



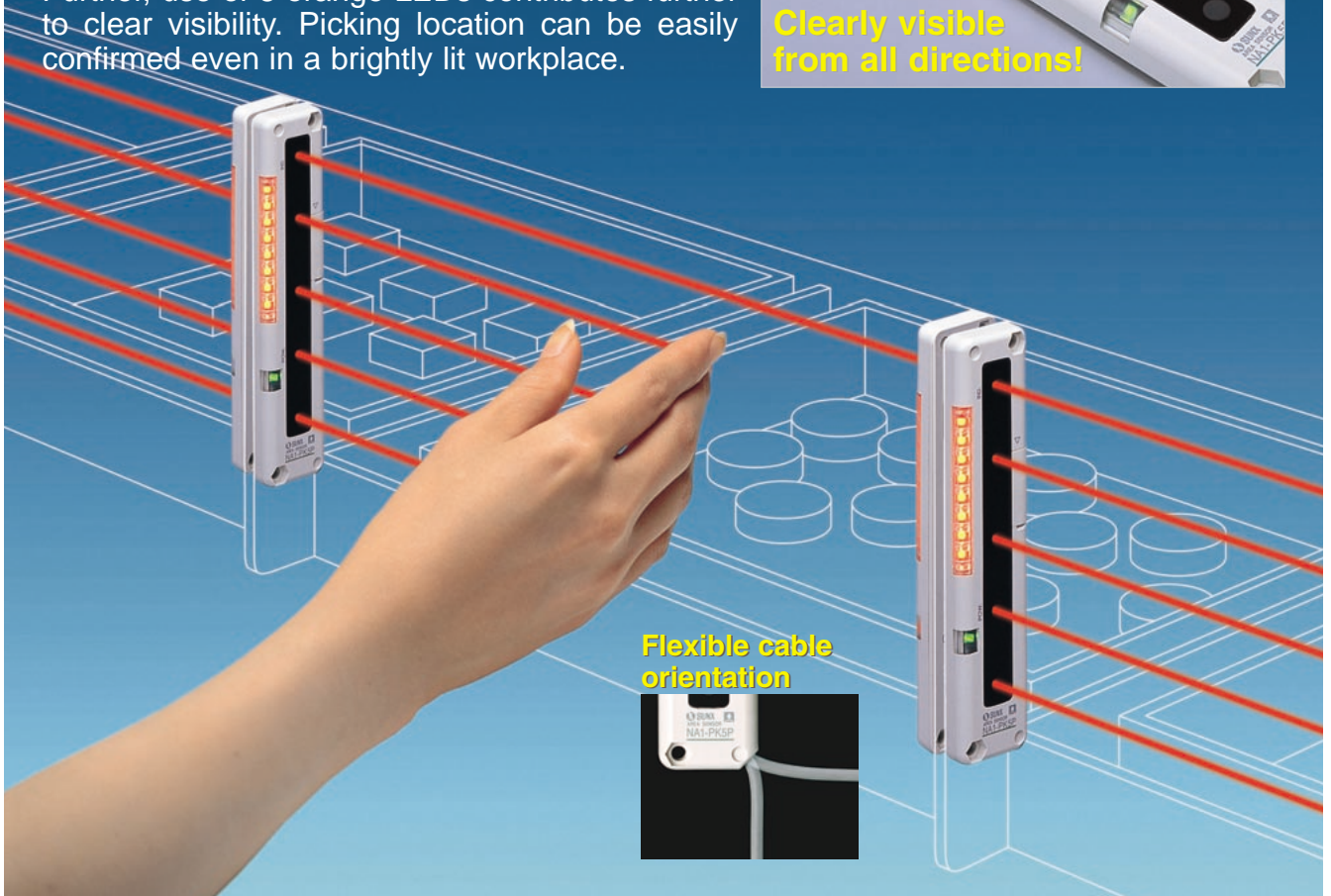
New ULTRA-SLIM BODY AREA SENSOR NA1-PK5

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.



- This product is not intended or designed to protect life and prevent body injury or property damage from dangerous parts of machinery. It is a normal object detection sensor.
- This product is not designed for use in safety applications.

SPECIFICATIONS

Item	Type	NPN output	PNP output
	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%		
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		
Response time	10ms or less (when the interference prevention is used, in Light state: 30ms or less, in Dark state: 13ms or less)		
Indicators	Emitter	Power indicator: Green LED (lights up when the power is ON) Job indicator: Orange LED (lights up or blinks when the job indicator input is Low, lighting pattern is selected by operation mode switch)	
	Receiver	Operation indicator: Red LED (lights up when one or more beams are interrupted, but lights up when two beams or more are interrupted in the double-beam-interruption mode) Stable incident beam indicator: Green LED (lights up when all beams are stably received) Job indicator: Orange LED (lights up or blinks when the job indicator input is Low, lighting pattern is selected by operation mode switch)	
Interference prevention function	Incorporated		
Pollution degree	3 (Industrial environment)		
Protection	IP62 (IEC)		
Ambient temperature	- 10 to + 55°C (No dew condensation or icing allowed), Storage: - 20 to + 70°C		
Ambient humidity	35 to 85% RH, Storage: 35 to 85% RH		
EMC	Emission: EN50081-2, Immunity: EN50082-2		
Emitting element	Infrared LED (synchronized scanning system)		
Material	Enclosure: Heat-resistant ABS, Lens case: Acrylic, Indicator cover: Acrylic		
Cable	0.3mm ² 4-core (emitter: 3-core) oil resistant cable, 2m long		
Cable extension	Extension up to total 100m is possible for both emitter and receiver with 0.3mm ² , or more, cable.		
Weight	Emitter: 80g approx., Receiver: 85g approx.		

- Notes: 1) The sensing range is the possible setting distance between the emitter and the receiver. The sensor can detect an object less than 0.1m (0.05m when set to SHORT) away.
- 2) Obtain the current consumption by the following equation.
Current consumption = Power consumption ÷ Supply voltage
(e.g.) When the supply voltage is 12V, the current consumption of the emitter is: 0.5W ÷ 12V = 0.042A = 42mA.

OPTIONS

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

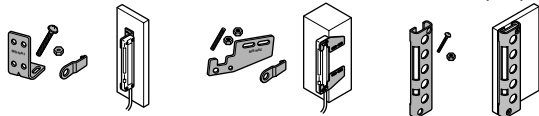
Sensor mounting bracket

• MS-NA1-1

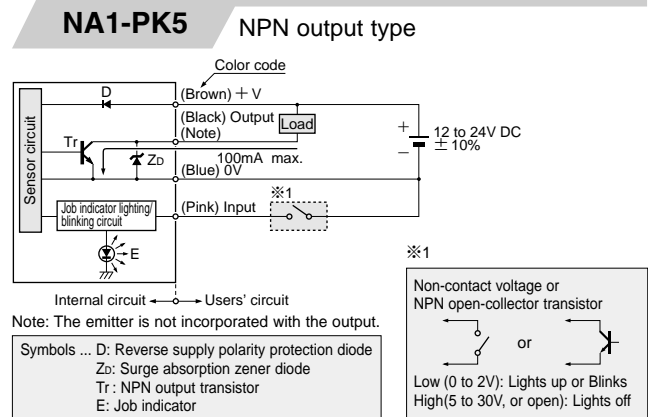
• MS-NA2-1

Sensor protection bracket

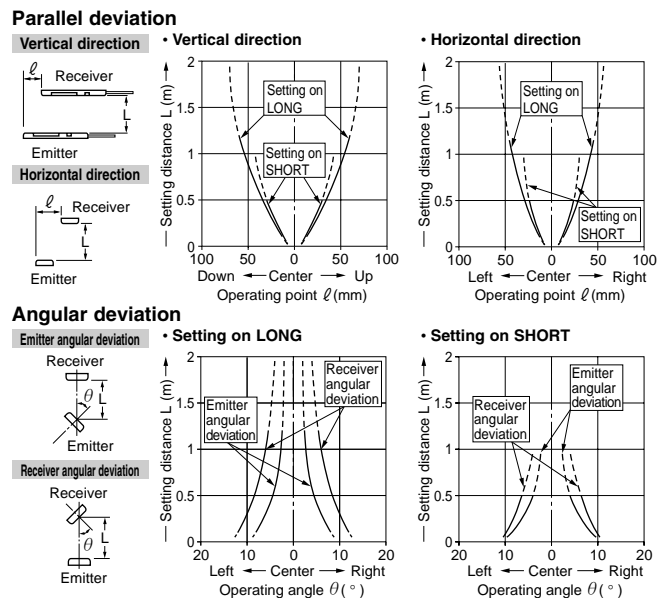
• MS-NA3(-BK)



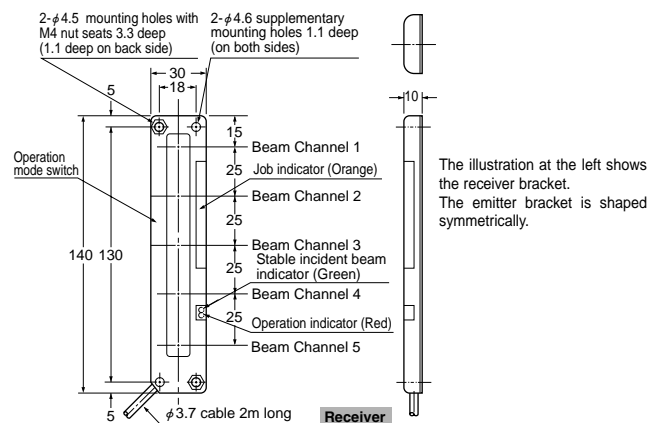
I/O CIRCUIT DIAGRAM



SENSING CHARACTERISTICS (TYPICAL)



DIMENSIONS (Unit: mm)



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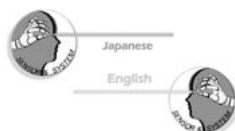
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