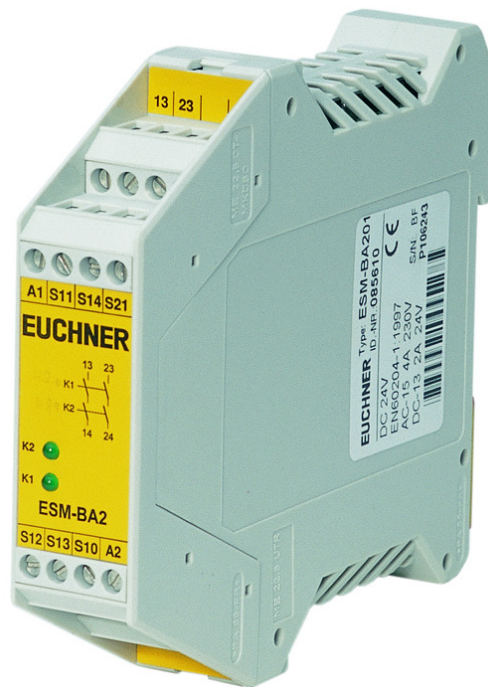


## ITEM 085612 ESM-BA203

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

### 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.

## Connection terminals

Optionally, the ESM-BA... devices are also available as version with plug-in connection terminals.

## 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	AgSnO <sub>2</sub>
Mounting method	Mounting rail 35mm according to DIN EN 60715 TH35
Connection	Connection terminals
Length of control cable	
With conductor cross-section 0.75mm <sup>2</sup>	1000 m
	<b>Safety contacts 13/14, 23/24</b>
Number of safety contacts	2

## Electrical connection ratings

Operating voltage	
AC	230 V -10% ... +10%
Power consumption (apparent power)	
At 230 V AC	3,7 VA
Rated insulation voltage $U_i$	
AC	250 V
Rated impulse withstand voltage $U_{imp}$	
Leakage path/air gaps	4 kV
Overvoltage 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 <sup>2</sup>
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
<b>Safety contacts 13/14, 23/24</b>	
Type of output	
NO	Relay contacts, floating and positively driven (redundant) <b>[1]</b>
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

## 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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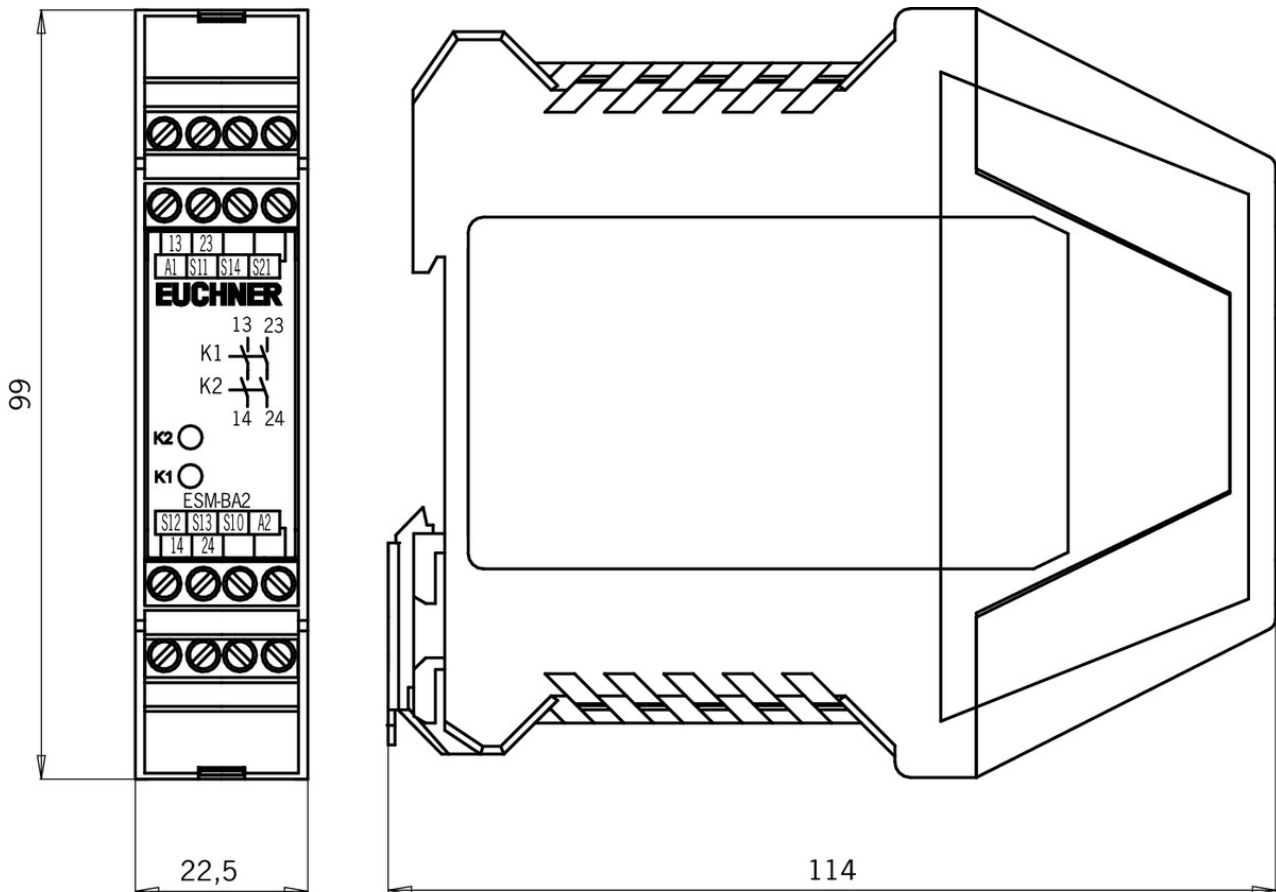
## Reliability values acc. to EN ISO 13849-1

Performance Level	PL e <b>[2]</b>
Category	4 <b>[3]</b>
PFH <sub>D</sub>	1.2 x 10 <sup>-8</sup> <b>[4]</b>
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] 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.

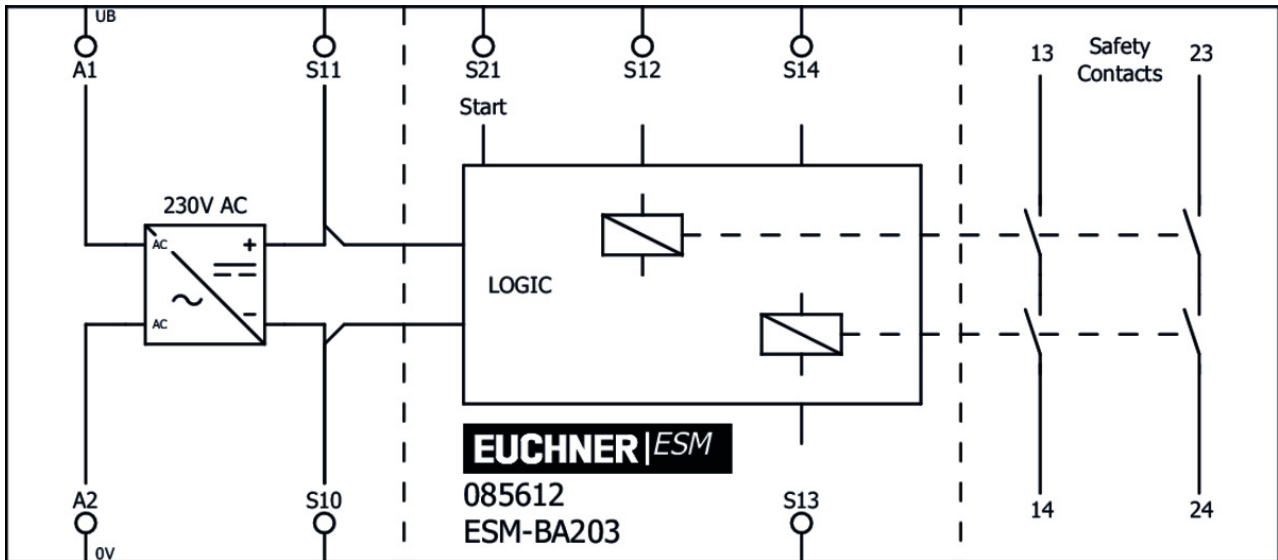
### Dimension drawing



### Legende

ESM-BA2...

## Block diagram



## Instructions

Emergency Stop Safety Relay 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
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EU-Konformitätserklärung  
Declaración UE de conformidad  
Déclaration UE de conformité  
Dichiarazione di conformità  
EU declaration of conformity

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 0.3 MB