

TEMP PRODUCT LINE: TF Series

Features:

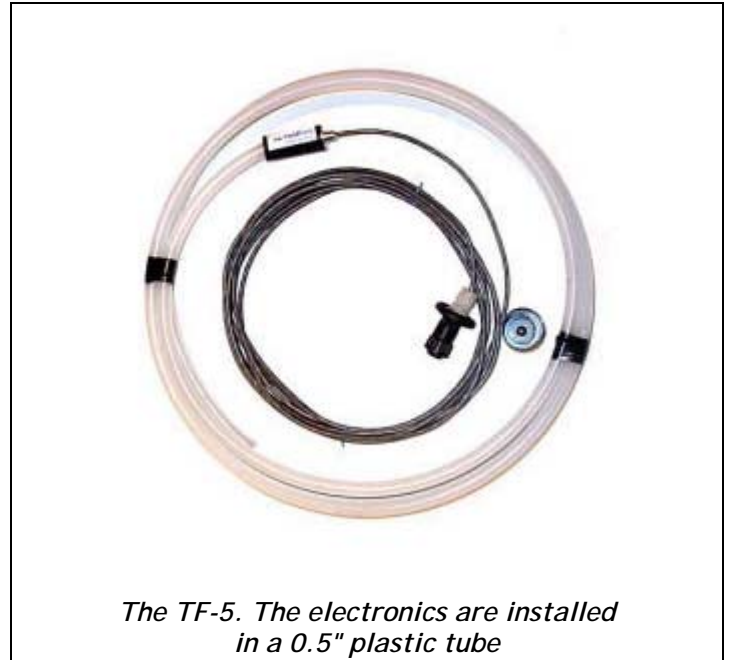
- ▲ High accuracy and resolution (TEMP Technology).
- ▲ Inherently digital (CMOS/TTL compatible) electronics
- ▲ Resolution of 0.1°C
- ▲ Digitally trimmed calibration at 0°C and 25°C with calibration coeffs. Stored in Flash EEPROM
- ▲ Accuracy of +/-0.25°C(-25 to 50°C)
- ▲ Microcontroller V_{DD} MUX for individual sensors to minimize self heating inaccuracies.
- ▲ On board microcontroller provides output in real world units (10Hz/oC)
- ▲ °F readout (10Hz/°F) available on request.
- ▲ Immunity to hostile environment
- ▲ High survivability to blasts and vibration
- ▲ Easy to install and maintain. Arrives on site fully assembled.
- ▲ Low cost readout unit and telemetry- DESTINY
- ▲ PalmOS using SensorSYNC
- ▲ Easy to interface with PLC's

YieldPoint's unique TEMP(Temperature Evaluation and Monitoring Product-line) technology is based on a monolithic digital temperature sensor which can cost- effectively monitor and transmit temperature data from up to 10 individual points (i.e. 10 individual sensors). Individual Calibration coefficients for sensors are stored in the onboard microcontroller's Flash EEPROM.

The product line ranges from the cost effective TF1 to ThermoStrings which may have 5(TF2) or 10 (TF10) temperature sensors linearly arranged at user specified intervals.

Signal Processing

The inherently digital nature of the signals eliminates the necessity for expensive analog-to-digital conversion and results in low cost readout unit that reads data in real world units (10Hz/°C). The sensor output is a frequency modulated (CMOS and TTL Compatible) digital signal that can be read by a low cost electronic meter or tachometer or the digital channels of a PLC. The signals themselves are robust (0-5V square waves) can be transmitted over 1000ft of lead-wire, and if broken the lead-wire can be twisted and taped together. Frequency modulation is widely recognized as preferable for the harsh mining environment where amplitude signals are prone to inaccuracies.



The TF-5. The electronics are installed in a 0.5" plastic tube

Manual Readout

Readout can be made using YieldPoint's low cost manual readout box, with a backlit LCD. An on-board micro-processor performs diagnostics on the leadwires, recognizes the sensor type and ID and outputs the displacement and temperature data in mm and °C. A jumper inside the unit can be used to configure the unit for either SI or imperial units.

Automatic Data Retrieval

Clusters of TEMP sensors can be read from a single readout box (maximum 6 TEMP instruments (TF1, TF5,TF10) per unit). In turn the multiple readout boxes can be networked together using DESTINY (Digitally Enabled Sensor Transducer and Instrumentation Network from YieldPoint). This is a low cost, low maintenance RS-485 network (modbus protocol), that can save time and money by transmitting data directly to a central control room or an engineer's desktop. Alternatively the data can be interfaced with the mine's existing PLC network.

Applications:

The TEMP sensors are designed for application in harsh environments. A triple encapsulation for the ThermoStrings ensures reliable operation over extended periods under demanding conditions. The sensors are priced competitively and thus offer the users the option to monitor multipoint temperature distributions rather than just a single point measurement.

Applications include:

- ▲ Environmental temperature monitoring
- ▲ Ventilation System control.
- ▲ Ground freezing.
- ▲ Soil temperature profiles
- ▲ Concrete cure assessment.
- ▲ Cure of Backfill/Pastefill

The sensors are hermitically sealed in a stainless steel enclosure.



The TF1-UC

PalmOS

YieldPoint has recently introduced the SensorSYNC™ solution for to enable TEMP sensors to be polled using a PalmOS handheld device. SensorSYNC™ reads the data, makes all necessary conversions, stores the data to a database, and allows comparison with previous datasets. For sensor arrays that exceed 10 individual temperature sensors this option is strongly recommended.

Specifications:

TEMP-TF1/UC - Uncalibrated - Lowest cost

Dimensions: Sensor length 12mm
Sensor OD 6mm

Leadwire: 3 conductor shielded.

Range -40 to 125°C

Accuracy +/-1.5°C

Resolution 0.1°C (10Hz/°C)

°F readout available on request.

TEMP-TF1/C Calibrated

Dimensions: Sensor length 22mm
Sensor OD 16mm

Leadwire: 3 conductor shielded.

Range -40 to 125°C

Accuracy <+/-0.5°C (typ +/-0.25°C)

Resolution 0.1°C (10Hz/°C)

°F readout available on request.

ThermoStrings

TEMP -TS5 5x sensor ThermoString.

TEMP- TS10 10x sensor ThermoString

Dimensions: String length <50m
Triple encapsulation OD: 18mm.

Leadwire: 3 conductor shielded.

Range -40 to 125°C

Accuracy +/-0.25°C (-20 to +25°C)

Resolution 0.1°C (10Hz/°C)

Digitally trimmed using on-board microcontroller.

°F readout available on request.