elobau GmbH & Co. KG
Zeppelinstr. 44
88299 Leutkirch, Germany

Tel.: +49 (0) 7561 970-0
Fax: +49 (0) 7561 970-100



eloFlex - 471EFR...

eloFlex 471 EFR... é um relé de segurança configurável que oferece 4 entradas de segurança independentes (2 canais) e até 4 saídas de segurança, bem como 4 saídas de controle.

A programação da lógica de segurança é feita individualmente para cada cliente/aplicação.

Especificação Técnica

- até 4 funções de segurança podem ser implementadas neste controlador programável
- o número de saídas de segurança (relés) pode ser definido de acordo com a necessidade individual de cada cliente/aplicação, fazendo desse controlador um ótimo custo-benefício
- maior funcionalidade com menor espaço de montagem
- as unidades são à prova de adulteração, pois são configuradas pela elobau durante a produção
- econômico e confiável, graças à sua exclusiva configuração
- maior flexibilidade devido a grande variedade de configurações disponíveis, adaptando-se às suas necessidades
- sensores adicionais podem ser conectados através de interfaces elobau para expansão de entrada

As seguintes lógicas de segurança estão disponíveis neste controlador:

Lógica:	**Funções de segurança:**
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.

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Desenho técnico

IMAGE 1/4

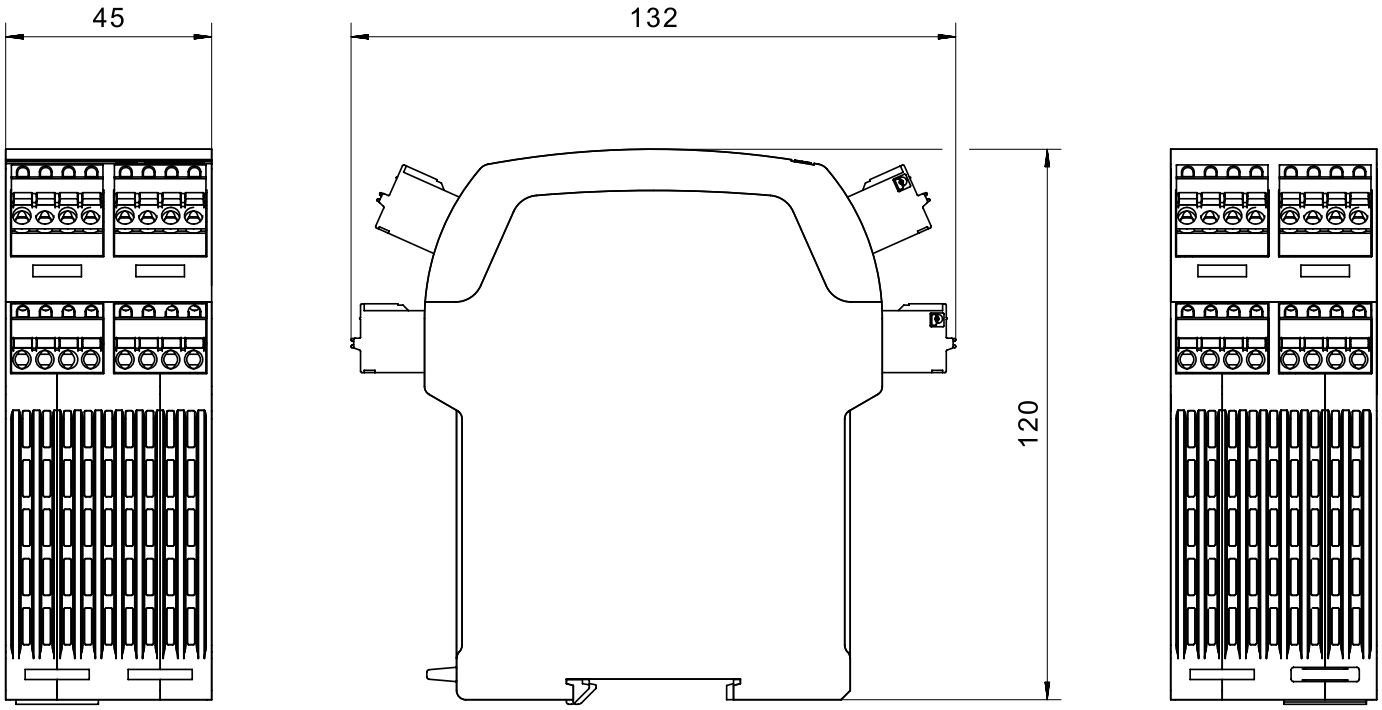
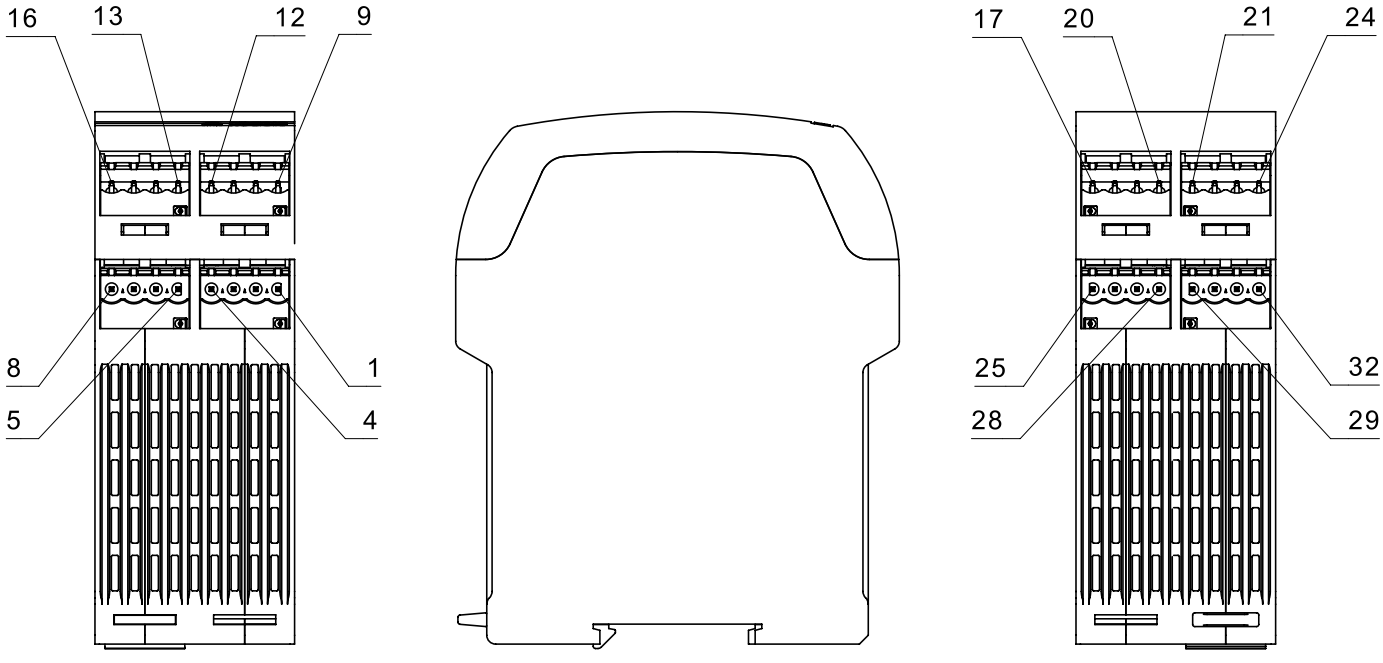


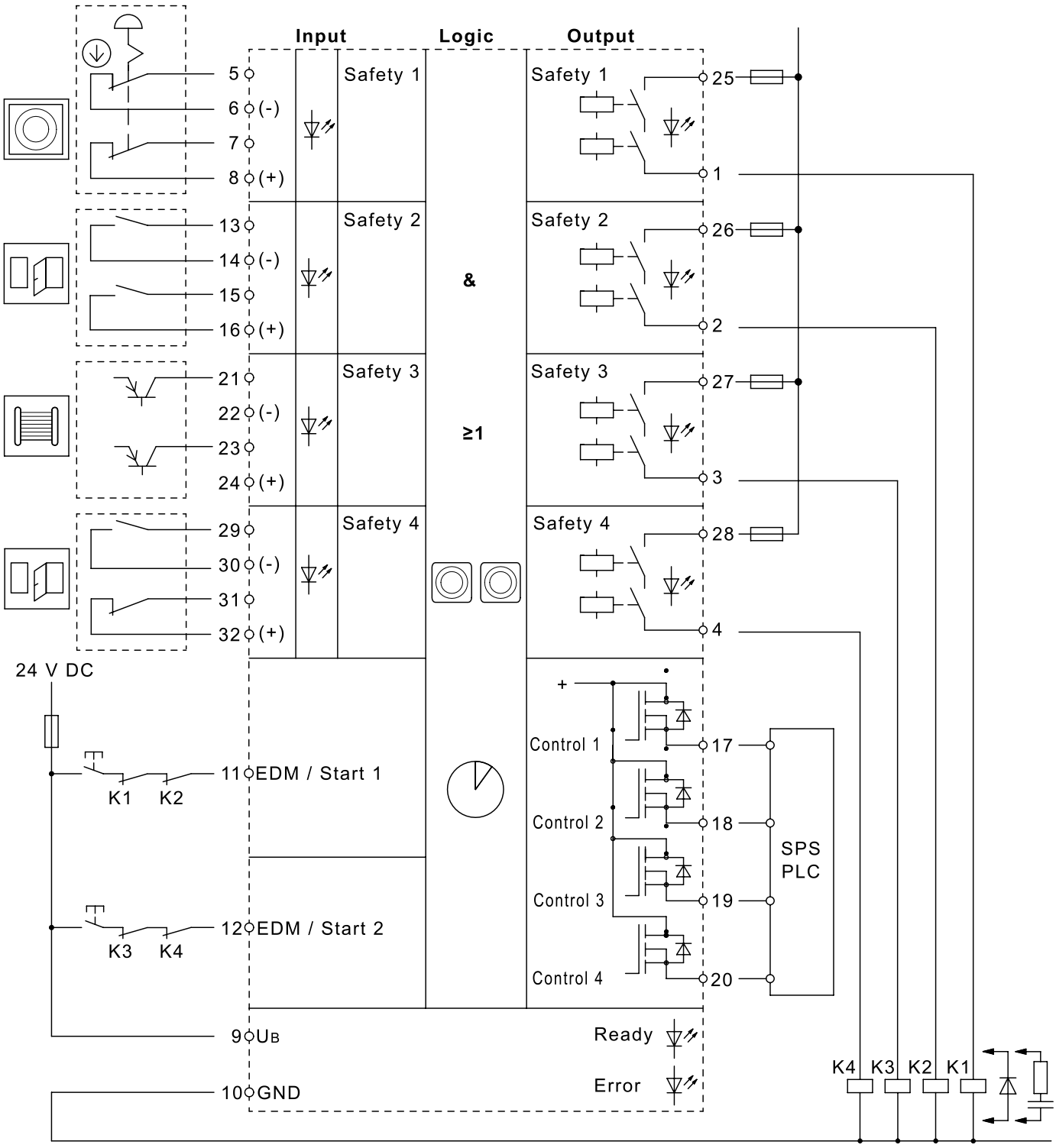
IMAGE 2/4



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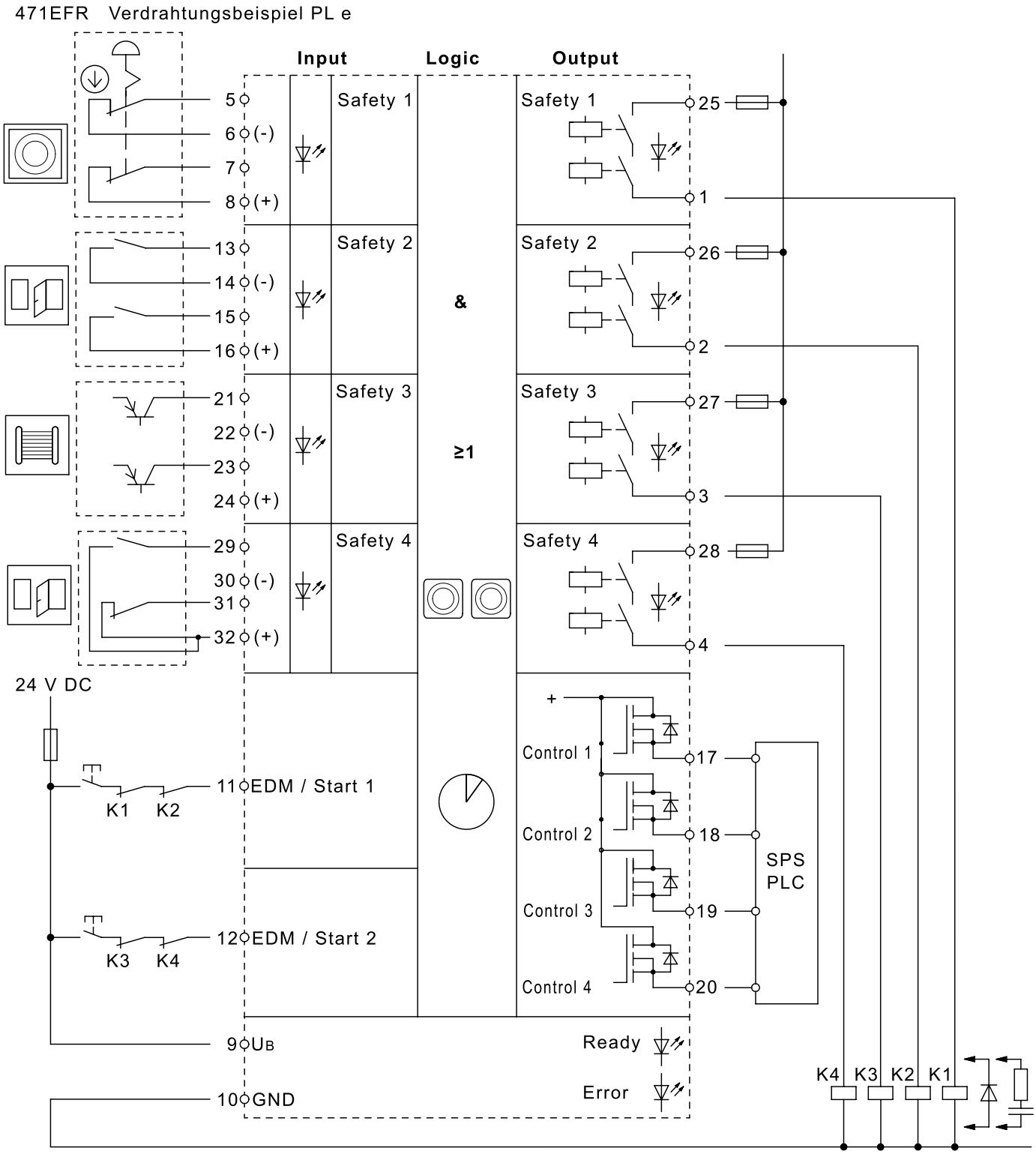
IMAGE 3/4



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IMAGE 4/4



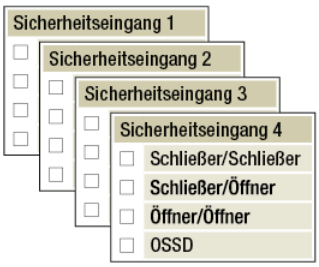
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Product options

IMAGE 1/1

1. Define safety function and contact form of inputs

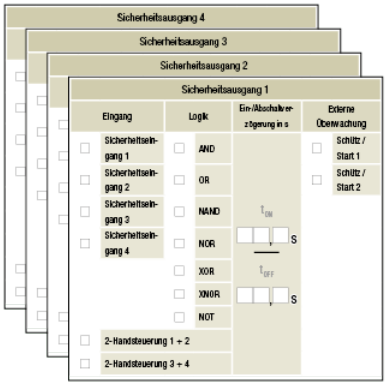


- Max. 4 different safety functions are possible
- Already defined: performance level d or e

For example

Guard door = N.O./N.O. or N.O./N.C.
Emergency stop = N.C./N.C.
Light barrier with PNP output = OSSD

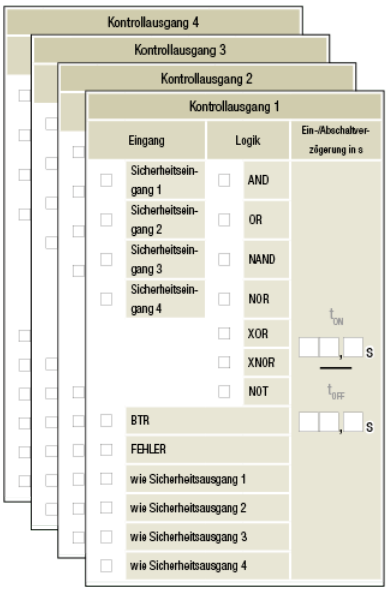
2. Define and allocate logic safety inputs (1-4) for safety outputs (1-4)



AND
OR
NAND
NOR
XOR
XNOR
NOT
2-hand control
Definition of switch-on and switch-off delay 0...99.9s – resolution 0.1s

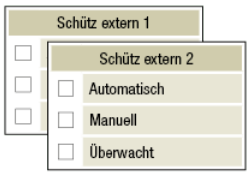
Note: Only one logic possible per control and safety output

3. Logic of control outputs (1-4)



AND
OR
NAND
NOR
XOR
XNOR
NOT
Control output like safety output 1-4
Further functions
BTR
Error
Definition of switch-on and switch-off delay 0...99.9s – resolution 0.1s
Note: Only one logic possible per control and safety output

4. Safety outputs 1-4



Assignment of external contactors to safety outputs
Manual
Automatic
Monitored
For definition of switch-on and switch-off delay, see step 2 and 3

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Características do artigo

Attribute	471EFR2D14K...	471EFR3E11K...	471EFR3E12K...	471EFR3E13K...	471EFR3E14K...	471EFR3E11K_
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	0.1 A					
Max. switching power at control output	2.64 W					
Max. switching power at safety output	750 VA					
Number of configurable relay safety outputs	4	1	2	3	4	1
Number of electronic control outputs	4					
Number of redundant safety inputs	4					
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	800 mA					
Power consumption	21.12 W					
Cross-short detection	yes					
LED display	two-coloured					
Operating time	3000 ms					
Fuse operating voltage	1A fast					
Overvoltage category	III					
Fuse safety output	3A slow blow					

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Attribute	471EFR2D14K...	471EFR3E11K...	471EFR3E12K...	471EFR3E13K...	471EFR3E14K...	471EFR3E11K_
Min. switching voltage at control output	21.6 V DC					
Max. switching power at safety output	90 W					
Max no operating cycles at 0.5A switching current (ohmic load)	1000000	3000000				
Max no operating cycles at 3A switching current (ohmic load)	190000	280000				
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	1,26x10^-8 1/h	3,28x10^-9 1/h				
Operating life	20 Tm					
Category acc. to EN ISO 13849-1	3	4				
Hardware fault tolerance (HFT) according to IEC 61508	1					
Max. switching frequency safety output with load	360 1/h					
Max. switching frequency safety output with load	72000 1/h	18000 1/h				
Dimensions	130 x 45 x 120 mm (H/B/T)					
Housing material	PA, PC					
Housing colour	schwarz					
Protection class	IP30 IEC60529					
Operating temperature min.	-15 °C					
Max. operating temperature	55 °C					
Min. storage temperature	-40 °C	-25 °C				
Max. storage temperature	70 °C					
Relative humidity	5 - 85 %					
Protection class, installation space	IP54 DIN EN 60529					
Shock resistance (Norm)	30 g / 11 ms					
Continuous shock resistance (Norm)	10 g / 16 ms					

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Attribute	471EFR2D14K...	471EFR3E11K...	471EFR3E12K...	471EFR3E13K...	471EFR3E14K...	471EFR3E11K_
Vibration resistance (Norm)	10 ... 55 Hz					
Air pressure	860 - 1060 hPa					
Delta tmax	0.5 °C/min					
Mounting type	Mounting rail					
Weight	400 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					

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Max no operating cycles at 3A switching current (ohmic load)	280000		
Contact form	Abhängig von der Konfiguration		
PL acc. to EN ISO 13849-1	e		
SIL acc. to IEC 61508	3		
SIL CL acc. to IEC 62061	3		
PFHD according to IEC 61508	3,28x10^-9 1/h		
Operating life	20 Tm		
Category acc. to EN ISO 13849-1	4		
Hardware fault tolerance (HFT) according to IEC 61508	1		
Max. switching frequency safety output with load	360 1/h		
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Min. storage temperature	-25 °C		
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Delta tmax	0.5 °C/min		

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