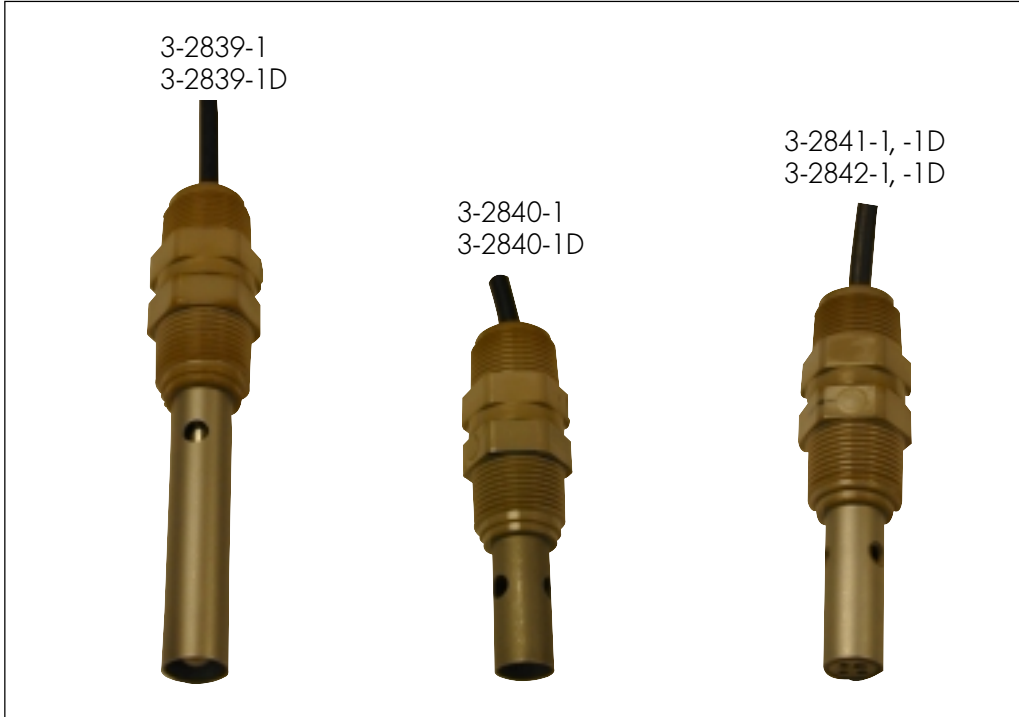


2839-2842 Conductivity/Resistivity Electrodes

3-2840.099 (A-2/03)



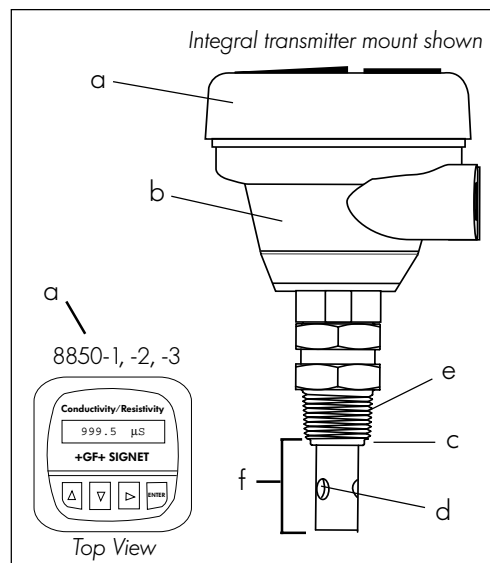
Description

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

- a) 8850-1, -2, -3 Conductivity/Resistivity Transmitter (sold separately)
- b) 3-8052 3/4 in. Integral Mounting Kit (sold separately)
Note: 8050-1 and 8052-1 Junction Boxes are also available as accessories
- c) 2839-2842 Conductivity/Resistivity Electrode
- d) Triple orifice flow-through design
- e) 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)
- f) 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 $\pm 1\%$ 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

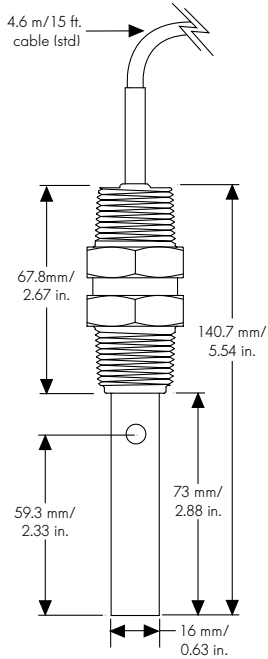
2839-2842 Electrodes	Instrument Options				
	8850	8860	3800CR	3900	9000CR
	●	●	●	●	●

+GF+ SIGNET

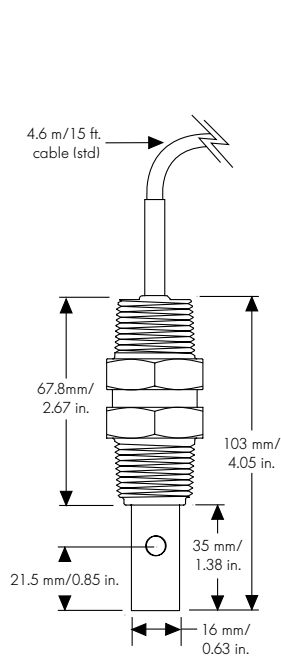
www.gfsignet.com

Dimensions

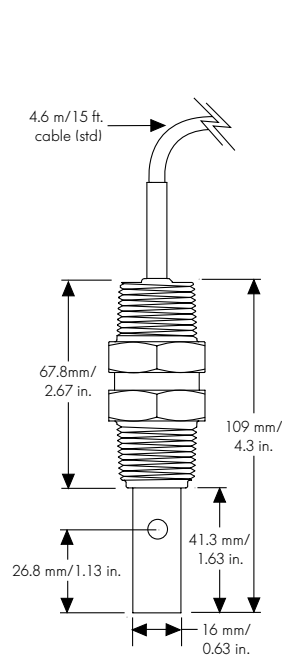
2839
(0.01 cell)



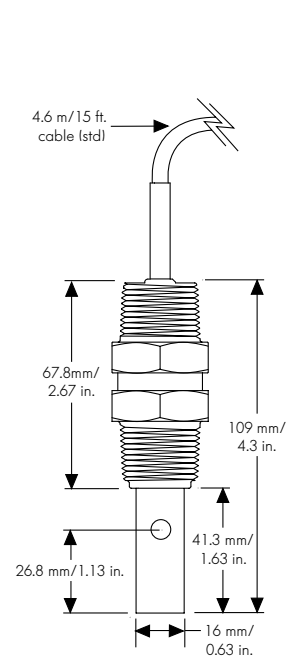
2840
(0.1 cell)



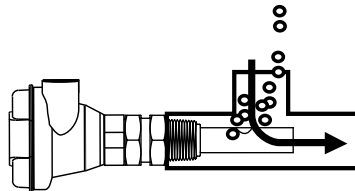
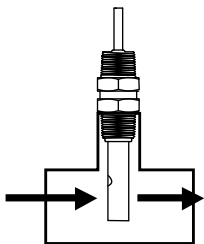
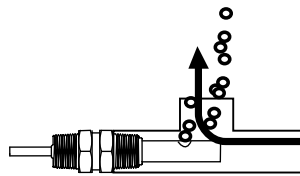
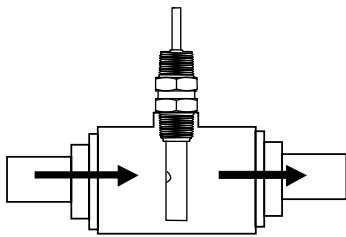
2841
(1.0 cell)



2842
(10.0 cell)



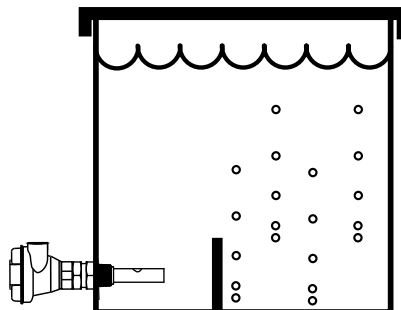
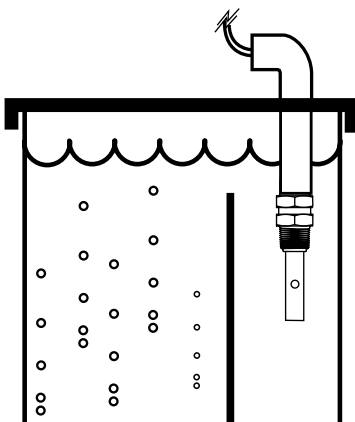
Installation



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

In-line Installation

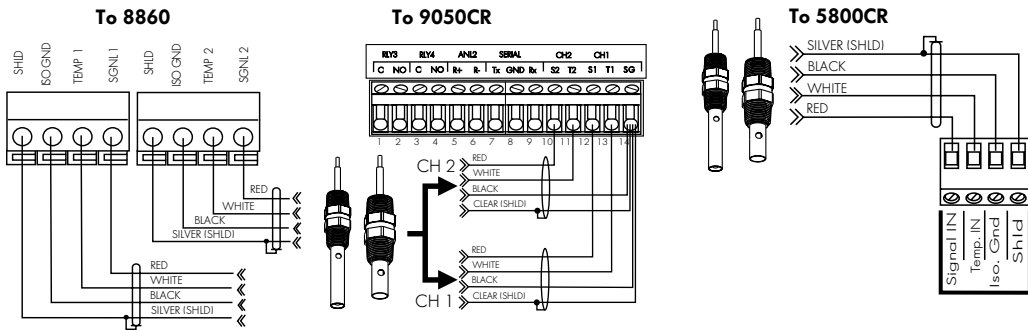
- Position the electrode to avoid entrapment of air bubbles.
- The preferred installation for in-line applications directs flow straight into the electrode.
- If the electrode is mounted vertically in a tee, do not recess the orifices inside the tee. Mounting upside down may help prevent air entrapment.
- 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.



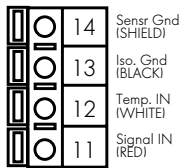
Submersible/Tank Installation

- 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.

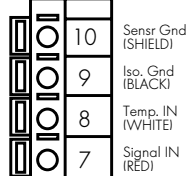
Wiring



To 8850-2 and 8850-3



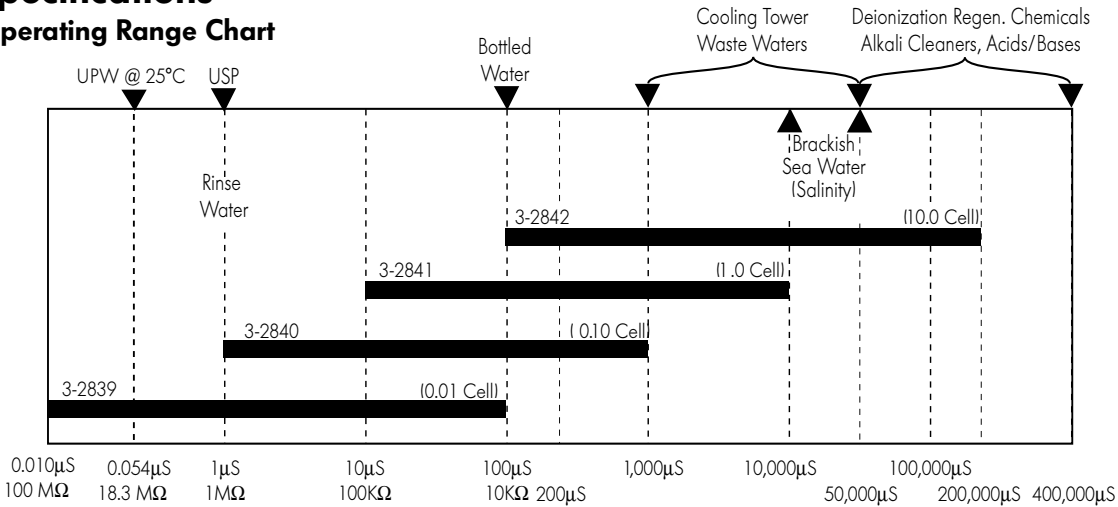
To 8850-1



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. (0.10 cell), 20 sec. (1.0 cell), 30 sec. (10.0 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™):

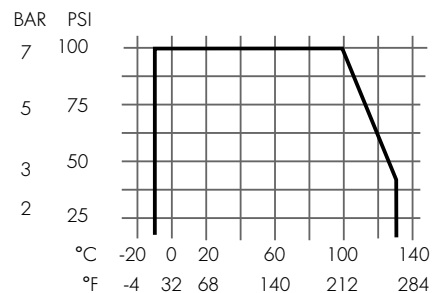
- -1 versions: 3/4 in. NPT
- -1D versions: ISO 7/1-R3/4
- Cable: 4.6 m/15 ft., 3 cond w/shield

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
3-2839-1D	159 000 923	Cell 0.01, 4.6m/15 ft. cable, ISO 7/1-R 3/4
3-2840-1	159 000 786	Cell 0.1, 4.6m/15 ft. cable, 3/4 in. NPT
3-2840-1D	159 000 788	Cell 0.1, 4.6m/15 ft. cable, ISO 7/1-R 3/4
3-2841-1	159 000 790	Cell 1.0, 4.6m/15 ft. cable, 3/4 in. NPT
3-2841-1D	159 000 792	Cell 1.0, 4.6m/15 ft. cable, ISO 7/1-R 3/4
3-2842-1	159 000 794	Cell 10.0, 4.6m/15 ft. cable, 3/4 in. NPT
3-2842-1D	159 000 796	Cell 10.0, 4.6m/15ft. cable, ISO 7/1-R 3/4

Accessories

Mfr. Part No.	Code	Description
3-5800CR	198 825 005	Conductivity/Resistivity Monitor
3-5900	198 825 008	5900 Salinity Monitor
3-8860-XX	See data sheet	Dual Channel Conductivity/Resistivity Controller
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, PG13.5
3-2830	159 000 628	Conductivity Recertification Tool
3-2842.390	159 000 925	2842 replacement insulator, PEEK™ w/FPM O-ring

Engineering Specifications

- 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.

For more information on these products, please contact your local sales company:

A	Georg Fischer Rohrleitungssysteme GmbH, Sandgasse 16, A-3130 Herzogenburg, Tel. 02782/56 43-0, Fax 02782/51 56
AUS	George Fischer IPS Pty Ltd., 186-190 Kingsgrove Road, Kingsgrove, NSW 2208, Tel. 02 9554 3977, Fax 02 9502 2561
B/L	Georg Fischer N.V./S.A., Digue du Canal 109-111 – Vaardijk 109-111, B-1070 Bruxelles/Brussel, Tél. 02/556 40 20, Fax 02/524 34 26
BAR	Georg Fischer Ltda Av. dos Nações Unidas, 21689 CEP 04795-100 - S.Paulo - SP Tel.: 155111 247 1311 Fax: 155111 247 6009
CH	Georg Fischer Rohrleitungssysteme (Schweiz) AG, Amsler-Laffon-Strasse 1, Postfach, CH-8201 Schaffhausen, Tel. 052/631 3026, Fax 052/631 2897
D	Georg Fischer GmbH, Daimlerstraße 6, Postfach 1154, D-73093 Albershausen, Tel. 07161/302-0, Telex 727867, Fax 07161/302259
DK	Georg Fischer A/S, Klintehøj Vænge 17, DK-3460 Birkerød, Tel. 42/81 1975, Fax 42/81 1622
E	Georg Fischer S.A., Sistemas de tuberías para la industria, Calle Isla de la Palma, 32 – Nave 1, E-28700 San Sebastián de los Reyes (Madrid), Tel. 91/663 80 00, Fax 91/663 81 76
F	Georg Fischer S.A., 105-113, rue Charles Michels, B.P.174, F-93208 Saint-Denis Cedex 1, Tél. 1/4922 1341, Fax 1/4922 1300
GB	George Fischer Sales Limited, Paradise Way, Coventry, CV2 2ST, Tel. 01203/53 55 35, Telex 330032, Fax 01203/53 04 50-51
I	Giorgio Fischer S.p.A., Via Sondrio 1, I-20063 Cernusco S/N (MI), Agente generale di vendita Tufira S.r.l., Tel. 02/92 18 61, Fax 02/92 14 07 85
J	Georg Fischer Ltd., 2-47, Shikitsuhigashi, 1-chome, Naniwa-ku, Osaka 556, Tel. 6/6482838, Telex 5267785, Fax 6/6482565
N	Georg Fischer A.S., Bygdøy Allé 23, Postboks 3223 Elisenberg, N-0208 Oslo 2, Tel. 22/444110, Fax 22/434019
PRC	Georg Fischer Piping Systems, Ltd., No. 218 Kang Qiao Dong Road, Pudong Shanghai 201319 Tel. 86 21 58 13 33 33, Fax 86 21 58 13 33 66
RA	Georg Fischer Inc., Lavalle 2614, 1640 Martinez Buenos Aires, Tel. 01/798 74 01, Fax 01/798 40 74
NL	Georg Fischer N.V., Lange Veenteweg 19, Postbus 35, NL-8160 AA Epe, Tel. 0578678222, Fax 0578621768
S/SF	Georg Fischer AB, Box 113, S-12523 Älvsjö-Stockholm, Tel. 08/7274700, Fax 08/7492370
SGP	Georg Fischer Pte. Ltd., 15 Kaki Bukit Road 2, KB Warehouse Complex, SGP-417 845 Singapore/Singapore, Tel. 7470611, Fax 7470577
USA*	George Fischer Inc., 2882 Dow Ave., Tustin, CA 92780-7285, Tel. 714/731-8800, Toll Free 800/854-4090, Fax 714/731-4688, e-mail: info@us.piping.georgefischer.com, Internet: http://www.us.piping.georgefischer.com

*Serving North, Central, and South America

+GF+ SIGNET

Signet Scientific Company, 3401 Aerojet Avenue, El Monte, CA 91731-2882 U.S.A. • Tel. (626) 571-2770 • Fax (626) 573-2057

For Worldwide Sales and Service, visit our website: gfsignet.com • e-mail: info@gfsignet.com

Specifications subject to change without notice. All rights reserved. All corporate names and trademarks stated herein are the property of their respective companies.

3-2840.099 (A-2/03)

© 2003 by Signet Scientific Company

printed in U.S.A.