

# Application examples C572

## Application

The safety relay C 572 can be used in EMERGENCY STOP circuits as per EN 418, in safety circuits as per VDE 0113 Part 1 (06.93) and/or EN 60 204-1 (12.97), e.g. with movable covers and safety gates. Depending on the external connection, safety category 4 as per DIN EN 945-1 is achievable with this device.

## Functions and connections

The safety relay C 572 has three release circuits (safety outputs) which are configured as NO contacts and two signal circuits configured as an NC contact. Three LEDs indicate operating state and function.

When the EMERGENCY STOP pushbutton or limit pushbutton is unlocked and the ON pushbutton is pressed, the redundant safety relays, electronic circuitry and external contactors are tested for proper functioning.

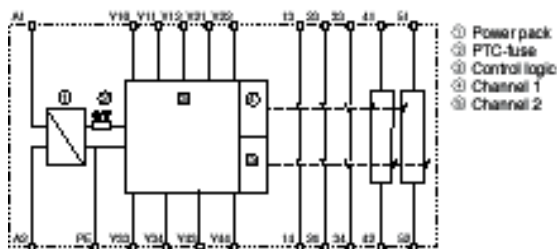
On the C 572, the ON circuit Y33, 34 is checked for short circuit. This means that a fault is detected when Y33,34 is closed before the EMERGENCY STOP button is closed.

## Terminal marking

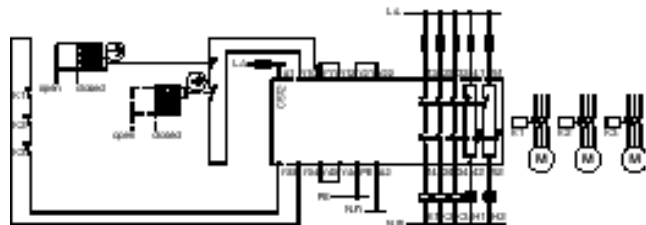
Supply voltage	A1 A2	L/+ N/-
Outputs	13, 14 23, 24 33, 34 41, 42 51, 52	Safety output 1 (n/o) Safety output 2 (n/o) Safety output 3 (n/o) Signal output 1 (n/c) Signal output 2 (n/c)

Function	Monitored start	Monitored start / Autostart	Autostart
1-channel	ON push button at Y33, 34	Jumper from Y11 to Y12 Jumper from Y21 to Y22 EMERGENCY-STOP circuits at Y10, 11	Feedback loop or jumper to Y33, 34 and jumper from
2-channel		Jumper from Y10 to Y11 EMERGENCY-STOP circuits at Y11, 12 and Y21, 22	Y43 auf Y44 Important: Y21, 22 must be closed before or at the same time as Y11, 12

## Internal circuit



## Autostart for guard door monitoring; Safety category 2 acc. to EN 954-1



## Operation states

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

## Fault clearance

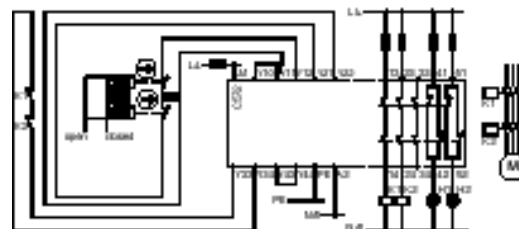
1. Switch supply voltage off.
2. Clear fault or replace device.
3. Switch supply voltage back on.

## Cable length

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

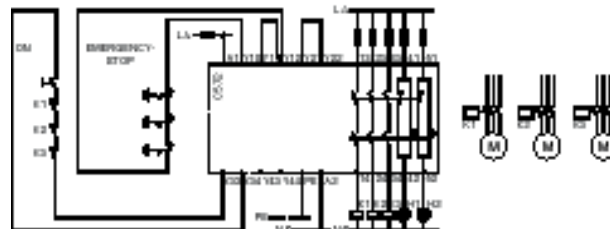
## Autostart and safety gate monitoring

Safety category 4 acc. to EN 954-1



## Monitored start for EMERGENCY STOP

Safety category 2 acc. to EN 954-1



## Monitored start for EMERGENCY STOP

Safety category 3 and 4 acc. to EN 954-1

