DATASHEET

HRTD

H SERIES SENSORS

Highlights

- PT100 ohm RTD sensor
- Reference accuracy: ± 0.2 % Upper Range Limit
- Stability: ± 0.05 % URL or 0.1 °C per year
- Output signal options:
  1) 4-20 mA 2) RS485 Modbus
- Measurement range (°C, °F, or K):
  -50 to 400 °C
  -58 to 752 °F
  -223.15 to 673.15 K
- 350 degree rotatable backlit LCD display
- Operating/ambient temperature:
  -40 to 85 °C (-40 to 185 °F)
  LCD: -20 to 70 °C (-4 to 158 °F)
- 2" to 18" RTD lengths available
  (Custom lengths also available)
- Custom extensions available
- 1/2" NPT process connection
- Explosion-proof, IP66
- Class I, Division 1 (Zone 0)

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The Ideal Choice for Temperature Monitoring Applications

The OleumTech H Series RTD Temperature Transmitter is a high performance instrument engineered to meet the demands of harsh environments and rigorous industrial applications. The HRTD is ideal for hazardous locations thanks to its Explosion-proof, Class I, Division 1 design (certification pending). The HRTD provides high accuracy and stability and is available with either 4-20 mA or RS485 Modbus output signal option while offering IP66 protection.

The RTD Transmitter is easy to install and operate. With the backlit LCD display, users can configure and read process data with ease under any lighting condition. It provides a 1/2" NPT process connection along with customizable RTD and extension tube lengths. The OleumTech H Series RTD Transmitter is a natural choice for a wide variety of oil, gas, water, wastewater, and other mission-critical applications that require a high level of accuracy and reliability.

Technical Specifications

HARDWARE FEATURES	
Device Functionality	· RTD Temperature Transmitter, PT100 ohm Sensor
Output Signal Options	· 4-20 mA (Linearity, 2-Wire), RS485 Modbus
Measurement Range	· -50 to 400 °C | -58 to 752 °F | -223.15 to 673.15 K
Units	· °C, °F, K
Reference Accuracy	· Typical: ± 0.2 % URL (Calibration Temperature 20 °C ± 5 °C)
Stability	· Superior to ± 0.5 % URL or 0.1 °C per Year, Whichever is Greater @ Under the Checking Condition
Ambient Temperature Effects	· ≤ ± 0.005 % URL per °C, Temperature 22 °C)
Loading Effects	· ≤ ± 0.02 % URL per 100 Ω (Refer to Full Scale Output 20 mA)
Vibration Effects	· IEC60068-2-6 , 4g/2...100 Hz
Insulation Resistance	· ≥ 20 M Ω @ Reference, 100 Vdc
Damping Time	· Total Damping Time Constant: Equal to the Sum of Damping Time of Amplifer and Sensor Capsule · Reaction Time: ≤ 10 Sec @ Water Flow 0.4 m/s, Outer Diameter: 6mm
ELECTRICAL SPECIFICATIONS	
Power Supply	· 4-20 mA: 16.5 to 30 Vdc Max / RS485 Modbus: 12 to 30 Vdc Max
Power Consumption	· 4-20 mA: 21 mA (Max) / RS485 Modbus: 12 mA (Max)
MECHANICAL SPECIFICATIONS	
Dimensions (Enclosure)	· 3.7" (W) x 5.1" (H) x 5.2" (D) / 94 mm (W) x 130 mm (H) x 133 mm (D)
Weight	· Net: 3.1 lbs. (1.39 kg), Package: 4.0 lbs. (1.81 kg)
Package Dimensions	· 9.5" (W) x 8.0" (H) x 8.25" (D) / 241 mm (W) x 203 mm (H) x 210 mm (D)
Enclosure Casing Material	· Type 4X Aluminum; IP66
Cable Entry Ports	· (2) 1/2" NPT, 1 Plug Included
Process Connection	· 316 SS, 1/2"-14 NPT (M), ANSI/ASME B1.20.1
CERTIFICATION & COMPLIANCE	
Safety	· Explosion-proof, Ex d II C T6, All Models
cCSAus	· Class I, Division 1, Groups A, B, C and D T6...T1 · Class I, Division 2, Groups A, B, C and D T4...T1 · Class II, Division 1 Groups E, F and G T80ºC...T400ºC · Class III · Ambient Temperature: Ta = -40 to 55/60 °C (-40 to 131/140 °F)
GENERAL SPECIFICATIONS	
Storage Temperature	· -40 to 110 °C (-40 to 230 °F), Integrated LCD: -20 to 70 °C (-4 to 158 °F)
Operating Temperature	· -40 to 85 °C (-40 to 185 °F), Integrated LCD: -20 to 70 °C (-4 to 158 °F)
Operating Humidity	· 5 to 95 %, Non-Condensing
Warranty	· 2-Year Parts and Labor

Ordering Information

HRTD-[FC]-[Q1]-[D1]-[XXX]

Output Signal
- FC = 4-20 mA
- HC = 4-20 mA / HART
- RC = RS485 Modbus

Extension Selection (316 SS, Ø 0.5" / 12 mm)
- Q1 = None
- Q2 = 2"/50 mm
- Q3 = 4"/100 mm
- Q4 = 6"/150 mm
- Q5 = 8"/200 mm

RTD Diameter
- D1 = 0.25" / 6 mm
- D2 = 0.32" / 8 mm
- D3 = 0.39" / 10 mm
- D4 = 0.47" / 12 mm
- D5 = 0.63" / 16 mm

Length
XXX = Inches, 2" to 18" in 1" Increments
Custom lengths also available

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