

## 7B Penning Magnetron Cold Cathode Sensor

Part Number: 2-2100-2XX

Operating Specifications <sup>1</sup>	
Operating Range	1 x 10 <sup>-7</sup> to 1 x 10 <sup>-3</sup> Torr
Analog Output	Controller-dependent
Supply Voltage	Controller-dependent
Mounting Orientation	Any
Calibration Medium	Dry air or nitrogen
Overpressure	150 PSI
Analog Output Resolution	Controller-dependent
Operating Temperature	0° to +50° C
Storage Temperature	-20° to +70° C
Bakeout Temperature	120° C
Response Time	≤ 50 ms
Accuracy	1 x 10 <sup>-6</sup> to 1.0 x 10 <sup>-3</sup> Torr ± .2 decade

Physical Characteristics	
Electrical Connections	MHV
Weight	795 g (1.75 lbs) (NW25)
Dimensions	See dimensional drawings

Materials Exposed to Vacuum	
Brass	
Stainless Steel	
Tophet	
Kovar	
Ceramic	
Glass	
Fluoropolymer Elastomer	
Nickel	
Solder	

- ### Benefits
- Competitively priced
  - Easily cleaned for extended sensor lifetime
  - Durable construction
  - Reliable Penning Magnetron technology
  - Resistant to inrushes of gas
  - Mountable in any orientation
  - Excellent customer support
  - Designed and manufactured in the United States of America

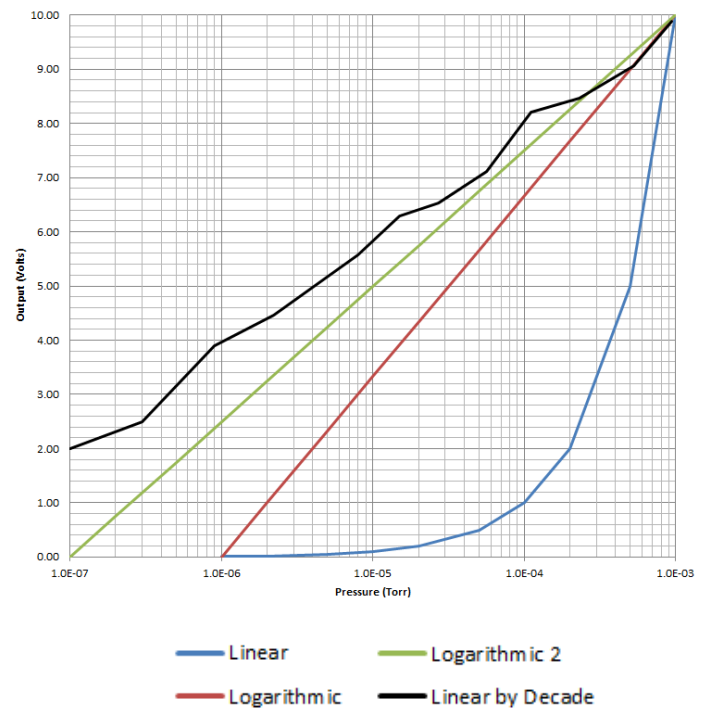
### Description

The 7B Penning magnetron cold cathode sensor has a measurement range from 1 x 10<sup>-7</sup> up to 1 x 10<sup>-3</sup> Torr. It indirectly measures absolute pressure by ionizing gas in the presence of a magnetic field. Unlike hot filament sensors, the 7B is resistant to inrushes of gas. The design of this sensor allows for easy disassembly enabling quick cleaning and extended use.



The 7B can be operated by the Televac MM200 or MC300 rack mountable controllers. These controllers automatically operate the cold cathode to provide a full range vacuum measurement solution when the 7B is used in conjunction with rough vacuum sensors.

### Analog Output Behavior (MM200)



### 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.





## 7B Penning Magnetron Cold Cathode Sensor

### Part Number: 2-2100-2XX

Ordering Information	
<b>7B Sensor Part Number</b>	2-2100-2XX
<b>Vacuum Fittings</b>	XX
3/4" NPT	63
3/4" Straight Brass	64
1" Straight Brass	65
1 1/4" Straight Brass	66
1" Straight Stainless Steel	67
NW25 (DN25 ISO-KF) Stainless Steel	72
<b>Recommended Controllers:</b>	
<b>MM200 Base Unit</b>	2-7900-20
<b>MM200 7B Module</b>	2-6200-227
<b>MC300 2A/7B Configuration</b>	2-4502-301
<b>MC300 4A/7B Configuration</b>	2-4502-302

**Related Products**

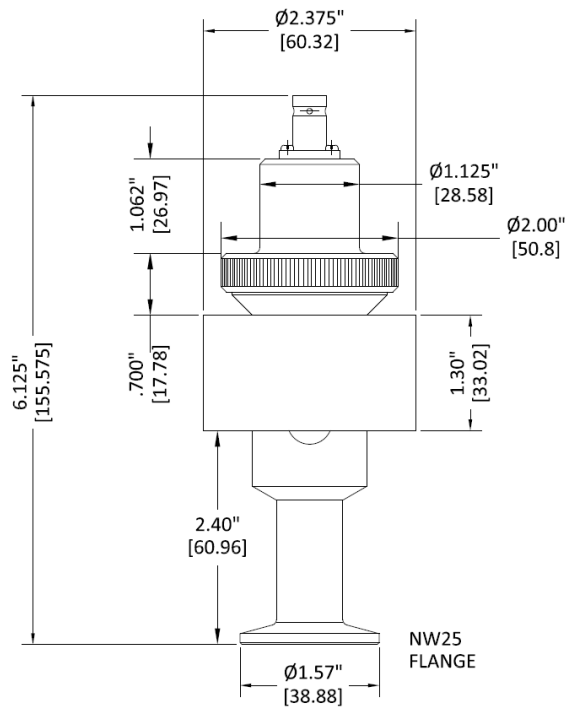
MP7ER Active Gauge – This gauge measures high vacuum from  $1 \times 10^{-8}$  up to  $1 \times 10^{-2}$  Torr utilizing a double inverted magnetron sensor. It has a linear or logarithmic 0 to 10 V analog output with a relay set point and an LED display of pressure.

7E Double Inverted Magnetron Cold Cathode Sensor – This sensor has a measurement range from  $1 \times 10^{-8}$  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 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 MM200, MC300, and MP7ER. The MM200 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.

MM200 Vacuum Sensor Controller – The MM200 controls any Televac vacuum sensor including cold cathode, convection, diaphragm, hot ion, and thermocouple sensors. It also has optional features including up to 8 relay set points and RS-232/RS-485 communications. The large, bright LED display makes it easy to read from a distance. The MM200 is a modular unit, allowing customers to choose a vacuum sensing solution specific to their 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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