

Signet 8850 Conductivity Transmitters

Member of the ProcessPro® Family of Transmitters



Panel Mount



Pipe, Tank, Wall and Integral Mount

Description

The Signet 8850 Conductivity Transmitter is designed for multiple installation capabilities, simple set-up and easy operation, thus satisfying a broad range of application requirements.

Full microprocessor based electronics allow for a wide operating range and long term signal stability in three different instrument versions: the 8850-1 for a traditional two-wire current loop, the 8850-2 features current loop plus two dry contact

relays, or the 8850-3 with two-wire current loop, one sensor input signal and two current loop outputs.

The 8850 is offered with a NEMA 4X/IP65 front panel with a self-healing window in a convenient 1/4 DIN package for easy mounting. The 8850 can be configured via a simple menu system.

In addition to programmable outputs and relays, the unit can also be set up to measure raw conductivity values, hence meeting USP requirements.

Features

- Meets USP requirements for raw conductivity measurements
- Display choices of μS , mS, $\text{K}\Omega$, $\text{M}\Omega$, PPM (TDS)
- Simulate function
- Programmable temperature compensation
- Relay and open collector options
- Dual output option allows temperature and process signal transmission
- NEMA 4X/IP65 enclosure with self-healing window
- Compatible with ALL Signet conductivity electrodes

Application

- RO/DI System Control
- Rinse Tank Control
- Cooling Tower, Scrubber or Blowdown Control
- Environmental Study (TDS)
- Desalination Monitor
- Water Quality Monitoring
- Leak Detection
- Chemical Concentration

System Overview

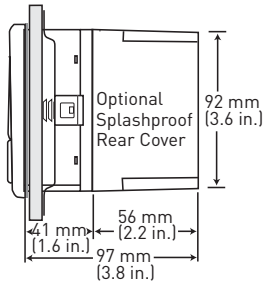
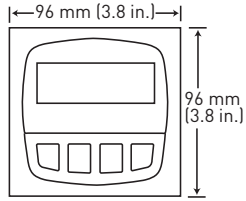
In-line Sensor Installation			Submersible Sensor Installation	
Panel Mount Signet 8850 Conductivity Instrument 	Pipe, Tank, Wall Mount Signet 8850 Conductivity Instrument 	Integral Mount Signet 8850 Conductivity Instrument 	Panel, Pipe, Tank, Wall Mount Signet 8850 Conductivity Instrument 	
	Signet Universal Adapter Kit (3-8050) (sold separately) 	Signet Integral Adapter Kit (3-8052) (sold separately) 	Pipe extension or conduit with 3/4 in. FNPT threads (customer supplied) 	
Signet Conductivity Electrode (sold separately) 			Signet Conductivity Electrode (sold separately) 	
3/4 in. NPT Fittings - Customer supplied				

Note: Submersible installation not applicable for Sanitary Conductivity Electrode.

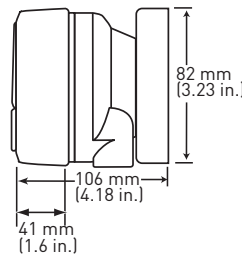


Dimensions

3-8850-XP Panel Mount



Field version with universal mounting kit.



Model 8850

Ordering Notes:

- Instruments can be mounted directly to a sensor by choosing the following:
 - Order integral adapter kit 3-8052 (sold separately) to connect the sensor to an instrument.
 - The following sensor part numbers can be used for integral mounting: 3-2819-1, 3-2820-1, 3-2821-1, 3-2822-1 (with 3-2820.390), and 3-2823-1.
- Use the universal mount kit (3-8050) with the field mount instrument to mount to a pipe, tank or wall.
- To mount the panel version to a wall, use the heavy duty wall mount bracket.
- Order RC filter kits to protect relays from voltage spikes.

Please refer to Wiring, Installation and Accessories sections for more information.

Specifications

General

Compatible electrodes:

All Signet conductivity electrodes

Accuracy: $\pm 2\%$ of reading

Display:

- Alphanumeric 2 x 16 LCD
- Contrast: User selected, 5 levels
- Update rate: 1.8 seconds

Materials

- Case: PBT
- Panel case gasket: Neoprene
- Window: Polyurethane coated polycarbonate
- Keypad: Sealed 4-key silicone rubber

Electrical

Power:

- 12 to 24 VDC $\pm 10\%$ regulated
- (-1) 90 mA max., (-2) 290 mA max., (-3) 100 mA max.

Sensor input range:

- Conductance: 0.055 to 400,000 $\mu\text{S}/\text{cm}$
- Resistivity: 10K $\Omega \cdot \text{cm}$ to 18.2M $\Omega \cdot \text{cm}$
- TDS: 0.023 to 200,000 ppm
- Temperature: PT 1000, -25°C to 120°C (-13°F to 248°F)

Open-collector output: Hi, Lo, Pulse, Off

- Open-collector, optically isolated, 50mA max, sink, 30 VDC max. with pull-up resistor.
- Hysteresis: User Adjustable
- Max 400 pulses/min.

Electrical (continued)

Current output:

- 4 to 20 mA, isolated, passive, fully adjustable and reversible
- Max loop impedance: 50 Ω max. @ 12 V, 325 Ω max. @ 18 V, 600 Ω max. @ 24 V

Update rate: 200 ms

Accuracy: ± 0.03 mA @ 25°C, 24 V

Relay output:

- Mechanical SPDT contacts: Hi, Lo, Pulse, Off
- Maximum voltage rating: 5A @ 30 VDC, or 5A @ 250 VAC resistive load
- Hysteresis: User Adjustable
- Max 400 pulses/min.

Environmental

Enclosure Rating: NEMA 4X/IP65 front

Operating temperature:

-10°C to 70°C (14°F to 158°F)

Storage temperature:

-15°C to 80°C (5°F to 176°F)

Relative humidity:

0 to 95%, non-condensing

Shipping Weight: 0.6 kg (1.32 lb.)

Standards and Approvals

- CE, UL listed
- Manufactured under ISO 9001: 2000 for Quality and ISO 14001:2004 for Environmental Management

Ordering Information

Instrument Part Number	
3-8850	Conductivity Transmitter
Select the model suited to the application	
-1	One input with 4 to 20 mA output and one open collector; uses 4-wire power
-2	One input with 4 to 20mA output and two relays; uses 4-wire power
-3	One input with two 4 to 20mA outputs and 2 open collectors; uses 4-wire power
Field or panel mount- choose one	
-	Integral mount package
P	Panel mount package
3-8850	-2 P Example Part Number

Mfr. Part No.	Code	Mfr. Part No.	Code
3-8850-1	159 000 228	3-8850-2P	159 000 231
3-8850-1P	159 000 229	3-8850-3	159 000 232
3-8850-2	159 000 230	3-8850-3P	159 000 233

Accessories and Replacement Parts

Mfr. Part No.	Code	Description
Mounting		
3-8050	159 000 184	Universal mounting kit
3-8050.395	159 000 186	Splashproof rear cover
3-8052	159 000 188	3/4 in. Integral mounting kit
3-8052-1	159 000 755	3/4 in. NPT mount junction box
3-0000.596	159 000 641	Heavy duty wall mount bracket (for panel mount only)
3-5000.598	198 840 225	Surface Mount Bracket
3-8050.392	159 000 640	Model 200 retrofit adapter
Liquid Tight Connectors		
3-9000.392	159 000 368	Liquid-tight connector kit for rear cover (3 connectors)
3-9000.392-1	159 000 839	Liquid-tight connector (1 set), NPT
3-9000.392-2	159 000 841	Liquid-tight connector (1 set), PG 13.5
Other		
3-8050.396	159 000 617	RC Filter kit (for relay use), 2 per kit