



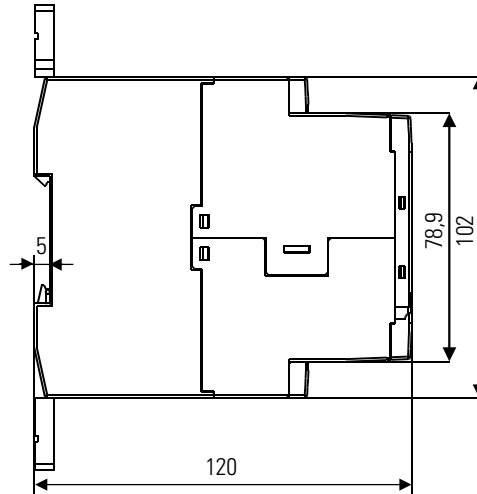
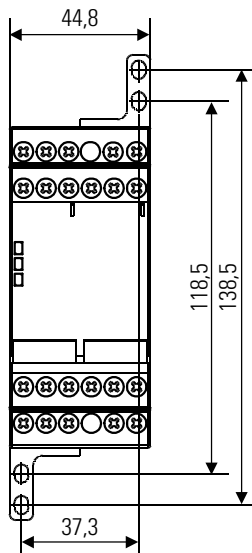
**Balance Systems**

**DISPOSITIVO DI SICUREZZA – SIEMENS**  
***SAFETY COMBINATION - SIEMENS***

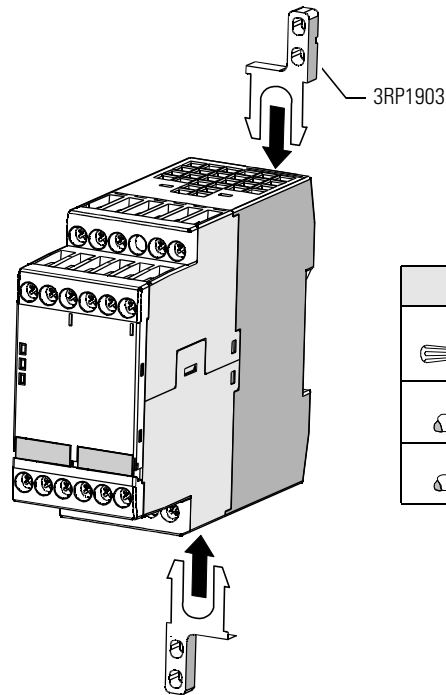
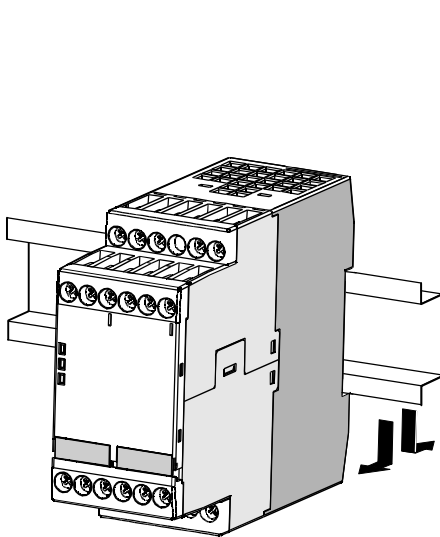
**Modello 3TK2825**  
***3TK2825 Model***




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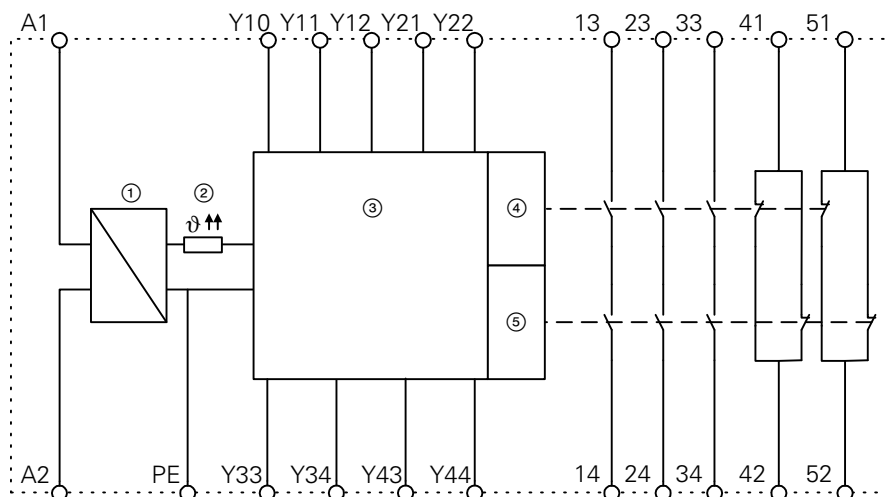


II



 M3,5	0,8 ... 1,2 Nm 7 to 10.3 LB.IN
 10	1 x (0,5 ... 4,0) mm <sup>2</sup> , 2 x (0,5 ... 2,5) mm <sup>2</sup>
 10	1 x (0,5 ... 2,5) mm <sup>2</sup> , 2 x (0,5 ... 1,5) mm <sup>2</sup>

III



# Safety Combination

3TK2825

DIN EN 60 439 Part 1, VDE 0660 Part 500 (04.94)

## Instructions

Order No.: 3ZX1012-0TK28-4CA1

English

	<b>WARNING:</b>
	<b>HAZARDOUS VOLTAGE CAN CAUSE ELECTRICAL SHOCK AND BURNS. DISCONNECT POWER BEFORE PROCEEDING WITH ANY WORK ON THIS EQUIPMENT.</b>

## Application

You can use the safety combination 3TK2825 in emergency tripping devices 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 guard doors. Depending on the external connection, safety category 4 as per DIN EN 945-1 is achievable with this device.

## Functions and connections

Safety combination 3TK2825 has three release circuits which are configured as NO circuits and two signaling circuits configured as an NC circuit. Three LEDs indicate operating state and function.

When the EMERGENCY OFF pushbutton or limit pushbutton is enabled and the ON pushbutton is operated, the redundant safety relays, electronic circuitry and external contactors are tested for proper functioning.

On the 3TK2825, the ON circuit Y 33, 34 is checked for short-circuit. This means that a fault is detected when Y33,34 is closed before the emergency tripping button is closed.

<b>Terminal assignments</b>	Operating voltage	A1	L/+
		A2	N/-
Output		13, 14	Release circuit 1 (NO)
		23, 24	Release circuit 2(NO)
		33, 34	Release circuit 3(NO)
		41, 42	Signaling circuit 1 (NC)
		51, 52	Signaling circuit 2(NC)

Function	Monitored start	Monitored start/ Autostart	Autostart
1-channel	ON pushbutton at Y33, 34	Jumper from Y11 to Y12 Jumper from Y21 to Y22 EMERGENCY OFF circuit at Y10, Y 11	Jumper from Y33 to Y34 and jumper from Y43 to Y44
2-channel		Jumper from Y10 to Y11 EMERGENCY OFF circuits at Y11, 12 and Y21, 22	<b>Important:</b> Y21, 22 must close <b>before</b> or at the same time as Y11, 12

<b>Cable lengths</b>	for 2 x 1.5 mm <sup>2</sup> 150 nF/km	max. 1000 m (total cable length for sensors and power supply lines)
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<b>Figures</b>	Fig. I:	Dimension drawings (dimensions in mm)
	Fig. II:	Installation
	Fig. III:	Internal circuit: ① power pack, ② PTC fuse, ③ control logic, ④ Channel 1, ⑤ Channel 2
		<b>Autostart</b> for guard door monitoring:
	Fig. IV:	Safety category 2
	Fig. V:	Safety category 4
		<b>Monitored start</b> for emergency tripping:
Fig. VI:	Safety category 2	
Fig. VII:	Safety category 4	

## Operation

LEDs			Operation			
POWER	Channel 1	Channel 2	PS	Emergency trip	ON	Release circuits
			ON	not activated	activated	closed
				activated	not activated	open
				not activated	not activated	open
			Faults			
			<ul style="list-style-type: none"> <li>Relay fusion-welded</li> <li>Motor contactor fusion-welded</li> <li>Defect in electronics</li> <li>Short-circuit in ON circuit</li> </ul>			
			Cross or ground faults in emergency tripping circuit (min. fault current $I_{Kmin}$ = 0.5 A; PTC fuse trips)			

## Fault clearance

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

## Technical data

Permissible ambient temperature $T_U$	
Operation/storage	-25 to +60°C/-40 to +80°C
Degree of protection to EN 60 529	IP 20
Rated insulation voltage $U_i$	300 V
Rated impulse withstand voltage $U_{imp}$	4 kV
Rated control supply voltage $U_s$	24 V DC, 24 V AC, 115 V AC, 230 V AC
Rated power	3 W
AC/DC operating range	0.85 to 1.1 x $U_s$
Shock resistance (half-sine) as per IEC 60068	8 g/10 ms
Weight	0.460 kg

Utilization category as per DIN VDE 0660 Part 200, IEC 60947-5-1	Rated operational voltage $U_e$ (V)	Rated operational current $I_e$ with all release circuits loaded (A)	
		60 °C	70 °C
AC-15	230	5	4
DC-13	24	2	2
	115	0.2	0.2
	230	0.1	0.1
Continuous current $I_{th}$		5	4

<b>Short-circuit protection for signal circuit and enable circuit</b>	Fuse links	DIAZED
	Duty class	gL(gG) 6 A 6 A
		quick response 10 A

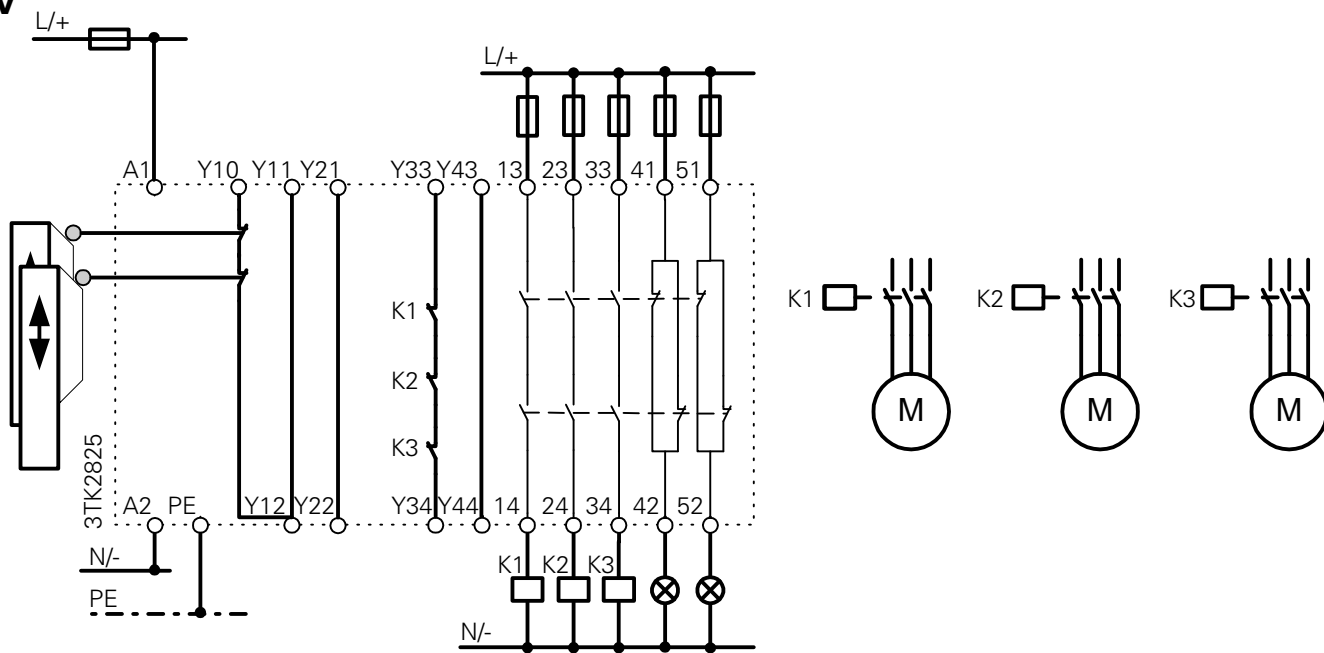
The safety combination is protected by an internal self-healing PTC fuse (multifuse).



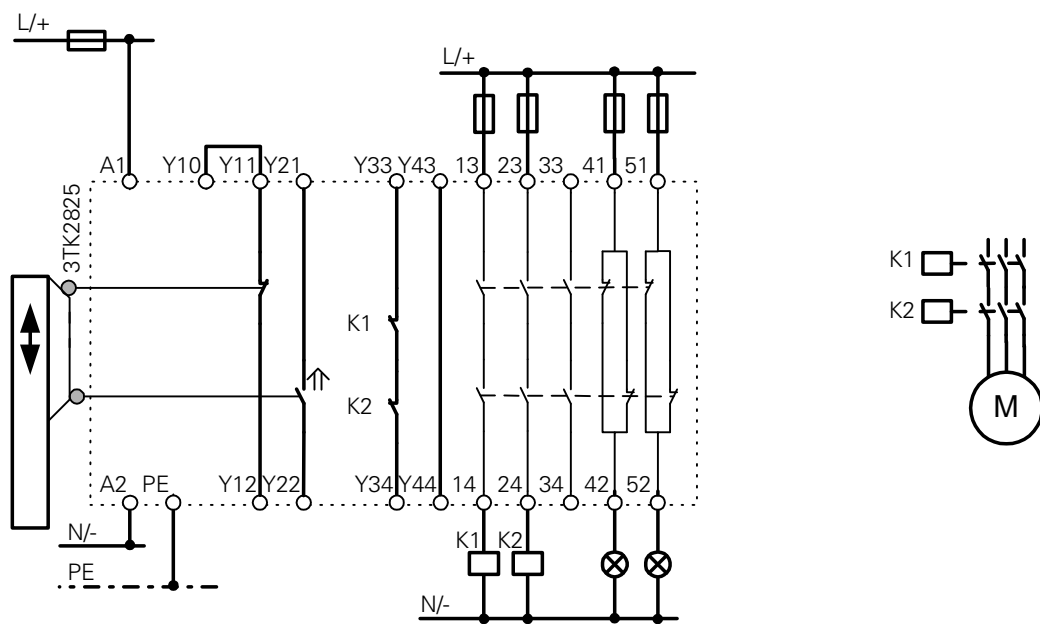
**Be sure to fit the specified fuses. Otherwise safe interruption in the event of a fault cannot be guaranteed.**

For further data and accessories see Catalog NS K.

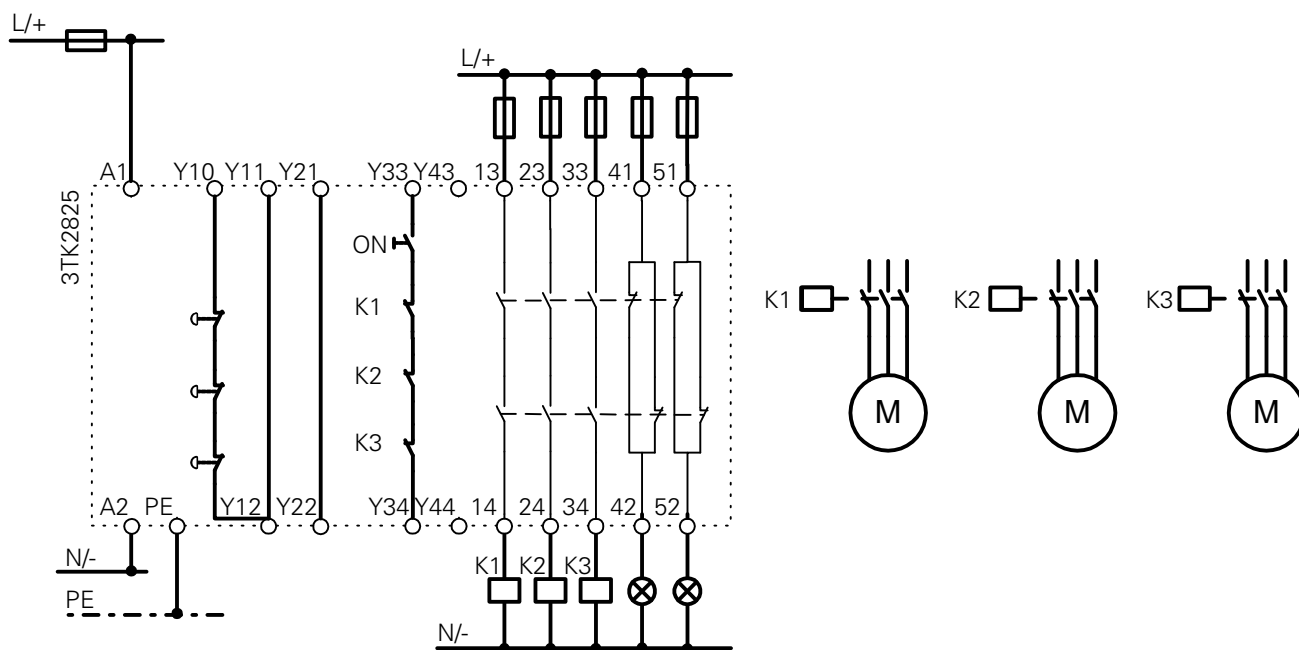
IV



V



## VI



## VII

