

Safety relay

Manual or automatic reset

UE 43-6 MF



Safety class

Class 4

Supply voltage

AC: 120 V AC, 230 V AC
VC: 24 V DC

Output contacts

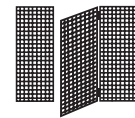
Safety  6 Auxiliary  4

Dimensions

75 x 90 x 120.5 mm

Function

- Dual-channel wiring with short circuit detection
- Automatic or manual reset



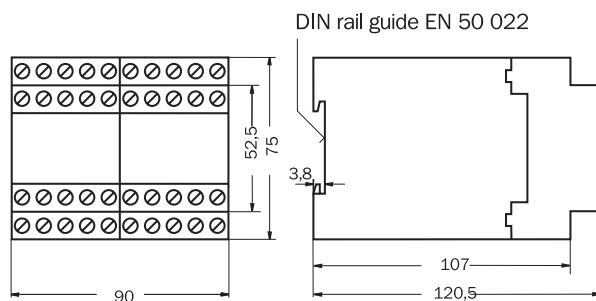
Features

- Safety Category 4 approved to EN954-1
- Stop Category 0 approved to EN 60 204-1
- Outputs: 6 normally open contacts, 4 normally closed contacts
- Automatic or manual reset
- External device monitoring (EDM)
- 6 LED Signal
- 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 open. If the connected sensor is not activated, the LEDs CH 1 and CH 2 illuminate. In the case of Automatic resetting, the normally open contacts close immediately (LED K1 and K2 illuminate). With Manual resetting the normally open contacts (LED K1 and K2 off).

External device monitoring (EDM)

The UE 43-6 MF unit can take over the external device monitoring. The contactor monitoring system monitors the external relays by way of their normally closed contacts.

Manual reset

For Manual Reset, a pushbutton must be connected to the terminals S33 - S34 and a link connected between S12 and Y3 and between Y1 and S37. This Reset is monitored.

Automatic reset

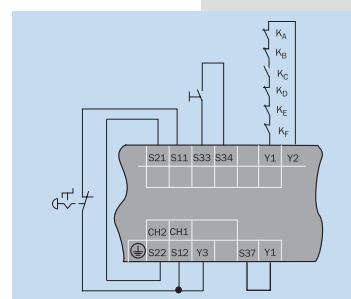
For Automatic Reset S12 - S34 and Y3 - S33 must be linked.

Cross circuit detection

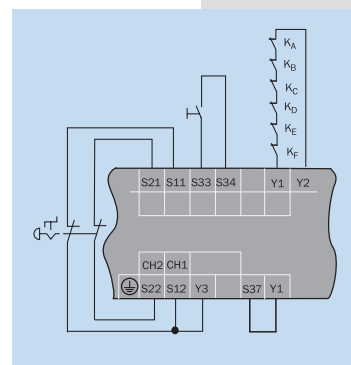
Cross circuit is detected on dual-channel wired systems, if these are wired with opposing polarity.

Monitoring of synchronization

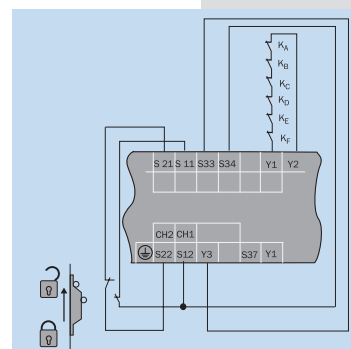
If input 2 closes no later than 0.5 seconds after input 1, the output circuits close. If input 2 closes before input 1, the monitoring of synchronization will not be effected, and the output circuits will close. this monitoring only takes place in Automatic Reset.



Connection to single channel with emergency stop and manual reset, EDM



Connection to dual channel with emergency button, manual reset and EDM



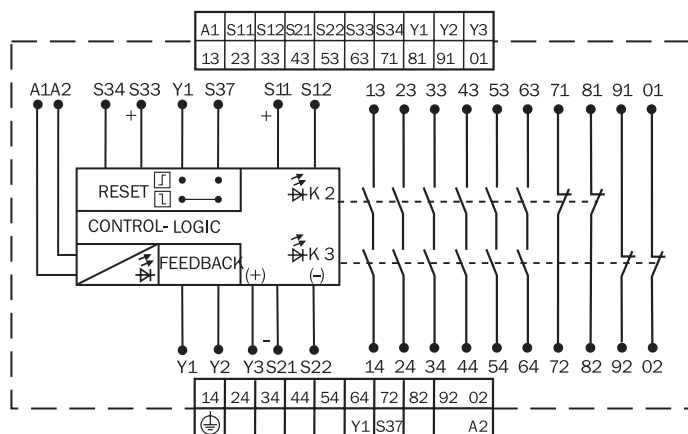
Connection to dual channel with safety interlocks with EDM and control of integrity of connections and automatic reset

Safety Relays

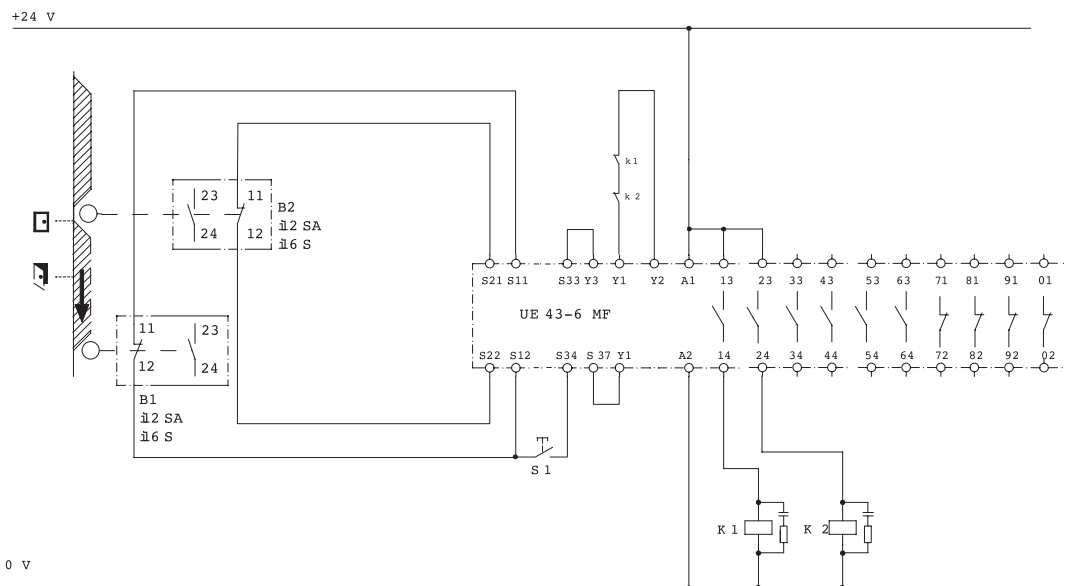
UE 43-6 MF

General data description	min.	tip	max
Supply voltage to A1/A2 for DC units Electrical output circuit > 25 V AC / 60 V DC Electrical output circuit < 25 V AC / 60 V DC	PELV PELV or SELV		
Voltage supply to A1/A2 for AC unit	Use earth conductor terminal		
Safety category EN 954-1	4		
Stop category EN 60 204	0		
Supply voltage V_S (A1/A2) UE 43-6 MF 2 D 3 UE 43-6 MF 2 A 2 UE 43-6 MF 2 A 3	20.4V DC 102 V AC 195.5 V AC	24V DC 120 V AC 230 V AC	26.4 V DC 132 V AC 253 V AC
Power consumption AC DC	4.2 W/4.5 V A 2.4 W		
Residual ripple in DC mode (within the limits of V_S)	2.4V _{pp}		
Nominal frequency in AC mode	50 Hz 60 Hz		
Control voltage S11 and S21			
Control voltage	24 V DC		
Control current	40 mA		
Short circuit (between Y11 and A2)	1000 mA		
Fuse AC units DC units	short circuit resistant transformer PTC resistor		
Reaction time by cross connection (DC unit)	3 sec		
Galvanic separation (between A 1-2 and Y 11 - Y21 - PE)	only on AC units		
Input circuits (S12 - S22 and Y3 - S22)			
Input current	40 mA		
Reset time Manual Automatic	350 mA 500 mA		
Synchronization time	500 ms		
Line resistance at the input circuit	85 Ohm		
Switch-on time upon applying the supply voltage (AC units)	100 ms		
Output circuits (13 - 14, 23 - 24, 33 - 34, 43 - 44, 53 - 54, 63 - 64, 71 - 72, 81 - 82, 91 - 92, 01 - 02)			
Response time (K1 / K2)	60 ms		
Relay contacts			
	6 normally open contacts (NO), safety relevant 4 normally closed contacts (NC), not safety relevant		
Contact type	positively guided		
Contact material	Silver alloy; gold-plated		
Load capacity of contacts Switching voltage Switching current Total current across all contacts	10 V AC/DC 10 mA	230 V AC/30 V DC 6 A 24 A	
Application category to EN 60 947-5-1	AC-15 Ue 230 V AC, I_e 3 A (3600 c/h) DC-13 Ue 24 V DC, I_e 2 A (3600 c/h)		
Permitted switching frequency	3600 c/h		
Mechanical service life (switching cycles)	1×10^7		
Electrical service life (dependent upon loading)	2×10^6		
Operating data			
Surge voltage rating	4 kV		
Excess voltage category	III		
Contamination rating of the unit (EN 50 178) External Internal	3 2		
Voltage rating	300 V AC		
Test voltage V_{eff} (50 Hz) EN 60 439-1	2 kV		
Protection type Housing Terminal	IP 40 IP 20		
Radio interference	DIN EN 61 000-6-4		
Interference emission according to	EN 60 947-1 02/99		
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) single strand wire (1 x) fine stranded wire with terminal crimps (2 x, identical cross section) fine stranded wire with terminal crimps (1 x)	0.75 mm ² 0.75 mm ² 0.5 mm ² 0.5 mm ²	2.5 mm ² 2.5 mm ² 1.5 mm ² 1.5 mm ²	
Weight	0.8 Kg		

Internal circuitry



Connection drawing



Selection table

Model	Output	MF	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-	6	MF	2			D3					6 024 902
UE 43-	6	MF	2						A2		6 024 905
UE 43-	6	MF	2							A3	6 024 906

We recommend contacting Customer Service for product selection

Safety Relays