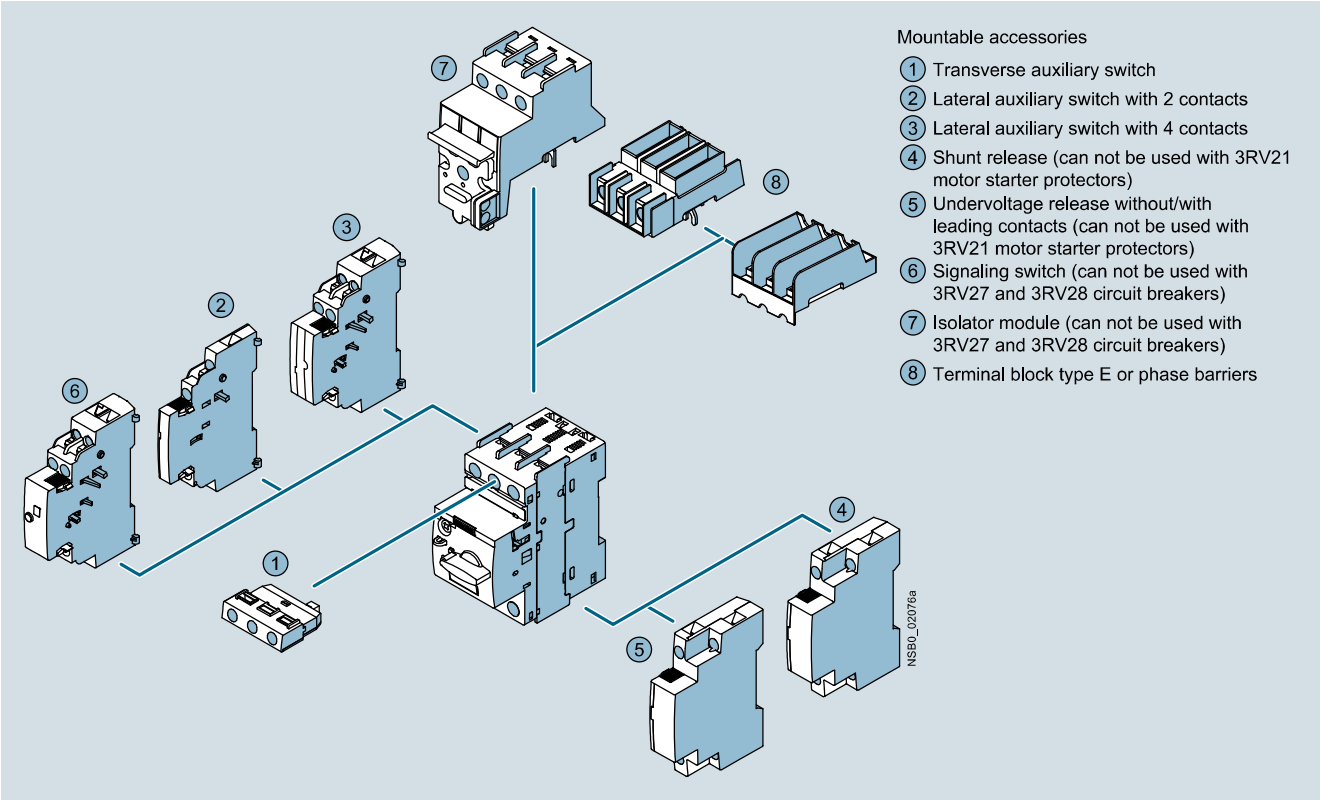
Overview

The following illustration shows 3RV2 motor starter protectors/ circuit breakers with the accessories which can be mounted for the sizes S00 to S2, see also "Introduction" → "Overview", page 7/2.

Accessories, see page 7/32 onwards.



Mountable accessories for SIRIUS 3RV2 motor starter protectors/circuit breakers

SIRIUS motor starter protector with spring-type terminals, size S0 (left) and SIRIUS motor starter protector with screw terminals, size S00 (right)

The SIRIUS 3RV2 motor starter protectors/circuit breakers are compact, current limiting motor starter protectors/circuit breakers which are optimized for load feeders. The motor starter protectors/circuit breakers are used for switching and protecting three-phase motors of up to 37 kW at 400 V AC and for other loads with rated currents of up to 80 A.

For 3RV1 motor starter protectors/circuit breakers in size S3 up to 100 A, see page 7/64 onwards.

The new 3RV2 motor starter protectors/circuit breakers are usually approved according to IEC and UL/CSA. According to UL 508/UL 60947-4-1, the 3RV2 motor starter protectors/circuit breakers in sizes S00 to S2 are approved as:

- "Manual Motor Controllers"
- "Manual Motor Controllers" for "Group Installations"
- "Manual Motor Controllers Suitable for Tab Conductor Protection in Group Installations"
- "Self-Protected Combination Motor Controllers (Type E)" Please note that for this approval the 3RV20 motor starter protectors must be equipped with additional infeed terminals or phase barriers. For more information, see "Accessories" on page 7/39.

Corresponding short-circuit values, see 7/10 to 7/15.

The 3RV27 and 3RV28 circuit breakers are approved as circuit breakers according to UL 489; they are a special version of the 3RV2 motor starter protectors.

General data

Type of construction

The 3RV2 motor starter protectors are available in three sizes:

- Size S00 – width 45 mm,
  max. rated current 16 A,
  at 400 V AC suitable for three-phase motors up to 7.5 kW
- Size S0 – width 45 mm,
  max. rated current 40 A,
  at 400 V AC suitable for three-phase motors up to 18.5 kW
- Size S2 – width 55 mm,
  max. rated current 80 A,
  at 400 V AC suitable for three-phase motors up to 37 kW

Size S3 of the 3RV1 motor starter protectors up to 100 A, see page 7/64 onwards.

Circuit breakers acc. to UL 489

The 3RV27 and 3RV28 circuit breakers are available in two sizes:

- Size S00 – width 45 mm,
  max. rated current 15 A, at 480 Y/277 V AC
- Size S0 – width 45 mm,
  max. rated current 22 A, at 480 Y/277 V AC

For size S3 of the 3RV1742 circuit breakers up to 70 A, see page 7/68.

Connection methods

The 3RV2 motor starter protectors/circuit breakers can be supplied with screw terminals, spring-type terminals and ring terminal lug connections.

	Screw terminals
	Spring-type terminals
	Ring terminal lug connections
	The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Use in hazardous areas

The 3RV20 motor starter protectors for motor protection in sizes S00 and S0 have certification in accordance with both the European explosion protection directive 94/9/EC (ATEX) and the international explosion protection standard (IECEx). Size S2 available on request.

In accordance with the European directive (ATEX), the 3RV20 are able to switch and protect explosion-proof motors of type of protection "Increased Safety EEx e".

In accordance with the international guideline (IECEx), the 3RV20 are able to switch and protect motors of the types "Increased Safety Ex e" or "Flameproof enclosure Ex d"

For certificates, see https://support.industry.siemens.com/cs/ww/en/ps/16245/cert

Article No. scheme

Digit of the Article No.	1st - 3rd	4th	5th	6th	7th		8th	9th	10th	11th	12th		13th	14th	15th	16th
	□□□	□	□	□	□	–	□	□	□	□	□	–	□	□	□	□
Motor starter protectors/circuit breakers	**3 R V**															
SIRIUS 2nd generation		**2**														
Type of motor starter protector/circuit breaker			□													
Size				□												
Breaking capacity					□											
Setting range for overload release							□	□								
Trip class (CLASS)									□							
Connection methods										□						
With or without auxiliary switch											□					
Special versions													□	□	□	□
Example	**3 R V**	**2**	**0**	**1**	**1**	**–**	**1**	**A**	**A**	**1**	**0**					

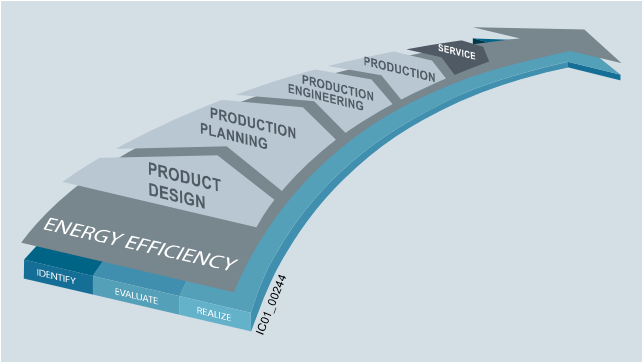
Note:

The Article No. scheme is presented here merely for information purposes and for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the catalog in the Selection and ordering data.

Benefits

Advantages through energy efficiency



Overview of the energy management process

We offer you a unique portfolio for industrial energy management, using an energy management system that helps to optimally define your energy needs. We split up our industrial energy management into three phases – identify, evaluate, and realize – and we support you with the appropriate hardware and software solutions in every process phase.

The innovative products of the SIRIUS industrial controls portfolio can also make a substantial contribution to a plant's energy efficiency (see www.siemens.com/sirius/energysaving).

3RV2 motor starter protectors/circuit breaker contribute to energy efficiency throughout the plant as follows:

- Minimization of energy losses through optimization of the bimetal trip units
- Reduction of inherent power loss
- Less heating of the control cabinet
- Smaller control cabinet air conditioners can be used

Application

Operating conditions

3RV2 motor starter protectors/circuit breakers are suitable for use in any climate. They are intended for use in enclosed rooms in which no severe operating conditions (such as dust, caustic vapors, hazardous gases) prevail. When installed in dusty and damp areas, suitable enclosures must be provided.

3RV2 motor starter protectors/circuit breakers can optionally be fed from the top or from below.

The permissible ambient temperatures, the maximum switching capacities, the tripping currents and other boundary conditions can be found in the technical specifications and tripping characteristics, see Manual "SIRIUS Innovations – SIRIUS 3RV2 Motor Starter Protectors", https://support.industry.siemens.com/cs/ww/en/view/60279172.

3RV2 motor starter protectors/circuit breakers are suitable for operation in IT systems (IT networks). In this case, the different short-circuit breaking capacity in the IT system must be taken into account, see page 7/11.

Since operational currents, starting currents and current peaks are different even for motors with identical power ratings due to the inrush current, the motor ratings in the selection tables are only guide values. The specific rated and startup data of the motor to be protected is always paramount to the choice of the most suitable motor starter protector/circuit breaker. This also applies to motor starter protectors for transformer protection.

Possible uses

The 3RV2 motor starter protectors can be used:

- For short-circuit protection
- For motor protection (also with overload relay function)
- For system protection
- For short-circuit protection for starter combinations
- For transformer protection
- As main and EMERGENCY-STOP switches
- For operation in IT systems (IT networks)
- For switching of DC currents
- In areas subject to explosion hazard (ATEX)
- Approved as circuit breakers according to UL 489 (3RV27 and 3RV28)

For more information, see

- System manual "SIRIUS Innovations – System Overview", https://support.industry.siemens.com/cs/ww/en/view/60311318
- Manual "SIRIUS Innovations – SIRIUS 3RV2 Motor Starter Protectors", https://support.industry.siemens.com/cs/ww/en/view/60279172

Use of SIRIUS protection devices in conjunction with IE3 motors

Note:

For the use of 3RV2 motor starter protectors in conjunction with highly energy-efficient IE3 motors, please observe the information on dimensioning and configuring, see "Configuration Manual for SIRIUS Controls with IE3 Motors", https://support.industry.siemens.com/cs/ww/en/view/94770820.

For more information, see Preface page 5.

Technical specifications

Short-circuit breaking capacity I_{cu}, I_{cs} according to IEC 60947-2

The table shows the rated ultimate short-circuit breaking capacity I_{cu} and the rated service short-circuit breaking capacity I_{cs} of the 3RV2 motor starter protectors/circuit breakers with different operating voltages dependent on the rated current I_n of the motor starter protectors/circuit breakers.

Power can be supplied to the motor starter protectors/circuit breakers via the terminals at the top or at the bottom without restricting the rated data. If the short-circuit current at the place of installation exceeds the rated short-circuit breaking capacity of the motor starter protector/circuit breaker as specified in the table, a back-up fuse is required. It is also possible to install an upstream motor starter protector/circuit breaker with a limiter function.

The maximum rated current of this back-up fuse is indicated in the tables. The rated ultimate short-circuit breaking capacity then applies as specified on the fuse.

Fuseless design

Motor starter protector/contactor assemblies for short-circuit currents up to 150 kA can be ordered as fuseless load feeders, see "Load Feeders and Motor Starters for Use in the Control Cabinet" on page 8/1.

Motor starter protectors	Rated current I_n	Up to 240 V AC[1]			Up to 400 V AC[1]/ 415 V AC[2]			Up to 440 V AC[1]/ 460 V AC[2]			Up to 500 V AC[1]/ 525 V AC[2]			Up to 690 V AC[1]		
		I_{cu}	I_{cs}	Max. fuse (gG)	I_{cu}	I_{cs}	Max. fuse (gG)[3]	I_{cu}	I_{cs}	Max. fuse (gG)[3]	I_{cu}	I_{cs}	Max. fuse (gG)[3]	I_{cu}	I_{cs}	Max. fuse (gG)[3][4]
Type	A	kA	kA	A	kA	kA	A	kA	kA	A	kA	kA	A	kA	kA	A
Size S00																
3RV2.11	0.16 ... 1.6	100	100	--	100	100	--	100	100	--	100	100	--	100	100	--
	2; 2.5	100	100	--	100	100	--	100	100	--	100	100	--	10	10	25
	3.2	100	100	--	100	100	--	100	100	--	100	100	--	10	10	32
	4; 5	100	100	--	100	100	--	100	100	--	100	100	--	6	4	32
	6.3	100	100	--	100	100	--	100	100	--	100	100	--	6	4	50
	8	100	100	--	100	100	--	50	50	63	42	42	63	6	4	50
	10	100	100	--	100	100	--	50	50	80	42	42	63	6	4	50
	12.5	100	100	--	100	100	--	50	50	80	42	42	80	6	4	63
	16	100	100	--	55	30	100	50	10	80	10	5	80	4	4	63
Size S0																
3RV2.21	0.16 ... 1.6	100	100	--	100	100	--	100	100	--	100	100	--	100	100	--
	2; 2.5	100	100	--	100	100	--	100	100	--	100	100	--	10	10	25
	3.2	100	100	--	100	100	--	100	100	--	100	100	--	10	10	32
	4; 5	100	100	--	100	100	--	100	100	--	100	100	--	6	4	32
	6.3	100	100	--	100	100	--	100	100	--	100	100	--	6	4	50
	8	100	100	--	100	100	--	50	50	63	42	42	63	6	4	50
	10	100	100	--	100	100	--	50	50	80	42	42	63	6	4	50
	12.5	100	100	--	100	100	--	50	50	80	42	42	80	6	4	63
	16	100	100	--	55	25	100	50	10	80	10	5	80	4	2	63
	20	100	100	--	55	25	125	50	10	80	10	5	80	4	2	63
	22; 25	100	100	--	55	25	125	50	10	100	10	5	80	4	2	63
	28; 32	100	100	--	55	25	125	30	10	125	10	5	100	4	2	100
	36; 40	100	100	--	20	10	125	12	8	125	6	3	100	3	2	100
Size S2																
3RV2.31	14; 17	100	100	--	65	30	100	50	25	100	12	6	63	5	3	63
	20	100	100	--	65	30	100	50	25	100	12	6	80	5	3	80
	25	100	100	--	65	30	100	50	15	100	12	6	80	5	3	80
	32; 36	100	100	--	65	30	125	50	15	125	10	5	100	4	2	100
	40; 45	100	100	--	65	30	160	50	15	125	10	5	100	4	2	100
	52	100	100	--	65	30	160	50	15	125	10	5	125	4	2	125
	59; 65	100	100	--	65	30	160	50	15	160	8	4	125	4	2	125
	73; 80	100	100	--	65	30	200	50	15	200	8	4	160	4	2	125
Size S2, with increased switching capacity																
3RV2.32	14; 17	100	100	--	100	50	--	65	30	100	18	10	63	8	5	63
	20; 25	100	100	--	100	50	--	65	30	100	18	10	80	8	5	80
	32 ... 45	100	100	--	100	50	--	65	30	125	15	8	100	6	4	100
	52	100	100	--	100	50	--	65	30	125	15	8	125	6	4	125
	59; 65	100	100	--	100	50	--	50	15	160	10	5	125	6	4	125
	73; 80	100	100	--	100	50	--	50	15	200	10	5	160	6	4	125

-- No back-up fuse required, since short-circuit resistant up to 100 kA

1) 10 % overvoltage.

2) 5 % overvoltage.

3) Back-up fuse only required if short-circuit current at the place of installation is > I_{cu}.

4) Alternatively, fuseless limiter combinations for 690 V AC can also be used.

Short-circuit breaking capacity I_{cuIT} in the IT system (IT network) according to IEC 60947-2

3RV2 motor starter protectors/circuit breakers are suitable for use in IT systems. The values of I_{cu} and I_{cs} apply for the three-pole short circuit. In the case of a double ground fault in different phases at the input and output side of a motor starter protector, the special short-circuit breaking capacity I_{cuIT}. The specifications in the table below apply to 3RV2 motor starter protectors/circuit breakers.

If the short-circuit current at the place of installation exceeds the motor starter protector/circuit breaker's specified rated short-circuit breaking capacity, you will need to use a back-up fuse. The maximum rated current of this back-up fuse is indicated in the tables. The rated short-circuit breaking capacity then applies as specified on the fuse.

Motor starter protectors	Rated current I_n	Up to 240 V AC[1]		Up to 400 V AC[1]/ 415 V AC[2]		Up to 440 V AC[1]/ 460 V AC[2]		Up to 500 V AC[1]/ 525 V AC[2]		Up to 690 V AC[1][5]	
		I_{cuIT}	Max. fuse (gG)[3]	I_{cuIT}	Max. fuse (gG)[3][4]	I_{cuIT}	Max. fuse (gG)[3]	I_{cuIT}	Max. fuse (gG)[3]	I_{cuIT}	Max. fuse (gG)[3]
Type	A	kA	A	kA	A	kA	A	kA	A	kA	A
Size S00											
3RV2.11	0.16 ... 0.4	100	--	100	--	100	--	100	--	100	--
	0.5	100	--	100	--	100	--	100	--	0.5	4
	0.63; 0.8	100	--	100	--	100	--	100	--	0.5	6
	1	100	--	100	--	2	10	2	10	1.5	10
	1.25	100	--	100	--	2	16	2	16	1.5	16
	1.6	100	--	100	--	2	20	2	20	1.5	16
	2; 2.5	100	--	8	25	2	25	2	25	1.5	20
	3.2	100	--	8	32	2	32	2	32	1.5	25
	4; 5	100	--	4	32	1.5	32	1.5	32	1.5	25
	6.3; 8	100	--	4	50	1	40	1	40	1	35
	10	100	--	4	50	1	40	1	40	1	40
	12.5	100	--	4	63	1	50	1	50	1	40
	16	55	80	4	63	1	50	1	50	1	40
Size S0											
3RV2.21	0.16 ... 0.4	100	--	100	--	100	--	100	--	100	--
	0.5	100	--	100	--	100	--	100	--	0.5	4
	0.63; 0.8	100	--	100	--	100	--	100	--	0.5	6
	1	100	--	100	--	2	10	2	10	1.5	10
	1.25	100	--	100	--	2	16	2	16	1.5	16
	1.6	100	--	100	--	2	20	2	20	1.5	16
	2; 2.5	100	--	8	25	2	25	2	25	1.5	20
	3.2	100	--	8	32	2	32	2	32	1.5	25
	4; 5	100	--	4	32	1.5	32	1.5	32	1.5	25
	6.3; 8	100	--	4	50	1	40	1	40	1	35
	10	100	--	4	50	1	40	1	40	1	40
	12.5	100	--	4	63	1	50	1	50	1	40
	16	55	80	4	63	1	50	1	50	1	40
	20 ... 25	55	80	4	63	1	50	1	50	1	50
	28; 32	55	80	2	63	1	63	1	63	1	63
	36; 40	20	80	2	63	1	63	1	63	1	63
Size S2											
3RV2.31	14 ... 25	100	--	8	100	6	80	6	80	4	63
	32 ... 45	100	--	6	125	4	100	4	100	3	80
	52 ... 80	100	--	4	160	3	125	3	125	2	100
Size S2, with increased switching capacity											
3RV2.32	14 ... 25	100	--	8	100	6	80	6	80	4	63
	32 ... 45	100	--	6	125	6	100	6	100	4	80
	52	100	--	6	160	6	125	6	125	4	100
	59 ... 80	100	--	6	160	4	125	4	125	4	100

-- No back-up fuse required, since short-circuit resistant up to 100 kA

1) 10 % overvoltage.

2) 5 % overvoltage.

3) Back-up fuse only required if short-circuit current at installation location is > I_{cuIT}.

4) Alternatively, fuseless limiter combinations for 690 V AC can also be used.

5) Overvoltage category II applies for applications in IT systems > 600 V.

General data

Limiter function with standard devices for 500 V AC and 690 V AC according to IEC 60947-2

The table shows the rated ultimate short-circuit breaking capacity I_{cu} and the rated service short-circuit breaking capacity I_{cs} with an upstream standard motor starter protector/circuit breaker that fulfills the limiter function at voltages 500 V AC and 690 V AC.

The short-circuit breaking capacity can be increased significantly with an upstream standard motor starter protector/circuit breaker with limiter function. The motor starter protector/circuit breaker which is connected downstream must be set to the rated current of the load.

With motor starter protector/circuit breaker assemblies, note the clearance to grounded parts and between the motor starter protectors/circuit breaker. Short-circuit proof wiring between the motor starter protectors/circuit breaker must be ensured. The motor starter protectors/circuit breakers can be mounted side by side in a modular arrangement.

Standard motor starter protectors/circuit breakers	With limiter Rated current I_n	**Rated current I_n**	**Up to 500 V AC[1]/525 V AC[2]**		**Up to 690 V AC[1]**	
			I_{cu}	I_{cs}	I_{cu}	I_{cs}
Type	Type	A	kA	kA	kA	kA
Size S00						
3RV2011	**Size S0:** I_n = 32 A	2 ... 6.3 8 10 ... 16	-- 100 100	-- 50 50	50 20 20[3]	25 10 10[3]
	Size S2: 3RV1331-4HC10 I_n = 50 A	10 ... 16	--	--	50	25
Size S0						
3RV2021	**Size S0:** I_n = 32 A	16 ... 32	100	50	20[3]	10[3]
	Size S2: 3RV1331-4HC10 I_n = 50 A	16 ... 32	--	--	50	20
Size S2, with increased switching capacity						
3RV2032		14... 80	Values on request			

-- No limiter required

1) 10 % overvoltage.

2) 5 % overvoltage.

3) Infeed to the limiter is always on the side 1L1/3L2/5L3.

Permissible rated data of devices approved for North America (UL/CSA)

Motor starter protectors of the 3RV2 series are approved for UL/CSA, and according to UL508/UL 60947-4-1 and CSA C22.2 No. 14/CSA C22.2 No. 60947-4-1 they can be used on their own or as load feeders in combination with a contactor.

These motor starter protectors/circuit breakers can be used as "Manual Motor Controllers" for "Group Installations", as "Manual Motor Controllers Suitable for Tap Conductor Protection in Group Installations" and as "Self-Protected Combination Motor Controllers" (Type E).

3RV2 motor starter protectors as "Manual Motor Controllers"

If used as a "Manual Motor Controller", the motor starter protector is always operated in combination with an upstream short-circuit protection device. Approved fuses or a circuit breaker according to UL 489/CSA C22.2 No. 5 can be used.
These devices must be dimensioned according to the National Electrical Code (UL) or Canadian Electrical Code (CSA).

The file numbers for the approval of the 3RV2 as a Manual Motor Controller are as follows:

- UL File No. 47705, CCN: NLRV
- CSA Master Contract 165071, Product Class: 3211

Motor starter protectors		**hp rating[1] for FLA[2] max.**		**Rated current I_n**	**240 V AC**		**480 V AC**		**600 V AC**	
					UL I_{bc}[3]	CSA I_{bc}[3]	UL I_{bc}[3]	CSA I_{bc}[3]	UL I_{bc}[3]	CSA I_{bc}[3]
Type	V	Single-phase	3-phase	A	kA	kA	kA	kA	kA	kA
Size S00										
3RV2011, 3RV2111, 3RV2311, 3RV2411				0.16 ... 12.5	65	65	65	65	30	30
				16	65	65	65	65	--	--
FLA[2] max.	115	1	2							
16 A, 480 V	200	2	3							
12.5 A, 600 V	230	2	5							
	460	--	10							
	575/600	--	10							
Size S0										
3RV2021, 3RV2121, 3RV2321, 3RV2421				0.16 ... 12.5	65	65	65	65	30	30
				16 ... 25	65	65	65	65	--/(30)[4]	--/(30)[4]
FLA[2] max.	115	3	5	28, 32	65	65	50	50	--	--
40 A, 480 V	200	5	10	36, 40	65	65	12	12	--	--
12.5 A, 600 V	230	7 1/2	10							
	460	--	30							
	575/600	--	--							
Size S2										
3RV2031, 3RV2331				14 ... 36	65	65	65	65	25	25
				40 ... 52	65	65	65	65	22	22
FLA[2] max.	115/120	7.5	10	59 ... 65	65	65	65[5]	65[5]	20[5]	20[5]
80 A, 600 V	200/208	15	25	73 ... 80	65	65	65[5]	65[5]	20[5]	20[5]
	230/240	15	30							
	460/480	--	60							
	575/600	--	75							
Size S2, with increased switching capacity										
3RV2032, 3RV2332				14 ... 36	100	100	100	100	25	25
				40 ... 52	100	100	100	100	22	22
FLA[2] max.	115/120	7.5	10	59 ... 65	100	100	100[5]	100[5]	25[5]	25[5]
80 A, 600 V	200/208	15	25	73 ... 80	100	100	100[5]	100[5]	25[5]	25[5]
	230/240	15	30							
	460/480	--	60							
	575/600	--	75							

-- No approval

[1] hp rating = Power rating in horse power (maximum motor rating).

[2] FLA = Full Load Amps/motor full load current.

[3] Corresponds to "short-circuit breaking capacity" according to UL/CSA.

[4] The values in brackets only apply to 3RV2.23 motor starter protectors.

[5] With Class J fuse.

General data

3RV20 motor starter protectors (up to 80 A) as "Manual Motor Controller Suitable for Tap Conductor Protection in Group Installations"

The application as "Manual Motor Controllers Suitable for Tap Conductor Protection in Group Installations" is only available for UL. CSA does not recognize this approval! When the motor starter protector is used as a "Manual Motor Controller Suitable for Tap Conductor Protection in Group Installations", it must always be combined with upstream short-circuit protection. Approved fuses or a circuit breaker according to UL 489 can be used. These devices must be dimensioned according to the National Electrical Code.

The 3RV20 motor starter protectors are approved as "Manual Motor Controllers Suitable for Tap Conductor Protection in Group Installations" under the following file number:

- UL File No. 47705, CCN: NLRV

Motor starter protectors		**hp rating[1] for FLA[2] max.**		**Rated current I_n**	**240 V AC** UL I_{bc}[3]	**480 Y/277 V AC** UL I_{bc}[3]	**600 Y/347 V AC** UL I_{bc}[3]
Type	V	Single-phase	3-phase	A	kA	kA	kA
Size S00							
3RV2011				0.16 ... 12.5	65	65	30
				16	65	65	--
FLA[2] max.	115	1	2				
16 A, 480 V	200	2	3				
12.5 A, 600 V	230	2	5				
	460	--	10				
	575/600	--	10				
Size S0							
3RV2021				0.16 ... 12.5	65	65	30
				16 ... 25	65	65	--
FLA[2] max.	115	2	5	28; 32	50	50	--
32 A, 480 V	200	3	7.5				
12.5 A, 600 V	230	5	10				
	460	--	20				
	575/600	--	--				
Size S2							
3RV2031				14 ... 36	65	65	25
				40 ... 52	65	65	22
FLA[2] max.	115/120	7.5	10	59 ... 65	65	30	--
80 A, 480 V	200/208	15	25	73	65	20	--
52 A, 600 V	230/240	15	30	80	65	10	--
	460/480	--	60				
	575/600	--	75				
Size S2, with increased switching capacity							
3RV2032				14 ... 36	100	100	25
				40 ... 52	100	100	22
FLA[2] max.	115/120	7.5	10	59 ... 65	100	42	--
80 A, 480 V	200/208	15	25	73	100	30	--
52 A, 600 V	230/240	15	30	80	100	10	--
	460/480	--	60				
	575/600	--	75				

-- No approval

[1] hp rating = Power rating in horse power (maximum motor rating).

[2] FLA = Full Load Amps/motor full load current.

[3] Corresponds to "short-circuit breaking capacity" according to UL.

3RV20 motor starter protectors (up to 73 A) as "Self-Protected Combination Motor Controller (Type E)"

UL 508/UL 60947-4-1 approval demands 1-inch through air spacing and 2-inch over surface spacing at line side for "Self-Protected Combination Motor Controller Type E".

Therefore, 3RV20 motor starter protectors of sizes S00 to S2 are approved according to UL 508/UL 60947-4-1 in combination with the terminal blocks listed below.

CSA does not require these extended clearances. According to CSA, these terminal blocks can be omitted when the device is used as a "Self-Protected Combination Motor Controller".

The 3RV20 motor starter protectors are approved as "Self-Protected Combination Motor Controllers" under the following file numbers:

- UL File No. E156943, CCN: NKJH
- CSA Master Contract 165071, Product Class: 3211 08

Motor starter protectors/ circuit breakers		hp rating[1] for FLA[2] max.		Rated current I_n	Up to 240 V AC		Up to 480 Y/277 V AC		Up to 600 Y/347 V AC	
					UL I_{cc}[3]	CSA I_{cc}[3]	UL I_{cc}[3]	CSA I_{cc}[3]	UL I_{cc}[3]	CSA I_{cc}[3]
Type	V	Single-phase	3-phase	A	kA	kA	kA	kA	kA	kA
Size S00										
3RV2011 + 3RV2928-1H[4][5]				0.16 ... 12.5	65	65	65	65	30	30
				16	65	65	65	65	--	--
FLA[2] max.	115	1	2							
16 A, 480 V;	200	2	3							
12.5 A, 600 V	230	2	5							
	460	--	10							
	575/600	--	10							
Size S0										
3RV2021 + 3RV2928-1H[4][5]				0.16 ... 12.5	65	65	65	65	30	30
				16 ... 25	65	65	65	65	--	--
FLA[2] max.	115	2	5	28; 32	50	50	50	50	--	--
32 A, 480 V	200	3	7.5							
12.5 A, 600 V	230	5	10							
	460	--	20							
	575/600	--	--							
Size S2										
3RV2031+ 3RV2938-1K4				14 ... 36	65	65	65	65	25	25
				40 ... 52	65	65	65	65	22	22
FLA[2] max.	115/120	7.5	10	59 ... 73	65	65	20	20	--	--
73 A, 480 V	200/208	15	25							
52 A, 600 V	230/240	15	30							
	460/480	--	60							
	575/600	--	75							
Size S2, with increased switching capacity										
3RV2032 + 3RV2938-1K[4]				14 ... 36	100	100	100	100	25	25
				40 ... 52	100	100	100	100	22	22
FLA[2] max.	115/120	7.5	10	59 ... 73	100	100	30	30	--	--
73 A, 480 V	200/208	15	25							
52 A, 600 V	230/240	15	30							
	460/480	--	60							
	575/600	--	75							

-- No approval

1) hp rating = Power rating in horse power (maximum motor rating).

2) FLA = Full Load Amps/motor full load current.

3) Corresponds to "short-circuit breaking capacity" according to UL/CSA.

4) Not required for CSA.

5) Alternatively, the 3RV2928-1K phase barrier can be used.

3RV27 and 3RV28 motor starter protectors as "circuit breakers"

These motor starter protectors are approved as circuit breakers according to UL 489 and CSA 22.2 No. 5. They can be used therefore as upstream short-circuit protective devices for "Manual Motor Controllers" and "Manual Motor Controllers Suitable for Tap Conductor Protection in Group Installations".

3RV27 and 3RV28 motor starter protectors are approved as "circuit breakers" under the following file numbers:

- UL File No. E235044, CCN: DIVQ
- CSA Master Contract 165071, Product Class: 1432 01

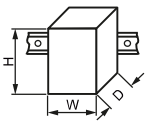
Motor starter protectors/ circuit breakers	Rated current I_n	240 V AC		480 Y/277 V AC		600 Y/347 V AC	
		UL I_{cc}[1]	CSA I_{cc}[1]	UL I_{cc}[1]	CSA I_{cc}[1]	UL I_{cc}[1]	CSA I_{cc}[1]
Type	A	kA	kA	kA	kA	kA	kA
Size S00							
3RV2711	0.16 ... 12.5	65	65	65	65	10	10
	15	65	65	65	65	--	--
3RV2811	0.16 ... 12.5	65	65	65	65	10	10
	15	65	65	65	65	--	--
Size S0							
3RV2721	20; 22	50	50	50	50	--	--
3RV2821	20; 22	50	50	50	50	--	--

-- No approval

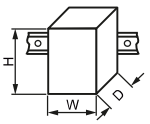
1) Corresponds to "short-circuit breaking capacity" according to UL.

General data

General data

Type			**3RV2.1.**	**3RV2.2.**	**3RV2.3.**	**3RV27, 3RV28**
Size			S00	S0	S2	S00, S0
Dimensions (W x H x D)						
• Screw terminals		mm	45 x 97 x 91	45 x 97 x 91	55 x 140 x 149	45 x 144 x 92
• Spring-type terminals		mm	45 x 106 x 91	45 x 119 x 91	--	--
Standards						
• IEC 60947-1, EN 60947-1 (VDE 0660 Part 100)			Yes			
• IEC 60947-2, EN 60947-2 (VDE 0660 Part 101)			Yes			
• IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102)			Yes	Yes	Yes	--
• UL 508/UL 60947-4-1, CSA C22.2 No. 14/CSA C22.2 No. 60947-4-1			Yes	Yes	Yes	--
• UL 489, CSA C22.2 No. 5			--	--	--	Yes
Number of poles			3			
Max. rated current $I_{n\ max}$ (= max. rated operational current I_e)		A	16	40	80	22
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.)	--	
	I_n: 14 ... 80 A	°C	--		–20 ... +70 (current reduction above +60 °C)	--
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 starter protector/circuit breaker inside enclosure: S0/S00 ≤ 32 A, S2 ≤ 52 A)						
• +35 °C		%	100		100 %	100
• +60 °C		%	87		--	87
Rated operational voltage U_e						
• Acc. to IEC		V AC	690 (when a molded-plastic enclosure is used only 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 category						
• IEC 60947-2 (motor starter protector/circuit breaker)			A			
• IEC 60947-4-1 (motor starter)			AC-3			
Trip class CLASS	Acc. to IEC 60947-4-1		10		10/20	--
DC short-circuit breaking capacity (time constant t = 5 ms)						
• 1 conducting path 150 V DC		kA	10		On request	10
• 2 conducting paths in series 300 V DC		kA	10			10
• 3 conducting paths in series 450 V DC		kA	10			10
Power loss P_v for each motor starter protector/circuit breaker Dependent on rated current I_n (upper setting range) $R_{\text{per conducting path}} = \frac{P}{I^2 \times 3}$	I_n: 0.16 ... 0.63 A	W	5		--	5
	I_n: 0.8 ... 6.3 A	W	6		--	6
	I_n: 8 ... 16 A	W	7		--	7
	I_n: 14 ... 16 A	W	--	7	10	7
	I_n: 17 ... 25 A	W	--	8	12	8
	I_n: 28 ... 32 A	W	--	11	14	--
	I_n: 36 ... 40 A	W	--	14	15	--
	I_n: 45 ... 52 A	W	--	--	17	--
	I_n: 59 ... 65 A	W	--	--	19	--
	I_n: 73 ... 80 A	W	--	--	21	--
Shock resistance	Acc. to IEC 60068-2-27	g/ms	25/11 (square and sine pulse)			
Degree of protection	Acc. to IEC 60529		IP20		- IP20 (front side) - Terminal IP00 (use additional terminal covers for higher degree of protection)	
Touch protection	Acc. to IEC 60529		Finger-safe		Finger-safe, for vertical contact from the front	
Temperature compensation	Acc. to IEC 60947-4-1	°C	–20 ... +60			
Phase failure sensitivity	Acc. to IEC 60947-4-1		Yes (not for 3RV23 motor starter protectors)			No
Protection of motors in hazardous environments			Yes (only for 3RV20 motor starter protectors)		On request	No
• according to European directive 94/9/EC (ATEX)			DMT 02 ATEX F 001 Ex II (2) GD		On request	No
• according to international standard IECEx			IECEx BVS1.0102 [Ex]		On request	No

General data

Type			**3RV2.1.**	**3RV2.2.**	**3RV2.3.**	**3RV27, 3RV28**
Size			S00	S0	S2	S00, S0
Dimensions (W x H x D)						
• Screw terminals		mm	45 x 97 x 91	45 x 97 x 91	55 x 140 x 149	45 x 144 x 92
• Spring-type terminals		mm	45 x 106 x 91	45 x 119 x 91	--	--
Isolating function	Acc. to IEC 60947-2		Yes			
Main and EMERGENCY-STOP switch characteristics (with corresponding accessories)	Acc. to DIN EN 60204-1 VDE 0113		Yes			
Protective separation between main and auxiliary circuits required for PELV applications	Acc. to IEC 60947-1					
• Up to 400 V +10 %			Yes			
• Up to 415 V +5 % (higher voltages on request)			Yes			
Permissible mounting position			Any, acc. to IEC 60447 start command "I" right-hand side or top			
Mechanical endurance		Operating cycles	100 000		52 A: 50 000, 80 A: 20 000	100 000
Electrical endurance		Operating cycles	100 000		52 A: 50 000, 80 A: 20 000	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	**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		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	**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
• At AC-12 = I_{th}, alternating voltage			
- 24 V	A	10	2.5
- 230 V	A	10	2.5
• 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

General data

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 NC; Signaling 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

Auxiliary releases

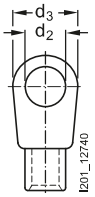
		Undervoltage releases	Shunt releases
Power consumption			
• During pick-up			
- AC voltages	VA/W	20.2/13	20.2/13
- DC voltages	W	20	13 ... 80
• During uninterrupted duty			
- AC voltages	VA/W	7.2/2.4	--
- DC voltages	W	2.1	--
Response voltage			
• Tripping	V	0.35 ... 0.7 x Us	0.7 ... 1.1 x Us
• Pick-up	V	0.85 ... 1.1 x Us	--
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	3RV2.31-4B1., 3RV2.31-4D.1., 3RV2.31-4E.1., 3RV2.31-4P.1., 3RV2.31-4S.1., 3RV2.31-4T.1., 3RV2.31-4U.1., 3RV2.31-4V.1.	3RV2.31-4J.1., 3RV2.31-4K.1., 3RV2.31-4R.1., 3RV2.31-4W.1., 3RV2.31-4X.1., 3RV2431-4VA1., 3RV2.32	3RV27, 3RV28
Size		S00	S0	S2		S00, S0
Connection type		**Screw terminals**				
Terminal screw		M3, Pozidriv size 2	M4, Pozidriv size 2	M6, Pozidriv size 2		M4, Pozidriv size 2
Operating devices	mm	⌀ 5 ... 6	⌀ 5 ... 6	⌀ 5 ... 6		⌀ 5 ... 6
Prescribed tightening torque	Nm	0.8 ... 1.2	2 ... 2.5	3.0 ... 4.5		2.5 ... 3
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected						
• Solid or stranded	mm^2	2 x (0.75 ... 2.5)[1], 2 x 4	2 x (1 ... 2.5)[1], 2 x (2.5 ... 10)[1]	2 x (1 ... 25)[1], 1 x (1 ... 35)[1]	2 x (1 ... 35)[1], 1 x (1 ... 50)[1]	2 x (1 ... 10)[1], max. 1 x 25
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	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	2 x (1 ... 16)[1], 1 x (1 ... 25)[1]	2 x (1 ... 25)[1], 1 x (1 ... 35)[1]	1 x (1 ... 16), max. 6 + 16
• AWG cables, solid or stranded	AWG	2 x (20 ... 16)[1], 2 x (18 ... 12)[1]	2 x (18 ... 12)[1], 2 x (14 ... 8)[1]	2 x (18 ... 3)[1], 1 x (18 ... 2)[1]	2 x (18 ... 2)[1], 1 x (18 ... 1)[1]	2 x (14 ... 10)
Connection type		**Spring-type terminals**				
Operating devices	mm	3.0 x 0.5				
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected						
• Solid or stranded	mm^2	2 x (0.5 ... 4)	2 x (1 ... 10)	--		
• Finely stranded without end sleeve	mm^2	2 x (0.5 ... 2.5)	2 x (1 ... 6)	--		
• Finely stranded with end sleeves (DIN 46228-11)	mm^2	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	--		
Connection type		**Ring terminal lug connections**				
Terminal screw		M3, Pozidriv size 2	M4, Pozidriv size 2	--		
Operating devices	mm	⌀ 5 ... 6	⌀ 5 ... 6	--		
Prescribed tightening torque	Nm	0.8 ... 1.2	2 ... 2.5	--		
Usable ring terminal lugs	mm	d_2 = min. 3.2, d_3 = max. 7.5	d_2 = min. 4.3, d_3 = max. 12.2	--		
• DIN 46234 without insulation sleeve						
• DIN 46225 without insulation sleeve						
• DIN 46237 with insulation sleeve						
• JIS C2805 Type R without insulation sleeve						
• JIS C2805 Type RAV with insulation sleeve						
• JIS C2805 Type RAP with insulation sleeve						

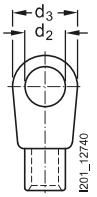


[1] If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

General data

Conductor cross-sections for auxiliary and control circuits

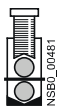
Type		3RV2.11	3RV2.21	3RV2.31, 3RV2.32	3RV27, 3RV28
Size		S00	S0	S2	S00, S0
Connection type		**Screw terminals**			
Terminal screw		M3, Pozidriv size 2			
Operating devices	mm	⌀ 5 ... 6			
Prescribed tightening torque	Nm	0.8 ... 1.2			
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected					
• Solid or stranded	mm^2	2 x (0.5 ... 1.5)[1], 2 x (0.75 ... 2.5)[1]			
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	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			
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected					
• Solid or stranded	mm^2	2 x (0.5 ... 2.5)			
• Finely stranded without end sleeve	mm^2	2 x (0.5 ... 2.5)			
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	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			
Connection type		**Ring terminal lug connections**			
Terminal screw		M3, Pozidriv size 2			
Operating devices	mm	⌀ 5 ... 6			
Tightening torque	Nm	0.8 ... 1.2			
Usable ring terminal lugs	mm	d_2 = min. 3.2, d_3 = max. 7.5			
• DIN 46234 without insulation sleeve					
• DIN 46225 without insulation sleeve					
• DIN 46237 with insulation sleeve					
• JIS C2805 Type R without insulation sleeve					
• JIS C2805 Type RAV with insulation sleeve					
• JIS C2805 Type RAP with insulation sleeve					



[1] If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

Terminals for "Self-Protected Combination Motor Controllers (Type E) according to UL 508/UL 60947-4-1"

Type		3RV2928-1H
Prescribed tightening torque	Nm	2.5 ... 3
Conductor cross-sections		
• Front clamping point connected		
- Solid	mm^2	1 ... 10
- Finely stranded with end sleeve	mm^2	1 ... 16
- Stranded	mm^2	2.5 ... 25
- AWG cables, solid or stranded	AWG	14 ... 3
- Terminal screw		M4
• Rear clamping point connected		
- Solid	mm^2	1 ... 10
- Finely stranded with end sleeve	mm^2	1 ... 16
- Stranded	mm^2	1.5 ... 25
- AWG cables, solid or stranded	AWG	14 ... 6
- Terminal screw		M4
• Both clamping points connected		
- Front clamping point:		
Solid	mm^2	1 ... 10
Finely stranded with end sleeve	mm^2	1 ... 10[1], 1 ... 6[1]
Stranded	mm^2	2.5 ... 10
AWG cables, solid or stranded	AWG	14 ... 6
Terminal screw		M4
- Rear clamping point:		
Solid	mm^2	1 ... 10
Finely stranded with end sleeve	mm^2	1 ... 10[1], 1 ... 16[1]
Stranded	mm^2	2.5 ... 10
AWG cables, solid or stranded	AWG	16 ... 3
Terminal screw		M4



[1] The following can be connected when both clamping points are connected:
- Front 1 ... 10 mm^2 and rear 1 ... 10 mm^2
- Front 1 ... 6 mm^2 and rear 1 ... 16 mm^2

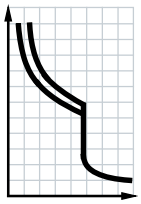
Connection modules for motor starter protectors/circuit breakers with screw terminals				
Version	Type		**3RT1900-4RE01** **Connector S0**	**3RT1926-4RD01** **Adapter S0**
General data				
Rated insulation voltage U_i (pollution degree 3)		V	690	
Rated impulse withstand voltage U_{imp} (pollution degree 3)		kV	6	
Rated operational voltage U_e		V	440	
Rated frequency f For AC operation		Hz	50/60	
Rated operational current I_e AC-3 at 400 V		A	25	
Mechanical endurance	Operating cycles		10 million	
Electrical endurance at I_e	Operating cycles		1 million	
Protective separation according to IEC 60947-1 (pollution degree 3)		V	400	
Permissible ambient temperature				
• During operation		°C	-25 ... +60	
• During storage		°C	-50 ... +80	
Degree of protection acc. to IEC 60529			IP20	
Conductor cross-sections				
Connection type			**Screw terminals**	
• Solid		mm^2	1 x (0.5 ... 6)	
• Finely stranded without/with end sleeve		mm^2	1 x (0.5 ... 6)	
• Stranded		mm^2	1 x (0.5 ... 6)	
• AWG cables, solid or stranded		AWG	1 x (20 ... 10)	
• Tightening torque		Nm	0.6 ... 0.8	
• Corresponding opening tool			Cross-tip screwdriver PZ2	
CSA- and UL rated data				
Rated operational voltage U_e		V	480	
Rated insulation voltage U_i		V	600	
Uninterrupted current, at 40 °C		A	25	
Short-circuit protection[1]				
• At 600 V		kA	5	
• CLASS RK5 fuse		A	100	
• Circuit breaker with overload protection acc. to UL 489		A	100	
Combination motor controllers type E according to UL 508				
	At 480 V	Type	3RV202	
		A	22	
		kA	65	
	At 600 V	Type	3RV202	
		A	22	
		kA	10	

[1] For more information about short-circuit values, e.g. for protection against high short-circuit currents, see the UL reports on the individual devices, www.siemens.com/sirius/manuals.

Selection and ordering data

***CLASS 10, without auxiliary switches*[1)]**

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41E



3RV2011-0AA10

3RV2011-0EA20

3RV2021-4AA10

3RV2021-4AA20

Rated current	Suitable for three-phase motors[2)] with *P*	Setting range for thermal overload release	Instantaneous overcurrent release	Short-circuit breaking capacity at 400 V AC	DT	Screw terminals	DT	Spring-type terminals
I_n			$I >$	I_{cu}		Article No. Price per PU		Article No. Price per PU
A	kW	A	A	kA				
Size S00								
0.16	0.04	0.11 ... 0.16	2.1	100	▶	**3RV2011-0AA10**	▶	**3RV2011-0AA20**
0.2	0.06	0.14 ... 0.2	2.6	100	▶	**3RV2011-0BA10**	▶	**3RV2011-0BA20**
0.25	0.06	0.18 ... 0.25	3.3	100	▶	**3RV2011-0CA10**	▶	**3RV2011-0CA20**
0.32	0.09	0.22 ... 0.32	4.2	100	▶	**3RV2011-0DA10**	▶	**3RV2011-0DA20**
0.4	0.09	0.28 ... 0.4	5.2	100	▶	**3RV2011-0EA10**	▶	**3RV2011-0EA20**
0.5	0.12	0.35 ... 0.5	6.5	100	▶	**3RV2011-0FA10**	▶	**3RV2011-0FA20**
0.63	0.18	0.45 ... 0.63	8.2	100	▶	**3RV2011-0GA10**	▶	**3RV2011-0GA20**
0.8	0.18	0.55 ... 0.8	10	100	▶	**3RV2011-0HA10**	▶	**3RV2011-0HA20**
1	0.25	0.7 ... 1	13	100	▶	**3RV2011-0JA10**	▶	**3RV2011-0JA20**
1.25	0.37	0.9 ... 1.25	16	100	▶	**3RV2011-0KA10**	▶	**3RV2011-0KA20**
1.6	0.55	1.1 ... 1.6	21	100	▶	**3RV2011-1AA10**	▶	**3RV2011-1AA20**
2	0.75	1.4 ... 2	26	100	▶	**3RV2011-1BA10**	▶	**3RV2011-1BA20**
2.5	0.75	1.8 ... 2.5	33	100	▶	**3RV2011-1CA10**	▶	**3RV2011-1CA20**
3.2	1.1	2.2 ... 3.2	42	100	▶	**3RV2011-1DA10**	▶	**3RV2011-1DA20**
4	1.5	2.8 ... 4	52	100	▶	**3RV2011-1EA10**	▶	**3RV2011-1EA20**
5	1.5	3.5 ... 5	65	100	▶	**3RV2011-1FA10**	▶	**3RV2011-1FA20**
6.3	2.2	4.5 ... 6.3	82	100	▶	**3RV2011-1GA10**	▶	**3RV2011-1GA20**
8	3	5.5 ... 8	104	100	▶	**3RV2011-1HA10**	▶	**3RV2011-1HA20**
10	4	7 ... 10	130	100	▶	**3RV2011-1JA10**	▶	**3RV2011-1JA20**
12.5	5.5	9 ... 12.5	163	100	▶	**3RV2011-1KA10**	▶	**3RV2011-1KA20**
16	7.5	10[3)] ... 16	208	55	▶	**3RV2011-4AA10**	▶	**3RV2011-4AA20**
Size S0								
0.63	0.18	0.45 ... 0.63	8.2	100	B	**3RV2021-0GA10**	B	**3RV2021-0GA20**
0.8	0.18	0.55 ... 0.8	10	100	B	**3RV2021-0HA10**	B	**3RV2021-0HA20**
1	0.25	0.7 ... 1	13	100	B	**3RV2021-0JA10**	B	**3RV2021-0JA20**
1.25	0.37	0.9 ... 1.25	16	100	B	**3RV2021-0KA10**	B	**3RV2021-0KA20**
1.6	0.55	1.1 ... 1.6	21	100	B	**3RV2021-1AA10**	B	**3RV2021-1AA20**
2	0.75	1.4 ... 2	26	100	B	**3RV2021-1BA10**	B	**3RV2021-1BA20**
2.5	0.75	1.8 ... 2.5	33	100	B	**3RV2021-1CA10**	B	**3RV2021-1CA20**
3.2	1.1	2.2 ... 3.2	42	100	B	**3RV2021-1DA10**	B	**3RV2021-1DA20**
4	1.5	2.8 ... 4	52	100	B	**3RV2021-1EA10**	B	**3RV2021-1EA20**
5	1.5	3.5 ... 5	65	100	B	**3RV2021-1FA10**	B	**3RV2021-1FA20**
6.3	2.2	4.5 ... 6.3	82	100	B	**3RV2021-1GA10**	B	**3RV2021-1GA20**
8	3	5.5 ... 8	104	100	B	**3RV2021-1HA10**	B	**3RV2021-1HA20**
10	4	7 ... 10	130	100	B	**3RV2021-1JA10**	B	**3RV2021-1JA20**
12.5	5.5	9 ... 12.5	163	100	B	**3RV2021-1KA10**	B	**3RV2021-1KA20**
16	7.5	10[3)] ... 16	208	55	▶	**3RV2021-4AA10**	▶	**3RV2021-4AA20**
20	7.5	13[3)] ... 20	260	55	▶	**3RV2021-4BA10**	▶	**3RV2021-4BA20**
22	11	16[3)] ... 22	286	55	▶	**3RV2021-4CA10**	▶	**3RV2021-4CA20**
25	11	18[3)] ... 25	325	55	▶	**3RV2021-4DA10**	▶	**3RV2021-4DA20**
28	15	23 ... 28	364	55	▶	**3RV2021-4NA10**	▶	**3RV2021-4NA20**
32[4)]	15	27 ... 32	400	55	▶	**3RV2021-4EA10**	▶	**3RV2021-4EA20**
36[5)]	18.5	30 ... 36	432	20	▶	**3RV2021-4PA10**		--
40[5)]	18.5	34 ... 40	480	20	▶	**3RV2021-4FA10**		--

1) The 3RV20.1-..A.0 motor starter protectors up to 32 A are also available with ring terminal lug connection. The Article No. must be changed in the 11th digit to **"4"**: e.g. 3RV2011-0AA**4**0.

2) Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

3) The setting range of the thermal overload releases has been extended.

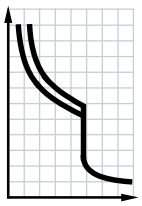
4) Suitable for use with IE3 motors up to a starting current of 256 A. For higher starting currents we recommend using 3RV2 motor starter protectors size S2.

5) 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. For use with IE3 motors we recommend using 3RV2 motor starter protectors size S2.

Auxiliary switches and other accessories can be ordered separately (see "Accessories" page 7/33 onwards).

* You can order this quantity or a multiple thereof.
Illustrations are approximate

CLASS 10, without auxiliary switches



3RV2031-4SA10

3RV2032-4RA10

Rated current	Suitable for three-phase motors[1] with *P*	Setting range for thermal overload release	Instantaneous overcurrent release	Short-circuit breaking capacity at 400 V AC	DT	**Screw terminals**	PU (UNIT, SET, M)	PS*	PG
I_n			$I >$	I_{cu}		Article No. Price per PU			
A	kW	A	A	kA					
Size S2									
14	5.5	9.5 ... 14	208	65	▶	**3RV2031-4SA10**	1	1 unit	41E
17	7.5	12 ... 17	260	65	▶	**3RV2031-4TA10**	1	1 unit	41E
20	7.5	14 ... 20	260	65	▶	**3RV2031-4BA10**	1	1 unit	41E
25	11	18 ... 25	325	65	▶	**3RV2031-4DA10**	1	1 unit	41E
32	15	22 ... 32	416	65	▶	**3RV2031-4EA10**	1	1 unit	41E
36	18.5	28 ... 36	520	65	▶	**3RV2031-4PA10**	1	1 unit	41E
40	18.5	32 ... 40	585	65	▶	**3RV2031-4UA10**	1	1 unit	41E
45	22	35 ... 45	650	65	▶	**3RV2031-4VA10**	1	1 unit	41E
52	22	42 ... 52	741	65	▶	**3RV2031-4WA10**	1	1 unit	41E
59[2]	30	49 ... 59	845	65	▶	**3RV2031-4XA10**	1	1 unit	41E
65[2]	30	54 ... 65	845	65	▶	**3RV2031-4JA10**	1	1 unit	41E
73[2]	37	62 ... 73	949	65	▶	**3RV2031-4KA10**	1	1 unit	41E
80[2][3]	37	70 ... 80	1 040	65	▶	**3RV2031-4RA10**	1	1 unit	41E
Size S2, with increased switching capacity									
14	5.5	9.5 ... 14	208	100	▶	**3RV2032-4SA10**	1	1 unit	41E
17	7.5	12 ... 17	260	100	▶	**3RV2032-4TA10**	1	1 unit	41E
20	7.5	14 ... 20	260	100	▶	**3RV2032-4BA10**	1	1 unit	41E
25	11	18 ... 25	325	100	▶	**3RV2032-4DA10**	1	1 unit	41E
32	15	22 ... 32	416	100	▶	**3RV2032-4EA10**	1	1 unit	41E
36	18.5	28 ... 36	520	100	▶	**3RV2032-4PA10**	1	1 unit	41E
40	18.5	32 ... 40	585	100	▶	**3RV2032-4UA10**	1	1 unit	41E
45	22	35 ... 45	650	100	▶	**3RV2032-4VA10**	1	1 unit	41E
52	22	42 ... 52	741	100	▶	**3RV2032-4WA10**	1	1 unit	41E
59[2]	30	49 ... 59	845	100	▶	**3RV2032-4XA10**	1	1 unit	41E
65[2]	30	54 ... 65	845	100	▶	**3RV2032-4JA10**	1	1 unit	41E
73[2]	37	62 ... 73	949	100	▶	**3RV2032-4KA10**	1	1 unit	41E
80[2][3]	37	70 ... 80	1 040	100	▶	**3RV2032-4RA10**	1	1 unit	41E

[1] Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

[2] Start of delivery on request.

[3] Suitable for use with IE3 motors up to a starting current of 720 A. For higher starting currents we recommend using 3RV1 motor starter protectors size S3.

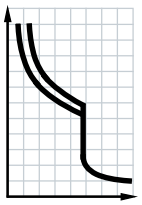
Auxiliary switches and other accessories can be ordered separately (see "Accessories" page 7/33 onwards).

*** You can order this quantity or a multiple thereof.**
Illustrations are approximate

For motor protection *IE3* ready

CLASS 10, with transverse auxiliary switch (1 NO + 1 NC)

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41E



3RV2011-4AA15
with integrated transverse auxiliary switch

3RV2011-0EA25
with integrated transverse auxiliary switch

3RV2021-4AA15
with integrated transverse auxiliary switch

3RV2021-4AA25
with integrated transverse auxiliary switch

Rated current	Suitable for three-phase motors[1] with *P*	Setting range for thermal overload release	Instantaneous overcurrent release	Short-circuit breaking capacity at 400 V AC	DT	Screw terminals	DT	Spring-type terminals
						Article No. / Price per PU		Article No. / Price per PU
I_n			$I >$	I_{cu}				
A	kW	A	A	kA				
Size S00								
0.16	0.04	0.11 ... 0.16	2.1	100	▶	**3RV2011-0AA15**	▶	**3RV2011-0AA25**
0.2	0.06	0.14 ... 0.2	2.6	100	▶	**3RV2011-0BA15**	▶	**3RV2011-0BA25**
0.25	0.06	0.18 ... 0.25	3.3	100	▶	**3RV2011-0CA15**	▶	**3RV2011-0CA25**
0.32	0.09	0.22 ... 0.32	4.2	100	▶	**3RV2011-0DA15**	▶	**3RV2011-0DA25**
0.4	0.09	0.28 ... 0.4	5.2	100	▶	**3RV2011-0EA15**	▶	**3RV2011-0EA25**
0.5	0.12	0.35 ... 0.5	6.5	100	▶	**3RV2011-0FA15**	▶	**3RV2011-0FA25**
0.63	0.18	0.45 ... 0.63	8.2	100	▶	**3RV2011-0GA15**	▶	**3RV2011-0GA25**
0.8	0.18	0.55 ... 0.8	10	100	▶	**3RV2011-0HA15**	▶	**3RV2011-0HA25**
1	0.25	0.7 ... 1	13	100	▶	**3RV2011-0JA15**	▶	**3RV2011-0JA25**
1.25	0.37	0.9 ... 1.25	16	100	▶	**3RV2011-0KA15**	▶	**3RV2011-0KA25**
1.6	0.55	1.1 ... 1.6	21	100	▶	**3RV2011-1AA15**	▶	**3RV2011-1AA25**
2	0.75	1.4 ... 2	26	100	▶	**3RV2011-1BA15**	▶	**3RV2011-1BA25**
2.5	0.75	1.8 ... 2.5	33	100	▶	**3RV2011-1CA15**	▶	**3RV2011-1CA25**
3.2	1.1	2.2 ... 3.2	42	100	▶	**3RV2011-1DA15**	▶	**3RV2011-1DA25**
4	1.5	2.8 ... 4	52	100	▶	**3RV2011-1EA15**	▶	**3RV2011-1EA25**
5	1.5	3.5 ... 5	65	100	▶	**3RV2011-1FA15**	▶	**3RV2011-1FA25**
6.3	2.2	4.5 ... 6.3	82	100	▶	**3RV2011-1GA15**	▶	**3RV2011-1GA25**
8	3	5.5 ... 8	104	100	▶	**3RV2011-1HA15**	▶	**3RV2011-1HA25**
10	4	7 ... 10	130	100	▶	**3RV2011-1JA15**	▶	**3RV2011-1JA25**
12.5	5.5	9 ... 12.5	163	100	▶	**3RV2011-1KA15**	▶	**3RV2011-1KA25**
16	7.5	10[2] ... 16	208	55	▶	**3RV2011-4AA15**	▶	**3RV2011-4AA25**
Size S0								
16	7.5	10[2] ... 16	208	55	▶	**3RV2021-4AA15**	▶	**3RV2021-4AA25**
20	7.5	13[2] ... 20	260	55	▶	**3RV2021-4BA15**	▶	**3RV2021-4BA25**
22	11	16[2] ... 22	286	55	▶	**3RV2021-4CA15**	▶	**3RV2021-4CA25**
25	11	18[2] ... 25	325	55	▶	**3RV2021-4DA15**	▶	**3RV2021-4DA25**
28	15	23 ... 28	364	55	▶	**3RV2021-4NA15**	▶	**3RV2021-4NA25**
32[3]	15	27 ... 32	400	55	▶	**3RV2021-4EA15**	▶	**3RV2021-4EA25**
36[4]	18.5	30 ... 36	432	20	▶	**3RV2021-4PA15**		--
40[4]	18.5	34 ... 40	480	20	▶	**3RV2021-4FA15**		--

[1] Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

[2] The setting range of the thermal overload releases has been extended.

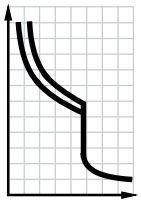
[3] Suitable for use with IE3 motors up to a starting current of 256 A. For higher starting currents we recommend using 3RV2 motor starter protectors size S2.

[4] 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. For use with IE3 motors we recommend using 3RV2 motor starter protectors size S2.

Auxiliary switches and other accessories can be ordered separately (see "Accessories" page 7/33 onwards).

* You can order this quantity or a multiple thereof.
Illustrations are approximate

CLASS 20, without auxiliary switches



3RV2031-4SB10

3RV2031-4WB10

Rated current	Suitable for three-phase motors[1] with *P*	Setting range for thermal overload release	Instantaneous overcurrent release	Short-circuit breaking capacity at 400 V AC	DT	**Screw terminals**	PU (UNIT, SET, M)	PS*	PG
I_n			$I >$	I_{cu}		Article No. Price per PU			
A	kW	A	A	kA					
Size S2									
14	5.5	9.5 ... 14	208	65	A	**3RV2031-4SB10**	1	1 unit	41E
17	7.5	12 ... 17	260	65	A	**3RV2031-4TB10**	1	1 unit	41E
20	7.5	14 ... 20	260	65	A	**3RV2031-4BB10**	1	1 unit	41E
25	11	18 ... 25	325	65	A	**3RV2031-4DB10**	1	1 unit	41E
32	15	22 ... 32	416	65	A	**3RV2031-4EB10**	1	1 unit	41E
36	18.5	28 ... 36	520	65	A	**3RV2031-4PB10**	1	1 unit	41E
40	18.5	32 ... 40	585	65	A	**3RV2031-4UB10**	1	1 unit	41E
45	22	35 ... 45	650	65	A	**3RV2031-4VB10**	1	1 unit	41E
52	22	42 ... 52	741	65	A	**3RV2031-4WB10**	1	1 unit	41E
59[2]	30	49 ... 59	845	65	▶	**3RV2031-4XB10**	1	1 unit	41E
65[2]	30	54 ... 65	845	65	▶	**3RV2031-4JB10**	1	1 unit	41E

[1] Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

[2] Start of delivery on request.

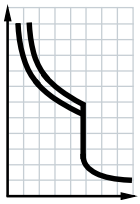
Auxiliary switches and other accessories can be ordered separately (see "Accessories" page 7/33 onwards).

*** You can order this quantity or a multiple thereof.**
Illustrations are approximate

For motor protection with overload relay function ***IE3* ready**

Selection and ordering data

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



3RV2111-4FA10

3RV2111-0BA10

3RV2131-4WB10

Rated current	Suitable for three-phase motors[1] with *P*	Setting range for thermal overload release	Instantaneous overcurrent release	Short-circuit breaking capacity at 400 V AC	DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG
I_n			$I >$	I_{cu}		Article No. Price per PU			
A	kW	A	A	kA					
Size S00[2]									
0.16	0.04	0.11 ... 0.16	2.1	100	A	**3RV2111-0AA10**	1	1 unit	41E
0.2	0.06	0.14 ... 0.2	2.6	100	A	**3RV2111-0BA10**	1	1 unit	41E
0.25	0.06	0.18 ... 0.25	3.3	100	A	**3RV2111-0CA10**	1	1 unit	41E
0.32	0.09	0.22 ... 0.32	4.2	100	A	**3RV2111-0DA10**	1	1 unit	41E
0.4	0.09	0.28 ... 0.4	5.2	100	A	**3RV2111-0EA10**	1	1 unit	41E
0.5	0.12	0.35 ... 0.5	6.5	100	A	**3RV2111-0FA10**	1	1 unit	41E
0.63	0.18	0.45 ... 0.63	8.2	100	A	**3RV2111-0GA10**	1	1 unit	41E
0.8	0.18	0.55 ... 0.8	10	100	A	**3RV2111-0HA10**	1	1 unit	41E
1	0.25	0.7 ... 1	13	100	A	**3RV2111-0JA10**	1	1 unit	41E
1.25	0.37	0.9 ... 1.25	16	100	A	**3RV2111-0KA10**	1	1 unit	41E
1.6	0.55	1.1 ... 1.6	21	100	A	**3RV2111-1AA10**	1	1 unit	41E
2	0.75	1.4 ... 2	26	100	A	**3RV2111-1BA10**	1	1 unit	41E
2.5	0.75	1.8 ... 2.5	33	100	A	**3RV2111-1CA10**	1	1 unit	41E
3.2	1.1	2.2 ... 3.2	42	100	A	**3RV2111-1DA10**	1	1 unit	41E
4	1.5	2.8 ... 4	52	100	A	**3RV2111-1EA10**	1	1 unit	41E
5	1.5	3.5 ... 5	65	100	A	**3RV2111-1FA10**	1	1 unit	41E
6.3	2.2	4.5 ... 6.3	82	100	A	**3RV2111-1GA10**	1	1 unit	41E
8	3	5.5 ... 8	104	100	A	**3RV2111-1HA10**	1	1 unit	41E
10	4	7 ... 10	130	100	A	**3RV2111-1JA10**	1	1 unit	41E
12.5	5.5	9 ... 12.5	163	100	A	**3RV2111-1KA10**	1	1 unit	41E
16	7.5	10[3] ... 16	208	55	A	**3RV2111-4AA10**	1	1 unit	41E
Size S0[2]									
16	7.5	10[3] ... 16	208	55	A	**3RV2121-4AA10**	1	1 unit	41E
20	7.5	13[3] ... 20	260	55	A	**3RV2121-4BA10**	1	1 unit	41E
22	11	16[3] ... 22	286	55	A	**3RV2121-4CA10**	1	1 unit	41E
25	11	18[3] ... 25	325	55	A	**3RV2121-4DA10**	1	1 unit	41E
28	15	23 ... 28	364	55	A	**3RV2121-4NA10**	1	1 unit	41E
32[4]	15	27 ... 32	400	55	A	**3RV2121-4EA10**	1	1 unit	41E
Size S2[2]									
14	5.5	9.5 ... 14	208	65	A	**3RV2131-4SA10**	1	1 unit	41E
17	7.5	12 ... 17	260	65	A	**3RV2131-4TA10**	1	1 unit	41E
20	7.5	14 ... 20	260	65	A	**3RV2131-4BA10**	1	1 unit	41E
25	11	18 ... 25	325	65	A	**3RV2131-4DA10**	1	1 unit	41E
32	15	22 ... 32	416	65	A	**3RV2131-4EA10**	1	1 unit	41E
36	18.5	28 ... 36	520	65	A	**3RV2131-4PA10**	1	1 unit	41E
40	18.5	32 ... 40	585	65	A	**3RV2131-4UA10**	1	1 unit	41E
45	22	35 ... 45	650	65	A	**3RV2131-4VA10**	1	1 unit	41E
52	22	42 ... 52	741	65	A	**3RV2131-4WA10**	1	1 unit	41E
59[5]	30	49 ... 59	845	65	A	**3RV2131-4XA10**	1	1 unit	41E
65[5]	30	54 ... 65	845	65	A	**3RV2131-4JA10**	1	1 unit	41E
73[5]	37	62 ... 73	949	65	A	**3RV2131-4KA10**	1	1 unit	41E
80[5][6]	37	70 ... 80	1 040	65	A	**3RV2131-4RA10**	1	1 unit	41E

1) Guide value for 4-pole standard motors at 50 Hz 400 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 3RV2915 three-phase busbars cannot be used.

3) The setting range of the thermal overload releases has been extended.

4) Suitable for use with IE3 motors up to a starting current of 256 A. For higher starting currents we recommend using 3RV2 motor starter protectors size S2.

5) Start of delivery on request.

6) Suitable for use with IE3 motors up to a starting current of 720 A. For higher starting currents we recommend using 3RV1 motor starter protectors size S3.

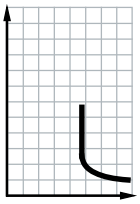
Auxiliary switches and other accessories can be ordered separately (see "Accessories" page 7/33 onwards).

* You can order this quantity or a multiple thereof.
Illustrations are approximate

Selection and ordering data

Without auxiliary switches

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41E



3RV2311-4AC10

3RV2311-0JC20

3RV2321-4AC10

3RV2321-4AC20

Rated current	Suitable for three-phase motors[1] with *P*	Thermal overload releases[2]	Instantaneous overcurrent release	Short-circuit breaking capacity at 400 V AC	DT	**Screw terminals**	DT	**Spring-type terminals**
I_n			$I >$	I_{cu}		Article No. Price per PU		Article No. Price per PU
A	kW	A	A	kA				
Size S00								
0.16	0.04	Without	2.1	100	B	**3RV2311-0AC10**	B	**3RV2311-0AC20**
0.2	0.06	Without	2.6	100	B	**3RV2311-0BC10**	B	**3RV2311-0BC20**
0.25	0.06	Without	3.3	100	B	**3RV2311-0CC10**	B	**3RV2311-0CC20**
0.32	0.09	Without	4.2	100	B	**3RV2311-0DC10**	B	**3RV2311-0DC20**
0.4	0.09	Without	5.2	100	B	**3RV2311-0EC10**	B	**3RV2311-0EC20**
0.5	0.12	Without	6.5	100	B	**3RV2311-0FC10**	B	**3RV2311-0FC20**
0.63	0.18	Without	8.2	100	B	**3RV2311-0GC10**	B	**3RV2311-0GC20**
0.8	0.18	Without	10	100	B	**3RV2311-0HC10**	B	**3RV2311-0HC20**
1	0.25	Without	13	100	B	**3RV2311-0JC10**	B	**3RV2311-0JC20**
1.25	0.37	Without	16	100	B	**3RV2311-0KC10**	B	**3RV2311-0KC20**
1.6	0.55	Without	21	100	B	**3RV2311-1AC10**	B	**3RV2311-1AC20**
2	0.75	Without	26	100	B	**3RV2311-1BC10**	B	**3RV2311-1BC20**
2.5	0.75	Without	33	100	B	**3RV2311-1CC10**	B	**3RV2311-1CC20**
3.2	1.1	Without	42	100	B	**3RV2311-1DC10**	B	**3RV2311-1DC20**
4	1.5	Without	52	100	B	**3RV2311-1EC10**	B	**3RV2311-1EC20**
5	1.5	Without	65	100	B	**3RV2311-1FC10**	B	**3RV2311-1FC20**
6.3	2.2	Without	82	100	B	**3RV2311-1GC10**	B	**3RV2311-1GC20**
8	3	Without	104	100	B	**3RV2311-1HC10**	B	**3RV2311-1HC20**
10	4	Without	130	100	B	**3RV2311-1JC10**	B	**3RV2311-1JC20**
12.5	5.5	Without	163	100	B	**3RV2311-1KC10**	B	**3RV2311-1KC20**
16	7.5	Without	208	55	B	**3RV2311-4AC10**	B	**3RV2311-4AC20**
Size S0								
1.6	0.55	Without	21	100	B	**3RV2321-1AC10**	B	**3RV2321-1AC20**
2	0.75	Without	26	100	B	**3RV2321-1BC10**	B	**3RV2321-1BC20**
2.5	0.75	Without	33	100	B	**3RV2321-1CC10**	B	**3RV2321-1CC20**
3.2	1.1	Without	42	100	B	**3RV2321-1DC10**	B	**3RV2321-1DC20**
4	1.5	Without	52	100	B	**3RV2321-1EC10**	B	**3RV2321-1EC20**
5	1.5	Without	65	100	B	**3RV2321-1FC10**	B	**3RV2321-1FC20**
6.3	2.2	Without	82	100	B	**3RV2321-1GC10**	B	**3RV2321-1GC20**
8	3	Without	104	100	B	**3RV2321-1HC10**	B	**3RV2321-1HC20**
10	4	Without	130	100	B	**3RV2321-1JC10**	B	**3RV2321-1JC20**
12.5	5.5	Without	163	100	B	**3RV2321-1KC10**	B	**3RV2321-1KC20**
16	7.5	Without	208	55	B	**3RV2321-4AC10**	B	**3RV2321-4AC20**
20	7.5	Without	260	55	B	**3RV2321-4BC10**	B	**3RV2321-4BC20**
22	11	Without	286	55	B	**3RV2321-4CC10**	B	**3RV2321-4CC20**
25	11	Without	325	55	B	**3RV2321-4DC10**	B	**3RV2321-4DC20**
28	15	Without	364	55	B	**3RV2321-4NC10**	B	**3RV2321-4NC20**
32[3]	15	Without	400	55	B	**3RV2321-4EC10**	B	**3RV2321-4EC20**
36[4]	18.5	Without	432	20	B	**3RV2321-4PC10**		--
40[4]	18.5	Without	480	20	B	**3RV2321-4FC10**		--

[1] Guide value for 4-pole standard motors at 50 Hz 400 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.

[3] Suitable for use with IE3 motors up to a starting current of 256 A. For higher starting currents we recommend using 3RV2 motor starter protectors size S2.

[4] 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. For use with IE3 motors we recommend using 3RV2 motor starter protectors size S2.

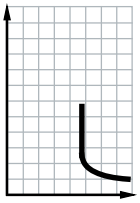
Size S2, see page 7/28.

Auxiliary switches and other accessories can be ordered separately (see "Accessories" page 7/33 onwards).

* You can order this quantity or a multiple thereof.
Illustrations are approximate

For starter combinations ***IE3* ready**

Without auxiliary switches (continued)



3RV2331-4SC10

3RV2331-4WC10

3RV2332-4SC10

3RV2332-4WC10

Rated current	Suitable for three-phase motors[1] with *P*	Thermal overload releases[2]	Instantaneous overcurrent release	Short-circuit breaking capacity at 400 V AC	DT	**Screw terminals**	PU (UNIT, SET, M)	PS*	PG
I_n			$I >$	I_{cu}		Article No. Price per PU			
A	kW	A	A	kA					
Size S2									
14	5.5	Without	208	65	B	**3RV2331-4SC10**	1	1 unit	41E
17	7.5	Without	260	65	B	**3RV2331-4TC10**	1	1 unit	41E
20	7.5	Without	260	65	B	**3RV2331-4BC10**	1	1 unit	41E
25	11	Without	325	65	B	**3RV2331-4DC10**	1	1 unit	41E
32	15	Without	416	65	B	**3RV2331-4EC10**	1	1 unit	41E
36	18.5	Without	520	65	B	**3RV2331-4PC10**	1	1 unit	41E
40	18.5	Without	585	65	B	**3RV2331-4UC10**	1	1 unit	41E
45	22	Without	650	65	B	**3RV2331-4VC10**	1	1 unit	41E
52	22	Without	741	65	B	**3RV2331-4WC10**	1	1 unit	41E
59[3]	30	Without	845	65	B	**3RV2331-4XC10**	1	1 unit	41E
65[3]	30	Without	845	65	B	**3RV2331-4JC10**	1	1 unit	41E
73[3]	37	Without	949	65	B	**3RV2331-4KC10**	1	1 unit	41E
80[3][4]	37	Without	1 040	65	B	**3RV2331-4RC10**	1	1 unit	41E
Size S2, with increased switching capacity									
14	5.5	Without	208	100	B	**3RV2332-4SC10**	1	1 unit	41E
17	7.5	Without	260	100	B	**3RV2332-4TC10**	1	1 unit	41E
20	7.5	Without	260	100	B	**3RV2332-4BC10**	1	1 unit	41E
25	11	Without	325	100	B	**3RV2332-4DC10**	1	1 unit	41E
32	15	Without	416	100	B	**3RV2332-4EC10**	1	1 unit	41E
36	18.5	Without	520	100	B	**3RV2332-4PC10**	1	1 unit	41E
40	18.5	Without	585	100	B	**3RV2332-4UC10**	1	1 unit	41E
45	22	Without	650	100	B	**3RV2332-4VC10**	1	1 unit	41E
52	22	Without	741	100	B	**3RV2332-4WC10**	1	1 unit	41E
59[3]	30	Without	845	100	B	**3RV2332-4XC10**	1	1 unit	41E
65[3]	30	Without	845	100	B	**3RV2332-4JC10**	1	1 unit	41E
73[3]	37	Without	949	100	B	**3RV2332-4KC10**	1	1 unit	41E
80[3][4]	37	Without	1 040	100	B	**3RV2332-4RC10**	1	1 unit	41E

[1] Guide value for 4-pole standard motors at 50 Hz 400 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.

[3] Start of delivery on request.

[4] Suitable for use with IE3 motors up to a starting current of 720 A. For higher starting currents we recommend using 3RV1 motor starter protectors size S3.

Auxiliary switches and other accessories can be ordered separately (see "Accessories" page 7/33 onwards).

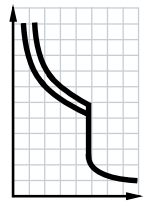
* You can order this quantity or a multiple thereof.
Illustrations are approximate

Selection and ordering data

CLASS 10, without auxiliary switches

Motor starter protectors for the protection of transformers with high inrush current

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41E



3RV2411-0AA10

3RV2411-0AA20

3RV2421-4AA10

3RV2421-4AA20

3RV2431-4WA10

Rated current	Setting range for thermal overload release	Instantaneous overcurrent release	Short-circuit breaking capacity at 400 V AC	DT	Screw terminals	DT	Spring-type terminals
I_n		$I >$	I_{cu}		Article No. / Price per PU		Article No. / Price per PU
A	A	A	kA				
Size S00							
0.16	0.11 ... 0.16	3.3	100	▶	**3RV2411-0AA10**	A	**3RV2411-0AA20**
0.2	0.14 ... 0.2	4.2	100	▶	**3RV2411-0BA10**	A	**3RV2411-0BA20**
0.25	0.18 ... 0.25	5.2	100	▶	**3RV2411-0CA10**	A	**3RV2411-0CA20**
0.32	0.22 ... 0.32	6.5	100	▶	**3RV2411-0DA10**	A	**3RV2411-0DA20**
0.4	0.28 ... 0.4	8.2	100	▶	**3RV2411-0EA10**	A	**3RV2411-0EA20**
0.5	0.35 ... 0.5	10	100	▶	**3RV2411-0FA10**	A	**3RV2411-0FA20**
0.63	0.45 ... 0.63	13	100	▶	**3RV2411-0GA10**	A	**3RV2411-0GA20**
0.8	0.55 ... 0.8	16	100	▶	**3RV2411-0HA10**	A	**3RV2411-0HA20**
1	0.7 ... 1	21	100	▶	**3RV2411-0JA10**	A	**3RV2411-0JA20**
1.25	0.9 ... 1.25	26	100	▶	**3RV2411-0KA10**	A	**3RV2411-0KA20**
1.6	1.1 ... 1.6	33	100	▶	**3RV2411-1AA10**	A	**3RV2411-1AA20**
2	1.4 ... 2	42	100	▶	**3RV2411-1BA10**	A	**3RV2411-1BA20**
2.5	1.8 ... 2.5	52	100	▶	**3RV2411-1CA10**	A	**3RV2411-1CA20**
3.2	2.2 ... 3.2	65	100	▶	**3RV2411-1DA10**	A	**3RV2411-1DA20**
4	2.8 ... 4	82	100	▶	**3RV2411-1EA10**	A	**3RV2411-1EA20**
5	3.5 ... 5	104	100	▶	**3RV2411-1FA10**	A	**3RV2411-1FA20**
6.3	4.5 ... 6.3	130	100	▶	**3RV2411-1GA10**	A	**3RV2411-1GA20**
8	5.5 ... 8	163	100	▶	**3RV2411-1HA10**	A	**3RV2411-1HA20**
10	7 ... 10	208	100	▶	**3RV2411-1JA10**	A	**3RV2411-1JA20**
12.5	9 ... 12.5	260	100	▶	**3RV2411-1KA10**	A	**3RV2411-1KA20**
16	10[1] ... 16	286	55	▶	**3RV2411-4AA10**	A	**3RV2411-4AA20**
Size S0							
16	10[1] ... 16	286	55	▶	**3RV2421-4AA10**	A	**3RV2421-4AA20**
20	13[1] ... 20	325	55	▶	**3RV2421-4BA10**	A	**3RV2421-4BA20**
22	16[1] ... 22	364	55	▶	**3RV2421-4CA10**	A	**3RV2421-4CA20**
25	18[1] ... 25	400	55	▶	**3RV2421-4DA10**	A	**3RV2421-4DA20**
Size S2							
14	9.5 ... 14	328	65	▶	**3RV2431-4SA10**		--
17	12 ... 17	410	65	▶	**3RV2431-4TA10**		--
20	14 ... 20	410	65	▶	**3RV2431-4BA10**		--
25	18 ... 25	512	65	▶	**3RV2431-4DA10**		--
32	22 ... 32	656	65	▶	**3RV2431-4EA10**		--
36	28 ... 36	820	65	▶	**3RV2431-4PA10**		--
40	32 ... 40	820	65	▶	**3RV2431-4UA10**		--
45	35 ... 45	922	65	▶	**3RV2431-4VA10**		--
52	42 ... 52	1 025	65	▶	**3RV2431-4WA10**		--
59[2]	49 ... 59	1040	65	▶	**3RV2431-4XA10**		--
65[2]	54 ... 65	1040	65	▶	**3RV2431-4JA10**		--

[1] The setting range of the thermal overload releases has been extended.

[2] Start of delivery on request.

Auxiliary switches and other accessories can be ordered separately (see "Accessories" page 7/33 onwards).

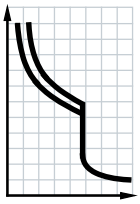
* You can order this quantity or a multiple thereof.
Illustrations are approximate

For system protection according to UL 489/CSA C22.2 No. 5

Selection and ordering data

Without auxiliary switches

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



3RV2711-0AD10

Rated current[1]	Thermal overload release (non-adjustable)	Instantaneous overcurrent release	Short-circuit breaking capacity at 480 Y/277 V AC[2]	DT	**Screw terminals**		PU (UNIT, SET, M)	PS*	PG
I_n[1]		$I >$	I_{bc}		Article No.	Price per PU			
A	A	A	kA						
Size S00									
0.16	0.16	2.1	65	B	**3RV2711-0AD10**		1	1 unit	41E
0.2	0.2	2.6	65	B	**3RV2711-0BD10**		1	1 unit	41E
0.25	0.25	3.3	65	B	**3RV2711-0CD10**		1	1 unit	41E
0.32	0.32	4.2	65	B	**3RV2711-0DD10**		1	1 unit	41E
0.4	0.4	5.2	65	B	**3RV2711-0ED10**		1	1 unit	41E
0.5	0.5	6.5	65	B	**3RV2711-0FD10**		1	1 unit	41E
0.63	0.63	8.2	65	B	**3RV2711-0GD10**		1	1 unit	41E
0.8	0.8	10	65	B	**3RV2711-0HD10**		1	1 unit	41E
1	1	13	65	B	**3RV2711-0JD10**		1	1 unit	41E
1.25	1.25	16	65	B	**3RV2711-0KD10**		1	1 unit	41E
1.6	1.6	21	65	B	**3RV2711-1AD10**		1	1 unit	41E
2	2	26	65	B	**3RV2711-1BD10**		1	1 unit	41E
2.5	2.5	33	65	B	**3RV2711-1CD10**		1	1 unit	41E
3.2	3.2	42	65	B	**3RV2711-1DD10**		1	1 unit	41E
4	4	52	65	B	**3RV2711-1ED10**		1	1 unit	41E
5	5	65	65	B	**3RV2711-1FD10**		1	1 unit	41E
6.3	6.3	82	65	B	**3RV2711-1GD10**		1	1 unit	41E
8	8	104	65	B	**3RV2711-1HD10**		1	1 unit	41E
10	10	130	65	B	**3RV2711-1JD10**		1	1 unit	41E
12.5	12.5	163	65	B	**3RV2711-1KD10**		1	1 unit	41E
15	15	208	65	B	**3RV2711-4AD10**		1	1 unit	41E
Size S0									
20	20	260	50	B	**3RV2721-4BD10**		1	1 unit	41E
22	22	286	50	B	**3RV2721-4CD10**		1	1 unit	41E

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

[2] Values for 600 Y/347 V AC, see page 7/15.

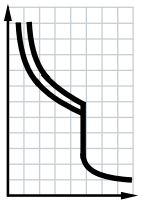
Lateral and transverse auxiliary switches can be ordered separately (see "Accessories" page 7/33 onwards).

* You can order this quantity or a multiple thereof.
Illustrations are approximate

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



3RV2811-0AD10

Rated current[1]	Thermal overload release (non-adjustable)	Instantaneous overcurrent release	Short-circuit breaking capacity at 480 Y/277 V AC[2]	DT	**Screw terminals**	PU (UNIT, SET, M)	PS*	PG
I_n[1]		I >	I_{bc}		Article No. Price per PU			
A	A	A	kA					
Size S00								
0.16	0.16	3.3	65	B	**3RV2811-0AD10**	1	1 unit	41E
0.2	0.2	4.2	65	B	**3RV2811-0BD10**	1	1 unit	41E
0.25	0.25	5.2	65	B	**3RV2811-0CD10**	1	1 unit	41E
0.32	0.32	6.5	65	B	**3RV2811-0DD10**	1	1 unit	41E
0.4	0.4	8.2	65	B	**3RV2811-0ED10**	1	1 unit	41E
0.5	0.5	10	65	B	**3RV2811-0FD10**	1	1 unit	41E
0.63	0.63	13	65	B	**3RV2811-0GD10**	1	1 unit	41E
0.8	0.8	16	65	B	**3RV2811-0HD10**	1	1 unit	41E
1	1	21	65	B	**3RV2811-0JD10**	1	1 unit	41E
1.25	1.25	26	65	B	**3RV2811-0KD10**	1	1 unit	41E
1.6	1.6	33	65	B	**3RV2811-1AD10**	1	1 unit	41E
2	2	42	65	B	**3RV2811-1BD10**	1	1 unit	41E
2.5	2.5	52	65	B	**3RV2811-1CD10**	1	1 unit	41E
3.2	3.2	65	65	B	**3RV2811-1DD10**	1	1 unit	41E
4	4	82	65	B	**3RV2811-1ED10**	1	1 unit	41E
5	5	104	65	B	**3RV2811-1FD10**	1	1 unit	41E
6.3	6.3	130	65	B	**3RV2811-1GD10**	1	1 unit	41E
8	8	163	65	B	**3RV2811-1HD10**	1	1 unit	41E
10	10	208	65	B	**3RV2811-1JD10**	1	1 unit	41E
12.5	12.5	260	65	B	**3RV2811-1KD10**	1	1 unit	41E
15	15	286	65	B	**3RV2811-4AD10**	1	1 unit	41E
Size S0								
20	20	325	50	B	**3RV2821-4BD10**	1	1 unit	41E
22	22	364	50	B	**3RV2821-4CD10**	1	1 unit	41E

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

2) Values for 600 Y/347 V AC, see page 7/15.

Lateral and transverse auxiliary switches can be ordered separately (see "Accessories" page 7/33 onwards).

Mountable accessories

Overview

Mounting location and function

The 3RV2 motor starter protectors/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 are easily fitted to the switches without the use of any tools according to requirements.

Overview graphic, see page 7/7.

Front side Note: • A maximum of four auxiliary contacts with auxiliary switches can be mounted on each motor starter protector/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 starter protectors/circuit breakers remains unchanged.
Left-hand side Notes: • A maximum of four auxiliary contacts with auxiliary switches can be mounted on each motor starter protector/circuit breaker. • Lateral auxiliary switches (two contacts) and signaling 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 starter protector/circuit breaker. The contacts of the auxiliary switch close and open together with the main contacts of the motor starter protector/circuit breaker. The width of the lateral auxiliary switch with two 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 starter protector/circuit breaker. The contacts of the auxiliary switch close and open together with the main contacts of the motor starter protector/circuit breaker. The width of the lateral auxiliary switch with four 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 starter protector. 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 actuator. In order to be able to switch on the motor starter protector 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 starter protector/circuit breaker. • Accessories cannot be mounted at the right-hand side of the 3RV21 motor starter protectors for motor protection with overload relay function.	**Auxiliary releases**	
	Shunt releases	For remote-controlled tripping of the motor starter protector/circuit breaker. The release coil should only be energized for short periods (see circuit diagrams).
	or	
	Undervoltage releases	Trips the motor starter protector/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 starter protector/circuit breaker. Particularly suitable for EMERGENCY-STOP disconnection by way of corresponding EMERGENCY-STOP pushbuttons according to DIN EN 60204-1.
	or	
	Undervoltage releases with leading 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 starter protector/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 for size S2 - can only be used with 3RV2 motor starter protectors/circuit breakers up to max. 65 A - cannot be used with the transverse auxiliary switch • 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 connection side of the motor starter protectors. The supply cable is connected to the motor starter protector through the isolator module. The plug can only be unplugged when the motor starter protector is open and isolates all 3 poles of the motor starter protector 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 starter protectors/circuit breakers, see page 7/2.

Selection and ordering data

PU (UNIT, SET, M) = 1
PS* = 1 unit (unless otherwise specified)
PG = 41E

Version	For motor starter protectors/ circuit breakers Size	DT	Screw terminals Article No.	Price per PU	DT	Spring-type terminals Article No.	Price per PU
Auxiliary switches[1]							
 3RV2901-1E **Transverse auxiliary switches** For mounting on the front							
1 CO	S00 ... S2	▶	**3RV2901-1D**			--	
1 NO + 1 NC[2]		▶	**3RV2901-1E**		▶	**3RV2901-2E**	
2 NO		▶	**3RV2901-1F**		▶	**3RV2901-2F**	
 3RV2901-2E **Solid-state compatible transverse auxiliary switches** For mounting on the front, for operation in dusty atmospheres and in solid-state circuits with low operating currents							
 3RV2901-1G 1 CO	S00 ... S2	A	**3RV2901-1G**			--	
 3RV2901-0H **Covers for transverse auxiliary switches** (PS* = 10 units)	S00 ... S2	▶	**3RV2901-0H**			--	
 3RV2901-1A  3RV2901-2A **Lateral auxiliary switches** For mounting on the left							
1 NO + 1 NC[2]	S00 ... S2	▶	**3RV2901-1A**		▶	**3RV2901-2A**	
2 NO		▶	**3RV2901-1B**		▶	**3RV2901-2B**	
2 NC		▶	**3RV2901-1C**		▶	**3RV2901-2C**	
2 NO + 2 NC		A	**3RV2901-1J**			--	
Signaling switches[3]							
 3RV2921-1M  3RV2921-2M **Signaling switches**[2] One signaling switch can be mounted on the left per motor starter protector. Separate tripped and s hort-circuit alarms, 1 NO + 1 NC each	S00 ... S2	▶	**3RV2921-1M**		▶	**3RV2921-2M**	
Isolator modules[3]							
 3RV2928-1A  3RV2938-1A **Isolator modules**[4] Visible isolating distance for isolating individual motor starter protectors from the network, lockable in disconnected position	S00, S0	▶	**3RV2928-1A**			--	
	S2[4]	▶	**3RV2938-1A**			--	

1) Each motor starter protector/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) The 3RV29 auxiliary and signaling switches with 1 NO + 1 NC are also available with ring terminal lug connection. The Article No. must be changed in the 8th digit to **"4"**: e.g. 3RV2901-**4**E.

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

4) The isolator module for size S2 can be used only with 3RV2 motor starter protectors/circuit breakers up to max. 65 A. Similarly, it cannot be used with the transverse auxiliary switch.

* You can order this quantity or a multiple thereof.
Illustrations are approximate

Mountable accessories

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41E


3RV2902-1AV0


3RV2902-2AV0


3RV2922-1CP0


3RV2902-2DB0

Rated control supply voltage U_s					For motor starter protectors/ circuit breakers	DT	**Screw terminals**	DT	**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			Article No. / Price per PU		Article No. / Price per PU
V	V	V	V	V	Size				
Auxiliary releases[3]									
Undervoltage releases									
--	--	--	--	24	S00 ... S2	A	**3RV2902-1AB4**		**--**
24	--	--	--	--	S00 ... S2	A	**3RV2902-1AB0**		**--**
110	120	--	--	--	S00 ... S2	A	**3RV2902-1AF0**		**--**
--	208	--	--	--	S00 ... S2	A	**3RV2902-1AM1**		**--**
230	240	--	--	--	S00 ... S2	4) ▶	**3RV2902-1AP0**	▶	**3RV2902-2AP0**
400	440	--	--	--	S00 ... S2	4) ▶	**3RV2902-1AV0**	▶	**3RV2902-2AV0**
415	480	--	--	--	S00 ... S2	A	**3RV2902-1AV1**		**--**
500	600	--	--	--	S00 ... S2	A	**3RV2902-1AS0**		**--**
Undervoltage releases with leading auxiliary contacts 2 NO									
24	24	--	--	--	S00 ... S2	B	**3RV2922-1CB0**		**--**
230	240	--	--	--	S00 ... S2	A	**3RV2922-1CP0**	A	**3RV2922-2CP0**
400	440	--	--	--	S00 ... S2	A	**3RV2922-1CV0**	A	**3RV2922-2CV0**
415	480	--	--	--	S00 ... S2	4) A	**3RV2922-1CV1**	A	**3RV2922-2CV1**
Shunt releases									
--	--	20 ... 24	20 ... 70	--	S00 ... S2	▶	**3RV2902-1DB0**	▶	**3RV2902-2DB0**
--	--	90 ... 110	70 ... 190	--	S00 ... S2	4) A	**3RV2902-1DF0**	A	**3RV2902-2DF0**
--	--	210 ... 240	190 ... 330	--	S00 ... S2	4) ▶	**3RV2902-1DP0**	▶	**3RV2902-2DP0**
--	--	350 ... 415	330 ... 500	--	S00 ... S2	A	**3RV2902-1DV0**		**--**
--	--	500	500	--	S00 ... S2	A	**3RV2902-1DS0**		**--**

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 50/60Hz 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 starter protector/circuit breaker (does not apply to 3RV21 motor starter protectors with overload relay function).

4) The 3RV29 auxiliary releases are also available with ring terminal lug connection. The Article No. must be changed in the 8th digit to **"4"**: e.g. 3RV2902-**4**AP0.

* You can order this quantity or a multiple thereof.
Illustrations are approximate

Overview

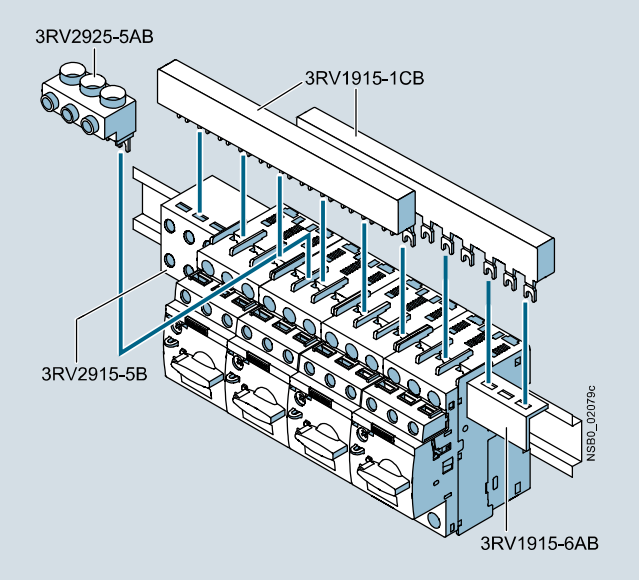
Insulated three-phase busbar system

Three-phase busbar systems provide an easy, time-saving and clearly arranged means of feeding 3RV2 motor starter protectors/circuit breakers with screw terminals. Different versions are available for sizes S00 to S2 and can be used for the various different types of motor starter protectors/circuit breakers (size S0 up to 32 A).

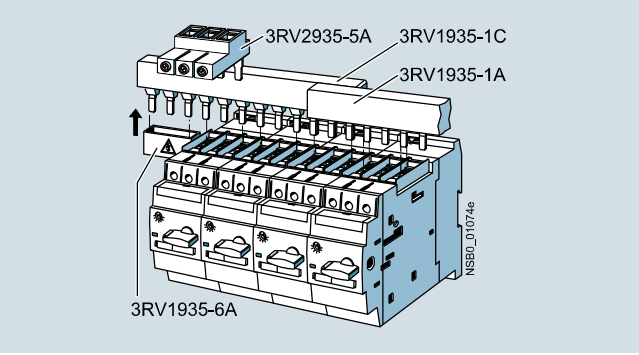
The 3RV1915 and 3RV1935 three-phase busbar systems are generally unsuitable for the 3RV21 motor starter protectors for motor protection with overload relay function and 3RV27 and 3RV28 circuit breakers according to UL 489/CSA C22.2 No. 5.

The busbars are suitable for between two and five motor starter protectors/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 starter protector/circuit breaker.

A combination of motor starter protectors/circuit breakers of size S00 and S0 is possible. The motor starter protectors/circuit breakers are supplied by appropriate infeed terminals.



SIRIUS three-phase busbar system size S00/S0



SIRIUS three-phase busbar system size S2

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 starter protectors/circuit breakers.

The three-phase busbar systems can also be used to construct "Type E Starters" according to UL/CSA. Special infeed terminals must be used for this purpose, however (see "Selection and Ordering Data", page 7/36).

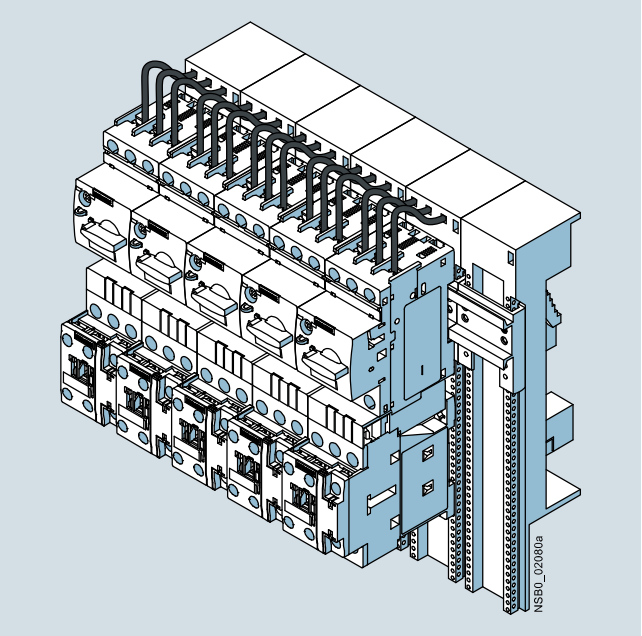
8US busbar adapters for 60 mm systems

The motor starter protectors/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 starter protectors/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.

For further busbar adapters for snap-mounting direct-on-line starters and reversing starters as well as additional accessories such as line terminals and outgoing terminals, flat copper profile, etc., see Catalog LV 10 "Low-Voltage Power Distribution and Electrical Installation Technology".



SIRIUS load feeders with busbar adapters snapped onto busbars

Busbar accessories

Selection and ordering data

	Modular spacing	Number of motor starter protectors that can be connected: Without lateral accessories	With lateral auxiliary switch	incl. auxiliary release	Rated current I_n at 690 V	For motor starter protectors	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	mm				A	Size						
Three-phase busbars[1]												
	For feeding several motor starter protectors with screw terminals, mounted side by side on standard mounting rails, insulated, with touch protection											
3RV1915-1AB	45[3]	2	--	--	63	S00, S0[2]	▶	**3RV1915-1AB**		1	1 unit	41E
		3	--	--	63	S00, S0[2]	▶	**3RV1915-1BB**		1	1 unit	41E
		4	--	--	63	S00, S0[2]	▶	**3RV1915-1CB**		1	1 unit	41E
		5	--	--	63	S00, S0[2]	▶	**3RV1915-1DB**		1	1 unit	41E
3RV1915-1BB	55[4]	--	2	--	63	S00, S0[2]	▶	**3RV1915-2AB**		1	1 unit	41E
		--	3	--	63	S00, S0[2]	▶	**3RV1915-2BB**		1	1 unit	41E
		--	4	--	63	S00, S0[2]	▶	**3RV1915-2CB**		1	1 unit	41E
		--	5	--	63	S00, S0[2]	▶	**3RV1915-2DB**		1	1 unit	41E
3RV1915-1CB		2	--	--	108	S2	▶	**3RV1935-1A**		1	1 unit	41E
		3	--	--	108	S2	▶	**3RV1935-1B**		1	1 unit	41E
		4	--	--	108	S2	▶	**3RV1935-1C**		1	1 unit	41E
3RV1915-1DB	63[5]	--	--	2	63	S00, S0[2]	▶	**3RV1915-3AB**		1	1 unit	41E
		--	--	4	63	S00, S0[2]	▶	**3RV1915-3CB**		1	1 unit	41E
	75[5]	--	2	2	108	S2	▶	**3RV1935-3A**		1	1 unit	41E
		--	3	3	108	S2	▶	**3RV1935-3B**		1	1 unit	41E
		--	4	4	108	S2	▶	**3RV1935-3C**		1	1 unit	41E

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

2) Approved for motor starter protectors size S0 with $I_n \leq 32$ A.

3) For 3RV2 motor starter protectors without accessories mounted on the side.

4) For 3RV2 motor starter protectors with auxiliary switches with 1 NO + 1 NC, 2 NO and 2 NC mounted on the left (9 mm wide).

5) For 3RV2 motor starter protectors with mounted accessories (18 mm wide). Auxiliary switches with 2 NO + 2 NC or signaling switch (mounted on the left) or with auxiliary release (mounted on the right).

	Conductor cross-section: Solid or stranded	Finely stranded with end sleeve	AWG cables, solid or stranded	Tightening torque	For motor starter protectors/ circuit breakers	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	mm²	mm²	AWG	Nm	Size						
Three-phase infeed terminals											
	Connection from top										
3RV2925-5AB	2.5 ... 25	2.5 ... 16	10 ... 4	3 ... 4	S00, S0	▶	**3RV2925-5AB**		1	1 unit	41E
3RV2935-5A	2 x (2.5 ... 50)[1] 1 x (2.5 ... 70)[1]	2 x (2.5 ... 35)[1], 1 x (2.5 ... 50)[1]	2 x (10 ... 1/0)[1], 1 x (10 ... 2/0)[1]	4 ... 6	S2	▶	**3RV2935-5A**		1	1 unit	41E
3RV2915-5B	**Connection from below** This terminal is connected in place of a switch, please take the space requirement into account.										
	2.5 ... 25	2.5 ... 16	10 ... 4	Input: 4, Output: 2 ... 2.5	S00, S0	▶	**3RV2915-5B**		1	1 unit	41E
Three-phase infeed terminals for constructing "Type E Starters"											
	Connection from top										
3RV2925-5EB	2.5 ... 25	2.5 ... 16	10 ... 4	3 ... 4	S00, S0	A	**3RV2925-5EB**		1	1 unit	41E
3RV2935-5E	2 x (2.5 ... 50)[1] 1 x (2.5 ... 70)[1]	2 x (2.5 ... 35)[1], 1 x (2.5 ... 50)[1]	2 x (10 ... 1/0)[1], 1 x (10 ... 2/0)[1]	4 ... 6	S2	▶	**3RV2935-5E**		1	1 unit	41E

1) If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

* You can order this quantity or a multiple thereof.
Illustrations are approximate

	Version	For motor starter protectors/circuit breakers Size	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Covers for connection tags								
 3RV1915-6AB	Touch protection for empty positions	S00, S0	▶	**3RV1915-6AB**		1	10 units	41E
		S2	▶	**3RV1935-6A**		1	5 units	41E

Busbar adapters


8US1251-5DS10


8US1251-5DT11


8US1250-5AS10


8US1250-5AT10

For motor starter protectors/circuit breakers Size	Rated current A	Connecting cable AWG	Adapter length mm	Adapter width mm	Rated voltage V	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Busbar adapters for 60 mm systems											
For copper busbars 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 starter protectors/circuit breakers with screw terminals							**Screw terminals** ⊕				
S00, S0[2]	25	12	200	45	690	▶	**8US1251-5DS10**		1	1 unit	14O
S0[2]	32	10	260	45	690	▶	**8US1251-5NT10**		1	1 unit	14O
S2	80	4	200	55	690	B	**8US1261-5MS13**		1	1 unit	14O
S2	80	4	260	55	690	B	**8US1261-6MT10**		1	1 unit	14O
S2[1]	80	4	260	118	690	B	**8US1211-6MT10**		1	1 unit	14O
• For motor starter protectors/circuit breakers with spring-type terminals							**Spring-type terminals**				
S00, S0[2]	25	12	200	45	690	▶	**8US1251-5DS11**		1	1 unit	14O
S00, S0[2]	25	12	260	45	690	▶	**8US1251-5DT11**		1	1 unit	14O
S0[2]	32	10	260	45	690	▶	**8US1251-5NT11**		1	1 unit	14O
Accessories											
Device holders For lateral mounting to busbar adapters	-- --	-- --	200 260	45 45	-- --	▶ ▶	**8US1250-5AS10** **8US1250-5AT10**		1 1	1 unit 1 unit	14O 14O
Side modules For widening of busbar adapters	--	--	200	9	--	A	**8US1998-2BJ10**		1	10 units	14O
Spacers For fixing the feeder onto the busbar adapter	--	--	--	--	--	▶	**8US1998-1BA10**		1	50 units	14O
Vibration and shock kits For high vibration and shock loads											
S00/S0	--	--	--	--	--	▶	**8US1998-1CA10**		1	2 units	14O
S2	--	--	--	--	--	B	**8US1998-1DA10**		1	1 unit	14O

[1] For the assembly of feeders for reversing starters comprising a motor starter protector and two contactors.

[2] Also approved for 3RV27, 3RV28 according to UL.

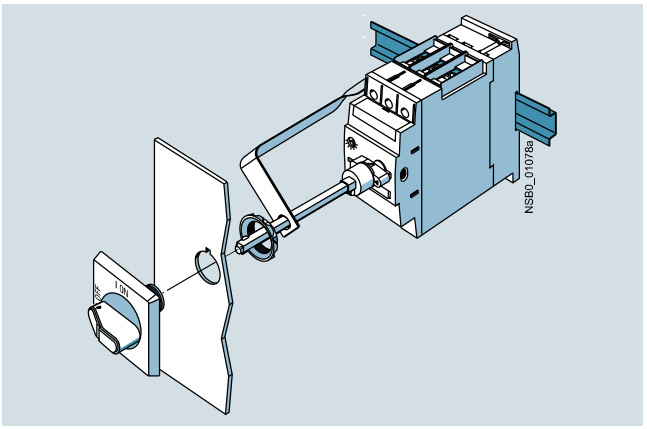
For additional busbar adapters, see Catalog LV 10 "Low-Voltage Power Distribution and Electrical Installation Technology".

Rotary operating mechanisms

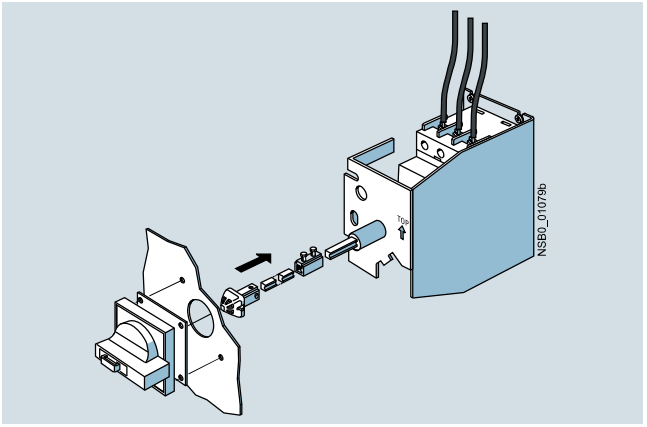
Overview

Door-coupling rotary operating mechanisms

Motor starter protectors/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 starter protector/circuit breaker is closed, the operating mechanism is coupled. When the motor starter protector/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 up to three padlocks. Inadvertent opening of the door is not possible in this case either.



SIRIUS 3RV2926-0K door-coupling rotary operating mechanism



SIRIUS 3RV2926-2B door-coupling rotary operating mechanism for arduous conditions

Selection and ordering data

Version	Color of actuator	Version of extension shaft	For motor starter protectors/ circuit breakers	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		mm	Size						
Door-coupling rotary operating mechanisms									
The door-coupling rotary operating mechanisms consist of a knob, a coupling driver and a 130/330 mm long extension shaft (6 mm x 6 mm). The door-coupling rotary operating mechanisms are designed to degree of protection IP64. The door locking device prevents accidental opening of the control cabinet door in the ON position of the motor starter protector/circuit breaker. The OFF position can be locked with up to three padlocks.									
 3RV2926-0B									
Door-coupling rotary operating mechanisms	Black	130	S00 ... S2	▶	**3RV2926-0B**		1	1 unit	41E
		330	S00 ... S2	▶	**3RV2926-0K**		1	1 unit	41E
EMERGENCY-STOP door-coupling rotary operating mechanisms	Red/yellow	130	S00 ... S2	▶	**3RV2926-0C**		1	1 unit	41E
		330	S00 ... S2	▶	**3RV2926-0L**		1	1 unit	41E
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 starter protector/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 starter protector/circuit breaker. The OFF position can be locked with up to three 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.									
 3RV2926-2B									
Door-coupling rotary operating mechanisms	Gray	300	S00, S0	▶	**3RV2926-2B**		1	1 unit	41E
			S2	▶	**3RV2936-2B**		1	1 unit	41E
 3RV2936-2C									
EMERGENCY-STOP door-coupling rotary operating mechanisms	Red/yellow	300	S00, S0	▶	**3RV2926-2C**		1	1 unit	41E
			S2	▶	**3RV2936-2C**		1	1 unit	41E

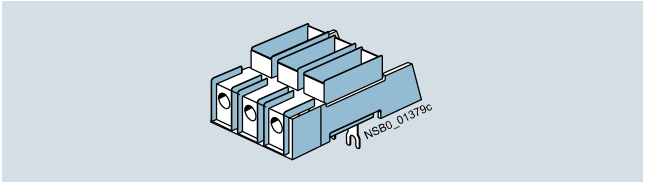
* You can order this quantity or a multiple thereof.
Illustrations are approximate

Overview

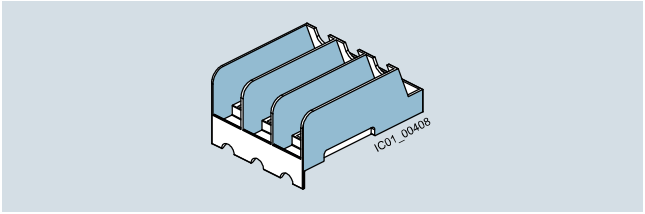
Accessories for "Self-Protected Combination Motor Controllers (Type E)" according to UL 508/UL 60947-4-1

The 3RV20 motor starter protectors with screw terminals are approved according to UL 508/UL 60947-4-1 as "Self-Protected Combination Motor Controllers (Type E)".

This requires increased through air and over surface spacing (1 inch and 2 inches respectively) at the input side of the device, which are achieved by mounting a terminal block or a phase barrier.



SIRIUS 3RV2928-1H terminal block



SIRIUS 3RV2938-1K phase barrier

Motor starter protectors/ circuit breakers	Size	Essential accessories for "Self-Protected Combination Motor Controllers (Type E)" according to UL 508/UL 60947-4-1
3RV201., 3RV202.	S00/S0	3RV2928-1H terminal block or 3RV2928-1K phase barrier
3RV2031-4B1., 3RV2031-4D.1., 3RV2031-4E1., 3RV2031-4P.1., 3RV2031-4S.1., 3RV2031-4T.1., 3RV2031-4U.1., 3RV2031-4V.1.	S2	--
3RV2031-4J.1., 3RV2031-4K.1., 3RV2031-4R.1., 3RV2031-4W.1., 3RV2031-4X.1., 3RV2032	S2	3RV2938-1K phase barrier

-- No accessories needed

Special three-phase infeed terminals are required for constructing "Type E Starters" with an insulated three-phase busbar system (see "Busbar Accessories", page 7/36).

The 3RV29 infeed system also enables the assembly of "Type E Starters", see page 7/47 onwards.

Note:

According to CSA, these terminal blocks and the phase barriers can be omitted when the device is used as a "Self-Protected Combination Motor Controller (Type E)".

Link modules

Feeders can be easily assembled from single devices with the help of the link modules. The following table shows the different combination options for devices with screw or spring-type terminals.

Combination devices	3RV2 motor starter protec-tors/ circuit breakers	3RT2 contactors; 3RW30, 3RW40 soft starters; 3RF34 solid-state contactors	Link modules	
			Screw terminals	Spring-type terminals
	Size	Size		
Link modules for connecting switching devices to 3RV2 motor starter protectors/circuit breakers[1)]				
3RT2 contactors with AC or DC coil	S00	S00	3RA1921-1DA00	3RA2911-2AA00
	S0	S00		--
	S2	S2	3RA2931-1AA00	--
3RT2 contactors with AC coil	S0	S0	3RA2921-1AA00	3RA2921-2AA00
	S00	S0		--
3RT2 contactors with DC coil	S0	S0	3RA2921-1BA00	3RA2921-2AA00
	S00	S0		--
3RW30 soft starters	S00	S00	3RA2921-1BA00	3RA2911-2GA00
	S0	S00		--
3RW30/ 3RW40 soft starters	S0	S0	3RA2921-1BA00	3RA2921-2GA00
	S00	S0		--
	S2[2)]	S2[2)]	3RA2931-1AA00	--
3RF34 solid-state contactors	S00/S0	S00	3RA2921-1BA00	--
Hybrid link modules for connecting contactors with spring-type terminals to 3RV2 motor starter protectors/circuit breakers with screw terminals[3)]				
3RT2 contactors with AC or DC coil	S00	S00	3RA2911-2FA00	--
	S0	S0	3RA2921-2FA00	--

-- Version not possible

1) The link modules cannot be used for the 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV2.31-4K.1., 3RV2.31-4R.1., 3RV2.32-4K.1., 3RV2.32-4R.1., 3RV27 and 3RV28 motor starter protectors/circuit breakers.

2) To assemble the feeder between a motor starter protector and a soft starter in size S2, the 3RA2932-1AC00 standard mounting rail adapter must be used.

3) The motor starter protector to contactor hybrid link modules cannot be used for the 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV27 and 3RV28 motor starter protectors/circuit breakers. They are suitable only for constructing direct-on-line starters.

Notes:

- Link modules can be used in
  - Sizes S00 and S0: up to max. 32 A
  - Size S2: up to max. 65 A
- Hybrid link modules can be used in
  - Sizes S00 and S0: up to max. 32 A

Mounting accessories

Selection and ordering data

Accessories

	Version	For motor starter protectors/circuit breakers Size	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Covers								
 3RV2908-0P	**Scale covers** Sealable, for covering the set current scale	3RV20, 3RV21, 3RV24: S00 ... S2	▶	**3RV2908-0P**		100	10 units	41E
 3RT2936-4EA2	**Covers for devices with screw terminals (box terminals)** Additional touch protection for fastening to the box terminals (2 units required per device)			**Screw terminals**				
	• Main current level	S2	B	**3RT2936-4EA2**		1	1 unit	41B
 3RV2928-4AA00	**Covers for devices with ring terminal lug connection** (ensure finger safety)			**Ring terminal lug connections**				
	• Main current level	3RV20: S00, S0	B	**3RV2928-4AA00**		1	1 unit	41E
 3RV2908-4AA10	• For transverse auxiliary switches		B	**3RV2908-4AA10**		1	1 unit	41E
Fixing accessories								
 3RV2928-0B	**Push-in lugs** For screwing the motor starter protectors/circuit breakers onto mounting plates For each motor starter protector/circuit breakers, two units are required.	S00, S0	A	**3RV2928-0B**		100	10 units	41E
Tools for opening spring-type terminals								
 3RA2908-1A	**Screwdrivers** For all SIRIUS devices with spring-type terminals			**Spring-type terminals**				
	Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	S00 ... S2	A	**3RA2908-1A**		1	1 unit	41B
Terminal blocks and phase barriers for "Self-Protected Combination Motor Controllers (Type E)" according to UL 508/UL 60947-4-1								
 3RV2928-1H	Note: UL 508/UL 60947-4-1 approval demands 1-inch through air spacing and 2-inch over surface spacing for "Self-Protected Combination Motor Controllers (Type E)". The following terminal blocks or phase barriers must be used for the 3RV20 motor starter protectors with screw terminals. The construction of 3RV20 motor starter protectors with spring-type terminals with the 3RV29 infeed system is also approved as "Self-Protected Combination Motor Controllers (Type E)" according to UL 508/UL 60947-4-1. The terminal block or phase barriers cannot be used in combination with the 3RV19.5 three-phase busbars. For construction with three-phase busbars, see "Busbar Accessories", page 7/35 onwards.							
 3RV2928-1K	**Terminal blocks type E** For extended clearances (1 and 2 inch)	S00, S0	▶	**3RV2928-1H**		1	1 unit	41E
	Phase barriers For extended clearances (1 and 2 inch)	S00, S0	▶	**3RV2928-1K**		1	1 unit	41E
 3RV2938-1K		S2	▶	**3RV2938-1K**		1	1 unit	41E

* You can order this quantity or a multiple thereof.
Illustrations are approximate

Link modules

Actuating voltage of contactor	Size: 3RT2 contactors	Size: 3RV2 motor starter protectors/circuit breakers	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Link modules for motor starter protector to contactor[1]								
 3RA2921-1AA00	For electrical and mechanical connection between motor starter protector and contactor with screw terminals			**Screw terminals**				
	Single-unit packaging							
	AC/DC	S00	S00/S0	▶	**3RA1921-1DA00**	1	1 unit	41B
	AC	S0	S00/S0	A	**3RA2921-1AA00**	1	1 unit	41B
	DC	S0	S00/S0	A	**3RA2921-1BA00**	1	1 unit	41B
	AC/DC	S2	S2	▶	**3RA2931-1AA00**	1	1 unit	41B
 3RA2931-1AA00	**Multi-unit packaging**							
	AC/DC	S00	S00/S0	▶	**3RA1921-1D**	1	10 units	41B
	AC	S0	S00/S0	A	**3RA2921-1A**	1	10 units	41B
	DC	S0	S00/S0	A	**3RA2921-1B**	1	10 units	41B
	AC/DC	S2	S2	▶	**3RA2931-1A**	1	5 units	41B
 3RA2911-2AA00	For electrical and mechanical connection between motor starter protector and contactor with spring-type terminals			**Spring-type terminals**				
	Single-unit packaging							
	AC/DC	S00	S00	▶	**3RA2911-2AA00**	1	1 unit	41B
	AC[2]	S0	S0	▶	**3RA2921-2AA00**	1	1 unit	41B
	DC	S0	S0	▶	**3RA2921-2AA00**	1	1 unit	41B
	Multi-unit packaging							
	AC/DC	S00	S00	▶	**3RA2911-2A**	1	10 units	41B
	AC[2]	S0	S0	▶	**3RA2921-2A**	1	10 units	41B
	DC	S0	S0	▶	**3RA2921-2A**	1	10 units	41B
 3RA2911-1CA00	**Spacers[2]** For compensating the height on AC contactors							
	Single-unit packaging	S0	S0	A	**3RA2911-1CA00**	1	1 unit	41B
	Multi-unit packaging	S0	S0	A	**3RA2911-1C**	1	5 units	41B

Note:

Link modules can be used in

- Sizes S00 and S0 up to max. 32 A
- Size S2 up to max. 65 A

[1] The link modules from motor starter protector to contactor cannot be used for the 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV2.31-4K.1., 3RV2.31-4R.1., 3RV2.32-4K.1., 3RV2.32-4R.1., 3RV27 and 3RV28 motor starter protectors/circuit breakers.

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

7

Mounting accessories

Size		DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
3RW30, 3RW40 soft starters; 3RF34 solid-state contactors	3RV2 motor starter protectors/circuit breakers						
Link modules for motor starter protector to soft starter[1] and motor starter protector to solid-state contactor							
 3RA2921-1BA00	Connection between motor starter protector and soft starter / solid-state contactor with screw terminals		**Screw terminals**				
	Single-unit packaging						
	S00	S00/S0	A	**3RA2921-1BA00**	1	1 unit	41B
	S0	S00/S0	A	**3RA2921-1BA00**	1	1 unit	41B
	S2[2]	S2	▶	**3RA2931-1AA00**	1	1 unit	41B
	Multi-unit packaging						
 3RA2931-1AA00	S00	S00/S0	A	**3RA2921-1B**	1	10 units	41B
	S0	S00/S0	A	**3RA2921-1B**	1	10 units	41B
	S2[2]	S2	▶	**3RA2931-1A**	1	5 units	41B
 3RA2921-2GA00	Connection between motor starter protector and soft starter spring-type terminals		**Spring-type terminals**				
	Single-unit packaging						
	S00	S00	▶	**3RA2911-2GA00**	1	1 unit	41B
	S0	S0	▶	**3RA2921-2GA00**	1	1 unit	41B
	Multi-unit packaging						
	S00	S00	▶	**3RA2911-2G**	1	10 units	41B
	S0	S0	▶	**3RA2921-2G**	1	10 units	41B

Note:

Link modules can be used in

- Sizes S00 and S0 up to max. 32 A
- Size S2 up to max. 65 A

[1] The link modules from motor starter protector to soft starter and from motor starter protector to solid-state contactor cannot be used for the 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV2.31-4K.1., 3RV2.31-4R.1., 3RV2.32-4K.1., 3RV2.32-4R.1., 3RV27 and 3RV28 motor starter protectors/circuit breakers.

[2] To assemble the feeder between a motor starter protector and a soft starter in size S2, the 3RA2932-1AC00 standard mounting rail adapter must be used.

* You can order this quantity or a multiple thereof.
Illustrations are approximate

	Actuating voltage of contactor	Size 3RT2 contactors	Size 3RV2 motor starter protectors	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Hybrid link modules for motor starter protector to contactor[1]									
 3RA2911-2FA00	Mechanical and electrical connection between motor starter protector with screw terminals and contactor with spring-type terminals								
	Single-unit packaging								
	AC/DC	S00	S00	▶	**3RA2911-2FA00**		1	1 unit	41B
	AC[2]/DC	S0	S0	▶	**3RA2921-2FA00**		1	1 unit	41B
	Multi-unit packaging								
 3RA2921-2FA00	AC/DC	S00	S00	▶	**3RA2911-2F**		1	10 units	41B
	AC[2]/DC	S0	S0	▶	**3RA2921-2F**		1	10 units	41B
 3RA2911-1CA00	**Spacers[2]** For compensating the height on AC contactors								
	Single-unit packaging	S0	S0	A	**3RA2911-1CA00**		1	1 unit	41B
	Multi-unit packaging	S0	S0	A	**3RA2911-1C**		1	5 units	41B

Note:

Hybrid link modules in sizes S00 and S0 up to max. 32 A can be used.

[1] The hybrid link modules for motor starter protector to contactor cannot be used for the 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV27 and 3RV28 motor starter protectors/circuit breakers. They are suitable only for constructing direct-on-line starters.

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

	For motor starter protectors/ circuit breakers Type	Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Connection modules for motor starter protectors/circuit breakers with screw terminals								
 3RT1926-4RD01		**Adapters for motor starter protectors/circuit breakers** Ambient temperature $T_{u\,max.}$ = 60 °C		**Screw terminals** ⏚				
	3RV2.2	Size S0, rated operational current I_e at AC-3/400 V: 25 A	B	**3RT1926-4RD01**		1	1 unit	41B
 3RT1900-4RE01	3RV2.2	**Connectors for motor starter protectors/circuit breakers** Size S0	B	**3RT1900-4RE01**		1	1 unit	41B

More information

Manuals

- System Manual "SIRIUS Innovations – System Overview"
  - German: https://support.industry.siemens.com/cs/ww/de/view/60311318
  - English: https://support.industry.siemens.com/cs/ww/en/view/60311318
- Manual "SIRIUS Innovations – SIRIUS 3RV2 Motor Starter Protectors"
  - German: https://support.industry.siemens.com/cs/ww/de/view/60279172
  - English: https://support.industry.siemens.com/cs/ww/en/view/60279172

* You can order this quantity or a multiple thereof.
Illustrations are approximate

Enclosures and front plates

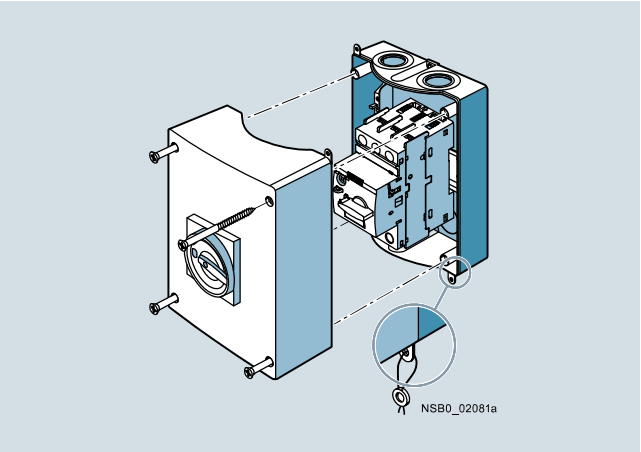
Overview

Enclosures

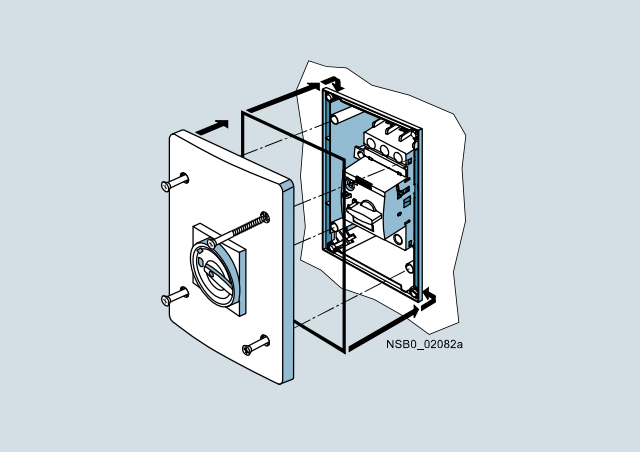
For stand-alone installation of 3RV20 to 3RV24 motor starter protectors size S00 ($I_{n\,max}$ = 16 A), S0 ($I_{n\,max}$ = 32 A) and S2 ($I_{n\,max}$ = 65 A), cast aluminum enclosures for surface mounting and molded-plastic enclosures for flush mounting are available in various dimensions.

When installed in a molded-plastic enclosure the motor starter protectors 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).



Enclosures for surface mounting



Enclosures (only for sizes S00 and S0)

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 starter protector without accessories, with transverse auxiliary switch and with lateral auxiliary switch. There is no provision for installing a motor starter protector with a signaling switch.

With size S00 to S2 circuit breakers the molded-plastic enclosures are equipped with a rotary operating mechanism.

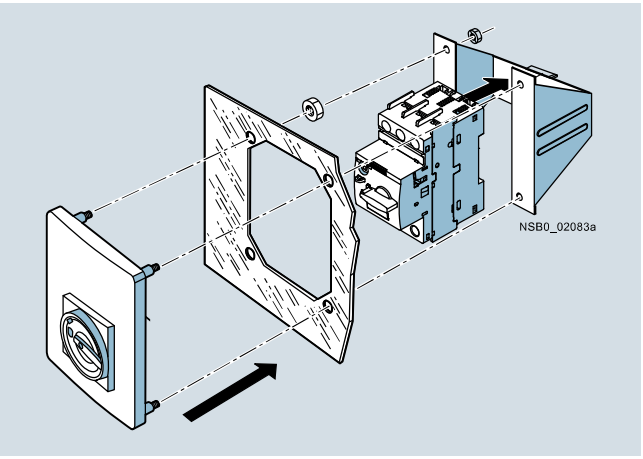
The enclosures can be supplied with either a black rotary operating mechanism or with an EMERGENCY-STOP rotary operating mechanism with a red/yellow knob.

In the OFF setting, all rotary operating mechanisms can be locked with up to three padlocks.

Front plates

Motor starter protectors are frequently required to be actuated in any enclosure. Front plates equipped with a rotary operating mechanism for 3RV20 to 3RV24 motor starter protectors sizes S00 to S2 are available for this purpose.

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



Front plate (including holder) for sizes S00 and S0

Selection and ordering data

	Version	Degree of protection	Integrated terminals	Width	For 3RV20 to 3RV24 motor starter protectors	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				mm	Size						
Molded-plastic enclosures for surface mounting[1]											
 3RV1933-1DA00	**With rotary operating mechanism,** lockable in 0 position	IP55	N and PE/ground	54 (for motor starter protector + lateral auxiliary switch)	S00, S0	▶	**3RV1923-1CA00**		1	1 unit	41E
				72 (for motor starter protector + lateral auxiliary switch[2] + auxiliary release)	S00, S0	▶	**3RV1923-1DA00**		1	1 unit	41E
				82 (for motor starter protector + lateral auxiliary switch[2] + auxiliary release)	S2	A	**3RV1933-1DA00**		1	1 unit	41E
 3RV1923-1FA00, 3RV1933-1GA00	**With EMERGENCY-STOP rotary operating mechanism,** lockable in 0 position	IP55	N and PE/ground	54 (for motor starter protector + lateral auxiliary switch)	S00, S0	▶	**3RV1923-1FA00**		1	1 unit	41E
				72 (for motor starter protector + lateral auxiliary switch[2] + auxiliary release)	S00, S0	▶	**3RV1923-1GA00**		1	1 unit	41E
				82 (for motor starter protector + lateral auxiliary switch[2] + auxiliary release)	S2	A	**3RV1933-1GA00**		1	1 unit	41E
Cast aluminum enclosures for surface mounting[1]											
 3RV1923-1DA01	**With rotary operating mechanism,** lockable in 0 position	IP65	PE[3]	72 (for motor starter protector + lateral auxiliary switch[2] + auxiliary release)	S00, S0	▶	**3RV1923-1DA01**		1	1 unit	41E
	With EMERGENCY-STOP rotary operating mechanism, lockable in 0 position	IP65	PE[3]	72 (for motor starter protector + lateral auxiliary switch[2] + auxiliary release)	S00, S0	▶	**3RV1923-1GA01**		1	1 unit	41E
Molded-plastic enclosures for flush mounting[4]											
 3RV1923-2DA00	**With rotary operating mechanism,** lockable in 0 position	IP55 (front side)	N and PE/ground	72 (for motor starter protector + lateral auxiliary switch[2] + auxiliary release)	S00, S0	A	**3RV1923-2DA00**		1	1 unit	41E
	With EMERGENCY-STOP rotary operating mechanism, lockable in 0 position	IP55 (front side)	N and PE/ground	72 (for motor starter protector + lateral auxiliary switch[2] + auxiliary release)	S00, S0	A	**3RV1923-2GA00**		1	1 unit	41E

1) The rear cable glands cannot be used on 3RV2.11-...2. and 3RV2.21-...2. devices with spring-type terminals.

2) Only valid for lateral auxiliary switches with two auxiliary contacts.

3) If required, an additional N terminal can be mounted (e.g. 8WA1011-1BG11).

4) Not suitable for 3RV2.11-...2. and 3RV2.21-...2. devices with spring-type terminals.

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Enclosures and front plates

Front plates

Version	Degree of protection	For 3RV20 to 3RV24 motor starter protectors	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		Size						
Molded-plastic front plates with rotary operating mechanism, lockable in 0 position For actuation of 3RV2 motor starter protectors in any enclosure	IP55 (front side)	S00 to S2	▶	**3RV1923-4B**		1	1 unit	41E
Molded-plastic front plates with EMERGENCY-STOP rotary operating mechanism, red/yellow, lockable in 0 position EMERGENCY-STOP actuation of 3RV2 motor starter protectors in any enclosure	IP55 (front side)	S00 to S2	A	**3RV1923-4E**		1	1 unit	41E
Holders for front plates Holder is mounted on front plate, motor starter protector with and without accessories is snapped in.	--	S00, S0	▶	**3RV1923-4G**		1	1 unit	41E

3RV1923-4B +
3RV1923-4G

Indicator lights

Version	Rated control supply voltage U_s	For 3RV20 to 3RV24 motor starter protectors	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	V	Size						
Indicator lights For all enclosures and front plates • With LED lamp for versions 110 ... 120 V, with glow lamp for versions 220 ... 500 V • With colored lenses red, green, yellow, orange and clear	110 ... 120	S00 to S2	C	**3RV1903-5B**		1	1 unit	41E
	220 ... 240		C	**3RV1903-5C**		1	1 unit	41E
	380 ... 415		C	**3RV1903-5E**		1	1 unit	41E
	480 ... 500		C	**3RV1903-5G**		1	1 unit	41E

3RV1903-5B

* You can order this quantity or a multiple thereof.
Illustrations are approximate

Overview

The 3RV29 infeed system is a convenient means of energy supply and distribution for a group of several motor starter protectors or complete load feeders with a screw or spring-type connection in sizes S00 and S0 (exception: this system cannot be used for the 3RV21, 3RV27 and 3RV28 motor starter protectors/circuit breakers).

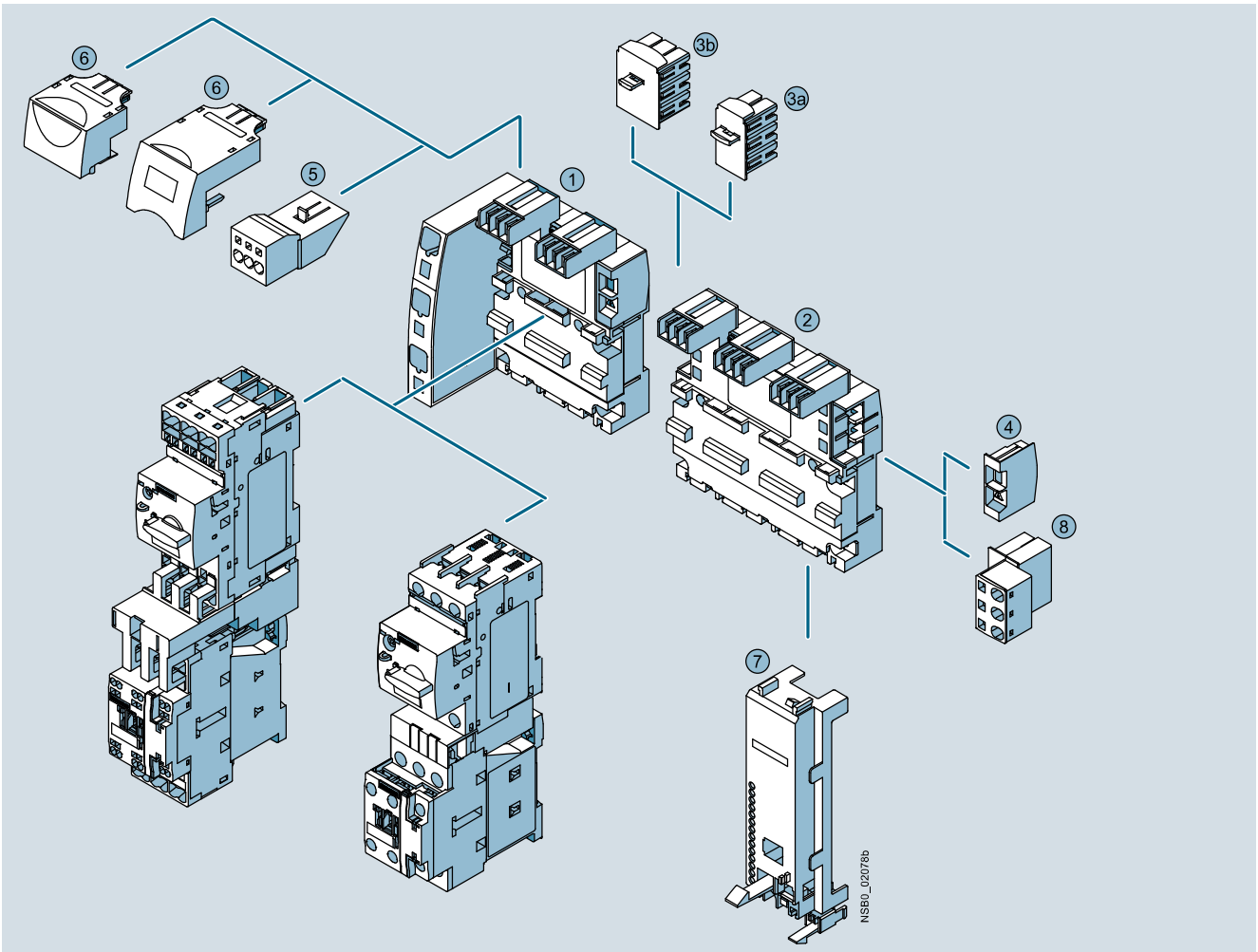
The system is based on a basic module complete with a lateral incoming unit (three-phase busbar with infeed). This infeed with spring-type terminals is mounted on the right or left, depending on the version, and can be supplied with a maximum conductor cross-section of 25 mm^2 (with end sleeve). A basic module has two sockets onto each of which a motor starter protector 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 starter protectors is implemented through plug-in connectors. The complete system can be mounted on a TH 35 standard mounting rail to IEC 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 starter protectors but also single-phase, 2-phase and 3-phase components such as 5SY miniature circuit breakers or SIRIUS relay components.

The 3RV29 infeed system is approved in accordance with IEC to 500 V. It is also UL-approved and authorized for "Self-Protected Combination Motor Controller" (Type E starter) as well as for Type F starter (Type E starter + contactor).



SIRIUS 3RV29 infeed systems

3RV29 infeed system

① Three-phase busbars with infeed

A three-phase busbar with infeed unit is required for connecting the incoming supply. These modules comprise one infeed module and two sockets which each accept one motor starter protector. A choice of two versions with infeed on the left or right is available. The infeed is connected to spring-type terminals. They permit an infeed with conductor cross-sections of up to 25 mm^2 with end sleeve. 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 two or three 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 3RV2917-5BA00 expansion plug; the electrical characteristics (e.g. a current carrying capacity of 63 A) are identical.

The 3RV2917-5E expansion plug is 10 mm wider than the 3RV2917-5BA00 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 starter protector 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 *Terminal block for device infeed*

A new addition to the system is a connector for outfeeding to a device slot within a module. This offers the option not only of connecting three-phase loads to the system, but also of integrating single-phase loads into the infeed system.

⑥ *Plug-in connector*

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

⑦ *Contactor base*

Load feeders can be assembled in the system using the S00 and S0 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 S0 contactor bases are also suitable for soft starters size S00 and S0 with screw terminal.

The infeed system is designed for mounting onto a TH 35 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 starter protector and contactor assemblies can then be directly snapped onto the sockets of the three-phase busbars. For feeders of sizes S00 and S0, the corresponding 3RA1921-1...., 3RA2911-2...., 3RA2921-1.... or 3RA2921-2.... link modules should generally be used.

⑧ *Terminal block*

The 3RV2917-5D terminal block enables the integration of not only SIRIUS motor starter protectors but also single-phase, 2-phase and 3-phase components. The three phases can be fed out of the system using the terminal block; 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. In addition, the 45 mm wide TH 35 3RV1917-7B standard mounting rail option for screwing onto the support plate facilitates plugging the single-phase, two-phase and three-phase components onto the infeed system.

Technical specifications

General data

Type				**3RV29.7**
Size				S00, S0
Standards				
• IEC 60947-2				✓
• IEC 60947-4-1				✓
• UL 508/UL 60947-4-1				✓
Rated current I_n			A	63
Permissible rated current at inside temperature of control cabinet				
Motor starter protectors	Size	Rated current	Inside temperature of control cabinet	
• 3RV2.11	S00	... 14 A	60 °C	% 100
		> 14 ... 16 A	40 °C	% 100
			60° C	% 87
• 3RV2.21	S0	... 16 A	60 °C	% 100
		> 16 ... 25 A	40 °C	% 100
			60° C	% 87
		> 25 ... 32 A	40 °C	% 87
Permissible ambient temperature				
• Storage/transport			°C	–50 ... +80
• Operation			°C	–20 ... +60
Rated operational voltage U_e				
• Acc. to IEC		10 % overvoltage	V AC	500
		5 % overvoltage	V AC	525
• Acc. to UL/CSA			V AC	600
Rated frequency			Hz	50/60
Rated impulse withstand voltage U_{imp}			kV	6
Short-circuit strength				Corresponds to the mounted motor starter protector or load feeder
Degree of protection acc. to IEC 60529				IP20 (In the terminal compartment of the infeed without connected IP00 conductor)
Touch protection acc. to IEC 60529				Finger-safe

✓ Yes

Conductor cross-sections

Type		**Three-phase busbar with infeed 3RV2917-1A, 3RV2917-1E**	**Terminal block 3RV2917-5D**	**Terminal block for device infeed 3RV2917-5FA00**
Conductor cross-sections (min./max.)				
• Solid or stranded	mm^2	4 ... 25	1.5 ... 6	1 ... 10
• Finely stranded with end sleeve	mm^2	4 ... 25	1.5 ... 4	1 ... 6
• Finely stranded without end sleeve	mm^2	6 ... 25	1.5 ... 6	--
• AWG cables	AWG	10 ... 3	15 ... 10	On request

-- No

Selection and ordering data

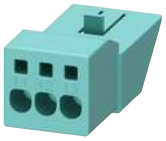
Type	Version	For 3RV20, 3RV23, 3RV24 motor starter protectors Size	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Three-phase busbars with infeed								
 3RV2917-1A	**Three-phase busbars with infeed** incl. 3RV2917-6A end cover	For 2 motor starter protectors with screw or spring-type terminals						
	• With infeed on the left	S00, S0	A	**3RV2917-1A**		1	1 unit	41E
	• With infeed on the right	S00, S0	A	**3RV2917-1E**		1	1 unit	41E
Three-phase busbars for system expansion								
 3RV2917-4A	**Three-phase busbars** incl. 3RV2917-5BA00 expansion plug	For motor starter protectors with screw or spring-type terminals						
	• For 2 motor starter protectors	S00, S0	A	**3RV2917-4A**		1	1 unit	41E
	• For 3 motor starter protectors	S00, S0	A	**3RV2917-4B**		1	1 unit	41E
Plug-in connectors								
 3RV2917-5AA00	**Plug-in connectors** to make contact with motor starter protectors	• For spring-type terminals		**Spring-type terminals**				
	- Single-unit packaging	S00[1])	A	**3RV2917-5AA00**		1	1 unit	41E
		S0[2])	A	**3RV2927-5AA00**		1	1 unit	41E
	- Multi-unit packaging	S00[1])	A	**3RV2917-5A**		1	10 units	41E
		S0[2])	A	**3RV2927-5A**		1	10 units	41E
 3RV2917-5CA00	• For screw terminals			**Screw terminals**				
	- Single-unit packaging	S00[1])	A	**3RV2917-5CA00**		1	1 unit	41E
		S0[2])	A	**3RV1927-5AA00**		1	1 unit	41E
	- Multi-unit packaging	S00[1])	A	**3RV2917-5C**		1	10 units	41E
		S0[2])	A	**3RV1927-5A**		1	10 units	41E

[1]) I > 14 A, please note derating; see Manual "SIRIUS Innovations – SIRIUS 3RV2 Motor Starter Protectors", https://support.industry.siemens.com/cs/ww/en/view/60279172.

[2]) I > 16 A, please note derating; see Manual "SIRIUS Innovations – SIRIUS 3RV2 Motor Starter Protectors", https://support.industry.siemens.com/cs/ww/en/view/60279172.

Type	Version	For contactors Size	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Contactor bases								
 3RV2927-7AA00	**Contactor bases** for mounting direct-on-line or reversing starters	Single-unit packaging						
		S00	A	**3RV2917-7AA00**		1	1 unit	41E
		S00, S0	A	**3RV2927-7AA00**		1	1 unit	41E

* You can order this quantity or a multiple thereof.
Illustrations are approximate

	Type	Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Terminal blocks								
 3RV2917-5D	**Terminal blocks** for integration of single-phase, two-phase and three-phase components	Single-unit packaging	A	**3RV2917-5D**		1	1 unit	41E
TH 35 standard mounting rails, width 45 mm								
 3RV1917-7B	**TH 35 standard mounting rails** acc. to IEC 60715, width 45 mm For mounting onto three-phase busbars	Single-unit packaging	A	**3RV1917-7B**		1	1 unit	41E
Extra-wide expansion plugs								
 3RV2917-5E	**Extra-wide expansion plugs** As accessory	Single-unit packaging	A	**3RV2917-5E**		1	1 unit	41E
Expansion plugs								
 3RV2917-5BA00	**Expansion plugs**[1] As spare part	Single-unit packaging	A	**3RV2917-5BA00**		1	1 unit	41E
End covers								
 3RV2917-6A	**End covers**[2] As spare part	Multi-unit packaging	A	**3RV2917-6A**		100	10 units	41E
Terminal blocks for device infeed								
 3RV2917-5FA00	**Terminal blocks for device infeed**	Single-unit packaging NEW	A	**3RV2917-5FA00**		1	1 unit	41E

[1] The expansion plug is included in the scope of supply of the 3RV2917-4. three-phase busbars for system expansion.

[2] The end cover is included in the scope of supply of the 3RV2917-1. three-phase busbars with infeed system.

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* You can order this quantity or a multiple thereof.
Illustrations are approximate