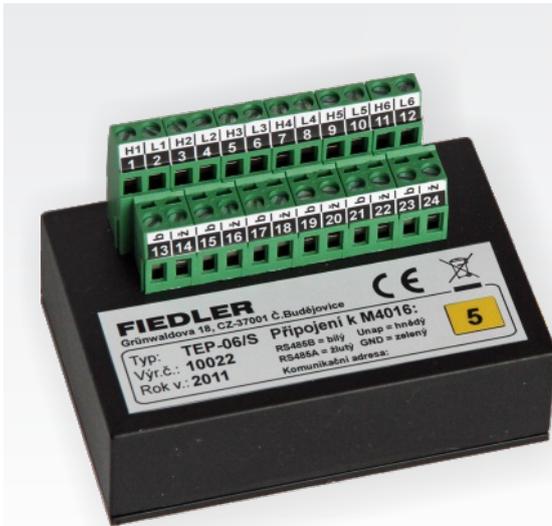


TEP06

Measuring transducer for 6 Pt100 temperature sensors



- Four-wire connection of Pt100 sensors
- Reading of measured temperatures via RS485 at a distance of up to 500 m
- FINET or Modbus RTU communication protocols
- Very high transmission accuracy due to the unique electronic connection
- Low transmission temperature dependence (5 ppm)
- Temperature resolution up to 0.002 ° C
- Version with permanently connected Pt100-XM sensors with IP68 protection (permanent immersion)
- Compatible with all FIEDLER telemetry stations

Basic description

The measuring transducer type TEP06 is suitable for very accurate measurement of up to six temperatures using standard and widely used Pt100 sensors. These temperature sensors can either be part of the transmitter delivery, where they are firmly and inseparably connected to the transmitter (TEP06) with cables of the required lengths, or the customer connects them to the terminals located on the transmitter (TEP06 / S).

High protection IP68

The TEP06 converter, including the termination of the cables from the sensors, is encapsulated in a water-resistant PUR material. This mechanical design allows continuous operation of the TEP06 converter without additional protection even under water, in soil and under. The cable length to the individual Pt100-XM temperature sensors must therefore be specified when ordering the transmitter. The maximum length of one cable can be up to 100 m. Temperature sensors are connected to the transmitters in four wires and therefore the length of the cable does not affect the accuracy of measurement.

Converter connection via RS485

The TEP06 converter communicates with the connected recording unit (M4016, H1, H7, H40 or STELA) via the RS485 bus under the FINET protocol (Modbus RTU). The converter is also powered from the connected unit via the same communication cable.

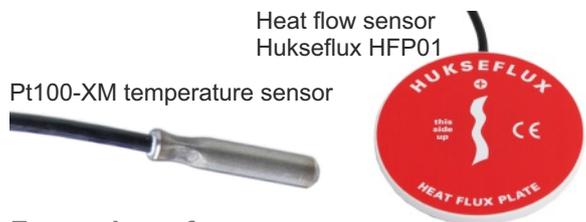
If it is necessary to measure more than 6 temperatures, then a larger number of TEP06 converters can be connected to one recording unit via the RS485 bus. The transmitters are delivered with a preset communication address 4 as standard.

Temperature and heat flow sensors

All Pt100 sensors with a four-wire cable can be connected to the TEP06 / S converter. However, due to the high accuracy of the transmitter, it is advisable to use only sensors of accuracy class A or better. Suitable sensor types include, for example, the Pt100-XM sensor, which can be ordered from the transmitter manufacturer. This temperature sensor is designed for measurements in the outdoor environment, in water, in the soil, etc.

Heat flux measurement

Some applications may require, in addition to temperature measurement, heat flow measurement through the soil, building structure, etc. The TEP06 (TEP06 / S) transmitter can have a selected number of inputs set to measure heat flow using HUKSEFLUX sensors. The request for setting the inputs must be entered when ordering the converter.



Examples of use

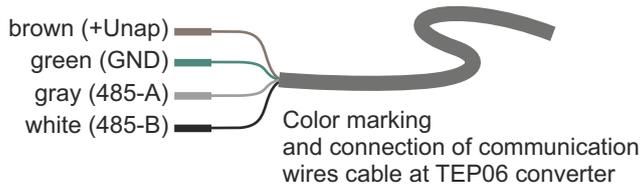
- Accurate measurement of water temperature at different depths
- Accurate measurement of temperatures and heat flow in the soil
- Temperature measurement in industry and construction

TEP06

MEASURING TRANSDUCER FOR 6 PT100 TEMPERATURE SENSORS

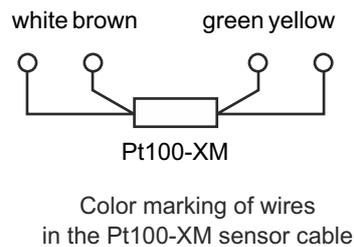
Technical parameters

- Number of measuring inputs:** 6 channels K1 to K6
- Temperature sensor type:** Pt100, four-wire connection
- Maximum cable length to the sensor:** 100 m
- Measuring range:** -50°C to +100°C (optionally +500°C)
- Measured temperature resolution:** 0.002 °C
- Transducer measure. error:** type $\pm 0.01^\circ\text{C}$, max $\pm 0.1^\circ\text{C}$
- Measurement error including connected sensors (class A):** type $0.15 + 0.001 \cdot t [^\circ\text{C}]$, max $0.25 + 0.002 \cdot t [^\circ\text{C}]$
- Measurement time of one channel:** <0.5 sec
- Output:** RS485
- Communication protocols:** FINET (Modbus RTU)
- Range of adjustable addresses:** 1 to 240
- Output cable:** 4-core PUR cable 1 to 100 m (5 m)
- Supply voltage:** Un: 6 to 16 V DC
- Current consumption:** <10 mA
- Mechanical dimensions:** 90 x 60 x 25 mm
- Weight (without cables and sensors):** 350 g
- Material:** ABS, PUR
- Working temperature:** -40 to +70 °C
- Converter protection TEP06:** IP68



Connection of sensors to TEP06/S

Tpt100 temperature sensors are connected to the TEP06 / S converter in four wires. The upper row of terminals contains voltage inputs H and L, the lower row of terminals marked + and - contains sources of measuring current.



Fixed connection of sensors to the TEP06 converter

