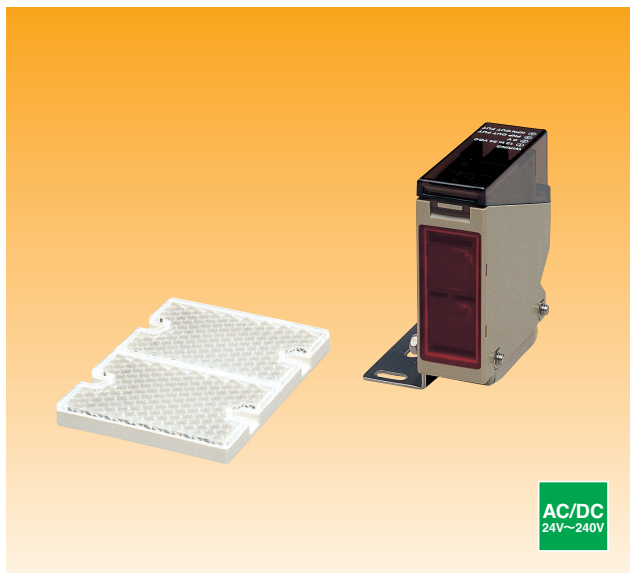

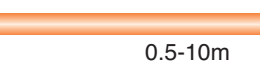


NAL-M10RP Long Range Polarized Retroreflective AC/DC Power Supply Photo Sensors

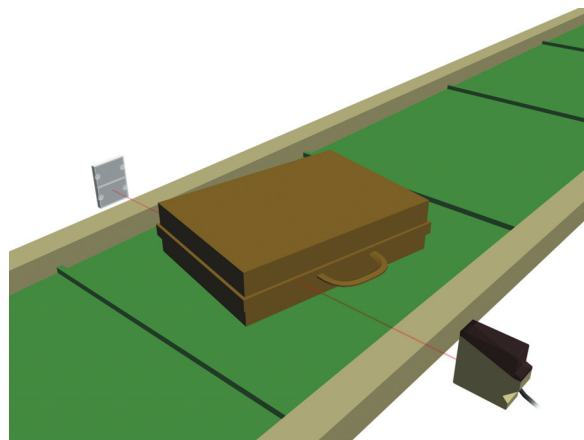


- Long detecting distance of 10 m achieved with Retroreflective type
- Mirror-like objects stably detected
- Single unit simplified wiring
- Stable operation can be checked at a glance with stability indicator

Type

Type	Detecting distance	Model	Operation mode	Output mode	Power supply
 Polarized retroreflective	 0.5-10m	NAL-M10RP	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
- Retroreflective type requires wiring of only one unit, simplifying wiring and reducing cost



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

NAL-M10RP

Rating/Performance/Specification

Model	NAL-M10RP	
Detection method	Polarized retroreflective	
Detecting distance	0.5-10m (with K-77 reflector)	
Detection object	Mirror-like, opaque	
Power supply	24-240V AC/DC $\pm 10\%$ 50/ 60Hz	
Power consumption	2W or less	
Output mode	Relay output 1a / Rating: 3 A (250 VAC or less resistance load) (30 VDC or less resistance load)	
Operation mode	Light ON/Dark ON selectable with switch	
Response time	15 ms or less	
Operating angle	30° (at reflector)	
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
Wiring	Terminal block (with M3.5 screws)	
Weight	200 g max. (including mounting bracket)	
Accessories	Instruction manual, Mounting bracket, Reflector (Type: K-77)	

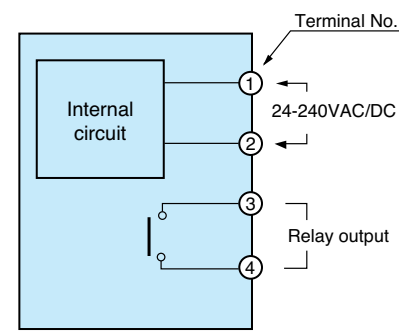
- The detecting distance and detection object of retroreflective types varies, depending on reflector types combined with the sensor. The detecting distance is the range which you can set for the reflector. The sensor detects an object even in extremely short range.

Environmental Specification

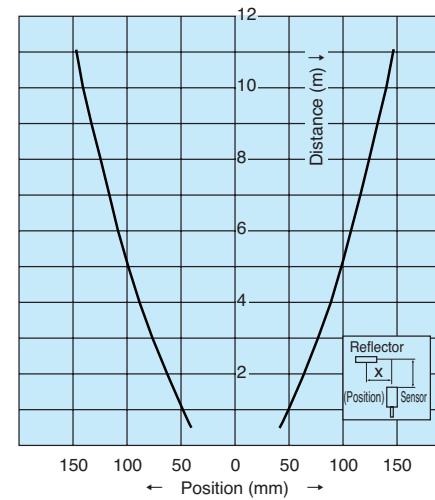
Ambient light	Sunlight: illumination on light receiving surface 10,000 lx or less Incandescent lamp: illumination on light receiving surface 3,000 lx or less
Ambient temperature	-25 - +55 °C (non-freezing)
Ambient humidity	35-85%RH (non-condensing)
Protective structure	IP67
Vibration	10-55 Hz / 1.5 mm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

Input/Output Circuit and Connection

- Relay output type



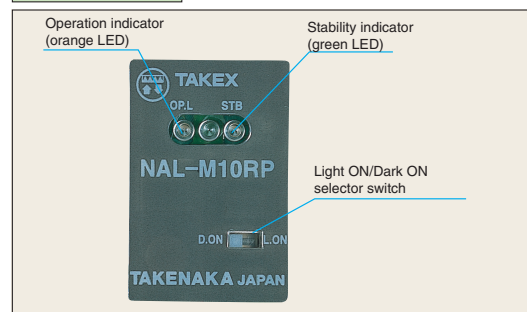
Response Curves: Beam Pattern (Typical)



NAL-M10RP

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.

	Stability indicator (green)	Operation indicator (orange)	
		L.ON	D.ON
Stable light reception range	Illuminated	Illuminated	Not illuminated
Operation level x 1.2 ----	Not illuminated	Illuminated	Not illuminated
Operation level ----	Not illuminated	Not illuminated	Illuminated
Operation level x 0.8 ----	Illuminated	Not illuminated	Illuminated
Stable light blocking range	Illuminated	Not illuminated	Illuminated

- 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 reflectors

The detecting distance depends on the reflector used.

Reflector model	K-77	K-8	K-7	K-71	S-510G
Detecting distance	0.5-10m	0.5-10m	0.5-7.5m	0.5-4m	0.5-6m
Remarks	Accessory	Optional	Optional	Optional	Optional

NAL-M10RP

Dimensions (in mm)

