

Motor Starter Protectors/Circuit Breakers

SIRIUS 3RV1 Motor Starter Protectors/Circuit Breakers

General data

Overview

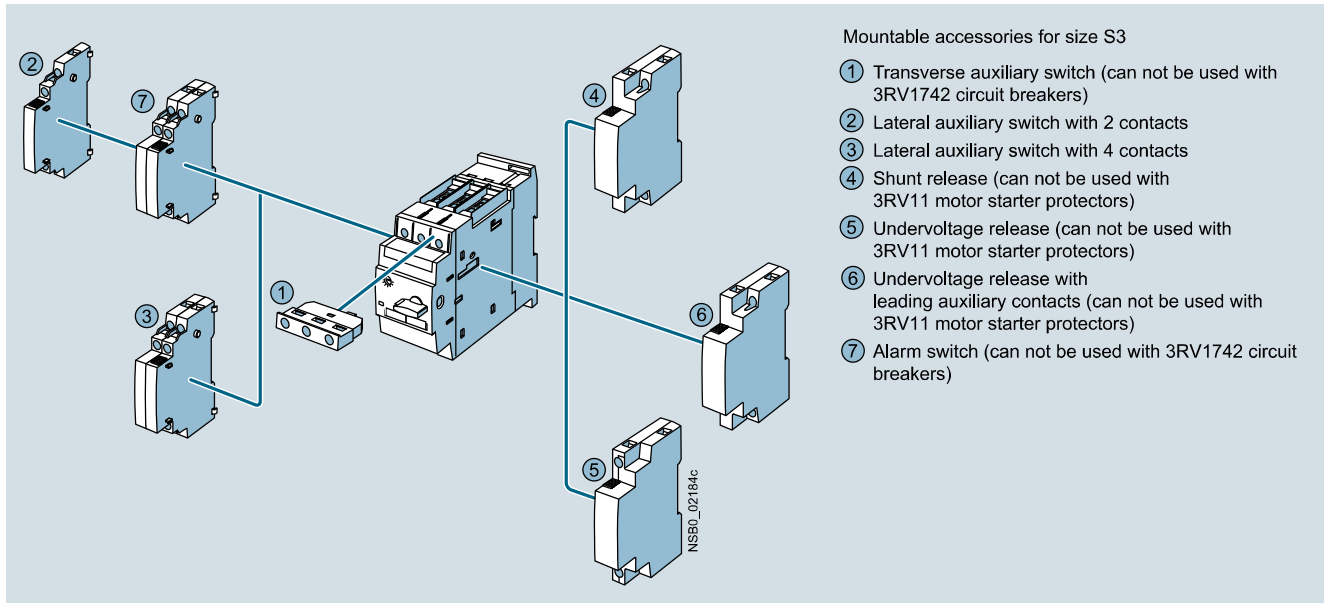
The following illustration shows 3RV1 motor starter protectors/circuit breakers with the accessories which can be mounted for size S3, see also "Introduction" → "Overview", page 7/3.

"Accessories", see page 7/70 onwards.

Note:

The 3RV1 devices (sizes S00/S0 to S3) can be found

- in the Catalog Add-On IC 10 AO · 2016 at the Information and Download Center
- in the interactive Catalog CA 01
- in the Industry Mall



SIRIUS 3RV1 motor starter protector/circuit breaker size S3 with mountable accessories



SIRIUS motor starter protector/circuit breaker size S3

3RV1 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 according to IEC 60947-2 for switching and protecting three-phase motors of up to 45 kW at 400 V AC and for other loads with rated currents of up to 100 A.

For 3RV2 motor starter protectors/circuit breakers sizes S00 to S2 up to 80 A, see page 7/22 onwards.

3RV1 motor starter protectors/circuit breakers are generally approved according to IEC and UL/CSA.

According to UL 508/UL 60947-4-1, the 3RV1 motor starter protectors in size S3 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 3RV10 motor starter protectors in size S3 must be equipped with additional infeed terminals.

The 3RV1742 are approved as circuit breakers according to UL 489; they are a special variant of the 3RV1 motor starter protectors.

Corresponding short-circuit values, see pages 7/55 to 7/58.

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Type of construction

The 3RV1 motor starter protectors/circuit breakers are available in four sizes:

- Size S00 – width 45 mm, max. rated current 12 A, at 400 V AC suitable for three-phase motors up to 5.5 kW
- Size S0 – width 45 mm, max. rated current 25 A, at 400 V AC suitable for three-phase motors up to 11 kW
- Size S2 – width 55 mm, max. rated current 50 A, at 400 V AC suitable for three-phase motors up to 22 kW
- Size S3 – width 70 mm, max. rated current 100 A, at 400 V AC suitable for three-phase motors up to 45 kW

Sizes S00 to S2 of the 3RV2 motor starter protectors/circuit breakers up to 80 A, [see page 7/22 onwards](#).

Circuit breakers acc. to UL 489

The 3RV1742 circuit breakers are available in size S3 (width 70 mm):

- Maximum rated current 70 A at 480 Y/277 V AC
- Maximum rated current 10 A to 30 A at 480 V AC

For sizes S00 and S0 of the 3RV27 and 3RV28 circuit breakers up to 22 A, [see pages 7/30 and 7/31](#).

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 1st generation	1													
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	1	0	4	1	-	4	F	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.

Connection methods

The SIRIUS 3RV1 motor starter protectors/circuit breakers can be supplied with screw terminals and spring-type terminals.



Screw terminals



Spring-type terminals

The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

"Increased safety" type of protection EEx e according to ATEX directive 94/9/EC

3RV10 motor starter protectors are suitable for the overload protection of explosion-proof motors with "increased safety" type of protection EEx e.

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General data

Application

Operating conditions

3RV1 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.

3RV1 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 Reference Manual "Protection Equipment – Circuit Breakers · Molded Case Circuit Breakers", <https://support.industry.siemens.com/cs/ww/en/view/35681461>.

3RV1 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 7/56.

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 3RV1 motor starter protectors/circuit breakers 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
- As main and EMERGENCY-STOP switches
- For fuse monitoring
- For operation in IT systems (IT networks)
- For switching of DC currents
- As voltage transformer circuit breakers
- In areas subject to explosion hazard (ATEX)
- Approved as circuit breakers according to UL 489 (3RV1742)

For more details, see Reference Manual "Protection Equipment – Circuit Breakers · Molded Case Circuit Breakers", <https://support.industry.siemens.com/cs/ww/en/view/35681461>.

Use of SIRIUS protection devices in conjunction with IE3 motors

Note:

For the use of 3RV1 motor starter protectors/circuit breakers 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 on page 5.

Motor Starter Protectors/Circuit Breakers

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General data

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 3RV1 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/contactors 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/circuit breakers	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																
3RV1611-0BD10	0.2	100	100	--	100	100	--	100	100	--	100	100	--	100	100	--
Size S3																
3RV1.41	40	100	100	--	50	25	125	50	20	125	12	6	100	6	3	63
	50	100	100	--	50	25	125	50	20	125	12	6	100	6	3	80
	63	100	100	--	50	25	160	50	20	160	12	6	100	6	3	80
	75	100	100	--	50	25	160	50	20	160	8	4	125	5	3	100
	90; 100	100	100	--	50	25	160	50	20	160	8	4	125	5	3	125
Size S3, with increased switching capacity																
3RV1.42/ 3RV1742⁵⁾	16/10	100	100	--	100	50	--	100	50	--	30	15	80	12	7	63
	20/15	100	100	--	100	50	--	100	50	--	30	15	80	12	7	63
	25/20	100	100	--	100	50	--	100	50	--	30	15	80	12	7	63
	32/25	100	100	--	100	50	--	100	50	--	22	11	100	12	7	63
	40/30	100	100	--	100	50	--	100	50	--	18	9	160	12	6	80
	50/35 ... 40	100	100	--	100	50	--	100	50	--	15	7.5	160	10	5	100
	63/45 ... 50	100	100	--	100	50	--	70	50	200	15	7.5	160	7.5	4	100
	75/60	100	100	--	100	50	--	70	50	200	10	5	160	6	3	125
	90/70	100	100	--	100	50	--	70	50	200	10	5	160	6	3	160
	100/--	100	100	--	100	50	--	70	50	200	10	5	160	6	3	160

-- 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.

5) The values for the 3RV1742 circuit breakers have been tested only up to 400 V/415 V AC; values > 440 V AC on request.

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

3RV1 motor starter protectors/circuit breakers are suitable for operation 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/circuit breaker, the special short-circuit breaking capacity I_{cuIT} applies. The specifications in the table apply to 3RV1 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/circuit breakers	Rated current I_n	Up to 240 V AC ¹⁾			Up to 400 V AC ^{1)/415 V AC²⁾}		Up to 500 V AC ^{1)/525 V AC²⁾}		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⁾
Type	A	kA	A	kA	A	kA	A	kA	A	
Size S00										
3RV1611-0BD10	0.2	100	°	100	°	100	°	100	°	
Size S3										
3RV1.41	40	50	125	10	63	5	50	5	50	
	50	50	125	8	80	3	63	3	63	
	63	50	160	6	80	3	63	3	63	
	75	50	160	5	100	2	80	2	80	
	90; 100	50	160	5	125	2	100	2	100	
Size S3, with increased switching capacity										
3RV1.42	16 ... 32	100	°	12	63	6	50	6	50	
	40	100	°	12	80	6	63	6	63	
	50	100	°	10	100	4	80	4	80	
	63	100	°	7.5	100	4	80	4	80	
	75	100	°	6	125	3	100	3	100	
	90; 100	100	°	6	160	3	125	3	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 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.

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 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 with limiter function. The motor starter protector which is connected downstream must be set to the rated current of the load.

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

Standard motor starter protectors	Rated current I_n	Up to 500 V AC ^{1)/525 V AC²⁾}		Up to 690 V AC ¹⁾	
		I_{cu}	I_{cs}	I_{cu}	I_{cs}
Type	Type	kA	kA	kA	kA
Size S3					
3RV1041/3RV10 42	3RV1341-4HC10	32 ... 50	100	50	50
	$I_n = 50$ A				25
	3RV1341-4MC10	50 ... 100	100	50	50
	$I_n = 100$ A				25

1) 10 % overvoltage.

2) 5 % overvoltage.

Motor Starter Protectors/Circuit Breakers

SIRIUS 3RV1 Motor Starter Protectors/Circuit Breakers

General data

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

Motor starter protectors/circuit breakers of the 3RV1 series are approved for UL/CSA, and according to UL508/UL 60947-4-1 and CSA C22.2 No. 14/CSA 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).

3RV1 motor starter protectors/circuit breakers as "Manual Motor Controllers"

If used as a "Manual Motor Controller", the motor starter protector/circuit breaker 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 3RV1 as a Manual Motor Controller are as follows:

- UL File No. 47705, CCN: NLRV
- CSA Master Contract 165071, Product Class: 3211 05

Motor starter protectors		hp rating ¹⁾ for FLA ²⁾ max.		Rated current I_n A	240 V AC		480 V AC		600 V AC	
Type	V	Single-phase	3-phase		UL $I_{bc}^{(3)}$ kA	CSA $I_{bc}^{(3)}$ kA	UL $I_{bc}^{(3)}$ kA	CSA $I_{bc}^{(3)}$ kA	UL $I_{bc}^{(3)}$ kA	CSA $I_{bc}^{(3)}$ kA
Size S00										
3RV1611-0BD10				0.2	65	65	65	65	10	10
Size S3										
3RV1041/3RV1042, 3RV1142, 3RV1341/3RV1342				16 ... 75 90; 100	65 65	65 65	65 65	65 65	30 10	30 10
FLA ²⁾ max.	115	7 1/2	--							
100 A, 600 V	200	20	30							
NEMA size 3	230	20	40							
	460	--	75							
	575/600	--	100							

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.

3RV10 motor starter protectors as "Manual Motor Controllers 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 3RV10 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/ circuit breakers		hp rating ¹⁾ for FLA ²⁾ max.		Rated current I_n A	240 V AC	Up to 480 Y/277 V AC	Up to 600 Y/347 V AC
Type	V	Single-phase	3-phase		UL $I_{bc}^{(3)}$ kA	UL $I_{bc}^{(3)}$ kA	UL $I_{bc}^{(3)}$ kA
Size S3							
3RV104.				16 ... 75 90; 100	65 65	65 65	30 --
FLA ²⁾ max.	115	7 1/2	--				
100 A, 480 V	200	20	30				
75 A, 600 V	230	20	40				
NEMA size 3	460	--	75				
	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.

Motor Starter Protectors/Circuit Breakers

SIRIUS 3RV1 Motor Starter Protectors/Circuit Breakers

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3RV10 motor starter protectors as "Self-Protected Combination Motor Controllers (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, 3RV10 motor starter protectors in size S3 are approved according to UL 508/UL 60947-4-1 in combination with the 3RT1946-4GA07 terminal block 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 3RV10 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	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	
	Single-phase	3-phase		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		A	kA	kA	kA	kA	kA	kA
Size S3									
3RV1041 + 3RT1946-4GA07⁴⁾									
FLA ²⁾ max.	115	10	16 ... 75 90; 100	65	65	65	65	30	30
100 A, 480 V	200	20		65	65	65	65	--	--
75 A, 600 V	230	20							
NEMA size 3	460	--							
	575/600	--							

-- 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.

3RV1742 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".

The 3RV1742 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

Circuit breakers	Rated current I_n	240 V AC		480 Y/277 V AC		480 V AC		600 Y/347 V AC	
		UL $I_{bc(1)}$	CSA $I_{bc(1)}$	UL $I_{bc(1)}$	CSA $I_{bc(1)}$	UL $I_{bc(1)}$	CSA $I_{bc(1)}$	UL $I_{bc(1)}$	CSA $I_{bc(1)}$
Type	A	kA	kA	kA	kA	kA	kA	kA	kA
Size S3									
3RV1742									
	10 ... 30	65	65	65	65	65	65	20	20
	35 ... 60	65	65	65	65	--	--	20	20
	70	65	65	65	65	--	--	10	10

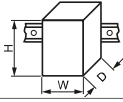


-- No approval

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

Motor Starter Protectors/Circuit Breakers

SIRIUS 3RV1 Motor Starter Protectors/Circuit Breakers

General data

General data			3RV1611 ¹⁾	3RV1.4.	3RV1742
Type			S00	S3	S3
Size			45 x 90 x 70	70 x 165 x 169	70 x 168 x 169
Dimensions (W x H x D)			mm		
Standards			Yes		No
• IEC 60947-1, EN 60947-1 (VDE 0660 Part 100)			Yes		No
• IEC 60947-2, EN 60947-2 (VDE 0660 Part 101)			Yes		No
• IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102)			Yes		Yes
• UL 508/UL 60947-4-1, CSA C22.2 No.14/CSA 60947-4-1			No		Yes
• UL 489, CSA C22.2 No. 5			No		Yes
Number of poles			3		
Max. rated current $I_{n \max}$ (= max. rated operational current I_e)	A		12	100	70
Permissible ambient temperature					
• Storage/transport	°C		-50 ... +80		
• Operation	°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 inside enclosure)					
• +35 °C	%		100		
• +60 °C	%		87		
Rated operational voltage U_e					
• Acc. to IEC	V AC		690 (with molded-plastic enclosure 500 V)		
• Acc. to UL/CSA	V AC		600		
Rated frequency	Hz		50/60		
Rated insulation voltage U_i	V		690		
Rated impulse withstand voltage U_{imp}	kV		6		
Utilization 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		
• 2 conducting paths in series 300 V DC	kA		10		
• 3 conducting paths in series 450 V DC	kA		10		
Power loss P_v for each motor 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 : 16 ... 63 A	W		--	20	
I_n : 75 and 90 A	W		--	30	
I_n : 100 A	W		--	38	
I_n : 10 A	W		--		8
I_n : 15 ... 35 A	W		--		12
I_n : 40 ... 70 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	<ul style="list-style-type: none"> • 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 (applies only for 3RV134 motor starter protectors)		No
Explosion protection – Safe operation of motors with type of protection "Increased safety"			Yes, for 3RV10 (CLASS 10)		No
EC type-examination certificate number according to directive 94/9/EC (ATEX)			DMT 02 ATEX F 001  II (2) GD, DMT 02 ATEX F 001 N1  II (2) GD		
Isolating function	Acc. to IEC 60947-2		Yes		
Main and EMERGENCY-STOP switch characteristics (with corresponding accessories)	Acc. to DIN EN 60204-1		Yes		
Protective separation between main and auxiliary circuits, required for PELV applications	Acc. to IEC 60947-1		Yes		
• 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	50 000	
Electrical endurance	Operating cycles		100 000	25 000	
Max. switching frequency per hour (motor starts)	1/h		15		



¹⁾ "Technical Specifications" for 3RV1611 voltage transformer circuit breakers, see page 7/61.

For short-circuit breaking capacity I_{cu} , I_{cs} see Reference Manual "Protection Equipment – Circuit Breakers · Molded Case Circuit Breakers", <https://support.industry.siemens.com/cs/ww/en/view/35681461>.

Motor Starter Protectors/Circuit Breakers

SIRIUS 3RV1 Motor Starter Protectors/Circuit Breakers

General data

Conductor cross-sections of main circuit			
Type		3RV1611 ¹⁾	3RV1.4./ 3RV1742
Connection type		 Screw terminals	 Screw terminals with box terminal
Terminal screw		Pozidriv size 2	4 mm Allen screw
Prescribed tightening torque	Nm	0.8 ... 1.2	4 ... 6
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected			
• Solid or stranded	mm ²	2 x (0.5 ... 1.5) ²⁾ 2 x (0.75 ... 2.5) ²⁾	2 x (2.5 ... 16) ²⁾ , 2 x (10 ... 50) ²⁾ , 1 x (10 ... 70) ²⁾ ,
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (0.5 ... 1.5) ²⁾ 2 x (0.75 ... 2.5) ²⁾	2 x (2.5 ... 35) ²⁾ , 1 x (2.5 ... 50) ²⁾ ,
• AWG cables, solid or stranded	AWG	2 x (18 ... 14)	2 x (10 ... 1/0) ²⁾ , 1 x (10 ... 2/0) ²⁾ ,
Ribbon cable conductors (Number x Width x Thickness)	mm	--	2 x (6 x 9 x 0.8)
Removable box terminals³⁾			
• With copper bars ⁴⁾		--	18 x 10
• With cable lugs ⁵⁾		--	Up to 2 x 70

1) "Technical Specifications" for 3RV16 voltage transformer circuit breakers, see page 7/61.

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

3) Cable lug and busbar connection possible after removing the box terminals.

4) If bars larger than 12 mm x 10 mm are connected, a 3RT1946-4EA1 cover is needed to comply with the phase clearance, see page 3/132.

5) When connecting conductors which are larger than 25 mm², the 3RT1946-4EA1 cover must be used to keep the phase clearance, see page 3/132.

Rated data of the auxiliary switches and signaling switches

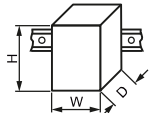
Type 3RV19		Lateral auxiliary switch with 1 NO + 1 NC, 2 NO, 2 NC, 2 NO + 2 NC; Signaling switch	Transverse auxiliary switch with 1 CO	1 NO + 1 NC, 2 NO
Max. rated voltage				
• Acc. to NEMA (UL)	V AC	600		250
• Acc. to NEMA (CSA)	V AC	600		250
Uninterrupted current	A	10	5	2.5
Switching capacity		A600 Q300	B600 R300	C300 R300


Motor Starter Protectors/Circuit Breakers

SIRIUS 3RV1 Motor Starter Protectors/Circuit Breakers

General data

Voltage transformer circuit breakers

General data		3RV1611-1AG14	3RV1611-1CG14	3RV1611-1DG14
Type		S00	S00	S00
Size		45 x 90 x 70	45 x 90 x 70	45 x 90 x 70
Dimensions (W x H x D)		mm		
Rated current I_n	A	1.4	2.5	3
Ambient temperature				
• During storage/transport	°C	-50 ... +80		
• During operation	°C	-20 ... +60 (up to +70 °C possible with current reduction)		
Rated operational voltage U_e	V	400		
Rated frequency	Hz	16.66 ... 60		
Rated insulation voltage U_i	V	690		
Short-circuit breaking capacity I_{cu} at 400 V AC	kA	50		
Set value of the thermal overload release	A	1.4	2.5	3
Response value of the instantaneous overcurrent release	A	6 ± 20 %	10.5 ± 20 %	20 ± 20 %
Tripping time of the instantaneous overcurrent release	ms	Approx. 6 at 12 A	Approx. 6 at 20 A	Approx. 6 at 40 A
Internal resistance				
• In cold state	Ω	> 0.25 ± 6.5 %		
• In heated state	Ω	> 0.30 ± 6.5 %		
Shock resistance acc. to IEC 60068-2-27	g/ms	15		
Degree of protection acc. to IEC 60529		IP20		
Touch protection acc. to EN 50274		Finger-safe for vertical contact from the front		
Endurance				
• Mechanical	Operating cycles	10 000		
• Electrical	Operating cycles	10 000		
Permissible mounting position		Any		

Type	3RV1611-1AG14	3RV1611-1CG14	3RV1611-1DG14
Conductor cross-sections, main circuit, 1 or 2 conductors			
Connection type	 Screw terminals		
Terminal screw	Pozidriv size 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⁾ , max. 4	
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (0.5 ... 1.5) ¹⁾ , 2 x (0.75 ... 2.5) ¹⁾	
Auxiliary switches for blocking the distance protection			
With defined lateral assignment for blocking distance protection		1 CO (for use as 1 NO or 1 NC)	
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
Short-circuit protection for auxiliary circuit			
Melting fuses operational class gG	A	10	
Miniature circuit breakers C characteristic	A	6 (prospective short-circuit current < 0.4 kA)	
Auxiliary switches for other signaling purposes			

For technical specifications, see the next page.

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

Motor Starter Protectors/Circuit Breakers

SIRIUS 3RV1 Motor Starter Protectors/Circuit Breakers

General data

Mountable accessories

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



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, 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 U_s		0.7 ... 1.1 x U_s	
• Pick-up	V	0.85 ... 1.1 x U_s		--	
Opening time maximum	ms	20			

Motor Starter Protectors/Circuit Breakers

SIRIUS 3RV1 Motor Starter Protectors/Circuit Breakers

General data

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 for auxiliary and control circuits		
Connection type	 Screw terminals	
Terminal screw	Pozidriv size 2	
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	AWG	2 x (18 ... 14)
Connection type	 Spring-type terminals²⁾³⁾	
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected		
• Solid or stranded	mm ²	2 x (0.25 ... 2.5)
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (0.25 ... 1.5)
• Finely stranded without end sleeve	mm ²	2 x (0.25 ... 2.5)
• AWG cables, solid or stranded	AWG	2 x (24 ... 14)
Max. external diameter of the conductor insulation	mm	3.6
<p>¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.</p> <p>²⁾ With conductor cross-sections ≤ 1 mm² an "insulation stop" must be used, see page 3/92.</p> <p>³⁾ For corresponding opening tool 3RA2908-1A, see "Accessories", page 7/77.</p>		

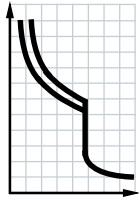
Motor Starter Protectors/Circuit Breakers

SIRIUS 3RV1 Motor Starter Protectors/Circuit Breakers

For motor protection **IE3 ready**

Selection and ordering data

CLASS 10, without auxiliary switches



Rated current	Suitable for three-phase motors ¹⁾ with P	Setting range for thermal overload release	Instantaneous overcurrent releases	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 S3



3RV1041-4LA10

40	18,5	28 ... 40	520	50	▶	3RV1041-4FA10		1	1 unit	41E
50	22	36 ... 50	650	50	▶▶	3RV1041-4HA10		1	1 unit	41E
63	30	45 ... 63	819	50	▶▶	3RV1041-4JA10		1	1 unit	41E
75 ²⁾	37	57 ... 75	975	50	▶▶	3RV1041-4KA10		1	1 unit	41E
90 ²⁾	45	70 ... 90	1 170	50	▶▶	3RV1041-4LA10		1	1 unit	41E
100 ²⁾	45	80 ... 100	1 235	50	▶▶	3RV1041-4MA10		1	1 unit	41E

Size S3, with increased switching capacity



3RV1042-4JA10

16	7,5	11 ... 16	208	100	▶	3RV1042-4AA10		1	1 unit	41E
20	7,5	14 ... 20	260	100	▶▶	3RV1042-4BA10		1	1 unit	41E
25	11	18 ... 25	325	100	▶▶	3RV1042-4DA10		1	1 unit	41E
32	15	22 ... 32	416	100	▶▶	3RV1042-4EA10		1	1 unit	41E
40	18,5	28 ... 40	520	100	▶▶	3RV1042-4FA10		1	1 unit	41E
50	22	36 ... 50	650	100	▶▶	3RV1042-4HA10		1	1 unit	41E
63	30	45 ... 63	819	100	▶▶	3RV1042-4JA10		1	1 unit	41E
75 ²⁾	37	57 ... 75	975	100	▶▶	3RV1042-4KA10		1	1 unit	41E
90 ²⁾	45	70 ... 90	1 170	100	▶▶	3RV1042-4LA10		1	1 unit	41E
100 ²⁾	45	80 ... 100	1 235	100	▶▶	3RV1042-4MA10		1	1 unit	41E

CLASS 20, without auxiliary switches

Size S3, with increased switching capacity



3RV1042-4KB10

40	18,5	28 ... 40	520	100	A	3RV1042-4FB10		1	1 unit	41E
50	22	36 ... 50	650	100	A	3RV1042-4HB10		1	1 unit	41E
63	30	45 ... 63	819	100	A	3RV1042-4JB10		1	1 unit	41E
75 ²⁾	37	57 ... 75	975	100	A	3RV1042-4KB10		1	1 unit	41E
90 ²⁾	45	70 ... 90	1 170	100	A	3RV1042-4LB10		1	1 unit	41E
100 ²⁾	45	80 ... 100	1 235	100	A	3RV1042-4MB10		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 the use of 3RV104. motor starter protectors with an energy-efficient IE3 motor we recommend using a contactor for normal switching duty, see also page 7/54.

Auxiliary switches and other accessories can be ordered separately (see "Accessories" page 7/71 onwards).

Multi-unit/reusable packaging available on request.

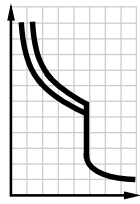
Motor Starter Protectors/Circuit Breakers

SIRIUS 3RV1 Motor Starter Protectors/Circuit Breakers

IE3 ready For motor protection with overload relay function

Selection and ordering data

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



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 S3, with increased switching capacity²⁾



3RV1142-4AA10

16	7,5	11 ... 16	208	100	A	3RV1142-4AA10	1	1 unit	41E
20	7,5	14 ... 20	260	100	A	3RV1142-4BA10	1	1 unit	41E
25	11	18 ... 25	325	100	A	3RV1142-4DA10	1	1 unit	41E
32	15	22 ... 32	416	100	A	3RV1142-4EA10	1	1 unit	41E
40	18,5	28 ... 40	520	100	A	3RV1142-4FA10	1	1 unit	41E
50	22	36 ... 50	650	100	A	3RV1142-4HA10	1	1 unit	41E
63	30	45 ... 63	819	100	A	3RV1142-4JA10	1	1 unit	41E
75 ³⁾	37	57 ... 75	975	100	A	3RV1142-4KA10	1	1 unit	41E
90 ³⁾	45	70 ... 90	1 170	100	A	3RV1142-4LA10	1	1 unit	41E
100 ³⁾	45	80 ... 100	1 235	100	A	3RV1142-4MA10	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 (auxiliary releases) for mounting on the right cannot be used.

³⁾ For the use of 3RV1142 motor starter protectors with an energy-efficient IE3 motor we recommend using a contactor for normal switching duty, see also page 7/54.

Auxiliary switches and other accessories can be ordered separately (see "Accessories" page 7/71 onwards).

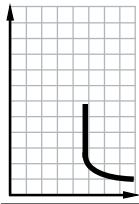
Motor Starter Protectors/Circuit Breakers

SIRIUS 3RV1 Motor Starter Protectors/Circuit Breakers

For starter combinations **IE3 ready**

Selection and ordering data

Without auxiliary switches



Rated current	Suitable for three-phase motors with P ¹⁾	Thermal overload releases ²⁾	Instantaneous overcurrent releases	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 S3



3RV1341-4JC10

40	18,5	Without	520	50	A	3RV1341-4FC10		1	1 unit	41E
50	22	Without	650	50	A	3RV1341-4HC10		1	1 unit	41E
63	30	Without	819	50	A	3RV1341-4JC10		1	1 unit	41E
75 ³⁾	37	Without	975	50	A	3RV1341-4KC10		1	1 unit	41E
90 ³⁾	45	Without	1 170	50	A	3RV1341-4LC10		1	1 unit	41E
100 ³⁾	45	Without	1 235	50	A	3RV1341-4MC10		1	1 unit	41E

Size S3, with increased switching capacity



3RV1342-4JC10

16	7,5	Without	208	100	A	3RV1342-4AC10		1	1 unit	41E
20	7,5	Without	260	100	A	3RV1342-4BC10		1	1 unit	41E
25	11	Without	325	100	A	3RV1342-4DC10		1	1 unit	41E
32	15	Without	416	100	A	3RV1342-4EC10		1	1 unit	41E
40	18,5	Without	520	100	A	3RV1342-4FC10		1	1 unit	41E
50	22	Without	650	100	A	3RV1342-4HC10		1	1 unit	41E
63	30	Without	819	100	A	3RV1342-4JC10		1	1 unit	41E
75 ³⁾	37	Without	975	100	A	3RV1342-4KC10		1	1 unit	41E
90 ³⁾	45	Without	1 170	100	A	3RV1342-4LC10		1	1 unit	41E
100 ³⁾	45	Without	1 235	100	A	3RV1342-4MC10		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⁾ For the use of 3RV134. motor starter protectors with an energy-efficient IE3 motor we recommend using a contactor for normal switching duty, see also page 7/54.

Auxiliary switches and other accessories can be ordered separately (see "Accessories" page 7/71 onwards).

Multi-unit/reusable packaging available on request.

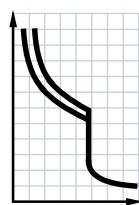
Motor Starter Protectors/Circuit Breakers

SIRIUS 3RV1 Motor Starter Protectors/Circuit Breakers

For fuse monitoring

Selection and ordering data

Without auxiliary switches



Rated current	Thermal overload releases	Instantaneous overcurrent release	Short-circuit breaking capacity at 400 V AC	DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG
I_n			I_{cu}		Article No.	Price per PU		
A	A	A	kA					

Size S00



3RV1611-0BD10

0.2	0.2	1.2	100	▶	3RV1611-0BD10	1	1 unit	41E
-----	-----	-----	-----	---	----------------------	---	--------	-----

Note:

The auxiliary switch required for signaling must be ordered separately.

Multi-unit/reusable packaging available on request.

Accessories

Version	Contacts	DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU		

Mountable auxiliary switches (essential accessories)



3RV1901-1E

Transverse auxiliary switches With screw terminals, mountable on front	1 NO + 1 NC	▶	3RV1901-1E	1	1 unit	41E
--	-------------	---	-------------------	---	--------	-----



3RV1901-1A

Lateral auxiliary switches With screw terminals, mountable on the left	1 NO + 1 NC	▶	3RV1901-1A	1	1 unit	41E
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Additional auxiliary switches and other accessories, see "Accessories" page 7/71 onwards.

Motor Starter Protectors/Circuit Breakers

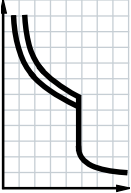



SIRIUS 3RV1 Motor Starter Protectors/Circuit Breakers

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

	Rated current ¹⁾	Thermal overload releases (non-adjustable)	Instantaneous overcurrent release	Short-circuit breaking capacity at 480 Y/277 V AC ²⁾ 480 V AC		DT	Screw terminals 	PU (UNIT, SET, M)	PS*	PG
	I_n ¹⁾		$I >$	I_{bc}	I_{bc}		Article No.	Price per PU		
	A	A	A	kA	kA					
Size S3										
	10	10	150	65	65	B	3RV1742-5AD10	1	1 unit	41E
	15	15	225	65	65	B	3RV1742-5BD10	1	1 unit	41E
	20	20	260	65	65	B	3RV1742-5CD10	1	1 unit	41E
	25	25	325	65	65	B	3RV1742-5DD10	1	1 unit	41E
	30	30	390	65	65	B	3RV1742-5ED10	1	1 unit	41E
	35	35	455	65	--	B	3RV1742-5FD10	1	1 unit	41E
	40	40	520	65	--	B	3RV1742-5GD10	1	1 unit	41E
	45	45	585	65	--	B	3RV1742-5HD10	1	1 unit	41E
	50	50	650	65	--	B	3RV1742-5JD10	1	1 unit	41E
	60	60	780	65	--	B	3RV1742-5LD10	1	1 unit	41E
	3RV1742-5FD10	70	70	910	65	--	B	3RV1742-5QD10	1	1 unit

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 7/58.

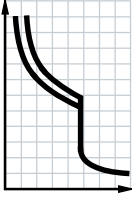




Transverse auxiliary switches must not be mounted, lateral auxiliary switches can be ordered separately see "Accessories" page 7/71 onwards.

Motor Starter Protectors/Circuit Breakers SIRIUS 3RV1 Motor Starter Protectors/Circuit Breakers



For distance protection

Selection and ordering data

Voltage transformer motor starter protectors with transverse auxiliary switches (1 CO)

	Rated current	Thermal overload releases	Instantaneous overcurrent release	Auxiliary switch integrated in the motor starter protector, transverse	Short-circuit breaking capacity at 400 V AC	DT	Screw terminals 	PU (UNIT, SET, M)	PS*	PG
	I_n				I_{cu}		Article No.	Price per PU		
Size S00										
 <p>3RV1611-1.G14</p>	1.4	1.4	6	1 CO	50	B	3RV1611-1AG14	1	1 unit	41E
	2.5	2.5	10.5	1 CO	50	▶	3RV1611-1CG14	1	1 unit	41E
	3	3	20	1 CO	50	▶	3RV1611-1DG14	1	1 unit	41E

Accessories

Version	Contacts	DT	Screw terminals 	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU		
Mountable auxiliary switches for other signaling purposes						
 <p>3RV1901-1A</p>	Lateral auxiliary switches					
	With screw terminals, mountable on the left		1 NO + 1 NC	▶ 3RV1901-1A	1	1 unit

Additional auxiliary switches and other accessories, see "Accessories" page 7/71 onwards.

Motor Starter Protectors/Circuit Breakers

SIRIUS 3RV1 Motor Starter Protectors/Circuit Breakers

Accessories

Mountable accessories

Overview

Mounting location and function

The 3RV1 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 7/52](#).

Front side Notes: <ul style="list-style-type: none"> • A maximum of four auxiliary contacts with auxiliary switches can be mounted on each motor starter protector. • Transverse auxiliary switches must not be used for the 3RV1742 circuit breakers. 	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 remains unchanged.
Left-hand side Notes: <ul style="list-style-type: none"> • 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 3RV1742 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	One signaling switch can be mounted on the left side of each motor starter protector.
	Tripping 1 NO + 1 NC Short circuit 1 NO + 1 NC	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: <ul style="list-style-type: none"> • One auxiliary release can be mounted per motor starter protector/circuit breaker. • Accessories cannot be mounted at the right-hand side of the 3RV11 motor starter protectors for motor protection with overload relay function. 	Auxiliary releases Shunt releases or Undervoltage releases or Undervoltage releases with leading auxiliary contacts 2 NO	For remote-controlled tripping of the motor starter protector/circuit breaker. The release coil should only be energized for short periods (see circuit diagrams). 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. 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.

For a complete overview of which accessories can be used for the various motor starter protectors/circuit breakers, [see page 7/3](#).







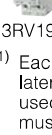

Motor Starter Protectors/Circuit Breakers

SIRIUS 3RV1 Motor Starter Protectors/Circuit Breakers




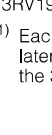

Accessories

Mountable accessories

Selection and ordering data

Version	Contacts	For motor starter protectors/circuit breakers	DT	Screw terminals 	PU (UNIT, SET, M)	PS*	PG	
				Article No.	Price per PU			
				Size				
Auxiliary switches¹⁾								
 3RV1901-1E	Transverse auxiliary switches with screw terminals, for mounting on the front	1 CO 1 NO + 1 NC 2 NO	S00, S3	▶ ▶ ▶	3RV1901-1D 3RV1901-1E 3RV1901-1F	1 1 1	1 unit 1 unit 1 unit	41E 41E 41E
 3RV1901-1G	Solid-state compatible transverse auxiliary switches with screw terminals, For mounting on the front, for operation in dusty atmospheres and in solid-state circuits with low operating currents	1 CO	S00, S3	A	3RV1901-1G	1	1 unit	41E
 3RV1901-0H	Covers for transverse auxiliary switches	--	S00, S3	▶	3RV1901-0H	1	10 units	41E
 3RV1901-1A	Lateral auxiliary switches with screw terminals, for mounting on the left	1 NO + 1 NC	S00, S3	▶	3RV1901-1A	1	1 unit	41E
 3RV1901-1B		2 NO		▶	3RV1901-1B	1	1 unit	41E
 3RV1901-1C		2 NC		▶	3RV1901-1C	1	1 unit	41E
 3RV1901-1J		2 NO + 2 NC		A	3RV1901-1J	1	1 unit	41E

¹⁾ Each motor starter protector 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. Transverse auxiliary switches must not be used for the 3RV1742 circuit breakers.

Version	Contacts	For motor starter protectors/circuit breakers	DT	Spring-type terminals 	PU (UNIT, SET, M)	PS*	PG	
				Article No.	Price per PU			
				Size				
Auxiliary switches¹⁾								
 3RV1901-2E	Transverse auxiliary switches With spring-type terminals, for mounting on the front	1 NO + 1 NC 2 NO	S00, S3	▶ ▶	3RV1901-2E 3RV1901-2F	1 1	1 unit 1 unit	41E 41E
 3RV1901-2A	Lateral auxiliary switches With spring-type terminals, for mounting on the left	1 NO + 1 NC	S00, S3	▶	3RV1901-2A	1	1 unit	41E
 3RV1901-2B		2 NO		▶	3RV1901-2B	1	1 unit	41E
 3RV1901-2C		2 NC		▶	3RV1901-2C	1	1 unit	41E



¹⁾ Each motor starter protector can be fitted with one transverse and one lateral auxiliary switch. Transverse auxiliary switches must not be used for the 3RV1742 circuit breakers.

Motor Starter Protectors/Circuit Breakers

SIRIUS 3RV1 Motor Starter Protectors/Circuit Breakers


Accessories

Mountable accessories

Version	For motor starter protectors	DT	Screw terminals 	PU (UNIT, SET, M)	PS*	PG
Size			Article No.	Price per PU		
Signaling switches¹⁾						
	Signaling switches One signaling switch can be mounted on the left per motor starter protector.	Separate tripped and short-circuit alarms, 1 NO + 1 NC each	S3	▶	3RV1921-1M	1 1 unit 41E

3RV1921-1M

¹⁾ This accessory cannot be used for the 3RV1742 circuit breakers.

Rated control supply voltage U_s					For motor starter protectors/circuit breakers	DT	Screw terminals 	PU (UNIT, SET, M)	PS*	PG
AC 50 Hz	AC 60 Hz	AC 50/60 Hz	AC/DC 50/60 Hz, DC 5 s ON period ¹⁾	DC		Size	Article No.	Price per PU		
V	V	V	V	V						
Auxiliary releases³⁾										
Undervoltage releases										
--	--	--	--	24	S3	A	3RV1902-1AB4	1	1 unit	41E
24	--	--	--	--	S3	A	3RV1902-1AB0	1	1 unit	41E
110	120	--	--	--	S3	A	3RV1902-1AF0	1	1 unit	41E
--	208	--	--	--	S3	A	3RV1902-1AM1	1	1 unit	41E
230	240	--	--	--	S3	▶	3RV1902-1AP0	1	1 unit	41E
400	440	--	--	--	S3	▶	3RV1902-1AV0	1	1 unit	41E
415	480	--	--	--	S3	A	3RV1902-1AV1	1	1 unit	41E
500	600	--	--	--	S3	A	3RV1902-1AS0	1	1 unit	41E
Undervoltage releases with leading auxiliary contacts 2 NO										
230	240	--	--	--	S3	A	3RV1922-1CP0	1	1 unit	41E
400	440	--	--	--	S3	A	3RV1922-1CV0	1	1 unit	41E
415	480	--	--	--	S3	A	3RV1922-1CV1	1	1 unit	41E
Shunt releases										
--	--	20 ... 24	20 ... 70	--	S3	▶	3RV1902-1DB0	1	1 unit	41E
--	--	90 ... 110	70 ... 190	--	S3	A	3RV1902-1DF0	1	1 unit	41E
--	--	210 ... 240	190 ... 330	--	S3	▶	3RV1902-1DP0	1	1 unit	41E
--	--	350 ... 415	330 ... 500	--	S3	A	3RV1902-1DV0	1	1 unit	41E
--	--	500	500	--	S3	A	3RV1902-1DS0	1	1 unit	41E

3RV1902-1DP0

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 (does not apply to 3RV11 motor starter protectors with overload relay function).