

## 7F Double Inverted Magnetron Cold Cathode Sensor Part Number: 2-2144-052

Operating Specifications <sup>1</sup>	
Operating Range	1 x 10 <sup>-11</sup> to 1 x 10 <sup>-2</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	400° C (without magnets) 150° C (with magnets)
Response Time	≤ 10 ms
Accuracy	
1 x 10 <sup>-9</sup> to 1 x 10 <sup>-2</sup> Torr	±0.2 decade

Physical Characteristics	
Electrical Connections	SHV5
Weight	572 g (1.26 lbs)
Dimensions	See dimensional drawings

Materials Exposed to Vacuum	
Stainless Steel	
Ceramic	

- ### Benefits
- Competitively priced
  - Compact design
  - Minimal stray magnetic field
  - Resistant to inrushes of gas
  - High bakeout temperature
  - Interchangeable with 7E, 7FC, 7FCS
  - Excellent customer support
  - Designed and manufactured in the United States of America

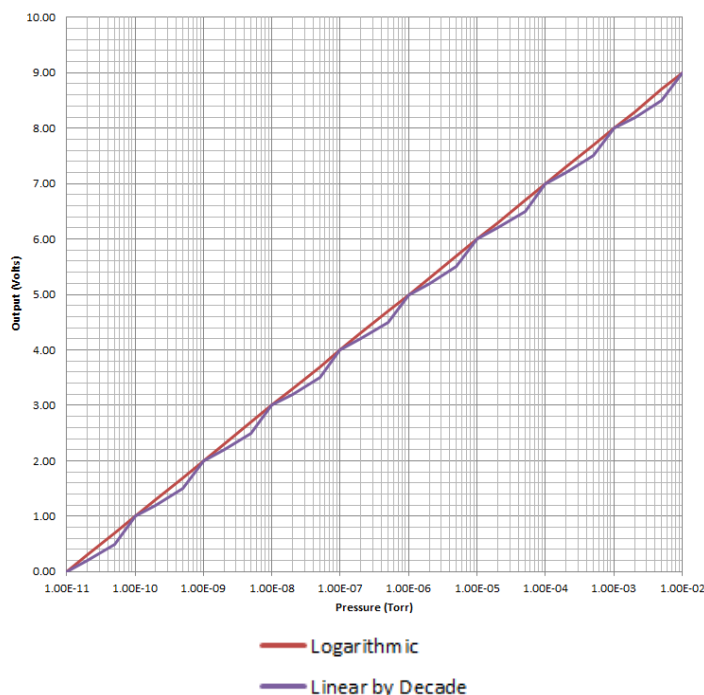
### Description

The 7F cold cathode sensor has a measurement range from 1 x 10<sup>-11</sup> up to 1 x 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 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 or MC300 rack mountable controllers and the 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.

### 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.





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### Ordering Information

7F Cold Cathode 2.75" CF (DN40 ISO-CF-F)	2-2144-052
Standard Cables	2-9841-0XX
High Temperature Cables (200 C)	2-9842-0XX
Triaxial Cables (MM200 only)	2-9835-0XX
Radiation Resistant Cables	2-9836-0XX
Cable Length	XX
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/7F Configuration	2-4502-303
MC300 4A/7F Configuration	2-4502-304
MP7FR Vacuum Gauge	2-7970-ZYY

### Related Products

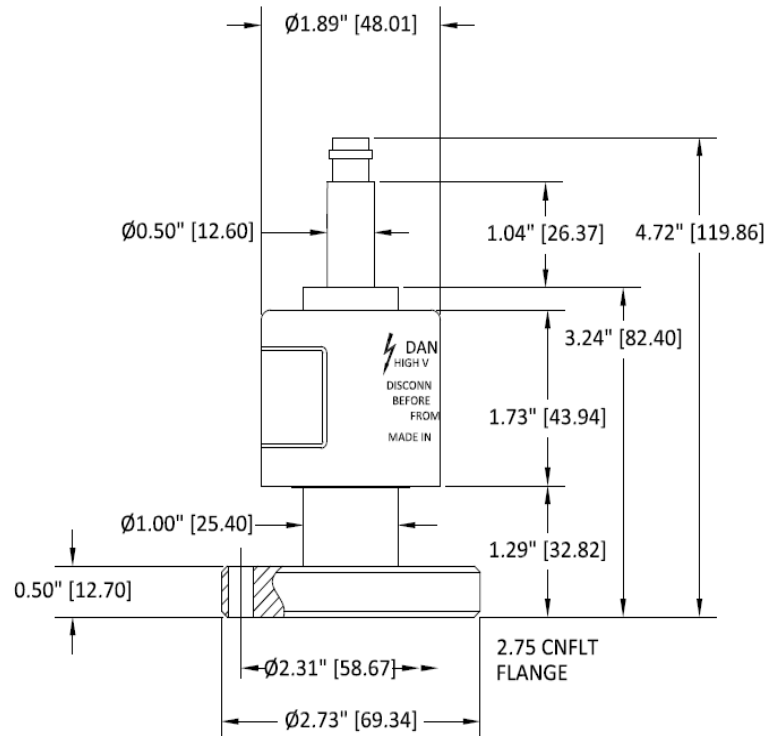
7E Double Inverted Magnetron Cold Cathode Sensor – This sensor has a measurement range from  $1 \times 10^{-8}$  up to  $1 \times 10^{-2}$  Torr. It indirectly measures absolute pressure by ionizing gas in the presence of a magnetic field. Unlike hot filament sensors, the 7E is resistant to inrushes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

MP7FR Active Gauge – This gauge measures ultra high vacuum from  $1 \times 10^{-11}$  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.

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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