

FORELØBIG DATABLAD BASERET PÅ ONSET'S HJEMMESIDE

Conductivity Measurements:

Measurement Range

Electrical conductivity and specific conductance: 0 to 100,000 $\mu\text{S}/\text{cm}$

Salinity using PSS-78: 2 to 42 PSU

Total Dissolved Solids (TDS): 0 to 100,000 mg/L

Calibrated Range

Electrical conductivity: 50 to 80,000 $\mu\text{S}/\text{cm}$

5° to 35°C

41° to 95°F

Accuracy

Conductivity: +/-2% or 15 $\mu\text{S}/\text{cm}$ whichever is greater

Salinity: +/-2% of reading or 0.1 PSU, whichever is greater

Resolution

Conductivity:

0.1 $\mu\text{S}/\text{cm}$ from 0 to 1,000 $\mu\text{S}/\text{cm}$ | 1 $\mu\text{S}/\text{cm}$ from 1,000 to 10,000 $\mu\text{S}/\text{cm}$ | 10 $\mu\text{S}/\text{cm}$ from 10,000 to 100,000 $\mu\text{S}/\text{cm}$

Salinity: 0.01 PSU

TDS: 0.1 mg/L

Response Time

1 second to 90% at a stable temperature

Absolute Pressure and Water Level Measurements W-CTD-01

Range

0 to 207 kPa (0 to 30 psia); approximately 0 to 9 m (0 to 30 ft) of water depth at sea level, or 0 to 12 m (0 to 40 ft) of water at 3,000 m (10,000 ft) of altitude

Factory Calibrated Range

69 to 207 kPa (10 to 30 psia), 0° to 40°C (32° to 104°F)

Burst Pressure

310 kPa (45 psia) or 18 m (60 ft) depth

Water Level Accuracy*

Typical error: $\pm 0.05\%$ FS, 0.5 cm (0.015 ft) water

Maximum error: $\pm 0.1\%$ FS, 1.0 cm (0.03 ft) water

Raw Pressure Accuracy**

$\pm 0.3\%$ FS, 0.62 kPa (0.09 psi) maximum error

Resolution

<0.02 kPa (0.003 psi), 0.21 cm (0.007 ft) water

Pressure Response Time***

<1 second to 90% at a stable temperature

Absolute Pressure and Water Level Measurements W-CTD-02

Range

0 to 400 kPa (0 to 58 psia); approximately 0 to 30.6 m (0 to 100 ft) of water depth at sea level, or 0 to 33.6 m (0 to 111 ft) of water at 3,000 m (10,000 ft) of altitude

Factory Calibrated Range

69 to 400 kPa (10 to 58 psia), 0° to 40°C (32° to 104°F)

Burst Pressure

500 kPa (72.5 psia) or 40.8 m (134 ft) depth

Water Level Accuracy*

Typical error: $\pm 0.05\%$ FS, 1.5 cm (0.05 ft) water

Maximum error: $\pm 0.1\%$ FS, 3.0 cm (0.1 ft) water

Raw Pressure Accuracy**

$\pm 0.3\%$ FS, 1.20 kPa (0.17 psi) maximum error

Resolution

$\pm 0.3\%$ FS, 1.20 kPa (0.17 psi) maximum error

Pressure Response Time***

<1 second to 90% at a stable temperature

Absolute Pressure and Water Level Measurements W-CTD-03

Range

0 to 850 kPa (0 to 123.3 psia); approximately 0 to 76.5 m (0 to 251 ft) of water depth at sea level, or 0 to 79.5 m (0 to 262 ft) of water at 3,000 m (10,000 ft) of altitude

Factory Calibrated Range

69 to 850 kPa (10 to 123.3 psia), 0° to 40°C (32° to 104°F)

Burst Pressure

1,200 kPa (174 psia) or 112 m (368 ft) depth

Water Level Accuracy*

Typical error: $\pm 0.05\%$ FS, 3.8 cm (0.125 ft) water

Maximum error: $\pm 0.1\%$ FS, 7.6 cm (0.25 ft) water

Raw Pressure Accuracy**

$\pm 0.3\%$ FS, 2.55 kPa (0.37 psi) maximum error

Resolution

<0.085 kPa (0.012 psi), 0.87 cm (0.028 ft) water

Pressure Response Time***

<1 second to 90% at a stable temperature

Absolute Pressure and Water Level Measurements W-CTD-04

Range

0 to 145 kPa (0 to 21 psia); approximately 0 to 4 m (0 to 13 ft) of water depth at sea level, or 0 to 7 m (0 to 23 ft) of water at 3,000 m (10,000 ft) of altitude

Factory Calibrated Range

69 to 145 kPa (10 to 21 psia), 0° to 40°C (32° to 104°F)

Burst Pressure

310 kPa (45 psia) or 18 m (60 ft) depth

Water Level Accuracy*



Typical error: $\pm 0.075\%$ FS, 0.3 cm (0.01 ft) water
Maximum error: $\pm 0.15\%$ FS, 0.6 cm (0.02 ft) water

Raw Pressure Accuracy**

$\pm 0.3\%$ FS, 0.43 kPa (0.063 psi) maximum error

Resolution

<0.014 kPa (0.002 psi), 0.14 cm (0.005 ft) water

Pressure Response Time***

<1 second to 90% at a stable temperature

Temperature Measurements (All Models)

Range

-20° to 50°C (-40° to 122°F), non-freezing water

Accuracy

$\pm 0.15^\circ\text{C}$ ($\pm 0.27^\circ\text{F}$) from 0° to 50°C (32° to 122°F)

Resolution

0.01°C at 25°C (0.018°F at 77°F)

Response Time

3 minutes to 90% in water (typical)

Drift

<0.1°C (0.18°F) per year

Sensor

Dimensions

2.5 cm (1 inch) diameter, 15 cm (6 inches) length

Weight

Approximately xx g (xx oz) in air; approximately xx g (xx oz) in saltwater

Wetted Materials

Passivated 316 Stainless steel housing rated for use in saltwater, Viton and Buna-N O-rings, PET sensor connector

Depth sensor: ceramic

Conductivity sensor: PET, platinum plating on electrodes

Note: Sensor should be mounted so that it is not in contact with other metals

Environmental Rating

IP68; Waterproof to pressure sensor burst pressure rating

Image



Image



* Water Level Accuracy: With accurate reference water level measurement, known water density, and a stable temperature environment. System Water Level Accuracy equals the sum of the Barometric Water Level Accuracy plus the selected CTD sensor Water Level Accuracy.



** Raw Pressure Accuracy: Absolute pressure sensor accuracy includes all sensor drift, temperature, and hysteresis-induced errors.

*** Changes in Temperature: Allow 20 minutes in water to achieve full temperature compensation of the pressure sensor. There can be up to 0.5% of additional error due to rapid temperature changes.