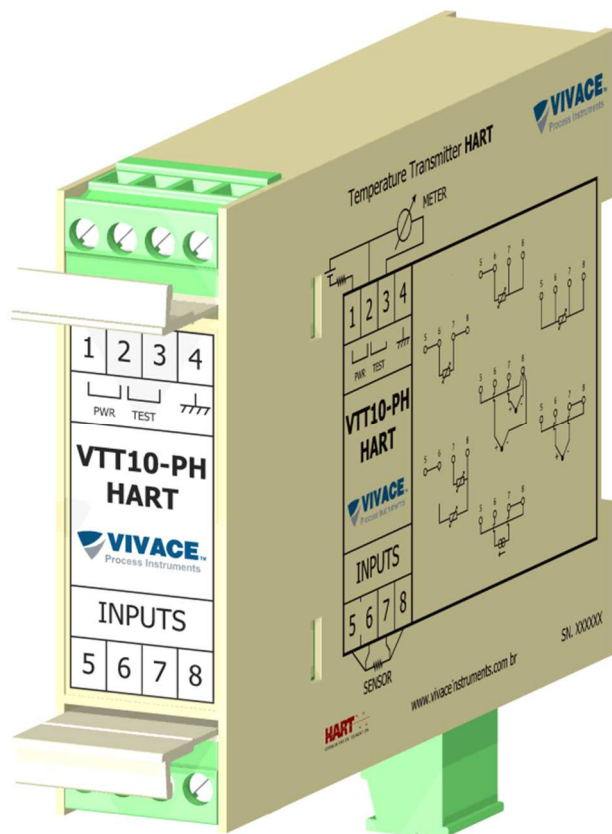


# VTT10-PH

## HART® TEMPERATURE TRANSMITTER

panel model



- ✓ Two Wire Loop Powered Transmitter with HART® 7 / 4 - 20 mA Communication Protocol
- ✓ Sensor Inputs  
RTD, TC, Ohm and mV
- ✓ 2, 3 or 4 Wires Measurement
- ✓ Single, Double, Differential and Backup Measurements
- ✓ Two Discrete Outputs for Alarms
- ✓ 4-20 mA Isolated Repeater Signal
- ✓ Ambient Temperature Compensation
- ✓ Callendar Van Dusen
- ✓ Galvanic Isolation of 1.5 kVAC
- ✓ DIN rail assembly
- ✓ Power Supply 12 to 45 Vdc (no polarity)
- ✓ Analog Output 4-20 mA NAMUR NE 43
- ✓ Operating Temperature  
-40 to 85 °C
- ✓ Configuration, Calibration, Monitoring and Diagnostics via HART Configurator and Supported by Android, EDDL and FDT/DTM Tools

## DESCRIPTION

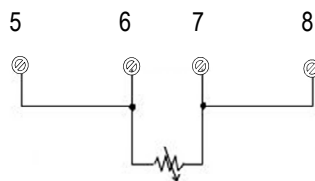
**VTT10-PH** is a member of Vivace Process Instruments Temperature Transmitters family, designed to DIN rail assembly. It meets several sensor types, such as thermocouples and RTDs, plus Ohm and mV.

The transmitter is powered by a 12 to 45 Vdc loop and modulates the communication on a 4 to 20 mA current, according to NAMUR NE43, using HART® 7 communication protocol, already established as the most used in the industrial automation world for configuration, calibration, monitoring and diagnostics.

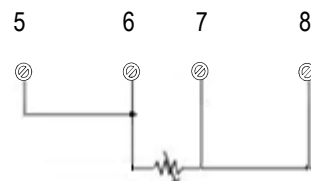
Using a HART configurator or Android platform with EDDL and FDT/DTM tools it is possible to configure the sensor type, measuring scales, work units, perform a calibration in addition to monitoring the measurement variables and checking the status of the device.

Prioritizing its high performance and robustness, the VTT10-PH was designed with the latest technology of electronic components and materials, ensuring long-term reliability for any scale systems.

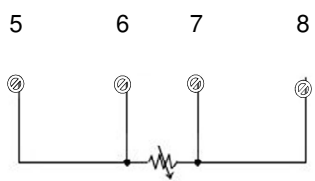
## SENSOR CONNECTION



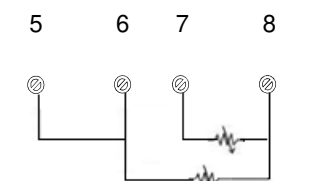
Two wires RTD or  $\Omega$  connection



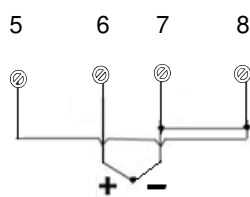
Three wires RTD or  $\Omega$  connection



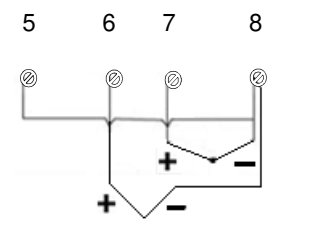
Four wires RTD or  $\Omega$  connection



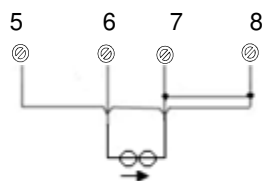
RTD or differential  $\Omega$  connection



Thermocouple or mV connection



Thermocouple or differential mV connection



4 – 20 mA Input connection

## SENSOR TYPES

RTD – Temperature sensor based on resistance with 2, 3 or 4 wires 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 SPECIFICATION

Accuracy	As the above tables
Power Supply / Output Current	12 to 45 Vdc (no polarity) / 4-20 mA according to NAMUR-NE43
Communication Protocol	HART® 7
Hazardous Area Certifications	Intrinsically Safe
Ambient Temperature Limits	- 40 to 85°C
Configuration	EDDL and FDT/DTM tools for Windows and Android platforms.
Assembly	DIN rail
Protection Degree	IP00 / IP66 (Installed)
Electrical Isolation	Galvanic Isolation, 1.5 kVac
Housing Material	Injected ABS Plastic
Dimension / Approximate Weight	76 x 23 x 105 mm / 105 g

## ORDERING CODE

### VTT10-P *Temperature Transmitter - Panel*

Communication Protocol	H	HART
	P	PROFIBUS
Certification Type	0	NO CERTIFICATION
	1	INTRINSICALLY SAFE
Certification Body	0	NO CERTIFICATION
	1	INMETRO
Discrete Output	0	NO DISCRETE OUTPUT
	1	WITH DISCRETE OUTPUT

Ordering Code Example:

VTT10-P	H	-	0	0	0
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