

# Data sheet

Sensing type	Through-beam type
Sensing distance	5mm
Sensing target	Opaque
Min. sensing target	$\geq 0.8 \text{ mm} \times 1.8 \text{ mm}$
Hysteresis (distance)	$\leq 0.05 \text{ mm}$
Response time	Light ON: Max. 20 $\mu\text{s}$ , Dark ON: Max. 80 $\mu\text{s}$
Response frequency	2kHz
Light source	Infrared LED
Peak emission wavelength	940nm
Operation mode	Light ON/Dark ON(Built-in)
Indicator	Operation indicator (red LED)
Weight	$\approx 2.4 \text{ g}$
Power supply	5-24VDC $\pm 10\%$ (ripple P-P : max. 10%)
Current consumption	Max. 15mA
Control output	NPN open collector
Load voltage	$\leq 24 \text{ VDC}$
Load current	Max. 50mA
Residual voltage	NPN: $\leq 1.2 \text{ VDC}$ , PNP: $\leq 1.2 \text{ VDC}$
Protection circuit	Reverse polarity protection circuit, output overcurrent (short-circuit) protection circuit
Insulation resistance	$\geq 20 \text{ M}\Omega$ (250 VDC megger)
Noise immunity	The square wave noise (pulse width: 1 $\mu\text{s}$ ) by the noise simulator $\pm 240 \text{ VDC}$
Dielectric strength	1,000VAC- 50/60Hz for 1 minute
Vibration	1.5mm amplitude (max. acceleration 196m/s <sup>2</sup> ) at frequency of 10 to 2,000Hz in each X, Y, Z direction for 2 hours
Shock	15,000 m/s <sup>2</sup> (approx. 1,500G) in each X, Y, Z direction for 3 times
Environment_Ambient illumination	Fluorescent lamp: Max. 1,000lx(received illumination)
Environment_Ambient temperature	-20 to 55°C, storage : -25 to 85°C
Environment_Ambient humidity	35 to 85% RH, storage: 35 to 85% RH
Protection structure	IP50 (IEC standard)
Connection	Connector type
Material	Case: PBT, Sensing part: PC