VTT10-MP
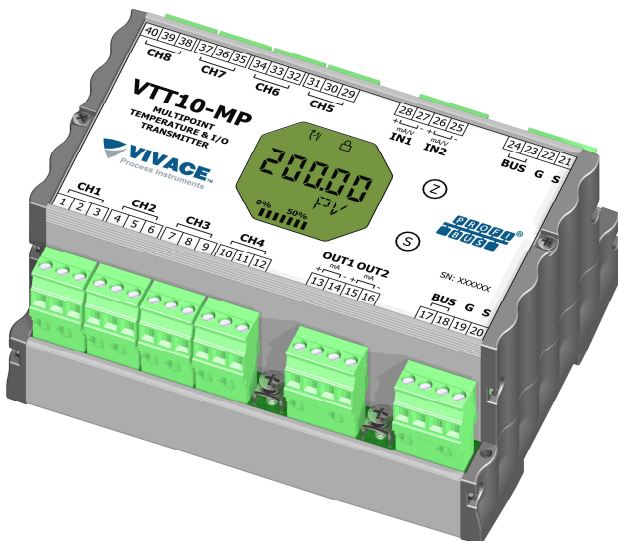
PROFIBUS-PA MULTIPOINT TRANSMITTER
Temperature & I/O

- ✓ **Multipoint Transmitter**
  8 3-wire Temperature Channels
  2 Analog Inputs (4-20mA ou 0-5Vdc)
  2 Analog Outputs 4 – 20 mA

- ✓ **5 Digit Digital Rotary LCD Display with Bargraph**

- ✓ **Reading of RTD, TC, Ohm and mV Sensors**

- ✓ **Communication Protocol Profibus-PA**

- ✓ **2 or 3 wire sensors**

- ✓ **Address Change via software**

- ✓ **Function Blocks**
  10 Input Blocks (AI)
  02 Output Blocks (AO)

- ✓ **Galvanic insulation, 1.5 kVAC**

- ✓ **Power without Polarity**
  12 mA Quiescent Current

- ✓ **Operating Temperature -20 to 70 °C**

- ✓ **Local Adjustment via Magnetic key**

- ✓ **Configuration, Calibration, Monitoring and Diagnostics via EDDL and FDT / DTM**

DESCRIPTION

VTT10-MP is a member of Vivace Process Instruments family of Temperature Transmitters, designed for field installation or DIN rail panel. It works with several types of sensors, such as thermocouples and RTDs, plus resistance and voltage signals.

The transmitter is powered by a 9 to 32 Vdc voltage, accepting up to eight inputs for 2- or 3-wire temperature sensors, plus two analog inputs (voltage: 0-5 Vdc or current: 4-20 mA), configured by the user. In addition, two 4-20 mA analog outputs are available for actuation of final control elements, such as valve positioners.
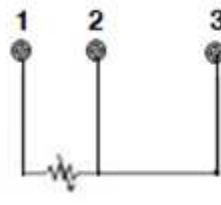
Through a Profibus-PA configurator, the user can configure the transmitter parameters, the input and output channels, and verify calibration, diagnostics and monitoring of the transmitter. In addition, it is possible to configure the VTT10-MP via local adjustment using a magnetic key.

The transmitter is connected to the Profibus-DP 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-MP works with the concept of functional blocks such as Analog Input, Analog Output and Transducer.
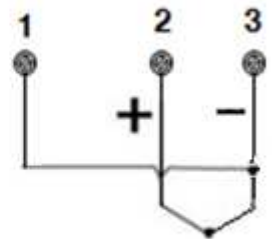
TEMPERATURE SENSOR CONNECTION
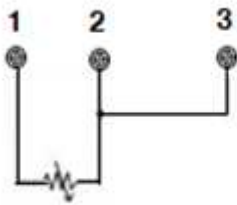
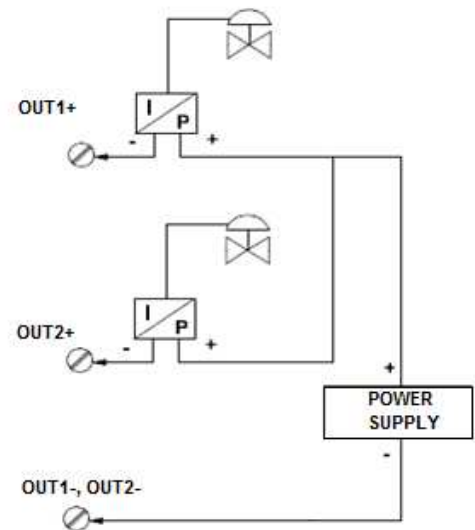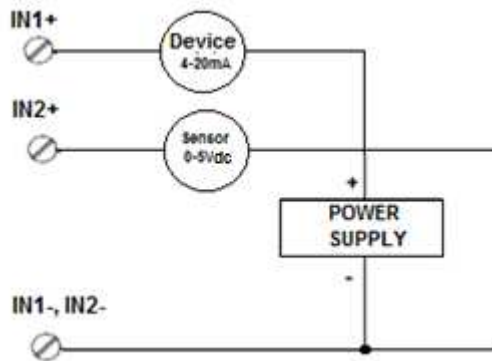
RTD or 2 wire resistive connection   RTD or 3 wire resistive connection   Thermocouple or mV connection

ANALOG INPUT AND OUTPUT CONNECTION

SENSOR TYPE

RTD – Temperature sensor based on resistance for 2 or 3-wire connection.

SENSOR OPTION	REFERENCE	INPUT RANGE (°C)	MINIMUM 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 Winding #15	-50 to 250	10	1.00

TC – Temperature sensor based on milivoltage for 2-wire 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 or milivoltage sensor for 2 or 3-wire connection.

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	Temperature: According to Tables Above
	Inputs / Outputs: ± 0.1% Span calibrated
Supply Voltage / Quiescent Current	9 to 32 Vdc, without polarity / 12 mA
Output Load Limit	Output signals 4-20mA: External Output Voltage 3-45 Vdc.
Protocol of Communication	Profibus-PA, according to IEC 61158-2
Certification in Hazardous Area	Explosion-proof and Intrinsically Safe (pending)
Ambient Temperature Limits	-20 to 70°C
Configuration / Function Blocks	Remote configuration through tools based on EDDL or FDT / DTM. Local configuration via magnetic key.
	10 Analog Input Blocks (AI)
	2 Analog Output Blocks (AO)
Mounting	In field or panel, using DIN rail
Degree of Protection	IP20
Type of Electrical Insulation (between Profibus-PA bus, inputs and outputs)	Galvanic Isolation, 1,5 kVac
Housing Material	Aluminum / Plastic
Approximate weight	540 g

ORDERING CODE

VTT10-M *Multipoint Temperature Transmitter*

Communication Protocol	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 Housing	0	NO HOUSING
	1	IP67 HOUSING

Ordering Code Example:

VTT10-M	P - 0	0	0