

Ratings Table

| Item                                | Model | EE-SPY311、EE-SPY411、EE-SPY312、EE-SPY412                                                                                                                                                                      |
|-------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sensing Distance                    |       | 2~5 mm (90% reflectivity white paper, 15 × 15 mm)                                                                                                                                                            |
| Minimum Detectable Object           |       | φ0.05 mm copper wire                                                                                                                                                                                         |
| Non-sensing Distance                |       | 20 mm and above / Vacuum-deposited aluminum glass                                                                                                                                                            |
| Hysteresis Distance                 |       | 0.2 mm (Sensing distance: 3 mm, lateral direction)                                                                                                                                                           |
| LightSource(Max.EmissionWavelength) |       | GaAs infrared LED (940 nm)                                                                                                                                                                                   |
| Indicator Lamp                      |       | Lights ON when light is received (Red)                                                                                                                                                                       |
| Supply Voltage                      |       | DC 5~24 V ±10 %, ripple (p-p): 5 % max.                                                                                                                                                                      |
| Current Consumption                 |       | Average: ≤15 mA, Max.: ≤50 mA                                                                                                                                                                                |
| Control Output                      |       | NPN voltage outputLoad supply voltage: DC 5-24 V, Load current: ≤80 mA<br>OFF-state current: ≤0.5 mA<br>Residual voltage: ≤1.0 V (at load current 80 mA)<br>Residual voltage: ≤0.4 V (at load current 10 mA) |
| Response Frequency                  |       | 100 Hz min.                                                                                                                                                                                                  |
| Ambient Illuminance                 |       | Incandescent lamp / Sunlight: 3,000 lx max. on receiving surface                                                                                                                                             |
| Ambient Temperature Range           |       | Operating: -10~+55 °C, Storage: -25~+65 °C                                                                                                                                                                   |
| Ambient Humidity Range              |       | Operating: 5~85 %RH, Storage: 5~95 %RH                                                                                                                                                                       |
| Vibration (Durability)              |       | 10-50 Hz, Amplitude 1.5 mm, X/Y/Z axes, 2 h each                                                                                                                                                             |
| Shock (Durability)                  |       | 500 m/s <sup>2</sup> , X/Y/Z axes, 3 times each                                                                                                                                                              |
| Protection Structure                |       | IEC Standard IP50                                                                                                                                                                                            |
| Connection Method                   |       | Connector type (Non-solderable)                                                                                                                                                                              |
| Mass                                |       | Approx. 2.6 g                                                                                                                                                                                                |
| Material - Housing                  |       | Polycarbonate                                                                                                                                                                                                |
| Material - Bracket                  |       | PBT (Polybutylene Terephthalate)                                                                                                                                                                             |