



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

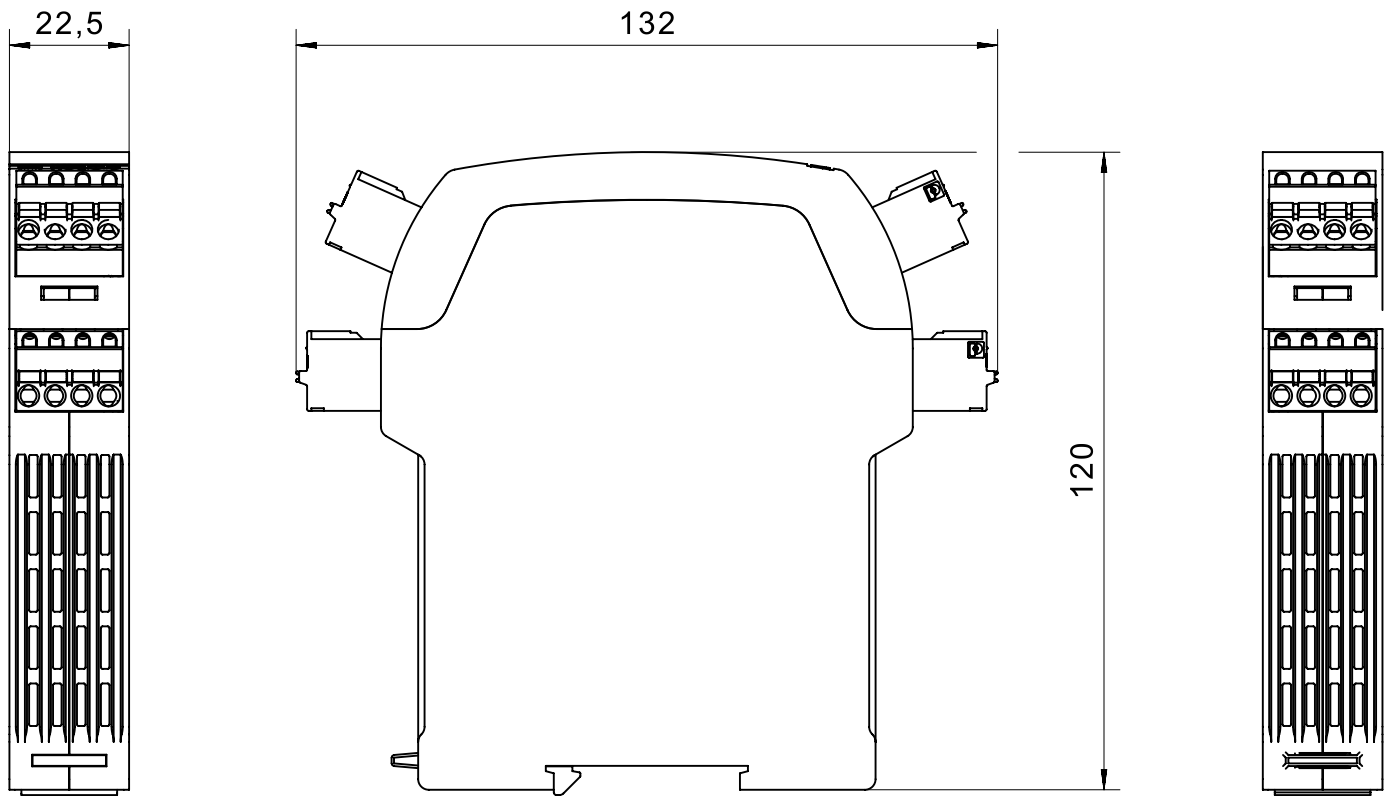


IMAGE 2/3

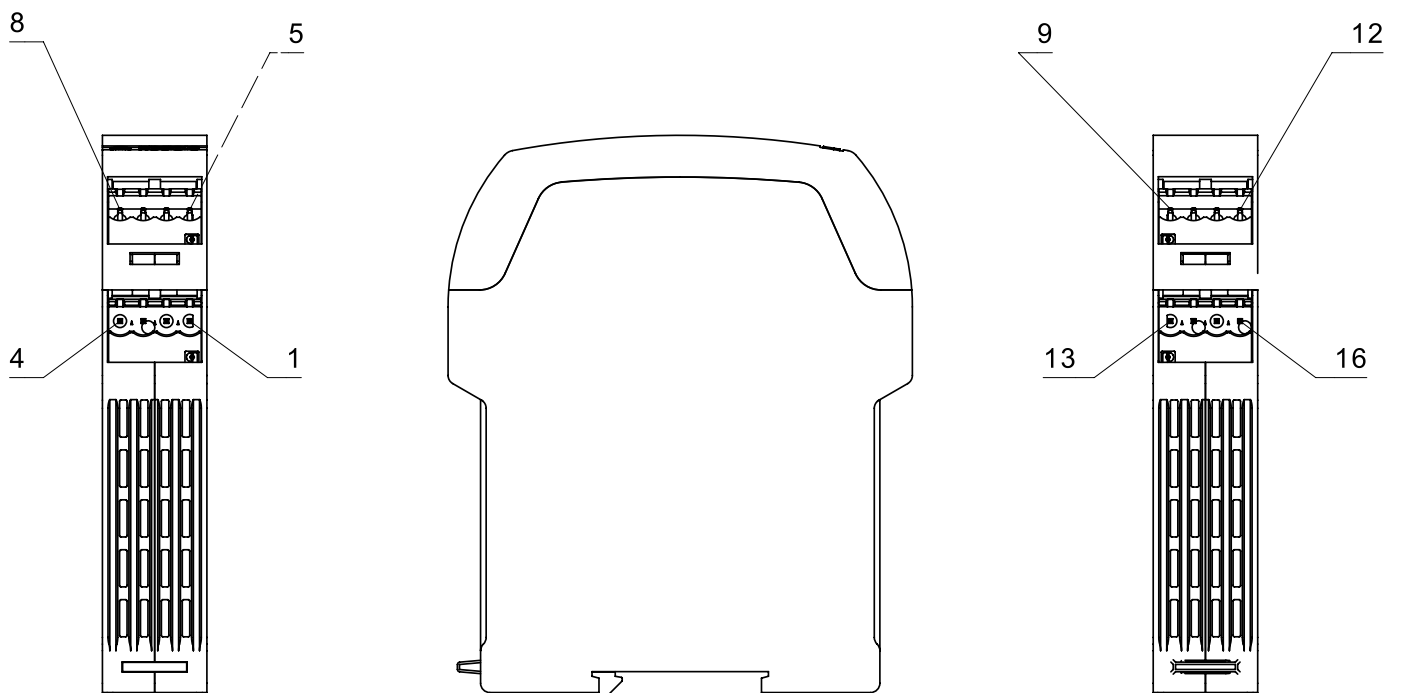
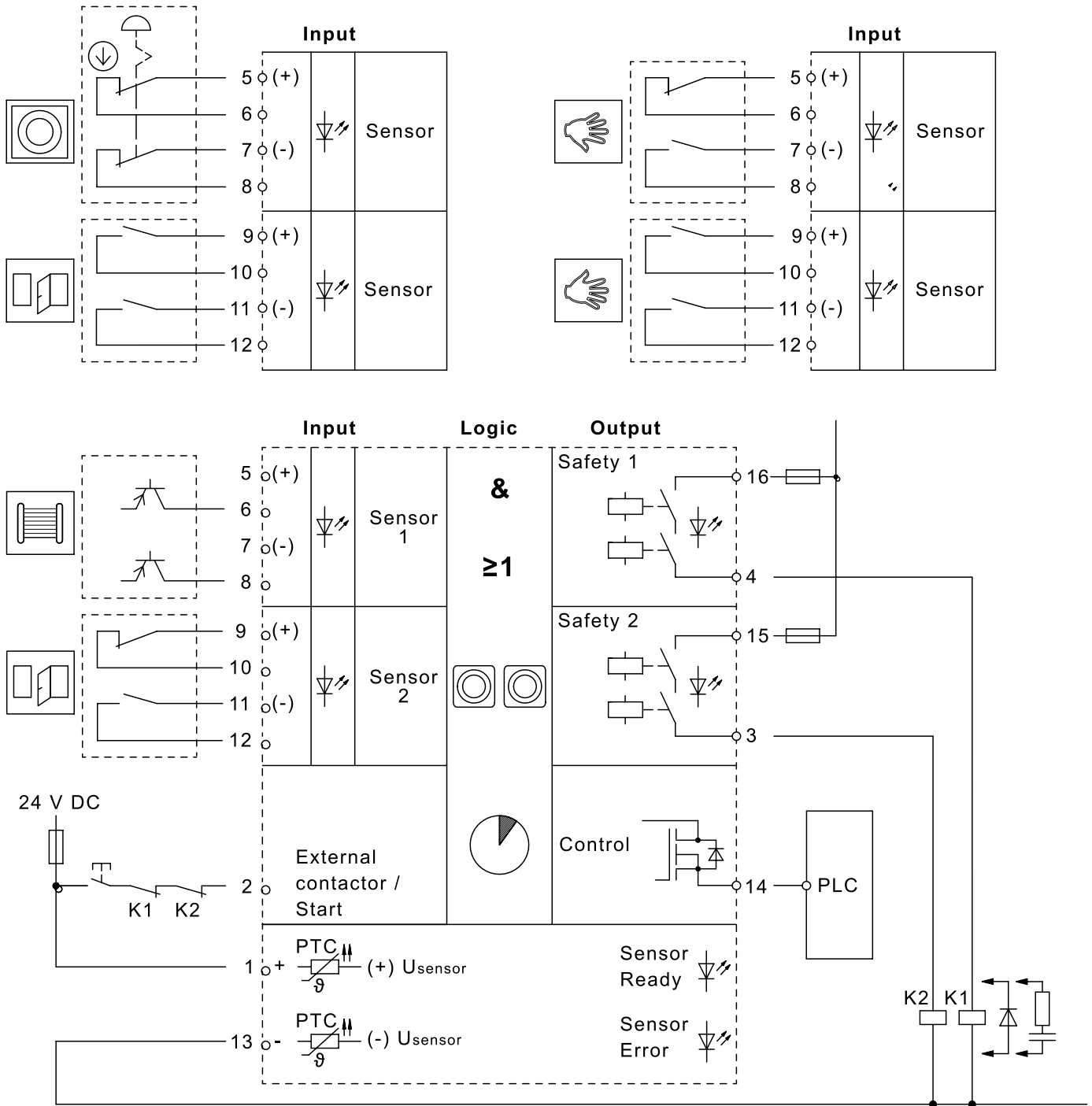


IMAGE 3/3



Electrical data

Attribute	470EFR2D12K...
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
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 control output	21.6 V DC

Electrical data

Attribute	470EFR2D12K...
Max. switching power at safety output	90 W
Max no operating cycles at 0.5A switching current (ohmic load)	1000000
Max no operating cycles at 3A switching current (ohmic load)	190000
Contact form	Abhängig von der Konfiguration

Safety-related characteristics

Attribute	470EFR2D12K...
PL acc. to EN ISO 13849-1	d
SIL acc. to IEC 61508	2
SIL CL acc. to IEC 62061	2
PFHD according to IEC 61508	$8,75 \times 10^{-8}$ 1/h
Operating life	20 Tm
Category acc. to EN ISO 13849-1	3
Hardware fault tolerance (HFT) according to IEC 61508	1

Mechanical data

Attribute	470EFR2D12K...
Dimensions	130 x 22,5 x 120 mm (H/B/T)

Material information

Attribute	470EFR2D12K...
Housing material	PA, PC
Housing colour	schwarz

Environmental conditions

Attribute	470EFR2D12K...
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
Vibration resistance (Norm)	10 ... 55 Hz
Air pressure	860 - 1060 hPa
Delta tmax	0.5 °C/min

Installation

Attribute	470EFR2D12K...
Mounting type	Mounting rail
Weight	200 g
Torque for connection terminals	0.5 N m

Connection

Attribute	470EFR2D12K...
Spring-type terminals	yes
Screw terminals	Optional
Double terminals	Optional
Pluggable connection terminals	yes
Min. connection cross section	0.2 mm ²
Max. connection cross section	2.5 mm ²

Approvals

Attribute	470EFR2D12K...
Certified in accordance with	EN ISO 13849-1 IEC 61508 IEC 62061 UL 508 / CSA 22.2
CE label	yes