

Liquid Level Photoelectric Sensors



BL Series CATALOG

For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.

The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.

Features

- Detects liquid in a transparent/semitransparent pipe diameter Ø6 to 13mm, thickness 1mm
- Compact size: W 23 × H 14 × L 13 mm
- Selectable Light ON/Dark ON mode by operation mode switching button
- Easy to check operation status by operation mode indicator [green (Light ON: on, Dark ON: off)], operation indicator [red]
- Built-in reverse power protection circuit and output short overcurrent protection circuit
- Protection bracket (sold separately) helps to minimize the effects of external environment [Ø 12.7 mm (1/2 inch) pipes]
- IP64 protection rating (IEC standard)

Ordering Information

This is only for reference, the actual product does not support all combinations. For selecting the specified model, follow the Autonics website.

BL 13 - T D T - 1

① Control output

No mark: NPN open collector output

P: PNP open collector output

Product Components

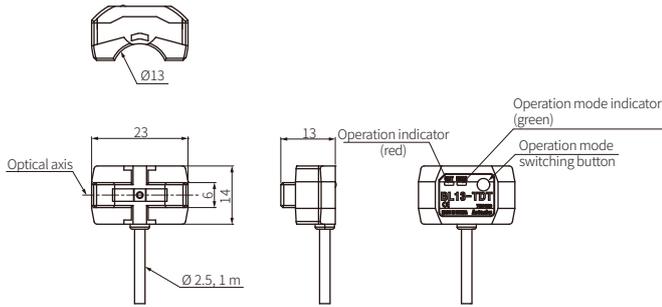
- Product
- Binding band (Ø 6 to 13 mm) × 2
- Instruction manual
- Anti-slip tube × 2

Specifications

Model	BL13-TDT-□
Sensing type	Through-beam
Applicable pipe	Transparent pipes in 1mm thickness (FEP (fluoroplastic) or with equivalent transparency) Using binding band: Ø 6 to 13 mm Using protection bracket: Ø 12.7 mm (1/2 inch)
Sensing target	Liquid in a pipe ⁰¹⁾
Response time	≤ 2 ms
Light source	Infrared
Peak emission wavelength	950 nm
Operation mode	Light ON mode - Dark ON mode selectable (Button)
Indicator	Operation indicator (red), operation mode indicator (green)
Approval	CE ENEC
Unit weight (packaged)	≈ 13 g (≈ 50 g)
01) This may not detect the liquid with low transparent, with high viscosity, or with floating matters.	
Power supply	12-24 VDC≐ ±10% (ripple P-P: ≤ 10%)
Current consumption	≤ 30 mA
Control output	NPN open collector output / PNP open collector output model
Load voltage	≤ 30 VDC≐
Load current	≤ 100 mA
Residual voltage	NPN: ≤ 1 VDC≐, PNP: ≤ 1 VDC≐
Protection circuit	Reverse power protection circuit, output short overcurrent protection circuit
Insulation resistance	≥ 20 MΩ (500 VDC≐ megger)
Noise immunity	±240 VDC≐ the square wave noise (pulse width: 1 μs) by the noise simulator
Dielectric strength	1,000 VAC~ 50/60 Hz for 1 min (between all terminals and case)
Vibration	1.5 mm double amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
Shock	500 m/s ² (≈ 50 G) in each X, Y, Z direction for 3 times
Ambient illuminance (receiver)	Sunlight: ≤ 3,000 lx, incandescent lamp: ≤ 3,000 lx
Ambient temperature	10 to 55 °C, storage: -25 to 65 °C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)
Protection rating	IP64 (IEC standard)
Connection	Cable type
Cable spec.	Ø 2.5 mm, 3-wire, 1 m
Wire spec.	AWG28 (0.08 mm, 19-core), insulator outer diameter: Ø 0.9 mm
Material	Case: PC

Dimensions

- Unit: mm, For the detailed drawings, follow the Autonics website.



Sold Separately

- Protection bracket for $\varnothing 12.7$ mm (1/2 inch) pipes: BK-BL13-P

Sold Separately: Protection Bracket (BK-BL13-P)

- Unit: mm, For the detailed drawings, follow the Autonics website.
- For $\varnothing 12.7$ mm (1/2 inch) pipes

