



The **ULTRA TOUGH** Conductivity Sensors are made with the very toughest materials and the latest technology for exceptional performance in aggressive environments.

ULTRA TOUGH Conductivity DSS Sensor

Features

- Our most versatile conductivity sensor with outstanding chemical resistance for a wide variety of media.
- Suitable for a measurement ranging from 20 to 200,000 $\mu\text{S}/\text{cm}$
- Ultra-low range from 0.1 $\mu\text{S}/\text{cm}$
- Ultra-tough body materials and insulators
- 316 Stainless Elements with optional Titanium, Monel or Hastelloy for long life in tough conditions
- Open front end geometry resists clogging and reduces maintenance. ideal for remote installations
- Smart Sensor (*DSS*) with MODBUS RTU output connects directly to a PLC
- Sensor stores temperature and cell constant calibrations including days in use since they were performed
- Redundant O-ring seals used on all versions for high on-stream reliability and long sensor service lifetime
- Computed units available are salinity (*PSU*) and selectable total dissolved solids (*TDS*) units of NaCl, KCl or 442

Installation types

- Immersion & Fully Submersible
- Inline

ULTRA TOUGH
Conductivity DSS Sensor
for immersion/submersion
or inline style installation



ULTRA TOUGH Conductivity DSS Sensors



ULTRATOUGH-CON-DSS Sensor, cell constant $K=0.1$

The SMART DSS conductivity sensor with integral RS-485 MODBUS RTU communications allows for a simple and fully portable installation. The sensor may be calibrated anywhere (lab, shop or field) and interface with any data acquisition or control system in the field via the RS-485 MODBUS RTU output. Temperature and cell constant calibrations can be done with the sensor left in service if grab sample adjustments are desired to agree with reference values. Waterproof and corrosion-resistant NEMA 6P -QCD quick connect plugs come standard for easy seamless hot-swap of sensors from service for cleaning, recalibration, and other maintenance requirements as well as eventual replacement in time.

Benefits of SMART Digital Modbus RTU Conductivity DSS Sensors

- Integral RS-485 Modbus RTU interfaces all-modern PLC controllers and data acquisition systems.
- The communicator provides easy management of field installations without the cost of a mating transmitter.
- Windows software for setup and calibration of DSS conductivity sensors allow for easy and low-cost field commissioning for setup and pre-calibration of sensors without the cost of a transmitter.
- Intelligent management of sensor calibrations and service life-cycle for efficient commissioning and maintenance. All aspects of the installation are completely portable from the shop to the field site location.
- The 'Days in Use' since calibration was performed is stored allowing for optimal maintenance planning.
- All digital sensors ensure reliable operation even in noisy process environments.
- No degradation in digital output even with very long cable runs. Max of 1,000 metres (3,280 feet) with 12VDC power supply to support remote installation sites and consolidation of collected data.
- Bridging connections and modifying installations easily without loss of signal quality with NEMA 6P and IP67 rated quick-disconnect waterproof and corrosion-resistant dual snap connector. Simple plug and play operation for intelligent maintenance planning and smart management of sensor installations and stocking.
- Low-cost quick connect digital extension cables facilitate the consolidation of DSS sensors outputs into a one-panel enclosure where many remote field installations can be conveniently viewed at once.
- All extension cables for DSS sensors are inter-compatible. Uniform extension cables minimize stocking. Separate field installation guide details available options to commission and exchange sensors.

ULTRATOUGH-CON-DSS





Cell Constant Range Configurations

ULTRA TOUGH Conductivity DSS Sensor

Standard and High range configuration

| Cell Constant of ULTRATOUGH-CON-DSS | Full Range of Raw Conductivity Input | Temp. Compensated Conductivity at 25°C | Temp. Compensated Conductivity at 75°C | Temp. Compensated Conductivity at 125°C |
|--|---|---|---|---|
| K=0.1/cm Standard K=0.1/cm Hi Range | 20-2,000 $\mu\text{S}/\text{cm}$ 200-20,000 $\mu\text{S}/\text{cm}$ | 20-2,000 $\mu\text{S}/\text{cm}$ 200-10,000 $\mu\text{S}/\text{cm}$ | 20-2,000 $\mu\text{S}/\text{cm}$ 200-10,000 $\mu\text{S}/\text{cm}$ | 7-667 $\mu\text{S}/\text{cm}$ 66-6,667 $\mu\text{S}/\text{cm}$ |
| K=1.0/cm Standard K=1.0/cm Hi Range | 200-20,000 $\mu\text{S}/\text{cm}$ 2,000-200,000 $\mu\text{S}/\text{cm}$ | 200-20,000 $\mu\text{S}/\text{cm}$ 2,000-100,000 $\mu\text{S}/\text{cm}$ | 100-10,000 $\mu\text{S}/\text{cm}$ 1,000-100,000 $\mu\text{S}/\text{cm}$ | 67-6,667 $\mu\text{S}/\text{cm}$ 667-66,667 $\mu\text{S}/\text{cm}$ |
| K=2.0/cm Standard K=2.0/cm Hi Range | 400-40,000 $\mu\text{S}/\text{cm}$ 4,000-400,000 $\mu\text{S}/\text{cm}$ | 400-40,000 $\mu\text{S}/\text{cm}$ 4,000-200,000 $\mu\text{S}/\text{cm}$ | 200-20,000 $\mu\text{S}/\text{cm}$ 2,000-200,000 $\mu\text{S}/\text{cm}$ | 133-13,333 $\mu\text{S}/\text{cm}$ 1,333-133,333 $\mu\text{S}/\text{cm}$ |

The temperature compensated conductivity ranges shown above at each temperature assumes the typical 2% per °C coefficient is used. If an alternate temperature compensation coefficient is used recommended conductivity ranges will vary accordingly (inquire to factory). Contact Turtle Tough for applications where the measurement is below 0°C. Please note that standard and high range are user selectable. Both ranges utilise the same hardware and this can be toggled in user settings.

Ultralow range configuration

| Cell Constant of ULTRATOUGH-CON-DSS | Full Range of Raw Conductivity Input | Temp. Compensated Conductivity at 25°C | Temp. Compensated Conductivity at 75°C | Temp. Compensated Conductivity at 125°C |
|--|--|--|---|---|
| K=0.1/cm Ultralow | 0.2-20 $\mu\text{S}/\text{cm}$ 0.050-5.000 $\text{M}\Omega$ | 0.2-20 $\mu\text{S}/\text{cm}$ 0.05-5.000 $\text{M}\Omega$ | 0.1-10 $\mu\text{S}/\text{cm}$ 0.100-10.000 $\text{M}\Omega$ | 0.067-6.667 $\mu\text{S}/\text{cm}$ 0.150-15.000 $\text{M}\Omega$ |
| K=1.0/cm Ultralow | 2.0-200 $\mu\text{S}/\text{cm}$ 0.005-0.500 $\text{M}\Omega$ | 2.0-200 $\mu\text{S}/\text{cm}$ 0.005-0.500 $\text{M}\Omega$ | 1.0-100 $\mu\text{S}/\text{cm}$ 0.010-1.00 $\text{M}\Omega$ | 0.667-66.667 $\mu\text{S}/\text{cm}$ 0.015-1.500 $\text{M}\Omega$ |
| K=2.0/cm Ultralow | 4.0-400 $\mu\text{S}/\text{cm}$ 0.0025-0.250 $\text{M}\Omega$ | 4.0-400 $\mu\text{S}/\text{cm}$ 0.0025-0.250 $\text{M}\Omega$ | 2.0-200 $\mu\text{S}/\text{cm}$ 0.005-0.500 $\text{M}\Omega$ | 1.333-133.33 $\mu\text{S}/\text{cm}$ 0.0075-0.750 $\text{M}\Omega$ |

The table above shows conductivity limits for each cell constant in ultralow range mode. Max temperature compensated conductivity at each °C assumes a typical 2% per °C compensation coefficient (for ultrapure water temp. comp. scheme will differ). The lower bound for each conductivity range indicates the lowest conductivity that should be measured with that particular cell constant for the given °C and mode. The ultra-low range sensor must be specified at the time of order. The ultra-low range uses special internal hardware and this cannot be changed after the point of manufacturer.



Sensor Customisation

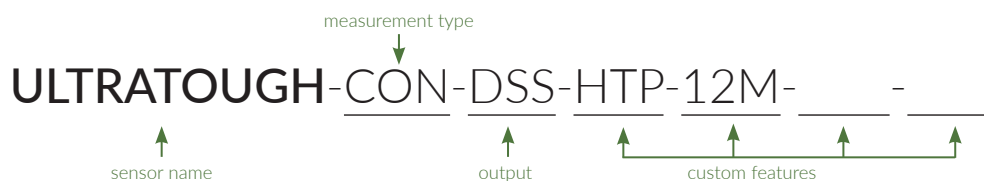
ULTRA TOUGH Conductivity DSS Sensors

Options

ULTRA TOUGH Conductivity sensors can be customised to suit your application. Your Turtle Tough representative will assist you in determining what upgrades might be necessary from the base sensor specification. The following list describes the available upgrades and how they might benefit your application. Some options may incur additional charges.*

| Code | Features | Description |
|--------------------|-----------------------------------|--|
| -SUB | Fully Submersible | 1" front-end x 1" back-end MNPT, Kynar body complete with standard waterproofing for fully submersible applications. |
| -HTP | for High Temperature and Pressure | Designed for inline installations at pressure up to 500psig and temperature up to 205°C. Available with 25mm (1.0") and 57mm (2.25") insertion depth configurations. Refer to cell constant table for applicable ranges. |
| -ULW | Ultra Low Range | Ultra Low Range mode increases resolution at low conductivity levels. This option utilises special hardware which must be optioned at time of order. Please refer to cell constant tables for measurement ranges. |
| -PK | PEEK Insulator | Upgrade to PEEK insulator. Required for special applications for resistance to heat and/or certain types of media. Only to be optioned if recommended by Turtle Tough. |
| -VI, -AF, or -KA | Viton, AFLAS or KALREZ O-rings | Upgrade the O-rings from EPDM to Viton (-VI), AFLAS (-AF) or KALREZ (-KA) |
| -TI, -MON or -HAST | Titanium, Monel, Hast C-276 | Upgrade the electrodes from 316SS to Titanium (-TI), Monel (-MON), Hast C-276 (-HAST) |
| -12M | 12m Cable Option | Increase the standard cable length from 6m to 12m. |
| -CPV | Cable Protection Vinyl | 4m of vinyl tubing encapsulates the sensor cabling for added protection from harsh environments or strain relief on cable. 60 °C resistant. |
| -CPN | Cable Protection Norprene | 4m of high norprene tubing is used to encapsulate the sensor cabling protecting it from high temperature environments. 135 °C resistant. |

To order add the codes of the features you want to add to your sensor to suit your application:



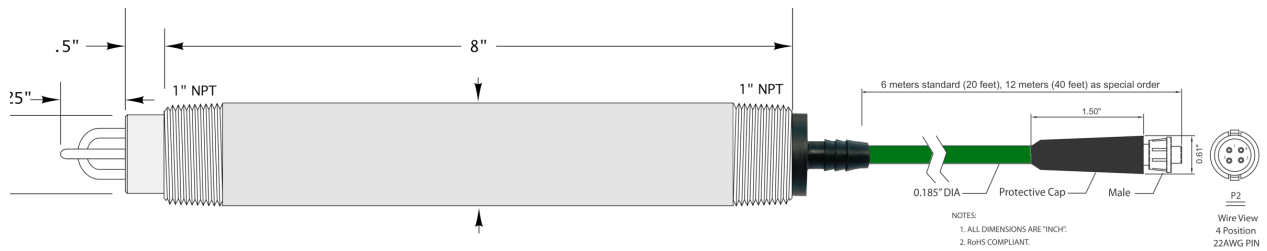


Specifications

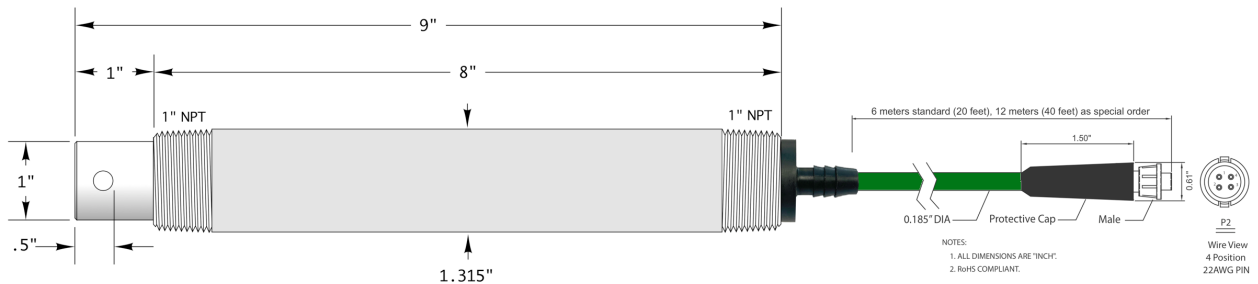
ULTRA TOUGH Conductivity DSS Sensors

| | | |
|---------------------------------------|---------------------|---|
| Name | | ULTRATOUGH CONDUCTIVITY DSS Sensor |
| Code | | ULTRATOUGH-CON-DSS |
| Output type | | DSS Direct Smart Sensor Technology |
| Operating Temperature Inline use | | -35 to +120 °C (-31 to +248 °F) ** |
| Operating Temperature Submersible use | | -15 to +85 °C (-31 to +185 °F) ** |
| Operating Pressure | | Max 100 psig @ 120°C |
| Process Connections | | 1" MNPT KYNAR Front and Rear Threads |
| Wetted Materials of Construction | Insulator | Teflon |
| | O-Rings | EPDM Standard (Viton/Aflas/Kalrez optional) |
| | Electrodes | 316SS Standard (Titanium, Monel, Hast C-276 optional) |
| | Sensor body (Front) | Kynar (Poly-Vinylidene-Fluoride) |
| Temperature Element | | Pt1000 temperature sensor (included standard, required for all DSS sensors) |
| Temperature Input Range | | -40 to +210 °C (-31 to +410 °F) ±0.3°C Limited by actual sensor specs ** |
| Cell Constants Available | | K = 0.1, 1.0 or 2.0 /cm |
| Cable Length Limits | | Standard 6m (20ft), 12m (40ft) optional. Please note that DSS sensors can support cable runs of up to 1000m with appropriate hardware. 12VDC supply |
| End of Cable Terminations | | Quick Connect Plug - NEMA 6P (-QCD) |
| Storage and Shelf-Life | | 1 year from date of dispatch from factory when stored at ambient. |
| Submersible Assemblies | | Back-end waterproofing or cable protection available |
| Sealing Hose options | | Vinyl and NORPRENE tubing available for extreme waterproofing |
| Warranty | | 12 Month Conditional Warranty. Go to turtletoughsensors.com/support/warranty-returns |

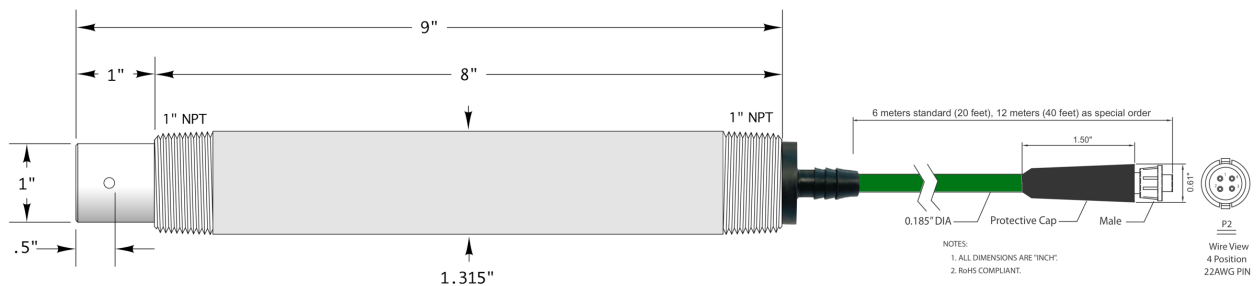
ULTRA TOUGH Conductivity Sensor Cell constant K=0.1



ULTRA TOUGH Conductivity Sensor Cell constant K=1.0



ULTRA TOUGH Conductivity Sensor Cell constant K=2.0



Cell constant configurations are shown above without a waterproofing option. Please inquire to the factory for overall sensor length and dimensional details if a waterproofing option is to be added to a sensor for submersible use.



ULTRA TOUGH Conductivity DSS sensor with High Temperature and Pressure Option (HTP) for inline installs at pressure up to 500 psig and temperature up to 205°C.

ULTRA TOUGH Conductivity DSS Sensor with High Temperature & Pressure Option (*HTP*)

Features

- Designed for inline installations at pressure up to 500 psig and temperature up to 205°C
- Designed for high pressure and high temperature conductivity measurements
- DSS Technology with MODBUS RTU output Interfaces with any suitable PLC
- Sensor stores temperature and cell constant calibrations
- Compact design for ¾" NPT inline process interface
- Available in 1.0" and 2.25" insertion depth configurations
- Quick connect plugs for plug and play connectivity
- Sealing option allows for use in areas with high levels of moisture, washdowns, rain or corrosive environment

Applications

- High-pressure desalination and reverse osmosis (RO) reject concentrate monitoring and control
- Blowdown control, condensate monitoring and leak detection on heat exchangers and steam purity measurements
- Boiler condensate and blowdown control and/or monitoring in installation locations without coolers





ULTRA TOUGH Conductivity DSS Sensor with High Temperature & Pressure Option (HTP)



57mm insertion depth

25mm insertion depth

The High Temperature and Pressure (HTP) Conductivity DSS sensor allows for a simple and fully portable installation. The sensor may be calibrated anywhere (*lab, shop or field*) and interfaced with any data acquisition or control system in the field via the RS-485 MODBUS RTU output.

Temperature and cell constant calibrations can be done with the sensor left in service if grab sample adjustments are desired to agree with reference values.

Waterproof and corrosion-resistant NEMA 6P quick connect plugs come standard for a seamless hot-swap of sensors from service for cleaning, recalibration, and other maintenance requirements as well as eventual replacement in time.

Low range configuration

The High Temperature and Pressure Conductivity DSS sensor comes in a Low-Range configuration at pressure up to 500 psig and temperature up to 205°C

- Available cell constants of $K=0.05/\text{cm}$, $K=0.1/\text{cm}$, $K=0.2/\text{cm}$, $K=1.0/\text{cm}$ and $K=2.0/\text{cm}$ for lower conductivity ranges.
- Computed MegaOhms (MW) units using linear user adjustable ATC coefficients or the non-linear ultrapure water ATC.
- Special configuration is available for $K=0.1/\text{cm}$ cell constant for use in ultrapure water (UPW) applications. This version has the characteristic non-linear temperature compensation curve necessary for pure water measurement as well as providing the computed resistivity units of MegaOhms (MW) which are most commonly used for such applications.

ULTRA TOUGH CON-DSS-HTP SENSOR





Cell Constant Range Configurations

ULTRA TOUGH HTP Conductivity DSS Sensor

Standard and High range

| Cell Constant of HTP Conductivity DSS Sensor | Full Range of Raw Conductivity Input | Temp. Compensated Conductivity at 25°C | Temp. Compensated Conductivity at 75°C | Temp. Compensated Conductivity at 125°C | Temp. Compensated Conductivity at 175°C |
|--|---|---|---|--|---|
| K=0.05/cm Standard K=0.05/cm Hi Range | 10-1,000 $\mu\text{S/cm}$ 100-10,000 $\mu\text{S/cm}$ | 10-1,000 $\mu\text{S/cm}$ 100-5,000 $\mu\text{S/cm}$ | 5-500 $\mu\text{S/cm}$ 50-5,000 $\mu\text{S/cm}$ | 3.33-333.33 $\mu\text{S/cm}$ 33.33-3,333.33 $\mu\text{S/cm}$ | 2.50-250 $\mu\text{S/cm}$ 25-2,500 $\mu\text{S/cm}$ |
| K=0.1/cm Standard K=0.1/cm Hi Range | 20-2,000 $\mu\text{S/cm}$ 200-20,000 $\mu\text{S/cm}$ | 20-2,000 $\mu\text{S/cm}$ 200-10,000 $\mu\text{S/cm}$ | 10-1,000 $\mu\text{S/cm}$ 100-10,000 $\mu\text{S/cm}$ | 6.67-666.67 $\mu\text{S/cm}$ 66.67-6,666.67 $\mu\text{S/cm}$ | 5-500 $\mu\text{S/cm}$ 50-5,000 $\mu\text{S/cm}$ |
| K=0.2/cm Standard K=0.2/cm Hi Range | 40-4,000 $\mu\text{S/cm}$ 400-40,000 $\mu\text{S/cm}$ | 40-4,000 $\mu\text{S/cm}$ 400-20,000 $\mu\text{S/cm}$ | 20-2,000 $\mu\text{S/cm}$ 200-20,000 $\mu\text{S/cm}$ | 13.33-1,333.33 $\mu\text{S/cm}$ 133.33-13,333.33 $\mu\text{S/cm}$ | 10-1,000 $\mu\text{S/cm}$ 100-10,000 $\mu\text{S/cm}$ |
| K=1.0/cm Standard K=1.0/cm Hi Range | 200-20,000 $\mu\text{S/cm}$ 2,000-200,000 $\mu\text{S/cm}$ | 200-20,000 $\mu\text{S/cm}$ 2,000-100,000 $\mu\text{S/cm}$ | 100-10,000 $\mu\text{S/cm}$ 1,000-100,000 $\mu\text{S/cm}$ | 67-6,667 $\mu\text{S/cm}$ 667-66,667 $\mu\text{S/cm}$ | 50-5,000 $\mu\text{S/cm}$ 500-50,000 $\mu\text{S/cm}$ |
| K=2.0/cm Standard K=2.0/cm Hi Range | 400-40,000 $\mu\text{S/cm}$ 4,000-400,000 $\mu\text{S/cm}$ | 400-40,000 $\mu\text{S/cm}$ 4,000-200,000 $\mu\text{S/cm}$ | 200-20,000 $\mu\text{S/cm}$ 2,000-200,000 $\mu\text{S/cm}$ | 133-13,333 $\mu\text{S/cm}$ 1,333-133,333 $\mu\text{S/cm}$ | 100-10,000 $\mu\text{S/cm}$ 1,000-100,000 $\mu\text{S/cm}$ |

Temperature compensated conductivity ranges shown above at each temperature assumes the typical 2% per °C coefficient is used. If alternate temperature compensation coefficient is used recommended conductivity ranges will vary accordingly (inquire to factory). Please note that standard and high range are user selectable. Both ranges utilise the same hardware and this can be toggled in user settings.

Ultralow range configuration

| Cell Constant of HTP Conductivity DSS Sensor | Full Range of Raw Conductivity Input | Temp. Compensated Conductivity at 25°C | Temp. Compensated Conductivity at 75°C | Temp. Compensated Conductivity at 125°C | Temp. Compensated Conductivity at 175°C |
|--|--|--|--|--|--|
| K=0.05/cm Ultralow | 0.100-10 $\mu\text{S/cm}$ 0.100-10.000 $\text{M}\Omega$ | 0.100-10 $\mu\text{S/cm}$ 0.100-10.000 $\text{M}\Omega$ | 0.050-5 $\mu\text{S/cm}$ 0.200-20.000 $\text{M}\Omega$ | 0.033-3.333 $\mu\text{S/cm}$ 0.300-33.333 $\text{M}\Omega$ | 0.025-2.5000 $\mu\text{S/cm}$ 0.400-40.000 $\text{M}\Omega$ |
| K=0.1/cm Ultralow | 0.200-20 $\mu\text{S/cm}$ 0.050-5.000 $\text{M}\Omega$ | 0.200-20 $\mu\text{S/cm}$ 0.050-5.000 $\text{M}\Omega$ | 0.100-10 $\mu\text{S/cm}$ 0.100-10.000 $\text{M}\Omega$ | 0.067-6.667 $\mu\text{S/cm}$ 0.150-15.000 $\text{M}\Omega$ | 0.050-5 $\mu\text{S/cm}$ 0.200-20.000 $\text{M}\Omega$ |
| K=0.2/cm Ultralow | 0.400-40 $\mu\text{S/cm}$ 0.025-2.500 $\text{M}\Omega$ | 0.400-40 $\mu\text{S/cm}$ 0.025-2.500 $\text{M}\Omega$ | 0.200-20 $\mu\text{S/cm}$ 0.050-5.000 $\text{M}\Omega$ | 0.133-13.333 $\mu\text{S/cm}$ 0.075-7.500 $\text{M}\Omega$ | 0.100-10 $\mu\text{S/cm}$ 0.100-10.000 $\text{M}\Omega$ |
| K=1.0/cm Ultralow | 2.0-200 $\mu\text{S/cm}$ 0.005-0.500 $\text{M}\Omega$ | 2.0-200 $\mu\text{S/cm}$ 0.005-0.500 $\text{M}\Omega$ | 1.0-100 $\mu\text{S/cm}$ 0.010-1.00 $\text{M}\Omega$ | 0.667-66.667 $\mu\text{S/cm}$ 0.015-1.500 $\text{M}\Omega$ | 0.050-5 $\mu\text{S/cm}$ 0.200-20.000 $\text{M}\Omega$ |
| K=2.0/cm Ultralow | 4.0-400 $\mu\text{S/cm}$ 0.0025-0.250 $\text{M}\Omega$ | 4.0-400 $\mu\text{S/cm}$ 0.0025-0.250 $\text{M}\Omega$ | 2.0-200 $\mu\text{S/cm}$ 0.005-0.500 $\text{M}\Omega$ | 1.333-133.33 $\mu\text{S/cm}$ 0.0075-0.750 $\text{M}\Omega$ | 1.0-100 $\mu\text{S/cm}$ 0.010-1.00 $\text{M}\Omega$ |

Temperature compensated conductivity ranges shown below at each °C assumes typical 2% per °C coefficient (for ultrapure water temperature compensation scheme differs). If alternate temperature compensation coefficient is used recommended conductivity ranges will vary accordingly. The Ultralow range sensor must be specified at the time of order. Ultra low range uses special internal hardware and this cannot be changed after the point of manufacturer.



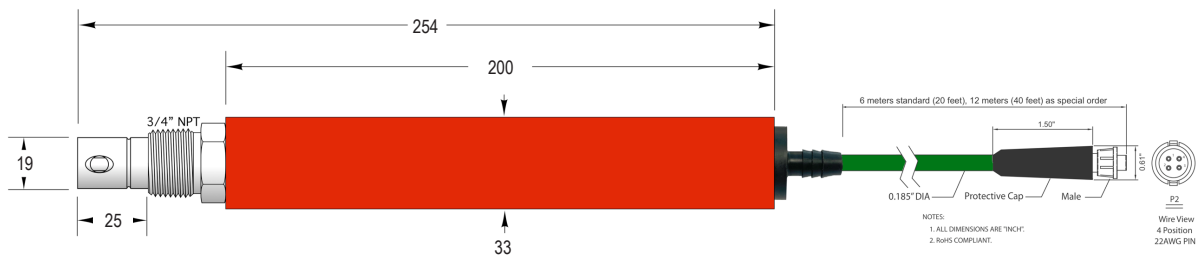
Specifications

ULTRA TOUGH HTP Conductivity DSS Sensors

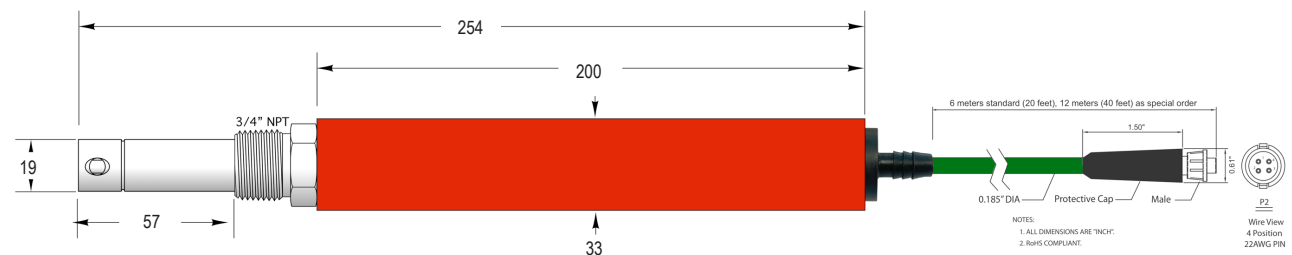
| | | |
|----------------------------------|---------------------|--|
| Name | | Ultra Tough High Temperature & Pressure (HTP) Conductivity DSS Sensor |
| Code | | CON-DSS-HTP |
| Output type | | DSS Direct Smart Sensor Technology |
| Operating Temperature Inline use | | -35 to +205 °C (-31 to +401 °F) ** |
| Operating Pressure | | Max 500 psig at 100°C or 250 psig at 205°C with front 316SS Threads |
| Process Connections | | ¾"MNPT 316SS Front Threads |
| Wetted Materials of Construction | Insulator | PEEK |
| | O-Rings | EPDM Standard (Viton/Aflas/Kalrez optional) |
| | Electrodes | 316SS Standard |
| | Sensor body (Front) | 316SS Standard |
| | Rear Nipple | CPVC or KYNAR (PVDF) |
| Insertion Depth configurations | | Standard 25mm or Extended 57mm |
| Temperature Element | | Pt1000 temperature sensor (included standard, required for all DSS sensors) |
| Temperature Input Range | | -40 to +210 °C (-31 to +410 °F) ±0.3°C Limited by actual sensor specs ** |
| Cell Constants Available | | K = 0.05, 0.1, 0.2, 1.0 or 2.0 /cm All cell constants are available in the 25mm and 57mm insertion depth configurations |
| Cable Length Limits | | Standard 6m (20ft), 12m (40ft) optional. Please note that DSS sensors can support cable runs of up to 1000m with appropriate hardware. 12VDC supply |
| End of Cable Terminations | | 4-pole waterproof and corrosion-resistant NEMA 6P quick connector plug |
| Storage and Shelf-Life | | 1 year from date of dispatch from factory when stored at ambient |
| Sealing Hose Options | | Vinyl & NORPRENE tubing available for extreme waterproofing |
| Warranty | | 12 Month Conditional Warranty. Go to turtletoughsensors.com/support/warranty-returns |

Contact Turtle Tough for applications where the measurement is below 0°C or else above 175°C before purchase. Temperature-compensated conductivity ranges shown below at each temperature assumes the typical 2% per °C coefficient is used. If an alternate temperature compensation coefficient is used recommended conductivity ranges will vary accordingly (*inquire to factory*).

HTP Conductivity Sensor 25 mm insertion depth configuration



HTP Conductivity Sensor 57 mm insertion depth configuration



Notes:

1. All cell constants are available in both the standard 25mm and extended 57mm insertion depth configurations.
2. The wetted materials of construction for the front portion of the sensor are 316SS for metal electrodes and PEEK for the insulator
3. The material of construction for the rear 8" inch nipple is either CPVC or KYNAR (PVDF).
For inline installations using the front 3/4" MNPT threads only the 316SS & PEEK materials of construction are wetted.
4. The sensors may be installed at any orientation as desired. Care should be taken that the installation scheme is such that the measuring cell is always completed full at all times (*no entrapped air bubbles or times when this part of the line is dry*).
5. For batch operations where the tank is drained, installation with the sensor tip to the top of the tank (*inverted style*) is preferred.
6. For inline installations, the vent hole should be entirely in the path of flow and unobstructed by the compression fitting to ensure that the sample in the measuring cell is representative of the process fluid at all times. Alternatively, if the vent hole cannot be installed to be entirely in the flow the tip should be installed into the direction of flow typically at an elbow in the piping.
7. For low-flow installations please contact the factory for additional assistance. Custom insertion depth may be available for selected sensor configurations as special order options upon request.
8. Dimensions for all drawings are in mm.