to Vacuum

Stainless Steel
Ceramic

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.

Contact Us

Televac® - The Fredericks Company
2400 Philmont Avenue
Huntingdon Valley, PA 19006

email: sales@frederickscompany.com
web: www.frederickscompany.com
tel: +1 215 947 2500
fax: +1 215 947 7464

Disclaimer: Specifications subject to change without notice. The Fredericks Company assumes no responsibility for inaccuracies in product specifications or any liability arising from product use.
© 2018 The Fredericks Company