



# TELEDYNE HASTINGS INSTRUMENTS

## MODELS

*Digital VT*  
*Digital CVT*

## FEATURES

- Low Cost
- Operates Hastings Instruments' Most Popular DV-4 and DV-6 Gauge Tubes
- Compatible with Calibration Reference Tubes
- Ranges:
  - DV-6 (1 – 999 mTorr)
  - DV-4 (0.02 – 20 Torr)
- Bright, Easy-to-Read Digital Display
- DVT Supplied with Flexible Power Converter & DCVT Accepts 90-250 VAC via IEC-320 Cable
- Easy Installation and Operation
- CE Compliant: EN61326

## APPLICATIONS

- Glove Boxes
- Cryogenics
- Vacuum Furnaces
- Pharmaceutical Production
- Freeze Drying
- Agricultural Processes
- Air Conditioning
- Thermal Food Containers
- Plasma Coating
- Refrigeration (HVAC)
- Accelerators
- Appliance Manufacturing

## BENEFITS

- Digital Readout
- 1/8 DIN Panel mount
- DCVT available in Torr, mBar and Pascal

## Digital VT & Digital CVT



## DESCRIPTION

The Teledyne Hastings Instruments (THI) Digital VT/CVT are digital readout versions of the successful VT/CVT-Series "Hastings Gauges" which have generated loyal customers for over 50 years. A reputation has been built on exceptional stability, accuracy, and reliability under the most demanding conditions.

A precision A/D converter along with a microprocessor are used to measure the thermocouple vacuum gauge tube's signal output, convert the measurement to a pressure reading employing the gauge tube's well-defined output/pressure function, and displays the result. These instruments are packaged in 1/8 DIN panel mounted case with 3 digit green LED display. The Digital VT/CVT Vacuum Gauge Meters are available for two of THI's most popular gauge tube families: the DV-6 and the DV-4. The DV-6 range is 1-999 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 interchangeable without calibration adjustments. They are compensated for temperature and rate of temperature change and are corrosion resistant.

### THI Digital Vacuum Meter

The Digital CVT instrument is a fully automatic, continuous-reading instrument for basic vacuum measurement applica-



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## Design Features (cont)

tions.

### THI Digital Vacuum Controller

The Digital CVT instrument is a fully automatic, continuous-reading instrument for vacuum applications. These controllers operate in the same standard ranges as the DVT meters with the addition of two user selectable control limits. The control points are durable 10 amp single pole double throw relays which can be configured normally open or normally closed. The Digital CVT also includes a (0-1 volt) non-linear analog output signal and a digital RS232 port as standard.

### Easy Setup

The Digital VT/CVT includes two convenient front panel controls. The first is a simple push button which is used at atmospheric pressure to set the "offset" of the tube curve. The other is an adjustment pot which can be used to adjust the "heating voltage" of the gauge for generating accurate low pressure readings.

Note: The Digital VT/Digital CVT are ready for use "out of the box." Adjustments to the zero and span are necessary only for higher accuracy performance.

### COMMON SPECIFICATIONS

<b>Range</b>	DVT-6/DCVT-6 1–999 mTorr DVT-4/DCVT-4 0.02–20 Torr
<b>Accuracy</b>	DCVT-6 $\pm$ (15% of reading + 1 mTorr) (max) DCVT-4 $\pm$ (20% of reading + 0.01 Torr) (max)
<b>Cables</b>	6-ft power cable and 8-ft sensor cable included. Sensor cable lengths up to 100 ft. are available. Contact factory.

### SPECIFICATIONS Digital VT

<b>Operating Temperature</b>	5 — 50°C
<b>Power Requirements</b> With included power converter <sup>1</sup>	4.5–5.3 volts DC, 155 mA 90–240 VAC, 47–63 Hz, 2 watt
<b>Connector</b>	6 pin Terminal block
<b>Weight (approx.)</b>	7 oz (200 grams)

#### With Gauge Tube

<b>Temperature Coefficient</b> (Includes tube effects)	DVT-6 $\pm$ (1% of reading + 0.2 mTorr)/°C DVT-4 $\pm$ (1% of reading + 2 mTorr)/°C
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### SPECIFICATIONS Digital CVT

<b>Operating Temperature</b>	-20 — 70°C
<b>Power Requirements</b>	90 - 250 VAC, 47 — 63 Hz or 24 VDC, 5 Watts
<b>Connectors</b>	12 pin Terminal Block -Tube cable, Relays, analog 6P6C modular — Serial port
<b>Weight (approx.)</b>	11 oz (312 grams)
<b>Analog Out</b>	0 — 1 volt non-linear (amplified tube output)
<b>Serial Communications</b>	RS232, 9600 — 19200 baud
<b>Relays</b>	250 VAC @ 10 Amp, 100 VDC @ 5 A (max) 5 VDC @ 0.1 Amp (min)

#### With Gauge Tube

<b>Temperature Coefficient</b> (typical—does not include tube effects)	DCVT-6 $\pm$ (0.1% of reading + 0.06 mTorr)/°C DCVT-4 $\pm$ (0.2% of reading + 1 mTorr)/°C
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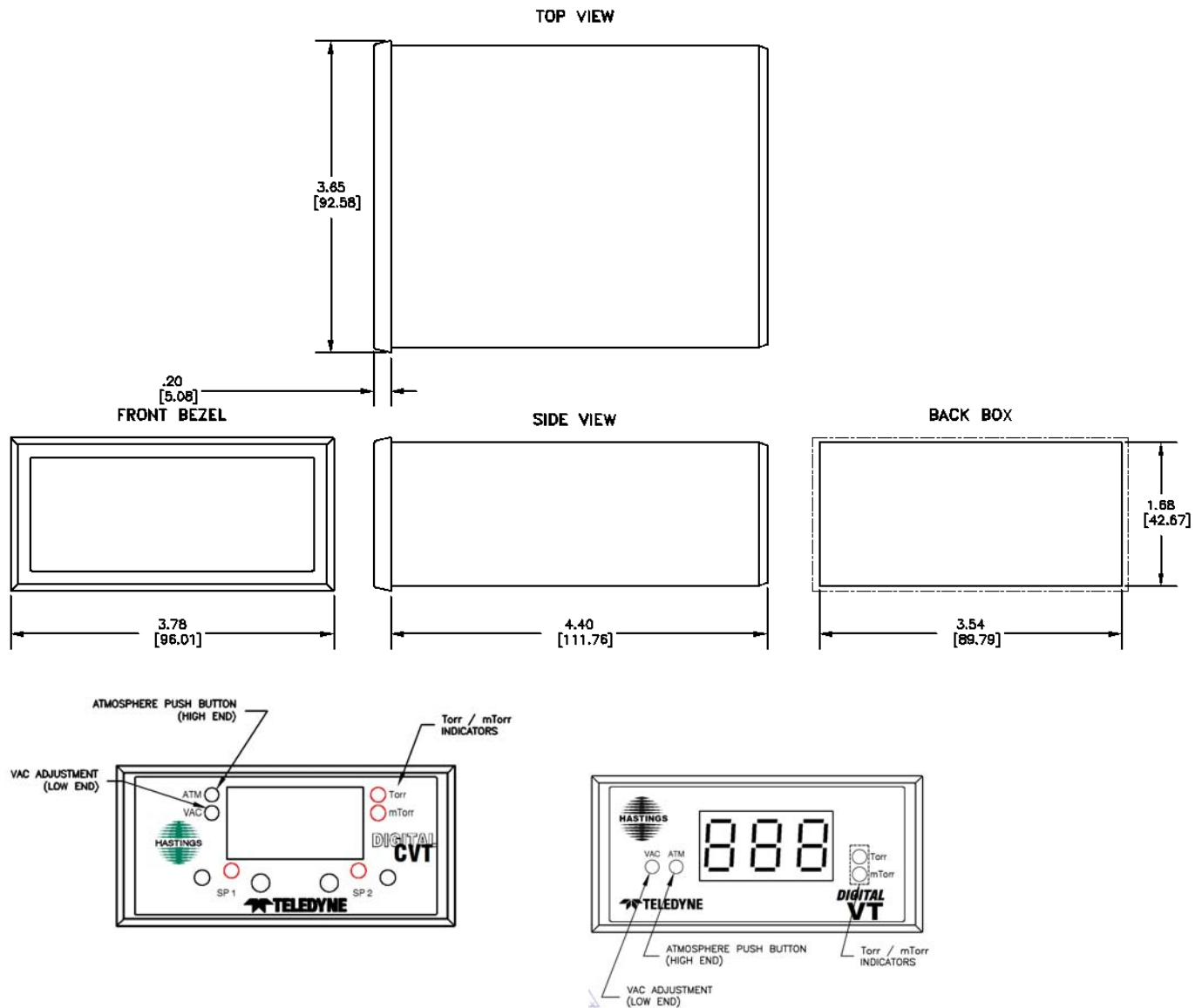


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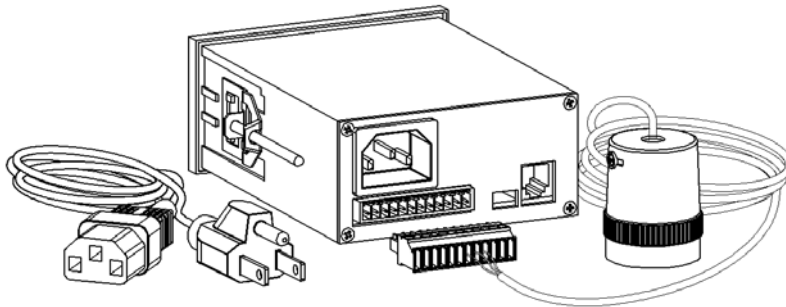


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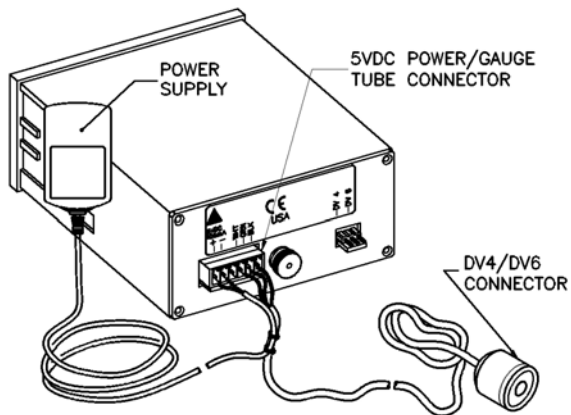
# Outline Drawing



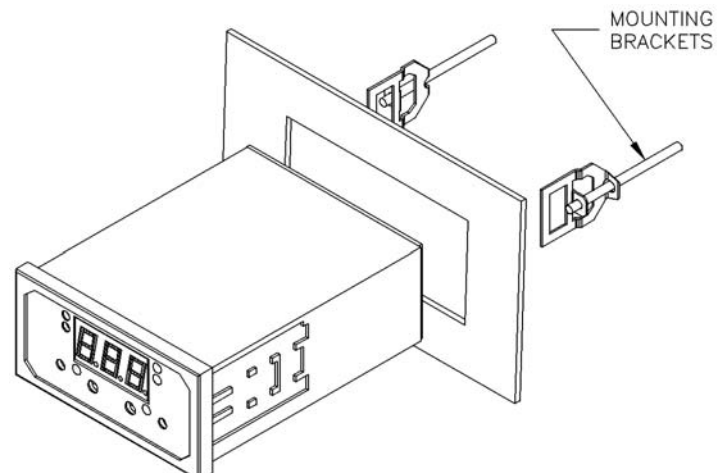
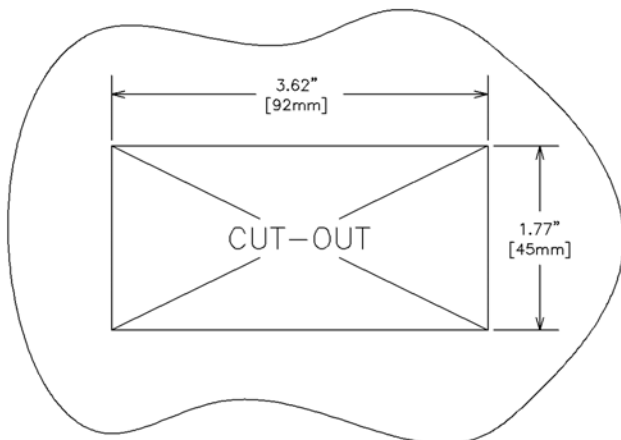
## Outline Drawing



Digital CVT Rear View



Digital VT Rear View



# Selection Chart

Stock #	Model # / Instrument selector
DVT-6	Digital VT-6 kit, 1 — 999 mTorr
DVT-4	Digital VT-4 kit, .02—20 Torr
DCVT-6-01	Digital CVT-6 kit, 1 — 999, mTorr
DCVT-6-02	Digital CVT-6 kit, 1 — 999, mBar
DCVT-6-03	Digital CVT-6 kit, 1 — 999, Pascal x 0.1
DCVT-4-01	Digital CVT-4 kit, .02—20 Torr
DCVT-4-02	Digital CVT-4 kit, .02—26, mBar
DCVT-4-03	Digital CVT-4 kit, .02—26, Pascal x 100



Vacuum Gauge Tubes 1000 mTorr Range		
Stock #	Model #	Description
55-38R	DV-6	1000 mT Vac Gauge Tube/Rugged
55-38S	DV-6S	1000 mT Vac Gauge Tube/Rugged/Vibration
55-139	DV-20	1000 mT Vac Gauge Tube/Glass
55-251	DV-6-KF-16	1000 mT Vac Gauge Tube/KF-16™
55-267	DV-6-KF-25	1000 mT Vac Gauge Tube/KF-25™
55-283	DV-6-VCR	1000 mT Vac Gauge Tube/VCR™
55-38R-CF	DV-6R-CF	1000 mT Vac Gauge Tube/Mini Conflat™
55-66	DV-36	1000 mT Vac Gauge Tube/316SS
55-104	DB-20	Ref Tube (DV-6) for VT-6 Calibration

Vacuum Gauge Tubes 20Torr Range		
55-19	DV-4D	20 T Vac Gauge Tube (Purple Base)
55-19R	DV-4R	20 T Vac Gauge Tube/Rugged
55-258	DV-4D-KF-16	20 T Vac Gauge Tube/KF-16™
55-266	DV-4D-KF-25	20 T Vac Gauge Tube/KF-25™
55-69	DV-34	20 T Vac Gauge Tube/316SS
55-227	DV-4D-VCR	20 T Vac Gauge Tube/VCR™
55-101	DB-16D	Ref Tube (DV-4D) for VT-4 Calibration

Stock #	Digital CVT Cables
CB-DCVT-8	Cable,Digital CVT,8' (std)
CB-DCVT-25	Cable,Digital CVT,25'
CB-DCVT-50	Cable,Digital CVT,50'
CB-DCVT-100	Cable,Digital CVT,100'
CB-DCVT-XXX	Cable,Digital CVT,SPCL'

Stock #	Digital VT Cables
CB-DVT-8	Cable,Digital VT,8' (std)
CB-DVT-25	Cable,Digital VT,25'
CB-DVT-50	Cable,Digital VT,50'
CB-DVT-100	Cable,Digital VT,100'
CB-DVT-XXX	Cable,Digital VT,SPCL'

Stock #	Digital VT Power supply connector
12-01-165	UK Service
12-01-164	European Service

## Extension Cables for VT Series (DVT & DCVT)

55-3	OM-8-OFV	8 Ft Extension Cable
55-22	OM-12-OFV	12 Ft Extension Cable
65-53	OM-25-OFV	25 Ft Extension Cable
65-102	OM-50-OFV	50 Ft Extension Cable
55-142	OM-100-OFV	100 Ft Extension Cable

