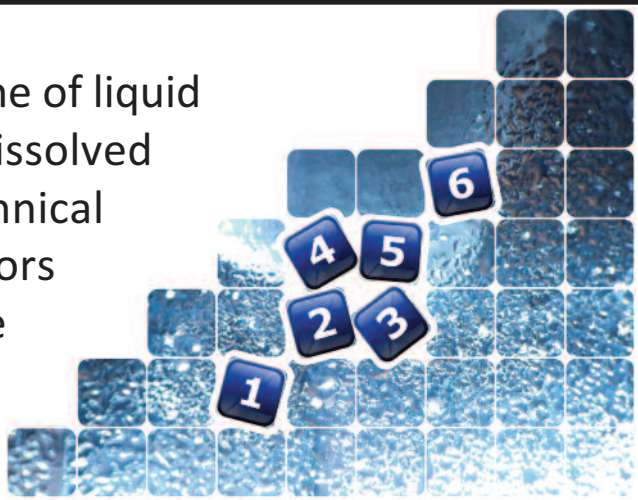
Model S80 Intelligent Sensors

Measure pH, ORP, Specific Ion, Dissolved Oxygen,
Turbidity, Conductivity or Resistivity with

Model T80 Universal Transmitter

ELECTRO-CHEMICAL DEVICES

Electro-Chemical Devices offers a complete line of liquid analytical sensors: pH, ORP, Specific Ion, Dissolved Oxygen, Conductivity & Resistivity. The technical advantage of the Model S80 Intelligent Sensors are the 6 points of design flexibility to configure a sensor that best fits your application.



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. **Multiple individual measurement parameters** 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 cost.

5. **Submersible and Retractable Sensors** Various process fittings with adjustable insertion lengths - threaded fittings, sanitary fittings, flanges and valve retractable fittings.

6. **Industrial housing materials for compatibility with process fluid.** Stainless Steel, Titanium, Hastelloy C-22, Polypropylene or PVDF (Kynar™). Standard 10" or 17" lengths additional lengths available.

Model S80 Intelligent Sensors

ECD Model S80 Sensor Overview - The intelligent sensor choice to fit your application. The S80 sensors have two Universal Sensor Designs; Insertion/Submersion or Valve Retractable with flaired end to prevent blow out. The standard Model S80 sensors have a rugged ¾" O.D. 316 stainless steel body with a 10 ft. cable or an optional waterproof detachable cable assembly.

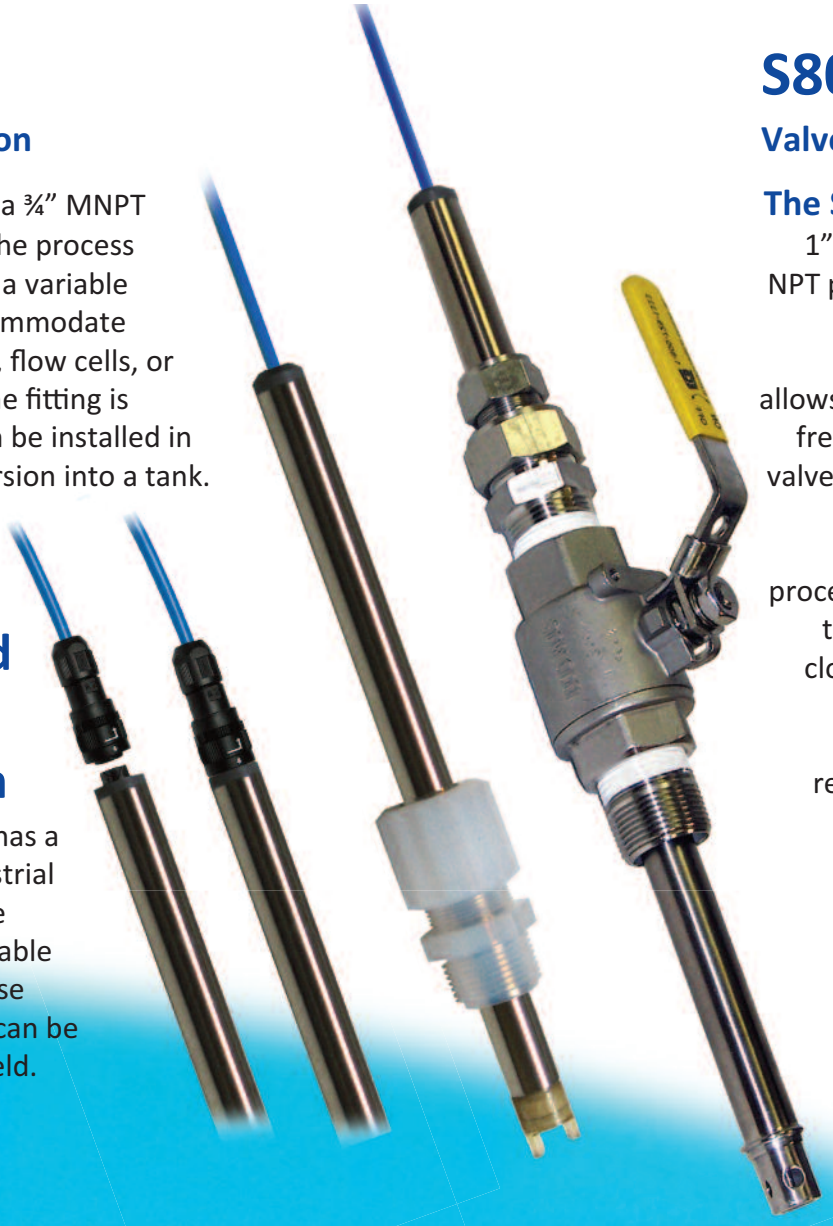
S80 Sensor

Insertion/Submersion

The S80 Sensor uses a ¾" 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 sensor can be installed in a stand pipe for submersion into a tank.

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.



S80 Sensor

Valve Retractable

The S80 Sensor 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.

pH and ORP Electrodes

The Model S80 Intelligent Sensors use replaceable electrode cartridges to provide application specific solutions for the most demanding pH measurements.

- Radel (PES) or PEEK construction
- Single tine, double tine or full crown style pH bulb protection.
- Spherical bulbs (best response), hemispherical bulbs (more durable) or a slightly radiused flat surface (easily cleaned)
- Platinum tip ORP electrodes.
- Double or Triple junction reference cells
- Porous Teflon® and ceramic junctions with various reference electrolytes.

One of these three widely used pH electrode cartridges will satisfy most installations, Consult our technical support staff for additional configurations.

6 Point Advantage

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.

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.

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.

2005167 – This **ORP (Oxidation Reduction Potential) Electrode** has a two tine PEEK body, double junction reference and a platinum tip. This general purpose sensor can be used for monitoring the oxidant level of cooling towers, swimming pools, aquariums or the de-chlorination of waste water. Metal finishing and mining also provide applications such as cyanide destruction and monitoring chrome plating baths.

Product Specifications

S80
All Sensors

Dimensions:
S80 Insertion - ¾"OD x 10" Length
S80 Valve Retractable - ¾" OD x 17"

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 (EPR),
VITON® 75 (VIT75)
Kalrez® (KLZ)
CV75 (CV)

Process Connections:
S80 Insertion/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" 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

Temperature Range:
0˚- 100˚ C

Optional HT version:
0˚- 150˚C

Pressure Range:
0 - 100 psig @ 90˚C

Temperature Compensation:
Automatic 0˚- 100˚C
Accuracy ± 0.2˚C

MVS80
ORP & Specific Ion

Measurement Range:
ORP: -2000 mV to 2000 mV
pIon: Sensor Specific, ppb, ppm&ppt

Temperature Range:
ORP -0˚- 90˚ C, pIon Sensor Specific

Pressure Range:
0 - 100 psig @ 90˚C

Temperature Compensation:
Automatic 0˚- 100˚C
Accuracy ± 0.2˚C

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

CS80/RS80
Conductivity/Resistivity

Measurement Ranges:
Conductivity: 0.5µS to 50 mS
Resistivity: 0 - 20 MΩ

Temperature Range:
-5˚ to 100˚C

Optional HT version:
-5˚ to 150˚C

Pressure Range:
CS/RS80 0 - 100 psig

Temperature Compensation:
Automatic 0˚- 100˚C
Accuracy ± 0.2˚C,100K thermistor

CS80
Inductive Conductivity

Measurement Ranges:
50 µS to 1000 mS

Temperature Range:
-5˚ to 100˚C

Pressure Range:
0 - 100 psig

Temperature Compensation:
Automatic 0˚- 100˚C
Accuracy ± 0.2˚C, 100K thermistor

Body material:
KYNAR (PVDF)

CSX2 Series
High Temperature Conductivity

Measurement Ranges:
1.0µS to 50mS

Temperature Range:
º˚ to 200˚C

Pressure Range:
0 -250 psig (400psig @100°C)

Temperature Compensation:
Automatic 0˚- 200˚C
Accuracy ± 0.2˚C, 10K ohm platinum RTD

Wetted Materials:
316 SS and PEEK

Shipping Weight:
S80 (10") 2.5 lbs (1.2 kg)
S80 (17") 2.75 lbs (1.25 kg)
S80-VSS 5.8 lbs (2.65 kg)