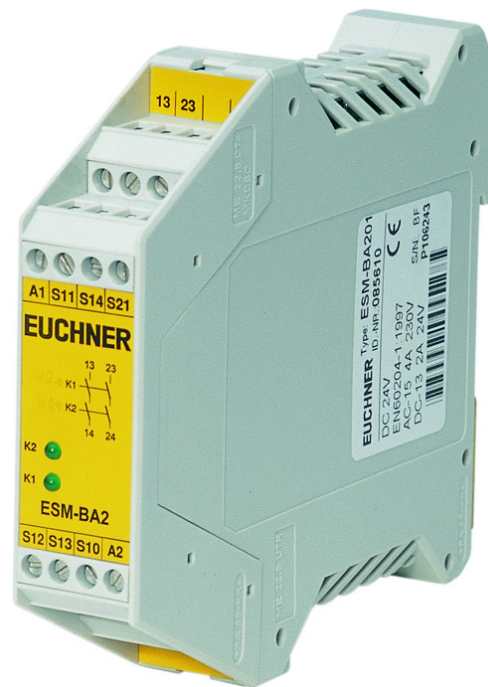


ITEM 097226 ESM-BA201P

Description	Technical data	Accessories	Downloads
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Features

- › ESM-BA.. Usage up to category 4 according to EN ISO 13849-1
- › LED status indicators
- › 1-channel or 2-channel control
- › 2 redundant safety contacts
- › Short circuit and earth fault/ground fault monitoring
- › Plug-in connection terminals

Relay outputs

The outputs are electrically decoupled and of redundant design.

Connection options

By using suitable wiring the following functions can be selected:

- › Relay start with automatic start or a start button
- › Monitoring of downstream relays or contactors
- › Simultaneity monitoring to monitor safety components over time
- › Relay start using a monitored start button
- › 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.

Important:

Depending on the device in question, a connection kit will be required.

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 [1]
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	Plug-in 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% [2]
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
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 S11	18,6 ... 24 V 26 V Start button
Control current	S11...S14	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) [3]
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

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 [4]
Category	4 [5]
PFH _D	1.2 x 10 ⁻⁸ [6]
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

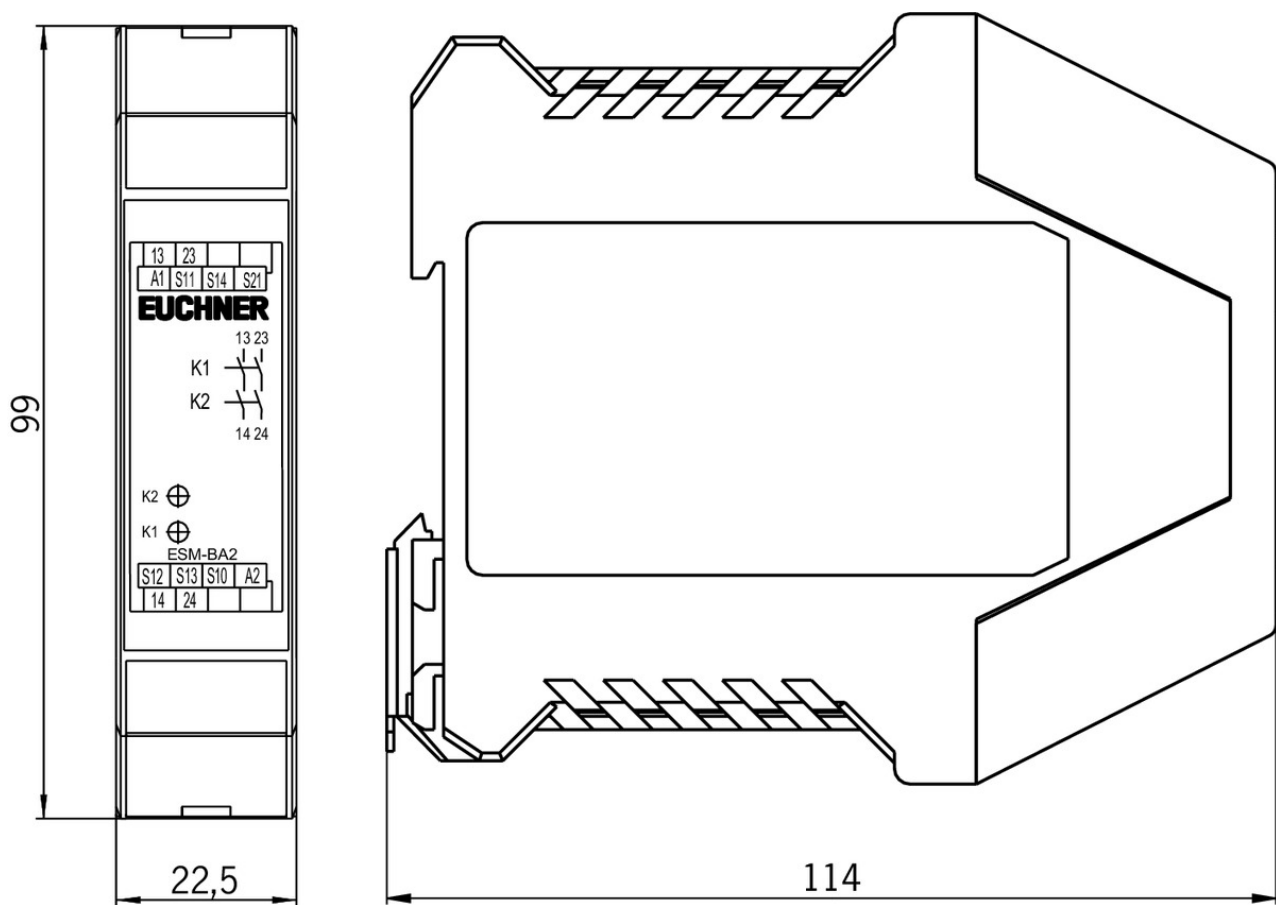
[1] at 20% undervoltage T_{\max} : 50°C

[2] 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.

[3] Positively driven relay according to EN 50205

[4, 5, 6, 7] This value is dependent on the number of switching cycles and the switching current.

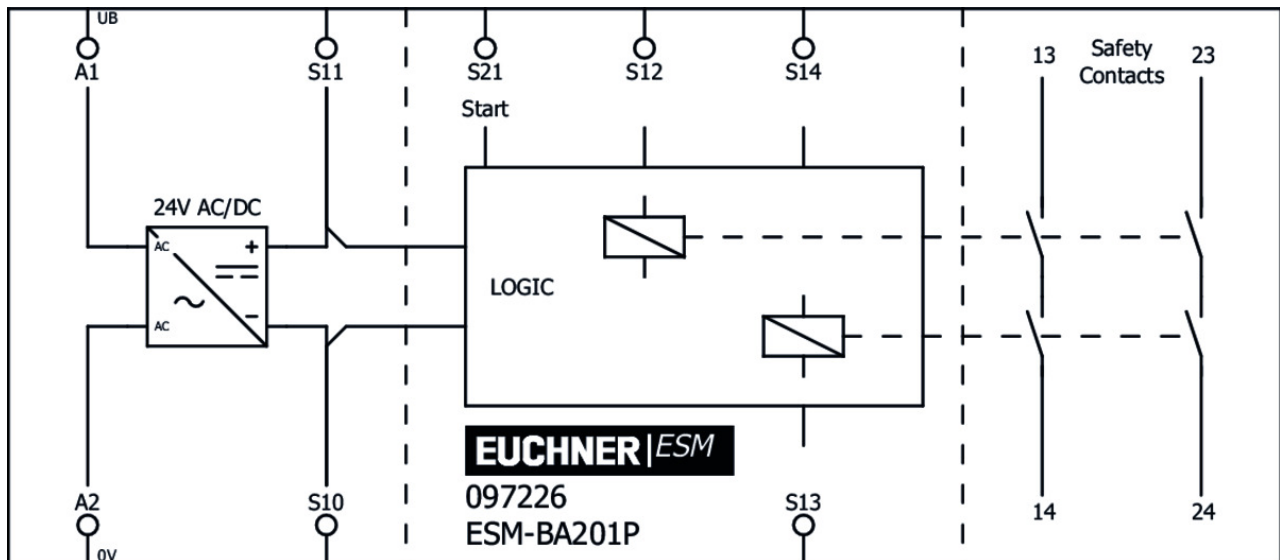
Dimension drawing



Legende

ESM-BA2...

Block diagram



Connection material

- ☑ Connection kit ESM...P, screw terminals

097194 ESM-F-AK4

- ☑ Features

- › Plug-in screw terminals safety relay ESM
- › Can be coded

- ☑ Connection kit ESM...P, spring terminals

097195 ESM-F-KK4

- ☑ Features

- › Plug-in spring terminals safety relay ESM
- › Can be coded

Instructions

- ☑ Basisgerät Baureihe ESM-BA2..

	Doc. no.	Version	Language	Download
Basisgerät Baureihe ESM-BA2..	090071	05-01/15		1.2 MB
Emergency Stop Safety Relay ESM-BA2..	090071	05-01/15		1.2 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

Magnetisch codierte Sicherheitsschalter CMS Système de sécurité sans contact CMS
Magnetically Coded Safety Switches CMS

	Doc. no.	Version	Language	Download
Magnetisch codierte Sicherheitsschalter CMS	086823	09-02/18		 2.3 MB
Système de sécurité sans contact CMS	090606	09-02/18		 2.3 MB
Magnetically Coded Safety Switches CMS	086824	09-02/18		 2.3 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