Technical specifications

Type			3RP20 05 3RP20 25	3RP15 05 3RP15 31 3RP15 32 3RP15 33	3RP15 11 3RP15 12 3RP15 13 3RP15 25 3RP15 55	3RP15 40	3RP15 60	3RP15 74 3RP15 76	3RP15 27
Rated insulation voltage Pollution degree 3, Overvoltage category III		AC V	300; 500 for 3RP15 05-1BT20						
Working range at excitation[1])			0.85 ... 1.1 × U_s at AC; 0.8 ... 1.25 × U_s for DC; 0.95 ... 1.05 x rated frequency						
Rated power • Power consumption at 230 V AC, 50 Hz		W VA	1 4	2 6	2 6	2 2[2])	2 6	2 6	1 1
Rated operating currents I_e AC-15 at 230 V AC, 50 Hz AC-14; DC-13 DC-13 at 24 V DC-13 at 48 V DC-13 at 60 V DC-13 at 110 V DC-13 at 230 V		 A A A A A A A	 3[3]) – 1 0.45 0.35 0.2 0.1						 – 0.01 ... 0.6 – – – – –
Required DIAZED fuse [4]) Operational class gL/gG		A	4						–
Operating frequency • when loaded with I_e 230 V AC • when loaded with 3RT10 16 contactor, AC 230 V		 1/h 1/h	 2500 5000						 5000 5000
Recovery time		ms	150[5])				300	150	50
Minimum ON period		ms	35	35[6])	–	200[7])	–		
Residual current with non-conducting output		mA	–						≤ 5
Voltage drop **with conducting output**		VA	–						≤ 3.5
Short-time loading capacity			–						10 (to 10 ms)
Setting accuracy with reference to scale value			typical ± 5%						
Repeat accuracy			≤ ± 1 %						
Mechanical endurance	operating cycles		30×10^6						100×10^6
Permissible ambient temperature	during operation during storage	°C °C	– 25 ... + 60 – 40 ... + 85						
Degree of protection acc. to EN 60529			Cover IP40 Terminals IP20						
Conductor cross-sections									
- Screw connection (to connect 1 or 2 conductors); for standard screwdriver (size 2 and Pozidriv 2)	solid	mm²	2 × (0.5 ... 1.5) 2 × (0.75 ... 2.5)	1 × (0.5 ... 4) 2 × (0.5 ... 2.5)					
	finely stranded with end sleeve	mm²	2 × (0.5 ... 1.5) 2 × (0.75 ... 2.5)	1 × (0.5 ... 2.5) 2 × (0.5 ... 1.5)					
	AWG conductors, solid or stranded	AWG	2 × (18 ... 14)	2 × (20 ... 14)					
	terminal screw		M 3	M 3.5					
	tightening torque	NM	0.8 ... 1.2						
- Spring-loaded terminal (to connect 1 or 2 conductors; for 22.5 mm time relay use screwdriver with 3 mm blade or 8WA2 807 opening tool)[8])	solid	mm²	2 × (0.25 ... 2.5)	2 × (0.25 ... 1.5)					
	finely stranded • with end sleeve	mm²	2 × (0.25 ... 1.5)	2 × (0.25 ... 1)					
	• without end sleeve	mm²	2 × (0.25 ... 2.5)	2 × (0.25 ... 1.5)					
	AWG conductors, solid or stranded	AWG	2 × (24 ... 14)	2 × (24 ... 16)					

1) If nothing else is stated.

2) Maximum inrush current 1 A/100 ms.

3) For 3RP15 05-.R: NC contact -> I_e = 1 A.

4) $I_k \geq 1$ kA, weld-free acc. to IEC 60947-5-1.

5) With 3RP15 05-.BW30/.AW30/.RW30 and 3RP15 25-.BW30, 10 to 250 ms, voltage-dependent.

6) Minimum ON period with 3RP15 05-.BW30, 150 ms, until instantaneous contact has switched.

7) For correct operation, observe minimum ON period.

General data

Type		3RP20 05 3RP20 25	3RP15 05 3RP15 31 3RP15 32 3RP15 33	3RP15 11 3RP15 12 3RP15 13 3RP15 25 3RP15 55	3RP15 40	3RP15 60	3RP15 74 3RP15 76	3RP15 27
Permissible mounting position		any						
Shock resistance Half-sine acc. to IEC 60068-2-27	g/ms	15/11						
Vibration resistance acc. to IEC 60068-2-6	Hz/mm	10 ... 55/0.35						
EMC tests acc. to basic specification		EN 61000-6-2/EN 61000-6-4						

Type			7PV33 48	7PV41 48	7PV43 48
Rated insulation voltage Overvoltage category C to DIN VDE 0110		AC V	250		
Working range of excitation			+ 10 ... – 15 %	24 V: – 15 ... + 30 % 115/230 V: – 15 ... + 10 %	
Rated power • Power consumption at 230 V AC, 50 Hz		W VA	1 11		
Rated operating currents I_e AC-1 at AC 230 V, 50 Hz		A	8		
Operating frequency • when loaded with I_e AC 230 V • when loaded with 3RT16 contactor, AC 230 V		1/h 1/h	600 –		
Recovery time		ms	50	100	
Minimum ON period		ms	50	100	
Setting accuracy with reference to upper limit of scale			± 0.03 % ± 10 ms	± 10 % –	
Repeat accuracy			± 0.03 % ± 10 ms	± 2 %	
Mechanical endurance	operating cycles		5×10^6	2×10^7	
Permissible ambient temperature	during operation during storage	°C °C	– 10 ... + 60 – 30 ... + 70	– 20 ... + 60 – 25 ... + 70	
Degree of protection acc. to EN 60529			IP65	IP50	
Permissible mounting position			any		

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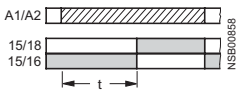
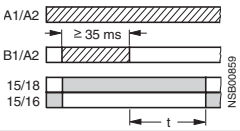
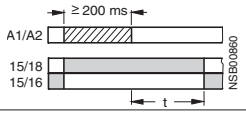
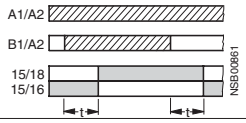
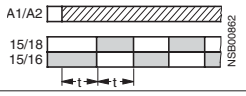
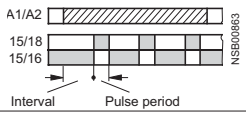
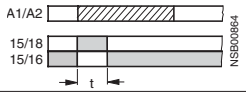
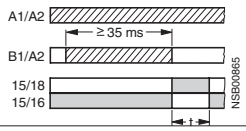
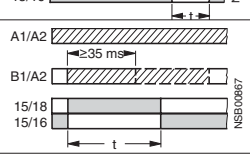
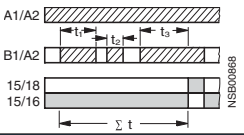
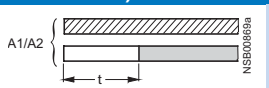
acc. to IEC 61812-1/DIN VDE 0435 Part 2021

Type			**3RT19 16-2C** **3RT19 16-2D** **3RT19 26-2C** **3RT19 26-2D**	**3RT19 16-2E** **3RT19 16-2F** **3RT19 16-2G** **3RT19 26-2E** **3RT19 26-2F** **3RT19 26-2G**	**3RT19 16-2L**
Rated insulation voltage Pollution degree 3 Overvoltage category III to DIN VDE 0110		AC V	300		
Working range of excitation			0.8 ... 1.1 × U_s, 0.95 ... 1.05 x rated frequency	0.85 ... 1.1 × U_s, 0.95 ... 1.05 x rated frequency	
Rated power • Power consumption at 230 V AC, 50 Hz		W VA	1 1	4 (1 W for 3RT1916-2L) 4	
Rated operating currents I_e AC-140; DC-13 AC-15 at 230 V AC, 50 Hz DC-13 at 24 V DC-13 at 110 V DC-13 at 230 V		A A A A A	0.3 for 3RT19 16 0.5 for 3RT19 26 – – – –	– 3 1 0.2 0.1	
Required DIAZED fuse Operational class gL/gG		A	–	4	
Operating frequency • when loaded with I_e 230 V AC • when loaded with 3RT1016 contactor, AC 230 V		1/h 1/h	2500 2500	2500 5000	
Recovery time		ms	50	150	
Minimum ON period		ms	35	200 (with OFF-delay without auxiliary voltage)	35 (with OFF-delay with auxiliary voltage)
Residual current (two-wire) **Voltage drop** with conducting output **Short-time loading capacity**		mA VA A	≤ 5 ≤ 3.5 10 (to 10 ms)	– – –	
Setting accuracy with reference to upper limit of scale **Repeat accuracy**			≤ ± 15 % ≤ ± 1%		
Mechanical endurance	operating cycles		100 × 10^6	10 × 10^6	
Permissible ambient temperature	during operation during storage	°C °C	– 25 ... + 60 – 40 ... + 85		
Degree of protection acc. to EN 60529			Cover IP40 Terminals IP20		
Conductor connection	solid finely stranded with end sleeve solid or stranded	mm² mm² AWG	2 × (0.5 ... 1.5), 2 × (0.75 ... 4) 2 × (0.5 ... 2.5) 2 × (18 ... 14)		
Terminal screw			M 3		
Tightening torque		NM	0.8 ... 1.2		
Permissible mounting position			any		
Shock resistance Half-sine acc. to IEC 60068-2-27		*g*/ms	15/11		
Vibration resistance acc. to IEC 60068-2-6		Hz/ mm	10 ... 55/0.35		
EMC tests acc. to basic specification			IEC 61000-6-2/IEC 61000-6-4		
Overvoltage protection	Varistor		integrated into time relay	integrated into 3RT1916	

General data

Functions

3RP15/3RP20/7PV function table

Function	Function chart	3RP20 time relay and 3RP19 01 label set		3RP15 time relay and 3RP19 01 label set									7PV time relay	
	Time relay energized Contact closed Contact open	3RP20 05-.A	3RP20 25	3RP15 05-.A 3RP19 01-0A	Identification letter	3RP15 1.	3RP15 25	3RP15 27	3RP15 3.	3RP15 40	3RP15 55	3RP15 7.	7PV33	7PV43
1 changeover contact														
with ON-delay		■	■	■	A	■	■						■	■
OFF-delay with auxiliary voltage		■		■	B[1])				■				■[3])	■[3])
OFF-delay without auxiliary voltage										■				
ON-delay and OFF-delay with auxiliary voltage ($t = t_{on} = t_{off}$)		■		■	C[1])									
flashing, starting with interval (pulse/interval 1:1)		■		■	D								■[2])	
clock-pulse, starting with interval (dead interval, pulse time, and time setting ranges each separately adjustable)											■			
passing make contact		■		■	E								■[4])	■[4])
passing break contact with auxiliary voltage		■		■	F[1])									
pulse shaping with auxiliary voltage (pulse generation at the output does not depend on duration of energizing)		■		■	G[1])								■[5])	■[5])
additive ON-delay with auxiliary voltage		■		■	H[1])									
1 normally open contact (semiconductor)														
ON-delay The two-wire time relay is connected in series with the load. Timing begins after application of the exciting voltage. The semiconductor output then becomes conducting, and the load is energized.								■						

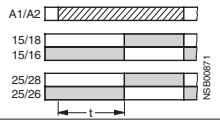
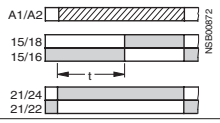
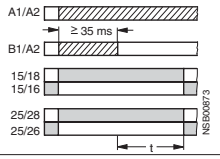
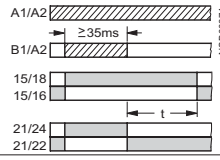
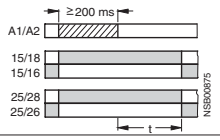
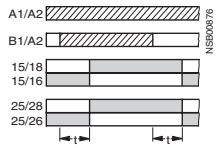
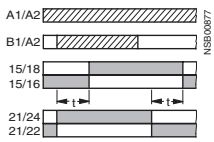
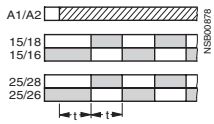
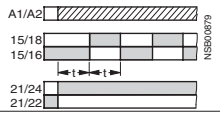
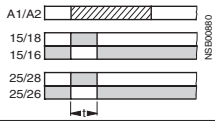
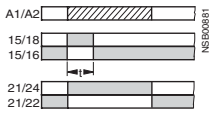
1) Note on function with start contact: a new control signal at terminal B after the operating time has started resets the operating time to zero. This does not apply to "G", "G●" and "H", "H●", which are not retriggerable.

2) For the flashing function, the start between interval "D" and pulse "Di" is selectable.

3) This function is indicated on the unit with the identification letter "C".

4) This function is indicated on the unit with the identification letter "H".

5) This function is indicated on the unit with the identification letter "B".

Function	Function chart	3RP20 time relay and 3RP19 01 label set		3RP15 time relay and 3RP19 01 label set											7PV
	Time relay energized Contact closed Contact open	3RP20 05-.B	3RP20 25	3RP15 05-.B 3RP19 01-0B	3RP15 05-.R 3RP19 01-0A	Identification letter	3RP15 1.	3RP15 25	3RP15 27	3RP15 3.	3RP15 40	3RP15 55	3RP15 60	3RP15 7.	7PV41
2 changeover contacts															
with ON-delay		■		■	■	A		■							■
ON-delay and instantaneous contact		■		■		A●									■
OFF-delay with auxiliary voltage		■		■	■	B[1])									
OFF-delay with auxiliary voltage and instantaneous contact		■		■		B●[1])									
OFF-delay without auxiliary voltage											■				
ON-delay and OFF-delay with auxiliary voltage ($t = t_{on} = t_{off}$)		■		■	■	C[1])									
ON-delay and OFF-delay with auxiliary voltage and instantaneous contact ($t = t_{on} = t_{off}$)		■		■		C●[1])									
flashing, starting with interval (pulse/interval)		■		■	■	D									
flashing, starting with interval (pulse/interval 1:1) and instantaneous contact		■		■		D●									
passing make contact		■		■	■	E									
passing make contact and instantaneous contact		■		■		E●									

1) Note on function with start contact: a new control signal at terminal B after the operating time has started resets the operating time to zero. This does not apply to G, G● and H, H●, which are not retriggerable.

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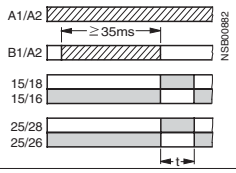
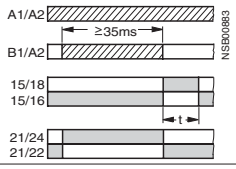
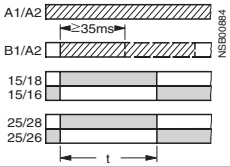
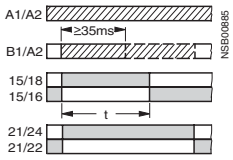
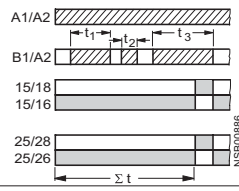
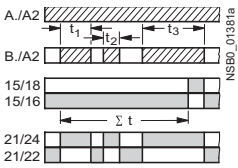
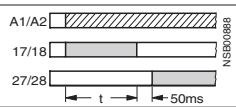
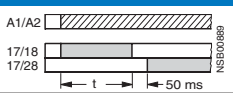
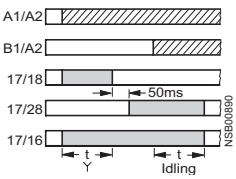
General data

Function	Function chart	3RP20 time relay and 3RP19 01 label set		3RP15 time relay and 3RP19 01 label set										
	Time relay energized Contact closed Contact open	3RP20 05-.B	3RP20 25	3RP15 05-.B 3RP19 01-0B	3RP15 05-.R 3RP19 01-0A	Identification letter	3RP15 1.	3RP15 25	3RP15 27	3RP15 3.	3RP15 40	3RP15 55	3RP15 60	3RP15 7.
2 changeover contacts														
passing break contact with auxiliary voltage		■		■	■	F[1])								
passing break contact with auxiliary voltage and instantaneous contact		■		■		F●[1])								
pulse shaping with auxiliary voltage (pulse generation at the output does not depend on duration of energizing)		■		■	■	G[1])								
pulse shaping with auxiliary voltage and instantaneous contact (pulse generation at the output does not depend on duration of energizing)		■		■		G●[1])								
additive ON-delay with auxiliary voltage					■	H[1])								
additive ON-delay with auxiliary voltage and instantaneous contact		■		■		H●[1])								
star-delta function		■		■		Y Δ								
2 normally open contacts														
star-delta function Y Δ														■
3 normally open contacts														
star-delta function with overtravel function[2]) (idling)													■	

1) Note on function with start contact: a new control signal at terminal B after the operating time has started resets the operating time to zero. This does not apply to G, G● and H, H●, which are not retriggerable.

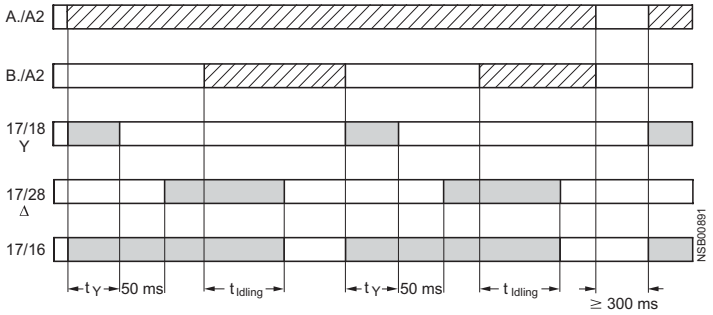
2) For function diagrams showing the various possibilities of operation of the 3RP15 60-1S.30 (see Page 8/11).

3RP15 function table

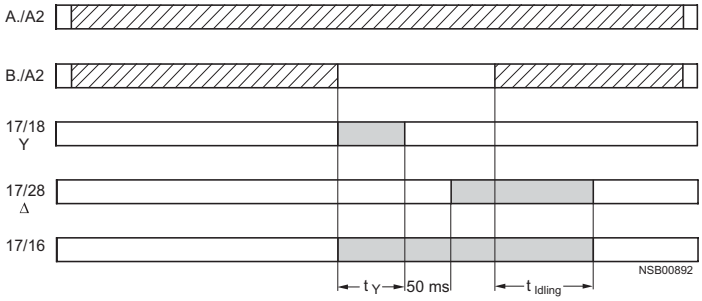
Possibilities of operation of the 3RP15 60-1S.30 time relay

Time relay energized
Contact closed
Contact open

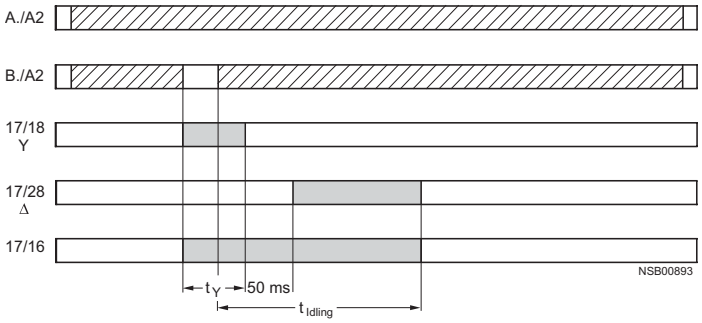
Operation 1



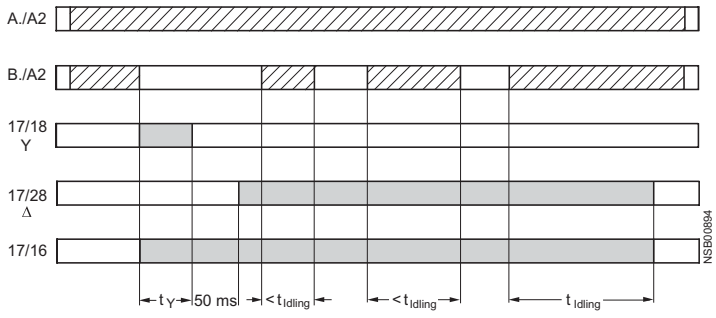
Operation 2



Operation 3



Operation 4



The following applies to all operations:
the pressure switch controls the timing via B./A2.

t_Y	= star time	1 to 20 s
t_{Idling}	= idling time (overtravel time)	30 to 600 s

Operation 1:

Start contact B./A2 is opened when supply voltage A./A2 is applied.

The supply voltage is applied to A./A2 and there is no control signal on B./A2. This starts the Y/Δ timing. The idling time (overtravel time) is started by applying a control signal to B./A2.
When the set time t_{Idling} (30 to 600 s) has elapsed, the output relays (17/16 and 17/28) are reset. If the control signal on B./A2 is switched off (minimum OFF period 270 ms), a new timing is started.

Notes:

Observe response time (dead time) of 400 ms on energizing supply voltage until contacts 17/18 and 17/16 close.

Operation 2:

Start contact B./A2 is closed when supply voltage A./A2 is applied.

If the control signal B./A2 is already present when the supply voltage A./A2 is applied, **no** timing is started. The timing is only started when the control signal B./A2 is switched off.

Operation 3:

Start contact B./A2 closes while star time is running.

If the control signal B./A2 is applied again during the star time, the idling time starts and the timing is terminated normally.

Operation 4:

Start contact B./A2 opens while delta time is running and is applied again.

If the control signal on B./A2 is applied and switched off again during the delta time although the idling time has not yet elapsed, the idling time (overtravel time) is reset to zero. If the control signal is re-applied to B./A2, the idling time is restarted.

Application example based on standard operation (operation 1)

For example, use of 3RP15 60 for compressor control

Frequent starting of compressors strains the network, the machine, and the increased costs for the operator. The new time relay prevents frequent starting at times when there is high demand for compressed air. A special control circuit prevents the compressor from being switched off immediately when the required air pressure in the tank has been reached. Instead, the valve in the intake tube is closed and the compressor runs in idling mode for a specific time which can be set from 30 to 600 s.

If the pressure falls within this time, the motor does not have to be restarted again, but can return to nominal load operation from no-load operation.

If the pressure does not fall within this idling time, the motor is switched off.

The pressure switch controls the timing via B./A2.

The supply voltage is applied to A./A2 and the start contact B./A2 is open, i.e. there is no control signal on B./A2 when the supply voltage is applied. The pressure switch signals "too little pressure in system" and starts the timing via terminal B./A2. The compressor is started, enters Y/Δ operation, and fills the pressure tank.

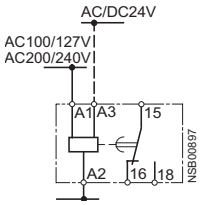
When the pressure switch signals "sufficient pressure", the control signal B./A2 is applied, the idling time (overtravel time) is started, and the compressor enters no-load operation for the set period of time between 30 to 600 s. The compressor is then switched off. The compressor is only restarted if the pressure switch responds again (low pressure).

General data

Circuit diagrams

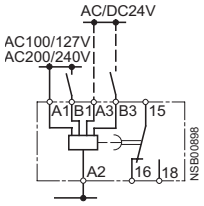
Internal circuit diagrams (terminal designation to DIN 46199, Part 5)

3RP15 05-.A
3RP15 1
3RP15 25-.A
3RP20 05
3RP20 25



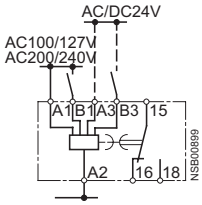
with ON-delay

3RP15 05-.A
3RP15 3-.A
3RP20 05



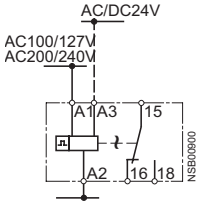
OFF-delay with auxiliary voltage

3RP15 05-.A
3RP20 05



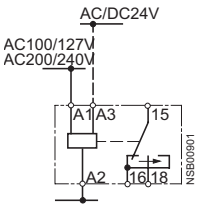
ON-delay and OFF-delay with auxiliary voltage

3RP15 05-.A
3RP20 05



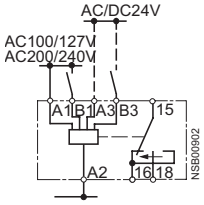
flashing

3RP15 05-.A
3RP20 05



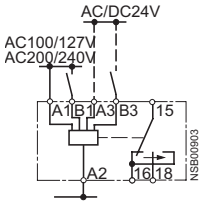
passing make contact

3RP15 05-.A
3RP20 05



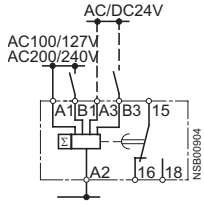
passing break contact with auxiliary voltage

3RP15 05-.A
3RP20 00



pulse-forming with auxiliary voltage

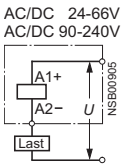
3RP15 05-.A



additive ON-delay with auxiliary voltage

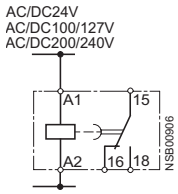
3RP15 27

U = AC/DC 24 ... 66 V
AC/DC 90 ... 240 V



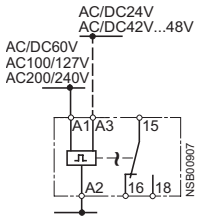
ON-delay, two-wire design

3RP15 40-.A



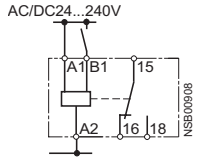
OFF-delay without auxiliary voltage

3RP15 55



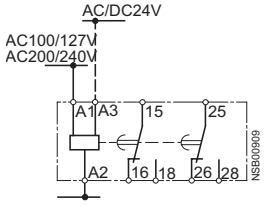
clock-pulse relay

3RP15 05-.AW30



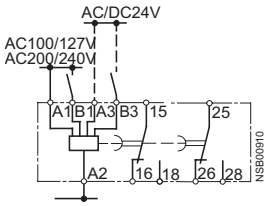
multi-function relay
(same functions as 3RP15 05-1A)

3RP15 05-.B, 3RP15 25-1B



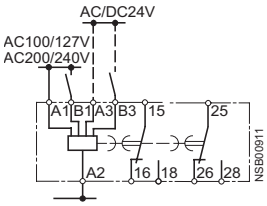
ON-delay, 3RP15 25-1B
also for AC/DC 42...48/60 V
(see Page 8/13 3RP15 25-1BR30)

3RP15 05-.B



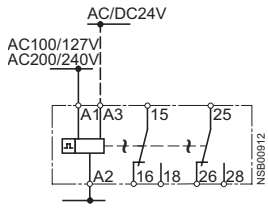
OFF-delay with auxiliary voltage

3RP15 05-.B



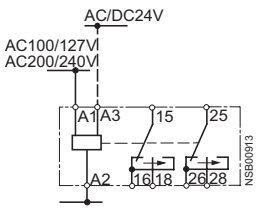
ON-delay and OFF-delay with auxiliary voltage

3RP15 05-.B



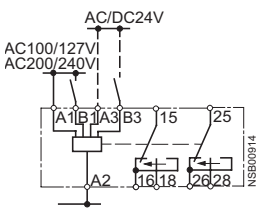
flashing

3RP15 05-.B



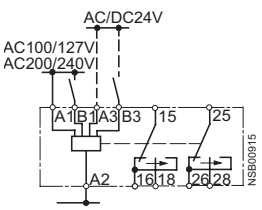
passing make contact

3RP15 05-.B



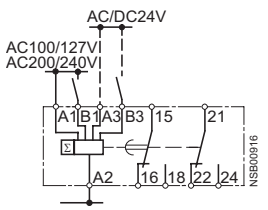
passing break contact with auxiliary voltage

3RP15 05-.B



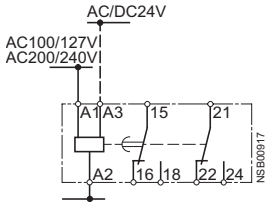
pulse-forming with auxiliary voltage

3RP15 05-.B



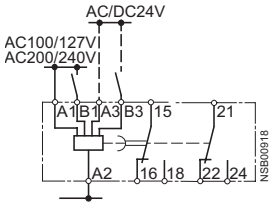
additive ON-delay with auxiliary voltage and instantaneous contact

3RP15 05-.B



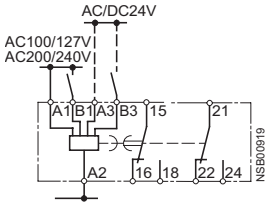
ON-delay and instantaneous contact

3RP15 05-.B



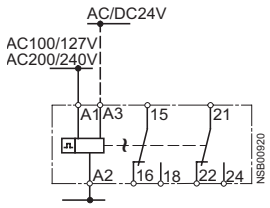
OFF-delay with auxiliary voltage and instantaneous contact

3RP15 05-.B



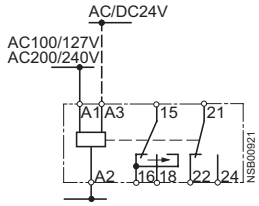
ON-delay and OFF-delay with auxiliary voltage and instantaneous contact

3RP15 05-.B



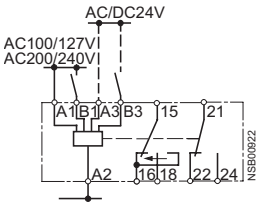
flashing and instantaneous contact

3RP15 05-.B



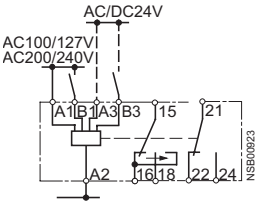
passing make contact and instantaneous contact

3RP15 05-.B



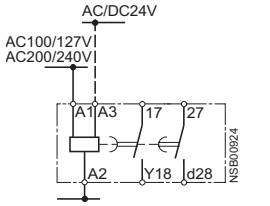
passing break contact with auxiliary voltage and instantaneous contact

3RP15 05-.B



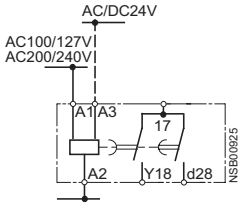
pulse-forming with auxiliary voltage and instantaneous contact

3RP15 05-.B



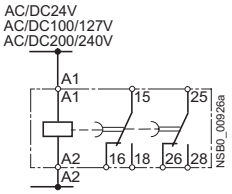
star-delta function

3RP15 74, 3RP15 76



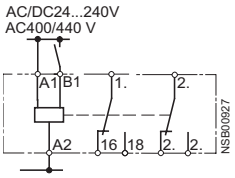
star-delta time relay

3RP15 40-.B



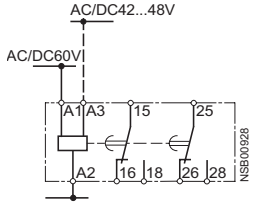
OFF-delay without auxiliary voltage

3RP15 05-.BW30/-1BT20/-.RW30



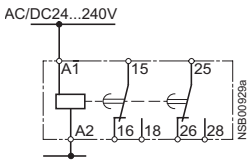
multi-function relay (for functions see function table)

3RP15 25-. BR30



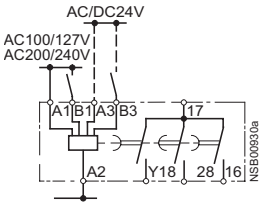
with ON-delay

3RP15 25-. BW30



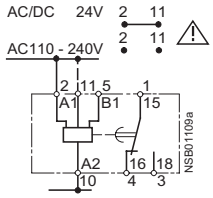
with ON-delay

3RP15 60-. S



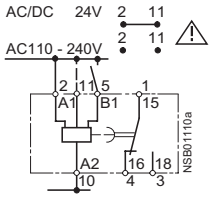
star delta time relay with overtravel function (idling)

7PV33 48-2AX34



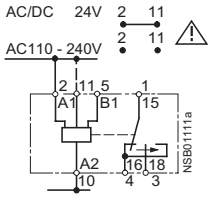
ON-delay (**A**)

7PV33 48-2AX34



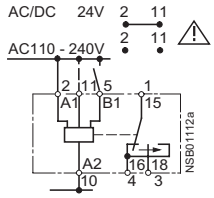
OFF-delay with auxiliary voltage (**C**)

7PV33 48-2AX34



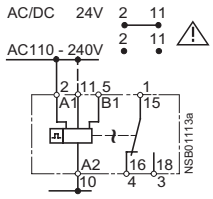
passing make contact (**H**)

7PV33 48-2AX34



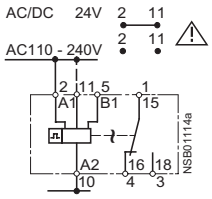
pulse-forming with auxiliary voltage (**B**)

7PV33 48-2AX34



flashing, starting with interval (**D**)

7PV33 48-2AX34



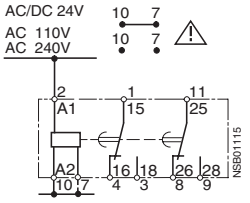
flashing, starting with pulse (**Di**)

⚠ *Important!*

The terminal designations for 7PV are different from the designations for the 3RP1 terminals.

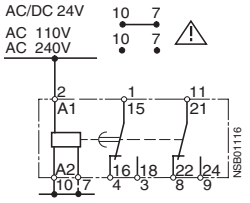
General data

7PV41 48-1BG30
7PV41 48-1BP30



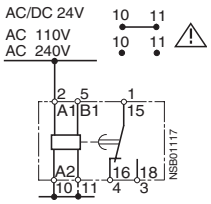
ON-delay (**0**)

7PV41 48-1BG30
7PV41 48-1BP30



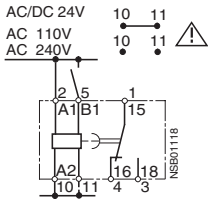
ON-delay and instantaneous contact (**1**)

7PV43 48-1AG30
7PV43 48-1AP30



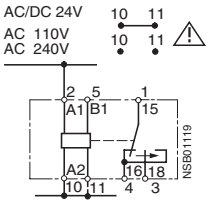
ON-delay (**A**)

7PV43 48-1AG30
7PV43 48-1AP30



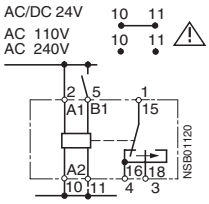
OFF-delay with auxiliary voltage (**C**)

7PV43 48-1AG30
7PV43 48-1AP30



passing make contact (**H**)

7PV43 48-1AG30
7PV43 48-1AP30



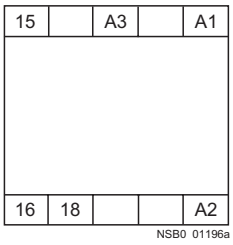
pulse-forming with auxiliary voltage (**B**)

⚠ *Important!*
The terminal designations for 7PV are different from the designations for the 3RP1 terminals

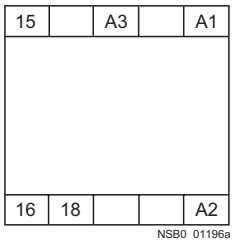
8

Position of the connection terminals

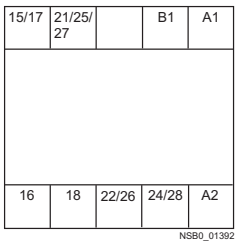
3RP20 05-.A



3RP20 25-.A



3RP20 05-.BW30



3RP15 05-1A

3RP15 05-1AW

3RP15 05-1B.

3RP15 05-1BT

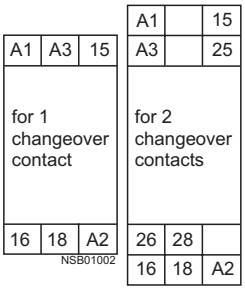
3RP15 05-1BW

3RP15 05-1RW

Position of the connection terminals

3RP15 1

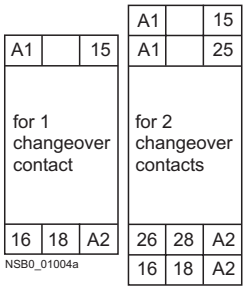
3RP15 25-1A. or **-1B.** [1)]



3RP15 27

3RP15 3.

3RP15 40

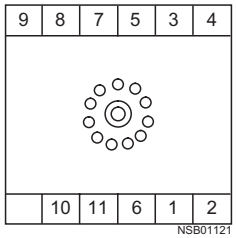


3RP15 55

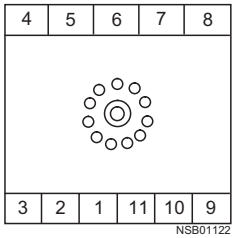
3RP15 60

3RP15 7.

LZX socket: MR78750
for time relays 7PV33; 7PV4.



Socket 7PX9921
for time relays 7PV33; 7PV4.



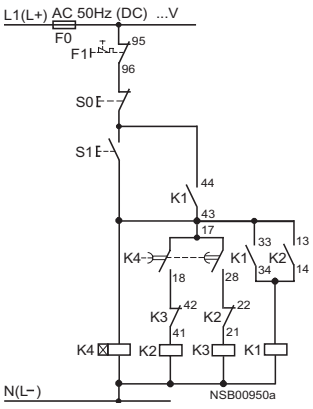
Note: all the diagrams show the view onto the connection terminals.

3RP15/3RP20/7PV circuit diagrams

Control circuits (example circuits)
with 3RP15 74 and 3RP15 76 star-delta time relays

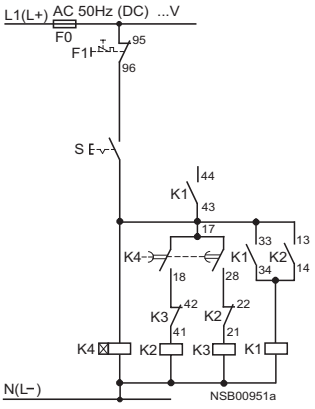
for pushbutton operation

Size S00 to S3

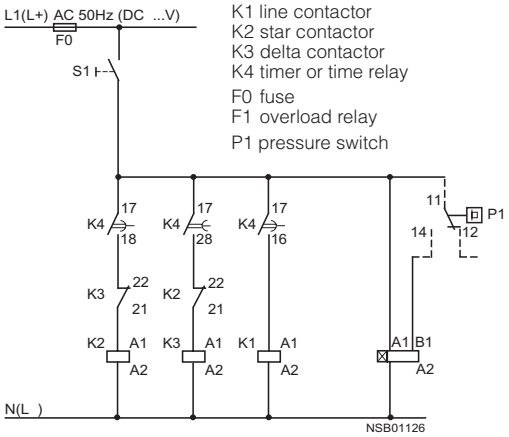


for maintained-contact operation

Size S00 to S3



Control circuit (example circuit)
with 3RP15 60 star-delta time relays



Legend:
S0 button "OFF"
S1 button "ON"
S maintained-contact button
K1 line contactor
K2 star contactor
K3 delta contactor
K4 timer or time relay
F0 fuse
F1 overload relay
P1 pressure switch

The 17/18 contact is only closed on the star level;
it is open on the delta level as well as when the power is switched off.

1) Depending on the version.

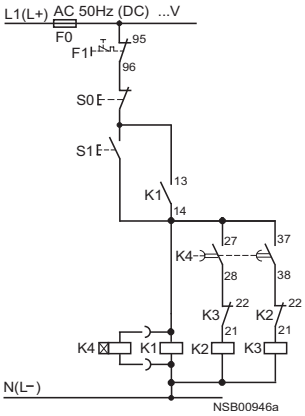
General data

3RT19 circuit diagrams

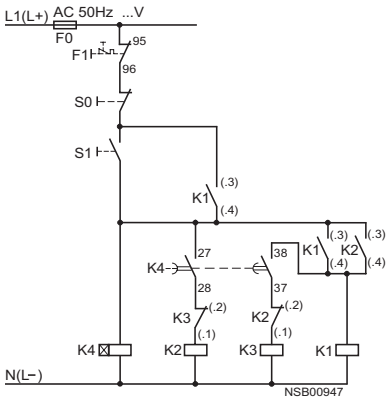
Control circuits (example circuits)
with delayed 3RT19 .6-2G star-delta auxiliary switch block.

for pushbutton operation

Size S00

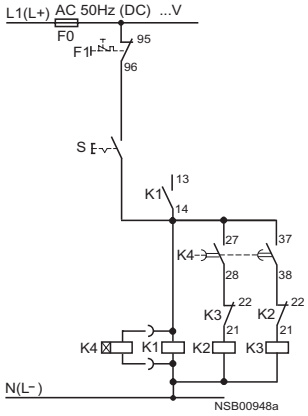


Sizes S0 to S3

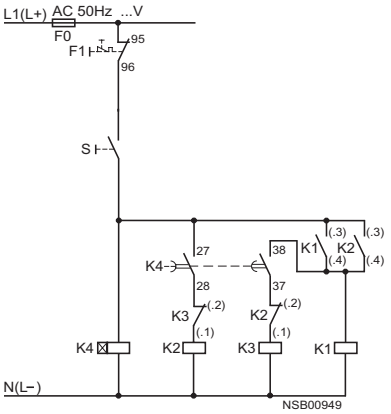


for maintained-contact operation

Size S00



Sizes S0 to S3



Legend:

S0 "OFF" button
S1 "ON" button
S Maintained-contact switch

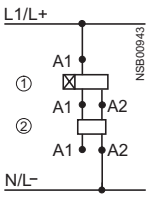
K1 Line contactor
K2 Star contactor
K3 Delta contactor
K4 Timer or time relay

F0 Fuse
F1 Overload relay

Contact 27/28 of the solid-state time-delay auxiliary switch block with star-delta function is only closed on the star level. It is open on the delta level as well as when the power is switched off.

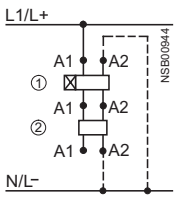
Solid-state time relay block
for size S00 to S3 3RT10 contactors and 3RH11 auxiliary contacts

3RT19 16-2C...



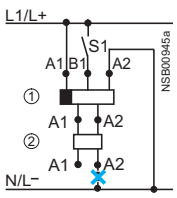
with ON-delay

3RT19 26-2C...



with ON-delay

3RT19 16-2D.../3RT19 26-2D...



OFF-delay
(with auxiliary voltage)

① time relay block
② contactor
--- can be connected
✖ **Do not connect!**

Time relays in 22.5 mm industrial enclosure

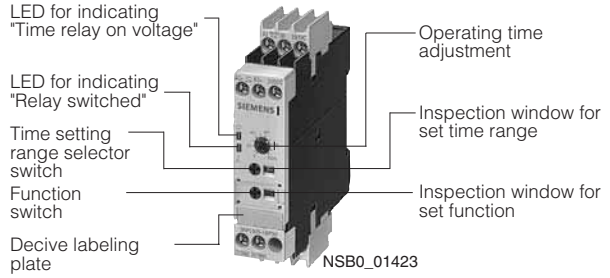
Overview

Standards

The time relays comply with:

- EN 60721-3-3 "Environmental conditions"
- EN 61812-1 (VDE 0435 Part 2021) "Solid-state relays, time relays"
- EN 61000-6-2 and EN 61000-6-4 "Electromagnetic compatibility"
- EN 60947-5-1 (VDE 0660 Part 200) "Low-voltage controlgear, switchgear and systems – Electromechanical controlgear"

3RP15 time relays, width 22.5 mm

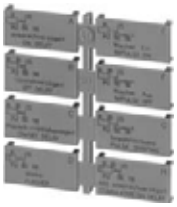


Accessories

Push-in lugs for screw mounting

Sealable cover

Label set for marking the multifunction relay



Area of application

Time relays are used in control, starting, and protective circuits for all switching operations involving time delays. They guarantee a high level of functionality and a high repeat accuracy of timer settings.

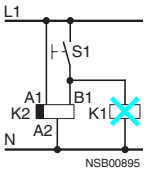
Casing design

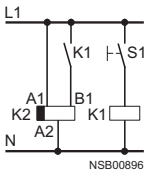
All time relays are suitable for snap-on mounting onto 35 mm standard mounting rails to EN 60715 or for screw fixing.

Functions

- Changing the time setting ranges and the functions are only effective when carried out in de-energized state.
- Start input B1 or B3 must only be triggered when the supply voltage is applied.
- The same potential must be applied to A1 and B1 or A3 and B3. With two-voltage versions, only one voltage range must be connected.
- The activation of loads parallel to the start input is not permissible when using AC control voltage (see circuit diagrams).
- Surge suppression is integrated in the time relay. This prevents the generation of voltage peaks on the supply voltage when the relay is switched on and off. No damping measures are integrated at the contacts.
- 3RP15 05-.R must not be operated next to heat sources > 60 °C.

Parallel load on start input





Time relays in 22.5 mm industrial enclosure

Selection and ordering data

Screw-type and spring-loaded connection

Solid-state time relays for general use in control systems and mechanical engineering with
- 1 changeover contact or 2 changeover contacts
- Single or selectable time setting ranges
- Switching position indication by LED
- Voltage indication by LED

For function table, see General data.

Version	Time setting range *t*	Rated control supply voltage U_s		DT	Screw connection	PS*	Weight per PU approx.	DT	Spring-loaded terminal	PS*	Weight per PU approx.
	adjustable by rotary switch to	AC 50/60 Hz	DC		Order No.				Order No.		
		V	V				kg				kg
3RP15 05 time relays, multifunction, 15 time setting ranges											
The functions can be adjusted by means of rotary switches. Indicator labels can be used to adjust different functions of the 3RP15 05 time relay clearly and unmistakably. The corresponding labels can be ordered as an accessory. The same potential must be applied to terminals A. and B.[1])											
with LED and											
1 changeover contact, 8 functions	0.05 ... 1 s	-	12	A	**3RP15 05-1AA40**	1 unit	0.120	C	**3RP15 05-2AA40**	1 unit	0.145
	0.15 ... 3 s	24/100 ... 127	24	▶	**3RP15 05-1AQ30**	1 unit	0.140	A	**3RP15 05-2AQ30**	1 unit	0.125
	0.5 ... 10 s	24/200 ... 240	24	▶	**3RP15 05-1AP30**	1 unit	0.141	A	**3RP15 05-2AP30**	1 unit	0.126
	1.5 ... 30 s	24 ... 240[4])	24 ... 240[4])	▶	**3RP15 05-1AW30**	1 unit	0.132	A	**3RP15 05-2AW30**	1 unit	0.132
2 changeover contacts, 16 functions	0.05 ... 1 min	24/100 ... 127	24	▶	**3RP15 05-1BQ30**	1 unit	0.158	A	**3RP15 05-2BQ30**	1 unit	0.133
	5 ... 100 s	24/200 ... 240	24	▶	**3RP15 05-1BP30**	1 unit	0.161	A	**3RP15 05-2BP30**	1 unit	0.137
	0.15 ... 3 min	24 ... 240[4])	24 ... 240[4])	▶	**3RP15 05-1BW30**	1 unit	0.164	A	**3RP15 05-2BW30**	1 unit	0.143
	0.5 ... 10 min	400 ... 440	-	▶	**3RP15 05-1BT20**	1 unit	0.169		–		
	1.5 ... 30 min										
2 changeover contacts, positively driven and hard gold-plated 8 functions[5])[6])	0.05... 1 h 5 ...100 min 0.15... 3 h 0.5 ... 10 h 1.5 ... 30 h 5 ...100 h ∞[2])	24 ... 240	24 ... 240	▶	**3RP15 05-1RW30**	1 unit	0.163	A	**3RP15 05-2RW30**	1 unit	0.143
3RP15 1. time relays, ON-delay, 1 time setting range											
with LED and 1 changeover contact	0.5 ... 10 s	24/100 ... 127	24	▶	**3RP15 11-1AQ30**	1 unit	0.104	A	**3RP15 11-2AQ30**	1 unit	0.092
		24/200 ... 240	24	▶	**3RP15 11-1AP30**	1 unit	0.105	A	**3RP15 11-2AP30**	1 unit	0.106
	1.5 ... 30 s	24/100 ... 127	24	▶	**3RP15 12-1AQ30**	1 unit	0.104	A	**3RP15 12-2AQ30**	1 unit	0.092
		24/200 ... 240	24	▶	**3RP15 12-1AP30**	1 unit	0.104	A	**3RP15 12-2AP30**	1 unit	0.090
	5 ... 100 s	24/100 ... 127	24	▶	**3RP15 13-1AQ30**	1 unit	0.104	C	**3RP15 13-2AQ30**	1 unit	0.094
		24/200 ... 240	24	▶	**3RP15 13-1AP30**	1 unit	0.103	A	**3RP15 13-2AP30**	1 unit	0.094
3RP15 25 time relays, ON-delay, 15 time setting ranges											
with LED and											
1 changeover contact	0.05 ... 1 s	24/100 ... 127	24	▶	**3RP15 25-1AQ30**	1 unit	0.105	C	**3RP15 25-2AQ30**	1 unit	0.095
	0.15 ... 3 s	24/200 ... 240	24	▶	**3RP15 25-1AP30**	1 unit	0.104	A	**3RP15 25-2AP30**	1 unit	0.093
2 changeover contacts	0.5 ... 10 s	42 ... 48/60	42...48/60[3])	▶	**3RP15 25-1BR30**	1 unit	0.152	C	**3RP15 25-2BR30**	1 unit	0.127
	1.5 ... 30 s	24/100 ... 127	24	▶	**3RP15 25-1BQ30**	1 unit	0.152	C	**3RP15 25-2BQ30**	1 unit	0.128
	0.05 ... 1 min	24/200 ... 240	24	▶	**3RP15 25-1BP30**	1 unit	0.152	A	**3RP15 25-2BP30**	1 unit	0.127
	5 ... 100 s	24 ... 240[3])	24 ... 240[4])	▶	**3RP15 25-1BW30**	1 unit	0.159	A	**3RP15 25-2BW30**	1 unit	0.134
	0.15 ... 3 min										
	0.5 ... 10 min										
	1.5 ... 30 min										
	0.05 ... 1 h										
	5 ... 100 min										
	0.15 ... 3 h										
	0.5 ... 10 h										
	1.5 ... 30 h										
	5 ... 100 h										
	∞[2])										
3RP15 27 time relays, ON-delay, two-wire design, 4 time setting ranges											
1 NO contact (semiconductor)	0.05 ... 1 s	24 ... 66	24...66[3])	▶	**3RP15 27-1EC30**	1 unit	0.099	C	**3RP15 27-2EC30**	1 unit	0.090
	0.2 ...4 s										
	1.5 ... 30 s										
	12 ... 240 s	90 ... 240	90...240[4])	▶	**3RP15 27-1EM30**	1 unit	0.100	C	**3RP15 27-2EM30**	1 unit	0.090

3RP15 05-1B

3RP15 1-1A

3RP15 25-1A...

3RP15 27-1E...

1) For functions, see 3RP19 01-0. label set.

2) At switch position ∞, no timing. For test purposes (ON/OFF function) on site. Relay is constantly on when activated, or relay remains constantly off when activated. Depending on which function is set.

3) Operating range 0.8 to 1.1 x U_s.

4) Operating range 0.7 to 1.1 x U_s.

5) Positively driven: NO and NC are never closed simultaneously; contact gap ≥ 0.5 mm is ensured, minimum make-break capacity 12 V, 3 mA.

6) The changeover contacts are actuated simultaneously, as a result of which only 8 functions are selectable (no star-delta, no instantaneous contact).

*** This quantity or a multiple thereof can be ordered.**

Time relays in 22.5 mm industrial enclosure

Screw and spring-loaded connection

Solid-state time relays for general use in control systems and mechanical engineering with
- 1 changeover contact or 2 changeover contacts

- Single or selectable time setting ranges
- Switching position indication by LED
- Voltage indication by LED

For function table, see "Time relays, General data".

Version	Time setting range *t* adjustable by rotary switch to	Rated control supply voltage U_s AC 50/60 Hz V	DC V	DT	Screwconnection Order No.	PS*	Weight per PU approx. kg	DT	Spring-loaded terminal Order No.	PS*	Weight per PU approx. kg
3RP15 3. time relays, OFF-delay, with auxiliary voltage, 1 time setting range											
 3RP15 3-1A	with LED and 1 changeover contact. The same potential must be applied to terminals A and B.	0.5 ... 10 s	24/100 ... 127	24	**3RP15 31-1AQ30**	1 unit	0.135	C	**3RP15 31-2AQ30**	1 unit	0.124
			24/200 ... 240	24	**3RP15 31-1AP30**	1 unit	0.136	A	**3RP15 31-2AP30**	1 unit	0.122
		1.5 ... 30 s	24/100 ... 127	24	**3RP15 32-1AQ30**	1 unit	0.138	C	**3RP15 32-2AQ30**	1 unit	0.125
			24/200 ... 240	24	**3RP15 32-1AP30**	1 unit	0.139	A	**3RP15 32-2AP30**	1 unit	0.121
		5 ... 100 s	24/100 ... 127	24	**3RP15 33-1AQ30**	1 unit	0.139	C	**3RP15 33-2AQ30**	1 unit	0.123
			24/200 ... 240	24	**3RP15 33-1AP30**	1 unit	0.135	C	**3RP15 33-2AP30**	1 unit	0.125
3RP15 40 time relays, OFF-delay, without auxiliary voltage, 7 time setting ranges[1])											
 3RP15 40-1A...	with LED and										
	1 changeover contact	0.05 ... 1 s	24	24[2])	**3RP15 40-1AB30**	1 unit	0.116	A	**3RP15 40-2AB30**	1 unit	0.105
		0.15 ... 3 s	100 ... 127	100...127[3])	**3RP15 40-1AJ30**	1 unit	0.119	A	**3RP15 40-2AJ30**	1 unit	0.108
		0.3 ... 6 s	200 ... 240	200...240[3])	**3RP15 40-1AN30**	1 unit	0.119	A	**3RP15 40-2AN30**	1 unit	0.110
	2 changeover contacts	0.5 ... 10 s	24	24[2])	**3RP15 40-1BB30**	1 unit	0.159	A	**3RP15 40-2BB30**	1 unit	0.136
		1.5 ... 30 s	100 ... 127	100...127[3])	**3RP15 40-1BJ30**	1 unit	0.161	C	**3RP15 40-2BJ30**	1 unit	0.136
		3 ... 60 s	200 ... 240	200...240[3])	**3RP15 40-1BN30**	1 unit	0.161	A	**3RP15 40-2BN30**	1 unit	0.136
		5 ... 100 s									
3RP15 55 time relays, clock-pulse relay, 15 time setting ranges											
 3RP15 55-1A...	with LED and 1 changeover contact	0.05 ... 1 s 0.15 ... 3 s 0.5 ... 10 s 1.5 ... 30 s 0.05 ... 1 min 5 ... 100 s 0.15 ... 3 min 0.5 ... 10 min 1.5 ... 30 min 0.05 ... 1 h 5 ... 100 min 0.15 ... 3 h 0.5 ... 10 h 1.5 ... 30 h 5 ... 100 h ∞[4])	42 ... 48/60	42...48/60[5])	A	**3RP15 55-1AR30**	1 unit	0.111	C	**3RP15 55-2AR30**	1 unit	0.102
			24/100 ... 127	24	▶	**3RP15 55-1AQ30**	1 unit	0.111	C	**3RP15 55-2AQ30**	1 unit	0.100
			24/200 ... 240	24	▶	**3RP15 55-1AP30**	1 unit	0.111	A	**3RP15 55-2AP30**	1 unit	0.104
3RP15 60 time relays, star-delta function, dead interval 50 ms and overtravel time, 1 time setting range											
 3RP15 60-1S...	3 NO contacts[3]) (common contact root terminal 17) For function tables, see general data.	Star-delta 1 ... 20 s, overtravel time (idling) 30 ... 600 s	24/100 ... 127	24	A	**3RP15 60-1SQ30**	1 unit	0.172	A	**3RP15 60-2SQ30**	1 unit	0.151
			24/200 ... 240	24	▶	**3RP15 60-1SP30**	1 unit	0.171	C	**3RP15 60-2SP30**	1 unit	0.152
3RP15 7. time relays, star-delta function[6]), dead interval 50 ms, 1 time setting range											
 3RP15 7.-1N...	1 NO contact instantaneous and 1 NO contact delayed (common contact root terminal 17)	1 ... 20 s	24/100 ... 127	24	▶	**3RP15 74-1NQ30**	1 unit	0.113	A	**3RP15 74-2NQ30**	1 unit	0.100
			24/200 ... 240	24	▶	**3RP15 74-1NP30**	1 unit	0.112	A	**3RP15 74-2NP30**	1 unit	0.100
		3 ... 60 s	24/100 ... 127	24	▶	**3RP15 76-1NQ30**	1 unit	0.112	A	**3RP15 76-2NQ30**	1 unit	0.102
			24/200 ... 240	24	▶	**3RP15 76-1NP30**	1 unit	0.113	A	**3RP15 76-2NP30**	1 unit	0.104

1) Setting of output contacts in as-supplied state not defined (bistable relay). Application of the control voltage once results in contact changeover to the correct setting.

2) Operating range 0.7 to 1.25 x U_s.

3) Operating range 0.85 to 1.1 x U_s.

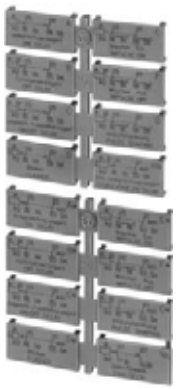
4) With selection ∞, no timing. For test purposes (ON/OFF function) on site. For dead time "infinite", the relay is always off. For pulse time "infinite", the relay is always on.

5) Operating range 0.8 to 1.1 x U_s.

6) For typical circuit, see General data.

*** This quantity or a multiple thereof can be ordered.**

Time relays in 22.5 mm industrial enclosure

Version	Function	Code letter	Application	DT	Order No.	PS*	Weight per PU approx. kg
Label sets							
Accessory for 3RP15 05 (not included in the scope of supply). The label set offers the possibility of labeling time relays with the set function in English and German.							
 Complete set with 8 functions 1 set = 5 units	with ON-delay	A	for relays with 1 changeover contact and 3RP15 05-.RW30	▶	**3RP19 01-0A**	1 set	0.003
	OFF-delay with auxiliary voltage	B					
	ON-delay and OFF-delay with auxiliary voltage	C					
	flashing, starting with interval	D					
	passing make contact	E					
	passing break contact with auxiliary voltage	F					
	pulse-forming with auxiliary voltage	G					
	additive ON-delay with auxiliary voltage	H					
 Complete set with 16 functions 1 set = 5 units	with ON-delay	A	for relays with 2 changeover contacts	▶	**3RP19 01-0B**	1 set	0.003
	OFF-delay with auxiliary voltage	B					
	ON-delay and OFF-delay with auxiliary voltage	C					
	flashing, starting with interval	D					
	passing make contact	E					
	passing break contact with auxiliary voltage	F					
	pulse-forming with auxiliary voltage	G					
	additive ON-delay with auxiliary voltage and instantaneous contact	H●					
	ON-delay and instantaneous contact	A●					
	OFF-delay with auxiliary voltage and instantaneous contact	B●					
	ON-delay and OFF-delay with auxiliary voltage and instantaneous contact	C●					
	flashing, starting with interval, and instantaneous contact	D●					
	passing make contact and instantaneous contact	E●					
	passing break contact with auxiliary voltage and instantaneous contact	F●					
	pulse-forming with auxiliary voltage and instantaneous contact	G●					
	star-delta function	Y Δ					
Covering caps and push-in lugs							
 **Push-in lug**	for screw fixing		for relays with 1 or 2 changeover contacts	▶	**3RP19 03**	10 units	0.002
 **Sealable cap**	for securing against unauthorized adjustment of setting knobs		for relays with 1 or 2 changeover contacts	▶	**3RP19 02**	5 units	0.004
Tools for opening spring-loaded terminal connections							
 8WA2 803	up to max. 2.5 mm² conductor cross-sections. Length: approx. 100 mm; 3.5 x 0.5	(orange)	for all 3RP20 time relays with spring-loaded terminal connections		**8WA2 804**	1 unit	0.012
 8WA2 804	Length: approx. 175 mm; 3.5 x 0.5	(green)	for all 3RP20 time relays with spring-loaded terminal connections		**8WA2 803**	1 unit	0.024
 8WA2 807	Length: approx. 160 mm, 2.5 x 0.4	(green)	for all 3RP15 time relays with spring-loaded terminal connections		**8WA2 807**	1 unit	0.023

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* This quantity or a multiple thereof can be ordered.

45 mm SIRIUS Design time relays

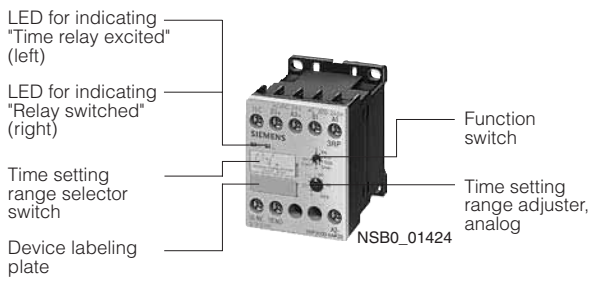
Overview

Standards

The time relays comply with:

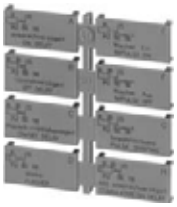
- EN 60721-3-3 "Environmental conditions"
- EN 61812-1 (VDE 0435 Part 2021) "Solid-state relays, time relays"
- EN 61000-6-2 and EN 61000-6-4 "Electromagnetic compatibility"
- EN 60947-5-1 (VDE 0660 Part 200) "Low-voltage controlgear, switchgear and systems – Electromechanical controlgear"
- EN 61140 "Safe electrical isolation"

3RP20 time relay, width 45 mm



Accessories

Label set for marking the multifunction relay



Area of application

Time relays are used in control, starting, and protective circuits for all switching operations involving time delays. They guarantee a high level of functionality and a high repeat accuracy of timer settings.

Functions

- Changing the time setting ranges and the functions is only effective when carried out in de-energized state.
- Start input B1 or B3 must only be triggered when the supply voltage is applied.
- The same potential must be applied to A1 and B1 or A3 and B3. With two-voltage version, only one voltage range must be connected.
- The activation of loads parallel to the start input is not permissible when using AC (see diagrams).
- Surge suppression is integrated in the time relay. This prevents the generation of voltage peaks on the supply voltage when the relay is switched on and off. No additional damping measures are necessary.

Time relay with multifunction

The functions can be adjusted by means of rotary switches. Indicator labels can be used to adjust different functions of the 3RP20 05 time relay clearly and unmistakably. The corresponding labels can be ordered as an accessory. The same potential must be applied to terminals A. and B.

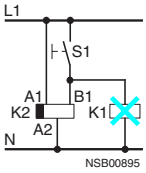
3RP20 05 with one changeover contact

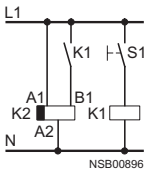
corresponds to the functions of 3RP15 05-.A.

3RP20 05 with two changeover contacts

corresponds to the functions of 3RP15 05-.B.

Parallel load on start input





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45 mm SIRIUS Design time relays

Selection and ordering data

Multifunction

The functions can be adjusted by means of rotary switches[1]). Indicator labels can be used to adjust different functions of the 3RP20 05 time relay clearly and unmistakably. The corresponding labels can be ordered as an accessory. The same potential must be applied to terminals A. and B..

Version	Time setting range *t*	Rated control supply voltage U_s AC 50-60 Hz V	Rated control supply voltage U_s DC V	DT	**Screw connection** Order No.	PS*	Weight per PU approx. kg	DT	**Spring-loaded terminal** Order No.	PS*	Weight per PU approx. kg
3RP20 05 time relays, multifunction, 15 time setting ranges											
 3RP20 05-1BW30	with LED and 1 changeover contact, 8 functions[1])[2])	0.05 ... 1 s 0.15 ... 3 s 0.5 ... 10 s 1.5 ... 30 s 0.05 ... 1 min 5 ... 100 s 0.15 ... 3 min 0.5 ... 10 min 1.5 ... 30 min 0.05 ... 1 h 5 ... 100 min 0.15 ... 3 h 0.5 ... 10 h 1.5 ... 30 h 5 ... 100 h ∞[3])	24/100 ... 127 24/200 ... 240	24 24	► ►	**3RP20 05-1AQ30** **3RP20 05-1AP30**	1 unit 1 unit	0.118 0.118	► ►	**3RP20 05-2AQ30** **3RP20 05-2AP30**	1 unit 1 unit	0.120 0.121
	with LED and 2 changeover contacts, 16 functions[1])	0.05 ... 1 s 0.15 ... 3 s 0.5 ... 10 s 1.5 ... 30 s 0.05 ... 1 min 5 ... 100 s 0.15 ... 3 min 0.5 ... 10 min 1.5 ... 30 min 0.05 ... 1 h 5 ... 100 min 0.15 ... 3 h 0.5 ... 10 h 1.5 ... 30 h 5 ... 100 h ∞[3])	24 ... 240[4])	24 ... 240[5])	►	**3RP20 05-1BW30**	1 unit	0.128	►	**3RP20 05-2BW30**	1 unit	0.131
3RP20 25 time relays, ON-delay, 15 time setting ranges											
 3RP20 25-1AP30	with LED and 1 changeover contact[2])	0.05 ... 1 s 0.15 ... 3 s 0.5 ... 10 s 1.5 ... 30 s 0.05 ... 1 min 5 ... 100 s 0.15 ... 3 min 0.5 ... 10 min 1.5 ... 30 min 0.05 ... 1 h 5 ... 100 min 0.15 ... 3 h 0.5 ... 10 h 1.5 ... 30 h 5 ... 100 h ∞[3])	24/100 ... 127 24/200 ... 240	24 24	► ►	**3RP20 25-1AQ30** **3RP20 25-1AP30**	1 unit 1 unit	0.106 0.106	► ►	**3RP20 25-2AQ30** **3RP20 25-2AP30**	1 unit 1 unit	0.110 0.108

1) For functions, see 3RP19 01-0. label set, Page 8/20.

2) Units with safe electrical isolation.

3) With switch position ∞, no timing. For test purposes (ON/OFF function) on site. Relay is constantly on when activated, or relay remains constantly off when activated. Depending on which function is set.

4) Operating range 0.8 ... 1.1 x U_s.

5) Operating range 0.7 ... 1.1 x U_s.

*** This quantity or a multiple thereof can be ordered.**

Selection and ordering data

Version	Time setting range *t*	Rated control supply voltage U_s AC 50-60 Hz V	Rated control supply voltage U_s DC V	DT	Order No.	PS*	Weight per PU approx. kg
7PV41 48 time relays, ON-delay, 6 analog time setting ranges							
 7PV41 48	with LED and 2 delayed changeover contacts or 1 delayed changeover contact + 1 instanteneous changeover contact	0.1 ... 1 s 1 ... 10 s 0.1 ... 1 min 1 ... 10 min 0.1 ... 1 h 1 ... 10 h	24/110 24/220 ... 240	24 24	► ►	**7PV41 48-1BG30** **7PV41 48-1BP30**	1 unit 1 unit	0.125 0.125
7PV43 48 time relays, multifunction, 6 analog time setting ranges							
 7PV43 48	with LED and 1 changeover contact, ON-delay, OFF-delay with auxiliary voltage, pulse-forming, passing make contact[1])	0.1 ... 1 s 1 ... 10 s 0.1 ... 1 min 1 ... 10 min 0.1 ... 1 h 1 ... 10 h	24/110 24/220 ... 240	24 24	A ►	**7PV43 48-1AG30** **7PV43 48-1AP30**	1 unit 1 unit	0.108 0.110
7PV33 48 time relays, multifunction, digitally adjustable, 11 time setting ranges							
 7PV43 49	with LCD display, 1 changeover contact, ON-delay, OFF-delay with auxiliary voltage, flashing, pulse starting, interval starting, passing make contact, pulse-forming, non-volatile setting parameters; the elapsed time is not saved[2])	0.01 s ... 9999 h	24/110 ... 240	24	►	**7PV33 48-2AX34**	1 unit	0.133

Version	Configuration	DT	Order No.	PS*	Weight per PU approx. kg
Sockets					
 7PX9 921	**Socket** 11-pole socket with rear connection	►	**7PX9 921**	1 unit	0.051
 LZX:MT78750	11-pole socket for DIN rail and mounting	►	**LZX:MT78750**	1 unit	0.063

1) No parallel load on terminal B1 permitted!

2) Possibility of connecting parallel load to terminal B1!

Note

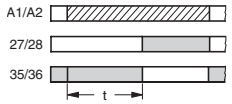
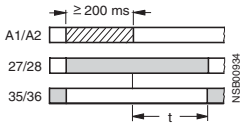
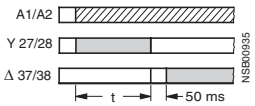
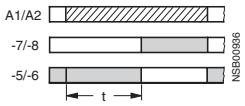
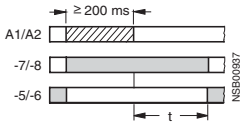
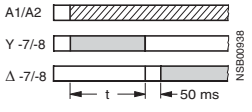
7PV41 and 7PV43 are obsolete types! Do not plan with them in new applications and projects. A new development with a wider functionality and a modified base is due in the middle of 2004.

For new applications we recommend the use of 7PV33.

*** This quantity or a multiple thereof can be ordered.**

Time relays for mounting onto contactors

Selection and ordering data

for contactors Type	Auxiliary contacts Function (▨ Time relay energized, ▩ Time relay closed, □ Contact open)	Rated control supply voltage U_s V	Time setting range t S	DT	Order No.	PS*	Weight per PU approx. kg
For size S00,[1]) with screw connection							
 3RT19 16-2...	**Terminal designations to EN 46199 Part 5**						
3RT10 1, 3RH11	• ON-delay (varistor integrated)						
	1 NO + 1 NC	AC/DC 24	0.05 ... 1	▶	**3RT19 16-2EJ11**	1 unit	0.085
			0.5 ... 10	▶	**3RT19 16-2EJ21**	1 unit	0.084
			5 ... 100	C	**3RT19 16-2EJ31**	1 unit	0.086
		AC 100 ... 127	0.05 ... 1	C	**3RT19 16-2EC11**	1 unit	0.087
			0.5 ... 10	▶	**3RT19 16-2EC21**	1 unit	0.087
			5 ... 100	▶	**3RT19 16-2EC31**	1 unit	0.086
		AC 200 ... 240	0.05 ... 1	A	**3RT19 16-2ED11**	1 unit	0.088
			0.5 ... 10	▶	**3RT19 16-2ED21**	1 unit	0.089
			5 ... 100	▶	**3RT19 16-2ED31**	1 unit	0.087
	• OFF-delay without auxiliary voltage (varistor integrated)[2])						
	1 NO + 1 NC	AC/DC 24	0.05 ... 1	▶	**3RT19 16-2FJ11**	1 unit	0.087
			0.5 ... 10	▶	**3RT19 16-2FJ21**	1 unit	0.086
			5 ... 100	▶	**3RT19 16-2FJ31**	1 unit	0.089
		AC 100 ... 127	0.05 ... 1	C	**3RT19 16-2FK11**	1 unit	0.086
			0.5 ... 10	▶	**3RT19 16-2FK21**	1 unit	0.087
			5 ... 100	C	**3RT19 16-2FK31**	1 unit	0.088
		AC 200 ... 240	0.05 ... 1	A	**3RT19 16-2FL11**	1 unit	0.089
			0.5 ... 10	▶	**3RT19 16-2FL21**	1 unit	0.086
			5 ... 100	▶	**3RT19 16-2FL31**	1 unit	0.089
	• OFF-delay with auxiliary voltage						
	1 changeover contact	AC/DC 24	0.5 ... 10	B	**3RT19 16-2LJ21**	1 unit	0.060
		AC 100 ... 127		B	**3RT19 16-2LC21**	1 unit	0.062
		AC 200 ... 240		B	**3RT19 16-2LD21**	1 unit	0.063
	• Star-delta function (varistor integrated)						
	1 NO, delayed + 1 NO, instantaneous, dead time 50 ms	AC/DC 24	1.5 ... 30	▶	**3RT19 16-2GJ51**	1 unit	0.086
		AC 100 ... 127		D	**3RT19 16-2GC51**	1 unit	0.087
		AC 200 ... 240		▶	**3RT19 16-2GD51**	1 unit	0.088
							
For sizes S0 to S12[3]), with screw connection							
 3RT19 26-2...	• with ON-delay						
3RT10 2, 3RT10 3, 3RT10 4	1 NO + 1 NC	AC/DC 24	0.05 ... 1	D	**3RT19 26-2EJ11**	1 unit	0.081
			0.5 ... 10	▶	**3RT19 26-2EJ21**	1 unit	0.081
			5 ... 100	C	**3RT19 26-2EJ31**	1 unit	0.082
		AC 100 ... 127	0.05 ... 1	C	**3RT19 26-2EC11**	1 unit	0.083
			0.5 ... 10	▶	**3RT19 26-2EC21**	1 unit	0.083
			5 ... 100	D	**3RT19 26-2EC31**	1 unit	0.083
		AC 200 ... 240	0.05 ... 1	D	**3RT19 26-2ED11**	1 unit	0.085
			0.5 ... 10	▶	**3RT19 26-2ED21**	1 unit	0.085
			5 ... 100	C	**3RT19 26-2ED31**	1 unit	0.085
	• OFF-delay without auxiliary voltage[2])						
	1 NO + 1 NC	AC/DC 24	0.05 ... 1	▶	**3RT19 26-2FJ11**	1 unit	0.083
			0.5 ... 10	▶	**3RT19 26-2FJ21**	1 unit	0.084
			5 ... 100	▶	**3RT19 26-2FJ31**	1 unit	0.085
		AC 100 ... 127	0.05 ... 1	D	**3RT19 26-2FK11**	1 unit	0.087
			0.5 ... 10	▶	**3RT19 26-2FK21**	1 unit	0.084
			5 ... 100	C	**3RT19 26-2FK31**	1 unit	0.087
		AC 200 ... 240	0.05 ... 1	D	**3RT19 26-2FL11**	1 unit	0.086
			0.5 ... 10	A	**3RT19 26-2FL21**	1 unit	0.084
			5 ... 100	▶	**3RT19 26-2FL31**	1 unit	0.086
	• star-delta function						
	1 NO, delayed + 1 NO, instantaneous, dead time 50 ms	AC/DC 24	1.5 ... 30	▶	**3RT19 26-2GJ51**	1 unit	0.084
		AC 100 ... 127		▶	**3RT19 26-2GC51**	1 unit	0.085
							
	1 NO, delayed + 1 NO, instantaneous, dead time 50 ms	AC 200 ... 240		▶	**3RT19 26-2GD51**	1 unit	0.088

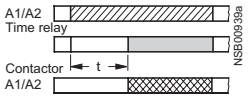
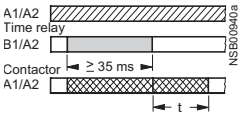
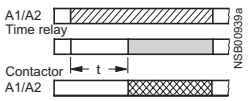
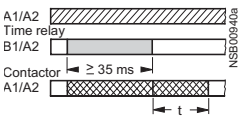
1) The terminals for the rated control supply voltage are connected to the contactor beneath by the integrated spring-type contacts of the solid-state time-delay auxiliary switch block when mounting.

2) Setting of output contacts in as-supplied state not defined (bistable relay). Application of the control voltage once results in contact changeover to the correct setting.

3) The terminals A1 and A2 for the rated control supply voltage of the solid-state time-delay auxiliary switch block must be connected to the corresponding contactor by connecting leads.

*** This quantity or a multiple thereof can be ordered.**

Time relays for mounting onto contactors

for contactors	Function	Rated control supply voltage U_s	Time setting range t	DT	Order No.	PS*	Weight per PU approx.
	Time relay energized Contact closed Contact open Contactor energized						
Type		V	S				kg
For size S00, with semiconductor output and screw connection							
	for mounting onto the front of contactors The electrical connection between the time-relay block and the contactor beneath is established automatically when it is snapped on.						
	• ON-delay, two-wire version (varistor integrated)						
3RT10 1, 3RH11  3RT19 16-2C...		AC/DC 24 ... 66	0.05 ... 1	C	**3RT19 16-2CG11**	1 unit	0.051
			0.5 ... 10	▶	**3RT19 16-2CG21**	1 unit	0.051
			5 ... 100	▶	**3RT19 16-2CG31**	1 unit	0.054
		AC/DC 90 ... 240	0.05 ... 1	A	**3RT19 16-2CH11**	1 unit	0.047
			0.5 ... 10	▶	**3RT19 16-2CH21**	1 unit	0.047
			5 ... 100	▶	**3RT19 16-2CH31**	1 unit	0.051
	• OFF-delay with auxiliary voltage (varistor integrated)						
 3RT19 16-2D...		AC/DC 24 ... 66	0.05 ... 1	C	**3RT19 16-2DG11**	1 unit	0.052
			0.5 ... 10	C	**3RT19 16-2DG21**	1 unit	0.052
			5 ... 100	C	**3RT19 16-2DG31**	1 unit	0.057
		AC/DC 90 ... 240	0.05 ... 1	D	**3RT19 16-2DH11**	1 unit	0.053
			0.5 ... 10	▶	**3RT19 16-2DH21**	1 unit	0.053
			5 ... 100	C	**3RT19 16-2DH31**	1 unit	0.052
For sizes S0 to S3, with semiconductor output and screw connection							
	for mounting onto coil terminals on top of the contactors The electrical connection between the relay block and the corresponding contactor is established by screwing the two connecting pins of the time-relay block to coil terminals A1/A2 on top of the contactor.						
	• ON-delay, two-wire version (varistor integrated)						
3RT10 2, 3RT10 3, 3RT10 4[1])  3RT19 26-2C...		AC/DC 24 ... 66	0.05 ... 1	A	**3RT19 26-2CG11**	1 unit	0.048
			0.5 ... 10	A	**3RT19 26-2CG21**	1 unit	0.049
			5 ... 100	C	**3RT19 26-2CG31**	1 unit	0.048
		AC/DC 90 ... 240	0.05 ... 1	▶	**3RT19 26-2CH11**	1 unit	0.048
			0.5 ... 10	▶	**3RT19 26-2CH21**	1 unit	0.047
			5 ... 100	▶	**3RT19 26-2CH31**	1 unit	0.048
	• OFF-delay with auxiliary voltage (varistor integrated)						
 3RT19 26-2D...		AC/DC 24 ... 66	0.05 ... 1	D	**3RT19 26-2DG11**	1 unit	0.050
			0.5 ... 10	C	**3RT19 26-2DG21**	1 unit	0.051
			5 ... 100	D	**3RT19 26-2DG31**	1 unit	0.051
		AC/DC 90 ... 240	0.05 ... 1	C	**3RT19 26-2DH11**	1 unit	0.050
			0.5 ... 10	A	**3RT19 26-2DH21**	1 unit	0.050
			5 ... 100	C	**3RT19 26-2DH31**	1 unit	0.050

1) Not for 3RT10 4 contactor with 24 to 42 V rated control supply voltage.

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