

## Conductivity, Temperature & Depth Meter

*High-accuracy CTD with external input, direct digital output, and datalogging capability*

The NXIC CTD provides scientific-quality conductivity, temperature and depth measurement capability in an extremely rugged package. This new CTD utilizes the patented NXIC conductivity sensor originally developed by FSI for the US Navy DT-705 Sound Velocity/Salinity sensor. This sensor, required to pass Class A Shock tests for Navy applications provides the basis of an entirely new generation of extremely durable precision measurement instruments.

The NXIC CTD is a fast sampling, fully integrated instrument platform with optional battery power, datalogging and external analog sensor input. Its flow-thru design excels in rapid profiling and towing applications or mounting to AUV's and ROV's. The NXIC's internal conductivity cells do not suffer from proximity effects as do typical external inductive cells, and allows the unit to be mounted almost in any orientation and close to other equipment. The unit draws very low power and can run for 400 hours continuous on its 3 V battery pack. The NXIC CTD does not need to be calibrated yearly and the unit can be field cleaned without affecting factory calibration. No pumps or fragile electrodes ensure reliability in demanding marine environments.

### FEATURES

- High Accuracy\*
  - $\pm 0.0002$  S/m Conductivity
  - $\pm 0.005^\circ$  C Temperature
  - 0.08% Full Scale Pressure
- Salinity Calculation using PSS-78
- Sound Velocity Calculation using UNESCO 44
- Non-external Inductive Conductivity Sensor with no Electrodes to Foul
- No Pump Required
- Rugged Thermistor
- Silicon Pressure Sensor
- Built-in Real-Time Clock
- Direct Digital Output via RS-232, RS-485 or CMOS
- Optional 128 or 256 MB Internal Datalogging
- Windows® Software for System configuration, Data Acquisition, Real-Time Graphing, and Data Analysis
- User Selectable Sample Rate up to 15 Hz



**NXIC CTD**  
*Direct Read 500 meter unit*



**NXIC CTD**  
*Battery Power/Datalogging  
7000 meter unit*

# SPECIFICATIONS

## Sensors

Parameter	Conductivity	Temperature	Pressure
Sensor	Inductive Cell	Thermistor	Precision-machined Silicon
Range	0 - 9.0 S/m (0-90 mS/cm)	-5 to 45° C	Customer specified
Accuracy	±0.0002 S/m (±0.002 mS/cm)	±0.005° C*	0.08% full scale*
Stability	±0.00005 S/cm/month ±0.0005 mS/cm/month	0.0005° C/month	±0.004%
Resolution	0.00001 S/m (0.0001 mS/cm)	0.001° C	0.001% full scale
Response	5.0 cm at 1 m/sec flow	100 msec	25 msec

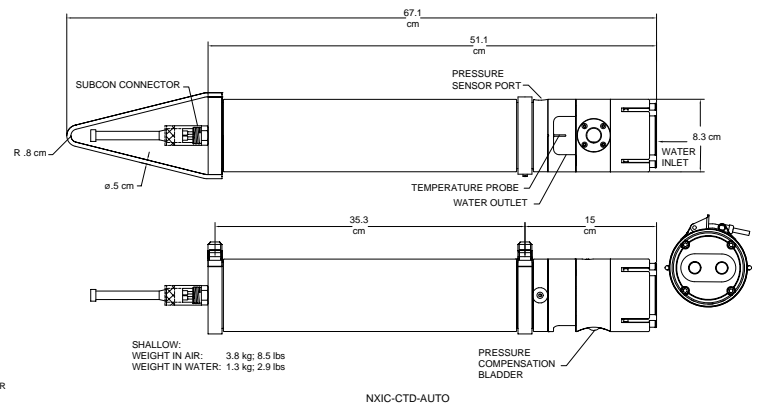
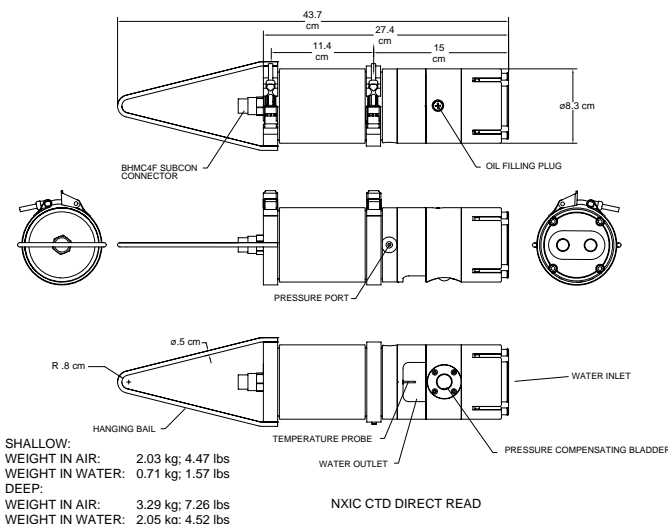
## Instrument

- Power:** 8 to 35 VDC @ 40 mA
- Physical:** 500 Meter Delrin Housing Standard  
7000 Meter Titanium Housing Optional
- Sample Rate:** User Programmable from 1 to 15 Hz
- Resolution:** 20 bits
- Connector:** SUBCONN MCBH4F, mates with MCIL4M
- Real Time Clock:** Programmable Alarm/Sleep Functions  
±20 ppm/year, ±5 ppm/year optional
- Data Format:** Baud Rates: 1.2, 9.6, 19.2, 38.4, 57.6, 115 kbps (Data Bits: 8 Stop bits: 1)  
Format: ASCII Protocol: RS-232 or RS-485, or CMOS
- Warm-up:** 3.0 seconds after power up
- Battery Options:** Welded Alkaline



**NXIC DT-705 Passing the US Navy Class A Shock Test**

*Specifications Subject to Change without Notice*



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