



# NOSS sensor

Water quality monitoring: Measurement and profile of density, absolute salinity, refractive index, pressure and temperature



The thermodynamic properties of seawater, such as density and enthalpy, are now correctly expressed as functions of Absolute Salinity rather than being functions of the conductivity of seawater. Spatial variations of the composition of seawater mean that Absolute Salinity is not simply proportional to Practical Salinity.

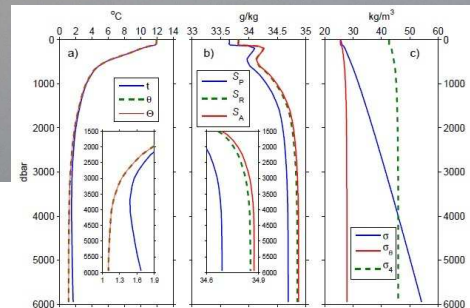
**NOSS sensor is a unique underwater sensor for *in situ* refractive index measurement and capable to detect salinity anomalies of seawater. NOSS sensor has been designed for an use even in harsh environments, down to 2000 meters.**

#### Possible use

- Embedding on CTD probes, buoys, gliders, AUV, drifting-profiling floats for operational oceanography
- Alternative solution to classical CTD

#### Advantages

- Fast sensor configuration (sampling, resolution) and data transfer using serial link.
- Optimize and compact design
- Optimal sensors protection for vibration and pressure resistance (NF X10-812 standard)
- Measured in real-time up to 3 Hz
- Not need calibration after deployment



Pawlowicz, R. (2013) Key Physical Variables in the Ocean: Temperature, Salinity, and Density. *Nature Education Knowledge 4(4):13*



www.nke-instrumentation.com

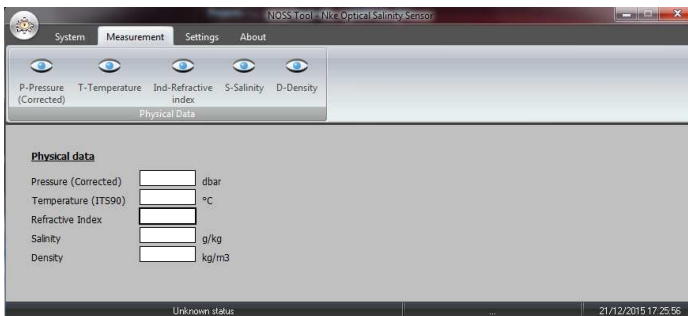




# NOSS sensor

Absolute salinity and density monitoring in deepwater environment

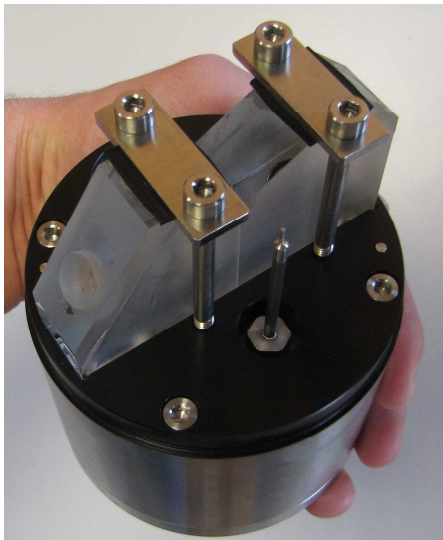
DESIGNATION		NOSS
<b>Refractive Index</b>	Range	1.3353 to 1.3458
	Initial accuracy	$< 1.10^{-6}$
<b>Temperature</b>	Range	-2 to +35 °C
	Initial accuracy	$\pm 0.006$ °C
	Response time (at 63%)	$< 150$ msec
<b>Operational Depth</b>	Range	0 to 2100 dbar
	Initial Accuracy	$\pm 1$ dbar
<b>Absolute Salinity</b> (According to TEOS-10) (Seaver&Millard 1990)	Range	15 to 42 g/kg
	Initial accuracy	$\pm 0.005$ g/kg
<b>Density</b>	Range	1020 to 1030 kg/m <sup>3</sup>
	Initial accuracy	$\pm 0.003$ kg/m <sup>3</sup>
<b>Data output</b>		RS232 Serial Output Data format ASCII
<b>Data storage</b>		No
<b>Sampling rate</b>		Programmable from 1 Hz to 3 Hz
<b>Power supply</b>	Range	6 to 18 Vdc
<b>Power consumption</b>		Approx. 0.065 A at 10.8 Vdc
<b>Dimensions</b>		Length x Diameter: 185.2 mm x $\Phi$ 100 mm
<b>Weight</b>		2.4 kg in air; 1.7 kg in water
<b>Housing Material</b>		Titanium (with protective guard)
<b>Connector</b>		Connector SUBCONN MCDLSF 8-pin



< **NOSS Tool software** is a PC-based program available for interfacing with NOSS sensor. It acquires, converts, and displays real-time or archived raw data from NOSS sensor.

NOSS Tool software can configure NOSS sensor to provide status display, data acquisition setup, data retrieval and calibration setup.

NOSS Tool software is designed to work with a PC running Win 98/2000/XP/VISTA/Windows 7.



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