

CONDUCTIVITY CONTROL

Division of Pathfinder Instruments

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2839-2842 Conductivity/Resistivity Electrodes

3-2840.099 IA-2/031



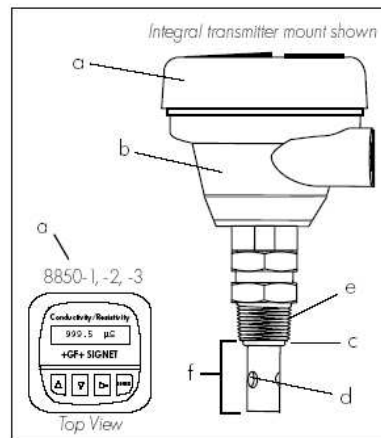
Description

The 2839-2842 Conductivity/Resistivity Electrodes are available in four cell constants from 0.01 to 10.0, and are suitable for a wide variety of applications from high purity water quality monitoring to demineralizer regeneration. 316SS electrode surface finishes are controlled in a precision bead blasting operation to ensure measurement accuracy and repeatability. The PEEK

insulator and process connections are injection over-molded to minimize variance between electrodes. Double threaded connections in either 3/4 in. NPT or ISO 7/1-R 3/4 enable quick and easy installation in submersible or in-line configurations. Transmitter integral mounting kit and J-Boxes are available as accessories.

System Features

- 8850-1, -2, -3 Conductivity/Resistivity Transmitter (sold separately)
- 3-8052 3/4 in. Integral Mounting Kit (sold separately)
Note: 8050-1 and 8052-1 Junction Boxes are also available as accessories
- 2839-2842 Conductivity/Resistivity Electrode
- Triple orifice flow-through design
- Injection over-molded 3/4 in. NPT or ISO 7/1-R 3/4 process connection
Note: Double threaded connection also allows convenient submersible installation of electrode with extension pipe (customer supplied)
- Compact electrode length



Features

- Controlled surface finish ensures accuracy and repeatability
- 316SS electrodes with injection molded PEEK™ process connections and insulators
- Compact electrode length for easy in-line installation
- Suitable for operation up to 131°C (268°F)
- 3/4 in. NPT or ISO 7/1-R 3/4 process connections
- Double-threaded connection for in-line or submersible mount
- Triple orifice flow-through design reduces clogging and bubble entrapment
- Cell constants may be traceable to NIST and certified to within ±1% of value
- Integral Mounting Kit and J-Box accessories

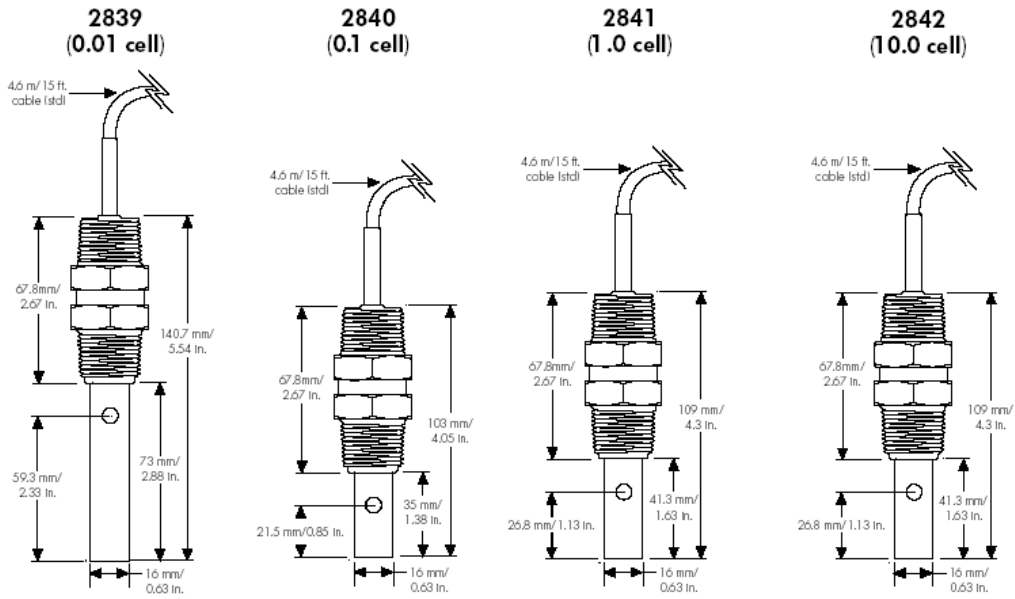
Application

- Water Treatment & Water Quality Monitoring
- Reverse Osmosis
- Deionization
- Cooling Tower
- Boiler Protection
- Distillation/Desalination
- Demineralizer
- Semiconductor
- Aquatic Animal Life Support Systems

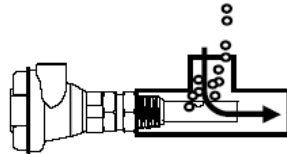
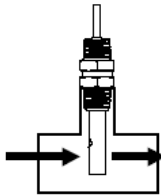
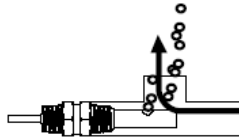
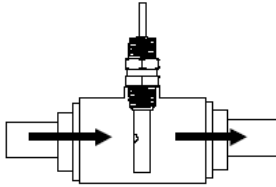
Options

2839-2842 Electrodes	Instrument Options				
	8850	8840	3800C	5700	RESISTOR
	●	●	●	●	●

Dimensions



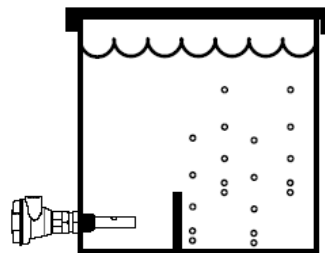
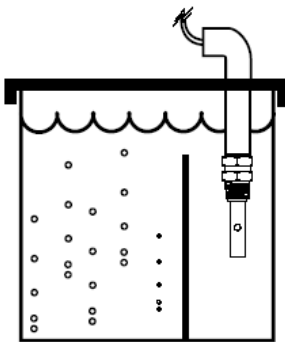
Installation



Shown with 8052-1
3/4 in. NPT Mount J-Box

In-line Installation

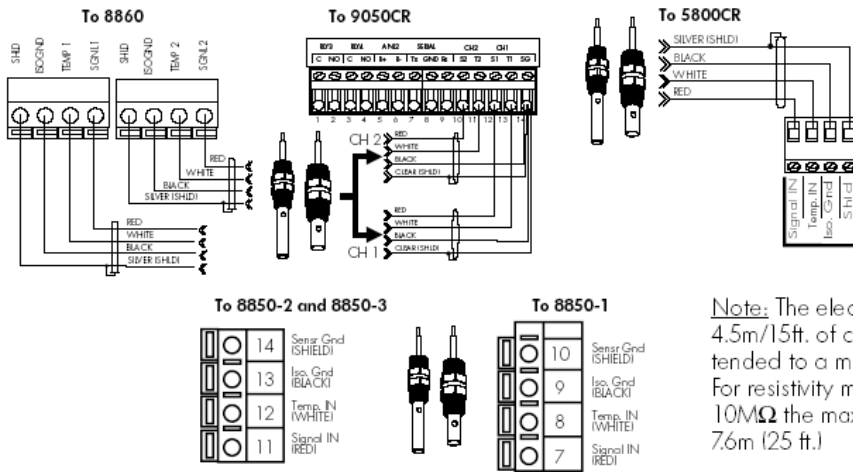
- Position the electrode to avoid entrapment of air bubbles.
- The preferred installation for in-line applications directs flow straight into the electrode.
- If the electrode is mounted vertically in a tee, do not recess the orifices inside the tee. Mounting upside down may help prevent air entrapment.
- An oversized tee or flow cell may be helpful for in-line installations.
- Use accessory junction boxes (8050-1 or 8052-1) for wiring convenience.
- Use commercially available pipe fittings.



Submersible/Tank Installation

- If installed in an aerated vessel, ensure that the electrode is in a stillwell to avoid entrapment of air bubbles.
- Select a location that will remain free of sediment.
- To prevent moisture accumulation at the cable-end of the electrode, fill the lower 3 to 4 in. of conduit or extension pipe with a flexible sealant, such as silicone.

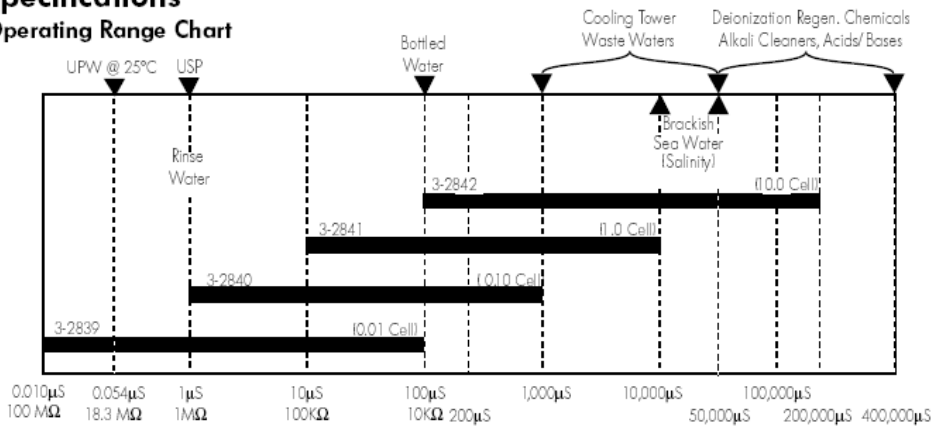
Wiring



Note: The electrode is supplied with 4.5m/15ft. of cable. It may be extended to a maximum 30m/100 ft. For resistivity measurements above 10MΩ the maximum cable length is 7.6m (25 ft.)

Specifications

Operating Range Chart



General

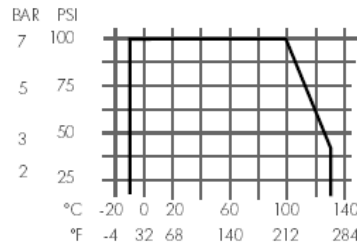
- Compatibility: +GF+ SIGNET Conductivity instruments (see catalog for more information)
- Accuracy: ±2% of cell constant value (standard)
Cell constants can be traceable to NIST and certified to within ±1% of value (contact factory)
- Temperature element: PT-1000
- Temp. response, τ: 5 sec. (0.01 cell), 10 sec. (0.1 cell), 20 sec. (1.0 cell), 30 sec. (1.0 cell)
- Temp. accuracy: ±0.5°C
- Wetted materials:
- Internal O-ring (2841 and 2842): FPM
 - Insulator material: PEEK™
- Electrode material: 316SS
- Shipping Weight:
- 2839: 0.34 kg (0.74 lb)
 - 2840, 2841, 2842: 0.30 kg (0.66 lb)
- Dual-threaded process connection (PEEK™):
- -1 versions: 3/4 in. NPT
 - -1D versions: ISO 7/1-R3/4
 - Cable: 4.6 m/15 ft., 3 cond w/shield

Environmental

- Operating temperature/pressure:
- 10° to 100°C @ 6.9 bar (14° to 212°F @ 100 psi)
 - 10° to 131°C @ 2.76 bar (14° to 268°F @ 40 psi)
- Storage temperature: -20° to 131°C (-4° to 268°F)

Standards and Approvals

- CE
- Manufactured under ISO 9001 and ISO 14001



PEEK™ is a trademark of Victrex plc

Ordering Information			
Mfr. Part No.	Code	Description	
3-2839-1	159 000 921	Cell 0.01, 4.6m/15 ft. cable, 3/4 in. NPT	\$249.00
3-2839-1D	159 000 923	Cell 0.01, 4.6m/15 ft. cable, ISO 7/1-R 3/4	\$249.00
3-2840-1	159 000 786	Cell 0.1, 4.6m/15 ft. cable, 3/4 in. NPT	\$249.00
3-2840-1D	159 000 788	Cell 0.1, 4.6m/15 ft. cable, ISO 7/1-R 3/4	\$249.00
3-2841-1	159 000 790	Cell 1.0, 4.6m/15 ft. cable, 3/4 in. NPT	\$249.00
3-2841-1D	159 000 792	Cell 1.0, 4.6m/15 ft. cable, ISO 7/1-R 3/4	\$249.00
3-2842-1	159 000 794	Cell 10.0, 4.6m/15 ft. cable, 3/4 in. NPT	\$345.00
3-2842-1D	159 000 796	Cell 10.0, 4.6m/15ft. cable, ISO 7/1-R 3/4	\$345.00
Accessories			
Mfr. Part No.	Code	Description	
3-5800CR	198 825 005	Conductivity/Resistivity Monitor	
3-5900	198 825 008	5900 Salinity Monitor	\$868.00
3-8860-XX	See data sheet	Dual Channel Conductivity/Resistivity Controller	\$858.00
3-8850-XX	See data sheet	Conductivity/Resistivity Transmitter	
3-9050CR-1	159 000 390	Conductivity/Resistivity Controller, 110 VAC	
3-9050CR-2	159 000 391	Conductivity/Resistivity Controller, 220 VAC	
3-8050-1	159 000 753	Universal Mount Junction Box	
3-8052	159 000 188	3/4 in. Integral Mounting Kit	
3-8052-1	159 000 755	3/4 in. NPT Mount Junction Box	
3-9000.392-1	159 000 839	Liquid-tight Connector Kit, 1 set, 1/2 in. NPT	
3-9000.392-2	159 000 841	Liquid-tight Connector Kit, 1 set, PG 13.5	
3-2830	159 000 628	Conductivity Recertification Tool	
3-2842.390	159 000 925	2842 replacement insulator, PEEK™ w/FPM O-ring	
Engineering Specifications			
<ul style="list-style-type: none"> • The electrodes shall be constructed of 316SS and PEEK™. • The electrodes shall have dual process connections, one-piece injection molded in PEEK™. • The electrodes shall have an accuracy of $\pm 2\%$ of cell constant. • The electrode with a 10.0 cell constant shall have a replaceable insulator. • The electrodes shall have a triple orifice design to reduce clogging and bubble entrapment. • The electrodes shall have an operating temperature of -10° to 131°C (14° to 268°F). • The electrodes shall be supplied with a PT-1000 platinum RTD. • The electrodes shall be available with a standard 4.6m/15 ft. cable, 3 cond. w/ shield. • The electrodes shall be available with 3/4 in. NPT or ISO 7/1-R 3/4 process connection. • The electrodes shall meet CE standards and be manufactured under ISO 9001 and ISO 14001. • The electrodes shall be +GF+ SIGNET Model 3-2839, 3-2840, 3-2841, 3-2842. 			

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