ANALITE NEP5000TPS

Turbidity & Pressure Sensor

Field, Process and Lab Applications

The ANALITE NEP5000 series of digital turbidity probes are designed for monitoring and process applications where ultimate sensor flexibility is a consideration. This probe offers a multitude of physical sensor variations, with the further benefit of a PC interface that allows the user to easily Calibrate, modify Range modes, and adjust sensor output modes and data characterisation.

ANALITE NEP5000 is the completely customisable turbidity probe that can be ordered to the end user's particular needs. All the benefits of a custom solution at a very competitive price.

The NEP5000 can be ordered in several custom variations:

- 90° ISO7027 turbidity probe
- 180° backscatter turbidity probe
- Optional pressure sensor (TPS Model)
- Wiping and non-wiping
- Several outer case material options

The ANALITE PC Configurator allows:

- Fast Accurate Calibration
- Compensation tools
- Adjustable Slew Rates
- Three range settings (low, medium, and high)
- Range Hopping between three ranges
- Wiper behavior settings
- Selection of many digital and analog outputs
- Calibration of analog voltage and current outputs
- Pressure calibration and compensation
- Saving of serial #, configuration, and usage data

Standard outputs included are Analog Voltage or Current, Digital TTL, RS422 / RS485, SDI-12. ModBUS as available as an option.*

Specifically the ANALITE NEP5000 wiping probes are designed for applications where bio-fouling will build up to obscure the optics such as in long monitoring deployment or placement in warm bio-active waters. The ANALITE integral wiper assembly and customized Copper case is designed for operations where severe bio-fouling or sedimentation buildup is likely.

The standard ANALITE NEP5000 series of probes with its Delrin Composite housing may be submerged to a depth of 100 meters. A Metal housing is available for application where a greater depth rating is required. Its depth rating is 200 meters (non-wiping).

- monitoring of streams, rivers, and water storage
- Intermediate and final effluent treatment monitoring
- Hydrological run off studies
- Ground and bore water analysis
- Drinking water filtration efficiency
- Industrial process monitoring
- Sludge and dredge monitoring

NEP5000 Range Set Concept

The ANALITE NEP5000 series turbidity probes offers a new concept in range setting and range selection. Calibrations can be made for three different levels of usage (Low, Medium, and High). This will apply to the 90˚, High Resolution, Low NTU sensor systems or the 180°, High Solids, High NTU sensors systems

The NEP5000 90˚ default settings for these three ranges are:

- 0-10 NTU (Low)
- 0-400 NTU (Medium)
- 0-1000 NTU (High)

The NEP5000 180˚ default settings for these three ranges are:

- 0-5000 NTU (Low)
- 0-10000 NTU (Medium)
- 0-30000 NTU (High)

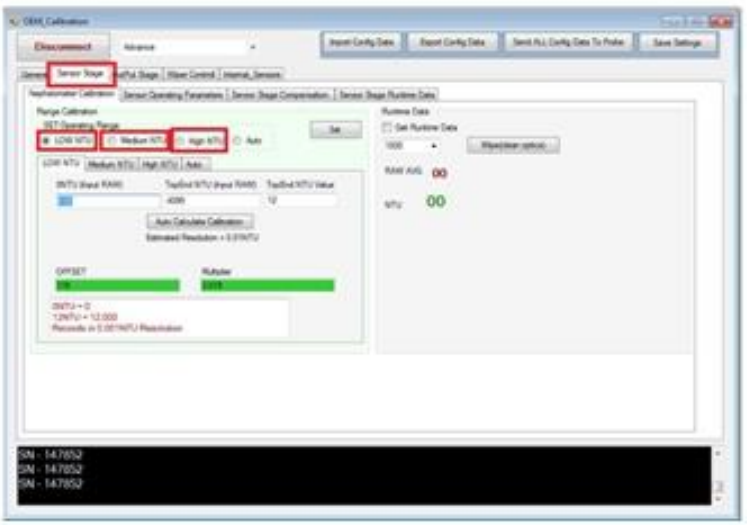
Choices for different ranges are available for the 90° sensor, but must be specified at time of order and may attract further costs.

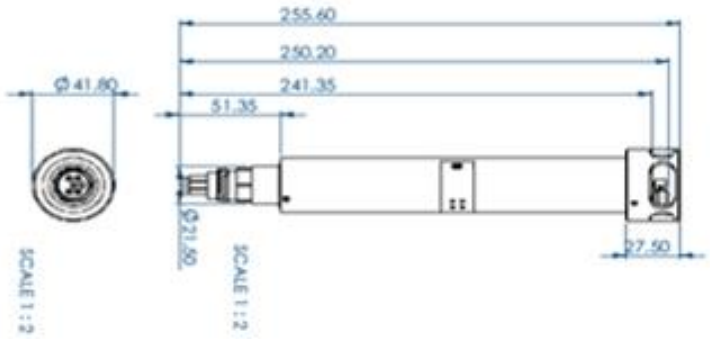
The calibrations allow for three types of usage modes and linearity from low to high in the “range hopping” mode. This is applicable to event based sediment studies where NTU reading are prone to peaks.

90 degree versions provide extremely accurate and stable results at very low NTU values. This sensor can be used in conditions that require high resolution readings from 0 to 5 NTU.

Whatever the requirement the NEP5000 series probe is the most flexible choice. It can be ordered and configured to a multitude of applications.

Add parameters, modify ranges, and refine calibrations. All done on the PC interface and saved to configuration files. These configuration files can be saved and read back in to the sensor to restore settings.





SPECIFICATIONS

TURBIDITY SECTION

Technique 90° modulated infra-red (ISO7027)

Ranges 3 Preset Range Groups:

Low (example 0-10NTU)
Medium (example 0-400NTU)
High (example 0-1000NTU)

Default Ranges:

0-10NTU (Low)
0-400NTU (Medium)
0-1000NTU (High)

Minimum Range 0-5 NTU
Maximum Range 0-5000 NTU

Range Hopping Capable

Resolution

Range	Resolution
Up to 100NTU	±0.01NTU
Up to 400NTU	±0.1NTU
Up to 1,000NTU	±1.0NTU
Up to 5,000NTU	±2.0NTU

Accuracy ±1% at 25°C up to 400NTU.
±2% at 25°C up to 1,000NTU

Linearity Better than .5% for 0 to 20NTU
Better than 1.0% for 0 to 400NTU
Better than 2.0% for 0 to 3,000NTU

Temp. Coefficient Better than ±0.05%/°C.

Outputs Digital TTL streaming or polled
RS422 / RS485 streaming or polled
SDI-12
Analog 4 - 20mA and 0 - +5.0V or variations
ModBus Optional

Zero Drift Less than ±0.2NTU

Calibration Factory calibrated using non-toxic AEPA polymer solutions.

Power 9.6 - 28V dc, 15mA on. 40mA reading and 60mA when wiping

Settling Time < 1 second after application of power to 99%

Wiping Wiping is configurable through the PC configuration tool. Wipe directions or alternate settings and timeouts will prolong probe life. During a wipe, the output remains within ±1% full scale of the turbidity value just prior to the wipe.

Wipe Time 8 seconds nominal

PRESSURE SECTION

Type Piezoresistive, absolute gage, low power demand

Range 0 to 100 meters depth

Accuracy ±0.2% of Full Scale

MECHANICALS

Weight NEP5000 Delrin models 300 gms - probe only*
NEP5000 Metal models 770 gms - probe only*
*100gms connector plus 70 gms per meter of cable

Construction Delrin Composite casing is standard
316 Stainless Steel
Titanium
Anti-Biofoul CW352H 70/30% Copper / Nickel

Cable 6 core + shield, 6mm nominal dia. PUR sheath. Conductor resistance 45 ohms per km. Weight - 70 grams per meter.

Cable Length Glanded Cable length to be specified at time of order

Depth Rating 200m (660ft) Non-wiping
100m (330ft) Wiping

Operating Temp. -10°C to 40°C.

Storage Temp. -20°C to 50°C.

Included PC Interface and Communication Module
PC configuration and calibration software

Accessories **NEP-WIPE** - Wiper replacement kit comprising of 4 silicon wipers and a hex fastening key
NEP-SHRD - Protective shroud for optic head
NEP-CBL - Probe cable in meters.
NEP-CON-CBL SubConn Connector and cable assembly

Options Stainless steel (316), Titanium, and Copper casing
Marine Connectors

Version 102014 The Observator range is in continuous development and so specifications may be subject to change without prior notice