

3TK28 Safety Relays

General data

Overview



SIRIUS safety relays are the key elements of a consistent and cost-effective safety chain. Be it EMERGENCY-STOP disconnection, protective door monitoring or the protection of presses or punches – with SIRIUS safety relays every safety application can be implemented to optimum effect in terms of engineering and price.

SIRIUS safety relays provide numerous safety-related functions:

- Monitoring the safety functions of sensors
- Monitoring the sensor leads
- Monitoring the correct operation of the safety relay
- Monitoring the actuators (contactors) in the shutdown circuit
- Safety-oriented disconnection when dangers arise

SIRIUS safety relays meet the highest requirements (Category 4) according to EN 954-1 and achieve the highest safety integrity level (SIL 3) according to IEC 61508.

Benefits

General

- Can be used for all safety applications thanks to compliance with the highest safety requirements (Category 4 according to EN 954-1 or SIL 3 according to IEC 61508)
- Suitable for use all over the world through compliance with all globally established certifications
- Compact, service-proven SIRIUS design creates more space in the control cabinet
- Flexible connectability and expendability make subsequent changes easy
- Removable terminals for greater plant availability
- Yellow front plate clearly identifies the device as an item of safety technology
- Sensor cable up to 2000 m long enables use in large-scale plants

Relay outputs

- Different voltages can be switched through the floating contacts
- Higher currents can be switched with relay contacts

Solid-state outputs

- Wear-free
- Suitable for operation in fast switching applications
- Insensitive to vibrations and dirt
- Good electrical endurance

Microprocessor systems

- Flexible use thanks to many different integrated functions
- Easy parameterization using DIP switches on the front
- High functional reliability based on extensive monitoring functions
- Operated by the machine control
- Also connection of non-contact sensors (light arrays, light barriers etc.)

Application

SIRIUS safety relays are used mainly in autonomous safety applications which are not connected to a safety-oriented bus system. Their function here is to evaluate the sensors and the safety-oriented shutdown of hazards. Also they check and monitor the sensors, actuators and safety-oriented functions of the safety relay.

Selection and ordering data

Type	3TK28 40	3TK28 41	3TK28 42	3TK28 45							
	Basic units	Basic units	Basic units	Multi-function units "automatic and monitored start"	Multi-function units "automatic and monitored start"	Multi-function units "monitored start"	Multi-function units "monitored start"	Multi-function units OK button	Multi-function units OK button	Multi-function units "spring-type interlocking"	Multi-function units "solenoid interlocking"
			t_V		t_V		t_V		t_V	t_V	t_V
Sensors											
• Input	1	1	1	2	2	2	2	2	2	2	2
• Solid-state	--	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
• With contacts	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Safety mats	--	✓	✓	✓	✓	✓	✓	--	--	--	--
Start											
• Auto	✓	✓	✓	1	1	--	--	1	1	--	--
• Monitored	✓	✓	✓	1	1	2	2	1	1	2	2
Cascading input											
24 V DC	--	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Key-operated switches	--	--	--	✓	✓	✓	✓	✓	✓	✓	✓
Enabling circuit, floating											
• Stop category 0	--	--	--	2 NO	1 NO	2 NO	1 NO	2 NO	1 NO	1 NO	1 NO
• Stop category 1	--	--	--	--	1 NO	--	1 NO	--	1 NO	1 NO	1 NO
Enabling circuit, solid-state											
• Stop category 0	2 ¹⁾	2	1	2	1	2	1	2	1	1	1
• Stop category 1	--	--	1	--	1	--	1	--	1	1	1
Signaling outputs											
• Floating	--	--	--	--	--	--	--	--	--	--	--
• Solid-state	--	--	--	1	1	1	1	1	1	1	1
Category acc. to EN 954-1 max	3	4	4	4	4	4	4	4	4	4	4
SIL level max. acc. to IEC 61508	2	3	3	3	3	3	3	3	3	3	3
Performance level PL acc. to ISO 13849-1	--	--	--	e	e	e	e	e	e	e	e
Rated control supply voltage											
24 V DC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

✓ = Available

-- = Not available

¹⁾ The outputs are only safe when an external contactor is used.

3TK28 Safety Relays

With electronic enabling circuits

	Rated control supply voltage U_s	OFF-delay t_v	DT	Screw terminals 	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	V	s		Order No.	Price per PU			kg
Rated control supply voltage U_s 24 V DC								
	3TK28 40 basic units							
	24 DC	--	A	3TK28 40-1BB40		1	1 unit	102 0.180
	3TK28 41 basic units							
	24 DC	--	A	3TK28 41-1BB40		1	1 unit	102 0.166
	3TK28 42 basic units t_v							
	24 DC	0.05 ... 3	A	3TK28 42-1BB41		1	1 unit	102 0.168
		0.5 ... 30	A	3TK28 42-1BB42		1	1 unit	102 0.166
		5 ... 300	A	3TK28 42-1BB44		1	1 unit	102 0.166
	3TK28 45 multi-function units "automatic and monitored start"							
	24 DC	--	A	3TK28 45-1HB40		1	1 unit	102 0.350
	3TK28 45 multi-function units t_v "automatic and monitored start"							
	24 DC	0.05 ... 3	A	3TK28 45-1HB41		1	1 unit	102 0.350
		0.5 ... 30	A	3TK28 45-1HB42		1	1 unit	102 0.350
		5 ... 300	A	3TK28 45-1HB44		1	1 unit	102 0.350
	3TK28 45 multi-function units "monitored start"							
	24 DC	--	A	3TK28 45-1DB40		1	1 unit	102 0.350
	3TK28 45 multi-function units t_v "monitored start"							
	24 DC	0.05 ... 3	A	3TK28 45-1DB41		1	1 unit	102 0.350
		0.5 ... 30	A	3TK28 45-1DB42		1	1 unit	102 0.350
		5 ... 300	A	3TK28 45-1DB44		1	1 unit	102 0.350
	3TK28 45 multi-function units "OK button"							
	24 DC	--	A	3TK28 45-1EB40		1	1 unit	102 0.350
	3TK28 45 multi-function units t_v "OK button"							
	24 DC	0.05 ... 3	A	3TK28 45-1EB41		1	1 unit	102 0.350
		0.5 ... 30	A	3TK28 45-1EB42		1	1 unit	102 0.350
		5 ... 300	A	3TK28 45-1EB44		1	1 unit	102 0.350
	3TK28 45 multi-function units t_v "spring-type interlocking"							
	24 DC	0.05 ... 3	A	3TK28 45-1FB41		1	1 unit	102 0.350
		0.5 ... 30	A	3TK28 45-1FB42		1	1 unit	102 0.350
		5 ... 300	A	3TK28 45-1FB44		1	1 unit	102 0.350
	3TK28 45 multi-function units t_v "solenoid interlocking"							
	24 DC	0.05 ... 3	A	3TK28 45-1GB41		1	1 unit	102 0.350
		0.5 ... 30	A	3TK28 45-1GB42		1	1 unit	102 0.350
		5 ... 300	A	3TK28 45-1GB44		1	1 unit	102 0.350

* You can order this quantity or a multiple thereof.

3TK28 Safety Relays

With electronic enabling circuits

Rated control supply voltage U_s	OFF-delay t_v	DT	Spring-type terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
V	s		Order No.	Price per PU			kg

Rated control supply voltage U_s 24 V DC

	3TK28 40 basic units						
	24 DC	--	B	3TK28 40-2BB40	1	1 unit	102 0.150
	3TK28 41 basic units						
	24 DC	--	A	3TK28 41-2BB40	1	1 unit	102 0.143
	3TK28 42 basic units t_v						
	24 DC	0.05 ... 3	B	3TK28 42-2BB41	1	1 unit	102 0.143
		0.5 ... 30	A	3TK28 42-2BB42	1	1 unit	102 0.146
		5 ... 300	B	3TK28 42-2BB44	1	1 unit	102 0.149
	3TK28 45 multi-function units "automatic and monitored start"						
	24 DC	--	B	3TK28 45-2HB40	1	1 unit	102 0.350
	3TK28 45 multi-function units t_v "automatic and monitored start"						
	24 DC	0.05 ... 3	B	3TK28 45-2HB41	1	1 unit	102 0.350
		0.5 ... 30	B	3TK28 45-2HB42	1	1 unit	102 0.350
		5 ... 300	B	3TK28 45-2HB44	1	1 unit	102 0.350
	3TK28 45 multi-function units "monitored start"						
	24 DC	--	B	3TK28 45-2DB40	1	1 unit	102 0.350
	3TK28 45 multi-function units t_v "monitored start"						
	24 DC	0.05 ... 3	B	3TK28 45-2DB41	1	1 unit	102 0.350
		0.5 ... 30	B	3TK28 45-2DB42	1	1 unit	102 0.350
		5 ... 300	B	3TK28 45-2DB44	1	1 unit	102 0.350
	3TK28 45 multi-function units "OK button"						
	24 DC	--	B	3TK28 45-2EB40	1	1 unit	102 0.350
	3TK28 45 multi-function units t_v "OK button"						
	24 DC	0.05 ... 3	B	3TK28 45-2EB41	1	1 unit	102 0.350
		0.5 ... 30	B	3TK28 45-2EB42	1	1 unit	102 0.350
		5 ... 300	B	3TK28 45-2EB44	1	1 unit	102 0.350
	3TK28 45 multi-function units t_v "spring-type interlocking"						
	24 DC	0.05 ... 3	B	3TK28 45-2FB41	1	1 unit	102 0.350
		0.5 ... 30	B	3TK28 45-2FB42	1	1 unit	102 0.350
		5 ... 300	B	3TK28 45-2FB44	1	1 unit	102 0.350
	3TK28 45 multi-function units t_v "solenoid interlocking"						
	24 DC	0.05 ... 3	B	3TK28 45-2GB41	1	1 unit	102 0.350
		0.5 ... 30	B	3TK28 45-2GB42	1	1 unit	102 0.350
		5 ... 300	B	3TK28 45-2GB44	1	1 unit	102 0.350

* You can order this quantity or a multiple thereof.

3TK28 Safety Relays

With electronic enabling circuits

Accessories

Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
Push-in lugs and covers							
 3RP19 03	▶	3RP19 03		1	10 units	101	0.002
Push-in lugs For screw fixing, 2 units are required for each device							
 3RP19 02	▶	3RP19 02		1	5 units	101	0.004
Sealable covers For securing against unauthorized adjustment of setting knobs							
Screwdrivers							
 8WA2 803							
Screwdrivers With screwdriver blades 3.5 mm x 0.5 mm Long, green Long, green, partially insulated							
	C	8WA2 803		1	1 unit	041	0.024
	C	8WA2 880		1	1 unit	041	0.034

3TK28 Safety Relays

With relay enabling circuits

Selection and ordering data

Type	3TK28 21 Basic units	3TK28 22 Basic units	3TK28 23 Basic units	3TK28 24 Basic units	3TK28 25 Basic units	3TK28 26 Basic units 24 V DC	Basic units Wide voltage range
Sensors							
• Input	1	1	1	1	1	1	1
• Solid-state	--	--	--	--	--	✓	✓
• With contacts	✓	✓ ¹⁾	✓	✓	✓	✓	✓
Safety mats	--	--	--	--	--	✓	✓
Start							
• Auto	✓	✓	--	✓	✓	✓	✓
• Monitored	--	--	✓	--	✓	✓	✓
Cascading input 24 V DC	--	--	--	--	--	✓	✓
Key-operated switches	--	--	--	--	--	--	--
Enabling circuit, floating							
• Stop category 0	3 NO	2 NO	2 NO	2 NO	3 NO	4 NO	4 NO
• Stop category 1	--	--	--	--	--	--	--
Enabling circuit, solid-state							
• Stop category 0	--	--	--	--	--	--	--
• Stop category 1	--	--	--	--	--	--	--
Signaling outputs							
• Floating	1 NC	--	--	--	2 NC	1 NC	1 NO + 1 NC
• Solid-state	--	--	--	--	--	2	--
Category acc. to EN 954-1 max	3 ²⁾	4	4	3 ²⁾	4	4	4
SIL level max. acc. to IEC 61508	2	--	--	2	3	3	3
Performance level PL acc. to ISO 13849-1	--	--	--	--	--	e	e
Rated control supply voltage							
• 24 V DC	--	--	--	✓	✓	✓	--
• 24 V AC/DC	✓	✓	✓	✓	--	--	--
• 24 V AC	--	--	--	--	✓	--	--
• 115 V AC	--	--	--	✓	✓	--	--
• 230 V AC	--	--	--	✓	✓	--	--
• 24 ... 240 V AC/DC	--	--	--	--	--	--	✓

✓ = Available

-- = Not available

¹⁾ The ON button is not monitored.

²⁾ Depending on the hazard assessment, additional measures may be necessary in the sensor circuit (e. g. protected laying).

3TK28 Safety Relays

With relay enabling circuits

Type	3TK28 26 Basic units 24 V DC t_V	Basic units Wide voltage range t_V	3TK28 27 Basic units t_V	3TK28 28 Basic units t_V	3TK28 30 Expansion units ²⁾	3TK28 34 Two-hand control devices	3TK28 35 Slowing down test devices
Sensors							
• Input	1	1	1	1	--	1	--
• Solid-state	✓	✓	--	--	--	--	--
• With contacts	✓	✓	✓	✓	--	✓	--
Safety mats	✓	✓	--	--	--	--	--
Start							
• Auto	✓	✓	--	✓	--	--	--
• Monitored	✓	✓	✓	--	--	--	--
Cascading input 24 V DC	✓	✓	--	--	--	--	--
Key-operated switches	--	--	--	--	--	--	--
Enabling circuit, floating							
• Stop category 0	2 NO	2 NO	2 NO	2 NO	4 NO	2 NO+2 NC	3 NO+2 NC
• Stop category 1	2 NO	2 NO	2 NO	2 NO	--	--	--
Enabling circuit, solid-state							
• Stop category 0	--	--	--	--	--	--	--
• Stop category 1	--	--	--	--	--	--	--
Signaling outputs							
• Floating	2 NC	1 NO + 2 NC	1 NC	1 NC	--	2	--
• Solid-state	2	--	--	--	--	--	--
Category acc. to EN 954-1 max	4	4	4 ¹⁾	4 ¹⁾	As basic unit	4	4
SIL level max. acc. to IEC 61508	3	3	3 ³⁾	3 ³⁾	As basic unit	--	3
Performance level PL acc. to ISO 13849-1	e	e	--	--	--	--	--
Rated control supply voltage							
• 24 V DC	✓	--	✓	✓	--	✓	✓
• 24 V AC/DC	--	--	--	--	✓	--	--
• 24 V AC	--	--	✓	✓	--	✓	✓
• 115 V AC	--	--	✓	✓	✓	✓	✓
• 230 V AC	--	--	✓	✓	✓	✓	✓
• 24 ... 240 V AC/DC	--	✓	--	--	--	--	--

✓ = Available

-- = Not available

¹⁾ Only possible for instantaneous enabling contacts, otherwise Category 3.²⁾ For expansion of Siemens safety products.³⁾ Only possible for instantaneous enabling contacts, otherwise Category 2.

With relay enabling circuits

Selection and ordering data

	Rated control supply voltage U_s	OFF-delay t_v	DT	Screw terminals		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	V	s		Order No.	Price per PU				kg
Rated control supply voltages U_s 24 V DC and 50/60 Hz, 24, 115, 230 V AC									
	3TK28 21 basic units								
	24 AC/DC	--	▶	3TK28 21-1CB30		1	1 unit	102	0.276
	3TK28 22 basic units								
	24 AC/DC	--	▶	3TK28 22-1CB30		1	1 unit	102	0.271
	3TK28 23 basic units								
	24 AC/DC	--	▶	3TK28 23-1CB30		1	1 unit	102	0.271
	3TK28 24 basic units								
	24 AC/DC	--	▶	3TK28 24-1CB30		1	1 unit	102	0.254
	24 DC	--	▶	3TK28 24-1BB40		1	1 unit	102	0.249
	115 AC	--	A	3TK28 24-1AJ20		1	1 unit	102	0.294
	230 AC	--	▶	3TK28 24-1AL20		1	1 unit	102	0.288
	3TK28 25 basic units								
	24 DC	--	▶	3TK28 25-1BB40		1	1 unit	102	0.423
	24 AC	--	A	3TK28 25-1AB20		1	1 unit	102	0.421
	115 AC	--		3TK28 25-1AJ20		1	1 unit	102	0.519
	230 AC	--	▶	3TK28 25-1AL20		1	1 unit	102	0.516
	3TK28 26 basic units								
	24 DC	--	▶	3TK28 26-1BB40		1	1 unit	102	0.370
	24 ... 240 AC/DC	--	▶	3TK28 26-1CW30		1	1 unit	102	0.400
	3TK28 26 basic units t_v								
	24 DC	0.05 ... 3	A	3TK28 26-1BB41		1	1 unit	102	0.370
	24 ... 240 AC/DC		A	3TK28 26-1CW31		1	1 unit	102	0.400
	24 DC	0.5 ... 30	A	3TK28 26-1BB42		1	1 unit	102	0.370
	24 ... 240 AC/DC		A	3TK28 26-1CW32		1	1 unit	102	0.400
	24 DC	5 ... 300	A	3TK28 26-1BB44		1	1 unit	102	0.370
	24 ... 240 AC/DC		A	3TK28 26-1CW34		1	1 unit	102	0.400
	3TK28 27 basic units t_v								
	24 DC	0.05 ... 3	▶	3TK28 27-1BB41		1	1 unit	102	0.495
	24 AC		B	3TK28 27-1AB21		1	1 unit	102	0.499
	115 AC		B	3TK28 27-1AJ21		1	1 unit	102	0.650
	230 AC		A	3TK28 27-1AL21		1	1 unit	102	0.650
	24 DC	0.5 ... 30	▶	3TK28 27-1BB40		1	1 unit	102	0.497
	24 AC		A	3TK28 27-1AB20		1	1 unit	102	0.496
	115 AC		▶	3TK28 27-1AJ20		1	1 unit	102	0.650
	3TK28 27 basic units t_v								
	24 DC	0.05 ... 3	▶	3TK28 27-1AL20		1	1 unit	102	0.650
	24 AC		B	3TK28 28-1BB41		1	1 unit	102	0.499
	115 AC		B	3TK28 28-1AB21		1	1 unit	102	0.501
	230 AC		B	3TK28 28-1AJ21		1	1 unit	102	0.657
			A	3TK28 28-1AL21		1	1 unit	102	0.650
	24 DC	0.5 ... 30	▶	3TK28 28-1BB40		1	1 unit	102	0.496
	24 AC		B	3TK28 28-1AB20		1	1 unit	102	0.500
	3TK28 28 basic units t_v								
	115 AC		A	3TK28 28-1AJ20		1	1 unit	102	0.650
	230 AC		A	3TK28 28-1AL20		1	1 unit	102	0.650
	3TK28 30 expansion units								
	24 AC/DC	--	▶	3TK28 30-1CB30		1	1 unit	102	0.267
	115 AC		A	3TK28 30-1AJ20		1	1 unit	102	0.306
	230 AC		A	3TK28 30-1AL20		1	1 unit	102	0.306
	3TK28 34 two-hand control devices								
	24 DC	--	▶	3TK28 34-1BB40		1	1 unit	102	0.432
	24 AC		A	3TK28 34-1AB20		1	1 unit	102	0.424
	115 AC		A	3TK28 34-1AJ20		1	1 unit	102	0.519
	230 AC		A	3TK28 34-1AL20		1	1 unit	102	0.519
	3TK28 35 slowing down monitoring devices								
	24 DC	--	B	3TK28 35-1BB40		1	1 unit	102	0.495
	115 AC	--	B	3TK28 35-1AJ20		1	1 unit	102	0.572
	230 AC	--	B	3TK28 35-1AL20		1	1 unit	102	0.574

* You can order this quantity or a multiple thereof.

3TK28 Safety Relays

With relay enabling circuits

Rated control supply voltage U_s	OFF-delay t_v	DT	Spring-type terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
			Order No.				
V	s			Price per PU			kg
Rated control supply voltages U_s 24 V DC and 50/60 Hz, 24, 115, 230 V AC							
3TK28 21 basic units							
24 AC/DC	--	▶	3TK28 21-2CB30		1	1 unit	102 0.246
3TK28 22 basic units							
24 AC/DC	--	A	3TK28 22-2CB30		1	1 unit	102 0.250
3TK28 23 basic units							
24 AC/DC	--	A	3TK28 23-2CB30		1	1 unit	102 0.247
3TK28 24 basic units							
24 AC/DC	--	A	3TK28 24-2CB30		1	1 unit	102 0.230
24 DC	--	▶	3TK28 24-2BB40		1	1 unit	102 0.228
115 AC	--	B	3TK28 24-2AJ20		1	1 unit	102 0.265
230 AC	--	B	3TK28 24-2AL20		1	1 unit	102 0.270
3TK28 25 basic units							
24 DC	--	▶	3TK28 25-2BB40		1	1 unit	102 0.374
24 AC	--	B	3TK28 25-2AB20		1	1 unit	102 0.375
115 AC	--	B	3TK28 25-2AJ20		1	1 unit	102 0.472
230 AC	--	B	3TK28 25-2AL20		1	1 unit	102 0.475
3TK28 26 basic units							
24 DC	--	A	3TK28 26-2BB40		1	1 unit	102 0.370
24 ... 240 AC/DC	--	A	3TK28 26-2CW30		1	1 unit	102 0.400
3TK28 26 basic units t_v							
24 DC	0.05 ... 3	A	3TK28 26-2BB41		1	1 unit	102 0.370
24 ... 240 AC/DC		A	3TK28 26-2CW31		1	1 unit	102 0.400
24 DC	0.5 ... 30	A	3TK28 26-2BB42		1	1 unit	102 0.370
24 ... 240 AC/DC		A	3TK28 26-2CW32		1	1 unit	102 0.400
24 DC	5 ... 300	A	3TK28 26-2BB44		1	1 unit	102 0.370
24 ... 240 AC/DC		A	3TK28 26-2CW34		1	1 unit	102 0.400
3TK28 27 basic units t_v							
24 DC	0.05 ... 3	A	3TK28 27-2BB41		1	1 unit	102 0.454
24 AC		B	3TK28 27-2AB21		1	1 unit	102 0.454
115 AC		B	3TK28 27-2AJ21		1	1 unit	102 0.240
230 AC		B	3TK28 27-2AL21		1	1 unit	102 0.605
24 DC	0.5 ... 30	A	3TK28 27-2BB40		1	1 unit	102 0.455
24 AC		B	3TK28 27-2AB20		1	1 unit	102 0.454
115 AC		B	3TK28 27-2AJ20		1	1 unit	102 0.606
230 AC		B	3TK28 27-2AL20		1	1 unit	102 0.604
3TK28 28 basic units t_v							
24 DC	0.05 ... 3	A	3TK28 28-2BB41		1	1 unit	102 0.450
24 AC		C	3TK28 28-2AB21		1	1 unit	102 0.454
115 AC		B	3TK28 28-2AJ21		1	1 unit	102 0.240
230 AC		B	3TK28 28-2AL21		1	1 unit	102 0.608
24 DC	0.5 ... 30	▶	3TK28 28-2BB40		1	1 unit	102 0.457
24 AC		B	3TK28 28-2AB20		1	1 unit	102 0.468
115 AC		B	3TK28 28-2AJ20		1	1 unit	102 0.609
230 AC		B	3TK28 28-2AL20		1	1 unit	102 0.612
3TK28 30 expansion units							
24 AC/DC	--	▶	3TK28 30-2CB30		1	1 unit	102 0.244
115 AC		B	3TK28 30-2AJ20		1	1 unit	102 0.276
230 AC		B	3TK28 30-2AL20		1	1 unit	102 0.276
3TK28 34 two-hand control devices							
24 DC	--	A	3TK28 34-2BB40		1	1 unit	102 0.383
24 AC		B	3TK28 34-2AB20		1	1 unit	102 0.376
115 AC		B	3TK28 34-2AJ20		1	1 unit	102 0.472
230 AC		B	3TK28 34-2AL20		1	1 unit	102 0.472
3TK28 35 slowing down monitoring devices							
115 AC	--	B	3TK28 35-2AJ20		1	1 unit	102 0.551
230 AC	--	B	3TK28 35-2AL20		1	1 unit	102 0.552



3TK28 26-2BB40

Accessories

Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
Push-in lugs and covers							
 3RP19 03	▶	3RP19 03		1	10 units	101	0,002
Sealable covers							
 3RP19 02							
Push-in lugs For screw fixing, 2 units are required for each device							
Sealable covers For securing against unauthorized adjustment of setting knobs							
• For 3TK28 21 to 3TK28 25, 3TK28 27, 3TK28 28, 3TK28 3.							
	▶	3RP19 02		1	5 units	101	0,004
	B	3TK28 26-0DA00-0HA0		1	5 units	102	0,004
Screwdrivers							
 8WA2 803							
Screwdrivers With screwdriver blades 3.5 mm x 0.5 mm							
Long, green							
	C	8WA2 803		1	1 unit	041	0,024
Long, green, partially insulated							
	C	8WA2 880		1	1 unit	041	0,034

* You can order this quantity or a multiple thereof.

3TK28 Safety Relays

With contactor relay enabling circuits

Selection and ordering data

Type	3TK28 50 Basic units	3TK28 51 Basic units	3TK28 52 Basic units	3TK28 53 Basic units	3TK28 56 Expansion units ¹⁾	3TK28 57 Expansion units ¹⁾ <i>t_v</i>
Sensors						
• Input	1	1	1	1	--	--
• Solid-state	--	--	--	✓	--	--
• With contacts	✓	✓	✓	✓	--	--
Safety mats	✓	✓	✓	✓	--	--
Start						
• Auto	✓	✓	✓	✓	--	--
• Monitored	✓	✓	✓	✓	--	--
Cascading input 24 V DC	--	--	--	✓	✓	✓
Key-operated switches	--	--	--	--	--	--
Enabling circuit, floating						
• Stop category 0	3 NO	2 NO	6 NO	3 NO	6 NO	--
• Stop category 1	--	--	--	--	--	3 NO
Enabling circuit, solid-state						
• Stop category 0	--	--	--	1	1	1
• Stop category 1	--	--	--	--	--	--
Signaling outputs						
• Floating	--	1 NC	1 NC	--	1 NC	--
• Solid-state	--	--	--	--	--	--
Category acc. to EN 954-1 max	3	3	3	4	Corresponds to basic unit	Corresponds to basic unit
SIL level max. acc. to IEC 61508	2	2	2	--	--	--
Performance level PL acc. to ISO 3849-1	--	--	--	--	--	--
Rated control supply voltage						
• 24 V DC	✓	✓	✓	✓	✓	✓
• 24 V AC/DC	--	--	--	--	--	--
• 24 V AC	✓	✓	--	--	--	--
• 115 V AC	✓	✓	--	--	--	--
• 230 V AC	✓	✓	✓	--	--	--
• 24 ... 240 V AC/DC	--	--	--	--	--	--
Rated operational voltage						
• 24 V DC	✓	✓	✓	✓	✓	✓
• 230 V AC	✓	✓	✓	✓	✓	✓
• 600 V AC	✓	✓	✓	✓	✓	✓
Switching capacity						
• AC-15 at <i>U</i> = 230 V	✓	✓	✓	✓	✓	✓
• DC-13 at <i>U</i> = 24 V	✓	✓	✓	✓	✓	✓

✓ = Available

-- = Not available

¹⁾ For expansion of Siemens safety products.

3TK28 Safety Relays

With contactor relay enabling circuits

Rated control supply voltage U_s	OFF-delay t_v	DT	Screw terminals		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
V	s		Order No.	Price per PU				kg

Rated control supply voltages U_s 24 V DC and 50/60 Hz, 115, 230 V AC

3TK28 50 basic units								
24 DC	--	A	3TK28 50-1BB40		1	1 unit	102	0.819
115 AC		B	3TK28 50-1AJ20		1	1 unit	102	0.765
230 AC		B	3TK28 50-1AL20		1	1 unit	102	0.770
3TK28 51 basic units								
24 DC	--	B	3TK28 51-1BB40		1	1 unit	102	0.821
115 AC		B	3TK28 51-1AJ20		1	1 unit	102	0.770
230 AC		B	3TK28 51-1AL20		1	1 unit	102	0.767
3TK28 52 basic units								
24 DC	--	A	3TK28 52-1BB40		1	1 unit	102	0.919
230 AC		B	3TK28 52-1AL20		1	1 unit	102	0.870
3TK28 53 basic units								
24 DC	--	A	3TK28 53-1BB40		1	1 unit	102	0.714
3TK28 56 expansion units								
24 DC	--	B	3TK28 56-1BB40		1	1 unit	102	0.785
3TK28 57 expansion units t_v								
24 DC	0.05 ... 3	A	3TK28 57-1BB41		1	1 unit	102	0.682
24 DC	0.5 ... 30	B	3TK28 57-1BB42		1	1 unit	102	0.679
24 DC	5 ... 300	B	3TK28 57-1BB44		1	1 unit	102	0.684

Rated control supply voltage U_s	OFF-delay t_v	DT	Spring-type terminals		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
V	s		Order No.	Price per PU				kg

Rated control supply voltages U_s 24 V DC and 50/60 Hz, 115, 230 V AC

	3TK28 50 basic units								
	24 DC	--	B	3TK28 50-2BB40	1	1 unit	102	0.820	
	115 AC		B	3TK28 50-2AJ20	1	1 unit	102	0.650	
	230 AC		B	3TK28 50-2AL20	1	1 unit	102	0.761	
	3TK28 51 basic units								
	24 DC	--	B	3TK28 51-2BB40	1	1 unit	102	0.650	
	115 AC		B	3TK28 51-2AJ20	1	1 unit	102	0.650	
	230 AC		B	3TK28 51-2AL20	1	1 unit	102	0.768	
	3TK28 52 basic units								
	24 DC	--	B	3TK28 52-2BB40	1	1 unit	102	0.935	
	230 AC		B	3TK28 52-2AL20	1	1 unit	102	0.878	
	3TK28 53 basic units								
	24 DC	--	B	3TK28 53-2BB40	1	1 unit	102	0.705	
	3TK28 56 expansion units								
	24 DC	--	B	3TK28 56-2BB40	1	1 unit	102	0.750	
	3TK28 57 expansion units t_v								
	24 DC	0.05 ... 3	B	3TK28 57-2BB41	1	1 unit	102	0.650	
		0.5 ... 30	B	3TK28 57-2BB42	1	1 unit	102	0.677	
		5 ... 300	B	3TK28 57-2BB44	1	1 unit	102	0.684	

Accessories

Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
							kg

Screwdrivers

		Screwdrivers With screwdriver blades 3.5 mm x 0.5 mm
	Long, green	
	Long, green, partially insulated	
8WA2 803		

8WA2 803

* You can order this quantity or a multiple thereof.

3TK28 Safety Relays

With special functions

Selection and ordering data

Type	3TK28 10	
	Standstill monitors	
Sensors		
• Inputs	3	
• Solid-state	--	
• With contacts	--	
• Without sensors (measuring inputs)	3	
Safety mats	--	
Start		
• Auto	✓	
• Monitored	--	
Cascading input		
24 V DC	--	
Key-operated switches	--	
Enabling circuit, floating		
• Stop category 0	3 NO + 1 NC	
• Stop category 1	--	
Enabling circuit, solid-state		
• Stop category 0	--	
• Stop category 1	--	
Signaling outputs		
• Floating	1 CO	
• Solid-state	2	
Category		
acc. to EN 954-1 max	4	
SIL level max.		
acc. to IEC 61508	3	
Performance level PL		
acc. to ISO 13849-1	e	
Rated control supply voltage		
• 24 V DC	✓	
• 230 V AC	✓	
• 400 V AC	✓	

✓ = Available

-- = Not available

3TK28 Safety Relays

With special functions

Rated control supply voltage U_s	OFF-delay t_v	DT	Screw terminals		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
V	s		Order No.	Price per PU				kg

Rated control supply voltages U_s 24 V DC and 50/60 Hz, 230, 400 V AC



3TK28 10-0BA01

3TK28 10 standstill monitors								
24 DC	0.2 ... 6	A	3TK28 10-0BA01		1	1 unit	102	0.500
230 AC		A	3TK28 10-0GA01		1	1 unit	102	0.500
400 AC		A	3TK28 10-0JA01		1	1 unit	102	0.500

Rated control supply voltage U_s	OFF-delay t_v	DT	Spring-type terminals		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
V	s		Order No.	Price per PU				kg

Rated control supply voltages U_s 24 V DC and 50/60 Hz, 230, 400 V AC



3TK28 10-0GA02

3TK28 10 standstill monitors								
24 DC	0.2 ... 6	A	3TK28 10-0BA02		1	1 unit	102	0.500
230 AC		A	3TK28 10-0GA02		1	1 unit	102	0.500
400 AC		A	3TK28 10-0JA02		1	1 unit	102	0.500

Accessories

Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
							kg

Push-in lugs



3RP19 03

Push-in lugs								
For screw fixing, 2 units are required for each device			3RP19 03		1	10 units	101	0.002

Screwdrivers



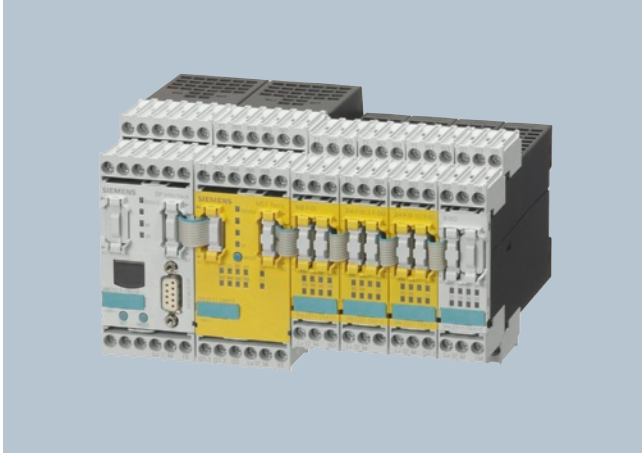
8WA2 803

Screwdrivers								
With screwdriver blades 3.5 mm x 0.5 mm								
Long, green			C	8WA2 803	1	1 unit	041	0.024
Long, green, partially insulated			C	8WA2 880	1	1 unit	041	0.034

3RK3 Modular Safety System

General data

Overview



The 3RK3 modular safety system (MSS) is a freely parameterizable modular safety relay. Depending on the type of external connection, safety-orientated applications up to Category 4 according to EN 954-1, Performance Level e according to ISO 13849-1 and SIL3 according to IEC 62061 can be realized.

The modular safety relay permits several safety applications to be interconnected. The safety functions are easily created on the PC using a graphic parameterizing tool. For example, disconnection ranges can be set and other dependencies defined.

With additional safety-oriented expansion modules the system is flexibly adapted to the required safety applications.

The MSS comprises the following system components:

- Central module
- Expansion modules
- Interface module
- Parameterization software
- Accessories

The comprehensive error and status diagnostics provides the possibility of finding errors in the system and localizing signals from sensors. Plant downtimes can be reduced as the result.

Optional interface modules send the diagnostics data to higher-level bus systems (e. g. PROFIBUS DP). These data are then available for further processing in the automation system.

Benefits

- More functionality and flexibility through freely configurable safety logic
- For all safety applications thanks to compliance with the highest safety requirements (Category 4 according to EN 954-1, Performance Level e according to ISO 13849-1 or SIL3 according to IEC 62061)
- Suitable for use all over the world through compliance with all globally established certifications
- Modular hardware configuration
- Parameterization by means of software instead of wiring
- Removable terminals for greater plant availability

Communication

The 3RK3 modular safety system can be connected to PROFIBUS through the DP interface and exchange data with higher-level control systems.

The MSS supports among other things:

- Baud rates up to 12 Mbit/s
- Automatic baud rate detection
- Cyclic services (DPV0) and acyclic services (DPV1)
- Exchange of 32-bit cyclic data
- Diagnostics using data record invocations

Communication:

- [For MSS with communication function see from page 7/85.](#)
- [For accessories, see page 7/87.](#)
- [For more information see Chapter 12 "Planning and Configuration with SIRIUS"](#)

Application

The 3RK3 modular safety system can be used for all safety-oriented requirements in the manufacturing industry and offers the following safety functions:

- EMERGENCY-STOP
- Protective door monitoring
- Non-contact protective devices (BWS)
- Switching mats
- Two-hand operator controls
- Approval switches
- Operating mode selector switches
- Cycle control

Selection and ordering data

Version		DT	Screw terminals 	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
			Order No.	Price per PU			kg
Central modules							
	3RK3 Basic Central module with safety-orientated inputs and outputs • 8 inputs • 1 two-channel relay output • 1 two-channel solid-state output Max. 7 expansion modules can be connected, including 3RK3 931-0AA00 memory module	A	3RK3 111-1AA10		1	1 unit	131 0.300
Expansion modules							
	4/8 F-DI Safety-orientated expansion module • 8 inputs	A	3RK3 211-1AA10		1	1 unit	131 0.150
	2/4 F-DI 1/2 F-RO Safety-orientated mixed expansion module • 4 inputs • 2 single-channel relay outputs	A	3RK3 221-1AA10		1	1 unit	131 0.150
	2/4 F-DI 2F-DO Safety-orientated mixed expansion module • 4 inputs • 2 two-channel solid-state outputs	A	3RK3 231-1AA10		1	1 unit	131 0.150
	8 DO Standard output module • 8 solid-state outputs	A	3RK3 311-1AA10		1	1 unit	131 0.150
Interface modules							
	DP interface • PROFIBUS DP interface, 12 Mbit/s, RS 485	A	3RK3 511-1BA10		1	1 unit	131 0.300

To connect the central module to expansion modules or interface modules you need the 3UF7 930-0AA00-0 connection cable. See page 7/87.

3RK3 Modular Safety System

Modules

Selection and ordering data

Version	DT	Spring-type terminals 	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		Order No.	Price per PU	kg		
Central modules						
 3RK3 111-2AA10	3RK3 Basic Central module with safety-orientated inputs and outputs • 8 inputs • 1 two-channel relay output • 1 two-channel solid-state output Max. 7 expansion modules can be connected, including 3RK3 931-0AA00 memory module	A	3RK3 111-2AA10	1	1 unit	131 0.300
Expansion modules						
 3RK3 211-2AA10	4/8 F-DI Safety-orientated expansion module • 8 inputs	A	3RK3 211-2AA10	1	1 unit	131 0.150
 3RK3 221-2AA10	2/4 F-DI 1/2 F-RO Safety-orientated mixed expansion module • 4 inputs • 2 single-channel relay outputs	A	3RK3 221-2AA10	1	1 unit	131 0.150
 3RK3 231-2AA10	2/4 F-DI 2F-DO Safety-orientated mixed expansion module • 4 inputs • 2 two-channel solid-state outputs	A	3RK3 231-2AA10	1	1 unit	131 0.150
 3RK3 311-2AA10	8 DO Standard output module • 8 solid-state outputs	A	3RK3 311-2AA10	1	1 unit	131 0.150
Interface modules						
 3RK3 511-2BA10	DP interface • PROFIBUS DP interface, 12 Mbit/s, RS 485	A	3RK3 511-2BA10	1	1 unit	131 0.300

To connect the central module to expansion modules or interface modules you need the 3UF7 930-0AA00-0 connection cable. See page 7/87.

* You can order this quantity or a multiple thereof.

3RK3 Modular Safety System

Accessories

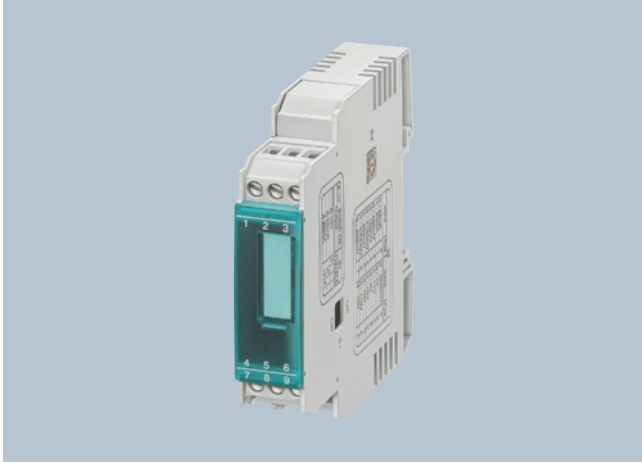
Selection and ordering data

Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
Connection cables (essential accessory)							
 Connection cables For connecting the central module, expansion modules and the interface module Length 0.025 m (flat) 3UF7 932-0AA00-0	A	3UF7 930-0AA00-0		1	1 unit	131	0.010
PC cables and adapters							
 PC cables for PC/PG communication with 3RK3 modular safety system Through the system interface, for connecting to the serial interface of the PC/PG 3UF7 940-0AA00-0	A	3UF7 940-0AA00-0		1	1 unit	131	0.150
USB/serial adapters To connect an RS 232 PC cable to the USB port of a PC, recommendend for use with SIMOCODE pro 3UF7, modular safety system 3RK3, soft starter 3RW44, ET 200S/ECOFAS/ET 200pro motor starter, AS-i safety monitor, AS-i analyzer	B	3UF7 946-0AA00-0		1	1 unit	131	0.150
Interface covers							
 For system interface 3UF7 950-0AA00-0	A	3UF7 950-0AA00-0		1	5 units	131	0.100
Memory modules							
 For parameterizing the 3RK3 modular safety system without a PC/PG Through the system interface 3RK3 931-0AA00	A	3RK3 931-0AA00		1	1 unit	121	0.100
Door adapters							
 For external connection of the system interface Outside, for example, a control cabinet 3UF7 920-0AA00-0	A	3UF7 920-0AA00-0		1	1 unit	131	0.030
Push-in lugs							
 For screw fixing E. g. on mounting plate, 2 units required per device Can be used for 3RK3 3RP19 03	▶	3RP19 03		1	10 units	101	0.002
ES 2007 standard modular safety system							
 Parameterization, start-up and diagnostics software for the 3RK3 modular safety system - Runs on WIN 2000/Win XP PROF/Win VISTA: Business32, Ultimate32 - Without PC cable 3ZS1 314-5CC10-0YA5							
Floating license for one user E-SW, software and documentation on CD, 3 languages (German/English/French), communication through the system interface License key on USB stick, Class A	▶	3ZS1 314-5CC10-0YA5		1	1 unit	131	0.230
License key download, Class A	▶	3ZS1 314-5CE10-0YB5		1	1 unit	131	0.230
Software Update Service For 1 year with automatic extension, assuming the current software version is in use, E-SW, software and documentation on CD, communication through the system interface	▶	3ZS1 314-5CC10-0YL5		1	1 unit	131	0.230
PC cables	A	3UF7 940-0AA00-0		1	1 unit	131	0.150

Interface Converters

3RS17 interface converters

Overview



Interface converters perform the coupling function for analog signals on both the input side and the output side. They are indispensable for the processing of analog values with electronic controls. Under harsh industrial conditions in particular, it is often necessary to transmit analog signals over long distances. This means that electrical separation is essential due to the different supply systems. The resistance of the wiring causes potential differences and losses which must be prevented.

Electromagnetic faults and overvoltages can affect the signals on the input side in particular or even destroy the analog modules. All terminals of the 3RS17 interface converters are safe up to a voltage of 30 V DC and protected against switching poles. Short-circuit protection is an especially important function for the outputs.

The devices are EMC-tested according to

- EN 61000-6-4 (basic specification for emitted interference),
- EN 61000-6-2 (basic specification for interference immunity).

The analog signals comply with

- IEC 60381-1/2

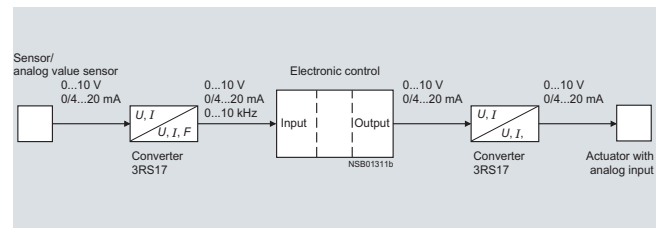
Application

Converters are used in analog signal processing for

- Electrical isolations
- Conversion of normalized and non-normalized signals
- Matching of gain and impedances
- Conversion to a frequency for processing by a digital input
- Overvoltage and EMC protection
- Short-circuit protection of the outputs
- Potential duplication

Application example:

Interface converter in analog signal evaluation



3RS17 25 manual/automatic converter

For special applications in which analog signals have to be simulated, or during plant commissioning when the actual process value is not yet available, the 3RS17 25 devices feature an adjustable potentiometer for entering setpoints manually and a manual/automatic switch.

The adjustable potentiometer for the 3RS17 25 devices is used to simulate analog output signals when the changeover switch is set to "Manual" and the control supply voltage is applied, without the need for an analog input signal; the scale ranges from 0 % to 100 %.

Example: When it is set for an output of 4 ... 20 mA, the 0 % scale value on the potentiometer represents an output current of 4 mA and the 100 % scale value represents an output current of 20 mA. In the "Auto" switch position, the output signal follows the input signal proportionally regardless of the potentiometer setting.

3RS17 interface converters

Selection and ordering data

All converters except the passive single interface converters have a yellow LED for indicating "Power on".

Input	Output	Width	Rated control supply voltage U_s	Electrical isolation	DT	Screw terminals		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	
		mm	V			Order No.	Price per PU	kg				
Single interface converters, active												
0 ... 10 V	0 ... 10 V	6.2	24 AC/DC	2 paths	A	3RS17 00-1AD00		1	1 unit	101	0.053	
	0 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 00-1CD00		1	1 unit	101	0.052	
	4 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 00-1DD00		1	1 unit	101	0.052	
0 ... 20 mA	0 ... 10 V	6.2	24 AC/DC	2 paths	A	3RS17 02-1AD00		1	1 unit	101	0.052	
	0 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 02-1CD00		1	1 unit	101	0.052	
	4 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 02-1DD00		1	1 unit	101	0.052	
4 ... 20 mA	0 ... 10 V	6.2	24 AC/DC	2 paths	A	3RS17 03-1AD00		1	1 unit	101	0.052	
	0 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 03-1CD00		1	1 unit	101	0.052	
	4 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 03-1DD00		1	1 unit	101	0.053	
Switchable multi-range converters, active												
0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, selectable	0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, selectable	6.2	24 AC/DC	2 paths	A	3RS17 05-1FD00		1	1 unit	101	0.053	
		17.5	24 ... 240 AC/DC	3 paths	A	3RS17 05-1FW00		1	1 unit	101	0.090	
0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, selectable	0 ... 50 Hz, 0 ... 100 Hz, 0 ... 1 kHz, 0 ... 10 kHz, selectable	6.2	24 AC/DC	2 paths	A	3RS17 05-1KD00		1	1 unit	101	0.053	
		17.5	24 ... 240 AC/DC	3 paths	A	3RS17 05-1KW00		1	1 unit	101	0.099	
Switchable universal converters, active, with 16 input ranges and 3 output ranges												
 3RS17 06-1FD00	0 ... 60 mV, 0 ... 100 mV, 0 ... 300 mV, 0 ... 500 mV, 0 ... 1 V, 0 ... 2 V, 0 ... 5 V, 0 ... 10 V, 0 ... 20 V, 2 ... 10 V, 0 ... 5 mA, 0 ... 10 mA, 0 ... 20 mA, 4 ... 20 mA, +/-5 mA, +/-20 mA, selectable	17.5	24 AC/DC	2 paths	A	3RS17 06-1FD00		1	1 unit	101	0.082	
				3 paths	A	3RS17 06-1FE00		1	1 unit	101	0.082	
				24 ... 240 AC/DC	3 paths	A	3RS17 06-1FW00		1	1 unit	101	0.090
	Switchable multi-range converters, active, with manual/automatic switch and single potentiometer as manual analog signal transmitter											
	0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, selectable	0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, selectable	17.5	24 AC/DC	2 paths	A	3RS17 25-1FD00		1	1 unit	101	0.085
24 ... 240 AC/DC				3 paths	A	3RS17 25-1FW00		1	1 unit	101	0.102	

Input	Output	Width	Number of channels	Electrical isolation	DT	Screw terminals		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	
						Order No.	Price per PU					
						mm						
Single interface converters, passive												
	0/4 ... 20 mA	0/4 ... 20 mA	6.2	1	2 paths	A	3RS17 20-1ET00		1	1 unit	101	0.049
			12.5	1	2 paths	A	3RS17 21-1ET00		1	1 unit	101	0.059
				2	2 paths	A	3RS17 22-1ET00		1	1 unit	101	0.070

Interface Converters

3RS17 interface converters

All converters except the passive single interface converters have a yellow LED for indicating "Power on".

Input	Output	Width	Rated control supply voltage U_s	Electrical isolation	DT	Spring-type terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		mm	V			Order No.	Price per PU			kg
Single interface converters, active										
0 ... 10 V	0 ... 10 V	6.2	24 AC/DC	2 paths	A	3RS17 00-2AD00	1	1 unit	101	0.047
	0 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 00-2CD00	1	1 unit	101	0.047
	4 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 00-2DD00	1	1 unit	101	0.047
0 ... 20 mA	0 ... 10 V	6.2	24 AC/DC	2 paths	C	3RS17 02-2AD00	1	1 unit	101	0.047
	0 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 02-2CD00	1	1 unit	101	0.045
	4 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 02-2DD00	1	1 unit	101	0.048
4 ... 20 mA	0 ... 10 V	6.2	24 AC/DC	2 paths	A	3RS17 03-2AD00	1	1 unit	101	0.047
	0 ... 20 mA	6.2	24 AC/DC	2 paths	C	3RS17 03-2CD00	1	1 unit	101	0.049
	4 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 03-2DD00	1	1 unit	101	0.047
Switchable multi-range converters, active										
0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, selectable	0 ... 10 V,	6.2	24 AC/DC	2 paths	A	3RS17 05-2FD00	1	1 unit	101	0.048
	0 ... 20 mA,	17.5	24 ... 240 AC/DC	3 paths	A	3RS17 05-2FW00	1	1 unit	101	0.092
	4 ... 20 mA, selectable									
0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, selectable	0 ... 50 Hz,	6.2	24 AC/DC	2 paths	C	3RS17 05-2KD00	1	1 unit	101	0.047
	0 ... 100 Hz,	17.5	24 ... 240 AC/DC	3 paths	A	3RS17 05-2KW00	1	1 unit	101	0.092
	0 ... 1 kHz, 0 ... 10 kHz, selectable									
Switchable universal converters, active, with 16 input ranges and 3 output ranges										
0 ... 60 mV, 0 ... 100 mV, 0 ... 300 mV, 0 ... 500 mV, 0 ... 1 V, 0 ... 2 V, 0 ... 5 V, 0 ... 10 V, 0 ... 20 V, 2 ... 10 V, 0 ... 5 mA, 0 ... 10 mA, 0 ... 20 mA, 4 ... 20 mA, +/-5 mA, +/-20 mA, selectable	0 ... 10 V,	17.5	24 AC/DC	2 paths	A	3RS17 06-2FD00	1	1 unit	101	0.078
	0 ... 20 mA,			3 paths	A	3RS17 06-2FE00	1	1 unit	101	0.077
	4 ... 20 mA, selectable		24 ... 240 AC/DC	3 paths	A	3RS17 06-2FW00	1	1 unit	101	0.094
Switchable multi-range converters, active, with manual/automatic switch and single potentiometer as manual analog signal transmitter										
0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, selectable	0 ... 10 V,	17.5	24 AC/DC	2 paths	A	3RS17 25-2FD00	1	1 unit	101	0.078
	0 ... 20 mA,		24 ... 240 AC/DC	3 paths	A	3RS17 25-2FW00	1	1 unit	101	0.095
	4 ... 20 mA, selectable									



3RS17 05-2FD00



3RS17 25-2FD00

Input	Output	Width	Number of channels	Electrical isolation	DT	Spring-type terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		mm				Order No.	Price per PU			kg
Single interface converters, passive										
0/4 ... 20 mA	0/4 ... 20 mA	6.2	1	2 paths	A	3RS17 20-2ET00	1	1 unit	101	0.044
		12.5	1	2 paths	A	3RS17 21-2ET00	1	1 unit	101	0.057
			2	2 paths	A	3RS17 22-2ET00	1	1 unit	101	0.066