# SIRIUS 3RT10 contactors, 3-pole, 15 ... 250 kW

### Overview

#### Standards

IEC 60947-1, EN 60947-1, IEC 60947-4-1, EN 60947-4-1, IEC 60947-5-1, EN 60947-5-1 (auxiliary switches)

The 3RT1 contactors are climate-proof. They are finger-safe according to EN 50274.

#### **Contact reliability**

If voltages  $\leq$  110 V and currents  $\leq$  100 mA are to be switched, the auxiliary contacts of the 3RT1 contactor or 3RH11 contactor relay should be used as they guarantee a high level of contact reliability.

These auxiliary contacts are particularly suitable for solid-state circuits with currents  $\ge$  1 mA at a voltage  $\ge$  17 V.

#### Short-circuit protection of the contactors

For more information about short-circuit protection of contactors without overload relay, see "Technical specifications". For short-circuit protection of the contactors with overload relay see "Overload Relays".

To assemble fuseless motor feeders you must select combinations of motor starter protector and contactor as explained in "Fuseless Load Feeders".

#### Motor protection

3RU11 thermal overload relays or 3RB20/3RB21 solid-state overload relays can be fitted to the 3RT1 contactors for protection against overload. The overload relays must be ordered separately.

#### **Ratings of induction motors**

The quoted rating (in kW) refers to the output power on the motor shaft (according to the nameplate).

#### Surge suppression

3RT1 contactors can be retrofitted with RC elements, varistors, diodes or diode assemblies (assembly of diode and Zener diode for short break times) for damping opening surges in the coil.

#### 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 assembly 2 to 6 times, varistor +2 to 5 ms).

#### Sizes S00 and S0, up to 11 kW

The 3RT1 devices in these sizes can be found in SIRIUS datasheet 2009.

#### Sizes S2 and S3, up to 45 kW

#### Auxiliary contact complement

The basic units of sizes S2 and S3 are delivered only with the main contacts and can be extended with auxiliary switch blocks.

#### Surge suppression

For size S2 and S3 contactors, varistors and RC elements can be snapped on either on the top or directly below the coil terminals. Diode assemblies are available in 2 different versions on account of their polarity. Depending on the application they can be connected either only at the bottom (assembly with motor starter protector) or only at the top (assembly with overload relay).

The plug-in direction of the diodes and diode assemblies is specified by coding.

#### Exceptions:

 $3RT19\ 26\text{-}1T$  . 00 and  $3RT19\ 36\text{-}1T$  . 00, in this case the plug-in direction is marked with "+" and "-".

#### Sizes S6 to S12, > 45 to 250 kW

- 3RT10, contactors for switching motors,
- 3RT12, vacuum contactors for switching motors,
- 3RT14, contactors for AC-1 applications.

#### Operating mechanism types

Two types of solenoid operation are available:

- Conventional operating mechanism
- Solid-state operating mechanism (with 3 performance levels)

#### Control supply voltage

The contactors have a UC operating mechanism which can be operated with AC (40 to 60 Hz) as well as with DC.

#### Withdrawable coils

For simple coil replacement, e. g. if the application is replaced, the solenoid coil can be pulled out upwards after the release mechanism has been actuated and can be replaced by any other coil of the same size.

#### Auxiliary contact complement

Contactor sizes S6 to S12 are supplied with mounted auxiliary switch blocks.

- 3RT10 and 3RT14 contactors: Auxiliary contacts mounted laterally and on front
- 3RT12 vacuum contactors: Auxiliary contacts mounted laterally

### Contactors with conventional operating mechanism

#### Version 3RT1 . . . - . A:

The solenoid coil is switched directly on and off with the control supply voltage  $U_c$  by way of terminals A1/A2.

#### Multi-voltage range for the control supply voltage Us:

Only one coil covers several close-lying control supply voltages which are used worldwide, e. g. 110–115–120–127 V AC/DC or 220–230–240 V AC/DC. Allowance is made in addition for am operating range of 0.8 times the lower ( $U_{s \min}$ ) and 1.1 times the upper ( $U_{s \max}$ ) rated control supply voltage within which the contactor switches reliably and no thermal overload occurs.

#### Contactors with solid-state operating mechanism

The solenoid coil is supplied selectively with the power required for reliable switching and holding by upstream control electronics.

- Wide voltage range for the control supply voltage U: Compared with the conventional operating mechanism, the solid-state operating mechanism covers an even broader range of control supply voltages used worldwide within one coil variant. For example, the coil for 200 to 277 V AC/DC (U<sub>s min</sub> to U<sub>s max</sub>) covers the voltages 200-208-220-230-240-254-277 V used worldwide.
- Extended operating range 0.7 to  $1.25 \times U_2$ : The wide range for the rated control supply voltage and the additionally allowed coil operating range of 0.8  $\times U_{smin}$  to  $1.1 \times U_{smax}$  results in an extended coil operating range of at least 0.7 to  $1.25 \times U_s$ , within which the contactors will operate reliably, for the most common control supply voltages of 24, 110 and 230 V.

### SIRIUS 3RT10 contactors, 3-pole, 15 ... 250 kW

• <u>Bridging temporary voltage dips:</u> Control voltage failures dipping to 0 V (at A1/A2) are bridged for up to approx. 25 ms to avoid unintentional tripping.

• Defined ON and OFF thresholds:

For voltages above  $0.8 \times U_{s \min}$  the electronics will reliably switch the contactor ON, and for voltages below the value  $0.5 \times U_{s \min}$  it is reliably switched OFF. The hysteresis in the switching thresholds prevents the main contacts from chattering as well as increased wear or welding when operated in weak, unstable networks. This also prevents thermal overloading of the contactor coil if the voltage applied is too low (contactor does not close properly and is continuously operated with overexcitation).

 Low control power consumption when closing and in the closed state.

#### Electromagnetic compatibility (EMC)

The contactors with solid-state operating mechanism conform to the requirements for operation in industrial plants:

- Interference immunity
  - Burst (IEC 61000-4-4): 4 kV
  - Surge (IEC 61000-4-5): 4 kV
  - Electrostatic discharge, ESD (IEC 61000-4-2): 8/15 kV
  - Electromagnetic field (IEC 61000-4-3): 10 V/m
- Emitted interference
  - Limit value class A according to EN 55011

#### Note:

### In connection with converters, the control cables must be routed separately from the load cables to the converter.

#### Indication of remaining lifetime (RLT)

Main contactor contacts are working parts which therefore must be replaced in good time when the end of their service life has been reached. The degree of contact erosion and thus the electrical endurance (= number of operating cycles) depends on the loading, utilization category, operating mode, etc. Up to now, routine checks/visual inspections by the maintenance personnel were needed in order to gain an insight into the state of the main contacts. The remaining lifetime indication function now takes over this task. It does not count the number of operating cycles which does not provide information about contact erosion - but instead electronically identifies, evaluates and stores the actual progress of erosion of each one of the three main contacts, and outputs a warning when specified limits are reached. The stored data are not lost even if the control supply voltage for A1/A2 fails. After replacement of the main contacts, measurement the remaining lifetime must be reset using the "RESET" button (hold down RESET button for about 2 seconds using a pen or similar tool).

Advantages:

• Signaling through relay contact or AS-i when remaining lifetime is 20 %, i. e. contact material wear is 80 %.



- Additional visual indication of various levels of erosion by means of LEDs on the laterally mounted solid-state module when remaining lifetime is 60 % (green), 40 % (orange) and 20 % (red).
- Early warning to replace contacts
- · Optimum utilization of contact material
- Visual inspection of the condition of contacts no longer necessary
- Reduction of ongoing operating costs
- Optimum planning of maintenance measures
- · Avoidance of unforeseen plant downtimes

#### Version 3RT1 . . . - . N: for 24 V DC PLC output

2 control options:

■ Control without a coupling link directly through a 24 V DC/ ≥ 30 mA PLC output (EN 61131-2). Connection by means of 2-pole plug-in connection. The screwless spring-type connection is part of the scope of supply. The control supply voltage which supplies the solenoid operating mechanism must be connected to A1/A2.



#### Note:

Before start-up, the slide switch for PLC operation must be moved to the "PLC ON" position (setting ex works: "PLC OFF").

Conventional control by applying the control supply voltage at A1/A2 through a switching contact.



#### Note:

The slide switch must be in the "PLC OFF" position (= setting ex works).

# SIRIUS 3RT10 contactors, 3-pole, 15 ... 250 kW

Version 3RT1....P: for 24 V DC PLC output or PLC relay output, with remaining lifetime indicator (RLT).



To supply the solenoid and the remaining lifetime indicator with power, the control supply voltage  $U_s$  must be connected to terminals A1/A2 of the laterally mounted solid-state module. The control inputs of the contactor are connected to a 7-pole plug-in connection; the screwless spring-type connection is part of the scope of supply.

 The "<u>Remaining Lifetime RLT</u>" status signal is available at terminals R1/R2 through a floating relay contact (hard goldplated, enclosed) and can be input to SIMOCODE, PLC or other devices for processing, for example.

Permissible current-carrying capacity of the R1/R2 relay output:

- I<sub>e</sub>/AC-15/24 to 230 V: 3 A
- / DC-13/24 V: 1 A
- LED indications

Order No. scheme

The following states are indicated by means of LEDs on the laterally mounted solid-state module:

- Contactor ON (energized state): green LED ("ON")
- Indication of remaining lifetime

2 control options:

■ Contactor control without a coupling link directly through a 24 V DC/≥ 30 mA PLC output (EN 61131-2) by way of terminals IN+/IN-.



Possibility of switching from automatic control to local control by way of terminals H1/H2, i. e. automatic control through PLC or SIMOCODE/PROFIBUS DP can be deactivated e. g. at start-up or in the event of a fault and the contactor can be controlled manually.

- Contactor control through relay outputs at connections H1/ H2, e. g. by
  - PLC or

\_

SIMOCODE.



Contact loading: U<sub>s</sub>/approx. 5 mA.

When operated through SIMOCODE, a communication link to PROFIBUS DP is also provided.

Digit of the Order No.	1st - 3rd	4th	5th	6th	7th	5	8th 9	9th	10th	11th	12th		13th	14th	15th	16th
						-						-				
SIRIUS power contactors	3 R T															
1st generation		1														
Device type (e. g. 0 = 3-pole motor contactor, 3 = 4-pole AC-1 contactor)																
Size of the contactor (3 = S2, 4 = S3, 5 = S6, etc.)																
Power dependent on size (e. g. 45 = 37 kW)																
Connection type (1 = screw, 2 = spring-type)																
Operating range / solenoid coil circuit (e. g. A = AC standard / without)																
Rated control supply voltage (e. g. P0 = 230 V, 50 Hz)																
Auxiliary switches (e. g. S3: 0 = without auxiliary switches)																
Special version																
Example	3 R T	1	0	4	5	-	1	А	Р	0	0					

<u>Note:</u> The Order No. scheme is presented here merely for information purposes and for better understanding of the logic

behind the order numbers. For your orders, please use the order numbers quote in the catalog and in the Industry Mall.

#### Technical specifications

### Endurance of the main contacts

The characteristic curves show the contact endurance of the contactors when switching resistive and inductive AC loads (AC-1/AC-3) depending on the breaking current and rated operational voltage. It is assumed that the operating mechanisms are switched randomly, i. e. not synchronized with the phase angle of the supply system.

The rated operational current I<sub>a</sub> complies with utilization category AC-4 (breaking six times the rated operational current) and is intended for a contact endurance of at least 200 000 operating cycles.

If a shorter endurance is sufficient, the rated operational current I/AC-4 can be increased. I

If the contacts are used for mixed operation, i. e. normal switching (breaking the rated operational current according to utilization category AC-3) in combination with intermittent inching (breaking several times the rated operational current according to utilization category AC-4), the contact endurance can be calculated approximately from the following equation:

$$X = \frac{A}{1 + \frac{C}{100} \left(\frac{A}{B} - 1\right)}$$

Characters in the equation:

- X Contact endurance for mixed operation in operating cycles A Contact endurance for normal operation  $(I_a = I_e)$  in operating cycles
- В Contact endurance for inching  $(I_a = \text{multiple of } I_e)$  in operating cycles
- C Inching operations as a percentage of total switching operations

#### Size S2



Size S3



 $P_{\rm N}$  = Rated power for squirrel-cage motors at 415 V

- = Breaking current
- = Rated operational current

### SIRIUS 3RT10 contactors, 3-pole, 15 ... 250 kW

#### Sizes S6 to S12



#### 3RT12 vacuum contactors · Sizes S10 and S12



 $P_{\rm N}$  = Rated power for squirrel-cage motors at 415 V  $I_{\rm a}$  = Breaking current

Ī, = Rated operational current

				5	IKIUS 3F	KI TU COR	itactors,
					З-ро	le, 15	250 kW
Type Size		3RT10 34	3RT10 35	3RT10 36	3RT10 44	3RT10 45	3RT10 46
Dimensions (W v H v D)	mm	55 v 112 v	110		70 x 146 x 1	134	
• With mounted auxiliary switch block	mm	55 v 112 v	159		70 x 146 x	183	
		55 × 112 ×	159		70 × 140 ×	105	
General data							
Permissible mounting positions		360°	22,5° 22,5° 🚆				
The contactors are designed for operation on a vertical mounting surface.							
Mechanical endurance							
• Basic units	Operating cycles	10 million					
Basic units with snap-on auxiliary switch block	Operating cycles	10 million					
Solid-state compatible auxiliary switch blocks	Operating cycles	5 million					
Electrical endurance		1)					
Rated insulation voltage U, (pollution degree 3)	V	690			1000		
Rated impulse withstand voltage U <sub>imp</sub>	kV	6			6		
Protective separation between the coil and the main contacts acc. to EN 60947-1, Appendix N	V	415			690		
Mirror contacts							
A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with a NO main contact.							
With removable auxiliary switch block		Yes, acc. to	EN 60947-4-	1, Appendix I	F		
Permissible ambient temperature							
• During operation	°C	-25 +60					
During storage	°C	-55 +80					
Degree of protection acc. to EN 60947-1, Appendix C		AC coil asse DC coil asse	nal compartn embly IP40, embly IP30	ient IPOO),			
Touch protection acc.to EN 50274		Finger-safe					
Shock resistance (AC and DC operation)							
Rectangular pulse	g/ms	10/5 and 5/	10		6.8/5 and 4	/10	
• Sine pulse	g/ms	15/5 and 8/	10		10.6/5 and	6.2/10	
Conductor cross-sections		2)					
Short-circuit protection for contactors without overload rela	iys	_					
see "Protection Equipment" —> "Overload Relays".							
Main circuit							
Fuse links gG, type NH 3NA, DIAZED 5SB, NEOZED 5SE according to IEC 60947-4-1/ EN 60947-4-1							
• Type of coordination "1"	А	125	125	160	250	250	
• Type of coordination "2"	А	63	63	80	125	160	
• Weld-free <sup>3)</sup>	A	16	16	50	63	100	
Auxiliary circuit							
• Fuse links gG, type DIAZED 5SB, NEOZED 5SE (weld-free protection at $l_k \ge 1$ kA)	А	10					
- Miniature circuit breakers with C characteristic (short-circuit current $l_{\rm k} \le 400$ A)	A	10					

1) For endurance of the main contacts see page 2/33.

2) For conductor cross-sections see page 2/38.

3) Test conditions acc. to IEC 60947-4-1.

### SIRIUS 3RT10 contactors, 3-pole, 15 ... 250 kW

Contactor	Type Size	3RT10 34 S2	3RT10 35 S2	3RT10 36 S2	3RT10 44 S3	3RT10 45 S3	3RT10 46 S3
Control circuit							
Coil operating range	AC/DC	0.8 1.1 x	Us				
Power consumption of the solenoid coils (when coil is cold and $1.0 \times U_s$ )							
<ul> <li>AC operation, 50 Hz, standard version</li> </ul>							
- Closing - P.f. - Closed	VA VA	104 0.78 9.7	145 0.79 12.5		218 0.61 21	270 0.68 22	
- P.f.		0.42	0.36		0.26	0.27	
<ul> <li>AC operation, 50/60 Hz, standard version</li> </ul>							
- Closing - P.f. - Closed - P.f.	VA VA	127/113 0.73/0.69 11.3/9.5 0.41/0.42	170/155 0.76/0.72 15/11.8 0.35/0.38		247/211 0.62/0.57 25/18 0.27/0.3	298/274 0.7/0.62 27/20 0.29/0.31	
		0111/0112	015570150		01277015	012970191	
• DC operation							
- Closing = Closed	W	13.3	13.3		15	15	
Operating times for 0.8 1.1 x U <sub>s</sub> <sup>1)</sup>							
Total break time = Opening delay + Arcing time							
AC operation							
- Closing delay - Opening delay	ms ms	11 30 7 10	10 24 7 10		16 57 10 19	17 90 10 25	
DC operation							
- Closing delay - Opening delay	ms ms	50 95 20 30	60 100 20 25		90 230 14 20	90 230 14 20	
Arcing time	ms	10	10		10 15	10 15	
Operating times for 1.0 x $U_s^{(1)}$							
AC operation							
- Closing delay - Opening delay		13 22 7 10	12 20 7 10		18 34 11 18	18 30 11 23	
• DC operation							
- Closing delay - Opening delay	ms	60 75 20 30	70 85 20 25		100 120 16 20	100 120 16 20	

 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 (varistor +2 ms to 5 ms, diode assembly: 2 to 6 times).

				5	IRIUS 31	KI 10 COI	itactors,
					3-рс	ole, 15	. 250 kW
Contactor	Type Size	3RT10 34 S2	3RT10 35 S2	3RT10 36 S2	3RT10 44 S3	3RT10 45 S3	3RT10 46 S3
Main circuit							
AC capacity							
Utilization category AC-1 Switching resistive loads							
Rated operational currents I							
- At 40 °C up to 690 V	А	50	60	60	100	120	120
- At 60 °C up to 690 V	А	45	55	55	90	100	100
• Rated power for AC loads <sup>1)</sup> with p.f.= 0.95 (at 60 $^{\circ}$ C)							
- At 415 V	kW	31	38	38	59	66	66
<ul> <li>Minimum conductor cross-section for loads with I<sub>e</sub></li> </ul>							
- At 40 °C	mm <sup>2</sup>	16	16	16	35	50	50
- At 60 °C	mm <sup>2</sup>	10	16	16	35	35	35
Utilization categories AC-2 and AC-3							
<ul> <li>Rated operational currents I<sub>e</sub></li> </ul>							
- Up to 500 V	A	32	40	50	65	80	95
	A	20	24	24	47	20	58
Rated power of slipring or squirrel-cage motors at 50 and 60 Hz				45	10.5		
- At 230 V - At 415 V	KW kw	7.5 15	11	15 22	18.5	22	22 45
- At 500 V	kW	18.5	22	30	37	45	55
- At 690 V	kW	18.5	22	22	45	55	55
Thermal current-carrying capacity, 10 s current <sup>2)</sup>	A	320	400	400	600	760	760
Power loss per conducting path at I <sub>e</sub> /AC-3	W	1.8	2.6	5	4.6	7.7	10.8
Utilization category AC-4 (for $I_a = 6 \times I_e$ )							
<ul> <li>Rated operational current I<sub>e</sub></li> </ul>							
- Up to 415 V	А	29	35	41	55	66	80
<ul> <li>Rated power for squirrel-cage motors with 50 Hz and 60 Hz</li> </ul>							
- At 415 V	kW	15	18.5	22	30	37	45
The following applies to a contact endurance of about 200 000 operating cycles:							
<ul> <li>Rated operational currents I<sub>e</sub></li> </ul>							
- Up to 415 V	А	15.6	18.5	24	28	34	42
- Up to 690 V	A	15.6	18.5	24	28	34	42
<ul> <li>Rated power for squirrel-cage motors with 50 Hz and 60 Hz</li> </ul>							
- At 230 V	kW	4.7	5.4	7.3	8.7	10.4	12
- At 500 V	kW	0.2 9.8	9.5 11.8	12.0	18.4	22.4	22
- At 690 V	kW	13	15.5	21.8	25.4	30.9	38
Switching frequency							
Switching frequency z in operating cycles/hour							
Contactors without overload relays							
No-load switching frequency AC	h-1	5000			5000		
No-load switching frequency DC	h-1	1500			1000		
• Dependence of the switching frequency z' on the operational current I' and operational voltage U': z' = z · (I <sub>2</sub> /I') · (400 V/U') <sup>1.5</sup> · 1/h							
- AC-1	h-1	1200	1200	1000	1000	900	900
- AC-2	h-1	750	600	400	400	400	350
- AC-3 - AC-4	h-1 h-1	1000 250	300	800 300	300	300	850 250
Contactors with overload relays		2.50	500	500	500	500	230
Mean value	<b>b</b> -1	15					
	11.1	15					

1) Industrial furnaces and electric heaters with resistance heating, etc. (increased power consumption on heating up has been taken into account).

2) According to IEC 60947-4-1. For rated values for various start-up conditions see "Protection Equipment" —> "Overload Relays".

### SIRIUS 3RT10 contactors, 3-pole, 15 ... 250 kW

Contactor		Type Size	3RT10 3 . S2	3RT104. S3
Conductor	cross-sections (1 or 2 conductors connecta	able)		
Main conduc	ctors:		Screw terminals	
Roy terminal				
Eront clampir	a point connected			
	Finely stranded with end sleeve	mm²	0.75 25	2 5 35
<b>5479</b>	Finely stranded with out end sleeve	mm <sup>2</sup>	0.75 25	4 50
	Stranded	mm <sup>2</sup>	0.75 35	4 70
Sz	• Solid	mm²	0.75 16	2.516
	<ul> <li>Ribbon cable conductors (number x width x thickness)</li> </ul>	mm	6 x 9 x 0.8	6 x 9 x 0.8
	AWG cables, solid or stranded	AWG	18 2	10 2/0
Rear clampin	g point connected			
F.	Finely stranded with end sleeve	mm²	0.75 25	2.5 50
0048	<ul> <li>Finely stranded without end sleeve</li> </ul>	mm²	0.75 25	10 50
<b>N</b>	• Stranded	mm²	0.75 35	10 70
	• Solid	mm²	0.75 16	2.5 16
	<ul> <li>Ribbon cable conductors (number x width x thickness)</li> </ul>	mm	6 x 9 x 0.8	6 x 9 x 0.8
	<ul> <li>AWG cables, solid or stranded</li> </ul>	AWG	18 2	10 2/0
Both clampin	g points connected			
	<ul> <li>Finely stranded with end sleeve</li> </ul>	mm²	2 x (0.75 16)	2 x (2.5 35)
	<ul> <li>Finely stranded without end sleeve</li> </ul>	mm²	2 x (0.75 16)	2 x (4 35)
	Stranded	mm²	2 x (0.75 25)	2 x (4 50)
<b>S</b>	• Solid	mm²	2 x (0.75 16)	2 x (2.5 16)
	<ul> <li>Ribbon cable conductors (number x width x thickness)</li> </ul>	mm	2 x (6 x 9 x 0.8)	2 x (6 x 9 x 0.8)
	<ul> <li>AWG cables, solid or stranded</li> </ul>	AWG	2 x (18 2)	2 x (10 1/0)
	<ul> <li>Terminal screw</li> <li>Tightening torque</li> </ul>	Nm	M6 (Pozidriv 2) 3 4.5 (27 40 lb.in)	M6 (hexagon socket, A/F 4) 4 6 (36 53 lb.in)
Auxiliary cor	nductors:			
	• Solid	mm²	2 x (0.5 1.5) <sup>1</sup> ; 2 x (0.75 2.5 max. 2 x (0.75 4)	i) <sup>1)</sup> according to IEC 60947;
	<ul> <li>Finely stranded with end sleeve</li> </ul>	mm²	2 x (0.5 1.5) <sup>1)</sup> ; 2 x (0.75 2.5	<b>)</b> <sup>1)</sup>
	<ul> <li>AWG cables, solid or stranded</li> </ul>	AWG	2 x (20 16) <sup>1)</sup> ; 2 x (18 14) <sup>1)</sup> ; 7	1 x 12
	• Terminal screw - Tightening torque	Nm	M3 0.8 1.2 (7 10.3 lb.in)	

 If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in the range specified. If identical cross-sections are used, this restriction does not apply.

				SIRIUS	3RT10 co	ontactors,
				3-	pole, 15	250 kW
Turpe		20110 54	20110 55	2PT10.64	2PT10 75	2PT10 76
туре		5K110 54	3RT10 55, 3RT10 56	3RT10 65, 3RT10 66	5611075	5611076
Size		S6		S10	S12	
Dimensions (W x H x D)	mm	120 x 172 x	170	145 x 210 x 202	160 x 214 x	225
With mounted auxiliary switch block	mm	120 x 172 x	217	145 x 210 x 251	160 x 214 x	271
I Contraction of the second se						
General data						
Permissible mounting positions		_ <b>+</b>	22,5°,22,5° §			
The contactors are designed for operation on a vertical mounting surface.		90° +++++ 90				
Mechanical endurance	Operating cycles	10 million				
Electrical endurance	-	1)				
Rated insulation voltage U, (pollution degree 3)	V	1000				
Rated impulse withstand voltage U <sub>imp</sub>	kV	8				
<b>Protective separation</b> between the coil and the main contacts acc. to EN 60947-1, Appendix N	V	690				
Mirror contacts		Yes, acc. to E	N 60947-4-1, A	ppendix F		
A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with a NO main contact.						
Permissible ambient temperature						
During operation	°C	-25 +60				
<ul> <li>During operation, with AS-Interface interface</li> </ul>	°C	-25 +55				
During storage	°C	-55 +80				
Degree of protection acc. to EN 60947-1, Appendix C		IPOO/open, c	oil assembly IP2	.0		
Touch protection acc.to EN 50274		Finger-safe v	vith cover			
Shock resistance						
Rectangular pulse	g/ms	8.5/5 and 4.2	2/10			
• Sine pulse	g/ms	13.4/5 and 6	5.5/10		_	
Conductor cross-sections		3)				
Electromagnetic compatibility (EMC)		5)				
For short-circuit protection For short-circuit protection for contactors with overload relays						
Main circuit						
Fuse links gG, type NH 3NA, DIAZED 5SB, NEOZED 5SE according						
to IEC 6094/-4-1/ EN 6094/-4-1		255	255	500	620	(20)
• Type of coordination "1"	A	355	355	500	630	630
• Type of coordination "2"	A	315	315	400	500	500
• weid-free*	А	80	160	250	250	315
• With fuse links gG, type DIAZED 5SB, NEOZED 5SE (weld-free protection at /, ≥ 1 kA)	А	10				
• Or with miniature circuit breakers with C characteristic $(l_k < 400 \text{ A})$						
1) For endurance of the main contacts see page 2/34.						
<ul> <li>2) For conductor cross-sections see page 2/42.</li> <li>2) For closter cross-sections are page 2/42.</li> </ul>						
3) For electromagnetic compatibility (EMC) see page 2/31.						

4) Test conditions according to IEC 60947-4-1.

### SIRIUS 3RT10 contactors, 3-pole, 15 ... 250 kW

Contactor	Type Size	3RT10 5 . S6	3RT106. 510	3RT107. 512
Control circuit				
Operating range of the solenoid AC/DC (UC)		0.8 x U <sub>s min</sub> 1.1 x U <sub>s max</sub>		
<b>Power consumption of the solenoid</b> (when coil is cool and rated range $U_{s \min} \dots U_{s \max}$ )				
Conventional operating mechanism				
AC operation				
- Closing at $U_{s \min}$ - Closing at $U_{s \max}$	VA/p.f. VA/p.f.	250/0.9 300/0.9	490/0.9 590/0.9	700/0.9 830/0.9
- Closed at U <sub>s min</sub> - Closed at U <sub>s min</sub>	VA/p.f. VA/p.f.	4.8/0.8 5.8/0.8	5.6/0.9 6.7/0.9	7.6/0.9 9.2/0.9
• DC operation				
- Closing at U <sub>smin</sub>	W	300	540	770
- Closing at U <sub>s max</sub>	W	360	650	920
- Closed at U <sub>s min</sub> - Closed at U	W	4.3 5.2	6.1 7 4	8.5 10
Solid-state operating mechanism		5.2	/.1	10
AC operation				
- Closing at U <sub>smin</sub>	VA/p.f.	190/0.8	400/0.8	560/0.8
- Closing at U <sub>s max</sub>	VA/p.f.	280/0.8	530/0.8	750/0.8
- Closed at U <sub>s min</sub> - Closed at U	VA/p.t. VA/p.f	3.5/0.5	4/0.5 5/0.4	5.4/0.8 7/0.8
• DC operation	wwp.ii.	F.10.F	510.4	/10.0
- Closing at U <sub>rmin</sub>	W	250	440	600
- Closing at $U_{s max}$	W	320	580	800
- Closed at U <sub>s min</sub>	W	2.3	3.2	4
PIC control input acc. to EN 61131-2	vv	2.0 Type 2	5.0	5
Pated voltage	VDC	74		
Operating range	V DC	17 30		
Power consumption	mA	< 30		
Operating times		_ 50		
(Total break time = Opening delay + Arcing time)				
Conventional operating mechanism				
• For 0.8 x U <sub>s min</sub> 1.1 x U <sub>s max</sub>				
- Closing delay	ms	20 95	30 95	45 100
- Opening delay	ms	40 60	4080	60 100
• For U <sub>s min</sub> U <sub>s max</sub>		25 50	25 50	F0 70
- Opening delay	ms	40 60	50 80	70 100
Solid-state operating mechanism, actuated via A1/A2				
• For 0.8 x U <sub>e min</sub> 1.1 x U <sub>e max</sub>				
- Closing delay	ms	95 135	105 145	120 150
- Opening delay	ms	80 90	80 100	80 100
• For U <sub>s min</sub> U <sub>s max</sub>				
- Closing delay	ms	100 120	110130	125 150
Solid-state operating mechanism actuated via PLC input	1115	0090	00100	00100
• For 0.8 x // 1.1 x //				
- Closing delay	ms	35 75	45 80	60 90
- Opening delay	ms	80 90	80 100	80 100
• For U <sub>smin</sub> U <sub>smax</sub>				
- Closing delay	ms	40 60	50 65	65 80
- Opening delay	ms	80 90	80 100	80 100
Arcing time	ms	10 15	10 15	10 15

<b>SIRIUS 3RT1</b>	0 c	on	tact	ors,
3-pole,	15	•••	250	kW

Contactor	Type Size	3RT10 54 S6	3RT10 55 S6	3RT10 56 S6	3RT10 64 S10	3RT10 65 S10	3RT10 66 S10	3RT10 75 S12	3RT10 76 S12
Main circuit									
AC capacity		1							
Utilization category AC-1 Switching resistive loads									
• Rated operational currents I									
- At 40 °C up to 690 V	А	160	185	215	275	330		430	610
- At 60 °C up to 690 V	А	140	160	185	250	300		400	550
- At 60 °C up to 1000 V	A	80	90	100	100	150		200	200
• Rated power for AC loads <sup>1)</sup> with p.f.= 0.95 (at 60 °C)									
- At 415 V	kW	92	105	121	164	197		263	362
• Minimum conductor cross-section for loads with $I_e$									
- At 40 °C	mm <sup>2</sup>	70	95 70	95	150	185		2 x 150	2 x 185
	111111-	20	70	30	120	100	1	240	2 X 103
Rated operational currents /									
- Un to 500 V	Δ	115	150	185	225	265	300	400	500
- At 690 V	A	115	150	170	225	265	280	400	450
- At 1000 V	А	53	65	65	68	95	95	180	180
<ul> <li>Rated power for slipring or squirrel-cage motors at and 60 Hz</li> </ul>	50								
- At 230 V	kW	37	50	61	73	85	97	132	164
- At 415 V - At 500 V	kW kw	64 81	84 105	104 132	128	151	1/1 215	231 291	291
- At 690 V	kW	113	146	167	223	265	280	400	453
- At 1000 V	kW	75	90	90	90	132	132	250	250
Thermal current-carrying capacity, 10 s current <sup>2)</sup>	А	1100	1300	1480	1800	2400	2400	3200	4000
Power loss per main current path at I <sub>e</sub> /AC-3/500 V	W	7	9	13	17	18	22	35	55
<b>Utilization category AC-4</b> (for $I_a = 6 \times I_e$ )									
<ul> <li>Rated operational current I<sub>e</sub></li> </ul>									
- Up to 415 V	A	97	132	160	195	230	280	350	430
<ul> <li>Rated power for squirrel-cage motors with 50 Hz and 60 Hz</li> </ul>									
- At 415 V	kW	55	75	90	110	132	160	200	250
The following applies to a contact endurance of about 200 000 operating cycles:									
<ul> <li>Rated operational currents I<sub>e</sub></li> </ul>									
- Up to 500 V	A	54	68	81	96 95	117	125	150	175
- Up to 1000 V	A	40 34	38	42	42	57	57	80	80
<ul> <li>Rated power for squirrel-cage motors with 50 Hz and 60 Hz</li> </ul>									
- At 230 V	kW	16	20	25	30	37	40	48	56
- At 415 V	kW	29	38	45	54	66	71	85	98
- At 500 V - At 690 V	kW kw	37 48	4/	57	6/ 82	82 102	8/ 112	105 133	123
- At 1000 V	kW	49	55	60	59	80	80	113	113
Switching frequency									
Switching frequency z in operating cycles/hour									
Contactors without overload relays									
<ul> <li>No-load switching frequency</li> </ul>	h-1	2 000							
• Dependence of the switching frequency z' on the operational current l' and operational voltage U': $z' = z \cdot (I_e l') \cdot (400 \text{ V} lU')^{1.5} \cdot 1/h$									
- AC-1	h-1	800	800		750	800	750	700	500
- AC-2	h-1	400	300		250	300	250	200	170 420
- AC-4	h-1	130	130		130	130	130	130	130
Contactors with overload relays									
• Mean value	h-1	60							

1) Industrial furnaces and electric heaters with resistance heating, etc. (increased power consumption on heating up has been taken into account).

 According to IEC 60947-4-1.
 For rated values for various start-up conditions see "Protection Equipment" —> "Overload Relays".

### SIRIUS 3RT10 contactors, 3-pole, 15 ... 250 kW

Contactor		Type Size	3RT10 5 . S6		3RT106. S10	3RT107. 512
Conducto	r cross-sections					
Main cond	uctors:		Screw terminals			
(1 or 2 cond	ductors can be connected)					
Box termin	als		3RT19 55-4G (55 kW) box terminals	3RT19 56-4G box terminals	3RT19 66-4G box terminals	
Front clamp	ing point connected					
	<ul> <li>Finely stranded with end sleeve</li> </ul>	mm²	10 70	10 120	70 240	
00479	<ul> <li>Finely stranded without end sleeve</li> </ul>	mm²	16 70	16 120	70 240	
	• Stranded	mm²	16 70	16 120	95 300	
Z	<ul> <li>Ribbon cable conductors (number x width x thickness)</li> </ul>	mm	Min. 3 x 9 x 0.8, max. 6 x 15.5 x 0.8	Min. 3 x 9 x 0.8, max. 10 x 15.5 x 0.8	3/0 600 kci	mil
	AWG cables, solid or stranded	AWG	6 2/0	6 250 kcmil	Min. 6 x 9 x 0 max. 20 x 24	.8, x 0.5
Rear clampi	ng point connected					
₩	<ul> <li>Finely stranded with end sleeve</li> </ul>	mm²	10 70	10 120	120 185	
0048	<ul> <li>Finely stranded without end sleeve</li> </ul>	mm²	16 70	16 120	120 185	
<b>N</b>	Stranded	mm²	16 70	16 120	120 240	
	<ul> <li>Ribbon cable conductors (number x width x thickness)</li> </ul>	mm	Min. 3 x 9 x 0.8, max. 6 x 15.5 x 0.8	Min. 3 x 9 x 0.8, max. 10 x 15.5 x 0.8	250 500 ko	mil
	AWG cables, solid or stranded	AWG	6 2/0	6 250 kcmil	Min. 6 x 9 x 0 max. 20 x 24	.8, x 0.5
Both clampi	ng points connected					
F	<ul> <li>Finely stranded with end sleeve</li> </ul>	mm²	Max. 1 x 50, 1 x 70	Max. 1 x 95, 1 x 120	Min. 2 x 50, n	nax. 2 x 185
r∎1≅	<ul> <li>Finely stranded without end sleeve</li> </ul>	mm²	Max. 1 x 50, 1 x 70	Max. 1 x 95, 1 x 120	Min. 2 x 50, n	nax. 2 x 185
	• Stranded	mm²	Max. 2 x 70	Max. 2 x 120	Min. 2 x 70, n	nax. 2 x 240
	<ul> <li>Ribbon cable conductors (number x width x thickness)</li> </ul>	mm	Max. 2 x (6 x 15.5 x 0.8)	Max. 2 x (10 x 15.5 x 0.8)	Min. 2 x 2/0, max. 2 x 500	kcmil
	<ul> <li>AWG cables, solid or stranded</li> </ul>	AWG	Max. 2 x 1/0	Max. 2 x 3/0	Max. 2 x (20 x	x 24 x 0.5)
	Terminal screw		M10 (beyagon socket A/E 4)	M10 (beyagon socket A/E 4)	M12 (beyagon soc	kat A/E 5)
	- Tightening torque	Nm	10 12 (90 110 lb.in)	10 12 (90 110 lb.in)	20 22 (180	195 lb.in)
Auxiliary co	onductors:					
	• Solid	mm <sup>2</sup>	2 x (0.5 1.5) <sup>1)</sup> ; 2 x (0.75	2.5) <sup>1)</sup> according to IEC 6	0947; max. 2 x	(0.75 4)
	<ul> <li>Finely stranded with end sleeve</li> </ul>	mm <sup>2</sup>	2 x (0.5 1.5) <sup>1)</sup> ; 2 x (0.75	2.5) <sup>1)</sup>		
	<ul> <li>AWG cables, solid or stranded</li> </ul>	AWG	2 x (18 14)			
	Terminal screw		M3 (PZ 2)			
	- Tightening torque	Nm	0.8 1.2 (7 10.3 lb.in)			

 If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in the range specified. If identical cross-sections are used, this restriction does not apply.

### SIRIUS 3RT10 contactors, 3-pole, 15 ... 250 kW

Contactor	Type Size		3RT10 34 S2	3RT10 35 S2	3RT10 36 S2	3RT10 44 S3	3RT10 45 S3	3RT10 46 S3
🕼 and 🕕 rating								
Rated insulation voltage		V AC	600			600		
Uninterrupted current, at 40 °C, open and enclosed		А	45	55	50	90	105	105
Maximum horsepower ratings ( <b>()</b> and <b>(!)</b> approved values)								
<ul> <li>Rated power for induction motors at 60 Hz</li> </ul>								
- At 200 V - At 230 V - At 460 V - At 575 V		hp hp hp hp	10 10 25 30	10 15 30 40	15 15 40 50	20 25 50 60	25 30 60 75	30 30 75 100
Short-circuit protection					_		_	
<ul> <li>At 600 V (contactor or overload relay)</li> </ul>		kA	5	5	5	10	10	10
• CLASS RK5 fuse		А	125	150	200	250	300	350
Circuit breakers with overload protection acc. to UL 489		А	125	150	200	250	300	400
<ul> <li>Combination motor controllers type E acc. to UL 508</li> </ul>								
- At 480 V		Туре	3RV10 3			3RV104		
		A kA	32 65	40 65	50 65	63 65	75 65	100 65
- At 600 V		Туре	3RV104			3RV104		
		A kA	32 25	40 25	50 25	63 30	75 30	75 30
NEMA/EEMAC ratings								
NEMA/EEMAC size		hp	—		2	—		3
Uninterrupted current								
- Open - Enclosed		A A	_		45 45	_		90 90
<ul> <li>Rated power for induction motors at 60 Hz</li> </ul>								
- At 200 V - At 230 V - At 460 V - At 575 V		hp hp hp hp			10 15 25 25			25 30 50 50
Overload relays		Туре	3RU11 3			3RU11 4		
Setting range		А	5.5 50			18 100		

Contactor	Size		S2 to S12	S2 to S12
			Screw terminals	Screw terminals
			Snap-on auxiliary switch block (1- and 4-pole)	Laterally mountable auxiliary switch block
🛞 and 🕕 rating of the auxiliary contacts				
Rated voltage	١	/ AC	600	600
Switching capacity			A 600, Q 600	A 300, Q 300
<ul> <li>Uninterrupted current at 240 V AC</li> </ul>	A	A	10	10

### SIRIUS 3RT10 contactors, 3-pole, 15 ... 250 kW

Contactor	Type		3RT10 54	3RT10 55	3RT10 56	3RT10 64	3RT10 65	3RT10 66
@ and @ rating	5126		30	50	30	510	510	310
Rated insulation voltage	V	AC	600			600		
Uninterrupted current, at 40 °C, open and enclosed	A		140	195	195	250	330	330
Maximum horsepower ratings (@- and @ approved values)								
• Rated power for induction motors at 60 Hz								
- At 200 V	h	р	40	50	60	60	75	100
- At 230 V	h	р	50	60	75	75	100	125
- At 460 V	h	р	100	125	150	150	200	250
- At 575 V	h	р	125	150	200	200	250	300
Short-circuit protection								
• At 600 V	kA	A	10	10	10	10	18	18
• CLASS RK5/L fuse	A		450	500	500	700	800	800
Circuit breakers with overload protection acc. to UL 489	А		350	450	500	500	700	800
NEMA/EEMAC ratings								
NEMA/EEMAC size	hp	р	_	4	_	_	_	5
Uninterrupted current								
- Open	А		_	150	_	_	_	300
- Enclosed	A		_	135	—	—	—	270
<ul> <li>Rated power for induction motors at 60 Hz</li> </ul>								
- At 200 V	hp	o	_	40	_	_	_	75
- At 230 V	hr	p	_	50	—	—	—	100
- At 460 V	hp	р	_	100	—	—	—	200
- At 575 V	hp	p	_	100	—	—	—	200
Overload relays	Туре		3RB20 56			3RB20 66		

Contactor	Туре	3RT10 75	3RT10 76
	Size	S12	S12
🛞 and 🕕 rating			
Rated insulation voltage	V AC	600	
Uninterrupted current, at 40 °C, open and enclosed	A	400	540
Maximum horsepower ratings ( <b>@-</b> and <b>(</b> ) approved values)			
<ul> <li>Rated power for induction motors at 60 Hz</li> </ul>			
- At 200 V - At 230 V - At 460 V - At 575 V	hp hp hp hp	125 150 300 400	150 200 400 500
Short-circuit protection			
• At 600 V	kA	18	30
• CLASS RK5/L fuse	A	1000	1200
Circuit breakers with overload protection acc. to UL 489	A	900	900
NEMA/EEMAC ratings			
NEMA/EEMAC size	hp	—	6
Uninterrupted current			
- Open - Enclosed	A A	_	600 540
<ul> <li>Rated power for induction motors at 60 Hz</li> </ul>			
- At 200 V - At 230 V - At 460 V - At 575 V	hp hp hp hp	- - -	150 200 400 400
Overload relays	Туре	3RB20 66	

3RT10	contactors, 3	-pole, 15	5 250 kW

Selection and	l ordering data							
AC operation								
		777						
3RT10 31A . 0	00	3RT1041A.0	0					
Rated data AC-2 and AC-3, 7	Г <sub>и</sub> : Up to 60 °С	AC-1, <i>T</i> <sub>u</sub> : 40 °C	Auxiliary co	ntacts		Rated control supply voltage U <sub>s</sub> at 50/60 Hz	Screw terminals	Ð
Operational current I <sub>e</sub> up to 500 V	Rating of induction motors at 50 Hz and <b>415 V</b>	Operational current I <sub>e</sub> up to 690 V	ldent. No.	Version	7		Order No.	
A	kW	A		NO	NC	V AC		
For screw and	d snap-on mounting	onto 35 mm st	andard mou	unting ra	il			
Size S2								
32	15	50	_	_	_	24 110 230	3RT10 34-1AC20 3RT10 34-1AG20 3RT10 34-1AL20	
40	18.5	60	_	_	_	24 110 230	3RT10 35-1AC20 3RT10 35-1AG20 3RT10 35-1AL20	
50	22	60	_	_	—	24 110 230	3RT10 36-1AC20 3RT10 36-1AG20 3RT10 36-1AL20	
For screw and	d snap-on mounting	onto 35 mm ar	nd 75 mm st	tandard ı	mounting	g rail		
Size S3								
65	30	100	_	_	_	24 110 230	3RT10 44-1AC20-8K 3RT10 44-1AG20-8K 3RT10 44-1AL20-8K	
80	37	120	_	_	—	24 110 230	3RT10 45-1AC20-8K 3RT10 45-1AG20-8K 3RT10 45-1AL20-8K	
95	45	120				24 110 230	3RT10 46-1AC20-8K 3RT10 46-1AG20-8K 3RT10 46-1AL20-8K	

Other voltages on request. For accessories, see page 2/176. For spare parts, see page 2/183.

3RT10 con	tactors, 3-pole	e, 15 250	kW					
DC operation	• DC solenoid syste	em						
3RT10 31B . 4	0		3RT10 4	1B.40		Rated control supply	Screw terminals	
AC-2 and AC-3, 7	": Up to 60 ℃	AC-1, <i>T</i> <sub>u</sub> : 40 °C	Auxiliary co	macts		voltage U <sub>s</sub>	Screw terminary	Ð
Operational	Rating of induction	Operational	ldent. No.	Versior	ı		Order No.	
500 V	415 V	690 V		ł	4			
Α	kW	Α		NO	NC	V DC		
For screw and	l snap-on mounting	onto 35 mm st	andard mo	unting r	ail			
Size S2								
32	15	50	_	_	_	24 220	3RT10 34-1BB40 3RT10 34-1BM40	
40	18.5	60	—	—	—	24 220	3RT10 35-1BB40 3RT10 35-1BM40	
50	22	60		_	_	24 220	3RT10 36-1BB40 3RT10 36-1BM40	
For screw and	l snap-on mounting	onto 35 mm ar	nd 75 mm s	tandard	mounti	ng rail		
Size S3								
65	30	100	_	_		24 220	3RT10 44-1BB40 3RT10 44-1BM40	
80	37	120	_	-	_	24 220	3RT10 45-1BB40 3RT10 45-1BM40	
95	45	120	—	_	_	24 220	3RT10 46-1BB40 3RT10 46-1BM40	

Other voltages on request. For accessories, see page 2/176. For spare parts, see page 2/183.

### 3RT10 contactors, 3-pole, 15 ... 250 kW

#### **Contactors without coils AC/DC operation** (40 Hz to 60 Hz, DC)

Conventional operating mechanism / Solid-state operating mechanism for 24 V DC PLC output







3RT1.5.

Size	Rated data								Screw terminals			
	AC-2 and AC-3, T	: Up to 60 °	C			AC-1, <i>T</i> <sub>u</sub> : 40 °C	lateral			Ŭ		
	Operational current I <sub>e</sub> up to	Rating of i	nduction mo	otors at 50 H	z and	Operational current <i>I</i> e up to	verational Version rrent I <sub>e</sub> up to		Version Order No.			
	500 V	230 V	415 V	500 V	690 V	690 V	J	Ļ				
							}	(				
	А	kW	kW	kW	kW	A	NO	NC	V AC/DC			
S6	115	37	55	75	110	160	2	2	3RT10 54-6LA06-8K			
	150	45	75	90	132	185	2	2	3RT10 55-6LA06-8K			
	185	55	90	110	160	215	2	2	3RT10 56-6LA06-8K			
S10	225	55	110	160	200	275	2	2	3RT10 64-6LA06-8K			
	265	75	132	160	250	330	2	2	3RT10 65-6LA06-8K			
	300	90	160	200	250	330	2	2	3RT10 66-6LA06-8K			
S12	400	132	200	250	400	430	2	2	3RT10 75-6LA06-8K			
	500	160	250	355	400	610	2	2	3RT10 76-6LA06-8K			

#### For coils, see table below

### For other accessories see page 2/176

For spare parts see page 2/183

For con	ntactors Rated control supply Screw terminals			Rated control supply voltage U <sub>s</sub>	Screw terminals	Ð	
Size	Туре		Order No.	Туре		Order No.	
Withd	rawable coils						
Convei	ntional operatin	g mechanism		Solid-state oper	ating mechanism	For 24V DC PLC output	
S6			3RT19 55-5AB31				
	3RT10 5	110127V AC/DC	3RT19 55-5AF31	3RT10 5	96127V AC/DC	3RT19 55-5NF31	
	3RT14 5	220240V AC/DC	3RT19 55-5AP31	3RT14 5	200277V AC/DC	3RT19 55-5NP41	
S10			3RT19 65-5AB31				
	3RT10 6	110127V AC/DC	3RT19 65-5AF31	3RT10 6	96127V AC/DC	3RT19 55-5NF31	
	3RT14 6	220240V AC/DC	3RT19 65-5AP31	3RT14 6	200277V AC/DC	3RT19 55-5NP31	
			3RT19 66-5AB31				
	3RT12 6	110127V AC/DC	3RT19 66-5AF31	3RT12 6	96127V AC/DC	3RT19 66-5NF31	
	vacuum	220240V AC/DC	3RT19 66-5AP31	vacuum	200277V AC/DC	3RT19 66-5NP31	
	contactors			contactors			
S12			3RT19 75-5AB31				
	3RT10 7	110127V AC/DC	3RT19 75-5AF31	3RT14 7	96127V AC/DC	3RT19 75-5NF31	
	3RT14 7	220240V AC/DC	3RT19 75-5AP31	3RT12 7	200277V AC/DC	3RT19 75-5NP31	
	3RT12 7			vacuum			
	vacuum contactors			contactors			

For 24 V DC PLC output/PLC relay output, with remaining lifetime indicator (RLT)

S6	3RT10 5	96127V AC/DC	3RT19 55-5PF31	
	3RT14 5	200277V AC/DC	3RT19 55-5PP31	
S10	3RT10 6	96127V AC/DC	3RT19 65-5PF31	
	3RT14 6	200277V AC/DC	3RT19 65-5PP31	
S12	3RT10 7	96127V AC/DC	3RT19 75-5PF31	
	3RT14 7	200277V AC/DC	3RT19 75-5PP31	

### 3RT10 contactors, 3-pole, 15 ... 250 kW

AC/DC operation (40 Hz to 60 Hz, DC) Auxiliary and control conductors: screw terminals Withdrawable coils Integrated coil circuit (Varistor) Main conductors: busbar connections Remaining lifetime indicator (RLT)



Size

S6

S10

S12

300

400

500

N

#### 3RT10 56-6P. Rated data Auxiliary Rated control Screw terminals $\oplus$ contacts, lateral supply voltage AC-2 and AC-3, T :: Up to 60 °C AC-1, T.:: 40 °C U<sub>s</sub> Operational Rating of induction motors at 50 Operational Version Order No. current $I_{e}$ up to Hz and current I<sub>e</sub> up to 500 V 230 V 415 V 500 V 690 V 690 V 4 А kW kW kW kW А NO NC V AC/DC Solid-state operating mechanism for 24 V DC PLC output/PLC relay output, with remaining lifetime indicator (RLT) 115 37 55 75 110 160 1 96 ... 127 3RT10 54-6PF35 1 200 ... 277 3RT10 54-6PP35 3RT10 55-6PF35 150 45 75 90 132 185 1 1 96 ... 127 200 ... 277 3RT10 55-6PP35 185 55 96 ... 127 3RT10 56-6PF35 90 110 160 215 1 1 200 ... 277 3RT10 56-6PP35 225 55 110 160 200 275 1 1 96 ... 127 3RT10 64-6PF35 200 ... 277 3RT10 64-6PP35 265 75 96 ... 127 3RT10 65-6PF35 132 160 250 330 1 1

1

1

1

200 ... 277

96 ... 127

96 ... 127

200 ... 277

96 ... 127

200 ... 277

200 ... 277

3RT10 65-6PP35

3RT10 66-6PF35

3RT10 66-6PP35

3RT10 75-6PF35

3RT10 75-6PP35

3RT10 76-6PF35

3RT10 76-6PP35

For accessories see page 2/176.

90

132

160

160

200

250

200

250

355

250

400

400

330

430

610

1

1

1

For spare parts see page 2/183.

### 3RT10 contactors, 3-pole, 15 ... 250 kW

#### Options

### Rated control supply voltages (the 10th and 11th position of the order number must be changed)

Rated control supply voltage U,         Contactor type BR10 4.7, BR10 4.7, BR10 4.7, BR11 5.7, BR11 5.7				1			
Size         S2         S3         S2         S00, S0, S3           Sizes S2 and S3         AC operation         Solenoid coils for 50 Hz"         Solenoid Coil for 50 Hz"         Solenoid Coil for 50 Hz"<	Rated control supply voltage $U_{\rm s}$	Contactor type	3RT10 3, <sup>3)</sup> 3RT10 4 <sup>3)</sup>	3RT14 4	3RT13 3, <sup>3)</sup> 3RT13 4, <sup>3)</sup> 3RT15 3	3RT16 17, 3RT16 27, 3RT16 47	
Sizes 52 and 53         AC operation         24 VAC       B0       B1 <th></th> <th>Size</th> <th>S2, S3</th> <th>S3</th> <th>S2, S3</th> <th>S00, S0, S3</th> <th></th>		Size	S2, S3	S3	S2, S3	S00, S0, S3	
AC operation         Solenoid coils for 50 Hz?*         24 V AC       D0       D0	Sizes S2 and S3						
Solenoid coils for 50 Hz.**         24 V AC       B0       B0       B0       B0         42 V AC       D0       D0       -       -         48 V AC       H0       H0       -       -         48 V AC       H0       H0       -       -         230 V AC       P0       P0       P0       P0         240 V AC       U0       U0       U0       U0       U0         400 V AC       V0       V0       V0       V0       V0         50 emotio coils for 50 and 60 Hz.**       C2       C2       C2       C2       C2         42 V AC       D2       D2       -       -       -       -         42 V AC       D2       D2       -       -       -       -       -         24 V AC       D2       D2       D2       - </td <td>AC operation</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	AC operation						
24 V AC     B0     B0     B0     B0     B0       42 V AC     D0     D0         43 V AC     H0     H0         110 V AC     F0     F0     F0     F0       240 V AC     U0     U0     U0     U0       24 V AC     C2     C2     C2     C2       24 V AC     D2     D2     -     -       48 V AC     H2     H2     H2     -       240 V AC     D2     D2     D2     -       230 V AC     N2     N2     N2     N2       230 V AC     N2     N2     N2     N2       230 V AC     N2     N2     N2     N2       240 V AC     P2     P2     P2     P2       240 V AC     P2     P2     P2     P2       240 V AC     P4     P4     -     -       240 V AC     P4     P4     -     -       240 V	Solenoid coils for 50 H	<b>Z</b> <sup>1)</sup>					
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	24 V AC		BO	BO	BO	BO	
48 VAC       H0       H0	42 V AC		DO	DO	_	_	
110 VAC       F0       F0       F0       F0       F0         230 VAC       V0       V0       V0       V0       V0         240 VAC       D2       D2       C2       C2       C2         42 VAC       D2       D2       -       -       -         24 VAC       D2       D2       D2       -       -       -         210 VAC       N2       N2       N2       N2       N2       - </td <td>48 V AC</td> <td></td> <td>HO</td> <td>HO</td> <td>_</td> <td>_</td> <td></td>	48 V AC		HO	HO	_	_	
230 VAC     P0     P0     P0     P0       240 VAC     U0     U0     U0     U0     U0       240 VAC     V0     V0     V0     V0     V0       Solencid coils for 50 and 60 Hz <sup>0</sup> 22     C2     C2     C2     C2       24 V AC     D2     D2     D2	110 V AC		FO	FO	FO	FO	
240 VAC     U0     U0     U0     U0     U0       400 VAC     V0     V0     V0     V0       240 VAC     V0     V0     V0     V0       241 VAC     C2     C2     C2     C2     C2       242 VAC     D2     D2     D2	230 V AC		PO	PO	PO	PO	
400 V ACV0V0V0V0Solution of 50 and 60 Hz"24 V ACC2C2C2C224 V ACD2D2D2-48 V ACH2H2H2-10 V ACG2G2G2G220 V ACN2N2N2N2230 V ACL2L2L2L224 V ACP2P2P2P2DC operation12 V DC24 V DCD4D424 V DCD4D448 V DCW4W410 V DCF4F4F410 V DCF4F4F410 V DCF4F4110 V DCF4F4F4230 V DCM4M4230 V DCM4M4M4230 V DCP4P4230 V DCM4M4M4230 V DCM4M4AC operating3RT10 34-1A620Contactor with sciew terminals; with solenoid coil for 50 fb2 for rated control supply voltage 230 V AC.Coperating3RT10 34-3B640Contactor with spring-type terminals; for rated control supply voltage 24 V DC.Rete control supplyContactor type3RT1. 5 A 3RT1. 6 A 3RT1. 6 A 3RT1. 7 A3RT1. 5 N 3RT1. 5	240 V AC		UO	UO	UO	UO	
Solenoid coils for 50 and 60 Hz <sup>n</sup> C2         C2 <thc2< th="">         C3         C4</thc2<>	400 V AC		V0	V0	VO	V0	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Solenoid coils for 50 a	nd 60 Hz <sup>1)</sup>		,			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	24 V AC		C2	C2	C2	C2	
48 V AC       H2       H2       H2	42 V AC		D2	D2	D2	_	
110 V AC       G2       G2       G2       G2       G2         220 V AC       N2       N2       N2       N2       N2         230 V AC       L2       L2       L2       L2       L2         240 V AC       P2       P2       P2       P2       P2         DC operation         12 V DC       B4       B4       B4	48 V AC		H2	H2	H2	_	
220 V ACN2N2N2N2N2230 V ACL2L2L2L2L2L2240 V ACP2P2P2P2DC operation12 V DC $   -$ 24 V DCB4B4B4 $ -$ 42 V DCD4D4 $  -$ 48 V DCW4W4 $  -$ 60 V DCE4E4 $ -$ 125 V DCG4G4G4 $-$ 230 V DCF4F4F4 $-$ 230 V DCM4M4M4 $-$ 230 V DCP4P4 $ -$ ExamplesAC operating mechanism3RT10 34-1AF00 3RT10 34-3B640Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 230 V AC. Contactor with spring-type terminals; for rated control supply voltage 24 V DC.Reted control supply voltage $U_i$ Contactor type3RT1. 5 N 3RT1. 6 N 3RT1. 6 N 3RT1. 6 N 3RT1. 7 N3RT1. 5 P/Q 3RT1. 6 P/Q 3RT1. 7 N $W = U_i$ $U_i$	110 V AC		G2	G2	G2	G2	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	220 V AC		N2	N2	N2	N2	
240 VACP2P2P2P2P2DC operation $12 \vee DC$ $     24 \vee DC$ B4B4B4 $  42 \vee DC$ D4D4 $   48 \vee DC$ W4W4 $   60 \vee DC$ E4E4 $   10 \vee DC$ F4F4F4 $  12 \vee DC$ G4G4G4 $  22 \vee DC$ G4G4G4 $  23 \vee DC$ P4P4 $   23 \vee DC$ Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 110 V AC.Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 110 V AC.DC operating mechanism3RT10 34-1A620 3RT10 34-3B640Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 110 V AC.DC operating mechanism3RT10 34-3B640Contactor with spring-type terminals; for rated control supply voltage 230 V DC.Rated control supply voltage $U_x$ SizaSizaSizaRated control supply voltage $U_x$ SizaSizaSizaRated control supply supplySizaSizaSizaSizaSizaSizaSizaSizaSizaSizaRated control supplySizaSizaSizaSizaSizaSizaSizaSizaSizaSiza </td <td>230 V AC</td> <td></td> <td>12</td> <td>12</td> <td>12</td> <td>12</td> <td></td>	230 V AC		12	12	12	12	
DC operation $12 \vee DC$ $     24 \vee DC$ $B4$ $B4$ $B4$ $ 42 \vee DC$ $D4$ $D4$ $  42 \vee DC$ $D4$ $D4$ $  42 \vee DC$ $D4$ $D4$ $  60 \vee DC$ $E4$ $E4$ $  110 \vee DC$ $F4$ $F4$ $F4$ $ 220 \vee DC$ $G4$ $G4$ $G4$ $ 230 \vee DC$ $G4$ $G4$ $G4$ $ 230 \vee DC$ $P4$ $P4$ $  Examples$ Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 230 V AC. Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage 110 V AC.DC operating mechanism $3RT10 34-1AG20$ $3RT10 34-3BG40$ Contactor with screw terminals; for rated control supply voltage 110 V AC. Contactor with spring-type terminals; for rated control supply voltage 110 V AC. Contactor with spring-type terminals; for rated control supply voltage 125 V DC.Rated control supply voltage $U_x$ $3RT1 \cdot 5 \cdot \cdot N$ $3RT1 \cdot 6 \cdot \cdot N$ $3RT1 \cdot 7 \cdot \cdot N$	240 V AC		P2	P2	P2	P2	
$12 \vee DC$ $   -$ <td>DC operation</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	DC operation						
$24 \text{ V DC}$ $B4$ $B4$ $B4$ $ 42 \text{ V DC}$ $D4$ $D4$ $ 48 \text{ V DC}$ $W4$ $W4$ $ 60 \text{ V DC}$ $E4$ $E4$ $ 10 \text{ V DC}$ $F4$ $F4$ $ 125 \text{ V DC}$ $G4$ $G4$ $G4$ $220 \text{ V DC}$ $G4$ $G4$ $G4$ $220 \text{ V DC}$ $M4$ $M4$ $M4$ $230 \text{ V DC}$ $P4$ $P4$ $ 230 \text{ V DC}$ $P4$ $P4$ $ 230 \text{ V DC}$ $C$ $Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 230 V AC.Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 110 V AC.Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 110 V AC.Contactor with spring-type terminals; for rated control supply voltage 24 V DC.Contactor with spring-type terminals; for rated control supply voltage 125 V DC.Rated control supplyContactor type3RT10 34-3BG40Contactor type3RT1 5 \cdot - A3RT11 5 \cdot - A3RT1 5 \cdot - A3RT11 6 \cdot - A3RT1 6 \cdot - A3RT1 6 \cdot - A3RT1 6 \cdot - A3RT1 6 \cdot - P/Q3RT1 7 \cdot - N3RT1 7 \cdot - N3RT1 7 \cdot - N3RT1 7 \cdot - P/Q3RT1 7 \cdot - P/Q3RT1 7 \cdot - P/Q3RT1 7 \cdot$	12 V DC		_	_	_	_	
$42 \vee DC$ D4D4D4 $48 \vee DC$ W4W4 $60 \vee DC$ E4E4 $110 \vee DC$ F4F4 $125 \vee DC$ G4G4G4 $220 \vee DC$ M4M4M4 $230 \vee DC$ P4P4 $230 \vee DC$ P4P4ExamplesContactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 230 V AC. Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage 110 V AC. Contactor with spring-type terminals; for rated control supply voltage 24 V DC. Contactor with spring-type terminals; for rated control supply voltage 125 V DC.Rated control supply voltage $U_s$ Contactor type SiT1 . 5 A SiT1 . 6 A SiT1 . 7 ARated control supply voltage $U_s$ Contactor type SiT2 SizeSizeSize	24 V DC		B4	B4	B4	_	
$48 \vee DC$ $W4$ $W4$ $  60 \vee DC$ $E4$ $E4$ $  110 \vee DC$ $F4$ $F4$ $F4$ $ 125 \vee DC$ $G4$ $G4$ $G4$ $ 220 \vee DC$ $M4$ $M4$ $M4$ $ 230 \vee DC$ $P4$ $P4$ $  230 \vee DC$ $P4$ $P4$ $  Examples$ Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 230 V AC. Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage 110 V AC. Contactor with spring-type terminals; for rated control supply voltage 24 V DC. Contactor with spring-type terminals; for rated control supply voltage 125 V DC.Rated control supply voltage $U_s$ Contactor type $3RT1.5N$ $3RT1.6N$ $3RT1.6N$ $3RT1.6N$ $3RT1.6N$ $3RT1.7$	42 V DC		D4	D4	D4	_	
$GO \lor DC$ $EA$ $EA$ $EA$ $  110 \lor DC$ $F4$ $F4$ $F4$ $  125 \lor DC$ $G4$ $G4$ $G4$ $  220 \lor DC$ $M4$ $M4$ $M4$ $  230 \lor DC$ $P4$ $P4$ $   Examples$ $AC$ operating mechanism $3RT10 34-1APO0$ $3RT10 34-3BB40$ Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 230 V AC. Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage 110 V AC. $DC$ operating mechanism $3RT10 34-3BB40$ $3RT10 34-3BG40$ Contactor with spring-type terminals; for rated control supply voltage 125 V DC.Rated control supply voltage $U_s$ $Contactor type$ $3RT1 - 6 A$ $3RT1 - 7 A$ Rated control supply $Contactor type$ $Otage U_s3RT1 - 5 - N3RT1 - 6 N3RT1 - 7 - N3RT1 - 5 N3RT1 - 7 N3RT1 - 5 N3RT1 - 7 N3RT1 - 5 N3RT1 - 7 N$	48 V DC		W4	W4	_	_	
In the product of t	60 V DC		F4	F4	_	_	
1125 V DC       G4       G4       -         125 V DC       G4       G4       -         220 V DC       M4       M4       -         230 V DC       P4       P4       -         230 V DC       P4       P4       -         Examples       AC operating mechanism       3RT10 34-1AF00       Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 230 V AC. Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage 110 V AC. Contactor with spring-type terminals; for rated control supply voltage 24 V DC. Contactor with spring-type terminals; for rated control supply voltage 125 V DC.         Rated control supply voltage Uses       3RT1. 5 A 3RT1. 6 A 3RT1. 6 A 3RT1. 6 N 3RT1. 6 N 3RT1. 6 P/Q 3RT1. 6 P/Q 3RT1. 7	110 V DC		E4	F4	F4	_	
AC operating mechanism       3RT10 34-1AP00 3RT10 34-1AG20       Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 230 V AC. Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage 110 V AC.         DC operating mechanism       3RT10 34-1AG20 3RT10 34-3BB40 3RT10 34-3BB40       Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage 110 V AC. Contactor with spring-type terminals; for rated control supply voltage 24 V DC. Contactor with spring-type terminals; for rated control supply voltage 125 V DC.         Rated control supply voltage U <sub>s</sub> 3RT1. 5 A 3RT1. 6 A 3RT1. 6 A 3RT1. 6 N 3RT1. 6 N 3RT1. 6 N 3RT1. 6 P/Q 3RT1. 6 N 3RT1. 7 P/Q 3RT1.	125 V DC		G4	G4	G4		
Z20 V DC     P4     P4     P4       230 V DC     P4     P4     -       Examples       AC operating mechanism     3RT10 34-1AF00 3RT10 34-3BF40     Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 230 V AC. Contactor with spring-type terminals; for rated control supply voltage 24 V DC. Contactor with spring-type terminals; for rated control supply voltage 110 V AC.       DC operating mechanism     3RT10 34-3BF40 3RT10 34-3BG40     Contactor with spring-type terminals; for rated control supply voltage 125 V DC.       Rated control supply voltage U <sub>s</sub> Contactor type 3RT1. 5 A 3RT1. 6 A 3RT1. 6 A 3RT1. 7 A     Rated control supply voltage U <sub>s</sub> 3RT1. 5 N 3RT1. 7 N 3RT1. 7 N 3RT1. 7 N 3RT1. 7 N 3RT1. 7 N     3RT1. 5 P/Q 3RT1. 7 N 3RT1. 7 N	220 V DC		MA	MA	MA	_	
Examples         AC operating mechanism       3RT10 34-1AP00 3RT10 34-3BB40       Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 230 V AC. Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage 110 V AC.         DC operating mechanism       3RT10 34-3BB40 3RT10 34-3BG40       Contactor with spring-type terminals; for rated control supply voltage 24 V DC. Contactor with spring-type terminals; for rated control supply voltage 125 V DC.         Rated control supply voltage U <sub>x</sub> Contactor type 3RT1. 5 A 3RT1. 6 A 3RT1. 6 A 3RT1. 7 A       Rated control supply voltage U <sub>x</sub> 3RT1. 5 N 3RT1. 6 N 3RT1. 6 N 3RT1. 7 N 3RT1. 7 N       3RT1. 5 N 3RT1. 7 N 3RT1. 7 N	230 V DC		P4	P4	_	_	
AC operating mechanism       3RT10 34-1AP00 3RT10 34-1AG20       Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 230 V AC. Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage 110 V AC.         DC operating mechanism       3RT10 34-38B40 3RT10 34-38G40       Contactor with spring-type terminals; for rated control supply voltage 125 V DC. Contactor with spring-type terminals; for rated control supply voltage 125 V DC.         Rated control supply voltage U <sub>s</sub> SRT1. 5 A 3RT1. 6 A 3RT1. 6 A 3RT1. 6 A 3RT1. 7 A       Rated control supply Contactor type voltage U <sub>s</sub> 3RT1. 5 N 3RT1. 7 N 3RT1.	Examples						
Recoverating mechanism       3RT10 34-1AG20       Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage 250 V AC.         DC operating mechanism       3RT10 34-38B40       Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage 110 V AC.         DC operating mechanism       3RT10 34-38B40       Contactor with spring-type terminals; for rated control supply voltage 24 V DC.         Rated control supply voltage U <sub>s</sub> Contactor type 3RT1. 5 A 3RT1. 6 A 3RT1. 7 A       Rated control supply voltage U <sub>s</sub> 3RT1. 5 N 3RT1. 6 N 3RT1. 7 N 3RT1. 7 N 3RT1. 7 N 3RT1. 7 N       3RT1. 5 N 3RT1. 7 N 3RT1. 7 N	AC operating	30T10 34-1400	Contactor with scrow	terminals; with selenci	d coil for 50 Hz for rate	d control supply voltage	230 V AC
DC operating mechanism       3RT10 34-3BB40       Contactor with spring-type terminals; for rated control supply voltage 24 V DC. Contactor with spring-type terminals; for rated control supply voltage 125 V DC.         Rated control supply voltage U <sub>s</sub> Contactor type       3RT1.5A       Rated control supply Contactor type       3RT1.5N       3RT1.5P/Q         Image: U_s       Contactor type       3RT1.6A       Rated control supply Voltage U <sub>s</sub> Size	mechanism	3RT10 34-1A <b>G2</b> 0	Contactor with screw	terminals; with solenoi	d coil for 50/60 Hz for r	ated control supply voltage	age 110 V AC.
mechanism       3RT10 34-3BG40       Contactor with spring-type terminals; for rated control supply voltage 125 V DC.         Rated control supply voltage U, voltage U, Size       Contactor type 3RT1. 5A 3RT1. 5A 3RT1. 6A 3RT1. 7A       Rated control supply voltage U, Notage U, Size       Contactor type 3RT1. 5N 3RT1. 5N 3RT1. 5N 3RT1. 5N 3RT1. 5P/Q 3RT1. 7N 3RT1. 7N 3RT1. 7N	DC operating	3RT10 34-3B <b>B4</b> 0	Contactor with spring	-type terminals; for rate	ed control supply voltag	e 24 V DC.	
Rated control supply voltage U, Contactor type aRT1. 5 A aRT1. 6 A aRT1. 7 A     Rated control supply voltage U, Contactor type aRT1. 5 N aRT1. 5	mechanism	3RT10 34-3B <b>G4</b> 0	Contactor with spring	-type terminals; for rate	ed control supply voltage	e 125 V DC.	
Rated control supply voltage U, Contactor type 3RT1. 5 A 3RT1. 6 A 3RT1. 6 A     Rated control supply voltage U, 3RT1. 7 A     Contactor type voltage U, 3RT1. 7 N     3RT1. 5 N 3RT1. 6 P/Q 3RT1. 7 N     3RT1. 5 P/Q 3RT1. 7 N       U     U     1/2     Size     Size     Size				.,			
Voltage $U_s$ 3RT1. 6 A       voltage $U_s$ 3RT1. 6 N       3RT1. 6 P/Q $II = U_s$ 3RT1. 7 A       3RT1. 7 N       3RT1. 7 N       3RT1. 7 N	Rated control supply	Contactor type	3RT1 5 - A	Rated control supply	Contactor type	3RT1 5 - N	3RT1 5 - P/O
3RT1. 7 A         3RT1. 7 N         3RT1. 7 P/Q           1// // 5)         Size \$6.10.512         1// // 2)         Size \$6.10.512         5// // 2)	voltage //	contactor type	3RT1 6 - A	voltage II	contactor type	3RT1 6 - N	3RT1 6 - P/O
	voltage o <sub>s</sub>		3RT1 7 - A	vonage o <sub>s</sub>		3RT1 7 - N	3RT1 7 - P/O
	U	Size	S6, S10, S12	U	Size	S6, S10, S12	S6, S10, S12

#### Sizes S6 to S12

#### UC operation (AC 40 ... 60 Hz, DC)

#### Conventional operating mechanism

conventional operating meenanism	
23 26 V AC/DC	B3
42 48 V AC/DC	D3
110 127 V AC/DC	F3
200 220 V AC/DC	M3
220 240 V AC/DC	P3
240 277 V AC/DC	U3
380 420 V AC/DC	V3
440 480 V AC/DC	R3
500 550 V AC/DC	S3
575 600 V AC/DC	Т3

### Solid-state operating mechanism 21 ... 27.3 V AC/DC 96 ... 127 V AC/DC 200 ... 277 V AC/DC

B3	_
F3	F3
P3	P3

1) Coil operating range: at 50 Hz: 0.8 to 1.1 x  $U_{\rm s}$ at 60 Hz: 0.85 to 1.1 x  $U_{\rm s}$ .

2) Operating range:

 $0.8 \times U_{s \min}$  to  $1.1 \times U_{s \max}$ .

Wideband coil voltages available. For ordering and technical details, contact nearest sales office.