

## Product Discontinuation Notices

August 1, 2011

Proximity Sensors

No. 2011248E-2

### Discontinuation Notice of Compact proximity sensor TL-M series (for china area only)

#### Product Discontinuation

#### Recommended Replacement



TL-M series



TL-Q series

**Discontinuation date : The end of March, 2012**

#### Caution on recommended replacement

- Dimensions is different, so pay attention to wire connection and mounting dimensions.
- Characteristics are different as below.
  - Models TL-Q5MC[] have no oil-resistant protect function.
  - Control output: TL-Q[]MC[] : NPN open collector, TL-M[]ME[] : current/voltage output.
  - Operating/Storage: TL-M2ME1: -25 to +70°C, TL-Q2MC1: -10 to +60°C
  - Temperature influence: TL-M5ME[] : ±10% max. of sensing distance at +23°C , TL-Q5MC[]: ±20% max. of sensing distance at +23°C

#### Difference from discontinued product

Model	Body Color	Dimensions	Wire connection	Mounting Dimensions	Characteristics	Operation ratings	Operation methods
TL-Q Series	--	--	--	--	--	*	**

\*\* : Fully compatible

\* : The change is a little/Almost compatible

-- : Not compatible

- : No corresponding specification

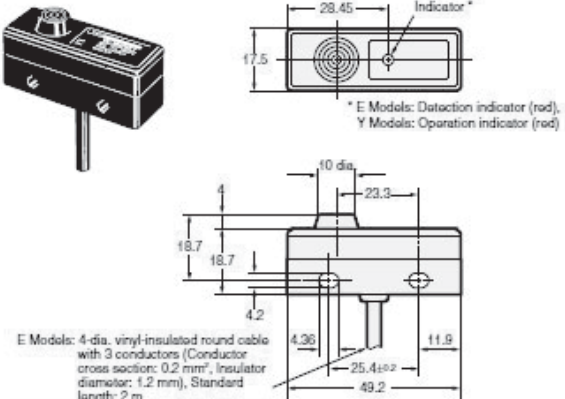
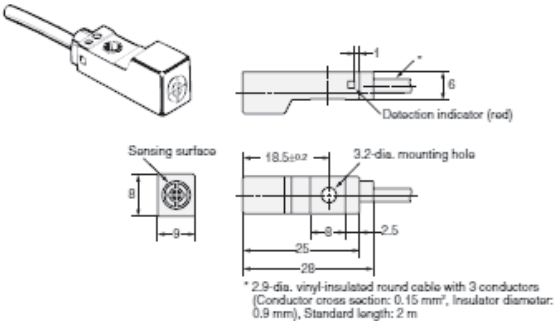
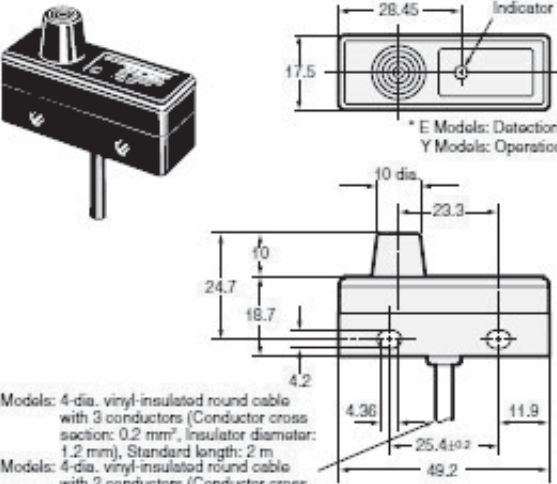
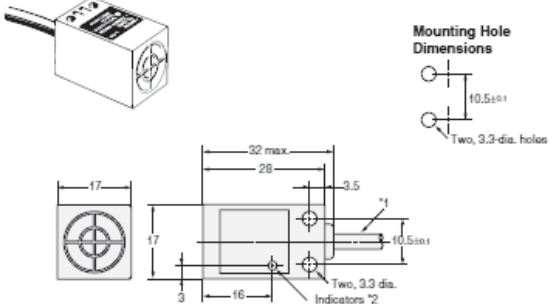
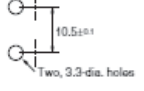
**Product Discontinuation and recommended replacement**

<b>Product discontinuation</b>	<b>Recommended replacement</b>
TL-M2MY1 2M BY OMC	None
TL-M5MY1 2M BY OMC	None
TL-M2ME1 2M BY OMC	TL-Q2MC1 2M
TL-M2ME2 2M BY OMC	None
TL-M5ME1 2M BY OMC	TL-Q5MC1 2M
TL-M5ME15 2M BY OMC	None
TL-M5ME2 2M BY OMC	TL-Q5MC2 2M
TL-M2ME2 5M BY OMC	None
TL-M5ME1 5M BY OMC	TL-Q5MC1 2M

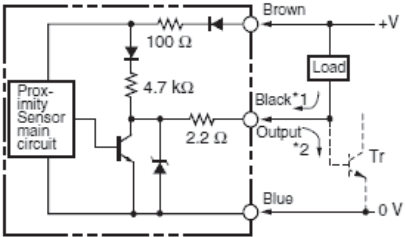
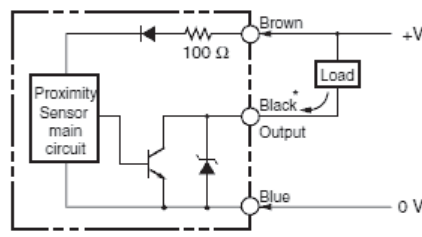
**Body color**

<b>Product discontinuation TL-M series</b>	<b>Recommendable replacement TL-Q series</b>
Black	Yellow

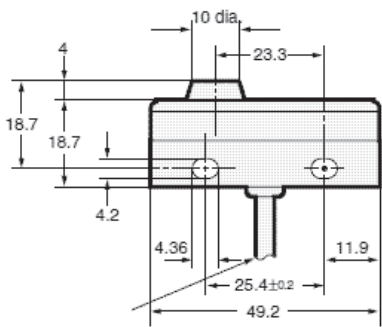
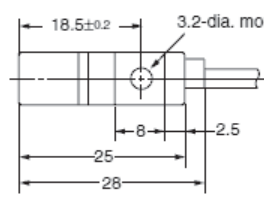
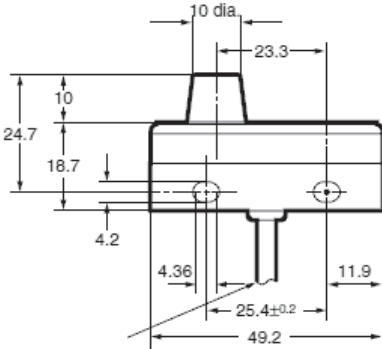
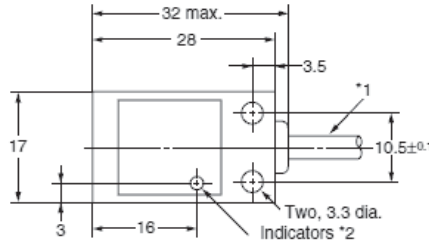
## Dimensions

Product discontinuation TL-M series	Recommendable replacement TL-Q series
<p><b>TL-M2M</b></p>  <p>           * E Models: Detection indicator (red),            Y Models: Operation indicator (red)         </p> <p>           E Models: 4-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.2 mm<sup>2</sup>, insulator diameter: 1.2 mm), Standard length: 2 m            Y Models: 4-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.3 mm<sup>2</sup>, insulator diameter: 1.3 mm), Standard length: 2 m         </p>	<p><b>TL-Q2MC1</b></p>  <p>           * 2.9-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.15 mm<sup>2</sup>, insulator diameter: 0.9 mm), Standard length: 2 m         </p>
<p><b>TL-M5M</b></p>  <p>           * E Models: Detection indicator (red),            Y Models: Operation indicator (red)         </p> <p>           E Models: 4-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.2 mm<sup>2</sup>, insulator diameter: 1.2 mm), Standard length: 2 m            Y Models: 4-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.3 mm<sup>2</sup>, insulator diameter: 1.3 mm), Standard length: 2 m         </p>	<p><b>TL-Q5M□□</b></p>  <p><b>Mounting Hole Dimensions</b></p>  <p>           *1. C Models: 4-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.2 mm<sup>2</sup>, insulator diameter: 1.2 mm), Standard length: 2 m            D Models: 4-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.3 mm<sup>2</sup>, insulator diameter: 1.3 mm), Standard length: 2 m            *2. C Models: Detection indicator (red)            D Models: Operation indicator (red), Setting indicator (green)         </p>

## Wire Connection

Product discontinuation Models TL-M[ ]ME[ ]	Recommendable replacement Models TL-Q[ ]MC[ ]
<p>DC 3-Wire Models Output circuit</p>  <p>*1. 200 mA max. (load current). *2. When a transistor is connected.</p>	<p>DC 3-Wire Models Output circuit</p>  <p>* Load current: 100 mA max., TL-Q2MC1 Load current: 50 mA max., TL-Q5MC1</p>

## Mounting dimensions

Product discontinuation TL-M series	Recommendable replacement TL-Q series
<p>TL-M2ME1</p> 	<p>TL-Q2MC1</p> 
<p>TL-M5M[ ]</p> 	<p>TL-Q5M[ ]</p> 

## Characteristics

Item	Model	Product discontinuation Models TL-M2ME1	Recommendable replacement Models TL-Q2MC1
Sensing distance		2 mm $\pm$ 10%	2 mm $\pm$ 15%
Set distance		0 to 1.6 mm	0 to 1.5 mm
Differential travel		10% max. of sensing distance	10% max. of sensing distance
Detectable object		Ferrous metal (The sensing distance decreases with non-ferrous metal. Refer to Engineering Data on Datasheet.)	Ferrous metal (The sensing distance decreases with non-ferrous metal. Refer to Engineering Data on Data Sheet.)
Standard sensing object		Iron, 15 × 15 × 1 mm	Iron, 8 × 8 × 1 mm
Response frequency		500 Hz	500 Hz
Power supply voltage (operating voltage range)		12 to 24 VDC (10 to 30 VDC), ripple (p-p): 20% max.	12 to 24 VDC (10 to 30 VDC), ripple (p-p): 10% max.
Current consumption		15 mA max. at 24 VDC (no-load)	15 mA max. at 24 VDC (no-load)
Control output	Load current	100 mA max. at 12 VDC 200 mA max. at 24 VDC	NPN open collector 100 mA max. at 30 VDC max.
	Residual voltage	1 V max.	1 V max. (under load current of 100 mA with cable length of 2 m)
Operation mode (with sensing object approaching)		NO	NO
Protection circuit		Reverse polarity protection, Surge suppressor	Reverse polarity protection, Surge suppressor
Ambient temperature range		Operating/Storage: -25 to +70°C (with no icing or condensation)	Operating/Storage: -10 to +60°C (with no icing or condensation)
Ambient humidity range		Operating/Storage: 35% to 95% (with no condensation)	Operating/Storage: 35% to 95% (with no condensation)
Temperature influence		$\pm$ 10% max. of sensing distance at +23°C in the temperature range of -25 to +70°C	$\pm$ 10% max. of sensing distance at +23°C in the temperature range of -10 to +60°C
Voltage influence		$\pm$ 2.5% max. of sensing distance at rated voltage in the rated voltage $\pm$ 15% range	$\pm$ 2.5% max. of sensing distance at rated voltage in rated voltage $\pm$ 10% range
Insulation resistance		50 M $\Omega$ min. (at 500 VDC) between current-carrying parts and case	50 M $\Omega$ min. (at 500 VDC) between current-carrying parts and case
Dielectric strength		500 VAC, 50/60 Hz for 1 min between current-carrying parts and case	1,000 VAC 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	Destruction: 10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions
Shock resistance		Destruction: 500 m/s <sup>2</sup> 10 times each in X, Y, and Z directions	Destruction: 1,000 m/s <sup>2</sup> 10 times each in X, Y, and Z directions
Degree of protection		IEC 60529 IP67 In-house standards: oil-resistant	IEC 60529 IP67 In-house standards: oil-resistant
Connection method		Pre-wired Models (Standard cable length: 2 m)	Pre-wired Models (Standard cable length: 2 m)
Weight (packed state)		Approx. 75 g	Approx. 30 g

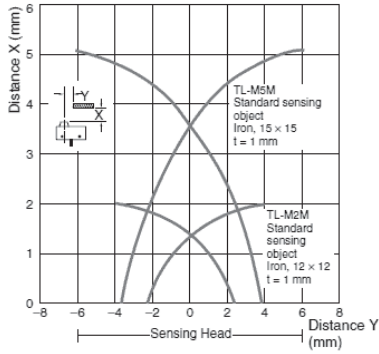
## Characteristics

Item	Model	Product discontinuation Models TL-M5ME1/ TL-M5ME2	Recommendable replacement Models TL-Q5MC1/ TL-Q5MC2
Sensing distance		5 mm $\pm$ 10%	5 mm $\pm$ 10%
Set distance		0 to 4 mm	0 to 4 mm
Differential travel		10% max. of sensing distance	10% max. of sensing distance
Detectable object		Ferrous metal (The sensing distance decreases with non-ferrous metal. Refer to Datasheet.)	Ferrous metal (The sensing distance decreases with non-ferrous metal. Refer to Engineering Data on Data Sheet.)
Standard sensing object		Iron, 15 × 15 × 1 mm	Iron, 15 × 15 × 1 mm
Response frequency		250 Hz	500 Hz
Power supply voltage (operating voltage range)		12 to 24 VDC (10 to 30 VDC), ripple (p-p): 20% max.	12 to 24 VDC (10 to 30 VDC), ripple (p-p): 10% max.
Current consumption		15 mA max. at 24 VDC (no-load)	10 mA max. at 24 VDC
Control output	Load current	100 mA max. at 12 VDC 200 mA max. at 24 VDC	NPN open collector 50 mA max. at 30 VDC max.
	Residual voltage	1 V max.	1 V max. (under load current of 50 mA with cable length of 2 m)
Indicators		Detection indicator (red)	Detection indicator (red)
Operation mode (with sensing object approaching)		E1 Models: NO E2 Models: NC	C1 Models: NO C2 Models: NC
Protection circuit		Reverse polarity protection, Surge suppressor	Reverse polarity protection, Surge suppressor
Ambient temperature range		Operating/Storage: -25 to +70°C (with no icing or condensation)	Operating/Storage: -25 to +70°C (with no icing or condensation)
Ambient humidity range		Operating/Storage: 35% to 95% (with no condensation)	Operating/Storage: 35% to 95% (with no condensation)
Temperature influence		$\pm$ 10% max. of sensing distance at +23°C in the temperature range of -25 to +70°C	$\pm$ 20% max. of sensing distance at +23°C in the temperature range of -25 to +70°C
Voltage influence		$\pm$ 2.5% max. of sensing distance at rated voltage in the rated voltage $\pm$ 15% range	$\pm$ 2.5% max. of sensing distance at rated voltage in rated voltage $\pm$ 10% range
Insulation resistance		50 M $\Omega$ min. (at 500 VDC) between current-carrying parts and case	5 M $\Omega$ min. (at 500 VDC) between current-carrying parts and case
Dielectric strength		500 VAC, 50/60 Hz for 1 min between current-carrying parts and case	500 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	Destruction: 10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions
Shock resistance		Destruction: 500 m/s <sup>2</sup> 10 times each in X, Y, and Z directions	Destruction: 200 m/s <sup>2</sup> 10 times each in X, Y, and Z directions
Degree of protection		IEC 60529 IP67 In-house standards: oil-resistant	IEC 60529 IP67
Connection method		Pre-wired Models (Standard cable length: 2 m)	Pre-wired Models (Standard cable length: 2 m)
Weight (packed state)		Approx. 75 g	Approx. 60 g

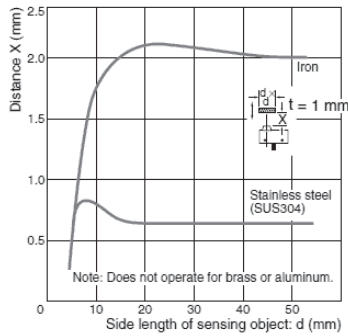
# Operation ratings

## Product discontinuation TL-M series

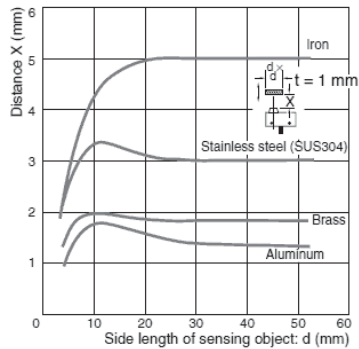
### TL-M2□/M5□



### TL-M2ME

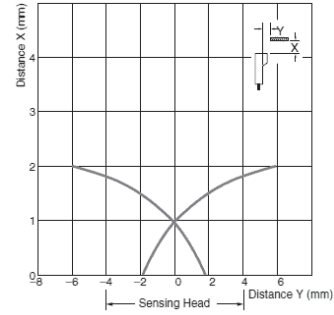


### TL-M5M

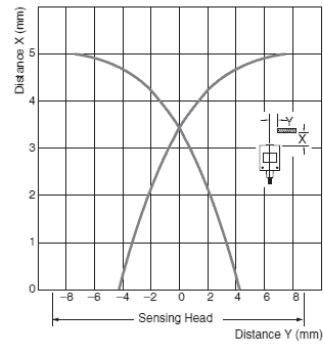


## Recommendable replacement TL-Q series

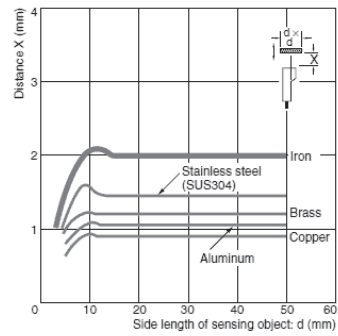
### TL-Q2MC1



### TL-Q5M□□



### TL-Q2MC1



### TL-Q5M□□

