

Model S80 Intelligent Sensors

The ECD Model S80 is a versatile, digital sensor platform designed for accurate, real-time measurement of pH, ORP, Specific ION, Dissolved Oxygen, Conductivity or Resistivity, and Turbidity. Each sensor is factory calibrated and features onboard data storage, enabling true plug-and-play installation with ECD transmitters.

Available in insertion, immersion, and valve retractable configurations, the S80 adapts to a wide range of applications and installation requirements. It simplifies maintenance, reduces downtime, and ensures reliable results — giving you confidence in your quality and process control.



The ECD 6 Point Advantage

- 1 Intelligent Sensor Design with Digital Communication:**
Calibration data is stored in the sensor allowing field installation of a pre-calibrated sensor. Detachable cable option simplifies the installation of pre-calibrated sensors.
- 2 Graphic LCD Display** in the same mechanical configuration:
 - pH
 - ORP
 - Specific Ion
 - Dissolved Oxygen
 - Conductivity
 - Resistivity
- 3** Readily available **application specific electrode cartridges**. Many unique pH electrode design formulations and materials of construction which are field proven and selected for long life and accuracy.
- 4** Long life **replaceable electrode cartridges** lower the over all operating costs.
- 5 Submersible and Retractable Sensors**
Various process fittings with adjustable insertion lengths:
 - Threaded Fittings
 - Sanitary Fittings
 - Valve Retractable Fittings
 - Flanges
- 6 Industrial housing materials for compatibility with process fluid.**
 - Stainless Steel
 - Titanium
 - Hastelloy C-22
 - Polypropylene
 - PVDF (Kynar™)
 - Standard 10" or 17" lengths

Note: Additional lengths available. Please contact Electro-Chemical Devices Support toll free at 800-729-1333 or your ECD Representative.

Description

ECD Model S80 Sensor Overview

The intelligent sensor choice to fit your application. The S80 sensors have two Universal Sensor Design; Insertion/Submersion or Valve Retractable with flaired end to prevent blow out. The standard Model S80 sensors have a rugged $\frac{3}{4}$ " O.D. 316 stainless steel body with a 10ft. cable or an optional waterproof detachable cable assembly.

Insertion/Submersion

- uses a $\frac{3}{4}$ " MNPT compression fitting as the process connection. This allows a variable insertion length to accommodate installation in pipe tees, flow cells, or through tank walls. If the fitting is reversed, the sensors

Valve Retractable

- uses a 1" ball valve with a 1" NPT process connection. Loosening the rear compression fitting allows the sensor to slide freely through the ball valve for either insertion into the process or retraction from the process. Once retracted, the ball valve can be closed and the sensor removed for maintenance or replacement without shutting down the process line.

Pre-Calibrated Detachable Sensor Option

- This detachable sensor has a rugged IP68 rated industrial connector. Just a simple quarter turn locks the cable connector in place. These pre-calibrated sensors can be easily installed in the field.

Ion Selective Electrodes are not limited to laboratory use; some are suitable for continuous online measurement. ECD offers Specific Ion Electrode cartridges to measure the various ions listed below.

Specific Ion electrodes measure the activity (concentration) of the ion in solution, the "free" ion, not a complexed version.

Cyanide, Fluoride and Sulfide ions only exist in a specific pH range as free ions and outside this pH range some percentage of the total concentration is complexed as H(X) which is not seen by the sensor. These measurements can be pH compensated using the dual channel transmitter or controller with a pH sensor to determine the total ion concentration.

Mos pIon sensors are subject to interfering ion errors. A positive interference caused by similar ions in the solution.

Note: Consult with the factory on all new installations to determine the suitability of the measurement, Toll Free at: **800-729-1333**

Part No: 2005145

This **General Purpose Electrode** has a:

- two tine Radel body
- double junction reference and slightly radiused pH bulb

While suitable for higher temperatures, it is optimized for fast and stable readings in ambient temperature applications. Neutralizations, waste effluent monitoring, rinse applications and potable water are just a few of the suggested applications.

Part No: 2005157

This **High Temperature Electrode** has a:

- two tine PEEK body
- triple junction reference and hemispherical pH bulb

This electrode is designed for the process control or neutralization of most mineral acids and bases in applications up to 130°C. The triple junction design is resistant to sulfide ion poisoning making it ideal for use in petroleum refineries and metal processing plants.

Part No: 2005066

This **Chemically Resistant Electrode** has a:

- two tine PEEK body
- double junction reference and slightly radiused pH bulb

The PEEK body is suitable for use in most aggressive solvents, oxidizing solutions and acids or bases. This electrode is optimized for a harsh chemical environment and is suitable for service up to 130°C. Chemical separations and solvent recovery in the CPI and pharmaceutical industries along with chlorine production and flotation in mining are suggested applications.

Part No: 2005167

This **ORP (Oxidation Reduction Potential) Electrode** has a:

- two tine PEEK body
- double junction reference and platinum tip

This general purpose sensor can be used for monitoring the oxidant level of cooling towers, swimming pools, aquariums or provide applications such as cyanide destruction and monitoring chrome plating baths.

Conductivity Measurements

Two Technologies are used to measure Conductivity. **Contacting Conductivity** is an impedance measurement made between two metal contacts in solution. **Inductive Conductivity** is a non contacting measurement made between two toroidal coils inside the sensor that are inductively coupled through the solution's conductivity. Inductive sensors excel in the higher conductivity ranges and where coating is a problem. The chemically resistant PVDF (KYNAR) body is excellent for corrosive environments. Contacting sensors can measure from very low conductivities, (resistivity measurements) to very high conductivities but, they are subject to coating and corrosive issues, where the inductive sensors excel.

The Contacting Conductivity S80 sensors come in two ranges:

- **Conductivity Range:** 0.50 μ S – 50mS
- **Resistivity Range:** 0 – 20 Ω

Inductive Sensors measure from 0.50 μ S - 1000 mS

The design of the inner electrode defines the measurement range of the sensor.

The **Open Style** with its large area inner electrode and short path length is best for resistivity and low conductivity measurements.

The **Closed Style** is best suited to high conductivity measurements.

The standard wetted materials are:

- 316 Stainless Steel
- PEEK insulators
- VITON o-rings



(Open Style)



(Closed Style)

Inductive Conductivity Sensors (Non-Contacting)

The **Model S80 Inductive** sensors have a 3/4" diameter PVDF body. These sensors are ideal for measuring high conductivity solutions and % concentration measurements. Since the toroidal electrodes are inside the PVDF body, the inductive sensors are ideal for any application that coats or corrodes the electrode of the standard contacting conductivity sensors. The measurement range of the inductive sensor is:

- 0.50 μ S - 1000 mS



High Temperature / Pressure Sensors

The **CSX2** High Temperature - High Pressure sensor is designed for service to 200°C and 250 psig, 400 psig at 100°C. This insertion style 3/4" MNPT, 316 stainless steel sensor has PEEK insulators and is available with or without an integral signal conditioner. An aluminum junction box is mounted on the rear of the sensor that contains a terminal block and optional signal conditioner.

The junction box is rated:

- Class 1
- Div 1
- Groups C & D
- Class II
- Groups E, F and G Hazardous Locations

It is an ideal choice for boiler control applications, blowdown control, condensate monitoring, leak detection on heat exchangers, and steam purity measurements.



Fittings and Accessories

The proper installation and calibration of an analytical loop is critical for a successful measurement. Using the flow of the sample in an insertion application to maximize the cleaning potential can be as simple as changing the size of the Pipe Tee, changing the insertion depth or using an ECD Flow Cell with a spray cleaning port in the most difficult applications. Spray Cleaning heads are also available for immersion applications where the sample velocity is much lower and fouling is more common.

Valve retractable units allow the sensor to be removed, serviced and installed without shutting down the sample flow in a pipe or emptying a tank. A compression gland fitting seals the sensor into a ball valve, loosening the gland fitting allows the sensor to be retracted through the ball valve which is then closed, isolating the process solution, before removing the sensor for service. Materials of construction for the valves, glands, flanges, and immersion assemblies vary from PVC, PVDF and Polypropylene plastics to 316 SS, Titanium and Hastelloy C-22.

Note: Consult with the factory on all new installations to determine the suitability of the measurement, Toll Free at: **800-729-1333**

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Fittings and Accessories

Calibration Solutions

All of the S80 Sensors require periodic calibration and ECD offers a full range of calibration solutions.

- **pH:** 4.00, 7.00 and 10.00 buffers
- **ORP:** +465 mV ferric-ferrous solution or by adding quinhydrone to pH 4.00 and pH 7.00 buffer solutions creating +267 mV ORP and +90 mV ORP respectively.
- **Specific ion:** standardly, 10 ppm and 100 ppm (any value can be formulated at no extra cost)
- **Conductivity:** KCI and Deionized water, values from 10 μ S to 500 mS are available.

Solutions to simulate % acid or % caustic are labelled as the actual solution. I.E. 4% NaOH, even though the solution is made from KCI with an equivalent conductivity providing a safe and accurate calibration system.



Fittings and Flow Cells

The Model S80 Sensors are offered with a wide array of fittings, flow cells, immersion assemblies and valve retraction assemblies.

- ¾" MNPT compression fittings are available for S80 insertion into pipe tees or flow cells when reversed, for coupling with Stand Pipes for immersion applications
- Flow cells of PVC, PVDF or 316 SS have a ¾" or ½" FNPT ports on a 2" O.D. by 5" body.
- 316 SS Sanitary 3A Flanges and 150# Flanges can be adapted for insertion or valve retractable service.



Note: Contact our Technical Support staff for other configurations. Toll Free at: **800-729-1333**

Model T80 Transmitter or LQ800 Controller

The ECD Model T80 Transmitter is a single or dual channel transmitter for the measurement of:

- | | | |
|----------------|--------------------|-------------|
| • pH | • pION | • ORP |
| • Conductivity | • Dissolved Oxygen | • Turbidity |
| • Resistivity | | |



Designed for versatility, the T80 Transmitter automatically recognizes and digitally communicates with any ECD S80 intelligent sensor, instantly configuring menus and display screens to match the measured parameter.

The ECD S80 Digital Sensors facilitate two way communication with the T80 Transmitters or LQ800 Controllers. The type of sensors, identity and serial number are stored in the sensor's memory, along with calibration registers.

Ordering pH, ORP, or pION sensors with the **SENTINEL** option automatically activates the "Remaining Life" diagnostics shown in the picture aside.

Specific Ion (pIon) Electrodes

Part #	Type	Measurement Range	pH Range	Temperature Range
2005083	Ammonium	0.05 - 18,000 ppm	2 - 10 pH	0° - 40°C
2005062	Bromide	1 - 80,000 ppm	2 - 12 pH	0° - 50°C
2005140	Cadmium	0.1 - 11,200 ppm	3 - 9 pH	0° - 80°C
2005143	Calcium	0.1 - 40,000 ppm	2.5 - 10 pH	0° - 40°C
2005008	Chloride	2 - 35,000 ppm	2 - 12 pH	0° - 50°C
2005142	Cyanide	0.1 - 260 ppm	11 - 13 pH	0° - 80°C
2005058	Cupric	1.0 ppb - 6,300 ppm	2 - 6 pH	0° - 80°C
2005163	Fluoride	0.02 - 2,000 ppm	5 - 8 pH	0° - 80°C
2005141	Lead	2.0 - 20,700 ppm	4 - 8 pH	0° - 80°C
2005086	Nitrate	0.1 - 1,000 ppm	2 - 12 pH	0° - 40°C
2005161	Nitrite	0.5 - 500 ppm	4.5 - 8 pH	0° - 40°C
2005034	Potassium	0.1 - 40,000 ppm	2 - 12 pH	0° - 40°C
2005031	Sodium	0.2 - 23,000 ppm	11 - 14 pH	0° - 80°C
2005122	Silver	0.1 - 107,000 ppm	2 - 14 pH	0° - 80°C

Dissolved Oxygen Electrodes

Part #	Type	Measurement Range	pH Range	Temperature Range
2005622 (2 mil)	Dissolved or Gaseous Oxygen	0 - 20 ppm (mg/L) 250% Saturation	0 - 50 psig	-5° - 80°C
2005623 (5 mil)	Dissolved or Gaseous Oxygen	0 - 20 ppm (mg/L) 250% Saturation	0 - 50 psig	-5° - 80°C

Product Specification

S80 All Sensors	Dimensions: S80 Insertion: ¾"OD x 10" Length S80 Valve Retractable: ¾" OD x 17" Length		Cable Length: 10 ft Standard optional lengths in 10 ft increments • optional Detachable Cable Connection	
	Housing Materials: Standard: 316 Stainless Steel Optional: • Titanium (T) • Grade 2 Hastelloy C-22 (H) • PVDF (K) • Polypropylene (P)		O-Ring Materials: Standard: Viton® (VIT) Optional: • Ethylene Propylene • VITON® 75 (VIT75) • Kalrez® (KLZ) • CV75 (CV)	
	Processing Connections: S80 Insertion or Immersion -75 ¾" 316 SS Gland Fitting with Nylon Ferrule -75HT ¾" 316 SS Gland Fitting with Teflon Ferrule -75SF ¾" 316 SS Gland Fitting with Stainless Steel Ferrule -75TFE ¾" 316 Teflon® Gland Fitting with Teflon Ferrule -100P 1" Polypropylene Gland Fitting for Polypropylene housing only S80 Valve Retractable -VSS 1" 316 SS Valve Retraction Assembly -VSSE 1" 316 SS Valve Retraction Assembly for inductive sensors -VKY 1" PVDF Valve Retraction Assembly -VPP 1" Polypropylene Valve Retraction Assembly			
PHS80 pH Measurement	Measurement Range: 0 - 14 pH		Resolution pH: 0.01	
	Temperature Range: 0° - 100° C		Accuracy Temp: ± 0.2	
	Accuracy pH: ± 0.02 pH		Response Time Temp: < 5 Sec	
	Response Time pH: < 5 Sec		Resolution Temp: 0.01	
MVS80 ORP	Measurement Range: -2000 mV to 2000 mV		Accuracy Temp: ± 0.2	
	Accuracy ORP: ± 0.2		Response Time Temp: < 5 Sec	
	Response Time ORP: < 5 Sec		Resolution Temp: 0.01	
CS80 / RS80 Conductivity / Resistivity	Measurement Range: 0.5 µS to 50 mS		Resolution: 0.01	
	Temperature Range: -5° - 100° C		Accuracy Temp: ± 0.2	
	Accuracy: ± 0.2 FS		Response Time Temp: < 5 Sec	
	Response Time: < 5 Sec		Resolution Temp: 0.01	
CS80 Inductive Conductivity	Measurement Range: 50 µS to 1000 mS			
	Temperature Range: -5° - 100° C			
	Pressure Range: 0 - 100 psig			
	Temperature Compensation: Automatic 0° - 100°C Accuracy ± 0.2°C, 100K thermistor			
	Body Material: KYNAR (PVDF)			
DOS80 Dissolved Oxygen	Measurement Range: 0 - 20 ppm 0 - 250% SAT			
	Temperature Range: 0° - 90°C			
	Pressure Range: 0 - 50 psig @ 80°C			
	Temperature Compensation: Automatic 0° - 100°C Accuracy ± 0.2°C			

Order Information

	A	B	C	D	E	F	G	H	I	Sample Order
S80	0	0	00	01	0	1	2	0	001	S80-00-0001-0120-001

A S80 Digital Sensor (pH)	B Insertion Style
C 316 SST - 10" (L), 3/4" O.D. (75)	
D 3/4" MNPT, 316 SS Gland Fitting, Nylon Ferrule	
E Integral Cable	F 10 ft Cable
G "T" Style Handle, 3/4" Polypropylene Fitting	
H Viton O-Rings	I GE Purpose Electrode

A. Measurement Type

Part No.

- 0** (mV) S80 Digital Sensor, pH, ORP, pION measurement
- 1 (DO) S80 Digital Sensor, Dissolved Oxygen measurement
- 2 (CR) S80 Digital Sensor, Contacting Conductivity, 1µS to 50 mS
- 3 (CT) S80 Digital Sensor, Inductive Conductivity, 1mS to 1000 mS (Kynar Only)
- 4 (SGTC) S80 Sensor, No Digital Preamp, pH or Conductivity
- 5 (MVD) Diagnostic S80 Digital Sensor, pH, ORP, pION measurement
- 6 (DO PPB) S0 Digital Sensor, PPB Dissolved Oxygen measurement
- 7 (RES) S80 Digital Sensor, Resistivity, 0.00 - 50 MΩ

B. Sensor Style

Part No.

- 0** (I) Insertion Style
- 1 (V) Valve Retractable Style with flanged blow out protector

C. Housing Material and Housing Length

Part No.

- 00** (X10) 316 SST - 10" Length, 3/4" O.D. (Standard - Insertion)
- 01 (X17) 316 SST - 17" Length, 3/4" O.D. (Standard - Valve Retractable)
- 10 (TX10) Titanium - 10" Length, 3/4" O.D.
- 11 (TX17) Titanium - 17" Length, 3/4" O.D.
- 20 (HX10) Hastelloy - 10" Length, 3/4" O.D.
- 21 (HX17) Hastelloy - 17" Length, 3/4" O.D.
- 40 (KX10) KYNAR (PVDF) - 10" Length, 3/4" O.D. (Inductive Conductivity Only)
- 41 (KX17) KYNAR (PVDF) - 17" Length, 3/4" O.D. (Inductive Conductivity Only)
- 50 (PX10) Poly Propylene - 10" Length, 1" O.D. (SS Solution Ground)
- 51 (PX17) Poly Propylene - 17" Length, 1" O.D. (SS Solution Ground)
- 60 (K1X10) KYNAR (PVDF) - 10" Length, 1" O.D. (mV, DO or Inductive Conductivity)
- XX Other Materials/Lengths, Consult Factory

D. Process Connection

Threaded Fittings (No O-Rings Required)

Part No.

- 00 No Fitting or Valve Assembly
- 01** (75) 3/4" MNPT, 316 SS Glad Fitting, Nylon Ferrule
- 02 (75HT) 3/4" MNPT, 316 SS Glad Fitting, Teflon Ferrule
- 03 (75SF) 3/4" MNPT, 316 SS Glad Fitting, SS Ferrule
- 04 (75HC) 3/4" MNPT, Hastelloy Glad Fitting, SS Ferrule
- 05 (75TT) 3/4" MNPT, Titanium Glad Fitting, SS Ferrule
- 06 (75PP) 3/4" MNPT, All Polypropylene Gland Fitting
- 07 (75K) 3/4" MNPT, All Kynar Gland Fitting
- 08 (75TFE) 3/4" MNPT, All Teflon Gland Fitting
- 10 (100N) 1" MNPT, All Nylon Glad Fitting
- 11 (100P) 1" MNPT, All Polypropylene Gland Fitting
- 12 (100K) 1" MNPT, All Kynar Gland Fitting
- XX Other Fittings, Consult Factory

Note: This is a partial list of available configurations. For additional options or customization, please contact Electro-Chemical Devices Support Toll Free at: **(800) 729-1333** or your local ECD representative.

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Equipment and Specifications may be updated periodically to enhance performance and reliability.



Order Information

	A	B	C	D	E	F	G	H	I	Sample Order
S80	0	0	00	01	0	1	2	0	001	S80-00-0001-0120-001

A S80 Digital Sensor (pH)	B Insertion Style
C 316 SST - 10" (L), ¾" O.D. (75)	
D ¾" MNPT, 316 SS Gland Fitting, Nylon Ferrule	
E Integral Cable	F 10 ft Cable
G "T" Style Handle, ¾" Polypropylene Fitting	
H Viton O-Rings	I GE Purpose Electrode

D. Process Connection (continued)

Valve Assemblies (Includes T-Handle)

Part No.

- 30 (VSS)* 1" NPT 316 SS Valve Retraction Assembly, Nylon Ferrule
- 31 (VSSHT)* 1" NPT 316 SS Valve Retraction Assembly, Teflon Ferrule
- 32 (VSSE)* 1" NPT 316 SS Valve Retraction Assembly for Inductive Conductivity Sensors
- 33 (VHC)* 1" NPT Hastelloy Valve Retraction Assembly
- 34 (VTT)* 1" NPT Titanium Valve Retraction Assembly
- 40 (VKY)* 1" NPT All Kynar Valve Retraction Assembly
- 41 (VKYE) 1" Valve Assembly Kynar for ¾" Inductive Sensor (2000742.EXT)
- 42 (VPP)* 1" NPT All Polypropylene Valve Retraction Assembly
- 59 Other Valve Assemblies, Consult Factory
- 65 (SSFC) SS Flange – Flow Cell
- 66 (PVCFC) PVC Flange – Flow Cell

Sanitary Flange Assemblies

- 80 (SF) 1/1.5" Sanitary Flange, 316 SS, Viton O-Rings, Nylon Ferrule
- 81 (SF2) 2" Sanitary Flange, 316 SS, Viton O-Rings, Nylon Ferrule
- 82 (SF25) 2½" Sanitary Flange, 316 SS, Viton O-rings, Nylon ferrule
- 99 Other Flange Fittings, Consult Factory

*30-48 Valve Retractable Assemblies supplied with "T" Handle and Lanyards

E. Detachable Cable Connector

Part No.

- 0** None (Integral Cable, No Connector) (Standard)
- 1 (DA) Straight (Axial) Connector

F. Cable Length

Part No.

- 0 No Cable (Detachable Connector on Sensor Only)
- 1** 10 ft. cable (Standard)
- 2 20 ft. cable
- 3 30 ft. cable
- 4 40 ft. cable
- 5 50 ft. cable
- A 100 ft. cable
- X Other Lengths, Consult Factory

G. "T" Handle

Part No.

- 0 No "T" Handle
- 1 (T) "T" Style Hand with Lanyard for Valve Retractable
- 2** (TP) "T" Style Handle, ¾" Polypropylene Fitting
- 3 (TS) "T" Style Handle, ¾" Stainless Steel Fitting
- 4 (TN) "T" Style Handle, 1" Nylon Fitting
- 5 (TD) ¾" Tee for INSERTION with Detachable Connector
- 6 (TDV) ¾" Tee for VALVE with Detachable Connector
- 7 (1TD) 1" Tee for INSERTION with Detachable Connector
- 8 (1TDV) 1" Tee for VALVE with Detachable Connector

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Order Information

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S80	0	0	00	01	0	1	2	0	001	S80-00-0001-0120-001

A S80 Digital Sensor (pH)	B Insertion Style
C 316 SST - 10" (L), 3/4" O.D. (75)	
D 3/4" MNPT, 316 SS Gland Fitting, Nylon Ferrule	
E Integral Cable	F 10 ft Cable
G "T" Style Handle, 3/4" Polypropylene Fitting	
H Viton O-Rings	I GE Purpose Electrode

H. O-Rings for Electrode and or Process Connection

Part No.

- 0** Viton or None Required (**Standard**)
- 1 (VIT75) O-Rings for Electrode, S80 with Gland Fittings, HF Resistant Viton
- 2 (EPR) O-Rings for Electrode, S80 with Gland Fittings, Ethylene Propylene
- 3 (KLZ) O-Rings for Electrode, S80 with Gland Fittings, Kalrez
- 4 (CV75) O-Rings for Electrode, S80 with Gland Fittings, Viton Extreme
- 6 (VIT75) Valve and Fitting O-Rings, HF Resistant Viton
- 7 (EPR) Valve and Fitting O-Rings, Ethylene Propylene
- 8 (KLZ) Valve and Fitting O-Rings, Kalrez
- 9 (CV75) Valve and Fitting O-Rings, Viton Extreme

I. Electrode Choice, pH Electrode Cartridges

Part No.

- 000 No Electrode
- 001 General Purpose**, RADEL Body, TFE Ref, Flat pH Glass, -10° - 90°C, (2005145)
- 002 **HT Cycling**, PEEK Body, Ceramic Ref, Flat pH Glass, -10° - 90°C, (2005146)
- 003 **High Purity Water**, RADEL Body, TFE Ref, Full pH Glass, -10° - 90°C, (2005005)
- 004 **Non Conductive**, RADEL Body, TFE Ref, Flat pH Glass, 10° - 90°C, (2005148)
- 005 **Hi Temp**, PEEK Body, TFE Ref, Hemi pH Glass, 0° - 130°C, (2005157)
- 006 **Scrubber**, PEEK Body, TFE Ref, Full pH Glass, 0° - 130°C, (2005066)
- 007 **Sulfide Resistant**, FC PEEK Body, TFE Ref, Full pH Glass, 0° - 130°C, (2005130)
- 008 **Slurry**, RADEL Body, TFE Ref, Recessed Hemi pH Glass, 0° - 130°C, (2005059)
- 009 **Solvent Resistant**, RADEL Body, TFE Ref, Flat pH Glass, -10° - 90°C, (2005150)
- 010 **Fluoride Resistant**, PEEK Body, TFE Ref, Rugged pH Glass, -10° - 90°C, (2005103)
- 011 **Antimony**, RADEL Body, TFE Junction, Antimony Billet, 10° - 60°C, (2005013)
- 012 **Full Range**, PEEK Body, TFE Ref, Hemi pH Glass, 0° - 100°C, (2005169)
- 013 **Extended Life**, RADEL Body, TFE Junction, Flat Glass, -10° - 90°C, (2005111)
- 014 **Sulfide Resistant**, PEEK Body, Triple Junction, TFE Ref, Hemi pH Glass, -10° - 90°C, (2005138)
- 015 **High Temp**, PEEK Body, TFE Junction, Flat Glass, 0° - 130°C, (2005149)

Diagnostic/Sentinel

- 301 **General Purpose**, RADEL Body, TFE Ref, Flat pH Glass, -10° - 90°C, (2005345)
- 302 **HT Cycling**, PEEK Body, Ceramic Ref, Flat pH Glass, -10° - 90°C, (2005346)
- 303 **High Purity Water**, RADEL Body, TFE Ref, Full pH Glass, -10° - 90°C, (2005305)
- 304 **Non Conductive**, RADEL Body, TFE Ref, Flat pH Glass, -10° - 90°C, (2005348)
- 305 **High Temp**, PEEK Body, TFE Ref, Hemi pH Glass, 0° - 130°C, (2005349)
- 306 **Scrubber**, PEEK Body, TFE Ref, Flat pH Glass, 0° - 130°C, (2005360)
- 307 **Sulfide Resistant**, FC PEEK Body, TFE Ref, Full pH Glass, 0° - 130°C, (2005330)
- 309 **Solvent Resistant**, RADEL Body, TFE Ref, Flat pH Glass, -10° - 90°C, (2005350)
- 310 **Fluoride Resistant**, PEEK Body, TFE Ref, Rugged pH Glass, -10° - 90°C, (2005303)
- 313 **Extended Life**, RADEL Body, TFE Junction, Flat Glass, -10° - 90°C, (2005311)

ORP Electrode Cartridges

Part No.

- 030 Platinum ORP, Pt cap, PEEK body, TFE ref - 10° - 80°C, (2005167)
- 031 Platinum ORP, Pt cap, PEEK Triple junction, -10° - 80°C, (2005168)
- 330 Diagnostic, Platinum ORP, PEEK body, TFE ref, -10° - 80°C, (2005328)
- 331 Diagnostic, Platinum ORP, PEEK body, Sulfide Resistant, -10° - 80°C, (2005331)

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A S80 Digital Sensor (pH)	B Insertion Style
C 316 SST - 10" (L), 3/4" O.D. (75)	
D 3/4" MNPT, 316 SS Gland Fitting, Nylon Ferrule	
E Integral Cable	F 10 ft Cable
G "T" Style Handle, 3/4" Polypropylene Fitting	
H Viton O-Rings	I GE Purpose Electrode

pION Electrode Cartridges

Part No.

070	Ammonia , RADEL Body, TFE Ref, 0.05 - 18,000 ppm, 0° - 40°C, (2005083)
071	Ammonium , RADEL Body, TFE Ref, 0.05 - 18,000 ppm, 0° - 40°C, (2005083)
072	Bromide , RADEL Body, TFE Ref, 1 - 80,000 ppm, 0° - 80°C, (2005062)
073	Cadmium , RADEL Body, TFE Ref, 0.1 - 11,200 ppm, 0° - 80°C, (2005140)
074	Calcium , RADEL Body, TFE Ref, 0.1 - 40,000 ppm, 0° - 40°C, (2005143)
075	Chloride , RADEL Body, TFE Ref, 2 - 30,000 ppm, 0° - 80°C, (2005008)
076	Copper , RADEL Body, TFE Ref, 1 ppb - 6,300 ppm, 0°-80°C, (2005058)
077	Cyanide , RADEL Body, TFE Ref, 0.1 - 260 ppm, 0° - 80°C, (2005142)
078	Fluoride , PEEK Body, TFE Ref, 0.02 - 2,000 ppm, 0° - 80°C, (2005163)
079	Lead , RADEL Body, TFE Ref, 2 - 20,700 ppm, 0° - 80°C, (2005141)
080	Nitrate , RADEL Body, TFE Ref, 0.1 - 14,000 ppm, 0° - 40°C, (2005086)
081	Nitrite , RADEL Body, TFE Ref, 0.5 - 460 ppm, 0° - 40°C, (2005161)
082	Potassium , RADEL Body, TFE Ref, 0.1 - 40,000 ppm, 0° - 40°C, (2005034)
083	Silver , RADEL Body, TFE Ref, 0.1 - 107,000 ppm, 0° - 80°C, (2005120)
084	Sodium , RADEL Body, TFE Ref, 0.2 - 23,000 ppm, 0° - 80°C, (2005031)
085	Sulfide , RADEL Body, TFE Ref, 0.01 - 32,000 ppm, 0° - 80°C, (2005122)

Diagnostic/Sentinel

370	Ammonia , RADEL Body, TFE Ref, 0.05 - 18,000 ppm, 0° - 40°C, (2005383)
371	Ammonium , RADEL Body, TFE Ref, 0.05 - 18,000 ppm, 0° - 40°C, (2005383)
372	Bromide , RADEL Body, TFE Ref, 1 - 80,000 ppm, 0° - 80°C, (2005362)
373	Cadmium , RADEL Body, TFE Ref, 0.1 - 11,200 ppm, 0° - 80°C, (2005340)
374	Calcium , RADEL Body, TFE Ref, 0.1 - 40,000 ppm, 0° - 40°C, (2005343)
375	Chloride , RADEL Body, TFE Ref, 2 - 30,000 ppm, 0° - 80°C, (2005308)
376	Copper , RADEL Body, TFE Ref, 1 ppb - 6,300 ppm, 0° - 80°C, (2005358)
377	Cyanide , RADEL Body, TFE Ref, 0.1 - 260 ppm, 0° - 80°C, (2005342)
378	Fluoride , PEEK Body, TFE Ref, 0.02 - 2,000 ppm, 0° - 80°C, (2005363)
379	Lead , RADEL Body, TFE Ref, 2 - 20,700 ppm, 0° - 80°C, (2005341)
380	Nitrate , RADEL Body, TFE Ref, 0.1 - 14,000 ppm, 0° - 40°C, (2005386)
381	Nitrite , RADEL Body, TFE Ref, 0.5 - 460 ppm, 0° - 40°C, (2005361)
382	Potassium , RADEL Body, TFE Ref, 0.1 - 40,000 ppm, 0° - 40°C, (2005334)
383	Silver , RADEL Body, TFE Ref, 0.1 - 107,000 ppm, 0° - 80°C, (2005316)
384	Sodium , RADEL Body, TFE Ref, 0.2 - 23,000 ppm, 0° - 80°C, (2005332)
385	Sulfide , RADEL Body, TFE Ref, 0.01 - 32,000 ppm, 0° - 80°C, (2005322)

Dissolved Oxygen Electrode Cartridges

Part No.

040	DO , 0-20 ppm, PEEK Body, Galvanic, Two Tang, -10° - 80°C, (2005622)
041	DO , 0-20 ppm, PEEK Body, Galvanic, Full Crown, -10° - 80°C, (2005622.FC)
042	DO , 0-20 ppm, PEEK Body, Galvanic, Thick Membrane, -10° - 80°C, (2005623)
043	DO , ppb, PEEK Body, Galvanic, -10° - 80°C, (2005621)

Conductivity and Resistivity Sensors

Part No.

000	No Electrode Cartridge
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Note: This is a partial list of available configurations. For additional options or customization, please contact Electro-Chemical Devices Support Toll Free at: **(800) 729-1333** or your local ECD representative.

(continued on other page) 

Represented By:



 **World Headquarters:** 1500 North Kellogg Dr. | Anaheim, California, USA 92807

 **Phone:** 714-695-0051

 **Fax:** 714-695-0057

 **Email:** sales@ecd.com

 **www.ecdi.com**

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Equipment and Specifications may be updated periodically to enhance performance and reliability.



Order Information

	A	B	C	D	E	F	G	H	I	Sample Order
S80	0	0	00	01	0	1	2	0	001	S80-00-0001-0120-001

A S80 Digital Sensor (pH)	B Insertion Style
C 316 SST - 10" (L), 3/4" O.D. (75)	
D 3/4" MNPT, 316 SS Gland Fitting, Nylon Ferrule	
E Integral Cable	F 10 ft Cable
G "T" Style Handle, 3/4" Polypropylene Fitting	
H Viton O-Rings	I GE Purpose Electrode

S80 / DS80 Accessories and Spare Parts

Part No.	USB Interface
1000360	S80 USB Interface Adapter
	CABLES
220150.10	Detachable Cable, 4 Cond, Straight Connector (10 Feet)
2200150.XX	Detachable Cable, 4 Cond, Straight Connector (XX = Length in Feet)
2200160.10	Detachable Cable, 4 Cond, Right Angle Connector (10 Feet)
2200160.XX	Detachable Cable, 4 Cond, Right Angle Connector (XX = Length in Feet)
2000130	In-line Cable, Quick Disconnect
2200040-XX	Cable Assembly, In-line Quick Disconnect (XX = Length in Feet)
	MOUNTING
1000310-1	SPRAY CLEANER IN-LINE PVC, 1" SLIP ENTRIES FOR 1" BALL VALVE
1000310-2	SPRAY CLEANER IN-LINE PVC, 3/4" SLIP ENTRIES FOR 1" BALL VALVE
1000440-1	Flow Cell, 1" Slip Entries
1000440-2	Flow Cell, 3/4" FNPT Entries
1000440-3	Flow Cell, 2" FNPT Entries
1000445-1	Flow Cell with Spray Cleaner, 1" Slip Entries
1000445-2	Flow Cell with Spray Cleaner, 3/4" FNPT Entries
1000445-3	Flow Cell with Spray Cleaner, 2" FNPT Entries
1000016	Flow Cell, 1" Sensor In-Line Wet 1" Slip Entries
1000017	Flow Cell, 1" Sensor In-Line Wet 1" FNPT Entries
1000122	Hydro Cleaning Nozzle and Tube Fittings (3/4" Sensors)
1000154	Hydro Cleaning Nozzle and Tube Fittings (1" Sensors)
2000070	Gland Fitting, 3/4" NPT x 3/4" Sensor, 316 SS with Nylon Ferrule
2000263	Rail Mounting Brackets, (2) Quick Release "U" Clamps for 2" Guard Rail
2000264-X	S10/S80 Immersion Assembly, X = Feet x 1" O.D. Pipe, 3/4" FNPT Fitting, T-Handle
2000260-X	S10/S80 Immersion Assembly, X = Feet x 1" O.D. Pipe, 1" FNPT Fitting, T-Handle
1000290-X	S10/S80 Immersion Assembly, X = Feet x 1" O.D. Pipe, for Ball Float
	PION ELECTRODE POLISH KITS & RESISTIVITY TEST KIT
2000250-1	Polish Kit, PION, Paper (For Chloride, Silver, Cyanide, Copper, Bromide, Sulfide, Cadmium and Lead)
2000257	Polish Kit, PION, Powder (For Fluoride)
2000360	Resistivity Test Kit, S80 Test Kit Adaptor with 140k & 1.4M Resistors

T-Handle (Supplied standard with valve assembly, order separately with sensors)
 *Other O-Ring materials are available - ex: EPR, Kalrez, CV75)

2001050-1	S80 (17") Tee Handle with Lanyard, Fittings, & Viton O-Rings (Convenient for replacement sensors to existing ball valve)
2001050.23	S17/S80 (23/24") Tee Handle with Lanyard, Fittings & Viton O-Rings (Convenient for replacement sensors to existing ball valve)
2001050.28	S17/S80 (28/30") Tee Handle with Lanyard, Fittings & Viton O-Rings (Convenient for replacement sensors to existing ball valve)
2001050.28	S17/S80 (34/36") Tee Handle with Lanyard, Fittings & Viton O-Rings (Convenient for replacement sensors to existing ball valve)

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