



The **SMART Toroidal Sensor** is an economic and successful technology that requires low maintenance & is not consumable.

## SMART Toroidal Sensor for water treatment applications; Digital Technology

Code: TT-SMART-Toroidal

### Inductive method

- A ring-type coil is excited at fixed intervals and the response is retrieved on a second coil, which is linked to the excited coil.
- The connectivity between the coils (determined by the degree of conductivity) takes place via the conducting solution.
- Economic and successful technology that requires low maintenance and is not consumable.

### Digital communication

- The SMART sensor stores calibration and history data within the sensor and connects to any type of PLC/HMIs, transmitters, display units, controllers or data loggers via RS-485 or SDI-12 connections.





**TURTLE  
TOUGH**

# Specifications

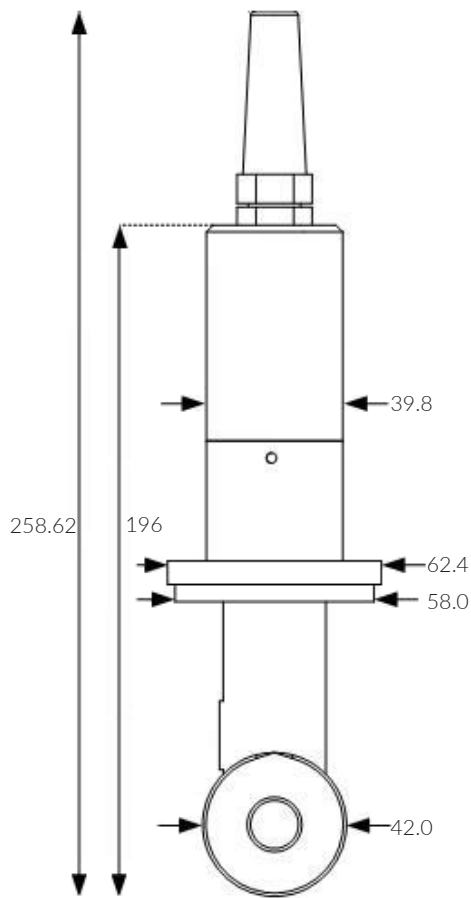
## SMART Series Toroidal Sensor

Description	SMART Toroidal Sensor for Water Treatment Applications										
Part Number	TT-SMART-Toroidal										
Measurement Principle	Inductive conductivity sensor with temperature compensation										
Measurement Ranges	Conductivity 0.0 – 100.0mS/cm	Salinity 5 - 60g/Kg									
Resolution	0.1										
Accuracy	±0.5°C										
Response Time	90% of the value in <30 seconds										
Working Temperature	0°C to + 50°C										
Measure of Temperature	Via NTC										
Stocking Temperature	-10°C to +60°C										
Signal Interface	Modbus RS-485 (standard) and SDI-12 (optional)										
Maximum Refreshing Time	<1 second										
Sensor Power-Supply	5 to 28 Volts, max 30 Volts										
Electric Consumption	Automatic Standby <50µA , Heating time 100mS Average Modbus RS485/ Range 0 - 100mS/cm <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>Vin 5V</th> <th>Vin 12V</th> <th>Vin 24V</th> </tr> </thead> <tbody> <tr> <td>1 measure</td> <td>31mA</td> <td>15.5mA</td> <td>11.5mA</td> </tr> </tbody> </table> Max current pulse: 700mA during 2mS, 350mA during 150mS				Vin 5V	Vin 12V	Vin 24V	1 measure	31mA	15.5mA	11.5mA
	Vin 5V	Vin 12V	Vin 24V								
1 measure	31mA	15.5mA	11.5mA								
Dimensions	Diameter: 62.4mm; Length: 196mm										
Weight	700g										
Material	EPDM, PVC, Stainless steel										
Maximum Pressure	72.5 PSIG (5 bar)										
Connection	Quick Connect Plug or Tinned Leads										
Protection Rating	IP68										
Storage	Item should be kept at room temperature with closed protector cap to protect the optic. Shelf life warranted for 12 months from the date of purchase										
Warranty	12 Month Conditional Warranty Please go to: <a href="http://www.turtleoughsensors.com/support/warranty-returns">www.turtleoughsensors.com/support/warranty-returns</a>										

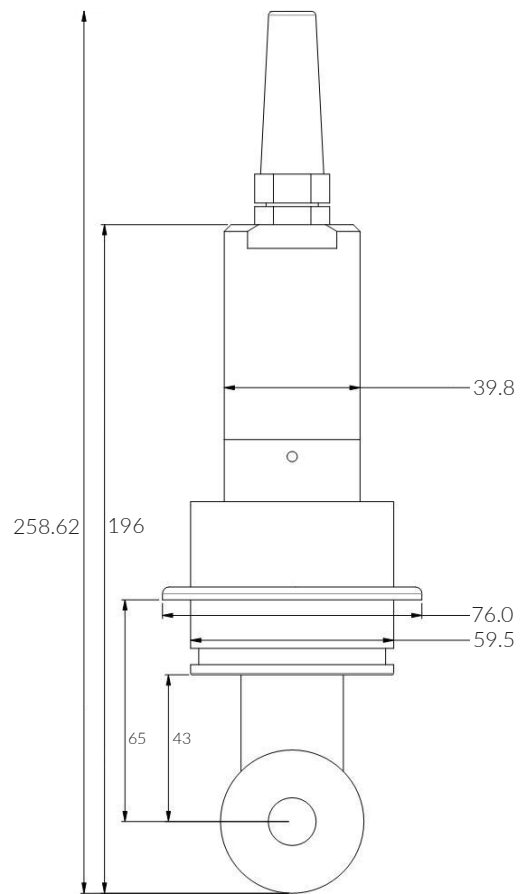


### Dimensional Drawing

#### Immersion



#### Inpipe SS

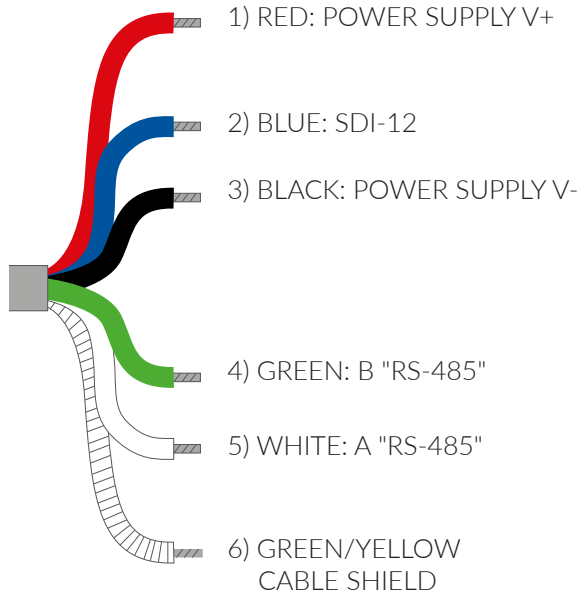


All dimensions are in millimetres (mm)



### Wiring Schematic

#### CABLE LENGTH: 1 - 15M



#### CABLE LENGTH: 15 - 100M

- 1) RED: POWER SUPPLY V+
- 2) BLUE: SDI-12
- 3) BLACK: POWER SUPPLY V-
- 4) GREEN: B "RS-485"
- 5) WHITE: A "RS-485"
- 6) GREEN/YELLOW CABLE SHIELD

