

TB-31

Handheld Turbidity Meter

Immersion-type Sensor
Perfect for Simple Turbidity
Measurements in the Field



High Reliability
in Low
Concentration
Regions

Power Saving
Design

120 hour continuous
measurement with only
two AA alkaline
batteries

Waterproof
Construction for
Field Measurement

(IP67: The unit can be
submerged at 1m depth
for up to 30 min)

Ideal for turbidity measurement of industrial wastewater, construction wastewater, and environmental water such as river and lake water



Features

High accuracy in low concentration regions

Repeatability of ± 0.5 NTU in low measurement ranges.

Power saving design

Requires only two AA alkaline batteries for approximately 120 hours of continuous measurements.

Immersion measurement for one day monitoring (continuous measurement)

Directly immersing the sensor into sample water makes it possible to monitor turbidity for one day (24 hours or less).

*1 This sensor is not equipped with a cleaning function. Depending on the water quality or service conditions, it may not be possible to measure continuously for up to 120 hours. Please contact us for details.

*2 Maximum water depth is 10 m.

1,000 data memory function

Auto-save for specified intervals*

*Short interval memory function: 1 sec. to 99 min. 59 sec.
Long interval memory function: 2 min. to 99 hrs. 59 min.
(When using the long interval memory function, the power turns off (enters sleep mode) after measuring turbidity for 1 minute. It remains off until the next measurement starts.)

Great extensibility

(Ability to connect the meter to a personal computer, an external printer and a recorder)

We provide optional special data acquisition software for loading measurement data in text format on a personal computer.

Specifications

| | | |
|-------------------------------------|--|---|
| Model | TB-31 | |
| Measurement method | Near infrared 90 degree light scattering measurements | |
| Measurement range | Turbidity* ¹ | 0.0 to 80.0 NTU (mg/L) 0 to 800 NTU (mg/L) Range selection: Automatic/ Manual |
| | Temperature | 0 to 50.0°C |
| Display range | Turbidity | 0.0 to 88.0 NTU (mg/L) 0.0 to 880 NTU (mg/L) |
| | Temperature | -5.0 to 110.0°C |
| Repeatability | Turbidity | ± 0.5 NTU or less (0.0 to 80.0 NTU range) ± 5 NTU or less (0 to 800 NTU range) Measurement conducted using a formazine standard solution under fixed conditions |
| | Temperature | ± 0.5 °C or less |
| Water depth | Up to 50 m (equal to 0.5 MPa) | |
| External output port* ² | <ul style="list-style-type: none"> RS-232C (non-isolated): Personal computer or external printer EPS-P30 (optional) Analog output port (non-insulated): Three output ports for turbidity, temperature, and range | |
| Waterproof construction (main body) | IP67 (enabled when the sensor is connected and the external I/O ports are masked) * The unit can be submerged at a depth of 1 m for up to 30 min. | |
| Ambient temperature / humidity | 0 to 45°C, no more than 90% (no condensation) | |
| Power source | Two AA alkaline batteries/nickel hydrogen batteries Dedicated AC adapter (6 VA, optional) also available | |
| Power consumption (3V battery) | Approximately 0.05 W | |
| External dimensions | Main body: Approx. 68 mm (W) x 35 mm (H) x 173 mm (D) Sensor: ϕ Approx. 30 mm x 240 mm | |
| Weight | Main body: Approx. 280 g (includes batteries) Sensor (cable length 2 m): Approx. 400 g | |

*1 "NTU" indicates turbidity calibrated using a formazine standard solution, and "mg/L" indicates turbidity calibrated using a kaolin standard solution.

*2 Special cables are required to use the RS-232C interface and analog output port simultaneously. Please contact us for details.
If the sample is grounded, make sure to insulate the RS-232C and analog output port.

Standard accessories

Turbidity sensor ELL-011 (cable length: 2 m) (only included with the full set)
Protection cover (with shoulder belt), size AA alkaline battery (test use) (2)
Instruction manual

Optional sensor

(When you order the optional sensor, select "main body only" for TB-31.)

| Product / Model | Cable length |
|-----------------------------|--------------|
| Turbidity sensor ELL-011 | 11m |
| | 30m |
| | 50m |

Other optional parts

| Product | Model / Code No. |
|--|------------------|
| External printer (with connection cable) | EPS-P30 |
| Analog output cable (1.5 m) | 118N063 |
| Data acquisition software | GP-LOG |
| RS-232C connection cable (2 m) | 118N062 |
| AC adapter | — |

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CAUTION

Do not operate products before consulting with the instruction manual.