

## Power Contactors for Switching Motors

### Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

#### SIRIUS 3RA27 function modules for IO-Link or AS-Interface for mounting on 3RT2 contactors

See pages 3/86 and 3/106

The SIRIUS 3RA27 function modules enable the assembly of starters and contactor assemblies for direct-on-line, reversing and star-delta (wye-delta) starting without any additional, complicated wiring of the individual components. They include the key control functions required for the particular feeder, e.g. timing and interlocking, and can be connected to the control system via either IO-Link or AS-Interface.

The electrical and mechanical connection to the contactor is established by snapping on and locking. An additive protection circuit for the individual contactors can be dispensed with completely because a varistor is integrated in the modules. Feedback from the contactor contacts is performed with Hall sensors which provide reliable feedback concerning the switching state even under extremely dusty conditions.

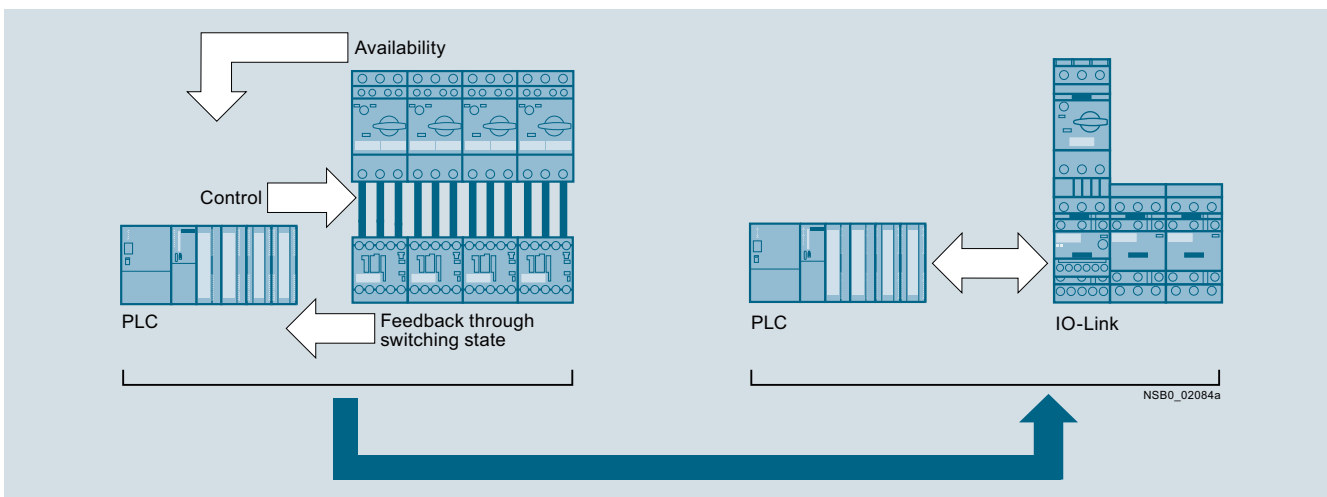
The starters are connected to the higher-level control system through IO-Link, with the possibility of connecting up to four starters as a group to one port of the IO-Link master,

or optionally via AS-Interface, Specification V2.1 or higher, in A/B technology. As a result, up to 62 starters can be connected to one master and the address is entered in the normal manner with an addressing unit.

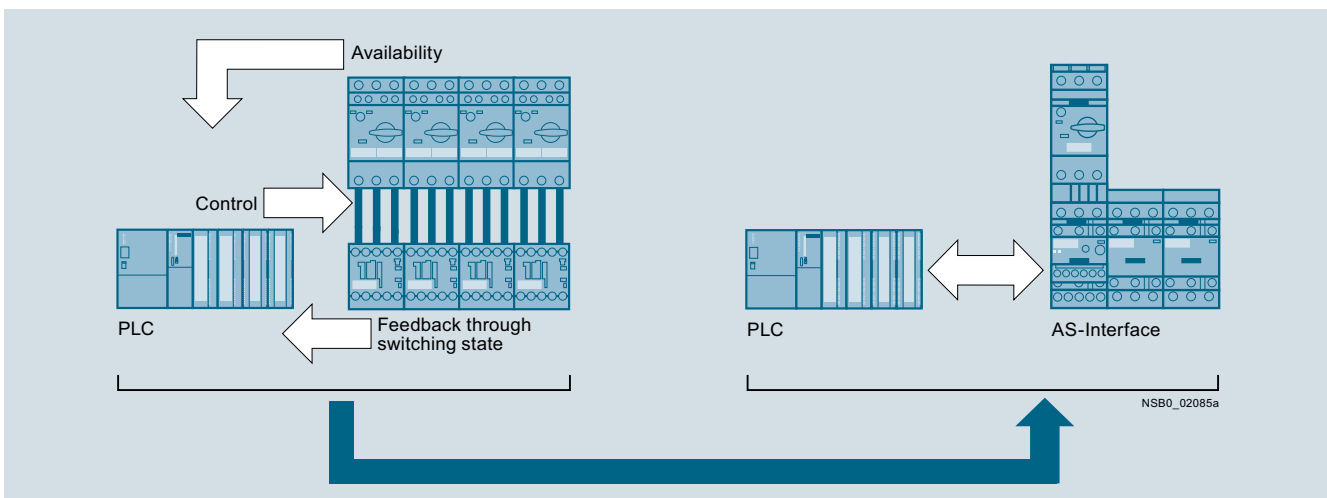
Through this type of connection to the control system, a maximum of wiring is saved. In the case of AS-Interface, the wiring amounts to the control supply voltage and the two individual wires for AS-Interface.

The following essential signals are thus transmitted:

- Availability of the feeder in response to an indirect inquiry from the motor starter protector/circuit breaker
- Starter control
- Feedback concerning the switching state of the starter



Signal transmission through IO-Link



Signal transmission through AS-Interface

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#### Accessories

#### Technical specifications

##### More information

Technical specifications

- For SIRIUS 3RT2 contactors and SIRIUS 3RH2 contactor relays, see <https://support.industry.siemens.com/cs/ww/en/ps/16208/td>
  - For SIRIUS 3RT1 contactors, see <https://support.industry.siemens.com/cs/ww/en/ps/16209/td>
- FAQs
- For SIRIUS 3RT2 contactors and SIRIUS 3RH2 contactor relays, see <https://support.industry.siemens.com/cs/ww/en/ps/16208/faq>
  - For SIRIUS 3RT1 contactors, see <https://support.industry.siemens.com/cs/ww/en/ps/16209/faq>

Manuals, see

- System Manual "SIRIUS – System Overview", <https://support.industry.siemens.com/cs/WW/en/view/60311318>
- Manual "SIRIUS – SIRIUS 3RT Contactors/Contactor Assemblies", <https://support.industry.siemens.com/cs/WW/en/view/60306557>
- "SIRIUS manual - SIRIUS 3RA28 Function Modules for mounting on 3RT2 Contactors", <https://support.industry.siemens.com/cs/ww/en/view/60279150>
- Manual "SIRIUS 3RA2711 Function Modules for IO-Link", <https://support.industry.siemens.com/cs/ww/en/view/39319600>
- Manual "SIRIUS 3RA2712 Function Modules for AS-Interface", <https://support.industry.siemens.com/cs/ww/en/view/39318922>

#### Solid-state time-delay auxiliary switch blocks for mounting on 3RT202 to 3RT204 contactors (sizes S00 to S3) and 3RH2 contactor relays (size S00)



Type		3RA2813	3RA2814	3RA2815
Function		ON-delay	OFF-delay with control signal	OFF-delay without control signal
<b>General data</b>				
<b>Dimensions</b> (basic unit with mounted solid-state time-delay auxiliary switch block)		See 3RT2 contactors (pages 3/23, 3/29, 3/34, 3/39) and 3RH2 contactor relays (page 5/8)		
<b>Rated insulation voltage <math>U_i</math></b> Pollution degree 3, overvoltage category III	V AC	300		
<b>Rated impulse withstand voltage <math>U_{imp}</math></b>	kV AC	4		
<b>Permissible ambient temperature</b>				
• During operation	°C	-25 ... +60		
• During storage	°C	-40 ... +80		
<b>Degree of protection</b> acc. to IEC 60529		IP20		
<b>Shock resistance</b> Half-sine acc. to IEC 60068-2-27	g/ms	15/11		
<b>Vibration resistance</b> acc. to IEC 60068-2-6	Hz/mm	10 ... 55/0.35		
<b>Electromagnetic compatibility (EMC)</b>		IEC 61000-6-2, IEC 61000-6-4, IEC 61812-1, IEC 60947-4-1		
<b>Overvoltage protection</b>		Varistor integrated		
<b>Permissible mounting position</b>		Any (for the mounting position of 3RT2 contactors, see pages 3/23, 3/29, 3/34, 3/39; for the mounting position of 3RH2 contactor relays, see page 5/7)		
<b>Control</b>				
<b>Operating range of excitation</b>		0.85 ... 1.1 × $U_s$ , 0.95 ... 1.05 times the rated frequency		
<b>Rated power</b>	W	1		
• Power consumption at 230 V AC, 50 Hz	VA	2		
<b>Recovery time</b>	ms	150		--
<b>Minimum ON period</b>	ms	--	35	200
<b>Setting accuracy</b> , typ., with reference to upper limit of scale		± 15 %		
<b>Repeat accuracy</b> , max.		± 1 %		
<b>Load side</b>				
<b>Rated operational currents <math>I_e</math></b>				
• AC-15 at 24 ... 250 V, 50 Hz	A	3		
• DC-13	A	1		
- At 24 V	A	0.2		
- At 125 V	A	0.1		
- At 250 V	A	0.1		
<b>Mechanical endurance</b>	Operating cycles	10 × 10 <sup>6</sup>		
<b>Electrical endurance</b> at AC-15, 250 V, 3 A	Operating cycles	100 000		
<b>Switching frequency</b> for load				
• With $I_e$ at 230 V AC	h <sup>-1</sup>	2 500		
• With 3RT2 contactor at 230 V AC	h <sup>-1</sup>	2 500		
<b>Residual current</b> , max.	mA	--		
<b>Voltage drop</b> , max., with conducting output	VA	--		
<b>Short-circuit protection</b>				
• Fuse links, operational class gG: DIAZED, type 5SB	A	4		

# Power Contactors for Switching Motors


## Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

## Accessories

Type	3RA2813 ON-delay	3RA2814 OFF-delay with control signal	3RA2815 OFF-delay without control signal
Function			

Conductor cross-sections			
<b>Connection type</b> (1 or 2 conductors can be connected)		 <b>Screw terminals</b>	
• Solid	mm <sup>2</sup>	1 x (0.5 ... 4), 2 x (0.5 ... 2.5)	
• Finely stranded with end sleeve (DIN 46228-1)	mm <sup>2</sup>	1 x (0.5 ... 2.5), 2 x (0.5 ... 1.5)	
• AWG cables, solid or stranded	AWG	2 x (20 ... 14)	
• Terminal screws		M3 (for standard screwdriver size 2 or Pozidriv 2)	
• Tightening torque	Nm	0.8 ... 1.2	
<b>Connection type</b> (1 or 2 conductors can be connected)		 <b>Spring-type terminals</b>	
• Solid	mm <sup>2</sup>	2 x (0.25 ... 1.5)	
• Finely stranded with end sleeve (DIN 46228-1)	mm <sup>2</sup>	2 x (0.25 ... 1.5)	
• Finely stranded without end sleeve	mm <sup>2</sup>	2 x (0.25 ... 1.5)	
• AWG cables, solid or stranded	AWG	2 x (24 ... 16)	
• Operating devices	mm	3.0 x 0.5	

### Solid-state time-delay auxiliary switch blocks, for snapping onto 3RT1 contactors



Type	3RT1926-2E, 3RT1926-2F, 3RT1926-2G	Type	3RT1926-2E, 3RT1926-2F, 3RT1926-2G
Size	S6 to S12	Size	S6 to S12
<b>General data</b>		<b>Load side</b>	
<b>Dimensions (W x H x D)</b>	mm 45 x 26 x 50	<b>Rated operational currents <math>I_e</math></b>	
<b>Rated insulation voltage <math>U_i</math></b>	V AC 250	• AC-15, 230 V, 50 Hz	A 3
Pollution degree 3		• DC-13, 24 V	A 1
Overtoltage category III according to IEC 60664-1		• DC-13, 110 V	A 0.2
<b>Permissible ambient temperature</b>		• DC-13, 230 V	A 0.1
• During operation	°C -25 ... +60	<b>Short-circuit protection</b>	
• During storage	°C -40 ... +80	Fuse links, operational class gG:	A 4
<b>Degree of protection</b> acc. to IEC 60529		DIAZED, type 5SB	
Terminals	IP20	<b>Mechanical endurance</b>	Operat- ing cycles 10 x 10 <sup>6</sup>
<b>Shock resistance</b> Half-sine acc. to IEC 60068-2-27	g/ms 15/11	<b>Switching frequency</b> for load	
<b>Vibration resistance</b> acc. to IEC 60068-2-6	Hz/mm 10 ... 55/0.35	• with $I_e$ at 230 V AC	h <sup>-1</sup> 2 500
<b>Electromagnetic compatibility (EMC)</b>	IEC 61812-1	• With 3RT2016 contactor at 230 V AC	h <sup>-1</sup> 5 500
<b>Permissible mounting position</b>	Any (see 3RT1 contactors, page 3/44)	<b>Conductor cross-sections</b>	
<b>Control</b>		<b>Connection type</b> (1 or 2 conductors can be connected)	
<b>Operating range of excitation</b>	0.85 ... 1.1 x $U_s$ , 0.95 ... 1.05 times the rated frequency	 <b>Screw terminals</b>	
<b>Rated power</b>	W 2	• Solid	mm <sup>2</sup> 2 x (0.5 ... 1.5) 2 x (0.75 ... 4)
Power consumption at 230 V AC, 50 Hz	VA 4	• Finely stranded with end sleeve	mm <sup>2</sup> 2 x (0.5 ... 2.5)
<b>Recovery time</b>	ms 150	• AWG cables, solid or stranded	AWG 2 x (18 ... 14)
<b>Minimum ON period</b>	ms 200 (OFF-delay)	• Terminal screws	M3
<b>Setting accuracy, typ.</b> with reference to upper limit of scale	% ± 15	• Tightening torque	Nm 0.8 ... 1.2
<b>Repeat accuracy, max.</b>	% ± 1		

## Power Contactors for Switching Motors

### Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

#### Accessories

##### Coupling links for control by PLC

Type		3RH2924-1GP11	3RH2914-.GP11
Mounting on contactors of size		S0	S00 to S3
<b>General data</b>			
<b>Standards</b>		IEC 60947	
<b>Rated insulation voltage <math>U_i</math></b> (pollution degree 3)	V	300	
<b>Protective separation</b> between coil and contacts acc. to IEC 60947-1, Appendix N	V AC	Up to 300	
<b>Degree of protection</b> acc. to IEC 60529		IP20	
<b>Permissible ambient temperature</b>			
• During operation	°C	-25 ... +60	
• During storage	°C	-40 ... +80	
<b>Control side</b>			
<b>Rated control supply voltage <math>U_s</math></b>	V DC	24	
<b>Operating range</b>	V DC	17 ... 30	
<b>Power consumption at <math>U_s</math></b>	W	0.5	
<b>Nominal current input</b>	mA	20	
<b>Release voltage</b>	V	≥ 4	
<b>Function display</b>		Yellow LED	
<b>Protection circuit</b>		Varistors	
<b>Load side</b>			
<b>Mechanical endurance</b>	Operating cycles	20 million	10 million
<b>Electrical endurance at <math>I_e</math></b>	Operating cycles	0.1 million	
<b>Switching frequency</b>	h <sup>-1</sup>	5 000 operating cycles/h	
<b>Make-time</b>	ms	Approx. 7	
<b>Break-time</b>	ms	Approx. 4	
<b>Bounce time</b>	ms	Approx. 2	
<b>Contact material</b>		AgSnO <sub>2</sub>	
<b>Switching voltage</b>	V AC/DC	24 ... 250	
<b>Rated operational current <math>I_e</math></b>			
• AC-15/AC-14 at 230 V	A	3	
• DC-13 at 230 V	A	0.1	
<b>Permissible residual current</b> of the electronics (with 0 signal)	mA	2.5	
<b>Conductor cross-sections</b>			
<b>Connection type</b> (1 or 2 conductors can be connected)		 <b>Screw terminals</b>	
• Solid	mm <sup>2</sup>	2 x (0.5 ... 2.5)	
• Finely stranded with end sleeve (DIN 46228-1)	mm <sup>2</sup>	2 x (0.5 ... 1.5)	
• Terminal screws		M3	
<b>Connection type</b> (1 or 2 conductors can be connected)		 <b>Spring-type terminals</b>	
• Solid	mm <sup>2</sup>	--	2 x (0.25 ... 1.5)
• Finely stranded with end sleeve (DIN 46228-1)	mm <sup>2</sup>	--	2 x (0.25 ... 1.5)
• Finely stranded without end sleeve	mm <sup>2</sup>	--	2 x (0.25 ... 1.5)
• AWG cables, solid or stranded	AWG	--	2 x (24 ... 16)
• Operating devices	mm	--	3.0 x 0.5