



TY-2090 Universal Smart Transmitter

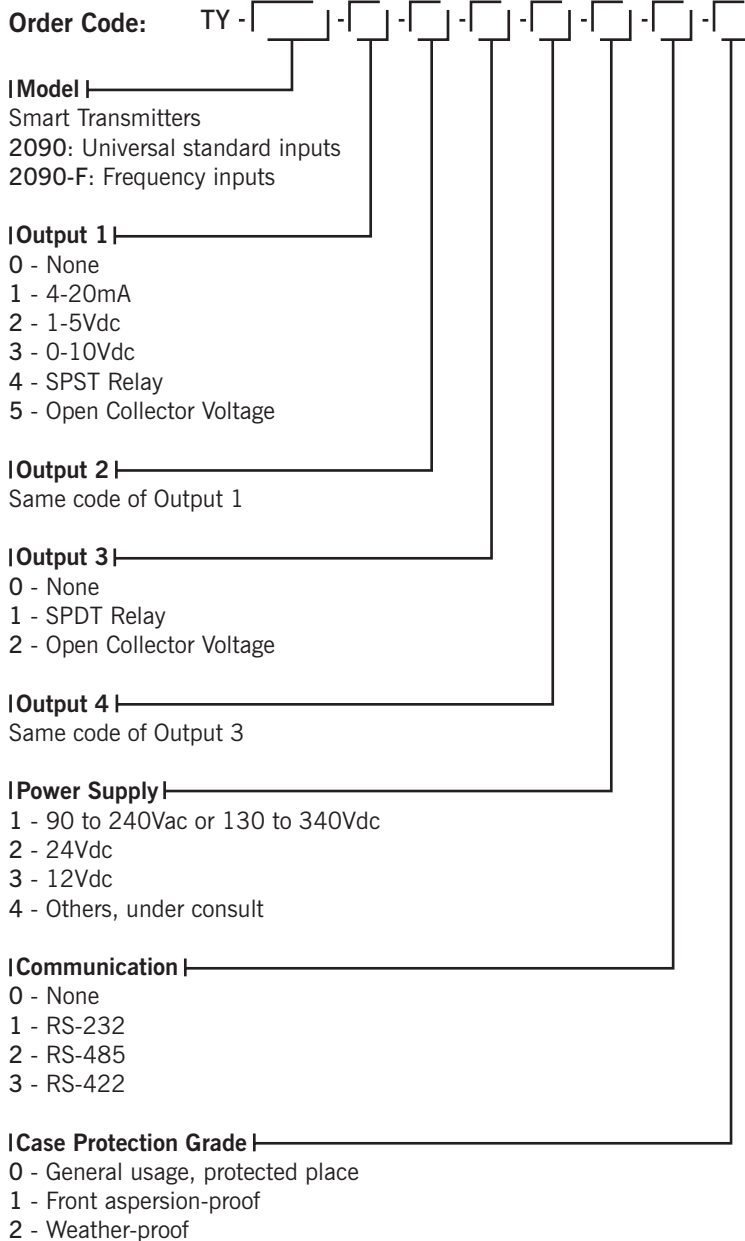
Universal Smart Transmitter TY-2090

- Transmitter and alarm monitor in only one instrument with up to four SPDT and SPST relay alarm modules.
- Two universal standard inputs for RTD, thermocouples, 0-55mV, 4-20mA, 1-5Vdc and 0-10Vdc. Available specific model for two frequency input signals up to 30kHz, from 300mVpp to 30Vpp.
- Up to two analog output modules of 4-20mA, 1-5Vdc and 0-10Vdc, isolated from inputs and power supply.
- Fitting up in DIN rails or surfaces.
- RS-232 or RS-422/485 communication.
- Power supply from 90 to 240Vac, 50/60Hz or dc levels.
- High accuracy. Linearization of RTD, thermocouple and also square root extraction.
- Programmable by serial communication or through portable programmer.
- Configuration stored in non-volatile memory.

The design of TY-2090 Transmitters is characterized by high reliability and precision, electrical noise and EMI immunity, besides well elaborated technical manual. These features make them ideal for industrial applications in Instrumentation and Process Control.

They have an extruded aluminum case and use the best origin components and parts, proven by rigorous tests and specified according to the strictest worldwide norms. They offer two standard universal inputs that can be 4-20mA, 1-5Vdc, 0-10Vdc, 0-55mVdc, thermocouples and RTD; also standard is the 24Vdc power supply for two-wire transmitter. This way, they operate as two free transmitters and also alarm monitoring. Serial communication make it ideal for data acquisition in digital systems. Two frequency inputs are available, in specific instrument, for signals up to 30kHz, from 300mVpp to 30Vpp and 70Vdc max. DIN 19234 compliance for intrinsically safe NAMUR sensors.

Power supply is universal and can be connected from 90 to 240Vac or dc levels when specified. Flexibility and modularity concepts are clear due to the variety of modules available meeting the widest applications. Up to four alarm modules. One or two analog output of 4-20mA, 1-5Vdc or 0-10Vdc. Serial communication.



Specifications

Inputs

Universal inputs model for thermocouple (J, K, T, E, R or S under ITS-90), 0-55mV, RTD under DIN 43760, 4-20mA, 1-5Vdc and 0-10Vdc selected by user. Input impedance of 250Ω for mA, 10 MΩ for 5Vdc and 2 MΩ above 5Vdc.

Frequency inputs model for signals up to 30kHz, from 300mVpp to 30Vpp and 70Vdc max. DIN 19234 compliance for intrinsically safe NAMUR sensors.

Note: Universal or frequency inputs require different instruments. See order code.

Outputs

4-20mA (750Ω maximum load), 1-5Vdc or 0-10Vdc analog retransmitter. Up to two optional modules galvanically isolated to 300Vac from power supply and inputs. Up to four SPST and SPDT relays rated for 3A at 220Vac. Logic signal, open collector transistor, 40mA/24Vdc maximum with isolation.

Note: There are 4 fitting connectors internally, so the total number of optional output modules is 4. See order code.

Serial Communication

RS-232 or RS-422/485 with 50Vdc isolation.

Configuration

By serial communication, portable configuration module and internal jumpers.

Sampling Rate

120 ms standard. One second display update rate.

Accuracy

± 0.1% of full scale for TC, RTD, mA, mV and Vdc input.
 ± 0.2% of full scale for analogic output.
 ± the resolution for frequency input.

Linearity

± 0.1% of full scale for RTD and ± 0.2% of full scale for TC.

Square Root Extraction

± 0.5% of reading, for input above 10% of span. Cut-Off programmable from 0 to 5%.

Digital Filters

First order digital filters applied to the inputs with time constant from 0.0 to 25.0 seconds.

Cold Junction Compensation

± 2.0°C at range from 0 to 50°C ambient temperature.

2-Wire Transmitter Power Supply

24Vdc/50mA maximum, isolated from output with short circuit protection.

Span Temperature Coefficient at 25°C ambient temperature

± 0.005% of input span for °C, universal input.
 ± 0.015% of output span for °C, analogic output.

Power Supply

90 to 240Vac 50/60Hz, 24Vdc, 12Vdc or other values. 10W nominal. See order code.

Operating Ambient

0 to 50°C temperature and 90% maximum relative humidity.

Dimensions

(140x53x159mm) HxWxD.

Weight

0.5kg nominal.

Warranty

One-year warranty.