Pressure probe with conductivity measurement cell

- **Application**
  Surface water, Groundwater
- **Measurement technology**
  Vented pressure cell and 4-electrode graphite conductivity cell
- **Parameters measured**
  Water level, Pressure, Conductivity, Temperature
- **Product Highlights**
  Water level, temperature, and conductivity measurement - for use with external data logger
- **Internal data logger**
  No
- **Interface**
  SDI-12 or RS-485 (using SDI-12)

The OTT PLS-C measures water conductivity, level, and temperature in both surface and groundwater applications with a robust ceramic pressure cell and 4-electrode conductivity cell. Its extremely low power consumption makes it ideal for long-term deployment, particularly at solar powered measuring stations for ground-and surface waters.

Output parameters	Water level/pressure, temperature, specific conductivity, salinity, TDS

Water level measurement (pressure)	
Pressure sensor	ceramic, temperature-compensated
Measuring range	0 ... 4 m, 0 ... 10 m, 0 ... 20 m, 0 ... 40 m, 0 ... 100 m water col.
Resolution	0.001 m; 0.1 cm; 0.01 ft; 0.1 mbar; 0.001 psi
Accuracy (linearity + hysteresis)	≤ ± 0.05 % FS
Long-term stability (linearity + hysteresis)	≤ ± 0.1 %/a FS
Zerodrift	≤ ± 0.1 % FS
Pressure sensor capability to withstand overloads without permanent mechanical damage	≥ 4 x measuring range
Temperature-compensated operating range	-5 °C ... +45 °C (ice free)
Units	m, cm, ft, mbar, psi

Temperature measurement	
Sensor	NTC
Measuring range	-25 °C ... +70 °C (ice free)
Calibrated range	+5 °C ... 45 °C
Resolution	0.01 °C
Accuracy	±0.1 °C
Units	°C, °F

Conductivity measurement	
Sensor	4 graphite electrodes
Calibrated range	+5 °C ... 45 °C

Measuring range 5 ... 2.000 µS/cm	
Resolution	1µS/cm
Accuracy	±1 µS/cm or ± 0.5 % of measured value (whichever is higher)
Unit	µS/cm

Measuring range 0.1 ... 100	
Resolution	0.01 mS/cm
Accuracy	± 0.01 mS/cm or ±1.5 % of measured value (whichever is higher)
Unit	mS/cm

Options	
Temperature compensation, conductivity	freshwater, saltwater, standard method 2510, ISO 7888/EN27888
Salinity calculation	Standard method or USGS 2311

Electrical data

Supply voltage	6 ... 27 V DC, typically 12/24 V DC

Power consumption	
SDI-12 sleep-mode	<30 µAV
SDI-12 active-mode	<32 mA

Interfaces	SDI-12, RS-485 (SDI-12 protocol)

Mechanical data

Dimensions	
Probe (Ø x h)	317 mm x 22 mm
Cable length	SDI-12: 1 ... 100 m RS-485: 1 ... 1000 m

Material	
Housing material probe	POM, stainless steel (DIN 1.4539, 904 L), resistant to sea water
Cable jacket	PUR

Weight	
Probe	approx. 0.43 kg
Probe cable	approx. 82 g/m

Ambient conditions	
Storage temperature	- 40 °C ... + 85 °C
Type of protection	Probe: IP 68
EMC limits	EG 2004/108/EG, EN 61326-1:2013