



## Sensor de segurança com relé integrado 117

O sensor de segurança com relé integrado modelo 117K serve para monitoramento de abertura/fechamento de portas de proteção. A combinação de sensor de segurança e eletrônica de controle de segurança (relé) em uma única carcaça proporciona economia de espaço de montagem, uma vez que nenhum dispositivo de controle de segurança adicional é necessário no painel de controle da máquina. Este sensor é ideal para aplicação em máquinas de pequeno porte.

### Especificação Técnica

- Tensão de alimentação: 24 V AC/DC e 230 V AC
- Sinal de saída à cabo e conector M12
- LED para simples diagnóstico e controle de contato

## Desenho técnico

IMAGE 1/3

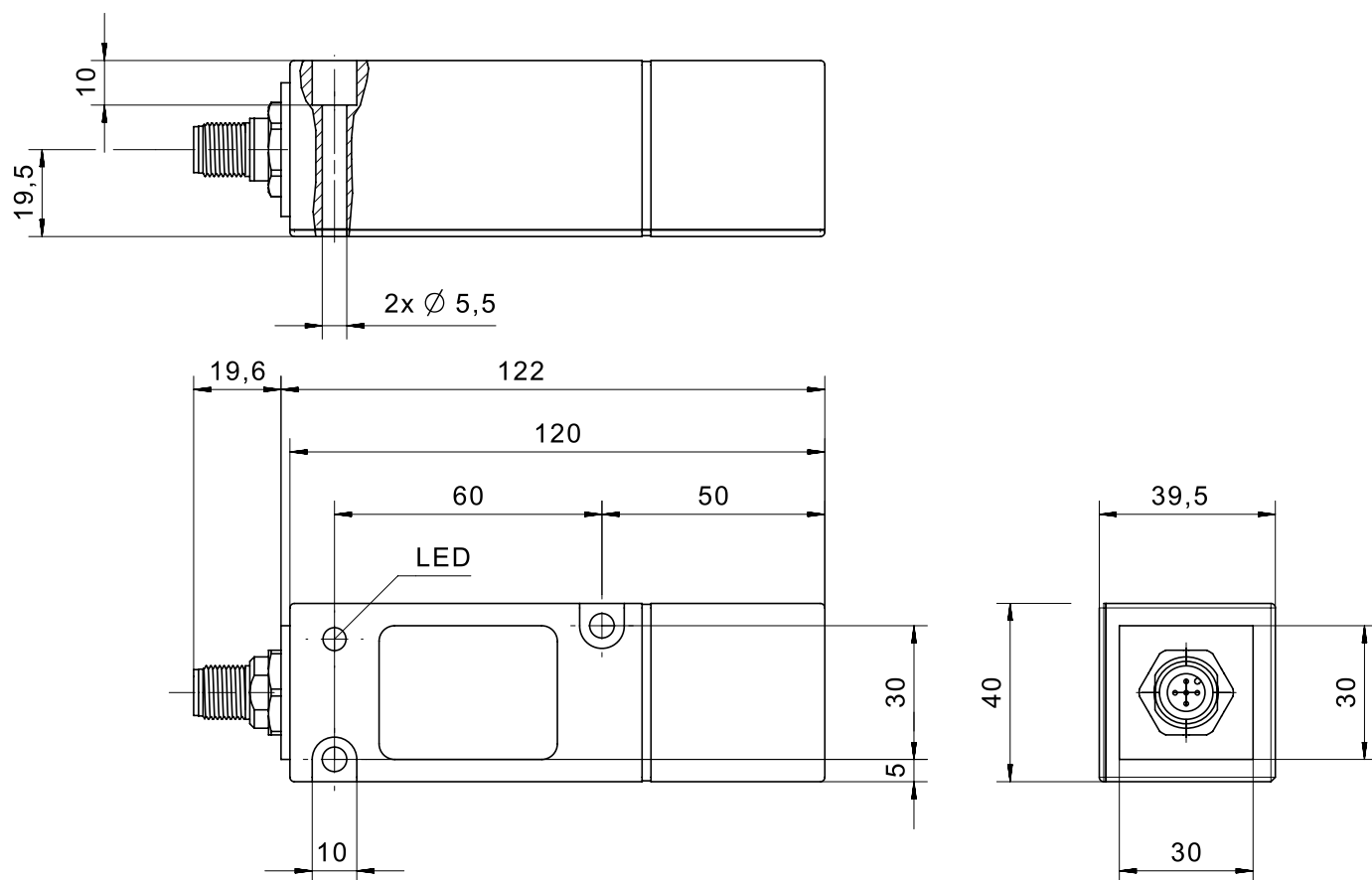
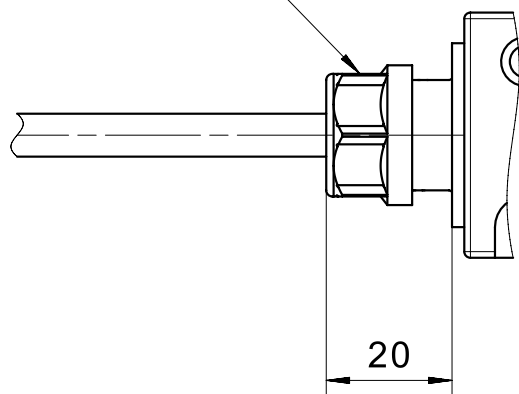


IMAGE 2/3

cable gland



male M12

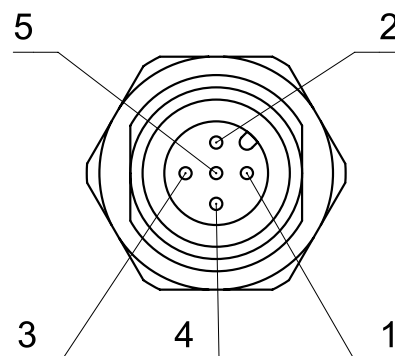
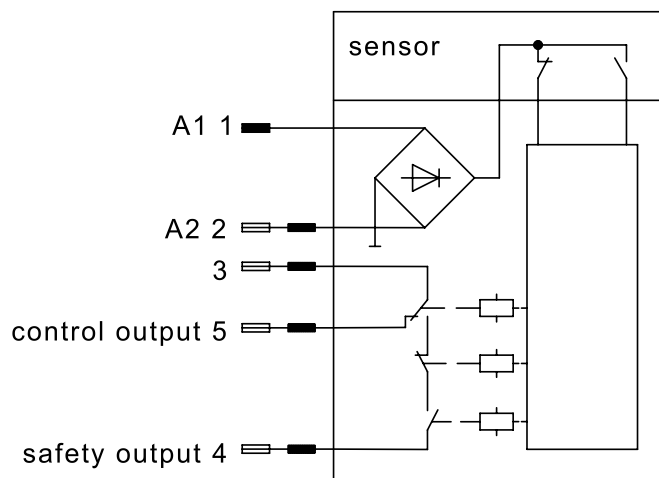
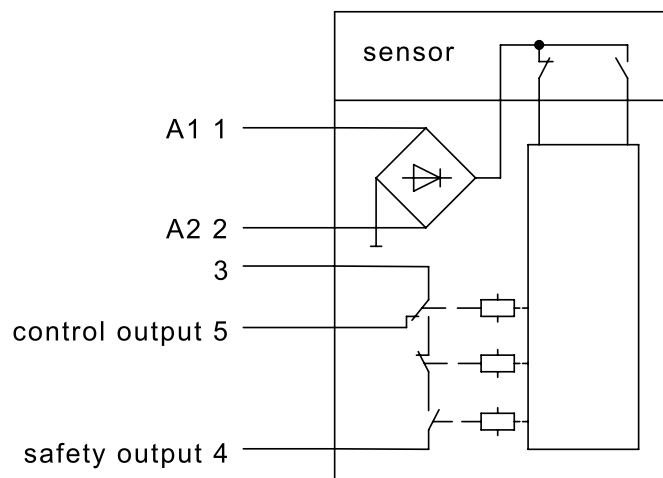
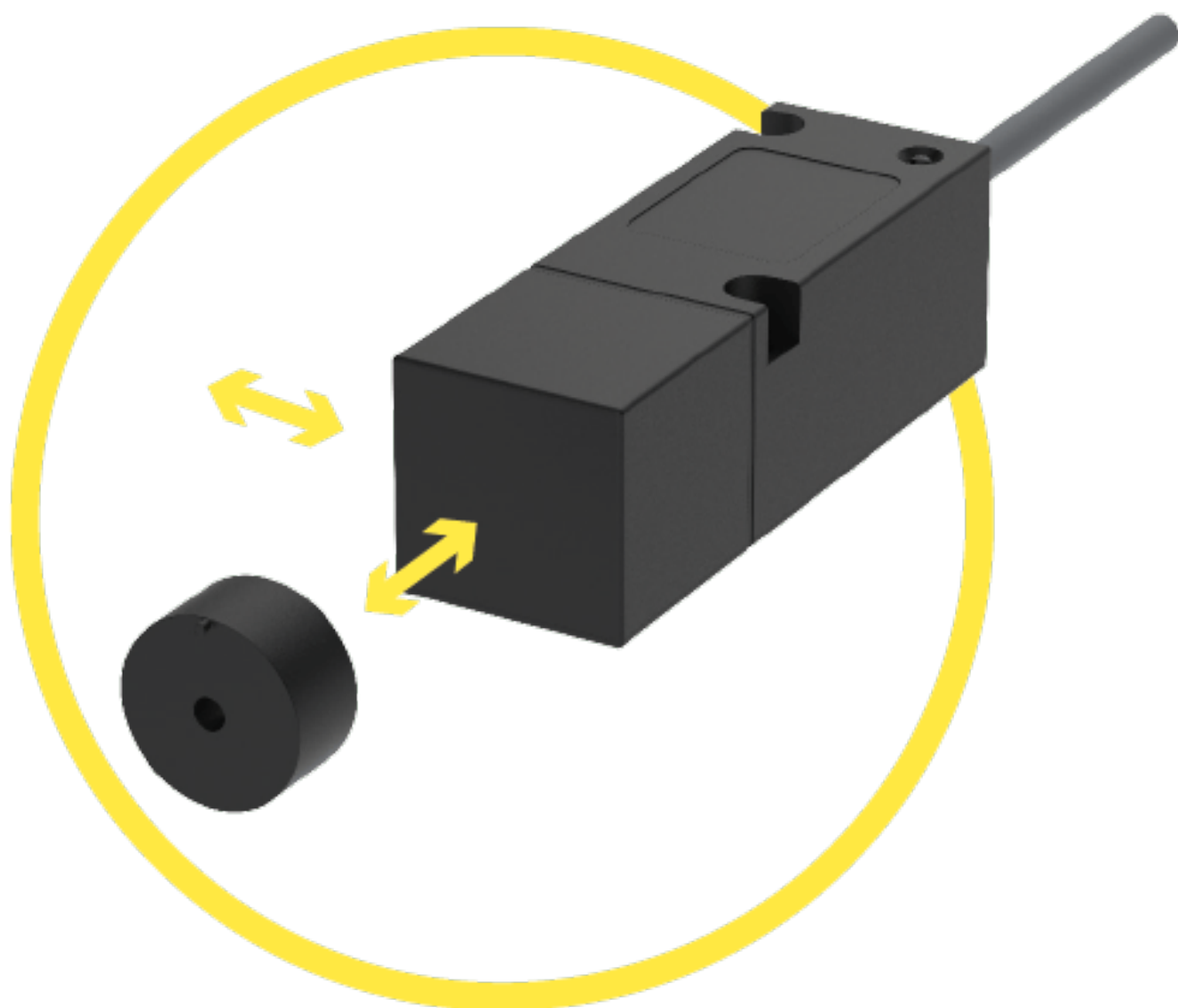


IMAGE 3/3



## Product options

IMAGE 1/3



**Variants for front and side actuation. Operating distance (Sao) from 7 to 10 mm Assured switch-off distance (Sar) from 18 to 21 mm.**

IMAGE 2/3

## ORDERING KEY

|   | 117411E1 | 117411H1 | 117414E1 | 117511E1 | 117511H1 | 117514E1 |
|---|----------|----------|----------|----------|----------|----------|
| <b>Cubic plastic housing</b>                            | X        | X        | X        | X        | X        | X        |
| <b>M12x1 connector, 5-pin, plastic</b>                  | -        | -        | -        | -        | -        | -        |
| <b>Connection cable 1m*</b>                             | X        | X        | X        | X        | X        | X        |
| <b>S0 safety output, single-channel</b>                 | X        | X        | X        | X        | X        | X        |
| <b>N.C. control output (changeover contact with S0)</b> | X        | X        | X        | X        | X        | X        |
| <b>Operating voltage 230 V AC</b>                       | -        | -        | X        | -        | -        | X        |
| <b>Operating voltage 24 V AC/DC</b>                     | X        | X        | -        | X        | X        | -        |
| <b>Actuation direction lateral right</b>                | X        | X        | X        | -        | -        | -        |
| <b>Actuation direction lateral left</b>                 | -        | -        | -        | X        | X        | X        |
| <b>Actuation direction front</b>                        | -        | -        | -        | -        | -        | -        |
| <b>Actuation direction top</b>                          | -        | -        | -        | -        | -        | -        |
| <b>PLd (EN ISO 13849-1)</b>                             | X        | -        | X        | X        | -        | X        |
| <b>PLe (EN ISO 13849-1)</b>                             | -        | X        | -        | -        | X        | -        |

|   | 117611H1 | 117614E1 | 117711E1 | 117711H1 | 117714E1 |
|---|----------|----------|----------|----------|----------|
| <b>Cubic plastic housing</b>                            | X        | X        | X        | X        | X        |
| <b>M12x1 connector, 5-pin, plastic</b>                  | -        | -        | -        | -        | -        |
| <b>Connection cable 1m*</b>                             | X        | X        | X        | X        | X        |
| <b>S0 safety output, single-channel</b>                 | X        | X        | X        | X        | X        |
| <b>N.C. control output (changeover contact with S0)</b> | X        | X        | X        | X        | X        |
| <b>Operating voltage 230 V AC</b>                       | -        | X        | -        | -        | X        |
| <b>Operating voltage 24 V AC/DC</b>                     | X        | -        | X        | X        | -        |
| <b>Actuation direction lateral right</b>                | -        | -        | -        | -        | -        |
| <b>Actuation direction lateral left</b>                 | -        | -        | -        | -        | -        |
| <b>Actuation direction front</b>                        | X        | X        | -        | -        | -        |
| <b>Actuation direction top</b>                          | -        | -        | X        | X        | X        |
| <b>PLd (EN ISO 13849-1)</b>                             | -        | X        | X        | -        | X        |
| <b>PLe (EN ISO 13849-1)</b>                             | X        | -        | -        | X        | -        |

IMAGE 3/3

## MATCHING ACTUATORS

| Actuators            | 117...        |          |          |
|----------------------|---------------|----------|----------|
|                      | $S_{0_{min}}$ | $S_{ao}$ | $S_{ar}$ |
| <b>304 200 00</b>    | 0.5           | 2.5      | 18.5     |
| <b>304 200 00 V</b>  | 0.5           | 2.5      | 18.5     |
| <b>304 200 00 H</b>  | 0.5           | 2.5      | 18.5     |
| <b>304 200 00 S</b>  | 0.5           | 6        | 23.5     |
| <b>304 200 00 VS</b> | 0.5           | 6        | 23.5     |
| <b>304 200 00 SH</b> | 0.5           | 6        | 23.5     |
| <b>304 271 02</b>    | 0.5           | 3        | 21       |
| <b>304 271 80</b>    | 0.5           | 5        | 21.5     |
| <b>304 271 82</b>    | 0.5           | 9        | 30       |

$S_{0_{min}}$  = minimum switching distance (mm),  $S_{ao}$  = operating distance (mm),  $S_{ar}$  = assured switch-off distance (mm)

## Características do artigo

| Attribute                                | 117511E1      | 117511H1 | 117514E1 | 117611H1  | 117614E1 | 117711E1 ▶ |
|--|---------------|----------|----------|-----------|----------|------------|
| Max. switching voltage at safety output  | 30 V DC       |          |          |           |          |            |
| Max. switching voltage at control output | 30 V DC       |          |          |           |          |            |
| Max. switching voltage at safety output  | 250 V AC      |          |          |           |          |            |
| Max. switching voltage at control output | 250 V AC      |          |          |           |          |            |
| Max. switching current at safety output  | 3 A           |          |          |           |          |            |
| Max. switching current at control output | 3 A           |          |          |           |          |            |
| Max. switching power at safety output    | 90 W          |          |          |           |          |            |
| Max. switching power at control output   | 90 W          |          |          |           |          |            |
| Max. switching power at safety output    | 750 VA        |          |          |           |          |            |
| Max. switching power at control output   | 750 VA        |          |          |           |          |            |
| Assured switching distance (Sao)         | 3 mm          |          |          |           |          |            |
| Assured switch-off distance (Sar)        | 21 mm         |          |          |           |          |            |
| Minimum switching distance (SO min)      | 0.5 mm        |          |          |           |          |            |
| Number of relay safety outputs           | 1             |          |          |           |          |            |
| Number of relay control outputs          | 1             |          |          |           |          |            |
| Stop category 0 (STO) nach IEC 61800-5-2 | yes           |          |          |           |          |            |
| Stop category 1 (SS1) nach IEC 61800-5-2 | no            |          |          |           |          |            |
| EDM/start input                          | no            |          |          |           |          |            |
| Utilization category                     | AC-15 / DC-13 |          |          |           |          |            |
| Operating voltage min.                   | 21.6 V DC     | –        | –        | 21.6 V DC | –        | 21.6 V DC  |
| Operating voltage max.                   | 26.4 V DC     | –        | –        | 26.4 V DC | –        | 26.4 V DC  |
| Operating voltage min.                   | 21.6 V AC     | 207 V AC | 207 V AC | 21.6 V AC | 207 V AC | 21.6 V AC  |

| Attribute  | 117511E1        | 117511H1 | 117514E1 | 117611H1  | 117614E1 | 117711E1 ▶ |
|--|-----------------|----------|----------|-----------|----------|------------|
| Operating voltage max.   | 26.4 V AC       |          | 253 V AC | 26.4 V AC | 253 V AC | 26.4 V AC  |
| Current consumption  | 60 mA           | 100 mA   |          |           |          | 60 mA      |
| Power consumption  | 1.5 W           | 2.4 W    | -        | 2.4 W     | -        | 1.5 W      |
| Power consumption  | 1.5 VA          | 2.4 VA   | 23 VA    | 2.4 VA    | 23 VA    | 1.5 VA     |
| LED display  | single-coloured |          |          |           |          |            |
| Switching principle  | magnetic        |          |          |           |          |            |
| Technology   | Reed            |          |          |           |          |            |
| Min. switching voltage at safety output                        | 5 V DC          | 10 V DC  | 5 V DC   | 10 V DC   | 5 V DC   |            |
| Min. switching voltage at control output                       | 12 V DC         | 10 V DC  | 12 V DC  | 10 V DC   | 12 V DC  |            |
| Min. switching voltage at safety output                        | -               | 10 V AC  | -        | 10 V AC   | -        |            |
| Min. switching voltage at control output                       | 12 V AC         | 10 V AC  | 12 V AC  | 10 V AC   | 12 V AC  |            |
| Min. switching current at safety output                        | 0.1 A           | 0.01 A   | 0.1 A    | 0.01 A    | 0.1 A    |            |
| Min. switching current at control output                       | 0.01 A          |          |          |           |          |            |
| Min. switching power at safety output                          | 0.5 W           | 3 W      | 0.5 W    | 3 W       | 0.5 W    |            |
| Min. switching power at control output                         | 0.12 W          | 3 W      | 0.12 W   | 3 W       | 0.12 W   |            |
| Min. switching power at safety output                          | -               | 3 VA     | -        | 3 VA      | -        |            |
| Min. switching power at control output                         | 0.12 VA         | 3 VA     | 0.12 VA  | 3 VA      | 0.12 VA  |            |
| Readiness delay (tv)   | 350 ms          |          |          |           |          |            |
| Max no operating cycles at 0.5A switching current (ohmic load) | 1000000         | 700000   | 1000000  | 700000    | 1000000  |            |
| Max no operating cycles at 2.5A switching current (ohmic load) | 230000          | 25000    | 230000   | 25000     | 230000   |            |
| Overvoltage category   | III             |          |          |           |          |            |
| Pollution degree   | 2               |          |          |           |          |            |
| Protection class   | III             |          |          |           |          |            |
| Fuse operating voltage   | 0,5A fast       |          |          |           |          |            |
| Fuse safety output   | 3A fast         |          |          |           |          |            |



| Attribute   | 117511E1          | 117511H1 | 117514E1 | 117611H1 | 117614E1 | 117711E1 ▶ |
|---|-------------------|----------|----------|----------|----------|------------|
| Fuse control output                                 | 3A fast           |          |          |          |          |            |
| Actuation   | left side         |          |          | front    |          | top        |
| PL acc. to EN ISO 13849-1                           | d                 | e        | d        | e        | d        |            |
| Category acc. to EN ISO 13849-1                     | 3                 | 4        | 3        | 4        | 3        |            |
| Coding acc. to EN ISO 14119                         | Low               |          |          |          |          |            |
| Type acc. to EN ISO 14119                           | 4                 |          |          |          |          |            |
| Mission time in years                               | 20 a              |          |          |          |          |            |
| Housing design                                      | rectangular       |          |          |          |          |            |
| Dimensions  | 120 x 40 x 40 mm  |          |          |          |          |            |
| Operating speed max.                                | 0.1 m/min         |          |          |          |          |            |
| Actuation frequency                                 | 18000 1/h         |          |          |          |          |            |
| Free zone   | 25 mm             |          |          |          |          |            |
| Minimum installation distance (between two sensors) | 50 mm             |          |          |          |          |            |
| cannot be mounted flush                             | yes               |          |          |          |          |            |
| Housing material                                    | PBT               |          |          |          |          |            |
| Cable material                                      | TPE               |          |          |          |          |            |
| Housing colour                                      | schwarz           |          |          |          |          |            |
| Protection class                                    | IP67 DIN EN 60529 |          |          |          |          |            |
| Protection class, connector                         | -                 |          |          |          |          |            |
| Operating temperature min.                          | -25 °C            |          |          |          |          |            |
| Max. operating temperature                          | 55 °C             |          |          |          |          |            |
| Min. cable temperature range, moving                | -25 °C            |          |          |          |          |            |
| Max. cable temperature range, moving                | 55 °C             |          |          |          |          |            |
| Min. cable temperature range, fixed installation    | -25 °C            |          |          |          |          |            |
| Max. cable temperature range, fixed installation    | 55 °C             |          |          |          |          |            |
| Min. storage temperature                            | -25 °C            |          |          |          |          |            |
| Max. storage temperature                            | 55 °C             |          |          |          |          |            |
| Shock resistance (Norm)                             | 30 g / 11 ms      |          |          |          |          |            |

| Attribute                          | 117511E1                         | 117511H1 | 117514E1 | 117611H1 | 117614E1 | 117711E1 ▶ |
|------------------------------------|----------------------------------|----------|----------|----------|----------|------------|
| Continuous shock resistance (Norm) | 10 g / 16 ms                     |          |          |          |          |            |
| Vibration resistance (Norm)        | 10 ... 55 Hz                     |          |          |          |          |            |
| Relative humidity                  | 5 - 85 %                         |          |          |          |          |            |
| Air pressure                       | 860 - 1060 hPa                   |          |          |          |          |            |
| Delta tmax                         | 0.5 °C/min                       |          |          |          |          |            |
| Mounting type                      | screwed                          |          |          |          |          |            |
| Weight                             | 500 g                            |          |          |          |          |            |
| Possible actuators                 | 30427102                         |          |          |          |          |            |
| Cable length                       | 1 m                              |          |          |          |          |            |
| Number of strands                  | 5                                |          |          |          |          |            |
| Wire cross section                 | 0.75 mm²                         |          |          |          |          |            |
| Connector type                     | -                                |          |          |          |          |            |
| Cable colour                       | silbergrau                       |          |          |          |          |            |
| Certified in accordance with       | EN ISO 13849-1 UL 508 / CSA 22.2 |          |          |          |          |            |
| CE label                           | yes                              |          |          |          |          |            |

| Attribute                                | 117711H1      | 117714E1 | 117611E1  | 117631H1 |
|--|---------------|----------|-----------|----------|
| Max. switching voltage at safety output  | 30 V DC       |          |           |          |
| Max. switching voltage at control output | 30 V DC       |          |           |          |
| Max. switching voltage at safety output  | 250 V AC      |          |           | 30 V AC  |
| Max. switching voltage at control output | 250 V AC      |          |           | 30 V AC  |
| Max. switching current at safety output  | 3 A           |          |           |          |
| Max. switching current at control output | 3 A           |          |           |          |
| Max. switching power at safety output    | 90 W          |          |           |          |
| Max. switching power at control output   | 90 W          |          |           |          |
| Max. switching power at safety output    | 750 VA        |          |           | 90 VA    |
| Max. switching power at control output   | 750 VA        |          |           | 90 VA    |
| Assured switching distance (Sao)         | 3 mm          |          |           |          |
| Assured switch-off distance (Sar)        | 21 mm         |          |           |          |
| Minimum switching distance (S0 min)      | 0.5 mm        |          |           |          |
| Number of relay safety outputs           | 1             |          |           |          |
| Number of relay control outputs          | 1             |          |           |          |
| Stop category 0 (STO) nach IEC 61800-5-2 | yes           |          |           |          |
| Stop category 1 (SS1) nach IEC 61800-5-2 | no            |          |           |          |
| EDM/start input                          | no            |          |           |          |
| Utilization category                     | AC-15 / DC-13 |          |           |          |
| Operating voltage min.                   | 21.6 V DC     | -        | 21.6 V DC |          |
| Operating voltage max.                   | 26.4 V DC     | -        | 26.4 V DC |          |
| Operating voltage min.                   | 21.6 V AC     | 207 V AC | 21.6 V AC |          |
| Operating voltage max.                   | 26.4 V AC     | 253 V AC | 26.4 V AC |          |
| Current consumption                      | 100 mA        |          | 60 mA     | 100 mA   |
| Power consumption                        | 2.4 W         | -        | 1.5 W     | 2.4 W    |

| Attribute  | 117711H1        | 117714E1 | 117611E1 | 117631H1 |
|--|-----------------|----------|----------|----------|
| Power consumption  | 2.4 VA          | 23 VA    | 1.5 VA   | 2.4 VA   |
| LED display  | single-coloured |          |          |          |
| Switching principle  | magnetic        |          |          |          |
| Technology   | Reed            |          |          |          |
| Min. switching voltage at safety output                        | 10 V DC         | 5 V DC   |          | 10 V DC  |
| Min. switching voltage at control output                       | 10 V DC         | 12 V DC  |          | 10 V DC  |
| Min. switching voltage at safety output                        | 10 V AC         | -        |          | 10 V AC  |
| Min. switching voltage at control output                       | 10 V AC         | 12 V AC  |          | 10 V AC  |
| Min. switching current at safety output                        | 0.01 A          | 0.1 A    |          | 0.01 A   |
| Min. switching current at control output                       | 0.01 A          |          |          |          |
| Min. switching power at safety output                          | 3 W             | 0.5 W    |          | 3 W      |
| Min. switching power at control output                         | 3 W             | 0.12 W   |          | 3 W      |
| Min. switching power at safety output                          | 3 VA            | -        |          | 3 VA     |
| Min. switching power at control output                         | 3 VA            | 0.12 VA  |          | 3 VA     |
| Readiness delay (tv)   | 350 ms          |          |          |          |
| Max no operating cycles at 0.5A switching current (ohmic load) | 700000          | 1000000  |          | 700000   |
| Max no operating cycles at 2.5A switching current (ohmic load) | 25000           | 230000   |          | 25000    |
| Overvoltage category   | III             |          |          |          |
| Pollution degree   | 2               |          |          |          |
| Protection class   | III             |          |          |          |
| Fuse operating voltage   | 0,5A fast       |          |          |          |
| Fuse safety output   | 3A fast         |          |          |          |
| Fuse control output  | 3A fast         |          |          |          |
| Actuation  | top             |          | front    |          |
| PL acc. to EN ISO 13849-1                                      | e               | d        |          | e        |
| Category acc. to EN ISO 13849-1                                | 4               | 3        |          | 4        |

| Attribute   | 117711H1          | 117714E1 | 117611E1 | 117631H1          |
|---|-------------------|----------|----------|-------------------|
| Coding acc. to EN ISO 14119                         | Low               |          |          |                   |
| Type acc. to EN ISO 14119                           | 4                 |          |          |                   |
| Mission time in years                               | 20 a              |          |          |                   |
| Housing design                                      | rectangular       |          |          |                   |
| Dimensions  | 120 x 40 x 40 mm  |          |          |                   |
| Operating speed max.                                | 0.1 m/min         |          |          |                   |
| Actuation frequency                                 | 18000 1/h         |          |          |                   |
| Free zone   | 25 mm             |          |          |                   |
| Minimum installation distance (between two sensors) | 50 mm             |          |          |                   |
| cannot be mounted flush                             | yes               |          |          |                   |
| Housing material                                    | PBT               |          |          |                   |
| Cable material                                      | TPE               |          |          | -                 |
| Housing colour                                      | schwarz           |          |          |                   |
| Protection class                                    | IP67 DIN EN 60529 |          |          |                   |
| Protection class, connector                         | -                 |          |          | IP67 DIN EN 60529 |
| Operating temperature min.                          | -25 °C            |          |          |                   |
| Max. operating temperature                          | 55 °C             |          |          |                   |
| Min. cable temperature range, moving                | -25 °C            |          |          | -                 |
| Max. cable temperature range, moving                | 55 °C             |          |          | -                 |
| Min. cable temperature range, fixed installation    | -25 °C            |          |          | -                 |
| Max. cable temperature range, fixed installation    | 55 °C             |          |          | -                 |
| Min. storage temperature                            | -25 °C            |          |          |                   |
| Max. storage temperature                            | 55 °C             |          |          |                   |
| Shock resistance (Norm)                             | 30 g / 11 ms      |          |          |                   |
| Continuous shock resistance (Norm)                  | 10 g / 16 ms      |          |          |                   |
| Vibration resistance (Norm)                         | 10 ... 55 Hz      |          |          |                   |
| Relative humidity                                   | 5 - 85 %          |          |          |                   |
| Air pressure  | 860 - 1060 hPa    |          |          |                   |
| Delta tmax  | 0.5 °C/min        |          |          |                   |
| Mounting type                                       | screwed           |          |          |                   |

| Attribute                    | 117711H1                         | 117714E1 | 117611E1 | 117631H1        |
|------------------------------|----------------------------------|----------|----------|-----------------|
| Weight                       | 500 g                            |          |          |                 |
| Possible actuators           | 30427102                         |          |          |                 |
| Cable length                 | 1 m                              |          |          | -               |
| Number of strands            | 5                                |          |          | -               |
| Wire cross section           | 0.75 mm²                         |          |          | -               |
| Connector type               | -                                |          |          | M12x1 - 5 polig |
| Cable colour                 | silbergrau                       |          |          | -               |
| Certified in accordance with | EN ISO 13849-1 UL 508 / CSA 22.2 |          |          |                 |
| CE label                     | yes                              |          |          |                 |