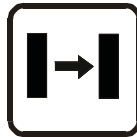
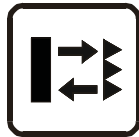
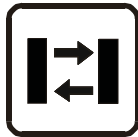


Compact: S60 Series

Multifunction Optoelectronic Sensors



- Long operating distance
- Sensitivity adjustment
- Independent NO-NC outputs
- M12 connection with standard NPN or PNP configuration

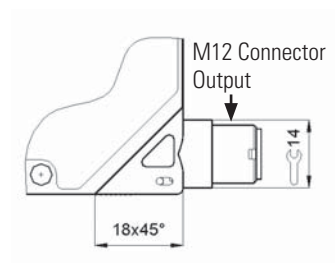
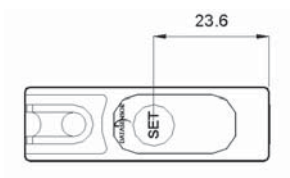
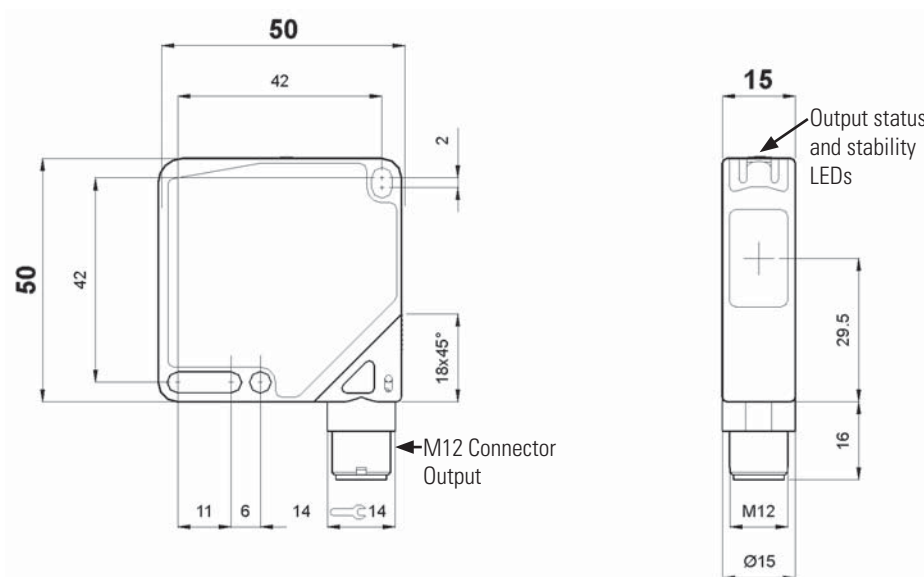
The S60 sensors have a sensitivity adjustment that provides quick and precise setting of the switching threshold. These sensors also have an M12 connection that can be used straight or rotated to a right-angle position. All versions have NPN or PNP outputs and standard configurations conforming to the EN60947-5-2 standard.

Long Diffuse Proximity - 200cm

This model of diffuse proximity sensor offers a long operating distance for direct detection of objects without the use of separate reflectors or receivers. The detection distance can be set using the sensitivity adjustment. The green stability LED indicates that the received signal is higher than the minimum signal for output switching.



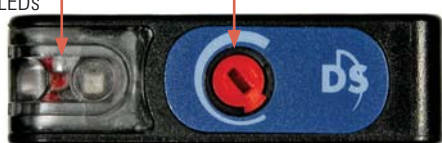
Dimensions (mm)



Indicators & Settings

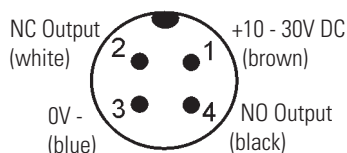
Output status and stability LEDs

Sensitivity Adjustment



Single-turn sensitivity adjustment. Rotate clockwise to increase the operating distance.

Connections



For information on accessories, see page 171.

Specifications

| | | S60-PA-5-C11-NN | S60-PA-5-C11-PP |
|------------------------------|-------------------------------------|-----------------|-----------------|
| Operating Distance | 5 - 200cm | √ | √ |
| Power Supply | 10 - 30VDC ¹ | √ | √ |
| Ripple | ≤ 2 Vpp | √ | √ |
| Current Draw | ≤ 40mA | √ | √ |
| Light Emission | Infrared LED 880nm ² | √ | √ |
| Spot Dimension | Approx. 250mm at 1m | √ | √ |
| Setting | Sensitivity adjustment ³ | √ | √ |
| Indicators | Yellow OUTPUT LED | √ | √ |
| | Green STABILITY LED | √ | √ |
| Output Type | PNP, NO and NC | – | √ |
| | NPN, NO and NC | √ | – |
| Output Current | ≤ 100mA | √ | √ |
| Saturation Voltage | ≤ 2V | √ | √ |
| Response Time | 1ms | √ | √ |
| Switching Frequency | 500Hz | √ | √ |
| Operating Mode | Light on NO / dark on NC | √ | √ |
| Connection | M12 4-pole connector ⁴ | √ | √ |
| Electrical Protection | Class 2 | √ | √ |
| Mechanical Protection | IP67 | √ | √ |
| Protection Devices | A, B ⁵ | √ | √ |
| Housing Material | ABS | √ | √ |
| Lens Material | Window: PMMA ⁶ | √ | √ |
| Weight | 40g max. | √ | √ |
| Operating Temperature | -25 to +55°C | √ | √ |
| Storage Temperature | -25 to +70°C | √ | √ |
| Reference Standard | EN60947-5-2, UL508 | √ | √ |

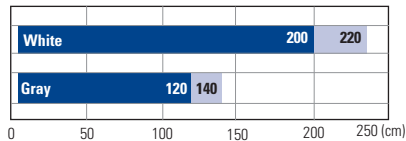


Additional models are available. Visit www.idec-ds.com for more information.

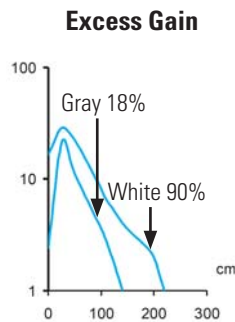
1. Limit values
2. Average life of 100,000 hrs with T_A = +25 °C
3. 270° sensitivity adjustment

4. Connector can be locked in two positions
5. A - reverse polarity protection
B - overload and short-circuit protection on outputs
6. Internal lens - polycarbonate

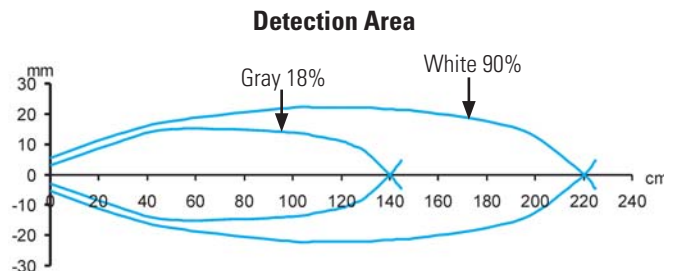
Operating Distance



■ Recommended operating distance
■ Maximum operating distance



Detection Diagrams



Technological Advantages

The S60 series establishes a new standard in compact 50 x 50mm photoelectric sensors, offering a complete family of optical functions within a 15mm housing width.

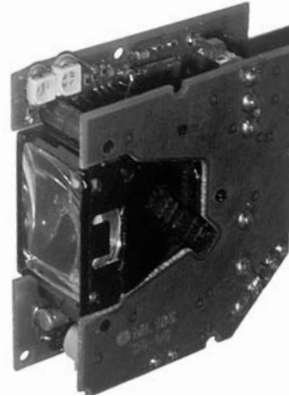
The standard dimensions, reduced housing width, and the multi-hole mounting system make the S60 series superior to the majority of compact sensors present on the market.

The models are available with M12 connectors, NPN or PNP output, and conform to EN60947-5-2 European standards.

The M12 connector can be easily rotated to 90° and can be locked in straight or right-angle positions compared to the optic axis. The cable emerges at 45° and can be bent almost 360°. These characteristics allow the sensor to be easily mounted on any side and at any angle.

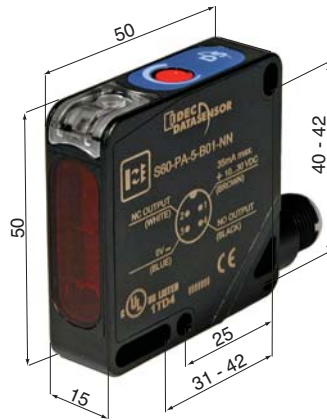
The S60 series are available in through-beam, polarized retro-reflective and diffuse proximity. The polarized retro-reflective model is available with a coaxial optical version with the emitter optic axis coinciding with the receiver. This offers superior detection axis precision and eliminates the blind zone near the sensor.

SMT Chip-size for Electronic Miniaturization Gains More Space for the Optics



Coaxial Optics

Compact Photoelectric Sensors Standard 50 x 50 x 15mm



Complete External Shield for High Electromagnetic Compatibility




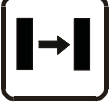
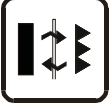
Biaxial Optics



Coaxial optics are also available in the polarized retro-reflective model for detection of transparent objects. This increases the performance of the optical function and its immunity to object movement inside the detection area.

The range and switching threshold output can be selected from 50 - 150mm, with a ± 1mm precision; direct or inverse proportionality and light or dark operating modes can also be selected.

Part Numbers

| Function | Connection | Output | Part Number | Page Number | |
|---|--|---------------|-------------|-----------------|-----|
|  | Polarized Retro-reflective | M12 connector | NPN | S60-PA-5-B01-NN | 140 |
| | Polarized Retro-reflective | M12 connector | PNP | S60-PA-5-B01-PP | |
|  | Diffuse Proximity (100cm) | M12 connector | NPN | S60-PA-5-C01-NN | 144 |
| | Diffuse Proximity (100cm) | M12 connector | PNP | S60-PA-5-C01-PP | |
|  | Long Diffuse Proximity (200cm) | M12 connector | NPN | S60-PA-5-C11-NN | 146 |
| | Long Diffuse Proximity (200cm) | M12 connector | PNP | S60-PA-5-C11-PP | |
|  | Receiver | M12 connector | NPN | S60-PA-5-F01-NN | 138 |
| | Receiver | M12 connector | PNP | S60-PA-5-F01-PP | |
| | Emitter | M12 connector | - | S60-PA-5-G00-XG | |
|  | Retro-reflective for transparent objects | M12 connector | NPN | S60-PA-5-T51-NN | 142 |
| | Retro-reflective for transparent objects | M12 connector | PNP | S60-PA-5-T51-PP | |