



Water Level and  
Conductivity Measurement  
OTT PLS-C  
Pressure probe/level probe  
with built-in temperature sensor  
and conductivity cell

## OTT PLS-C

Long-term reliable readings

In addition to water level and temperature, the OTT PLS-C unit measures conductivity thus providing basic water quality indicators. It is best suited for long-term use with solar or mains powered measuring stations and may be used for both surface water and groundwater measurements. Its top-quality features ensure long-term precise readings at attractive cost efficiency.

The particularly robust and precise ceramic capacitive pressure cell features long-term stability, nearly no drifting, and overload protection of at least four times the measuring range. For conductivity measurement, a four graphite electrode measuring cell is incorporated. Thanks to its waterproof moulded electronics, saltwater resistant stainless steel enclosure (904L), and Kevlar reinforced probe cable, the PLS-C unit even withstands harsh operating conditions.

The probe may be easily incorporated into an existing infrastructure using the SDI-12 interface. When large distance communication is required, the RS-485 interface provides cable lengths of up to 1,000 m when used together with an OTT datalogger.

Quantitative  
Hydrology



# OTT PLS-C – quality that pays off



## Features and benefits

- Relative pressure probe including pressure compensation capillary, temperature sensor, and conductivity cell
- Precise ceramic pressure cell featuring long-term stability – withstands mechanical impacts and aggressive media
- Exact water level data due to compensation of influencing factors (temperature, changes in atmospheric pressure, local gravitational acceleration, and specific water gravity)
- Four graphite electrode conductivity cell – remains unaffected by polarization effects and immune to contamination
- Fad 5 connection box – keeps moisture out of the connector area using a color coded desiccant
- Flexibility in use – may be connected to each datalogger fitted with SDI-12 interface
- Cable lengths of up to 1,000 m thanks to RS-485 interface (together with OTT datalogger, e.g. OTT netDL)

## Simplified communication during setup and calibration

- Simple Windows based software providing user guidance for calibration of conductivity sensor
- USB interface of the OTT netDL datalogger may be used to quickly and conveniently connect a notebook computer
- Alternatively: SDI-12/USB adapter for flexible connectivity (accessory)
- Pre-wired SDI-12 plug-in contact for convenient handling (accessory)

## Applications

- Water quality monitoring
- Saltwater intrusion monitoring
- Groundwater monitoring during drilling operations involving fracking
- Studies on discharge water from farms
- Wastewater monitoring in mining
- Measurements in estuaries, swampland or moorland
- Tracer studies



## Technical data

### 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: 0.01 % FS
- Accuracy (linearity + hysteresis): 0.05 % FS
- Long-term stability (linearity + hysteresis): 0.1 % FS/a
- Zerodrift: 0.1 % FS
- Pressure sensor capability to withstand overloads: (without permanent mechanical damage)  $\geq 4x$  measuring range
- Temperature-compensated operating range:  $-5^{\circ}\text{C}$  ...  $+45^{\circ}\text{C}$  (ice free)
- Units: m, cm, ft, mbar, psi

### Temperature measurement

- Measuring range:  $-25^{\circ}\text{C}$  ...  $+70^{\circ}\text{C}$  (ice free)
- Resolution: 0.01  $^{\circ}\text{C}$
- Accuracy:  $\pm 0.1^{\circ}\text{C}$
- Units:  $^{\circ}\text{C}$ ,  $^{\circ}\text{F}$

### Conductivity measurement

Sensor: 4 graphite electrodes

Measuring range 0 ... 2,000  $\mu\text{S}/\text{cm}$ :

- Resolution: 1  $\mu\text{S}/\text{cm}$
- Accuracy:  $\pm 1 \mu\text{S}/\text{cm}$  or  $\pm 0.5 \%$  of measured value (whichever is higher)
- Unit:  $\mu\text{S}/\text{cm}$

Measuring range 0.1 ... 100  $\text{mS}/\text{cm}$ :

- Resolution: 0.01  $\text{mS}/\text{cm}$
- Accuracy:  $\pm 0.01 \text{mS}/\text{cm}$  or  $\pm 1.5 \%$  of measured value (whichever is higher)
- Unit:  $\text{mS}/\text{cm}$

Temperature compensation options:  
freshwater, saltwater, standard method 2510, ISO 7888/EN27888

Salinity calculation options:  
Standard method, USGS 2311

### Supply voltage

6 ... 27 V DC

### Power consumption

- Sleep mode:  $< 30 \mu\text{A}$  @ 12 V
- Measuring operation:  $< 32 \text{mA}$  @ 12 V

### Interfaces

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

### Operating temperature

$-30^{\circ}\text{C}$  ...  $+70^{\circ}\text{C}$

### Storage temperature

$-40^{\circ}\text{C}$  ...  $+85^{\circ}\text{C}$

### Interface cable lengths

- SDI-12: 1 ... 100 m
- SDI-12 via RS-485: 1 ... 1,000 m

### Dimensions L x Ø

Probe: 317 mm x 22 mm

### Weight

- Probe: approx. 0.43 kg
- Probe cable: approx. 82 g/m

### Housing material

- Probe: stainless steel (DIN 1.4539, 904 L)
- Cap: POM

### Type of protection

Probe: IP68

### EMC limits

Acc. to EG 2004/108/EG,  
EN 61326-1:2013

