



# SSP

Safety System Products

## SAFIX S3-A-P

RFID safety sensor, low coded, EDM, autom. reset, Pigtail

### Your advantages

- PLe according to EN ISO 13849-1
- IP 67 and ECOLAB
- Series connection of up to 30 sensors without reduction in safety
- No special analysis system required
- LED diagnosis
- Single information signal for diagnosis
- Highly coded according to EN ISO 14119 (version I3 and W3)
- Small compact design
- Fastest sensor available (risk time)



**To the downloads ►**

**we simplify safety**

## SAFIX S3-A-P

The new SAFIX 3 RFID safety sensor impresses due to its compact design and a hole distance of 22 mm. It can be actuated from the front and both sides and is available in 3 different versions with a choice of low level or high level coding according to EN ISO 14119. The sensor has protection class IP69K, holds an ECOLAB approval and can either be purchased with an M12, 8-pin pigtail cable or a fixed cable length of 5 or 10 metres.

Thanks to its OSSD output signals, the sensor can be connected to all standard control and safety relays. A total of up to 30 sensors can be switched in series. An information signal and a three colour LED display on the sensor are provided for diagnosis purposes.

### General data

|                                  |                    |
|----------------------------------|--------------------|
| Type designation                 | SAFIX S3-A-P       |
| Functional type                  | RFID safety sensor |
| Item number                      | 1019318            |
| Item number (old)                | SP-E-76-000-01     |
| Service life TM (EN ISO 13849-1) | 20 Years           |
| Coding levels                    | Standard           |

### Safety data

|                                  |                         |
|----------------------------------|-------------------------|
| Performance Level (EN ISO 13849) | PL <sub>e</sub>         |
| Category (EN ISO 13849-1:2015)   | cat. 4                  |
| SIL (acc. IEC 62061)             | SIL3, SILCL3            |
| PFHd (EN ISO 13849)              | 2,24 x 10 <sup>-9</sup> |
| Approvals                        | TÜV_SÜD, CE             |

### Environmental conditions

|                            |                 |
|----------------------------|-----------------|
| Max. storage temperature   | -25 ... + 70 °C |
| Max. operating temperature | -25 ... + 70 °C |
| Contamination level        | 2               |

### Electrical data

|                      |    |
|----------------------|----|
| Overvoltage category | II |
|----------------------|----|

## SAFIX S3-A-P

|                                         |                                                 |
|-----------------------------------------|-------------------------------------------------|
| Rated impulse withstand voltage Uimp    | 1 kV                                            |
| Electrical service life (nominal load)  | 20 Years                                        |
| Design / Connections                    | Pigtail 19.5 cm cable, M12 8-pin male connector |
| Contact type                            | OSSD                                            |
| Supply voltage                          | DC +/- 10% 24 V                                 |
| Rated insulation voltage Ui             | 50 V                                            |
| Power consumption in ambient conditions | 23,75 W                                         |
| No-load current IO                      | (not activated) 10 mA / (activated) 30 mA       |
| Max. voltage (VDC)                      | 1 A                                             |
| Switching frequency                     | 3                                               |
| LED lighting                            | 3 colors                                        |
| Utilisation category                    | D-12/DC-13                                      |
| Risk time                               | 75 ms                                           |
| Series connection                       | 30                                              |

### pin assignment with SSP accessories cable

|    |                   |
|----|-------------------|
| WH | UB                |
| BN | safety input 1    |
| GN | GND               |
| YE | safety output 1   |
| GY | diagnostic output |
| PK | safety input 2    |
| BU | safety output 2   |
| RD | EDM               |

### Pin assignment according DIN 47100

|    |                   |
|----|-------------------|
| BN | UB                |
| WH | safety input 1    |
| BU | GND               |
| BK | safety output 1   |
| GY | diagnostic output |
| PK | safety input 2    |
| VT | safety output 2   |
| OG | EDM/ Start- input |

### Mechanical data

|        |       |
|--------|-------|
| Length | 13 mm |
|--------|-------|

### SAFIX S3-A-P

|                                                  |                                                     |
|--------------------------------------------------|-----------------------------------------------------|
| Width                                            | 36 mm                                               |
| Height                                           | 26 mm                                               |
| Torque (mounting nut)                            | 0,7 Nm                                              |
| Mounting                                         | Installation Screw connection with M4 screws (sunk) |
| Housing material                                 | PBT                                                 |
| Shock resistance                                 | 30 g / 11 ms                                        |
| Vibration resistance                             | Amplitude 1 mm, 10 ... 55 Hz                        |
| Switching distance S <sub>n</sub>                | 12 mm                                               |
| Assured switching distance ON S <sub>(ao)</sub>  | 8 mm                                                |
| Assured switching distance OFF S <sub>(ar)</sub> | 18 mm                                               |
| Hysteresis                                       | 2 mm                                                |
| Repeat accuracy R                                | < 0,5 mm                                            |

#### LED diagnostics

##### Advanced LED diagnosis

##### Extended LED-Diagnosis

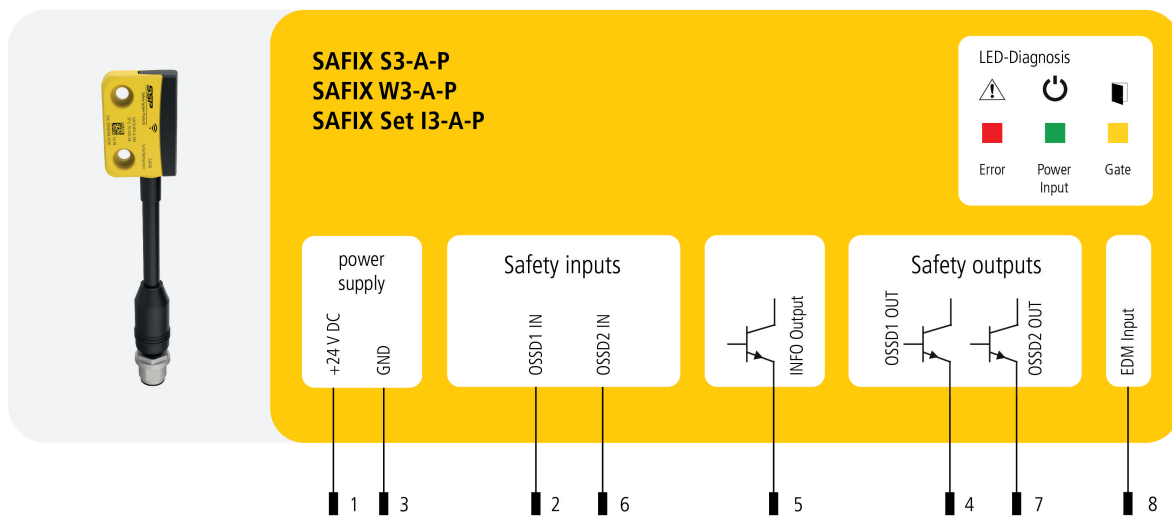
| Green                                                                                          | Red                                                                                        | Yellow                                                                                         | Remark                                                  | Green                                                                                      | Red                                                                                            | Yellow                                                                                     | Remark                                                                                         |
|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| off<br>     | off<br> | on<br>      | Sensor not actuated, voltage applied                    | off<br> | flashes<br> | off<br> | Error safety outputs                                                                           |
| on<br>      | off<br> | off<br>     | Sensor actuated, all inputs set correctly               | off<br> | flashes<br> | off<br> | Error safety inputs                                                                            |
| flashes<br> | off<br> | off<br>     | Sensor actuated, safety inputs not set (low level)      | off<br> | flashes<br> | off<br> | Error safety inputs. EDM automatic:<br>Safety relay fault. EDM manual:<br>Faulty start impulse |
| flashes<br> | off<br> | off<br>     | Safety inputs set (high level), waiting for start pulse | off<br> | flashes<br> | off<br> | Overvoltage and undervoltage fault                                                             |
| off<br>     | off<br> | flashes<br> | Actuator at the reception limit                         | off<br> | flashes<br> | off<br> | Temperature outside the permitted range                                                        |
| off<br>     | off<br> | flashes<br> | Teach in process                                        | off<br> | flashes<br> | off<br> | Wrong actuator                                                                                 |
|                                                                                                |                                                                                            |                                                                                                |                                                         | off<br> | on<br>      | off<br> | Permanent light<br>Internal device error                                                       |



### SAFIX S3-A-P

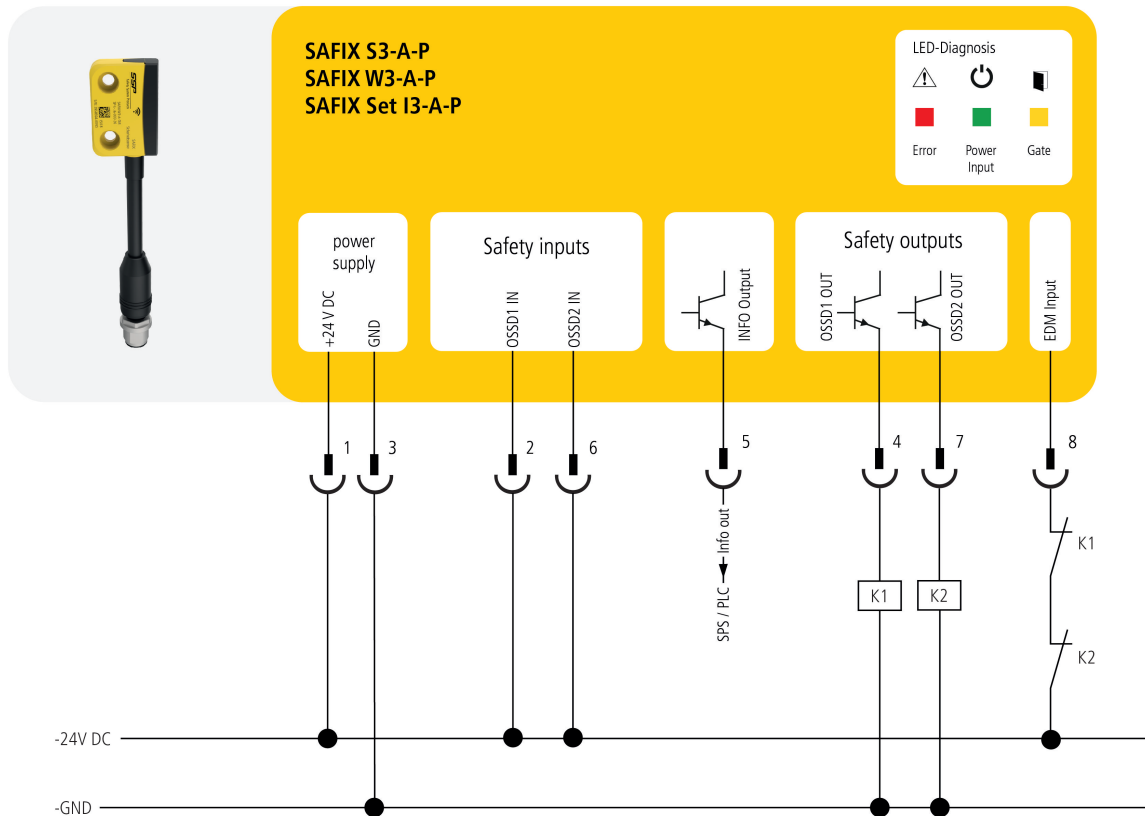
#### Electrical drawings

##### Connection drawing



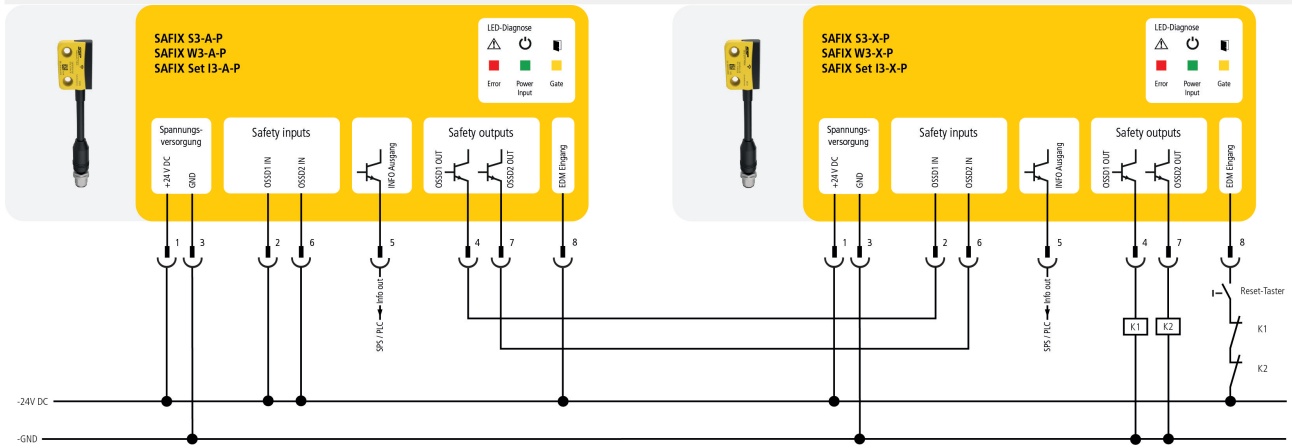
### SAFIX S3-A-P

Connection example 1



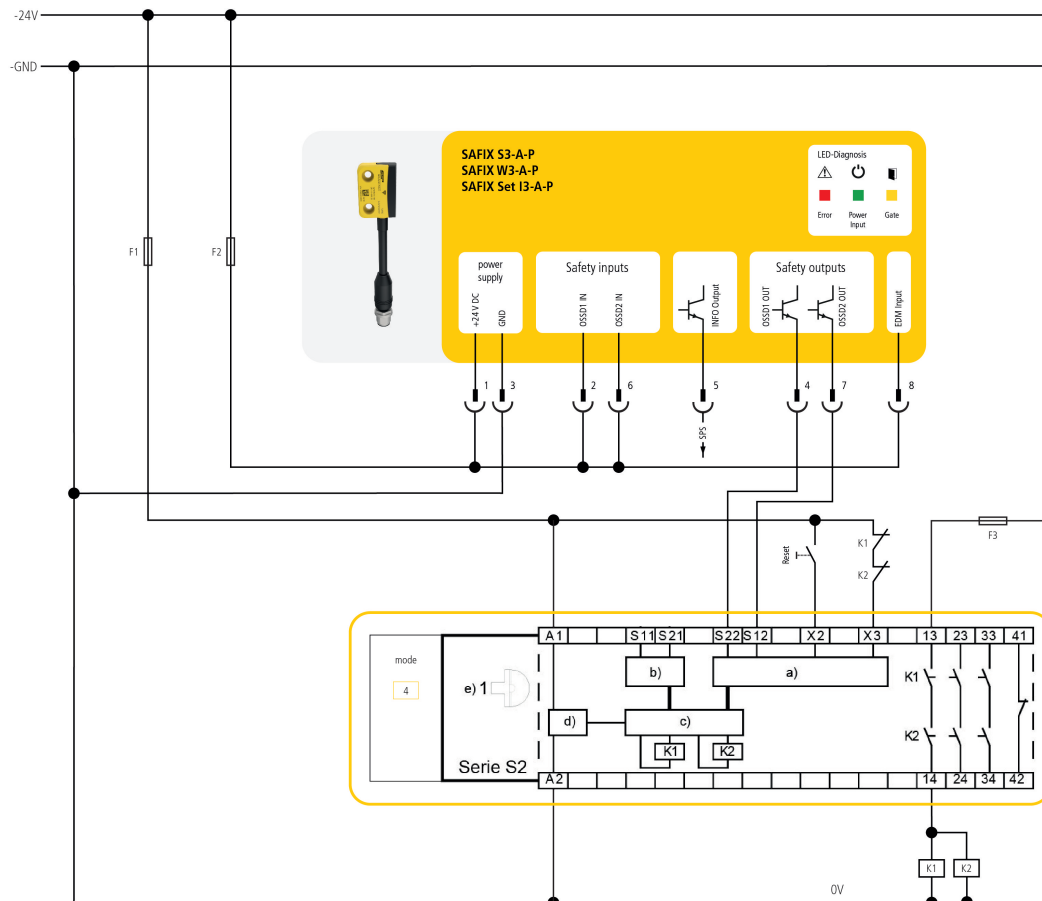
### SAFIX S3-A-P

#### Connection example 2



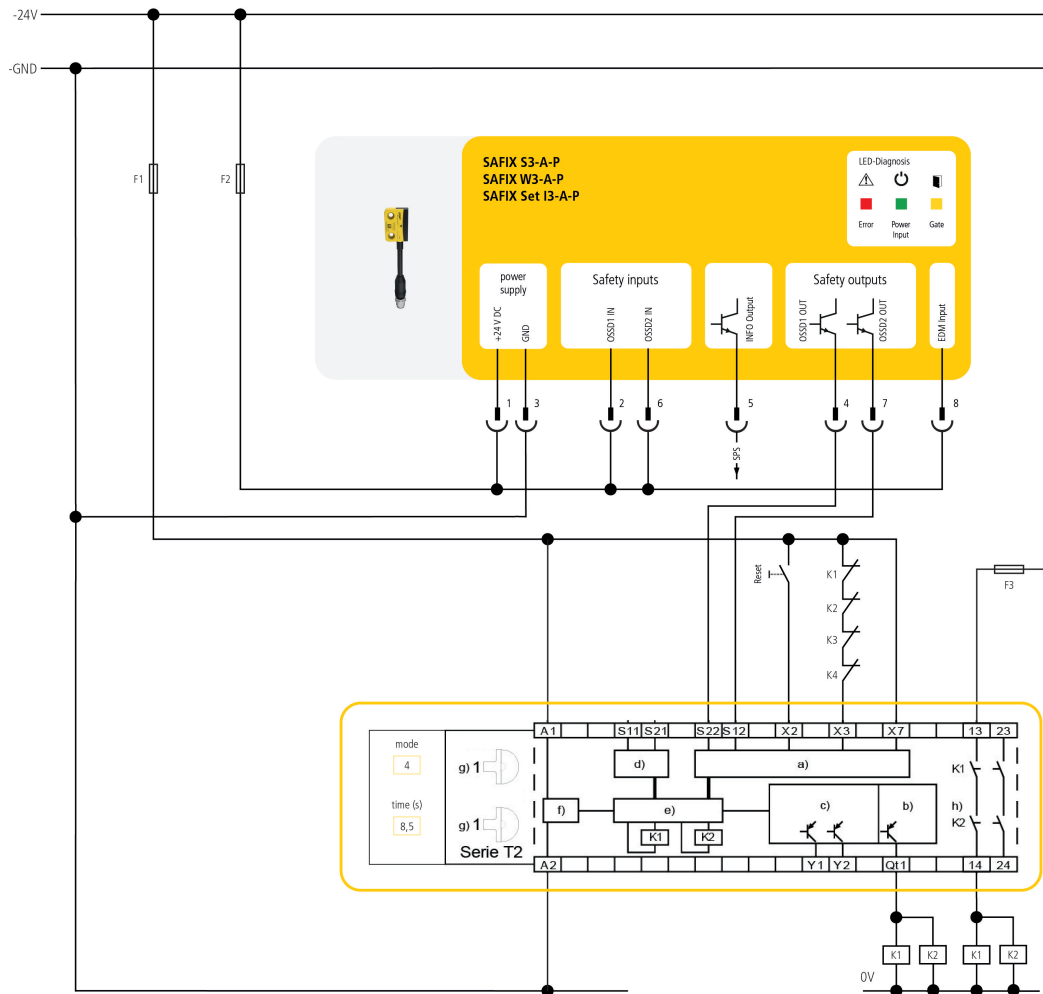
### SAFIX S3-A-P

#### Connection example 3



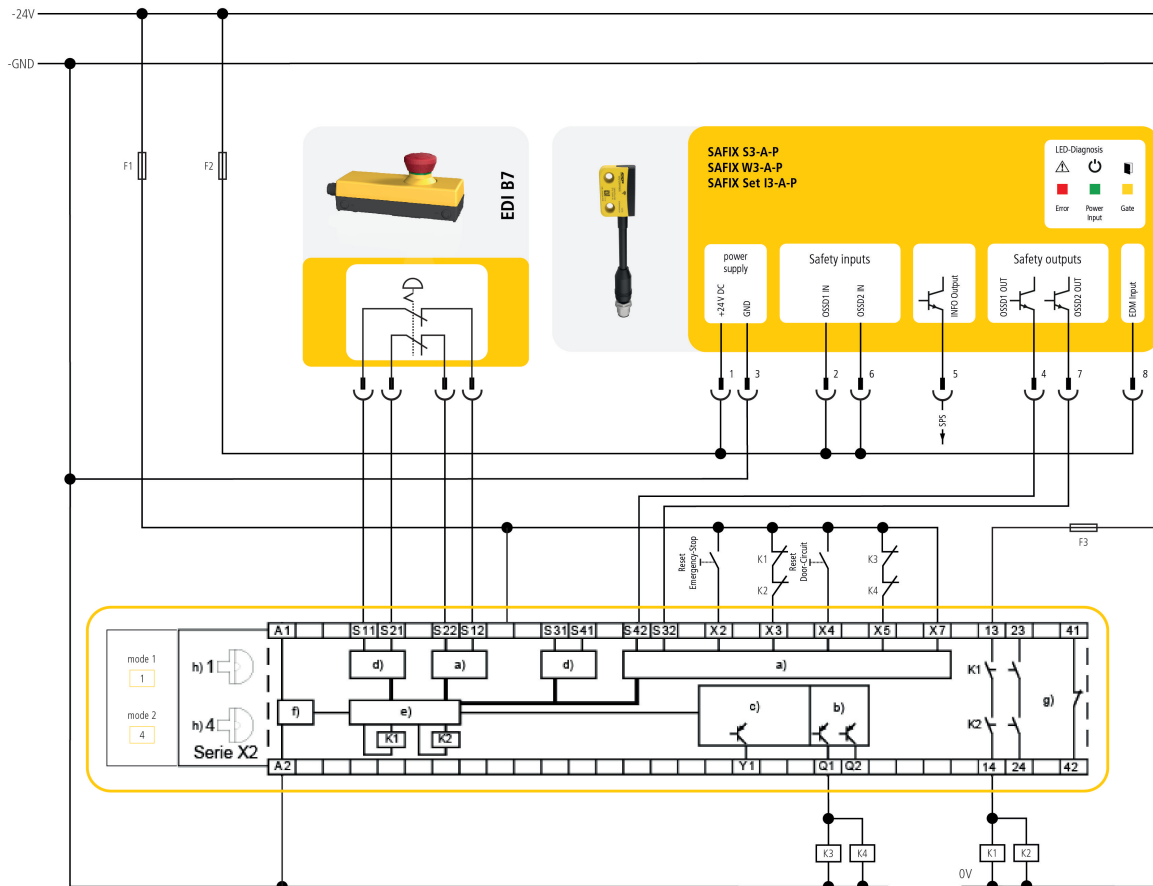
# SAFIX S3-A-P

### Connection example 4



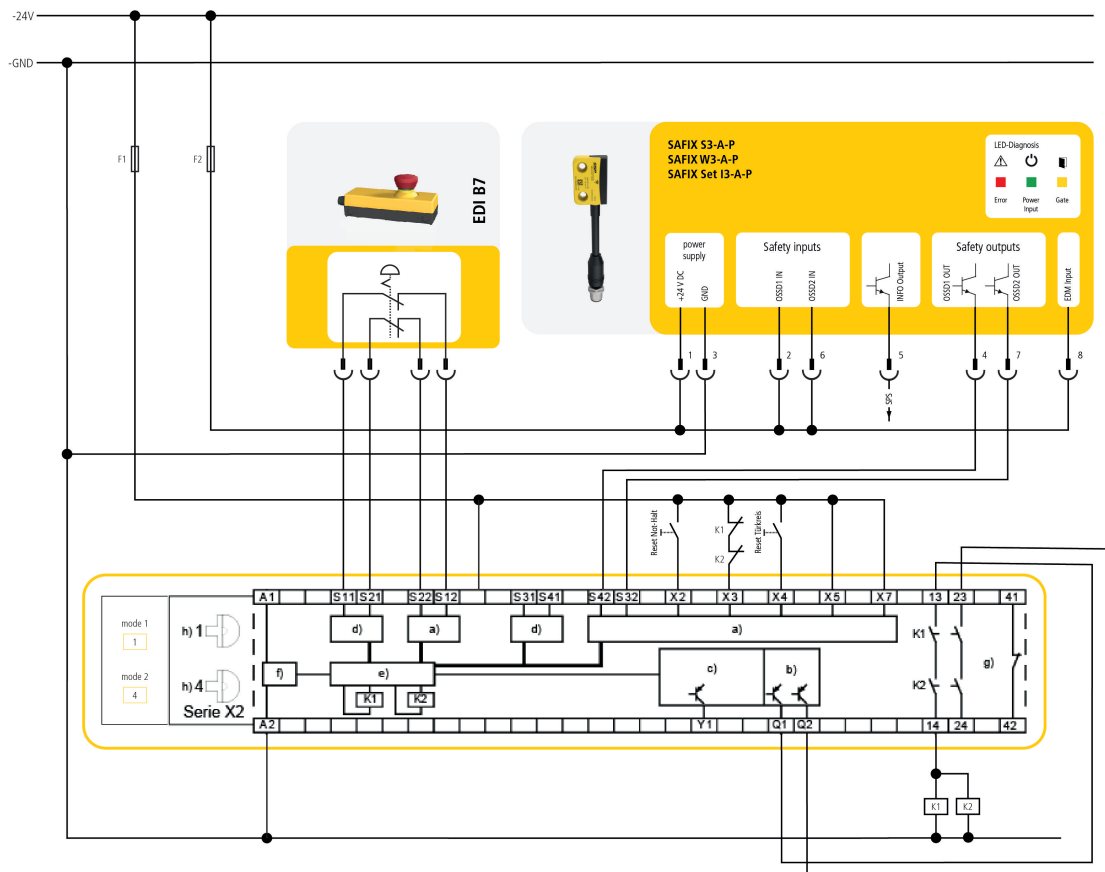
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#### Connection example 5



### SAFIX S3-A-P

#### Connection example 6

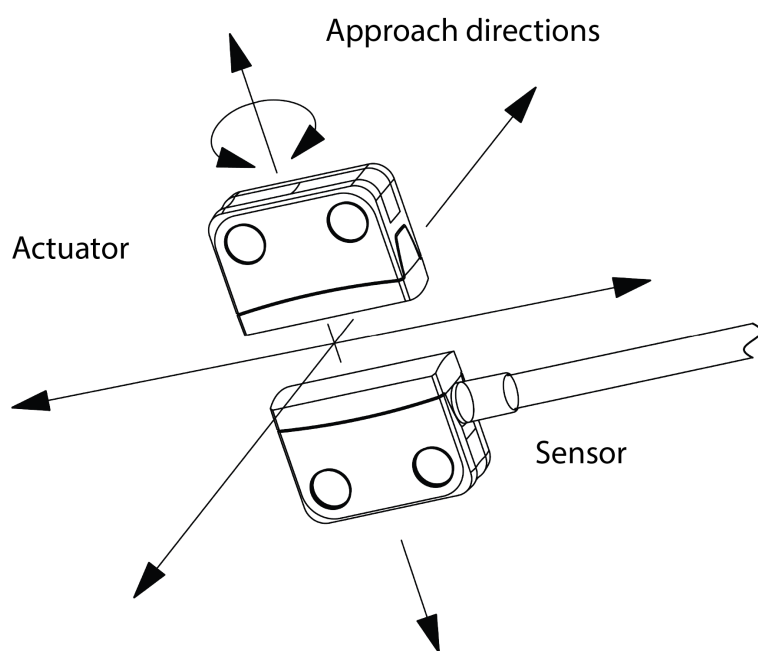




## SAFIX S3-A-P

### Drawings

#### Assembly



### Equipment

#### Accessories

M12-female connector, 8 pin, 10 m

C8D10

1021397



M12-female connector, 8 pin, 15 m

C8D15

1021398



### SAFIX S3-A-P

|                                   |                 |                |                                                                                       |
|-----------------------------------|-----------------|----------------|---------------------------------------------------------------------------------------|
| M12-female connector, 8 pin, 25 m | C8D25           | 1021390        |    |
| M12-female connector, 8 pin, 40 m | C8D40           | 1021389        |    |
| M12-female connector, 8 pin, 5 m  | C8D5            | 1021396        |    |
| M12-connecting cable, 8 pin, 10 m | M12-M12-C8103-G | 1022352        |  |
| M12-connecting cable, 8 pin, 1 m  | M12-M12-C813-G  | 1022368        |  |
| M12-connecting cable, 8 pin, 5 m  | M12-M12-C853-G  | SP-X-33-000-08 |  |

#### Safe control technology

|                                         |           |         |                                                                                       |
|-----------------------------------------|-----------|---------|---------------------------------------------------------------------------------------|
|                                         | MOSAIC M1 | 1019811 |  |
| Standard safety relay 1 safety function | S2 series | 1019455 |  |

### SAFIX S3-A-P

|                                           |           |         |
|-------------------------------------------|-----------|---------|
| Time delay safety relay 1 safety function | T2 series | 1019456 |
|-------------------------------------------|-----------|---------|



|                                                |           |         |
|------------------------------------------------|-----------|---------|
| Multi-function safety relay 2 safety functions | X2 series | 1019457 |
|------------------------------------------------|-----------|---------|



#### Wireless Safety

|                               |                          |         |
|-------------------------------|--------------------------|---------|
| Safety Simplifier   for SAFIX | S14LDRB-H08-E2-I1-Q1A0-Q | 1030122 |
|                               | 2A0-Q3C0-Q4I0-W38        |         |



|                               |                            |         |
|-------------------------------|----------------------------|---------|
| Safety Simplifier   for SAFIX | S14LDRB-H09-E2-I1-I1-Q1A0- | 1030123 |
|                               | Q2A0-Q3C0-Q4I0-W39         |         |



|                               |                            |         |
|-------------------------------|----------------------------|---------|
| Safety Simplifier   for SAFIX | S14LDRB-H0A-E2-I1-I1-I1-Q1 | 1030124 |
|                               | A0-Q2A0-Q3C0-Q4I0-W40      |         |



|                               |                            |         |
|-------------------------------|----------------------------|---------|
| Safety Simplifier   for SAFIX | S14LDRB-H0A-E2-I1-I1-K4-Q1 | 1030125 |
|                               | A0-Q2A0-Q3C0-Q4I0-W41      |         |



|                                    |                            |         |
|------------------------------------|----------------------------|---------|
| Safety Simplifier   for tGard SMDU | S14LDRB-H0A-E2-I1-I1-K4-Q1 | 1044907 |
|                                    | A0-Q2A0-Q3C0-Q4J0-W17      |         |



|                                        |                            |         |
|----------------------------------------|----------------------------|---------|
| Safety Simplifier   for two tGard SMDU | S16LDRB-H09-E2-I1-I1-Q1A0- | 1029216 |
|                                        | Q2J0-Q3C0-Q4J0-W19         |         |



#### Safety switches

### SAFIX S3-A-P

|                               |                  |                |                                                                                       |
|-------------------------------|------------------|----------------|---------------------------------------------------------------------------------------|
| Standard-Actuator for SAFIX 3 | SAFIX T5         | 1019317        |    |
| Flat actuator for SAFIX 3     | SAFIX T6         | 1019331        |    |
| Mounting                      | SAFIX Z B5       | SP-K-71-000-08 |    |
| Passive distributor           | XCONN P6-M12-10m | 1027828        |  |
| Passive distributor           | XCONN P6-M12-M23 | 1027825        |  |
| Y distributor                 | XCONN Y2-M12     | 1022403        |  |
|                               |                  |                |                                                                                       |
| Passive distributor           | XCONN P6-M12-5m  | 1027824        |  |

## SAFIX S3-A-P

### Downloads

- Operating manual
- CAD Data
- SISTEMA - Data V 4.1
- Certificate
- EPLAN-Data