

Contactor Relays and Coupling Relays

3RH11

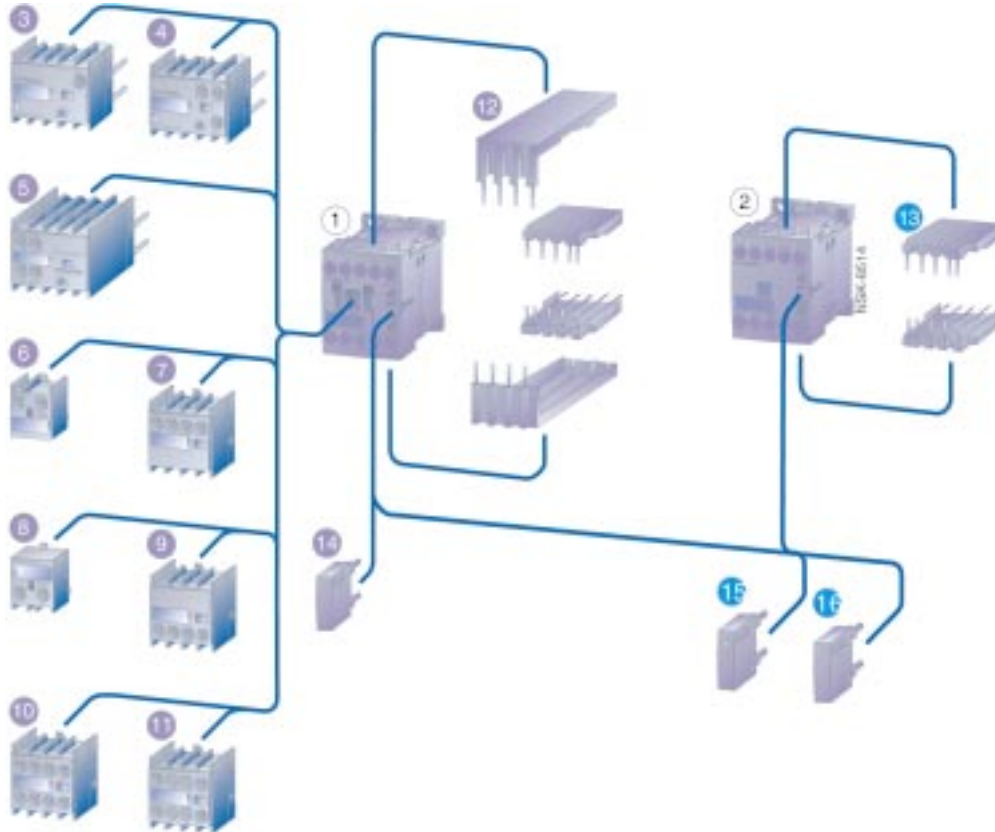
SIRIUS 3R



Overview

The program at a glance

The new SIRIUS 3R generation is a complete, modular system carefully thought out to cover every detail and extending from basic units through to accessories.



Contactor relays and coupling relays Size S00 with accessories

- ① Contactor relay, see page 6/6
- ② Coupling relay for switching auxiliary circuits, see page 6/29
- ③ Solid-state time-delay block, ON-delay, see page 6/11
- ④ Solid-state time-delay block, OFF-delay, see page 6/11
- ⑤ Auxiliary switch block, solid-state, time-delay, see page 6/11
(Versions: ON or OFF-delay)
- ⑥ 1-pole auxiliary switch block, cable entry from above, see page 6/10
- ⑦ 2-pole auxiliary switch block, cable entry from above, see page 6/10
- ⑧ 1-pole auxiliary switch block, cable entry from below see page 6/10
- ⑨ 2-pole auxiliary switch block, cable entry from below, see page 6/10
- ⑩ 4-pole auxiliary switch block, see page 6/10
(terminal designations according to EN 50 011 or EN 50 005)
- ⑪ 2-pole auxiliary switch block, standard design or electronically compatible version, see page 6/10 (terminal designations according to EN 50 005)
- ⑫ Solder pin adapter for contactor relays with 4-pole auxiliary switch block, see page 6/12
- ⑬ Solder pin adapter for contactor relays and coupling relays, see page 6/12
- ⑭ Additional load module, for increasing the permissible residual current, see page 6/12
- ⑮ Surge suppressors with LED, see page 6/11
- ⑯ Surge suppressors without LED, see page 6/12

- for contactor relays
- for contactor relays and coupling relays

SIRIUS 3R



AC and DC operation

IEC 60 947, EN 60 947 (VDE 0660)

Design

The 3RH11 contactor relays are suitable for use in any climate and are safe from touch acc. to DIN VDE 0106 Part 100.

The 3RH11 contactor relays have screw or Cage Clamp terminals. In the basic unit, 4 contacts are available.

Contact reliability

High contact reliability at small voltages and currents for electronic circuits with currents ≥ 1 mA at a voltage of 17 V.

Auxiliary switch blocks

The 3RH11 contactor relays can be expanded with up to 4 contacts by means of snap-on auxiliary switch blocks.

The auxiliary switch block can easily be snapped on the front of the contactors. The auxiliary switch block can be removed by an extracting lever which is fitted in the center.

Contactor relays with 4 contacts acc. to EN 50 011 and with identification number 40E can be expanded to contactor relays with 8 contacts acc. to EN 50 011 by means of auxiliary switch blocks 80E to 44E. The identification numbers

80E to 44E on the auxiliary switch blocks apply to the complete contactors (see opposite Fig.). These auxiliary switch blocks (3RH19 11-1GA..) cannot be combined with contactor relays with the identification numbers 31E and 22E; they are coded.

All contactor relays with 4 contacts acc. to EN 50 011 and identification numbers 40E to 22E can be expanded by means of auxiliary switch blocks 40 to 02 to contactor relays with 6 or 8 contacts acc. to EN 50 005. The identification numbers on the auxiliary switch blocks apply only to the snap-on auxiliary switch blocks.

Surge suppression

RC elements, varistors, diodes or diode assemblies (assemblies of diode and zener diode for short opening times) for damping the opening surges of the coil can be plugged onto all contactor relays from the front. The plug-in direction is set by a coding device.

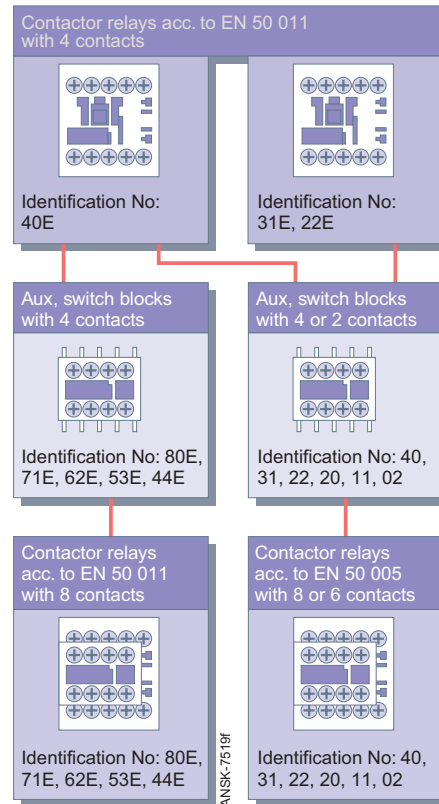
Note:

The opening times of the NO contacts and the closing times of the NC contacts increase if the contactor relay coils are protected against voltage peaks (suppression diode 6 to 9 times; diode assembly 2 to 6 times; varistor +2 ms to 5 ms).

3RH11 Contactor Relays Size S00

Description

3RH1. contactor relays to EN 50 011 and EN 50 005



3RH14 Latched Contactor Relays

Size S00

SIRIUS 3R



Description

AC and DC operation

IEC 60 947, EN 60 947 (VDE 0660)

The terminal designations are in accordance with EN 50 011.

The contactor coil and the coil of the unlatching solenoid are both rated for uninterrupted duty.

The number of auxiliary contacts can be extended by means of auxiliary switch blocks (max. 4 poles).

RC elements, varistors, diodes or diode assemblies for

damping the opening surges of the coil can be plugged onto all contactor relays from the front.

The contactor relay can also be closed and unlatched by hand.

Accessories for 3RH1. Contactor Relays

SIRIUS 3R



Description

Solid-state, time-delay auxiliary switch blocks

The timer module is available in ON-delay and OFF-delay versions and allows time-delayed functions up to 100 s (3 distinct delay ranges).

It contains a relay with one NO contact and one NC contact. The relay is switched either after an ON-delay or after an OFF-delay, depending on the version.

The solid-state, time-delay auxiliary switch block is fitted onto the front of the contactor. The timer module is supplied with power directly by plug-in contacts via the coil terminals of the contactor in parallel with A1/A2.

The time function is activated by closing the contactor on which the auxiliary switch block is mounted. The OFF-delay variant operates without an auxiliary power supply. Minimum ON-time: 200 ms.

A varistor is integrated in the timer module for damping opening surges in the contactor coil.

The solid-state, time-delay auxiliary switch block cannot be mounted onto the coupling relays of size S00.

Solid-state time-delay block with semiconductor output

The timer module is available in ON-delay and OFF-delay with auxiliary power supply versions and allows time-delayed functions up to 100 s (3 distinct delay ranges). Contactors fitted with a time-delay block close or open after a delay according to the set time.

The ON-delay version of the time-delay relay is connected in series with the contactor coil; terminal A1 of this coil must not be connected.

In the case of the OFF-delay version of the time-delay relay, the contactor coil is connected directly via the relay; terminals A1 and A2 of the coil must not be connected.

The time-delay relays are suitable for both AC and DC operation.

The solid-state time-delay block is fitted onto the front of the contactor (with the supply voltage switched off) and then slid into its latched position; at the same time, the time-delay relay is connected by means of plug-in contacts to coil terminals A1 and A2 of the contactor.

Any coil terminals which are not required are sealed off by cover plates on the casing of the time-delay block to prevent them from being connected inadvertently (for circuit diagrams, see page 6/23).

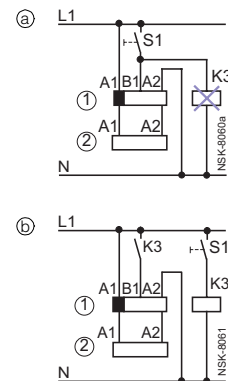
A varistor is integrated in the timer module for damping opening surges in the contactor coil.

The solid-state time-delay block cannot be mounted onto coupling relays of size S00.

Configuration note

In the case of AC operation it is not permissible to control loads parallel to the start input (see ①).

The 3RT19 16-2D... OFF-delay time-relay blocks have a start input B1 to which a voltage is applied. In cases where a load is arranged parallel to terminal B1 it is thus possible in the case of single-phase AC to simulate energizing. For this case the additional load (e.g. contactor K3) is to be wired in accordance with ②.



- ① Time-delay block
- ② Contactor

3TH43 Contactor Relays with 10 Contacts

Description

AC and DC operation

IEC 60 947 and EN 60 947
(VDE 0660)

Design

The 3TH43 contactor relays are suitable for use in any climate. They are safe from touch according to DIN VDE 0106 Part 100.

Contact reliability

High contact reliability at small voltages and currents by means of moving double-break contacts, suitable for electronic circuits with currents ≥ 1 mA at a voltage range from 17 V on.

Make-before-break feature

The 3TH43 contactor relays are also available with make-before-break feature (overlapping between 1 NO and 1 NC). The bridging time is approximately 1 ms. This is not enough to make another contactor pick up. With series connection paths, a pulse contact element is produced. The impulse time is approximately 1 ms.

Terminal designations according to EN 50 011

The 3TH43 contactor relays comply with the standard specifications EN 50 011 as to the terminal designation, identification number and letter for "specific contactor relays".

Surge suppression

The 3TH43 contactor relays can be fitted with RC elements, varistors, diodes or diode assemblies (assembly of a diode and a zener diode for short opening times) to suppress opening surges. The surge suppressors can be connected directly to the coil (refer to Accessories).

Note

The opening times of the NO contacts and the closing times of the NC contacts increase if the contactor relay coils are protected against voltage peaks (suppression diode 6 to 9 times; diode assembly 2 to 6 times; varistor +2 ms to 5 ms).

1

2

3

4

5

6

3RH11 Contactor Relays

Size S00

SIRIUS 3R



Selection and ordering data

Rated operational current I_e /AC-15/AC-14 at 230 V 400 V 500 V 690 V				Contacts Identifica- tion num- ber acc. to EN 50 011		Rated control supply voltage ³⁾	Order No.	Price	Weight approx.	Pack.
A	A	A	A	NO	NC					

With screw connection · for screw and snap-on mounting onto 35 mm standard rail

3RH11...-1...0



• AC operation						50/60 Hz ¹⁾ AC					
6	3	2	1	40 E	4	-	24 V	▶	3RH11 40-1AB00	0.19	1
							42 V	▶	3RH11 40-1AD00		
							48 V	▶	3RH11 40-1AH00		
							110 V ²⁾	▶	3RH11 40-1AF00		
							230 V	▶	3RH11 40-1AP00		
31 E	3	1		31 E	3	1	24 V	▶	3RH11 31-1AB00	0.19	1
							42 V	▶	3RH11 31-1AD00		
							48 V	▶	3RH11 31-1AH00		
							110 V ²⁾	▶	3RH11 31-1AF00		
							230 V	▶	3RH11 31-1AP00		
22 E	2	2		22 E	2	2	24 V	▶	3RH11 22-1AB00	0.19	1
							42 V	▶	3RH11 22-1AD00		
							48 V	▶	3RH11 22-1AH00		
							110 V ²⁾	▶	3RH11 22-1AF00		
							230 V	▶	3RH11 22-1AP00		
• DC operation · DC solenoid system						DC					
6	3	2	1	40 E	4	-	12 V	▶	3RH11 40-1BA40	0.25	1
							24 V	▶	3RH11 40-1BB40		
							48 V	▶	3RH11 40-1BW40		
							60 V	▶	3RH11 40-1BE40		
							110 V	▶	3RH11 40-1BF40		
							220 V	▶	3RH11 40-1BM40		
31 E	3	1		31 E	3	1	12 V	▶	3RH11 31-1BA40	0.25	1
							24 V	▶	3RH11 31-1BB40		
							48 V	▶	3RH11 31-1BW40		
							60 V	▶	3RH11 31-1BE40		
							110 V	▶	3RH11 31-1BF40		
							220 V	▶	3RH11 31-1BM40		
22 E	2	2		22 E	2	2	12 V	▶	3RH11 22-1BA40	0.25	1
							24 V	▶	3RH11 22-1BB40		
							48 V	▶	3RH11 22-1BW40		
							60 V	▶	3RH11 22-1BE40		
							110 V	▶	3RH11 22-1BF40		
							220 V	▶	3RH11 22-1BM40		

For multi-unit packing see Part 17.

Accessories see page 6/10.

Technical data see page 6/15.

Description see page 6/3.

Internal circuit diagrams see page 6/22.

Dimensions see page 6/52.

1) Coil voltage tolerance at 50 Hz: 0.8 to 1.1 x U_s
at 60 Hz: 0.85 to 1.1 x U_s

2) For USA and Canada: 50 Hz AC, 110 V, and 60 Hz AC, 120 V
Order No. **3RH11 ...-1AK60**
Coil voltage tolerance at 50 Hz: 0.85 to 1.1 x U_s
at 60 Hz: 0.8 to 1.1 x U_s

3) Further voltages on request.



CAGE CLAMP

Selection and ordering data

Rated operational current I_e /AC-15/AC-14 at 230 V	Rated operational current				Contacts		Rated control supply voltage ²⁾	Order No.	Price	Weight approx.	Pack.
	400 V	500 V	690 V	Identification number acc. to EN 50 011	Design	NO					
A	A	A	A				▶ Preferred type	1 unit	kg	Units	
With Cage Clamp connection · screw and snap-on mounting onto 35 mm standard rail											
3RH11 40-2AB00											
• AC operation											
50/60 Hz ¹⁾ AC											
6	3	2	1	40 E	4	–	24 V 42 V 48 V 110 V 230 V	▶ 3RH11 40-2AB00 ▶ 3RH11 40-2AD00 ▶ 3RH11 40-2AH00 ▶ 3RH11 40-2AF00 ▶ 3RH11 40-2AP00		0.19	1
				31 E	3	1	24 V 42 V 48 V 110 V 230 V	▶ 3RH11 31-2AB00 ▶ 3RH11 31-2AD00 ▶ 3RH11 31-2AH00 ▶ 3RH11 31-2AF00 ▶ 3RH11 31-2AP00		0.19	1
				22 E	2	2	24 V 42 V 48 V 110 V 230 V	▶ 3RH11 22-2AB00 ▶ 3RH11 22-2AD00 ▶ 3RH11 22-2AH00 ▶ 3RH11 22-2AF00 ▶ 3RH11 22-2AP00		0.19	1
• DC operation · DC solenoid system											
DC											
6	3	2	1	40 E	4	–	12 V 24 V 48 V 60 V 110 V 220 V	▶ 3RH11 40-2BA40 ▶ 3RH11 40-2BB40 ▶ 3RH11 40-2BW40 ▶ 3RH11 40-2BE40 ▶ 3RH11 40-2BF40 ▶ 3RH11 40-2BM40		0.26	1
				31 E	3	1	12 V 24 V 48 V 60 V 110 V 220 V	▶ 3RH11 31-2BA40 ▶ 3RH11 31-2BB40 ▶ 3RH11 31-2BW40 ▶ 3RH11 31-2BE40 ▶ 3RH11 31-2BF40 ▶ 3RH11 31-2BM40		0.26	1
				22 E	2	2	12 V 24 V 48 V 60 V 110 V 220 V	▶ 3RH11 22-2BA40 ▶ 3RH11 22-2BB40 ▶ 3RH11 22-2BW40 ▶ 3RH11 22-2BE40 ▶ 3RH11 22-2BF40 ▶ 3RH11 22-2BM40		0.26	1

3RH11 40-2AB00



For multi-unit packing see Part 17.

Accessories see page 6/13.

Technical data see page 6/15.

Description see page 6/3.

Internal circuit diagrams see page 6/22.

Dimensions see page 6/52.

1) Coil voltage tolerance at 50 Hz: 0.8 to 1.1 × U_s
at 60 Hz: 0.85 to 1.1 × U_s

2) Further voltages on request.

3RH14 Latched Contactor Relays

Size S00

SIRIUS 3R



Selection and ordering data

Rated operational current I_e /AC-15/AC-14 at 230 V 400 V 500 V 690 V	Contacts		Rated control supply voltage ²⁾	Order No.	Price	Weight approx.	Pack.
A A A A	Identifica- tion num- ber acc. to EN 50 011	Design NO NC					
					1 unit	kg	Units

With screw connection · for screw and snap-on mounting onto 35 mm standard rail

3RH14 22-1BB40



• AC operation						50/60 Hz ¹⁾ AC				
6	3	2	1	40 E	4	–	24 V 110 V 230 V	3RH14 40-1AB00 3RH14 40-1AF00 3RH14 40-1AP00	0.38	1
				31 E	3	1	24 V 110 V 230 V	3RH14 31-1AB00 3RH14 31-1AF00 3RH14 31-1AP00	0.38	1
				22 E	2	2	24 V 110 V 230 V	3RH14 22-1AB00 3RH14 22-1AF00 3RH14 22-1AP00	0.38	1
• DC operation · DC solenoid system						DC				
6	3	2	1	40 E	4	–	24 V 110 V 220 V	3RH14 40-1BB40 3RH14 40-1BF40 3RH14 40-1BM40	0.5	1
				31 E	3	1	24 V 110 V 220 V	3RH14 31-1BB40 3RH14 31-1BF40 3RH14 31-1BM40	0.5	1
				22 E	2	2	24 V 110 V 220 V	3RH14 22-1BB40 3RH14 22-1BF40 3RH14 22-1BM40	0.5	1

For multi-unit packing see Part 17.

Accessories see page 6/10.

Technical data see page 6/15.

Description see page 6/4.

Internal circuit diagrams see page 6/22.

Dimensions see page 6/52.

1) Coil voltage tolerance at 50 Hz: 0.8 to 1.1 × U_s
at 60 Hz: 0.85 to 1.1 × U_s

2) Further voltages on request.

3TH43 Contactor Relays with 10 Contacts

Selection and ordering data

Rated operational current I_e /AC-15/AC-14 at 230/220 V 400/380 V 500 V 690/660 V				Contacts				Order No.	Price	Weight approx.	Pack.	
A	A	A	A	Identification number acc. to EN 50 011	Design							
					NO	NC	NO	NC	Preferred type	1 unit	kg	Units

With screw connection · for screw and snap-on mounting onto 35 mm standard rail

3TH43 ...0A



• AC operation, rated control supply voltage U_s : 50 Hz 230/220 V¹⁾ AC

10	6	4	2	100E	10	–	–	–	3TH43 10-0AP0	0.48	1
				91E	9	1	–	–	3TH43 91-0AP0		
				82E	8	2	–	–	3TH43 82-0AP0		
				73E	7	3	–	–	3TH43 73-0AP0		
				73E; U	6	2	1	1	3TH43 46-0AP0		
				64E	6	4	–	–	3TH43 64-0AP0	0.48	1
				55E	5	5	–	–	3TH43 55-0AP0		
				55E; U	4	4	1	1	3TH43 94-0AP0		

• DC operation · DC solenoid system, rated control supply voltage U_s : 24 V DC

3TH43 ...0B



10	6	4	2	100E	10	–	–	–	3TH43 10-0BB4	0.69	1
				91E	9	1	–	–	3TH43 91-0BB4		
				82E	8	2	–	–	3TH43 82-0BB4		
				73E	7	3	–	–	3TH43 73-0BB4		
				73E; U	6	2	1	1	3TH43 46-0BB4		
				64E	6	4	–	–	3TH43 64-0BB4	0.69	1
				55E	5	5	–	–	3TH43 55-0BB4		
				55E; U	4	4	1	1	3TH43 94-0BB4		

For further voltages, see below. The Order No. must then be changed in the last two places.

Rated control supply voltages (alteration of the 10th and 11th place in the Order No.)

• AC operation

Coils for 50 Hz AC

Rated control supply voltage U_s	Control supply voltage at	Suffix
V AC 50 Hz	V AC 60 Hz	
24	29	B0
32	38	C0
36	42	G0
42	50	D0
48	58	H0
60	72	E0
110	132	F0
125/127	150/152	L0
230/220	276	P0 ¹⁾
240	288	U0
400/380	480/460	V0 ¹⁾
415	500	R0
500	600	S0

For USA and Canada

110	120	K6 ²⁾
220	240	P6 ²⁾

For Japan

100	100-110	G6 ²⁾
200	200-220	N6 ²⁾
400	400-440	R6 ²⁾

• DC operation

Coils for 50 and 60 Hz AC

Rated control supply voltage U_s	
V AC	Suffix
24	C2
42	D2
110	G2
115	J2
120	K2
208	M2
220	N2
230	L2
240	P2
440	R2
575	S2

Rated control supply voltage U_s

V DC	Suffix
12	A4
24	B4
30	C4
36	V4
42	D4
48	W4
60	E4
110	F4
125	G4
180	K4
220	M4
230	P4
240	Q4

Additional prices

No additional price.

For contactor relays with deviating coil voltages (not marked), additional prices are calculated.

AC operation:
DC operation:

For multi-unit packing see Part 17

Accessories see page 6/14.

Technical data see page 6/18.

Description see page 6/5.

Internal circuit diagrams see page 6/24.

Dimensions see page 6/53.

1) Coil voltage tolerance at 220 V and 380 V:

0.85 to 1.1 x U_s ;
lower tolerance limit acc. to IEC 60 947.

2) Coil voltage tolerance at 60 Hz: 0.85 to 1.1 x U_s

Spare parts

Magnet coils: As for 3TF40, see NS E Catalog.

Contacts: In the case of 3TH43 contactor relays, it is not possible to change the contacts.

3RH1. Contactor Relays with Screw Connection

SIRIUS 3R



Accessories

For contactor relays Type	Rated operational current I_e /AC-15/AC-14 at				Contacts				Order No.	Price	Weight approx.	Pack.	
	230 V	400 V	500 V	690 V	Identifi- cation number	Design							
	A	A	A	A							1 unit	kg	Units

Auxiliary switch blocks for snap-on fitting to EN 50 011

3RH11 40 3RH14 40 (Identification number 40E)	for mounting contactor relays with 8 contacts				Contacts				Order No.	Price	Weight approx.	Pack.	
	6	3	2	1	Identifi- cation number	Design							
					80 E	4	-	-	-	3RH19 11-1GA40		0.045	1
					71 E	3	1	-	-	3RH19 11-1GA31			
					62 E	2	2	-	-	3RH19 11-1GA22			
					53 E	1	3	-	-	3RH19 11-1GA13			
					44 E	-	4	-	-	3RH19 11-1GA04			

Auxiliary switch blocks for snap-on fitting to EN 50 005

3RH19 11-1F...	3RH1.	2- and 4-pole auxiliary switch blocks for mounting contactor relays with 6 and 8 contacts				Contacts				Order No.	Price	Weight approx.	Pack.
		6	3	2	1	Identifi- cation number	Design						
					20	2	-	-	-	3RH19 11-1FA20		0.045	1
					11	1	1	-	-	3RH19 11-1FA11			
					02	-	2	-	-	3RH19 11-1FA02			
					11 U	-	-	1	1	3RH19 11-1FB11			
					40	4	-	-	-	3RH19 11-1FA40		0.045	1
					31	3	1	-	-	3RH19 11-1FA31			
					22	2	2	-	-	3RH19 11-1FA22			
					22 U	-	-	2	2	3RH19 11-1FC22			
					11/11 U	1	1	1	1	3RH19 11-1FB22			

3RH19 11-1AA...	3RH1.	1- and 2-pole auxiliary switch blocks, cable entry from one side				Contacts				Order No.	Price	Weight approx.	Pack.								
		6	3	2	1	Identifi- cation number	Design														
														1	-	-	-	3RH19 11-1AA10		0.015	1
														-	-	1	-	3RH19 11-1AA01			
														-	1	1	-	3RH19 11-1LA11		0.045	
														-	2	-	-	3RH19 11-1LA20			

3RH19 11-1BA...	3RH1.	1- and 2-pole auxiliary switch blocks, cable entry from below				Contacts				Order No.	Price	Weight approx.	Pack.								
		6	3	2	1	Identifi- cation number	Design														
														1	-	-	-	3RH19 11-1BA10		0.015	1
														-	-	1	-	3RH19 11-1BA01			
														-	1	1	-	3RH19 11-1MA11		0.045	
														-	2	-	-	3RH19 11-1MA20			

For con- tactor relays Type	Design	Contact Design		Order No.	Price	Weight approx.	Pack.	
						1 unit	kg	Units

Electronics compatible auxiliary switch blocks

3RH19 11-1NF...	3RH1.	For snapping onto the front of the contactor relays. For use in dusty atmosphere and electronic circuits with rated operational currents I_e /AC-14 and DC-13 from 1 to 300 mA at 3 to 60 V. Hard gold-plated contacts. No forced guidance operation.	Contact Design		Order No.	Price	Weight approx.	Pack.
			1	1	3RH19 11-1NF11		0.045	1
			2	-	3RH19 11-1NF20			
			-	2	3RH19 11-1NF02			



For contactor relays	Auxiliary contacts	Rated control supply voltage $U_s^{1)}$	Time setting range t	Order No.	Price	Weight approx.	Pack.
Type			s		1 unit	kg	Units

Solid-state, time-delay auxiliary switch blocks

3RT19 16-2....



3RH1. ³⁾	1NO+1NC	Terminal designation to DIN 46 199, Part 5					
		• ON-delay (varistor integrated)					
		24 V ²⁾ AC/DC	0.05 to 1 0.5 to 10 5 to 100	3RT19 16-2EJ11 3RT19 16-2EJ21 3RT19 16-2EJ31		0.07	1
		100 to 127 V ²⁾ AC	0.05 to 1 0.5 to 10 5 to 100	3RT19 16-2EC11 3RT19 16-2EC21 3RT19 16-2EC31		0.07	1
		200 to 240 V ²⁾ AC	0.05 to 1 0.5 to 10 5 to 100	3RT19 16-2ED11 3RT19 16-2ED21 3RT19 16-2ED31		0.07	1
		• OFF-delay without auxiliary voltage (varistor integrated)					
		24 V ²⁾ AC/DC	0.05 to 1 0.5 to 10 5 to 100	3RT19 16-2FJ11 3RT19 16-2FJ21 3RT19 16-2FJ31		0.07	1
		100 to 127 V ²⁾ AC/DC	0.05 to 1 0.5 to 10 5 to 100	3RT19 16-2FK11 3RT19 16-2FK21 3RT19 16-2FK31		0.07	1
		200 to 240 V ²⁾ AC/DC	0.05 to 1 0.5 to 10 5 to 100	3RT19 16-2FL11 3RT19 16-2FL21 3RT19 16-2FL31		0.07	1

Solid-state time-delay block with semiconductor output

3RT19 16-2C



3RH1. ³⁾	1NO+1NC	Terminal designation to DIN 46 199 Part 5					
		• ON-delay (varistor integrated)					
		24 to 66 V AC/DC	0.05 to 1 0.5 to 10 5 to 100	3RT19 16-2CG11 3RT19 16-2CG21 3RT19 16-2CG31		0.035	1
		90 to 240 V AC/DC	0.05 to 1 0.5 to 10 5 to 100	3RT19 16-2CH11 3RT19 16-2CH21 3RT19 16-2CH31		0.035	1

3RT19 16-2D



3RH1. ³⁾	1NO+1NC	Terminal designation to DIN 46 199 Part 5					
		• OFF-delay with auxiliary voltage (varistor integrated)					
		24 to 66 V AC/DC	0.05 to 1 0.5 to 10 5 to 100	3RT19 16-2DG11 3RT19 16-2DG21 3RT19 16-2DG31		0.037	1
		90 to 240 V AC/DC	0.05 to 1 0.5 to 10 5 to 100	3RT19 16-2DH11 3RT19 16-2DH21 3RT19 16-2DH31		0.037	1

For contactor relays	Design	Rated control supply voltage $U_s^{1)}$	Power consumption of the LED at U_s	Order No. ⁴⁾	Price	Weight approx.	Price
Type			mW		1 unit	kg	per packing with 10 units ⁴⁾

Surge suppressors with LED (also for Cage Clamp connection)

3RH19 16-1L.00



3RH1.	Varistor	Rated control supply voltage	Time setting range	Order No.	Price	Weight approx.	Price
		24 to 48 V AC 12 to 24 V DC	10 to 120	3RT19 16-1JJ00		0.01	
		48 to 127 V AC 24 to 70 V DC	20 to 470	3RT19 16-1JK00			
		127 to 240 V AC 70 to 150 V DC	50 to 700	3RT19 16-1JL00			
		150 to 250 V DC	160 to 950	3RT19 16-1JP00			
	• Suppression diode	24 to 70 V DC	20 to 470	3RT19 16-1LM00		0,01	
		70 to 150 V DC	50 to 700	3RT19 16-1LN00			
		150 to 250 V DC	160 to 950	3RT19 16-1LP00			

- 1) AC voltages apply to 50 Hz and 60 Hz.
- 2) The terminals for the rated control supply voltage are connected to the contactor by the integrated spring contacts of the solid-state time-delay auxiliary switch block when mounting.
- 3) Cannot be mounted to coupling relays.
- 4) For packings with 10 units the Order No. must be supplemented with "-Z" and the order code "X90".

3RH1. Contactor Relays with Screw Connection

SIRIUS 3R




Accessories


For contactor relays Type	Design	Rated control supply voltage U_s 1)	Order No.2)	Price 1 unit	Weight approx. kg	Price per pack- ing with 10 units2)
------------------------------	--------	---------------------------------------	-------------	-----------------	----------------------	--

Surge suppressors without LED (also for Cage Clamp connection)

for mounting onto the front of the contactor relays with and without auxiliary switch block


	3RH1.	Varistor	24 to 48 V AC	3RT19 16-1BB00	0.01	
			24 to 70 V DC			
			48 to 127 V AC			
			70 to 150 V DC			
	3RH1.	RC element	127 to 240 V AC	3RT19 16-1BD00		
			150 to 250 V DC			
			240 to 400 V AC			
	3RH1.	RC element	24 to 48 V AC	3RT19 16-1CB00	0.01	
			24 to 70 V DC			
			48 to 127 V AC			
	3RH1.	RC element	70 to 150 V DC	3RT19 16-1CC00		
127 to 240 V AC						
3RH1.	RC element	150 to 250 V DC	3RT19 16-1CD00			
3RH1.	Suppression diode	12 to 250 V DC	3RT19 16-1DG00	0.01		
3RH1.	Diode assembly (Diode and zener diode) for DC operation, short break time	12 to 250 V DC	3RT19 16-1EH00	0.01		

Additional load module (also for Cage Clamp connection)


	3RH1.	for snapping onto the front of the contactor relays with and without auxiliary switch block For increasing the permissible residual current and limiting the residual voltage. Ensures safe opening of contactor relays with direct control via 230 V AC semi-conductor outputs of SIMATIC controls. Simultaneously takes over the function of overvoltage damping. Rated voltage: 50/60 Hz, 180 to 255 V AC. Coil voltage tolerance: 0.8 to 1.1 x U_s	3RT19 16-1GA00	0.01	
---	-------	--	-----------------------	------	--

For contactor relays Type	Design	Order No.	Price 1 packg.	Weight approx. kg	Pack. Packing
------------------------------	--------	-----------	-------------------	----------------------	------------------

Solder pin adapter for contactor relays

	3RH11	For surface mounting of contactor relays on printed circuit board. One packing contains 8 parts for 4 contactor relays.	3RT19 16-4KA1		1
---	-------	---	----------------------	--	---

Solder pin adapter for contactor relays with mounted auxiliary switch block, 4-pole

	3RH11	For surface mounting of contactor relays with auxiliary switch blocks on printed circuit board. One packing contains 16 parts for 4 contactor relays and 4 auxiliary switch blocks.	3RT19 16-4KA2		1
---	-------	---	----------------------	--	---

1) Further voltages on request.

2) For packings with 10 units the Order No. must be supplemented with "-Z" and the order code "X90".

SIRIUS 3R



3 RH11 Contactor Relays with Cage Clamp Connection

CAGE CLAMP

Accessories

For cont. relays	Rated operational current I_e /AC-15/AC-14 at 230 V 400 V 500 V 690 V	Contacts				Order No.	Price	Weight approx.	Pack.
		Ident. No.	Design						
Type	A A A A	NO	NC	NO	NC		1 unit	kg	Units

Auxiliary switch blocks for snap-on fitting to EN 50 011

3RH19 11-2GA22



3RH11 40, 3RH14 40 (Identification number 40E)

for mounting contactor relays with 8 contacts

6	3	2	1	80 E	4	–	–	–
				71 E	3	1	–	–
				62 E	2	2	–	–
				53 E	1	3	–	–
				44 E	–	4	–	–

3RH19 11-2GA40
3RH19 11-2GA31
3RH19 11-2GA22
3RH19 11-2GA13
3RH19 11-2GA04

0.045 1

Auxiliary switch blocks for snap-on fitting to EN 50 005

3RH19 11-2FA22



3RH11

2- and 4-pole auxiliary switch blocks for mounting contactor relays with 6 and 8 contacts

6	3	2	1	20	2	–	–	–
				11	1	1	–	–
				02	–	2	–	–
				11 U	–	–	1	1
				40	4	–	–	–
				31	3	1	–	–
				22	2	2	–	–
				22 U	–	–	2	2

3RH19 11-2FA20
3RH19 11-2FA11
3RH19 11-2FA02
3RH19 11-2FB11

0.045 1

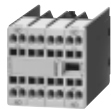
3RH19 11-2FA40
3RH19 11-2FA31
3RH19 11-2FA22
3RH19 11-2FC22

0.045 1

For cont. relays	Design	Contact Design	Order No.	Price	Weight approx.	Pack.
		NO NC			1 unit	kg Units

Electronics compatible auxiliary switch blocks

3RH19 11-2NF..



3RH1.

For snapping onto the front of the contactor relays.
For use in dusty atmosphere and electronic circuits with rated operational currents I_e /AC-14 and DC-13 from 1 to 300 mA at 3 to 60 V.
Hard gold-plated contacts.
No forced guidance operation.

1	1
2	–
–	2

3RH19 11-2NF11
3RH19 11-2NF20
3RH19 11-2NF02

0.045 1

For units	Design	Order No.	Price	Weight approx.	Pack.
				kg	

Insulation stop for safely retaining the conductor insulation for conductors up to 1 mm²

3RT19 16-4JA02



3RH11)

Insulation stop strip can be entered into the conductor entry of the Cage Clamp (2 strips required per contactor, each pair can be cut off, 1 strip for 5 terminal pairs)
1 packing contains 20 strips for 10 contactor relays

1 packg.

3RT19 16-4JA02

0.02 1 packing

Screw driver to open the Cage Clamp terminals

8WA2 804



all SIRIUS devices with Cage Clamp connection
Length: approx. 100 mm; 3.5 x 0.5 (orange)
Length: approx. 175 mm; 3.5 x 0.5 (green)

1 unit

8WA2 804
8WA2 803

0.012 1 unit
0.029

8WA2 803







Surge suppressors with LED see page 6/11.
Surge suppressors without LED see page 6/12.
Additional load module see page 6/12.

1) Fits into the conductor entries of all SIRIUS 3R devices with Cage Clamp connection.

3TH43 Contactor Relays with 10 Contacts

Accessories

Design		Rated control supply voltage U_s	Order No.	Price	Weight approx.	Pack.														
				1 unit	kg	Units														
Surge suppressors¹⁾																				
3TX7 402-3. 	Suppression diode with wire spacers for mounting onto the coil terminal	24 to 250 V DC	3TX7 402-3A		0.01	10														
	Diode assembly (diode and zener diode) with wire spacers DC operation and short break time, for mounting onto the coil terminal	24 to 250 V DC	3TX7 402-3D		0.01	10														
	Varistor²⁾ with wire spacers, for mounting onto the coil terminal	24 to 48 V AC 24 to 70 V DC	3TX7 402-3G		0.005	10														
		48 to 127 V AC 70 to 150 V DC	3TX7 402-3H		0.005	10														
	RC element with wire spacers, for mounting onto the coil terminal	127 to 240 V AC 150 to 250 V DC	3TX7 402-3J		0.005	10														
		240 to 400 V AC 400 to 600 V AC	3TX7 402-3K 3TX7 402-3L		0.005	10														
		24 to 48 V AC 24 to 70 V DC	3TX7 402-3R		0.01	10														
		48 to 127 V AC 70 to 150 V DC	3TX7 402-3S		0.01	10														
		127 to 240 V AC 150 to 250 V DC	3TX7 402-3T		0.01	10														
		240 to 400 V AC 400 to 600 V AC	3TX7 402-3U 3TX7 402-3V		0.01 0.01	10 10														
	Covering position for switch indicator	–	3TX4 210-0P		0.005	100														
	Coupling relays for control from PLC																			
	3TX4 090 mounted to contactor 	Coil voltage tolerance: 17 to 30 V DC Power consumption: 0.5 W at 24 V DC for direct mounting onto the contactor coil without surge suppressors with surge suppressors																		
3TX4 090-0C					0.042	1														
			3TX4 090-0D		0.045	1														
<table border="1"> <thead> <tr> <th>for contactor</th> <th>Rated control supply voltage U_s</th> <th>Time setting range (minimum times)</th> <th>Order No.</th> <th>Price</th> <th>Weight approx.</th> <th>Pack.</th> </tr> <tr> <td>Type</td> <td>50/60 Hz AC</td> <td></td> <td></td> <td>1 unit</td> <td>kg</td> <td>Units</td> </tr> </thead> </table>							for contactor	Rated control supply voltage U_s	Time setting range (minimum times)	Order No.	Price	Weight approx.	Pack.	Type	50/60 Hz AC			1 unit	kg	Units
for contactor	Rated control supply voltage U_s	Time setting range (minimum times)	Order No.	Price	Weight approx.	Pack.														
Type	50/60 Hz AC			1 unit	kg	Units														
ON-delay																				
3TX4 180-0A 	3TH43 NTC thermistor Time tolerance +100%, -50% For typical circuits, see page 6/24.	220 to 230 V AC	100 ms	3TX4 180-0A		0.01 10														
	3TH43 Two-wire solid-state time-delay block for contactor mounting Repeat accuracy $\leq +1\%$	220 to 240 V AC, for other voltages and DC see Part 7.	0.06 to 0.6 s	7PX70 40-0CN20		0.04 1														
			0.6 to 6 s	7PX70 40-1CN20		0.04 1														
			2 to 20 s	7PX70 40-7CN20		0.04 1														
			6 to 60 s	7PX70 40-2CN20		0.04 1														
OFF-delay for short-time bridging of voltage failure (to 1.2 s)																				
3TX4 701-0AN1 	3TH43...0BF4	110 V AC	OFF-delay	3TX4 701-0AN1		0.16 1														
	3TH43...0BM4	220 V AC	0.15 or 0.3 s	3TX4 701-0AN1		0.16 1														
	3TH43...0BP4	230 V AC	0.6 or 1.2 s	3TX4 701-0AN1		0.16 1														
	3TH43...0BB4	24 V DC	0.6 or 1.2 s	0.4 or 0.8 s	3TX4 701-0BB4		0.16 1													

1) The opening times of the NO contacts and the closing times of the NC contacts increase when the contactor relay coils are protected

against voltage peaks (suppression diode 6 to 9 times; diode assembly 2 to 6 times; varistor +2 to 5 ms).

2) In the case of DC, including the peak value of the superimposed AC voltage.