Signet 8860 Two-Channel Conductivity/Resistivity Controller

Member of the ProcessPro® Family of Instruments

The Signet 8860 Two-Channel Conductivity/Resistivity Controller is packed with a set of features and capabilities ideal for the real needs of water treatment applications. It accommodates two separate and independent input sources and can be powered with AC/DC voltage. The 8860 programs via a simple and intuitive menu system. The unit can also be programmed to measure a raw conductivity value by turning off the temperature compensation mode.

To control the process, the 8860 is equipped with four dry contact relays and three 4 to 20 mA output loops. Calculated measurement include Difference, Ratio or % Rejection. Two of the relays may be converted into open collector outputs with the flip of a switch. Operating modes for the relays and open collector outputs are high, or low alarm, pulse, or special USP alarm mode. The 8860 is offered with a NEMA 4X/IP65 front panel with a self-healing window in a ¼ DIN package for easy panel installation.

Features

- **Meets USP requirements for measuring raw conductivity, USP alarm mode**
- **Dual sensor input**
- **AC or DC powered**
- **Display and/or control: µS, mS, PPM or PPB (TDS), kΩ, MΩ, % rejection, difference, ratio, °C or °F**
- **Three fully scaleable 4 to 20 mA outputs**
- **Two open collector outputs**
- **Four programmable relays**
- **Time delay relay function**
- **Proportional pulse control capability**
- **Compatible with ALL Signet conductivity electrodes**
- **Programmable temperature compensation**
- **NEMA 4X/IP65**

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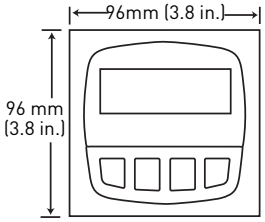
Applications

- **RO/DI System Control**
- **Demineralizer Regeneration and Rinse**
- **Scrubber, Cooling Tower & Boiler Protection**
- **Chemical Concentration**
- **Rinse Tank Water Quality**
- **Desalination**
- **Leak Detection**
- **Aquatic Animal Life Support Systems**
- **Aquaculture**
- **Environmental Studies**

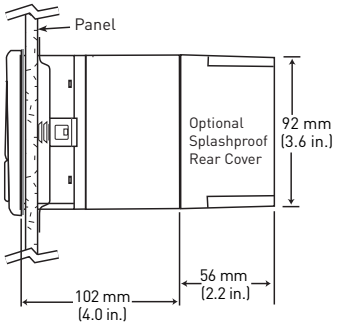
Specifications

General			
Compatible Electrodes		All Signet conductivity/resistivity electrodes	
Operating Range			
	Conductivity	0.055 to 400,000 µS/cm	
	Resistivity	10 KΩ•cm to 18.2 MΩ•cm	0.055 to 100 µS/cm
	TDS	0.001 to 999999 ppm or ppb (display limit)	
	Temperature	PT1000: -25 °C to 120 °C	-13°F to 248°F
Accuracy			
	Conductivity/Resistivity	±2% of reading	
	Temperature	±0.5 °C	
Materials			
Case		PBT	
Keypad		Sealed 4-key silicone rubber	
Window		Polyurethane coated polycarbonate	
Electrical			
Power Requirements			
	3-8860-AC	100 to 240 VAC ±10%, regulated 50-60 Hz, 20 VA	
	3-8860	12 to 24 VDC ±10%, regulated, 0.5 A max.	
Display		Alphanumeric 2 x 16 LCD	
Contrast		User selected, 5 levels	
Update Rate		1.5 seconds	
Current Outputs		(3 each) 4 to 20 mA, isolated, passive, fully adjustable and reversible	
Max. Loop Impedance		150 Ω @ 12 V	
		450 Ω @ 18 V	
		750 Ω @ 24 V	
Update Rate		Approx. 100 mS	
Accuracy		±0.03 mA @ 25 °C, 24 VDC	
Open-Collector Outputs		(2 each) Isolated, 50 mA sink or source, 30 VDC max. with pull-up resistor	
Operational Settings		High, Low, USP, Pulse, Off	
Hysteresis		User adjustable	
Time Delay		0 to 6400 seconds	
Maximum Pulse Rate		400 pulses/min	
Alarm Contacts		(up to 4 each) SPDT relays	
Max. Voltage Ratings		5 A @ 30 VDC or 5 A @ 250 VAC	
Operational Settings		High, Low, USP, Pulse, Off	
Hysteresis		User adjustable	
Time Delay		0 to 6400 seconds	
Maximum Pulse Rate		400 pulses/min.	
Environmental			
Operating Temperature		-10 °C to 55 °C	14 °F to 131 °F
Storage Temperature		-15 °C to 80 °C	5 °F to 176 °F
Relative Humidity		0 to 95%, non-condensing	
Maximum Altitude		2,000 m (6,560 ft)	
Enclosure		NEMA 4X/IP65 (front face only)	
Shipping Weight			
		8860-AC	0.581 kg	1.3 lb
		8860	0.544 kg	1.2 lb
Standards and Approvals			
		CE, UL, CUL	
		RoHS compliant	
		China RoHS	
		Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management	

Dimensions



Front View

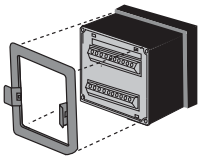


Side View

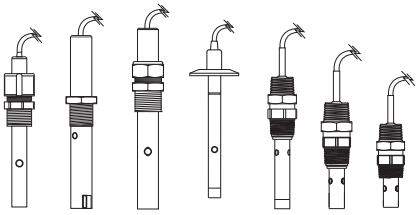
System Overview

Panel Mount

Signet 8860 Conductivity/Resistivity Controller



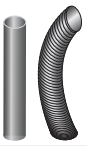
Signet Electrodes
2819-2823
2839-2842



Note: Submersible installation not applicable for Sanitary Electrode. All sold separately

In-line Installation -
Customer supplied fittings

Submersible Installation -
Customer supplied pipe extension
or conduit with with 3/4 in. FNPT threads*



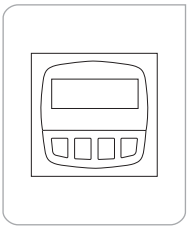
*Refer to the Signet Submersion brochure located in the K-Factors Fittings and More Kit (3-0000-709) for installation suggestions and options.

Ordering Notes

1) An optional splashproof rear cover can be ordered separately if needed.
2) Use the heavy duty wall mount bracket to mount instrument on a wall
3) Order RC filter kits to protect relays from voltage spikes.

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

Ordering Information



Mfr. Part No.	Code	Description	Power
Two-channel Conductivity/Resistivity Controller			
3-8860	**159 000 677**	with three 4 to 20 mA outputs and 4 relays or 2 relays with 2 open collectors (switch selectable)	12 to 24 VDC
3-8860-AC	**159 000 678**	with three 4 to 20 mA outputs and 4 relays or 2 relays with 2 open collectors (switch selectable)	100 to 240 VAC

Accessories and Replacement Parts

Mfr. Part No.	Code	Description
Mounting		
3-8050.395	**159 000 186**	Splashproof rear cover (panel mount only)
3-8050.392	**159 000 640**	¼ DIN retrofit adapter
3-5000.399	**198 840 224**	5 x 5 in. adapter plate to retrofit older Signet installations
3-0000.596	**159 000 641**	Heavy duty wall mount bracket (panel mount only)
3-5000.598	**198 840 225**	Surface mount bracket (panel mount only)
3-9900.396	**159 001 701**	Angle adjustment adapter kit
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 kit, NPT (1 connector)
3-9000.392-2	**159 000 841**	Liquid tight connector kit, PG 13.5 (1 connector)
Other		
3-8050.396	**159 000 617**	RC filter kit (for relay use), 2 per kit
3-2830	**159 000 628**	Conductivity Certification Tool (see individual product page for more information)

3-8860.099 Rev C (11/11)

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