

SIEMENS

SELECTION & APPLICATION GUIDE

SIRIUS NEMA Rated Contactors

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Siemens SIRIUS NEMA Rated Contactor

The right choice for applications that demand the best

Rugged, reliable, flexible, and safe performance. In an increasingly competitive marketplace, all these factors are essential to success, particularly when it comes to assuring reliable motor protection and control. Whether you're a consulting engineer, a contractor, or a plant manager, protecting the performance of your motors is a critical priority. And one of the best ways to do so is with world-class Siemens contactors and overload relays. Our contactors and overload relays are engineered for rugged performance, manufactured to be dependable, designed to improve safety, easy and quick installation saves on downtime and installation costs. All contactors and overload relays are UL listed and CSA certified.

A Comprehensive selection

Siemens manufactures a broad range of contactors and overload relays designed to meet all of your most demanding applications. Contactor sizes range from 0 to 6. Siemens also offers a wide range of overload options such as the 3RU21 thermal for up to 100 amps and 3RB20/21 and the 3RB30/31 solid-state overloads up to 630 amps which are all coordinated with the dimensions, connections, and technical characteristics of SIRIUS NEMA Rated contactors.

Industries that will benefit

- Agriculture
- Automotive
- Cement
- Chemical
- Food & Beverage
- Glass
- Machine Tools
- Marine
- Metals
- Mining
- Oil & Gas
- Pharmaceutical
- Production Machines

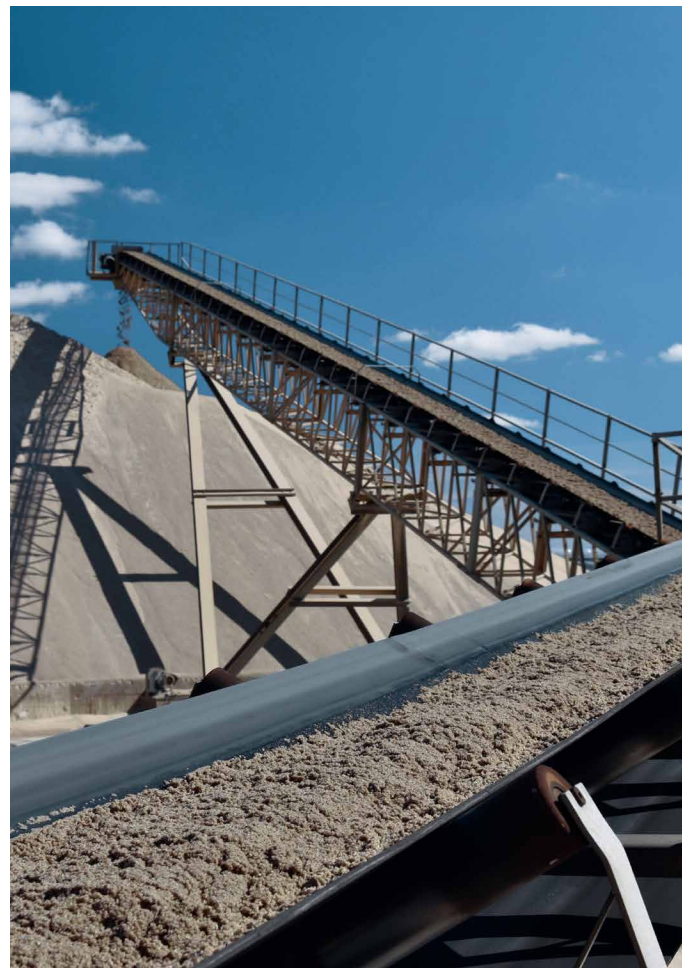
Various switching devices are available for switching electrical loads. When frequent switching is necessary, contactors are the ideal device. Contactors are the most used switching devices in many industries. For this reason, value was placed on high operational reliability in the development of the SIRIUS NEMA Rated contactor series. High service life, high contact reliability, and the option of using the contactors in the control cabinet at higher ambient temperatures are among the factors contributing to this.



Control of pump to manage volume flow in open or closed systems or increase pressure



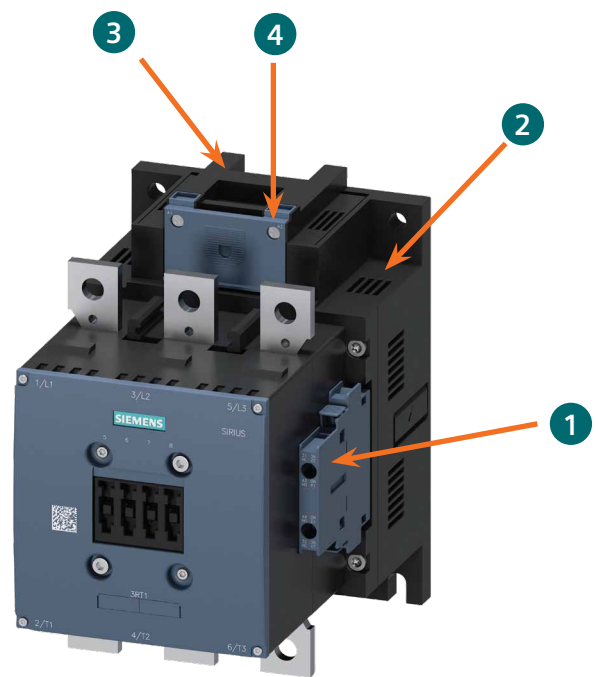
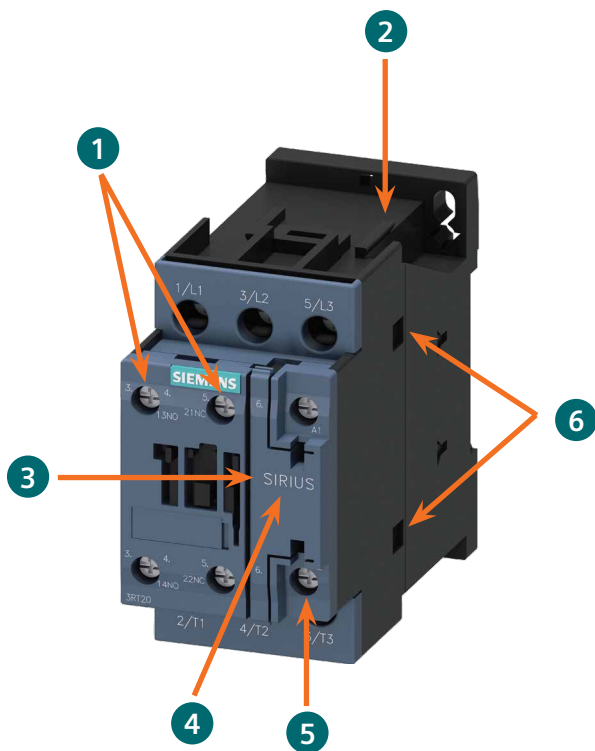
Operation of compressors commonly used in air, gas, and refrigeration applications



Conveyor applications require control to start and stop the motors

SIRIUS NEMA Rated Contactors

Thanks to the extreme ruggedness and durable contact reliability, our contactors meet all NEMA standards. In addition, due to the compact frame size, you can optimize space on your control panels. With a wide range of accessories for NEMA size 0 to 6, function expansion modules can be implemented very easily. Also, NEMA size 0 to 3 have integrated auxiliary contacts built into the frame.



- | | |
|--|---|
| <ul style="list-style-type: none"> 1 2 auxiliary contacts (1NO+1NC) integrated 2 Operating mechanism options: <ul style="list-style-type: none"> • AC operating mechanism • DC operating mechanism 3 Integrated cable duct for control panel assembly without visually obtrusive cable routing 4 Surge suppression circuitry can be integrated 5 Coil terminal on the front 6 Coupling point for lateral auxiliary switches and mechanical interlocking | <ul style="list-style-type: none"> 1 2 auxiliary contacts (1NO+1NC) standard 2 Operating mechanism options: <ul style="list-style-type: none"> • AC operating mechanism • DC operating mechanism 3 Surge suppression circuitry can be integrated 4 Coil terminal |
|--|---|

SIRIUS NEMA Rated Contactor Selection Table

Step 1

Choose contactor based on Full Load Amps (FLA) and HP.

Step 2

Choose coil for contactor.

Step 3

Choose overload relay based on FLA.
Tip: select an overload with motor FLA in middle of adjustment dial.

Ordering Information - with references to Industrial Controls Catalog specific pages (found at usa.siemens.com/iccatalog)

- Replace the (**) with the letters from one of the coil tables.
- Field Modification Kits see Section 2, pages 68-85.
- Technical Data see Section 2, pages 123-153
- Dimensions see Section 2, pages 211-217.
- Wiring Diagrams see Section 2, pages 192-200.
- Replacement Parts see Section 2, pages 96-101.
- Selection of ESP200 solid state overload relays, see Section 9, page 59.
- Selection of IEC 3RU/3RB solid state overload relays, see Section 2.



AC Coil table (3RT201, 202, 203, 204)

Coil code	Voltage
C2 ^a	24 Vac
K6	120 Vac
P6	240 Vac
U6	277 Vac
V6	480 Vac
T6	600 Vac

DC Coil table (3RT201, 202)

Coil code	Voltage
A2	12 Vdc
B4	24 Vdc
W4	48 Vdc
G4	125 VDC

UC Coil table (3RT203, 204)

Coil code	Voltage
B3	20...33 Vac/dc
F3	83...155 Vac/dc
P3	175...280 Vac/dc

UC Coil table (3RT105, 106, 107)

Coil code	Voltage
B3	23...26 Vac/dc
D3	42...48 Vac/dc
F3	110...127 Vac/dc
M3	200...220 Vac/dc
P3	220...240 Vac/dc
U3	240...277 Vac/dc
R3	440...480 Vac/dc
S3	500...550 Vac/dc
T3	575...600 Vac/dc

Open Type 3-Phase, 3-Pole

Max Hp				Contactor		Catalog Number		Use the Coil Code from the tables above to fill in **	
200 Volts	230 Volts	460 Volts	575 Volts	Amp Rating	NEMA Size	Screw Terminals with AC Coils	Screw Terminals with 24 Vdc Coils		
3	3	5	5	18	0	3RT2018-1A**1-0UA0	3RT2018-1BB41-0UA0	AC	DC
7 1/2	7 1/2	10	10	27	1	3RT2027-1A**0-0UA0	3RT2027-1BB40-0UA0	AC	DC
10	15	25	25	45	2	3RT2036-1A**0-0UA0	3RT2036-1NB30-0UA0	AC	UC
25	30	50	90	90	3	3RT2046-1A**0-0UA0	3RT2046-1NB30-0UA0	AC	UC
						Screw Terminal with UC Coils			
40	50	100	100	135	4	3RT1056-6A**6-0UA0		UC	
75	100	200	200	270	5	3RT1066-6A**6-0UA0		UC	
150	200	400	400	540	6	3RT1076-6A**6-0UA0		UC	

Note: Hp's shown above are based on the overload amp range for the FLAs (per the National Electric Code) of typical industrial motors. All starter sizes carry one maximum Hp rating.

^a Use code B0 for 3RT201.

SIRIUS NEMA Rated Contactor Technical Data








	Type NEMA Size Width		mm	3RT20 18-...0UA0 0 45	RT20 27-...0UA0 1 45
☞ and ☞ rated data					
Rated insulation voltage			V AC	600	600
Uninterrupted current, at 40°C	• Open and enclosed		A	20	42
Maximum horsepower ratings (☞ and ☞ approved values) • Rated power for induction motors at 60 Hz		At 200 V	HP	3	10
		230 V	HP	5	10
		460 V	HP	10	20
		575 V	HP	10	25
Short-circuit protection ¹⁾ (contactor or overload relay) • Fuse CLASS J ²⁾ • Circuit breakers with overload protection according to UL 489		At 600 V	kA	5	5
			A	40	110
			A	50	100
				... ³⁾	
• Combination motor controllers type E according to UL 508		at 480 V	Type		3RV20 2
			A		--
			kA		... ³⁾
		at 600 V	Type		3RV20 2
			A		--
			kA		... ³⁾
NEMA/EEMAC ratings					
NEMA/EEMAC size				0	1
• Uninterrupted current	- Open		A	18	27
	- Enclosed		A	18	27
• Rated power for induction motors at 60 Hz		At 200 V	HP	3	7.5
		230 V	HP	3	7.5
		460 V	HP	5	10
		575 V	HP	5	10
☞ and ☞ Ratings of the auxiliary contactors					
Rated Voltage			AC	600	600
Switching Capacity		at 240 VAC	A	A 600, Q 600	A 600, P 600
Uninterrupted Current			A	10	10

1) For more information about short-circuit values, e.g., for protection against short-circuit current, see UL reports (<http://support.automation.siemens.com>) for the individual devices.








2) Values for RK5 fuses on request.








3) Values on request.

SIRIUS NEMA Rated Contactor Technical Data

	Type NEMA Size Width		mm	3RT20 36-...0UA0 2 55	RT20 46-...0UA0 3 70
 and  rated data					
Rated insulation voltage			V AC	600	600
Uninterrupted current, at 40°C	• Open and enclosed		A	60	105
Maximum horsepower ratings ( and  approved values)	Rating single phase motors at 50/60 Hz	At 115 V	HP	3	7.5
		230 V	HP	10	15
	Ratings of 3-phase motors at 50/60 Hz	At 200 V	HP	15	25
		230V	HP	5	30
		460V	HP	40	60
		575V	HP	50	75
Short-circuit protection	Fuse or circuit breaker acc. to  489		kA	10	10
			A	200	300
			A	200	300
NEMA/EEMAC ratings					
NEMA/EEMAC size				2	3
• Conventional thermal current	- Open		A	45	90
	- Enclosed		A	45	90
• Rated power for induction motors at 60 Hz		At 200 V	HP	10	25
		230 V	HP	15	30
		460 V	HP	25	50
		575 V	HP	25	50
 and  Ratings of the auxiliary contactors					
Rated Voltage			AC	600	600
Switching Capacity		at 240 VAC	A	A 600, Q 600	A 600, P 600
Uninterrupted Current			A	10	10

SIRIUS NEMA Rated Contactor Technical Data

	Type NEMA Size Width		mm	3RT10 56-...0UA0 4 120	RT10 66-...0UA0 5 145
 and  rated data					
Rated insulation voltage			V AC	600	600
Uninterrupted current, at 40°C	• Open and enclosed		A	195	330
Maximum horsepower ratings ( and  approved values)	Rating single phase motors at 50/60 Hz	At 115 V	HP	--	--
		230 V	HP	30	--
	Ratings of 3-phase motors at 50/60 Hz	At 200 V	HP	60	100
		230V	HP	75	125
		460V	HP	150	250
		575V	HP	200	300
Short-circuit protection			kA	10	18
	CLASS RK5 fuse		A	500	800
	Circuit breaker acc. to  489		A	500	800
NEMA/EEMAC ratings					
NEMA/EEMAC size					
• Conventional thermal current	- Open		A	150	300
	- Enclosed		A	135	270
• Rated power for induction motors at 60 Hz		At 200 V	HP	40	75
		230 V	HP	50	100
		460 V	HP	100	200
		575 V	HP	100	200
 and  Ratings of the auxiliary contactors					
Rated Voltage			AC	600	600
Switching Capacity		at 240 VAC	A	A 300, Q 300	A 600, Q 600
Uninterrupted Current			A	10	10

	Type NEMA Size Width		mm	3RT10 76-...0UA0 6 160
 and  rated data				
Rated insulation voltage			V AC	600
Uninterrupted current, at 40°C	• Open and enclosed		A	540
Maximum horsepower ratings ( and  approved values)	Ratings of 3-phase motors at 50/60 Hz	At 200 V	HP	150
		230V	HP	200
		460V	HP	400
		575V	HP	500
Short-circuit protection			kA	30
	CLASS RK5 fuse		A	1200
	Circuit breaker acc. to  489		A	900
NEMA/EEMAC ratings				
NEMA/EEMAC size				
• Conventional thermal current	- Open		A	600
	- Enclosed		A	540
• Rated power for induction motors at 60 Hz		At 200 V	HP	150
		230 V	HP	200
		460 V	HP	400
		575 V	HP	400
 and  Ratings of the auxiliary contactors				
Rated Voltage			AC	600
Switching Capacity		at 240 VAC	A	A 300, Q 300
Uninterrupted Current			A	10

For further contactor technical data reference the industrial controls catalog:
usa.siemens.com/iccatalog