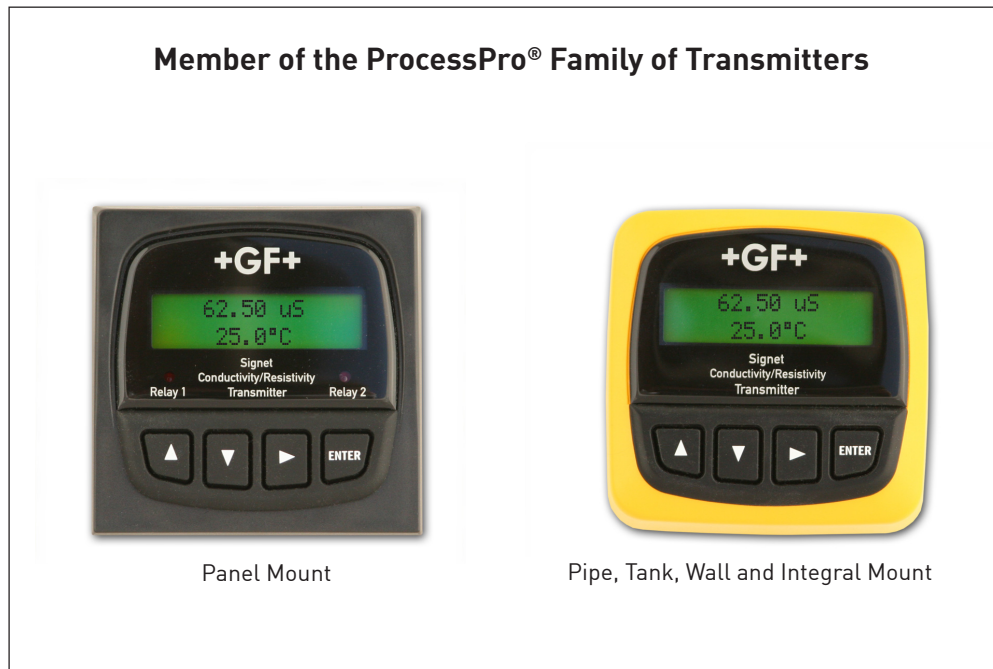


# Signet 8850 Conductivity Transmitters



## 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 options, 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

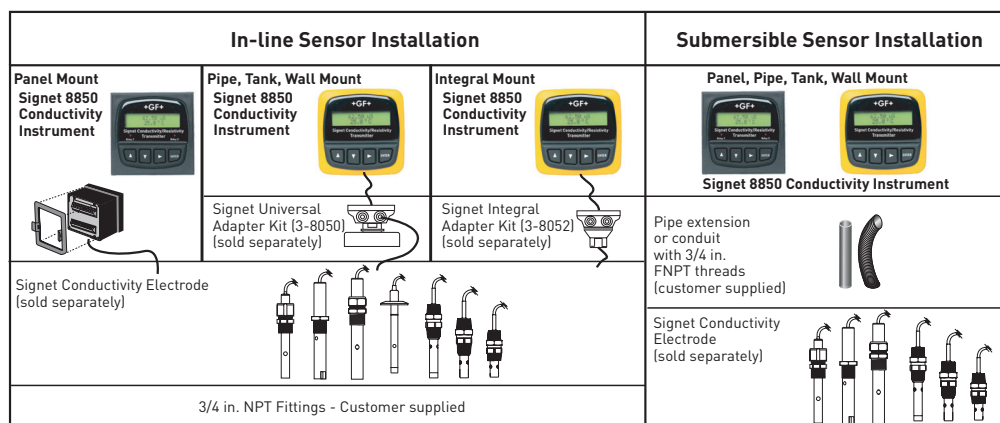
relays, or the 8850-3 with two-wire current loop, one sensor input signal and two current loop outputs. The 8850 is offered with a NEMA 4X/IP65 front panel with a self-healing window in a convenient 1/4 DIN package for easy mounting. The 8850 can be configured via a simple menu system.

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

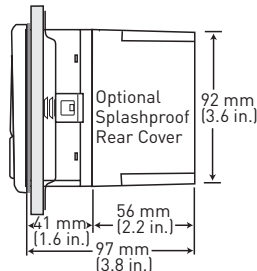
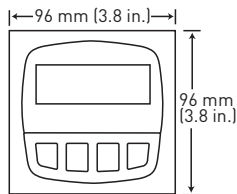
## System Overview



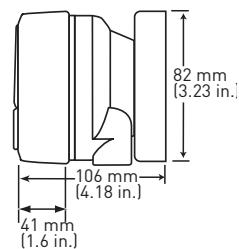
Note: Submersible installation not applicable for Sanitary Conductivity Electrode.

## 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) 21 mA max., (-2) 220 mA max., (-3) 60mA 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 $\Omega$  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

Conductivity/  
Resistivity

## 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	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
<b>Mounting</b>		
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
<b>Liquid Tight Connectors</b>		
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
<b>Other</b>		
3-8050.396	159 000 617	RC Filter kit (for relay use), 2 per kit