

3TK28 Safety Relays

With electronic enabling circuits

Technical specifications

Type		3TK28 40	3TK28 41	3TK28 42
Standards		EN 60204-1 (VDE 0113 Part 1), EN ISO 12100, EN 954-1, IEC 61508, DIN VDE 0116 ¹⁾		
Category according to EN 954-1		3	4	4
SIL according to IEC 61508		2	3	3
Test certificates		TÜV, UL, CSA		
Rated insulation voltage U_i				
• For control circuit	V	50	50	50
• For outputs	V	50	50	50
Rated impulse withstand voltage U_{imp}				
• For control circuit	V	500	500	500
• For outputs	V	500	500	500
Operating range		0.9 ... 1.15 × U_s		
DC operation				
Rated operational currents I_e according to IEC 60947-5-1				
• $I_e/AC-15$	At 115 V A	--	--	--
	At 230 V A	--	--	--
• $I_e/DC-13$	At 24 V A	0.5	1.5	1.5
Short-circuit protection		Short-circuit resistant		
Electrical endurance		Unlimited, because switched electronically		
Switching frequency z In operating cycles/h during normal duty	1/h	3000		
Response time				
• Monitored start	ms	125	60	60
• Autostart	ms	250	60	60
Release time				
• For EMERGENCY-STOP	ms	30	45	45 ^{2)/} adjustable 0.05 ... 300 s
• For mains failure	ms	25	100 ⁴⁾	100 ³⁾
Recovery time				
• For EMERGENCY-STOP	ms	20	400	400
• For mains failure	s	0.02	Max. 7	Max. 7
Bridging of mains failures	ms	25 ⁴⁾	25 ³⁾⁴⁾	25 ³⁾⁴⁾
Minimum command duration				
• EMERGENCY-STOP	ms	20	25	30
• ON button	s	0.02	0.2 ... 5	0.2 ... 5
Simultaneity	ms	∞		
Conductor cross-sections				
• Screw terminals				
- Finely stranded with end sleeve	mm ²	2 × (0.5 ... 1.5), 1 × (0.5 ... 2.5)		
- Solid	mm ²	2 × (0.5 ... 2.5), 1 × (0.5 ... 4)		
- Tightening torque	Nm	0.8 ... 1.2		
• Spring-loaded terminals		(1 or 2 conductors can be connected)		
- Solid	mm ²	2 × (0.25 ... 1.5)		
- Finely stranded with end sleeve	mm ²	2 × (0.25 ... 1.5)		
- Finely stranded without end sleeve	mm ²	2 × (0.25 ... 1.5)		
- AWG conductors, solid or stranded	mm ²	2 × AWG 24 ... 16		
Permissible ambient temperature				
• During operation	°C	-25 ... +60		
• During storage	°C	-40 ... +80		
Degree of protection according to EN 60529				
• Enclosures		IP40		
• Terminals		IP20		
Touch protection according to DIN VDE 0106 Part 100		Finger-safe		
Shock resistance				
Sinewave	g/ms	8/10 and 15/5		
Permissible mounting position		Any		
PFH values		--	5.358 × 10 ⁻¹¹	5.358 × 10 ⁻¹¹

1) Electrical equipment for furnaces.
VDE certificate for 3TK28 41 and 3TK28 42 is available.

2) For instantaneous output.

3) When the cascading input is supplied from A1, the maximum response time is applicable to an external EMERGENCY-STOP.

4) The drivers are not supplied, internal supply bridging only. SELV/PELV power supply unit buffered.