

S65



ADVANCED COLOR AND CONTRAST SENSORS IN COMPACT CASE

Color S65-V:

- 3 independent NPN or PNP outputs and RS 485 serial interface
- 3 channel color sensor with 10 tolerance levels
- Wide spectrum white light LED emission and RGB photo-receiver
- 2 push button setting with 4 digit display indicator

Contrast S65-W:

- High 12 bit resolution and 30 kHz switching frequency
- PNP or NPN output and RS 485 serial interface

APPLICATIONS

- Packaging lines
- Contrast reading
- Automatic machine

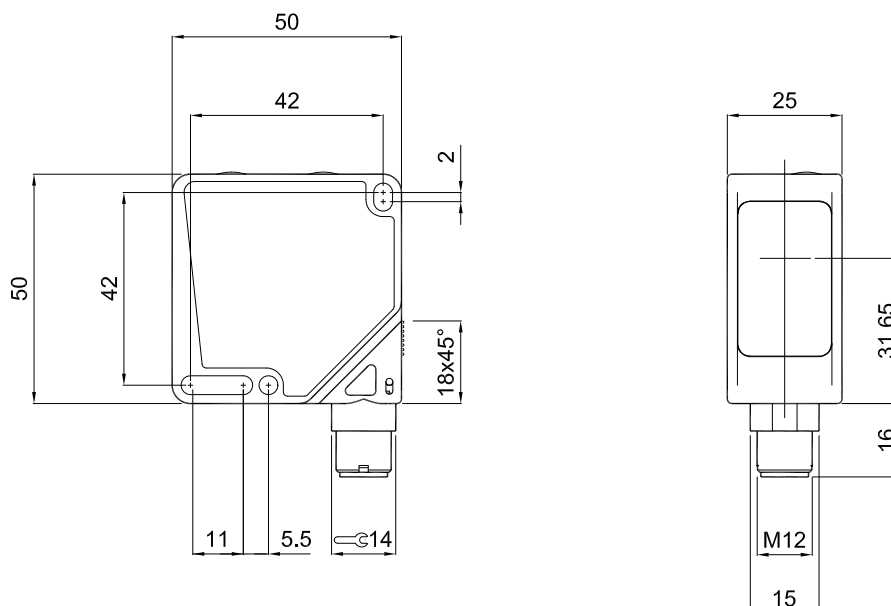


| S65 | | |
|------------------------------------|-------------------------|-------------------------------|
| Contrast sensor | 12...20 mm (S65-W) | |
| Color sensor | 5...45 mm (S65-V) | |
| Switching frequency | 30 kHz (S65-W) | |
| | 500 Hz (S65-V19 vers.) | |
| | 1,5 kHz (S65-V09 vers.) | |
| Light emission | white LED | |
| Serial interface | RS485 | |
| Setting | push-buttons | |
| Power supply | Vdc | 10...30 V |
| | Vac | |
| | Vac/dc | |
| Output | PNP | • |
| | NPN | • |
| | NPN/PNP | |
| | relay | |
| | other | 0...5 V Analog output (S65-W) |
| Connection | cable | |
| | connector | • |
| | pig-tail | |
| Approximate dimensions (mm) | 50x50x25 | |
| Housing material | ABS | |
| Mechanical protection | IP67 | |

TECHNICAL DATA

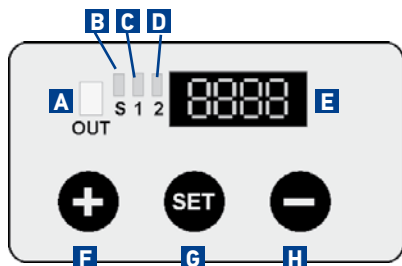
| | |
|--|---|
| Power supply | 10 ... 30 Vdc (limit values) |
| Ripple | 2 Vpp max. |
| Consumption (output current excluded) | 50 mA max. at 24 Vdc (mod. S65-W) 60 mA max. at 24 Vdc (mod. S65-V) |
| Light emission | white LED 400-700 nm |
| Setting | SET push-buttons SEL push-buttons (mod. S65-V) |
| Indicators | yellow OUTPUT LED green 4-digit display, 3 OUTPUT STATUS LEDs (S65-V), STABILITY and 2 OUTPUT DELAY LEDs (mod. S65-W) |
| Output | 1 PNP or NPN; analog output (mod. S65-W) 3 PNP or NPN; RS485 serial interface (mod. S65-V) |
| Output current | 100 mA max. |
| Saturation voltage | 2 V max. |
| Response time | 5 ms (norm) and 1 ms (fast) (mod. S65-V19) 335 µs (mod. S65-V09) 16 µs (mod. S65-W) |
| Switching frequency | 100 Hz (norm) and 500 Hz (fast) (mod. S65-V19) 1,5 kHz (mod. S65-V09) 30 kHz (mod. S65-W) |
| Connection | M12 5-pole connector (mod. S65-W standard vers.), M12 8-pole connector (mod. S65-W vers. with RS485 serial interface) M12 8-pole connector (mod. S65-V) |
| Dielectric strength | 500 Vac, 1 min between electronics and housing |
| Insulating resistance | >20 MΩ, 500 Vdc between electronics and housing |
| Electrical protection | class 2 |
| Mechanical protection | IP67 |
| Ambient light rejection | according to EN 60947-5-2 |
| Vibrations | 0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6) |
| Shock resistance | 11 ms (30 G) 6 shock for every axis (EN60068-2-27) |
| Minimum spot dimension | 3x1 mm at 19 mm (mod. S65-W) Ø 4 mm (mod. S65-V) |
| Depth of field | ± 2 mm (mod. S65-W) |
| Housing material | ABS |
| Lens material | window and lenses in glass |
| Operating temperature | -10 ... 55 °C |
| Storage temperature | -20 ... 70 °C |
| Weight | 100 g max. |

DIMENSIONS



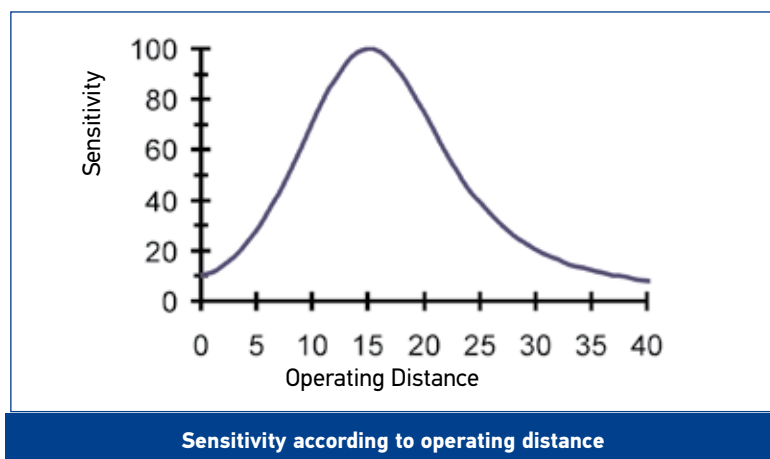
S65-W

INDICATORS AND SETTINGS S65-W



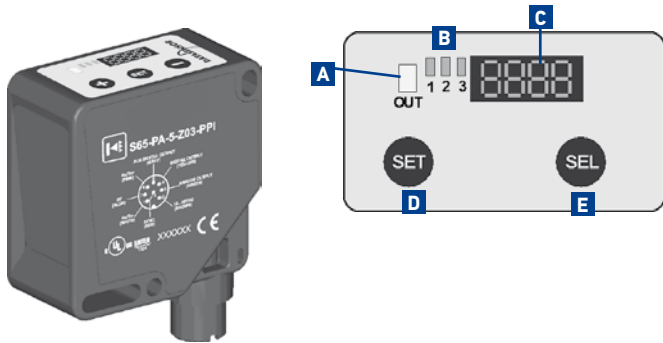
- A** Output status LED
- B** Stability LED
- C** Delay ON LED
- D** Delay OFF LED
- E** 4-digit display
- F** +/- push-buttons
- G** SET push-button
- H** M12 connector output, orientable on two positions

DETECTION DIAGRAMS S65-W



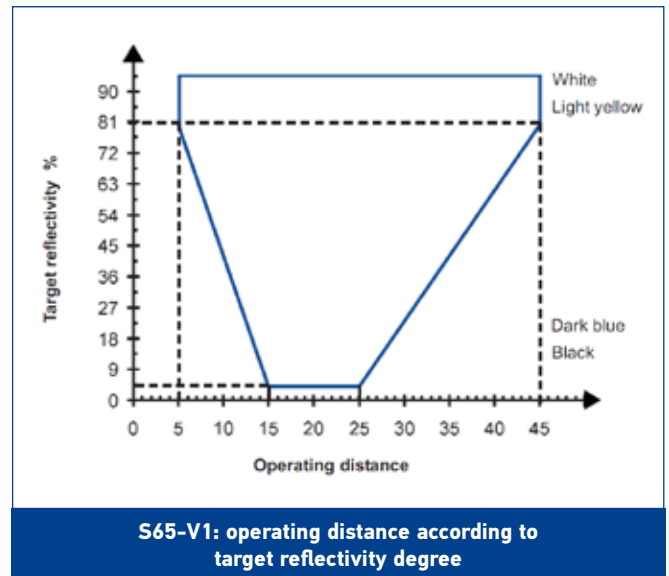
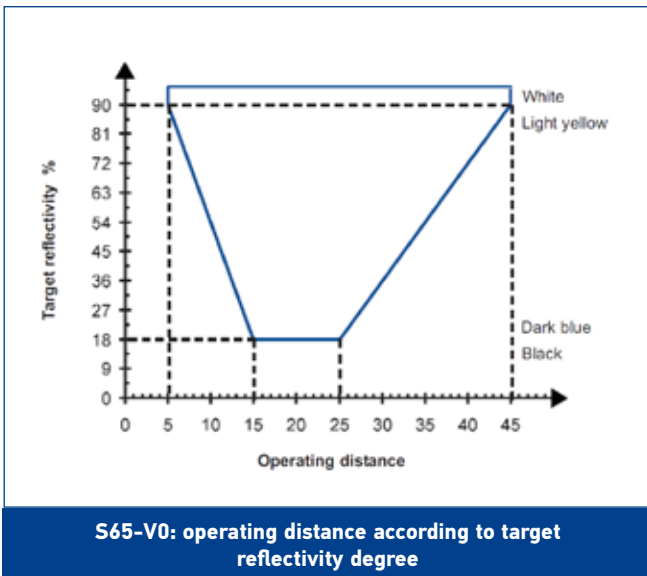
S65-V

INDICATORS AND SETTINGS S65-W



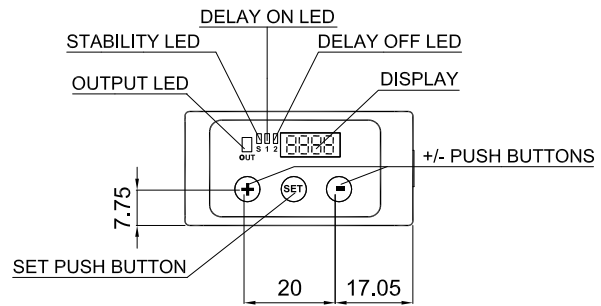
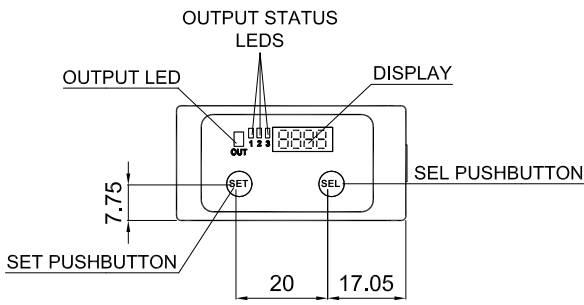
- A** Output 'OR' function LED
- B** Output status LEDs
- C** 4 digit display
- D** SET push-button
- E** SEL push-button
- F** +/- selection push-buttons
- G** M12 connector output, orientable on two positions

DETECTION DIAGRAMS S65-W



Color sensor S65-V

Contrast sensor S65-W

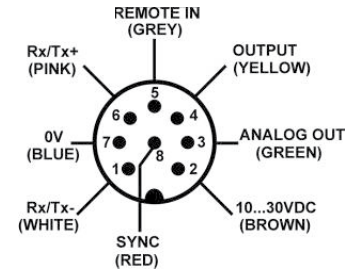
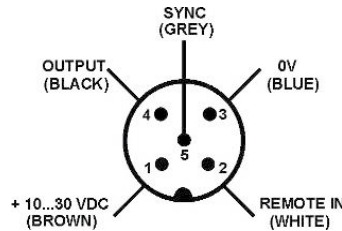
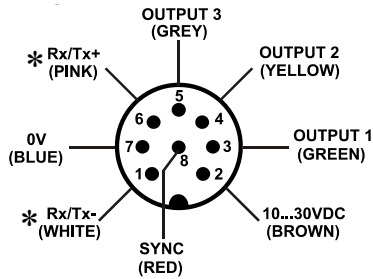


mm

CONNECTIONS

M12 CONNECTOR - COLOR SENSOR S65-V

M12 CONNECTOR - CONTRAST SENSOR S65-W



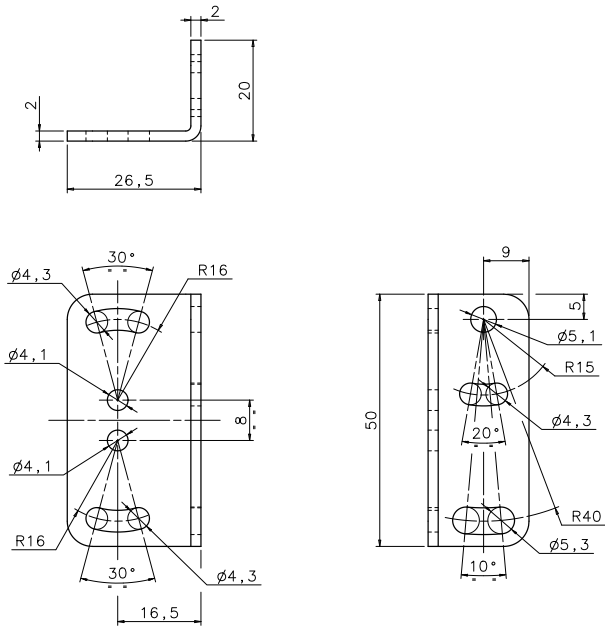
* Available only for version with RS485 serial connection (S65-PA-5-V09-xxxZ).

MODEL SELECTION AND ORDER INFORMATION

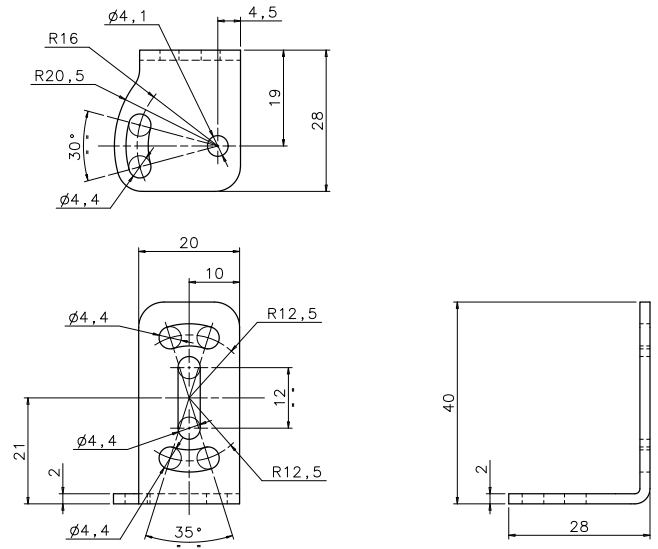
| OPTIC FUNCTION | HOUSING | CONNECTION | OUTPUT | MODEL | ORDER No. |
|-----------------|----------------------------|----------------------|------------|-------------------|-----------|
| Color sensor | 335 μ s | M12 8-pole Connector | PNP, RS485 | S65-PA-5-V09-PPPZ | 956251000 |
| | | | NPN, RS485 | S65-PA-5-V09-NNNZ | 956251010 |
| | | | PNP | S65-PA-5-V09-PPP | 956251020 |
| | | | NPN | S65-PA-5-V09-NNN | 956251030 |
| | 5 ms (norm) or 1 ms (fast) | | PNP, RS485 | S65-PA-5-V19-PPPZ | 956251080 |
| | | | NPN, RS485 | S65-PA-5-V19-NNNZ | 956251090 |
| | | | PNP | S65-PA-5-V19-PPP | 956251100 |
| | | | NPN | S65-PA-5-V19-NNN | 956251110 |
| Contrast sensor | 16 μ s | M12 5-pole Connector | NPN | S65-PA-5-W09-NH | 954201000 |
| | | M12 8-pole Connector | NPN, RS485 | S65-PA-5-W09-NHZ | 954201010 |
| | | M12 5-pole Connector | PNP | S65-PA-5-W09-PH | 954201020 |
| | | M12 8-pole Connector | PNP, RS485 | S65-PA-5-W09-PHZ | 954201030 |

ACCESSORIES

ST-5020



ST-5021



| MODEL | DESCRIPTION | ORDER No. |
|---------|----------------------------------|-----------|
| ST-5020 | mounting bracket 50 x 27 x 20 mm | 95ACC5330 |
| ST-5021 | mounting bracket 20 x 40 x 28 mm | 95ACC5340 |

CABLES

| TYPE | DESCRIPTION | LENGTH | MODEL | ORDER No. | |
|----------------------|---------------------------------|-----------------------------|---------------|---------------|-----------|
| Axial M12 connector | 5-pole, grey, P.V.C. | 3 m | CS-A1-03-G-03 | 95ACC2110 | |
| | | 5 m | CS-A1-03-G-05 | 95ACC2120 | |
| | | 10 m | CS-A1-03-G-10 | 95ACC2140 | |
| | 5-pole, U.L., black, P.V.C | 3 m | CS-A1-03-U-03 | 95ASE1170 | |
| | | 5 m | CS-A1-03-U-05 | 95ASE1180 | |
| | | 10 m | CS-A1-03-U-10 | 95ASE1190 | |
| | | 15 m | CS-A1-03-U-15 | 95ASE1200 | |
| | | 25 m | CS-A1-03-U-25 | 95ASE1210 | |
| | | 50 m | CS-A1-03-U-50 | 95A252700 | |
| | | 8-pole, black, P.V.C. | 3 m | CS-A1-06-B-03 | 95ACC2260 |
| 5 m | CS-A1-06-B-05 | | 95ACC2270 | | |
| 10 m | CS-A1-06-B-10 | | 95ACC2280 | | |
| Radial M12 Connector | 8-pole, shielded, black, P.V.C. | 3 m | CV-A2-26-B-03 | 95ACC1600 | |
| | | 5 m | CV-A2-26-B-05 | 95ACC1610 | |
| | | 10 m | CV-A2-26-B-10 | 95ACC1620 | |
| Axial M12 Connector | 8-pole, shielded, black, P.V.C. | 3 m | CV-A1-26-B-03 | 95ACC1510 | |
| | | 5 m | CV-A1-26-B-05 | 95ACC1520 | |
| | | 10 m | CV-A1-26-B-10 | 95ACC1530 | |
| | | 15 m | CV-A1-26-B-15 | 95ACC2080 | |
| | | 25 m | CV-A1-26-B-25 | 95ACC2100 | |
| | | 8-pole, U.L., black, P.V.C. | 3 m | CS-A1-06-U-03 | 95ASE1220 |
| | | | 5 m | CS-A1-06-U-05 | 95ASE1230 |
| | 10 m | | CS-A1-06-U-10 | 95ASE1240 | |
| | 15 m | | CS-A1-06-U-15 | 95ASE1250 | |
| | 25 m | | CS-A1-06-U-25 | 95ASE1260 | |
| | 50 m | | CS-A1-06-U-50 | 95A252710 | |
| | 8-pole, black | Connector-not cabled | CS-A1-06-B-NC | 95ACC2550 | |