

Overview



3RV10 63-7AL10 molded case motor starter protector

The 3RV10 and 3RV13 molded case motor starter protectors for up to 800 A are compact, current-limiting motor starter protectors which can be used above all in motor feeders for special voltages of 440 V, 480 V, 550 V and 690 V. They are used for switching and protecting induction motors and other loads with rated currents up to 800 A.

Note:

For motor feeders with more than 100 A at 400 V and 500 V it is necessary to use the SENTRON 3VL molded case motor starter protectors, see Chapter 16 "SENTRON Switching and protection Devices – Molded Case Motor Starter Protectors".

Type of construction

The molded case motor starter protectors are available in 4 widths:

- 3RV13 53 – width 90 mm, max. rated current 32 A, at 550 V AC suitable for induction motors up to 22 kW.
- 3RV1. 6. – width 105 mm, max. rated current 250 A, at 690 V AC suitable for induction motors up to 160 kW.
- 3RV1. 7. – width 140 mm, max. rated current 630 A, at 690 V AC suitable for induction motors up to 315 kW.
- 3RV1. 83 – width 210 mm, max. rated current 800 A, at 690 V AC suitable for induction motors up to 500 kW.

The 3RV1 molded case motor starter protectors for up to 800 A can be mounted in horizontal, vertical or lying arrangement directly on a mounting plate or mounting rail. Their rated data are adversely affected as the result.

The phase barriers for better insulation between the phases are included in the scope of supply.

The motor starter protectors can be supplied through top and bottom terminals without impairing their function, enabling them to be installed in any type of switchgear without any further steps.

Note

The 3RV1 molded case motor starter protectors for up to 800 A are suitable solely for screw connection. This is indicated in the selection and ordering data by orange backgrounds.

Benefits

- High short-circuit breaking capacity in the feeder
- Optimum usability in motor feeders for the special voltages 440 V, 480 V, 550 V and 690 V
- Compact design
- The releases are available both in purely magnetic (up to 32 A) and in electronic versions (100 A to 800 A).
- Available for motor or starter protection (short-circuit protection alone)

Application

Operating conditions

The 3RV1 molded case motor starter protectors up to 800 A can be operated at ambient temperatures between -25 °C and +70 °C. They can be used according to IEC 60721-2-1 in the most difficult environmental conditions with a hot and damp climate.

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 start-up data of the motor to be protected is always paramount to the choice of the most suitable molded case motor starter protectors.

Possible uses

The 3RV1 molded case motor starter protectors for up to 800 A are suitable as switching and protection devices for motors. The following versions are available:

- For motor protection; the overload and short-circuit releases are designed for optimized protection and direct-on-line starting of induction squirrel-cage motors. The motor starter protectors have an electronic release which not only provides short-circuit and overload protection but is also sensitive to phase failure and phase unbalance and offers protection in the event of rotor blockage.
- For starter combinations; these molded case motor starter protectors are used for short-circuit protection in combinations of circuit breaker, motor contactor and overload relay. They are equipped with a purely magnetic release (up to 32 A) or an electronic release (100 A to 800 A).

Standards and specifications

The electronic releases for motor protection comply with IEC 60947-4-1. Isolating features are also compliant with IEC 60947-2.

The 3RV1 molded case motor starter protectors comply in addition with IEC 60068-2-6 (shock and vibration strength) and are certified for the specifications of the most important marine classification societies:

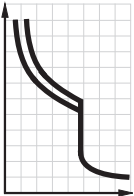
- RINA
- Det Norske Veritas
- Bureau Veritas
- Lloyds Register of Shipping
- Germanischer Lloyd
- American Bureau of Shipping

SIRIUS 3RV Molded Case Motor Starter Protectors up to 800 A

For motor protection

Selection and ordering data

CLASS 10A, CLASS 10, CLASS 20, CLASS 30, without auxiliary switches



Rated current	Current setting of the inverse-time delayed overload release "L" I_R	Operating current of the instantaneous short-circuit release "I" I_i	Short-circuit breaking capacity at 400 V AC	DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
I_n			I_{cu}		Order No.	Price per PU			kg
A	A	A	kA						

With electronic releases

Standard switching capacity, adjustable short-circuit and overload release, TU 4



3RV10 .3-7.L10

TU = Trip unit

Further accessories can be ordered separately (see "Mountable accessories").

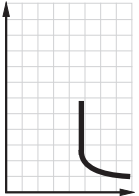
100	40 ... 100	600 ... 1 300	120	D	3RV10 63-7AL10	1	1 unit	101	2.350
160	64 ... 160	960 ... 2 080	120	D	3RV10 63-7CL10	1	1 unit	101	2.350
200	80 ... 200	1 200 ... 2 600	120	D	3RV10 63-7DL10	1	1 unit	101	2.350
400	160 ... 400	2 400 ... 5 200	120	D	3RV10 73-7GL10	1	1 unit	101	3.250
630	252 ... 630	3 780 ... 8 190	100	D	3RV10 83-7JL10	1	1 unit	101	9.500



SIRIUS 3RV Molded Case Motor Starter Protectors up to 800 A

For starter combinations

Selection and ordering data

Without auxiliary switches



Rated current	Inverse-time delayed overload release "L" I_R	Operating current of the instantaneous short-circuit release "I" I_i	Short-circuit breaking capacity at 400 V AC	DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
I_n			I_{cu}		Order No.	Price per PU			kg
A	A	A	kA						

With magnetic releases



3RV13 53-6.P10

Standard switching capacity, non-adjustable short-circuit release, TU 1

1	Without	13	85	D	3RV13 53-6AP10	1	1 unit	101	1.100
1.6	Without	21	85	D	3RV13 53-6BP10	1	1 unit	101	1.100
2	Without	26	85	D	3RV13 53-6CP10	1	1 unit	101	1.100
3.2	Without	42	85	D	3RV13 53-6DP10	1	1 unit	101	1.100
4	Without	52	85	D	3RV13 53-6EP10	1	1 unit	101	1.100
5	Without	65	85	D	3RV13 53-6FP10	1	1 unit	101	1.100
6.5	Without	85	85	D	3RV13 53-6GP10	1	1 unit	101	1.100
8.5	Without	111	85	D	3RV13 53-6HP10	1	1 unit	101	1.100
12.5	Without	163	85	D	3RV13 53-6JP10	1	1 unit	101	1.100

Standard switching capacity, adjustable short-circuit release, TU 2

20	Without	120 ... 240	85	D	3RV13 53-6LM10	1	1 unit	101	1.100
32	Without	192 ... 384	85	D	3RV13 53-6MM10	1	1 unit	101	1.100

With electronic releases



3RV13 ...-7.N10

Standard switching capacity, adjustable short-circuit release, TU 3

100	Without	100 ... 1 000	120	D	3RV13 63-7AN10	1	1 unit	101	2.350
160	Without	160 ... 1 600	120	D	3RV13 63-7CN10	1	1 unit	101	2.350
250	Without	250 ... 2 500	120	D	3RV13 63-7EN10	1	1 unit	101	2.350
400	Without	400 ... 4 000	120	D	3RV13 73-7GN10	1	1 unit	101	3.250
630	Without	630 ... 6 300	120	D	3RV13 73-7JN10	1	1 unit	101	3.250
630	Without	630 ... 6 300	100	D	3RV13 83-7JN10	1	1 unit	101	9.500
800	Without	800 ... 8 000	100	D	3RV13 83-7KN10	1	1 unit	101	9.500

Increased switching capacity, adjustable short-circuit release, TU 3

100	Without	100 ... 1 000	200	D	3RV13 64-7AN10	1	1 unit	101	2.350
160	Without	160 ... 1 600	200	D	3RV13 64-7CN10	1	1 unit	101	2.350
250	Without	250 ... 2 500	200	D	3RV13 64-7EN10	1	1 unit	101	2.350
400	Without	400 ... 4 000	200	D	3RV13 74-7GN10	1	1 unit	101	3.250

TU = Trip unit

Further accessories can be ordered separately (see "Mountable accessories").

More information

Brochure "SIRIUS Configuration"

More information and assignment tables can be found in the brochure "SIRIUS Modular System, SIRIUS Configuration", Order No. E86060-T1815-A101-A3-7600

or on the Internet at

www.siemens.com/industrial-controls/infomaterial


--> "Brochures" --> "SIRIUS Modular System".

SIRIUS 3RV Molded Case Motor Starter Protectors up to 800 A

Accessories

Mountable accessories

Selection and ordering data


Type	Version	For molded case motor starter protectors	DT	Screw terminals 	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
				Order No.	Price per PU			kg

Auxiliary switches



3RV19 91-1AA0

Auxiliary switches for front mounting	1 signal switch Off-On + 1 "tripped" signal (250 V AC/DC)	3RV13 53, 3RV1. 6. ...	D	3RV19 91-1AA0	1	1 unit	101	0.040
	3 signal switches Off-On + 1 "tripped" signal (250 V AC/DC)	3RV1. 83	D	3RV19 91-1BA0	1	1 unit	101	0.040
	3 signal switches Off-On + 1 "tripped" signal (24 V DC)		D	3RV19 91-1CA0	1	1 unit	101	0.040
Connection cables for auxiliary switches	Length 2 m, 6-pole	3RV13 53, 3RV1. 6. ... 3RV1. 83	D	3RV19 91-1FA0	1	1 unit	101	0.090

Type	Rated control supply voltage U_s		For molded case motor starter protectors	DT	Screw terminals 	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	AC 50/60 Hz	DC			Order No.	Price per PU			kg
	V	V							

Auxiliary releases



3RV19 52-1AA0

Undervoltage releases for front mounting	24 ... 30	24 ... 30	3RV13 53	D	3RV19 52-1AA0	1	1 unit	101	0.120
	110 ... 127	110 ... 125		D	3RV19 52-1AD0	1	1 unit	101	0.120
	220 ... 240	220 ... 250		D	3RV19 52-1AE0	1	1 unit	101	0.120
	24 ... 30	24 ... 30	3RV1. 6.	D	3RV19 82-1AA0	1	1 unit	101	0.170
	110 ... 127	110 ... 125	...	D	3RV19 82-1AD0	1	1 unit	101	0.170
	220 ... 240	220 ... 250	3RV1. 83	D	3RV19 82-1AF0	1	1 unit	101	0.170
Shunt releases for front mounting	24 ... 30	24 ... 30	3RV13 53	D	3RV19 52-1EA0	1	1 unit	101	0.120
	110 ... 127	110 ... 125		D	3RV19 52-1ED0	1	1 unit	101	0.120
	220 ... 240	220 ... 250		D	3RV19 52-1EF0	1	1 unit	101	0.120
	24 ... 30	24 ... 30	3RV1. 6.	D	3RV19 82-1EA0	1	1 unit	101	0.170
	110 ... 127	110 ... 125	...	D	3RV19 82-1ED0	1	1 unit	101	0.170
	220 ... 240	220 ... 250	3RV1. 83	D	3RV19 82-1EF0	1	1 unit	101	0.170
Connection cables for undervoltage and shunt releases	Length 2 m, 6-pole		3RV13 53, 3RV1. 6. ... 3RV1. 83	D	3RV19 92-1FA0	1	1 unit	101	0.030



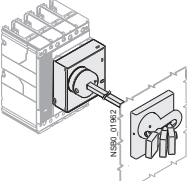
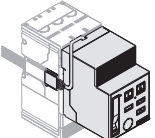



3RV19 52-1EA0

SIRIUS 3RV Molded Case Motor Starter Protectors up to 800 A

Accessories

Rotary operating mechanisms
Mounting accessories

Selection and ordering data

Version	For molded case motor starter protectors	DT	Screw terminals	⊕	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
			Order No.	Price per PU				
Rotary operating mechanisms								
	Lever-type rotary operating mechanisms	With adjustable distance	3RV13 53	D	3RV19 56-0BA0	1	1 unit	101 0.400
		With lock/door interlocking (padlocks are not included in scope of supply)	3RV1. 6., 3RV1. 7.	D	3RV19 76-0BA0	1	1 unit	101 0.600
			3RV1. 83	D	3RV19 86-0BA0	1	1 unit	101 0.600
3RV19 .6-0BA0								
	Motorized rotary operating mechanisms	With spring energy store, 220 ... 250 V AC/DC	3RV1. 6., 3RV1. 7.	D	3RV19 76-3AP3	1	1 unit	101 1.350
			3RV1. 83	D	3RV19 86-3AP3	1	1 unit	101 2.300
3RV19 .6-3AP3								
Connections								
	Terminals	Front-extended (1 set = 6 units)	3RV13 53	D	3RV19 55-1AA0	1	1 unit	101 0.300
			3RV1. 6.	D	3RV19 65-1BA0	1	1 unit	101 0.600
			3RV1. 7.	D	3RV19 75-1CA0	1	1 unit	101 0.900
			3RV1. 83-7J.10	D	3RV19 85-1DA0	1	1 unit	101 0.782
			3RV1. 83-7KN10	D	3RV19 85-1EA0	1	1 unit	101 1.015
3RV19 75-1CA0								
		Rear (1 set = 3 units)	3RV13 53	D	3RV19 55-3AA0	1	1 unit	101 0.200
			3RV1. 6.	D	3RV19 65-3AA0	1	1 unit	101 0.300
			3RV1. 7.	D	3RV19 75-3AA0	1	1 unit	101 1.000
			3RV1. 83	D	3RV19 85-3AA0	1	1 unit	101 1.000
3RV19 55-3AA0								
	Cable terminals	Front-extended (1 set = 6 units)	3RV13 53	D	3RV19 55-2AA0	1	1 unit	101 0.150
			3RV1. 6.	D	3RV19 65-2BA0	1	1 unit	101 0.300
			3RV1. 7.-7G.10	D	3RV19 75-2CA0	1	1 unit	101 0.730
			3RV1. 73-7JN10	D	3RV19 75-2DA0	1	1 unit	101 0.750
3RV19 75-2AA0								

* You can order this quantity or a multiple thereof.