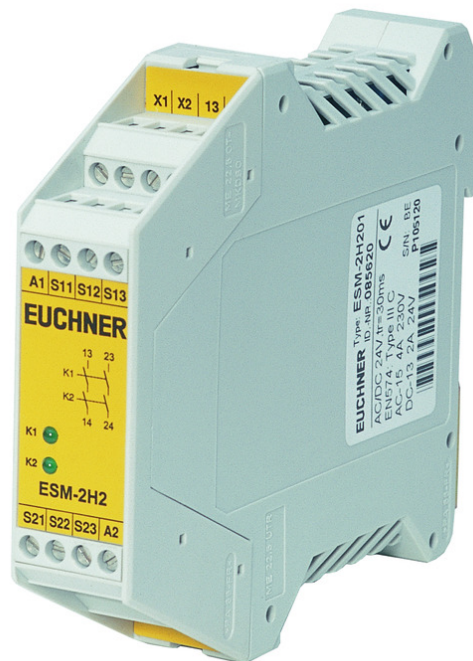


ITEM 085620 ESM-2H201

Description	Technical data	Accessories	Downloads
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Features

- › Usage up to category 4 according to EN ISO 13849-1
- › Requirement level III C 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 $U_B = 24V AC$ -15 ... 40 °C
	At $U_B = 24V DC$ -15 ... 60 °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/DC 24 V -10% ... +10% [1]
Rated insulation voltage U_i	250 V
Rated impulse withstand voltage U_{imp}	
	Leakage path/air gaps 4 kV
Overvoltage category according to IEC EN 60664-1	3
Reverse polarity protection	
	On version $U_B = 24V DC$
Power consumption	

	at 24V DC	1,5 W
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 and positively driven (redundant) [2]
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
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Reliability values acc. to EN ISO 13849-1

Performance Level	PL e [3]
Category	4 [4]

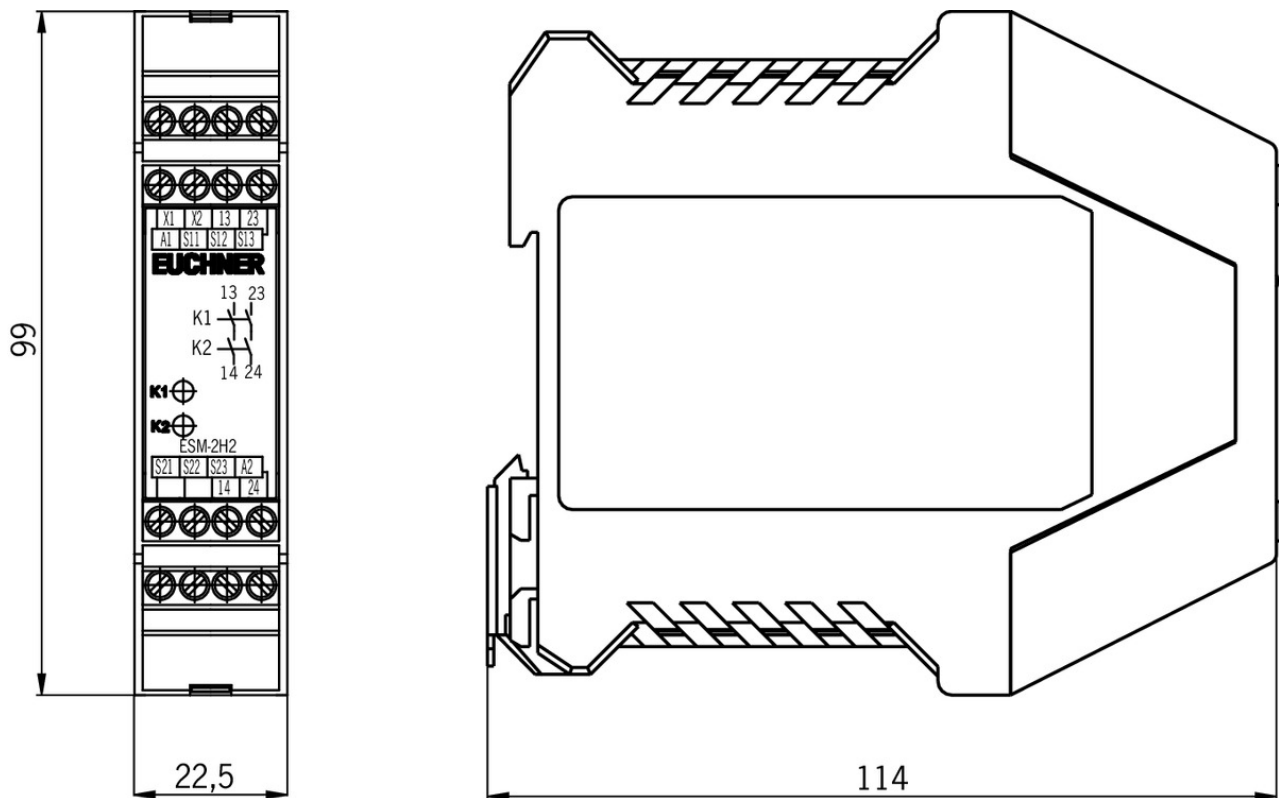
PFH _D	1.2 x 10 ⁻⁸ [5]
Number of switching cycles	
≤ 0.1 A at 24 V DC	max.400000 1/Jahr
≤ 1 A at 24 V DC	max.100000 1/Jahr
≤ 3 A at 24 V DC	max.22500 1/Jahr
Mission time	20 y [6]

[1] All the electrical connections must either be isolated from the mains supply by a safety transformer according to EN 61558-2-6 with limited output voltage in the event of a fault, or by other equivalent isolation measures.

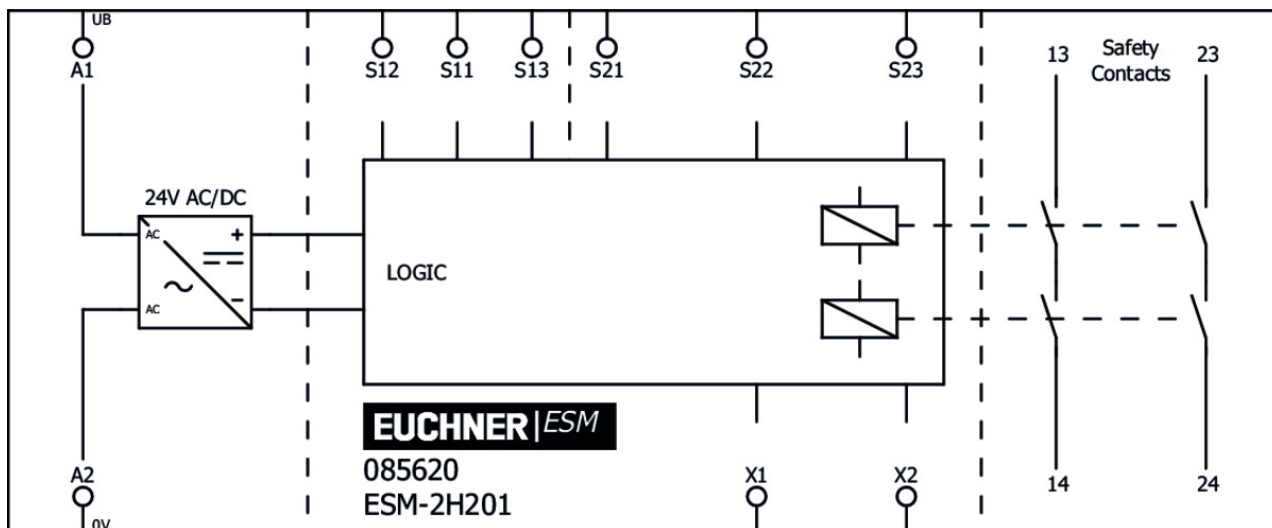
[2] Positively driven relay according to EN 50205

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

Dimension drawing



Block diagram



Instructions

2-Hand Safety Relay, Series 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 Declaración UE de conformidad Déclaration UE de conformité Dichiarazione di conformità EU declaration of conformity	2090791	15-04/17	 	0.3 MB