

VTT10-HP

TEMPERATURE TRANSMITTER PROFIBUS-PA

head mounting model



- ✓ Reading of RTD, TC, Ohm and mV Sensors
- ✓ Communication Protocol: Profibus-PA
- ✓ Measurement of 2, 3 or 4 wire sensors
- ✓ Software Address Change
- ✓ Functional Blocks: 02 Analog Input
- ✓ Galvanic insulation: 1.5 kVAC
- ✓ Power without Polarity
- ✓ Quiescent Current: 12 mA
- ✓ Operating Temperature: -40 to 85° C
- ✓ Configuration, Calibration, Monitoring and Diagnostics via EDDL and FDT / DTM

DESCRIPTION

The VTT10-HP is a member of Vivace Process Instruments family of Temperature Transmitters, designed for installation in a B-shaped DIN head. It accommodates various types of sensors, such as: thermocouples and RTDs, plus resistance and voltage signals.

The transmitter is powered by a voltage of 9 to 32 Vdc, without polarity and through a Profibus-PA configurator; you can configure the transmitter parameters and verify calibration, diagnostics and monitoring of the transmitter.

The transmitter is connected to the Profibus-PA network via a DP / PA coupler using a pair of twisted and shielded wires. The Profibus-PA technology allows the interconnection of several equipment in a single network, allowing the construction of large control systems. The VTT10-HP works with the concept of functional blocks such as Analog Input and Transducer.

Prioritizing its high performance and ruggedness, the VTT10-HP is designed with the latest electronics and materials technologies, ensuring long-term reliability for systems of any scale.

SENSOR CONNECTION

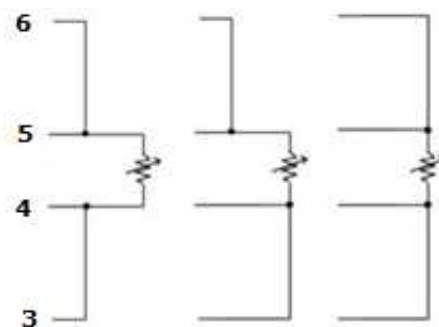
RTD or Ω



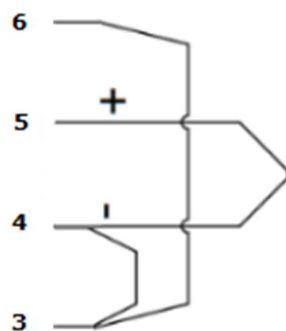
2-wires

3- wires

4- wires



TC / mV



SENSOR TYPE

RTD - Temperature sensor on the resistance with 2, 3 or 4-wire connection.

| SENSOR OPTION | REFERENCE | INPUT RANGE (°C) | MINIMUM SPAN (°C) | ACCURACY (°C) |
|-----------------------------|---------------------------|------------------|-------------------|---------------|
| Pt100 ($\alpha=0.00385$) | IEC751 | -200 to 850 | 10 | 0.10 |
| Pt200 ($\alpha=0.00385$) | IEC751 | -200 to 850 | 10 | 0.50 |
| Pt500 ($\alpha=0.00385$) | IEC751 | -200 to 850 | 10 | 0.20 |
| Pt1000 ($\alpha=0.00385$) | IEC751 | -200 to 300 | 10 | 0.20 |
| Pt100 ($\alpha=0.003916$) | JIS1604 | -200 to 645 | 10 | 0.15 |
| Pt200 ($\alpha=0.003916$) | JIS1604 | -200 to 645 | 10 | 0.70 |
| Ni120 | Edison Curve #7 | -70 to 300 | 10 | 0.08 |
| Cu10 | Edison Copper Winding #15 | -50 to 250 | 10 | 1.00 |
| Pt50 ($\alpha=0.00391$) | GOST 6651-94 | -200 to 850 | 10 | 0.20 |
| Pt100 ($\alpha=0.00391$) | GOST 6651-94 | -200 to 850 | 10 | 0.12 |
| Cu50 ($\alpha=0.00426$) | GOST 6651-94 | -50 to 200 | 10 | 0.34 |
| Cu50 ($\alpha=0.00428$) | GOST 6651-94 | -185 to 200 | 10 | 0.34 |
| Cu100 ($\alpha=0.00426$) | GOST 6651-94 | -50 to 200 | 10 | 0.17 |
| Cu100 ($\alpha=0.00428$) | GOST 6651-94 | -185 to 200 | 10 | 0.17 |

TC - Temperature sensor based on mV with 2 wires connection

| SENSOR OPTION | REFERENCE | INPUT RANGES (°C) | MINIMUM SPAN(°C) | ACCURACY (°C) |
|-----------------|--------------|-------------------|------------------|---------------|
| Thermocouple B | IEC584 | 100 to 1820 | 25 | 0.75 |
| Thermocouple E | IEC584 | -50 to 1000 | 25 | 0.20 |
| Thermocouple J | IEC584 | -180 to 760 | 25 | 0.25 |
| Thermocouple K | IEC584 | -180 to 1372 | 25 | 0.25 |
| Thermocouple N | IEC584 | -200 to 1300 | 25 | 0.40 |
| Thermocouple R | IEC584 | 0 to 1768 | 25 | 0.60 |
| Thermocouple S | IEC584 | 0 to 1768 | 25 | 0.50 |
| Thermocouple T | IEC584 | -200 to 450 | 25 | 1.00 |
| Thermocouple L | DIN43710 | -200 to 900 | 25 | 0.35 |
| Thermocouple U | DIN43710 | -200 to 600 | 25 | 0.35 |
| Thermocouple W3 | ASTM E988-96 | 0 to 2000 | 25 | 0.70 |
| Thermocouple W5 | ASTM E988-96 | 0 to 2000 | 25 | 0.70 |
| Thermocouple L | GOST R 8.585 | -200 to 800 | 25 | 0.45 |

Ohm or mV - Linear resistive sensor or mV with 2, 3 or 4 wires

| SENSOR OPTION | INPUT RANGES | ACCURACY |
|---------------|-------------------|----------|
| mV Input | -10 mV to 100 mV | 0.015 mV |
| Ohm Input | 0 Ohm to 2000 Ohm | 0.45 Ohm |

TECHNICAL AND PHYSICAL SPECIFICATIONS

| | |
|----------------------------------|---|
| Accuracy | As the above tables |
| Power Supply / Quiescent Current | 9-32 VDC / 12 mA |
| Communication Protocol | PROFIBUS-PA, according to IEC 61158-2 |
| Hazardous Area Certifications | Intrinsically Safe (pending) |
| Ambient Temperature Limits | - 40 to 85 °C |
| Configuration | EDDL, FDT/DTM and Android tools |
| Assembly | Head Mounting according to DIN 43729 Form B |
| Protection Degree | IP00 / IP66 (Installed) |
| Electrical Isolation | Galvanic Isolation , 1.5 kVac |
| Housing Material | ABS Plastic |
| Dimension / Approximate Weight | Ø 45 x 23 mm / 90 g |

ORDERING CODE

VTT10-H *Temperature Transmitter – Head Mounting*

| | | |
|------------------------|---|--------------------|
| Communication Protocol | H | HART |
| | P | PROFIBUS |
| Certification Type | 0 | NO CERTIFICATION |
| | 1 | INTRINSICALLY SAFE |
| Certification Body | 0 | NO CERTIFICATION |
| | 1 | CEPEL |
| | 2 | FM |
| | 3 | EXAM |

Ordering Code Example:

| | |
|---------|---------|
| VTT10-H | P - 0 0 |
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