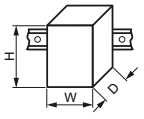
SIRIUS 3RV2 Motor Protection Circuit Breakers up to 40 A

General data

Technical specifications

General data					
Type			**3RV2. 1.**	**3RV27 11, 3RV28 11**	**3RV2. 2.**
Size			S00	S00	S0
Dimensions (W x H x D)					
• Screw terminals		mm	45 x 97 x 91	45 x 144 x 92	45 x 97 x 91
• Spring-type terminals		mm	45 x 109 x 91	—	45 x 119 x 91
Standards					
• IEC 60947-1, EN 60947-1			Yes		
• IEC 60947-2, EN 60947-2			Yes		
• IEC 60947-4-1, EN 60947-4-1			Yes		
• UL 489, CSA C22.2 No.5-02			Yes		
Number of poles			3		
Max. rated current $I_{n\,max}$ (= max. rated operational current I_e)		A	16		40
Permissible ambient temperature					
• Storage/transport		°C	–50 ... +80		
• Operation	I_n: 0.16 ... 32 A	°C	–20 ... +70 (current reduction above +60 °C)		
	I_n: 36 ... 40 A	°C	–20 ... +40 (The devices must not be mounted side-by-side and they must not be assembled with link modules with contactors. A lateral clearance of 9 mm is required.)		
Permissible rated current at inside temperature of control cabinet					
• +60 °C		%	100		
• +70 °C		%	87		
Permissible rated current at ambient temperature of enclosure(applies for motor protection circuit breaker inside enclosure ≤ 32 A)					
• +35 °C		%	100		
• +60 °C		%	87		
Rated operational voltage U_e					
• Acc. to IEC		V AC	690 (with molded-plastic enclosure 500 V)		
• Acc. to UL/CSA		V AC	600		
Rated frequency		Hz	50/60		
Rated insulation voltage U_i		V	690		
Rated impulse withstand voltage U_{imp}		kV	6		
Utilization categories					
• IEC 60947-2 (motor protection circuit breaker)			A		
• IEC 60947-4-1 (motor starter)			AC-3		
Trip class CLASS	Acc. to IEC 60947-4-1		10		
DC short-circuit breaking capacity (time constant t = 5 ms)					
• 1 conducting path 150 V DC		kA	10		
• 2 conducting paths in series 300 V DC		kA	10		
• 3 conducting paths in series 450 V DC		kA	10		
Power loss P_v for each motor protection circuit breaker Dependent on the rated current I_n (upper setting range) $R_{percurrentpath} = \frac{P}{I^2 x3}$	I_n: 0.16 ... 0.63 A	W	5		
	I_n: 0.8 ... 6.3 A	W	6		
	I_n: 8 ... 16 A	W	7		
	I_n: 16 A	W	—		7
	I_n: 20 ... 25 A	W	—		8
	I_n: 28 ... 32 A	W	—		11
	I_n: 36 ... 40 A	W	—		14
Shock resistance	Acc. to IEC 60068-2-27	g/ms	25/11 (square and sine pulse)		
Degree of protection	Acc. to IEC 60529		IP20		
Touch protection	Acc. to EN 50274		Finger-safe		
Temperature compensation	Acc. to IEC 60947-4-1	°C	–20 ... +60		
Phase failure sensitivity	Acc. to IEC 60947-4-1		Yes		
Explosion protection – safe operation of motors with "increased safety" type of protection			Yes for 3RV20		
EC type test certificate number according todirective 94/9/EC (ATEX)			On request		
Isolating function	Acc. to IEC 60947-2		Yes		
Main and EMERGENCY-STOP switch characteristics (with corresponding accessories)	Acc. to IEC 60204-1		Yes		
Protective separation between main and auxiliary circuits, required for PELV applications	Acc. to EN 60947-1				
• Up to 400 V + 10 %			Yes		
• Up to 415 V + 5 % (higher voltages on request)			Yes		
Permissible mounting positions			Any, acc. to IEC 60447 start command "I" right-hand side or top		
Mechanical endurance		Operating cycles	100 000		
Electrical endurance		Operating cycles	100 000		
Max. switching frequency per hour (motor starts)		1/h	15		

Rated data of the auxiliary switches and signaling switches

		Lateral auxiliary switch with 1 NO + 1 NC, 2 NO, 2 NC, 2 NO + 2 NC	Signaling switch	Transverse auxiliary switch with 1 CO	Transverse auxiliary switch with 1 NO + 1 NC, 2 NO
Max. Rated voltage					
• Acc. to NEMA (UL)	V AC	600			250
• Acc. to NEMA (CSA)	V AC	600			250
Uninterrupted current	A	10	10	5	2.5
Switching capacity		1 NO + 1 NC, 2 NO, 2 NC: A600, Q300;2 NO + 2 NC: A300, Q300	A600, Q300	B600, R300	C300, R300

Front transverse auxiliary switches

		Switching capacity for different voltages: 1 CO	Switching capacity for different voltages: 1 NO + 1 NC, 2 NO
Rated operational current I_e			
• At AC-15, alternating voltage			
- 24 V	A	4	2
- 230 V	A	3	0.5
- 400 V	A	1.5	—
- 690 V	A	0.5	—
• At AC-12 = I_{th}, alternating voltage			
- 24 V	A	10	2.5
- 230 V	A	10	2.5
- 400 V	A	10	—
- 690 V	A	10	—
• At DC-13, direct voltage *L/R* 200 ms			
- 24 V	A	1	1
- 48 V	A	—	0.3
- 60 V	A	—	0.15
- 110 V	A	0.22	—
- 220 V	A	0.1	—
Minimum load capacity	V	17	
	mA	1	

Front transverse solid-state compatible auxiliary switches

			Switching capacity for different voltages: 1 CO
Rated operational voltage U_e	Alternating voltage	V	125
Rated operational current I_e/AC-14	at U_e = 125 V	A	0.1
Rated operational voltage U_e	Direct voltage *L/R* 200 ms	V	60
Rated operational current I_e/DC-13	at U_e = 60 V	A	0.3
Minimum load capacity		V	5
		mA	1

Lateral auxiliary switches with signaling switch

		Switching capacity for different voltages: Lateral auxiliary switch with 1 NO + 1 NC, 2 NO, 2 NC, 2 NO + 2 NCSignaling switch
Rated operational current I_e		
• At AC-15, alternating voltage		
- 24 V	A	6
- 230 V	A	4
- 400 V	A	3
- 690 V	A	1
• At AC-12 = I_{th}, alternating voltage		
- 24 V	A	10
- 230 V	A	10
- 400 V	A	10
- 690 V	A	10
• At DC-13, direct voltage *L/R* 200 ms		
- 24 V	A	2
- 110 V	A	0.5
- 220 V	A	0.25
- 440 V	A	0.1
Minimum load capacity	V	17
	mA	1

SIRIUS 3RV2 Motor Protection Circuit Breakers up to 40 A

General data

Auxiliary releases

		Undervoltage releases	Shunt releases
Power consumption			
• During pick-up			
- AC voltages	VA/W	20.2/13	20.2/13
- DC voltages	W	20	13 ... 80
• During uninterrupted duty			
- AC voltages	VA/W	7.2/2.4	—
- DC voltages	W	2.1	—
Response voltage			
• Tripping	V	0.35 ... 0.7 x U_s	0.7 ... 1.1 x U_s
• Pickup	V	0.85 ... 1.1 x U_s	—
Opening time maximum	ms	20	

Short-circuit protection for auxiliary and control circuits

Melting fuses operational class gG	A	10
Miniature circuit breakers C characteristic	A	6 (prospective short-circuit current < 0.4 kA)

Conductor cross-sections of main circuit

Type		**3RV2. 11**	**3RV2. 21**	**3RV27 11, 3RV28 11**
Size		S00	S0	S00
Connection type		**Screw terminals**		
Terminal screw		M3, Pozidriv size 2	M4, Pozidriv size 2	M4, Pozidriv size 2
Operating devices	mm	ø 5 ... 6	ø 5 ... 6	ø 5 ... 6
Prescribed tightening torque	Nm	0.8 ... 1.2	2 ... 2.5	2.5 ... 3
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected				
• Solid	mm²	2 x (0.75 ... 2.5)[1], 2 x 4	2 x (1 ... 2.5)[1], 2 x (2.5 ... 10)[1]	1 ... 10, max. 2 x 10
• Stranded	mm²	2 x (0.75 ... 2.5)[1], 2 x 4	2 x (1 ... 2.5)[1], 2 x (2.5 ... 10)[1]	1.5 ... 25, max. 10 + 25
• Finely stranded with end sleeves (DIN 46228 T1)	mm²	2 x (0.5 ... 1.5)[1], 2 x (0.75 ... 2.5)[1]	2 x (1 ... 2.5)[1], 2 x (2.5 ... 6)[1],1 x 10	1 ... 16, max. 6 + 16
• AWG cables, solid or stranded	AWG	2 x (18 ... 14)[1], 2 x 12	2 x (16 ... 12)[1], 2 x (14 ... 8)[1]	2 x (14 ... 10)
Connection type		**Spring-type terminals**		
Operating devices	mm	3.0 x 0.5 and 3.5 x 0.5		
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected				
• Solid	mm²	2 x (0.5 ... 4)	2 x (1 ... 10)	—
• Finely stranded without end sleeve	mm²	2 x (0.5 ... 2.5)	2 x (1 ... 6)	—
• Finely stranded with end sleeves (DIN 46228 T1)	mm²	2 x (0.5 ... 2.5)	2 x (1 ... 6)	—
• AWG cables, solid or stranded	AWG	2 x (20 ... 12)	2 x (18 ... 8)	—
Max. external diameter of the conductor insulation	mm	3.6	3.6	—

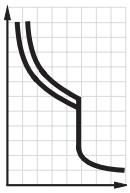
Conductor cross-sections for auxiliary and control circuits

Connection type		**Screw terminals**
Terminal screw		M3, Pozidriv size 2
Operating devices	mm	ø 5 ... 6
Prescribed tightening torque	Nm	0.8 ... 1.2
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected		
• Solid or stranded	mm²	2 x (0.5 ... 1.5)[1], 2 x (0.75 ... 2.5)[1]
• Finely stranded with end sleeves (DIN 46228 T1)	mm²	2 x (0.5 ... 1.5)[1], 2 x (0.75 ... 2.5)[1]
• AWG cables, solid or stranded	AWG	2 x (18 ... 14)[1]; 2 x (20 ... 16)[1]
Connection type		**Spring-type terminals**
Operating devices	mm	3.0 x 0.5 and 3.5 x 0.5
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected		
• Solid	mm²	2 x (0.5 ... 2.5)
• Finely stranded without end sleeve	mm²	2 x (0.5 ... 1.5)
• Finely stranded with end sleeves (DIN 46228 T1)	mm²	2 x (0.5 ... 1.5)
• AWG cables, solid or stranded	AWG	2 x (20 ... 14)
Max. external diameter of the conductor insulation	mm	3.6

1) 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.

Selection and ordering data

CLASS 10, without auxiliary switches



3RV20 11-0AA10

3RV20 11-0EA20

3RV20 21-4AA10

3RV20 21-4AA20

Rated current	Suitable for three-phase induction motors[1] with *P*	Setting range for thermal overload release	Instantaneous overcurrent release	Short-circuit breaking capacity at 415 V AC	Screw terminals	Spring-type terminals
I_n			$I >$	I_{cu}	Order No.	Order No.
A	kW	A	A	kA		
Size S00						
0.16	0.04	0.11 ... 0.16	2.1	100	**3RV20 11-0AA10**	**3RV20 11-0AA20**
0.2	0.06	0.14 ... 0.2	2.6	100	**3RV20 11-0BA10**	**3RV20 11-0BA20**
0.25	0.06	0.18 ... 0.25	3.3	100	**3RV20 11-0CA10**	**3RV20 11-0CA20**
0.32	0.09	0.22 ... 0.32	4.2	100	**3RV20 11-0DA10**	**3RV20 11-0DA20**
0.4	0.09	0.28 ... 0.4	5.2	100	**3RV20 11-0EA10**	**3RV20 11-0EA20**
0.5	0.12	0.35 ... 0.5	6.5	100	**3RV20 11-0FA10**	**3RV20 11-0FA20**
0.63	0.18	0.45 ... 0.63	8.2	100	**3RV20 11-0GA10**	**3RV20 11-0GA20**
0.8	0.18	0.55 ... 0.8	10	100	**3RV20 11-0HA10**	**3RV20 11-0HA20**
1	0.25	0.7 ... 1	13	100	**3RV20 11-0JA10**	**3RV20 11-0JA20**
1.25	0.37	0.9 ... 1.25	16	100	**3RV20 11-0KA10**	**3RV20 11-0KA20**
1.6	0.55	1.1 ... 1.6	21	100	**3RV20 11-1AA10**	**3RV20 11-1AA20**
2	0.75	1.4 ... 2	26	100	**3RV20 11-1BA10**	**3RV20 11-1BA20**
2.5	0.75	1.8 ... 2.5	33	100	**3RV20 11-1CA10**	**3RV20 11-1CA20**
3.2	1.1	2.2 ... 3.2	42	100	**3RV20 11-1DA10**	**3RV20 11-1DA20**
4	1.5	2.8 ... 4	52	100	**3RV20 11-1EA10**	**3RV20 11-1EA20**
5	1.5	3.5 ... 5	65	100	**3RV20 11-1FA10**	**3RV20 11-1FA20**
6.3	2.2	4.5 ... 6.3	82	100	**3RV20 11-1GA10**	**3RV20 11-1GA20**
8	3	5.5 ... 8	104	100	**3RV20 11-1HA10**	**3RV20 11-1HA20**
10	4	7 ... 10	130	100	**3RV20 11-1JA10**	**3RV20 11-1JA20**
12.5	5.5	9 ... 12.5	163	100	**3RV20 11-1KA10**	**3RV20 11-1KA20**
16	7.5	11 ... 16	208	55	**3RV20 11-4AA10**	**3RV20 11-4AA20**
Size S0						
16	7.5	11 ... 16	208	55	**3RV20 21-4AA10**	**3RV20 21-4AA20**
20	7.5	14 ... 20	260	55	**3RV20 21-4BA10**	**3RV20 21-4BA20**
22	11	17 ... 22	286	55	**3RV20 21-4CA10**	**3RV20 21-4CA20**
25	11	20 ... 25	325	55	**3RV20 21-4DA10**	**3RV20 21-4DA20**
28	15	23 ... 28	364	55	**3RV20 21-4NA10**	**3RV20 21-4NA20**
32	15	27 ... 32	400	55	**3RV20 21-4EA10**	**3RV20 21-4EA20**
36	18.5	30 ... 36	432	20	**3RV20 21-4PA10**	—
40	18.5	34 ... 40	480	20	**3RV20 21-4FA10**	—

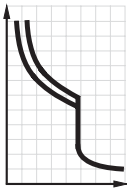
1) Guide value for 4-pole standard motors at 50 Hz 415 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Auxiliary switches can be ordered separately (see "Mountable accessories").

For motor protection with overload relay function

Selection and ordering data

CLASS 10, with overload relay function (automatic RESET), without auxiliary switches



3RV21 11-0FA10

3RV21 21-4BA10

Rated current	Suitable for induction motors[1] with *P*	Setting range for thermal overload release	Instantaneous overcurrent release	Short-circuit breaking capacity at 415 V AC	Screw terminals ⊕
I_n		⊏	I >	I_{cu}	Order No.
A	kW	A	A	kA	
Size S00[2]					
0.16	0.04	0.11 ... 0.16	2.1	100	**3RV21 11-0AA10**
0.2	0.06	0.14 ... 0.2	2.6	100	**3RV21 11-0BA10**
0.25	0.06	0.18 ... 0.25	3.3	100	**3RV21 11-0CA10**
0.32	0.09	0.22 ... 0.32	4.2	100	**3RV21 11-0DA10**
0.4	0.09	0.28 ... 0.4	5.2	100	**3RV21 11-0EA10**
0.5	0.12	0.35 ... 0.5	6.5	100	**3RV21 11-0FA10**
0.63	0.18	0.45 ... 0.63	8.2	100	**3RV21 11-0GA10**
0.8	0.18	0.55 ... 0.8	10	100	**3RV21 11-0HA10**
1	0.25	0.7 ... 1	13	100	**3RV21 11-0JA10**
1.25	0.37	0.9 ... 1.25	16	100	**3RV21 11-0KA10**
1.6	0.55	1.1 ... 1.6	21	100	**3RV21 11-1AA10**
2	0.75	1.4 ... 2	26	100	**3RV21 11-1BA10**
2.5	0.75	1.8 ... 2.5	33	100	**3RV21 11-1CA10**
3.2	1.1	2.2 ... 3.2	42	100	**3RV21 11-1DA10**
4	1.5	2.8 ... 4	52	100	**3RV21 11-1EA10**
5	1.5	3.5 ... 5	65	100	**3RV21 11-1FA10**
6.3	2.2	4.5 ... 6.3	82	100	**3RV21 11-1GA10**
8	3	5.5 ... 8	104	100	**3RV21 11-1HA10**
10	4	7 ... 10	130	100	**3RV21 11-1JA10**
12.5	5.5	9 ... 12.5	163	100	**3RV21 11-1KA10**
16	7.5	11 ... 16	208	55	**3RV21 11-4AA10**
Size S0[2]					
16	7.5	11 ... 16	208	55	**3RV21 21-4AA10**
20	7.5	14 ... 20	260	55	**3RV21 21-4BA10**
22	11	17 ... 22	286	55	**3RV21 21-4CA10**
25	11	20 ... 25	325	55	**3RV21 21-4DA10**
28	15	23 ... 28	364	55	**3RV21 21-4NA10**
32	15	27 ... 32	400	55	**3RV21 21-4EA10**

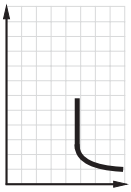
1) Guide value for 4-pole standard motors at 50 Hz 415 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

2) Accessories for mounting on the right and 3RV29 15 three-phase busbars cannot be used.

Auxiliary switches can be ordered separately (see “Mountable accessories”).

Selection and ordering data

Without auxiliary switches



3RV23 11-4AC10

3RV23 11-0JC20

3RV23 21-4AC10

3RV23 21-4AC20

Rated current	Suitable for induction motors[1] with *P*	Thermal overload release[2]	Instantaneous overcurrent release	Short-circuit breaking capacity at 415 V AC	Screw terminals	Spring-type terminals
I_n			*I* >	I_{cu}	Order No.	Order No.
A	kW	A	A	kA		
Size S00						
0.16	0.04	Without	2.1	100	**3RV23 11-0AC10**	**3RV23 11-0AC20**
0.2	0.06	Without	2.6	100	**3RV23 11-0BC10**	**3RV23 11-0BC20**
0.25	0.06	Without	3.3	100	**3RV23 11-0CC10**	**3RV23 11-0CC20**
0.32	0.09	Without	4.2	100	**3RV23 11-0DC10**	**3RV23 11-0DC20**
0.4	0.09	Without	5.2	100	**3RV23 11-0EC10**	**3RV23 11-0EC20**
0.5	0.12	Without	6.5	100	**3RV23 11-0FC10**	**3RV23 11-0FC20**
0.63	0.18	Without	8.2	100	**3RV23 11-0GC10**	**3RV23 11-0GC20**
0.8	0.18	Without	10	100	**3RV23 11-0HC10**	**3RV23 11-0HC20**
1	0.25	Without	13	100	**3RV23 11-0JC10**	**3RV23 11-0JC20**
1.25	0.37	Without	16	100	**3RV23 11-0KC10**	**3RV23 11-0KC20**
1.6	0.55	Without	21	100	**3RV23 11-1AC10**	**3RV23 11-1AC20**
2	0.75	Without	26	100	**3RV23 11-1BC10**	**3RV23 11-1BC20**
2.5	0.75	Without	33	100	**3RV23 11-1CC10**	**3RV23 11-1CC20**
3.2	1.1	Without	42	100	**3RV23 11-1DC10**	**3RV23 11-1DC20**
4	1.5	Without	52	100	**3RV23 11-1EC10**	**3RV23 11-1EC20**
5	1.5	Without	65	100	**3RV23 11-1FC10**	**3RV23 11-1FC20**
6.3	2.2	Without	82	100	**3RV23 11-1GC10**	**3RV23 11-1GC20**
8	3	Without	104	100	**3RV23 11-1HC10**	**3RV23 11-1HC20**
10	4	Without	130	100	**3RV23 11-1JC10**	**3RV23 11-1JC20**
12.5	5.5	Without	163	100	**3RV23 11-1KC10**	**3RV23 11-1KC20**
16	7.5	Without	208	55	**3RV23 11-4AC10**	**3RV23 11-4AC20**
Size S0						
16	7.5	Without	208	55	**3RV23 21-4AC10**	**3RV23 21-4AC20**
20	7.5	Without	260	55	**3RV23 21-4BC10**	**3RV23 21-4BC20**
22	11	Without	286	55	**3RV23 21-4CC10**	**3RV23 21-4CC20**
25	11	Without	325	55	**3RV23 21-4DC10**	**3RV23 21-4DC20**
28	15	Without	364	55	**3RV23 21-4NC10**	**3RV23 21-4NC20**
32	15	Without	400	55	**3RV23 21-4EC10**	**3RV23 21-4EC20**
36	18.5	Without	432	20	**3RV23 21-4PC10**	—
40	18.5	Without	480	20	**3RV23 21-4FC10**	—

1) Guide value for 4-pole standard motors at 50 Hz 415 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

2) For overload protection of the motors, appropriate overload relays must be used.

Auxiliary switches can be ordered separately (see “Mountable accessories”).

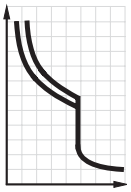
SIRIUS 3RV2 Motor Protection Circuit Breakers up to 40 A

For transformer protection

Selection and ordering data

CLASS 10, without auxiliary switches

Motor protection circuit breakers for the protection of transformers with high inrush current



3RV24 11-0AA10

3RV24 11-0AA20

3RV24 21-4AA10

3RV24 21-4AA20

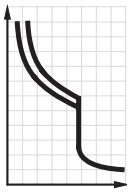
Rated current	Setting range for thermal overload release	Instantaneous overcurrent release	Short-circuit breaking capacity at 415 V AC	Screw terminals	Spring-type terminals
I_n		$I >$	I_{cu}	Order No.	Order No.
A	A	A	kA		
Size S00					
0.16	0.11 ... 0.16	3.3	100	**3RV24 11-0AA10**	**3RV24 11-0AA20**
0.2	0.14 ... 0.2	4.2	100	**3RV24 11-0BA10**	**3RV24 11-0BA20**
0.25	0.18 ... 0.25	5.2	100	**3RV24 11-0CA10**	**3RV24 11-0CA20**
0.32	0.22 ... 0.32	6.5	100	**3RV24 11-0DA10**	**3RV24 11-0DA20**
0.4	0.28 ... 0.4	8.2	100	**3RV24 11-0EA10**	**3RV24 11-0EA20**
0.5	0.35 ... 0.5	10	100	**3RV24 11-0FA10**	**3RV24 11-0FA20**
0.63	0.45 ... 0.63	13	100	**3RV24 11-0GA10**	**3RV24 11-0GA20**
0.8	0.55 ... 0.8	16	100	**3RV24 11-0HA10**	**3RV24 11-0HA20**
1	0.7 ... 1	21	100	**3RV24 11-0JA10**	**3RV24 11-0JA20**
1.25	0.9 ... 1.25	26	100	**3RV24 11-0KA10**	**3RV24 11-0KA20**
1.6	1.1 ... 1.6	33	100	**3RV24 11-1AA10**	**3RV24 11-1AA20**
2	1.4 ... 2	42	100	**3RV24 11-1BA10**	**3RV24 11-1BA20**
2.5	1.8 ... 2.5	52	100	**3RV24 11-1CA10**	**3RV24 11-1CA20**
3.2	2.2 ... 3.2	65	100	**3RV24 11-1DA10**	**3RV24 11-1DA20**
4	2.8 ... 4	82	100	**3RV24 11-1EA10**	**3RV24 11-1EA20**
5	3.5 ... 5	104	100	**3RV24 11-1FA10**	**3RV24 11-1FA20**
6.3	4.5 ... 6.3	130	100	**3RV24 11-1GA10**	**3RV24 11-1GA20**
8	5.5 ... 8	163	100	**3RV24 11-1HA10**	**3RV24 11-1HA20**
10	7 ... 10	208	100	**3RV24 11-1JA10**	**3RV24 11-1JA20**
12.5	9 ... 12.5	260	100	**3RV24 11-1KA10**	**3RV24 11-1KA20**
16	11 ... 16	286	55	**3RV24 11-4AA10**	**3RV24 11-4AA20**
Size S0					
16	11 ... 16	286	55	**3RV24 21-4AA10**	**3RV24 21-4AA20**
20	14 ... 20	325	55	**3RV24 21-4BA10**	**3RV24 21-4BA20**
22	17 ... 22	364	55	**3RV24 21-4CA10**	**3RV24 21-4CA20**
25	20 ... 25	400	55	**3RV24 21-4DA10**	**3RV24 21-4DA20**

Auxiliary switches can be ordered separately
(see “Mountable accessories”).

Selection and ordering data

Without auxiliary switches

Circuit breakers for system protection and non-motor loads according to UL/CSA



3RV27 11-0AD10

Rated current[1]	Thermal overload release (non-adjustable)	Instantaneous overcurrent release	Short-circuit breaking capacity at 480 Y/277 V AC	Screw terminals
I_n[1]		$I >$	I_{cc}	Order No.
A	A	A	kA	
Size S00				
0.16	0.16	2.1	65	**3RV27 11-0AD10**
0.2	0.2	2.6	65	**3RV27 11-0BD10**
0.25	0.25	3.3	65	**3RV27 11-0CD10**
0.32	0.32	4.2	65	**3RV27 11-0DD10**
0.4	0.4	5.2	65	**3RV27 11-0ED10**
0.5	0.5	6.5	65	**3RV27 11-0FD10**
0.63	0.63	8.2	65	**3RV27 11-0GD10**
0.8	0.8	10	65	**3RV27 11-0HD10**
1	1	13	65	**3RV27 11-0JD10**
1.25	1.25	16	65	**3RV27 11-0KD10**
1.6	1.6	21	65	**3RV27 11-1AD10**
2	2	26	65	**3RV27 11-1BD10**
2.5	2.5	33	65	**3RV27 11-1CD10**
3.2	3.2	42	65	**3RV27 11-1DD10**
4	4	52	65	**3RV27 11-1ED10**
5	5	65	65	**3RV27 11-1FD10**
6.3	6.3	82	65	**3RV27 11-1GD10**
8	8	104	65	**3RV27 11-1HD10**
10	10	130	65	**3RV27 11-1JD10**
12.5	12.5	163	65	**3RV27 11-1KD10**
15	15	208	65	**3RV27 11-4AD10**

1) Rated value 100 % according to UL 489 and IEC 60947-2 (“100 % rated breaker”).

Lateral and transverse auxiliary switches can be ordered separately (see “Mountable accessories”).

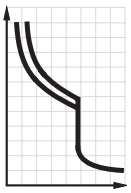
SIRIUS 3RV2 Motor Protection Circuit Breakers up to 40 A

For transformer protection according to UL 489/CSA C22.2 No. 5-02

Selection and ordering data

Without auxiliary switches

Circuit breakers for system and transformer protection according to UL/CSA, specially designed for transformers with high inrush current



3RV28 11-0AD10

Rated current[1]	Thermal overload release (non-adjustable)	Instantaneous overcurrent release	Short-circuit breaking capacity at 480 Y/277 V AC	Screw terminals
I_n[1]		$I >$	I_{bc}	Order No.
A	A	A	kA	
Size S00				
0.16	0.16	3.3	65	**3RV28 11-0AD10**
0.2	0.2	4.2	65	**3RV28 11-0BD10**
0.25	0.25	5.2	65	**3RV28 11-0CD10**
0.32	0.32	6.5	65	**3RV28 11-0DD10**
0.4	0.4	8.2	65	**3RV28 11-0ED10**
0.5	0.5	10	65	**3RV28 11-0FD10**
0.63	0.63	13	65	**3RV28 11-0GD10**
0.8	0.8	16	65	**3RV28 11-0HD10**
1	1	21	65	**3RV28 11-0JD10**
1.25	1.25	26	65	**3RV28 11-0KD10**
1.6	1.6	33	65	**3RV28 11-1AD10**
2	2	42	65	**3RV28 11-1BD10**
2.5	2.5	52	65	**3RV28 11-1CD10**
3.2	3.2	65	65	**3RV28 11-1DD10**
4	4	82	65	**3RV28 11-1ED10**
5	5	104	65	**3RV28 11-1FD10**
6.3	6.3	130	65	**3RV28 11-1GD10**
8	8	163	65	**3RV28 11-1HD10**
10	10	208	65	**3RV28 11-1JD10**
12.5	12.5	260	65	**3RV28 11-1KD10**
15	15	286	65	**3RV28 11-4AD10**

1) Rated value 100 % according to UL 489 and IEC 60947-2 ("100 % rated breaker").

Lateral and transverse auxiliary switches can be ordered separately (see "Mountable accessories").

Overview

Mounting location and function

The 3RV2 motor protection circuit breakers have three main contact -elements. In order to achieve maximum flexibility, auxiliary switches, signaling switches, auxiliary releases and isolator modules can be supplied separately.

These components can be fitted as required on the motor protection circuit breakers without using tools.

For overview graphic see page 4/6.

Front side *Note:* • *A maximum of 4 auxiliary contacts with auxiliary switches can be attached to each motor protection circuit breaker.*	**Transverse auxiliary switches, solid-state compatible transverse auxiliary switches** 1 NO + 1 NC or 2 NO or 1 CO	An auxiliary switch block can be inserted transversely on the front. The overall width of the motor protection circuit breakers remains unchanged.
Left-hand side *Notes:* • *A maximum of 4 auxiliary contactswith auxiliary switches can be attached to each motor protection circuit breaker.* • *Auxiliary switches (2 contacts) andsignal switches can be mounted separately or together.* • *The signaling switch cannot be used for the 3RV27 and 3RV28 circuit breakers.*	**Lateral auxiliary switches (2 contacts)** 1 NO + 1 NC or 2 NO or 2 NC	One of the three lateral auxiliary switches can be mounted on the left side per motor protection circuit breaker. The contacts of the auxiliary switch close and open together with the main contacts of the motor protection circuit breaker. The width of the lateral auxiliary switch with 2 contacts is 9 mm.
	Lateral auxiliary switches (4 contacts) 2 NO + 2 NC	One lateral auxiliary switch with four contacts can be mounted on the left side per motor protection circuit breaker. The contacts of the auxiliary switch close and open together with the main contacts of the motor protection circuit breaker. The width of the lateral auxiliary switch with 4 contacts is 18 mm.
	Signaling switches Tripping 1 NO + 1 NC Short-circuit 1 NO + 1 NC	One signaling switch can be mounted on the left side of each motor protection circuit breaker. The signaling switch has two contact systems. One contact system always signals tripping irrespective of whether this was caused by a short-circuit, an overload or an auxiliary release. The other contact system only switches in the event of a short-circuit. There is no signaling as a result of switching off with the handle. In order to be able to switch on the motor protection circuit breaker again after a short-circuit, the signaling switch must be reset manually after the error cause has been eliminated. The overall width of the signaling switch is 18 mm.
Right-hand side *Notes:* • *One auxiliary release can be mounted per motor protection circuit breaker.* • *Accessories cannot be mounted at the right-hand side of the 3RV21 motor protection circuit breakers for motor protection with overload relay function.*	**Auxiliary releases**	
	Shunt releases	For remote-controlled tripping of the motor protection circuit breaker. The release coil should only be energized for short periods (see circuit diagrams).
	or	
	Undervoltage releases	Trips the motor protection circuit breaker when the voltage is interrupted and prevents the motor from being restarted accidentally when the voltage is restored. Used for remote-controlled tripping of the motor protection circuit breaker. Particularly suitable for EMERGENCY-STOP disconnection by way of the corresponding EMERGENCY-STOP pushbutton according to EN 60204-1.
	or	
	Undervoltage releases withleading auxiliary contacts 2 NO	Function and use as for the undervoltage release without leading auxiliary contacts, but with the following additional function: the auxiliary contacts will open in switch position OFF to deenergize the coil of the undervoltage release, thus interrupting energy consumption. In the “tripped” position, these auxiliary contacts are not guaranteed to open. The leading contacts permit the motor protection circuit breaker to reclose. The overall width of the auxiliary release is 18 mm.
Top *Notes:* • *The isolator module cannot be used for the 3RV27 and 3RV28 circuit breakers.* • *The isolator module covers the terminal screws of the transverse auxiliary switch. If the isolator module is used, we therefore recommend that either the lateral auxiliary switches be fitted or that the isolator module not be mounted until the auxiliary switch has been wired.*	**Isolator modules**	Isolator modules can be mounted to the upper terminal end of the motor protection circuit breakers. The supply cable is connected to the motor protection circuit breaker through the isolator module. The plug can only be unplugged when the motor protection circuit breaker is open and isolates all 3 poles of the motor protection circuit breaker from the network. The shock-protected isolation point is clearly visible and secured with a padlock to prevent reinsertion of the plug.

For a complete overview of which accessories can be used for the various motor protection circuit breakers see page 4/2.

Accessories
Mountable accessories

Selection and ordering data

	Version	For motor protection circuit breakers	Screw terminals	Spring-type terminals
		Size	Order No.	Order No.
Auxiliary switches[1]				
 3RV29 01-1E	**Transverse auxiliary switches** for front mounting			
	1 CO	S00, S0	**3RV29 01-1D**	—
	1 NO + 1 NC		**3RV29 01-1E**	**3RV29 01-2E**
	2 NO		**3RV29 01-1F**	**3RV29 01-2F**
 3RV29 01-2E	**Solid-state compatible transverse auxiliary switches** mountable on the front,for operation in dusty atmosphere and in solid-state circuits with low operating currents			
 3RV29 01-1G	1 CO	S00, S0	**3RV29 01-1G**	—
 3RV29 01-0H	**Covers for transverseauxiliary switches**	S00, S0	**3RV29 01-0H**	—
 3RV29 01-1A  3RV29 01-2A	**Lateral auxiliary switches** mountable on the left			
	1 NO + 1 NC	S00, S0	**3RV29 01-1A**	**3RV29 01-2A**
	2 NO		**3RV29 01-1B**	**3RV29 01-2B**
	2 NC		**3RV29 01-1C**	**3RV29 01-2C**
	2 NO + 2 NC		**3RV29 01-1J**	—
Signaling switches[2]				
 3RV29 21-1M  3RV29 21-2M	**Signaling switches** One signaling switch can be mounted on the left per motor protection circuit breaker. Separate tripped and short-circuit alarms, 1 NO + 1 NC each	S00, S0	**3RV29 21-1M**	**3RV29 21-2M**
Isolator modules[2]				
 3RV29 28-1A with padlock	**Isolator modules** Visible isolating distance for isolating individual motor protection circuit breakers from the network, lockable in disconnected position	S00, S0	**3RV29 28-1A**	—

1) Each motor protection circuit breaker can be fitted with one transverse and one lateral auxiliary switch. The lateral auxiliary switch with 2 NO + 2 NC is used without a transverse auxiliary switch.

2) This accessory cannot be used for the 3RV27 and 3RV28 circuit breakers.


3RV29 02-1AV0


3RV29 02-2AV0


3RV29 22-1CP0


3RV29 02-2DB0

Rated control supply voltage U_s					For motor protection circuit breaker	Screw terminals	Spring-type terminals
AC 50 Hz	AC 60 Hz	AC 50/60 Hz 100 % ON period[1]	AC/DC 50/60 Hz, DC 5 s ON period[2]	DC			
						Order No.	Order No.
V	V	V	V	V	Size		
Auxiliary releases[3]							
Undervoltage releases							
—	—	—	—	24	S00, S0	**3RV29 02-1AB4**	—
24	—	—	—	—	S00, S0	**3RV29 02-1AB0**	—
110	120	—	—	—	S00, S0	**3RV29 02-1AF0**	—
—	208	—	—	—	S00, S0	**3RV29 02-1AM1**	—
230	240	—	—	—	S00, S0	**3RV29 02-1AP0**	**3RV29 02-2AP0**
400	440	—	—	—	S00, S0	**3RV29 02-1AV0**	**3RV29 02-2AV0**
415	480	—	—	—	S00, S0	**3RV29 02-1AV1**	—
500	60 0	—	—	—	S00, S0	**3RV29 02-1AS0**	—
Undervoltage releases with leading auxiliary contacts 2 NO							
230	240	—	—	—	S00, S0	**3RV29 22-1CP0**	**3RV29 22-2CP0**
400	440	—	—	—	S00, S0	**3RV29 22-1CV0**	**3RV29 22-2CV0**
415	480	—	—	—	S00, S0	**3RV29 22-1CV1**	**3RV29 22-2CV1**
Shunt releases							
—	—	20 ... 24	20 ... 70	—	S00, S0	**3RV29 02-1DB0**	**3RV29 02-2DB0**
—	—	90 ... 110	70 ... 190	—	S00, S0	**3RV29 02-1DF0**	**3RV29 02-2DF0**
—	—	210 ... 240	190 ... 330	—	S00, S0	**3RV29 02-1DP0**	**3RV29 02-2DP0**
—	—	350 ... 415	330 ... 500	—	S00, S0	**3RV29 02-1DV0**	—
—	—	500	500	—	S00, S0	**3RV29 02-1DS0**	—

1) The voltage range is valid for 100 % (infinite) ON period. The response voltage lies at 0.9 of the lower limit of the voltage range.

2) The voltage range is valid for 5 s ON period at AC 50/60 Hz and DC. The response voltage lies at 0.85 of the lower limit of the voltage range.

3) One auxiliary release can be mounted on the right per motor protection circuit breaker (does not apply to 3RV21 motor protection circuit breakers with overload relay function).

Accessories
Busbar accessories

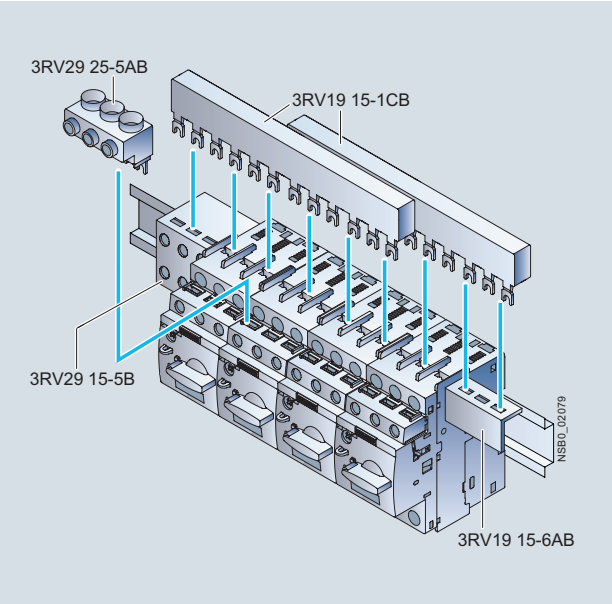
Overview

Insulated three-phase busbar system

Three-phase busbar systems provide an easy, time-saving and clearly arranged means of feeding 3RV2 motor protection circuit breakers with screw terminals. They can be used for the different types of motor protection circuit breakers up to 32 A. The 3RV19 15 three-phase busbar systems are generally unsuitable for the 3RV21 motor protection circuit breakers for motor protection with overload relay function and for the 3RV27 and 3RV28 circuit breakers according to UL 489 / CSA C22.2 No.5-02.

The busbars are suitable for between 2 and 5 motor protection circuit breakers. However, any kind of extension is possible by clamping the tags of an additional busbar (rotated by 180°) underneath the terminals of the respective last motor protection circuit breaker.

A combination of motor protection circuit breakers of different sizes is possible. The motor protection circuit breakers are supplied by appropriate feeder terminals.



SIRIUS three-phase busbar system size S00/S0

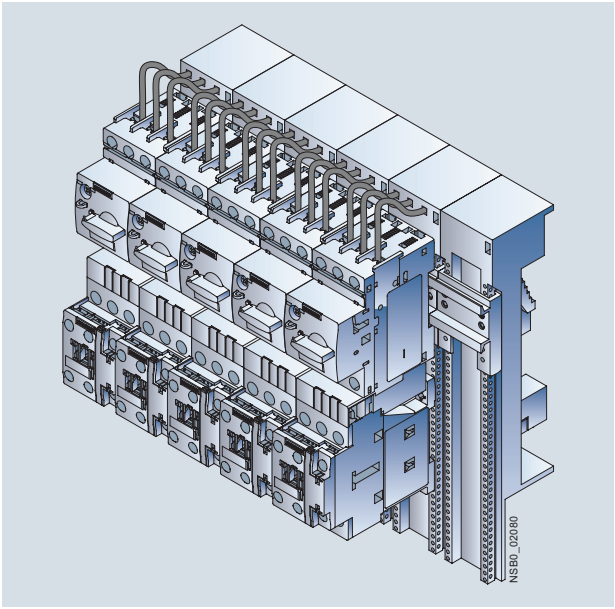
The three-phase busbar systems are finger-safe. They are designed for any short-circuit stress which can occur at the output side of connected motor protection circuit breakers.

8US busbar adapters for 60 mm systems

The motor protection circuit breakers are mounted directly with the aid of busbar adapters on busbar systems with 60 mm center-to-center clearance in order to save space and to reduce infeed times and costs.

The busbar adapters for busbar systems with 60 mm center-to-center clearance are suitable for copper busbars with a width of 12 mm to 30 mm. The busbars can be 5 mm or 10 mm thick.

The motor protection circuit breakers are snapped onto the adapter and connected on the line side. This prepared unit is then plugged directly onto the busbar system, and is thus connected both mechanically and electrically at the same time.



SIRIUS load feeders with busbar adapters snapped onto busbars

Selection and ordering data

	Modular spacing	Number of motor protection circuit breakers that can be connected			Rated current I_n at 690 V	For motor protection circuit breakers	Order No.
		Without lateral accessories	Including lateral auxiliary switch	Including auxiliary release			
	mm				A	Size	
Three-phase busbars[1)2)]							
	For feeding several motor protection circuit breakers with screw terminals, mounted side by side on standard mounting rails, insulated, with touch protection						
 3RV19 15-1AB	45	2	—	—	63	S00, S0[1)]	**3RV19 15-1AB**
		3				S00, S0[1)]	**3RV19 15-1BB**
		4				S00, S0[1)]	**3RV19 15-1CB**
		5				S00, S0[1)]	**3RV19 15-1DB**
 3RV19 15-1BB	55	—	2	—	63	S00, S0[1)]	**3RV19 15-2AB**
			3			S00, S0[1)]	**3RV19 15-2BB**
			4			S00, S0[1)]	**3RV19 15-2CB**
			5			S00, S0[1)]	**3RV19 15-2DB**
 3RV19 15-1CB	63	—	—	2	63	S00, S0[1)]	**3RV19 15-3AB**
				4		S00, S0[1)]	**3RV19 15-3CB**
 3RV19 15-1DB							

1) Not suitable for 3RV21 motor protection circuit breakers for motor protection with overload relay function and for 3RV27 and 3RV28 circuit breakers according to UL 489 / CSA C22.2 No.5-02.

2) Approved for motor protection circuit breakers with $I_n \leq 32$ A.

	Conductor cross-section			Tightening torque	For motor protection circuit breakers	Order No.
	Solid or stranded	Finely stranded with end sleeve	AWG cables, solid or stranded			
	mm²	mm²	AWG	Nm	Size	
Three-phase feeder terminals						
	Connection from top					
 3RV29 25-5AB	2.5 ... 16	2.5 ... 16	10 ... 4	3 ... 4	S00, S0	**3RV29 25-5AB**
	Connection from below This terminal is connected in place of a switch, please take the space requirement into account.					
 3RV29 15-5B	2.5 ... 16	2.5 ... 16	10 ... 4	Input: 4, Output: 2 ... 2.5	S00, S0	**3RV29 15-5B**

	Version	For motor protection circuit breakers	Order No.
		Size	
Covers for connection tags			
 3RV19 15-6AB	Touch protection for empty positions	S00, S0	**3RV19 15-6AB**

Accessories
Busbar accessories

Busbar adapters


8US12 51-5DS10


8US12 51-5DT11


8US12 50-5AS10


8US12 50-5AT10

For motor protection circuit breaker	Rated current	Connecting cable	Adapter length	Adapter width	Rated voltage	Order No.
Size	A	AWG	mm	mm	V	
Busbar adapters for 60 mm systems						
For flat copper profiles according to DIN 46433 Width: 12 mm and 30 mm Thickness: 5 mm and 10 mm also for T and double-T special profiles						
• For motor protection circuit breakers with screw terminals						**Screw terminals**
S00/S0	25	12	200	45	690	**8US12 51-5DS10**
S0	32	10	260	45	690	**8US12 51-5NT10**
• For motor protection circuit breakers with spring-type terminals						**Spring-type terminals**
S00/S0	25	12	200	45	690	**8US12 51-5DS11**
S00/S0	25	12	260	45	690	**8US12 51-5DT11**
S0	32	10	260	45	690	**8US12 51-5NT11**
Accessories						
Device holders For lateral attachment to busbar adapters	— —	— —	200 260	45 45	— —	**8US12 50-5AS10** **8US12 50-5AT10**
Side modules For widening of busbar adapters	—	—	200	9	—	**8US19 98-2BJ10**
Spacers For fixing the load feeder onto the busbar adapter	—	—	—	—	—	**8US19 98-1BA10**
Vibration and shock kits For high vibration and shock loads	—	—	—	—	—	**8US19 98-1CA10**

Overview

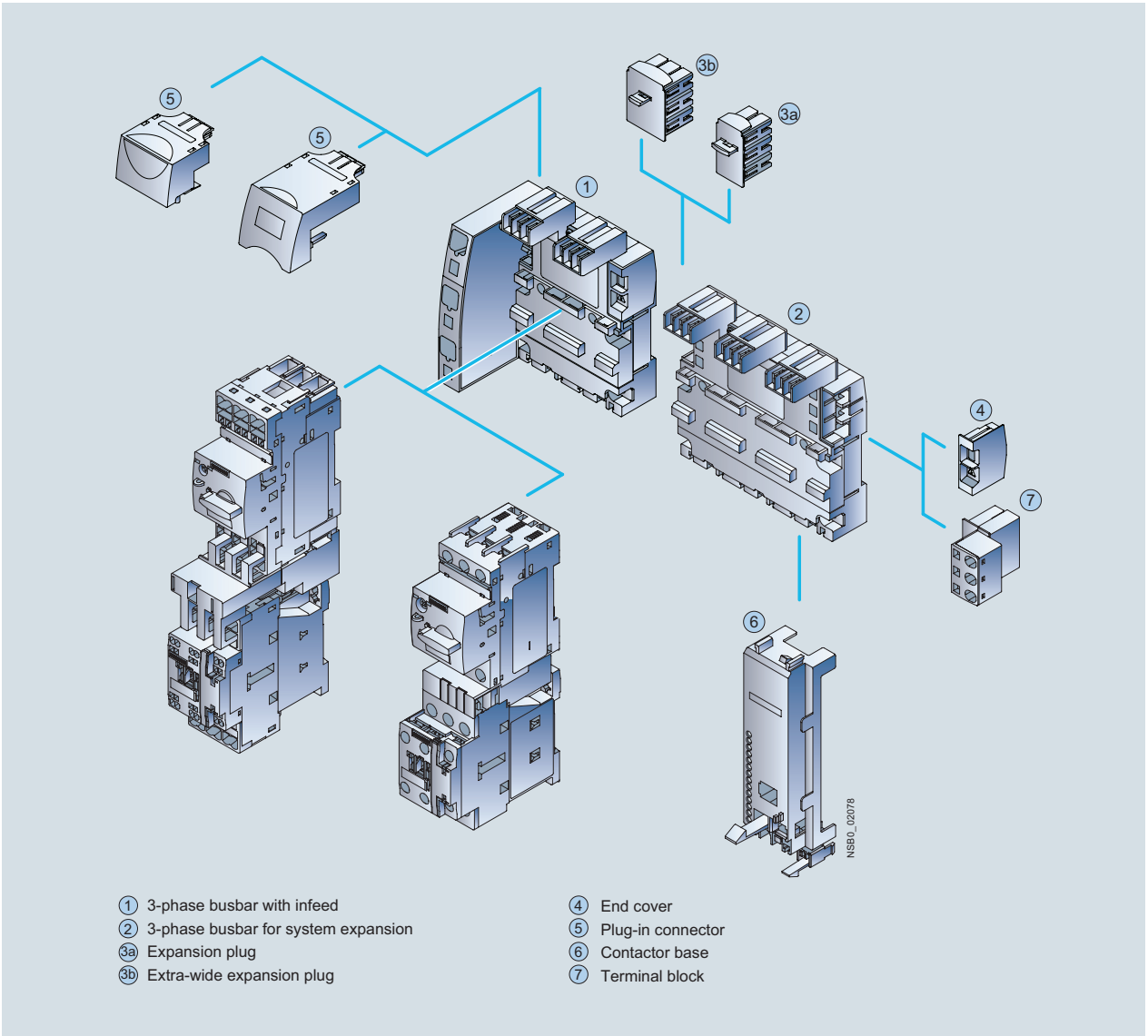
The 3RV29 infeed system is a convenient means of energy supply and distribution for a group of several motor protection circuit breakers or complete load feeders with a screw or spring-type connection in sizes S00 and S0 (exception: this system cannot be used for the 3RV21motor protection circuit breakers, 3RV27 and 3RV28 circuit breakers).

The system is based on a basic module complete with a lateral incoming unit (three-phase busbar with infeed). This infeed with spring-type terminals is mounted on the right or left depending on the version and can be supplied with a maximum conductor cross-section of 25 mm^2 (with end sleeve). A basic module has two sockets onto each of which a motor protection circuit breaker can be snapped.

Expansion modules are available for extending the system (three-phase busbars for system expansion). The individual modules are connected through an expansion plug.

The electrical connection between the three-phase busbars and the motor protection circuit breakers is implemented through plug-in connectors. The complete system can be mounted on a TH 35 standard mounting rail to EN 60715 and can be expanded as required up to a maximum current carrying capacity of 63 A.

The system is mounted extremely quickly and easily thanks to the simple plug-in technique. Thanks to the lateral infeed, the system also saves space in the control cabinet. The additional overall height required for the infeed unit is only 30 mm. The alternative infeed possibilities on each side offer a high degree of flexibility for configuring the control cabinet: Infeed on left-hand or right-hand side as well as infeed on one side and outfeed on the other side to supply further loads are all possible. A terminal block with spring-type connections in combination with a standard mounting rail enables the integration of not only SIRIUS motor protection circuit breakers but also single-phase, 2-phase and 3-phase components such as 5SY miniature circuit breakers or SIRIUS relay components.



SIRIUS 3RV29 infeed system

Accessories
3RV29 infeed system

① *Three-phase busbars with infeed*

A three-phase busbar with infeed unit is required for connecting the incoming supply. This module comprises one infeed module and 2 sockets which each accept one motor protection circuit breaker. A choice of two versions with infeed on the left or right is available. The infeed is connected using spring-type terminals. The spring-type terminals permit conductor cross-sections of up to 25 mm^2 with end sleeves. An end cover is supplied with each module.

② *Three-phase busbars for system expansion*

The three-phase busbars for system expansion support expansion of the system. There is a choice of modules with 2 or 3 sockets. The system can be expanded as required up to a maximum current carrying capacity of 63 A. An expansion plug is supplied with each module.

③a *Expansion plug*

The expansion plug is used for electrical connection of adjacent three-phase busbars. The current carrying capacity of this plug equals 63 A. One expansion plug is supplied with each three-phase busbar for system expansion. Additional expansion plugs are therefore only required as spare parts.

③b *Extra-wide expansion plug*

The wide expansion plug makes the electrical connection between two three-phase busbars, thus performing the same function as the 3RV29 17-5BA00 expansion plug; the electrical characteristics (e.g. a current carrying capacity of 63 A) are identical.

The 3RV29 17-5E expansion plug is 10 mm wider than the 3RV29 17-5BA00 expansion plug, hence in the plugged state there is a distance of 10 mm between the connected three-phase busbars. This distance can be used to lay the auxiliary current and control current wiring (“wiring duct”). The motor protection circuit breaker and contactor can be wired from underneath, which means that the complete cable duct above the system can be omitted.

④ *End cover*

The end cover is used to cover the three-phase busbar at the open end of the system. This cover is therefore only required once for each system. An end cover is supplied with each three-phase busbar system with infeed. Further end covers are therefore only required as spare parts.

⑤ *Plug-in connector*

The plug-in connector is used for the electrical connection between the three-phase busbar and the 3RV2 motor protection circuit breaker. These plug-in connectors are available in versions for screw or spring-type terminals.

⑥ *Contactor base*

Load feeders can be assembled in the system using the contactor base. The contactor bases are suitable for contactors sizes S00 and S0 with spring-type and screw terminals and are simply snapped onto the three-phase busbars. Direct-on-line starters and reversing starters are possible. One contactor base is required for direct-on-line starters and two are required for reversing starters.

To assemble load feeders for reversing starters, the contactor bases can be arranged alongside each other (90 mm overall width). In this case the mechanical interlocking of the contactors is possible. The contactor bases are also suitable for soft starters size S00 and S0 with screw connection.

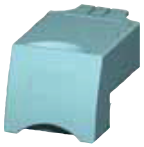
The infeed system is designed for mounting on a 35 mm standard mounting rail with 7.5 mm overall depth. This standard mounting rail gives the contactor base a stable mounting surface to sit on. If standard mounting rails with a depth of 15 mm are used, the spacer connected to the bottom of the contactor base must be knocked out and plugged into the mating piece that is also on the underside. Then the contactor base also has a stable mounting surface. When standard mounting rails with a depth of 7.5 mm are used, the spacer has no function and can be removed.

The link modules are used for direct start load feeders, in which case the use of a contactor base is not absolutely necessary. Motor protection circuit breaker and contactor assemblies can then be directly snapped onto the sockets of the three-phase busbars. For feeders of size S00 and S0, the corresponding 3RA19 21-1...., 3RA29 11-2...., 3RA29 21-1.... or 3RA29 21-2.... link modules should generally be used.

⑦ *Terminal block*

The 3RV29 17-5D terminal block enables the integration of not only SIRIUS motor protection circuit breakers but also single-phase, 2-phase and 3-phase components. Using the terminal block the 3 phases can be fed out of the system; which means that single-phase loads can also be integrated in the system. The terminal block is plugged into the slot of the expansion plug and thus enables outfeeding from the middle or end of the infeed system. The terminal block can be rotated through 180° and be locked to the support modules of the infeed system. The 3RV19 17-7B 45 mm standard mounting rail for screwing onto the support plate is available in addition in order to be able to plug the single-phase, 2-phase and 3-phase components onto the infeed system.

Selection and ordering data

	Type	Version	For 3RV20, 3RV23, 3RV24 motor protection circuit breakers Size	Order No.
Three-phase busbars with infeed				
 3RV29 17-1A	**Three-phasebusbars with infeed** incl. 3RV29 17-6A end cover	For 2 motor protection circuit breakers with screw terminals or spring-type terminals		
		• With infeed on the left	S00, S0	**3RV29 17-1A**
		• With infeed on the right	S00, S0	**3RV29 17-1E**
Three-phase busbars for system expansion				
 3RV29 17-4A	**Three-phasebusbars** incl. 3RV29 17-5BA00 expansion plug	For motor protection circuit breakers with screw terminals or spring-type terminals		
		• For 2 motor protection circuit breakers	S00, S0	**3RV29 17-4A**
		• For 3 motor protection circuit breakers	S00, S0	**3RV29 17-4B**
Plug-in connectors				
 3RV29 17-5AA00	**Plug-in connectors** to make contact withthe motor protection circuit breakers	• For spring-type terminals		**Spring-type terminals**
		- Single-unit packaging	S00[1] S0[2]	**3RV29 17-5AA00** **3RV29 27-5AA00**
		- Multi-unit packaging	S00[1] S0[2]	**3RV29 17-5A** **3RV29 27-5A**
 3RV29 17-5CA00		• For screw terminals		**Screw terminals**
		- Single-unit packaging	S00[1] S0[2]	**3RV29 17-5CA00** **3RV19 27-5AA00**
		- Multi-unit packaging	S00[1] S0[2]	**3RV29 17-5C** **3RV19 27-5A**

	Type	Version	For contactors Size	Order No.
Contactor bases				
 3RV29 27-7AA00	**Contactor bases** for mounting direct-on-line or reversing starters	Single-unit packaging	S00, S0	**3RV29 27-7AA00**

1) I > 14 A, please note derating; see system manual "SIRIUS Innovations", Chapter "Motor Starter Protectors".

2) I > 16 A, please note derating; see system manual "SIRIUS Innovations", Chapter "Motor Starter Protectors".

SIRIUS 3RV2 Motor Protection Circuit Breakers up to 40 A

Accessories
3RV29 infeed system

	Type	Version	Order No.
Terminal blocks			
 3RV29 17-5D	**Terminal blocks** For integration of single-phase, two-phase and three-phase components	Single-unit packaging	**3RV29 17-5D**
45 mm standard mounting rails			
 3RV19 17-7B	**45 mm standard mounting rails** for mounting onto three-phase busbars	Single-unit packaging	**3RV19 17-7B**
Extra-wide expansion plugs			
 3RV29 17-5E	**Extra-wide expansion plugsas accessory**	Single-unit packaging	**3RV29 17-5E**
Expansion plugs			
 3RV29 17-5BA00	**Expansion plugs**[1] as spare part	Single-unit packaging	**3RV29 17-5BA00**
End covers			
 3RV29 17-6A	**End covers**[2] as spare part	Multi-unit packaging	**3RV29 17-6A**

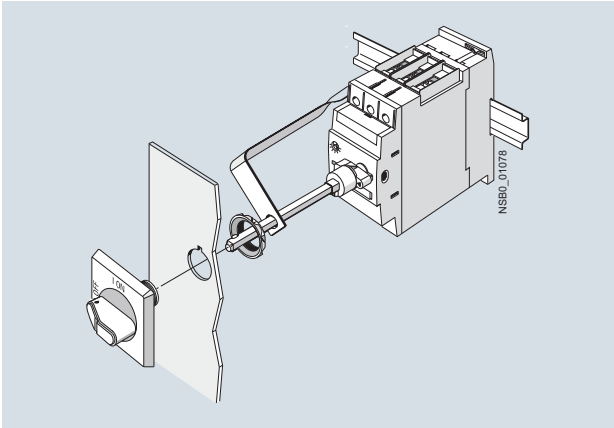
1) The expansion plug is included in the scope of supply of the 3RV29 17-4. three-phase busbars for system expansion.

2) The end cover is included in the scope of supply of the 3RV29 17-1. three-phase busbars with infeed system.

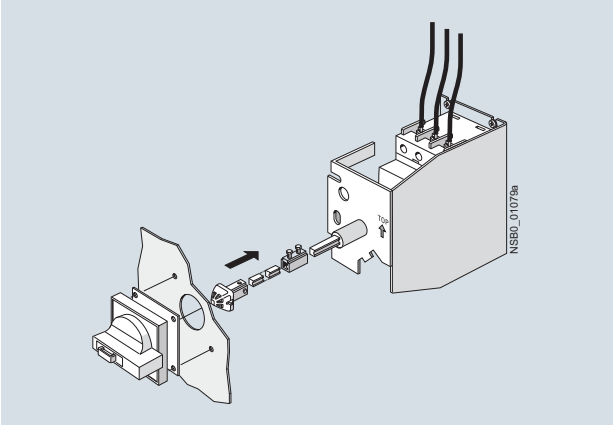
Overview

Door-coupling rotary operating mechanisms

Motor protection circuit breakers with a rotary operating mechanism can be mounted in a control cabinet and operated externally by means of a door-coupling rotary operating mechanism. When the cabinet door with motor protection circuit breaker is closed, the operating mechanism is coupled. When the motor protection circuit breaker closes, the coupling is locked which prevents the door from being opened unintentionally. This interlock can be defeated by the maintenance personnel. In the OPEN position, the rotary operating mechanism can be secured against reclosing with padlock. Inadvertent opening of the door is not possible in this case either.



SIRIUS 3RV29 26-0K door-coupling rotary operating mechanism



SIRIUS 3RV29 26-2B door-coupling rotary operating mechanism for arduous conditions

Selection and ordering data

Version	Color of handle	Version of extensionshaft	For motor protection circuit breaker	Order No.
		mm	Size	
Door-coupling rotary operating mechanisms for arduous conditions				
The door-coupling rotary operating mechanisms consist of a knob, a coupling driver, an extension shaft of 300 mm in length (8 mm x 8 mm), a spacer and two metal brackets, into which the motor protection circuit breaker is inserted. The door-coupling rotary operating mechanisms are designed to degree of protection IP65. The door interlocking reliably prevents opening of the control cabinet door in the ON position of the motor protection circuit breaker. The OFF position can be locked with up to 3 padlocks. Laterally mountable auxiliary releases and two-pole auxiliary switches can be used. The door-coupling rotary operating mechanisms thus meet the requirements for isolating functions according to IEC 60947-2.				
Door-coupling rotary operating mechanisms	Gray & Black	300	S00, S0	**3RV19 26-1B-Z**

3RV19 26-1B-Z

Accessories
Mounting accessories

Link modules

Feeders can be easily assembled from single devices with the help of the link modules. The following table shows the various possible combinations for devices with screw connection or spring-type terminals.

Combination device	3RV2 motor protection circuit breakers Size	3RT2 contactors; 3RW30, 3RW40 soft starters; 3RF34 solid-state contactors Size	Link modules Screw terminals	 Spring-type terminals
Link modules for connecting switching devices to 3RV2 motor protection circuit breakers[1]				
3RT2 contactors with AC or DC coil	S00	S00	3RA19 21-1DA00	3RA29 11-2AA00
	S0	S00		—
3RT2 contactors with AC coil	S0	S0	3RA29 21-1AA00	3RA29 21-2AA00
	S00	S0		—
3RT2 contactors with DC coil	S0	S0	3RA29 21-1BA00	3RA29 21-2AA00
	S00	S0		—
3RW30 soft starters	S00	S00	3RA29 21-1BA00	3RA29 11-2GA00
	S0	S00		—
3RW30/3RW40soft starters	S0	S0	3RA29 21-1BA00	3RA29 21-2GA00
	S00	S0		—
3RF34 solid-state contactors	S00/S0	S00	3RA29 21-1BA00	—
Hybrid link modules for connecting contactors with spring-type terminals to 3RV2 motor protection circuit breakers with screw connection[1]				
3RT2 contactors with AC or DC coil	S00	S00	3RA29 11-2FA00	—
3RT2 contactors with AC or DC coil	S0	S0	3RA29 21-2FA00	—

Note:

Link modules and hybrid link modules up to max. 32 A can be used.

1) The link modules and the hybrid link modules cannot be used for the 3RV2. 21-4PA1., 3RV2. 21-4FA1. motor protection circuit breakers and 3RV27, 3RV28 circuit breakers.

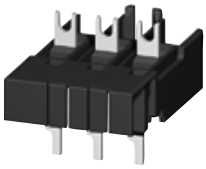
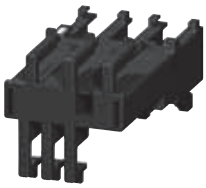
4

Selection and ordering data

Accessories

	Version	For motor protection circuit breakers Size	Order No.
Covers			
 3RV29 08-0P	**Scale covers** Sealable, for covering the current setting scale	3RV20, 3RV21, 3RV24: S00, S0	**3RV29 08-0P**
Mounting material			
 3RV29 28-0B	**Push-in lugs** For screwing the motor protection circuit breaker onto mounting plates For each motor protection circuit breaker, 2 units are required.	S00, S0	**3RV29 28-0B**
Tools for opening spring-type terminals by hand			
 3RA29 08-1A	**Screwdrivers** for all SIRIUS devices with spring-type terminals Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	S00, S0	Spring-type terminals **3RA29 08-1A**

Link modules

	Actuating voltage of contactor	Size		Order No.
		3RT2 contactors	3RV2 motor protection circuit breakers	
Link modules for motor protection circuit breaker to contactor[1]				
 3RA29 21-1AA00	For mechanical and electrical connection between motor protection circuit breaker and contactor with screw terminals			**Screw terminals**
	Single-unit packaging			
	AC/DC	S00	S00/S0	**3RA19 21-1DA00**
	AC	S0	S00/S0	**3RA29 21-1AA00**
	DC	S0	S00/S0	**3RA29 21-1BA00**
 3RA29 11-2AA00	For mechanical and electrical connection between motor protection circuit breaker and contactor with spring-type terminals			**Spring-type terminals**
	Single-unit packaging			
	AC/DC	S00	S00	**3RA29 11-2AA00**
	AC[2]	S0	S0	**3RA29 21-2AA00**
	DC	S0	S0	**3RA29 21-2AA00**
	Spacers[2] for compensating the height on AC contactors			
	Single-unit packaging	S0	S0	**3RA29 11-1CA00**

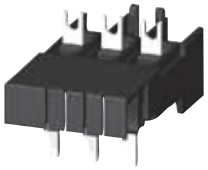
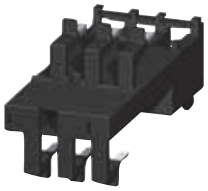
1) The link modules for motor protection circuit breaker to contactor cannot be used for the 3RV2. 21-4PA1. and 3RV2. 21-4FA1. motor protection circuit breakers, 3RV27 and 3RV28 circuit breakers.

2) A spacer for height compensation on AC contactors size S0 is optionally available.

Note:

Link modules up to max. 32 A can be used.

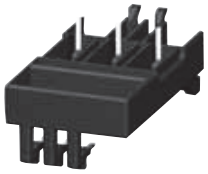
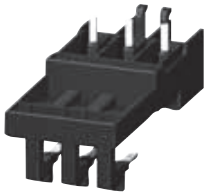
Accessories
Mounting accessories

	Size		Order No.
	3RW30, 3RW40 soft starters; 3RF34 solid-state contactors	3RV2 motor protection circuit breakers	
Link modules for motor protection circuit breaker to soft starter[1] and motor protection circuit breaker to solid-state contactor			
 3RA29 21-1BA00	Connection between motor protection circuit breaker and soft starter / solid-state contactor with screw terminals		**Screw terminals**
	Single-unit packaging		
	S00	S00/S0	**3RA29 21-1BA00**
	S0	S00/S0	**3RA29 21-1BA00**
 3RA29 21-2GA00	Connection between motor protection circuit breaker and soft starter spring-type terminals		**Spring-type terminals**
	Single-unit packaging		
	S00	S00	**3RA29 11-2GA00**
	S0	S0	**3RA29 21-2GA00**

1) The link modules for motor protection circuit breaker to soft starter and for motor protection circuit breaker to solid-state contactor cannot be used for the 3RV2. 21-4PA1., 3RV2. 21-4FA1. motor protection circuit breakers and 3RV27, 3RV28 circuit breakers.

Note:

Link modules up to max. 32 A can be used.

	Actuating voltage of contactor	Size		Order No.
		3RT2 contactors	3RV2 motor protection circuit breakers	
Hybrid link modules for motor protection circuit breaker to contactor[1]				
 3RA29 11-2FA00	For mechanical and electrical connection between motor protection circuit breaker with screw terminals and contactor with spring-type terminals			
	Single-unit packaging			
	AC/DC	S00	S00	**3RA29 11-2FA00**
	AC[2]/DC	S0	S0	**3RA29 21-2FA00**
 3RA29 21-2FA00	**Spacers[2]** for compensating the height on AC contactors			
	Single-unit packaging	S0	S0	**3RA29 11-1CA00**

1) The link modules for motor protection circuit breaker to contactor cannot be used for the 3RV2. 21-4PA1., 3RV2. 21-4FA1. motor protection circuit breakers and 3RV27, 3RV28 circuit breakers.

2) A spacer for height compensation on AC contactors size S0 is optionally available.

Note:

Hybrid link modules up to max. 32 A can be used.

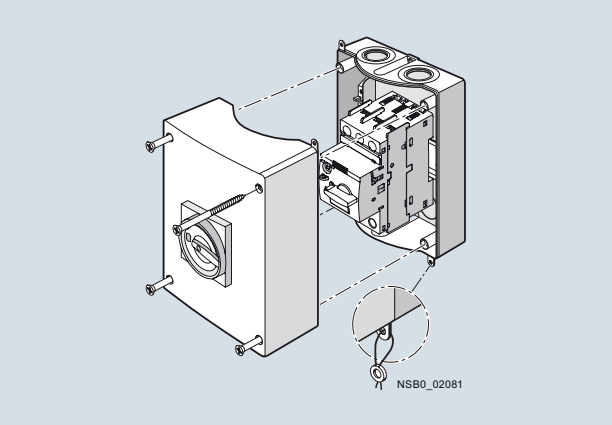
Overview

Enclosures

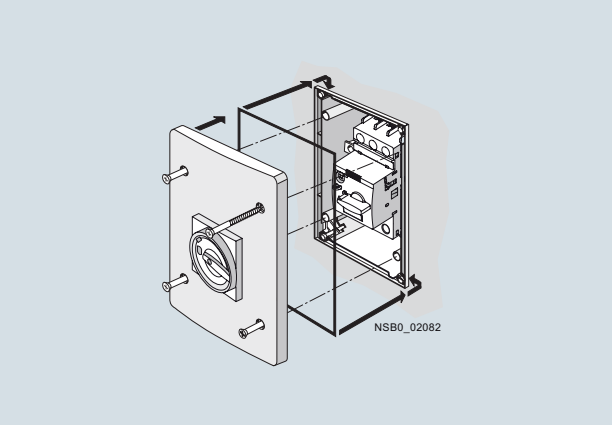
For stand-alone installation of 3RV20 to 3RV24 motor protection circuit breakers size S00 ($I_{n\,max}$ = 16 A) and S0 ($I_{n\,max}$ = 32 A), cast aluminum enclosures for surface mounting and molded-plastic enclosures for flush mounting are available in various dimensions.

When installed in a molded-plastic enclosure the motor protection circuit breakers have a rated operational voltage U_e of 500 V.

The enclosures for surface mounting have the degree of protection IP55; the enclosures for flush mounting also comply with the degree of protection IP55 at the front (the flush-mounted section complies with IP20).



Enclosure for surface mounting



Enclosure for flush mounting

All enclosures are equipped with N and PE terminals. There are two knock-out cable entries for cable glands at the top and two at the bottom; also on the rear corresponding cable entries are scored. There is a knockout on the top of the enclosure for indicator lights that are available as accessories.

The narrow enclosure can accommodate a motor protection circuit breaker without accessories, with transverse auxiliary switch and with lateral auxiliary switch. There is no provision for installing a motor protection circuit breaker with a signaling switch.

With the motor protection circuit breakers size S00 and S0, the molded-plastic enclosures are equipped with a rotary operating mechanism.

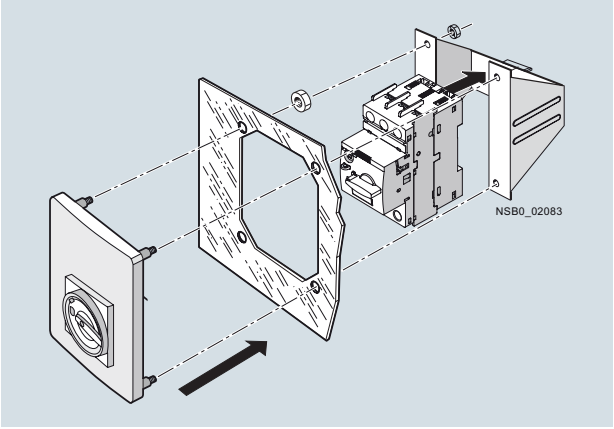
The enclosures can be supplied with either a black rotary operating mechanism or with an EMERGENCY-STOP rotary operating mechanism with a red/yellow knob.

All rotary operating mechanisms can be locked in the Open position with up to 3 padlocks.

Front plates

Motor protection circuit breakers are frequently required to be actuated in any enclosure. Front plates equipped with a rotary operating mechanism for 3RV20 to 3RV24 motor protection circuit breakers size S00 and S0 are available for this purpose.

A holder for the motor protection circuit breakers size S00 and S0, into which the motor protection circuit breakers can be snapped, is available for the front plates.



Front plate (including holder) for sizes S00 and S0

Accessories
Enclosures and front plates

Selection and ordering data

	Version	Degree of protection	Integrated terminals	Width	For 3RV20 to 3RV24 motor protection circuit breakers	Order No.
				mm	Size	
Molded-plastic enclosures for surface mounting						
 3RV19 23-1FA00	**With EMERGENCY-STOP rotary operating mechanism,** lockable in 0 position	IP55	N and PE/ground	54 (for motor protection circuit breakers + lateral auxiliary switch)	S00, S0	**3RV19 23-1FA00**
				72 (for motor protection circuit breakers + lateral auxiliary switch + auxiliary release)	S00, S0	**3RV19 23-1GA00**
Cast aluminum enclosures for surface mounting						
 3RV19 23-1DA01	**With EMERGENCY-STOP rotary operating mechanism,** lockable in 0 position	IP65	PE[1]	72 (for motor protection circuit breakers + lateral auxiliary switch + auxiliary release)	S00, S0	**3RV19 23-1GA01**
Molded-plastic enclosures for flush mounting						
 3RV19 23-2DA00	**With rotary operating mechanism,** lockable in 0 position	IP55 (front side)	N and PE/ground	72 (for motor protection circuit breakers + lateral auxiliary switch + auxiliary release)	S00, S0	**3RV19 23-2DA00**
	With EMERGENCY-STOP rotary operating mechanism, lockable in 0 position	IP55 (front side)	N and PE/ground	72 (for motor protection circuit breakers + lateral auxiliary switch + auxiliary release)	S00, S0	**3RV19 23-2GA00**

1) If required, an additional N terminal can be mounted (e.g. 8WA1 011-1BG11).

	Version	Degree of protection	For 3RV20 to 3RV24 motor protection circuit breakers	Order No.
			Size	
Front plates				
 3RV19 23-4B + 3RV19 23-4G	**Molded-plastic front plates with rotary operating mechanism,** lockable in 0 position For actuation of 3RV2 motor protection circuit breakers in any enclosure	IP55 (front side)	S00, S0	**3RV19 23-4B**
	Molded-plastic front plates with EMERGENCY-STOP rotary operating mechanism, red/yellow, lockable in 0 position EMERGENCY-STOP actuation of 3RV2 motor protection circuit breakers in any enclosure	IP55 (front side)	S00, S0	**3RV19 23-4E**
	Holders for front plates Holder is mounted on front plate, motor protection circuit breaker with and without accessories is snapped in.	—	S00, S0	**3RV19 23-4G**

	Version	Rated control supply voltage U_s	For 3RV20 to 3RV24 motor protection circuit breakers	Order No.
		V	Size	
Indicator lights				
 3RV19 03-5B	**Indicator lights** for all enclosures and front plates With glow lamp and colored lenses red, green, yellow-orange and clear	110 ... 120 220 ... 240 380 ... 415 480 ... 500	S00, S0	**3RV19 03-5B** **3RV19 03-5C** **3RV19 03-5E** **3RV19 03-5G**