TENA-M FAST RESPONSE IMMERSION TRANSMITTER / CONTROLLER

TENA-M Modbus temperature transmitter is designed for hot water temperature control applications. Transmitter information can be used to control other device in the HVAC system.

Temperature is measured by a Pt1000 sensor element. The sensor element resistance information is converted into a 0…10 V signal and this voltage signal is available also via Modbus. The temperature range can be chosen at the commissioning.

TENA-M settings can be changed by using the ML-SER tool. One point field calibration of the transmitter can be executed, the temperature output can be changed to the controller function and the communication settings of the Modbus can be configured.

TENA-M transmitter can be equipped with a 3.5-digit liquid crystal display option TE-N V2. The display resolution is 0.1 °C.

Housing is made of heat resistant plastics. The bayonet cover and the terminal blocks tilted to 45° make an easy installation. The material of the stem is stainless steel for prolonged life. Sensor is installed to the water pipe by means of the R1/2" threads.

There are also available 50 mm and 210 mm immersion length transmitter versions for alternative installations.

Range selection

0…+50 °C	*0…+100 °C	-50…+50 °C	-50…+150 °C
S1 S2	S1 S2	S1 S2	S1 S2

* = factory setting

Output signal

0…+50	0…+100	-50…+50	-50…+150	Signal
0 °C	0 °C	-50 °C	-50 °C	0 V
25 °C	50 °C	0 °C	50 °C	5 V
50 °C	100 °C	50 °C	150 °C	10 V

Technical data:

supply voltage	24 Vac/dc < 1 VA (22…30Vac/dc)
sensor	Pt1000 EN 60751/B
output 1	0…10 Vdc < 2 mA (temp. / controller)
output 2	RS-485 Modbus/RTU
temperature range	selectable
connection	R ½" thread
stem	Ø 4 mm x 85 mm, material AISI316
housing	plastics (< 120 °C)
protection class	IP54, cable entry or stem down
cable entry	M16
pressure rating	PN16
accuracy	± 0.5 °C (at 50 °C)
ambient temperature	0…+60 °C
time constant	2.5 s

Wiring:

1	supply 24 Vac/dc
2	0 V
3	output 0…10 Vdc (temperature / controller)
4	Modbus A+
5	Modbus B-

Ordering guide:

Model	Product number	Description
TENA-M	117Z050	Modbus fast response temperature transmitter
TENA-M-50	117Z051	fast response temperature transmitter, length 50 mm
TENA-M-210	117Z052	fast response temperature transmitter, length 210 mm
TE-N V2	1170250	display module (cover)
ML-SER	1139010	transmitter commissioning tool

Products fulfill the requirements of directive 2004/108/EC and are in accordance with the standards EN61000-6-3: 2001 (Emission) and EN61000-6-2: 2001 (Immunity).

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