

7E Double Inverted Magnetron Cold Cathode Sensor

Part Number: 2-2142-0XX



Operating Specifications ¹	
Operating Range	1 x 10 ⁻⁸ to 1 x 10 ⁻² 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
Continuous Bakeout Temperature	150° C
Response Time	≤ 10 ms
Accuracy	
1 x 10 ⁻⁷ to 1 x 10 ⁻² Torr	±0.2 decade

Description

The 7E cold cathode sensor has a measurement range from 1 x 10⁻⁸ up to 1 x 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.

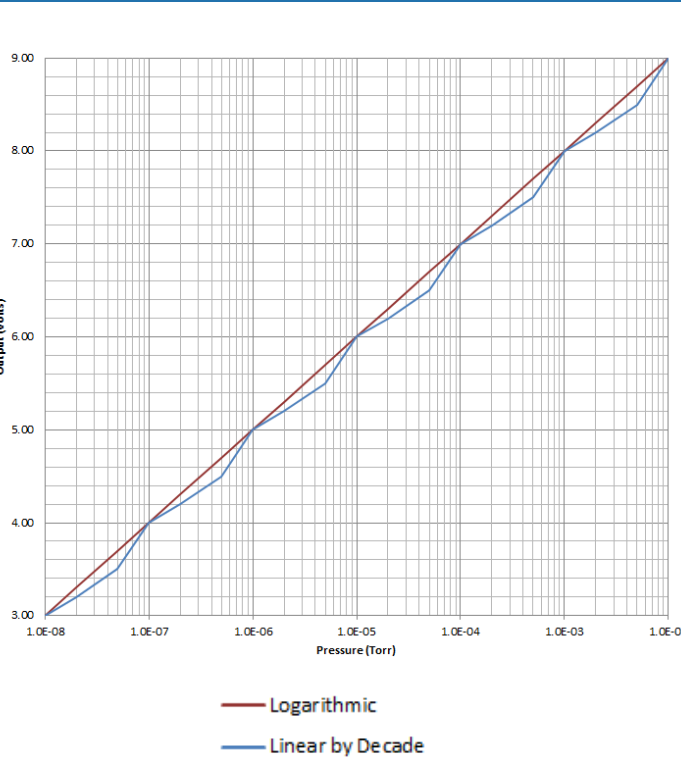
The 7E can be operated by several Televac controllers, including the MM200 or MC300 rack mountable controllers and the MP7ER. The MM200 and MC300 controllers automatically operate the cold cathode to provide a full range vacuum measurement solution when the 7E is used in conjunction with rough vacuum sensors.

Physical Characteristics	
Electrical Connections	SHV5
Weight	390 g (0.86 lbs) (NW25)
Dimensions	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

Analog Output Behavior (MM200)



Ratings and Compliance

- RoHS compliant

¹ See the Televac website at www.televac.com for a list of definitions for terms used in the operating specifications. All test data was acquired at 23° C.





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

Related Products

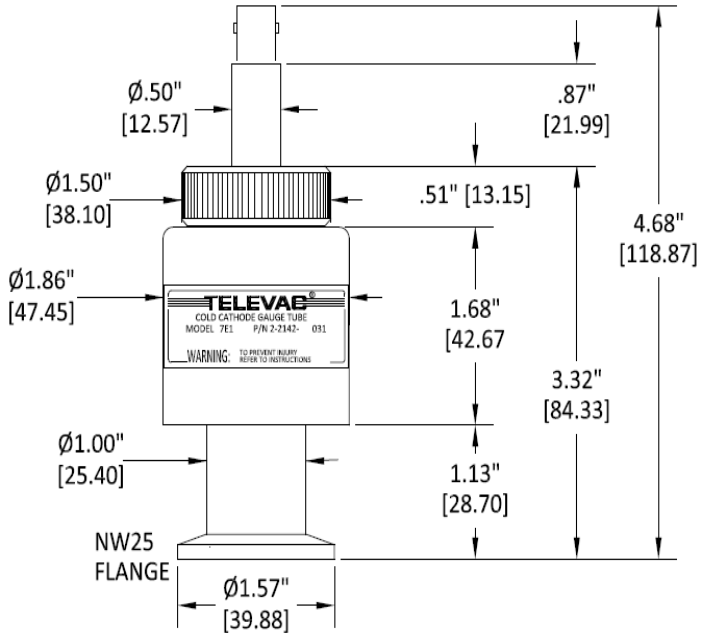
7F Double Inverted Magnetron Cold Cathode Sensor – This sensor has a measurement range from 1×10^{-11} up to 1×10^{-2} Torr. It indirectly measures absolute pressure by ionizing gas in the presence of a magnetic field. Unlike hot filament sensors, the 7F is resistant to inrushes of gas. The design of 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 1×10^{-8} up to 1×10^{-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.

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 for a full list of products and product applications.

Dimensional Drawings



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