

SIRIUS 3RT10 3-Pole with AC Coil





Ordering Information

- ▶ 4-point AC Coil can be wired on top, bottom, or diagonally.
- ▶ Direct mount 3RU11 overload relays to create starters.
- ▶ Snap-on auxiliary contacts, surge suppressors, and timers.
- ▶ Front and side mount auxiliary contacts available on 3RT102, 3RT103, 3RT104 versions.
- ▶ 3RT102 9A and 12A versions have extended electrical life compared to 3RT101 versions.
- ▶ Overload Relays see pages 254–265.
- ▶ Accessories see pages 238–245.
- ▶ Replacement Parts see page 882.
- ▶ Technical Data see pages 347.
- ▶ Dimensions see pages 369–376.

Coil Voltage Codes**

ACV 60Hz	ACV 50Hz	Code
24	24	C2 [Ⓢ]
120	110	K6
208	208	M2
240	220	P6
277	—	U6
480	—	V6
600	—	T6

Replace the ** in the contactor catalog number with a coil code from the table above.

Illustration	Enclosed Amp Ratings		Single-Phase HP Ratings		Three-Phase HP Ratings				Auxiliary Contacts		Screw Terminals		Cage Clamp Terminals	
	AC3	UL	115V	230V	200V	230V	460V	575V	NO	NC	Catalog No	Price \$	Catalog No	Price \$
 3RT101  3RT102  3RT103  3RT104	3RT101													
	7	20	¼	¾	1½	2	3	5	1	—	3RT1015-1A**1	55.	3RT1015-2A**1	60.
									—	1	3RT1015-1A**2		3RT1015-2A**2	
	9	20	½	1	2	3	5	7½	1	—	3RT1016-1A**1	72.	3RT1016-2A**1	77.
									—	1	3RT1016-1A**2		3RT1016-2A**2	
	12	20	½	2	3	3	7½	10	1	—	3RT1017-1A**1	89.	3RT1017-2A**1	94.
									—	1	3RT1017-1A**2		3RT1017-2A**2	
	3RT102													
	9	35	½	1	2	3	5	7½	—	—	3RT1023-1A**0	81.	3RT1023-3A**0	84.
	12	35	½	2	3	3	7½	10	—	—	3RT1024-1A**0	105.	3RT1024-3A**0	108.
	17	35	1	3	5	5	10	15	—	—	3RT1025-1A**0	121.	3RT1025-3A**0	124.
	25	35	2	3	7½	7½	15	20	—	—	3RT1026-1A**0	136.	3RT1026-3A**0	139.
3RT103														
28	35	2	5	7½	10	20	25	—	—	3RT1033-1A**0	156.	3RT1033-3A**0	159.	
32	45	2	5	10	10	25	30	—	—	3RT1034-1A**0	172.	3RT1034-3A**0	175.	
40	55	3	7½	10	15	30	40	—	—	3RT1035-1A**0	191.	3RT1035-3A**0	194.	
50	50	3	10	15	15	40	50	—	—	3RT1036-1A**0	206.	3RT1036-3A**0	209.	
3RT104														
65	90	5	15	20	25	50	60	—	—	3RT1044-1A**0	291.	3RT1044-3A**0	294.	
80	105	7½	15	25	30	60	75	—	—	3RT1045-1A**0	331.	3RT1045-3A**0	334.	
95	105	10	—	30	30	75	100	—	—	3RT1046-1A**0	453.	3RT1046-3A**0	456.	

ⓈFor 3RT101 use B0.

North American Approvals

INSTALLATION CONSIDERATIONS

The control products described in this catalog have been designed, tested and manufactured in accordance with a wide variety of standards including but not limited to those issued by UL, CSA, NEMA and IEC. These standards typically apply to the control product as a component and not the installation or use of the product. It is the responsibility of the end user of the control product to make sure each installation complies with all of the applicable safety requirements, laws, regulations, codes and standards (some examples of which are the N.E.C., the C.E.C.

and OSHA regulations). Note that local authorities may impose further jurisdiction over each installation. When in doubt, consult with the local inspection authorities.

Unless otherwise specified, the control products described in this catalog are designed to operate under "usual service conditions" as defined in NEMA Standards Publication—Part ICS 1-108. Open type devices are intended for installation in enclosures that provide environmental protection as needed for the specific application. See pages 14 and 15 for definitions of the various enclosure types.

PERFORMANCE DATA

Where given in this catalog, performance data should only be used as a guide to determine the suitability of the product for an application. The data may be the result of accelerated testing or elevated stress levels under controlled conditions. The user must take care in correlating this data to actual application or service conditions.

UL and CSA—File Numbers and Guide Card Numbers

Most control equipment listed in this catalog is designed, manufactured and tested in accordance with the relevant UL and CSA standards as listed in the table below.

Siemens Brand Devices Description	☞ Guide No	File No	☜ Guide No	File No	UL Guide No	File No
Control Relays 3TH2 3TH3 3TH8	Class 3211	LR 12730 LR 50487	NKCR	E 44653	NKCR2	E 44653
AC contactors, DC contactors	Class 3211	LR 12730	NLDX	E 31519	NLDX2	E 31519
Reversing Starters	Class 3211	LR 38590	NLDX	E 32529	—	—
Overload relays	Class 3211	LR 12730	NKCR	E 44653	NKCR2	E 44653
Terminal blocks	Class 3211	LR 50181	—	—	XCFR2	E 80027
Manual Motor Controller 3VU	Class 3211	LR 50487	NLVR	E 47705	—	—
Starters, Combination Starters	Class 3211	LR 38590	NLDX	E 32529	—	—
Push buttons	Class 3211	LR 12730	NKCR	E 44653, E 47512	—	—
Lighting and Heating Contactors	Class 3231	LR 38590	NRNT	E 60310	—	—
Mechanical Limit Switches International Style North American Style	Class 3211 Class 3211	LR 50487 LR 68551	NKCR NKCR	E 44653 E 47512	NKCR2 —	E 44653 —
Fast Bus Components/Kits	—	—	NMTR	E 155959	NMTR2	E 160776
Modular Motor Controllers Type E	—	—	NKJH	E 156943	—	—
Modular Motor Controllers—Group Installation	Class 3211	LR 50487	NLVR	E 47705	—	—
US Series Starter	Class 3211	LR 38590	NLDX	E 32529	—	—
Fraction Hp Starters, SMF, MMS	—	—	—	—	NLVR2	E 80332
Sirius 3RT Contactors	Class 3211	LR 12730	NLDX	E 31519	NLDX2	—
Sirius 3RV MSP—Group Installation Type E	Class 3211 —	LR 12730 —	NLVR NKJH	E47705 E 156943	— —	— —
Sirius 3RU Overload	Class 3211	LR 12730	NKCR	E 44653	NKCR2	E 44653
Sirius 3RH Relays	Class 3211	LR 12730, LR50487	NKCR	E 44653	NKCR2	E 44653
Sirius 3RP Timers	Class 3211	LR 12730	NKCR	E 44653	—	—
Miniature Circuit Breakers—5SX	Class 3211	LR 93659	—	—	NKCR2	E 116386
Manual Motor Controllers—3LD	Class 3211	LR 19188	NLVR	E 47705	—	—
Sirius 3RA Combination Starters	—	—	NKJH	E 156943	—	—
Sirius 3RA Reversing Contactors	Class 3211	LR 38590	NLDX	E 31519	—	—
Sirius 3RA Fastbus Combo Starters	—	—	NKJH	E 156943	—	—
Sirius 3RB Solid State Overloads	Class 3211	LR 6535	NKCR	E22655	—	—

Furnas Brand Devices Class	☞ Guide No	File No	☜ Guide No	File No	UL Guide No	File No
11, 12—Manual Switches	Class 3211	LR 6535	NLVR	E 10590	NLVR2	E 10590
14, 22, 30, 40, 43—Starters and Contactors	Class 3211	LR 6535	NLDX	E 14900	NLDX2	E 14900
17, 18, 25, 26, 32—Combination Starters	Class 3211	LR 6535	NKJH	E 185287	—	—
36, 37—Reduced Voltage Starters	Class 3211	LR 6535	NLDX	E 14900	NLDX2	E 14900
83, 84, 85, 87, 88—Pump Control Panels	Class 3211	LR 6535	NKJH	E 185287	—	—
50—Standard Duty Pilot Devices	Class 3211	LR 6535	NKCR	E 22655	—	—
51—Hazardous Location Pilot Devices	Class 3218	LR 23889	NOIV	E 39935	—	—
52—30 mm Pilot Devices	Class 3211	LR 6535	NKCR	E 22655	NKCR2	E 22655
16, 41, 42, 45—Definite Purpose Controls	Class 3211	LR 6535	—	—	NLDX2	E 14900
46, 47—Relays	Class 3211	LR 6535	NKCR	E 22655	NKCR2	E 22655
48, 948, 958—Overload Relays	Class 3211	LR 6535	NKCR	E 22655	NKCR2	E 22655
49—Field Kits	Class 3211	ELR 535	NLDX	E 14900	NLDX2	E 14900
Class 56—Fast Switch	Class 3211	LR 6535	NLVR	E 10590	—	—
Class 53—Master Switch	Class 3211	LR 6535	NKCR	E 22655	—	—
Class 69—Pressure Switch	Class 3211	LR 6535	NKPZ	E 14861	NKPZ2	E 14861

SIRIUS 3RT102

Contactor	Type	Unit of Measure	3RT102	
Mechanical life	Basic units Basic unit with mounted auxiliary contact block Basic unit with mounted solid state compatible auxiliary contact block	Operating cycles	10 million 10 million 5 million	
Rated insulation voltage U_i (pollution severity 3)		V	690	
Safe isolation between coil and contacts (acc. to DIN VDE 0106 Part 101 and A1 [draft 2/89])		V	400	
Positively driven contacts			Yes, in the auxiliary contact block as well as between basic unit and mounted auxiliary contact block. The solid state compatible auxiliary contact blocks have no positively driven contacts.	
Permissible ambient temperature		operation storage	−25 to + 60°C −55 to + 80°C −13 to + 140°F −67 to + 176°F	
Degree of protection according to IEC 947-1 and DIN 40 050			IP 20, coil system IP 20	
Shock resistance	Rectangular pulse AC Sine pulse AC DC	g/ms g/ms g/ms g/ms	8.2/5 and 4.9/10 10/5 and 7.5/10 12.5/5 and 7.8/10 15/5 and 10/10	
Conductor cross-sections				
Screw connection (1 or 2 conductor connections possible)	Main conductor: solid finely stranded with end sleeve AWG conductor connections, solid or stranded Terminal screws Tightening torque Auxiliary conductor: solid finely stranded with end sleeve AWG conductor connections, solid or stranded Terminal screws Tightening torque	mm ² mm ² AWG Nm (in lbs.) mm ² mm ² AWG Nm (in lbs.)	2 × (1 to 2.5); 2 × (2.5 × 6) 2 × (1 to 2.5); 2 × (2.5 × 6) acc. to IEC947; max 1 × 10 2 × (14 to 10) M4 (Pozidrive - size 2) 2.0 to 2.5 (18 to 22) 2 u (0.5 to 1.5); 2 u (0.75 to 2.5) acc. to IEC 947; max 2 u (0.75 to 4) 2 u (0.5 to 1.5); 2 u (0.75 to 2.5) 2 u (18 to 14) M3 0.8 to 1.2 (7 to 10.3)	
Cage Clamp connection (1 or 2 conductor connections possible) For conductor cross-sections ≤ 1 mm ² an "insulation stop" has to be used, 3RT1916-4JA02.	Auxiliary conductor: solid finely stranded with end sleeve finely stranded without end sleeve AWG conductor connections, solid or stranded	mm ² mm ² mm ² AWG	2 × (0.5 to 2.5) 2 × (0.5 to 1.5) 2 × (0.5 to 2.5) 2 × (18 to 14)	
Short-circuit protection of the 3RT1024 to 3RT1026 contactors without overload relays for export applications				
Contactor	Type	3RT1023/24	3RT1025	3RT1026
Main circuit Fuses, utilization category gL/gG or miniature circuit breakers with C-characteristics	LV HRC DIAZED NEOZED	Type 3NA Type 5SB Type 5SE		
With fuses — according to IEC 947-4/DIN VDE 0660 Part 102	Type of coord. "1" ① Type of coord. "2" ① Weld-free	A A A	63 25 10 25	63 25 10 25
With miniature circuit-breakers		A	25	25
Auxiliary circuit Fuses, utilization category gL/gG (weld-free protection at $I_k \geq 1\text{ kA}$) or miniature circuit breaker with C-characteristic (short circuit current $I_k < 400\text{ A}$)	DIAZED NEOZED	Type 5SB Type 5SE		
With fuses, utilization category gL/gG		A	10	10
With miniature circuit-breakers	NEOZED, DIAZED	A	10	10

①According to excerpt from IEC 947-4/DIN VDE 0660 Part 102:

Type of coordination "1": Destruction of contactor and overload relay is permissible. Contactor and/or overload relay must be replaced, if necessary.

Type of coordination "2": No damage can be tolerated on the overload relay, but contact welding on the contactor is permitted if the contacts can easily be separated.

SIRIUS 3RT102

Main Current - DC Load Ratings												
Contactors	Type	Unit of Measure	3RT1023/24			3RT1025			3RT1026			
DC-1 duty, switching resistive load ($L/R \leq 1$ ms)												
Number of conducting paths in series			1	2	3	1	2	3	1	2	3	
Rated operational current I_b (at 60°C/140°F)	up to 24V	A	35	35	35	35	35	35	35	35	35	
	60V	A	20	35	35	20	35	35	20	35	35	
	110V	A	4.5	35	35	4.5	35	35	4.5	35	35	
	220V	A	1	5	35	1	5	35	1	5	35	
	440V	A	0.4	1	2.9	0.4	1	2.9	0.4	1	2.9	
	600V	A	0.25	0.8	1.4	0.25	0.8	1.4	0.25	0.8	1.4	
DC-3 and DC-5 duty, shunt and series motors ($L/R \leq 15$ ms)												
Number of conducting paths in series			1	2	3	1	2	3	1	2	3	
Rated operational current I_b (at 60°C/140°F)	up to 24V	A	20	35	35	20	35	35	20	35	35	
	60V	A	5	35	35	5	35	35	5	35	35	
	110V	A	2.5	15	35	2.5	15	35	2.5	15	35	
	220V	A	1	3	10	1	3	10	1	3	10	
	440V	A	0.09	0.27	0.6	0.09	0.27	0.6	0.09	0.27	0.6	
	600V	A	0.06	0.16	0.6	0.06	0.16	0.6	0.06	0.16	0.6	
Switching frequency												
Switching frequency z in operating cycles per hour		coil	AC		DC	AC		DC	AC		DC	
Contactors without overload relay		No-load operating frequency	1/h	5000		1500	5000		1500	5000		1500
Interdependence of operating frequency z' on rated operational current and rated operational voltage:		coil	AC/DC			AC/DC			AC/DC			
$z' = z \cdot \frac{I_b}{I'} \cdot \left(\frac{400 \text{ V}}{U'} \right)^{1.5} \text{ 1/h}$		at AC-1	1/h	1000			1000			1000		
		at AC-2	1/h	1000			1000			750		
		at AC-3	1/h	1000			1000			750		
		at AC-4	1/h	300			300			250		
Contactors with overload relay (average value)			1/h	15			15			15		
Permissible mounting position												
The contactors are designed for operation on vertical mounting surface.			