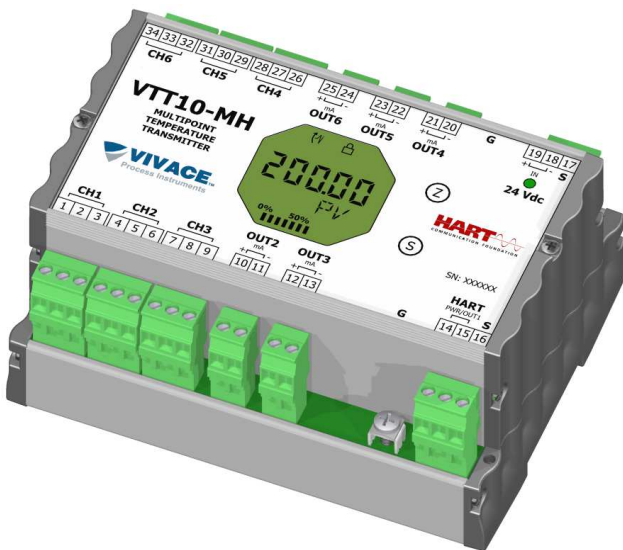


# VTT10-MH HART® MULTIPOINT TRANSMITTER



- ✓ Multipoint Transmitter  
6 Temperature Channels 3-wires  
6 Current 4–20 mA Outputs
- ✓ HART® 7 Communication Protocol
- ✓ NAMUR NE 43  
4-20 mA Analog Output
- ✓ Power Supply  
No Polarity 12 to 45 Vdc
- ✓ Sensor Types  
RTD, TC, Ohm and mV
- ✓ 2 or 3-wires Sensor Measurement
- ✓ Average and Backup Functions
- ✓ Sensor Work Range Configuration
- ✓ Operation Limit Alarms
- ✓ 5-digit, Rotative, Multifunctional LCD  
with Bargraph
- ✓ Galvanic Insulation 1.5 kVAC
- ✓ Operation Temperature -20 to 70 °C
- ✓ Local Adjust via Magnetic Tool
- ✓ Configuration, Calibration, Monitoring  
and Diagnosis via EDDL and FDT/DTM

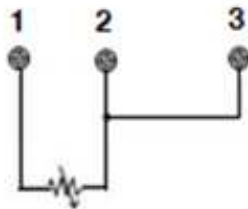
## DESCRIPTION

**VTT10-MH** is a member of Vivace Process Instruments family of Temperature Transmitters, designed for DIN rail or field panel installation using appropriate enclosure. It accepts various types of sensors, such as thermocouples and RTDs, plus resistance and millivoltage signals.

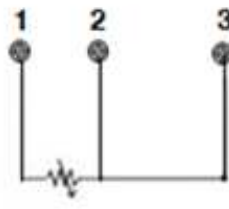
The transmitter is powered by a voltage of 12 to 45 Vdc and has six inputs for two or three-wire temperature sensors, with individual 4-20 mA current outputs for each sensor, configured by the user.

Easy to install and initialize, the transmitter also features ambient temperature measurement, sensor average and backup, plus a number of alerts for sensor measurement and status limits. Its configuration uses HART® 7 communication protocol, already recognized as the most used in the industrial automation world for configuration, calibration, monitoring and diagnostics, and can be performed by user via HART® configurator or tools based in EDDL or FDT/DTM technologies.

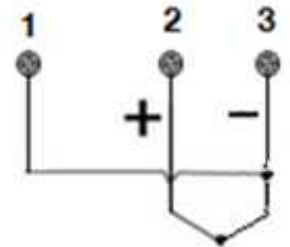
## TEMPERATURE SENSOR CONNECTION



2-Wire RTD or Resistive Connection

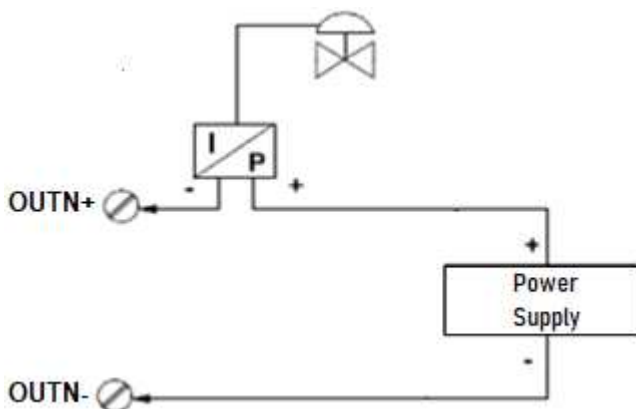


3-Wire RTD or Resistive Connection



TC or Millivoltage Connection

## ANALOG 4-20 mA OUTPUT CONNECTION



## SENSOR TYPES

**RTD** – Temperature sensors based on resistance with 2 or 3-wire connection.

| SENSOR OPTION               | REFERENCE         | INPUT RANGE (°C) | MIN. 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 #15 | -50 to 250       | 10             | 1.00          |

**TC** – Temperature sensors based on millivoltage with 2-wire connection.

| SENSOR OPTION | REFERENCE    | INPUT RANGE (°C) | MIN. SPAN (°C) | ACCURACY (°C) |
|---------------|--------------|------------------|----------------|---------------|
| TC B          | IEC584       | 250 to 1820      | 25             | 0.75          |
| TC E          | IEC584       | -200 to 1000     | 25             | 0.20          |
| TC J          | IEC584       | -180 to 760      | 25             | 0.25          |
| TC K          | IEC584       | -180 to 1372     | 25             | 0.25          |
| TC N          | IEC584       | -200 to 1300     | 25             | 0.40          |
| TC R          | IEC584       | 0 to 1768        | 25             | 0.60          |
| TC S          | IEC584       | 0 to 1768        | 25             | 0.50          |
| TC T          | IEC584       | -200 to 400      | 25             | 1.00          |
| TC L          | DIN43710     | -200 to 900      | 25             | 0.35          |
| TC U          | DIN43710     | -200 to 600      | 25             | 0.35          |
| TC W3         | ASTM E988-96 | 0 to 2000        | 25             | 0.70          |
| TC W5         | ASTM E988-96 | 0 to 2000        | 25             | 0.70          |
| TC L          | GOST R 8.585 | -200 to 800      | 25             | 0.45          |

**Ohm or mV** – Resistive or millivoltage linear sensors with 2 or 3-wire connection.

| SENSOR OPTION | INPUT RANGE   | ACCURACY |
|---------------|---------------|----------|
| mV            | -50 to 500 mV | 0.55 mV  |
| Ohm           | 0 to 2000 ohm | 0.45 ohm |

## TECHNICAL AND PHYSICAL SPECIFICATION

|   |   |
|---|---|
| Accuracy  | Temperature: According to Previous Tables<br>4-20 mA Outputs: $\pm 0.1\%$ of Calibrated Span              |
| HART Power Supply (PWR)<br>Open-Collector Power Supply (IN) | 12 to 45 Vdc / 4-20 mA according to NAMUR-NE43<br>24 Vdc $\pm 5\%$  |
| Communication Protocol                                      | HART® 7   |
| Classified Areas  | Explosion Proof (with certified enclosure) and Intrinsically Safe (pending)                               |
| Ambient Temperature Limits                                  | -20 to 70°C   |
| Ambient Temperature Effects<br>(for 1 °C variation)         | - Resistive Sensors: $\pm 0.0052\%$ of Ohm reading<br>- Millivoltage Sensors: $\pm 0.001\%$ of mV reading |
| Reading Stability   | $\pm 0.1\%$ of reading or 0.1°C – the highest value<br>RTD: 3 years; Thermocouples: 2 years               |
| Max. Update Time  | 650 ms (output current update for all 6 channels)   |
| Configuration   | Local, EDDL, FDT/DTM and Android® Tools   |
| Mounting  | DIN Rail or in the field with explosion proof enclosure   |
| Protection Degree   | IP20 or IP65 (with certified enclosure)   |
| Indication  | 5-digit, rotative, multifunctional LCD display  |
| Housing Material  | Aluminum / Plastic  |
| Approximated Weight   | 540 g (without certified enclosure)   |

## ORDERING CODE

### VTT10-M *Multipoint Temperature Transmitter*

|                        |   |                    |
|------------------------|---|--------------------|
| Communication Protocol | H | HART               |
|                        | P | PROFIBUS           |
| Certification Type     | 0 | NO CERTIFICATION   |
|                        | 1 | INTRINSICALLY SAFE |
|                        | 2 | EXPLOSION PROOF    |
| Certification Body     | 0 | NO CERTIFICATION   |
|                        | 1 | CEPEL              |
|                        | 2 | FM                 |
|                        | 3 | EXAM               |
| Protection Enclosure   | 0 | NO ENCLOSURE       |
|                        | 1 | IP65 ENCLOSURE     |
|                        | 2 | EX-D ENCLOSURE     |

Ordering Code Example:

|         |   |   |   |   |   |
|---------|---|---|---|---|---|
| VTT10-M | H | - | 0 | 0 | 0 |
|---------|---|---|---|---|---|

