



PendoTECH® Conductivity Sensor Transmitter

Background

The PendoTECH Conductivity Sensor Transmitter model CT-2 connects to the PendoTECH Single Use Conductivity Sensor™ and produces a 4-20 milliamp signal that is linear with conductivity. It reads the raw conductivity and the temperature value from the sensor and calculates the normalized value at 25°C. The normalized value is transmitted via the 4-20 mA signal in the range of 0-150 mS. It has a convenient DIN rail mounting design.



Conductivity Measurement & Temperature Compensation

Conductivity Measurement

The unit is used for highly accurate conductivity & temperature measurement. The PendoTECH Single Use Conductivity Sensor can measure conductivity in the range of 0.1 to 100 mS. Temperature is measured in the range of 2 to 50°C. The sensors have a pre-determined cell constant that must be managed by the device that the transmitter is connected to. The transmitter default cell constant value is 1.00. The predetermined cell constant printed on the label of each individual sensor must be accounted for by adjusting the reading being transmitted. Entry of the cell constant by the user is typically done at the HMI of the device the transmitter is connected to.

Temperature Compensation

Conductivity measurements are highly dependent on temperature. By default, the CT-2 uses the actual temperature value measured by the PendoTECH conductivity sensor for temperature compensation. The default coefficient for temperature compensation is 2.1%/°C.

Transmitter Details

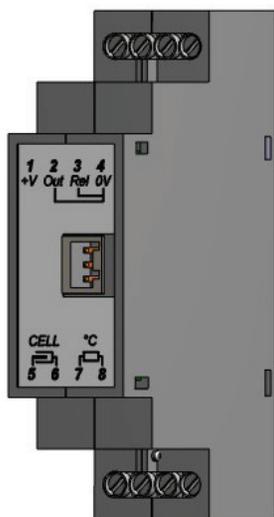
Connections to the transmitter are quick and convenient. The conductivity sensor cable comes with the CT-2 for quick and convenient installation. The cable is connected to the screw terminals as required during installation. The unit is powered by 24 VDC which is typically available in instrumentation cabinets. CT-2 can be easily mounted on every 35 mm rail conforming to EN50022.

Power/Output

Terminals	Function
1	24 VDC Power +
2	4-20 mA output +
3	Not used
4	Power/ mA -

Sensor Cable

Terminals	Function
5	Conductivity: White
6	Conductivity: Green
7	Temperature: Red
8	Temperature: Black



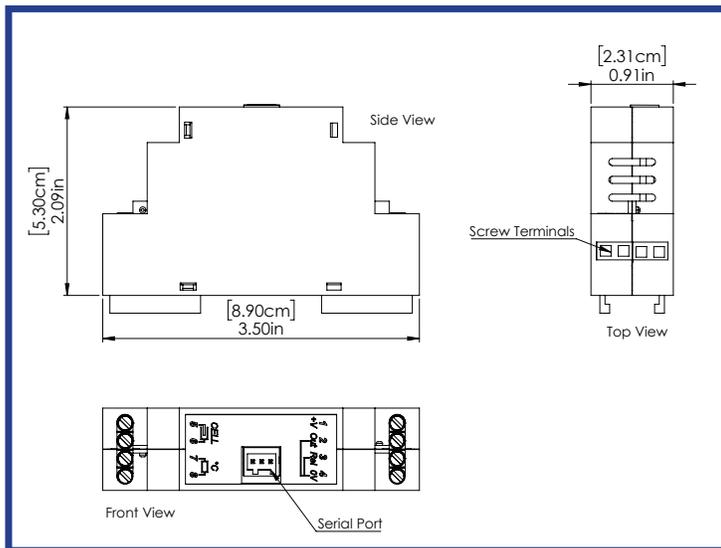
Wiring details



Wiring information conveniently printed on the unit

Specifications

Part Number	CT-2
Conductivity Input Signal	0.1 mS/cm to 150 mS/cm
Cell Constant	0.5 to 3 (See sensor label)
Temperature Input	PendoTECH Single Use Temperature Sensor Thermistor (NTC 2.252K)
Temperature Compensation	2.1%/°C
Output Signal	4 to 20 mA range of 0 mS to 150 mS
Admissible Current Load	max. 500 Ω at 20 mA
Admissible Voltage Load	max. 2 kΩ at 10 V
Serial Interface	CT-2-RS232
Power Supply	24 VDC +/- 20%, max. 100 mA
Input Isolation	1500 VAC for 1 min
Conductivity Measurement Accuracy (with sensor connected)	0.1 to 2 mS/cm: +/- 0.1 mS/cm; 2 to 50 mS/cm: +/- 5% of reading; 50 to 100 mS/cm: typically +/- 5% of reading
Temperature Measurement Accuracy (with sensor connected)	2 to 50 °C: +/- 0.2 °C
Ambient Temperature / Humidity	-20 to 85 °C / 0 to 85% RH, non-condensing
Protection Class	IP20
Mounting Specification	DIN Rail



CT-2 dimensions (inches/cm)

DIN Rail connection on rear of unit



CT-2 unit with the included sensor monitor cable connected (sensor not included also shown)