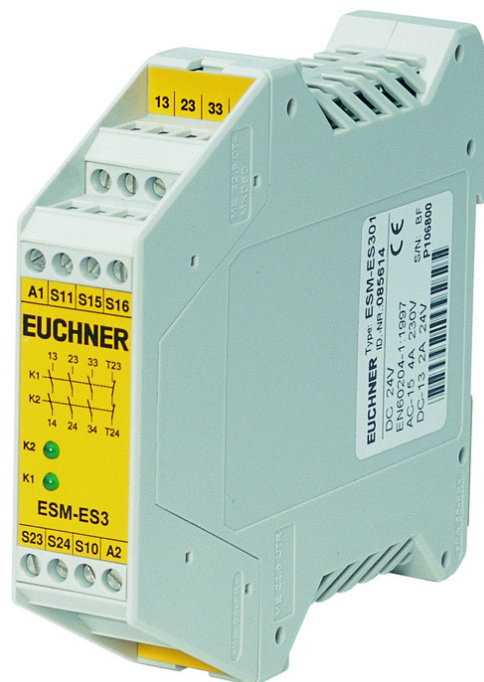


## ITEM 085615 ESM-ES302

Description	Technical data	Accessories	Downloads
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### Features

- › Usage up to category 4 according to EN ISO 13849-1
- › LED status indicators
- › Control using safety relays
- › 3 redundant safety contacts
- › 1 auxiliary contact (monitoring contact)
- › Earth fault/ground fault monitoring can be selected

### Relay outputs

The outputs are electrically decoupled and of redundant design.

### Connection

By using suitable wiring the following function can be selected:

- › Earth fault/ground fault monitoring to detect short circuits between the connection cables and earth or ground and to shut down the outputs or prevent relay starting if necessary.

## Approvals



## Mechanical values and environment

Housing material	Polyamide PA6.6
Weight	
Net	0,23 kg
Ambient temperature	
At $U_B = 115/230V$ AC	-15 ... 40 °C
Degree of protection	IP20
Mechanical life	
operating cycles	$10 \times 10^6$
Contact material	AgNi-10
Mounting method	Mounting rail 35mm according to DIN EN 60715 TH35
Connection	Connection terminals
Length of control cable	
With conductor cross-section $0.75\text{mm}^2$	1000 m
	<b>Auxiliary contacts S23/S24</b>
Number of auxiliary contacts	1
	<b>Safety contacts 13/14, 23/24, 33/34</b>
Number of safety contacts	3

## Electrical connection ratings

Operating voltage	
AC	115 V -10% ... +10%
Power consumption (apparent power)	
At 230 V AC	3,5 VA
Rated insulation voltage $U_i$	250 V
Rated impulse withstand voltage $U_{imp}$	
Leakage path/air gaps	4 kV
Overtoltage category according to IEC EN 60664-1	3
Rated supply frequency	50 ... 60 Hz
Degree of contamination (external, according to EN 60947-1)	2
Connection cross-section	0,14 ... 2,5 $\text{mm}^2$
Test voltage	
Control system/contacts	2,5 kV
Control voltage	
On S11	24 V
Control current	

S11...S14	40 mA
LED indicator	2 status displays (green) for relays K1 and K2
	<b>Auxiliary contacts S23/S24</b>
Type of output	NC As monitoring contact for safety relay
	<b>Safety contacts 13/14, 23/24, 33/34</b>
Type of output	NO Relay contacts, positively driven (redundant) <b>[1]</b>
Switching voltage	AC max.250 V DC max.24 V
Switching current	at 24Vmin.20 mA
Cumulative current	For all contactsmax.10,5 A <b>[2]</b>
Fusing	
External contact fuses (safety circuit) according to IEC 60269-1	10A gG (T4A / F6A)
Utilization category according to EN 60947-5-1	
	AC-15 4A, 250V DC-13 2A, 24V AC-12 6A ohmic load, 250V DC-12 1.25A ohmic load, 24V
Breaking capacity according to UL	6A 250V AC / 2A 24V DC per contact

## Miscellaneous

in compliance with	EN 60439-1: 1999 + A1: 2004; EN 60947-1: 2007; EN 60947-5-1: 2004; EN 60947-7-1: 2002; EN 61000-6-2: 2005; EN 61000-6-3: 2007; EN ISO 13849-1: 2015; EN 62061: 2005 + AC: 2010 + A1: 2013 + A2: 2015; EN 60204-1: 2007
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## Reliability values acc. to EN ISO 13849-1

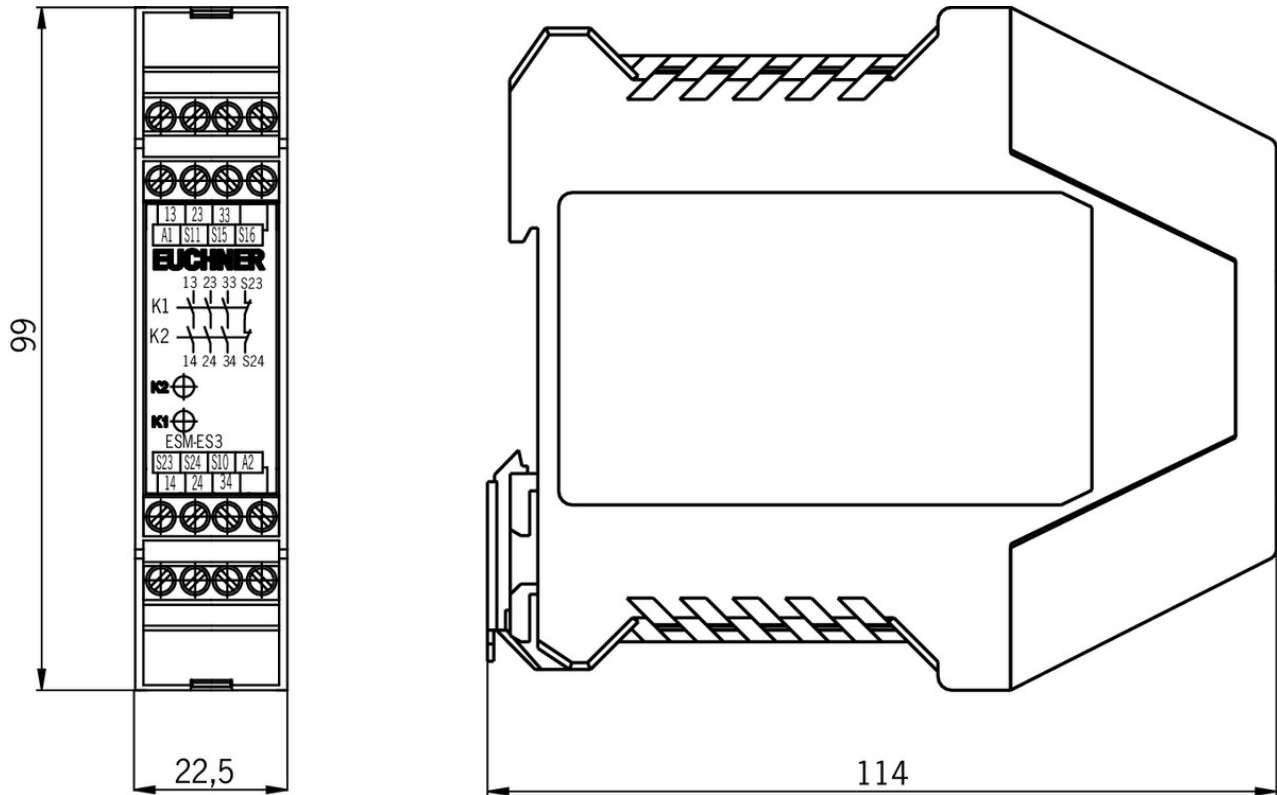
Performance Level	PL e <b>[3]</b>
Category	4 <b>[4]</b>
PFH <sub>D</sub>	$1.2 \times 10^{-8}$ <b>[5]</b>
Number of switching cycles	
≤ 0.1 A at 24 V DC	max.400000 1/Jahr
≤ 1 A at 24 V DC	max.73000 1/Jahr
≤ 2 A at 24 V DC	max.17000 1/Jahr
Mission time	20 y <b>[6]</b>

[1] Positively driven relay according to EN 50205

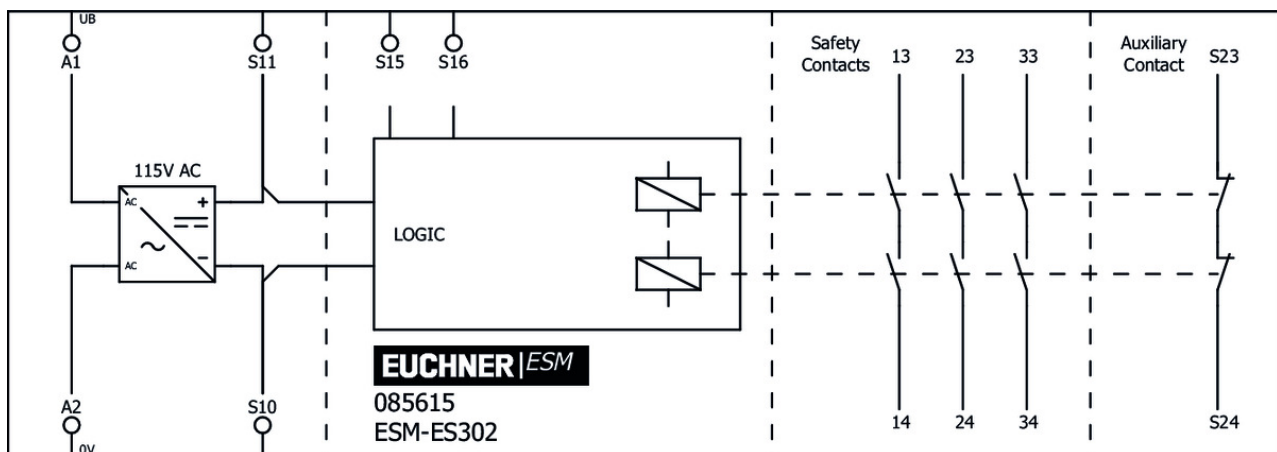
[2] Also applies for UL

[3, 4, 5, 6] This value is dependent on the number of switching cycles and the switching current.

### Dimension drawing







### Block diagram











### Instructions

✓ Sicherheits-Kontakterweiterung ESM-ES3..

	Doc. no.	Version	Language	Download
Sicherheits-Kontakterweiterung ESM-ES3..	090074	07-02/15		 0.6 MB
Safety Expansion Contact Block ESM-ES3..	090074	07-02/15		 0.5 MB






## Catalogs

### Safety Relays ESM Relais de sécurité ESM Sicherheitsrelais ESM 安全继电器 ESM

	Doc. no.	Version	Language	Download
Sicherheitsrelais ESM	110650	05-02/13		 6.7 MB
Relais de sécurité ESM	110652	05-02/13		 6.8 MB
Safety Relays ESM	110651	05-02/13		 6.7 MB
安全继电器 ESM	155884	05-02/13		 4.6 MB

## Declaration of conformity

### EU-Konformitätserklärung

	Doc. no.	Version	Language	Download
EU-Konformitätserklärung	2090791	15-04/17		 0.3 MB
Declaración UE de conformidad				
Déclaration UE de conformité				
Dichiarazione di conformità				
EU declaration of conformity			