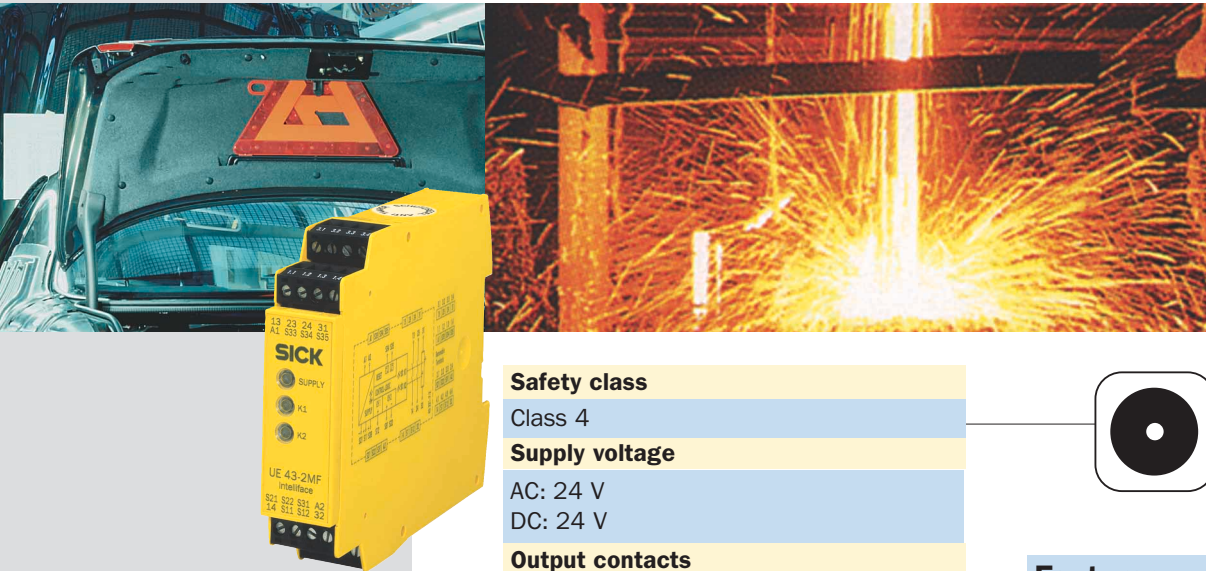




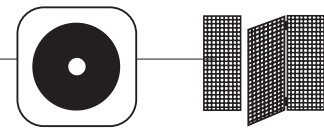
Safety relay

Manual or automatic reset

UE 43-2 MF



Safety class	
Class 4	
Supply voltage	
AC: 24 V	
DC: 24 V	
Output contacts	
Safety	Auxiliary
2 	1 
Dimensions	
87 x 22.5 x 122 mm	
Function	
<ul style="list-style-type: none"> ■ Dual-channel wiring with short circuit detection ■ Supply voltage: 24 V AC/DC ■ Start automatic/manual ■ External device monitoring (EDM) ■ Version with connection clamps available 	



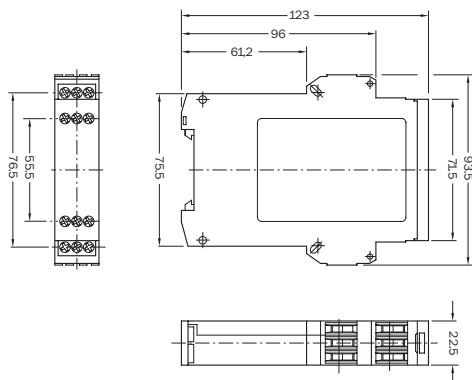
Features

- Safety Category 4 approved to EN 954-1
- Stop Category 0 approved to EN 60 204-1
- 2 instant NO safe contacts + 1 instant NC signal contacts
- Automatic or manual reset
- External device monitoring (EDM)
- 3 LED signals
- Inputs for safety devices with 1 or 2 NC contacts
- Monitors the integrity of connection of safety circuit

Applications

- Redundant circuits and auto control for emergency stops and safety switches
- Monitor movable guards

Dimensions



Functionality

After applying the supply voltage (LED SUPPLY illuminates), the normally open contacts remain in the opened state. If the connected sensor is not activated (i.e. the input circuits are closed), then the normally open contacts close immediately in Automatic Reset (LED "K1, K2" illuminate). In the case of Manual Reset, this only occurs after pressing and releasing the Reset button. Activation of the sensor (opening of one or both input circuits) affects the opening of the normally open outputs.

External device monitoring (EDM)

The UE 43-2 MF unit can take over the function of external device monitoring. The contactor monitoring system monitors the external relays by means of their normally closed contacts.

Reset

For Manual resetting, a pushbutton must be connected to terminals S33 - S34. Reset is monitored.

For Automatic resetting, S12 - S35 must be linked.

Cross circuit detection

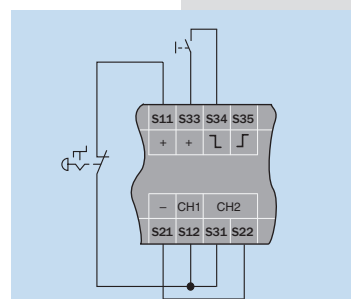
Cross circuit is detected on dual-channel wired systems, if these are wired with opposing polarity.

Monitoring of synchronization

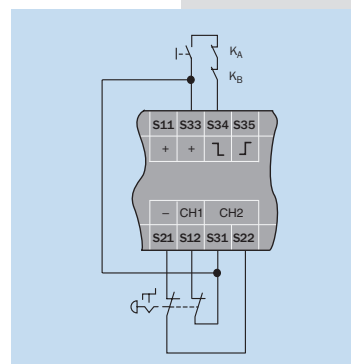
If input 2 closes no later than 0.5 seconds after input 1, the output circuits close. If input 2 closes before input 1, the monitoring of synchronization will not take place, and the output circuits will close. This monitoring only takes place in Automatic Reset.

The UE 43-2 MF 2 units have screw type terminals.

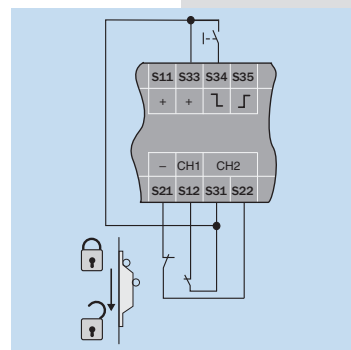
The UE 43-2 MF 3 units have removable terminals.



Example of a connection of emergency stops to individual channel with manual reset



Example of a connection of emergency stops to dual channel with manual reset, EDM and control of integrity of connections

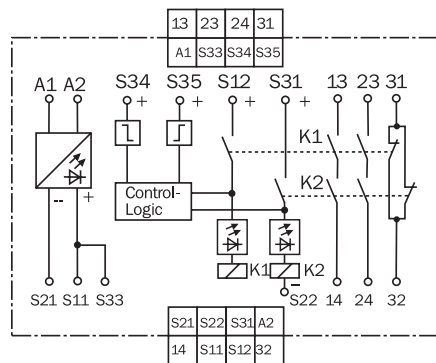


Example of a connection of limit stops of safety with manual reset and control of the connections

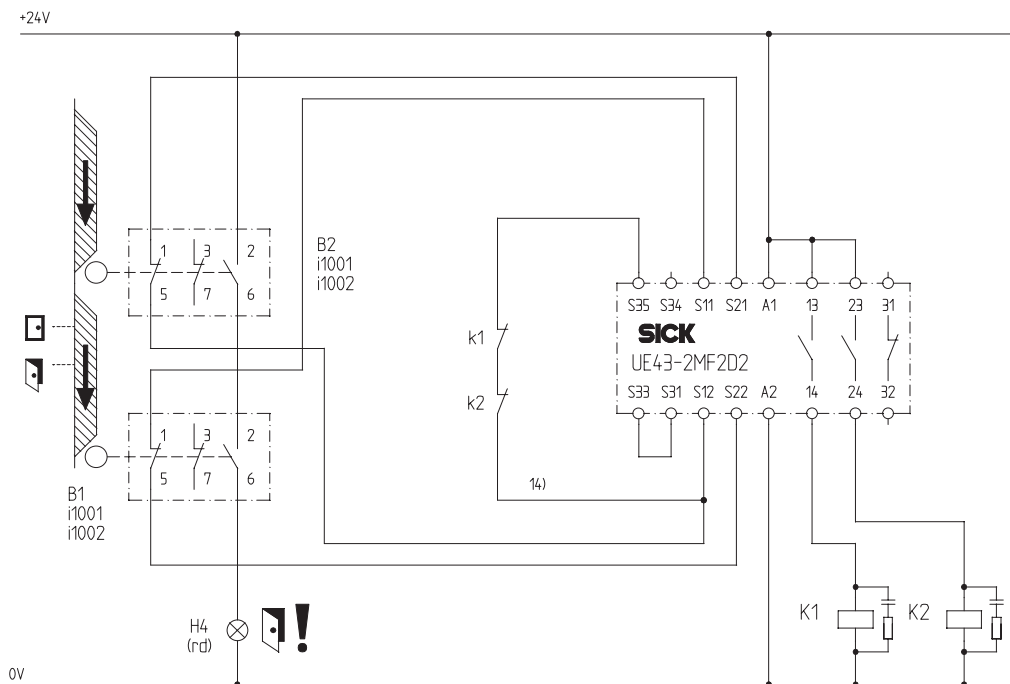
Technical specifications

General data description	min.	typ.	max
Supply voltage to A1/A2 Electrical output circuit > 25 V AC/60 V DC Electrical output circuit < 25 V AC/60 V DC	PELV PELV or SELV		
Safety category: EN 954-1			4
Stop category: EN 60 204	0		
Supply voltage V_S (A1/A2)	20.4 V	24 V	26.4 V AC/DC
Power consumption			
AC			4.6 V A
DC			2.1 W
Residual ripple in DC mode (within the limits of V_S)			2.4 V _{pp}
Nominal frequency in AC mode	50Hz		60Hz
Control voltage S33/S11 and S 21			
Control voltage	17.4 V DC	24 V DC	
Control current	40 mA		100 mA
Short circuit between S33/S11 and S21			2000 mA
Fuse	PTC resistor		
Reaction time by cross connection			3 sec
Activation time upon detection of cross connection			3 sec
Galvanic separation between A1/A2 and S21, S11, S33	No		
Input circuits (S12, S31, S22, S34, S35)			
Input current S12 and S31/S22		40 mA	100 mA
Input current S34/S35		5 mA	50 mA
Reset time			
Manual (S34)			40 ms
Automatic (S35)	200 ms		500 ms
Activation time of Reset button	50 ms		
Line resistance at the input circuit			35 Ohm
Synchronization time			500 ms
Output circuits (13-14, 23-24, 31-32)			
Response time (K1/K2)			25 ms
Minimum time outputs will stay off			40 ms
Relay contacts			
	2 normally open contacts (NO), safety relevant 1 normally closed contact (NC), not safety relevant		
Contact type	Positively guided		
Contact material	Silver alloy; gold-plated		
Load capacity			
Switching voltage	10 V AC/DC		230 V AC/30 V DC
Switching current	10 mA		6 A
Total current across all contacts			12 A
Application category to EN 60 947-5-1	AC-15 Ue230 V AC, I _e 4 A (3600 c/h) AC-15 Ue230 V AC, I _e 3 A (360 c/h) DC-13 Ue24V DC, I _e 4 A (360 c/h) DC-13 Ue24V DC, I _e 4 A (3600 c/h)		
Permitted switching frequency			3600 c/h
Mechanical service life (switching cycles)	1 x 10 ⁷		
Electrical service life (dependent upon loading)	1 x10 ⁵		
Operating data			
Surge voltage rating (V _{imp})			4 kV
Excess voltage category			III
Contamination rating of the unit (EN 50 178)			
External			3
Internal			2
Voltage rating			300 V AC
Test voltage V _{eff} (50 Hz) EN 60 439-1			2.0 kV
Protection type			
Housing	IP 40		
Terminals	IP 20		
Interference emissions according to	DIN EN 61 000-6-4		
Ambient operating temperature	-25° C		+ 55° C
Storage temperature	-25° C		+ 75° C
Cross sections of electrical conductors			
single strand wire (2 x, identical cross section)	0.14 mm ²		0.75 mm ²
single strand wire (1 x)	0.14 mm ²		2.5 mm ²
fine stranded wire with terminal crimps (2 x, identical cross section)	0.25 mm ² 0.25 mm ²		0.5 mm ²
fine stranded wire with terminal crimps (1 x)	0.25 mm ²		2.5 mm ²
Weight	0.2 kg		

Switching internal circuits



Connection drawing



Selection table

Model	Outputs		Connection (terminal type)		Supply voltage						Part number
			Screw	Removable	24 V AC/DC	24 V DC	24 V AC	115 V AC	120 V AC	230 V AC	
UE 43-	2	MF	2		D2						6 024 893
UE 43-	2	MF		3	D2						6 024 894

We recommend contacting Customer Service for product selection

Safety Relays