

S20 Series

- High performance universal sensors
- Background suppression with μ P teach-in from 10 to 50 cm
- Polarised retroreflex up to 11 m
- 2 m diffused proximity
- 50 m emitter-receiver
- NPN or PNP output
- Cable or M12 connection
- Compact ABS housing with IP66 protection

TECHNICAL DESCRIPTION

The **S20** series offers all the basic optic functions with the best performances.

The series presents models with 50 cm background suppression with μ P based teach-in setting; or trimmer adjustable 11 m polarised retroreflex, 2 m proximity versions, and 50 m emitter - receiver models.

The teach-in key, or the trimmer, are present on the top side of the sensor, together with the yellow LED which indicates the output status and the green LED which indicates the operating status; the latter in the μ P models is a green/red bi-colour LED.

The emission is visible red in the background suppression and polarised retroreflex versions, while it is infrared in the diffused proximity and emitter-receiver versions.

The output can be NPN or PNP, and the connection can be via cable or M12 connector, according to the model. The connection identification is compliant to the EN 60947-5-2 and EN 50044 European regulations.

The compact ABS housing offers good shock resistance and an IP66 protection degree. The connection block can be adjusted either in a straight or right angle position, in order to offer improved adaptability and versatility for mechanical mounting.

APPLICATIONS

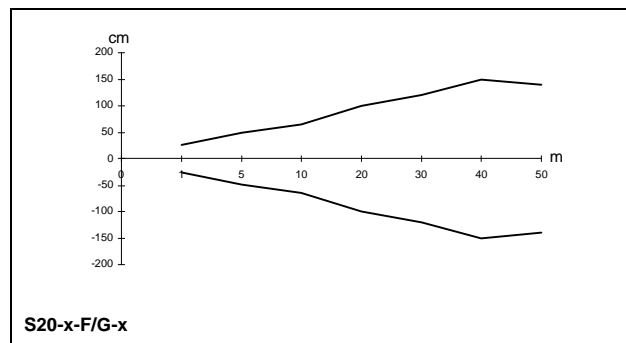
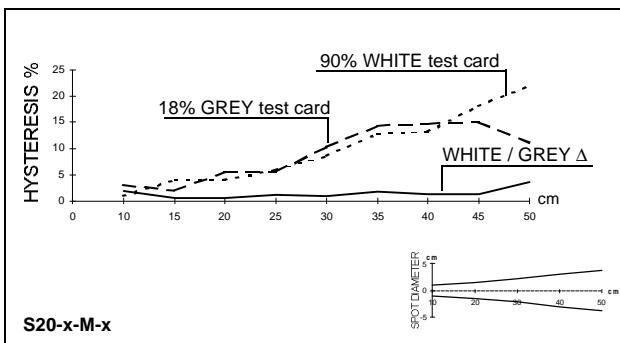
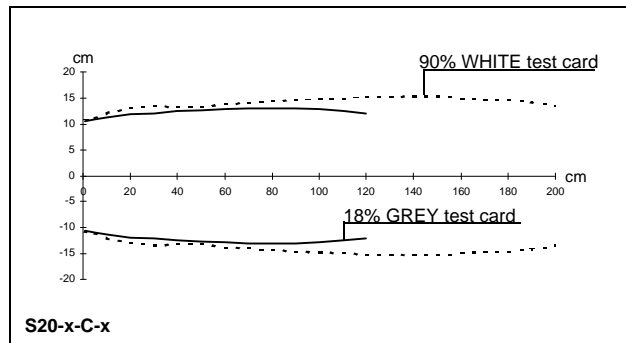
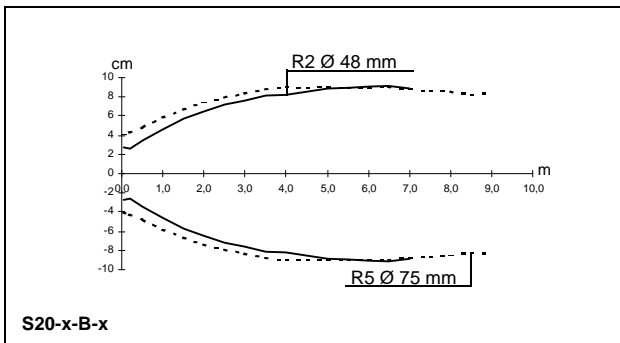
- Automatic material handling
- Automatic warehouse storage and retrieval systems
- Conveyor, sorting and transport
- Automatic guided vehicle systems
- Automatic packaging and packing
- Palletisers and depalletisers



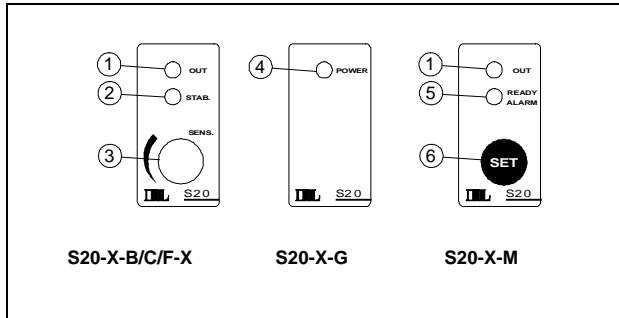
TECHNICAL DATA

| | S20-x-B-x | S20-x-C-x | S20-x-F/G-x | S20-x-M-x |
|---|---|-------------------|-------------|--|
| Power supply: | 10 ÷ 30 Vdc; polarity inversion protection | | | |
| Ripple: | 2 Vpp max. | | | |
| Consumption (output current excluded): | 40 mA max. | | | 50 mA max. |
| Output: | NO and NC NPN or PNP open collector | | | |
| Output current: | 200 mA with short-circuit protection | | | |
| Saturation voltage: | 1V max. for NPN versions 2V max. for PNP versions (values at peak output current) | | | |
| Response time: | 1 ms | | | |
| Setting: | sensitivity trimmer | | | teach-in key |
| Indicators: | OUT LED (YELLOW) STABILITY LED (GREEN) | | | OUT LED (yellow) READY LED (green) ALARM LED (red) |
| Data retention: | - | | | EEPROM non volatile memory |
| Operating temperature: | -20°C ÷ 60°C | | | -10°C ÷ 55°C |
| Storage temperature: | -20°C ÷ 60°C | | | |
| Electrical shock protection: | Class 1 device | | | |
| Operating distance: | see table | 1 ÷ 200 cm | 50 m | 10 ÷ 50 cm |
| Emission type: | RED (660 nm) | INFRARED (880 nm) | | RED (660nm) |
| Ambient light rejection: | EN 60947-5-2 | | | |
| Housing: | ABS | | | |
| Protection degree: | IP66 | | | |
| Connections: | 4 pole M12 connector or 2 m cable with Ø 5 mm | | | |
| Dimensions: | 55 x 65 x 20 mm | | | |
| Weight: | 130g. max. | | | |

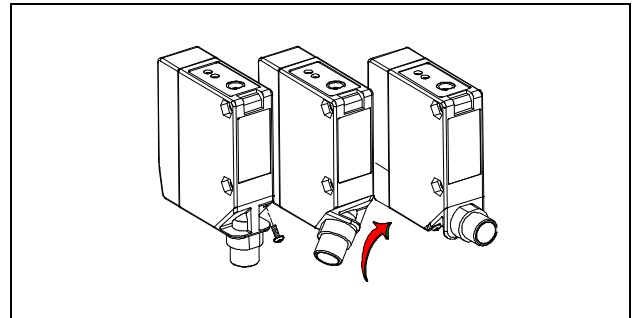
EMISSION DIAGRAMS



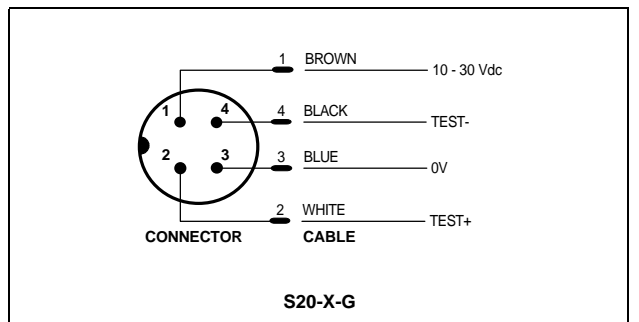
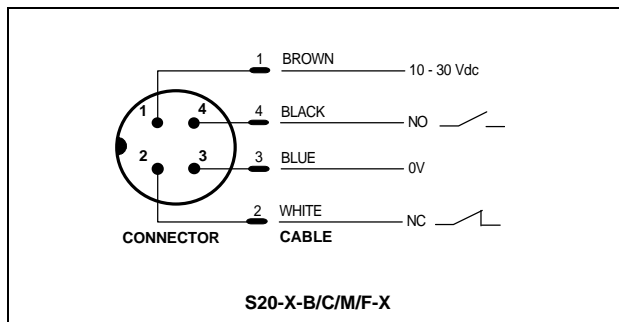
CONTROL PANELS



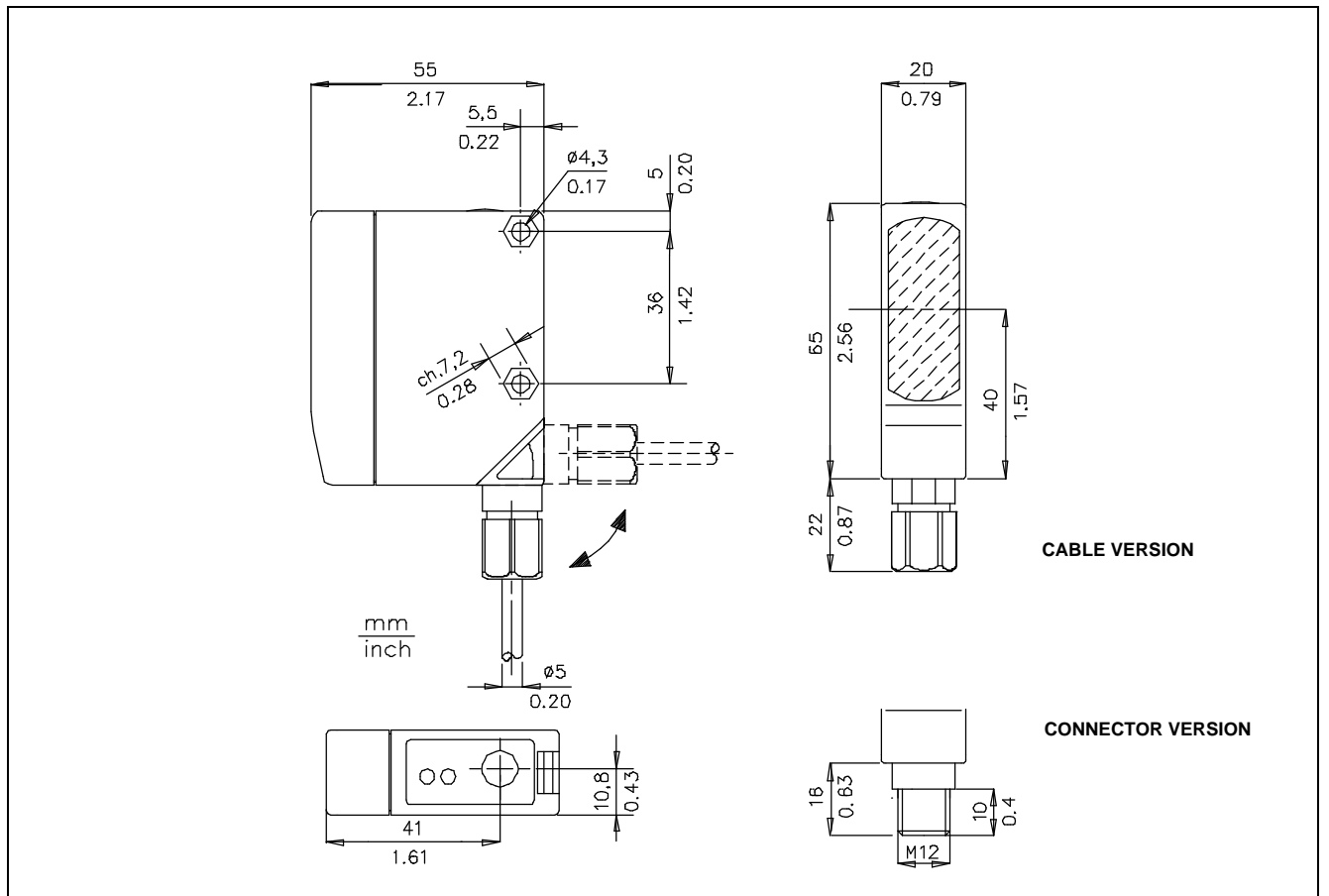
CONNECTION BLOCK



CONNECTIONS



DIMENSIONS



MODELS

| MODEL | CONNECTION | OPTIC FUNCTION | OUTPUT | CODE N° |
|-----------|------------|------------------------|--------|-----------|
| S20-2-B-P | cable | polarised retroreflex | PNP | 951351000 |
| S20-2-C-P | cable | diffused proximity | PNP | 951351010 |
| S20-2-M-P | cable | background suppression | PNP | 951351020 |
| S20-2-F-P | cable | receiver | PNP | 951351030 |
| S20-2-G | cable | emitter | - | 951351040 |
| S20-2-B-N | cable | polarised retroreflex | NPN | 951351050 |
| S20-2-C-N | cable | diffused proximity | NPN | 951351060 |
| S20-2-M-N | cable | background suppression | NPN | 951351070 |
| S20-2-F-N | cable | receiver | NPN | 951351080 |
| S20-5-B-P | M12 conn. | polarised retroreflex | PNP | 951351100 |
| S20-5-C-P | M12 conn. | diffused proximity | PNP | 951351110 |
| S20-5-M-P | M12 conn. | background suppression | PNP | 951351120 |
| S20-5-F-P | M12 conn. | receiver | PNP | 951351130 |
| S20-5-G | M12 conn. | emitter | - | 951351140 |
| S20-5-B-N | M12 conn. | polarised retroreflex | NPN | 951351150 |
| S20-5-C-N | M12 conn. | diffused proximity | NPN | 951351160 |
| S20-5-M-N | M12 conn. | background suppression | NPN | 951351170 |
| S20-5-F-N | M12 conn. | receiver | NPN | 951351180 |

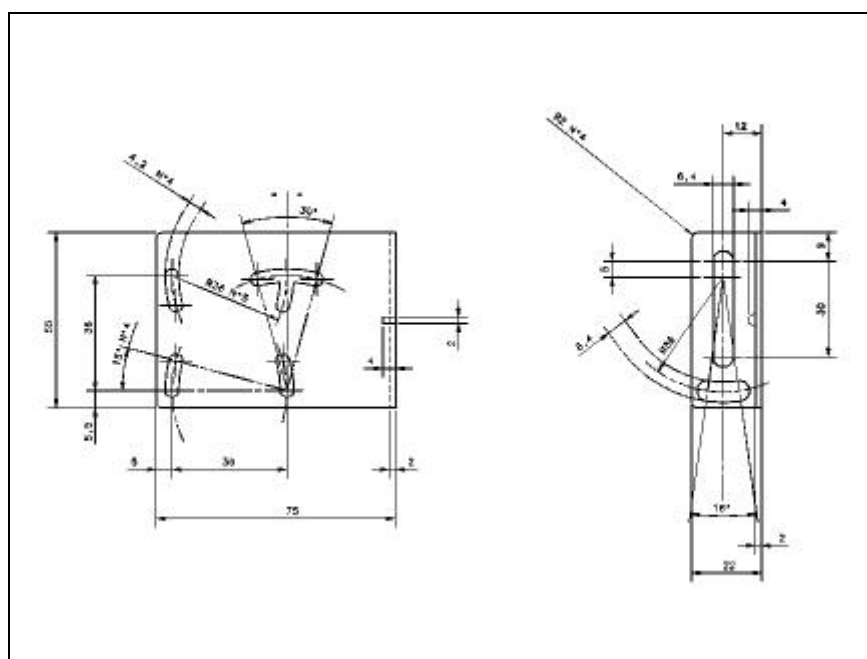
ACCESSORIES

| MODEL | DESCRIPTION | CODE N° |
|---------|--------------------------------|------------|
| R1 | Ø 23 mm plastic reflector | S940700023 |
| R2 | Ø 48 mm plastic reflector | S940700048 |
| R3 | 18 x 54 mm plastic reflector | S940700972 |
| R4 | 51 x 51 mm plastic reflector | 95A151010 |
| R5 | Ø 75 mm plastic reflector | S940700075 |
| R6 | 60 x 40,5 mm plastic reflector | 95A151020 |
| CRD-263 | fixing bracket set (10 pcs) | 95ACC1040 |

TABLE: REFLECTOR / OPERATING DISTANCE

| Reflector | S20-x-B-x |
|-----------|-------------|
| R1 | 4,2 ± 0,2 m |
| R2 | 7 ± 0,2 m |
| R3 | 6 ± 0,2 m |
| R4 | 9 ± 0,2 m |
| R5 | 9 ± 0,2 m |
| R6 | 11 ± 0,2 m |

FIXING BRACKET



We reserve the right to make modifications and improvements