



TELEDYNE HASTINGS INSTRUMENTS

DAVC-4, DAVC-5, DAVC-6

FEATURES

- Operates Hastings Instruments' Most Popular DV-4, DV-5 and DV-6 Gauge Tubes
- Ranges:
 - DV-6 (1 – 999 mTorr)
 - DV-5 (0.1 – 100 mTorr)
 - DV-4 (0.02 – 20 Torr)
- Replacement for the Model AVC
- Octal Connector to Vacuum Gauge Tube
- 9 Pin D-sub Electrical Connector
- Compatible with Calibration Reference Tubes
- 12 - 30 VDC Input
- 0 - 1 VDC Output (Nonlinear)
- TTL Setpoint for Process Control (w/ LED)
- RS-232
- CE Compliant: EN61326

APPLICATIONS

- Cryogenics/Vacuum Insulation
- Vacuum Furnaces
- Pharmaceutical Production
- Freeze Drying
- Agricultural Processes
- Glove Boxes
- Plasma Coating
- Refrigeration (HVAC)
- Accelerators
- Appliance Manufacturing
- Transformer Oil Processing
- Lightning Manufacturing.

BENEFITS

- Small & light weight
- Rugged
- Installs anywhere



Digital AVC

DESCRIPTION

The Teledyne Hastings Instruments (THI) Digital AVC (DAVC) is a microprocessor controlled vacuum gauge meter without readout. In addition to the analog output (0-1 VDC), pressure measurements can be accessed by an RS232 serial port using Torr, mbar or Pa.

A precision A/D converter along with the microprocessor measures the thermocouple vacuum gauge tube's signal output, converts the measurement to a pressure reading employing the gauge tube's well-defined output/pressure function, and transmits the result.

These instruments are packaged in a small extruded aluminum case with controls and D-connector mounted on the top cover.

The Digital AVC Vacuum Gauge Meter is available for three of THI's most popular gauge tube families: the DV-6, DV-5 and the DV-4. The DV-6 range is 1-999 mTorr. The DV-5 range is 0.1-100 mTorr. The DV-4 range is 0.02-20 Torr.

These tubes utilize THI's rugged but sensitive noble metal thermocouples that are designed specifically for each range. Tubes are matched and are interchangeable without calibration adjustments. They are compensated for temperature and rate of temperature change and are corrosion resistant.

Design Features (cont)

THI DAVC

The Digital AVC instrument is a continuous-reading instrument for basic vacuum measurement applications.

The DAVC also includes a (0-1 volt) non-linear analog output signal and a digital RS232 port as standard.

Easy Setup

The Digital AVC includes three controls. The first is a simple push button which is used at atmospheric pressure to set the tube curve. The second is a potentiometer which can be used to adjust the "heating voltage" of the gauge for generating accurate low pressure readings. The third control is a set point for triggering over-pressure or under-pressure notification.

Note: The DAVC is ready for use "out of the box." Adjustments to the zero and span are necessary only for higher accuracy performance.

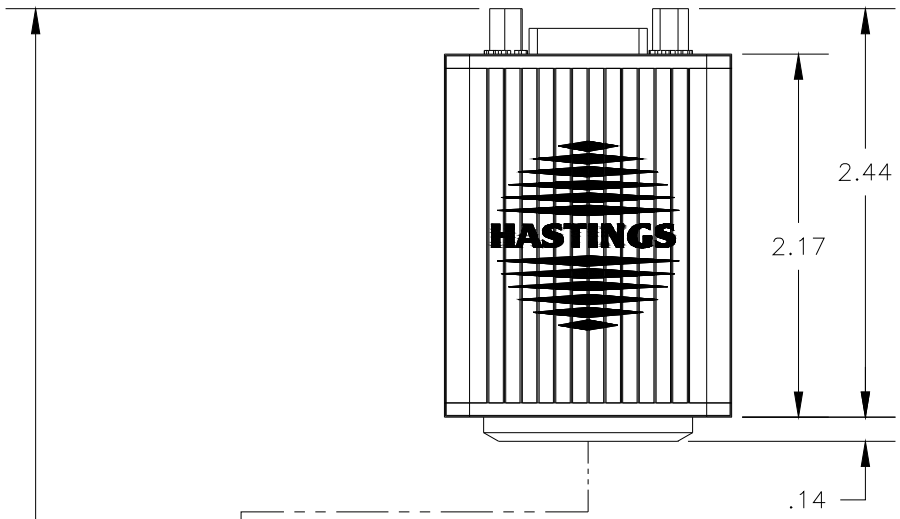
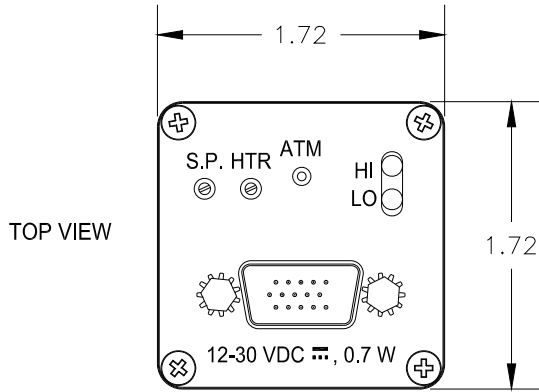
SPECIFICATIONS Digital AVC

Range	DAVC-4 0.02–20 Torr DAVC-5 0.1–100 mTorr DAVC-6 1–999 mTorr
Accuracy	DAVC-4 ± (20% of reading + 0.01 Torr) (max) DAVC-5 ± (20% of reading + 0.2 mTorr) (max) DAVC-6 ± (15% of reading + 1 mTorr) (max)
Cables	One 1.5 meter I/O Cable combining power, serial communication, analog signals and relays.
I/O Connector	15-Pin Hi Density D-Connector, Male
Power Requirements	12 - 30 Volts DC, 0.7 watt
Weight (approx.)	22 oz (624grams) without gauge tube & cable
Operating Temperature	-20 — 70°C
Single Set Point Output	Open-collector transistor for over set point Open-collector transistor for under set point (80 mA @ 30 Vdc)
Temperature Coefficient (Includes tube effects)	DAVC-6 ± (-0.25% of reading + 0.2 mTorr)/°C DAVC-4 ± (0.1% of reading + 2.6 mTorr)/°C
Tube Connector	8 pin octal vacuum tube socket

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VCR® is a registered trademark of Cajon Company.

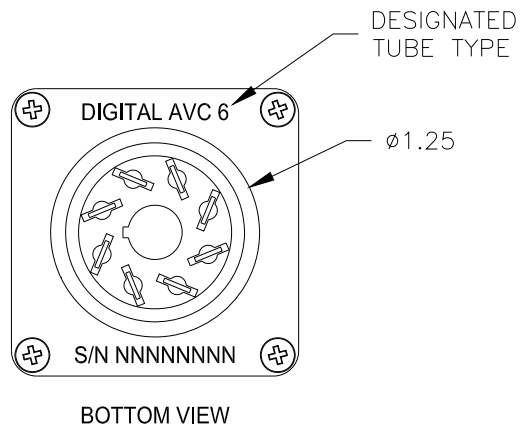
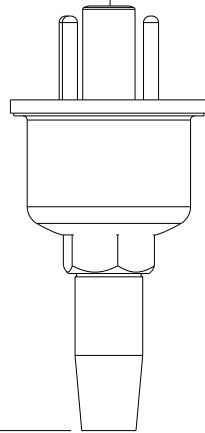
Outline Drawing



Tube	Dim. "A"
DV-4D-VCR	4.64"
DV-5M-VCR	4.64"
DV-4D	4.98"
DV-5M	4.98"
DV-6M	4.98"
DV-4R	4.58"
DV-6R	4.58"
DV-4D-KF-16	4.76"
DV-4D-KF-25	4.76"
DV-6-VCR	4.63"
DV-6-KF-16	4.51"
DV-6-KF-25	4.52"

"A"

TUBES ARE SOLD SEPARATELY



Selection Chart

For an entire list of available Gauge
Tubs for use with the DAVC,

See Product Bulletin PB-105 @
http://www.teledyne-hi.com/pdfs/PB-105_Thermocouple-Gauge-Tubes.pdf



20 Torr Range	
DV-4D	20 T Vac Gauge Tube 1/8" NPT (Purple Base)
DV-4R	20 T Vac Gauge Tube/Rugged
DV-4D-KF-16	20 T Vac Gauge Tube/KF-16™
DV-4D-KF-25	20 T Vac Gauge Tube/KF-25™
DV-4D-VCR	20 T Vac Gauge Tube 1/4" VCR™
DB-16D	Ref Tube (DV-4D) for DAVC-4 Calibration

Model #

DAVC-4

1000 mTorr Range	
DV-6M	1000 mT Vac Gauge Tube 1/8" NPT (Yellow)
DV-6R	1000 mT Vac Gauge Tube/Rugged 1/8"NPT
DV-6-KF-16	1000 mT Vac Gauge Tube/KF-16™
DV-6-KF-25	1000 mT Vac Gauge Tube/KF-25™
DV-6-VCR	1000 mT Vac Gauge Tube 1/4" VCR™
DV-6R-CF	1000 mT Vac Gauge Tube/Mini Conflat™
DB-20	Ref Tube (DV-6) for DAVC-6 Calibration

DAVC-6

100 mTorr Range	
DV-5M	100 mT Vac Gauge Tube 1/8" NPT (Red Base)
DV-5M -VCR	100 mT Vac Gauge Tube 1/4" VCR™
DB-18	Ref Tube (DV-5) for DAVC-5 Calibration

DAVC-5

- Shipment includes
- DAVC Electronics Module
 - 1.5 Meter I/O Cable



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