



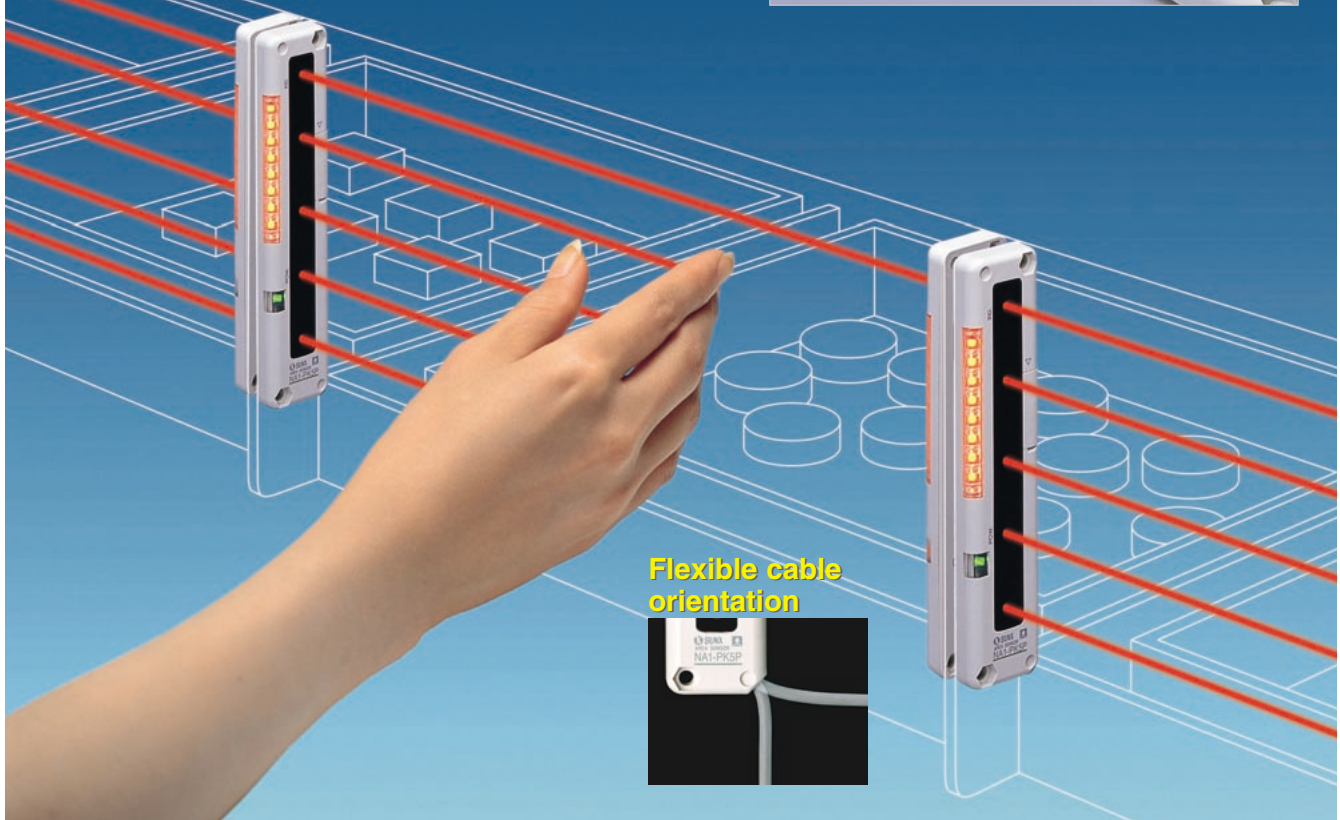
New ULTRA-SLIM BODY AREA SENSOR **NA1-PK5**

Clearly Visible Job Indicator Prevents Wrong Picking!

Suited for Miscellaneous Object Picking Jobs! Easy to Use and Clearly Visible!!

Wide-view bright job indicators which are clearly visible from any direction, the front or the side of the sensor, have been used.

Further, use of 8 orange LEDs contributes further to clear visibility. Picking location can be easily confirmed even in a brightly lit workplace.



Slim Body

NA1-PK5 has an ultra-slim body, just 10mm thick. It fits into a small space, without obstructing normal operation.

Excellent Mutual Interference Prevention Function

Mutual interference can be prevented by setting different emission frequencies. This function allows the sensor to be safely used in applications covering a wide area or for installation of several sensors in a row along parts shelves.

Selectable Detection Operation

Detection on interruption of either minimum one beam or minimum two beams can be selected to suit the application.

Lighting Pattern Selectable

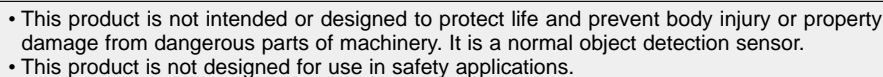
The job indicator operation can be selected as either continuous lighting or blinking.

PNP Output Type Is Available

PNP output type **NA1-PK5-PN** which is widely used in Europe is also available.

CE Marked

NA1-PK5 conforms to the EMC Directive.



NA1-PK5

Type	NPN output	PNP output
Item Model No.	NA1-PK5	NA1-PK5-PN
Sensing height	100mm	
Sensing range (Note 1)	0.1 to 1.2m (0.05 to 0.5m when set to SHORT)	
Beam pitch	25mm	
Number of beam channels	5 beam channels	
Sensing object	φ35mm or more opaque object	
Supply voltage	12 to 24V DC ± 10%	Ripple P-P 10% or less
Power consumption (Note 2)	Emitter: 0.5W or less Receiver: 0.8W or less	Emitter: 0.6W or less, Receiver: 0.9W or less
Output	NPN open-collector transistor • Maximum sink current: 100mA • Applied voltage: 30V DC or less (between output and 0V) • Residual voltage: 1V or less (at 100mA sink current) 0.4V or less (at 16mA sink current)	PNP open-collector transistor • Maximum source current: 100mA • Applied voltage: 30V DC or less (between output and + V) • Residual voltage: 1V or less (at 100mA source current) 0.4V or less (at 16mA source current)
Utilization category	DC-12 or DC-13	
Output operation	ON or OFF when one or more beams are interrupted/ ON or OFF when two or more beams are interrupted, selectable by operation mode switch	
Short-circuit protection	Incorporated	

Color code

(Brown) + V

(Black) Output (Note)

(Blue) 0V

(Pink) Input

100mA max.

12 to 24V DC $\pm 10\%$

Load

Tr

Zb

Job indicator lighting/ blinking circuit

E

※1

Internal circuit ← Users' circuit

Note: The emitter is not incorporated with the output.

Symbols ... D: Reverse supply polarity protection diode
Zb: Surge absorption zener diode
Tr: NPN output transistor
E: Job indicator

※1

Non-contact voltage or NPN open-collector transistor

Low (0 to 2V): Lights up or Blinks
High(5 to 30V, or open): Lights off

※For PNP output type, please contact our office.

Vertical direction

Schematic: Receiver and Emitter are vertically aligned. Distance l is indicated.

Graph: Setting distance L (m) vs Operating point l (mm). The graph shows two curves for 'Setting on LONG' and 'Setting on SHORT'. The x-axis ranges from 100 Down to 100 Up, with Center at 0. The y-axis ranges from 0 to 2. The 'LONG' curve is higher than the 'SHORT' curve.

Horizontal direction

Schematic: Receiver and Emitter are horizontally aligned. Distance l is indicated.

Graph: Setting distance L (m) vs Operating point l (mm). The graph shows two curves for 'Setting on LONG' and 'Setting on SHORT'. The x-axis ranges from 100 Left to 100 Right, with Center at 0. The y-axis ranges from 0 to 2. The 'LONG' curve is higher than the 'SHORT' curve.

• Setting on LONG

Receiver
Emitter
Emitter angular deviation
Receiver angular deviation
Setting distance L (m)
Operating angle θ (°)
Left Center Right

• Setting on SHORT

Receiver
Emitter
Emitter angular deviation
Receiver angular deviation
Setting distance L (m)
Operating angle θ (°)
Left Center Right

2- $\phi 4.5$ mounting holes with M4 nut seats 3.3 deep (1.1 deep on back side)

2- $\phi 4.6$ supplementary mounting holes 1.1 deep (on both sides)

Operation mode switch

Beam Channel 1

Job indicator (Orange)

Beam Channel 2

Beam Channel 3

Stable incident beam indicator (Green)

Beam Channel 4

Operation indicator (Red)

Beam Channel 5

$\phi 3.7$ cable 2m long

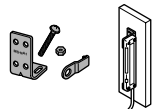
Receiver

The illustration at the left shows the receiver bracket. The emitter bracket is shaped symmetrically.

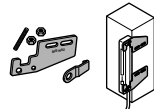
The illustration at the left shows the receiver bracket.
The emitter bracket is shaped symmetrically.

Designation	Model No.	Description
Sensor mounting bracket	MS-NA1-1	Four bracket set
	MS-NA2-1	(Screws, nuts and hooks are attached.)
Sensor protection bracket	MS-NA3	Two silver-color bracket set (Screws and nuts are attached.)
	MS-NA3-BK	Two black bracket set (Screws and nuts are attached.)

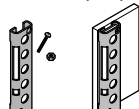
- MS-NA1-1



- MS-NA2-1



- MS-NA3(-BK)



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Japanese

English



All information is subject to change without prior notice.

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