



**TELEDYNE HASTINGS INSTRUMENTS**  
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## THCD-400

*Self contained four channel power supply and display for flow meters/controllers and pressure transducers*

### FEATURES

- 5 Digit Resolution
- 0-5 VDC, 0-10 VDC, or 4-20 mA
- Accuracy (A/D) < 0.01% of Full Scale
- Eight Alarms (High & Low for Each Channel)
- Ratio Control
- Totalizer
- RS232 / RS485
- Convenient Valve Override Buttons
- Many Selectable Units & Gas Names
- Bench Top or Panel Mount
- CE & RoHS Compliance

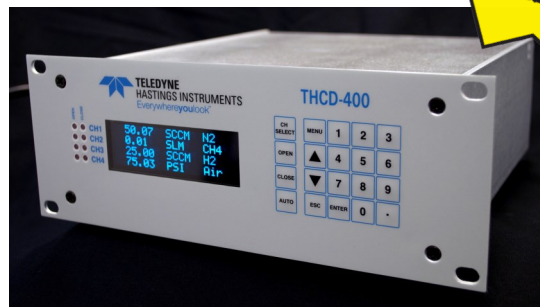
### APPLICATIONS

- Operate & Monitor Flow Meter or Flow Controller
- Gas Blending
- Pressure Transducer Readout

### BENEFITS

- Easy to Configure & Operate
- Reduces Wiring/Integration Challenges
- Highly Visible Display
- Flexible Interface with Setpoint & Digital Command

# THCD-400 Power Supply & Display



**THCD-400 Four Channel Power Supply**



**Use with Flow Instruments, Vacuum, and/or Pressure Transducers**



**Easy to Read - Blue OLED Display**

## Description

The THCD-400 is a microprocessor-based four channel power supply and controller that can operate mass flow meters, mass flow controllers, and pressure transducers as well as vacuum gauges. It provides stable output voltage levels to power these devices.

The instrument accurately measures and displays output from analog transducers. In addition, it can generate analog command signals to mass flow controllers. The bright, blue OLED allows the display to be easily viewed. With a quick glance, the user can see each channel's status.

## Easy to Use

The THCD-400 features an intuitive front panel. On the far left of the panel, bright OLEDs indicate the state (OPEN or CLOSE) of any attached mass flow controllers. If the user needs to quickly close (or open) the valve of one of the attached mass flow controllers, they simply use the CH SELECT button to select the desired channel and then press the CLOSE (or OPEN) button.

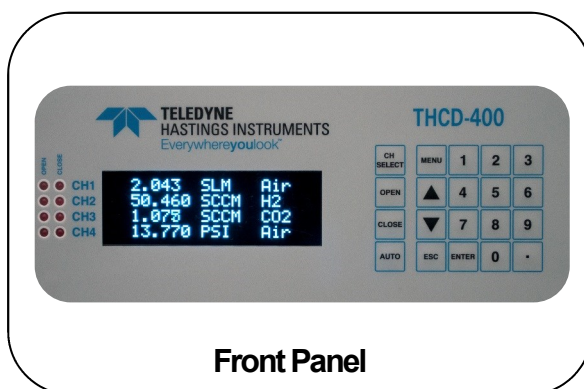
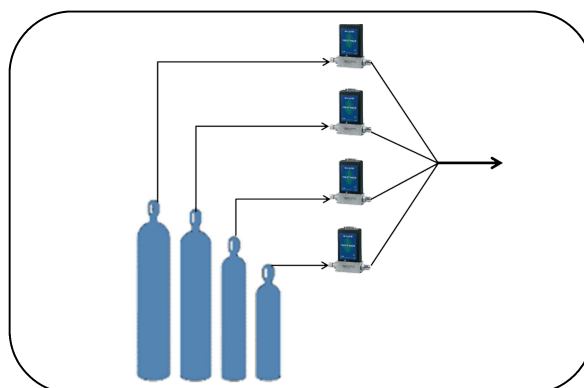
Entering the set point for a flow controller is easy. Again, the user presses the CH SELECT button and then uses the numeric keypad and presses ENTER to generate the desired set point.

The MENU button gives the user access to many setup features. A channel can be setup to display a flow reading, or be used to totalize the flow. Each channel can be individually set up for different full scale ranges, units, and gases.

## Flexible Input / Output

The rear panel gives the user access to many convenient ways to interface to the THCD-400. First, there are high and low alarms that are user programmable from the front panel. The alarms activate an opto-isolated open collector transistor output capable of switching 25VDC@10mA. Also, there are analog outputs ("followers") which can be directed to other measurement devices.

RS232 and RS485 ports allow the user to connect to a PC or PLC. All functions selectable from the front panel switches are also accessible via the RS232/RS485 serial ports.



Front Panel

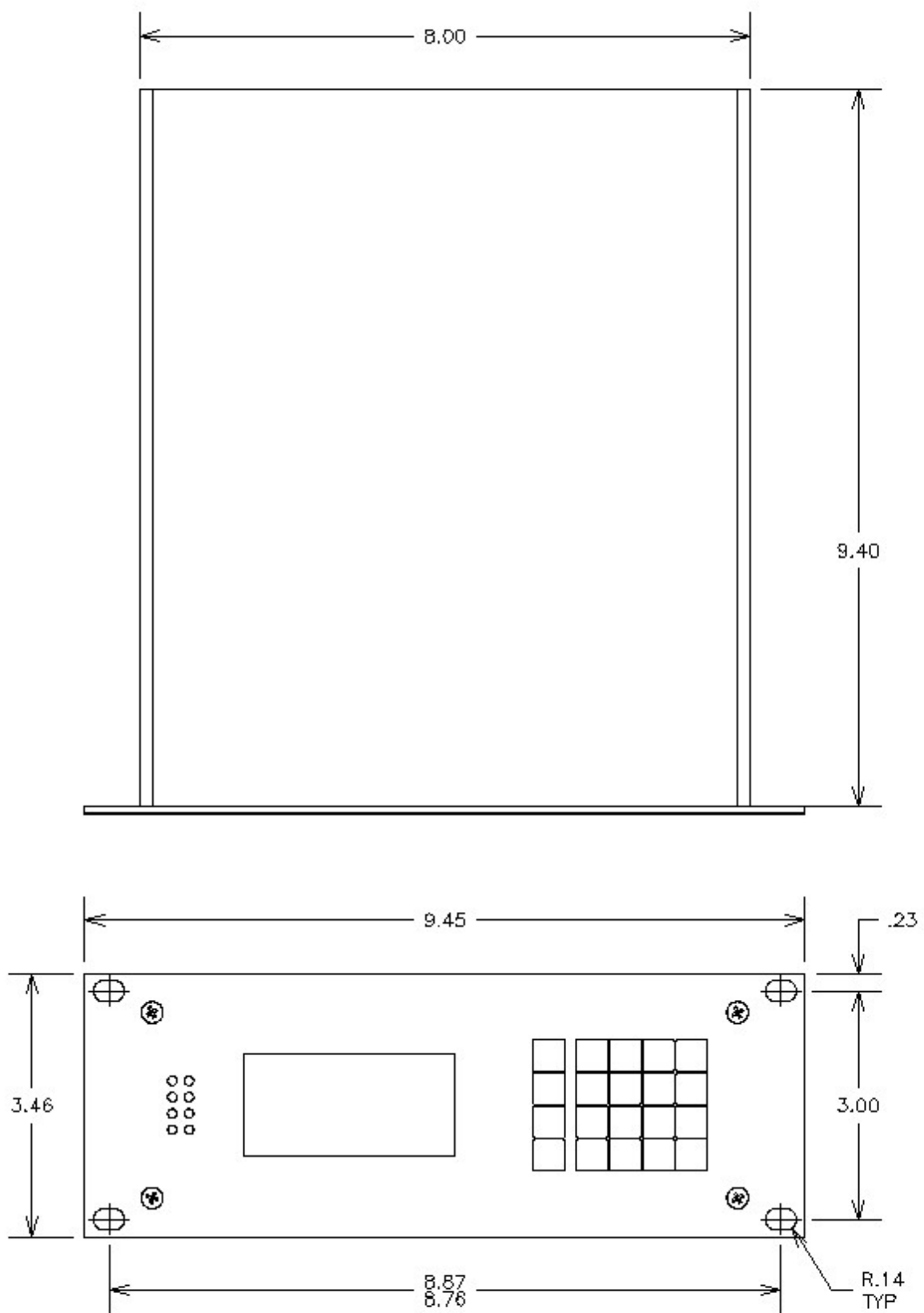


Rear Panel

## Specifications

<i>Signal Input</i>	
Number of Channels	Four
Signal Type	0-5 VDC, 0-10 VDC, 4-20 mA (User Selectable)
Accuracy	< $\pm$ (0.1% of reading + 1 digit)
Input Resistance	
Voltage	> 1 M $\Omega$
Current	120 $\Omega$
<i>Set Point Output (Control Signal)</i>	
Signal Type	0-5 VDC, 0-10 VDC, 4-20 mA (User Selectable)
Accuracy (typ)	$\pm$ 0.1% FS (Voltage); $\pm$ 0.2% FS (Current)
Source Resistance	100 $\Omega$
<i>Totalizer (Each Channel)</i>	
Accuracy	$\pm$ 30 ppm
<i>Serial Communications</i>	
RS232	9600 / 19.2k baud
RS485	9600 / 19.2k baud, Full Duplex
<i>Output</i>	
Voltage	$\pm$ (15 VDC $\pm$ 0.75 VDC)
Total Supplied Current	1.0 A (sum of all channels)
Single Channel Max Current	< 350 mA
<i>Mains Input</i>	
Voltage	100/115/230 VAC, $\pm$ 10% (User Selectable)
Frequency	50—400 Hz
Fuse	Slow blow (Time Delay), 250 VAC rating
Fuse 110/115/230 vac	0.7/0.6/0.315 amp dependent on AC supply
<i>Environmental</i>	
Operating Temperature	- 20 to 50 °C
RoHS	Compliant
<i>Regulatory</i>	
Safety	EN 61326
Emissions/Immunity/ESD	EN 61010
<i>Mechanical</i>	
Rack Mounting	2U (EIA-310) Half Rack Wide

## Outline Drawing

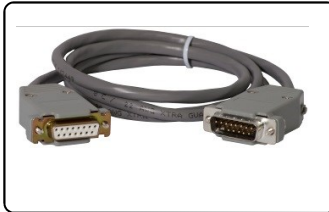


## THCD-400 Selection Chart and Optional Cables



### THCD-400 Four Channel Power Supply Meter

THCD-400-100	100 vac (Japan) Includes 8' IEC Power Cord
THCD-400-115	115 vac Includes 8' IEC Power Cord
THCD-400-230	230 vac Includes 8' IEC Power Cord



### Flow Transducer Cables: Connect Teledyne Hastings Power Supplies to Teledyne Hastings Flow Meters & Controllers

AF-4-AM	4' Cable
AF-25-AM	25' Cable
AF-50-AM	50' Cable
AF-100-AM	100' Cable



### 300 "B" Series & 24 VDC 200 Series Cable

CB-AF-8-24VM	8' Cable (15-Pin "D" Male to 9-Pin "D" Female )
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### HPM-760s Vacuum Sensor Cable: Connects Teledyne Hastings Power Supplies to Teledyne Hastings 760s Series

CB-760-CD-008	8' Cable
CB-760-CD-025	25' Cable
CB-760-CD-050	50' Cable
CB-760-CD-100	100' Cable