

ProDSS System Specifications (Instrument, Cables & Sensors)

Parameter (units)	Sensor Type	Range	Accuracy	Resolution	Calibration	Maximum Depth
Dissolved Oxygen (% saturation)	Optical Luminescence - Lifetime Method	0 to 500%	0 to 200% (±1% of reading or 1% air saturation, whichever is greater) 200% to 500% (±8% of reading)	0.1% or 1% air saturation (user selectable)	1 or 2 points	100 m
Dissolved Oxygen (mg/L, ppm) <i>temp comp range -5 to 50°C</i>	Optical Luminescence - Lifetime Method	0 to 50 mg/L	0 to 20 mg/L (±0.1 mg/L or 1% of reading, whichever is greater) 20 - 50 mg/L (±8% of reading)	0.1 or 0.01 mg/L (user selectable)	1 or 2 points (user selectable)	100 m
Temperature (°C, °F, K)	Thermistor; Combination Sensor with Conductivity	-5 to 70°C (23 to 158°F)	±0.2°C	0.1°C or 0.1°F (user selectable)	None	100 m
Turbidity (FNU, NTU)	Nephelometric - Optical, 90° Scatter	0 to 4000 FNU	0 to 999 (0.3 or ±2% of reading, whichever is greater) 1000 to 4000 (±5% of reading)	0.1 FNU	1, 2, or 3 points (user selectable)	-
Conductivity* (µS, mS)	Four Nickel Electrode Cell	0 to 200 mS/cm	0 to 100 mS/cm (±0.5% of reading or 0.001 mS/cm, whichever is greater) 100 to 200 mS/cm (±1% of reading)	0.001, 0.01 or 0.1 mS/cm (range dependent)	1 point	100 m
Specific Conductance (µS, mS)	Calculated from Conductivity and Temperature	0 to 200 mS/cm	±0.5% of reading or 0.001 mS/cm, whichever is greater	0.001, 0.01, 0.1 mS/cm	1 point	-
Resistivity (ohm-cm, kohm-cm, Mohm-cm)	Calculated from Conductivity and Temperature	0 to 2 Mohms	±0.1% Full Scale	0.001, 0.01, 0.1 ohms	-	-
Salinity (ppt, PSU)	Calculated from Conductivity and Temperature	0 to 70 ppt	±1.0% of reading or ±0.1 ppt, whichever is greater	0.01 ppt	1 point	-
Water Density (Sigma, Sigma T)	Sigma is Calculated from Salinity, Temperature, and Pressure Sigma T is Calculated from Salinity and Temperature	0.0 to 50.0 sigma, sigma T	-	0.1 sigma or sigma T	-	-
pH (mV, pH units)	Glass Bulb Combination Electrode; Ag/AgCl Reference Gel	0 to 14 units	±0.2 units	0.01 units	1, 2, or 3 points (user selectable)	100 m
ORP (mV)	Platinum Button; Ag/AgCl Reference	-1999 to +1999 mV	±20 mV	0.1 mV	1 point	100 m
Ammonium** (NH ₄ -N mg/L, NH ₄ -N mV) <i>ammonia with pH sensor</i>	Ion Selective Electrode	0 to 200 mg/L NH ₄ -N	±10% of reading or 2 mg/L, whichever is greater	0.01 mg/L	1, 2, or 3 point (user selectable)	20 m
Ammonia*** (NH ₃ -N mg/L)	Calculated from Ammonium, Temperature, Salinity and pH	0 to 200 mg/L NH ₄ -N	-	0.01 mg/L	-	-
Nitrate** (NO ₃ -N mg/L, NO ₃ -N mV)	Ion Selective Electrode	0 to 200 mg/L NO ₃ -N	±10% of reading or 2 mg/L, whichever is greater	0.01 mg/L	1, 2, or 3 point (user selectable)	20 m
Chloride**	Ion Selective Electrode	0 to 18000 mg/L Cl	±15% of reading or 5 mg/L, whichever is greater	0.01 mg/L	1, 2, or 3 point (user selectable)	20 m
Total Dissolved Solids (TDS) (mg/L, kg/L, g/L)	Calculated from Conductivity and Temperature	0 to 100 g/L	User-Selectable TDS Multiplier (0.30 to 1.00; 0.65 default)	0.001, 0.01, 0.1g/L	-	-
Total Suspended Solids (TSS) (mg/L)	Correlated from Turbidity Field Measurements and Lab TSS Measurements from Grab Samples	0 to 30000 mg/L	Calculated from Turbidity and User-Entered Correlation Points	0.01, 0.1 mg/L	-	-
Chlorophyll (RFU or µg/L chl)	Optical Luminescence	0 to 100 RFU or 0 to 400 µg/L chl	Linearity: r2 ≥ 0.999 for Rhodamine WT across full range	0.01 RFU or 0.01 µg/L chl	2 point	-
Phycocyanin (RFU or µg/L PC)	Optical Luminescence	0 to 100 RFU or 0 to 100 µg/L PC	Linearity: r2 ≥ 0.999 for Rhodamine WT across full range	0.01 RFU or 0.01 µg/L PC	2 point	-
Phycocerythrin (RFU or µg/L PE)	Optical Luminescence	0 to 100 RFU or 0 to 280 µg/L PE	Linearity: r2 ≥ 0.999 for Rhodamine WT across full range	0.01 RFU or 0.01 µg/L PE	2 point	-
Depth (m, ft)	Pressure Transducer	0 to 100 m (0 to 328 ft)	±0.004 m (±0.013 ft) for 1, 4 and 10-m cables ±0.04 m (±0.13 ft) for cables 20-m and longer	0.001 m or 0.01 ft	1 point	-
Barometer (mmHg, inHg, mbar, psi, kPa, ATM)	Piezoresistive	375 to 825 mmHg	±1.5 mmHg from 0 to 50°C	0.1 mmHg	1 point	-

* Derived parameters can include resistivity, salinity, specific conductance, and total dissolved solids

**ISE sensors for freshwater only; 20-meter maximum depth

*** Ammonia calculated from ammonium, temp, salinity, and pH