#### autonics官网传感器选型说明书pdf规格书安装接线图 奥托尼克斯光电液位传感器BL13-TDT进口液位检测开关

# **BL** Series

# Liquid Level Sensor

# Liquid Level Sensor For Mounting Pipe (Through-Beam)

#### Features

- Detects liquid in a transparent/semitransparent pipe diameter Ø6 to 13mm, thickness 1mm
- Compact size: W23×H14×L13mm
- Selectable Light ON/Dark ON operation mode by operation mode switching button
- Easy to check operation status by operation mode indicator [green LED (Light ON: ON, Dark ON: OFF)], operation indicator [red LED]
- · Built-in reverse polarity and output short-circuit protection circuits
- IP64 of protection structure (IEC standards)



### Model

Model	Pipe diameter	Sensing type	Power supply	Control output
BL13-TDT	a6 to 12mm	Through-	12 24//DC ±10%	NPN open collector output
BL13-TDT-P	ø6 to 13mm	beam	12-24VDC ±10%	PNP open collector output

### Specifications

loadel         PNP output         BL13-TDT-P           ensing type         Through-beam         66 to 13mm (thickness: 1mm) transparent pipe (FEP (fluoroplastic) or with equivalent transparency)           trandard sensing target         Liquid in a pipeX1           esponse time         Max. 2ms           ower supply         12-24VDC ±10% (Ripple P-P: Max. 10%)           urrent consumption         Max. 30mA           infared LED (950nm)         Infared LED (950nm)           iperation         Light ON/Dark ON switching by operation mode switching button           ontrol         NPN or PNP open collector output           •Load voltage: Max. 30VDC         •Load current: Max. 100mA         •Residual voltage: Max. 1V           rotection         rotexiton circuit         Reverse polarity protection circuit, output short-circuit protection circuit           oficator         Operation indicator: Red LED, Operation mode indicator: Green LED           isleator         ±240V the square wave noise (pulse width: 1µs) by the noise simulator           isleetric: strength         1.000VAC 50/60Hz for 1 minute (between all terminals and case)           ibration         1.5mm amplitude or 300m/s² at frequency of 10 to 55Hz in each of X, Y, Z direction for 2 hours           hokert         foto 55°C, storage: 35 to 85%RH           immination         Sto 85%RH, storage: 35 to 85%RH           <	NPN output		BL13-TDT		
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able     ø2.5, 3-wire, Length: 1m (AWG28, Core diameter: 0.08mm, Number of cores: 19, Insulator diameter: ø0.9)       ccessory     Binding band 2EA, Anti-slip tube 2EA       pproval <b>C</b> €       nit weight     Approx. 30g	Material		Case: PC		
ccessory     Binding band 2EA, Anti-slip tube 2EA       pproval     CE       nit weight     Approx. 30g	Cable		<ul><li>Ø2.5, 3-wire, Length: 1m</li><li>(AWG28, Core diameter: 0.08mm, Number of cores: 19, Insulator diameter: Ø0.9)</li></ul>		
pproval CE nit weight Approx. 30g	Accessor	у	Binding band 2EA, Anti-slip tube 2EA		
nit weight Approx. 30g	Approval		CE		
	Unit weig	ht	Approx. 30g		

X1: This may not detect the liquid with low transparent, with high viscosity, or with floating matters.

%The temperature or humidity mentioned in Environment indicates a non freezing or condensation environment.

(H) Temperature Controllers (I) SSRs / Power Controllers

(A) Photoelectric

(B) Fiber Optic Sensors

(C) Door/Area Sensors

(D) Proximity Sensors

(E) Pressure Sensors

(F) Rotary Encoder

(G) Connectors/ Sockets

(J) Counters

(K) Timers

(L) Panel Meters

(M) Tacho / Speed / Pulse Meters

(N) Display Units

(O) Sensor Controllers

(P) Switching Mode Power Supplies

(Q) Stepper Motors

& Drivers & Controllers (R) Graphic/

Logic Panels

(S) Field Network Devices

(T) Software

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## Operation Mode



# Operating Timing Diagram



%The waveforms of 'Operation indicator' and 'Transistor output' are for Light ON, it is operated as reverse in Dark ON.



## Connection



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### Installation

If installing this unit at opaque pipes, it is impossible to detect accurately. Install this unit at the rated pipes. Using binding band: Ø6 to 13mm, Using protection bracket: Ø12.7mm (1/2 inch)

- If installing this unit at an opaque pipe, it is impossible to detect accurately. Install this unit at the rated pipe.
- Fix a pipe and this sensor tightly with binding bands and anti-slip tubes as the below figure and cut the spare part of binding bands with scissors or a knife.
- When connecting binding bands, be careful not to transform a pipe.



%Principle of operation

It detects whether there is liquid or not in a pipe by refractive index of light.





Protection bracket (sold separately) Choose a location on the pipe and attach the sensor and the protection bracket.



(O) Sensor Controllers

(N) Display Units

(L) Panel Meters

(M) Tacho / Speed / Puls Meters

(P) Switching Mode Power Supplies

(Q) Stepper Motors & Drivers & Controllers

> (R) Graphic/ Logic Panels

(S) Field Network Devices

(T) Software

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### Functions

#### Operation mode switching



 
 Light ON
 Press operation mode switching button once
 Dark ON

 Operation mode indicator (green LED) ON
 Operation mode indicator (green LED) OFF

### Operation mode lock setting

3 sec.



%If you press the operation mode switching button (less than 3 sec.) in lock operation status and the operation mode indicator (green LED) flashes 3 times.