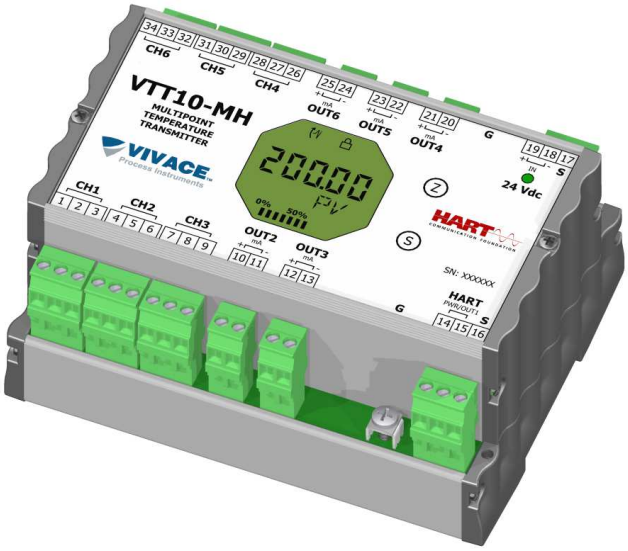
VIVACE™
Process Instruments
Exceeding Automation Limits

VTT10-MH

HART® MULTIPOINT TRANSMITTER

HART COMMUNICATION FOUNDATION



- ✓ 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

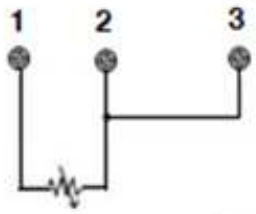
DESCRIPTION

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.

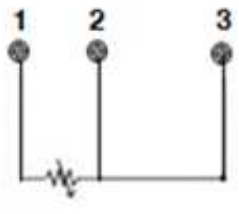
The transmitter is powered by a voltage of 12 to 45 Vdc and has six inputs for two or three-wire temperature sensors, with individual 4-20 mA current outputs for each sensor, configured by the user.

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.

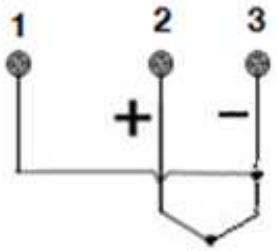
TEMPERATURE SENSOR CONNECTION



2-Wire RTD or Resistive Connection

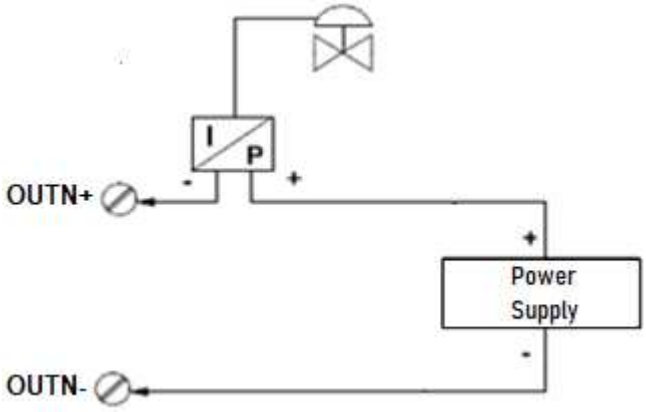


3-Wire RTD or Resistive Connection



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 (α=0.00385)	IEC751	-200 to 850	10	0.10
Pt200 (α=0.00385)	IEC751	-200 to 850	10	0.50
Pt500 (α=0.00385)	IEC751	-200 to 850	10	0.20
Pt1000 (α=0.00385)	IEC751	-200 to 300	10	0.20
Pt100 (α=0.003916)	JIS1604	-200 to 645	10	0.15
Pt200 (α=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 4-20 mA Outputs: ± 0.1% of Calibrated Span
HART Power Supply (PWR) Open-Collector Power Supply (IN)	12 to 45 Vdc / 4-20 mA according to NAMUR-NE43 24 Vdc ±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 (for 1 °C variation)	- Resistive Sensors: ± 0.0052% of Ohm reading - Millivoltage Sensors: ± 0.001% of mV reading
Reading Stability	±0.1% of reading or 0.1°C – the highest value 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**