

## MINIATURE SENSOR BASIC LINE



- *Diffuse or fixed focus proximity for background suppression*
- *Polarised retroreflex and emitter-receiver with narrow beam*
- *Models with trimmer setting*
- *Double NO-NC NPN or PNP output*

## S41 SERIES

The **S41** series offers a basic line of photoelectric sensors in a miniature housing, ideal for applications that require reduced dimensions and costs.

The optic functions include a diffuse proximity adjustable from 0 to 35 cm and a 11 cm fixed focus proximity suitable for background suppression; 2.5 m polarised retroreflex, 1 m retroreflex for transparents and 6 m through beam are available for longer operating distances; the latter is also available in a narrow beam emitter version that allows to place sensors side by side without interferences.

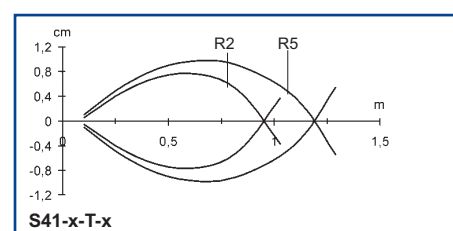
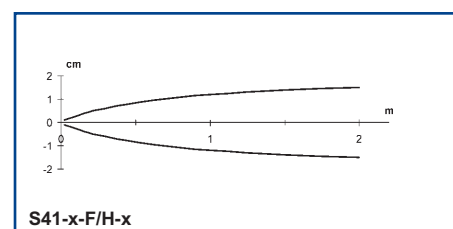
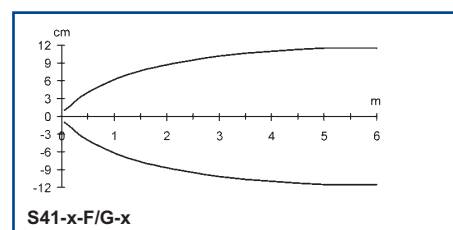
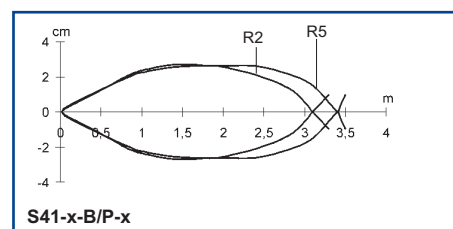
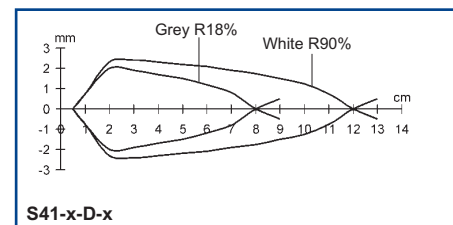
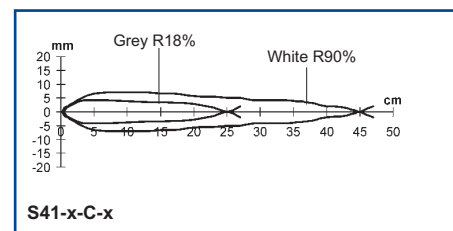
The LED emission is red for the fixed focus proximity and infrared for the other models. Two LED indicators are visible on the sensors: a yellow output LED and a green switching stability LED; the diffuse proximity models and a polarised retroreflex version also present a sensitivity adjustment trimmer.

The normally open and normally closed outputs are both present on different poles; cable or M8 connection is offered according to the model chosen.

## TECHNICAL DATA

|                                                  |                                                                                                                                                                                           |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Power supply:</b>                             | 10 ... 30 Vdc, reverse polarity protection                                                                                                                                                |
| <b>Consumption:</b>                              | 35 mA max.                                                                                                                                                                                |
| <b>Light emission:</b>                           | red LED 660 nm (B, D, P, T vers.)<br>infrared LED 880 nm (C, G, H vers.)                                                                                                                  |
| <b>Diffuse proximity operating distance:</b>     | 0.2 ... 35 cm (C vers.)                                                                                                                                                                   |
| <b>Fixed focus operating distance:</b>           | 11 cm $\pm$ 10 % (D vers.)                                                                                                                                                                |
| <b>Polarised retroreflex operating distance:</b> | 0.1 ... 2.5 m (on R2)                                                                                                                                                                     |
| <b>Retroreflex transparents op. distance:</b>    | 0.1 ... 0.7 m (on R2)                                                                                                                                                                     |
| <b>Through beam operating distance:</b>          | 0.1 ... 6 m (G vers.), 0.1 ... 1.5 m (H vers.)                                                                                                                                            |
| <b>Setting:</b>                                  | sensitivity trimmer (B, C, T vers.)                                                                                                                                                       |
| <b>Indicators:</b>                               | yellow OUTPUT LED<br>green POWER LED (G, H vers.)<br>green STABILITY LED (B, C, D, F, P vers.)                                                                                            |
| <b>Output type:</b>                              | NC-NO NPN or PNP                                                                                                                                                                          |
| <b>Saturation voltage:</b>                       | 2 V max.                                                                                                                                                                                  |
| <b>Output current:</b>                           | 100 mA max., short-circuit protection                                                                                                                                                     |
| <b>Response time:</b>                            | 1 ms max.                                                                                                                                                                                 |
| <b>Switching frequency:</b>                      | 500 Hz max.                                                                                                                                                                               |
| <b>Connection:</b>                               | M8 4-pole connector<br>2 m $\varnothing$ 3.5 mm cable                                                                                                                                     |
| <b>Electrical protection:</b>                    | class 2                                                                                                                                                                                   |
| <b>Mechanical protection:</b>                    | IP67 (P, D, F, G, H vers.)<br>IP66 (B, C, T vers.)                                                                                                                                        |
| <b>Housing material:</b>                         | ABS                                                                                                                                                                                       |
| <b>Lens material:</b>                            | PMMA plastic                                                                                                                                                                              |
| <b>Weight:</b>                                   | 10 g max. (connector vers.)<br>40 g max. (cable vers.)                                                                                                                                    |
| <b>Operating temperature:</b>                    | -25 ... +55°C                                                                                                                                                                             |
| <b>Storage temperature:</b>                      | -25 ... +70°C                                                                                                                                                                             |
| <b>Reference standard:</b>                       | EN 60947-5-2                                                                                                                                                                              |
| <b>Certifications:</b>                           | CE  US LISTED  II3D |

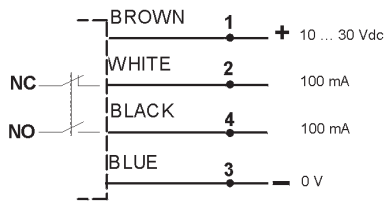
## DETECTION DIAGRAMS



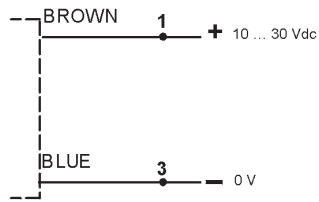
The operating distances indicate the detection distance with excess gain 2.

The detection diagrams indicate the typical operating distance with excess gain 1.

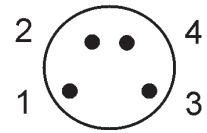
## CONNECTIONS



S41-5-B/C/D/F/P/T



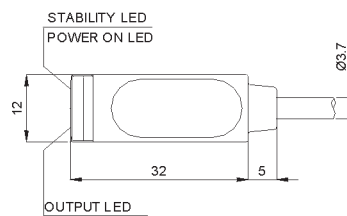
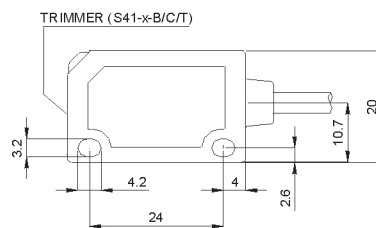
S41-5-G/H



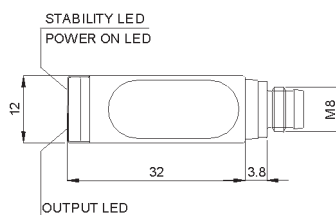
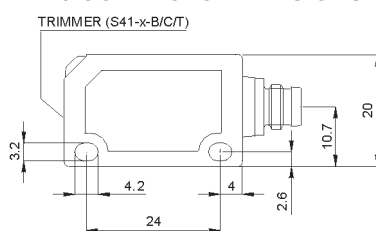
M8 CONNECTOR

## DIMENSIONS

### CABLE VERSIONS



### M8 CONNECTOR VERSIONS



mm

## MODEL SELECTION AND ORDER INFORMATION

| MODEL     | OPTIC FUNCTION               | TRIMMER | CONNECTION   | OUTPUT | CODE N°   |
|-----------|------------------------------|---------|--------------|--------|-----------|
| S41-2-B-P | polarised retroreflex        | present | 2 m cable    | PNP    | 950701000 |
| S41-2-C-P | diffuse proximity            | present | 2 m cable    | PNP    | 950701010 |
| S41-2-D-P | fixed focus proximity        | absent  | 2 m cable    | PNP    | 950701020 |
| S41-2-F-P | receiver                     | absent  | 2 m cable    | PNP    | 950701030 |
| S41-2-G   | emitter                      | absent  | 2 m cable    | -      | 950701040 |
| S41-2-H   | emitter with narrow beam     | absent  | 2 m cable    | -      | 950701045 |
| S41-2-P-P | polarised retroreflex        | absent  | 2 m cable    | PNP    | 950701100 |
| S41-2-T-P | retroreflex for transparents | present | 2 m cable    | PNP    | 950701130 |
| S41-5-B-P | polarised retroreflex        | present | M8 connector | PNP    | 950701050 |
| S41-5-C-P | diffuse proximity            | present | M8 connector | PNP    | 950701060 |
| S41-5-D-P | fixed focus proximity        | absent  | M8 connector | PNP    | 950701070 |
| S41-5-F-P | receiver                     | absent  | M8 connector | PNP    | 950701080 |
| S41-5-G   | emitter                      | absent  | M8 connector | -      | 950701090 |
| S41-5-H   | emitter with narrow beam     | absent  | M8 connector | -      | 950701095 |
| S41-5-P-P | polarised retroreflex        | absent  | M8 connector | PNP    | 950701110 |
| S41-5-T-P | retroreflex for transparents | present | M8 connector | PNP    | 950701140 |
| S41-2-B-N | polarised retroreflex        | present | 2 m cable    | NPN    | 950701150 |
| S41-2-C-N | diffuse proximity            | present | 2 m cable    | NPN    | 950701160 |
| S41-2-D-N | fixed focus proximity        | absent  | 2 m cable    | NPN    | 950701170 |
| S41-2-F-N | receiver                     | absent  | 2 m cable    | NPN    | 950701180 |
| S41-2-P-N | polarised retroreflex        | absent  | 2 m cable    | NPN    | 950701190 |
| S41-2-T-N | retroreflex for transparents | present | 2 m cable    | NPN    | 950701200 |
| S41-5-B-N | polarised retroreflex        | present | M8 connector | NPN    | 950701210 |
| S41-5-C-N | diffuse proximity            | present | M8 connector | NPN    | 950701120 |
| S41-5-D-N | fixed focus proximity        | absent  | M8 connector | NPN    | 950701230 |
| S41-5-F-N | receiver                     | absent  | M8 connector | NPN    | 950701240 |
| S41-5-P-N | polarised retroreflex        | absent  | M8 connector | NPN    | 950701250 |
| S41-5-T-N | retroreflex for transparents | present | M8 connector | NPN    | 950701260 |

## ACCESSORY SELECTION AND ORDER INFORMATION

| MODEL  | DESCRIPTION                                    | CODE N°    |
|--------|------------------------------------------------|------------|
| R1     | Ø 23 mm reflector with Ø 31 mm support         | S940700023 |
| R2     | Ø 48 mm reflector with Ø 63 mm support         | S940700048 |
| R3     | 18 x 54 mm reflector with 22.5 x 82 mm support | S940700972 |
| R4     | 47 x 47 mm reflector with 51.5 x 61 mm support | 95A151010  |
| R5     | Ø 75 mm reflector with Ø 82 mm support         | S940700075 |
| R6     | 36 x 55 mm reflector with 40.5 x 60 mm support | 95A151020  |
| ST-505 | 1 pc fixing bracket                            | 95ACC1300  |

Please refer to **Sensor Accessories**

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### HEADQUARTERS

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