

## 7E Double Inverted Magnetron Cold Cathode Sensor Part Number: 2-2142-0XX

### Operating Specifications<sup>1</sup>

<b>Operating Range</b>	1*10 <sup>-8</sup> to 1*10 <sup>-2</sup> Torr
<b>Analog Output</b>	Controller-dependent
<b>Supply Voltage</b>	Controller-dependent
<b>Mounting Orientation</b>	Any
<b>Calibration Medium</b>	Dry air or nitrogen
<b>Overpressure</b>	150 PSI
<b>Analog Output Resolution</b>	Controller-dependent
<b>Operating Temperature</b>	0° to +50° C
<b>Storage Temperature</b>	-20° to +70° C
<b>Continuous Bakeout Temperature</b>	150° C
<b>Response Time</b>	≤ 10 ms
<b>Accuracy</b>	
	1 x 10 <sup>-7</sup> to 1 x 10 <sup>-2</sup> Torr ±0.2 decade

### Physical Characteristics

<b>Electrical Connections</b>	SHV5
<b>Weight</b>	390 g (0.86 lbs) (NW25)
<b>Dimensions</b>	See dimensional drawings

### Materials Exposed to Vacuum

Stainless Steel
Ceramic
Fluorocarbon Elastomer

### Benefits

- Cleanable design for extended use
- Compact design
- Improved sensitivity when compared to Penning Magnetrons
- Mountable in any orientation
- Minimal stray magnetic field
- Interchangeable with 7F, 7FC, 7FCS
- Excellent customer support
- Designed and manufactured in the United States of America

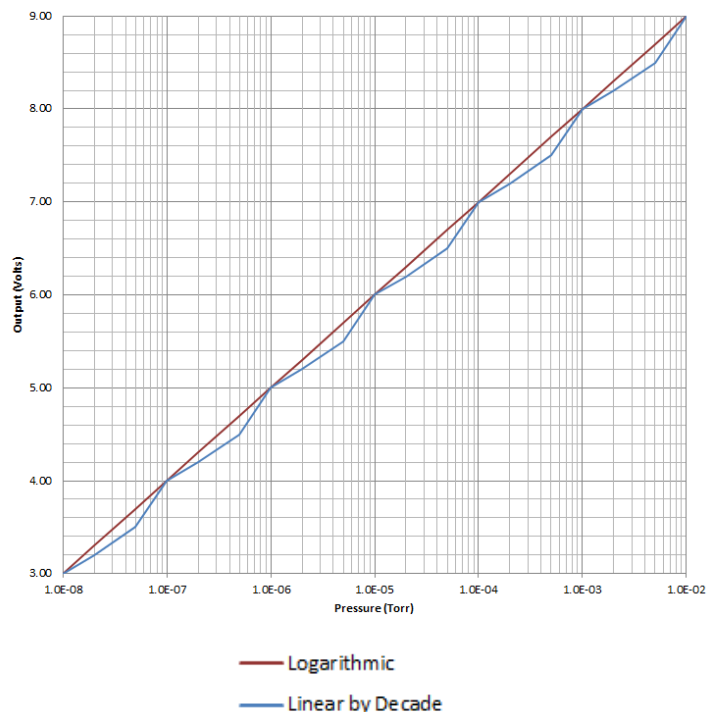
### Description

The 7E cold cathode sensor has a measurement range from 1\*10<sup>-8</sup> up to 1\*10<sup>-2</sup> Torr. It indirectly measures absolute pressure by ionizing gas in the presence of a magnetic field. Unlike hot filament sensors, the 7E is resistant to inrushes of gas. The design of this sensor allows for easy disassembly enabling quick cleaning and extended use.



The 7E can be operated by several Televac controllers, including the MX200 or MC300 rack mountable controllers and the MP7ER active gauge. The MX200 and MC300 controllers automatically operate the cold cathode to provide a full range vacuum measurement solution when the 7E is used in conjunction with rough vacuum sensors.

### Analog Output Behavior (MX200, MC300)



### Ratings and Compliance

- RoHS compliant

<sup>1</sup> See the Televac website at [www.televac.com](http://www.televac.com) for a list of definitions for terms used in the operating specifications. All test data was acquired at 23° C.



## 7E Double Inverted Magnetron Cold Cathode Sensor

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### Ordering Information

<b>7E Part Number</b>	2-2142-0XX
<b>Vacuum Fittings</b>	XX
<b>1" Straight</b>	13
NW16 (DN16 ISO-KF)	30
NW25 (DN25 ISO-KF)	31
NW40 (DN40 ISO-KF)	32
2.75" CF (DN40 ISO-CF-F)	52
<b>Coaxial Cables (MM200 &amp; MC300)</b>	2-9841-0YY
<b>Triaxial Cables (MM200 only)</b>	2-9835-0YY
<b>Cable Length</b>	YY
10 ft (3 m)	10
20 ft (6.1 m)	20
35 ft (10.6 m)	35
50 ft (15.2 m)	50
<b>MM200 Base Unit</b>	2-7900-20
<b>MM200 7F Module</b>	2-6200-245
<b>MC300 2A/7E Configuration</b>	2-4502-303
<b>MC300 4A/7E Configuration</b>	2-4502-304
<b>MP7ER Active Gauge</b>	2-7950-ZXX

### Related Products

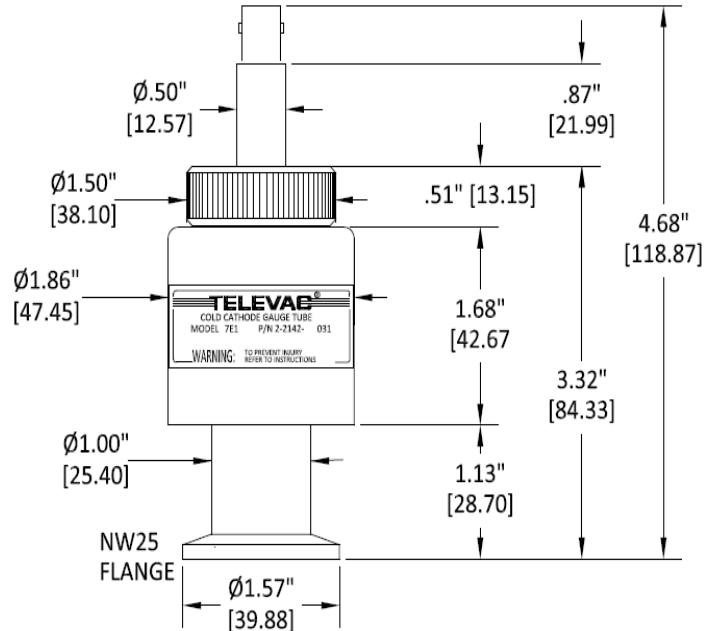
**7F Double Inverted Magnetron Cold Cathode Sensor** - This sensor has a measurement range from  $1 \times 10^{-11}$  up to  $1 \times 10^{-2}$  Torr. It indirectly measures absolute pressure by ionizing gas in the presence of a magnetic field. Unlike hot filament sensors, the 7F is resistant to inrushes of gas. The design of this sensor allows for an extended range of measurement and high bakeout temperatures up to 400° C. The 7F can be operated by several Televac controllers, including the MM200, MC300, and MP7FR. The MM200 and MC300 controllers automatically operate the cold cathode to provide a full range vacuum measurement solution when the 7F is used in conjunction with rough vacuum sensors.

**MP7ER Active Gauge** - This gauge measures high vacuum from  $1 \times 10^{-8}$  up to  $1 \times 10^{-2}$  Torr utilizing a double inverted magnetron sensor. It has a linear or logarithmic 0 to 10 V analog output with a relay set point and an LED display of pressure.

**MX200 Vacuum Sensor Controller** - The MX200 controls any Televac vacuum sensor including cold cathode, convection, diaphragm, and thermocouple sensors. It also has optional features including up to 8 relay set points and Ethernet/IP/RS-232/RS-485/USB communications. The large, bright LED display makes it easy to read from a distance. The MX200 is a modular unit, allowing you to choose a vacuum sensing solution specific to your needs.

Visit the Televac website at [www.televac.com](http://www.televac.com) for a full list of products and product applications.

### Dimensional Drawings



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