



## 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

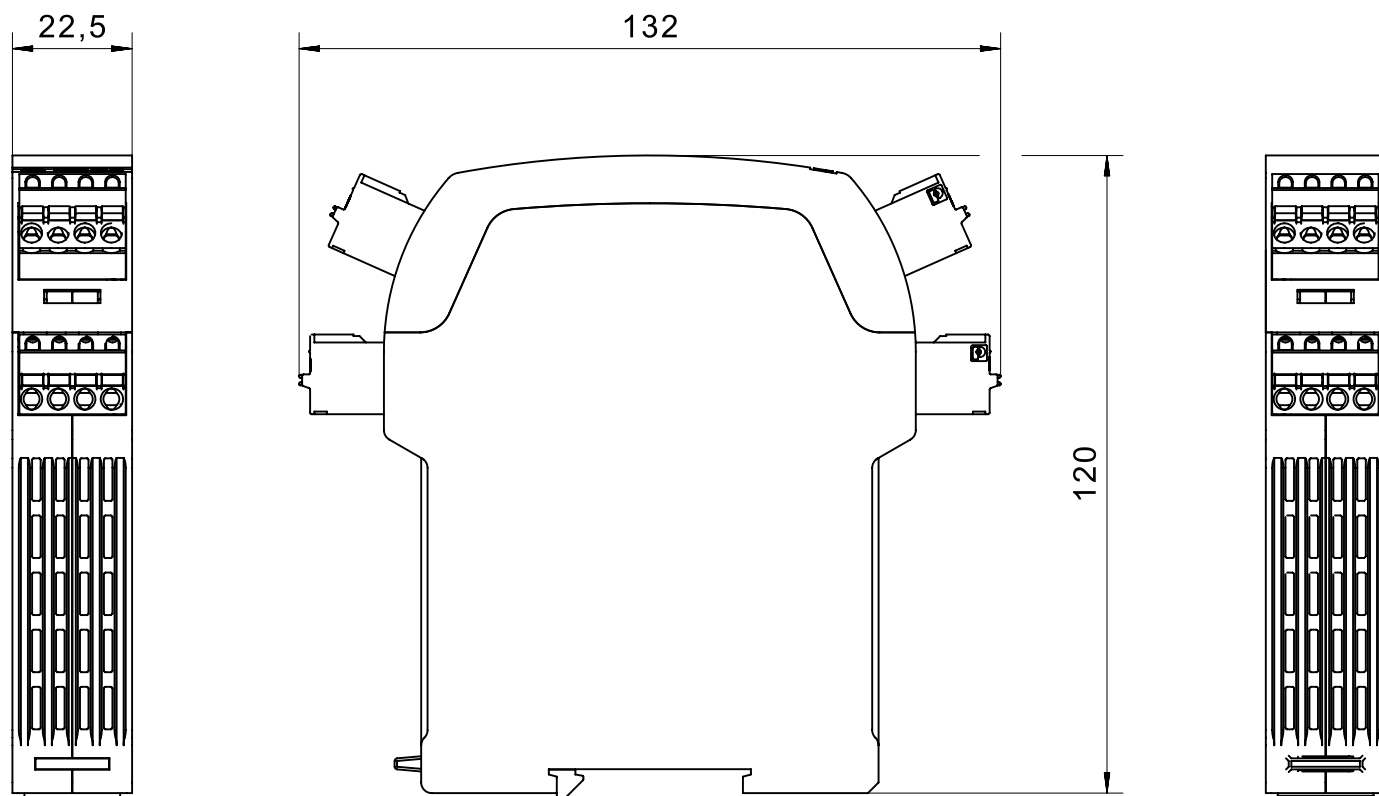


IMAGE 2/3

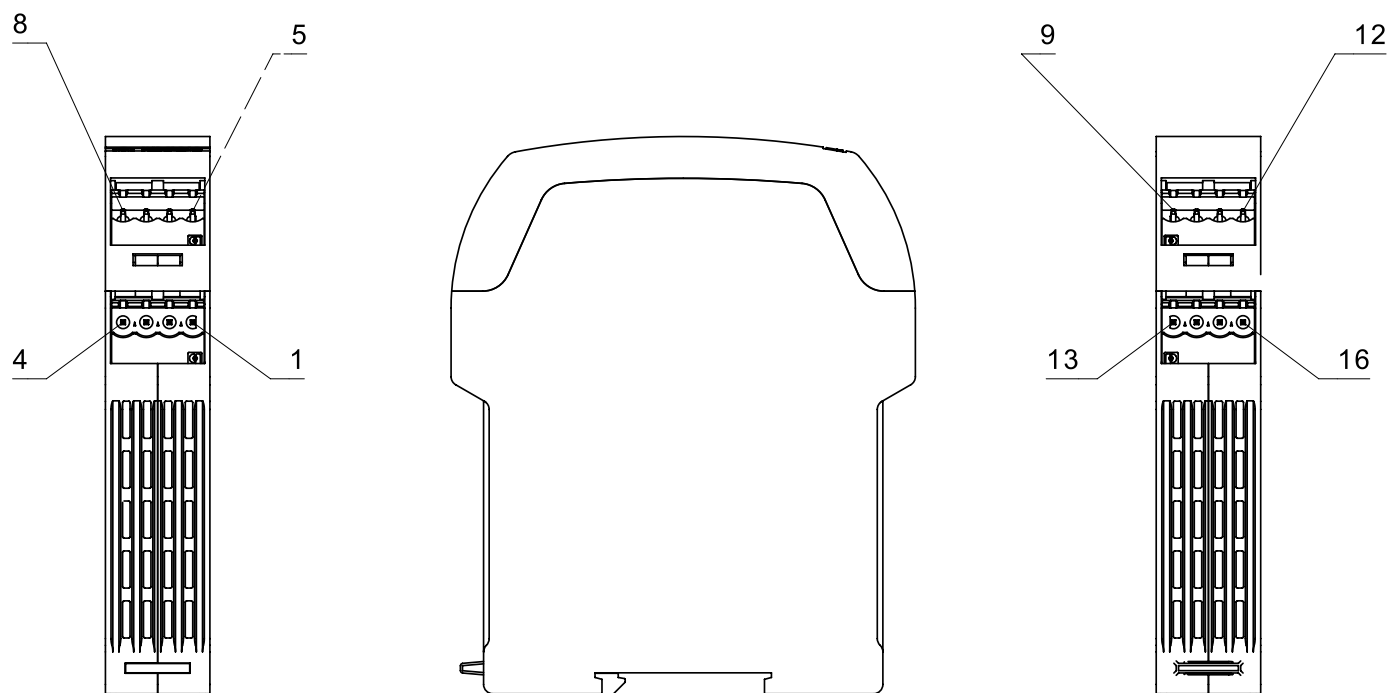
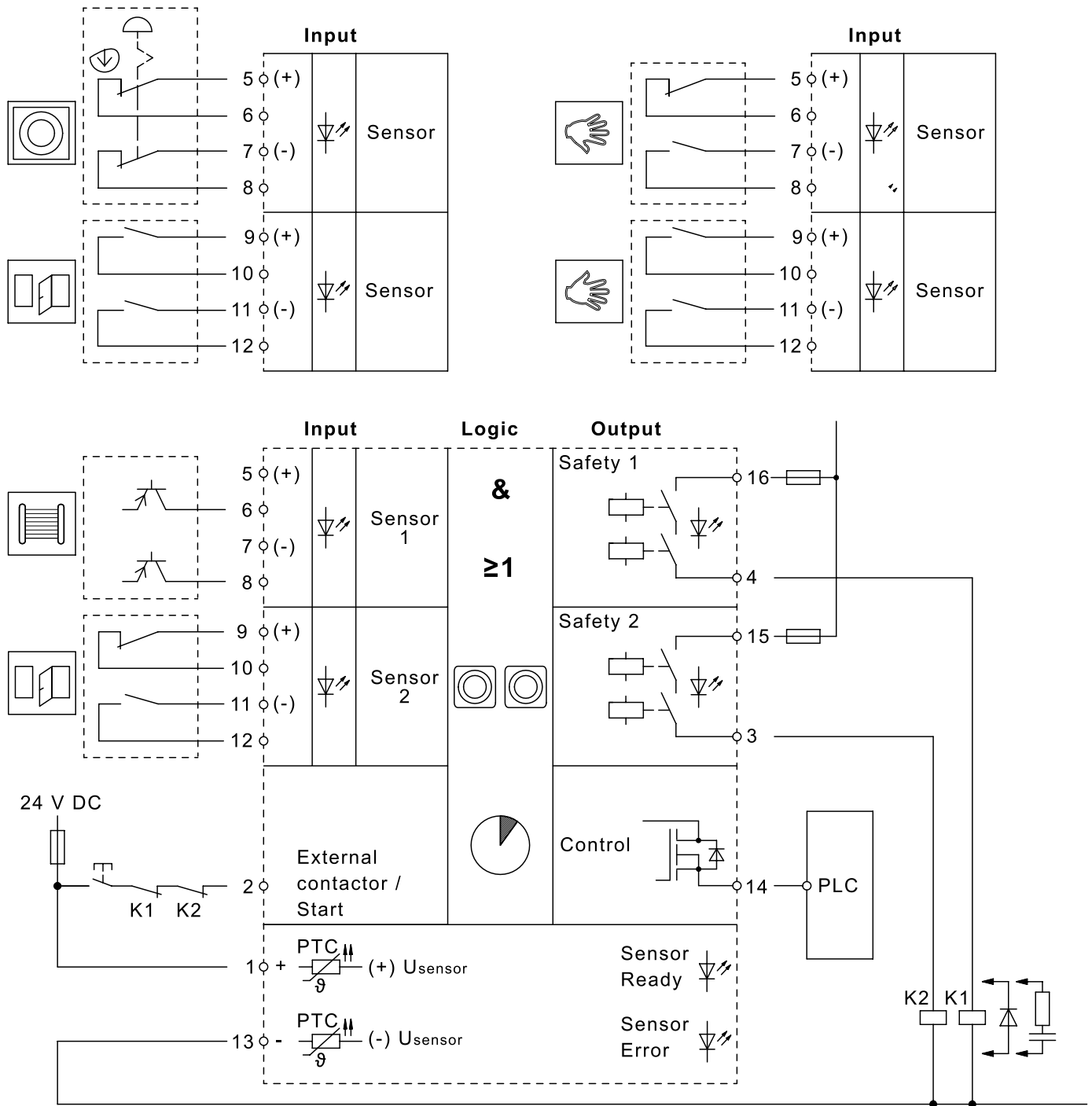


IMAGE 3/3



## Article characteristics

Attribute	470EFR2D12K...	470EFR3E11K...	470EFR3E12K...	ED470EFR2D12K...	ED470EFR3E11K...	ED470EFR3E12K...
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...	ED470EFR2D12K...	ED470EFR3E11K...	ED470EFR3E12K...
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 <sup>-8</sup> 1/h	3,86x10 <sup>-8</sup> 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...	ED470EFR2D12K...	ED470EFR3E11K...	ED470EFR3E12K...
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			-		