

# PROBES



Specialist Of UV Spectroscopy

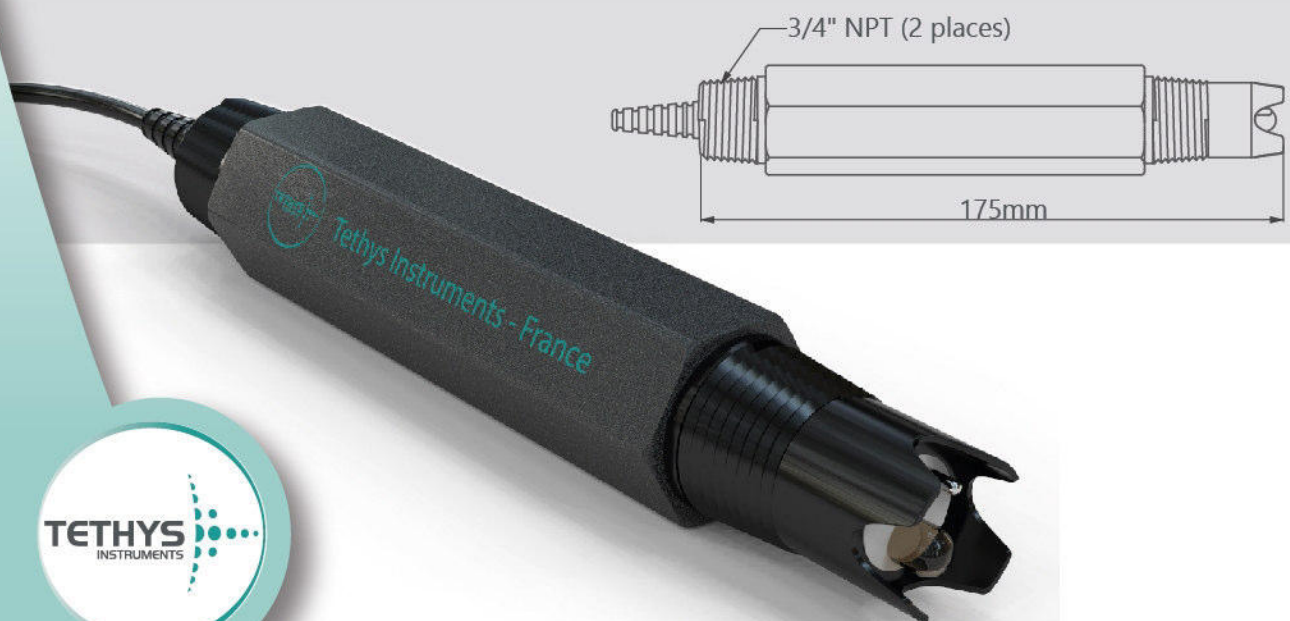


# > **PH SENSOR** general purpose

Tethys General Purpose pH Sensor with ¾" NPT thread on both front & back is a heavy-duty pH probe with Ryton body suitable for many industrial water application. Mounting thread on both front and back allow for in-pipe (continuous measurement) or submersible installations of pH Sensor. This pH sensor offers excellent chemical and impact resistance.

## specifications

pH Range	0-14 pH
Response Time	5 seconds to 95% of full response
pH Sensor Type	Convertible style combination pH sensor
Body Material	Ryton
Reference	Double Junction with porous Teflon
Mounting	Immersion or In-Line
Temperature Range	0-80 °C
Maximum Operating Pressure	100 psi
Temperature Element	Pt-100 Ohm RTD
Temperature Compensation	Automatic
Integral Sensor Cable Length	6 meter
Mounting Thread on Sensor Body	¾" NPT threads, front & back



**ELPH** pH online electrode, general purpose  
Range : 0-14  
6 meters of cable length  
Built-in ATC RTD 100 ohm



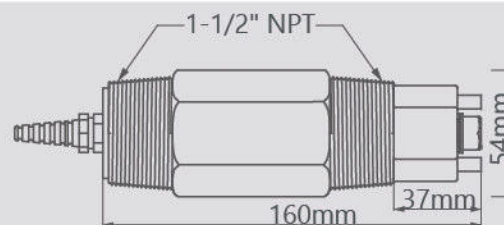


# > **PH SENSOR** differential

Tethys Differential pH Sensor with 1 ½"NPT thread on both front & back is a heavy-duty pH probe with Ryton Polyphenylene Sulfide body suitable for many industrial water application. The differential design provides unsurpassed accuracy by virtually eliminating ground loops. Mounting thread on both front and back allow for in-pipe (continuous measurement) or submersible installations of pH Sensor. You can replace the salt bridge and refill the reference solution to keep pH electrode working longer. This pH sensor offers excellent chemical resistance for harsh application.

## specifications

pH Range	0-14 pH
pH Sensor Type	Differential pH sensor
Body Material	Ryton @PPS body
pH stability (per 24 hour)	0.03 pH
Mounting	Immersion or In-Line
Temperature Range	0-85 °C
Temperature Element	10K NTC
Temperature Compensation	Automatic
Maximum Pressure	100 psi
Integral Sensor Cable Length	6 meter
Mounting Thread on Sensor Body	1 ½" NPT threads, front & back



**ELPH-D** pH online electrode, differential sensor  
Range: 0-14

6 meters of cable length

Built-in ATC RTD 100 ohm

**ELPH-D-S** Replacement salt bridge for differential pH Sensor

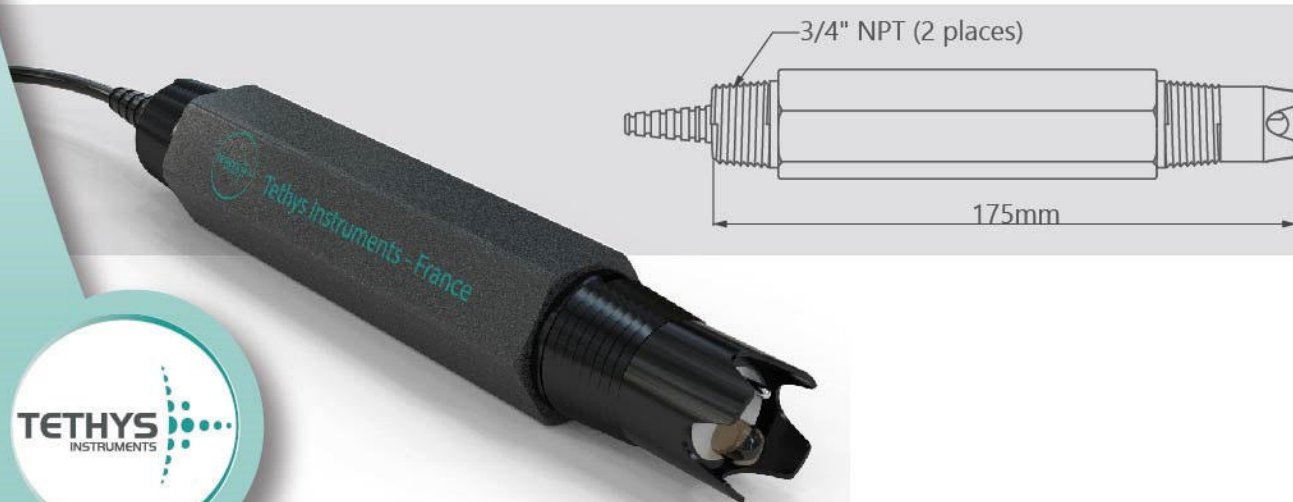
**ELPH-D-R** Refill solution for standard cell, 125 mL

# > ORP SENSOR

Tethys General Purpose ORP Sensor with  $\frac{3}{4}$ " NPT thread on both front & back is a heavy-duty ORP probe with Ryton body suitable for many industrial water applications. Mounting thread on both front and back allow for in-pipe (continuous measurement) or submersible installations of ORP Sensor. This ORP sensor offers excellent chemical and impact resistance.

## specifications

ORP Range	-2000 to +2000 mV
Sensor Type	Convertible style combination ORP sensor
Body Material	Ryton
Sensing element	Platinum
Reference	Double Junction with porous Teflon
Mounting	Immersion or In-Line
Operating temperature range	0-80 °C
Maximum operating pressure	100 psi
Integral Sensor Cable Length	6 meter
Mounting Thread on Sensor Body	$\frac{3}{4}$ " NPT threads, front & back



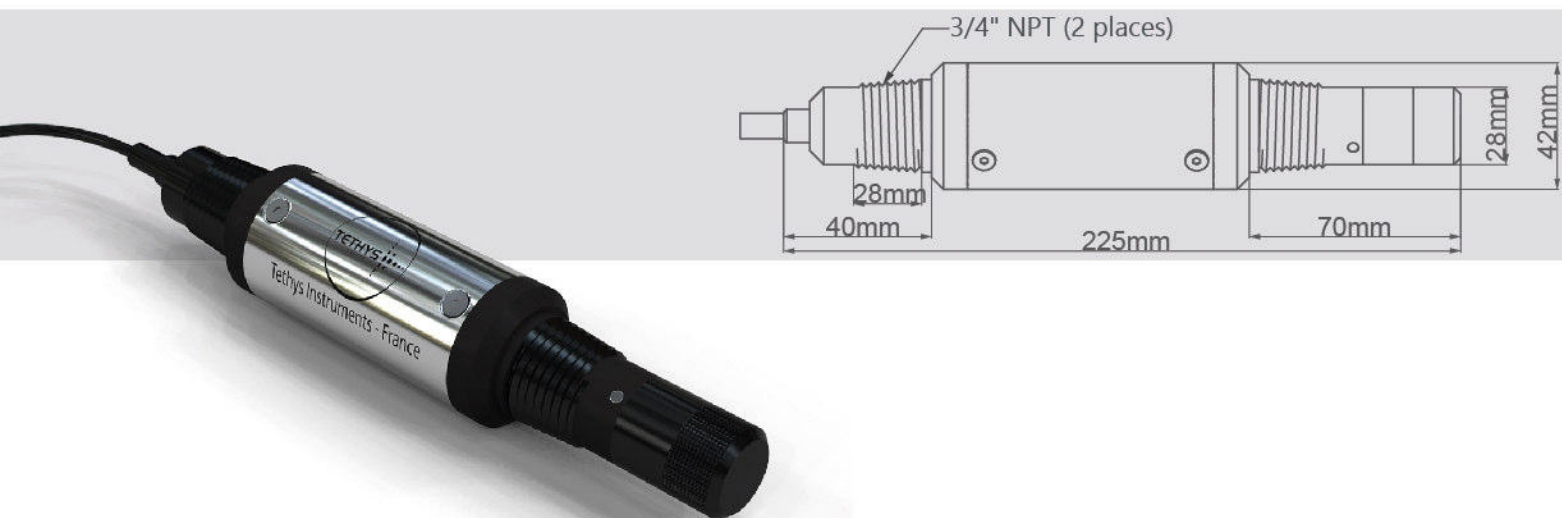
**ELORP** ORP online electrode  
Range: -2000 mV to +2000 mV  
6 meters of cable

# > DISSOLVED OXYGEN PROBE

Tethys Process Optical DO Probe is based on proven Luminescent Optical Technology suitable for most industrial application. It provides full featured performance, replaceable sensor caps, and long life. Mounting thread on both front and back allow for in-pipe (continuous measurement) or submersible installations of DO probe. Optical DO probe is suitable for measurement of dissolved oxygen measurement in various water and waste water application.

## specifications

Measurement Range DO	0-20 mg/L
Working Temperature Range	-5 to 50 °C
Measurement Technique	Luminescent Optical Technology
Accuracy DO :	± 0.1 mg/L
Accuracy Temperature	± 0.2 °C
Response Time	40 second to 90% (T-90)
Body Material	Stainless Steel 316 body
Sensor Protection	IP-68
Maximum operating pressure	100 psi
Maximum operating temperature	80 °C
Temperature Compensation	In-built, Automatic
Integral Sensor Cable Length	10 meter
Mounting	Immersion or In-Line
Mounting Thread on Sensor Body	1" NPT threads, front & back
Sensor Cap	Replaceable, Pre-calibrated
Expected Sensor Cap Life	2 Year
Probe Warrantee	1 Year



### **DO-F Dissolved oxygen probe by fluorescence**

Range: 0-20 mg/l O<sub>2</sub>

10 meters of cable length

**DO-F-S** Replacement Sensor cap with matched microSD card

**DO-F-C** Replacement converter box



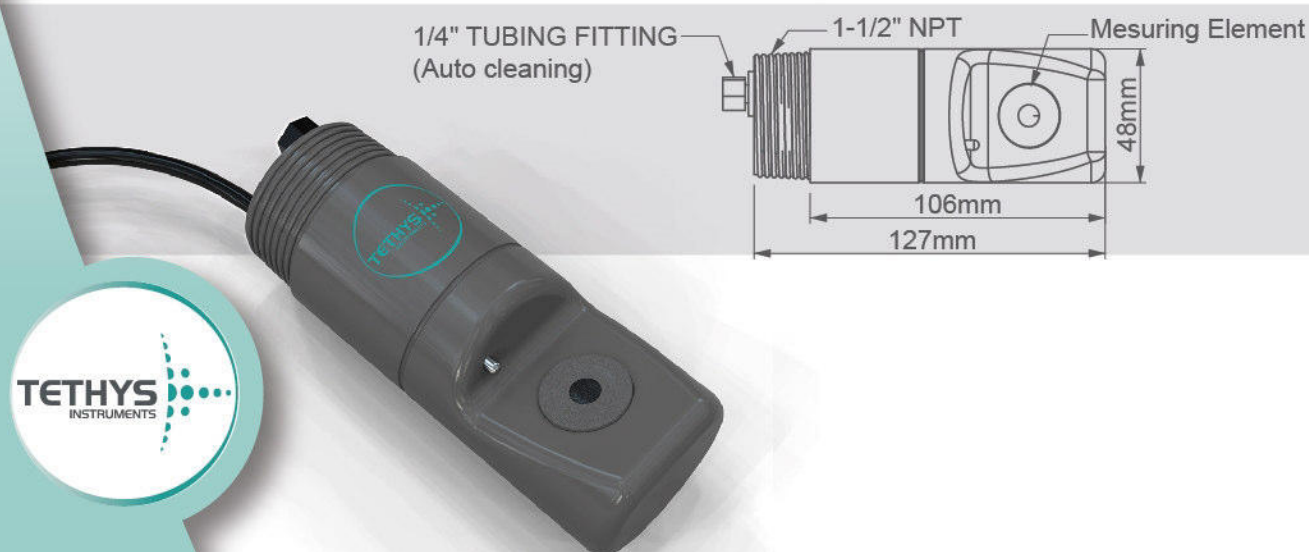
# > **DISSOLVED OXYGEN PROBE**

## Auto Cleaning

Tethys Process Optical DO Probe is based on proven Fluorescence Optical Technology suitable for most industrial application. It is rugged, without replacement sensor cap and having auto-cleaning feature. It is designed for submersible mounting in open basin. Optical DO probe is suitable for measurement of dissolved oxygen measurement in various water and waste water application.

## specifications

Measurement Range	0-25 mg/L
Working Temperature Range	0 to 60 °C
Measurement Technique	Fluorescence Optical Technology
Accuracy	1% of reading or 0.05 ppm, whichever is greater
Response Time	60 second to 90% (T-90)
Wetted Material	Epoxy, polyurethane, and PVC
Sensor Drift	Less than 2% per year
Repeatability	0.02 ppm
Stability (per 24 hour period)	0.02 ppm
Maximum Pressure	100 PSI
Temperature Compensation	In-built, Automatic
Integral Sensor Cable Length	10 meters
Sensor Cleaning System	air or water wash option available
Mounting	Submersible
Mounting Thread on Sensor Body	1-1/2" NPT
Probe Warrantee	1 Year



**DO-F-AC** Dissolved oxygen probe  
by fluorescence  
with automatic cleaning  
Range : 0-25 mg/l O<sub>2</sub>  
10 meters of cable length

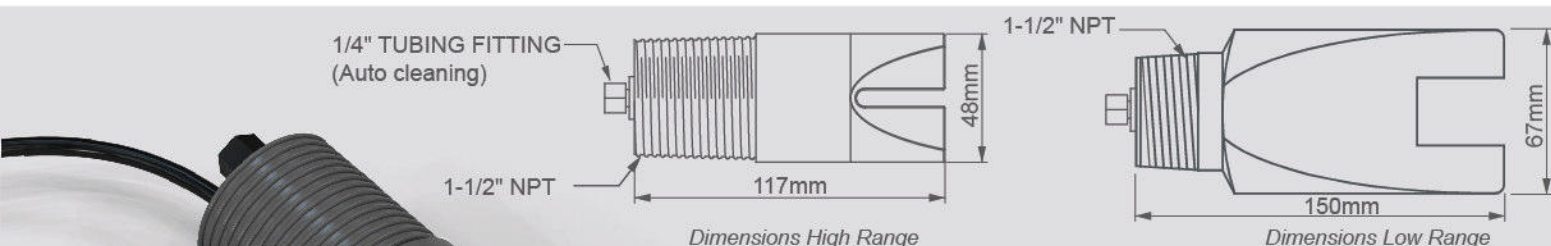


# > TOTAL SUSPENDED SOLIDS PROBE

Tethys Total Suspended Solid (TSS) Probe operate on the principle of single gap light absorption as a means of detecting the presence of suspended solids. The sensors incorporate self-cleaning optics via air or water jet. The application involves measurement of total suspended solids concentration from Mixed Liquor Suspended Solid (MLSS), Return Activated Sludge (RAS), Waste Activated Sludge (WAS), clarifier effluent and plant effluent.

## specifications

Measurement Low Range	0-1500 mg/L
Measurement High Range	250 – 30,000 mg/L
Accuracy Low Range Sensor	5% of reading or 5 mg/l whichever is higher
Accuracy High Range Sensor	5% of reading or 50 mg/l whichever is higher
Stability	2% of reading
Repeatability	2% of reading
Working Temperature Range	0 to 60 °C
Measurement Technique	IR light absorption
Response Time	60 second to 90% (T-90)
Wetted Material	Epoxy, polyurethane and PVC
Sensor Drift	Less than 1% per year
Integral Sensor Cable Length	10 meter
Sensor Cleaning System	air or water wash option available
Maximum Pressure	100 psi
Mounting	Submersible
Mounting Thread on Sensor Body	1-1/2" NPT
Probe Warrantee	1 Year



**EXT-TURB-H Total suspended solid (TSS) probes high range**  
 High range : 0 – 30,000 mg/l TSS  
 10 meters cable

**EXT-TURB-L Total suspended solid (TSS) probes low range**  
 Low range : 0 – 1500 mg/l TSS  
 10 meters cable



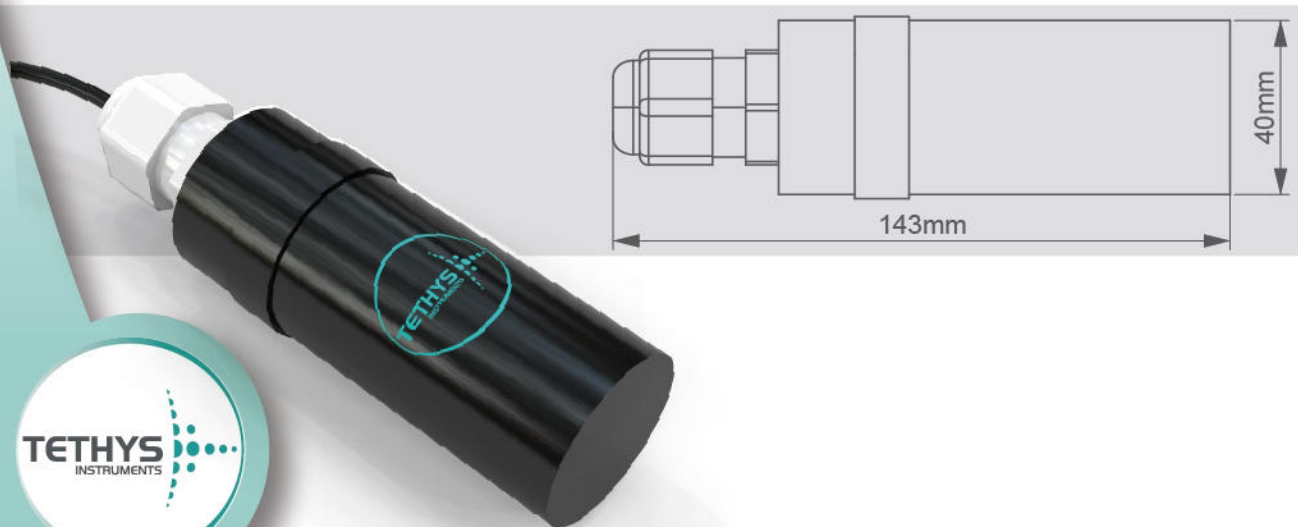
# > **TURBIDITY PROBE**

Tethys Turbidity probes are based on Nephelometric Method (ISO 7027 – EN 27027). A light beam is sent to the sample through an optical lens. The 90 degree scattered light by suspended particle is collected by the probe through a second lens and it is converted in an electric signal proportional to the turbidity of the sample.

The probe uses an infrared light and the measuring is not affected by the color of the sample. They are suitable for measurement of turbidity in water quality monitoring, municipal and industrial water treatment and Aquaculture.

## specifications

Measurement Range	0 – 40.00 NTU, 0 – 400.0 NTU
Measurement Technique	Nephelometric
Detector	90° scattered light detector
Light Source	Infrared
Ambient Temperature Range	-5 to 50°C
Working Pressure	6 bar maximum at 25°C
Body material	PVC
Integral Sensor Cable Length	10 meter
Mounting	In-line or In-flow
Probe Warrantee	1 Year



**EXT-TURBNEPH-H** Nephelometric turbidity probes high range  
Range: 0 – 400 NTU  
10 meters cable

**EXT-TURBNEPH-L** Nephelometric turbidity probes medium range  
Range: 0 – 40 NTU  
10 meters cable



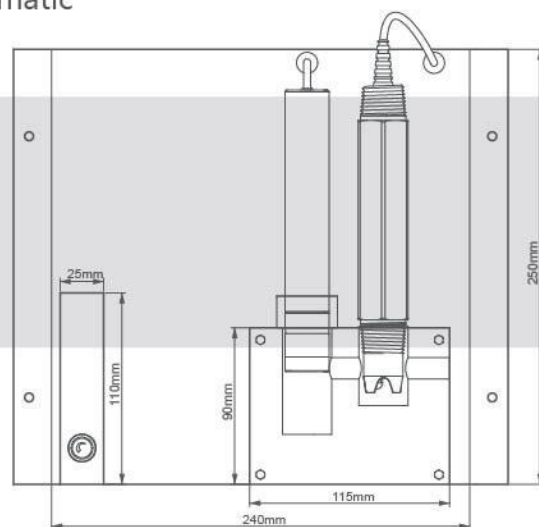
# > CHLORINE SENSOR

Tethys Chlorine Sensor is based on proven amperometric measurement technology. It is factory calibrated and zero calibration is not required. It's long life membrane cap is replaceable with refillable gel electrolyte. It is suitable for measurement of residual chlorine (free or total) in various Industrial water and waste water application.



## specifications

Measurement Range	0-20 mg/L (or ppm)
Measurement Technique	Membrane-covered, three electrode amperometric technology
Accuracy	$\pm 0.1$ mg/L
Repeatability	$\pm 0.05$ mg/L (25 °C)
Reproducibility	$\pm 4\%$
Resolution	0.01
Response Time	90 second to 90% (T-90), 25 °C
Operating Temperature	0 to 50 °C
Operating Pressure	Maximum 15 PSI
Sample pH	4-12, greatly reduced pH interference
Flow Requirement Minimum	30 L/hr (0.6 cm/s)
Flow Requirement Maximum	60 L/hr (1.3 cm/s)
Material	Body Housing : PVC, ABS Membrane : Hydrophilic PTFE Electrode : Silver-Silver Halide/ Gold/316SS
Temperature Compensation	In-built, Automatic
Warranty	1 Year



**CHLSET Amperometric chlorine set**  
Range: 0 – 20 mg/l Cl<sub>2</sub>  
Built-in temperature compensation,  
Includes chlorine electrode, pH electrode,  
electrode holder, flow meter, mounting plate,  
and 3 feet cable.

**ELCHL Amperometric chlorine electrode**  
**ELCHL-M Membrane cap for ELCHL chlorine electrode**  
**ELCHL-R Refillable electrolyte for ELCHL chlorine electrode**  
**ELPH pH online electrode, general purpose**

# > CONDUCTIVITY PROBE

Tethys Conductivity Sensor with 3/4" NPT thread is a heavy-duty probe with Polypropylene body suitable for many industrial water application. Mounting thread allow for in-pipe (flow through) installations of conductivity sensor. These conductivity sensor offers excellent chemical and impact resistance.

## specifications

### Measurement Range and Cell constant

Cell Constant, K	Conductivity measurement range
0.01	0 - 200 $\mu$ S
0.1	0 - 2000 $\mu$ S
1	0 - 20 mS
10	0 - 200 mS

Body Material

Polypropylene

Mounting

In-Line (Flow-through)

Temperature Range

0-80 °C

Maximum operating pressure

100 psi

Temperature Element

Pt-100 Ohm RTD

Temperature Compensation

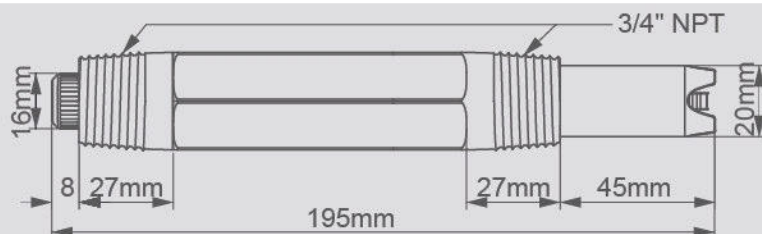
Automatic

Integral Sensor Cable Length

6 meter

Mounting Thread on Sensor Body

3/4" NPT threads



*Dimensions and Specifications above apply only for ELCOND-1 / ELCOND-10 / ELCOND-0.1*

**TETHYS**  
INSTRUMENTS

### ELCOND-1

**Conductivity online electrode - 6 meters cable**

Range: 0 - 20 mS

Cell constant k=1.0 cm<sup>-1</sup> (medium range)

Built-in ATC RTD 100 Ohm

### ELCOND-0.01

Range: 0 - 200  $\mu$ S

Cell constant k=0.01 cm<sup>-1</sup> (very low range)

Built-in ATC RTD 100 Ohm

### ELCOND-0.1

Range: 0 - 2000  $\mu$ S

Cell constant k=0.1 cm<sup>-1</sup> (low range)

Built-in ATC RTD 100 Ohm

### ELCOND-10

Range: 0 - 200 mS

Cell constant k=10.0 cm<sup>-1</sup> (high range)

Built-in ATC RTD 100 Ohm

### ICOND

**Inductive conductivity online probe**

Range: 0 - 100 mS

3 meters cable

Built-in temperature compensation at 2.2%/°C



# > APPLICATIONS








**The EL200** is a configurable water controller that can be adapted to many different probes and configurations, mono or multi-channel, among pH, ORP, dissolved oxygen, conductivity, chlorine, turbidity, total suspended solids (TSS) and temperature.

**The EL300** is a universal water controller based on a modular concept. It can adapt to many different probes and configurations, mono or multi-channel.

**The UV300** is a cost effective water analyser for applications focused on one or two parameters.

**The UV400**, based on a modular concept, allows to monitor simultaneously many different parameters for waste water or drinking water treatment plants as well as river monitoring stations.

**The UV500** is a on-line water analyser based on a high resolution UV-visible spectrograph.

PARAMETERS	 UV 500	 UV 400	 UV 300	 EL 300	 EL 200
UV254 (COD by correlation)	•	•	•		
Ammonia	•	•	•		
Nitrate	•	•	•		
Colour	•	•	•		
Aromatics Hydrocarbons (PAH)	•	•	•		
Chlorophyll A	•	•	•		
Phosphate	•	•	•		
Chlorine			•		•
Nitrite			•		
Aluminium			•		
Iron			•		
Silica			•		
Hydrogen Sulphide	•	•			
Cr (VI)	•		•		
Turbidity (TSS by correlation)	•	•	•		•
pH	•	•	•	•	•
ORP	•	•	•	•	•
Dissolved Oxygen	•	•	•	•	•
Conductivity	•	•	•	•	•
Extrenal Turbidity (TSS by correlation)	•	•	•	•	•
Temperature 0-80°C	•	•	•	•	•

# > They Trust In Us



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