



TELEDYNE HASTINGS INSTRUMENTS

Everywhere you look™

THCD-401

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

FEATURES

- Up to 6 Digit Numeric Display
- 0-5 VDC, 0-10 VDC, or 4-20 mA
- 16 bit A/D Resolution
- Accuracy (A/D) 0.02% of Reading + 0.01% of FS
- Bright, Full Color, LCD Display
- Ethernet & USB (Includes Internal Webserver)
- Totalizer
- Ratio Control
- Convenient Valve Override Buttons
- Free DisplayX Control & Data Logging Software
- Bench Top or Panel Mount
- CE & RoHS Compliance

APPLICATIONS

- Operate Mass Flow Controllers and Meters
- Gas Blending
- Monitor and Record Vacuum & Pressure

BENEFITS

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

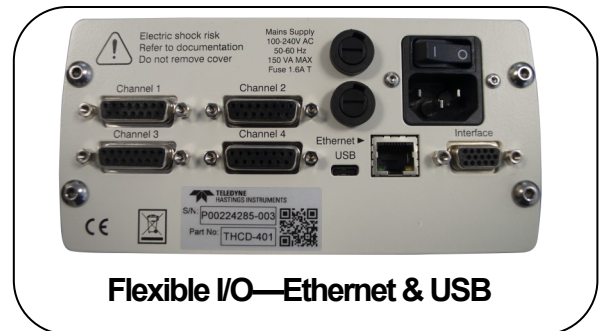
THCD-401 Power Supply & Display



THCD-401 Four Channel Power Supply



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



Flexible I/O—Ethernet & USB

Description

The THCD-401 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 also 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, color LCD display is easy to view and understand; with a quick glance, the user can see each channel's status.

Easy to Use

The THCD-401 Power Supply & Display features an intuitive front panel. A capacitance-touch ring control is used to quickly enter commands to mass flow controllers. It's as easy as 1,2,3.

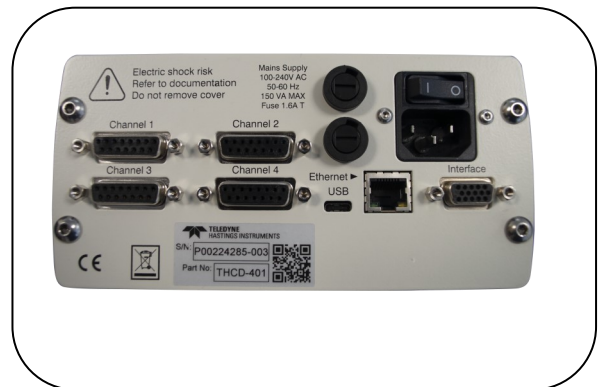
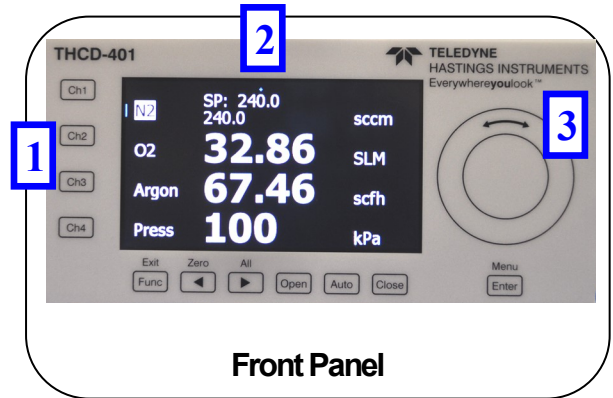
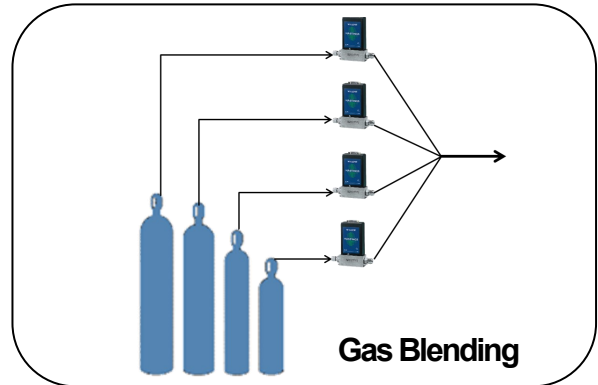
- 1) Select the channel using one of the four buttons on the far left of the THCD-401.
- 2) Use the left and right arrows at the bottom of the THCD-401 to move the blue cursor and select the digit to be adjusted.
- 3) Dial the setpoint using the ring.

The buttons at the bottom of the front panel enable quick control of the corresponding flow controllers. For example, the user can quickly shut the valve of a mass flow controller by simply selecting the channel, and then pressing "Close". Immediately, bright blue "CLOSED" text appears on the screen to notify the user of the closed status.

The MENU button gives the user access to many setup features. However, setup is faster and easier via the instrument's internal webserver that can be accessed with the Ethernet port on the back panel.

Flexible Input / Output

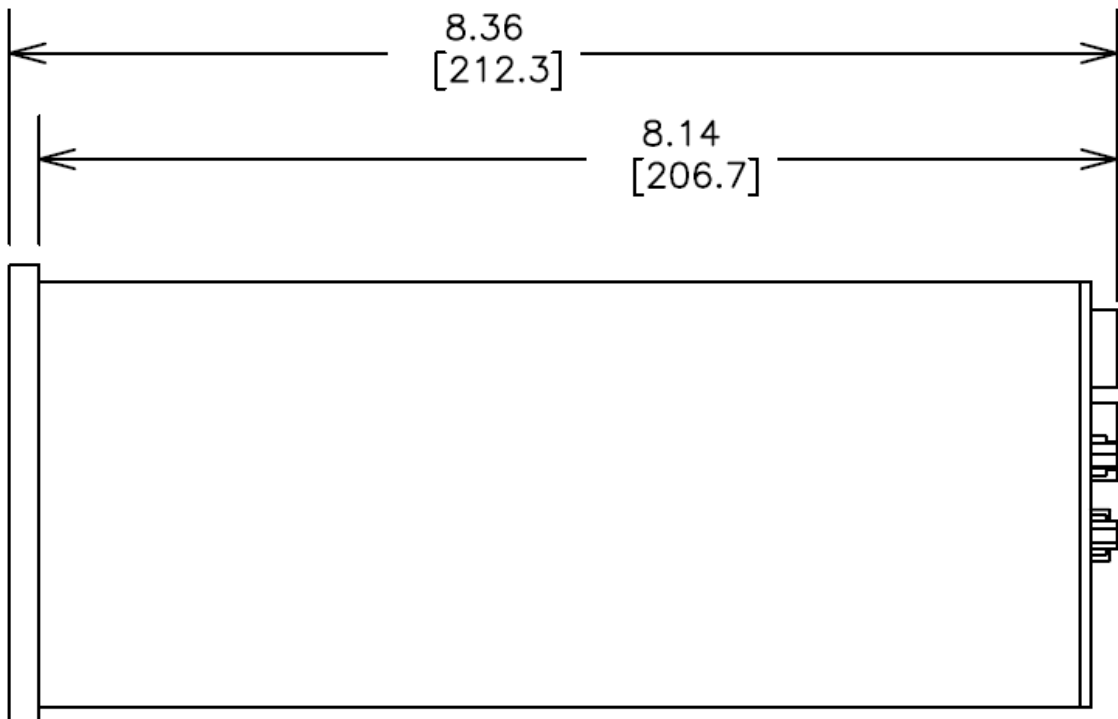
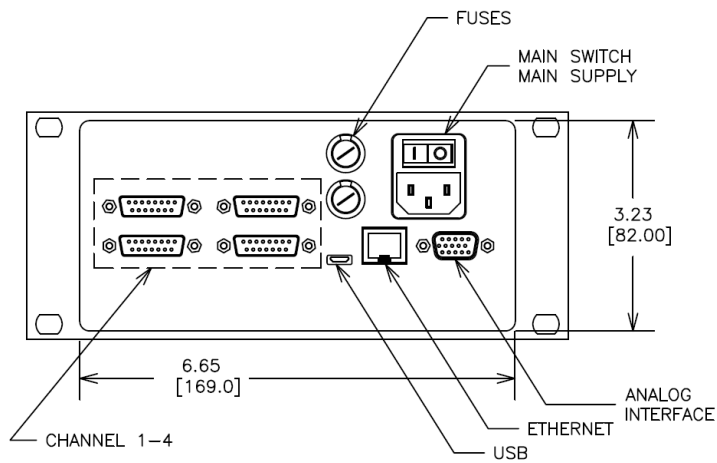
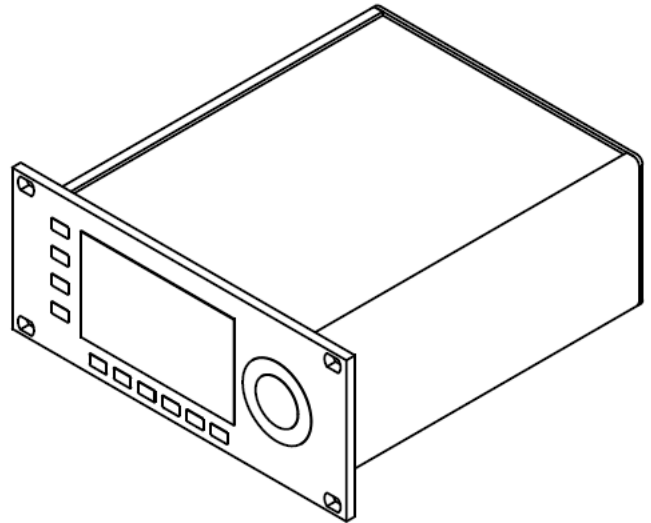
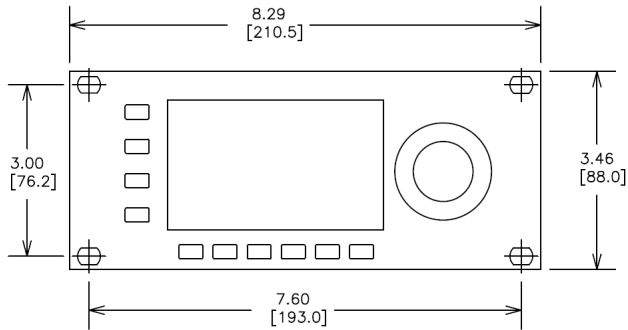
The rear panel gives the user access to many convenient ways to interface to the THCD-401. In addition to the Ethernet port, there is also a USB port for serial communication. A programmable alarm output (mechanical changeover relay) can be used for process control. The "Interface" connector gives the user access to analog outputs from each of the individual channels.



Specifications

<i>Signal Input</i>	
Number of Channels	Four
DC Input Signal	±10 Volt or 4-20 mA (Factory Option) 16-bit ADC
Error	± (0.02% of reading + 0.01% of full scale) within ±10 °C of calibration temperature
Impedance	> 1 MΩ (Voltage Input)
<i>Setpoint Output</i>	
DC Setpoint Output	0—10 VDC (into > 10 kΩ) or 4-20 mA (Factory Option) 16-bit DAC
Error	± (0.03% of reading + 0.02% of full scale) within ±10 °C of calibration temperature
Override Close	-0.4 to -0.2 VDC, Typ. -0.25 VDC
Override Open	6.5 to 8.0 VDC, Typ. 7.0 @ 5 VDC full scale OR >11.7 VDC, Typ. 12.0 VDC @ 10 VDC full scale
<i>Power Supply Output</i>	
	± 15 VDC @ 300 mA max / channel +24 VDC @ 350 mA max / channel Total transducer load not to exceed 40 Watt
<i>Power Supply (Mains)</i>	
Line Voltage	90—250 VAC
Line Frequency	50—60 Hz
Consumption	< 150 VA
Protection	1.6A anti-surge fuse (20 x 5 mm)
Mains Connector	IEC 320
<i>Operating Conditions</i>	
Operating Temperature	5°C to 60°C (41°F to 140°F)
Storage Temperature	-20°C to 70°C (-4°F to 158°F)
Maximum Relative Humidity	95%RH at 50°C (non-condensing)
Warm up Time (to full accuracy)	20 min (With unit already stabilized at ambient temperature) (Excludes transducer warm up time)
<i>Mechanical</i>	
Housing Dimensions	3.23" H x 6.65" W x 8.14" D (82 mm x 169 mm x 206 mm)
Weight	4.08 lbs. (1.85 kg)
Panel Cut Out	2U x ½ 19" Rack
<i>Miscellaneous</i>	
Alarm Output	Mechanical changeover relay (max 50 VDC)
Display Range	0 to 999999 (6 character, decimal counts as a character)
Transducer Connectors (4)	15-pin "D" (Female on THCD-401)
Serial	USB C (USB 2.0 over USB C connector)
Ethernet (TCP/IP)	Configurable static IP address and subnet mask Single host stack.

Outline Drawing



THCD-401 Part Number and Optional Cables



THCD-401 Four Channel Power Supply Meter

THCD-401	90-250 vac (50-60 Hz) Includes 8' IEC Power Cord, Interface Connector (15-pin) and Backshell
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Flow Transducer Cables: Connect Teledyne Hastings Power Supplies to Teledyne Hastings Flow Meters & Controllers

AF-4-AM	4' Cable
AF-8-AM	8' 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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HVG-2020 Vacuum Sensor Cable: Connects Teledyne Hastings Power Supplies to Teledyne Hastings HVG-2020

CB-AF-8-HVG9M	8' Cable
CB-AF-XXX-HVG9M	Custom Length Cable