

Miniature Inductive Prox

TL-W

Subminiature, Flat-Pack DC Sensor
Fits Tight Spaces

- Watertight construction conforms to IP67
- Space-saving mounting area, as small as 10 x 27 mm (0.39 x 1.06 in), is ideal for conveyor wall mounting
- Mounts directly onto metal base or rail
- Rugged diecast metal or low-profile plastic housing models available
- Choose NPN or PNP output models
- Ready to use: Prewired with 2 m (6.56 ft) length cable and mounting bracket included with TL-W3M sensors



Ordering Information

Body type		Shielded	Unshielded		
Body material		Diecast aluminum	ABS plastic		
Nominal detecting distance		5 mm (0.20 in)	3 mm (0.12 in)	5 mm (0.20 in)	20 mm (0.79 in)
Part number	NPN-NO output	TL-W5E1	TL-W3MC1	TL-W5MC1	TL-W20ME1
	NPN-NC output	TL-W5E2	TL-W3MC2	TL-W5MC2	TL-W20ME2
	PNP-NO output	TL-W5F1	TL-W3MB1	TL-W5MB1	—
	PNP-NC output	TL-W5F2	—	—	—

Specifications

■ UNSHIELDED, PLASTIC BODY SENSORS

Part number			TL-W3M□□	TL-W5M□□	TL-W20ME□
Sensor type			Inductive		
Body	Size		Flat, rectangular		
	Type		Unshielded		
Supply voltage			10 to 30 VDC, maximum ripple 10% peak-to-peak		
Current consumption			15 mA max.	10 mA max.	15 mA max.
Detectable object type			Metal objects		
Effective maximum detecting distance (with standard object)			0 to 2.7 mm (0 to 0.11 in)	0 to 4.5 mm (0 to 0.18 in)	0 to 16 mm (0 to 0.63 in)
Standard target size (mild steel, LxWxH)			12 x 12 x 1 mm (0.47 x 0.47 x 0.04 in)	18 x 18 x 1 mm (0.71 x 0.71 x 0.04 in)	50 x 50 x 1 mm (1.97 x 1.97 x 0.04 in)
Differential travel			10% max. of effective maximum detecting distance		
Control output	DC solid-state	Type	NPN-NO (TL-W□MC1) PNP-NO (TL-W□MB1)		NPN-NO (TL-W20ME1) with pull-up resistor NPN-NC (TL-W20ME2) with pull-up resistor
		Max. load	100 mA max.	50 mA max. at 12 VDC, 100 mA max. at 24 VDC	100 mA max. at 12 VDC 200 mA max. at 24 VDC
		Max. on-state voltage drop	1.0 V max.		
Response frequency			600 Hz	500 Hz	40 Hz
Circuit protection	Output short-circuit		Not provided		
	DC power supply reverse polarity		Provided		
Indicators			Target present (red LED)		
Materials	Housing		Plastic (ABS)		
	Sensing face		Plastic (ABS)		
	Cable sheath		Oil-proof vinyl		
Mounting			Bottom surface with 1 through hole, or mounting bracket supplied	Bottom surface with 2 through holes	
Connections	Prewired		3-conductor cable, 2 m (6.56 ft) length		
Weight with cable			30 g (1.06 oz.)	45 g (1.59 oz.)	180 g (6.35 oz.)
Enclosure ratings	UL		—		
	NEMA		1, 2, 3, 4X, 6, 12, 13		
	IEC 144		IP67		
Approvals	UL		—		
	CSA		—		
Ambient operating temperature			-25° to 70°C (-13° to 158°F)		
Vibration			10 to 55 Hz, at 1.5 mm in X, Y, and Z directions, double amplitude for 2 hours		
Shock			Approx. 50 G, three times		