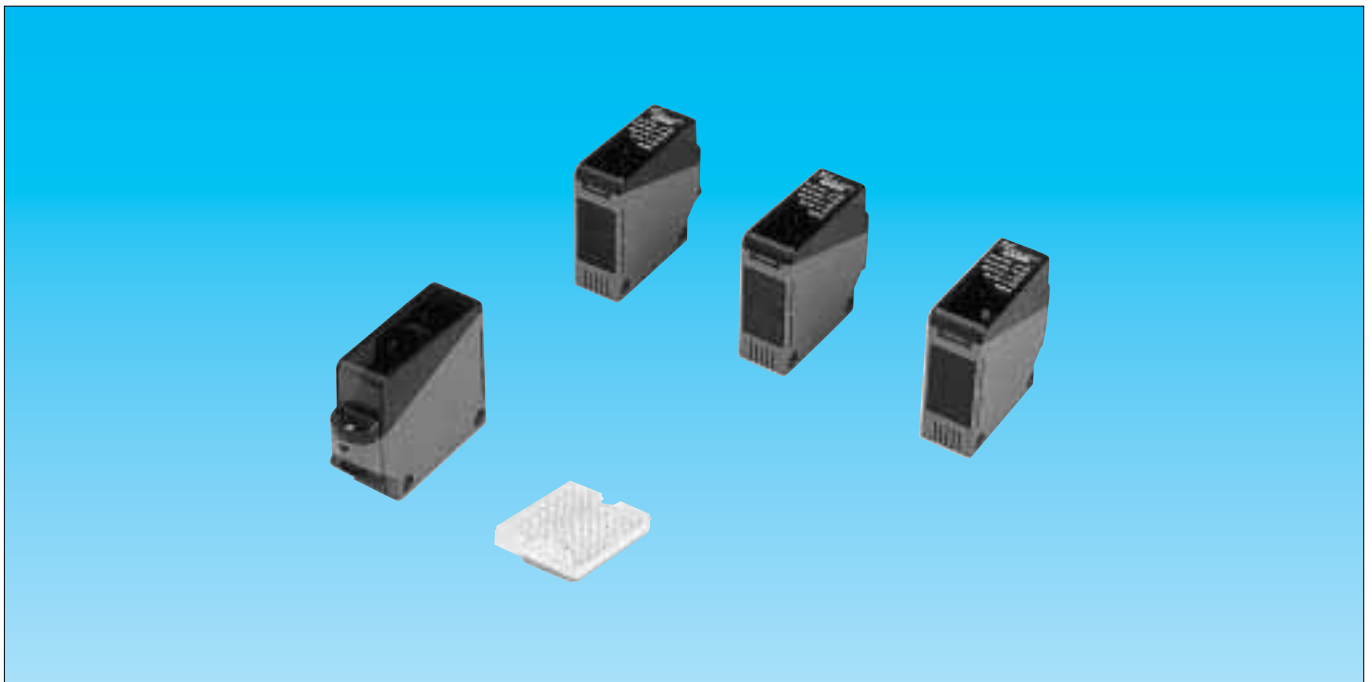


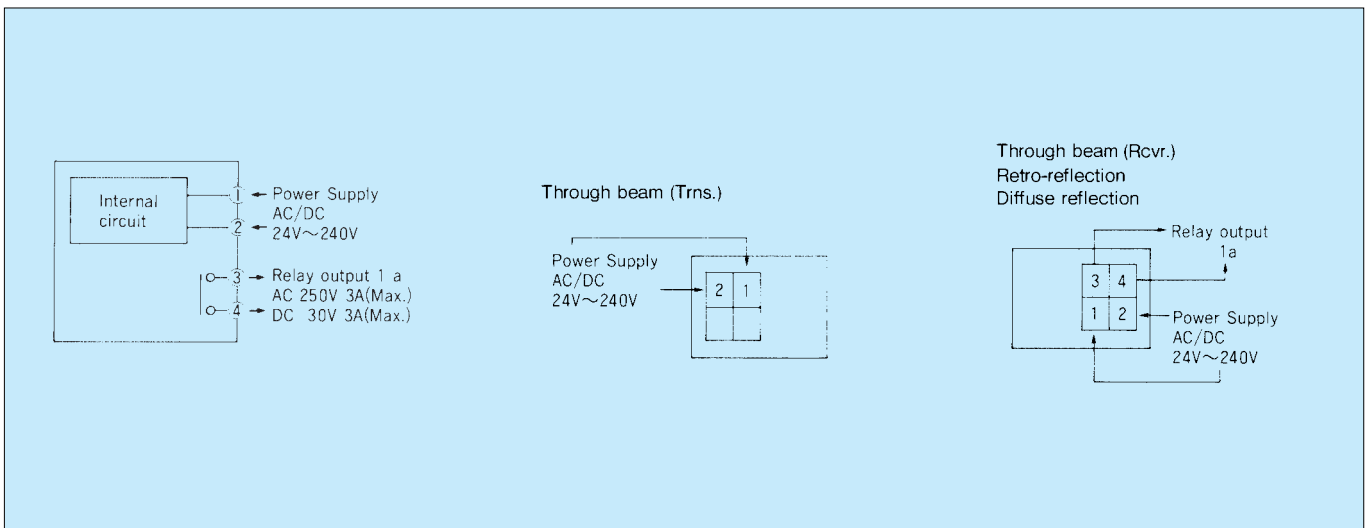
NA series

AC/DC POWER SUPPLY
PHOTO SENSORS

- Fully open terminal boards, makes wiring easier.
- Globally universal operation power.
 - Polarised light reflector that can even detect mirrored objects.
 - Visible Red LED that enables easy adjustment.
 - Noise resistance has been improved using our uniquely developed Photo IC.



OUTPUT CIRCUIT



SPECIFICATIONS

Models	NA-T20R 1	NA-M7R	NA-R10	NA-T20RF 4	NA-M7RF	NA-R10F
Detection	Through beam	Retro-reflection	Diffuse reflection	Through beam	Retro-reflection	Diffuse reflection
Range	20m(Max.)	0.03 ~ 7m(Max.) 2	1m(Max.) 3	20m(Max.)	0.03 ~ 7m(Max.) 2	1m(Max.) 3
Light source	Red LED(700nm)		Infrared(880nm)	Red LED(700nm)		Infrared(880nm)
Power supply	24V to 240V AC/DC $\pm 10\%$, 50/60Hz					
Consumption (Max.)	Trns. : 1.5W Rcvr. : 2W	2W		Trns. : 1.5W Rcvr. : 2W	2W	
Operating mode	Light/Dark-ON Selectable			Light/Dark-ON Selectable, Timer Selectable		
Timer	-			ON-Delay, OFF-Delay, ONE-Shot, or NO Timer		
Time interv.	-			0.1 to 5 sec.		
Output mode	Relay, Form 1a					
Rating	3A 250VAC MAX Resistive Load 3A 30VDC MAX Resistive Load					
Obj. resolution	Min. 22mm Dia	-		Min. 22mm Dia	-	
Response time	10msec(Max.)					
Ambient light	Withstands 10,000 Lux(Max.)					
LED indicators	Operation(Red)					
Volume	-		Sensitivity VR.	Timer adjustment VR.		Sensitivity VR. Timer adjustment VR.
Operating temp.	- 25 - + 55					
Humidity	35 ~ 85% RH					
Case protection	IP66(IEC) Jet-proof					
Vibration	10 ~ 55Hz, 1.5mm Amplitude, 2HR, 3 Directions					
Connection	Terminal(M3.5 Screw)					
Weight	Trns. : 150g Rcvr. : 170g	170g		Trns. : 150g Rcvr. : 170g	170g	

- 1 NA-T20R (SET MODEL)
Trns. NA-TL20R
Rcvr. NA-TR20R
- 2 K-7 Reflector is included.

- 3 200 × 200 White paper
- 4 NA-T20RF (SET MODEL)
Trns. NA-TL20R
Rcvr. NA-TR20RF

Complies with DIN-PG11

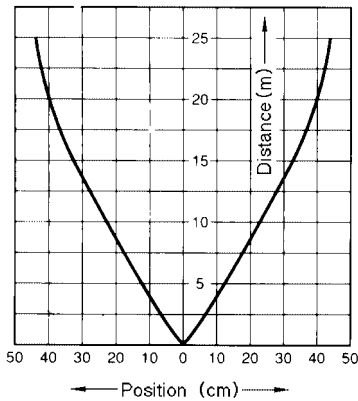
- Ground hub part is PG11 in accordance with DIN standard.
When ordering, put "-PG" at the end of the model number.

Ground hub rubber bushing

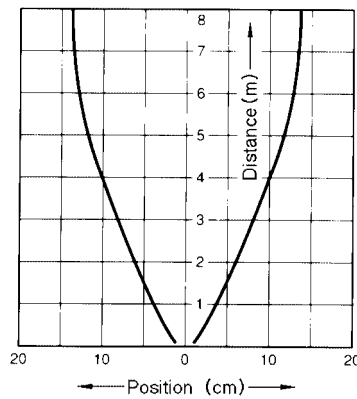
- The standard type has an applicable cable of diameter 9 to 11 attached.
When using cables of diameter 6 to 9, use the optional rubber bushing.

ACTIVE BEAM WIDTH

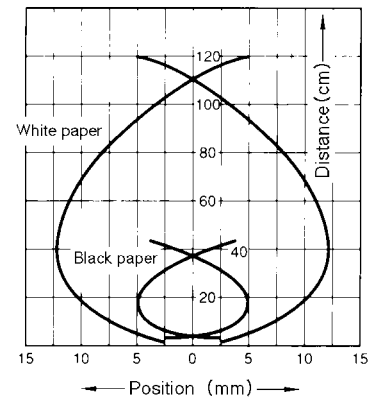
NA-T20R, NA-T20RF



NA-M7R, NA-M7RF

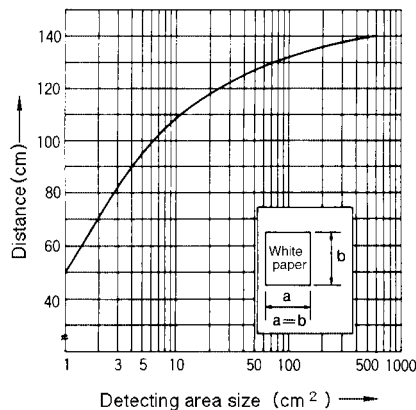


NA-R10, NA-R10F



DISTANCE VS AREA CHARACTERISTICS

NA-R10, NA-R10F



PIN HOLE

Pinhole boards

There are pinhole boards available for the through beam types listed below (not included).

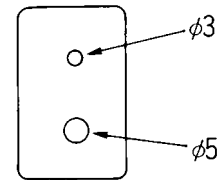
Use a pinhole board to reduce either the minimum detection object diameter or the operation width.

Use it upside down so that the necessary pinholes can match the optical axis. (Do not cut off because turning it upside down about the fixing groove point will naturally allow the pinhole to match the optical axis.)

Applicable types

NA-T20R
NA-T20RF

Pinhole	3	5
Range	1m	3.5m



Model : AP35

Detection distance against reflector types.

Applicable types

NA-M7R
NA-M7RF

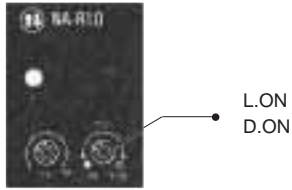
Reflector	Range
K-7	0.03 ~ 7 m
K-71	0.03 ~ 3.5m
K-2	0.1 ~ 4 m
S-510G	0.1 ~ 4 m

Cautions for handling

- Use the power voltage within the specifications.
- Do not turn the unit on and off repeatedly.
- Maximum tightening torque of the sensor body and the mounting bracket must be $0.8\text{N} \cdot \text{m}$ ($8.2\text{kgf} \cdot \text{cm}$).
- When a high voltage cable or a power cable passes near the cable of the photoelectric sensor fit it in a conduit to avoid malfunction or damage.
- Incorrect wiring can cause burnout or damage. Check the wiring before applying power.
- Although the unit is waterproofed (IP66), avoid using it in a location where water is always splashing on it or it is under water. Exposure to corrosive gasses, vibration, shock, oil or chemical splashes may cause the unit to malfunction. Be careful.
- When wiring with a power conduit, use applicable screws with diameters of RF1/2 (JIS B0202)
- After wiring to the terminal board, hook the cover onto the front hook and tighten the screws in the rear part, the maximum tightening torque must be $0.6\text{N} \cdot \text{m}$ (6.2kgf/cm).

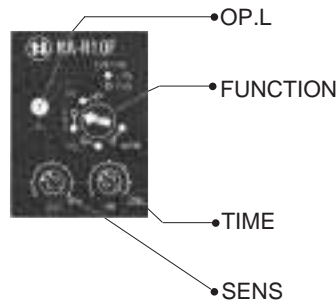
PANEL DESCRIPTION

NA-R10



This is an operation changeover switch for Light ON or Dark ON. When turned to the L.ON position, it will become Light ON operation and to D.ON position, Dark ON operation. Use the changeover switch in either L.ON or D.ON (used for NA-TR20R/NA-M7R/NA-R10)

NA-R10F



- OP.L (Operation indicator)
It will be on when the output relay operates. Red LED is used.
- FUNCTION
This is a rotary switch for the function selection, used when selecting between the timer function and the operation mode of the output relay.
- TIME
This is the time adjustment when operating the timer function. The time is adjustable from 0.1 to 5 seconds.
- SENS
This is the sensitivity adjustment. The sensitivity will increase when turned clockwise.

"F" (Multi function type)

- Set with the function changeover SW on the panel.

(Dark-on)



One shot

Only outputs set time duration from when detected.



On delay

Output is delayed for the set time duration from when detected.



Off delay

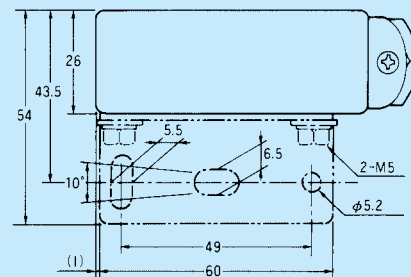
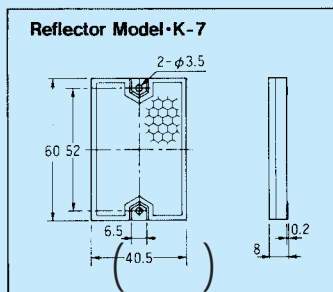
Holds the output for the set time duration from when detected.



Without Timer



DIMENSIONS



Light axis 1
Through beam type
Light axis 2
Diffuse Reflection type
Retro-Reflection type

