

Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays

General data

Overview

Selection aid for mountable auxiliary switch blocks for motor contactors and contactor relays


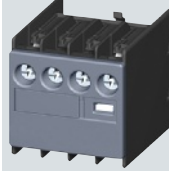
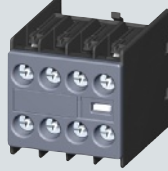



The auxiliary switch blocks from the 3RH29 series for mounting on the front and side can be used for the motor contactors in sizes S00 and S0 as well as for the contactor relays. The exact application possibilities are listed in the following tables.

The auxiliary switch blocks and their use are described in the sections "Motor Contactors" and "Contactor Relays".

Note:

The auxiliary switches according to EN 50012 also meet the requirements according to EN 50005.

Motor contactors

Contactor Size	Integrated auxiliary switches	Examples Version	All auxiliary contacts with mirror contact function according to EN 60947-4-1 EN 50005				EN 50012	
			Mountable on front			Laterally mountable	Mountable on front	Laterally mountable
			1-pole	2-pole	4-pole	2-pole	4-pole	2-pole
								
			3RH29 11-1AA... 3RH29 11-1BA...	3RH29 11-1LA... 3RH29 11-1MA...	3RH29 11-.F... 3RH29 11-.H...	3RH29 11-.D... 3RH29 21-.D...	3RH29 11-.HA...	3RH29 11-.D... 3RH29 21-.D...
S00	1 NO or 1 NC	A	1	--	--	1	--	--
		B	--	1	1	--	1	--
		C	--	--	--	2 (1 x left and 1 x right)	--	1 (right)
S0	1 NO + 1 NC	A	1	--	--	1	--	--
		B	--	1	1	--	1	--
		C	--	--	--	2 (1 x left and 1 x right)	--	1 (right)

Examples according to EN 50005

Version A, S00: S00 basic unit + one single-pole front-side auxiliary switch block + one 2-pole lateral auxiliary switch block

--> 3RT20 16-1AK61 + 3RH29 11-1AA01 + 3RH29 11-1DA11

Version B, S0: S0 basic unit + one 4-pole front-side auxiliary switch block

--> 3RT20 27-2AK60 + 3RH29 11-2HA22

Example according to EN 50012






Version C, S0: S0 basic unit + one 2-pole lateral auxiliary switch block, mounted on the right

--> 3RT20 26-2AK60 + 3RH29 11-2DA11

Note:

The front solid-state compatible auxiliary switches have no mirror contact functionality.

Contactor relays

Contactor relay Size	Integrated auxiliary switches	Examples Version	All front auxiliary contacts with positively-driven operation according to EN 60947-5-1 EN 50005				EN 50011
			Mountable on front			Lateral ¹⁾	Mountable on front
			1-pole	2-pole	4-pole	2-pole	4-pole
							
			3RH29 11-1AA... 3RH29 11-1BA...	3RH29 11-1LA... 3RH29 11-1MA...	3RH29 11-.F... 3RH29 11-.H...	3RH29 11-.DA... 3RH29 21-.DA...	3RH29 11-.GA...
S00	2 NO + 2 NC or 3 NO + 1 NC or 4 NO	A	1	--	--	1	1
		B	--	1	1	--	1
		C	--	--	--	2 (1 x left and 1 x right)	1

¹⁾ Lateral auxiliary contacts without positively-driven operation.

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For 3RT2, 3RH2 Contactors and Contactor Relays

General data

Terminal designations and identification numbers for auxiliary contacts

Terminal designations

The terminal designations have 2 digits, e.g. 13, 14, 21, 22:

- Tens position: Identification number
 - Related terminals have the same identification number
- Units position: Function number
 - 1-2 for normally closed contact (NC)
 - 3-4 for normally open (NO)

Identification numbers

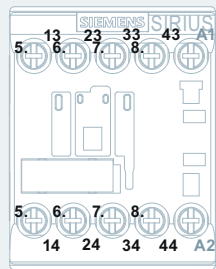
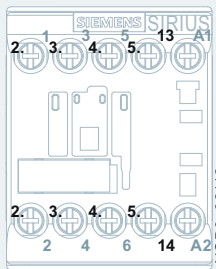
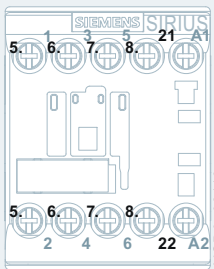
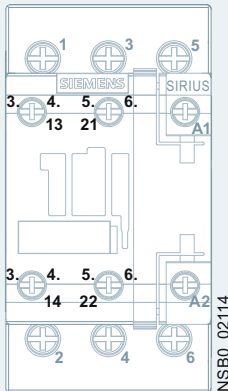
The identification number indicates the quantity and type of auxiliary contacts, e.g. 40, 31, 22, 13:

- 1st digit: Number of NO contacts
- 2nd digit: Number of NC contacts

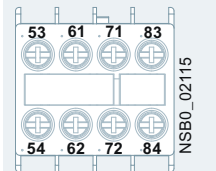
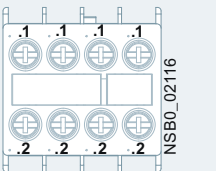
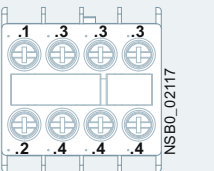
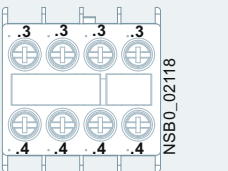
Examples:

- 31 = 3 NO + 1 NC
- 40 = 4 NO

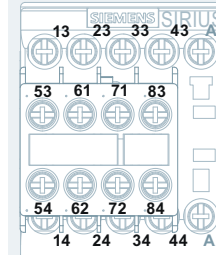
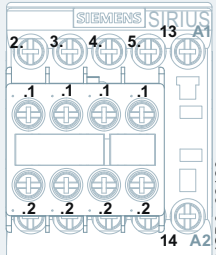
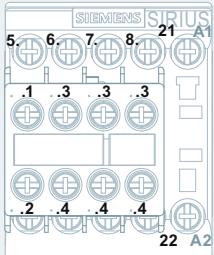
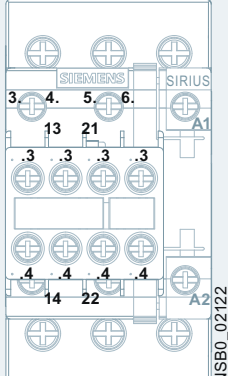
3RH2 contactor relays and 3RT2 motor contactors (basic units) – Overview of identification numbers

			
Contactor with integrated auxiliary contacts	3RH21 contactor relay, S00, with 4 normally open contacts (4 NO)	3RT20 motor contactor, S00, with 1 normally open contact (1 NO)	3RT20 motor contactor, S00, with 1 normally closed contact (1 NC)
Identification numbers for front auxiliary switches	5th 6th 7th 8th	2nd 3rd 4th 5th	3rd 4th 5th 6th
	(only with auxiliary switches acc. to EN 50005 and EN 50011)		(only with auxiliary switches acc. to EN 50005)

3RH29 auxiliary switch blocks – Overview of function numbers (examples)

			
Auxiliary switch block with auxiliary contacts	3RH29 auxiliary switch, 4 contacts 2 NO + 2 NC	3RH29 auxiliary switch, 4 contacts 4 NC	3RH29 auxiliary switch, 4 contacts 4 NO
Function numbers for front auxiliary switches	.3 .1 .1 .3 .4 .2 .2 .4	.1 .1 .1 .1 .2 .2 .2 .2	.1 .3 .3 .3 .2 .4 .4 .4
			.3 .3 .3 .3 .4 .4 .4 .4

3RH29 basic units with mounted 3RH29 auxiliary switch blocks – Overview of terminal designations (examples)

			
Contactor with mounted auxiliary switch block	3RH29 auxiliary switch, 4 contacts 2 NO + 2 NC	3RH29 auxiliary switch, 4 contacts 4 NC	3RH29 auxiliary switch, 4 contacts 4 NO
Terminal designations of all auxiliary contacts	13 23 33 43 53 61 71 83 14 24 34 44 54 62 72 84	13 21 31 41 51 14 22 32 42 52	21 51 63 73 83 22 52 63 74 84
			13 21 33 43 53 63 14 22 34 44 54 64

Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays

General data

Solid-state time-delay auxiliary switches

All solid-state delayed auxiliary switches which can be mounted onto the contactor are designed for applications in the range from 24 to 240 V AC/DC (wide voltage range). Both the electrical and mechanical connections are made by simply snapping on and locking.

The time-delay auxiliary switch is supplied with power directly by two plug-in contacts through the coil terminals of the contactor, in parallel with A./A2.

A protection circuit (varistor) is integrated in each module.

A sealable cover is available to protect against careless adjustment of the set times.

Note:

It is not allowed to mount more auxiliary switches onto the contactor.

OFF-delay devices for contactors

AC and DC operation

IEC 60947, EN 60947.

For screw and snap-on mounting onto TH 35 standard mounting rails. The OFF-delay devices have screw terminals.

The OFF-delay device prevents a contactor from dropping out unintentionally when there is a short-time voltage dip or voltage failure. It supplies a downstream, DC-operated contactor with the necessary energy during a voltage dip, ensuring that the contactor does not trip. The 3RA29 16 OFF-delay devices are specifically designed for operation with the 3RT contactors and 3RH contactor relays in the SIRIUS series.

The OFF-delay device operates without external voltage on a capacitive basis, and can be energized with either AC or DC (24 V version only for DC operation). Voltage matching, which is only necessary with AC operation, is performed using a rectifier bridge.

A contactor opens after a delay when the capacitors of the solenoid coil, built into the OFF-delay device, are switched in parallel. In the event of voltage failures, the capacitors are discharged via the solenoid coil and thereby delay the opening of the contactor.

If the command devices are upstream of the OFF-delay device in the circuit, the OFF-delay takes effect with every opening operation. If the opening operation is downstream of the OFF-delay device, an OFF-delay only applies in the event of failure of the mains voltage.

Operation

In the case of the versions for rated control supply voltages of 110 and 230 V, either AC voltage or DC voltage can be applied on the line side, whereas the variant for 24 V is designed for DC operation only.

A DC-operated contactor is connected to the output in accordance with the input voltage that is applied.

The mean value of the OFF-delay is approximately 1.5 times the specified minimum time.

Additional load module

Size S00 for plugging onto the front of the contactors with and without auxiliary switch block.

This module is used for increasing the permissible residual current and for limiting the residual voltage. It ensures safe opening of contactors with direct control via 230 V AC semiconductor outputs of SIMATIC controllers, and acts simultaneously as a surge suppressor.

Surge suppressors

- Without LED (also for spring-type terminals)
Sizes S00 and S0
- With LED (also for spring-type terminals)
Sizes S00 and S0

All 3RT2 contactors and 3RH2 contactor relays can be retrofitted with RC elements or varistors for damping opening surges in the coil. Diodes or diode assemblies (comprising noise suppression diodes and Zener diodes for short break times) can be used.

The surge suppressors are plugged onto the front of size S00 contactors. Space is provided for them next to a snap-on auxiliary switch block.

Varistors, RC elements or diode assemblies can be plugged onto the front of size S0 contactors.

Coupling relays are supplied either without overvoltage damping or with a suppressor diode, varistor or diode connected as standard, according to the version.

Note:

The OFF-delay of the NO contact and the ON-delay of the NC contact are increased if the contactor coils are attenuated against voltage peaks (noise suppression diode 6 to 10 times; diode assemblies 2 to 6 times, varistor +2 to 5 ms).

Coupling links for control by PLC

DC operation

IEC 60947 and EN 60947.

The coupling link is suitable for use in any climate. It is finger-safe according to EN 50274. The terminal designations comply with EN 50005.

System-compatible operation with 24 V DC, operating range 17 to 30 V.

Low power consumption of 0.5 W in conformity with the technical specifications of the solid-state systems. An LED indicates the switching state.

Surge suppression

The 3RH29 24-1GP11 coupling link has an integrated surge suppressor (varistor) for the contactor coil being switched.

Mounting

The 3RH29 24-1GP11 coupling link is mounted on the contactor coil size S0 using a coil terminal module.

Sealable covers

When contactors and contactor relays are used in safety-oriented applications, it must be ensured that it is impossible to operate the contactors manually.

For SIRIUS contactors there are sealable covers available for this purpose as accessories; these prevent accidental manual operation. These are transparent molded-plastic caps with a bracket that enables the contactor to be sealed.

Solder pin adapters

The solder pin adapters for the contactors size S00, up to 7.5 HP or 12 A (AC-1/AC-3), are available in two versions:

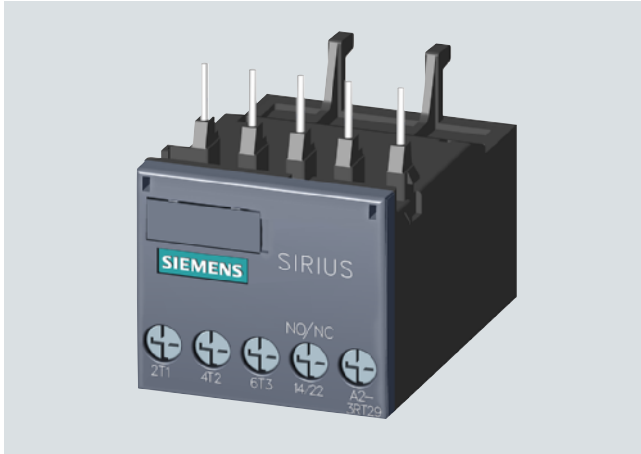
- Solder pin adapter for contactors with one integrated auxiliary contact
- Solder pin adapter for contactors with mounted 4-pole auxiliary switch block

Accessories and Spare Parts

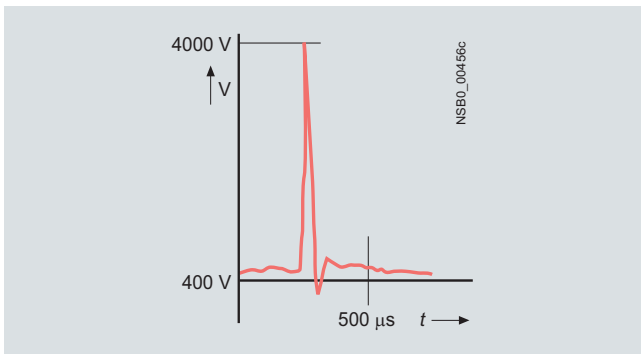
For 3RT2, 3RH2 Contactors and Contactor Relays

General data

Electromagnetic interference suppression module, three-phase for size S00 contactors



A so-called counter-e.m.f. (electromotive force) is produced when motors or various inductive loads are turned off. Voltage peaks of up to 4000 V may occur as a result, with a frequency spectrum from 1 kHz to 10 MHz and a rate of voltage variation from 0.1 to 20 V/ns.



Capacitive input to various analog and digital signals makes it necessary to suppress interference in the load circuit.

Reducing contact arcing

The connection between the main current path and the EMC suppression module enables contact arcing, which is responsible for contact erosion and the majority of clicking noises, to be reduced; this in turn is conducive to an electromagnetically compatible design.

Higher operational reliability

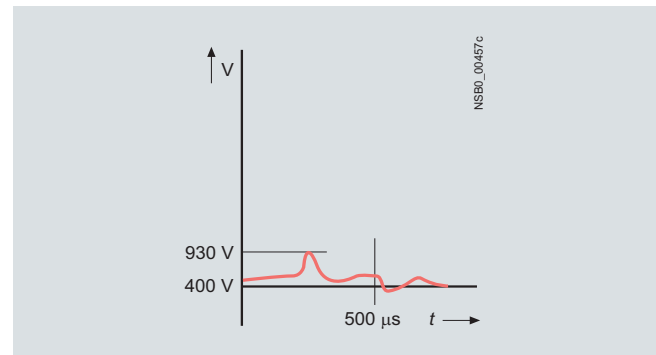
Since the EMC suppression module achieves a significant reduction in radio-frequency components and the voltage level in three phases, the contact endurance is also improved considerably. This makes an important contribution towards enhancing the reliability and availability of the system as a whole.

Dispensing with fine graduations

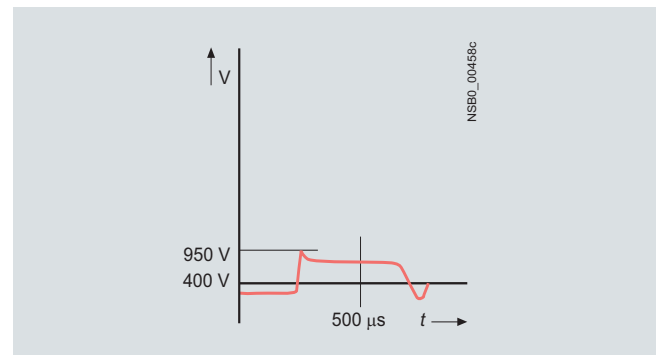
There is no need for fine graduations within each performance class, as smaller motors inherently have a higher inductance, so that one solution for all fixed-speed operating mechanisms up to 7.5 HP is adequate.

Two electrical versions are available:

- The advantages of the RC circuit lie mainly in the reduction in the rate of rise and in its RF damping ability. The selected values ensure effective interference suppression over a wide range.



- The varistor circuit can absorb a high energy level and can also be used for frequencies ranging from 10 to 400 Hz (closed-loop controlled operating mechanisms). There is no limiting below the knee-point voltage, however.



Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays

Auxiliary switch blocks

Selection and ordering data



3RH29 11-1HA..



3RH29 11-2HA..

For contactors / contactor relays	Contactor with HS block Ident. No.	Auxiliary contacts Version	Screw terminals		Spring-type terminals	
			Order No.	Weight approx. kg	Order No.	Weight approx. kg
Type		 NO NC				

Auxiliary switch blocks for snapping onto the front according to EN 50012 (also compliant with the requirements according to EN 50005)

Size S00¹⁾²⁾

For assembling contactors with 2, 3, 4 or 5 auxiliary contacts

3RT20 1., Ident. No. 10E	11E	-- 1		3RH29 11-1HA01	0.050	3RH29 11-2HA01	0.050
3RT23 1.	12E	-- 2		3RH29 11-1HA02	0.050	3RH29 11-2HA02	0.050
3RT25 1.				3RH29 11-1HA03	0.050	3RH29 11-2HA03	0.050
	13E	-- 3		3RH29 11-1HA11	0.050	3RH29 11-2HA11	0.050
	21E	1 1		3RH29 11-1HA12	0.050	3RH29 11-2HA12	0.050
	22E	1 2		3RH29 11-1HA13	0.050	3RH29 11-2HA13	0.050
	23E	1 3		3RH29 11-1HA21	0.050	3RH29 11-2HA21	0.050
	31E	2 1		3RH29 11-1HA22	0.050	3RH29 11-2HA22	0.050
	32E	2 2		3RH29 11-1HA31	0.050	3RH29 11-2HA31	0.050
	41E	3 1					

Size S0¹⁾

For assembling contactors with 3, 4 or 5 auxiliary contacts

3RT20 2., Ident. No. 11E	12E	-- 1		3RH29 11-1HA01	0.050	3RH29 11-2HA01	0.050
3RT23 2.	13E	-- 2		3RH29 11-1HA02	0.050	3RH29 11-2HA02	0.050
3RT25 2.							

¹⁾ The 3RH29 auxiliary switches are also available with ring lug terminal connection. In the 8th position of the Order No. the "1" must be replaced with "4", e. g. 3RH29 11-1HA22 -> 3RH29 11-4HA22.

²⁾ Size S00 can be mounted according to EN 50012 only on basic units which have no integrated NC contact.

Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays

Auxiliary switch blocks



3RH29 11-1HA...
3RH29 11-1GA...



3RH29 11-2HA...
3RH29 11-2GA...

For contactors / contactor relays	Contactor with HS block Ident. No.	Auxiliary contacts Version	Screw terminals		Weight approx. kg	Spring-type terminals		Weight approx. kg
			Order No.			Order No.		
Type		 NO NC						

Auxiliary switch blocks for snapping onto the front according to EN 50012 (also compliant with the requirements according to EN 50005)

Size S0¹⁾

For assembling contactors with 3, 4 or 5 auxiliary contacts

3RT20 2., Ident. No. 11E	21E	1 --		3RH29 11-1HA10	0.050	3RH29 11-2HA10	0.050
3RT23 2.							
3RT25 2.	22E	1 1		3RH29 11-1HA11	0.050	3RH29 11-2HA11	0.050
	23E	1 2		3RH29 11-1HA12	0.050	3RH29 11-2HA12	0.050
	31E	2 --		3RH29 11-1HA20	0.050	3RH29 11-2HA20	0.050
	32E	2 1		3RH29 11-1HA21	0.050	3RH29 11-2HA21	0.050
	41E	3 --		3RH29 11-1HA30	0.050	3RH29 11-2HA30	0.050

Auxiliary switch blocks for snapping onto the front according to EN 50011

Size S00²⁾

For assembling contactor relays with 8 contacts

3RH21 40, 3RH24 40, Ident. No. 40E	80E	4 --		3RH29 11-1GA40	0.050	3RH29 11-2GA40	0.050
	71E	3 1		3RH29 11-1GA31	0.050	3RH29 11-2GA31	0.050
	62E	2 2		3RH29 11-1GA22	0.050	3RH29 11-2GA22	0.050
	53E	1 3		3RH29 11-1GA13	0.050	3RH29 11-2GA13	0.050
	44E	-- 4 ²⁾		3RH29 11-1GA04	0.050	3RH29 11-2GA04	0.050

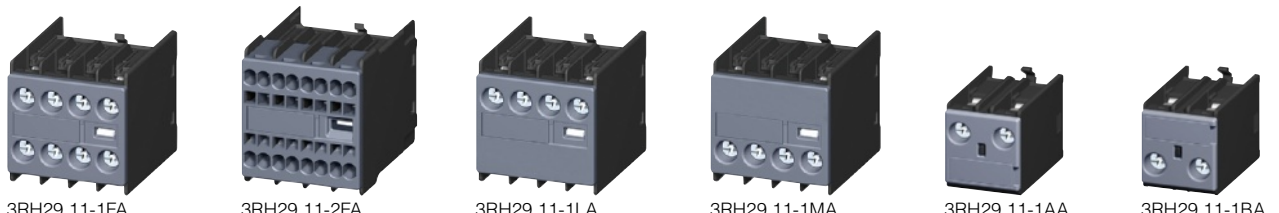
¹⁾ The 3RH29 11-.HA.. auxiliary switches are also available with ring lug terminal connection. In the 8th position of the Order No. the "1" must be replaced with "4", e. g. 3RH29 11-1HA22 -> 3RH29 11-4HA22.

²⁾ The 3RH29 11-.GA.. auxiliary switches are also available with ring lug terminal connection. In the 8th position of the Order No. the "1" must be replaced with "4", e. g. 3RH29 11-1GA22 -> 3RH29 11-4GA22.

Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays

Auxiliary switch blocks



For contactors/ contactor relays	Auxiliary switches Ident. No.	Connections Position	Auxiliary contacts Version	Screw terminals	Spring-type terminals
Type			 NO NC NO NC	Order No.	Order No.

Auxiliary switch blocks for snapping onto the front acc. to EN 50005

Sizes S00 and S0

2- or 4-pole auxiliary switch blocks for assembling contactors with 3 and 5 or 4 and 6 auxiliary contacts

3RT2. 1., 3RT2. 2., 3RH21 .., 3RH24 ..	Ident. No.	Connections	Auxiliary contacts	Order No.	Order No.
	40	4 -- --		3RH29 11-1FA40	3RH29 11-2FA40
	22	2 2 -- --		3RH29 11-1FA22	3RH29 11-2FA22
	04¹⁾	-- 4 -- --		3RH29 11-1FA04	3RH29 11-2FA04
	11	-- -- 1 1		3RH29 11-1FB11	3RH29 11-2FB11
	22	1 1 1 1		3RH29 11-1FB22	3RH29 11-2FB22
	22	-- -- 2 2		3RH29 11-1FC22	3RH29 11-2FC22

1- and 2-pole auxiliary switch blocks, cable entry from above or below

3RT2. 1., 3RT2. 2., 3RH21 .., 3RH24 ..	Ident. No.	Connections	Auxiliary contacts	Order No.	Order No.
	10	Top Bottom		3RH29 11-1AA10 3RH29 11-1BA10	-- --
	01	Top Bottom		3RH29 11-1AA01 3RH29 11-1BA01	-- --
	11	Top Bottom		3RH29 11-1LA11 3RH29 11-1MA11	-- --
	20	Top Bottom		3RH29 11-1LA20 3RH29 11-1MA20	-- --

¹⁾ Mounting is permitted only on basic units which have no integrated NC contact.

Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays

Auxiliary switch blocks



3RH29 11-1DA..

3RH29 11-2DA..

3RH29 21-1DA..

3RH29 21-2DA..

For contactors / contactor relays	Contactors with HS block Ident. No.	Auxiliary contacts Version	Screw terminals	Weight approx.	Spring-type terminals	Weight approx.
Type		 NO NC	Order No.	kg	Order No.	kg

Laterally mountable auxiliary switch blocks according to EN 50012 • Mounting on the right

Size S00 ¹⁾²⁾		Left	Right				
3RT20 1. Ident.No. 10E	12E	-- 2 --	 21 31 22 32	3RH29 11-1DA02	0.020	3RH29 11-2DA02	0.050
	21E	1 1 --	 21 33 22 34	3RH29 11-1DA11	0.040	3RH29 11-2DA11	0.050
Size S0		Left	Right				
3RT20 2. Ident.No. 11E	13E	-- 2 --	 31 41 32 42	3RH29 21-1DA02	0.050	3RH29 21-2DA02	0.050
3RT23 2.	22E	1 1 --	 31 43 32 44	3RH29 21-1DA11	0.050	3RH29 21-2DA11	0.050
3RT25 2.	31E	2 -- --	 33 43 34 44	3RH29 21-1DA20	0.050	3RH29 21-2DA20	0.050

Laterally mountable auxiliary switch blocks according to EN 50005 • Mounting on the right and/or on the left

Size S00 ¹⁾²⁾		Left	Right				
3RT20 1., Ident.No. 10E	02	-- 2	 41 51 42 52	3RH29 11-1DA02	0.020	3RH29 11-2DA02	0.050
3RT23 2.	11	1 1	 41 53 42 54	3RH29 11-1DA11	0.040	3RH29 11-2DA11	0.050
3RT25 2.	20	2 --	 43 53 44 54	3RH29 11-1DA20	0.040	3RH29 11-2DA20	0.050
Size S0		Left	Right				
3RT20 2. Ident.No. 11E	02	-- 2	 51 61 52 62	3RH29 21-1DA02	0.050	3RH29 21-2DA02	0.050
3RT23 2. ³⁾	11	1 1	 51 63 52 64	3RH29 21-1DA11	0.050	3RH29 21-2DA11	0.050
3RT25 2. ³⁾	20	2 --	 53 63 54 64	3RH29 21-1DA20	0.050	3RH29 21-2DA20	0.050

¹⁾ With size S00, mounting according to EN 50012 is permitted only on basic units which have no NC contact integrated.

²⁾ Ident. No. 41, 32 and 23 according to EN 50012 is also possible. Please note the corresponding circuit diagrams for mounting 3RH29 11-1DA.. on the left.

³⁾ With 3RT23 2., 3RT25. 2. mountable only on the right.

Accessories and Spare Parts For 3RT2, 3RH2 Contactors and Contactor Relays

Auxiliary switch blocks







3RH29 11-2DE11



3RH29 11-1NF..



3RH29 11-2NF..




For contactors / contactor relays	Contactors with HS block Ident. No.	Contacts Version	Screw terminals 	Weight approx.	Spring-type terminals 	Weight approx.
		 	Order No.	kg	Order No.	kg
Type		NO NC				

Solid-state compatible auxiliary switch blocks

- For operation in dusty atmospheres
- For solid-state circuits with rated operational currents I_e /AC-14 and DC-13 from 1 ... 300 mA at 3 ... 60 V
- Hard gold-plated contacts
- Mirror contacts acc. to EN 60947-4-1, Appendix F, for laterally mountable auxiliary switches

Auxiliary switch blocks for snapping onto the front according to EN 50005¹⁾

Sizes S00 and S0

3RT2. 1., 3RT2. 2., 3RH21 ..., 3RH24 ..	Ident. No.	Contacts	Version	Diagram	Order No.	Weight approx.
	02	--	2		3RH29 11-1NF02	0.040
	11	1	1		3RH29 11-1NF11	0.040
	20	2	--		3RH29 11-1NF20	0.040
					3RH29 11-2NF02	0.050
					3RH29 11-2NF11	0.050
					3RH29 11-2NF20	0.050

Laterally mountable auxiliary switch blocks according to EN 50012 • Mounting on the right

Size S00²⁾

3RT2. 1., Ident. No. 10E	Ident. No.	Contacts	Version	Diagram	Order No.	Weight approx.
	21E	1	1	Left: -- Right: 	3RH29 11-2DE11	0.040
	22E	1	1	Left: -- Right: 	3RH29 21-2DE11	0.050

Laterally mountable auxiliary switch blocks according to EN 50005 • Mounting on the right and/or on the left

Size S00

3RT2. 1., Ident. No. 10E	Ident. No.	Contacts	Version	Diagram	Order No.	Weight approx.
	11	1	1	Left:  Right: 	3RH29 11-2DE11	0.040
	11	1	1	Left:  Right: 	3RH29 21-2DE11	0.050

¹⁾ The 3RH29 11-.NF.. auxiliary switches are also available with ring lug terminal connection. In the 8th position of the Order No. the "1" must be replaced with "4", e. g.: 3RH29 11-1NF11 -> 3RH2911-4NF11

²⁾ Size S00 can be mounted according to EN 50012 only on basic units which have no integrated NC contact.

Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays

Auxiliary switch blocks, delayed

Selection and ordering data



3RA28 14-1



3RA28 14-2

For contactors	Rated control supply voltage U_s ¹⁾	Time setting range t	Output / auxiliary contacts	Screw terminals	Weight approx.	Spring-type terminals	Weight approx.
Type	V	s		Order No.	kg	Order No.	kg

Solid-state time-delay auxiliary switch blocks for snapping onto the front, terminal designations according to DIN 46199-5

Sizes S00 and S0

The electrical connection between the solid-state time-delay auxiliary switch and the contactor underneath is established automatically when it is snapped on and locked in place.

With ON-delay

Varistor integrated

3RT2... 3RH2 ²⁾ 3RH24	24 ... 240 AC/DC	0.05 ... 100, (1, 10, 100, selectable)	1 CO 1 NO + 1 NC	3RA28 13-1AW10	0.080	3RA28 13-2AW10	0.075
				3RA28 13-1FW10	0.080	3RA28 13-2FW10	0.075

With OFF-delay with auxiliary voltage

Varistor integrated

3RT2... 3RH2 ²⁾ 3RH24	24 ... 240 AC/DC	0.05 ... 100, (1, 10, 100, selectable)	1 CO 1 NO + 1 NC	3RA28 14-1AW10	0.080	3RA28 14-2AW10	0.075
				3RA28 14-1FW10	0.080	3RA28 14-2FW10	0.075

With OFF-delay without auxiliary voltage³⁾

Varistor integrated

3RT2... 3RH2 ²⁾ 3RH24	24 ... 240 AC/DC	0.05 ... 100, (1, 10, 100, selectable)	1 CO 1 NO + 1 NC	3RA28 15-1AW10	0.080	3RA28 15-2AW10	0.075
				3RA28 15-1FW10	0.080	3RA28 15-2FW10	0.075

¹⁾ AC voltage values apply for 50 Hz and 60 Hz.

²⁾ Cannot be fitted onto coupling relays.

³⁾ Setting of output contacts in as-supplied state not defined (bistable relay). Application of the control supply voltage once results in contact change-over to the correct setting.

For technical specifications see page 3/105.

Note:
When the solid-state time-delay auxiliary switches are used, no other auxiliary switches are allowed to be mounted on the basic units.

More information


Function	Function charts	
	▨ Timing relay energized ■ Contact closed □ Contact open	
Solid-state time-delay auxiliary switches	With 1 CO contact	With 1 NO + 1 NC
ON-delay (varistor integrated)	3RA28 13-.AW10 A1/A2 	3RA28 13-.FW10 A1/A2
OFF-delay with auxiliary voltage (varistor integrated)	3RA28 14-.AW10 A3/A2 B1/A2 	3RA28 14-.FW10 A3/A2 B1/A2
OFF-delay Without auxiliary voltage (varistor integrated)	3RA28 15-.AW10 A1/A2 	3RA28 15-.FW10 A1/A2

Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays

Delay and latching blocks

Selection and ordering data

For contactors	Rated control supply voltage U_s	Time setting range t	Screw terminals 	PU (UNIT, SET, M)	PS*	Weight approx.
Type	V	s	Order No.			kg

OFF-delay devices

Sizes S00 and S0

For contactors with DC operation

Non-adjustable delay time



3RT29 16-2B.01

3RT2. 1, 3RT2. 2, 3RH2. ...-1BF40	110 AC/DC	S00: > 0.1 S0:> 0.08	3RT29 16-2BK01	1	1 unit	0.150
3RT2. 1, 3RT2. 2, 3RH2. ...-1BM40	220/230 AC/DC	S00: > 0.5 S0: > 0.3	3RT29 16-2BL01	1	1 unit	0.150
3RT2. 1, 3RT2. 2, 3RH2. ...-1BB40	24 DC	S00: > 0.2 S0: > 0.1	3RT29 16-2BE01	1	1 unit	0.150

Pneumatic delay blocks, terminal designation according to EN 50005

Size S0

For snapping onto the front of contactors¹⁾²⁾

Auxiliary contacts 1 NO and 1 NC

• With ON-delay



3RT29 26-2P...

3RT2. 2	--	0.1 ... 30 1 ... 60	3RT29 26-2PA01 3RT29 26-2PA11	1	1 unit	0.080
				1	1 unit	0.080

• With OFF-delay

3RT2. 2	--	0.1 ... 30 1 ... 60	3RT29 26-2PR01 3RT29 26-2PR11	1	1 unit	0.080
				1	1 unit	0.080

Mechanical latching blocks

Size S0

For snapping onto the front of contactors

The contactor remains in the energized state even after a voltage failure



3RT29 26-3A.31

3RT2. 2	24 AC/DC	--	3RT29 26-3AB31	1	1 unit	0.100
	110 AC/DC	--	3RT29 26-3AF31	1	1 unit	0.100
	230 AC/DC	--	3RT29 26-3AP31	1	1 unit	0.100

For technical specifications see pages 3/106 and 3/107.

¹⁾ In addition to these, no other auxiliary contacts are permitted.

²⁾ Versions according to DIN VDE 0116 on request.

Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays

Surge suppressors

Selection and ordering data

For con- tactors	Version	Rated control supply voltage $U_s^{1)}$		Order No. ²⁾	PU (UNIT, SET, M)	PS*	Weight approx.
		AC operation	DC operation				
Type		V AC	V DC				kg

Surge suppressors without LED (also for spring-type terminals)

Size S00



3RT29 16-1B.00

For plugging onto the front side of the contactors (with and without auxiliary switch block)

For con- tactors	Version	Rated control supply voltage $U_s^{1)}$		Order No. ²⁾	PU (UNIT, SET, M)	PS*	Weight approx.
		AC operation	DC operation				kg
3RT2.1, 3RH2.	Varistors	24 ... 48	24 ... 70	3RT29 16-1BB00	1	1 unit	0.010
		48 ... 127	70 ... 150	3RT29 16-1BC00	1	1 unit	0.010
		127 ... 240	150 ... 250	3RT29 16-1BD00	1	1 unit	0.010
		240 ... 400	--	3RT29 16-1BE00	1	1 unit	0.010
		400 ... 600	--	3RT29 16-1BF00	1	1 unit	0.010
3RT2.1, 3RH2.	RC elements	24 ... 48	24 ... 70	3RT29 16-1CB00	1	1 unit	0.010
		48 ... 127	70 ... 150	3RT29 16-1CC00	1	1 unit	0.010
		127 ... 240	150 ... 250	3RT29 16-1CD00	1	1 unit	0.010
		240 ... 400	--	3RT29 16-1CE00	1	1 unit	0.010
		400 ... 600	--	3RT29 16-1CF00	1	1 unit	0.010
3RT2.1, 3RH2.	Noise suppression diodes	--	12 ... 250	3RT29 16-1DG00	1	1 unit	0.010
3RT2.1, 3RH2.	Diode assemblies (diode and Zener diode) for DC operation	--	12 ... 250	3RT29 16-1EH00	1	1 unit	0.010

Size S0



3RT29 26-1E.00

For plugging onto the front side of the contactors (prior to mounting of the auxiliary switch block)

For con- tactors	Version	Rated control supply voltage $U_s^{1)}$		Order No. ²⁾	PU (UNIT, SET, M)	PS*	Weight approx.
		AC operation	DC operation				kg
3RT2.2	Varistors	24 ... 48	24 ... 70	3RT29 26-1BB00	1	1 unit	0.010
		48 ... 127	70 ... 150	3RT29 26-1BC00	1	1 unit	0.010
		127 ... 240	150 ... 250	3RT29 26-1BD00	1	1 unit	0.010
		240 ... 400	--	3RT29 26-1BE00	1	1 unit	0.010
		400 ... 600	--	3RT29 26-1BF00	1	1 unit	0.010
3RT2.2	RC elements	24 ... 48	24 ... 70	3RT29 26-1CB00	1	1 unit	0.010
		48 ... 127	70 ... 150	3RT29 26-1CC00	1	1 unit	0.010
		127 ... 240	150 ... 250	3RT29 26-1CD00	1	1 unit	0.010
		240 ... 400	--	3RT29 26-1CE00	1	1 unit	0.010
		400 ... 600	--	3RT29 26-1CF00	1	1 unit	0.010
3RT2.2	Diode assemblies for DC operation	--	24	3RT29 26-1ER00	1	1 unit	0.010
		--	30 ... 250	3RT29 26-1ES00	1	1 unit	0.010

¹⁾ Can be used for AC operation for 50/60 Hz. Please inquire about further voltages.

²⁾ For packs of 5 or 10 units, "-Z" and order code "X90" must be added to the Order No.

For con- tactors	Version	Rated control supply voltage $U_s^{1)}$		Power con- sumption P of the LED at U_s	Order No. ²⁾	PU (UNIT, SET, M)	PS*	Weight approx.
		AC operation	DC operation					
Type		V AC	V DC	mW				kg

Surge suppressors with LED (also for spring-type terminals)

Size S00



3RT29 16-1J.00

For plugging onto the front side of the contactors (with and without auxiliary switch block)

For con- tactors	Version	Rated control supply voltage $U_s^{1)}$		Power con- sumption P of the LED at U_s	Order No. ²⁾	PU (UNIT, SET, M)	PS*	Weight approx.
		AC operation	DC operation	mW				kg
3RT2.1, 3RH2.	Varistors	24 ... 48	12 ... 24	10 ... 120	3RT29 16-1JJ00	1	1 unit	0.010
		48 ... 127	24 ... 70	20 ... 470	3RT29 16-1JK00	1	1 unit	0.010
		127 ... 240	70 ... 150	50 ... 700	3RT29 16-1JL00	1	1 unit	0.010
		--	150 ... 250	160 ... 950	3RT29 16-1JP00	1	1 unit	0.010
3RT2.1, 3RH2.	Noise sup- pression diodes	--	24 ... 70	20 ... 470	3RT29 16-1LM00	1	1 unit	0.010
		--	50 ... 150	50 ... 700	3RT29 16-1LN00	1	1 unit	0.010
		--	150 ... 250	160 ... 950	3RT29 16-1LP00	1	1 unit	0.010

Size S0



3RT29 26-1MR00

For plugging onto the front side of the contactors (prior to mounting of the auxiliary switch block)

For con- tactors	Version	Rated control supply voltage $U_s^{1)}$		Power con- sumption P of the LED at U_s	Order No. ²⁾	PU (UNIT, SET, M)	PS*	Weight approx.
		AC operation	DC operation	mW				kg
3RT2.2	Varistors	24 ... 48	12 ... 24	10 ... 120	3RT29 26-1JJ00	1	1 unit	0.010
		48 ... 127	24 ... 70	20 ... 470	3RT29 26-1JK00	1	1 unit	0.010
		127 ... 240	70 ... 150	50 ... 700	3RT29 26-1JL00	1	1 unit	0.010
3RT2.2	Diode assemblies	--	24	20 ... 470	3RT29 26-1MR00	1	1 unit	0.010

¹⁾ Can be used for AC operation for 50/60 Hz. Please inquire about further voltages.

²⁾ For packs of 5 or 10 units, "-Z" and order code "X90" must be added to the Order No.

Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays

Other function blocks

Selection and ordering data

For contactors	Version	Order No.	PU (UNIT, SET, M)	PS*	Weight approx.
Type					kg

EMC suppression modules; three-phase ≤ 7.5 HP

Size S00 (for contactors with AC or DC operation)¹⁾



3RT29 16-1PA.

3RT20 1 **RC elements** (3 x 220 Ω/0.22 μF)

Up to 400 V
Up to 575 V
Up to 690 V

3RT20 1 **Varistors**

Up to 400 V
Up to 575 V
Up to 690 V

Screw terminals



3RT29 16-1PA1	1	1 unit	0.010
3RT29 16-1PA2	1	1 unit	0.010
3RT29 16-1PA3	1	1 unit	0.010
3RT29 16-1PB1	1	1 unit	0.010
3RT29 16-1PB2	1	1 unit	0.010
3RT29 16-1PB3	1	1 unit	0.010

Additional load modules

Size S00



3RT29 16-1GA00

3RT2. 1,
3RH2.

For plugging onto the front side of the contactors with and without auxiliary switch block²⁾

For increasing the permissible residual current and for limiting the residual voltage. It ensures safe opening of contactors with direct control via 230 V AC semiconductor outputs of SIMATIC controllers and acts simultaneously as a surge suppressor.

Rated voltage:
AC 50/60 Hz, 180 to 255 V.
Operating range: 0.8 to 1.1 x U_s

3RT29 16-1GA00 1 1 unit 0.010

LED modules for indicating contactor operation

Size S0



3RT29 26-1QT00
(mounted to contactor)

3RT2. 2

For snapping into the location hole of an inscription label on the front of a contactor either directly on the contactor or on the front auxiliary switch.

The LED module is connected to coil terminals A1 and A2 of the contactor and indicates its energized state. Yellow LED.

Rated voltage:
24 ... 240 V AC/DC, polarized

3RT29 26-1QT00 1 5 units 0.260

Coupling links for control by PLC

Size S0



3RH29 24-1GP11

3RT2. 2

For mounting onto the coil terminals of the contactors

With LED for indicating switching state. With integrated varistor for limiting the opening surges.

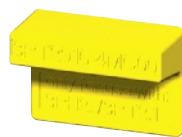
Operating range 17 ... 30 V DC
Power consumption: 0.5 W at 24 V DC
Permissible residual current of the electronics (with 0 signal): 2.5 mA

Rated operational current I_G :
• AC-15/AC-14 at 230 V: 3 A
• DC-13 at 230 V: 0.1 A

3RH29 24-1GP11 1 1 unit 0.040

Control kits

Size S00



3RT29 16-4MC00

3RT2. 1,
3RH2.

For manual operation of the contactor contacts for start-up and service

3RT29 16-4MC00 1 5 units 0.010

For technical specifications for coupling links see page 3/109.

1) See also description on page 3/92.

2) For packs of 10 units, the Order No. must be supplemented with "-Z" and the order code "X90".

* You can order this quantity or a multiple thereof.
Illustrations are approximate

Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays

Terminals, covers, adapters, connectors

Selection and ordering data

For contactors	Version	Order No.	PU (UNIT, SET, M)	PS*	Weight approx.
Type					kg
Sealable covers					
<i>Sizes S00 and S0¹⁾</i>					
	3RT2. 1, 3RT2. 2, 3RH2.	Sealable covers for preventing manual operation	3RT29 16-4MA10	1 5 units	0.010
3RT29 16-4MA10					
Connection modules for contactors with screw terminals					
<i>Sizes S00 and S0</i>					
	3RT2. 1, 3RH2.	Adapters for contactors Ambient temperature $T_{u \max.} = 60 \text{ °C}$ Size S00, rated operational current I_e at AC-3/460 V: 20 A	Screw terminals 		
3RT19 26-4RD01	3RT2. 2	Size S0, rated operational current I_e at AC-3/460 V: 21 A	3RT19 16-4RD01	1 1 unit	0.020
			3RT19 26-4RD01	1 1 unit	0.200
	3RT2. 1, 3RT2. 2, 3RH2.	Plugs for contactors Size S00, S0	3RT19 00-4RE01	1 1 unit	0.025
3RT19 00-4RE01					
Coil terminal modules					
<i>Size S0</i>					
	3RT2. 2	Connection from top Connection from below Connection diagonally	3RT29 26-4RA11 3RT29 26-4RB11 3RT29 26-4RC11	1 1 unit 1 1 unit 1 1 unit	0.010 0.010 0.010
3RT29 26-4RA11	3RT2. 2	Connection from top Connection from below	Spring-type terminals 		
			3RT29 26-4RA12 3RT29 26-4RB12	1 1 unit 1 1 unit	0.010 0.010
Covers for contactors with ring lug terminal connection					
<i>Size S00</i>					
	3RT2. 1, 3RH2	Covers for ring lug terminal connections Single covers	Ring lug terminal connection 		
3RT29 16-4EA13			3RT29 16-4EA13	1 10 units	0.001
	3RT2. 2	Covers for ring lug terminal connections Set for one device, comprising 4 single covers	3RT29 26-4EB13	1 1 unit	0.005
3RT29 26-4EB13					

For technical specifications for connection modules see page 3/108.

¹⁾ Exception: contactors and contactor relays with auxiliary switch block mounted onto the front.

Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays

Terminals, covers, adapters, connectors

For contactors	Version	Order No.	PU (UNIT, SET, M)	PS*	Weight approx.
Type					kg

Screw adapters for mounting the contactors

Size S0



3RT2. 2 Screw adapters for easier screw fixing
2 units are required per contactor
(1 pack contains 10 sets
for 10 contactors)

3RT19 26-4P

1 10 units

0.010

Solder pin adapters for contactors up to 7.5 HP / 12 A

Size S00, up to 7.5 HP (12 A, AC-1/AC-3)



3RT2. 1, 3RH21 Assembly kit for soldering contactors
onto a printed circuit board.
For 1 contactor, 1 set is required.

Screw terminals



3RT19 16-4KA1

1 4 units

0.030

3RT19 16-4KA1

Solder pin adapters for contactors up to 7.5 HP / 12 A with mounted 4-pole auxiliary switch block

Size S00, up to 7.5 HP (12 A, AC-1/AC-3)



3RT2. 1, 3RH21 Assembly kit for soldering contactors
with an auxiliary switch block onto a
printed circuit board.
For 1 contactor, 1 set is required.

3RT19 16-4KA2

1 4 units

0.070

Safety main current connectors for 2 contactors

Sizes S00 and S0



3RT2. 1
3RT2. 2

For series connection
of 2 contactors

3RA29 16-1A

1 1 unit

0.001

3RA29 26-1A

1 1 unit

0.001

Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays

Terminals, covers, adapters, connectors

For contactors	Max. conductor cross-sections	Order No.	PU (UNIT, SET, M)	PS*	Weight approx.
Type	AWG				kg

Links for paralleling

Sizes S00 and S0

3-pole, with connection terminal¹⁾²⁾

3RT20 1	4, stranded
3RT20 2	0, stranded

Screw terminals



3RT19 16-4BB31	1	1 unit	0.015
3RT29 26-4BB31	1	1 unit	0.020



3RT19 16-4BB31



3RT29 26-4BB31

4-pole, with connection terminal¹⁾²⁾

3RT23 1,	4, stranded
3RT25 1	

3RT19 16-4BB41

1	1 unit	0.015
---	--------	-------



3RT19 16-4BB41

¹⁾ The links for paralleling can be reduced by one pole.

²⁾ With sizes S00 and S0 the links for paralleling are insulated.

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

Insulation stop for securely holding back the conductor insulation on conductors up to 17 AWG



3RT19 16-4JA02

Insulation stop strips can be inserted in cable entry of the spring-type terminal (2 strips per contactor required)

- For basic devices S00 (3RT20 1. or 3RH2.), removable individually
- For auxiliary and control circuit on basic devices size S0 (3RT20 2.) and for mountable 3RH29 auxiliary switches, removable in pairs

Spring-type terminals



3RT29 16-4JA02	1	20 units	0.005
3RT19 16-4JA02	1	20 units	0.010

Tools for opening spring-type terminals



3RA29 08-1A

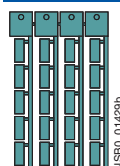
Screwdrivers

for all SIRIUS devices with spring-type terminals
Length: approx. 200 mm,
3,0 mm x 0,5 mm,
titanium gray/black, partially insulated

3RA29 08-1A

1	1 unit	0.045
---	--------	-------

Blank labels



3RT19 00-1SB20

Unit labeling plates¹⁾

for SIRIUS devices

- 20 mm x 7 mm, pastel turquoise

3RT19 00-1SB20

100	340 units	0.200
-----	-----------	-------



¹⁾ PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systems, Inc. www.murrplastik.com

Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays

Accessories

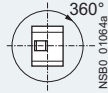
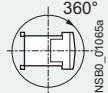
More information

Version	Type		3RA28 13	3RA28 14	3RA28 15
			Solid-state time-delay auxiliary switches		
General data					
Rated insulation voltage U_i		V AC	300		
Pollution degree 3 Overvoltage category III					
Operating range of excitation			0.85 ... 1.1 x U_s , 0.95 ... 1.05 times the rated frequency		
Rated power		W	1		
• Power consumption at 230 V AC, 50 Hz		VA	2		
Rated operational currents I_e					
• AC-140	At 24 ... 240 V, 50 Hz	A	--		
• DC-13	At 24 ... 240 V	A	--		
• AC-15	At 24 ... 240 V, 50 Hz	A	3		
• DC-13	- At 24 V	A	1		
	- At 125 V	A	0.2		
	- At 250 V	A	0.1		
DIAZED fuse	Operational class gG	A	4		
Switching frequency for load					
• With I_e at 230 V AC		h ⁻¹	2500		
• With 3RT2 contactor at 230 V AC		h ⁻¹	2500		
Recovery time		ms	150		
Minimum ON period		ms	--	35	200
Residual current	Max.	mA	--		
Voltage drop	Max.	VA	--		
With conducting output					
Short-time loading capacity	Up to 10 ms	A	--		
Setting accuracy	Typ.		±15 %		
With reference to upper limit of scale					
Repeat accuracy	Max.		±1 %		
Mechanical endurance		Oper- ating cycles	10 x 10 ⁶		
Permissible ambient temperature					
• During operation		°C	-25 ... +60		
• During storage		°C	-40 ... +80		
Degree of protection acc. to EN 60947-1, Appendix C			IP20		
Conductor cross-sections					
Connection type			 Screw terminals		
• Solid		mm ²	1 x (0.5 ... 4), 2 x (0.5 ... 2.5)		
• Finely stranded with end sleeve		mm ²	1 x (0.5 ... 2.5), 2 x (0.5 ... 1.5)		
• AWG cables, solid or stranded		AWG	2 x (20 ... 14)		
• Terminal screws			M3 (for standard screw driver size 2 or Pozidriv 2)		
• Tightening torque		Nm	0.8 ... 1.2		
Connection type			 Spring-type terminals		
• Operating devices		mm	3.0 x 0.5		
• Solid		mm ²	2 x (0.25 ... 1.5)		
• Finely stranded with end sleeve		mm ²	2 x (0.25 ... 1.5)		
• Finely stranded		mm ²	2 x (0.25 ... 1.5)		
• AWG cables, solid or stranded		AWG	2 x (24 ... 16)		
Permissible mounting position			Any		
Shock resistance		g/ms	15/11		
Half-sine acc. to IEC 60068-2-27					
Vibration resistance		Hz/mm	10 ... 55/0.35		
Acc. to IEC 60068-2-6					
Electromagnetic compatibility (EMC)			IEC 61000-6-2, IEC 61000-6-4, IEC 61812-1		
Overvoltage protection			Varistor integrated		

Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays

Accessories

Version	Type	3RT29 16-2BE01 OFF-delay devices	3RT29 16-2BK01	3RT29 16-2BL01
Connectable contactor sizes Caution! Only contactors and contactor relays with DC operation can be connected.				
<ul style="list-style-type: none"> • DC supply • AC supply 				
	Type	S00 ...S3 -- 3RT20 ...-1BB4., 3RH2. ...-1BB40	S00/S0 S00/S0 3RT20 1.-1BF4, 3RT20 2.-1BF4, 3RH2. ...-1BF40	S00/S0 S00/S0 3RT20 1.- 1BM4./1BP4., 3RT20 2.- 1BM4./1BP4., 3RH2. ...-1BM40/1BP40
Permissible mounting position				
Rated control supply voltage U_s Primary operating range	V	24 (DC) 0.9 ... 1.1 U_s	110 (AC/DC)	220/230 (AC/DC)
Rated frequency/ies with AC supply	f	Hz $\pm 5\%$	--	50/60
Ambient temperature permissible:				
• During operation				
- Side-by-side mounting without distance	T_U	°C	-25 ... +50	
- Side-by-side mounting with 5 mm distance	T_U	°C	-25 ... +60	
• During storage				
	T_U	°C	-40 ... +80	
OFF-delay¹⁾ (minimum times at $U_{sp} = 0.9 \times U_s$, $T_{sp} = 20\text{ °C}$)				
Notes: In practice the mean value is 1.5 times the minimum time.				
• S00	$t_{off} >$	ms	200	100
• S0	$t_{off} >$	ms	100	80
Installed capacity C				
3RT19 16-2B.01		μF	2000	68
Capacitor voltage		V	35	180
ON-delay (maximum at $U_{sp} = 0.9 \times U_s$, $T_{sp} = 20\text{ °C}$)				
Note: The total ON-delay = Contactor make-time + t_{on}				
• S00	$t_{on} <$	ms	10	60
• S0	$t_{on} <$	ms	10	80
Mechanical endurance				
		Oper- ating cycles	30 million	
Endurance, electrical approx.				
		Oper- ating cycles	>1 million	
Switching frequency z max. (at $T_U = 60\text{ °C}$)				
		h^{-1}	300	
Power loss P_v max. approx.				
		W	0.4	0.5
Surge suppression				
With varistor, integrated				
Conductor cross-sections				
2)				
U_{sp} = Coil voltage T_{sp} = Coil temperature				

¹⁾ Doubling the delay time can be achieved by doubling the capacitance. Commercially available capacitors can be used, which can be connected to terminals C+ and Z-.

²⁾ See 3RT20 1 contactors, page 3/20.

Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays

Accessories

Version	Type	3RT29 26-2P Pneumatic delay block ¹⁾	
General data			
Mechanical endurance	Operating cycles		5 million
Electrical endurance at I_e	Operating cycles		1 million
Rated insulation voltage U_i (pollution degree 3)	V		690
Permissible ambient temperature			
• During operation	°C		-25 ... +60
• During storage	°C		-50 ... +80
Rated operational currents I_e Acc. to utilization categories EN 60947			
• AC-12	A		10
• AC-15/AC-14 at U_e	Up to 230/220 V A		6
	400/380 V A		4
	500 V A		2.5
	690/660 V A		1.5
• DC-13 at U_e	24 V A		4
	48 V A		2
	110 V A		0.7
	220 V A		0.3
	440 V A		0.15
Conductor cross-sections			
• Solid, stranded	mm ²		2 x 0.5 ... 2.5 ²⁾ or 2 x 2.5 ... 4 ²⁾
• Finely stranded with end sleeve	mm ²		2 x 0.5 ... 2.5
• AWG cables	AWG		2 x 22 ... 14
• Tightening torque of the terminal screws	Nm		0.8 ... 1.1
Time delay			
• Accuracy			±10 %
Ⓢ and Ⓞ rated data			
• Rated voltage	V AC		600
• Switching capacity			A 600, Q 600
¹⁾ For size S0. In addition to the pneumatic delay block, no other auxiliary contacts are permitted.		²⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in the range specified.	

Technical specifications according to EN 61812-1 (VDE 0435 Part 2021)

Version	Type	3RT29 26-3A Mechanical latching block for the 3RT2. 2. contactors	
Rated insulation voltage U_i (pollution degree 3)	V		690
Mechanical endurance	• With 3RT2. 2	Operating cycles	3 million
Permissible ambient temperature			
• During operation		°C	-25 ... +60
• During storage		°C	-50 ... +80
Degree of protection acc. to EN 60947-1, Appendix C			IP20
Operating range of the solenoid coil At AC 50/60 Hz and DC			0.85 ... 1.1 x U_s
Power consumption of the solenoid coils of the unlocking magnet W (for cold coil and 1.0 x U_s) AC and DC operation			Approx. 4
Command duration for de-energizing			
• AC operation		ms	18 ... 31
• DC operation		ms	18 ... 26
Conductor cross-sections			
• Solid		mm ²	2 x (0.5 ... 2.5); 1 x 4
• AWG cables, solid		AWG	2 x 14; 1 x 12
• Finely stranded with end sleeve		mm ²	2 x (0.5 ... 2.5); 1 x 2.5
• AWG cables, finely stranded with end sleeve		AWG	2 x 14; 1 x 12
Tightening torque of the terminal screws			
		Nm	0.8 ... 1.1
		lb.in	7 ... 9.5

Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays

Accessories

Version	Type	3RT1900-4RE01 Plugs S00, S0	3RT1916-4RD01 Adapters S00	3RT1926-4RD01 Adapters S0
Connection modules for contactors with screw terminals				
General data				
Mechanical endurance	Operating cycles	10 million		
Electrical endurance at I_e	Operating cycles	1 million		
Rated operational voltage U_e	V	440		
Rated insulation voltage U_i (pollution degree 3)	V	690		
Rated impulse withstand voltage U_{imp} (pollution degree 3)	kV	6		
Protective separation acc. to EN 60947-1 (pollution degree 3)	V	400		
Rated operational current I_e AC-3 at 400 V	A	25	20	25
Rated frequency f For AC operation	Hz	50/60		
Permissible ambient temperature				
• During operation	°C	-25 ... +60		
• During storage	°C	-50 ... +80		
Degree of protection acc. to EN 60529		IP20		
Conductor cross-sections Screw terminals				
• Solid	mm ²	1 x (0.5 ... 6)		
• Finely stranded without/with end sleeve	mm ²	1 x (0.5 ... 6)		
• Stranded	mm ²	1 x (0.5 ... 6)		
• AWG cables, solid or stranded	AWG	1 x (20 ... 10)		
• Tightening torque	Nm	0.6 ... 0.8		
• Corresponding opening tool		Short-slot screwdriver PZ2		
Ⓢ and Ⓣ rated data				
• Rated operational voltage U_e	V	480		
• Rated insulation voltage U_i	V	600		
• Uninterrupted current, at 40 °C	A	16/25	16	25
• Short-circuit protection ¹⁾				
	• At 600 V	kA	5	
	• CLASS RK5 fuse	A	60	100
	• Circuit breakers with overload protection acc. to UL 489	A	60	100
Combination motor controllers type E acc. to UL 508				
	• At 480 V	Type	3RV20 2	
		A	--	22
		kA	--	65
	• At 600 V	Type	3RV20 2	
		A	--	22
		kA	--	10

¹⁾ For more information about short-circuit values, visit www.usa.siemens.com/controls

Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays

Accessories

Version	Type	3RH29 24-1GP11 Coupling links for PLC, for mounting on contactors acc. to IEC 60947/EN 60947	
General data			
Rated insulation voltage U_i (pollution degree 3)	V	300	
Protective separation between the coil and the contacts acc. to EN 60947-1, Appendix N	V AC	Up to 300	
Degree of protection acc. to EN 60947-1, Appendix C			
• Terminals		IP20	
• Enclosures		IP40	
Permissible ambient temperature			
• During operation	°C	-25 ... +60	
• During storage	°C	-40 ... +80	
Conductor cross-section			
• Solid	mm ²	2 x (0.5 ... 2.5)	
• Finely stranded with end sleeve	mm ²	2 x (0.5 ... 1.5)	
Terminal screws		M3	
Short-circuit protection (weld-free protection at $I_k \geq 1$ kA)			
• Fuse links, gG operational class: LV HRC 3NA, DIAZED 5SB, NEOZED 5SE	A	6	
Control side			
Rated control supply voltage U_s	V DC	24	
Primary operating range	V DC	17 ... 30	
Power consumption at U_s	W	0.5	
Nominal current input	mA	20	
Release voltage	V	≥ 4	
Function display		Yellow LED	
Protection circuit		Varistors	
Load side			
Mechanical endurance	In million operating cycles	20	
Electrical endurance at I_e	In million operating cycles	0.1	
Switching frequency	Operating cycles	h ⁻¹	5000
Make-time		ms	Approx. 7
Break-time		ms	Approx. 4
Bounce time		ms	Approx. 2
Contact material			AgSnO
Switching voltage	V AC/DC	24 ... 250	
Permissible residual current of the electronics (for 0 signal)	mA	2.5	
Rated operational currents¹⁾			
Conventional thermal current I_{th}	A	6	
Rated operational currents I_e Acc. to utilization categories EN 60947			
• AC-15	- At 24 V - At 110 V - At 230 V	A A A	3 3 3
• DC-13	- At 24 V - At 110 V - At 230 V	A A A	1 0.2 0.1
Switching current with resistive load to EN 60255 (relay standard) and EN 60947			
• AC-12	- At 24 V - At 110 V - At 230 V	A A A	6 6 6
• DC-12	- At 24 V - At 110 V - At 230 V	A A A	6 0.3 0.2 ¹⁾

¹⁾ Capacitive loads can result in micro-weldings on the contacts.

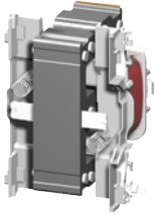
Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays

Spare parts for 3RT2 contactors

Selection and ordering data

For screw, spring-type and ring lug terminal connection



3RT29 24-5A.01

For contactors		Rated control supply voltage U_s			Order No.	Weight approx.
Size	Type	50 Hz V	50/60 Hz V	60 Hz V		
Solenoid coils · AC operation						
S0	3RT20 23,	24	--	--	3RT29 24-5AB01	0.100
	3RT20 24,	42	--	--	3RT29 24-5AD01	0.100
	3RT20 25	48	--	--	3RT29 24-5AH01	0.100
		110	--	--	3RT29 24-5AF01	0.100
		230	--	--	3RT29 24-5AP01	0.100
		400	--	--	3RT29 24-5AV01	0.100
		--	24	--	3RT29 24-5AC21	0.100
		--	42	--	3RT29 24-5AD21	0.100
		--	48	--	3RT29 24-5AH21	0.100
		--	110	--	3RT29 24-5AG21	0.100
		--	220	--	3RT29 24-5AN21	0.100
		--	230	--	3RT29 24-5AL21	0.100
		110	--	120	3RT29 24-5AK61	0.100
		220	--	240	3RT29 24-5AP61	0.100
		--	100	110	3RT29 24-5AG61	0.100
		--	200	220	3RT29 24-5AN61	0.100
	--	400	440	3RT29 24-5AR61	0.100	
S0	3RT20 26,	24	--	--	3RT29 26-5AB01	0.100
	3RT20 27,	42	--	--	3RT29 26-5AD01	0.100
	3RT20 28	48	--	--	3RT29 26-5AH01	0.100
	3RT23 25,	110	--	--	3RT29 26-5AF01	0.100
	3RT23 26,	230	--	--	3RT29 26-5AP01	0.100
	3RT23 27	400	--	--	3RT29 26-5AV01	0.100
	3RT25 26	--	24	--	3RT29 26-5AC21	0.100
		--	42	--	3RT29 26-5AD21	0.100
		--	48	--	3RT29 26-5AH21	0.100
		--	110	--	3RT29 26-5AG21	0.100
		--	220	--	3RT29 26-5AN21	0.100
		--	230	--	3RT29 26-5AL21	0.100
		110	--	120	3RT29 26-5AK61	0.100
		220	--	240	3RT29 26-5AP61	0.100
		--	100	110	3RT29 26-5AG61	0.100
		--	200	220	3RT29 26-5AN61	0.100
	--	400	440	3RT29 26-5AR61	0.100	