

Two-Tier Terminal-Type Interfaces

3TX7 004, 3TX7 005 Coupling Relays

CAGE CLAMP

Selection and ordering data

AC and DC operation

	Rated control supply voltage U_s	Type of connection	Contacts Design		Channel	Manual or automatic switches for test purposes	Width mm	Order No.	Price	Pack.	
			NO	CO						Weight approx. kg	Unit
Output interfaces											
	50/60 Hz AC							Preferred type	1 unit	kg	Unit
	24 V AC/DC	Screw terminal Cage Clamp	–	1	1	without	6.2	3TX7 004-1LB00 3TX7 005-1LB00		0.035	20
	230 V AC/DC	Screw terminal Cage Clamp	–	1	1	without	6.2	3TX7 004-1LF00 3TX7 005-1LF00		0.035	20
	24 V AC/DC	Screw terminal Cage Clamp	–	1 (hard gold-plated)	1	without	6.2	3TX7 004-1LB02 3TX7 005-1LB02		0.035	20
	24 V AC/DC	Screw terminal Cage Clamp	1	–	1	without	6.2	3TX7 004-1MB00 3TX7 005-1MB00		0.035	20
	230 V AC/DC	Screw terminal Cage Clamp	1	–	1	without	6.2	3TX7 004-1MF00 3TX7 005-1MF00		0.035	20
	24 V AC/DC	Screw terminal Cage Clamp	1	–	1	with	12.5	3TX7 004-1AB10 3TX7 005-1AB10		0.052	20
	24 V AC/DC	Screw terminal Cage Clamp	–	1	1	without	12.5	3TX7 004-1BB00 3TX7 005-1BB00		0.050	20
	24 V AC/DC	Screw terminal Cage Clamp	–	1	1	with	12.5	3TX7 004-1BB10 3TX7 005-1BB10		0.052	20
	24 V AC/DC	Screw terminal Cage Clamp	1	–	2	without	12.5	3TX7 004-1CB00 3TX7 005-1CB00		0.060	20
	24 V AC/DC	Screw terminal Cage Clamp	1	–	3	without	17.5	3TX7 004-1HB00 3TX7 005-1HB00		0.086	20
	24 V AC/DC	Screw terminal Cage Clamp	–	1	2	without	22.5	3TX7 004-1GB00 3TX7 005-1GB00		0.086	20
Input interfaces											
	24 V AC/DC	Screw terminal Cage Clamp	1 (hard gold-plated)	–	1	without	6.2	3TX7 004-2MB02 3TX7 005-2MB02		0.035	20
	110 V AC/DC	Screw terminal Cage Clamp	1 (hard gold-plated)	–	1	without	6.2	3TX7 004-2ME02 3TX7 005-2ME02		0.035	20
	230 V AC/DC	Screw terminal Cage Clamp	1 (hard gold-plated)	–	1	without	6.2	3TX7 004-2MF02 3TX7 005-2MF02		0.035	20


Two-Tier Terminal-Type Interfaces

3TX7 004 and 3TX7 005 Optocouplers





CAGE CLAMP

Selection and ordering data

DC operation

Control	Type of connection	Switching function (semi-conductors) Design	Semi-conductor output	Manual-0-Auto for test purposes	Width mm ▶	Order No.	Price	Weight approx.	Pack.
						Preferred type	1 unit	kg	Unit
Output interfaces									
3TX7 004-3AB04 with end plate 	24 V DC	Screw terminal Cage Clamp	1	Tran- sistor	without	6.2 ▶ 3TX7 004-3AB04 3TX7 005-3AB04		0.025	20
	24 V DC	Screw terminal Cage Clamp	1	Tran- sistor	without	6.2 ▶ 3TX7 004-3PB54 3TX7 005-3PB54		0.025	20
	24 V DC	Screw terminal Cage Clamp	1	Tran- sistor	without	12.5 ▶ 3TX7 004-3AC04 3TX7 005-3AC04		0.045	20
	24 V DC	Screw terminal Cage Clamp	1	Tran- sistor	with	12.5 ▶ 3TX7 004-3AC14 3TX7 005-3AC14		0.050	20
	24 V DC	Screw terminal Cage Clamp	1	Triac	without	12.5 ▶ 3TX7 004-3AC03 3TX7 005-3AC03		0.045	20
Input interfaces									
	24 V DC	Screw terminal Cage Clamp	1	Tran- sistor	without	6.2 ▶ 3TX7 004-4AB04 3TX7 005-4AB04		0.025	20

Accessories

For interface	Design	Order No.	Price	Weight approx.	Pack.
Type			1 unit	kg	Unit
Connecting comb					
3TX7 004	24 terminals, blue Width 6.2 mm	3TX7 004-8AA00		0.012	5
Connecting lead					
3TX7 004, 3TX7 005	24 terminals with leads, blue	3TX7 004-8BA00		0.040	5
End plate					
	3TX7 004-3AB04, 3TX7 004-4AB04, 3TX7 005-3AB04, 3TX7 005-4AB04	RAL 7035, light grey	3TX7 004-8CE00		0.012 30
Screw driver for Cage Clamp terminals					
8WA2 804 	3TX7 004, 3TX7 005	Length: approx. 100 mm; 3.5 x 0.5 (orange) Length: approx. 175 mm; 3.5 x 0.5 (green)	8WA2 804 8WA2 803		0.012 1 0.029 1
8WA2 803 					
End retainer					
	3TX7 004, 3TX7 005	Width 6.2 mm	8WA2 808		0.014 100

Two-Tier Terminal-Type Interfaces

3TX7 004, 3TX7 005 Coupling Relays

Technical data

General data

Rated insulation voltage U_i (pollution degree 3)	V	300
Degree of protection	Terminals Housing	IP 20 IP 30
Short-circuit protection (weld-free protection at $I_k \geq 1$ kA) Fuses, utilization category gL/gG	A	4
Permissible ambient temperature	during operation when stored	°C °C
		-25 to +60 -40 to +80
Conductor cross-sections Screw connection (with 3TX7 004): solid finely stranded with or without end sleeve Terminal screws	mm ² mm ² M3	1 x (0.25 to 4) 1 x (0.5 to 2.5)
Cage Clamp connection (with 3TX7 005): solid, finely stranded finely stranded with end sleeve	mm ² mm ²	1 x (0.08 to 2.5) 1 x (0.25 to 2.5)

Control circuit

Working range	at $U_s = 24$ V AC/DC at $U_s = 110$ and 230 AC/DC		0.7 to $1.25 \times U_s$ 0.8 to $1.1 \times U_s$
Power consumption at U_s			approx. 0.5 W/channel
Permissible residual current of the electronics (at 0 signal)	Width 6.2 mm Width from 12.5 mm	mA mA mA	$U_s = 24$ V; 2 $U_s > 24$ V; 0.5 2.5
Operating times at U_s	ON-delay OFF-delay	ms ms	< 8 < 15
Function indicator			LED yellow
Max. permissible conductor length (min. cross-section: 0.75 mm ²)			
			3TX7 00 -1 . F00 -2ME02/-2MF02
			3TX7 00 -1 . B . . -2MB02
	AC	m	40
	DC	m	2000
			400
			2000

Load side

Rated currents¹⁾ Conventional thermal current I_{th}		A	3TX7 00 -1A/-1B/-1C/-1H/-1G 6	3TX7 00 -1 . L/ . M 6
Rated operational current I_e in utilization category (DIN VDE 0660)			AC-15	DC-13
	at 24 V	A	3	1.0
	110 V	A	3	0.2
	230 V	A	3	0.1
Operational current with resistive load acc. to DIN VDE 0435 (relay standard) and DIN VDE 0660			AC-12	DC-12
	at 24 V	A	6	6
	110 V	A	6	0.3
	230 V	A	6	0.2
Min. contact loading for 3TX7 00 -1 . . 00			17 V AC/DC, 5 mA	17 V AC/DC, 5 mA
Min. contact loading for 3TX7 00 -1 . . . 02 (hard gold-plated)			1 V AC/DC, 0.1 mA	1 V AC/DC, 0.1 mA
Power limit/hard gold plating			30 V/20 mA	30 V/20 mA
Operational voltage			17 to 250 V AC/DC	17 to 250 V AC/DC
Mechanical endurance			20 x 10 ⁶ operating cycles	20 x 10 ⁶ operating cycles
Electrical endurance at I_e			1 x 10 ⁵ operating cycles	0.5 x 10 ⁵ operating cycles
Operating frequency		1/h	5000 operating cycles	5000 operating cycles

Note: The connection of a suppression circuit to inductive loads increases the service life of the coupling relays.

1) Capacitive loads may cause micro welding at the contacts.

Two-Tier Terminal-Type Interfaces

3TX7 004, 3TX7 005 Optocouplers

Technical data

General data

Rated insulation voltage U_i (pollution degree 3)	V	300
Permissible ambient temperature	during operation	°C -20 to +60
	when stored	°C -40 to +80

Conductor cross-sections

Screw connection (with 3TX7 004)		
solid	mm ²	1 x (0.25 to 4)
finely stranded with or without end sleeve	mm ²	1 x (0.5 to 2.5)
Terminal screws		M3
Cage Clamp connection (with 3TX7 005)		
solid, finely stranded	mm ²	1 x (0.08 to 2.5)
finely stranded with end sleeve	mm ²	1 x (0.25 to 2.5)

Control circuit

Type	3TX7 004-/ 3TX7 005-	3AB04	3AC.4	3AC03	4AB04	3PB54	
Operating range	V DC	11 to 30	11 to 30	11 to 30	11 to 30	11 to 30	
Current input	at 11 V	mA ≤ 8	≤ 8	≤ 10	≤ 8	≤ 3	
	24 V	mA ≤ 18	≤ 18	≤ 10	≤ 18	≤ 7	
	30 V	mA ≤ 22	≤ 22	≤ 10	≤ 22	≤ 8	
Voltage drop	V	6	5	6	6	9	
Permissible residual current of the electronics (at 0 signal)	mA	2.3	2.6	1.5	2.3	1.5	
Operating times	ON-delay	ms	2.5	0.3	10	2.5	0.3
	OFF-delay	ms	8	4	10	8	0.3
Function indicator		LED yellow	LED yellow	LED yellow	LED yellow	LED yellow	
Max. permissible conductor length (min. cross-section: 0.75 mm ²)	m	1700	> 2000	> 2000	1700	20000	

Load side

Type	3TX7 004-/ 3TX7 005-	3AB04	3AC.4	3AC03	4AB04	3PB54
Rated operational current I_e	A	0.5	5	2	0.5	1.5
Short time load rating	A ms	1.5 20	Short-circuit proof ²⁾	100 20	1.5 20	Short-circuit proof ³⁾
Contacts		1 NO Transistor	1 NO Transistor	1 NO Triac	1 NO Transistor	1 NO Transistor
Operational voltage¹⁾ (Operating range)		DC ≤ 48 V	DC ≤ 30 V	AC 50/60 Hz 24 to 250 V	DC ≤ 48 V	DC ≤ 30 V
Min. load current	mA	-	-	50	-	-
Conductive voltage drop	V	≤ 1	≤ 0.5	≤ 1.6	≤ 1	≤ 0.5
Residual current of the electronics (at 0 signal)	mA	< 0.1	< 0.1	< 6	< 0.1	< 0.1
Operating frequency with resistive load	Hz	50	50	1	50	500

1) Observe minimum switching voltage with 3TX7 00.-3AC03.

2) If a short-circuit occurs, the semiconductor output is deactivated. To be able to restart the device, it must be briefly disconnected from the voltage source.

3) If a short-circuit or overload occurs, the current is limited by the semiconductor output.

Two-Tier Terminal-Type Interfaces

3TX7 004, 3TX7 005 Coupling Relays and Optocouplers

Description

DC operation

DIN VDE 0110 Part 1,
DIN VDE 0435, DIN VDE 0660
and EN 50 005
Optocouplers: DIN VDE 0884
DIN VDE 041 1 Part 500,
IEC 61 131-2 (programmable
controllers)

The terminals on the double-tier coupling elements are located on two levels. The devices have an extremely slim design. Connection system: Screw terminal or Cage Clamp. For testing purposes, versions with manual or automatic switches are available.

The input and output interfaces differ in the location of terminals and LEDs. A blank label is fitted on each interface to enable identification of the devices.

Small power consumption of the coils matches the technical data of the electronics system.

Note:
Where capacitive loads are switched in the absence of components (series resistors) that momentarily limit the peak currents, micro welding of the relay contacts may take place.

The contact of an optocoupler is a semiconductor, which is not subject to any wear. Welding is not possible.

The optocouplers, 6.2 mm in width, which have a hole on the right-hand side of the housing, can be lined up close next to each other like relay couplers.

Surge suppression

The interfaces are tested with 1×10^5 operating cycles in AC-15 operation at the values stated in the technical data. The connection of inductive loads increases the service life of the relay couplers.

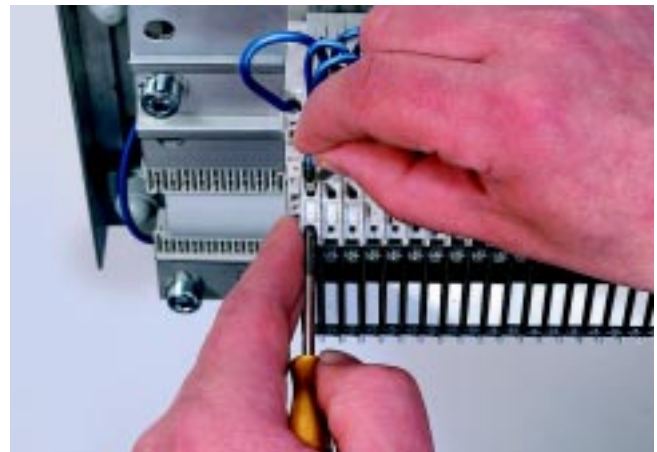
Mounting

For snapping onto horizontal and vertical standard mounting rail. With vertical mounting rail and close mounting the permissible ambient temperature $T_a = 40^\circ\text{C}$. Can be mounted in any position.

To ensure touch protection with modules of the 6.2 mm range with housing opening (e.g. 3TX7 004-3AB04), the individual module or the last module of a row must be provided with an end plate.



Connecting a cable to the Cage Clamp



Two-Tier Terminal-Type Interfaces

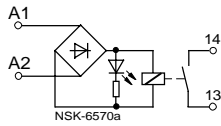
3TX7 004, 3TX7 005 Coupling Relays and Optocouplers

Internal circuit diagrams

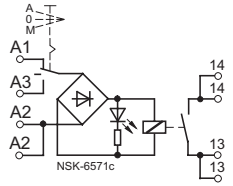
Coupling relays

• Output interfaces

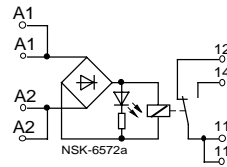
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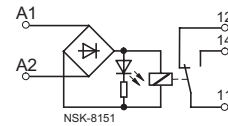
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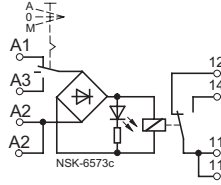
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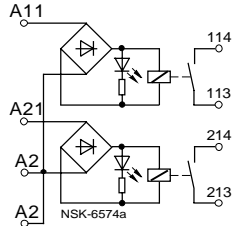
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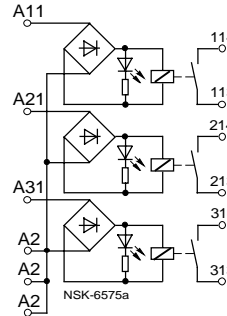
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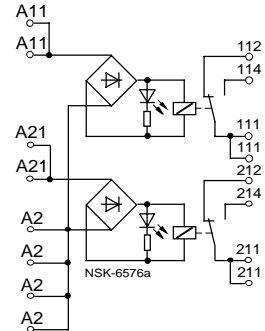
3TX7 00 .-1CB00



3TX7 00 .-1HB00

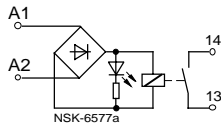


3TX7 00 .-1GB00



• Input interfaces

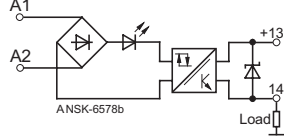
3TX7 00 .-2M . 02



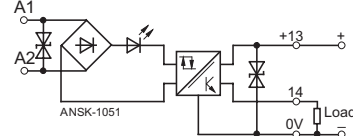
Optocouplers

• Output interfaces

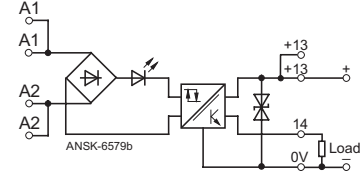
3TX7 00 .-3AB04



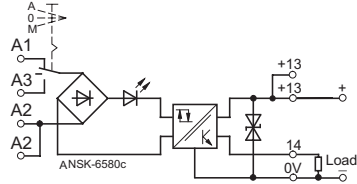
3TX7 00 .-3PB54



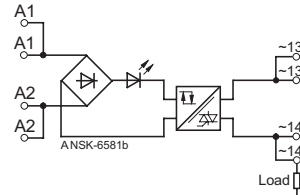
3TX7 00 .-3AC04



3TX7 00 .-3AC14

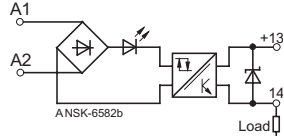


3TX7 00 .-3AC03



• Input interfaces

3TX7 00 .-4AB04



A = Automatic
0 = Zero position
M = Manual

Two-Tier Terminal-Type Interfaces

3TX7 004, 3TX7 005 Coupling Relays and Optocouplers

Position of terminals

Coupling relays

• Output interfaces

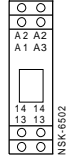
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-1M . 00



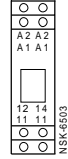
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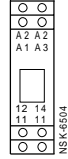
-1AB10



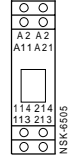
-1B . 00



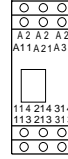
-1BB10



-1CB00



-1HB00



-1GB00



• Input interfaces

3TX7 004-2M...



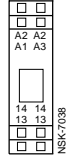
3TX7 005
-1M . 00



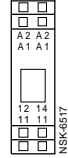
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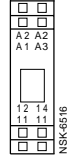
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-1BB00



-1BB10



-1CB00



-1HB00



-1GB00



3TX7 005-2M...



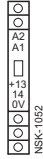
Optocouplers

• Output interfaces

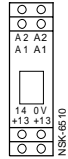
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-3AB04



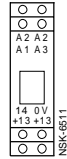
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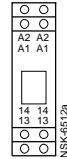
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-3AC14

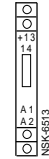


-3AC03



• Input interfaces

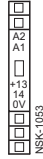
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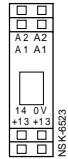
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-3AB04



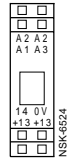
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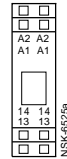
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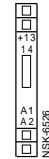
-3AC14



-3AC03







3TX7 005-4AB04



Plug-In Relay Interfaces LZX:RT/PT/MT Coupling Relays

Selection and ordering data

AC and DC operation































Design	Rated control supply voltage	Contacts	Width	Order No.	Price	Weight approx.	Pack.
		CO	mm	Preferred type	1 unit	kg	Unit
Print relay, 8-pole, 5 mm pinning, RT series							
 LZX:RT3A4L24	Complete unit for snap-on mounting onto 35 mm standard mounting rail consisting of: Print relay, plug-in socket, LED module (24 V DC LED module with free-wheeling diode), holding/ejector clip and label	24 V DC	1	15.5	▶ LZX:RT3A4L24 ▶ LZX:RT4A4L24 ▶ LZX:RT3A4T30 ▶ LZX:RT4A4T30	0.06	10
		24 V DC	2				
		230 V AC	1				
		230 V AC	2				
Individual modules for self-assembly							
 LZX:RT314024	Print relay	24 V DC	1	12.7	▶ LZX:RT314024 ▶ LZX:RT424024 ▶ NEW LZX:RT314524 ▶ NEW LZX:RT424524 ▶ NEW LZX:RT314615 ▶ NEW LZX:RT424615 ▶ LZX:RT314730 ▶ LZX:RT424730	0.014	20
		24 V DC	2				
		24 V AC	1				
		24 V AC	2				
		115 V AC	1				
		115 V AC	2				
 LZX:RT78625	Socket for mounting onto standard rail Socket for mounting onto standard rail with safe isolation	–	1/2	15.5	▶ LZX:RT78625 ▶ LZX:RT78626	0.038	10
		–	1/2	15.5			
		–	–	15.5			
		–	–	15.5			
 LZX:RPML0024	LED module	with free-wheeling diode	24 V DC	–	▶ LZX:RPML0024	0.002	–
		without free-wheeling diode	230 V AC	–	▶ LZX:RPML0730		
	Holding/ejecting clip	–	–	15.5	▶ LZX:RT16016	–	–
	Label	–	–	15.5	▶ LZX:RY16040	–	–

Plug-In Relay Interfaces

LZX:RT/PT/MT Coupling Relays

Selection and ordering data

AC and DC operation

Design	Rated control supply voltage	Contacts	Width	Order No.	Price	Weight approx.	Pack.
		CO	mm	Preferred type	1 unit	kg	Unit
Relays for industrial purposes, 14-pole, PT series							
LZX:PT570024	Single modules for self-assembly						
	Miniature relays for industrial purposes with test button ¹⁾ and mechanical position indicator, without LED	24 V DC 3 24 V DC 4 24 V AC 3 24 V AC 4 115 V AC 3 115 V AC 4 230 V AC 3 230 V AC 4	22.5	        	LZX:PT370024 LZX:PT570024 LZX:PT370524 LZX:PT570524 LZX:PT370615 LZX:PT570615 LZX:PT370730 LZX:PT570730	0.03	10
LZX:PT78704	Socket for mounting onto standard rail	– –	3 4	27	 		
					LZX:PT78703 LZX:PT78704		
LZX:RPML0024	LED module with free-wheeling diode without free-wheeling diode without free-wheeling diode	24 V DC 24 V AC/DC 110 to 230 V AC	–	15.5	   		0.002
					LZX:RPML0024 LZX:RPML0524 LZX:RPML0730		
	Holding/ejector clip	–	–				
					LZX:PT16016		
Relay for industrial purposes, 11-pole, MT series							
LZX:MT328230	Single modules for self-assembly						
	Relay for industrial purposes with test button	24 V DC 3 24 V DC 3 24 V AC 3 24 V AC 3 115 V AC 3 115 V AC 3 230 V AC 3 230 V AC 3	35.5	       	LZX:MT321024 LZX:MT323024 LZX:MT326024 LZX:MT328024 LZX:MT326115 LZX:MT328115 LZX:MT326230 LZX:MT328230	0.084	25
LZX:MR78750	Socket for mounting onto standard rail	–	–	38			0.056
	Clip	–	–	38			
					LZX:MR78750 LZX:MR28800		

1) The test button does not latch in. If the test button is pressed further until a movement of 90° is reached, the two small notching lugs will break off and the test button can be set for latch-in mode.

Plug-In Relay Interfaces

LZX:RT/PT/MT Coupling Relays

Technical data

AC and DC operation

Type of relay	RT print relay, 8-pole (12.7 mm) 1 CO/2 CO				PT relay for industrial purposes, 14-pole (22.5 mm) 3 CO/4 CO			
Rated control supply voltage U_s³⁾	24 V DC	24 V AC	115 V AC	230 V AC	24 V DC	24 V AC	115 V AC	230 V AC
Rated insulation voltage U_i Pollution degree	250 V 3				250 V 3			
Overvoltage category	III				III			
Degree of protection relay/socket	IP 67/IP 20				IP 50/IP 20			
Permissible ambient temperature during operation when stored	-40 to +70 °C -40 to +80 °C				-45 to +70 °C -45 to +80 °C			
Conductor cross-sections solid finely stranded with or without end sleeve	2 x 2.5 mm ² 2 x 1.5 mm ²				2 x 2.5 mm ² 2 x 1.5 mm ²			
Control circuit								
Rated control supply voltage U_s³⁾	24 V DC	24 V AC	115 V AC	230 V AC	24 V DC	24 V AC	115 V AC	230 V AC
Coil voltage tolerance at 20 °C	16.8 to 52 V	18 to 52 V	86.3 to 127 V	172 to 264 V	18 to 40.8 V	19.2 to 39.6 V	92 to 190 V	184 to 380 V
Power consumption at U_s	0.4 W	0.75 VA	0.75 VA	0.75 VA	0.75 W	1 VA	1 VA	1 VA
Voltage drop	2.4 V	7.2 V	34.5 V	69 V	3.6 V	7.2 V	34.5 V	69 V
Snubber	free-wheel- ing diode with com- plete unit	no	no	no	free-wheel- ing diode in LED module	no	no	no
Max. permissible conductor length at U_s¹⁾ (min. cross-section: 0.75 mm ²)	> 2000 m	30 m (with LED) 20 m (without LED)		30 m with LED; 20 m without LED	-			
Load side								
Operational voltage	24 to 250 V AC/DC				24 to 250 V AC/DC			
Rated currents²⁾ Conventional thermal current I_{th} Rated operational current I_e in utilization category (DIN VDE 0660)	16 A/8 A (1 CO/2 CO) AC-15 DC-13				10 A/6 A (3 CO/4 CO)			
at 24 V	6 A/3 A	2 A			-			
230 V	6 A/3 A	0.27 A			-			
Short-circuit protection Fuses, utilization category gL/gG DIAZED	10 A				-			
Shock resistance half-wave sine acc. to IEC 60 068-2-27	10/11 g/ms				-			
Vibration resistance variation sine acc. to IEC 60 068-2-6 30 Hz to 150 Hz Opening of the NC contacts in a critical axis Closing of the NO contacts	5 g > 20 g				5 g > 20 g			
Min. contact loading (Reliability: 1 ppm)	12 V DC/10 mA				-			
Mechanical endurance	30 x 10 ⁶ oper. cycles	10 x 10 ⁶			10 x 10 ⁶			
Electrical endurance (resistive load at 250 V AC)	1 x 10 ⁵ oper. cycles	1 x 10 ⁵			1 x 10 ⁵			
Operating frequency	7200 1/h				6/600 1/min (with/without load)			
Make-time	typ	7 ms			15 ms			
Break-time	typ	3 ms			10 ms			
Bounce time	typ	2 ms			5 ms			
Contact material	AgNi 90/10				AgNi 90/10			

1) The max. line length is dependent on the line capacitance and layout. It can be increased by means of a parallel loads at A1/A2.

2) Capacitive loads may cause micro welding at the contacts.

3) AC voltages, 50 Hz; with 60 Hz operation the lower response value must be increased by 10%. The power loss decreases slightly.

Plug-In Relay Interfaces

LZX:RT/PT/MT Coupling Relays

Technical data

AC and DC operation

Type of relay	MT relay for industrial purposes, 11-pole (35.5 mm) 3 CO			
Rated control supply voltage U_s ³⁾	24 V DC	24 V AC	115 V AC	230 V AC
Rated insulation voltage U_i Pollution degree	250 V 3		250 V 3	
Overvoltage category	III		III	
Degree of protection relay/socket	IP 50/IP 20			
Permissible ambient temperature during operation when stored	-45 to +60 °C -45 to +80 °C	-45 to +50 °C -45 to +80 °C	-45 to +50 °C -45 to +80 °C	-45 to +50 °C -45 to +80 °C
Conductor cross-sections solid finely stranded with or without end sleeve	2 x 2.5 mm ² 2 x 1.5 mm ²			

Control circuit

Rated control supply voltage U_s ³⁾	24 V DC	24 V AC	115 V DC	230 V AC
Coil voltage tolerance at 20 °C	18 to 38 V	19.2 to 38 V	92 to 137 V	184 to 264 V
Power consumption at U_s	1.2 W	2.3 VA	2.3 VA	2.3 VA
Voltage drop	2.4 V	9.6 V	46 V	92 V
Snubber	no			
Max. permissible conductor length at U_s ¹⁾ (min. cross-section: 0.75 mm ²)	> 2000 m	-	-	80 m

Load side

Operational voltage	24 to 250 V AC/DC			
Rated currents ²⁾ Conventional thermal current I_{th} Rated operational current I_e in utilization category (DIN VDE 0660) at 24 V 230 V	10 A AC-15 5 A 5 A	AC-13 2 A 0.27 A		
Short-circuit protection Fuses, utilization category gL/gG DIAZED	10 A			
Shock resistance half-wave sine acc. to IEC 60 068-2-27	13/11 g/ms			
Vibration resistance variation sine acc. to IEC 60 068-2-6 30 Hz to 150 Hz Opening of the NC contacts in a critical axis Closing of the NO contacts	2 g > 20 g			
Min. contact loading (Reliability: 1 ppm)	12 V DC/10 mA			
Mechanical endurance	20 x 10 ⁶ operating cycles			
Electrical endurance (resistive load at 250 V AC)	4 x 10 ⁵ operating cycles			
Operating frequency	6000 1/h			
Make-time	typ	12 ms		
Break-time	typ	5 ms		
Bounce time	typ	4 ms		
Contact material	AgNi 90/10			

1) The max. line length is dependent on the line capacitance and layout. It can be increased by means of a parallel loads at A1/A2.

2) Capacitive loads may cause micro welding at the contacts.

3) AC voltages, 50 Hz; with 60 Hz operation the lower response value must be increased by 10%. The power loss decreases slightly.

Plug-In Relay Interfaces

LZX:RT/PT/MT Coupling Relays

Description

Design

Plug-in relay interfaces can be ordered complete or as single modules.

As appropriate to the technical data of the electronic system in question, the interfaces have a low power consumption. An LED indicates the switching state. The LZX:PT/MT coupling relays are provided with a test button. This allows them to be put into the switching state and interlocked without their being energized electrically. This is indicated by means of an orange-colored level.

Surge suppression

The 24 V DC LZX:RT and LZX:PT with LED relays are available with, all others without integrated surge suppression (free-wheeling diode parallel to A1/A2). The positive supply voltage must be connected to the coil terminal A1.

Installation

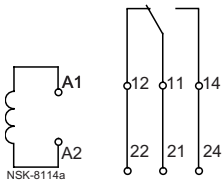
The relays plug into sockets which snap onto a standard 35 mm mounting rail to EN 50 022.

For the MT series, a clip can be ordered which additionally fixes the relays in the plug-in socket (with increases mechanical stressing). For the RT and PT series a combined holding/ejection clip is available for removing relays in close-up arrangement.

Internal circuit diagrams

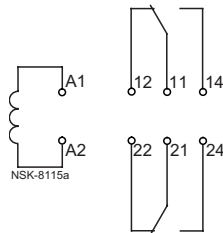
LZX:RT3

1-pole



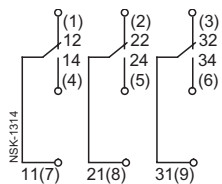
LZX:RT4

2-pole



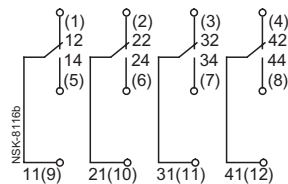
LZX:PT370

3-pole



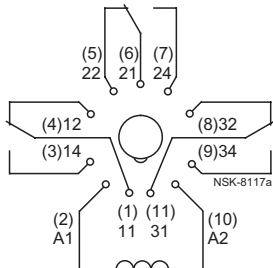
LZX:PT570

4-pole



LZX:MT32

3-pole



Values in brackets: Plug-in socket designations.
Without brackets: Contact/coil designations.

Contactor Relays and Coupling Relays

3RH, 3RT

SIRIUS 3R

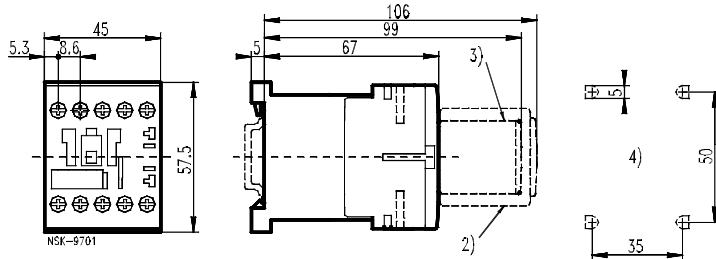


Dimension drawings

Contactor relays

3RH11 contactor relays

Size S00, with screw connection,
with surge suppressor and auxiliary switch block



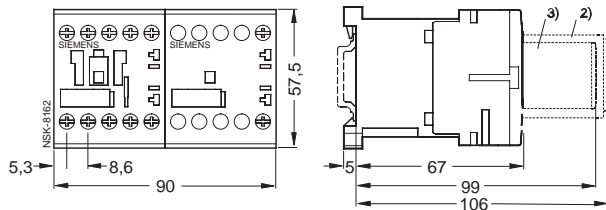
Side clearance from
earthed parts = 6 mm

- 2) Auxiliary switch block
- 3) Surge suppressor
- 4) Drill pattern

Deviating dimensions for contactor relays
with Cage Clamp connection:
Height: 60 mm
Mounting depth with auxiliary switch block: 110 mm

3RH14 latched contactor relays

Size S00,
with surge suppressor and auxiliary switch block

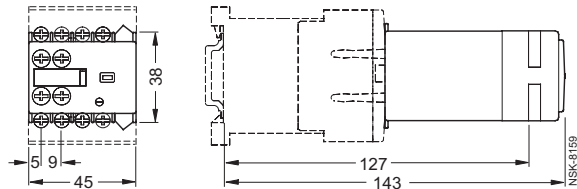


Accessories for 3RH1. contactor relays

Solid-state time-delay auxiliary switch blocks

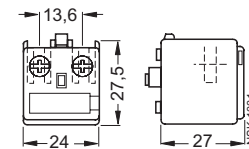
3RT19 16-2E..., 3RT19 16-2F...

for mounting at the front of the contactor relays
of size S00



Auxiliary switch block, 1-pole 3RH19 11-1AA..., 3RH19 11-1BA...

Cable entry from one side

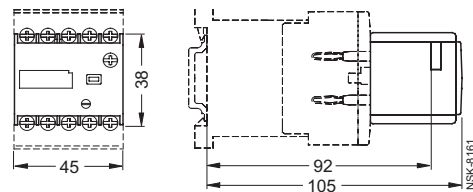


Solid-state time-delay blocks,

ON-delay

3RT19 16-2C...

for mounting at the front of the contactor relays
of size S00

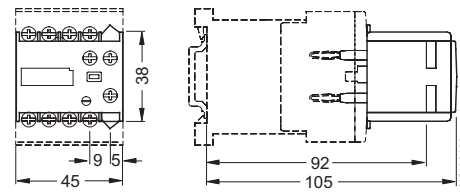


Solid-state time-delay blocks,

OFF-delay

3RT19 16-2D...

for mounting at the front of the contactor relays
of size S00



Coupling relays

3RT10 and 3RH11 coupling relays

Size S00, with screw connection,
with surge suppressor



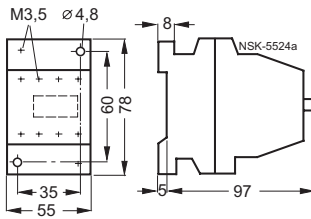
- 3) Surge suppressor
- 4) Drill pattern

Deviating dimensions for coupling relays
with Cage Clamp connection:
Height: 60 mm

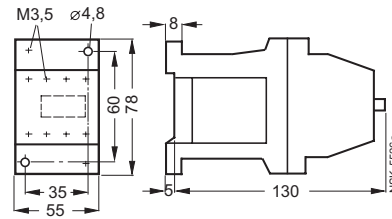
Dimension drawings for 3RT10 2. coupling relays, size S0, see Part 3.

3TH43 contactor relays

AC operation

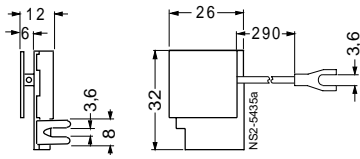


DC operation



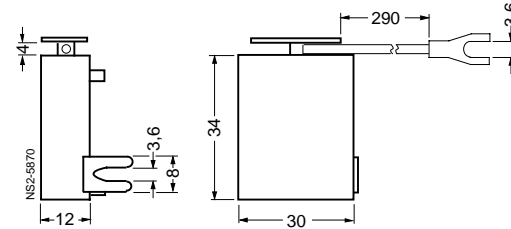
Accessories for 3TH43 contactor relays

3TX7 402-3. varistors,
3TX7 402-3A suppression diode,
3TX7 402-3D diode assemblies
 (for DC operation) for 3TH43 contactor relays for mounting onto the coil terminal



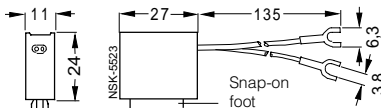
3TX7 402-3 RC elements

for 3TH43 contactor relays for mounting onto the coil terminal



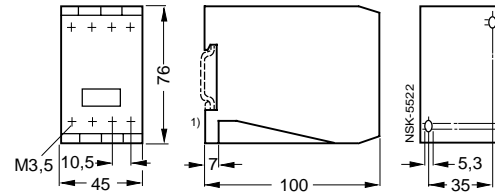
3TX4 180-0A closing delay

for 3TH43 contactor relays



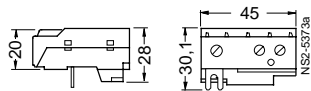
3TX4 701 opening delay

for 3TH43 contactor relays



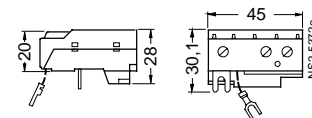
3TX4 090-0C interface

for mounting onto the contactor coil of the 3TH43 contactor relays,
 without surge suppression



3TX4 090-0D interface

for mounting onto the contactor coil of the 3TH43 contactor relays,
 with surge suppression



1) For 35 mm standard mounting rail

Interfaces

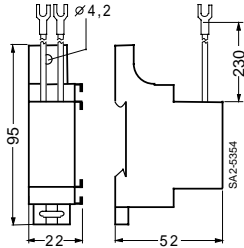
3TX7

Dimension drawings

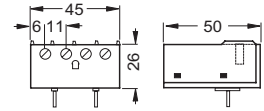
Interfaces for mounting onto contactors

3TX7 090-0D interface

for lateral snapping onto 3TF46 to 3TF69 contactors, Sizes 3 to 14 and 3TK48 to 3TK56 contactors, Sizes 4 to 12

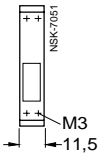


3RH19 24-1GP11 interface

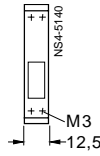


3TX7 002, 3TX7 003 modular terminal-type interfaces

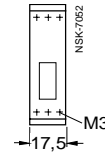
3TX7 002-1AB...,
3TX7 002-2A...,
3TX7 002-3AB01



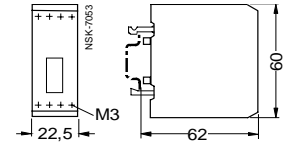
3TX7 002-3AB00,
3TX7 002-4A...



3TX7 002-1BB00,
3TX7 002-1BF00,
3TX7 002-2BF02

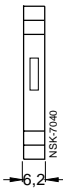


3TX7 002-1CB00,
3TX7 002-1BF02

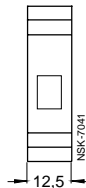


3TX7 004, 3TX7 005 two-tier terminal-type interfaces

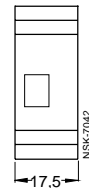
Coupling relays
3TX7 00.-1MB00,
3TX7 00.-1MF00,
3TX7 00.-1L.0.,
3TX7 00.-2M...



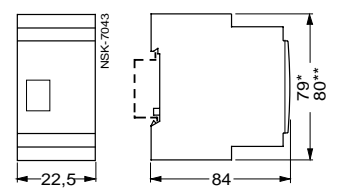
Coupling relays
3TX7 00.-1AB10,
3TX7 00.-1BB00,
3TX7 00.-1BB10,
3TX7 00.-1CB00



Coupling relays
3TX7 00.-1HB00



Coupling relays
3TX7 00.-1GB00



Optocouplers
3TX7 00.-3AB04,
3TX7 00.-4AB04

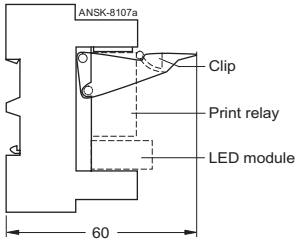
Optocouplers
3TX7 00.-3AC04,
3TX7 00.-3AC14,
3TX7 00.-3AC03

* Dimensions for interfaces 3TX7 004 (screw terminals).

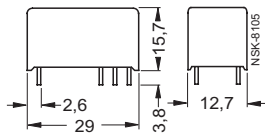
** Dimensions for interfaces 3TX7 005 (Cage Clamp connection).

Coupling relays

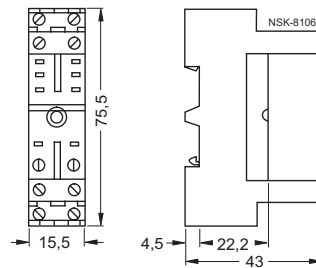
LZX:RT3/RT4 complete unit



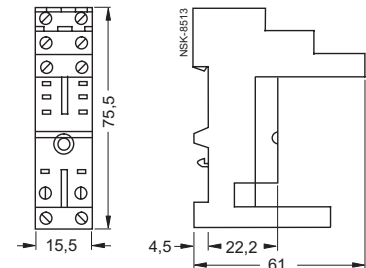
LZX:RT3/RT4 print relay



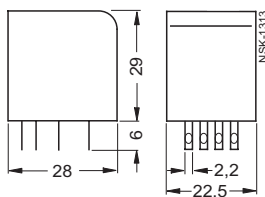
LZX:RT78625 plug-in socket for print relay



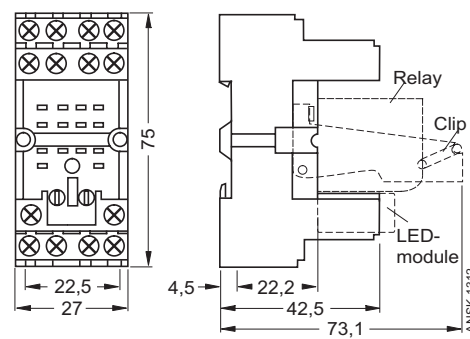
LZX:RT78626 plug-in socket with safe isolation for print relay



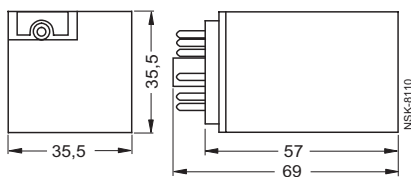
LZX:PT570 relay for industrial purposes



LZX:PT78703 plug-in socket for relay for industrial purposes



LZX:MT32 relay for industrial purposes



LZX:MR78750 plug-in socket for relays for industrial purposes

