

## 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	

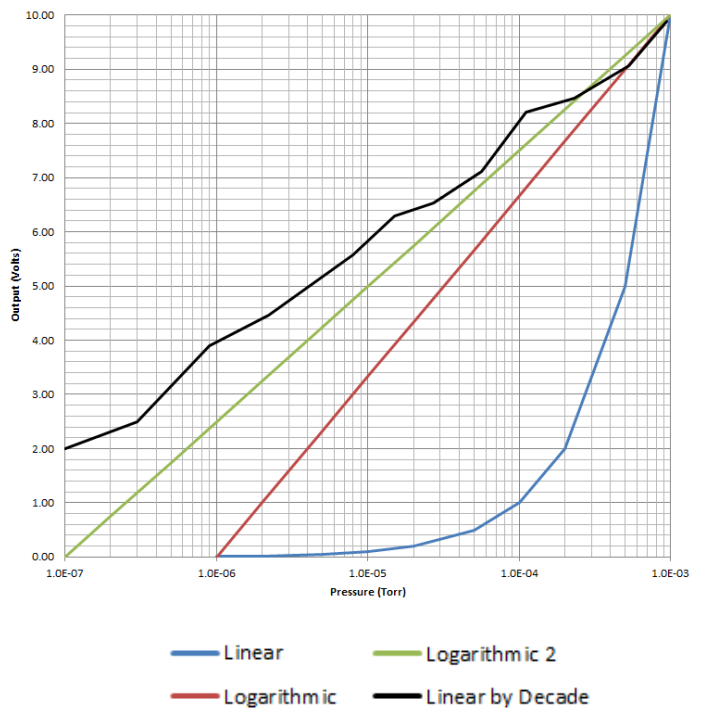
- ### Benefits
- Competitively priced
  - Easily cleaned for extended sensor lifetime
  - Durable construction
  - Reliable Penning Magnetron technology
  - Resistant to inrushes of gas
  - Mountable in any orientation
  - Excellent customer support
  - Designed and manufactured in the United States 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 MX200 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 (MX200)



### 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 Brass	63
1" Straight Brass	65
1 1/4" Straight Brass	66
3/4" Straight Stainless Steel	67
NW25 (DN25 ISO-KF) Stainless Steel	72

### Recommended Controllers:

<b>MX200 Base Unit</b>	2-7900-034
<b>MX200 EIP Base Unit</b>	2-7900-037
<b>MC300 2A/7B Configuration</b>	2-4502-301
<b>MC300 4A/7B Configuration</b>	2-4502-302

### Related Products

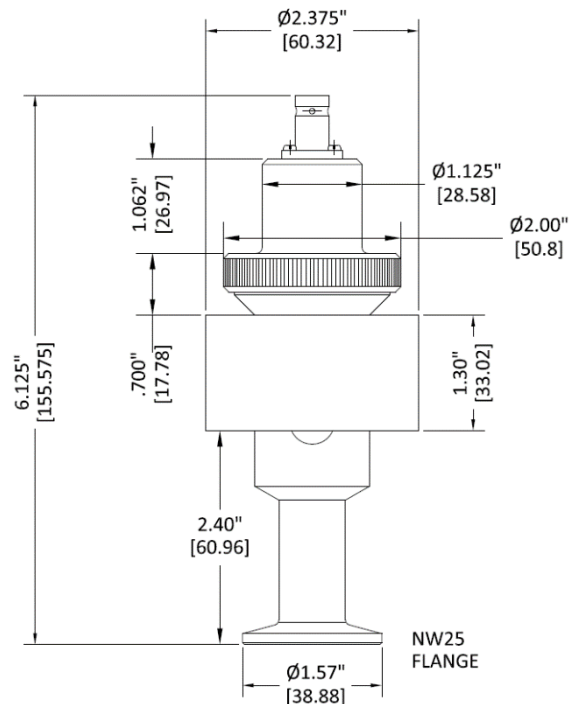
**MX7B Active Gauge** – This gauge utilizes a cleanable 7B Penning magnetron cold cathode. It has a variety of features including a wide range of measurement from  $10^{-8}$  to  $10^{-3}$  Torr, RS-485 digital communications, a micro-USB port, two programmable set points, a configurable analog output, and a bright color OLED display. The unit also features 4 capacitive touch controls, making all features accessible through the display.

**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 MX200, MC300, and MP7ER. 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.

The MX200 controls up to 10 Televac vacuum sensors including cold cathode, convection, diaphragm, and thermocouple sensors. The -034 version includes USB/RS-232/RS-485 with up to 8 optional set point relays. The user interface includes six touch controls and a high contrast, 180° viewing angle green OLED screen, which displays the units of measurement and the status of set points simultaneously. Multiple gas types are supported. 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 Drawing



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