

CC-10

Wide Range Vacuum Gauge Measurement Range: 760 Torr to 1×10^{-9} Torr

Product Features

- Seamless measurement from atmospheric pressure to UHV on a single vacuum port.
- 0-10VDC Analog Output
- RS485 digital communications
- Three Adjustable Set Points
- Digital Display, read in Torr, Mbar or Pa
- Power with 24VDC
- Small Size: 3.7" x 2.75" x 6.3"



PRODUCT DESCRIPTION

The CC-10 is a self-contained compact gauge and controller designed to replace multiple conventional vacuum gauges by incorporating the latest sensor technology to permit seamless measurement of twelve decades of pressure. This gauge uses dual sensor technology. Rough vacuum, from atmospheric pressure to 10^{-2} Torr is measured using a crystal sensor, while pressure from 10^{-2} Torr to 1×10^{-9} Torr is measured with a double inverted magnetron cold cathode sensor.

All operating parameters are easily addressed and checked from the membrane panel on the front of the electronics module. A blue-green segmented LED provides pressure indication. Discrete LEDs indicate status for each of the three set point relays.

The CC-10 offers the user the choice of both analog and digital communication as a standard feature.

TYPICAL PRODUCT APPLICATIONS

- ✓ Physical Vapor Deposition
- ✓ Optical & Functional Thin Films
- ✓ Molecular Beam Epitaxy
- ✓ Accelerators & UHV Research
- ✓ Electron Device Manufacture
- ✓ Optoelectronic Device Manufacture

CC-10 WIDE RANGE GAUGE

SENSOR DESCRIPTION

The crystal sensor is a simple tuning-fork quartz oscillator, similar to the oscillators commonly used in wrist watches. The electrical impedance of the oscillation depends upon the pressure of the gas that surrounds the quartz oscillator, because the resistance to the oscillation (as caused by friction between the quartz surface and gas molecule), varies as the pressure changes. The crystal sensor measures the electrical impedance of the quartz oscillator and its circuitry converts it to the pressure value.

The double inverted magnetron cold cathode sensor measures pressure by ionizing the residual gases in a magnetron discharge. The body of the sensor serves as the cathode and is at ground potential. The anode operates at as much as 4000 volts. A permanent magnet traps electrons in the sensor to sustain the discharge at a very low pressure. This type of sensor, like all ionization sensors, is sensitive to gas type, but unlike conventional ionization gauges, has no filaments to burn out, can operate continuously at higher pressure and is considerably more rugged and reliable.

PRODUCT SPECIFICATIONS

- Measurement Range: 760 Torr to 1×10^{-9} Torr
- Measurement Units: Torr, Mbar or Pa
- Sensor Technology: Crystal / Double Inverted Magnetron Cold Cathode that is a Modular & Replaceable Assembly
- Display: Blue-Green Segmented LED, numeric pressure indicator plus discrete LEDs for set point status
- Analog Output: 0-10VDC, log / combined linear characteristics
- Set Points: Three (3) independent set points, adjustable. Contact rating 50VDC @ 0.12A
- Digital Interface: RS485 via d-sub 15 pin female
- Vacuum Connection: NW25 or 2.75" CF
- Operating Voltage: 22-26VDC
- Operating Temperature: Max. 50 degrees C
- Bake Temperature: Max. 150 degrees C (with electronics module removed)
- Physical Envelope: 3.7" x 2.75" x 6.3"
- Product Weight: 1.54 lbs. with NW25 flange

ORDERING INFORMATION

CC-10 Instrument with NW25 Mounting Flange	2-7980-031
CC-10 Instrument with NW40 Mounting Flange	2-7980-032
CC-10 Instrument with 2.75" CF Flange	2-7980-052
Replacement Sensor Assembly with NW25 Mounting Flange	2-2166-031
Replacement Sensor Assembly with NW40 Mounting Flange	2-2166-032
Replacement Sensor Assembly with 2.75" CF Flange	2-2166-052
Replacement Anode & Crystal Assembly	2-7900-099
Replacement Viton O-Ring for Anode & Crystal Assembly	6-4210-260
Remote Display Module	2-7900-098
CC-10 Cable, 10' Length	2-9870-010
CC-10 Cable, 20' Length	2-9870-020
110VAC / 24VDC Power Supply	2-7900-097

The logo for TELEVAC, featuring the word "TELEVAC" in a bold, blue, sans-serif font. To the right of the text are three horizontal blue lines of varying lengths, creating a stylized graphic element.

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