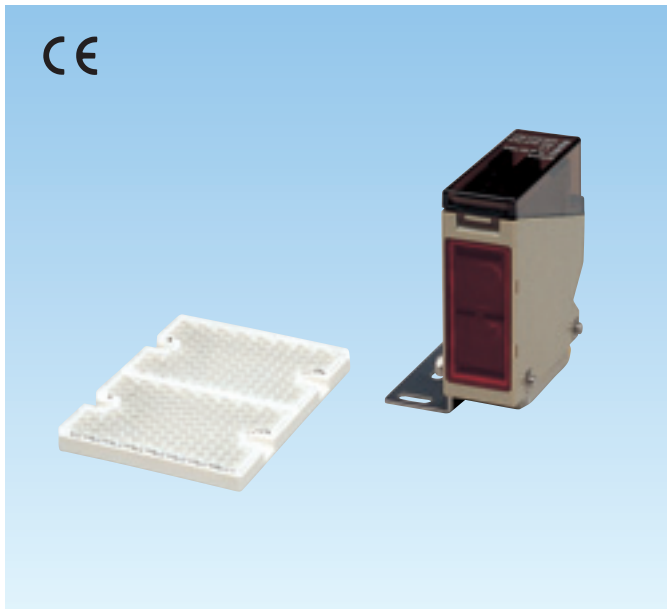




# NAL-M10R

Long-range polarization reflector type  
photo sensor

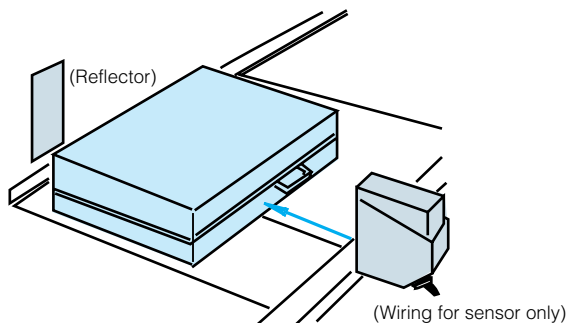
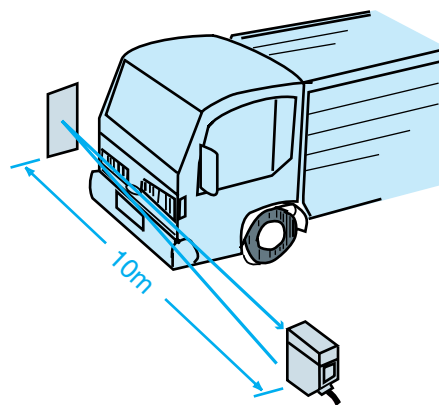


- Long detecting distance of 10 m achieved with reflector type
- Mirror-like objects stably detected
- Single unit simplified wiring
- Stable operation can be checked at a glance with stability indicator

## Type

Type	Detecting distance	Model	Operation mode	Output mode	Power supply
 Polarization reflector type	 0.5-10m	<b>NAL-M10RP</b>	Light-ON/Dark-ON selectable (with switch)	Relay output 1a	24-240V AC/DC

- Long detecting distance of 10 m ideal for detecting large objects and for use on large conveyors
- Reflector type requires wiring of only one unit, simplifying wiring and reducing cost



- Polarization reflector type for stable detection of glossy objects
- Detecting condition can be checked at a glance with stability indicator

# NAL-M10R

## Rating/Performance/Specification

Model		NAL-M10RP	
Rating/performance	Detection method	Polarization reflector type	
	Detecting distance	0.5-10m	
	Detection object	Mirror-like objects, opaque objects	
	Power supply	24-240V AC/DC $\pm 10\%$ 50/ 60Hz	
	Power consumption	2W max.	
	Output mode	Relay output 1a / Rating: 3 A (250 VAC max. resistance load) (30 VDC max. resistance load)	
	Operation mode	Light-ON/Dark-ON selectable	
	Response time	15 ms or less	
	Operating angle	30°	
	Specification	Light source	Red LED (670nm)
Indicator		Operation indicator: orange LED Stability indicator: green LED	
Switch		Light-ON/Dark-ON selector switch	
Material		Case	Polycarbonate
		Lens	Acrylic
		Terminal cover	Polycarbonate
		Mounting bracket	Stainless steel (SUS304)
		Wiring	Terminal block (with M3.5 screws)
Mass		200 g max. (including mounting bracket)	

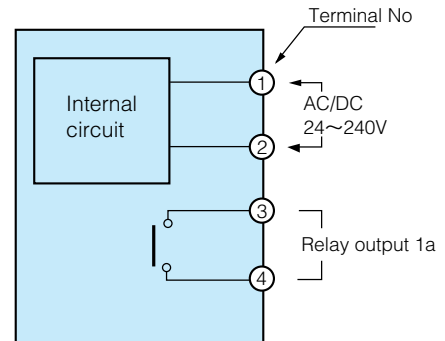
\*1 With reflector model K-77 (accessory)

## Environmental Specification

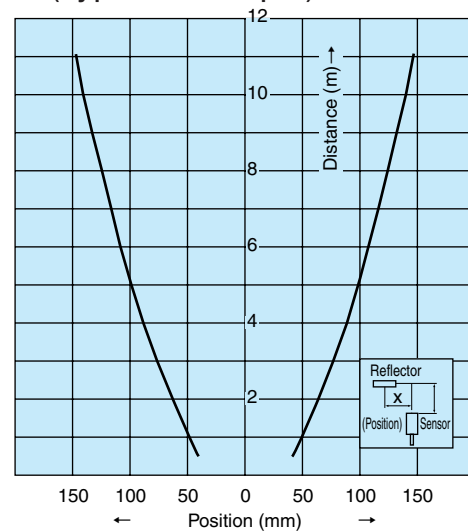
Ambient light		Sunlight: illumination on light receiving surface 10,000 lx max. Incandescent lamp: illumination on light receiving surface 3,000 lx max.
Environment	Ambient temperature	-25 - +55 °C (non-freezing)
	Ambient humidity	35-85%RH (non-condensing)
	Protective structure	IP67
	Vibration	10-55 Hz / 1.5 mm amplitude / 2 hours each in 3 directions
	Shock	500 m/s <sup>2</sup> / 3 times each in 3 directions
	Dielectric withstanding	2,000 VAC for 1 minute
	Insulation resistance	500 VDC, 100 MΩ or higher

## Input/Output Circuit and Connection

- Relay output type



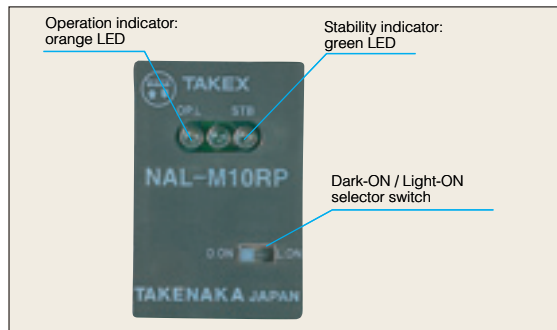
## Directional Characteristics (Typical Example)



# NAL-M10R

## For Correct Use

### Panel layout



#### ◆ Operation indicator (O.P)

The orange LED is illuminated to indicate operation

#### ◆ Stability indicator (STB)

The green LED is illuminated when the received light intensity level is in a range that allows stable activation (120% or higher of the activation level) or stable deactivation (80% or lower of the activation level).

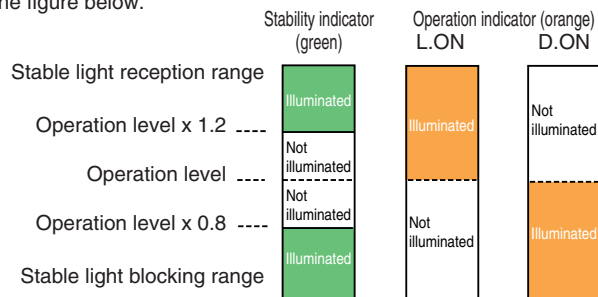
#### ◆ D.ON/L.ON selector switch

[D.ON] output activated when light is blocked

[L.ON] output activated when light is received

### Indicators

- The operation indicator (orange LED) and stability indicator (green LED) respectively show different received light intensity levels as described in the figure below.



- After aligning the optical axis, use a detection object to block and unblock the light beam several times to make sure that the sensitivity level is in a range that allows stable activation and deactivation.
- Setting the sensitivity in a range allowing stable operation achieves higher reliability against changes in the operating environment generated after the sensitivity is set.

### Detecting distances for different reflectors

The detecting distance depends on the reflector used.

Reflector model	K-77	K-7	K-71	S-510G
Detecting distance	0.5~10m	0.5~7.5m	0.5~4m	0.5~6m
Remarks	Accessory	Optional	Optional	Optional

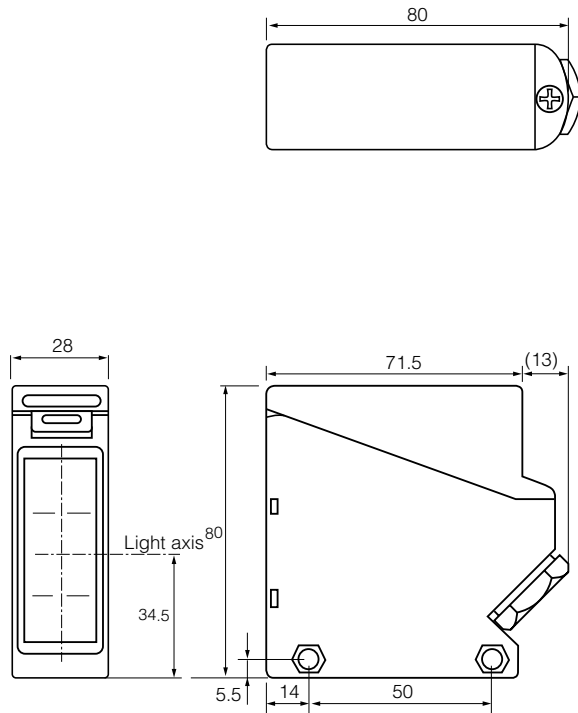


- Do not use the sensor for protection of human body.
- For safety applications, ensure safe operation of the detection and control system overall.
- This product is not explosion proof.

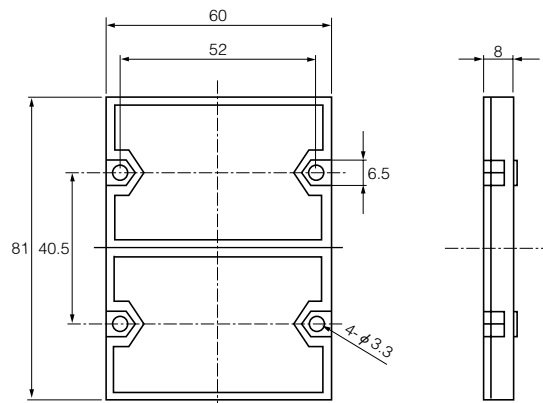
# NAL-M10R

## Dimensions (in mm)

Body



Reflector (accessory)  
K-77



With mounting bracket (accessory) attached

