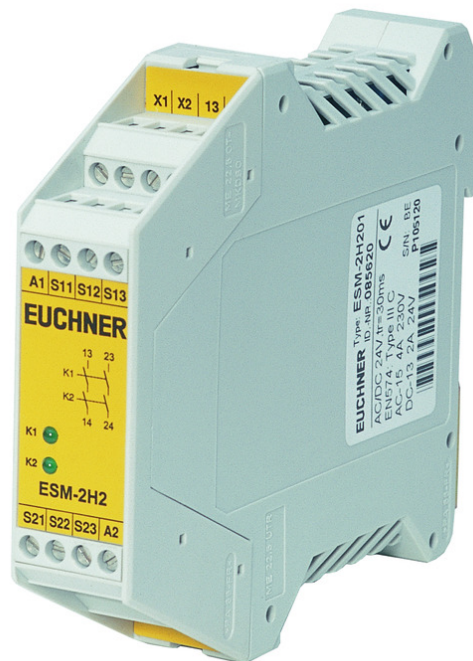


ITEM 098345 ESM-2H202

Description	Technical data	Accessories	Downloads
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Features

- › Usage up to category 4 according to EN ISO 13849-1
- › Requirement level IIIC according to EN 574
- › LED status indicators
- › Operation using 2-hand control
- › 2 redundant safety contacts
- › Short-circuit and earth fault/ground fault monitoring can be selected

Relay outputs

The outputs are electrically decoupled and of redundant design.

Connection

- › Two buttons each with one normally closed contact and one normally open contact that are monitored for simultaneity according to EN 574. In this way a high level of protection against tampering is provided.
- › Short circuit monitoring to detect short circuits between the connection cables and to shut down the outputs or prevent relay starting if necessary
- › 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.

Connection options

By using suitable wiring the following function can be selected:

- › Monitoring of downstream relays or contactors

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	AgSnO ₂
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
Number of safety contacts	2

Electrical connection ratings

Operating voltage	
AC	115 V -10% ... +10%
Power consumption (apparent power)	
At 230 V AC	3,7 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 S12-S13 and on S22 and S23	24 V
Control current	
Both push buttons	2x 40 mA
LED indicator	2 status displays (green) for relays K1 and K2
	Safety contacts 13/14, 23/24
Type of output	
	NO Relay contacts, floating, positively driven (redundant) ^[1]
Switching voltage	
	AC max.250 V
	DC max.24 V
Switching current	at 24Vmin.20 mA
Fusing	
External contact fuses (safety circuit) according to IEC 60269-1	10A gG (T6A / F8A)
Utilization category according to EN 60947-5-1	
	AC-15 3A, 250V
	DC-13 3A, 24V
	AC-12 6A ohmic load, 250V
	DC-12 6A ohmic load, 24V
Breaking capacity according to UL	6A 250V AC / 2A 24V DC
Delay time	
After operation of the push buttons	Response delay timemax.0,02 s
Release time	max.0,02 s
Synchronization time	max.0,5 s

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; EN 574: 1996 + A1: 2008
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Reliability values acc. to EN ISO 13849-1

Performance Level	PL e ^[2]
Category	4 ^[3]
PFH _D	1.2 x 10 ⁻⁸ ^[4]
Number of switching cycles	
≤ 0.1 A at 24 V DC	max.400000 1/Jahr
≤ 1 A at 24 V DC	max.100000 1/Jahr

≤ 3 A at 24 V DC max.22500 1/Jahr

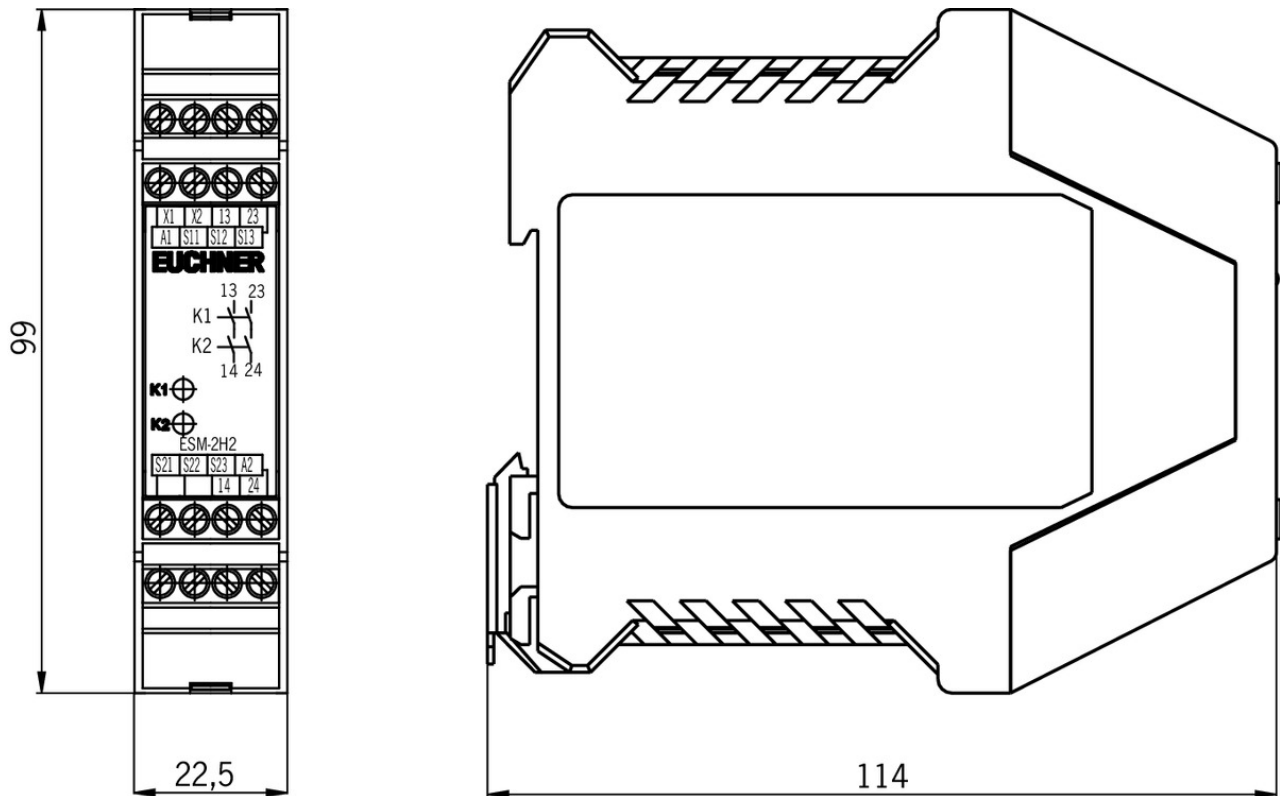
Mission time

20 y [5]

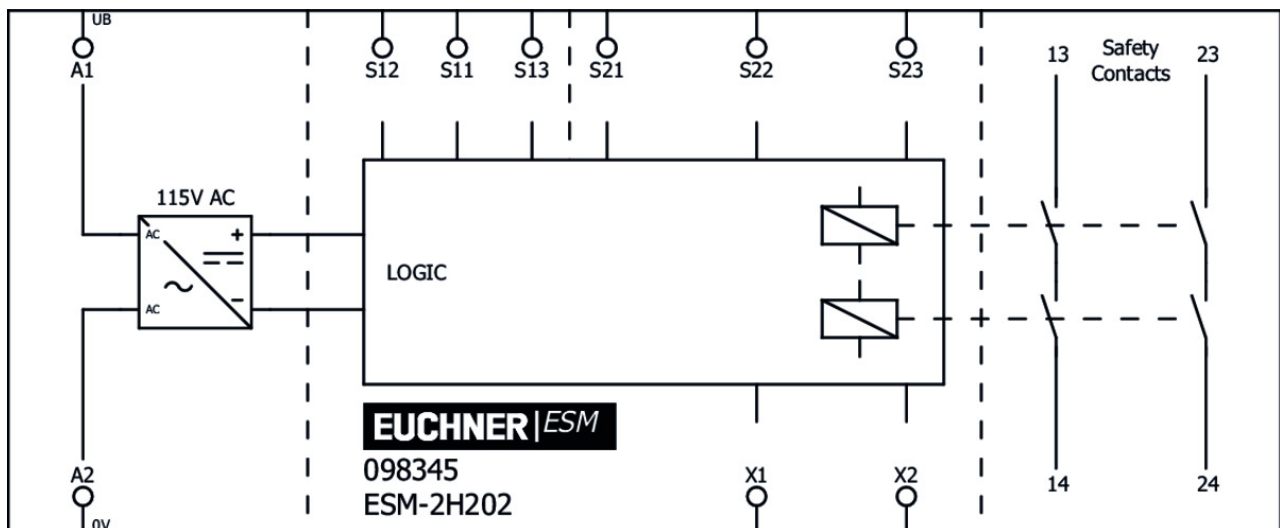
[1] Positively driven relay according to EN 50205

[2, 3, 4, 5] This value is dependent on the number of switching cycles and the switching current.

Dimension drawing







Block diagram











Instructions

☑ Sicherheits-2-Hand-Relais Baureihe ESM-2H2..

	Doc. no.	Version	Language	Download
Sicherheits-2-Hand-Relais Baureihe ESM-2H2..	109071	05-03/15		 0.5 MB
2-Hand Safety Relay, Series ESM-2H2..	109071	05-03/15		 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			