

Application examples

C570, C571, C573

Electronic Safety relays

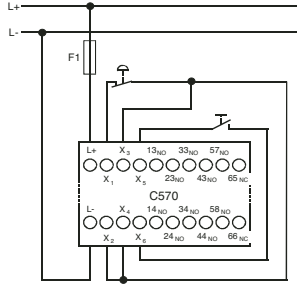
Information

The safety relays are tested by BIA. The shown external wiring diagrams / application examples are examples of use only. A risk appraisal has to be done by the user. Further application examples on request.

C570 Application

The safety relay can be used to monitor EMERGENCY STOP circuits and for monitoring of other protective devices (e.g. safety gates)

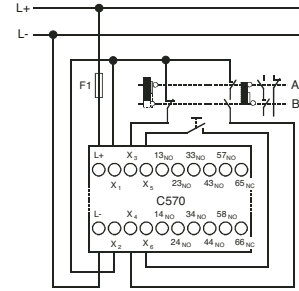
EMERGENCY-STOP circuit



Operation

Operating states indication:

“READY” indicates that the supply voltage is applied to the unit, provided that the contacts of the EMERGENCY STOP pushbutton or door safety switch are closed. “ON” lights up, when the ON button is pressed and the enabling circuits are switched through.



Safety gate monitoring (A= door open, B= door closed)

7

C571, C573 Application

The safety relays C 571/C 573 can be used in EMERGENCY STOP circuits as per EN 418 and in safety circuits as per VDE 0113 Part 1 (11.98) and/or EN 60 204-1 (11.98), e.g. with movable covers and guard doors. Depending on the external connections, categories 3 and 4 (with additional external measures) as per DIN EN 954-1 are achievable.

Functions and connection

The safety relay C 573 has three release circuits (safety outputs) which are configured as NO contacts and a signal circuit configured as a NC contact. The safety relay C 571 has two release (safe) circuits which are configured as NO contacts. The number of release circuits can be increased by adding one or more C 579 extension units. Three LEDs indicate the operating state and function. When the EMERGENCY STOP button or the limit switch is unlocked and when the ON button is pressed, the internal circuits of the safety relays and the external contactors are checked for proper functioning. Connect the EMERGENCY STOP pushbutton or the limit switch in the supply cable from A1 to +24 or L24 V. To evaluate over two channels, connect Channel 2 from A2 to 0 V or N. Connect the ON button in series with the NC contacts of the external contactor (feedback loop) between terminals Y1 and Y2.

Terminal markings

Supply voltage	A1	L/+
Sensors	Y1, Y2	N/-
Outputs	13, 14	ON button, feedback loop
	23, 24	Safety output 1 (n/o)
	33, 34	Safety output 2 (n/o)
	41, 42	Safety output 3 (n/o)*
		Signal circuit 1 (n/c)*
		* with C 573 only

Operating states

LEDs			Operation			
POWER	Channel 1	Channel 2	PS	EMERG. STOP	ON	Safety output
☀	☀	☀	ON	non activated	activated	closed
☀	●	●		activated	non activated	open
☀	●	●		non activated	non activated	open
Faults						
☀	☀	●	Relay fusion-welded			open
☀	●	☀	Motor contactor fusion-welded			
☀	●	●	Defects in electronic			
●	●	●	Cross or ground faults in EMERG. STOP circuit (min. fault current, $I_{Kmin} = 0.5A$; PTC-fuse trips or supply voltage missing)			

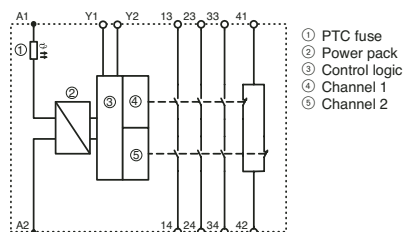
Fault clearance

1. Switch supply voltage off.
2. Clear fault or replace device.
3. Switch supply voltage back on.

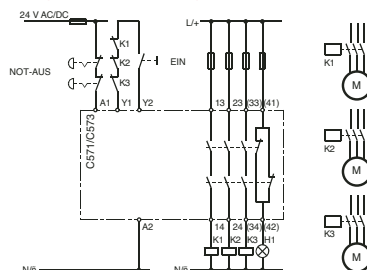
Cable length

for 2 x 1.5mm² 150 nF/km max. 1000m (total cable length for sensors and power supply lines)

Internal circuit



Emergency Stop, category 2 acc. to EN 954-1



EMERGENCY STOP, category 3 and 4 acc. to EN 954-1

