

# Data sheet

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|----------------------------------|--|
| Sensing type                     | Through-beam type  |
| Sensing distance                 | 5mm  |
| Sensing target                   | Opaque   |
| Min. sensing target              | ≥ 0.8 mm × 1.8 mm  |
| Hysteresis (distance)            | ≤ 0.05mm   |
| Response time                    | Light ON: Max. 20μs, Dark ON: Max. 100μs   |
| Response frequency               | 2kHz   |
| Light source                     | Infrared LED   |
| Peak emission wavelength         | 940nm  |
| Operation mode                   | Light ON/Dark ON(set by control wire)  |
| Indicator                        | Operation indicator (red LED)  |
| Weight                           | Approx. 50g  |
| Power supply                     | 5-24VDC $\pm$ 10%(ripple P-P : max. 10%)   |
| Current consumption              | Max. 15mA  |
| Control output                   | PNP open collector   |
| Load voltage                     | ≤ 24VDC  |
| Load current                     | Max. 50mA  |
| Residual voltage                 | NPN: ≤ 1.2VDC, PNP: ≤ 1.2VDC   |
| Protection circuit               | Reverse polarity protection circuit, output overcurrent (short-circuit) protection circuit                                   |
| Insulation resistance            | ≥ 20 MΩ (250 VDC megger)   |
| Noise immunity                   | The square wave noise (pulse width: 1μs) by the noise simulator ±240VDC  |
| 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                       | Cable type   |
| Connection type                  | Ø2.5mm, 4-wire, 1m   |
| Core                             | AWG28 (0.08mm), 19-core, insulator out diameter: Ø0.65mm   |

