SIEMENS

SINOVA 3MV8
Motor Starter Protectors

Reliable Control & Protection

Overview

3MV8 Motor Starter Protectors are a cost-efficient and reliable solution for a variety of control, switching and motor protection applications. The comprehensive range is designed for all standard industrial and infrastructure applications.

Key Features

Flexible
Designed to allow for adaptation in many types of panel designs for your control and protection needs.

Reliable
Assuring motor protection with tested type-2 coordinated feeder solutions.

Homogenous Design
Homogenous design aesthetics and common accessories across the defined product ranges.

Safe
Confirming to
- IEC 60947-4-1
- IEC 60947-5-1

- RoHS compliant
- CE Certified
- Type testing under CB scheme

SINOVA 3MV8 Motor Starter Protectors

Overview

The SINOVA 3MV8 Motor Starter Protectors is a cost-efficient and reliable solution for a motor starting and protection. These are available in 2 frame sizes upto 52A. These come with optional built-in 1NO+1NC aux contacts.

Article Number Scheme

Product Version		Article number						
Motor Starter Protector		3MV8	☐	00	-	☐	☐	00
Frame size	1 = Size 1 2 = Size 2		1					
Inbuilt Aux Contacts	0 = no inbuilt aux contact 1 = 1NO+1NC inbuilt aux contact					1		
Current setting	e. g. MJ= 2.4A ... 4A						MJ	
Example		**3MV8**	**1**	**00**	**-**	**1**	**MJ**	**00**

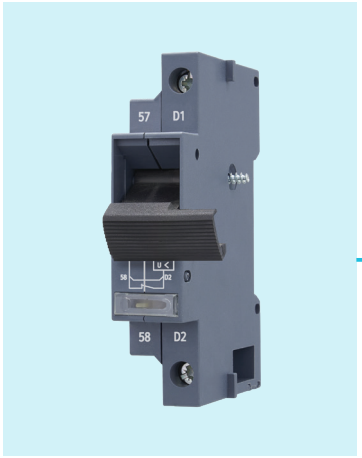
Note:
The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

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

SINOVA 3MV8 Motor Starter Protectors

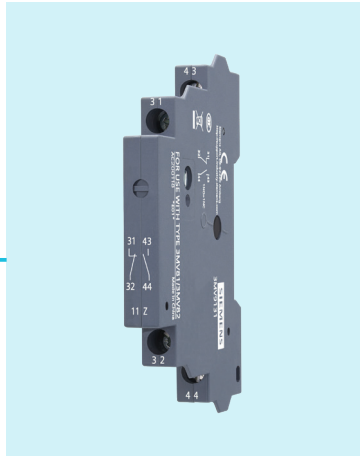
Shunt release

Undervoltage release



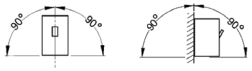
Undervoltage release
with lead action auxilary contact

Short circuit fault indicator



Auxilary switch

Technical Specifications

Motor Starter Protectors 3MV8				
Type			3MV81	3MV82
General data				
Dimension				
• **Basic unit**	W		54	70
	H	mm	86	115
	D		70	108.5
Mounting position			 90° Inclination forward, Backward, left and right	
Rated insulation voltage Ui (pollution degree 3)				
• Main Circuit		V	750	
Rated impulse withstand voltage U_{imp}				
• Main Circuit		kV	6	
Permissible ambient temperature				
During operation		°C	-20 ... +55	
During storage		°C	-50 ... +80	
Relative air humidity		%	10 ... 90	
Degree of protection IP on the front			IP20 (with wiring)	
Installation altitude at height above sea level, maximum		m	2000	
Rated data for Main Contacts				
Load rating with AC				
• **Utilization category for circuit breaker** as per IEC 60947-2 / EN60947-2			A	
• **Utilization category for starter** as per IEC 60947-4-1 / EN60947-4-1			AC-3	
Utilization categories AC-3				
- Rated operational currents Ie upto 690V, 55°C		A	25	52
Power loss per pole		W	I_e(A) P(W) 0.6 5 4 6 6 7 25 9	I_e(A) P(W) 2.4 8 6 7 25 14 52 23
Mechanical service life				
• Basic units	Operating Cycles		100,000 <=25A	30000 >25A
Electrical service life AC-3 @400V	Operating Cycles		100,000 <=25A	30000 >25A
Switching frequency in operating cycles/hour				
• Switching frequency AC-3		1/h	25	25

Technical Specifications

SINOVA 3MV8 Motor Starter Protectors					
Type				3MV81	3MV82
Rated data for Auxiliary Contacts					
Load rating with AC					
• **Rated operational currents I_e**					
- AC-15 at rated operational voltage U_e	230V	A		3	
	415V	A		1.5	
	500V	A		1	
• **Load rating with DC (1 conducting path)**					
- DC-13, at rated operational voltage U_e	24V	A		2.8	
	60V	A		0.7	
	220V	A		0.3	
Switching frequency					
• **Rated operation for utilization category**	AC-15/DC-13	1/h		25	
Short-circuit protection					
Auxiliary circuit					
• Back-up fuse (gL/Gg)		A		10	
• Miniature circuit-breaker		A		6	
Conductor cross-sections					
Main conductors					
Solid or stranded		mm²		2 x (1 ... 6 mm²)	1 x (1.5 ... 25 mm²); 2 x (1.5 ... 16 mm²); 1.5 ... 25 +1.5 ...10 mm²
Finely stranded with end sleeve		mm²		2 x (1 ... 4 mm²)	1 x (1 ... 16 mm²); 2 x (1 ... 10 mm²); 1 ... 16 +1 ...6 mm²
• Terminal screw				M4	M5
- Tightening torque		Nm		1 ... 1.5	2.5 ... 3
Auxiliary conductors and coil terminals					
Solid or stranded		mm²		2 x (0.5 ... 2.5 mm²);	2 x (0.5 ... 2.5 mm²);
Finely stranded with end sleeve		mm²		2 x (0.5 ... 2.5 mm²);	2 x (0.5 ... 1.5 mm²);
• Terminal screw				M3	M3
- Tightening torque		Nm		0.8...1.2	0.8...1.2

Technical Specifications

Rated short-circuit breaking capacity

Type	Rating	<= 240VAC			<= 415VAC			<= 440VAC			<= 500VAC			<= 690VAC		
		I_{cu} (kA)	I_{cs} (kA)	Fuse (gL/gG)	I_{cu} (kA)	I_{cs} (kA)	Fuse (gL/gG)	I_{cu} (kA)	I_{cs} (kA)	Fuse (gL/gG)	I_{cu} (kA)	I_{cs} (kA)	Fuse (gL/gG)	I_{cu} (kA)	I_{cs} (kA)	Fuse (gL/gG)
3MV81	<= 1A	100	100	•	100	100	•	100	100	•	100	100	•	100	100	•
	1.6A	100	100	•	100	100	•	100	100	•	100	100	•	2	2	20A
	2.4A	100	100	•	100	100	•	100	100	•	10	10	35A	2	2	35A
	3.2 & 4A	100	100	•	100	100	•	10	10	50A	3	3	50A	2	2	50A
	5 & 6A	100	100	•	100	100	•	5	5	63A	3	3	63A	2	2	63A
	8 & 10A	100	100	•	10	10	80A	5	5	80A	3	3	80A	2	2	80A
	13 & 16A	100	100	•	6	6	80A	5	5	80A	3	3	80A	2	2	80A
	20 & 25A	10	10	100A	6	6	80A	5	5	80A	3	3	80A	2	2	80A
3MV82	<= 2.4A	100	100	•	100	100	•	100	100	•	100	100	•	100	100	•
	4A	100	100	•	100	100	•	100	100	•	100	100	•	4	4	80A
	6A	100	100	•	100	100	•	100	100	•	100	50	•	4	4	100A
	10A	100	100	•	100	100	•	100	50	•	10	5	160A	4	4	125A
	16A	100	100	•	100	100	•	25	13	200A	10	5	160A	4	4	125A
	25A	100	100	•	100	50	•	25	13	200A	10	5	200A	4	4	160A
	32 & 52A	100	100	•	35	17	200A	25	13	200A	10	5	200A	4	4	160A

Note: "•" Indicates that no fuse is required, because the breaking capacity of the circuit breaker is not less than 100kA. When short circuit current at installation point exceeds the rated short circuit breaking capacity of the circuit breaker, the breaker must be protected by a back up fuse. The maximum rating of the back up fuseis given in the table for 100kA breaking capacity.

According to IEC60947-2, the relationship between the short-circuit breaking capacity and the minimum short-circuit making capacity under the corresponding power factor

Short circuit breaking capacity (A)	Power factor	Short-circuit making capacity (A)
I ≤ 3000	0.9	1.42 x I
3000 < I ≤ 4500	0.8	1.47 x I
4500 < I ≤ 6000	0.7	1.5 x I
6000 < I ≤ 10000	0.5	1.7 x I
10000 < I ≤ 20000	0.3	2.0 x I
20000 < I ≤ 50000	0.25	2.1 x I
50000 < I	0.2	2.2 x I

Selection and Ordering Information | 3MV81

3MV8100-0..00

3MV8100-1..00

Rated Current (A)	Motor Power (kW)	Current setting for thermal overload (A)	Instantaneous trip (A)	Auxiliary contacts	Article No.
0.16	0.04	0.11 ~ 0.16	1.9	-	3MV8100-0MB00
0.24	0.06	0.16 ~ 0.24	2.9	-	3MV8100-0MC00
0.4	0.09/0.12	0.24 ~ 0.4	4.8	-	3MV8100-0MD00
0.6	0.12/0.18	0.4 ~ 0.6	7.2	-	3MV8100-0ME00
1	0.25	0.6 ~ 1	12	-	3MV8100-0MF00
1.6	0.37/0.55	1 ~ 1.6	19	-	3MV8100-0MG00
2.4	0.75	1.6 ~ 2.4	29	-	3MV8100-0MH00
3.2	1.1	2 ~ 3.2	38	-	3MV8100-0NH00
4	1.1/1.5	2.4 ~ 4	48	-	3MV8100-0MJ00
5	1.5/2.2	3.2 ~ 5	60	-	3MV8100-0NJ00
6	2.2	4 ~ 6	72	-	3MV8100-0MK00
8	3	5 ~ 8	96	-	3MV8100-0NK00
10	3/4	6 ~ 10	120	-	3MV8100-0ML00
13	4/5.5	8 ~ 13	156	-	3MV8100-0NL00
16	7.5	10 ~ 16	190	-	3MV8100-0MM00
20	7.5	14 ~ 20	240	-	3MV8100-0MN00
25	11	18 ~ 25	300	-	3MV8100-0MP00
0.16	0.04	0.11 ~ 0.16	1.9	1NO+1NC	3MV8100-1MB00
0.24	0.06	0.16 ~ 0.24	2.9	1NO+1NC	3MV8100-1MC00
0.4	0.09/0.12	0.24 ~ 0.4	4.8	1NO+1NC	3MV8100-1MD00
0.6	0.12/0.18	0.4 ~ 0.6	7.2	1NO+1NC	3MV8100-1ME00
1	0.25	0.6 ~ 1	12	1NO+1NC	3MV8100-1MF00
1.6	0.37/0.55	1 ~ 1.6	19	1NO+1NC	3MV8100-1MG00
2.4	0.75	1.6 ~ 2.4	29	1NO+1NC	3MV8100-1MH00
3.2	1.1	2 ~ 3.2	38	1NO+1NC	3MV8100-1NH00
4	1.1/1.5	2.4 ~ 4	48	1NO+1NC	3MV8100-1MJ00
5	1.5/2.2	3.2 ~ 5	60	1NO+1NC	3MV8100-1NJ00
6	2.2	4 ~ 6	72	1NO+1NC	3MV8100-1MK00
8	3	5 ~ 8	96	1NO+1NC	3MV8100-1NK00
10	3/4	6 ~ 10	120	1NO+1NC	3MV8100-1ML00
13	4/5.5	8 ~ 13	156	1NO+1NC	3MV8100-1NL00
16	7.5	10 ~ 16	190	1NO+1NC	3MV8100-1MM00
20	7.5	14 ~ 20	240	1NO+1NC	3MV8100-1MN00
25	11	18 ~ 25	300	1NO+1NC	3MV8100-1MP00

Selection and Ordering Information | 3MV82

3MV8200-0..00

3MV8200-1..00

Rated Current (A)	Motor Power (kW)	Current setting for thermal overload (A)	Instantaneous trip (A)	Auxiliary contacts	Article No.
1.6	0.37/0.55	1 ~ 1.6	19	-	3MV8200-0MG00
2.4	0.75	1.6 ~ 2.4	29	-	3MV8200-0MH00
4	1.1/1.5	2.4 ~ 4	48	-	3MV8200-0MJ00
6	2.2	4 ~ 6	72	-	3MV8200-0MK00
10	3/4	6 ~ 10	120	-	3MV8200-0ML00
16	5.5/7.5	10 ~ 16	190	-	3MV8200-0MM00
25	11	16 ~ 25	300	-	3MV8200-0MN00
32	15	22 ~ 32	380	-	3MV8200-0MP00
40	18.5	28 ~ 40	480	-	3MV8200-0MQ00
52	22	36 ~ 52	600	-	3MV8200-0MR00
1.6	0.37/0.55	1 ~ 1.6	19	1NO+1NC	3MV8200-1MG00
2.4	0.75	1.6 ~ 2.4	29	1NO+1NC	3MV8200-1MH00
4	1.1/1.5	2.4 ~ 4	48	1NO+1NC	3MV8200-1MJ00
6	2.2	4 ~ 6	72	1NO+1NC	3MV8200-1MK00
10	3/4	6 ~ 10	120	1NO+1NC	3MV8200-1ML00
16	5.5/7.5	10 ~ 16	190	1NO+1NC	3MV8200-1MM00
25	11	16 ~ 25	300	1NO+1NC	3MV8200-1MN00
32	15	22 ~ 32	380	1NO+1NC	3MV8200-1MP00
40	18.5	28 ~ 40	480	1NO+1NC	3MV8200-1MQ00
52	22	36 ~ 52	600	1NO+1NC	3MV8200-1MR00

Selection and Ordering Information
Accessories

Auxiliary Contact
3MV9131-3AA00

Short Circuit Fault Indicator
3MV9131-7AA00

Undervoltage release
3MV9132-0AB15

Undervoltage release
with lead action
auxiliary contacts
3MV9132-0AB35

Shunt Release
3MV9132-0AB55

Type	Suitable for	Mounting	Auxiliary Contacts	Article No.
Auxiliary Contact	3MV81/ 3MV82	Right side	1NO+1NC	3MV9131-3AA00
Short Circuit Fault Indicator	3MV81/ 3MV82	Right side	1NO+1NC	3MV9131-7AA00

Type	Suitable for	Mounting	Auxiliary Contacts	Article No.
Undervoltage release	3MV81/ 3MV82	Left side	AC230V 50Hz	3MV9132-0AB15
			AC240V 50Hz	3MV9132-0AB25
			AC400V 50Hz	3MV9132-0AB17
			AC415V 50Hz	3MV9132-0AB18
			AC120V 60Hz	3MV9132-0AB23
			AC208V 60Hz	3MV9132-0AB24
			AC240V 60Hz	3MV9132-0AB26
Undervoltage release with lead action auxiliary contacts	3MV81/ 3MV82	Left side	AC230V 50Hz	3MV9132-0AB35
			AC240V 50Hz	3MV9132-0AB45
			AC400V 50Hz	3MV9132-0AB37
			AC415V 50Hz	3MV9132-0AB38
			AC120V 60Hz	3MV9132-0AB43
			AC208V 60Hz	3MV9132-0AB44
			AC240V 60Hz	3MV9132-0AB46
Shunt Release	3MV81/ 3MV82	Left side	AC24V 50Hz	3MV9132-0AB50
			AC230V 50Hz	3MV9132-0AB55
			AC240V 50Hz	3MV9132-0AB65
			AC400V 50Hz	3MV9132-0AB57
			AC415V 50Hz	3MV9132-0AB58
			AC120V 60Hz	3MV9132-0AB63
			AC208V 60Hz	3MV9132-0AB64
			DC24-60V	3MV9132-0AB66
			DC110-240V	3MV9132-0AB73

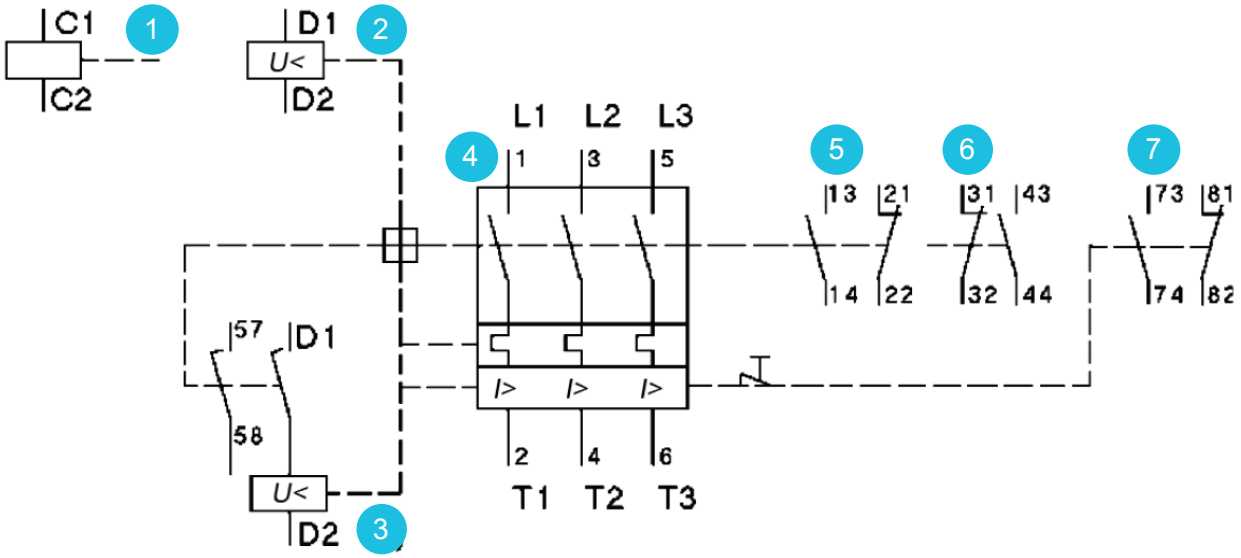
Note:

(1) Auxiliary contacts and short-circuit fault indicators can be installed on the right side of the circuit breaker at the same time (the short-circuit fault indicators are installed on the inside first, and the auxiliary contacts are installed on the outside).

It is also possible to install only one auxiliary contact or only one short-circuit fault indicator;

(2) Undervoltage release, undervoltage release with advance action auxiliary contact, and shunt release are all installed on the left side of the circuit breaker, but only one of the three can be installed at a time.

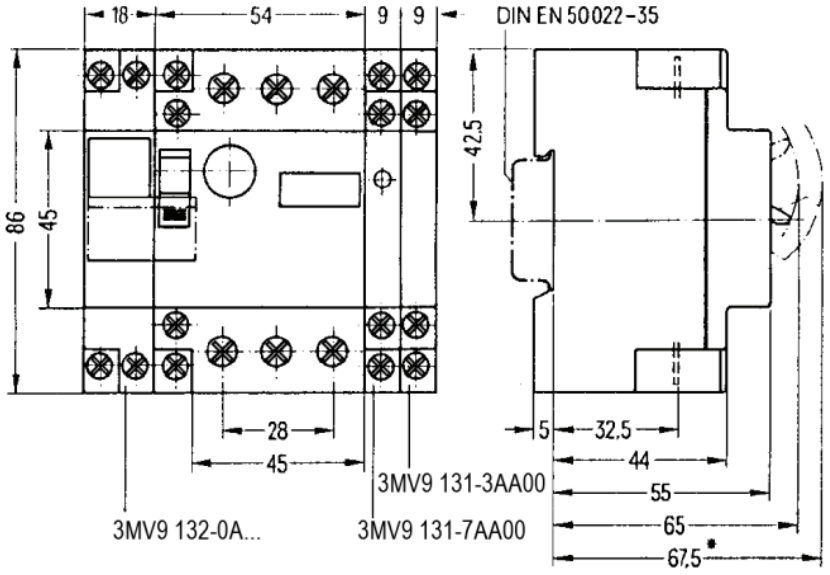
Wiring Diagram



1. Shunt release
2. Undervoltage release
3. Undervoltage release with lead
4. 3MV8 Motor Starter Protector
5. Internal auxiliary contacts
6. Additional auxiliary contacts
7. Short circuit fault indicator

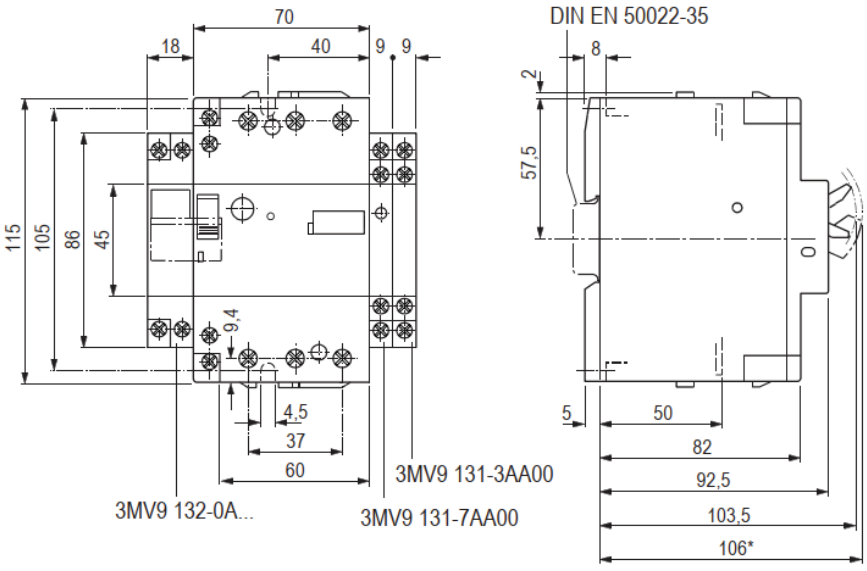
Dimension Drawing (with contactor)

3MV81



Front View Side View

3MV82



Front View Side View

The SINOVA range of products are ideal for infrastructure, buildings, utilities and industrial applications. It packs full features for cost-efficient power distribution, switching and control that is both reliable and safe. The portfolio also features comprehensive product ranges that are designed for a variety of applications, giving users Siemens trusted quality. Simply Efficient, this is the SINOVA way.

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