TL-LP/LY

Long-distance Model with a Sensing distance of 50 mm.





Be sure to read Safety Precautions on page 3.

Ordering Information

Appearance	Sensing distance	Output configuration	Model
Column type		3-wire DC (normally open)	TL-LP50 1M
(flat-surface mounting)	50 mm	2-wire AC (normally open)	TL-LY50 1M

Note: Models with different frequencies are available. The model numbers are TL-L□50B.

Ratings and Specifications

Set distance 50 mm±10% Differential travel 10% max. of sensing distance Ferrous metals (The sensing distance decreases with non-ferrous metal. Refer to Engineering Data on the next page.) Standard sensing object Iron, 100 x 10 m x Response time 15 ms max. 25 ms max. Power supply voltage (operating voltage range ¹) 12 to 24 VDC (10 to 30 VDC), ripple (p-p) 10% max. 100 to 220 VAC (90 to 250 VAC), 50/60 Hz Current consumption 10 mA max. (with no load) Residual voltage NPN open collector with a maximum current of 200 mA at 30 VDC Current Switching capacity NPN open collector with a maximum current of 200 mA at 30 VDC Current Operation mode (with sensing object approaching) NO. Refer to the timing charts under I/O Circuit Diagrams on page 3 for details. NO. Refer to the timing charts under I/O Circuit Diagrams on page 3 for details. No. Refer to the timing charts under I/O Circuit Diagrams on page 3 for details. No. Refer to the timing charts under I/O Circuit Diagrams on page 3 for details. No. Refer to the timing charts under I/O Circuit Diagrams on page 3 for details. No. Refer to the timing charts under I/O Circuit Diagrams on page 3 for details. No. Refer to the timing charts under I/O Circuit Diagrams on page 3 for details. No. Refer to the timing charts under I/O Circuit Diagrams on page 3 for details. No. Refer to the timing charts under I/O Circuit Diagrams on page 3 for details. No. Refer to the timing charts under I/O Circuit Diagrams on page 3 for details. No. Refer to the timing charts under I/O Circuit Diagrams on page 3 for details. No. Refer to the timing charts under I/O Circuit Diagrams on page 3 for details. No. Refer to the timing charts under I/O Circuit Diagrams on page 3 for details. No. Refer to the timing charts under I/O Circuit Diagrams on page 3 for details. No. Refer to the timing charts under I/O Circuit Diagrams on page 3 for details. No. Refer to Engineering Data on the next page. No. Refer to Engineer	Item Model		TL-LP50	TL-LY50		
Differential travel 10% max. of sensing distance	Sensing distance		50 mm±10%			
Ferrous metals (The sensing distance decreases with non-ferrous metal. Refer to Engineering Data on the next page.) Standard sensing object Iron, 100 × 100 × 1 mm	Set dista	nce	0 to 40 mm			
Standard sensing object Iten ext page.) Standard sensing object Iron, 100 × 100 × 1 mm Response time 15 ms max. Power supply voltage (operating voltage range.) 12 to 24 VDC (10 to 30 VDC), ripple (p-p) 10% max. 100 to 220 VAC (90 to 250 VAC), 50/60 Hz Current consumption 10 mA max. (with no load)	Different	Differential travel 10% max. of sensing distance				
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Power supply voltage (operating voltage range *) 12 to 24 VDC (10 to 30 VDC), ripple (p-p) 10% max. 100 to 220 VAC (90 to 250 VAC), 50/60 Hz	Standard sensing object		Iron, 100 × 100 × 1 mm			
To 24 VDC (10 to 30 VDC), nppie (p-p) 10% max. Tou to 220 VAC (90 to 250 VAC), 50/60 H2	Response time		15 ms max.	25 ms max.		
Control output Switching capacity output NPN open collector with a maximum current of 200 mA at 30 VDC 10 to 200 mA 10 to 200 mA Indicators Operation mode (with sensing object approaching) Operation (with sensing object approaching) NO. Refer to the timing charts under I/O Circuit Diagrams on page 3 for details. Ambient humidity Operating/Storage: −25 to 70°C (with no icing or condensation) Ambient humidity Operating/Storage: 35% to 95% (with no condensation) Temperature influence ±10% max. of sensing distance at 23°C in the temperature range of −25 to 70°C Voltage influence ±2% max. of sensing distance within a range of ±10% of rated power supply voltage Insulation resistance (destruction) 500 VAC (50/60 Hz) for 1 min between current-carrying parts and case 2,000 VAC (50/60 Hz) for 1 min between current-carrying parts and case Vibration resistance (destruction) 10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions Shock resistance (destruction) 1,000m/s² 10 times each in X, Y, and Z directions Degree of protection IEC IP67 Connection method Pre-wired Models (Standard cable length: 1 m) Weight (packed state) Approx. 1.4 kg Bensing surface Polyester				100 to 220 VAC (90 to 250 VAC), 50/60 Hz		
Switching capacity NPN open collector with a maximum current of 200 mA at 30 VDC Residual voltage Indicators Operation mode (with sensing object approaching) NO. Refer to the timing charts under I/O Circuit Diagrams on page 3 for details.			10 mA max. (with no load)			
Control output Switching capacity output 200 mA at 30 VDC 10 to 200 mA Residual voltage 3 V max. under a load current of 200 mA and a cable length of 2 m Refer to Engineering Data on the next page. Indicators Operation mode (with sensing object approaching) NO. Refer to the timing charts under I/O Circuit Diagrams on page 3 for details. Ambient temperature Operating/Storage: -25 to 70°C (with no icing or condensation) Ambient humidity Operating/Storage: 35% to 95% (with no condensation) Temperature influence ±10% max. of sensing distance at 23°C in the temperature range of −25 to 70°C Voltage influence ±2% max. of sensing distance within a range of ±10% of rated power supply voltage Insulation resistance 500 VAC (50/60 Hz) for 1min between current-carrying parts and case 2,000 VAC (50/60 Hz) for 1 min between current-carrying parts and case Vibration resistance (destruction) 10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions Shock resistance (destruction) 1,000m/s² 10 times each in X, Y, and Z directions Degree of protection IEC IP67 Connection method Pre-wired Models (Standard cable length: 1 m) Weight (packed state) Approx. 1.4 kg Bensing surface Die-cast aluminum	Leakage current			Refer to Engineering Data on the next page.		
Indicators Operation indicator (red) Operation mode (with sensing object approaching) Ambient temperature Operating/Storage: −25 to 70°C (with no condensation) Ambient humidity Operating/Storage: 35% to 95% (with no condensation) Temperature influence ±10% max. of sensing distance at 23°C in the temperature range of −25 to 70°C Voltage influence ±2% max. of sensing distance within a range of ±10% of rated power supply voltage Insulation resistance 50 MΩ min. (at 500 VDC) between current-carrying parts and case Dielectric strength 500 VAC (50/60 Hz) for 1min between current-carrying parts and case Vibration resistance (destruction) 10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions Shock resistance (destruction) IEC IP67 Connection method Pre-wired Models (Standard cable length: 1 m) Weight (packed state) Approx. 1.4 kg Materials Sensing surface Polyester		Switching capacity		10 to 200 mA		
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Connection method Case Die-cast aluminum		1 10 to 55 Hz 1 5-mm double amplitude for 2 hours each in X Y and 2 directions		ach in X, Y, and Z directions		
Connection method Pre-wired Models (Standard cable length: 1 m) Weight (packed state) Approx. 1.4 kg Materials Case Die-cast aluminum Sensing surface Polyester		1.1 (100m/s² 10) times each in X. Y. and Z. directions				
Weight (packed state) Approx. 1.4 kg Materials Case Die-cast aluminum Polyester	Degree o	f protection	ection IEC IP67			
Materials Case Die-cast aluminum Sensing surface Polyester	(
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Accessories Instruction sheet	als	Sensing surface				
	Accesso	ries	Instruction sheet			

^{*}Full-wave rectified power supplies with a mean output of 24 VDC ±10% are available for the TL-LP50.