



## Safety sensor 165

Safety doors, bonnets or covers can be safely monitored with the non-contact and therefore wear-free sensors in combination with the matching elobau safety evaluation unit. The magnetic safety sensors are particularly convincing for monitoring safety doors on food processing machines due to their concealed installation behind stainless steel.

The high number of variants at elobau offers solutions for almost all applications.

### Technical specifications

- Sensors can be combined with different actuators (standard or amplified) can be combined for switching distance to suit the application
- Variable connection through cable outlet and M8 housing connector
- Simple diagnosis through optional LED and control contact
- Oblong holes allow easy alignment

## Technical drawing

IMAGE 1/3

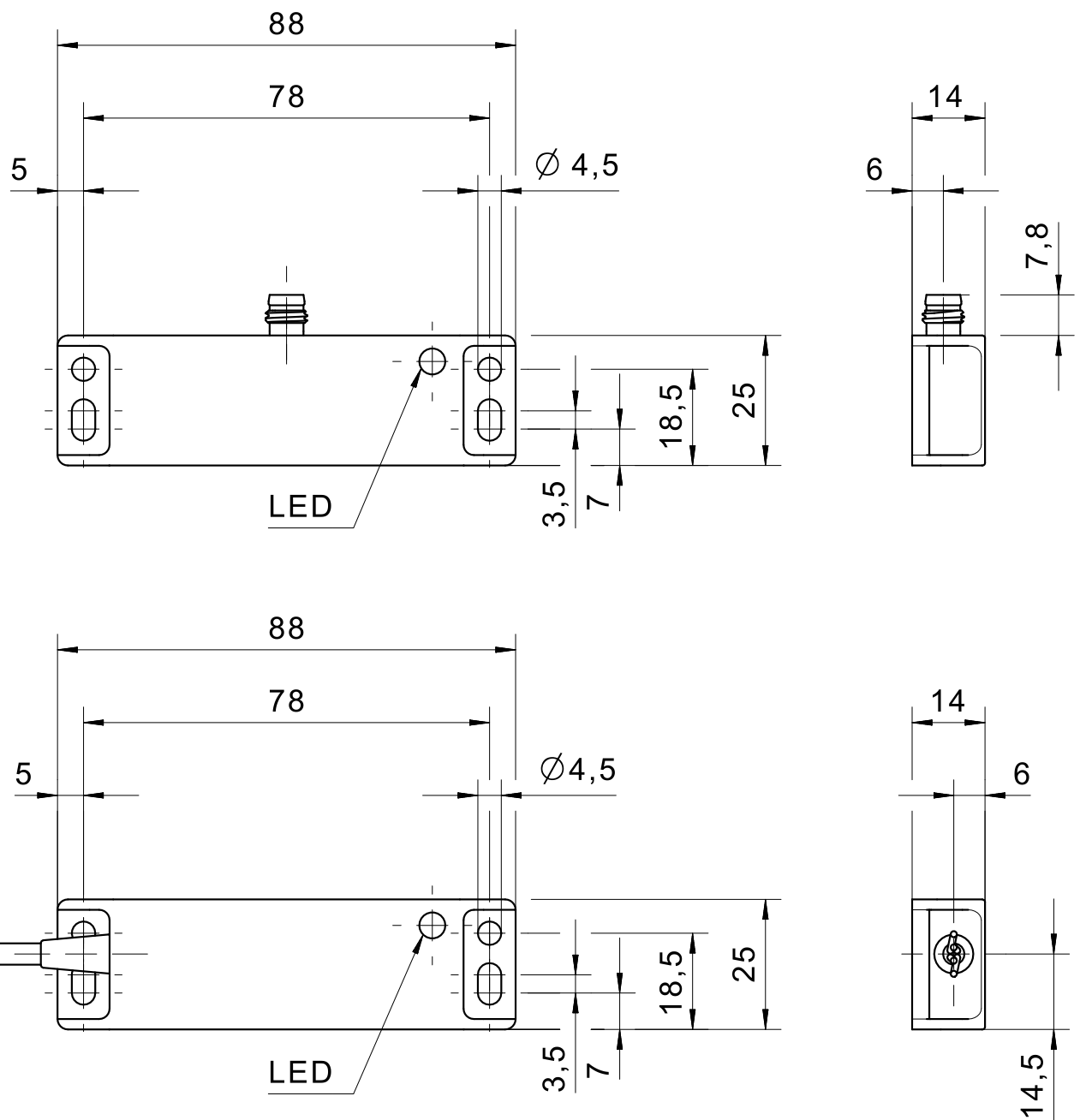
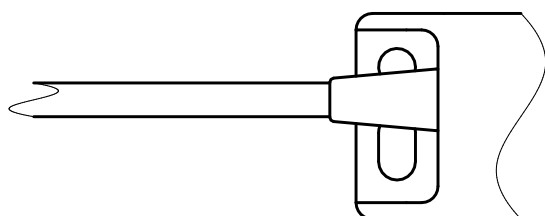


IMAGE 2/3



**male M8**

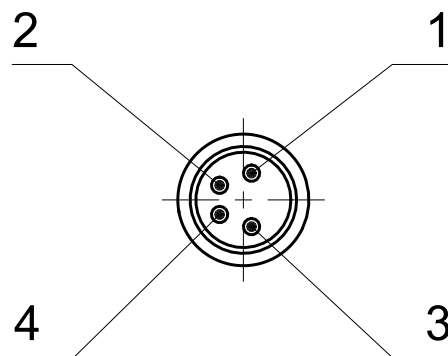
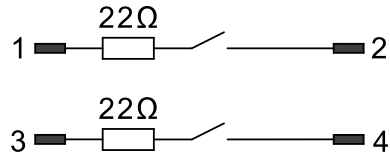
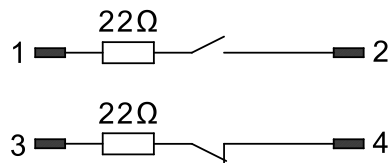


IMAGE 3/3

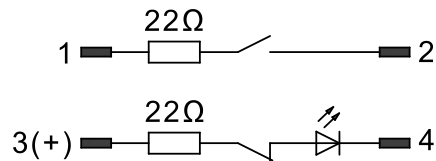
165V62A0D



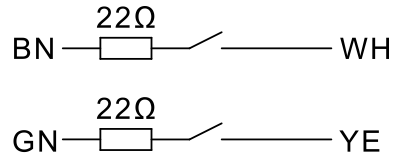
165270A0D



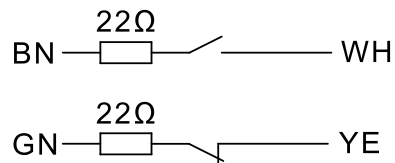
165270A0E



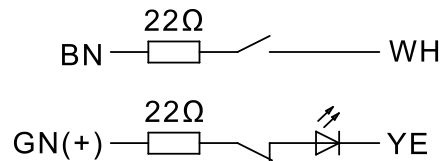
165262GS, 165V62



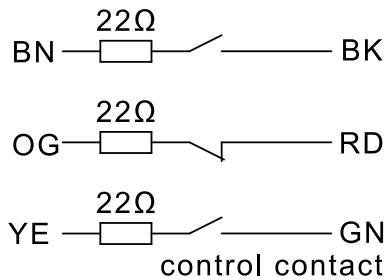
165270



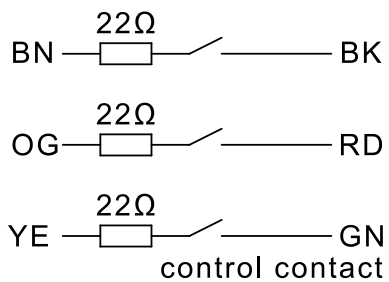
165270AA



165570

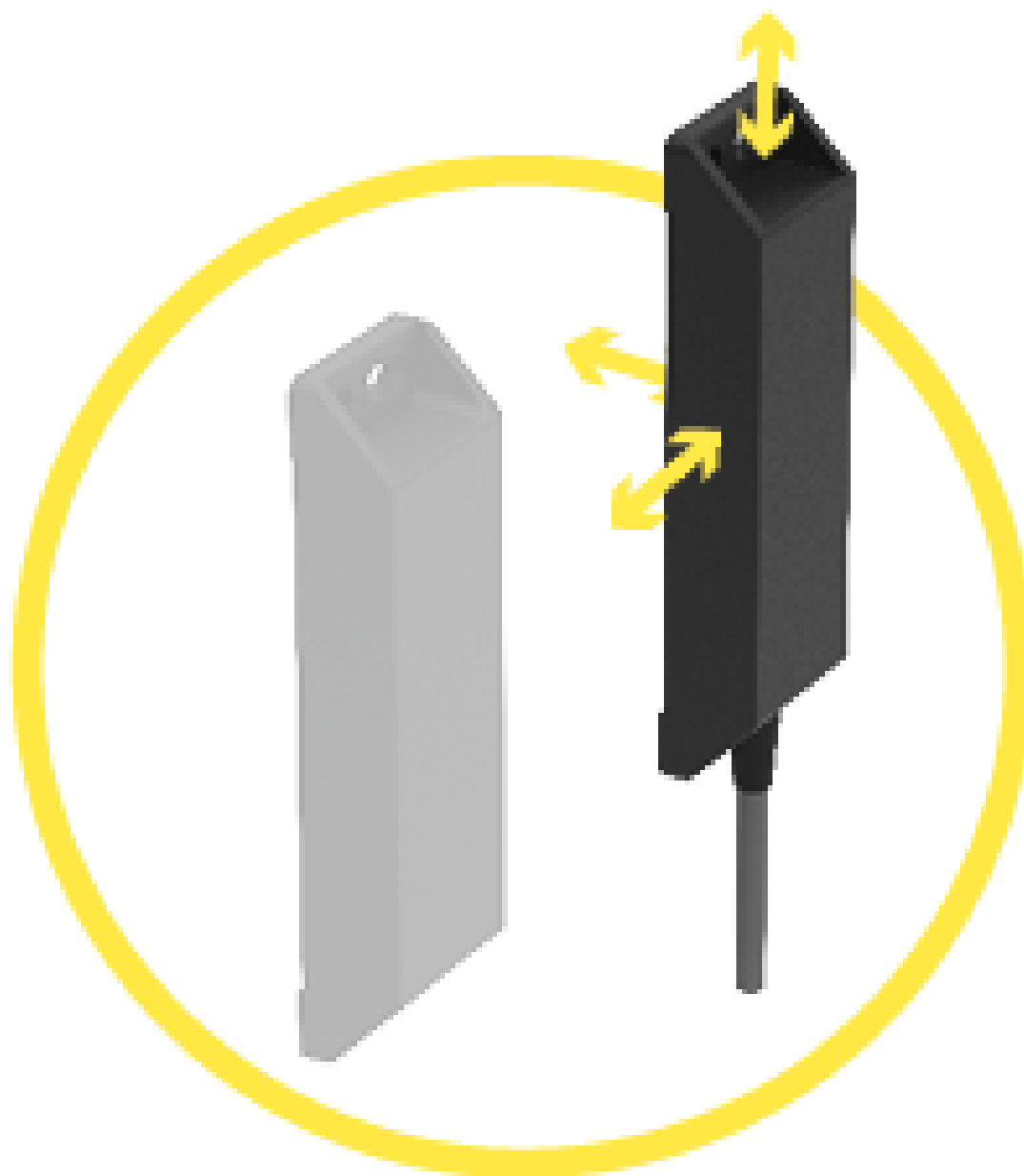


165562



## Product options

IMAGE 1/3



**Suitable for front, side and 90° actuation. Operating distance ( $S_{ao}$ ) from 4 to 7 mm. Assured switch-off distance ( $S_{ar}$ ) from 16 to 23 mm.**

IMAGE 2/3

## MATCHING ACTUATORS

| Actuators        | Actuation direction | 165V62...          |                 |                 | 165270...          |                 |                 | 165562             |                 |                 | 165570             |                 |                 |
|------------------|---------------------|--------------------|-----------------|-----------------|--------------------|-----------------|-----------------|--------------------|-----------------|-----------------|--------------------|-----------------|-----------------|
|                  |                     | S <sub>0 min</sub> | S <sub>ao</sub> | S <sub>ar</sub> | S <sub>0 min</sub> | S <sub>ao</sub> | S <sub>ar</sub> | S <sub>0 min</sub> | S <sub>ao</sub> | S <sub>ar</sub> | S <sub>0 min</sub> | S <sub>ao</sub> | S <sub>ar</sub> |
| <b>30426112</b>  | front               | 0,5                | 4               | 16              | 0,5                | 4               | 16              | 0,5                | 5               | 16              | 0,5                | 4               | 17              |
| <b>30426112S</b> |                     | 3                  | 7               | 18              | 3                  | 7               | 23              | 0,5                | 7               | 20              | 0,5                | 6               | 21              |

S<sub>0 min</sub> = minimum switching distance (mm), S<sub>ao</sub> = operating distance (mm), S<sub>ar</sub> = assured switch-off distance (mm)

IMAGE 3/3

## ORDERING KEY

|  | 165V62 | 165V62A0D 165270A0E | 165270 | 165270AA |
|--|--------|---------------------|--------|----------|
| <b>M8x connector, 4-pin</b>            |        | X                   |        |          |
| <b>Connection cable 1m*</b>            | X      |                     | X      | X        |
| <b>N.O./N.O. contacts</b>              | X      | X                   |        |          |
| <b>N.O./N.C. contacts</b>              |        |                     | X      | X        |
| <b>Additional N.O. control contact</b> |        |                     |        |          |
| <b>LED in series to N.C.</b>           |        |                     |        | X        |
| <b>Coded</b>                           | X      | X                   | X      | X        |
| <b>Uncoded</b>                         |        |                     |        |          |

|  | 165270A0D | 165570 | 165562 |
|--|-----------|--------|--------|
| <b>M8x connector, 4-pin</b>            | X         |        |        |
| <b>Connection cable 1m*</b>            |           | X      | X      |
| <b>N.O./N.O. contacts</b>              |           |        | X      |
| <b>N.O./N.C. contacts</b>              | X         | X      |        |
| <b>Additional N.O. control contact</b> |           | X      | X      |
| <b>LED in series to N.C.</b>           |           |        |        |
| <b>Coded</b>                           | X         | X      | X      |
| <b>Uncoded</b>                         |           |        |        |

## Article characteristics

| Attribute                           | 165270      | 165270A0D | 165270AA        | 165270A0E | 165V62                | 165V62A0D ▶ |
|-------------------------------------|-------------|-----------|-----------------|-----------|-----------------------|-------------|
| Housing colour                      | schwarz     |           |                 |           |                       |             |
| Cable type                          | LiYY 4x0,25 | -         | LiYY 4x0,25     | -         | LiYY 4x0,25           | -           |
| Cable colour                        | grau        | -         | grau            | -         | grau                  | -           |
| Detent present                      | no          |           |                 |           |                       |             |
| Installation                        | arbitrary   |           |                 |           |                       |             |
| Certified in accordance with        | ETL         |           |                 |           |                       |             |
| CE label                            | yes         |           |                 |           |                       |             |
| Contact form                        | NO/NC       |           |                 |           | NO/NO                 |             |
| Min. switching voltage              | -           |           |                 |           |                       |             |
| Max. switching voltage              | 28.8 V DC   |           |                 |           |                       |             |
| Max. switching current              | 0.1 A       |           | 0.02 A          |           | 0.1 A                 |             |
| Max. switching power                | -           |           |                 |           |                       |             |
| Switching frequency                 | 5 Hz        |           |                 |           |                       |             |
| Assured switching distance (Sao)    | 2.5 mm      |           | 3 mm            |           |                       |             |
| Assured switch-off distance (Sar)   | 16 mm       |           | 17 mm           |           | 16 mm                 |             |
| Minimum switching distance (SO min) | 0.5 mm      |           |                 |           |                       |             |
| LED display                         | No          |           | single-coloured |           | No                    |             |
| Actuation                           | front       |           | side            | front     | see technical drawing |             |
| Switching principle                 | magnetic    |           |                 |           |                       |             |
| Series resistor                     | 22 Ohm      |           | -               | 22 Ohm    |                       |             |
| Technology                          | Reed        |           |                 |           |                       |             |
| Coding acc. to EN ISO 14119         | Low         |           |                 |           |                       |             |
| B10d acc. to EN ISO 13849-1         | 20000000    |           |                 |           |                       |             |
| Type acc. to EN ISO 14119           | 4           |           |                 |           |                       |             |
| Mission time in years               | 20 a        |           |                 |           |                       |             |
| Structure acc. to EN ISO 13849-1    | Two-channel |           |                 |           |                       |             |
| Housing design                      | cuboid      |           |                 |           | rectangular           |             |
| Dimensions                          | 88x25x14    |           |                 |           |                       |             |
| Free zone                           | -           |           |                 |           | 20 mm                 |             |

| Attribute   | 165270                          | 165270A0D    | 165270AA                        | 165270A0E            | 165V62                          | 165V62A0D ▶       |
|---|---------------------------------|--------------|---------------------------------|----------------------|---------------------------------|-------------------|
| Minimum installation distance (between two sensors) | 50 mm                           |              |                                 |                      |                                 |                   |
| cannot be mounted flush                             | no                              |              |                                 |                      |                                 |                   |
| Housing material                                    | PBT                             |              |                                 |                      |                                 |                   |
| Cable material                                      | PVC                             | -            | PVC                             | -                    | PVC                             | -                 |
| Protection class                                    | IP67 DIN EN 60529               |              | IP67 / IP69K DIN EN 60529       | IP67 DIN EN 60529    |                                 |                   |
| Protection class, connector                         | -                               |              |                                 |                      |                                 | IP65 DIN EN 60529 |
| Operating temperature min.                          | -25 °C                          |              |                                 |                      |                                 |                   |
| Max. operating temperature                          | 75 °C                           |              |                                 |                      |                                 |                   |
| Min. cable temperature range, moving                | -5 °C                           | -            | -5 °C                           | -                    | -5 °C                           | -                 |
| Max. cable temperature range, moving                | 70 °C                           | -            | 70 °C                           | -                    | 70 °C                           | -                 |
| Min. cable temperature range, fixed installation    | -25 °C                          | -            | -25 °C                          | -                    | -25 °C                          | -                 |
| Max. cable temperature range, fixed installation    | 70 °C                           | -            | 70 °C                           | -                    | 70 °C                           | -                 |
| Shock resistance (Norm)                             | 30g / 11ms                      |              |                                 |                      |                                 |                   |
| Vibration resistance (Norm)                         | 10 - 55Hz                       |              |                                 |                      |                                 |                   |
| Min. storage temperature                            | -25 °C                          |              |                                 |                      |                                 |                   |
| Max. storage temperature                            | 75 °C                           |              |                                 |                      |                                 |                   |
| Mounting type                                       | screwed                         |              |                                 |                      |                                 |                   |
| Weight  | 63 g                            |              |                                 |                      |                                 | -                 |
| Torque for fastening screws                         | 2 N m                           |              |                                 |                      |                                 |                   |
| Connector type                                      | -                               | M8x1 4-polig | -                               | M8x1 4-polig         | -                               | M8x1 4-polig      |
| Cable length  | 1 m                             | -            | 1 m                             | -                    | 1 m                             | -                 |
| Number of strands                                   | 4                               | -            | 4                               | -                    | 4                               | -                 |
| Wire cross section                                  | 0.25 mm²                        | -            | 0.25 mm²                        | -                    | 0.25 mm²                        | -                 |
| Possible actuators                                  | 30426112 / 30426192 (30426112S) | 30426112     | 30426112 / 30426192 (30426112S) | 30426112 / 30426112S | 30426112 / 30426192 (30426112S) |                   |

| Attribute   | 165570                        | 165562          | 165V62A0DPC           | 165V62PC    | 165270A0DPC | 165270PC    |
|---|-------------------------------|-----------------|-----------------------|-------------|-------------|-------------|
| Housing colour                                      | schwarz                       |                 | Gelb                  |             |             |             |
| Cable type  | LiYY 6x0,23                   |                 | -                     | LiYY 4x0,25 | -           | LiYY 4x0,25 |
| Cable colour  | schwarz                       |                 | -                     | grau        | -           | grau        |
| Detent present                                      | no                            |                 |                       |             |             |             |
| Installation  | arbitrary                     |                 |                       |             |             |             |
| Certified in accordance with                        | CE                            |                 | CE ETL                |             |             |             |
| CE label  | yes                           |                 |                       |             |             |             |
| Contact form  | NO/NC/NO<br>(Kontrollkontakt) | -               | NO/NO                 |             | NO/NC       |             |
| Min. switching voltage                              | -                             |                 | 19.2 V DC             |             |             |             |
| Max. switching voltage                              | 28.8 V DC                     |                 |                       |             |             |             |
| Max. switching current                              | 0.1 A                         |                 |                       |             |             |             |
| Max. switching power                                | 3 W                           |                 | -                     |             |             |             |
| Switching frequency                                 | 5 Hz                          |                 |                       |             |             |             |
| Assured switching distance<br>(Sao)                 | 4 mm                          | 5 mm            | 2.5 mm                |             |             |             |
| Assured switch-off distance<br>(Sar)                | 17 mm                         | 16 mm           |                       |             |             |             |
| Minimum switching distance<br>(S0 min)              | 0.5 mm                        |                 |                       |             |             |             |
| LED display   | No                            | single-coloured | No                    |             |             |             |
| Actuation   | side                          |                 | see technical drawing |             | front       |             |
| Switching principle                                 | magnetic                      |                 |                       |             |             |             |
| Series resistor                                     | 22 Ohm                        |                 |                       |             |             |             |
| Technology  | Reed                          |                 |                       |             |             |             |
| Coding acc. to EN ISO 14119                         | Low                           |                 |                       |             |             |             |
| B10d acc. to EN ISO 13849-1                         | 20000000                      |                 |                       |             |             |             |
| Type acc. to EN ISO 14119                           | 4                             | -               | 4                     |             |             |             |
| Mission time in years                               | 20 a                          |                 |                       |             |             |             |
| Structure acc. to EN ISO 13849-1                    | Two-channel                   |                 |                       |             |             |             |
| Housing design                                      | rectangular                   |                 |                       |             | cuboid      |             |
| Dimensions  | 88x25x14                      |                 |                       |             |             |             |
| Free zone   | -                             |                 | 20 mm                 |             | -           |             |
| Minimum installation distance (between two sensors) | 50 mm                         |                 |                       |             |             |             |

| Attribute  | 165570                          | 165562                    | 165V62A0DPC              | 165V62PC | 165270A0DPC  | 165270PC |
|--|---------------------------------|---------------------------|--------------------------|----------|--------------|----------|
| cannot be mounted flush                          | no                              |                           |                          |          |              |          |
| Housing material                                 | PBT                             |                           |                          |          |              |          |
| Cable material                                   | PVC                             |                           | -                        | PVC      | -            | PVC      |
| Protection class                                 | IP67 DIN EN 60529               | IP67 / IP69K DIN EN 60529 | IP67 DIN EN 60529        |          |              |          |
| Protection class, connector                      | -                               |                           |                          |          |              |          |
| Operating temperature min.                       | -25 °C                          | -                         | -25 °C                   |          |              |          |
| Max. operating temperature                       | 100 °C                          | -                         | 55 °C                    |          | 75 °C        |          |
| Min. cable temperature range, moving             | -10 °C                          |                           | -                        | -5 °C    | -            | -5 °C    |
| Max. cable temperature range, moving             | 105 °C                          |                           | -                        | 70 °C    | -            | 70 °C    |
| Min. cable temperature range, fixed installation | -30 °C                          |                           | -                        | -25 °C   | -            | -25 °C   |
| Max. cable temperature range, fixed installation | 105 °C                          |                           | -                        | 70 °C    | -            | 70 °C    |
| Shock resistance (Norm)                          | 30g / 11ms                      |                           |                          |          |              |          |
| Vibration resistance (Norm)                      | 10 - 55Hz                       |                           |                          |          |              |          |
| Min. storage temperature                         | -25 °C                          |                           |                          |          |              |          |
| Max. storage temperature                         | 100 °C                          |                           | 75 °C                    |          |              |          |
| Mounting type                                    | screwed                         | Latching detent           | screwed                  |          |              |          |
| Weight   | 76 g                            |                           | -                        | 63 g     |              |          |
| Torque for fastening screws                      | 2 N m                           |                           |                          |          |              |          |
| Connector type                                   | -                               |                           | M8x1 4-polig             | -        | M8x1 4-polig | -        |
| Cable length                                     | 1 m                             |                           | -                        | 1 m      | -            | 1 m      |
| Number of strands                                | 6                               |                           | -                        | 4        | -            | 4        |
| Wire cross section                               | 0.23 mm²                        |                           | -                        | 0.25 mm² | -            | 0.25 mm² |
| Possible actuators                               | 30426112 / 30426192 (30426112S) |                           | 30426112PC / 30426112SPC |          |              |          |