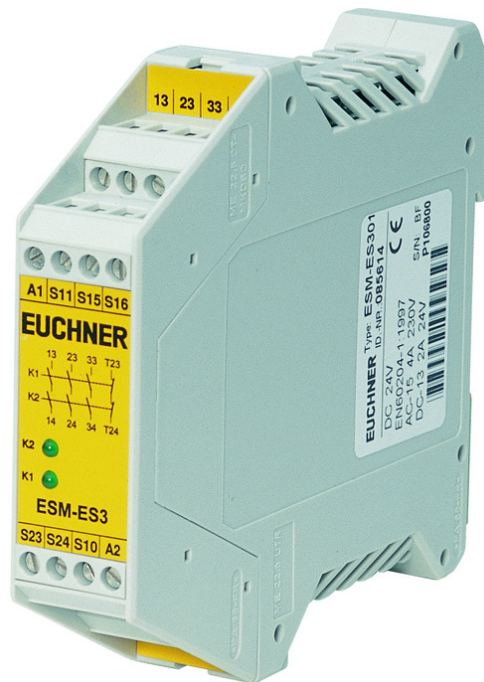


ITEM 085616 ESM-ES303

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	10×10^6
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 0.75mm^2	1000 m
	Safety contacts 13/14, 23/24, 33/34
Number of safety contacts	3
	Auxiliary contacts S23/S24
Number of auxiliary contacts	1

Electrical connection ratings

Operating voltage	
AC	230 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 mm^2
Test voltage	
Control system/contacts	2,5 kV
Control voltage	
On S11	24 V
Control current	40 mA

LED indicator	2 status displays (green) for relays K1 and K2	
Safety contacts 13/14, 23/24, 33/34		
Type of output	NO	Relay contacts, floating and positively driven (redundant) [1]
Switching voltage	AC	max.250 V
	DC	max.50 V
Switching current	at 24Vmin.20 mA	
Cumulative current	For all contactsmax.10,5 A [2]	
Fusing	External contact fuses (safety circuit) according to IEC 60269-1	
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	
Auxiliary contacts S23/S24		
Type of output	NC	As monitoring contact for safety relay

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

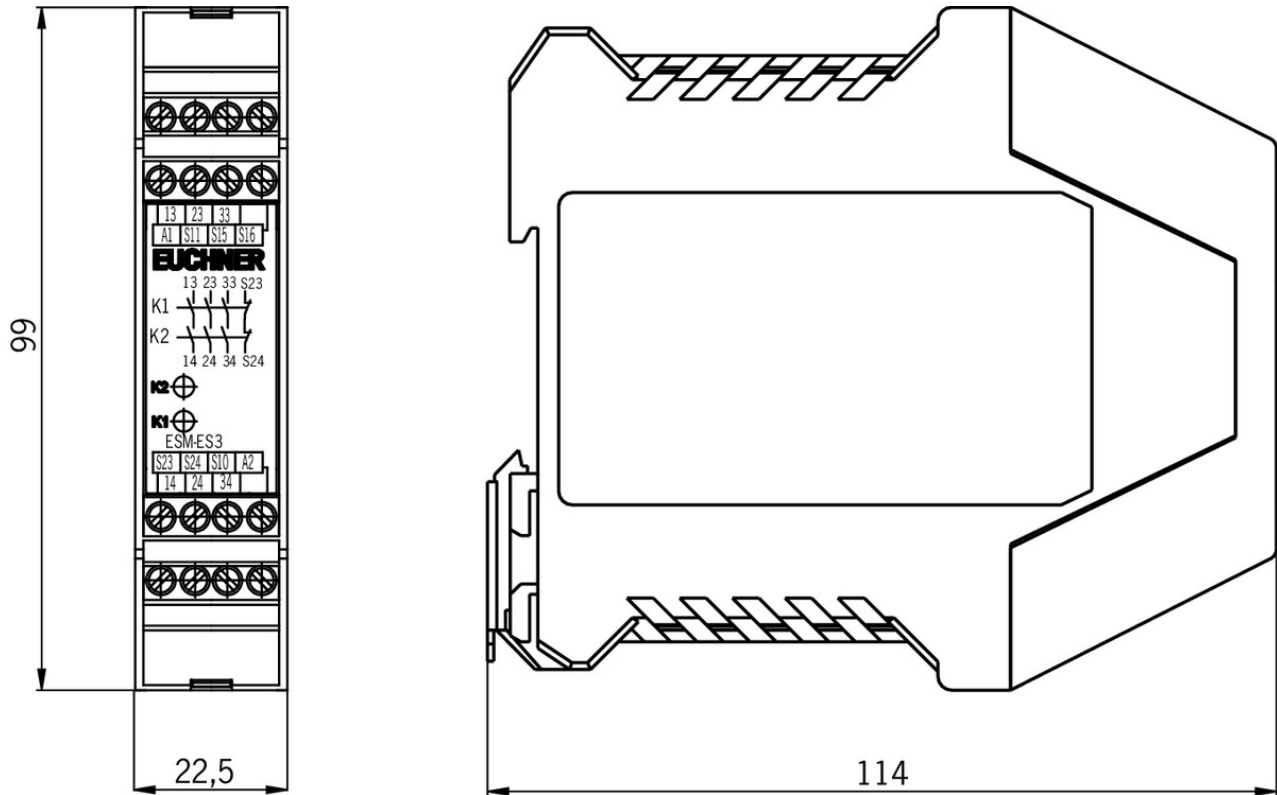
Performance Level	PL e [3]
Category	4 [4]
PFH _D	1.2×10^{-8} [5]
Number of switching cycles	≤ 0.1 A at 24 V DC max.400000 1/Jahr
	≤ 1 A at 24 V DC max.73000 1/Jahr
	≤ 2 A at 24 V DC max.17000 1/Jahr
Mission time	20 y [6]

[1] Positively driven relay according to EN 50205

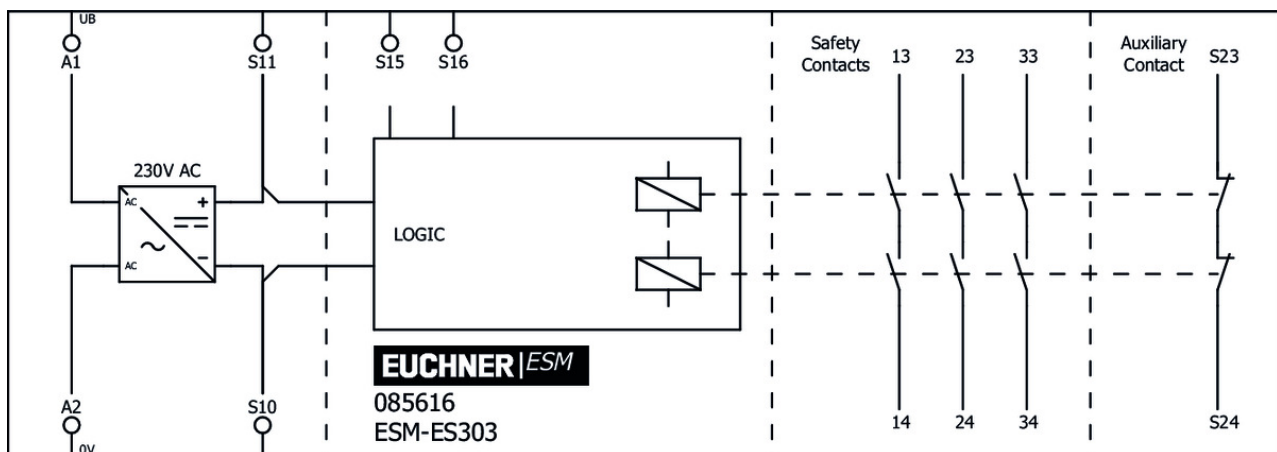
[2] Also applies for UL

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

Dimension drawing







Block diagram











Instructions

✓ Safety Expansion Contact Block 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

Sicherheitsrelais ESM Safety Relays ESM Relais de sécurité 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			