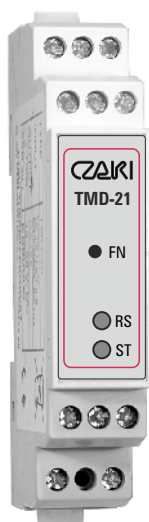


DIGITAL TEMPERATURE TRANSMITTER type TMD-21



- ☐ Compatibility with temperature sensors – thermocouples: **J, K, N, T, E, S, R, B**
- ☐ RS485 interface with MODBUS-RTU communication protocol
- ☐ up to 247 transmitters can be connected on a common bus
- ☐ Galvanic isolation of the measurement input from the power supply and RS485 interface
- ☐ Linearization of sensor characteristics, CJC compensation
- ☐ Communication indication via RS LED
- ☐ Transmitter status/error indication via ST LED
- ☐ Service mode with fixed transmission parameters: 19200, 8E1
- ☐ Enclosure designed for mounting on a 35 mm DIN rail, DIN EN 50022-35

The **TMD-21** is a digital measuring transmitter designed to work with thermoelectric sensors (thermocouples).

The measurement results and transmitter configuration are accessed via the **RS-485** interface using the **MODBUS-RTU** communication protocol. The transmitter features high measurement accuracy, low thermal drift, and high immunity to interference. It includes an automatic cold junction compensation (CJC) system and ensures accurate linearization of sensor characteristics across the entire measurement range.

To configure the transmitter, the **tmd-cfg** software, running on Windows®, can be downloaded from www.czaki.pl.

For communication with transmitters, we recommend the **IF-485U** interface, connected to a **USB** port (p.178), which ensures communication and galvanic isolation between the RS-485 bus and the computer.

DANE TECHNICZNE

Temperature Measurement	as per Table 1
Cold junction compensation error:	±0.7°C
Relative measurement error:	<0.15%
Response time:	<20ms
Measurement time:	200ms
Communication:	RS-485
Communication protocol:	MODBUS-RTU
Transmission speed:	9600, 19200, 38400, 57600, 115200 bit/s
Transmission parameters:	8E1, 801, 8N1, 8N2
Galvanic isolation:	500 V AC
Power supply:	12 ... 36 V DC / 0.2W
Operating temperature:	0 .. +60°C
Humidity:	<90% non-condensing
Dimensions (height x width x depth):	98 x 17.5 x 56.4 mm
Weight:	approx. 50 g

Sensor type	Range [°C]	basic err.
J Fe-CuNi	-210...1200	±0.11°C
K NiCr-NiAl	-200...1372	±0.13°C
N NiCrSi-NiSi	-200...1300	±0.1°C
T Cu-CuNi	-200...400	±0.1°C
E Fe-CuNi	-200...1000	±0.15°C
S PtRh10-Pt	-50...1768	±0.2°C
R PtRh13-Pt	-50...1768	±0.2°C
B PtRh30-PtRh6	+95...1768	±0.25°C

Tab.1 Measurement ranges for individual types of sensors

Ordering

Order code:

TMD-21