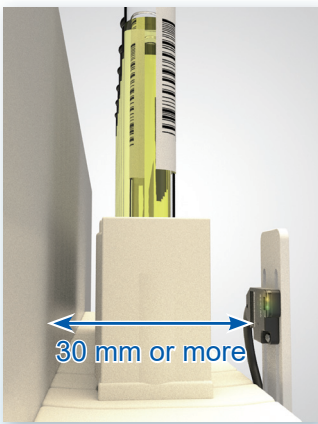
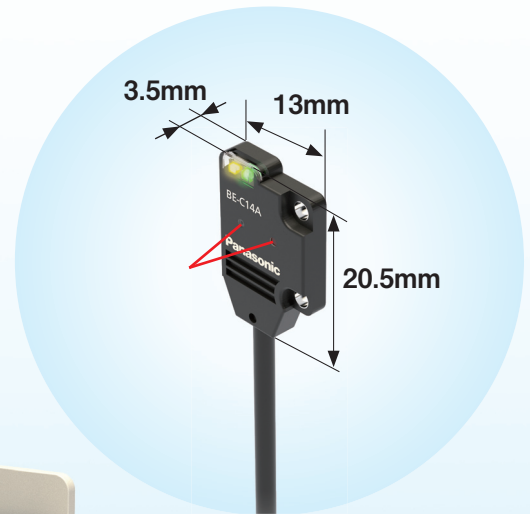


## Hardly affected by background

Background is not detected if it is **30 mm away** from the sensor



Only 3.5 mm thickness



Detect blood collection tube and tube holder running in front of the sensor but not detecting them running behind

Suitable for detection of blood collection tube, tube holder and rack in the clinical diagnostic system!

## SPECIFICATIONS

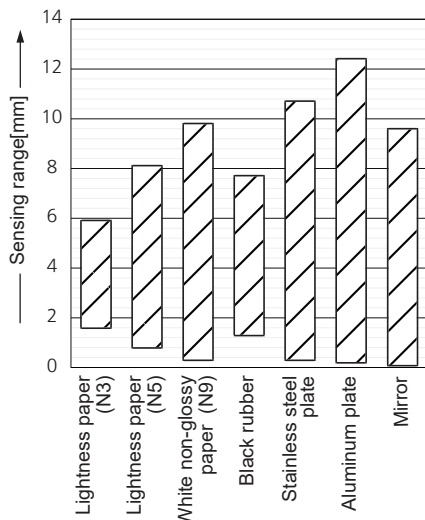
Type	NPN output type	PNP output type
Model No.	BE-C14A	BE-C14A-P
Regulatory compliance	EMC Directive, RoHS Directive	
Sensing range	2.5 to 6 mm (white non-glossy paper 50 × 50 mm)	
Hysteresis	15 % or less of operation distance (white non-glossy paper 50 × 50 mm)	
Supply voltage	12 to 24 V DC ±10 % Ripple P-P 10 % or less	
Current consumption	13 mA or less	
Output	NPN open-collector transistor • Maximum sink current: 50 mA • Applied voltage: 30 V DC or less (between output and 0 V) • Residual voltage: 2 V or less (at 50 mA sink current) 1 V or less (at 16 mA sink current)	
	PNP open-collector transistor • Maximum source current: 50 mA • Applied voltage: 30 V DC or less (between output and +V) • Residual voltage: 2 V or less (at 50 mA source current) 1 V or less (at 16 mA source current)	
	Output operation: Light-ON Short-circuit protection: Incorporated	
Response time	0.5 ms or less	
Protection	IP67 (IEC)	
Ambient temperature	-25 to +55 °C (No dew condensation or icing allowed), Storage: -30 to +70 °C	
Ambient humidity	35 to 85 % RH, Storage: 35 to 85 % RH	
Emitting element	Red LED (modulated)	
Material	Enclosure: Polyarylate (black), Lens: Polyarylate (transparent)	
Cable	0.1 mm <sup>2</sup> 3-core cabtyre cable, 2 m long	
Weight	Net weight: 20 g approx., Gross weight: 30 g approx.	
Accessories	M2 screw (length 8 mm), Nut, Spring washer, Plain washer: 2 each	

\* The mounting brackets **MS-EX10-1** and **MS-EX10-11** can be used.

\* Minimum order quantity is 10 units. Please order 10 units or more.

## SENSING CHARACTERISTICS (TYPICAL)

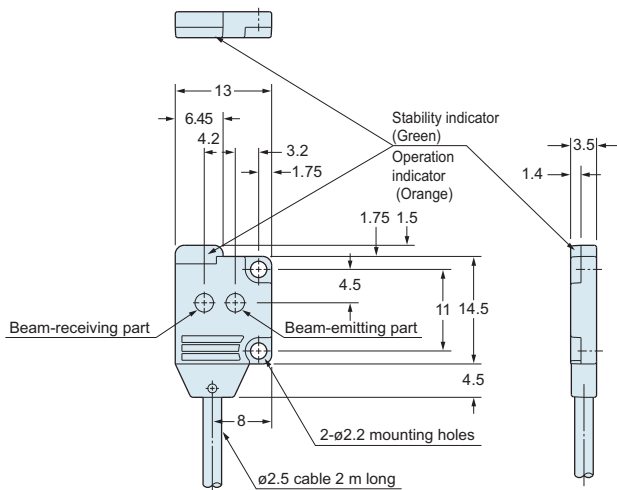
Correlation between material (50 × 50 mm) and sensing range



## DIMENSIONS (Unit: mm)

BE-C14A BE-C14A-P

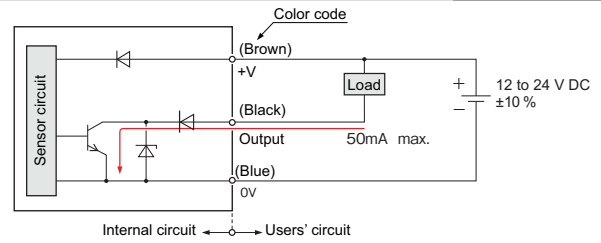
Sensor



## I/O CIRCUIT DIAGRAMS

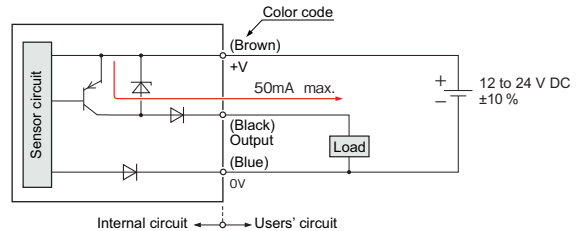
BE-C14A

NPN output type



BE-C14A-P

PNP output type

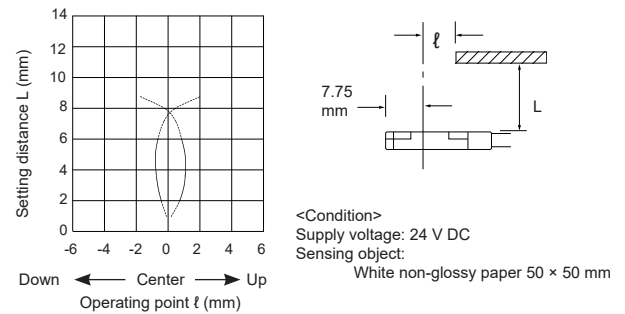


## SENSING FIELDS (TYPICAL)

Make sure to confirm detection with an actual workpiece / equipment.

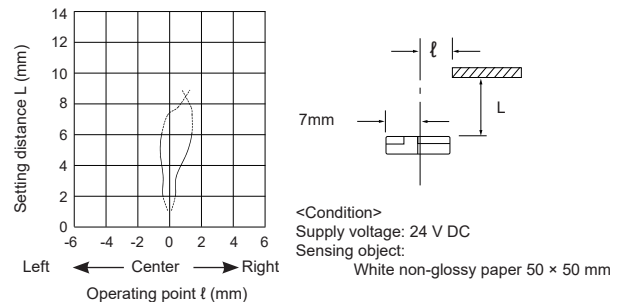
BE-C14A BE-C14A-P

Sensing field (Vertical direction)



BE-C14A BE-C14A-P

Sensing field (Horizontal direction)



## PRECAUTIONS FOR PROPER USE



- Never use this product as a sensing device for personnel protection.
- In case of using sensing devices for personnel protection, use products which meet laws and standards, such as OSHA, ANSI or IEC etc., for personnel protection applicable in each region or country.

- Do not use during the initial transient time (50 ms) after the power supply is switched on.
- Excess bending of the cable or stress applied to the cable may disconnect the internal lead wire.



eBook information for "Life Science - Our Solution for Liquid Dispensing Process"

<https://industrial.panasonic.com/ac/e/fasys/special/biomedical/>