

# Proximity Switches

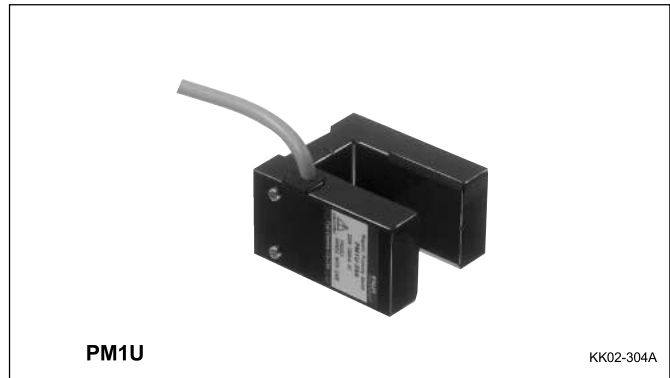
## Magnetically operated reed switches - slot type

### PM1U

#### Magnetically operated reed switches—Slot type PM1U

##### ■ Features

- Stable switch operation is ensured by inserting the object for detection 35mm into the switch slot. Ideal for detecting the position of a ferromagnetic-material plate passing in the switch slot.
- Magnetically operated switch using a sealed contact is never affected by electrical noise, ensuring highly reliable detection.
- The built-in permanent magnet enables switching of both AC and DC signals without using a power supply.
- Models with an output indicator are also available.
- Our advanced design assures superior environmental protection complying with IP67 (IEC).



##### ■ Ordering information

Specify the following:

1. Type number (ordering code)

##### ■ Specifications

Operating slot width	Detecting distance*	Hysteresis	Contact arrangement	Output indicator	Type (=Ordering code)	Measurement conditions for an operating position and hysteresis
25mm	+4 ±6mm	10mm (Max.)	1NO (ON: Detected)	Not provided	<b>PM1U-25ALF</b>	
				Provided	<b>PM1U-25ALF2</b>	
	-4 ±6mm	7mm (Max.)	1NC	Not provided	<b>PM1U25BLF</b>	
				Provided	<b>PM1U-25BLF2</b>	

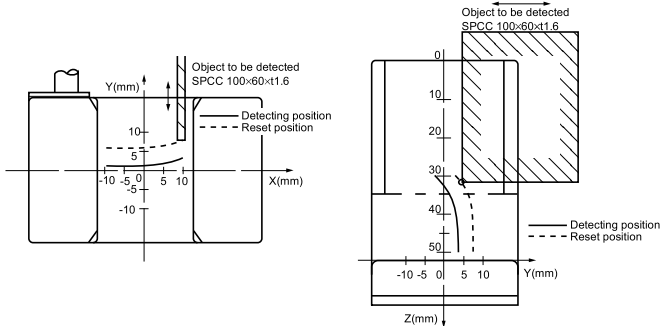
Note \*: The detecting distance and hysteresis are defined in the standard detecting conditions shown above.

Type	<b>PM1U-25ALF</b>	<b>PM1U-25ALF2</b>	<b>PM1U-25BLF</b>	<b>PM1U-25BLF2</b>
Output indicator	Not provided	Provided	Not provided	Provided
Operating slot width	25mm			
Object insertion length	35mm (Min.)			
Rated operating voltage	220V AC, DC (Max.)			
Rated operating current	0.2A (Max.)			
Make and break current	0.2A (Max.)			
OFF → ON response time	2ms (Max.)			
ON → OFF response time	0.5ms (Max.)			
Life expectancy (Mechanical)	1×10 <sup>7</sup> operations (Min.)			
Life expectancy (Electrical)	2×10 <sup>6</sup> operations (Min.) Load: Miniature control relay HH54P 220V AC/7mA			
	3×10 <sup>6</sup> operations (Min.) Load: Miniature control relay HH54P 100V AC/14mA			
	2×10 <sup>6</sup> operations (Min.) Load: Resistance (24V DC/0.2A)			
	1×10 <sup>7</sup> operations (Min.) Load: Resistance (12V DC/0.2A)			
Ambient temperature	-10 to +65°C			
Humidity	45 to 95%HR			
Vibration resistance	10 to 55Hz, 1.5mm peak-to-peak amplitude, 2-hour for each of X, Y, and Z axes			
Shock resistance	300m/s <sup>2</sup> , three-time for each of X, Y, and Z axis			
Output resistance at ON	6Ω (Max.)	—	6Ω (Max.)	—
Switch residual voltage at ON	—	4V (Max.)	—	4V (Max.)
Insulation resistance	100MΩ (Min.)			
Degree of protection	IP67 (IEC standard)			
Maximum signal cable length	300m			

Note: The LED indicator becomes dark when the load current is 10mA or less. (Switches with an output indicator)  
1 meter lead wire is provided.

### Object detection area (Examples)

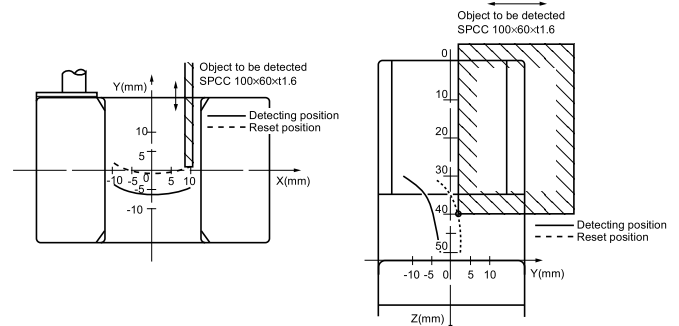
#### PM1U-25A



Note: The X - Y characteristics are symmetrical to the X axis.

Note: The Y - Z characteristics are symmetrical to the Z axis.

#### PM1U-25B

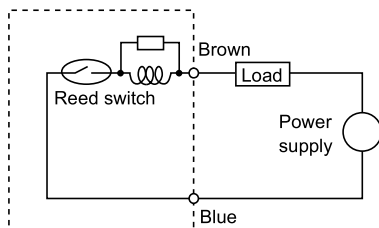


Note: The X - Y characteristics are symmetrical to the X axis.

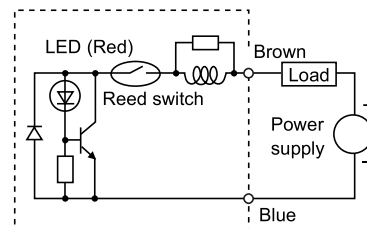
Note: The Y - Z characteristics are symmetrical to the Z axis.

### Wiring diagrams

#### Switch with no output indicators



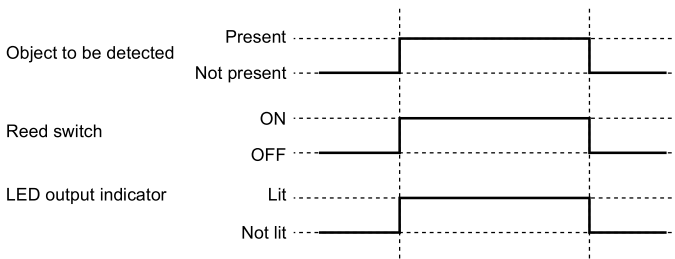
#### Switch with an output indicator



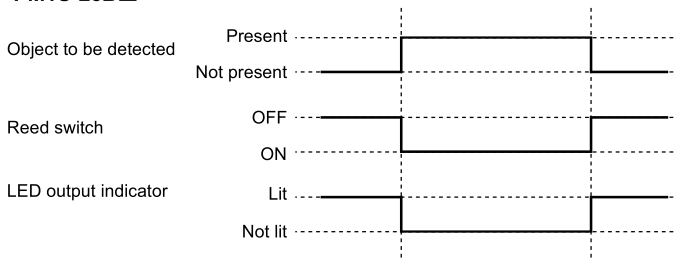
Note: When using a DC power supply, connect the brown terminal to (+) and blue terminal to (0V). Otherwise, the indicator will not go on.

### Operation chart

#### PM1U-25A



#### PM1U-25B



### Dimensions, mm

