



eloFlex Mini 470EFR...

eloFlex Mini 470EFR... is a configurable safety relay with 2 independent safety inputs (2-channel) and up to 2 safety outputs as well as 1 control output. The internal logic link is configured specifically for each customer.

Product characteristics

- Up to 2 safety functions can be implemented in one device
- The number of safety outputs (relays) can be set according to the individual requirement, making this a cost-effective solution
- Increased functionality using less space in the switch cabinet
- The units are tamper-proof as are pre-configured during ordering
- Cost-effective and reliable by unique identification of configuration for maintenance, commissioning and service
- Can be perfectly adapted to your application through various configuration options, offering maximum flexibility
- Additional sensors can be connected via elobau interfaces for input expansion

The following logic and safety functions are available:

| Logic link: | Safety functions: |
|-------------|--------------------|
| AND | t_{ON} / t_{OFF} |
| OR | Safetyfunction |
| XOR | 2-hand |
| NAND | Safetygate |
| NOR | E-stop |
| XNOR | N.O./N.O. |
| NOT | or N.O./N.C. |

Technical drawing

IMAGE 1/3

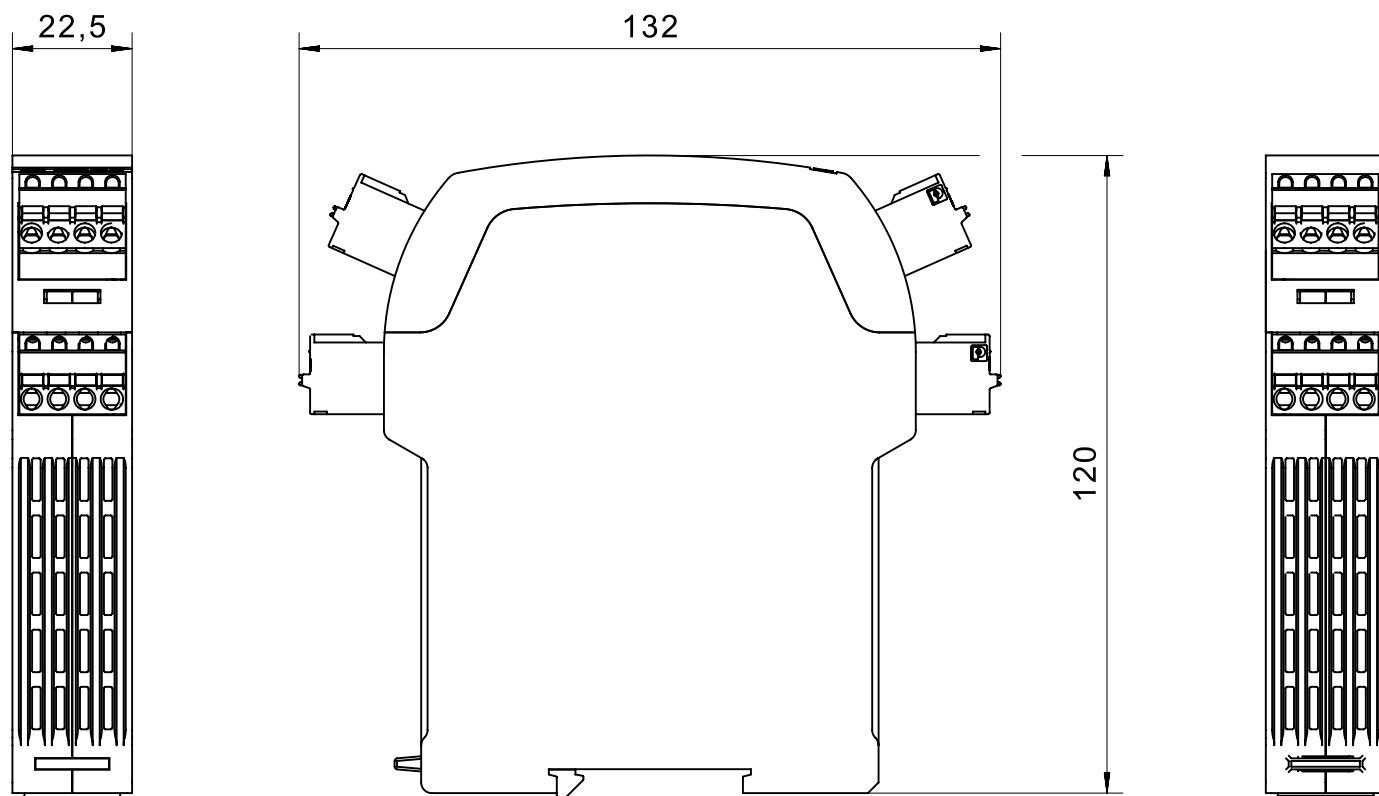


IMAGE 2/3

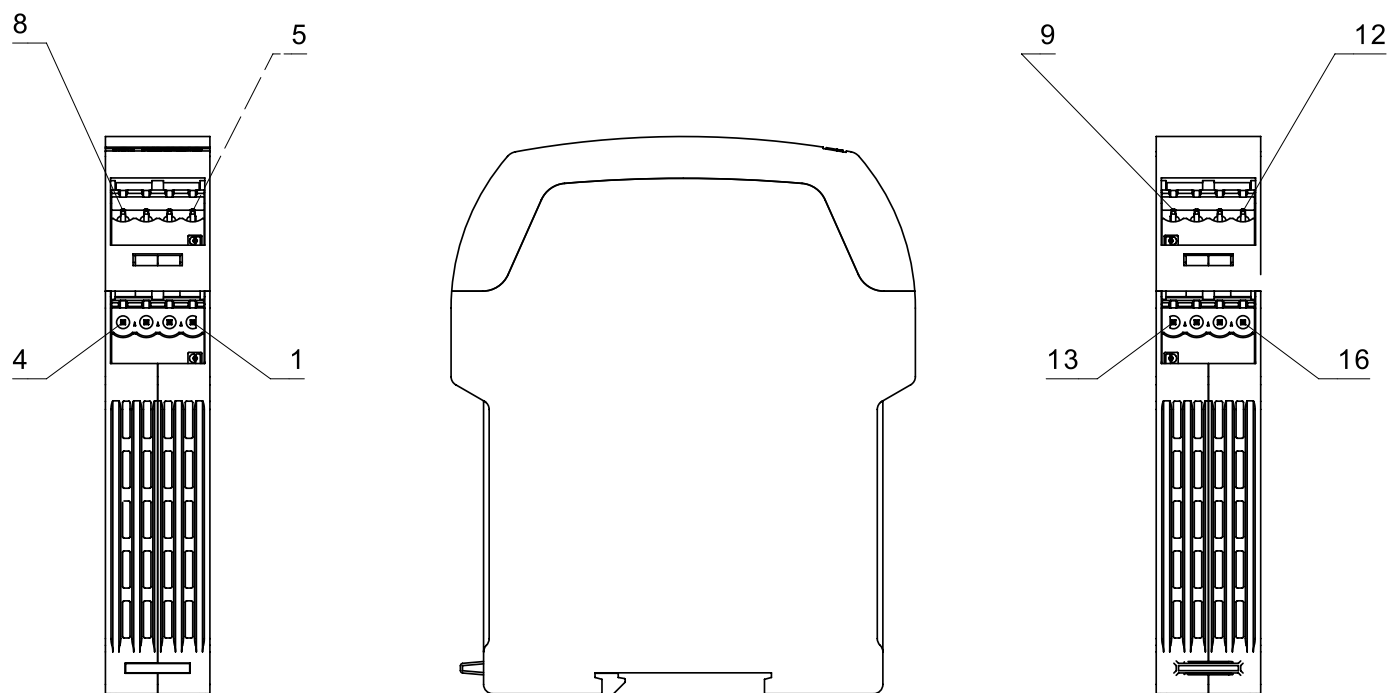
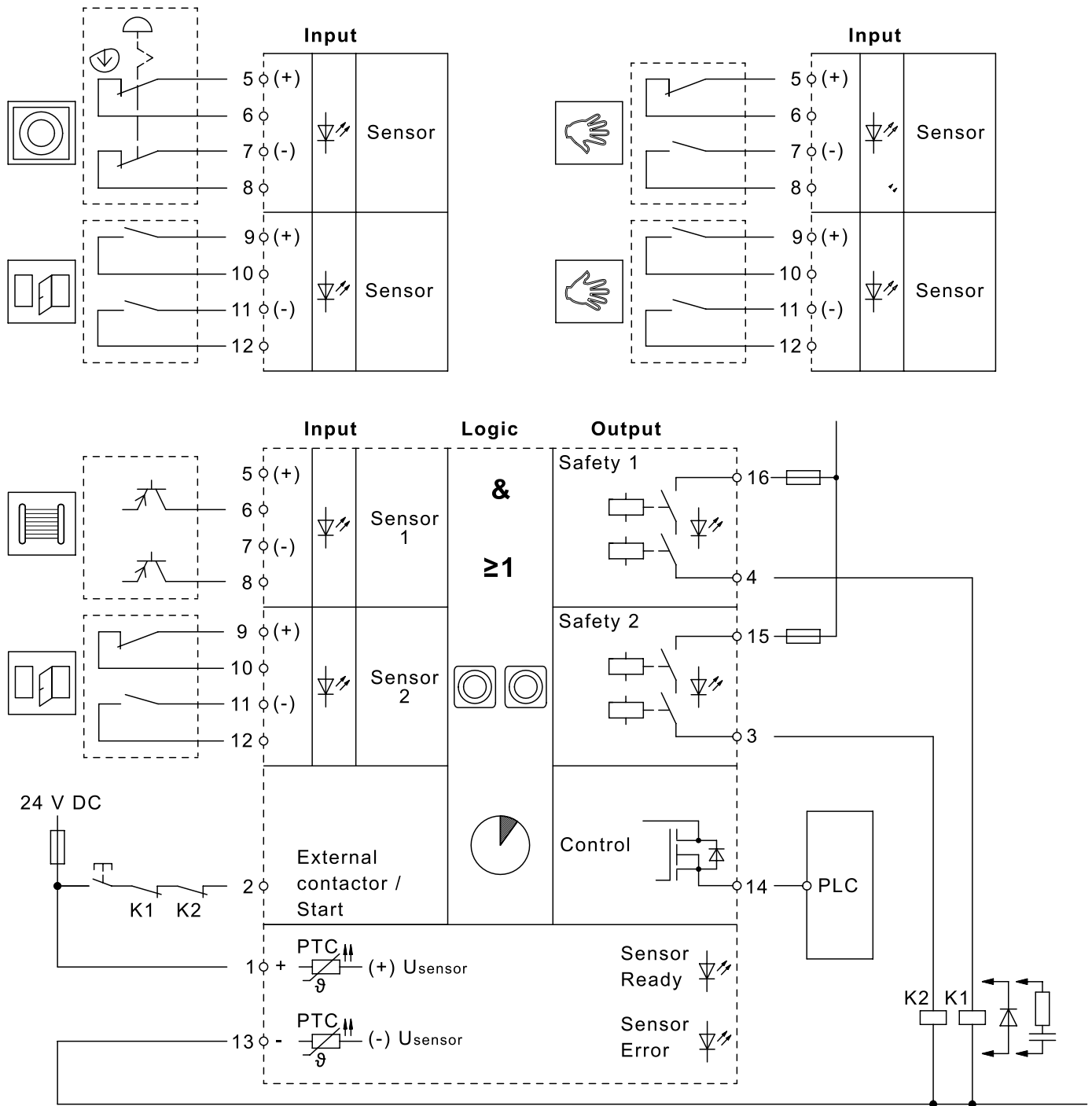


IMAGE 3/3



Article characteristics

| Attribute | 470EFR2D12K... | 470EFR3E11K... | 470EFR3E12K... |
|---|--------------------------------|----------------|----------------|
| Max. switching voltage at safety output | 30 V DC | | |
| Max. switching voltage at control output | 26.4 V DC | | |
| Max. switching voltage at safety output | 250 V AC | | |
| Max. switching current at safety output | 3 A | | |
| Max. switching current at control output | 0.7 A | | |
| Max. switching power at control output | 16.8 W | | |
| Max. switching power at safety output | 750 VA | | |
| Number of configurable relay safety outputs | 2 | 1 | 2 |
| Number of electronic control outputs | 2 | | |
| Number of redundant safety inputs | 2 | | |
| Stop category 0 (STO) nach IEC 61800-5-2 | yes | | |
| Stop category 1 (SS1) nach IEC 61800-5-2 | yes | | |
| EDM/start input | yes | | |
| Start function | Depending on the configuration | | |
| Utilization category | AC-15 / DC-13 | | |
| Operating voltage min. | 21.6 V DC | | |
| Operating voltage max. | 26.4 V DC | | |
| Current consumption | 200 mA | | |
| Power consumption | 4.8 W | | |
| Cross-short detection | yes | | |
| LED display | two-coloured | | |
| Operating time | 3000 ms | | |
| Overvoltage category | II | | |
| Min. switching voltage at safety output | - | 5 V DC | |
| Min. switching voltage at control output | 21.6 V DC | | |

| Attribute | 470EFR2D12K... | 470EFR3E11K... | 470EFR3E12K... |
|--|--------------------------------|----------------|----------------|
| Min. switching voltage at safety output | - | 5 V AC | |
| Min. switching current at safety output | - | 0.05 A | |
| Min. switching power at control output | - | 0.06 W | |
| Max. switching power at safety output | 90 W | | |
| Min. switching power at safety output | - | 0.06 VA | |
| Max no operating cycles at 0.5A switching current (ohmic load) | 1000000 | 1500000 | |
| Max no operating cycles at 3A switching current (ohmic load) | 190000 | 250000 | |
| Contact form | Abhängig von der Konfiguration | | |
| PL acc. to EN ISO 13849-1 | d | e | |
| SIL acc. to IEC 61508 | 2 | 3 | |
| SIL CL acc. to IEC 62061 | 2 | 3 | |
| PFHD according to IEC 61508 | 8,75x10^-8 1/h | 3,86x10^-8 1/h | |
| Operating life | 20 Tm | | |
| Category acc. to EN ISO 13849-1 | 3 | 4 | |
| Hardware fault tolerance (HFT) according to IEC 61508 | 1 | | |
| Dimensions | 130 x 22,5 x 120 mm (H/B/T) | | |
| Housing material | PA, PC | | |
| Housing colour | schwarz | | |
| Protection class | IP30 IEC60529 | | |
| Operating temperature min. | 0 °C | | |
| Max. operating temperature | 55 °C | | |
| Min. storage temperature | -40 °C | | |
| Max. storage temperature | 70 °C | | |
| Relative humidity | 5 - 85 % | | |
| Protection class, installation space | IP55 IEC60529 | | |
| Shock resistance (Norm) | 30 g / 11 ms | | |
| Continuous shock resistance (Norm) | 10 g / 16 ms | | |

| Attribute | 470EFR2D12K... | 470EFR3E11K... | 470EFR3E12K... |
|---------------------------------|--|----------------|----------------|
| Vibration resistance (Norm) | 10 ... 55 Hz | | |
| Air pressure | 860 - 1060 hPa | | |
| Delta tmax | 0.5 °C/min | | |
| Mounting type | Mounting rail | | |
| Weight | 200 g | | |
| Torque for connection terminals | 0.5 N m | | |
| Spring-type terminals | yes | | |
| Screw terminals | Optional | | |
| Double terminals | Optional | | |
| Pluggable connection terminals | yes | | |
| Min. connection cross section | 0.2 mm² | | |
| Max. connection cross section | 2.5 mm² | | |
| Certified in accordance with | EN ISO 13849-1 IEC 61508 IEC 62061 UL 508 / CSA 22.2 | | |
| CE label | yes | | |