

Application examples C576, C577

Application

The safety relay C 576 can be used in safety circuits as per VDE 0113 Part 1 (11.98) or EN 60 204-1 (11.98), e.g. with movable covers and safety gates; the safety relay C 577 in EMERGENCY STOP circuits as per EN 418. Depending on external connections, category 4 as per DIN EN 954-1 is achievable.

Functions and connections

The safety relays C 576/C 577 have two release circuits (safety outputs) configured as NO contacts. The number of release circuits can be increased by adding one or more C 579 extension units.

Three LEDs indicate operating state and function.

When the EMERGENCY STOP button or the limit switch is unlocked and when the ON button is pressed, the internal circuit of the safety relay and the external contactors are checked for proper functioning.

On the C 577, the ON circuit Y33, 34 is checked for short circuit.

This means that a fault is detected when Y33, 34 is closed before the EMERGENCY STOP button is closed.

The EMERGENCY STOP button or the limit switch are connected to terminals Y11, 12, 21, 22. The ON button is connected in series to the NC contacts of the external contactors (feedback loop) to terminals Y33, 34.

Terminal marking

Supply voltage	A1 A2	L/+ N/-
Sensors STOP	Y11, 12	Channel 1 EMERGENCY STOP
STOP	Y21, 22	Channel 2 EMERGENCY STOP
Outputs	Y33, 34 13, 14 23, 24	or limit switch ON button, feedback loop Safety output 1 (n/o contact) Safety output 2 (n/o contact)

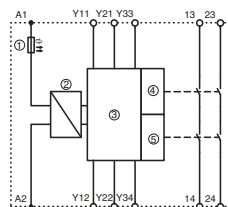
Fault clearance

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

Cable length

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

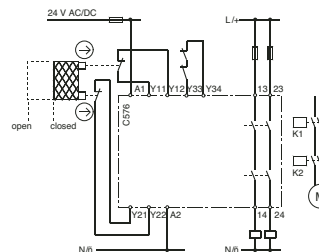
Internal circuit



Operation

LEDs			Operation			
POWER	Channel 1	Channel 2	PS	E-Stop	ON	Safety outputs
☀	☀	☀	ON	non activated	activated	closed
☀	●	●		activated	non activated	open
☀	●	●		non activated	non activated	open
Faults						
☀	☀	●	Relay fusion-welded Motor cont. fusion-welded			open
☀	●	☀	Defect in electronic Short circuit in ON circuit			
☀	●	●				
●	●	●	Cross or ground faults in EMERGENCY STOP circuit (min. fault current I _{kmin} = 0.5A; PTC fuse trips)			

C 577 with monitored start for EMERGENCY STOP Category 4 acc. to EN 954-1



C 577 with monitored start for EMERGENCY STOP Category 4 acc. to EN 954-1

