Signet 2839-2842 Conductivity Electrodes

2839-1

2840-1

2841-1
2842-1

The Signet 2839-2842 Conductivity/Resistivity Electrodes are available in four cell constants from 0.01 to 10.0 cm^{-1}, and are suitable for a wide variety of applications from high purity water quality monitoring to weak acids and bases. 316 SS 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 ¾ 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 junction boxes are available as accessories.

A Certificate of Calibration is included with all 2839-2842 Conductivity Electrodes. The electrodes are calibrated to meet 1% accuracy. Electrodes can be shipped back to the GF Signet Factory for recertification.

Features

- **± 1% accuracy - Custom calibration certificate provided**
- **Dual-threaded**
- **Compact electrode length for easy in-line installation in small pipe sizes**
- **Triple orifice flow-through design reduces clogging and bubble entrapment**
- **316 SS electrodes with injection molded PEEK™ process connections and insulators**
- **Meets USP requirements**

Applications

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

Specifications

General				
Operating Range				
	2839	0.055 to 100 µS	0.02 to 50 ppm	18.2 MΩ to 10 KΩ
	2840	1 to 1,000 µS	0.5 to 500 ppm	1 MΩ to 1 KΩ
	2841	10 to 10,000 µS	5 to 5,000 ppm	
	2842	100 to 200,000 µS	50 to 100,000 ppm	
Cell Constant Accuracy		± 1%. When the information provided on the certificate of calibration is entered into the transmitter/controller. ± 2% when entered as a standard cell constant		
Dual-Threaded Process Connection		-1 versions: ¾ in. NPT		
		-1D versions: ISO 7/1-R 3/4		
Cable Length (use for the 2839, 40 ,41 and 42)	standard	4.6 m (15 ft)		
	maximum	30 m (100 ft) all other sensors		
	0.01 cells	4.6 m (15 ft) used with 8850, 8860, and 2850		
Temperature Element		PT1000		
Temp. Response, τ				
	0.01 cell	5 sec.		
	0.10 cell	10 sec.		
	1.0 cell	20 sec.		
	10.0 cell	30 sec.		
Temperature Accuracy		±0.5 °C	±0.9 °F	
Wetted Materials				
Internal O-ring (2841 and 2842)		FPM		
Insulator Material		PEEK™		
Electrode Material		316 SS		
Threaded Process Connection		PEEK™		
Max. Temperature/Pressure Rating				
		131 °C @ 2.76 bar	268 °F @ 40 psi	
Storage Temperature		-20 °C to 131 °C	-4 °F to 268 °F	
Shipping Weight				
2839		0.34 kg	0.74 lb	
2840, 2841, 2842		0.30 kg	0.66 lb	
Standards and Approvals				
		RoHS compliant		
		China RoHS		
		Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management and OHSAS 18001 for Occupational Health and Safety		

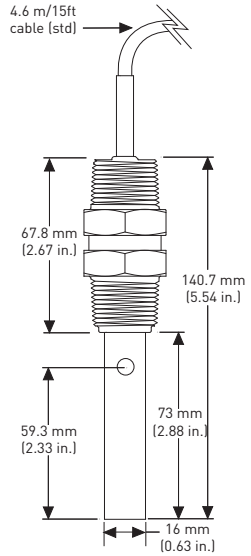
See Temperature and Pressure graphs for more information.

PEEK™ is a registered trademark of Victrex plc

Dimensions

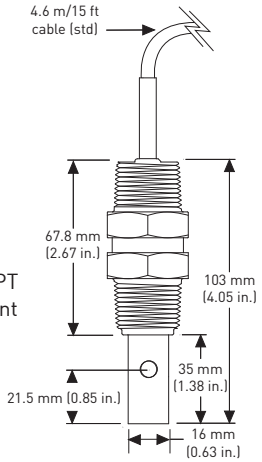
Dual-Threaded Electrodes

3-2839-1 (0.01 cell)

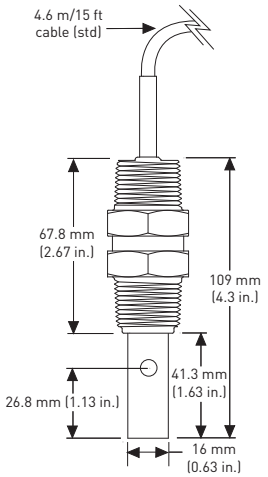


Dual threads 3/4 NPT or ISO 7/1-R 3/4 front and back

3-2840-1 (0.1 cell)

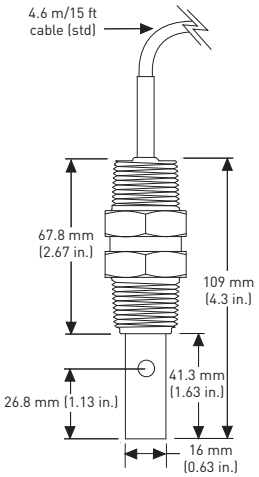


3-2841-1 (1.0 cell)*



Dual threads 3/4 NPT or ISO 7/1-R 3/4 front and back

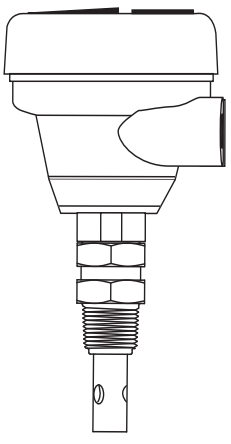
3-2842-1 (10.0 cell)*



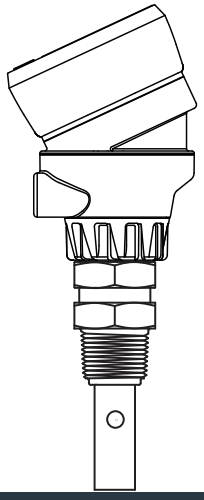
* Although these electrodes look similar in design, there is an inherent difference. From the bottom view, the 2841 electrode features a simple plastic insert. However, the 2842 electrode features a complex plastic insert with four holes through which liquid flows.

Integral Mount Sensor

The 2839-2842 Dual Threaded Conductivity Electrodes can be directly mounted to a 3-8850-3 transmitter, using the 8052 Integral Mount Kit, and a customer modified sensor cable length.



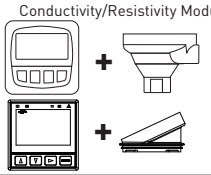
The 2839-2842 Dual Threaded Conductivity Electrodes can be directly mounted to a 3-9900-1 transmitter, 3-9900.396 direct conductivity module, 3-9900.396 angle adjust adapter and the 8052 Integral Mount Kit, and a customer modified sensor cable length.

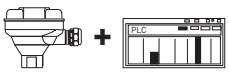


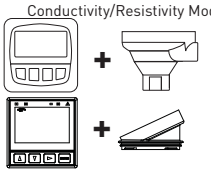
System Overview

In-Line Installation

Panel Mount	Field Mount - Pipe, Tank, Wall	4 to 20 mA input	Integral Mount
Signet Instruments 8850 8860 8900 with 2850 Sensor Electronics 9900 with 3-9900.394 Direct Conductivity/Resistivity Module	Signet Instrument 8850 with 3-8050 Universal Mount Kit 9900 with 3-9900.394 Direct Conductivity/Resistivity Module	Signet 2850 Sensor Electronics with a customer supplied Programmable Logic Controller	Signet Instrument 8850 with 3-8052 Integral Mount Kit 9900 with 3-9900.394 Direct Conductivity/Resistivity Module





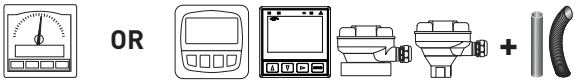


Signet 2839-2842 Conductivity Electrodes

Customer Supplied Fittings, 3/4 in. NPT or ISO threaded — All sold separately

Submersible Installation

Field Mount - Pipe, Tank, Wall
Signet Instruments 8850 8860 8900 with 2850 Sensor Electronics 9900 with 3-9900.394 Direct Conductivity/Resistivity Module and customer supplied pipe extension or conduit with 3/4 in. FNPT threads*

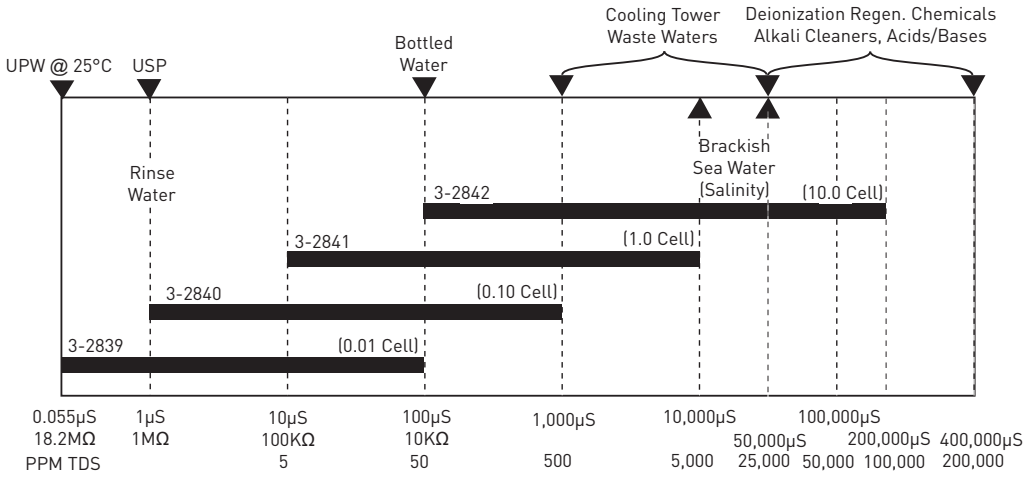


Signet 2839-2842 Conductivity Electrodes

All sold separately

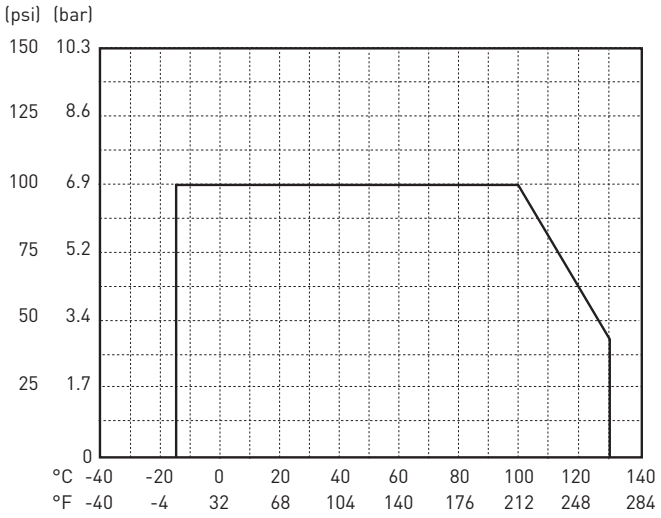
*Refer to the Signet Submersion brochure located in the K-Factors Fittings and More Kit (3-0000-709) for installation suggestions and options.

Operating Range Chart



Operating Temperature/Pressure Graphs

Note:
The pressure/temperature graphs are specifically for the Signet sensor. During system design the specifications of all components must be considered. In the case of a metal piping system, the peek process connector provided with the sensor may reduce the overall system working pressure.

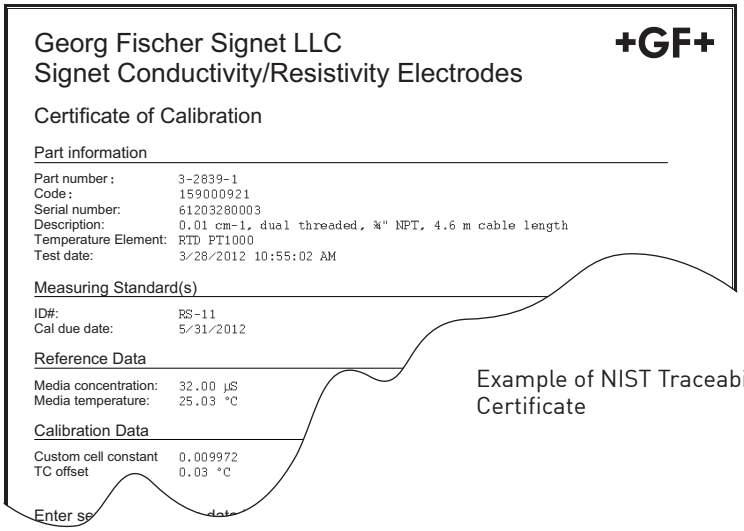


Application Tips

- Use 2839 series electrodes with the 3-2850-63 electronics and 8900 for applications requiring multiple measuring points.
- Liquid levels must be high enough to cover vent hole on sensor body.
- Install sensors in an area that will remain free of air bubbles and sediment build-up.
- Conductivity measurements are affected if electrodes are coated by process substances.
- Use Model 2839 with the 2850/8900 for low conductivity applications requiring multiple measuring points.

Ordering Notes

1) The Conductivity Certification tools are compatible with the following Signet Instruments: 8860, 8850, 8900, 9900.
2) The sensor cable can be extended up to 30 m (100 ft). See restrictions under General specifications.


Georg Fischer Signet LLC
Signet Conductivity/Resistivity Electrodes

+GF+

Certificate of Calibration

Part information

Part number: 3-2839-1
Code: 159000921
Serial number: 61203280003
Description: 0.01 cm-1, dual threaded, ¾" NPT, 4.6 m cable length
Temperature Element: RTD PT1000
Test date: 3/28/2012 10:55:02 AM

Measuring Standard(s)

ID#: RS-11
Cal due date: 5/31/2012

Reference Data

Media concentration: 32.00 µS
Media temperature: 25.03 °C

Calibration Data

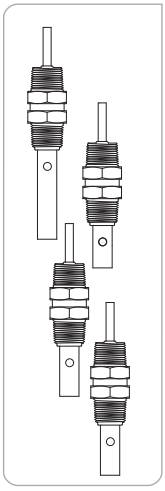
Custom cell constant 0.009972
TC offset 0.03 °C

Enter se

Example of NIST Traceability Certificate

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

Ordering Information



Sensors for use with 8850 and 8860 Conductivity Instruments

Mfr. Part No.	Code	Cell Constant	Connection	Thread Size(s)	Cable Length
3-2839-1	**159 000 921**	0.01 cm-1	Dual threaded	¾ inch NPT	4.6 m (15 ft)
3-2839-1D	**159 000 923**	0.01 cm-1	Dual threaded	ISO 7/1-R 3/4	4.6 m (15 ft)
3-2840-1	**159 000 786**	0.1 cm-1	Dual threaded	¾ inch NPT	4.6 m (15 ft)
3-2840-1D	**159 000 788**	0.1 cm-1	Dual threaded	ISO 7/1-R 3/4	4.6 m (15 ft)
3-2841-1	**159 000 790**	1.0 cm-1	Dual threaded	¾ inch NPT	4.6 m (15 ft)
3-2841-1D	**159 000 792**	1.0 cm-1	Dual threaded	ISO 7/1-R 3/4	4.6 m (15 ft)
3-2842-1	**159 000 794**	10 cm-1	Dual threaded	¾ inch NPT	4.6 m (15 ft)
3-2842-1D	**159 000 796**	10 cm-1	Dual threaded	ISO 7/1-R 3/4	4.6 m (15 ft)

Special Order Options - Please consult the factory
NIST Traceable and certified within ±1% of the value (contact factory)
Cable length extensions of up to 30 m (100 ft) are available. For resistivity measurements above 10 MΩ, consult factory.

Accessories and Replacement Parts

Mfr. Part No.	Code	Description
3-2830	**159 000 628**	Conductivity certification tool; simulates 1 µS/cm and 2.5 µS/cm, for use with 8850-XX and ProPoint series
3-2850.101-1	**159 001 392**	Plug-in NIST traceable recertification tool, 1.0 µS simulated, for use with 8900, 2850 and 9900
3-2850.101-2	**159 001 393**	Plug-in NIST traceable recertification tool, 2.5 µS simulated, for use with 8900, 2850 and 9900
3-2850.101-3	**159 001 394**	Plug-in NIST traceable recertification tool, 10.0 µS simulated, for use with 8900, 2850 and 9900
3-2850.101-4	**159 001 395**	Plug-in NIST traceable recertification tool, 18.2 MΩ simulated, for use with 8900, 2850 and 9900
3-2850.101-5	**159 001 396**	Plug-in NIST traceable recertification tool, 10.0 MΩ simulated, for use with 8900, 2850 and 9900
3-2842.390	**159 000 925**	2842 replacement insulator, PEEK™ with FPM O-ring
3-2850-61	**159 001 400**	Universal junction box, conductivity electronics, digital (S^3L) output
3-2850-62	**159 001 401**	Universal junction box, conductivity electronics, 4 to 20 output
3-8052	**159 000 188**	¾ in. integral mounting kit
5523-0322	**159 000 761**	Sensor cable (per ft), 3 cond. plus shield, 22 AWG, for cable extension through a junction box for the following sensors: 3-2840, 3-2841, 3-2842
3-8050-1	**159 000 753**	Universal mount junction box

ICENTA

Icenta Controls Ltd
Unit 3 The Woodford Centre
Lysander Way, Old Sarum Park
Salisbury Wiltshire UK
SP4 6BU