

# Signet 8850 Conductivity Transmitters

Member of the ProcessPro® Family of Transmitters



Panel Mount



Pipe, Tank, Wall and Integral Mount

## Features

- Meets USP requirements for raw conductivity measurements
- Display choices of  $\mu\text{S}$ , 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

## 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.

## 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

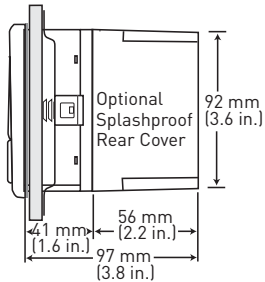
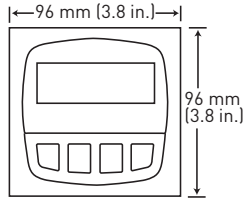
In-line Sensor Installation			Submersible Sensor Installation	
<b>Panel Mount Signet 8850 Conductivity Instrument</b> 	<b>Pipe, Tank, Wall Mount Signet 8850 Conductivity Instrument</b> 	<b>Integral Mount Signet 8850 Conductivity Instrument</b> 	<b>Panel, Pipe, Tank, Wall Mount Signet 8850 Conductivity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

Note: Submersible installation not applicable for Sanitary Conductivity Electrode.

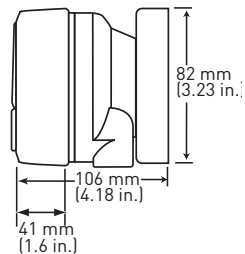


## Dimensions

### 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 $\Omega$ •cm to 18.2M $\Omega$ •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 $\Omega$  max. @ 12 V,
  - 325 $\Omega$  max. @ 18 V,
  - 600 $\Omega$  max. @ 24 V

Update rate: 200 ms

Accuracy:  $\pm 0.03$  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	
<b>3-8850</b>	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
<b>3-8850</b>	<b>-2 P Example Part Number</b>

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

## Accessories and Replacement Parts

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