



# TELEDYNE HASTINGS INSTRUMENTS

## THCD-100

*Self contained display for  
flow meter/controller and pressure trans-  
ducers*

### FEATURES

- 16-Bit Resolution
- $\pm 0.2\%$  Reading +1 Digit Accuracy
- 0-5 VDC Setpoint via Front Panel or Digital
- Dual Programmable Alarms with Relays
- RS232, RS485, and Analog (all standard)
- CE Approved

### APPLICATIONS

- Operate & Monitor Flow Meter or Flow Controller
- Bench Top or Panel Mount
- Pressure Transducer Readout

### BENEFITS

- Easy to Operate
- Reduces Wiring/Integration Challenges
- Highly Visible Display
- Low Power Consumption
- Compact Size (1/8" DIN package)
- Flexible Interface with Setpoint & Digital Command
- Field Selectable Display Units
- Reliable

### DESCRIPTION

The THCD-100 is a fully integrated 5-digit display and power supply for a wide choice of gas mass flow meters, gas mass flow controllers and pressure transducers.

The THCD-100 features a bright graphical VFD display which allows the user to display the relevant units as well as navigate the easy-to-use interface.

(continued)

## THCD-100 Power Supply & Display



## Specifications and Standards

### DESCRIPTION (continued)

The THCD-100 features many user-convenient features including digital communications, alarm outputs with relays, configurable display units, multiple transducer supplies etc etc. The unit can also be customized for a particular application by the supply of custom firmware.

In addition to the internal setpoint functions, the THCD features an external setpoint input which can be used to generate a setpoint from another process /transducer.

The unit can also be configured to be tamper proof. By hard wiring in the interface connector, the user can lock out the menu command and /or the zero command button.

Much attention has been paid to the menu structure within the THCD-100 and in particular the ease of which the setpoint output can be changed.

All menus feature backwards and forwards options and numeric input can be both up and down. The THCD-100 is housed within a metal case and takes the form of a standard 1/8 DIN panel mount.

### Performance

|                                     |  |
|-------------------------------------|--|
| <b>Full Scale Input</b>             | 5 Volt or 0-10 Volt  |
| <b>Input Impedance</b>              | >100Kohm   |
| <b>Measurement Resolution</b>       | 16 bit   |
| <b>Command Output</b>               | 0-5 volt operator selectable   |
| <b>Error</b>                        | 0.2% of reading plus 1 digit   |
| <b>Display Range</b>                | -9999 to +99999  |
| <b>Display Units</b>                | sccm, slm, scfh, scfm<br>Torr, mbar, Pa<br>(Many others available upon request). |
| <b>Input Power Requirement</b>      | 24VDC $\pm$ 5% @ 500mA(Max)  |
| <b>Output Power (to Transducer)</b> | +/- 15 VDC @ 250mA; 24 VDC @ 300 mA  |
| <b>Operating temperature range</b>  | +5 to +50° C   |
| <b>Storage Temperature Range</b>    | -20 to +70° C  |
| <b>Maximum Relative Humidity</b>    | 95% at 50° C (non-condensing)  |
| <b>Decimal point selection</b>      | Operator selectable from front panel   |
| <b>Alarm Output</b>                 | 2 mechanical relays (max 50VDC, 1ADC)  |

*Hastings Instruments reserves the right to change or modify the design of its equipment without any obligation to provide notification of change or intent to change.*

## Specifications and Standards



### Mechanical

|                                     |  |
|-------------------------------------|--|
| <b>Dimensions</b>                   | (See Outline Drawing—Next page)                                    |
| <b>Weight (with 24 VDC supply)</b>  | 0.50 lbs (228 g)   |
| <b>Weight (w/out 24 VDC supply)</b> | 0.34 lbs (155 g)   |
| <b>Panel Cut-out</b>                | Standard 1/8 DIN   |
| <b>Mains Connector</b>              | Bayonet-style Connector<br>(2.1 x 5.5 mm Center Positive Standard) |

### Digital Communications

|                      |                                    |
|----------------------|------------------------------------|
| <b>Serial</b>        | RS232 or RS485                     |
| <b>Baud</b>          | 19200 — 57600                      |
| <b>Port Settings</b> | 8 data bits, no parity, 1 stop bit |
| <b>Addressing</b>    | a to h                             |

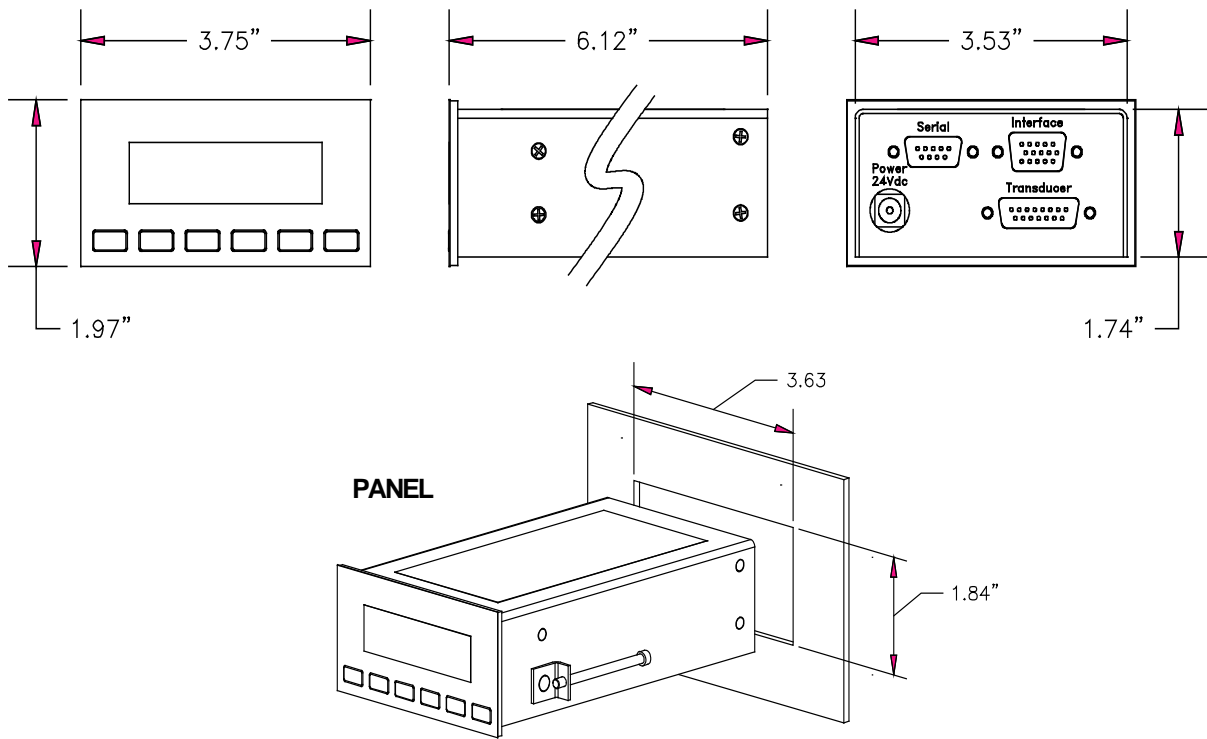


### 24 VDC Switching Power Supply

(Sold Separately)

|                                    |   |
|------------------------------------|---|
| <b>AC Input Voltage Range</b>      | 90 to 264 vac   |
| <b>AC Input Frequency</b>          | 47—63 Hz  |
| <b>Input Current</b>               | 0.5A (RMS) max. @ 120 vac<br>0.25A (RMS) max. @ 240 vac   |
| <b>Temperature (Operation)</b>     | 0 to 40 C   |
| <b>Temperature (Non-operation)</b> | -25 to +75 C  |
| <b>Overall Length</b>              | Approximately 61.5" (156.2 cm)                            |
| <b>DC Output Connector</b>         | 2.1 x 5.5 mm Center Positive Standard                     |
| <b>Safety Approvals</b>            | cUL/UL, CE<br>Also, meets EISA & ENERGY STAR Requirements |

Outline Drawing & Pinouts



| Transducer Connector<br>15 Pin "D" (Female) | Interface Connector<br>15 Pin HD "D" (Female) | Serial<br>9 PIN<br>RS485 | Connector<br>"D" (Female)<br>RS232 |
|---|---|--------------------------|------------------------------------|
| 1 - Unused                                  | 1 - Analog Out                                | 1 - Tx+                  |                                    |
| 2 - Unused                                  | 2 - Relay2 COM                                | 2 -                      | Rx                                 |
| 3 - Unused                                  | 3 - Relay2 N.O.                               | 3 -                      | Tx                                 |
| 4 - Unused                                  | 4 - Relay2 N.C.                               | 4 - Tx-                  |                                    |
| 5 - Signal Common                           | 5 - 0V GND                                    | 5 -                      | Com                                |
| 6 - Signal Input                            | 6 - Ext. Input Return                         | 6 - Rx+                  |                                    |
| 7 - Case Ground                             | 7 - Unused                                    | 7 - Rx-                  |                                    |
| 8 - Unused                                  | 8 - Ext. Input (+)                            | 8 - Unused               |                                    |
| 9 - - 15 VDC                                | 9 - Unused                                    | 9 - 0V GND               |                                    |
| 10 - Unused                                 | 10 - 0V GND                                   |                          |                                    |
| 11 - + 15 VDC                               | 11 - DIG1 (Menu)                              |                          |                                    |
| 12 - Valve Return                           | 12 - DIG2 (Zero)                              |                          |                                    |
| 13 - + 24 VDC                               | 13 - Relay1 COM                               |                          |                                    |
| 14 - Set Point Out                          | 14 - Relay1 N.O.                              |                          |                                    |
| 15 - Unused                                 | 15 - Relay2 N.C.                              |                          |                                    |

## Ordering Information



**Stock # THCD-100**

### *Shipment Includes*

### *Shipment does NOT Include*

**Display THCD-100**

24 VDC Switching Power Supply

**15-Pin HD "D"  
Male Connector & Backshell**

AC Input Clip

**9-Pin "D"  
Male Connector & Backshell**

Transducer, Interface, or Serial Cables

**Mounting Brackets**



**Stock # 12-01-169**

### *Shipment Includes*

### *Shipment does NOT Include*

**24 VDC Switching  
Power Supply**

AC Input Clip



### **AC Input Clips - Stock #'s**

**12-01-160 United States**

**12-01-165 United Kingdom**

**12-01-164 Europe**

### *THCD-100 Setup Information*

**Range:**

**Units:**

## Accessories



### *Flow Transducer Cable Part Numbers: Connect THCD-100 to Hastings Flow Meters & Flow Controllers*

|                  |            |
|------------------|------------|
| <b>AF-4-AM</b>   | 4' Cable   |
| <b>AF-8-AM</b>   | 8' Cable   |
| <b>AF-25-AM</b>  | 25' Cable  |
| <b>AF-50-AM</b>  | 50' Cable  |
| <b>AF-100-AM</b> | 100' Cable |
| <b>AF-200-AM</b> | 200' Cable |



### *Transducer Cable Part Numbers: Connect THCD-100 to Teledyne Hastings THPS-760s Vacuum Transducer*

|                      |                      |
|----------------------|----------------------|
| <b>CB-760-CD-008</b> | 8' Cable             |
| <b>CB-760-CD-025</b> | 25' Cable            |
| <b>CB-760-CD-050</b> | 50' Cable            |
| <b>CB-760-CD-100</b> | 100' Cable           |
| <b>CB-760-CD-XXX</b> | Special Length Cable |



### *THCD-100 Serial Cable: Connect THCD-100 to PC Serial Port Via RS232*

|                      |  |
|----------------------|--|
| <b>CB-RS232-2X9D</b> | 10' Cable (9-Pin "D" Male to 9-Pin "D" Female) |
|----------------------|--|

### *Serial Converter: USB to RS232*

|                     |                                     |
|---------------------|-------------------------------------|
| <b>CB-USB-RS232</b> | 30 cm Cable (USB to 9-Pin "D" Male) |
|---------------------|-------------------------------------|



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