

Safety Relays

ESM



EUCHNER

More than safety.

EUCHNER

More than safety.



Headquarters in Leinfelden-Echterdingen



Logistics center in Leinfelden-Echterdingen



Production location in Unterböhringen

Internationally successful – the EUCHNER company

EUCHNER GmbH + Co. KG is a world-leading company in the area of industrial safety technology. EUCHNER has been developing and producing high-quality switching systems for mechanical and systems engineering for more than 60 years.

The medium-sized family-operated company based in Leinfelden, Germany, employs around 800 people around the world.

18 subsidiaries and other sales partners in Germany and abroad work for our international success on the market.

Quality and innovation – the EUCHNER products

A look into the past shows EUCHNER to be a company with a great inventive spirit. We take the technological and ecological challenges of the future as an incentive for extraordinary product developments.

EUCHNER safety switches monitor safety doors on machines and installations, help to minimize dangers and risks and thereby reliably protect people and processes. Today, our products range from electromechanical and electronic components to intelligent integrated safety solutions. Safety for people, machines and products is one of our dominant themes.

We define future safety technology with the highest quality standards and reliable technology. Extraordinary solutions ensure the great satisfaction of our customers.

The product ranges are subdivided as follows:

- ▶ Transponder-coded Safety Switches
- ▶ Transponder-coded Safety Switches with guard locking
- ▶ Multifunctional Gate Box MGB
- ▶ Access management systems (Electronic-Key-System EKS)
- ▶ Electromechanical Safety Switches
- ▶ Magnetically coded Safety Switches
- ▶ Enabling Switches
- ▶ Safety Relays
- ▶ Emergency Stop Devices
- ▶ Hand-Held Pendant Stations and Handwheels
- ▶ Safety Switches with AS-Interface
- ▶ Joystick Switches
- ▶ Position Switches



Safety relays ESM

General information	4
The ESM modular principle	4
Approvals	4
Explanation of symbols	4
Safety Relays ESM	15
Safety relays ESM-BL.. and ESM-BA..	8
Safety relays time-delayed ESM-BT..	12
Safety relays 2-hand ESM-2H..	13
Contact expansion ESM-ES..	14
Contact expansion time-delayed ESM-TE..	15
Accessories	16
Technical Data	25
Safety contacts switch time-delayed	26
Voltage type	26
Connection examples for safety relays ESM	26
Item index	29

General information

For machines and installations that can produce a risk for people when in operation, the EU Machinery Directive defines minimum requirements that are intended to reduce to a minimum the specific hazards and the related risks of accident.

If all sources of danger cannot be eliminated by design measures, appropriate protective measures must be taken. Using guards, such as fences or similar, it is intended to prevent personnel from entering the danger area. If users need to have access to the danger area during operation, movable guards such as safety doors, flaps, etc. are used. This is the case, for example, for loading or unloading, troubleshooting, machine setup or cleaning work.,

To safeguard this access area, safety switches with various principles of operation are used. These switches are designed to monitor the position of the guard and, when the guard is opened, to generate a signal that will safely interrupt the supply of power to the potentially hazardous parts of the installation or that will ensure that the safety circuits are safely interrupted. The EUCHNER safety relays series ESM ensure that the safety circuits are interrupted. For one thing, they safely evaluate components connected such as

- ▶ mechanical safety switches with and without guard locking,
- ▶ non-contact safety switches,
- ▶ emergency stop controls,
- ▶ electro-sensitive protective equipment, etc.,

for another, they safely shut down dangerous machine functions.

The safety relays impress with their compact mounting rail housing and their suitability for applications up to category 4/PLe in accordance with EN ISO 13849-1.

The ESM modular principle

The majority of modules in the safety relay series ESM are installed in a housing that is only 22.5 mm wide. Various safety relays are available to which contact expansions can be added on the output side. The contact expansions can be non-time-delayed or time-delayed. The advantage of this modular principle is that only a few devices are required to be able to realize a large number of different safety evaluations.

The safety relays can be operated with various types of starting. The devices can be started manually or automatically using suitable wiring. The manual start can also monitor the start button.

Using suitable wiring, it is also possible to integrate a feedback loop such that safety-related parts of a downstream machine or installation can also be monitored.

In the ESM series the majority of the devices are available with a variety of input voltage ranges.

Approvals

To demonstrate conformity, the Machinery Directive also includes the possibility of type examination. Although all relevant standards are taken into account during development, we have all our switchgear subjected to additional type examinations by a notified body.

Furthermore, numerous items of switchgear are listed by Underwriters Laboratories (UL). These items of switchgear can be used in countries in which this listing is required. The approval symbols on the individual pages of the catalog indicate which body tested the switchgear.

With the aid of the approval symbols listed below, you can quickly see which approvals are available for the related switchgear:

	Switches with this symbol are approved by Underwriters Laboratories (UL)
	Switches with this symbol are approved by TÜV Rheinland
	Switches with this symbol comply with the guidelines of the Eurasian Economic Union (EEU).

Explanation of symbols

Connection options

	Suitable for the connection of emergency stop
	Suitable for the connection of safety switches according to EN ISO 14119
	Suitable for the connection of electro-sensitive protective equipment, e.g. light grids
	Suitable for the connection of 2-hand circuits

Fault detection

	Short circuit is detected
	Ground fault is detected
	Earth fault is detected

Time-delay



Safety contacts switch time-delayed

Safety category

**Cat.
3**

Suitable up to category 3 according to EN ISO 13849-1

**Cat.
4**

Suitable up to category 4 according to EN ISO 13849-1

Stop category

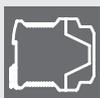
**STOP
0**

Immediate shutdown
Stop category 0 according to EN 60204-1

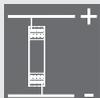
**STOP
1**

Time-delayed shutdown
Stop category 1 according to EN 60204-1

Technical data



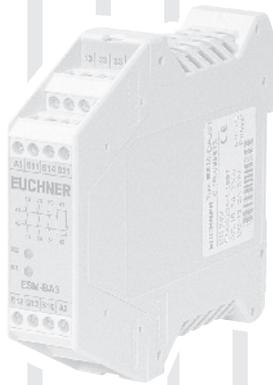
Mechanical data



Electrical data

Selection table for safety relays ESM

Safety relays																		
BL		Non-time-delayed category 3																
BA		Non-time-delayed category 4																
BT		Time-delayed category 3/non-time-delayed category 4																
2H		2-hand requirement level IIC according to EN 574, category 4																
Contact expansion																		
ES		Non-time-delayed category 4																
TE		Time-delayed category 4																
Category according to EN ISO 13849-1																		
K		Category according to EN ISO 13849-1																
Enable path																		
SU		Safety contacts non-time-delayed																
SV		Safety contacts time-delayed																
M		Monitored start button																
Relay start																		
A		Automatic start																
M		Start button																
U		Monitored start button																
Monitoring																		
R		Feedback loop																
Q		Short circuit monitoring																
E		Earth fault monitoring																
M		Earth fault monitoring																
Devices																		
BL	BA	BT	2H	ES	TE	K	Outputs			Start			Monitoring				Page	
●						3	2			●	●		●					8
	●					4	2			●	●	●	●	●	●	●	●	9
	●					4	3		1	●	●	●	●	●	●	●	●	10
	●					4	7		4	●	●	●	●	●	●	●	●	11
		●				4/3	2	2		●	●	●	●	●	●	●	●	12
		●				4/3	3	1		●	●	●	●	●	●	●	●	12
			●			4	2					●	●	●	●	●	●	13
				●		4	3		1						●	●	●	14
					●	3		3	1						●	●	●	15



Safety relays ESM-BL.. and ESM-BA..



- ▶ ESM-BL.. Use up to category 3 according to EN ISO 13849-1
- ▶ ESM-BA.. Use up to category 4 according to EN ISO 13849-1
- ▶ LED status indicators
- ▶ 1-channel or 2-channel control
- ▶ Up to 7 redundant safety contacts
- ▶ Auxiliary contact (monitoring contact) optional
- ▶ Short circuit and earth fault/ground fault monitoring optional



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.

On the series **ESM-BA..** safety relays, the following can additionally be selected by using suitable wiring:

- ▶ Simultaneity monitoring to monitor safety components over time
- ▶ Short circuit monitoring to detect short circuits between the connecting cables and to shut down the outputs or prevent relay starting if necessary
- ▶ Earth fault/ground fault monitoring to detect short circuits between the connecting cables and earth or ground and to shut down the outputs or prevent relay starting if necessary.

Auxiliary contacts

The relays in the series ESM-BA3.. and ESM-BA7... are available with electrically separate normally closed contacts as auxiliary contacts.

Connection terminals

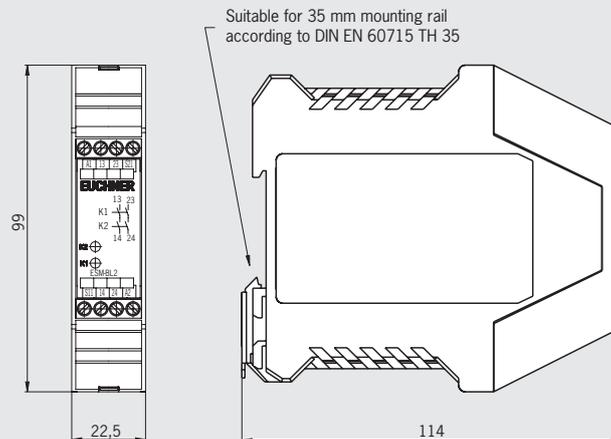
Optionally, the ESM-BA... devices are also available as version with plug-in connection terminals.

Safety relay ESM-BL..

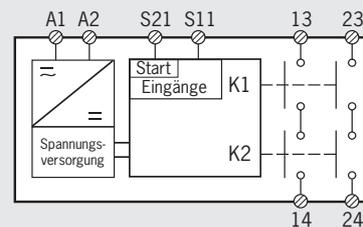


Cat. 3 STOP 0

Dimension drawing



Block diagram



Technical data of outputs

Parameter	Value		
Min. switching current at DC 24 V	20 mA		
Switching voltage, max.	DC 24 V / AC 250 V		
Utilization category * acc. to EN 60947-5-1	U_e	I_e	Σ I_e
	AC-12	250 V	6 A
	AC-15	230 V	4 A
	DC-12	24 V	1.25 A
	DC-13	24 V	2 A

U_e = switching voltage

I_e = max. switching current per contact

Σ I_e = max. switching current of all safety contacts (cumulative current)

* Information about the utilization category is on page 26

Ordering table

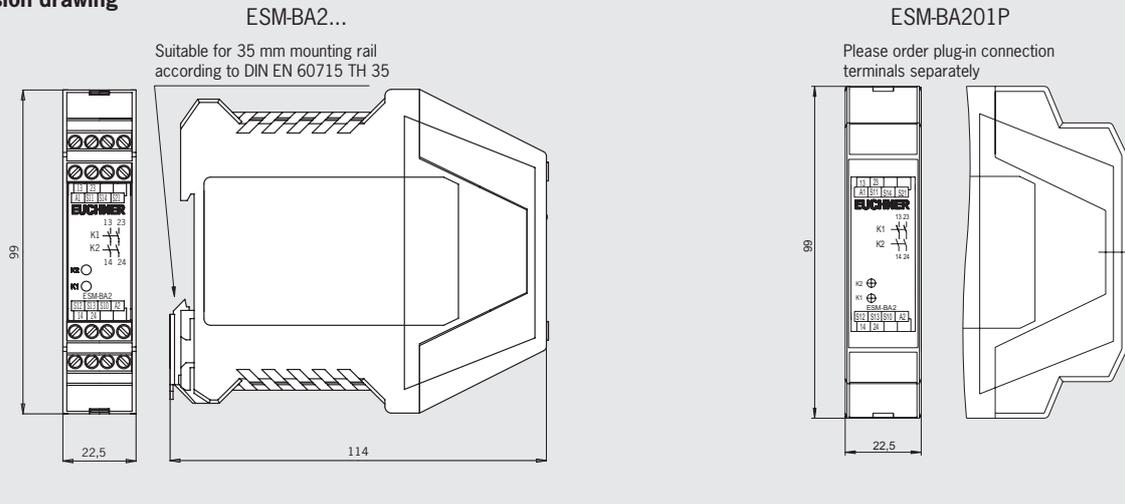
Series	Version	Outputs	AC/DC 24 V
ESM	BL Safety relay	2 2 NO	085607 ESM-BL201

Safety relay ESM- BA2..

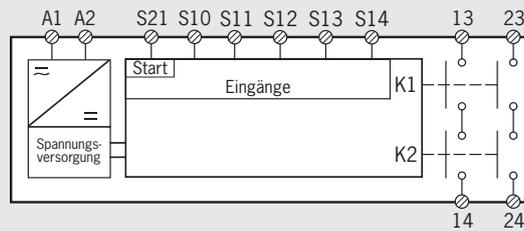


Cat. 4 STOP 0

Dimension drawing



Block diagram



Technical data of outputs

Parameter	Value		
Min. switching current at DC 24 V	20 mA		
Switching voltage, max.	DC 24 V / AC 250 V		
Utilization category * acc. to EN 60947-5-1	U_e	I_e	Σ I_e
	AC-12	250 V	6 A
	AC-15	230 V	4 A
	DC-12	24 V	1.25 A
	DC-13	24 V	2 A

U_e = switching voltage

I_e = max. switching current per contact

Σ I_e = max. switching current of all safety contacts (cumulative current)

* Information about the utilization category is on page 26

Ordering table

Series	Version	Outputs	Version	AC/DC 24 V
ESM	BA Safety relay	2 2 NO	Screw terminals	085610 ESM-BA201
			Plug-in connection terminals ¹⁾	097226 ESM-BA201P

1) Please order plug-in connection terminals separately (see page 16)

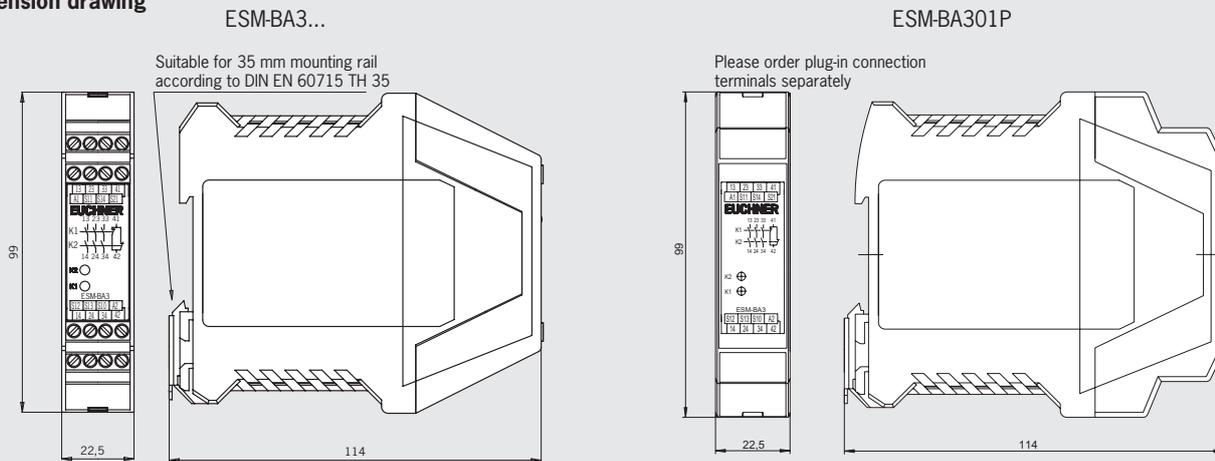


Safety relay ESM-BA3..

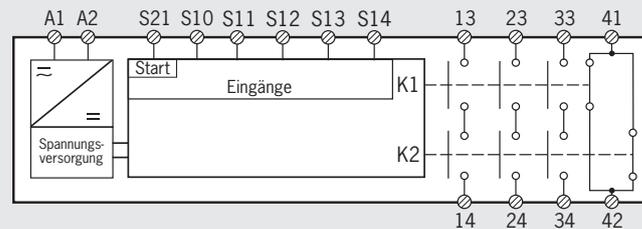


Cat. 4 STOP 0

Dimension drawing



Block diagram



Technical data of outputs

Parameter	Value		
Min. switching current at DC 24 V	5 mA		
Switching voltage, max.	DC 24 V / AC 250 V		
Utilization category * acc. to EN 60947-5-1		U_e	I_e
	AC-12	250 V	8 A
	AC-15	250 V	3 A
	DC-12	50 V	8 A
	DC-13	24 V	3 A
			Σ I_e 15 A ¹⁾

1) If several ESM-BA3.. are closely spaced under load, the max. cumulative current at an ambient temperature of 20 °C = 9 A; at 30 °C = 3 A; at 40 °C = 1 A. If these currents are exceeded, a spacing of 5 mm between the devices must be observed.

U_e = switching voltage

I_e = max. switching current per contact

Σ I_e = max. switching current of all safety contacts (cumulative current)

* Information about the utilization category is on page 26

Ordering table

Series	Version	Outputs	Version	AC/DC 24 V	AC 115 V	AC 230 V
ESM	BA Safety relay	3 3 NO + 1 NC	Screw terminals	085613 ESM-BA301	163689 ESM-BA301/V50 PU = 50 pcs.	087412 ESM-BA302
			Plug-in connection terminals ¹⁾	097230 ESM-BA301P	-	-
					087413 ESM-BA303	

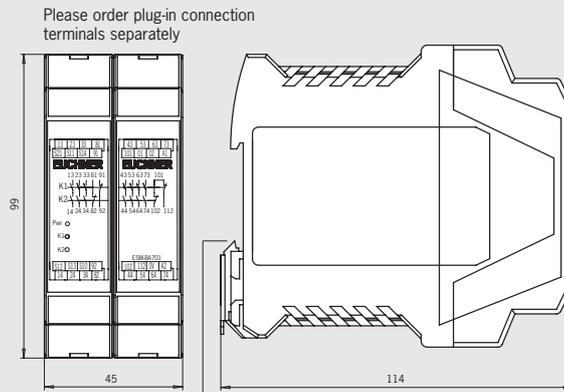
1) Please order plug-in connection terminals separately (see page 16)

Safety relay ESM-BA7..



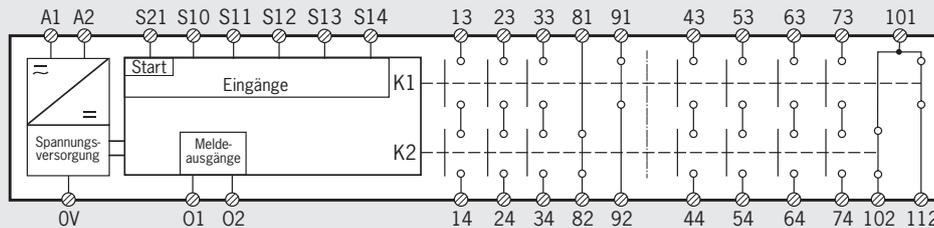
Cat. 4 STOP 0

Dimension drawing



Suitable for 35 mm mounting rail according to DIN EN 60715 TH 35

Block diagram



Technical data of outputs

Parameter	Value		
Min. switching current at DC 24 V	5 mA		
Switching voltage, max.	DC 50 V / AC 250 V		
Utilization category * acc. to EN 60947-5-1	U_e	I_e	Σ I_e
	AC-12	250 V	8 A
	AC-15	250 V	3 A
	DC-12	50 V	8 A
	DC-13	24 V	3 A

1) With a housing distance of 10 mm. 20 A closely spaced at 40 °C

U_e = switching voltage

I_e = max. switching current per contact

Σ I_e = max. switching current of all safety contacts (cumulative current)

* Information about the utilization category is on page 26

Ordering table

Series	Version	Outputs	Version	AC/DC 24 V
ESM	BA Safety relay	7 7 NO + 4 NC	Plug-in connection terminals ¹⁾	097225 ESM-BA701P

1) Please order plug-in connection terminals separately (see page 16). Two connection kits are required for devices from series ESM-BA701P.

Safety relays time-delayed ESM-BT..



- ▶ Use up to category 4 according to EN ISO 13849-1
- ▶ LED status indicators
- ▶ 1-channel or 2-channel control
- ▶ 4 redundant safety contacts of which 1, 2 or 3 contacts time-delayed
- ▶ Delay time range 1 s–30 s
- ▶ 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, a start button or a monitored start button
- ▶ Monitoring of downstream relays or contactors.
- ▶ Simultaneity monitoring to monitor safety components over time
- ▶ Short circuit monitoring to detect short circuits between the connecting cables and to shut down the outputs or prevent relay starting if necessary
- ▶ Earth fault/ground fault monitoring to detect short circuits between the connecting cables and earth or ground and to shut down the outputs or prevent relay starting if necessary.

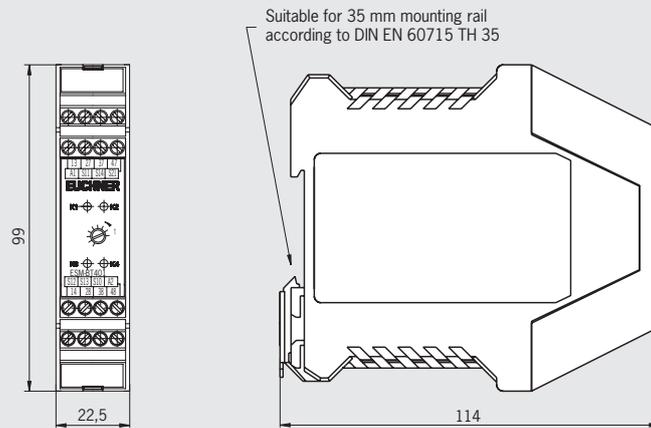
Time-delayed shutdown

The release time for the time-delay contacts can be set as required using a potentiometer on the safety relay.

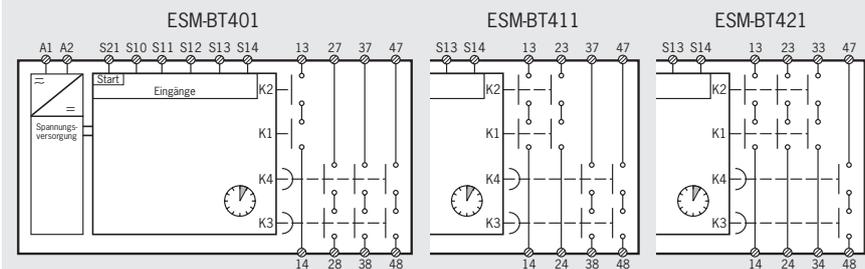
Safety relay ESM-BT..



Dimension drawing



Block diagram



Technical data of outputs

Parameter	Value		
Min. switching current at DC 24 V	5 mA		
Switching voltage, max.	DC 50 V / AC 250 V		
Utilization category * acc. to EN 60947-5-1	U_e	I_e	Σ I_e
	AC-12	250 V	8 A
	AC-15	250 V	3 A
	DC-12	50 V	8 A
	DC-13	24 V	3 A

U_e = switching voltage

I_e = max. switching current per contact

Σ I_e = max. switching current of all safety contacts (cumulative current)

* Information about the utilization category is on page 26

Ordering table

Series	Version	Outputs	AC/DC 24 V
ESM	BT Safety relay	411 2 NO non-time-delayed 2 NO time-delayed	090819 ESM-BT411
		421 3 NO non-time-delayed 1 NO time-delayed	090820 ESM-BT421

Safety relays 2-hand ESM-2H..



- ▶ Use 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 connecting cables and to shut down the outputs or prevent relay starting if necessary.
- ▶ Earth fault/ground fault monitoring to detect short circuits between the connecting cables and earth or ground and to shut down the outputs or prevent relay starting if necessary.

Connection option

By using suitable wiring, the following function can be selected:

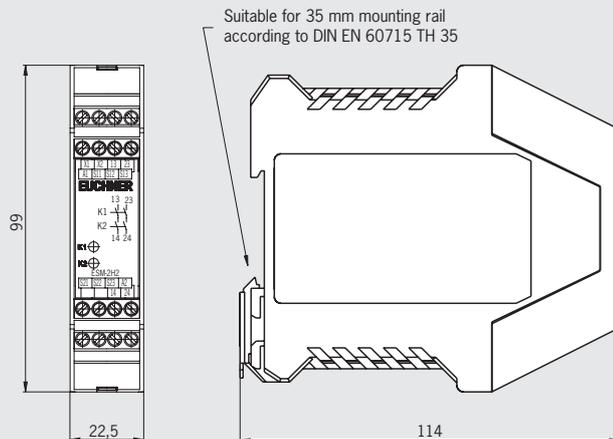
- ▶ Monitoring of downstream relays or contactors.

Safety relay ESM-2H..

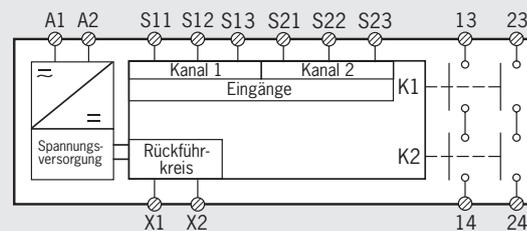


Cat. 4 STOP 0

Dimension drawing



Block diagram



Technical data of outputs

Parameter	Value			
Min. switching current at DC 24 V	20 mA			
Switching voltage, max.	DC 24 V / AC 250 V			
Utilization category * acc. to EN 60947-5-1	U_e	I_e	ΣI_e	
	AC-12	250 V	6 A	8.4 A
	AC-15	230 V	4 A	
	DC-12	24 V	1.25 A	
DC-13	24 V	2 A		

U_e = switching voltage

I_e = max. switching current per contact

ΣI_e = max. switching current of all safety contacts (cumulative current)

* Information about the utilization category is on page 26

Ordering table

Series	Version	Outputs	AC/DC 24 V	AC 230 V
ESM	2H Safety relay	2 2 NO	085620 ESM-2H201	-

Contact expansion ESM-ES..

- ▶ Use up to category 4 according to EN ISO 13849-1
- ▶ LED status indicators
- ▶ Control using safety relays
- ▶ 3 redundant safety contacts
- ▶ 1 monitoring contact
- ▶ Earth fault/ground fault monitoring can be selected



Relay outputs

The outputs are electrically decoupled and of redundant design.

Connection option

By using suitable wiring, the following function can be selected:

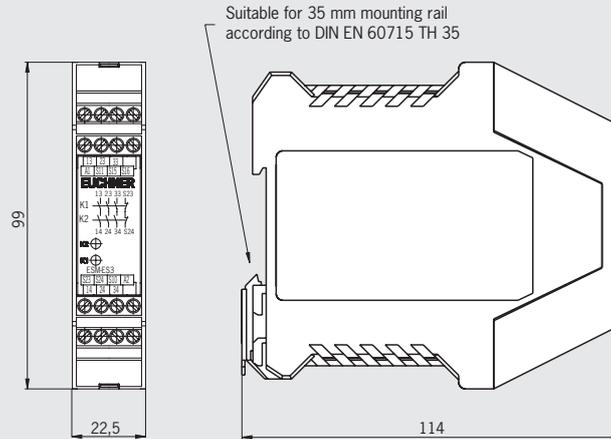
- ▶ Earth fault/ground fault monitoring to detect short circuits between the connecting cables and earth or ground and to shut down the outputs or prevent relay starting if necessary.

Contact expansion ESM-ES..

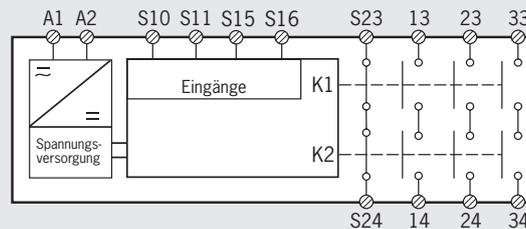


Cat. 4 STOP 0

Dimension drawing



Block diagram



Technical data of outputs

Parameter	Value			
Min. switching current at DC 24 V	5 mA			
Switching voltage, max.	DC 50 V / AC 250 V			
Utilization category * acc. to EN 60947-5-1	U_e	I_e	Σ I_e	
	AC-12	250 V	6 A	10.5 A
	AC-15	230 V	4 A	
	DC-12	24 V	1.25 A	
DC-13	24 V	2 A		

U_e = switching voltage

I_e = max. switching current per contact

Σ I_e = max. switching current of all safety contacts (cumulative current)

* Information about the utilization category is on page 26

Ordering table

Series	Version	Outputs	AC/DC 24 V
ESM	ES Contact expansion	3 3 NO + 1 NC	085614 ESM-ES301

Contact expansion time-delayed ESM-TE..



- ▶ Use up to category 3 according to EN ISO 13849-1
- ▶ LED status indicators
- ▶ Control using safety relays
- ▶ 3 redundant time-delayed safety contacts
- ▶ Delay time range 1 s–30 s
- ▶ Fixed time delay of 0.5 s optional
- ▶ 1 auxiliary contact
- ▶ Earth fault/ground fault monitoring can be selected



Relay outputs

The outputs are electrically decoupled and of redundant design.

Connection option

By using suitable wiring, the following function can be selected:

- ▶ Earth fault/ground fault monitoring to detect short circuits between the connecting cables and earth or ground and to shut down the outputs or prevent relay starting if necessary.

Time-delayed shutdown

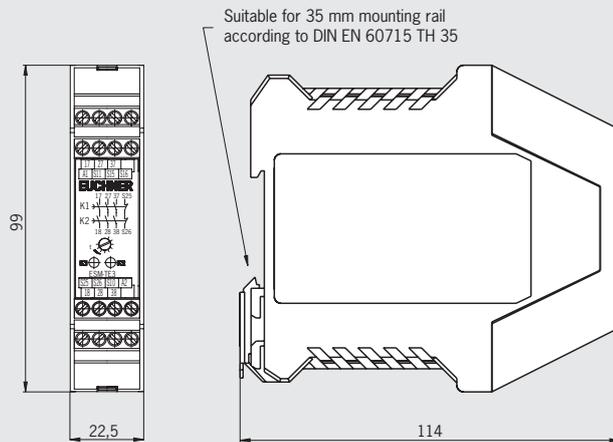
The release time for the time-delay contacts can be set as required using a potentiometer on the safety relay.

Contact expansion ESM-TE..

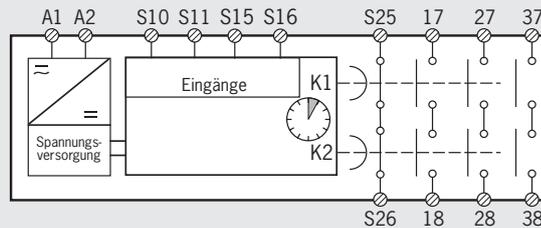


Cat. 3 STOP 1

Dimension drawing



Block diagram



Technical data of outputs

Parameter	Value			
Min. switching current at DC 24 V	5 mA			
Switching voltage, max.	DC 50 V / AC 250 V			
Utilization category * acc. to EN 60947-5-1	U_e	I_e	Σ I_e	
	AC-12	250 V		6 A
	AC-15	250 V		4 A
	DC-12	24 V		1.25 A
	DC-13	24 V	2 A	10.5 A

U_e = switching voltage

I_e = max. switching current per contact

Σ I_e = max. switching current of all safety contacts (cumulative current)

* Information about the utilization category is on page 26

Ordering table

Series	Version	Outputs	Time-delay	AC/DC 24 V
ESM	TE Contact expansion	3 NO + 1 NC time-delayed	Adjustable 1 s ... 30 s	085617 ESM-TE301
			Fixed 0.5 s	097223 ESM-TE301-05S

Accessories for safety system ESM

- ▶ Connection kit ESM...P with screw terminals or spring terminals

Important: One connection kit is required, depending on the device (see information on the corresponding product page). Two connection kits are required for devices from series ESM-BA701P.

Ordering table

Designation	Description	Order no.
Connection kit ESM...P with screw terminals	Consisting of: 4 plug-in screw terminals (can be coded) 2 jumpers Coding pins	097194 ESM-F-AK4
Connection kit ESM...P with spring terminals	Consisting of: 4 plug-in spring terminals (can be coded) 2 jumpers Coding pins	097195 ESM-F-KK4

Overview of safety relays ESM

Safety relays ESM

BL	Non-time-delayed category 3
BA	Non-time-delayed category 4
BT	Time-delayed category 3/non-time-delayed category 4
2H	2-hand requirement level IIC according to EN 574, category 4

Contact expansion ESM

ES	Non-time-delayed category 4
TE	Time-delayed category 4

Safety relays ESM						Page
BL	BA	BT	2H	ES	TE	
●						18
	●					19
		●				22
			●			23
				●		24
					●	25



Housing							
Parameter	Value					Unit	
Housing material	Polyamide PA6.6						
Dimensions	114 x 99 x 22.5 (ESM-BA7... 114 x 99 x 45)					mm	
Weight	Approx. 0.25 (ESM-BA7... approx. 0.35)					kg	
Connection	Connection terminals						
Connection terminals	0.14 ... 2.5					mm ²	
Ambient temperature	Safety relay	ESM-BL.. ESM-BA..	ESM-BA3..	ESM-BA7..	ESM-BT4..	ESM-2H2..	
		-15 ... +60	-15 ... +40	-15 ... +40	-15 ... +40	-15 ... +60	°C
	Contact expansion	ESM-ES3.. ESM-TE3...					
		-15 ... +60					°C
Degree of protection acc. to EN 60529	IP20						
Degree of contamination	2						
Mounting	Mounting rail 35 mm according to DIN EN 60715 TH 35						
Mechanical life	Safety relay	ESM-BL2.. ESM-BA2.. ESM-BA3..	ESM-BA7..	ESM-BT4..	ESM-2H2..		
	Mechanical	1 x 10 ⁷	1 x 10 ⁶	1 x 10 ⁶	1 x 10 ⁷	operating cycles	
	Electrical	1 x 10 ⁵	1 x 10 ⁶	1 x 10 ⁵	1 x 10 ⁵	operating cycles	
	Contact expansion	ESM-ES3.. ESM-TE3...					
	Mechanical	1 x 10 ⁷					operating cycles
	Electrical	1 x 10 ⁵					operating cycles

Connection ESM-BL..				
Parameter	Value			Unit
Operating voltage	24 ± 10% ¹⁾			V AC/DC
Reverse polarity protection	Yes			
Rated supply frequency	50 ... 60			Hz
Power consumption	Approx. 3 VA / 1.8 W			
Control voltage for start button	18.6 ... 26			V DC
Control cable length (cross-section 0.75 mm ²)	Max. 1,000			m
Control current for start button	Approx. 40			mA
External contact fuse (safety circuit) acc. to EN IEC 60269-1	10 A gG (T4A / F6A)			
Test voltage (control voltage/contacts)	2.5			kV
Rated impulse withstand voltage, leakage path and air gaps acc. to DIN VDE 0110-1	4			kV
Rated insulation voltage	250			V
Overvoltage category acc. to DIN VDE 0110-1	3			
Safety contacts	2 NO contacts (redundant)			
Min. switching current at 24 V DC	20			mA
Switching voltage, max.	24			V DC
	250			V AC
Breaking capacity acc. to \mathcal{U}	6 A 250 V AC 2 A 24 V DC			
Utilization category ²⁾ acc. to EN 60947-5-1		U_e	I_e	Σ I_e
	AC-12	250 V	6 A	12 A
	AC-15	230 V	4 A	
	DC-12	24 V	1.25 A	
	DC-13	24 V	2 A	
LED displays	2, status display for relays K1 and K2			
Reliability values acc. to EN ISO 13849-1				
Category	3			
Performance Level PL	d			

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) Information about the utilization category is on page 26.

U_e = switching voltage

I_e = max. switching current per contact

Σ I_e = max. switching current of all safety contacts (cumulative current)

Connection ESM-BA2.. 			
Parameter	Value		Unit
Operating voltage	24 ± 10% ¹⁾		V AC/DC
Reverse polarity protection	Yes		
Rated supply frequency	50 ... 60		Hz
Power consumption	Approx. 3 VA / 1.8 W		
Control voltage for start button	18.6 ... 26		V DC
Control cable length (cross-section 0.75 mm ²)	Max. 1,000		m
Control current for start button	Approx. 40		mA
External contact fuse (safety circuit) acc. to EN IEC 60269-1	10 A gG (T4A / F6A)		
Test voltage (control voltage/contacts)	2.5		kV
Rated impulse withstand voltage, leakage path and air gaps acc. to DIN VDE 0110-1	4		kV
Rated insulation voltage	250		V
Overvoltage category acc. to DIN VDE 0110-1	3		
Safety contacts	2 NO contacts (redundant)		
Min. switching current at 24 V DC	20		mA
Switching voltage, max.	24		V DC
	250		V AC
Breaking capacity acc. to \mathcal{U}	6 A 250 V AC		
	2 A 24 V DC		
Utilization category ²⁾ acc. to EN 60947-5-1	U_e	I_e	Σ I_e
	AC-12	250 V	6 A
	AC-15	230 V	4 A
	DC-12	24 V	1.25 A
	DC-13	24 V	2 A
LED displays	2, status display for relays K1 and K2		
Reliability values acc. to EN ISO 13849-1			
Category	4		
Performance Level PL	e		

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) Information about the utilization category is on page 26.

U_e = switching voltage I_e = max. switching current per contact Σ I_e = max. switching current of all safety contacts (cumulative current)

Connection ESM-BA3..



Parameter		Value	Unit
Operating voltage	ESM-BA301	24 ± 10% ¹⁾	V AC/DC
	ESM-BA302	115 ± 10%	V AC
	ESM-BA303	230 ± 10%	V AC
Reverse polarity protection		On ESM-BA301	
Rated supply frequency		50 ... 60	Hz
Power consumption		Approx. 7	VA
Control voltage for start button		18.6 ... 26	V DC
Control cable length (cross-section 0.75 mm ²)		Max. 1,000	m
Control current for start button		Approx. 60	mA
External contact fuse (safety circuit) acc. to EN IEC 60269-1		10 A gG (T6A / F8A)	
Test voltage (control voltage/contacts)		2.5	kV
Rated impulse withstand voltage, leakage path and air gaps acc. to DIN VDE 0110-1		4	kV
Rated insulation voltage		250	V
Overvoltage category acc. to DIN VDE 0110-1		3	
Safety contacts		3 NO contacts (redundant)	
Cumulative current of all contacts according to \mathcal{U}		Max. 15	A
Min. switching current at 24 V DC		5	mA
Switching voltage, max.		50	V DC
		250	V AC
Breaking capacity acc. to \mathcal{U}	ESM-BA301	8 A 250 V AC / 2 A 24 V DC	
	ESM-BA302		
	ESM-BA303	8 A 250 V AC / 3 A 24 V DC	
Utilization category ²⁾ acc. to EN 60947-5-1		U_e	I_e
	AC-12	250 V	8 A ⁴⁾
	AC-15	250 V	3 A
	DC-12	50 V	8 A ⁴⁾
	DC-13	24 V	3 A
			ΣI_e
			15 A ³⁾
LED displays		2, status display for relays K1 and K2	
Monitoring contact		1 NC contact	
Switching voltage, max.		24	V DC
		250	V AC
Breaking capacity acc. to \mathcal{U}	ESM-BA301	2 A 250 V AC / 1.5 A 24 V DC	
	ESM-BA302		
	ESM-BA303	2 A 250 V AC / 2 A 24 V DC	
Utilization category ²⁾ acc. to EN 60947-5-1		U_e	I_e
	AC-12	250 V	2 A
	AC-15	250 V	1.5 A
	DC-12	50 V	2 A
	DC-13	24 V	1.25 A
Reliability values acc. to EN ISO 13849-1			
Category		4	
Performance Level PL		e	

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) Information about the utilization category is on page 26.

3) If several ESM-BA3.. are closely spaced under load, the max. cumulative current at an ambient temperature of 20 °C = 9 A; at 30 °C = 3 A; at 40 °C = 1 A. If these currents are exceeded, a spacing of 5 mm between the devices must be observed.

4) With ohm resistive load.

U_e = switching voltage

I_e = max. switching current per contact

ΣI_e = max. switching current of all safety contacts (cumulative current)

Connection ESM-BA7.. 				
Parameter	Value		Unit	
Operating voltage	24 ± 10% ¹⁾		V AC/DC	
Reverse polarity protection	Yes			
Rated supply frequency	50 ... 60		Hz	
Power consumption	Approx. 7		VA	
Control voltage for start button	18.6 ... 26		V DC	
Control cable length (cross-section 0.75 mm ²)	Max. 1,000		m	
Control current for start button	Approx. 100		mA	
External contact fuse (safety circuit) acc. to EN IEC 60269-1	10 A gG (T6A / F8A)			
Test voltage (control voltage/contacts)	2.5		kV	
Rated impulse withstand voltage, leakage path and air gaps acc. to DIN VDE 0110-1	4		kV	
Rated insulation voltage	250		V	
Overvoltage category acc. to DIN VDE 0110-1	3			
Safety contacts	7 NO contacts (redundant)			
Min. switching current at 24 V DC	5		mA	
Switching voltage, max.	50		V DC	
	250		V AC	
Breaking capacity acc. to \mathcal{U} (per contact)	8 A 250 V AC			
	2 A 24 V DC			
Utilization category ²⁾ acc. to EN 60947-5-1	U_e	I_e	Σ I_e	
	AC-12	250 V	8 A	35 A ³⁾
	AC-15	250 V	3 A	
	DC-12	50 V	8 A	
	DC-13	24 V	3 A	
LED displays	2, status display for relays K1 and K2			
Monitoring contacts	4 NC contacts			
Switching voltage, max.	50		V DC	
	250		V AC	
Breaking capacity acc. to \mathcal{U}	2 A 250 V AC			
	1.5 A 24 V DC			
Utilization category ²⁾ acc. to EN 60947-5-1	U_e	I_e		
	AC-12	250 V	8 A	
	AC-15	250 V	3 A	
	DC-12	50 V	8 A	
	DC-13	24 V	3 A	
Monitoring outputs	2 semiconductor outputs			
Semiconductor output current	Max. 30		mA	
Semiconductor output voltage	24		V DC	
Reliability values acc. to EN ISO 13849-1				
Category	4			
Performance Level PL	e			

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) Information about the utilization category is on page 26.

3) With a housing distance of 10 mm. 20 A closely spaced at 40 °C.

U_e = switching voltage

I_e = max. switching current per contact

Σ I_e = max. switching current of all safety contacts (cumulative current)



Connection ESM-BT4..



Parameter	Value	Unit		
Operating voltage	24 ± 10% ¹⁾	V AC/DC		
Reverse polarity protection	Yes			
Rated supply frequency	50 ... 60	Hz		
Power consumption	Approx. 4.6	W		
Delay time range	1 ... 30	s		
Control voltage for start button	18.6 ... 26	V DC		
Control cable length (cross-section 0.75 mm ²)	Max. 1,000	m		
Control current for start button	Approx. 190	mA		
External contact fuse (safety circuit) acc. to EN IEC 60269-1	10 A gG (T6A / F8A)			
Test voltage (control voltage/contacts)	2.5	kV		
Rated impulse withstand voltage, leakage path and air gaps acc. to DIN VDE 0110-1	4	kV		
Rated insulation voltage	250	V		
Overtoltage category acc. to DIN VDE 0110-1	3			
Safety contacts	4 NO contacts (redundant)			
Cumulative current of all contacts according to \mathcal{U}	Max. 15	A		
Min. switching current at 24 V DC	5	mA		
Switching voltage, max.	50	V DC		
	250	V AC		
Breaking capacity acc. to \mathcal{U} (per contact)	6 A 250 V AC			
	2 A 24 V DC			
Utilization category ²⁾ acc. to EN 60947-5-1	U_e	I_e	Σ I_e	
	AC-12	250 V	8 A ⁴⁾	15 A ³⁾
	AC-15	250 V	3 A	
	DC-12	50 V	8 A ⁴⁾	
DC-13	24 V	3 A		
LED displays	4, status display for relays K1 to K4			
Reliability values acc. to EN ISO 13849-1				
Category	4 (non-time-delayed) / 3 (time-delayed)			
Performance Level PL	e			

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) Information about the utilization category is on page 26.

3) With a housing distance of 5 mm. 9 A closely spaced at 40 °C.

4) With ohm resistive load.

U_e = switching voltage

I_e = max. switching current per contact

Σ I_e = max. switching current of all safety contacts (cumulative current)

Connection ESM-2H2.. 				
Parameter	Value		Unit	
Operating voltage	24 ± 10% ¹⁾		V AC/DC	
Reverse polarity protection	Yes			
Rated supply frequency	50 ... 60		Hz	
Power consumption	Approx. 4		VA	
Control voltage on start buttons S12 - S13 and S22 - S23	18.6 ... 26		V DC	
Control cable length (cross-section 0.75 mm ²)	Max. 1,000		m	
Control current for both buttons	Each 20		mA	
External contact fuse (safety circuit) acc. to EN IEC 60269-1	10 A gG (T4A / F6A)			
Test voltage (control voltage/contacts)	2.5		kV	
Rated impulse withstand voltage, leakage path and air gaps acc. to DIN VDE 0110-1	4		kV	
Rated insulation voltage	250		V	
Overvoltage category acc. to DIN VDE 0110-1	3			
Safety contacts	2 NO contacts (redundant)			
Synchronization time	Max. 0.5		s	
Release time for the safety relay (response time)	Max. 20		ms	
Min. switching current at 24 V DC	20		mA	
Switching voltage, max.	24		V DC	
	250		V AC	
Breaking capacity acc. to \mathcal{U}	6 A 250 V AC			
	2 A 24 V DC			
Utilization category ²⁾ acc. to EN 60947-5-1	U_e	I_e	Σ I_e	
	AC-12	250 V	6 A ³⁾	8.4 A
	AC-15	230 V	4 A	
	DC-12	24 V	1.25 A ³⁾	
DC-13	24 V	2 A		
LED displays	2, status display for relays K1 and K2			
Reliability values acc. to EN ISO 13849-1				
Category	4			
Performance Level PL	e			

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) Information about the utilization category is on page 26.

3) With ohm resistive load.

U_e = switching voltage

I_e = max. switching current per contact

Σ I_e = max. switching current of all safety contacts (cumulative current)

Connection ESM-ES3..



Parameter	Value	Unit																	
Operating voltage	24 ± 10% ¹⁾	V AC/DC																	
Reverse polarity protection	Yes																		
Rated supply frequency	50 ... 60	Hz																	
Power consumption	Approx. 4 VA / 2 W																		
Control voltage at inputs	18.6 ... 26	V DC																	
Control cable length (cross-section 0.75 mm ²)	Max. 1,000	m																	
External contact fuse (safety circuit) acc. to EN IEC 60269-1	10 A gG (T4A / F6A)																		
Test voltage (control voltage/contacts)	2.5	kV																	
Rated impulse withstand voltage, leakage path and air gaps acc. to DIN VDE 0110-1	4	kV																	
Rated insulation voltage	250	V																	
Overvoltage category acc. to DIN VDE 0110-1	3																		
Cumulative current of all contacts according to ΣI_e	Max. 10.5	A																	
Safety contacts	3 NO contacts (redundant)																		
Min. switching current at 24 V DC	20	mA																	
Switching voltage, max.	50	V DC																	
	250	V AC																	
Breaking capacity acc. to ΣI_e (per contact)	6 A 250 V AC 2 A 24 V DC																		
Utilization category ²⁾ acc. to EN 60947-5-1	<table border="1"> <thead> <tr> <th></th> <th>U_e</th> <th>I_e</th> <th>ΣI_e</th> </tr> </thead> <tbody> <tr> <td>AC-12</td> <td>250 V</td> <td>6 A ³⁾</td> <td rowspan="4">10.5 A</td> </tr> <tr> <td>AC-15</td> <td>230 V</td> <td>4 A</td> </tr> <tr> <td>DC-12</td> <td>24 V</td> <td>1.25 A ³⁾</td> </tr> <tr> <td>DC-13</td> <td>24 V</td> <td>2 A</td> </tr> </tbody> </table>		U_e	I_e	ΣI_e	AC-12	250 V	6 A ³⁾	10.5 A	AC-15	230 V	4 A	DC-12	24 V	1.25 A ³⁾	DC-13	24 V	2 A	
	U_e	I_e	ΣI_e																
AC-12	250 V	6 A ³⁾	10.5 A																
AC-15	230 V	4 A																	
DC-12	24 V	1.25 A ³⁾																	
DC-13	24 V	2 A																	
LED displays	2, status display for relays K1 and K2																		
Auxiliary contact	1 NC contact																		
Continuous current, max.	500 ⁴⁾	mA																	
Switching voltage, max.	24	V AC/DC																	
Reliability values acc. to EN ISO 13849-1																			
Category	4																		
Performance Level PL	e																		

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) Information about the utilization category is on page 26.

3) With ohm resistive load.

4) As monitoring contact for safety relay.

U_e = switching voltage I_e = max. switching current per contact ΣI_e = max. switching current of all safety contacts (cumulative current)

Connection ESM-TE3.. 			
Parameter	Value		Unit
Operating voltage	24 ± 10% ¹⁾		V AC/DC
Reverse polarity protection	Yes		
Rated supply frequency	50 ... 60		Hz
Power consumption	Approx. 4		VA
Delay time range	1 ... 30		s
Fixed time delay ESM-TE301-05S	0.5 ²⁾		s
Control voltage at inputs	18.6 ... 26		V DC
Control cable length (cross-section 0.75 mm ²)	Max. 1,000		m
External contact fuse (safety circuit) acc. to EN IEC 60269-1	10 A gG (T4A / F6A)		
Test voltage (control voltage/contacts)	2.5		kV
Rated impulse withstand voltage, leakage path and air gaps acc. to DIN VDE 0110-1	4		kV
Rated insulation voltage	250		V
Overvoltage category acc. to DIN VDE 0110-1	3		
Cumulative current of all contacts according to I_{Σ}	Max. 10.5		A
Safety contacts	3 NO contacts (redundant)		
Min. switching current at 24 V DC	20		mA
Switching voltage, max.	50		V DC
	250		V AC
Breaking capacity acc. to I_{Σ} (per contact)	6 A 250 V AC 2 A 24 V DC		
Utilization category ³⁾ acc. to EN 60947-5-1		U_e	I_e
	AC-12	250 V	6 A ⁴⁾
	AC-15	250 V	4 A
	DC-12	24 V	1.25 A ⁴⁾
	DC-13	24 V	2 A
LED displays	2, status display for relays K1 and K2		
Auxiliary contact	1 NC contact		
Continuous current, max.	500 ⁵⁾		mA
Switching voltage, max.	24		V DC
Reliability values acc. to EN ISO 13849-1			
Category	3		
Performance Level PL	d		

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) On ESM-TE301-05S the potentiometer is not required.

3) Information about the utilization category is on page 26.

4) With ohm resistive load.

5) As monitoring contact for safety relay.

U_e = switching voltage

I_e = max. switching current per contact

ΣI_e = max. switching current of all safety contacts (cumulative current)

Glossary

Feedback loop

Components connected downstream of the safety relay can be monitored for correct function. For this purpose, normally closed contacts on these components are integrated into the feedback loop on the relay.

Relay start

After a relay has switched off due to a request from a safety component connected, the relay must be re-started. On this topic please pay attention to section 5.2.2 of EN ISO 13849-1:2015.

► Automatic start

The relay switches on automatically as soon as the safety component connected changes back to the safe state.

► Manual start

The relay is started by actuating a button. First, the safe state of the safety components connected must be re-established.

► Monitored manual start

The relay is started by actuating a button. The button is monitored for jamming or possible tampering. Before the relay is started, the safe state of the safety components connected must be re-established.

Single-channel safety circuit

A single positively driven contact in the safety component is connected to the relay. This connection is suitable for category 1 or 2 according to EN ISO 13849-1.

Dual-channel safety circuit

Two contacts, of which at least one is a positively driven contact, are connected to the relay. This connection is suitable for category 3 or 4 according to EN ISO 13849-1.

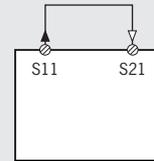
Utilization category according to EN 60947-5-1 (extract)

Voltage type	Utilization category	Typical applications
AC	AC-12	Controlling ohm resistive load and semiconductor load in input circuits of optocouplers
	AC-15	Controlling electromagnetic load (> 72 VA)
DC	DC-12	Controlling ohm resistive load and semiconductor load in input circuits of optocouplers
	DC-13	Controlling electromagnetic loads with economy resistors in the circuit

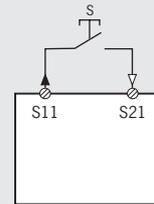
Connection examples for safety relays ESM

Safety relay ESM-BL..

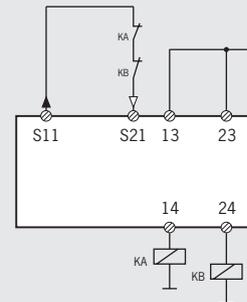
Automatic start without integration of the feedback loop



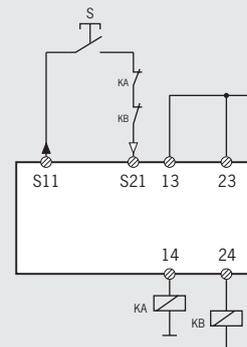
Manual start without integration of the feedback loop



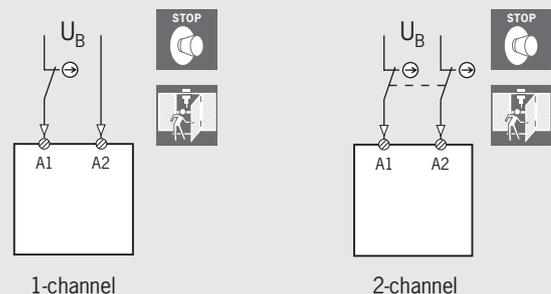
Automatic start with integration of the feedback loop



Manual start with integration of the feedback loop

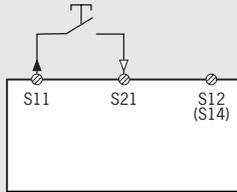


Emergency stop/safety circuit

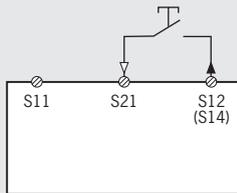


Safety relays ESM-BA../ESM-BT..

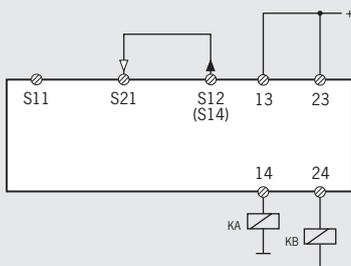
Monitored start without integration of the feedback loop



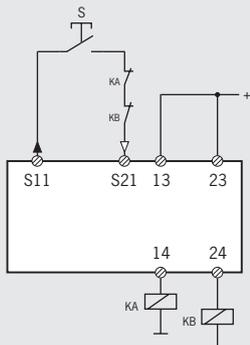
Un-monitored start without integration of the feedback loop



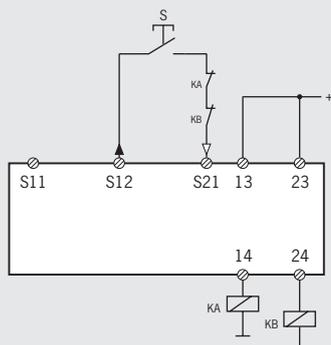
Automatic start without integration of the feedback loop



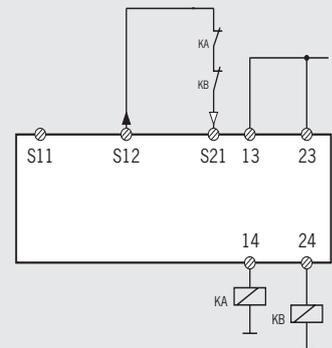
Monitored start with integration of the feedback loop



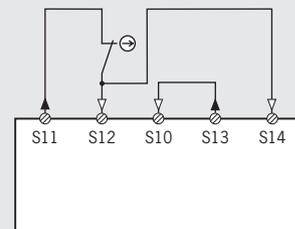
Un-monitored start with integration of the feedback loop



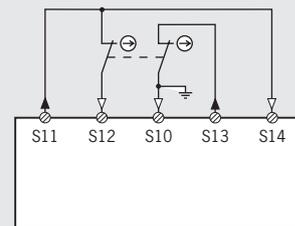
Automatic start with integration of the feedback loop



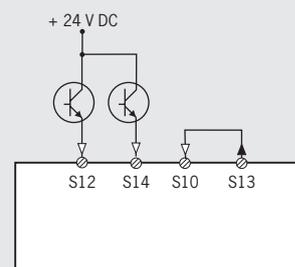
1-channel emergency stop/safety circuit



2-channel emergency stop/safety circuit with ground fault/short circuit detection

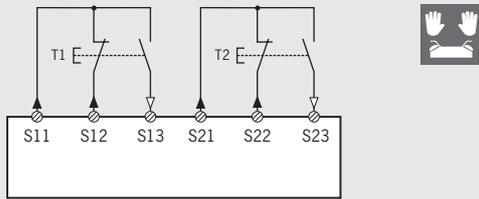


2-channel emergency stop/safety circuit with connection for MGB, CES-AR and light curtains

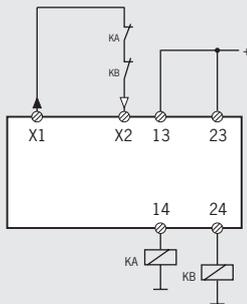


Safety relay ESM-2H2..

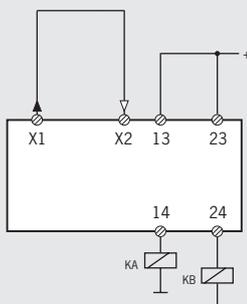
Monitoring a 2-hand control



With integration of the feedback loop

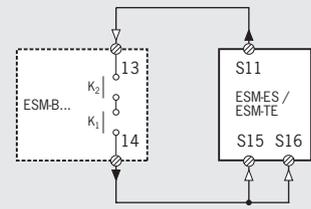


Without integration of the feedback loop

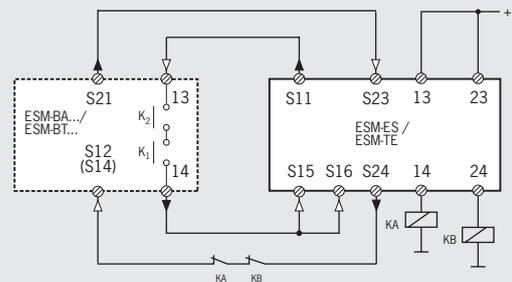


Safety contact expansion ESM-ES../ESM-TE..

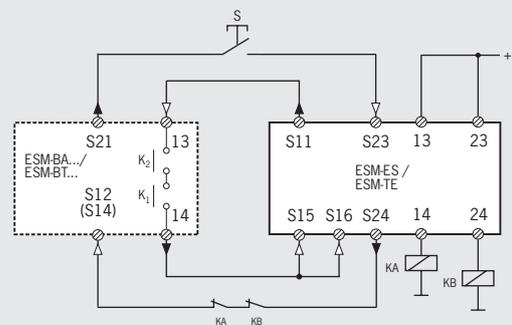
Connection of the contact expansion



Connection of the contact expansion with automatic start and with integration of the feedback loop



Connection of the contact expansion with manual start and with integration of the feedback loop



Representatives

International

Austria

EUCHNER GmbH
Aumühlweg 17-19/Halle 1C
2544 Leobersdorf
Tel. +43 720 010 200
Fax +43 720 010 200-20
info@euchner.at

Benelux

EUCHNER (BENELUX) BV
Visschersbuurt 23
3356 AE Papendrecht
Tel. +31 78 615-4766
Fax +31 78 615-4311
info@euchner.nl

Brazil

EUCHNER Com.Comp.
Eletronicos Ltda.
Av. Prof. Luiz Ignácio Anhaia Mello,
no. 4387
Vila Graciosa
São Paulo - SP - Brasil
CEP 03295-000
Tel. +55 11 29182200
Fax +55 11 23010613
euchner@euchner.com.br

Canada

EUCHNER Canada Inc.
2105 Fasan Drive
Oldcastle, ON NOR 1L0
Tel. +1 519 800-8397
Fax +1 519 737-0314
sales@euchner.ca

China

EUCHNER (Shanghai)
Trading Co., Ltd.
No. 15 building,
No. 68 Zhongchuang Road,
Songjiang
Shanghai, 201613, P.R.C
Tel. +86 21 5774-7090
Fax +86 21 5774-7599
info@euchner.com.cn

Czech Republic

EUCHNER electric s.r.o.
Trnkova 3069/117h
628 00 Brno
Tel. +420 533 443-150
Fax +420 533 443-153
info@euchner.cz

Denmark

Duelco A/S
Systemvej 8 - 10
9200 Aalborg SV
Tel. +45 7010 1007
Fax +45 7010 1008
info@duelco.dk

Estonia

Sähkölehto OÜ
Valukoja 8
Tallinn 11415
Tel. +372 511 5579
office@sahkolehto.fi

Finland

Sähkölehto Oy
Holkkitie 14
00880 Helsinki
Tel. +358 9 7746420
office@sahkolehto.fi

France

EUCHNER France S.A.R.L.
Parc d'Affaires des Bellevues
Allée Rosa Luxembourg
Bâtiment le Colorado
95610 ERAGNY sur OISE
Tel. +33 1 3909-9090
Fax +33 1 3909-9099
info@euchner.fr

Hungary

EUCHNER Magyarország Kft.
FSD Park 2,
2045 Törökbálint
Tel. +36 1 919 0855
Fax +36 1 919 0857
info@euchner.hu

India

EUCHNER (India) Pvt. Ltd.
401, Bremen Business Center,
City Survey No. 2562,
University Road
Aundh, Pune - 411007
Tel. +91 20 64016384
Fax +91 20 25885148
info@euchner.in

Israel

Ilan & Gavish Automation Service Ltd.
26 Shenkar St. Qiryat Arie 49513
P.O. Box 10118
Petach Tikva 49001
Tel. +972 3 9221824
Fax +972 3 9240761
mail@ilan-gavish.com

Italy

TRITECNICA SpA
Viale Lazio 26
20135 Milano
Tel. +39 02 541941
Fax +39 02 55010474
info@tritecnica.it

Japan

EUCHNER Co., Ltd.
1269-1 Komakiharashinden,
Komaki-shi, Aichi-ken
485-0012, Japan
Tel. +81 568 74 5237
Fax +81 568 74 5238
info@euchner.jp

Korea

EUCHNER Korea Co., Ltd.
115 Gasan Digital 2 - Ro
(Gasan-dong, Daeryung
Technotown 3rd Rm 810)
153 - 803 Kumchon-Gu, Seoul
Tel. +82 2 2107-3500
Fax +82 2 2107-3999
info@euchner.co.kr

Mexico

EUCHNER México S de RL de CV
Conjunto Industrial PK Co.
Carretera Estatal 431 km. 1+300
Ejido El Colorado, El Marqués
76246 Querétaro, México
Tel. +52 442 402 1485
Fax +52 442 402 1486
info@euchner.mx

Poland

EUCHNER Sp. z o.o.
Krańskięskiego 29
40-019 Katowice
Tel. +48 32 252 20 15
Fax +48 32 252 20 13
info@euchner.pl

Portugal

PAM Servicos Tecnicos Industriais Lda.
Rua de Timor - Pavilhao 2A
Zona Industrial da Abelheira
4785-123 Trofa
Tel. +351 252 418431
Fax +351 252 494739
pam@mail.telepac.pt

Republic of South Africa

RUBICON
ELECTRICAL DISTRIBUTORS
4 Reith Street, Sidwell
6061 Port Elizabeth
Tel. +27 41 451-4359
Fax +27 41 451-1296
sales@rubiconsa.com

Romania

First Electric SRL
Str. Ritmului Nr. 1 Bis
Ap. 2, Sector 2
021675 Bucuresti
Tel. +40 21 2526218
Fax +40 21 3113193
office@firstelectric.ro

Singapore

BM Safety Singapore Pte Ltd.
3 Ang Mo Kio Industrial Park 2A
#07-04 Ang Mo Kio Tech 1
Singapore 568050
Tel. +65 6483 9288
Fax +65 6235 0506
sales@bmsafety.com.sg

Slovakia

EUCHNER electric s.r.o.
Trnkova 3069/117h
628 00 Brno
Tel. +420 533 443-150
Fax +420 533 443-153
info@euchner.cz

Slovenia

SMM proizvodni sistemi d.o.o.
Jaskova 18
2000 Maribor
Tel. +386 2 4502326
Fax +386 2 4625160
info@smm.si

Spain

EUCHNER, S.L.
Gurutze 12 - Local 1
Poligono Belartza
20018 San Sebastian
Tel. +34 943 316-760
Fax +34 943 316-405
info@euchner.es

Sweden

Censit AB
Box 331
33123 Värnamo
Tel. +46 370 691010
Fax +46 370 18888
info@censit.se

Switzerland

EUCHNER AG
Falknisstrasse 9a
7320 Sargans
Tel. +41 81 720-4590
Fax +41 81 720-4599
info@euchner.ch

Taiwan

Daybreak Int'l (Taiwan) Corp.
3F, No. 124, Chung-Cheng Road
Shihlin 11145, Taipei
Tel. +886 2 8866-1234
Fax +886 2 8866-1239
day111@ms23.hinet.net

Turkey

EUCHNER Endüstriyel Emniyet
Teknolojileri Ltd. Şti.
Hattat Bahattin Sok.
Ceylan Apt. No. 13/A
Göztepe Mah.
34730 Kadıköy / Istanbul
Tel. +90 216 359-5656
Fax +90 216 359-5660
info@euchner.com.tr

United Kingdom

EUCHNER (UK) Ltd.
Unit 2 Petre Drive,
Sheffield
South Yorkshire
S4 7PZ
Tel. +44 114 2560123
Fax +44 114 2425333
sales@euchner.co.uk

USA

EUCHNER USA Inc.
6723 Lyons Street
East Syracuse, NY 13057
Tel. +1 315 701-0315
Fax +1 315 701-0319
info@euchner-usa.com

EUCHNER USA Inc.

Detroit Office
130 Hampton Circle
Rochester Hills, MI 48307
Tel. +1 248 537-1092
Fax +1 248 537-1095
info@euchner-usa.com

Germany

Augsburg

EUCHNER GmbH + Co. KG
Ingenieur- und Vertriebsbüro
Julius-Spokojny-Weg 8
86153 Augsburg
Tel. +49 821 56786540
Fax +49 821 56786541
peter.klopfer@euchner.de

Berlin

EUCHNER GmbH + Co. KG
Ingenieur- und Vertriebsbüro
Ulmenstraße 115a
12621 Berlin
Tel. +49 30 50508214
Fax +49 30 56582139
alexander.walz@euchner.de

Chemnitz

EUCHNER GmbH + Co. KG
Ingenieur- und Vertriebsbüro
Am Vogelherd 2
09627 Bobritzsch-Hilbersdorf
Tel. +49 37325 906000
Fax +49 37325 906004
jens.zehrtner@euchner.de

Düsseldorf

EUCHNER GmbH + Co. KG
Ingenieur- und Vertriebsbüro
Tippgarten 3
59427 Unna
Tel. +49 2308 9337284
Fax +49 2308 9337285
christian.schinke@euchner.de

Essen

Thomas Kreißl
fördern - steuern - regeln
Hackenbergweg 8a
45133 Essen
Tel. +49 201 84266-0
Fax +49 201 84266-66
info@kreisslessen.de

Freiburg

EUCHNER GmbH + Co. KG
Ingenieur- und Vertriebsbüro
Steige 5
79206 Breisach
Tel. +49 7664 403833
Fax +49 7664 403834
peter.seifert@euchner.de

Lübeck

EUCHNER GmbH + Co. KG
Ingenieur- und Vertriebsbüro
Am Stadtrand 13
23556 Lübeck
Tel. +49 451 88048371
Fax +49 451 88184364
martin.pape@euchner.de

Nürnberg

EUCHNER GmbH + Co. KG
Ingenieur- und Vertriebsbüro
Steiner Straße 22a
90522 Oberasbach
Tel. +49 911 6693829
Fax +49 911 6696722
ralf.paulus@euchner.de

Stuttgart

EUCHNER GmbH + Co. KG
Ingenieur- und Vertriebsbüro
Kohlhammerstraße 16
70771 Leinfelden-Echterdingen
Tel. +49 711 7597-0
Fax +49 711 7597-303
oliver.laier@euchner.de
uwe.kupka@euchner.de

Wiesbaden

EUCHNER GmbH + Co. KG
Ingenieur- und Vertriebsbüro
Adolfsallee 3
65185 Wiesbaden
Tel. +49 611 98817644
Fax +49 611 98895071
giancarlo.pasquesi@euchner.de



EUCHNER

More than safety.



Support hotline

You have technical questions about our products or how they can be used?
For further questions please contact your local sales representative.



Comprehensive download area

You are looking for more information about our products?
You can simply and quickly download operating instructions, CAD or ePLAN data and accompanying software for our products at www.euchner.com.



Customer-specific solutions

You need a specific solution or have a special requirement?
Please contact us. We can manufacture your custom product even in small quantities.



EUCHNER near you

You are looking for a contact at your location? Along with the headquarters in Leinfelden-Echterdingen, the worldwide sales network includes 18 subsidiaries and numerous representatives in Germany and abroad – you will definitely also find us near you.

www.euchner.com

EUCHNER GmbH + Co. KG

Kohlhammerstraße 16
70771 Leinfelden-Echterdingen
Germany
Tel. +49 711 7597-0
Fax +49 711 753316
info@euchner.de
www.euchner.com

EUCHNER

More than safety.