

## MP7ER/7FR COLD CATHODE REMOTE Double Inverted Magnetron

Range 7ER:  $10^{-2}$  to  $10^{-8}$  Torr

Range 7FR:  $10^{-2}$  to  $10^{-11}$  Torr

- PERFORMANCE** – Patented Double Inverted magnetron technology enabling accurate high and ultra-high vacuum measurement, the highest vacuum measurement available using cold ionization technology.
- DESIGN** – Compact, rugged design with digital display for easy production floor inspection.
- EFFICIENCY** – Cleanable 7E sensor and replaceable 7F sensor with interchangeability without calibration.
- ECONOMY** – Self contained electronics and sensor reduces the system cost and saves valuable space eliminating traditional panel-mount instrumentation.



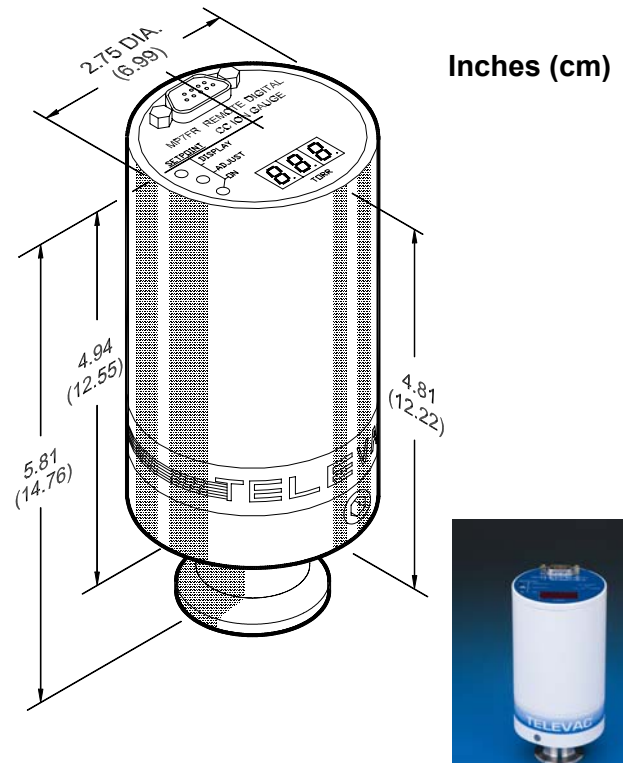
### Description

The MP7ER and MP7FR Series Cold Cathode Double Inverted Magnetron Remote gauges measure a wide vacuum range and the patented unique double magnet design provides reduced x-ray limits ensuring quick starts at high vacuum. The 7E sensor measures high vacuum  $10^{-2}$  to  $10^{-8}$  Torr and the 7F measures ultra high vacuum  $10^{-2}$  to  $10^{-11}$  Torr. The design of the MP7ER and MP7FR has proved to be rugged and reliable in applications from scientific instruments to industrial systems. The robust design can withstand sudden in-rushes of gas and are impervious to contamination compared to traditional high vacuum measurement techniques. The compactness of the MP7ER and MP7FR will allow it to fit in almost any space area and be mounted in any position. The self-contained electronics allows you to measure vacuum without using traditional large panel-mount instrumentation systems, clearly a more economical solution. Linear 0-10V analog output signal can be used for remote displaying and controlling of your vacuum measurement system. The easily adjustable setpoint feature uses a Form C relay contact allowing you to control other functions of your process. 7E and 7F sensors are bakeable to 300 C with the fast and easy removal of electronics and magnets.

#### Applications:

Ion implantation	Laser	Aircraft production
Data storage	Electron acceleration	Mass spectrometry

### Dimensions



# MP7ER/7F Remote Cold Cathode Gauge

## Ordering Information

## Specifications

**MP7ER** Analog output with LED Display  
1 relay contact – HV vacuum sensor  
Display range:  $10^{-2}$  to  $10^{-8}$  Torr

**Part Number**  
2 - 7950 - X YY

**MP7FR** Analog output with LED Display  
1 relay contact – UHV Vacuum Sensor  
Display range:  $10^{-2}$  to  $10^{-10}$  Torr

2 - 7970 - X YY

### X 0–10 V Output

1	Logarithmic: Range: $10^{-2}$ to $10^{-10}$ Torr 8V = $10^{-2}$ Torr 0V = $10^{-10}$ Torr <span style="float: right;">7E <math>10^{-8}</math> Torr Max</span>
	Linear: 0-10V <i>for use with 7E Sensor</i> Range: $10^{-3}$ to $10^{-6}$ Torr 10V = $10^{-3}$ Torr 1 V = $10^{-4}$ Torr 0.1V = $10^{-5}$ Torr 0.01V = $10^{-6}$ Torr
3	Logarithmic: Range: $10^{-2}$ to $10^{-11}$ Torr 9V = $10^{-2}$ Torr 0V = $10^{-11}$ Torr <span style="float: right;">7E <math>10^{-8}</math> Torr Max</span>

### YY Vacuum Fittings

13	1" Port Diameter (available only with 7E Sensor)
30	NW16 KF Flange (available only with 7E Sensor)
31	NW25 KF Flange
32	NW40 KF Flange
52	2.75" Conflat Flange

### Sensor Only Replacements

### Part Number

7E Sensor w/ NW16, Stainless	2-2141-030
7E Sensor w/ NW25, Stainless	2-2141-031
7E Sensor w/ NW40 KF Flange, stainless	2-2141-001
7E Sensor w/ 2 3/4" Conflat, stainless	2-2141-052
7F Sensor w/ NW25, Stainless	2-2145-031
7F Sensor w/ NW40 KF Flange, stainless	2-2145-001
7F Sensor w/ 2 3/4" Conflat, stainless	2-2145-052

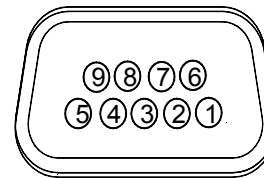
*others available upon request, contact factory*

### Cables

10 ft. 9 pin to Strip & Tin Leads	2-9852-010
20 ft. 9 pin to Strip & Tin Leads	2-9852-020
35 ft. 9 pin to Strip & Tin Leads	2-9852-035
50 ft. 9 pin to Strip & Tin Leads	2-9852-050

<b>Range</b>	<b>MP7ER: <math>10^{-2}</math> to <math>10^{-8}</math> Torr</b> <b>MP7FR: <math>10^{-2}</math> to <math>10^{-11}</math> Torr</b>
<b>Accuracy</b>	+/- 0.2 of decade of reading Sensitivity 6.5 amps/Torr at $10^{-6}$ Torr
<b>Mounting Orientation</b>	None
<b>Input Voltage/Power</b>	Required +24V DC @ 250 mA Power ON Indicator LED included
<b>Ion Control</b>	Ion ON/OFF Control is included
<b>Setpoint Relay</b>	Form C Contact 24V .5 A rating
<b>Operating Temperature</b>	+ 15 to +50 C
<b>Calibration Medium</b>	Dry Air or Nitrogen
<b>Sensor Material</b>	Stainless Steel (Type 304)
<b>Overpressure Tolerance</b>	150 PSI

## Electrical Connections



1. CRTL Act Lo
2. Power common
3. Lin/Log signal
4. +24Volts
5. Relay normally closed
6. Relay normally open
7. Signal ground
8. Relay common
9. Set point output

## Output Graph

