

PRESYS



Smart Universal Transmitter TY-2090 Energy

- Ideal for safety applications in turbines and generators at hydroelectric and thermoelectric power plants.
- In the event of burnout, the TRIP alarm is not activated (configurable for 2 relays).
- Immune to electromagnetic noise.
- Transmitter and/or Alarm Monitor in a single instrument, supporting up to 4 alarm modules.
- Two standard universal inputs for RTD, thermocouple, 0–500 mV DC, and 4–20 mA.
1–5 V DC and 0–10 V DC.
- One or two analog outputs of 4–20 mA, 1–5 V DC, and 0–10 V DC, isolated from the inputs.
- Programmable via serial communication or through a handheld programmer.
- Linearization for RTD and thermocouple inputs, also performs square root extraction.
- Configuration stored in non-volatile memory.
- DIN rail or surface mounting.
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Ordering code

TY-2090 - - - - - E

Model

Output 1- Retransmission or Alarm1

- 0 - Not used
- 1 - 4-20 mA
- 2 - 1-5 Vdc
- 3 - 0-10 Vdc
- 4 - SPST relay
- 5 - Open collector voltage
- 6 - Solid-state relay

Output 2

Same coding as Output 1

Output 3 – Alarm or TRIP

- 0 - Not used
- 1 - SPDT relay
- 2 - Open collector voltage
- 3 - Solid-state relay

Output 4 – Alarm or TRIP

Same coding as Output 3

Power supply

- 1 - 75 to 264 VAC, 50/60 Hz, or 100 to 360 VDC (polarity independent).
- 2 - 24 Vca ou 24 Vdc ($\pm 10\%$)
- 3 - 12 Vdc ($\pm 10\%$)
- 4 - Others, upon request.

Communication

- 0 - Not used
- 1 - RS-232
- 2 - RS-485
- 3 - RS-422

Enclosure protection rating

- 0 - General use, sheltered location, surface mounting.
- 1 - General use, sheltered location, DIN rail mounting.
- 2 - Weatherproof – IP66
- 4 - Dustproof

Dimensions

310 x 310 x 200 mm (H x W x D)

Weight

11 kg nominal

Application

E - Energy

Specifications

Inputs

Inputs configurable for thermocouple (J, K, T, E, R, S according to ITS-90), 0-500 mV, RTD Pt-100 according to DIN 43760, 4-20 mA, 1-5 Vdc and 0-10 Vdc. Input impedance of 250 Ω for mA, >10 M Ω up to 5 Vdc and 2 M Ω above 5 Vdc.

Outputs

4-20 mA analog retransmission (maximum load of 750 Ω), 1-5 Vdc or 0-10 Vdc. Up to 2 modules galvanically isolated at 300 VAC from inputs and power supply. Up to 2 SPDT relay modules and up to 2 SPST relay modules with 3 A/220 VAC rating. Logic level via open collector, 24 VDC/40 mA maximum with isolation. Solid-state relay, 2 A/250 VAC with isolation.

Serial communication

RS-232 or RS-422/485 with 50 Vdc isolation. MODBUS®-RTU communication protocol.

Configuration

Via RS-232 and RS-422/485 serial communication or through the MCY-20 configuration module.

Scan time

120ms standard.

Accuracy

$\pm 0.1\%$ of full scale for TC, RTD, mA, mV and Vdc inputs with acquisition via RS-232 or RS-422/485 communication.
 $\pm 0.2\%$ of full scale for analog output and maximum load of 750 Ω .

Linearization

± 0.1 °C for RTD and ± 0.2 °C for TC.

Square root extraction

$\pm 0.5\%$ of indicated value for input above 10% of span. Programmable cut-off from 0 to 5%.

Cold junction compensation

± 2.0 °C over an ambient temperature range of 0-50 °C.

Power supply for two-wire transmitters

Short-circuit protection.

Maximum 24 Vdc/50 mA, isolated from outputs, with

Stability with ambient temperature

$\pm 0.005\%$ per °C of span with reference to 25 °C ambient temperature for RS-232 or RS-422/485 acquisition.
 $\pm 0.015\%$ per °C of span with reference to 25 °C ambient temperature for analog output.

Power supply

Universal 75 to 264 VAC, 50/60 Hz or 100 to 360 VDC (polarity independent) (10 W nominal); 24 VAC/VDC ($\pm 10\%$); 12 VDC ($\pm 10\%$).

Operating environment

Temperature from 0 to 50 °C and relative humidity up to 90% (maximum).

Dimensions

(140 x 53 x 175 mm) H x W x D.

Weight

0.5 kg nominal.

Warranty

One year.