

Contactors and Contactor Assemblies

Contactors for Switching Motors

SIRIUS



3RT10 contactors, 3-pole

Selection and ordering data

* AC or DC Coil

* Screw Terminals or Spring Loaded Terminal



3RT10 1.-1A...



3RT10 1.-2A...



3RT10 2.-1A.00



3RT10 2.-3A.00



3RT10 3.-1A.00



3RT10 4.-1A.00

Frame size	Amp ratings		Single phase HP ratings		Three phase HP ratings				Auxiliary contacts		Screw terminals		Spring loaded terminals ¹⁾		Weight approx. AC/DC kg
	AC3	AC1	115 V	230 V	200 V	230 V	460 V	575 V	NO	NC	Order No.	Order No.			
S00	7	18	0.25	0.75	1.5	2	3	5	1	0	3RT10 15-1□□□1 3RT10 15-1□□□2	3RT10 15-2□□□1 3RT10 15-2□□□2	0.20/0.26		
	9	22	0.33	1	2	3	5	7.5	1	0	3RT10 16-1□□□1 3RT10 16-1□□□2	3RT10 16-2□□□1 3RT10 16-2□□□2			
	12	22	0.5	2	3	3	7.5	10	1	0	3RT10 17-1□□□1 3RT10 17-1□□□2	3RT10 17-2□□□1 3RT10 17-2□□□2			
	9	40	0.33	1	2	3	5	7.5	0	0	3RT10 23-1□□□0 3RT10 24-1□□□0	3RT10 23-3□□□0 3RT10 24-3□□□0		0.35/0.58	
12	40	0.5	2	3	3	7.5	10	0	0	3RT10 25-1□□□0 3RT10 26-1□□□0	3RT10 25-3□□□0 3RT10 26-3□□□0				
17	40	1	3	5	5	10	15	0	0	3RT10 33-1□□□0 3RT10 34-1□□□0	3RT10 33-3□□□0 3RT10 34-3□□□0				
25	40	2	3	7.5	7.5	15	20	0	0	3RT10 35-1□□□0 3RT10 35-3□□□0	3RT10 35-3□□□0 3RT10 36-3□□□0	0.85/1.45			
28	50	2	5	7.5	10	20	25	0	0	3RT10 44-1□□□0 3RT10 45-1□□□0	3RT10 44-3□□□0 3RT10 45-3□□□0				
32	50	2	5	10	10	25	30	0	0	3RT10 46-1□□□0	3RT10 46-3□□□0				
40	60	3	7.5	10	15	30	40	0	0						
S2	50	60	3	10	15	15	40	50	0	0			1.8/2.8		
	65	100	5	15	20	25	50	60	0	0					
	80	120	7.5	15	25	30	60	75	0	0					
S3	95	120	10	–	30	30	75	100	0	0					

AC Coil = A

DC Coil = B

A

B

NEMA Labeled Contactors

NEMA size	Amp ratings	Single phase HP ratings		Three phase HP ratings				Auxiliary contacts		Screw terminals with AC coil		Screw terminals with 24 V DC coil		Weight approx. AC/DC kg
		115 V	230 V	200 V	230 V	460 V	575 V	NO	NC	Order No.	Order No.			
0	18	1	2	3	3	5	5	1	0	3RT10 17-1A□□1-0UA0	3RT10 17-1BB41-0UA0	0.20/0.26		
1	27	2	3	7.5	7.5	10	10	0	0	3RT10 26-1A□□0-0UA0	3RT10 26-1BB40-0UA0	0.35/0.58		
2	45	3	7.5	10	15	25	25	0	0	3RT10 36-1A□□0-0UA0	3RT10 36-1BB40-0UA0	0.85/1.45		
3	90	10	20	25	30	50	50	0	0	3RT10 46-1A□□0-0UA0	3RT10 46-1BB40-0UA0	1.8/2.8		

¹⁾ All terminals are spring loaded on frame size S00. Only the coil terminals are spring loaded on frame sizes S0, S2 & S3.

For further coil voltages, see page 2/23.
 For auxiliaries and accessories, see page 2/35-51.
 For spare parts, see page 2/54-58.
 For technical data, see page 2/86-107.
 For description, see page 2/65-66.
 For int. circuit diagrams, see page 2/156.
 For dimension drawings, see page 2/172-175.

AC Coil Selection for 3RT101 through 3RT104, □ = A							
Coil Code	C2 ²⁾	H2 ³⁾	K6	P6	U6	V6	T6
60 Hz	24 V	48 V	120 V	240 V	277 V	480 V	600 V
50 Hz	24 V	48 V	110 V	220 V	–	–	–

²⁾ Use code **B0** for 3RT101, S00
³⁾ Use code **H0** for 3RT101, S00

DC Coil Selection for 3RT101 through 3RT104, □ = B						
Coil Code	A4 ⁴⁾	B4	W4	E4	F4	M4
DC	12 V	24 V	48 V	60 V	110 V	220 V

⁴⁾ 3RT101 Only



AC and DC operation

IEC 60 947, EN 60 947 (VDE 0660), UL 508

Design

The 3RT1 contactors are suitable for use in any climate. They are safe from touch to DIN VDE 0106 Part 100.

The 3RT1 contactors are available with screw connections or with Cage Clamp connections.

An auxiliary contact is integrated in the basic unit of size S00 contactors. The basic units of sizes S0 to S3 only contain the main conducting paths.

All the basic units can be extended with auxiliary switch blocks. Cabinet units with 2 NO + 2 NC (terminal designations acc. to EN 50 012) are available as of size S0; the auxiliary switch block is removable.

The size S3 contactors have removable box terminals for the main conductor connections. Ring cable lugs or bars can thus also be connected.

Contact reliability

If voltages ≤ 110 V and currents ≤ 100 mA are to be switched, the auxiliary contacts of 3RT1 contactors and 3RH11 contactor relays should be used to ensure good contact stability.

These auxiliary contacts are suitable for electronic circuits with currents ≥ 1 mA at a voltage of 17 V.

Short-circuit protection of contactors

For the short-circuit protection of contactors without an overload relay, see the technical data.

For the short-circuit protection of contactors with an overload relay, see section 3.

Motor protection

3RU11 overload relays can be mounted onto the 3RT1 contactors for protection against overloads. The overload relays must be ordered separately (see section 3).

Surge suppression

The 3RT1 contactors can be retrofitted with RC elements, varistors, diodes or diode assemblies (combination of an interference suppression diode and a Zener diode for short tripping times) for suppressing opening surges in the coil.

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.

With all size S0 to S3 contactors, varistors and RC elements can be plugged on directly at the coil terminals, either on the top or underneath. Diode assemblies are available in two different designs with different polarities. Depending on the application, they can be attached either only on the bottom (assembly with circuit-breaker) or only on the top (assembly with overload relay).

The plug-in direction of the diodes and diode assemblies is determined by a coding device. Exceptions: 3RT19 26-1T.00 and 3RT19 36-1T.00; in these cases the plug-in direction is identified by "+" and "-".

Coupling relays are supplied either without surge suppression or with a varistor or diode connected as standard, according to the design.

Note

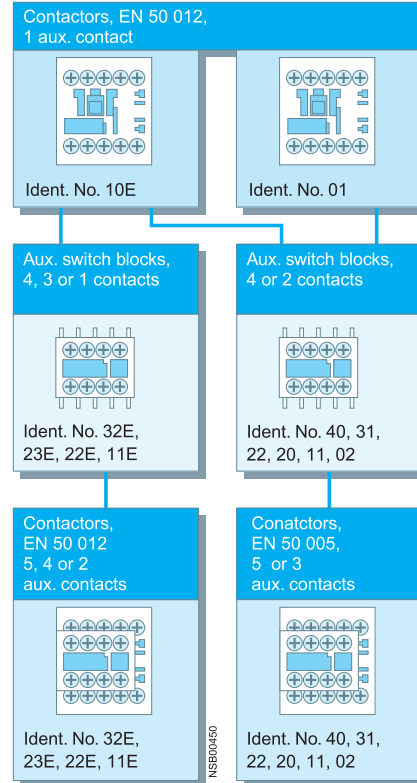
The opening times of the NO contacts and the closing times of the NC contacts increase if the contactor coils are protected against voltage peaks (interference suppression diode 6 to 10 times; diode assemblies 2 to 6 times; varistor +2 ms to 5 ms).

Contactors and Contactor Assemblies

Contactors for Switching Motors

3RT1 contactors, 3-pole, sizes S00 to S3

3RT10 1. contactors (size S00),
Terminal designations acc. to EN 50 012 or DIN 50 005.



Auxiliary switch blocks

The 3RT1 basic units can be extended with various auxiliary switch blocks, depending on the application:

Size S00 (3RT101)

Contactors with one NO contact as the auxiliary contact and with either screw or Cage Clamp connections, identification number 10E, can be extended to obtain contactors with 2, 4 or 5 auxiliary contacts in accordance with EN 50 012 using auxiliary switch blocks. The identification numbers 11E, 22E, 23E and 32E on the auxiliary switch blocks apply to the complete contactors. These auxiliary switch blocks cannot be combined with contactors that have an NC contact in their basic unit, identification number 01, as these are coded.

All size S00 contactors with one auxiliary contact, identification number 10E or 01, and the contactors with 4 main contacts can be extended to obtain contactors with 3 or 5 auxiliary contacts (contactors with 4 main contacts: 2 or 4 auxiliary contacts) according to EN 50 005 using auxiliary switch blocks

with identification numbers 40 to 02. The identification numbers on the auxiliary switch blocks apply only to the attached auxiliary contacts.

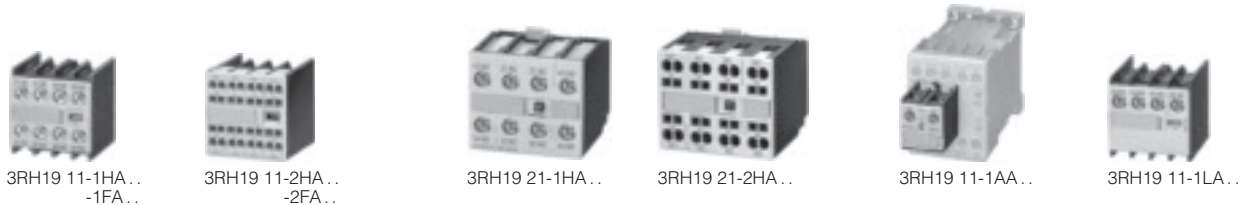
Single or 2-pole auxiliary switch blocks that can be connected on either the top or the bottom facilitate quick, straightforward wiring, especially when assembling feeders. These auxiliary switch blocks are only available with screw-type terminals.

The solid-state compatible 3RH19 11-1NF.. auxiliary switch blocks for size S00 contactors contain two enclosed contact elements. They are ideal for switching low voltages and currents (hard gold-plated contacts) or for use in dusty atmosphere. The contacts do not have positively-driven operation.

All the above-mentioned auxiliary switch variants can be snapped into the location holes on the front of the contactors. The auxiliary switch block has a centrally positioned release lever for disassembly.



Selection and ordering data



For contactors	Rated operational current ²⁾ NEMA A600 / Q600	Auxiliary contacts		Screw connection		Cage Clamp connection		Weight approx. kg
		Ident. no.	Design	Order No.	List Price \$	Order No.	List Price \$	
Type			 NO NC NO NC					

Auxiliary switch blocks for snapping onto the front acc. to EN 50 012 ¹⁾

Size S00

For making contactors with 2, 4 or 5 auxiliary contacts

3RT10 1.-1...1, 3RT10 1.-2...1 Ident. no. 10E	11 E	-	1	-	-	3RH19 11-1HA01	3RH19 11-2HA01	0.045
	22 E	1	2	-	-	3RH19 11-1HA12	3RH19 11-2HA12	
	23 E	1	3	-	-	3RH19 11-1HA13	3RH19 11-2HA13	
	32 E	2	2	-	-	3RH19 11-1HA22	3RH19 11-2HA22	

Sizes S0 to S12¹⁾

4-pole

3RT10 2, 3RT1. 3 to 3RT1. 7, 3RT11	31	3	1	-	-	3RH19 21-1HA31	3RH19 21-2HA31	0.065
	22	2	2	-	-	3RH19 21-1HA22	3RH19 21-2HA22	
	13	1	3	-	-	3RH19 21-1HA13	3RH19 21-2HA13	
with location digits 5, 6, 7, 8	22	2	2	-	-	3RH19 21-1XA22-0MA0	3RH19 21-2XA22-0MA0	

Auxiliary switch blocks for snapping onto the front acc. to EN 50 005 ¹⁾

Size S00

2 or 4-pole auxiliary switch blocks for making contactors with 3 or 5 auxiliary contacts

3RT1. 1, 3RH11, 3RH14	20	2	-	-	-	3RH19 11-1FA20	3RH19 11-2FA20	0.045
	11	1	1	-	-	3RH19 11-1FA11	3RH19 11-2FA11	
	02	-	2	-	-	3RH19 11-1FA02	3RH19 11-2FA02	
	11 U	-	-	1	1	3RH19 11-1FB11	3RH19 11-2FB11	
	40	4	-	-	-	3RH19 11-1FA40	3RH19 11-2FA40	0.045
	31	3	1	-	-	3RH19 11-1FA31	3RH19 11-2FA31	
	22	2	2	-	-	3RH19 11-1FA22	3RH19 11-2FA22	
	22 U	-	-	2	2	3RH19 11-1FC22	3RH19 11-2FC22	
	11, 11 U	1	1	1	1	3RH19 11-1FB22	-	

Single or 2-pole auxiliary switch blocks, cable entry from one side

• Cable entry from above	-	1	-	-	-	3RH19 11-1AA10	-	0.015
	-	-	1	-	-	3RH19 11-1AA01	-	
	-	1	1	-	-	3RH19 11-1LA11	-	0.045
	-	2	-	-	-	3RH19 11-1LA20	-	
• Cable entry from below	-	1	-	-	-	3RH19 11-1BA10	-	0.015
	-	-	1	-	-	3RH19 11-1BA01	-	
	-	1	1	-	-	3RH19 11-1MA11	-	0.045
	-	2	-	-	-	3RH19 11-1MA20	-	

EN50005 and EN50012 designate the markings of the auxiliary terminal numbers. For position of the terminals see pages 2/166-169. For int. circuit diagrams see pages 2/156-160

1) Exception: 3RT16.
2) UL ratings, Appendix page 19/7.

Contactors and Contactor Assemblies




3RT1 Contactors

SIRIUS



Spare parts

Selection and ordering data

For contactor	Rated control supply voltage U_s	Screw connection		Cage Clamp connection		Weight approx. kg
		Order No.	List Price \$	Order No.	List Price \$	
Size	Type					
Coils · AC operation						
 3RT19 24-5A .01	S0	3RT10 2.,	24 V, 50 Hz	3RT19 24-5AB01 3RT19 24-5AD01 3RT19 24-5AH01 3RT19 24-5AF01 3RT19 24-5AP01 3RT19 24-5AV01 3RT19 24-5AC21 3RT19 24-5AD21 3RT19 24-5AH21 3RT19 24-5AG21 3RT1924-5AM21 3RT19 24-5AN21 3RT19 24-5AL21 3RT19 24-5AK61 3RT19 24-5AP61 3RT1924-5AU61 3RT1924-5AV61 3RT1924-5AT61 3RT19 24-5AG61 3RT19 24-5AN61 3RT19 24-5AR61	3RT19 24-5AB02 3RT19 24-5AD02 3RT19 24-5AH02 3RT19 24-5AF02 3RT19 24-5AP02 3RT19 24-5AV02 3RT19 24-5AC22 3RT19 24-5AD22 3RT19 24-5AH22 3RT19 24-5AG22 3RT1924-5AM22 3RT19 24-5AN22 3RT19 24-5AL22 3RT19 24-5AK62 3RT19 24-5AP62 3RT1924-5AU62 3RT1924-5AV62 3RT1924-5AT62 3RT19 24-5AG62 3RT19 24-5AN62 3RT19 24-5AR62	0.069
		3RT13 2.,	42 V, 50 Hz			
		3RT15 2.,	48 V, 50 Hz			
			110 V, 50 Hz			
			230 V, 50 Hz			
			400 V, 50 Hz			
			24 V, 50/60 Hz			
			42 V, 50/60 Hz			
			48 V, 50/60 Hz			
			110 V, 50/60 Hz			
			208 V, 50/60 Hz			
			220 V, 50/60 Hz			
			230 V, 50/60 Hz			
			110 V, 50 Hz/120 V, 60 Hz			
			220 V, 50 Hz/240 V, 60 Hz			
			277 V, 60 Hz			
			480 V, 60 Hz			
	600 V, 60 Hz					
	100 V, 50/60 Hz/110 V, 60 Hz					
	200 V, 50/60 Hz/220 V, 60 Hz					
	400 V, 50/60 Hz/440 V, 60 Hz					
 3RT19 24-5A .02	S2	3RT10 33	24 V, 50 Hz	3RT19 34-5AB01 3RT19 34-5AD01 3RT19 34-5AH01 3RT19 34-5AF01 3RT19 34-5AP01 3RT19 34-5AV01 3RT19 34-5AD21 3RT19 34-5AH21 3RT19 34-5AC21 3RT19 34-5AG21 3RT1934-5AM21 3RT19 34-5AN21 3RT19 34-5AL21 3RT19 34-5AK61 3RT19 34-5AP61 3RT1934-5AU61 3RT1934-5AV61 3RT1934-5AT61 3RT19 34-5AG61 3RT19 34-5AN61 3RT19 34-5AR61	3RT19 34-5AB02 3RT19 34-5AD02 3RT19 34-5AH02 3RT19 34-5AF02 3RT19 34-5AP02 3RT19 34-5AV02 3RT19 34-5AD22 3RT19 34-5AH22 3RT19 34-5AC22 3RT19 34-5AG22 3RT1934-5AM22 3RT19 34-5AN22 3RT19 34-5AL22 3RT19 34-5AK62 3RT19 34-5AP62 3RT1934-5AU62 3RT1934-5AV62 3RT1934-5AT62 3RT19 34-5AG62 3RT19 34-5AN62 3RT19 34-5AR62	0.088
		3RT10 34	42 V, 50 Hz			
			48 V, 50 Hz			
			110 V, 50 Hz			
			230 V, 50 Hz			
			400 V, 50 Hz			
			42 V, 50/60 Hz			
			48 V, 50/60 Hz			
			24 V, 50/60 Hz			
			110 V, 50/60 Hz			
			208 V, 50/60 Hz			
			220 V, 50/60 Hz			
			230 V, 50/60 Hz			
			110 V, 50 Hz/120 V, 60 Hz			
			220 V, 50 Hz/240 V, 60 Hz			
			277 V, 60 Hz			
			480 V, 60 Hz			
	600 V, 60 Hz					
	100 V, 50/60 Hz/110 V, 60 Hz					
	200 V, 50/60 Hz/220 V, 60 Hz					
	400 V, 50/60 Hz/440 V, 60 Hz					
 3RT19 34-5A .01		3RT10 35,	24 V, 50 Hz	3RT19 35-5AB01 3RT19 35-5AD01 3RT19 35-5AH01 3RT19 35-5AF01 3RT19 35-5AP01 3RT19 35-5AV01 3RT19 35-5AC21 3RT19 35-5AD21 3RT19 35-5AH21 3RT19 35-5AG21 3RT1935-5AM21 3RT19 35-5AN21 3RT19 35-5AL21 3RT19 35-5AK61 3RT19 35-5AP61 3RT1935-5AU61 3RT1935-5AV61 3RT1935-5AT61 3RT19 35-5AG61 3RT19 35-5AN61 3RT19 35-5AR61	3RT19 35-5AB02 3RT19 35-5AD02 3RT19 35-5AH02 3RT19 35-5AF02 3RT19 35-5AP02 3RT19 35-5AV02 3RT19 35-5AC22 3RT19 35-5AD22 3RT19 35-5AH22 3RT19 35-5AG22 3RT1935-5AM22 3RT19 35-5AN22 3RT19 35-5AL22 3RT19 35-5AK62 3RT19 35-5AP62 3RT1935-5AU62 3RT1935-5AV62 3RT1935-5AT62 3RT19 35-5AG62 3RT19 35-5AN62 3RT19 35-5AR62	0.088
		3RT10 36,	42 V, 50 Hz			
		3RT13 3.,	48 V, 50 Hz			
		3RT15 3.,	110 V, 50 Hz			
			230 V, 50 Hz			
			400 V, 50 Hz			
			24 V, 50/60 Hz			
			42 V, 50/60 Hz			
			48 V, 50/60 Hz			
			110 V, 50/60 Hz			
			208 V, 50/60 Hz			
			220 V, 50/60 Hz			
			230 V, 50/60 Hz			
			110 V, 50 Hz/120 V, 60 Hz			
			220 V, 50 Hz/240 V, 60 Hz			
			277 V, 60 Hz			
			480 V, 60 Hz			
	600 V, 60 Hz					
	100 V, 50/60 Hz/110 V, 60 Hz					
	200 V, 50/60 Hz/220 V, 60 Hz					
	400 V, 50/60 Hz/440 V, 60 Hz					