

WWW.SASSIN.COM

COMBINER BOXES AND DC&AC ELECTRICAL COMPONENTS FOR PV

Better Electric
Better Life

SASSIN

COMPANY SUMMARY



Company Profile

Sassin Electric was founded in 1993, and the headquarter is located in Shanghai China. Sassin Electric has 3 sites of own factories and 3 sites of joint venture factories. Sassin Electric was certified with ISO9001, ISO14001, and products were certified with KEMA, CB, VDE, SEMKO, TUV, etc.

As a leading manufacturer in the low-voltage electrical field in China, Sassin Electric has gathered a talented team with profound electric industry background and expertise, to research and develop Sassin's uniquely designed electrical products and solutions for users in residential, commercial, and industrial fields. Sassin's mission is "Make Electric Safe, Simple, Smart ",with this mission, Sassin will pioneer and strive to provide high quality electric products, innovative Intelligent Smart Energy Management Systems to create Better Electric, Better Life for users.

Sassin brand products were exported to more than 120 countries and regions, enjoyed a good reputation in the market. Sassin has the whole production chain from design, tool making, components processing, assembly, testing and packaging so that Sassin can well control every section in production to make sure Sassin products features "high-stability and high-reliability".

Moreover, Sassin Electric has professional sales and service team, with profound international trade experience. They can communicate in English, Spanish, French, German etc. With the service philosophy of "Professional, Effective, Trust Worthy", Sassin Electric is dedicated to bringing more care, more confidence and more convenience to our clients.

Reliable products, quality services, will bring you more secure power protection!

COMPANY QUALIFICATION

Laboratory Accreditation





CNAS Laboratory Accreditation Certificate



DEKRA Certificate of Approval



TÜV Reheinland Cooperative Testing LAB

CONTENT

PV Combiner Boxes	1-16
AC&DC String Boxes	17-18
Moulded Case Circuit Breaker 3SM8DC Series	19-24
Miniature Circuit Breakers for DC Applications VB51-63DC Series	25-26
Miniature Circuit Breakers for DC Applications 3SB56-63DC Series	27-29
Miniature Circuit Breakers for DC Applications 3SB56-125DC Series	30-32
Miniature Circuit Breakers for DC Applications 3SB7-63DC Series	33-35
Surge Protective Devices 3SU6DC series	36
Photovoltaic Fuse RT16DC Series	37-38
Photovoltaic Fuse RT18DC Series	39-40
DC Isolator Switches 3SDS-PV(16,25,32)NL1/T /PM2/ELR1 Series	41-44
DC Isolator Switches 3SDS-PVG6 Series	45-47
Automatic Transfer Switches 3SAQ4 Series	48
Automatic Transfer Switches 3SAQ5 Series	49-50
Moulded Case Circuit Breakers 3SM8 Series	51-66
Miniature Circuit Breakers VB510 Series	67-70
Miniature Circuit Breakers 3SB7-63 Series	71-74
Surge Protective Devices 3SU6 Series	75-78
Waterproof Distribution Box 3SHK Series	79

PV Combiner Boxes

Functions

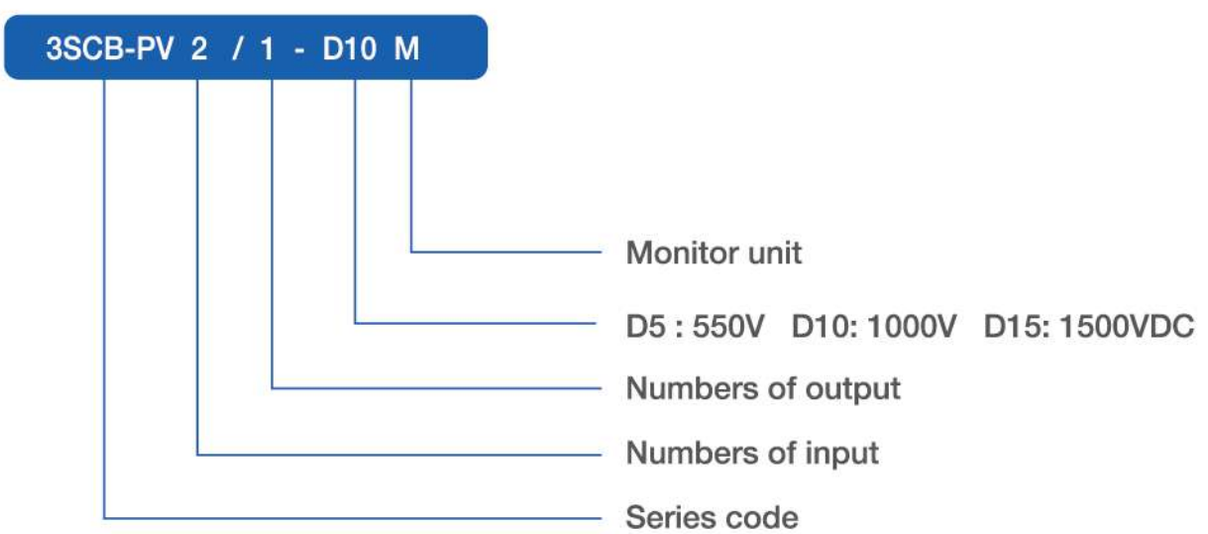
Used in PV solar systems between solar modules and inverters, plays a critical role in PV solar systems by effectively managing the output currents of PV modules, enhancing the safety, reliability, and performance of the overall system.

- Parallel connection of PV modules
- Linking PV Array to Inverter
- Branch Current Management
- Overcurrent Protection
- Anti-Reverse Flow Protection
- Lightning Protection
- Monitoring and Communication

Features

- Used in PV solar systems, between solar modules and inverters
- High reliability: equipped with specialized PV MCB, SPD, and fuses for surge and current protection on the solar DC side
- Versatile resilience: waterproof, dustproof, UV-resistant; tested for temperature extremes; easy installation and wiring
- Flexible setup: interchangeable current levels for MCB and fuses

Instruction of type code



PV Combiner Boxes

■ Technical specifications

Type	3SCB-PV1/1		3SCB-PV2/1		3SCB-PV2/2		3SCB-PV4/1		3SCB-PV4/2	
Picture										
Electrical Characteristics										
Maximum Voltage	550V	1000V	550V	1000V	550V	1000V	550V	1000V	550V	1000V
Max DC Short Circuit Current Per Input	15A									
Maximum Current Output	16A	20A	20A	32A	16A	20A	50A	63A	20V	32A
Input string	1	1	2	2	2	2	4	4	4	4
Output string	1	1	1	1	2	2	1	1	2	2
Inverter MPPT quantity	1	1	1	1	2	2	1	1	2	2
Environment										
Operating Temperature	-25°C~ +55°C									
Humidity	99%									
Altitude	2000M									
Installaton	Wall Mounting									
Enclosure										
Material	ABS for boday;PC for door									
Degree of Protection	IP65									
Degree of Resistance to Impacts	IK10									
Fire resistence	650°C/30s									
DC Surge Protection Device	**3SU6DC**									
Max Operation Voltage(Ucpv)	DC550V	DC1000V	DC550V	DC1000V	DC550V	DC1000V	DC550V	DC1000V	DC550V	DC1000V
Norminal discharge current	20kA									
Max discharge current	40kA									
Voltage protection level Up(Kv)	2.8	3.8	2.8	3.8	2.8	3.8	2.8	3.8	2.8	3.8
Number of poles	2	3	2	3	2	3	2	3	2	3
DC Fuse Holder	**RT18DC**									
Rated Working Voltage	1000 VDC									
Fuse	10*38 15A									

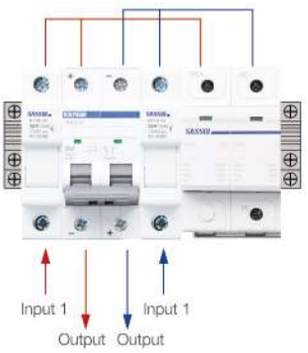
PV Combiner Boxes

Technical specifications

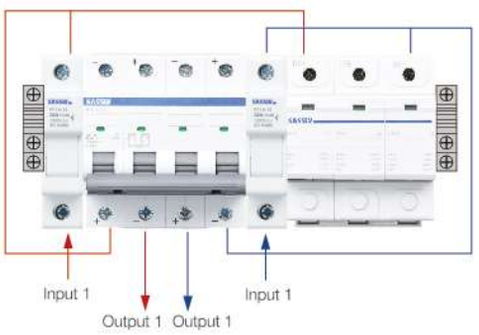
Type	3SCB-PV6/1	3SCB-PV6/2	3SCB-PV8/1	3SCB-PV8/2	3SCB-PV12/1		3SCB-PV16/1	
Picture								
Electrical Characteristics								
Maximum Voltage	1000V	1000V	1000V	1000V	1000V	1500V	1000V	1500V
Max DC Short Circuit Current Per Input	15A							
Maximum Current Output	80A	40A	125A	50A	160A	200A	200A	240A
Input string	6	6	8	8	12	12	16	16
Output string	1	2	1	2	1	1	2	2
Inverter MPPT quantity	1	2	1	2	1	1	1	1
Environment								
Operating Temperature	-25°C~ +55°C							
Humidity	99%							
Altitude	2000M							
Installaton	Wall Mounting							
Enclosure								
Material	Metal							
Degree of Protection	IP65							
Degree of Resistance to Impacts	IK10							
DC Surge Protection Device	3SU6DC							
Max Operation Voltage(Ucpv)	DC1000V	DC1000V	DC1000V	DC1000V	DC1000V	DC1500V	DC1000V	DC1500V
Norminal discharge current	20kA							
Max discharge current	40kA							
Voltage protection level Up(Kv)	3.8	3.8	3.8	3.8	3.8	5.5	3.8	5.5
Number of poles	3	3	3	3	3	3	3	3
DC Fuse Holder	RT18DC							
Rated Working Voltage	DC1000V	DC1000V	DC1000V	DC1000V	DC1000V	DC1500V	DC 1000V	DC1500V
Fuse	10*38 15A	10*38 15A	10*38 15A	10*38 15A	10*38 15A	10*85 15A	10*38 15A	10*85 15A

PV Combiner Boxes

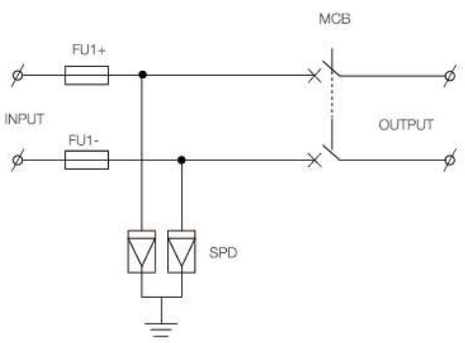
Technical specifications



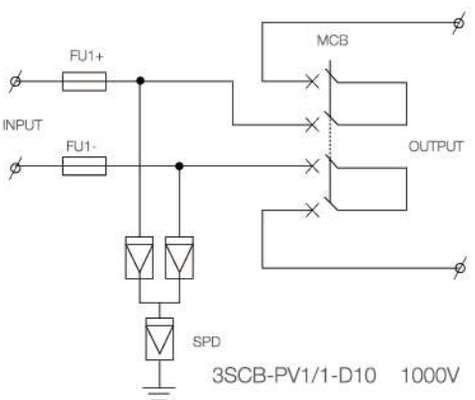
3SCB-PV1/1-D5



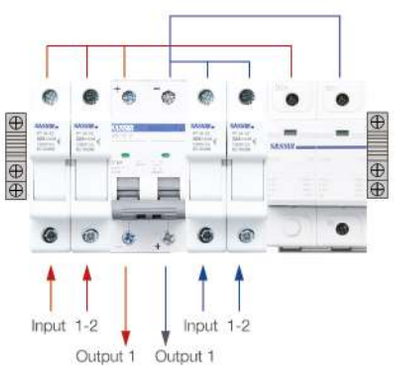
3SCB-PV1/1-D10



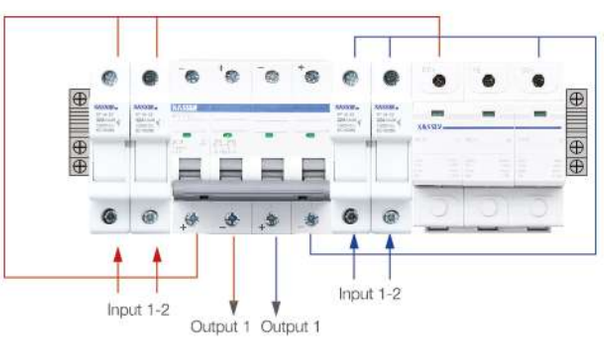
3SCB-PV1/1-D5 550V



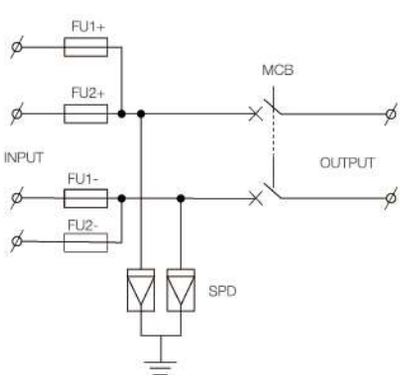
3SCB-PV1/1-D10 1000V



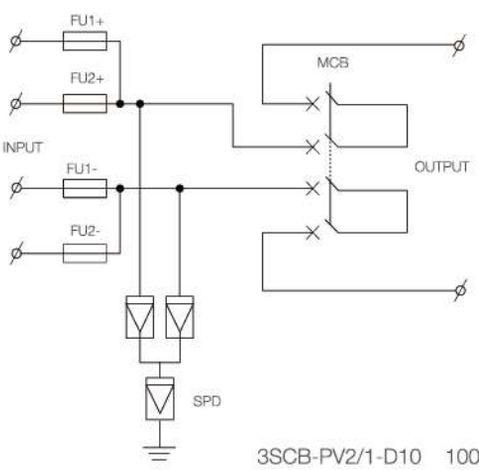
3SCB-PV2/1-D5



3SCB-PV2/1-D10



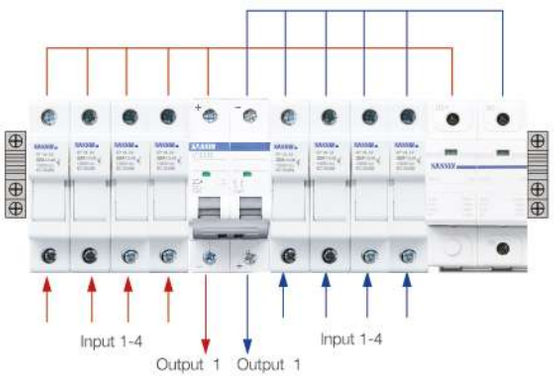
3SCB-PV2/1-D5 550V



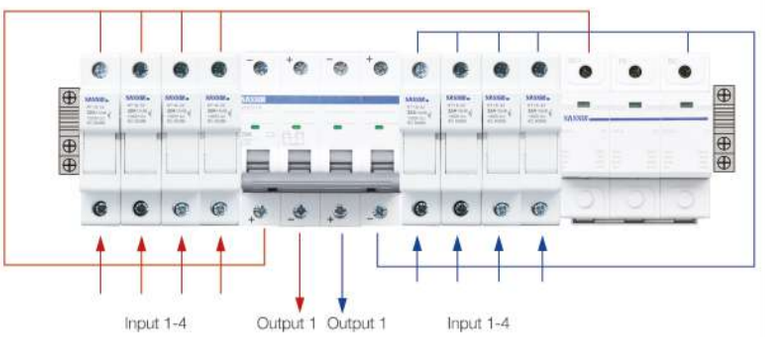
3SCB-PV2/1-D10 1000V

PV Combiner Boxes

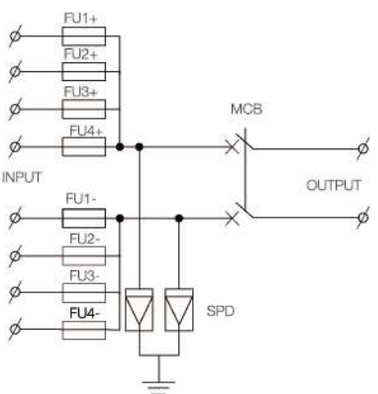
Technical specifications



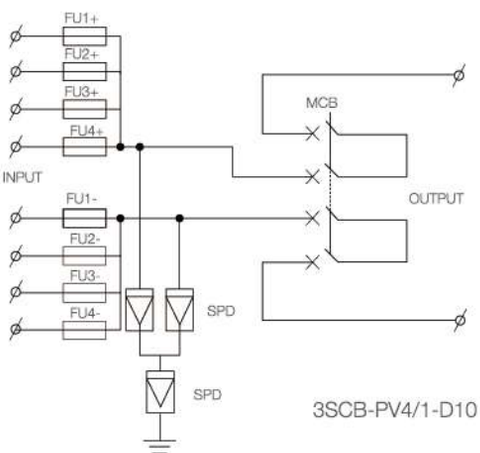
3SCB-PV4/1-D5 550V



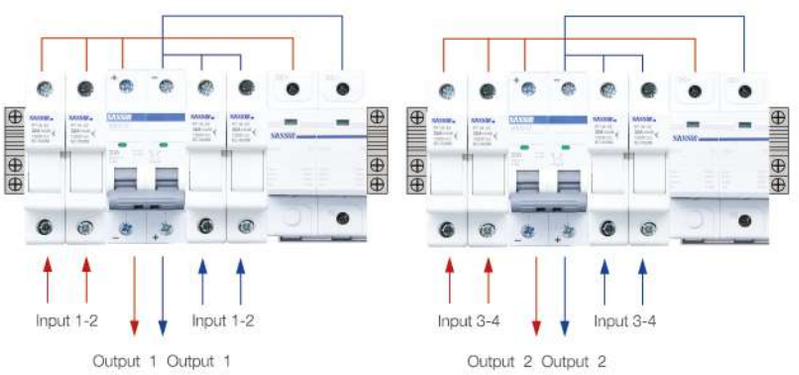
3SCB-PV4/1-D10 1000V



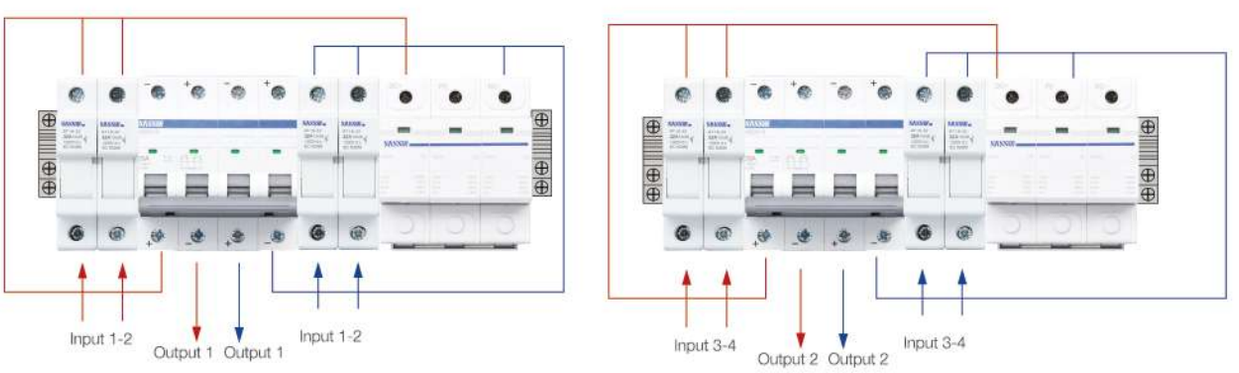
3SCB-PV4/1-D5 550V



3SCB-PV4/1-D10 1000V



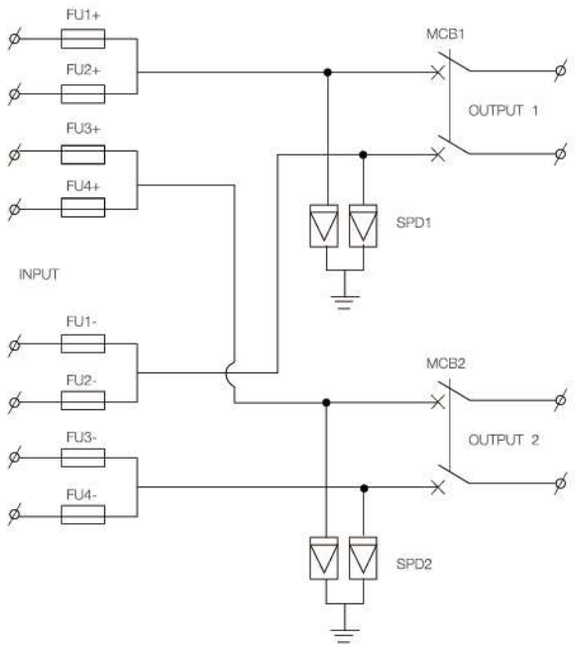
3SCB-PV4/2-D5 550V



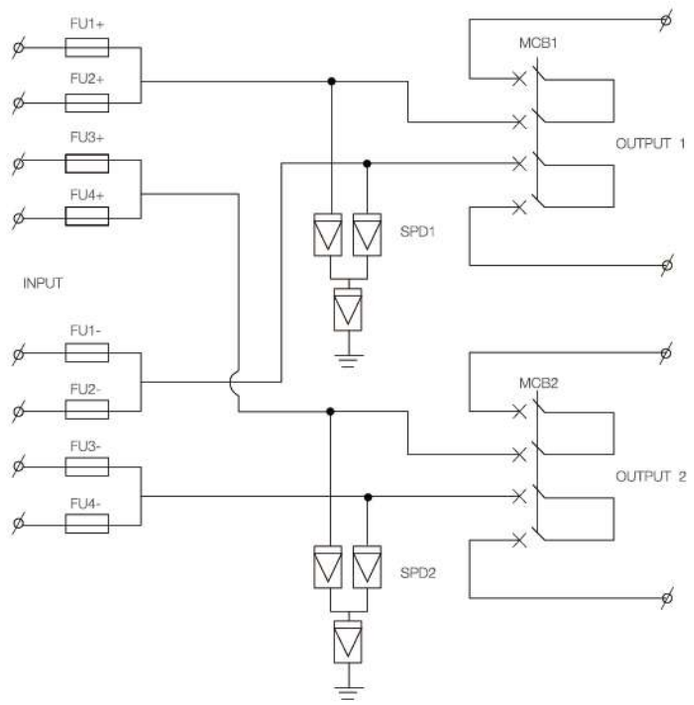
3SCB-PV4/2-D10 1000V

PV Combiner Boxes

Technical specifications



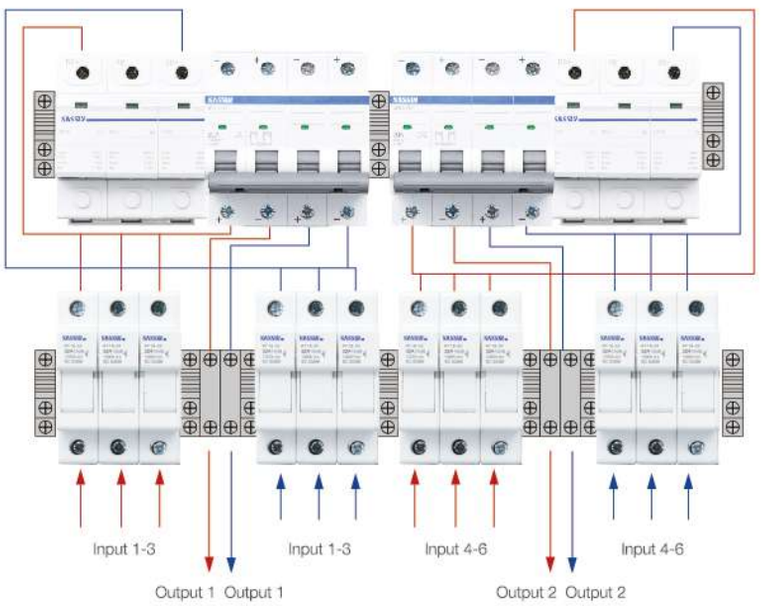
3SCB-PV4/2-D5 550V



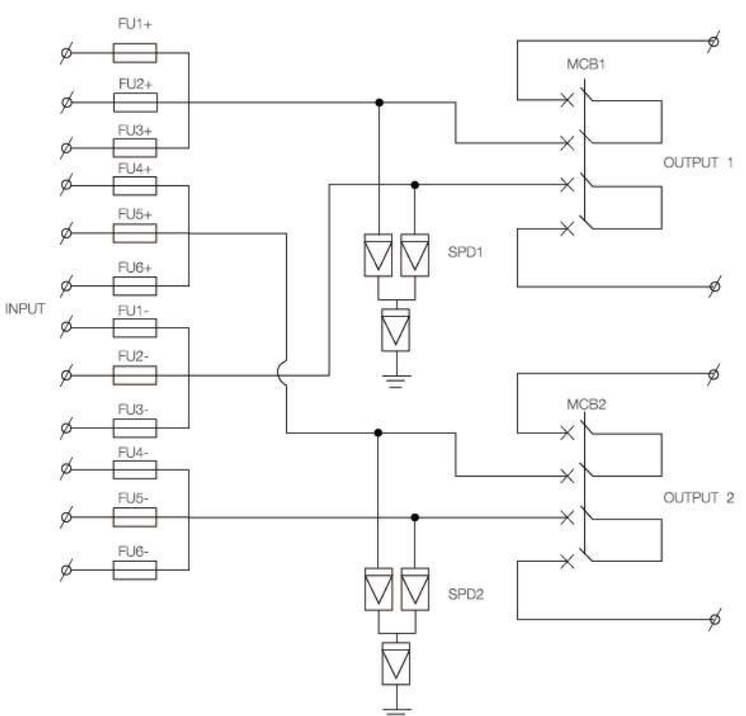
3SCB-PV4/2-D10 1000V

PV Combiner Boxes

Technical specifications



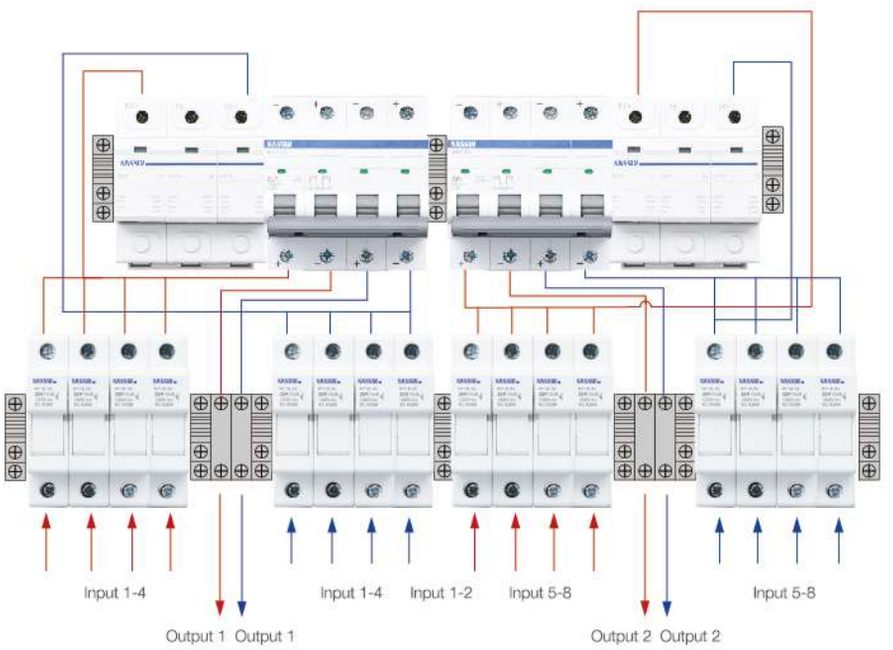
3SCB-PV6/2-D10
1000 v



3SCB-PV6/2-D10
1000 V

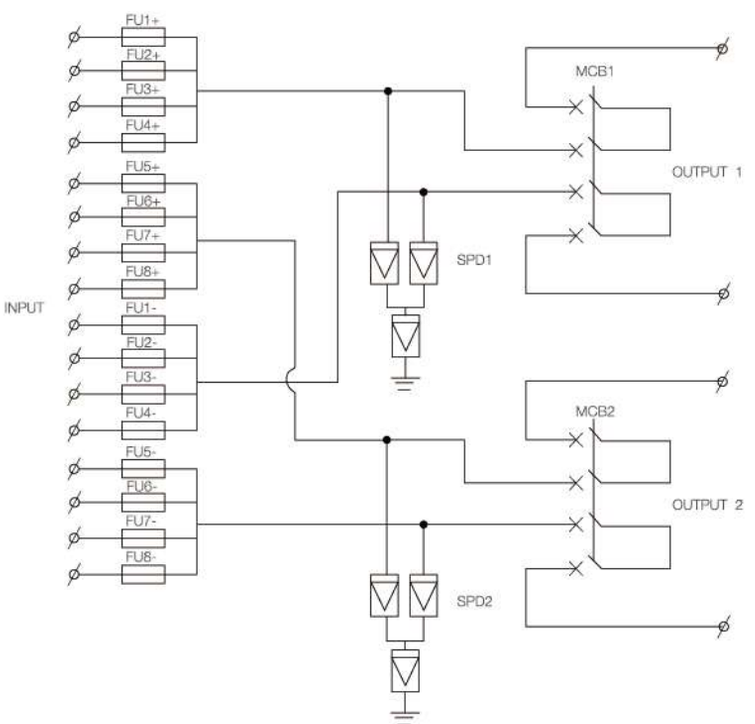
PV Combiner Boxes

Technical specifications



3SCB-PV8/2-D10

1000 v

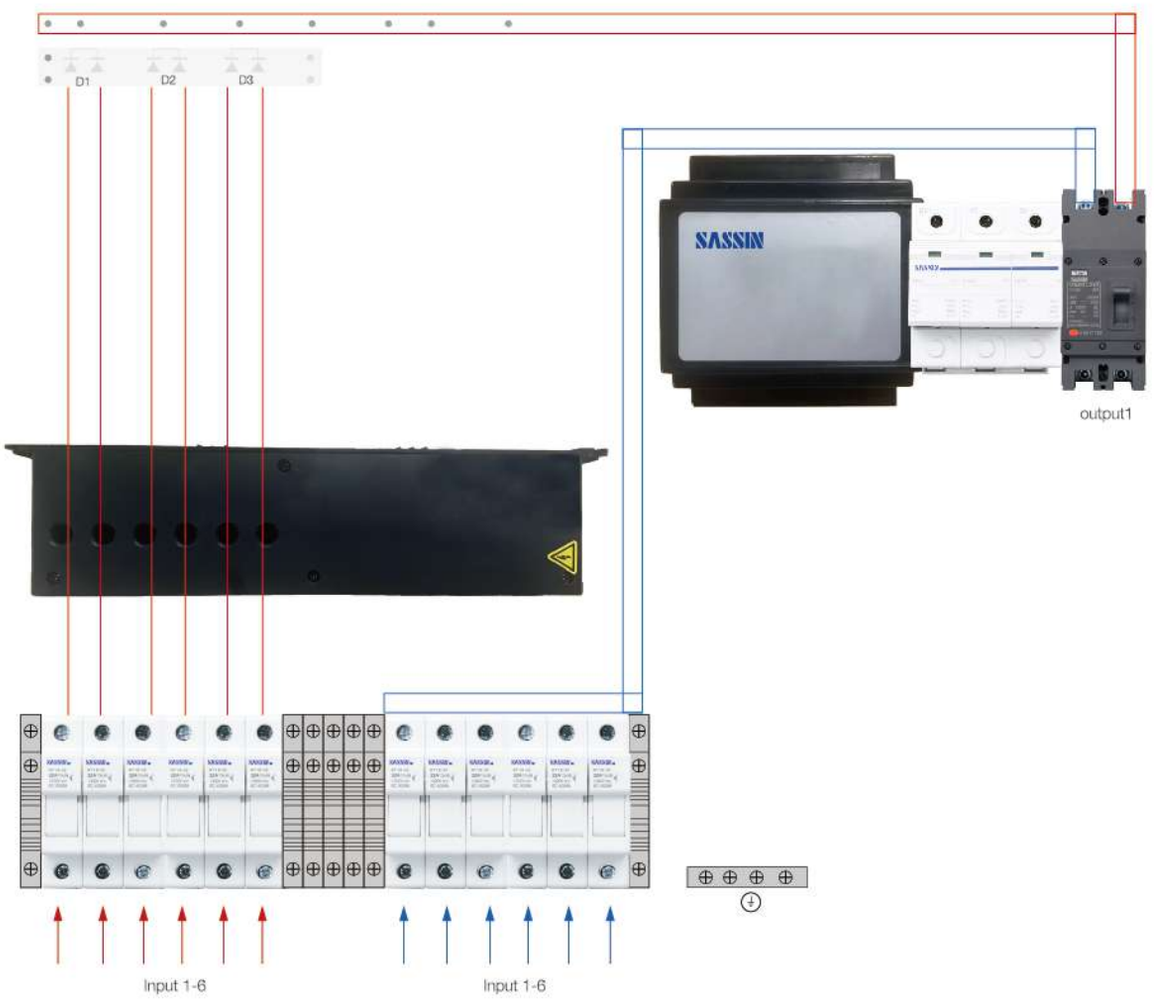


3SCB-PV8/2-D10

1000 V

PV Combiner Boxes

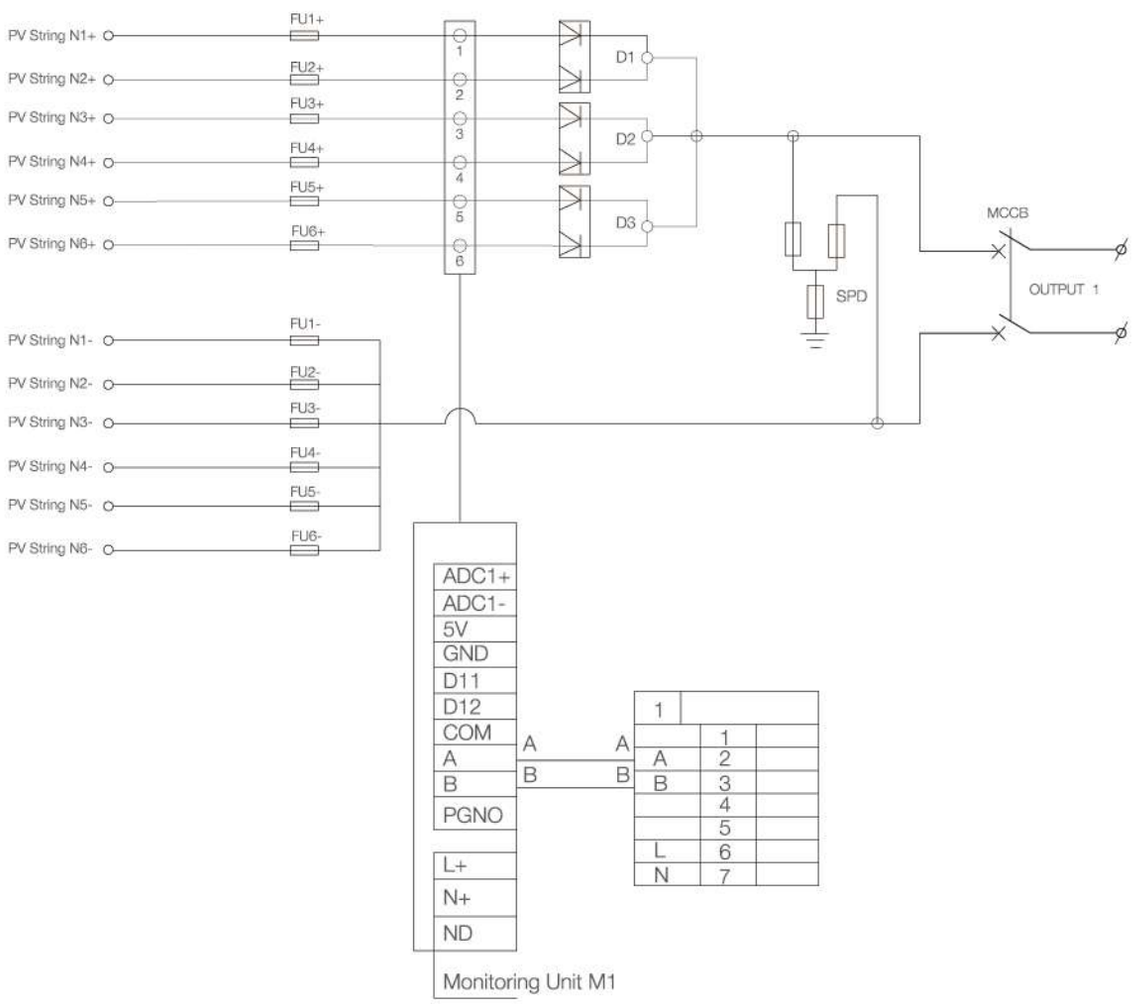
■ Technical specifications



3SCB-PV6/1-D10
1500 V

PV Combiner Boxes

Technical specifications

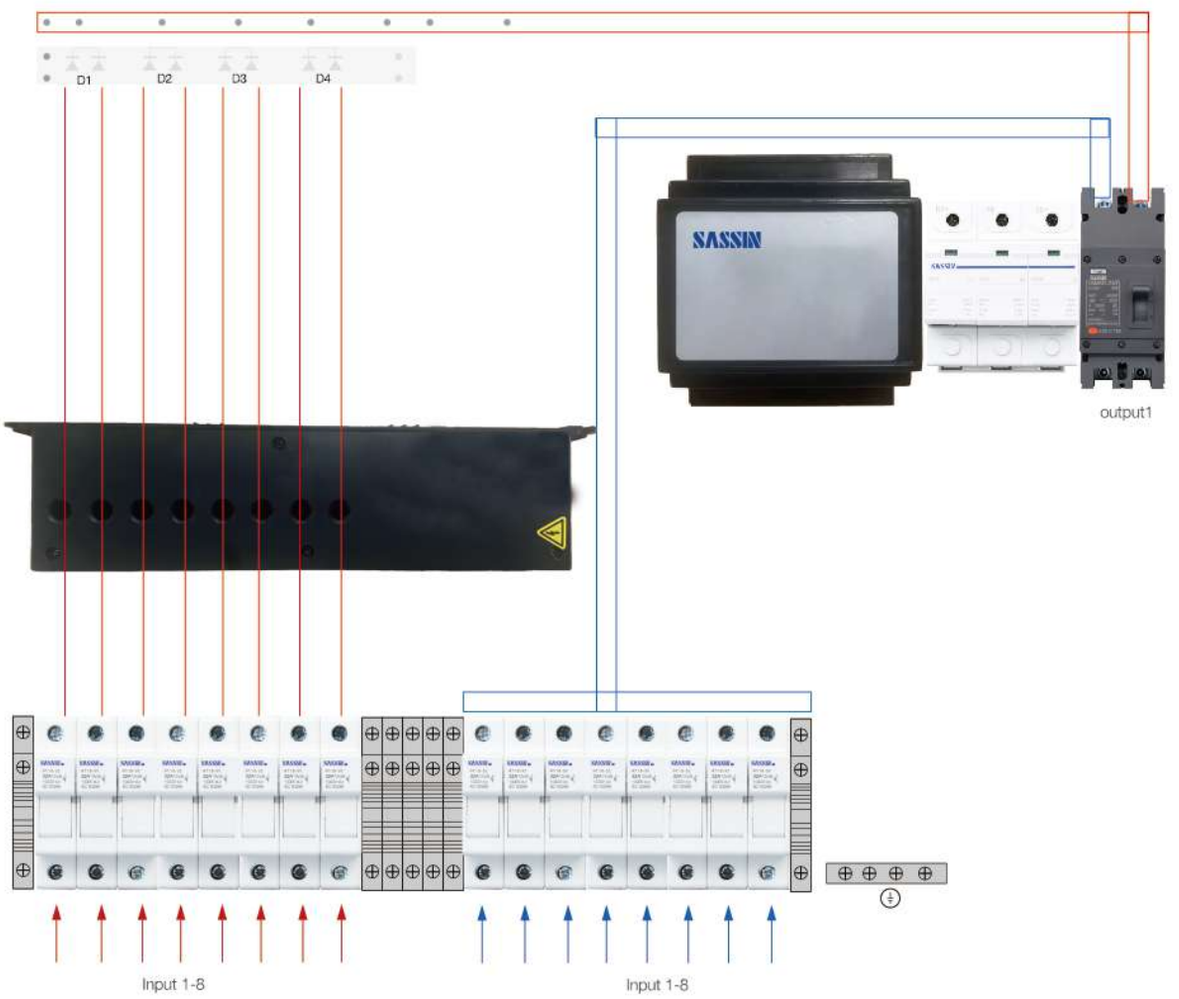


3SCB-PV6/1-D10

1500 V

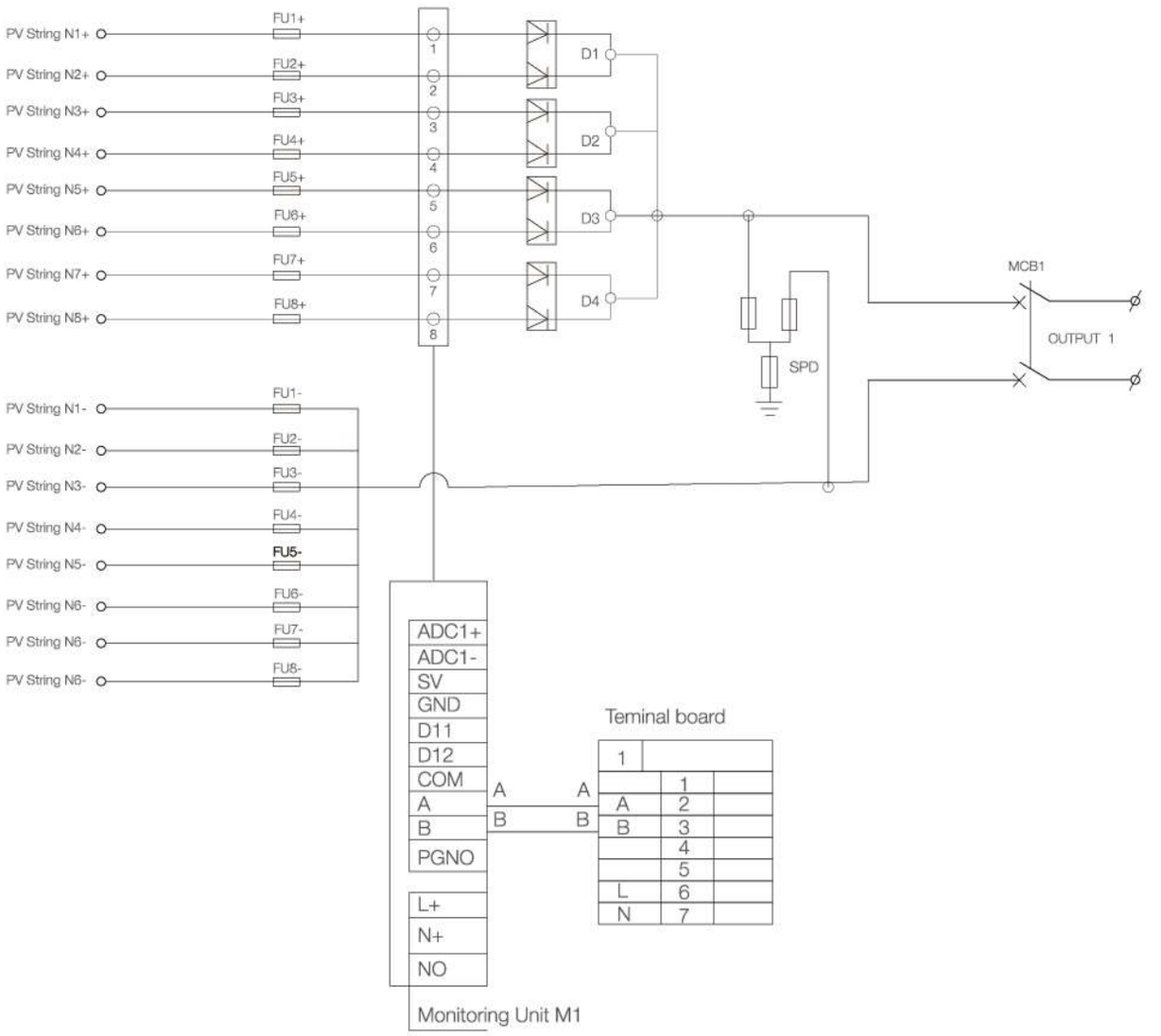
PV Combiner Boxes

Technical specifications



3SCB-PV8/1-D10
1000 V

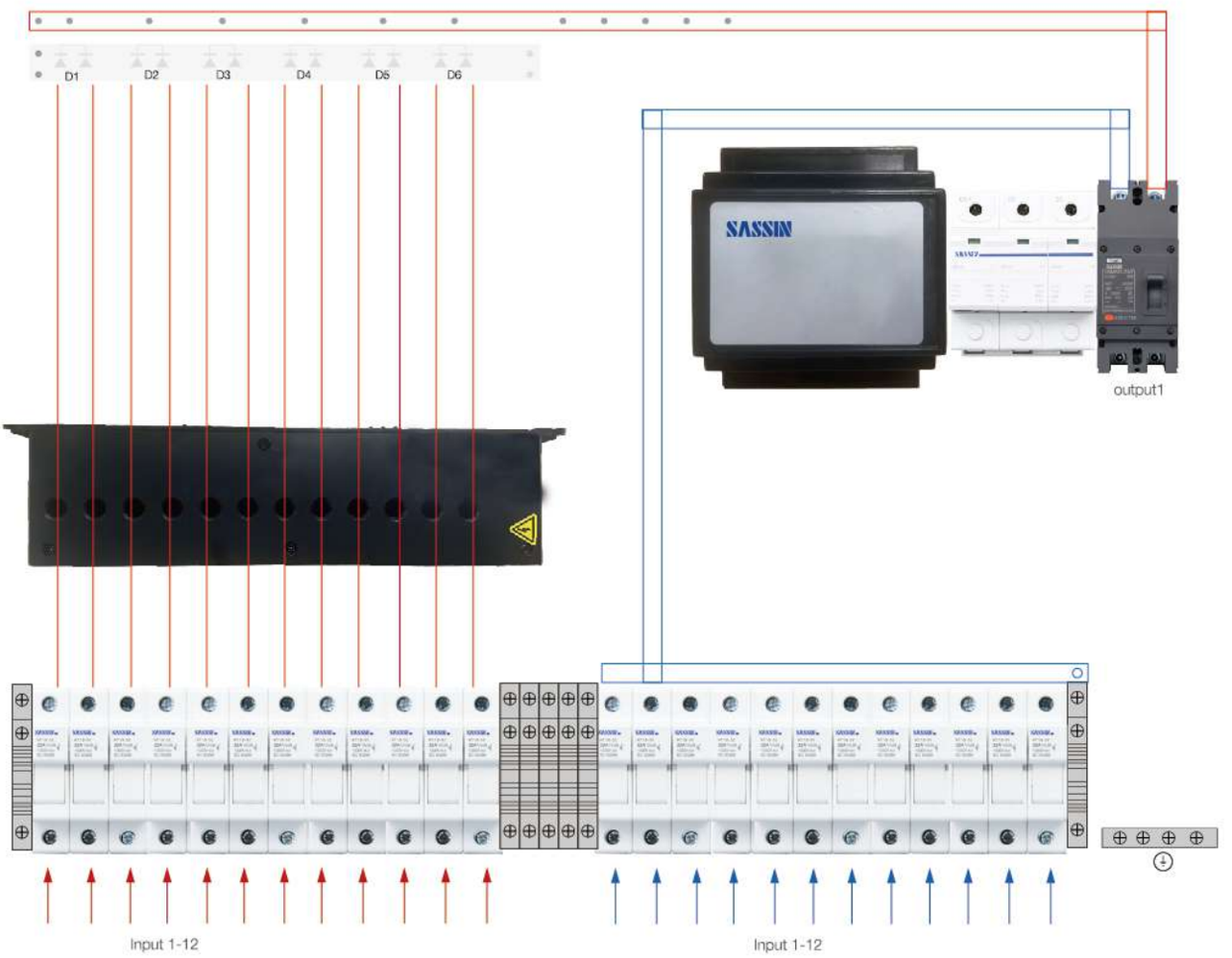
Technical specifications



3SCB-PV6/1-D10
1500 V

PV Combiner Boxes

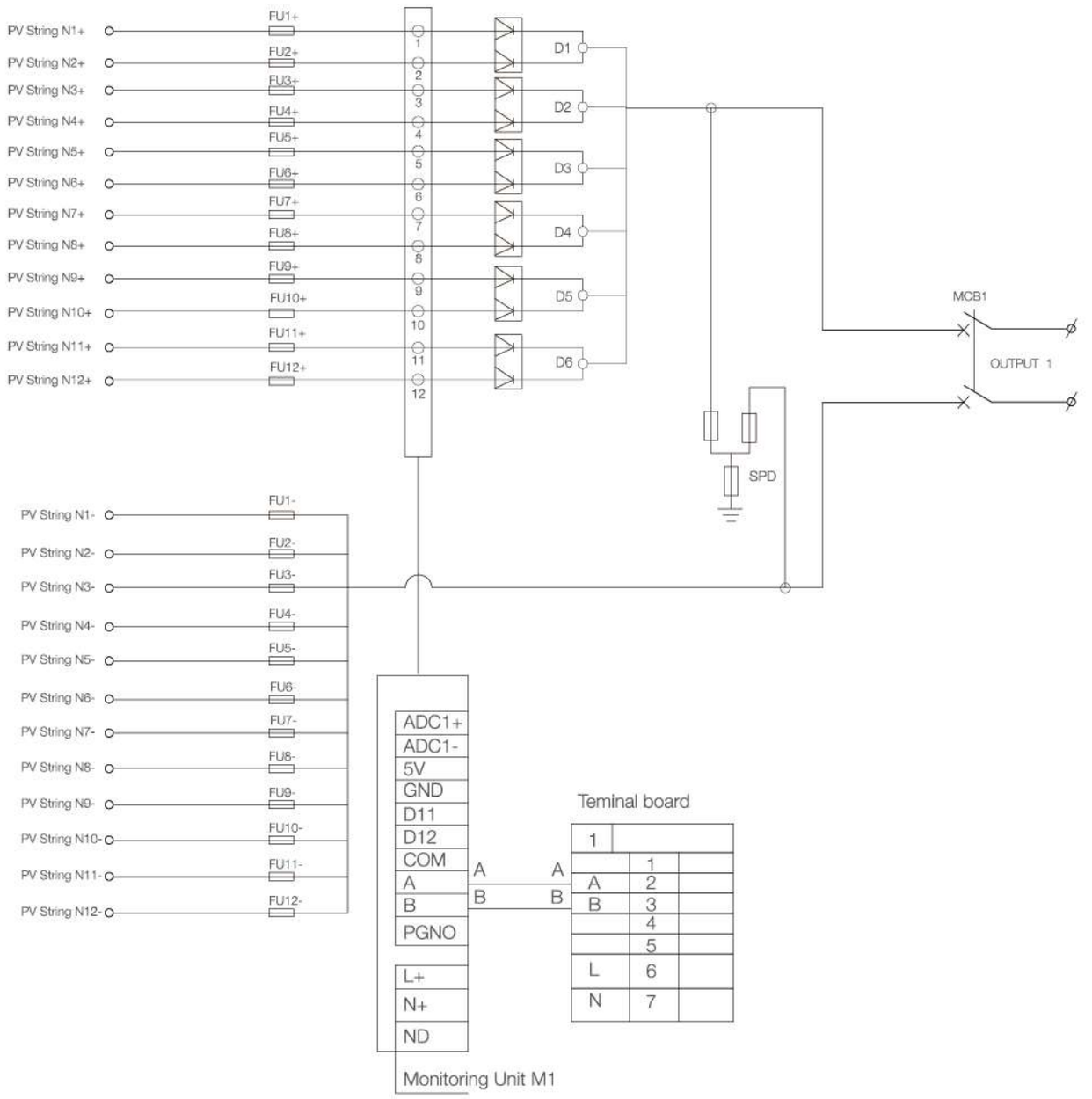
Technical specifications



3SCB-PV12/1-D10
1500 V

PV Combiner Boxes

■ Technical specifications

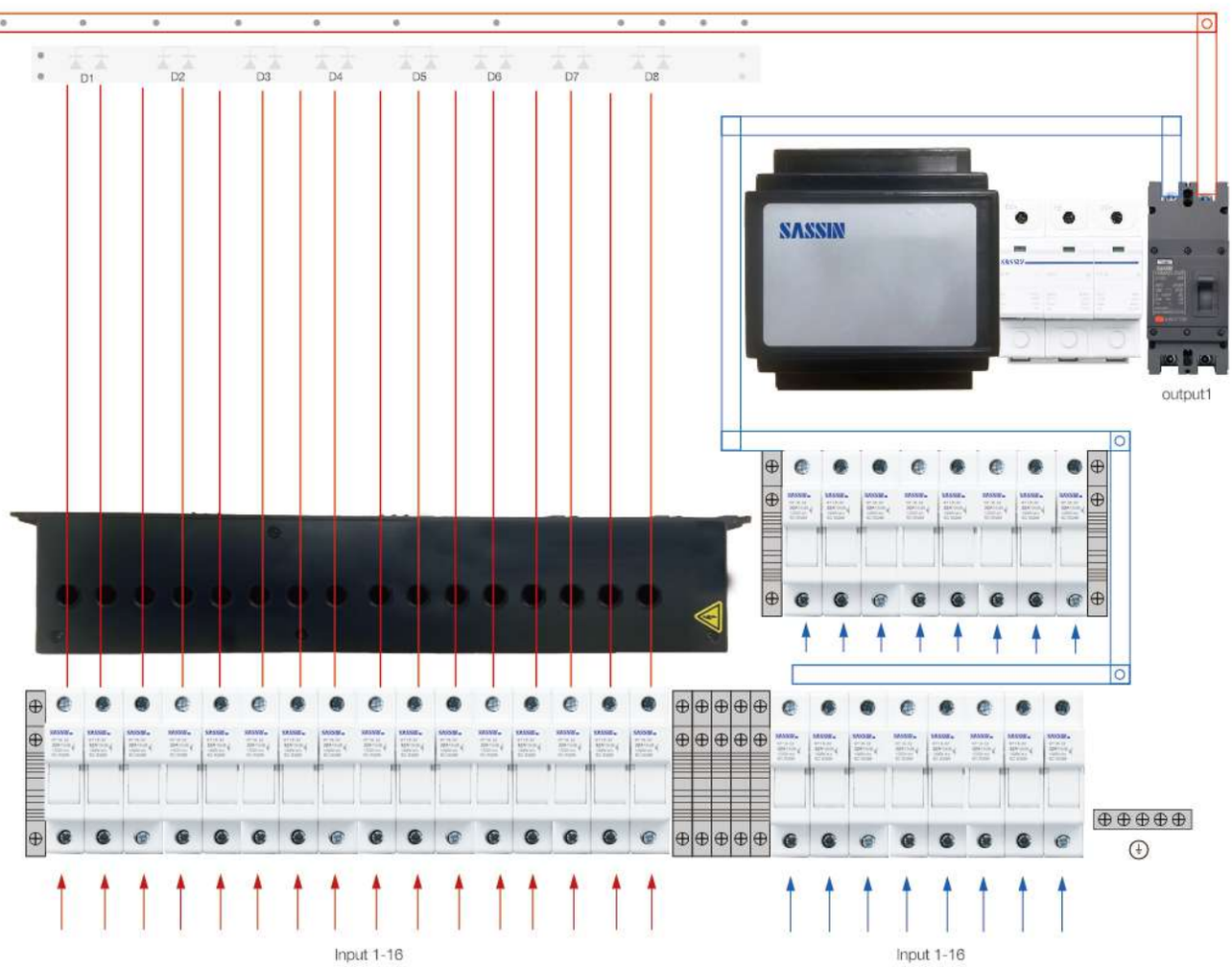


3SCB-PV12/1-D10

1500 V

PV Combiner Boxes

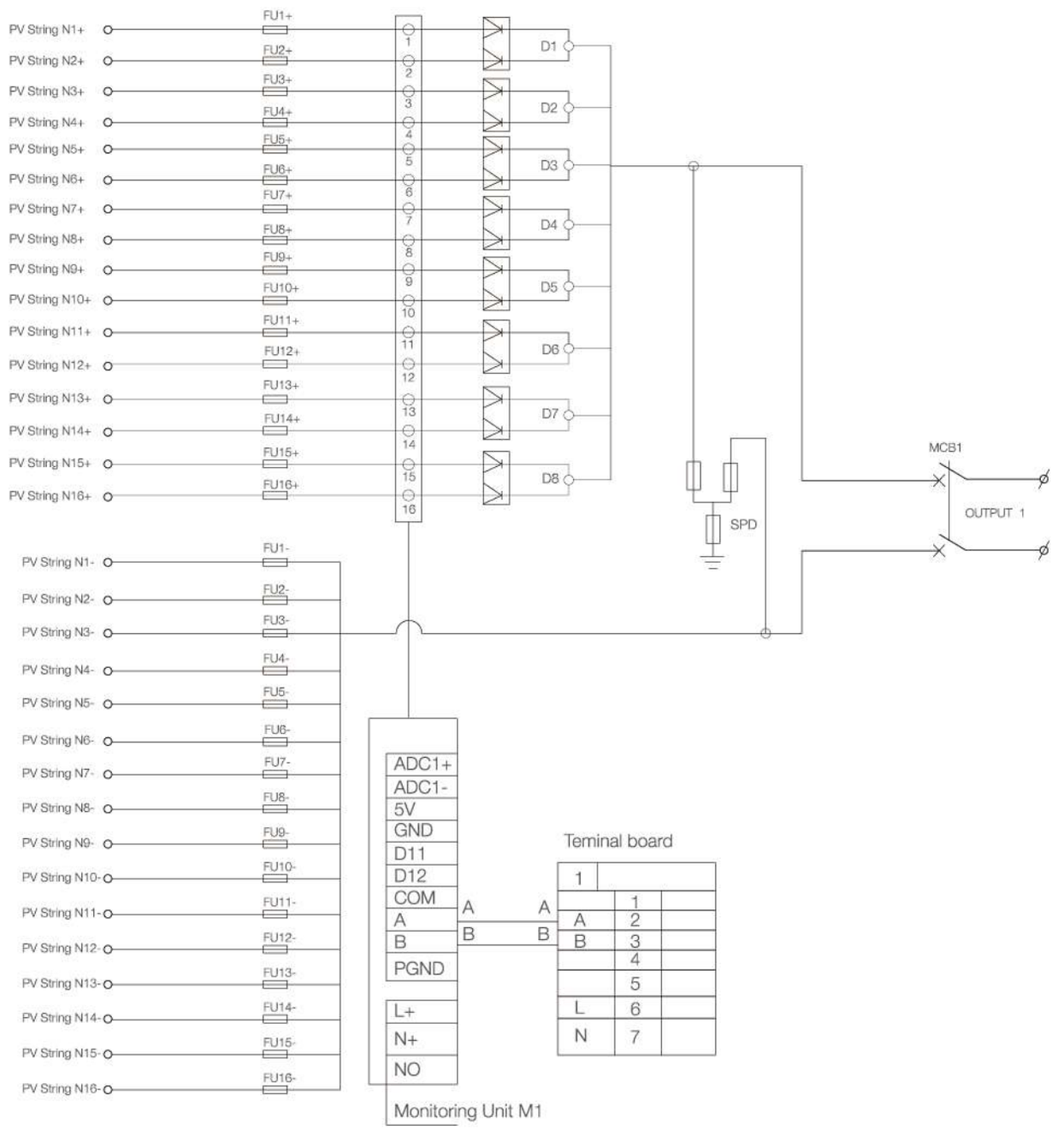
Technical specifications



3SCB-PV16/1-D5
1500 V

PV Combiner Boxes

■ Technical specifications



3SCB-PV16/1-D5
1500 V

AC&DC String Boxes

Functions

- Suitable for household and industrial and commercial photovoltaic power generation systems
- Integrated DC combiner box and AC distribution box;
- Suitable for up to 6kW single-phase photovoltaic power generation system;
- Applicable to up to 20kW three-phase photovoltaic power generation system;
- Customized by the customer's needs.



Technical specifications

Basic parameters						
Maximum system power	3kW	5kW	10kW	10kW	16kW	20kW
DC input string	1 string	1 string	1 string	2 string	2 string	2 string
DC output string	1 string	1 string	1 string	2 string	2 string	2 string
Number of inverter MPPT	1	1	1	2	2	2
Maximum DC input voltage	500V/800V	500V/800V	500V/800V	1000V	1000V	1000V
Maximum DC short circuit current	15A	32A	40A	32A	40A	50A
Rated AC voltage	220/230/ 240VAC	220/230/ 240VAC	380/400/ 415VAC	380/400/ 415VAC	380/400/ 415VAC	380/400/ 415VAC
Rated AC current	16A	25A	32A	40A	50A	63A
Rated frequency	50/60 Hz					
Enclosure						
Cabinet material	PC+ABS					
Foreign body protection level	IP65					
Fire resistence	650℃/30s					
Collision prtection level	IK10					
Ambienttemperature(°C)	-5~+40,max.95 % humidity					
Storage temperature(°C)	-25 ~+60					
DC input port	PG09, 2.5 to 16mm^2					
DC output port	PG09, 2.5 to 16mm^2					
AC input port	PG25, 2.5 to 6mm^2	PG25, 2.5 to 6mm^2	PG25, 2.5 to 6mm^2	PG25, 2.5 to 6mm^2	PG25, 2.5 to 6mm^2	PG25, 2.5 to 6mm^2
AC output port	PG25, 2.5 to 6mm^2	PG25, 2.5 to 6mm^2	PG25, 2.5 to 6mm^2	PG25, 2.5 to 6mm^2	PG25, 2.5 to 6mm^2	PG25, 2.5 to 6mm^2
Dimensions (L*W*H)	300*260*140	300*260*140	300*260*140	410*280*140	410*280*140	410*280*140

AC&DC String Boxes

■ Technical specifications

DC surge protective Devices						
Misocimum working voltage	500V/1000V					
Maximum discharge current	40kA					
Norminal discharge current	20kA					
Number of poles	2	2	2	3	3	3
DC fuse						
Rated working voltage	1000V					
Rated current	15~32A(Optional)					
Dimensions (W*H*D)	¢10*38 mm					
AC circuit breaker						
Gircuit breaker type	2P	2P	2P	2P/4P	2P/4P	2P/4P
Rated cur rent	16A	25A	32A	40A	50A	63A
Rated switching capacitylcn (kA)	10KA					
Electricallife (times)	10000					
Mechanical life (times)	20000					
Rated voltage	230V240VAC	230V240VAC	230V240VAC	380V/415VAC	380V/415VAC	380V/ 415VAC
Rsted frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
AC surge protection						
Misocimum working voltage	275V/420V					
Maximum discharge current	40kA					
Norminal discharge current	20kA					
Number of poles	2	2	2	2	2	2
Envronmenta parameters						
Operating temperature	-20c to +60℃					
Humidity	99%					
Altitude	2000m (2000m Above derating)					
installation method	Wall -mounted installs tion					

Moulded Case Circuit Breaker
3SM8DC Series

Functions



- 3SM8DC series photovoltaic DC circuit breakers are suitable for DC network circuit which rated voltage to DC 1500 V and rated current to 800 A . DC circuit breaker with overload long delay protection function, which used to distribute electricity and protect the line and power supply equipment from overload, short circuit and other hazards.
- The operating mechanism of the DC circuit breaker has the functions of quick closing and quick breaking, and has the advantages of compact structure, small volume and convenient use.

Standard

3SM8DC series DC moulded case circuit breaker meet the following standards

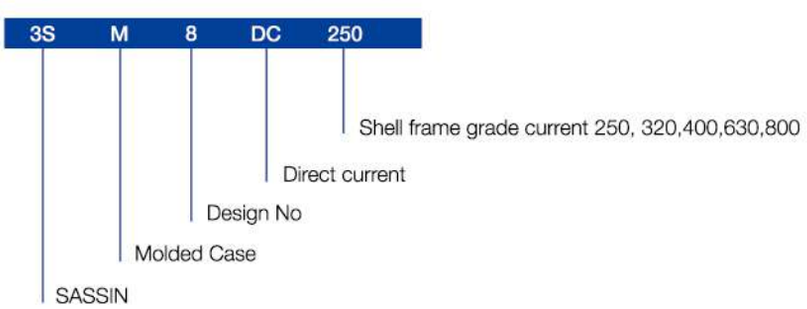
- IEC 60947-1 General Provisions
- IEC 60947-2 Circuit Breaker

Applied EnvironmentApplied Environment

- The altitude should not be higher than 2,000 m;
- It is resistant to be damp (three-proof type);
- It is resistant to the influence of salt fog and oil fog (three-proof type);
- It is resistant to the influence of mold (three-proof type);
- In a medium without explosion risk,and the medium is not enough to corrode the metal and destroy the insulation of
- the gas and conductive dust

Note: the three-prevention products should be specially customized,please indicate TH

Model Preparation Meaning



Class

According to operation mode:

- Direct operation
- Electric Operation mechanism operation
- Rotary handle operation

According to the protection:

- Line protection
- Line isolation

According to the wiring form:

- Front-board wiring
- Rear-board wiring
- Plug-in wiring

Moulded Case Circuit Breaker
3SM8DC Series

■ Main Technical Parameter

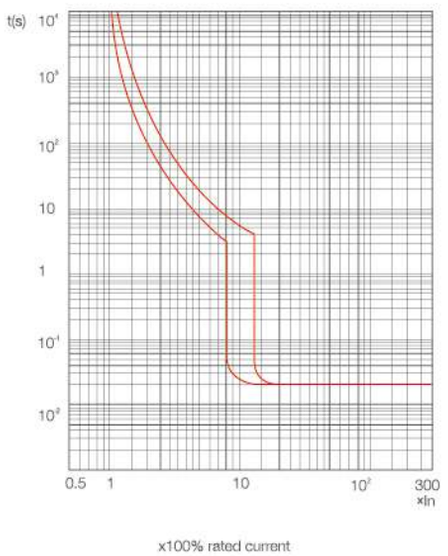
Appearance	

Model	3SM8DC-160		3SM8DC-320		3SM8DC-500		3SM8DC-630		3SM8DC-800	
Rated current of shell frame grade Inm(A)	160		320		500		630		800	
Rated current In(A)	63,80,100,125, 140,160		63,80,100,125,140, 160,180,200,225, 250,300,320		315,350,400,500		400,500,630		630,700,800	
Pole Number	2		2		2		2		2	
Rated working voltage Ue (V)DC	500	750	500	1000	1000	1500	1000	1500	1000	1500
Rated insulation voltage Ui (V)	1000		1250		1500		1500		1500	
Rated impulse withstand voltage Uimp (kV)	8		8		12					
Extreme short-circuit breaking capacity Icu (kA)	20	10	50	20	40	20	40	20	35	15
Running short-circuit breaking capacity Ics (kA)	20	10	50	20	40	20	40	20	35	15
Wiring mode	Up incoming and down outcoming									
Mechanical life (Total times)	10000									
Electrical life (Total times)	5000		2000		1000		1000		1000	
Total breaking time (ms)	20									
Insolation feature	yes									
Standard	IEC 60947-2									
Allowable ambient temperature	-40~+70°C									
Levels of protection	IP20									
With accessories	Auxiliary, alarm, Hand operation, Electric operation									
Arcing distance (mm)	≥50 (Zero arc, with arcing cover)									
Transient Action value	10In									
Installation way	fixed type, plug-in type									

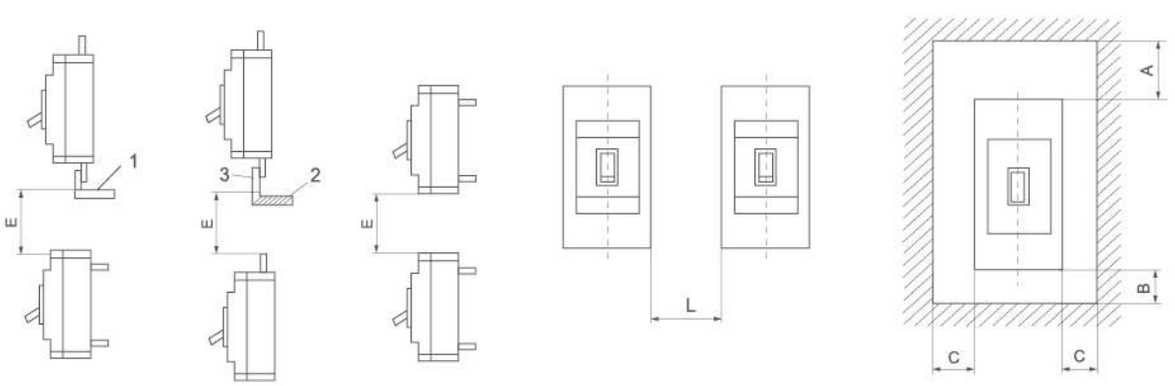
Moulded Case Circuit Breaker
3SM8DC Series

■ Action Characteristic Curve of the Circuit Breaker

3SM8DC action characteristic curve



Safe distance for installation(mm)



Type	L	A		B	C	E	
		Without zero arcing cover	With zero arcing cover			Without zero arcing cover	With zero arcing cover
≤320A	40	50	30	25	25	50	30
>320A	70	50	30	25	25	60	60
		100				100	

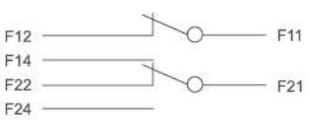
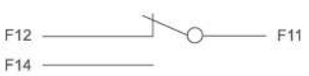
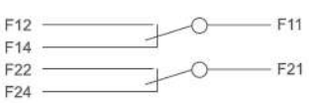
In above picture, there is 1. No insulated links 2. Insulated wires 3. Cable terminals

Auxiliary Contact

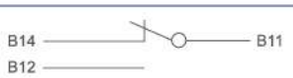
Auxiliary contact current parameters

Rated current of shell frame class	Agreed heating current	Rated operating current at AC 400V
Inm<250	3A	0.30A
Inm>400	6A	0.40A

Auxiliary contact and its combination

When the circuit breaker is in the "off"position	
	
when the circuit breaker is in the "on" position	
	

Alarm contact and its combination

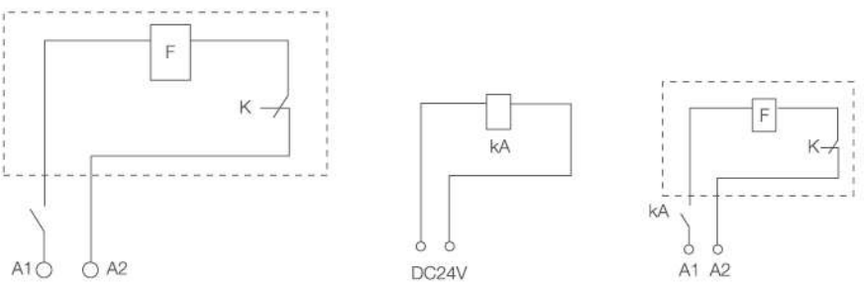
Alarm Contact Ue= 220VIh=3A	
When the circuit breaker is in the positions	
When the circuit breaker is in the free trip" position	

Moulded Case Circuit Breaker
3SM8DC Series

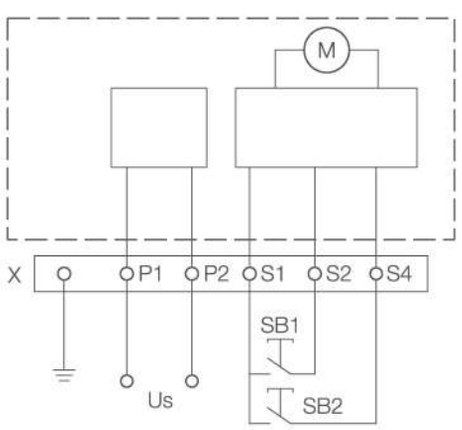
Shunt Release

Generally installed in the circuit breaker A phase, and between 70%-100% of the rated control power supply voltage,the distributor shall reliably buckle the circuit breaker under all operating conditions.
Control voltage: General: AC50Hz, 110V,230V, 400V, DC 24V, 100V, 220V
Note:when the control circuit power supply is DC24V, it is recommended to use the following figure for the excitation control circuit design.
KA: is a DC24V intermediate relay with a contact current capacity of 1A.
The micro switch in series between the K: tap and the coil is normally closed contact. When the circuit breaker is disconnected, the contact Is disconnected by itself and closed when closed.

Wiring diagram of excitation tripping



Electric power operator mechanism wiring diagram

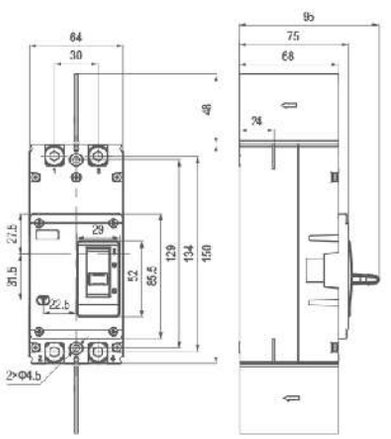


Symbol Description:
SB1, SB2 operation button (user-owned)
X terminal row
P1, P2 Power Supply for External Supply

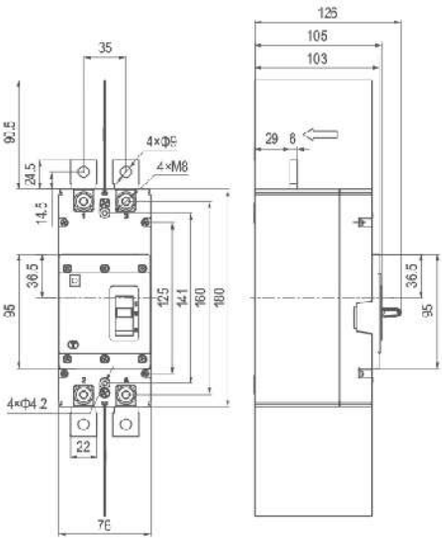
Moulded Case Circuit Breaker
3SM8DC Series

■ Outline and Installation Dimension Method and its Overall Dimension

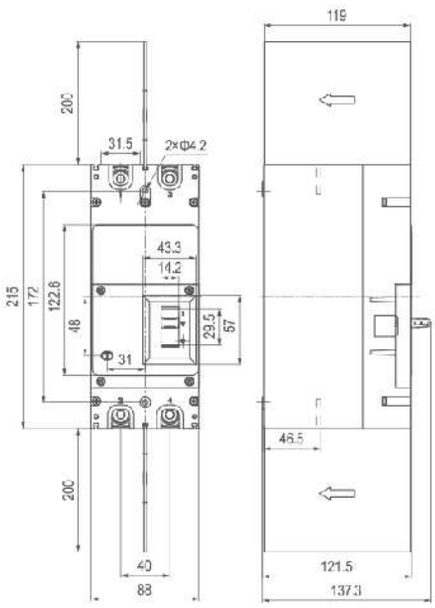
3SM8DC-160



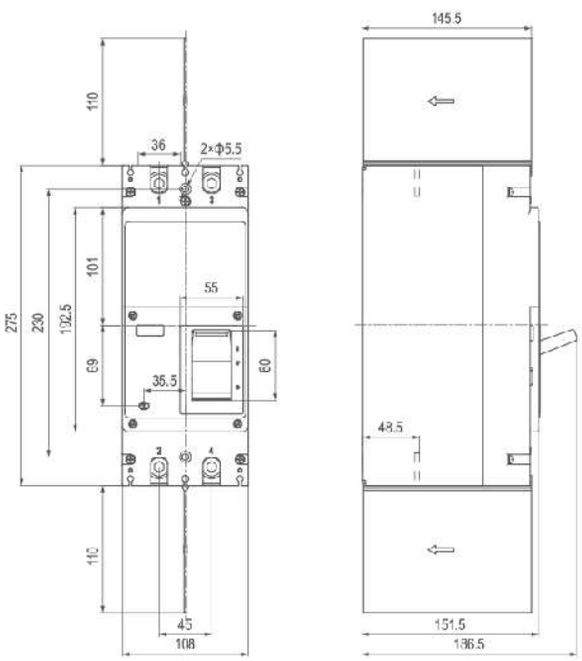
3SM8DC-320



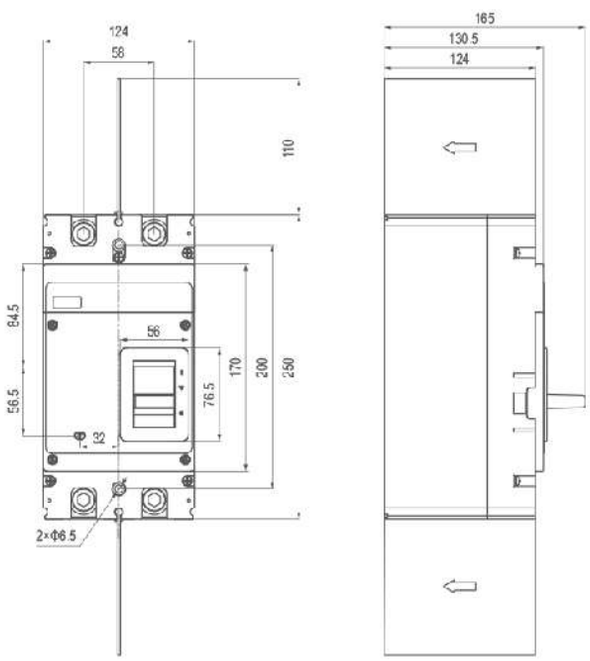
3SM8DC-500



3SM8DC-630



3SM8DC-800



Miniature Circuit Breakers for DC Applications
VB51-63DC Series



Functions

- Overload protection
- Short circuit protection
- Controlling
- Protection for people and big length cables in TN and IT systems
- DC string protection: Protects the PV module from dangerous high DC back current
- Applications in direct current circuits, such as motors, auxiliary circuits, and photovoltaic
- Used in industry and new energy

Technical Specifications

- Standard:IEC 60947-2
- Rated current In (A):6,10,16,20,25,32,40,50,63
- Number of poles: 1, 2 , 3, 4
- Rated voltage Ue (V DC):
  - 1P: 250
  - 2P: 500
  - 3P: 750
  - 4P: 1000
- Rated insulation voltage V DC):
  - Min.:12
  - Max.:1P: 250;2P: 500; 3P:750; 4P:1000
- Rated insulation voltage V DC): 1500
- Rated impulse withstand voltage (kV): 4
- Tripping characteristic: 7-14 In
- Thermal operating limit (In):1.05~1.30
- Rated breaking capacity:

Model	Rated voltage		Acc. to IEC 60947-2	
	(V)		Icn (kA)	Ics (kA)
VB51-63DC	1P	250 V DC	6	6
	2P	500 V DC	6	6
	3P	750 V DC	6	6
	4P	1000 V DC	6	6

- Mounting position: Any
- Conductor cross-sections
- Solid and stranded (mm^2): 0.75-35
- Finely stranded with end sleeve (mm^2): 0.75-25
- Terminal tightening torque (N·m): 2.5
- Ambient temperature (°C):-25 ~+45, max. 95 % humity
- Storage temperature (°C):-40 ~ +75
- Altitude (meters): Max. 2,000

Features

- The handle being sealable or equipped with padlock bracket avoids dangerous operation changes (ON /OFF)
- Clear indication of the contact position
- The emission of ionized gases is limited to the severest restrictions: 45 mm grid distance
- Suitable for household or similar applications in accordance with: IEC 60947-2

Magnetic Release

An electromagnet with plunger ensures instantaneous tripping in case of short circuit.

DC test current	Initial state	Time limit	Expected result	Remark
7In	Cold state	t≤0.1s	No tripping	The current rises steadily to the specified value within 5S
14In		t<0.1s	Tripping	Close the auxiliary switch to turn on the power

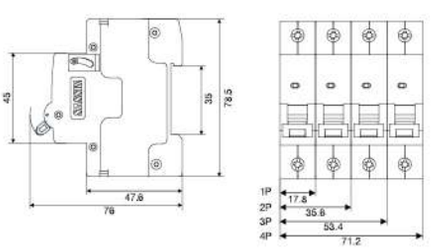
Thermal Release

- The release is initiated by a bimetal strip in case of overload.
- The standard defines the range of release for specific overload values.
- Reference ambient temperature is 30 °C

Test current	Initial condition	Limits of tripping or non-tripping time	Result to be obtained
1.05 In	Cold	t ≤ 1 h (In ≤ 63 A)	No tripping
1.30 In	Immediately follwing test a	t < 1 h (In ≤ 63 A)	Tripping
2.55 In	Cold	1s < t < 60 s (In ≤ 32 A) 1s < t < 120 s (In > 32 A)	Tripping

Outline and Installation Dimensions

unit in mm



Miniature Circuit Breakers for DC Applications
VB51-63DC Series

Selection and Ordering Data

IEC 60947-2 6 kA

	Number of poles	Rated current In (A)	Type code
	1	6	VB51-63DC 1P06
		10	VB51-63DC 1P10
		16	VB51-63DC 1P16
		20	VB51-63DC 1P20
		25	VB51-63DC 1P25
		32	VB51-63DC 1P32
		40	VB51-63DC 1P40
		50	VB51-63DC 1P50
		63	VB51-63DC 1P63
	2	6	VB51-63DC 2P06
		10	VB51-63DC 2P10
		16	VB51-63DC 2P16
		20	VB51-63DC 2P20
		25	VB51-63DC 2P25
		32	VB51-63DC 2P32
		40	VB51-63DC 2P40
		50	VB51-63DC 2P50
		63	VB51-63DC 2P63
	3	6	VB51-63DC 3P06
		10	VB51-63DC 3P10
		16	VB51-63DC 3P16
		20	VB51-63DC 3P20
		25	VB51-63DC 3P25
		32	VB51-63DC 3P32
		40	VB51-63DC 3P40
		50	VB51-63DC 3P50
		63	VB51-63DC 3P63
	4	6	VB51-63DC 4P06
		10	VB51-63DC 4P10
		16	VB51-63DC 4P16
		20	VB51-63DC 4P20
		25	VB51-63DC 4P25
		32	VB51-63DC 4P32
		40	VB51-63DC 4P40
		50	VB51-63DC 4P50
		63	VB51-63DC 4P63

Miniature Circuit Breakers for DC Applications
3SB56-63DC Series



Functions

- Overload protection
- Short circuit protection
- Controlling
- Protection for people and big length cables in TN and IT systems
- DC string protection: Protects the PV module from dangerous high DC back current
- Applications in direct current circuits, such as motors, auxiliary circuits, and photovoltaic systems.
- Used in industry and new energy

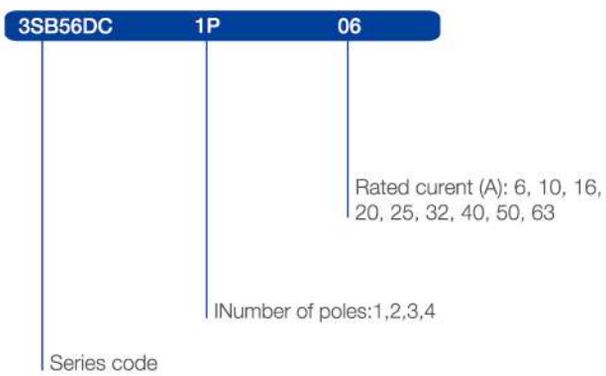
Technical Specifications

- Standard:IEC 60947-2
- Rated current In (A):6,10,16,20,25,32,40,50,63
- Number of poles: 1, 2 , 3, 4
- Rated voltage Ue (V DC):
  - 1P: 250
  - 2P: 500
  - 3P: 750
  - 4P: 1000
- Rated insulation voltage V DC):1000;1500
- Rated impulse withstand voltage (kV): 4
- Tripping characteristic: 7-14 In
- Thermal operating limit (in): 1.05~1.30
- Degree of protection:IP20
- Rated breaking capacity:

Model	Rated voltage		Acc. to IEC 60947-2	
	(V)		Icn (kA)	Ics (kA)
3SB56DC	1P	250 V DC	6	6
	2P	500 V DC	6	6
	3P	750 V DC	6	6
	4P	1000 V DC	6	6

- Mounting position: Any
- Conductor cross-sections
- Solid and stranded (mm^2): 0.75-35
- Finely stranded with end sleeve (mm^2): 0.75-25
- Terminal tightening torque (N·m): 3.0
- Ambient temperature (°C): -30~+70, max. 95 % humidity
- Storage temperature (°C):-40 ~ +85
- Altitude (meters): Max. 2,000
- Connection Capacity (mm^2): 1-35

Instruction of Type Code



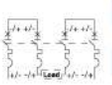
Features

- No-polar,more convenient to install
- The handle being sealable or equipped with padlock bracket avoids dangerous operation changes (ON/OFF)
- The handle provides a clear indication of the contact position
- Adequate printing of all data on the front provid slong-term identification
- This MCB for household in accordance with IEC 60947-2

Miniature Circuit Breakers for DC Applications
3SB56-63DC Series

■ Selection and Ordering Data

IEC 60947-2 6 kA

Number of poles	Rated current In (A)	Type code
1	6	B56-63DC 1P06
	10	B56-63DC 1P10
	16	B56-63DC 1P16
	20	B56-63DC 1P20
	25	B56-63DC 1P25
	32	B56-63DC 1P32
	40	B56-63DC 1P40
	50	B56-63DC 1P50
	63	B56-63DC 1P63
2	6	B56-63DC 2P06
	10	B56-63DC 3P10
	16	B56-63DC 3P16
	20	B56-63DC 3P20
	25	B56-63DC 3P25
	32	B56-63DC 3P32
	40	B56-63DC 3P40
	50	B56-63DC 3P50
	63	B56-63DC 3P63
3	6	B56-63DC 4P06
	10	B56-63DC 4P10
	16	B56-63DC 4P16
	20	B56-63DC 4P20
	25	B56-63DC 4P25
	32	B56-63DC 4P32
	40	B56-63DC 4P40
	50	B56-63DC 4P50
	63	B56-63DC 4P63
4	6	B56DC-4C6
	10	B56DC-4C10
	16	B56DC-4C16
	20	B56DC-4C20
	25	B56DC-4C25
	32	B56DC-4C32
	40	B56DC-4C40
	50	B56DC-4C50
	63	B56DC-4C63

Miniature Circuit Breakers for DC Applications
3SB56-63DC Series

Magnetic Release

An electromagnet with plunger ensures instantaneous tripping in case of short circuit.

DC test current	Initial state	Time limit	Expected result	Remark
7In	Cold state	t≤0.1s	No tripping	The current rises steadily to the specified value within 5S
14In		t<0.1s	Tripping	Close the auxiliary switch to turn on the power

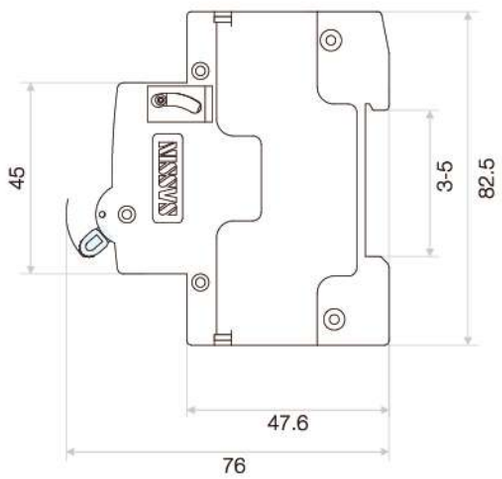
Thermal Release

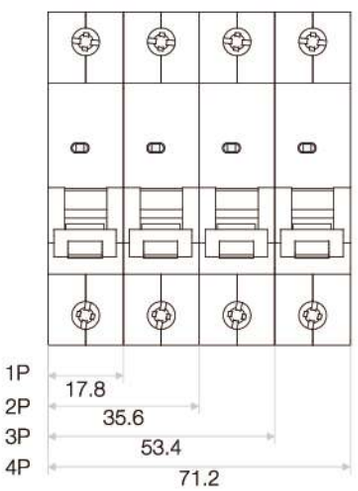
- The release is initiated by a bimetal strip in case of overload.
- The standard defines the range of release for specific overload values.
- Reference ambient temperature is 30 °C

Test current	Initial condition	Limits of tripping or non-tripping time	Result to be obtained
1.05 In	Cold	t ≤ 1 h (In ≤ 63 A)	No tripping
1.30 In	Immediately follwing test a	t < 1 h (In ≤ 63 A)	Tripping
2.55 In	Cold	1s < t < 60 s (In ≤ 32 A) 1s < t < 120 s (In > 32 A)	Tripping

Outline and Installation Dimensions

unit in mm





Miniature Circuit Breakers for DC Applications
3SB56-125DC Series

Functions

- Overload protection
- Short circuit protection
- Controlling
- Protection for people and big length cables in TN and IT systems
- DC string protection: Protects the PV module from dangerous high DC back current
- Application in direct current circuit, like motors, auxiliary, circuits and photovoltaic.
- Used in industry and new energy

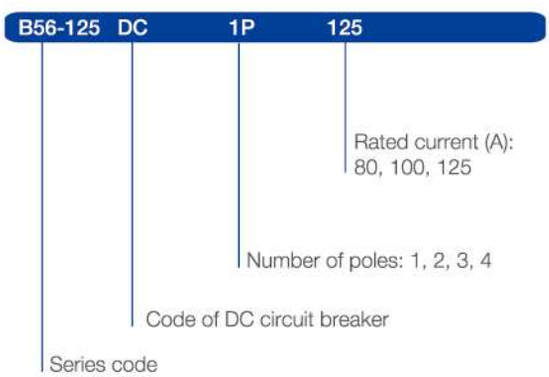
Technical Specifications

- Standard: IEC 60947-2
- Rated current In (A): 80, 100, 125
- Number of poles: 1, 2 , 3, 4
- Operational voltage Ue (V DC):
  - Min. : 12
  - Max. : 1P: 250; 2P: 500; 3P: 750; 4P: 1000
- Rated insulation voltage (V DC): 1500
- Rated impulse withstand voltage (kA): 5
- Tripping characteristic: 8 In(±20%)
- Thermal operating limit (in): 1.05~1.30
- Rated breaking capacity:

Model	Rated voltage		Acc. to IEC 60947-2	
	(V)		Icn (kA)	Ics (kA)
B56-125DC	1P	250 V DC	10	7.5
	2P	500 V DC	10	7.5
	3P	750 V DC	10	7.5
	4P	1000 V DC	10	7.5

- Mounting position: Any
- Conductor cross-sections
- Solid and stranded (mm): 1-50
- Finely stranded with end sleeve (mm): 1-35
- Terminal tightening torque (N·m): 2.8
- Ambient temperature (°C): -25~+45, max. 95 % humidity
- Storage temperature (°C):-40 ~ +75
- Altitude (meters): Max. 2,000

Instruction of Type Code



Features

- The handle being sealable or equipped with padlock bracke avoids dangerous operation changes (ON / OFF)
- The handle provides a clear indication of the contact position
- Adequate printing of all data on the front provides long-term identification
- The emission of ionized gases is limited to the severest restrictions: 45 mm grid distance
- This MCB for household in accordance with IEC 60947-2
- This MCB may be extended with:
  - Full sets additional components
  - Full sets of accessories

Miniature Circuit Breakers for DC Applications
3SB56-125DC Series

Magnetic Release

An electromagnet with plunger ensures instantaneous tripping in case of short circuit.

DC test current	Initial state	Time limit	Expected result	Remark
6In	Cold state	t≤0.1s	No tripping	The current rises steadily to the specified value within 5S
10In		t<0.1s	Tripping	Close the auxiliary switch to turn on the power

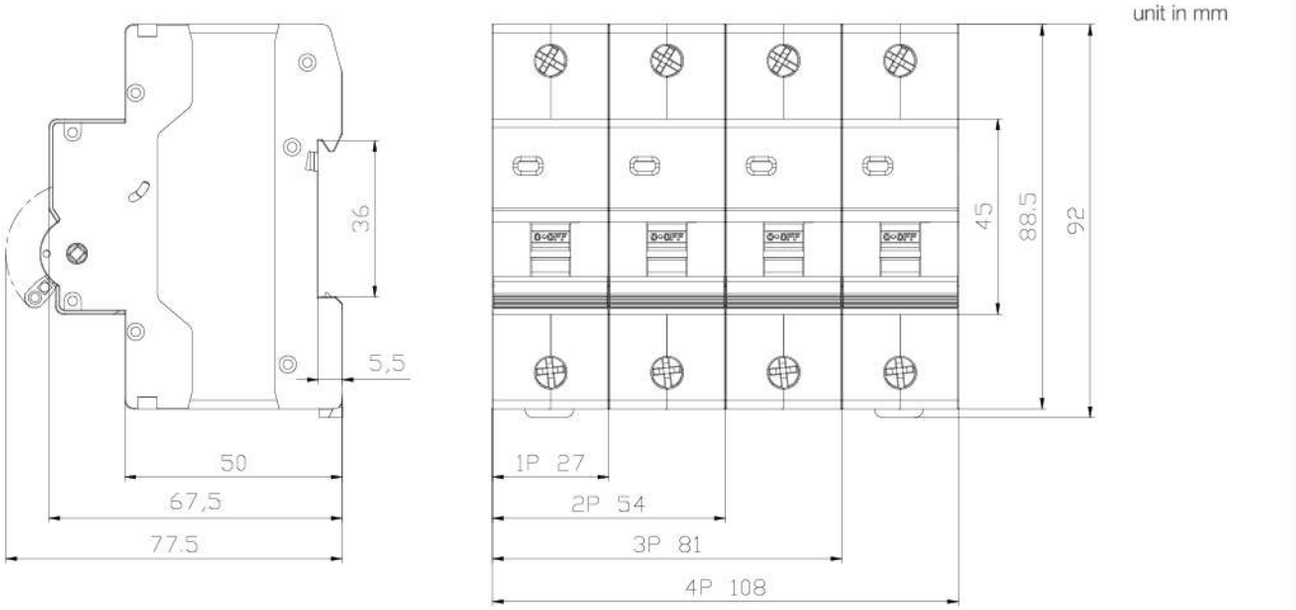
Thermal Release

- The release is initiated by a bimetal strip in case of overload.
- The standard defines the range of release for specific overload values.
- Reference ambient temperature is 30 ℃

Test current	Tripping time
1.05 In	t≤1h(In≤63A), t≤2h(In>63A)
1.30 In	t<1h(In≤63A), t<2h(In>63A)
2.55 In	1s<t<60s (In≤32A) 1s<t<120s (In>32A)

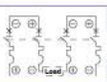
■ Outline and Installation Dimensions

unit in mm



Miniature Circuit Breakers for DC Applications
3SB56-125DC Series

IEC 60947-2 10 kA

Number of poles		Rated current In (A)	Type code
1		80	B56-125DC1P80
		100	B56-125DC1P100
		125	B56-125DC1P125
2		80	B56-125DC2P80
		100	B56-125DC2P100
		125	B56-125DC2P125
3		80	B56-125DC3P80
		100	B56-125DC3P100
		125	B56-125DC3P125
4		80	B56-125DC4P80
		100	B56-125DC4P100
		125	B56-125DC4P125

Miniature Circuit Breakers for DC Applications
3SB7-63DC Series

Functions

- Overload protection
- Short circuit protection
- Controlling
- Protection for people and big length cables in TN and IT systems
- DC string protection: Protects the PV module from dangerous high DC back current
- Application in direct current circuit, like motors, auxiliary, circuits and photovoltaic.
- Used in industry and new energy



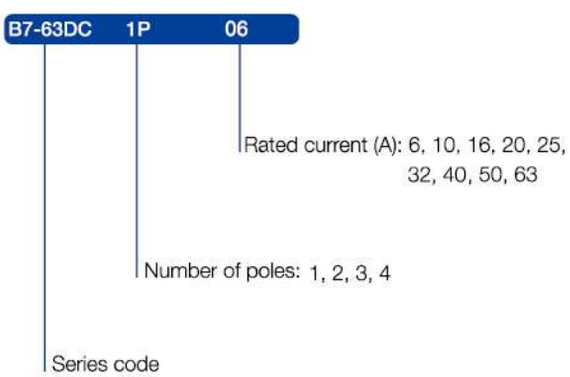
Technical Specifications

- Standard: IEC 60947-2
- Rated current In (A): 1, 2, 3, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63
- Number of poles: 1, 2 , 3, 4
- Operational voltage Ue (V DC):
  - 1P: 400
  - 2P: 800
  - 3P: 1000
  - 4P: 1500
- Rated insulation voltage (V DC): 1500
- Rated impulse withstand voltage (kA): 5
- Tripping characteristic: 8 In(+20%)
- Thermal operating limit (in): 1.05~1.30
- Degree of protection: IP20
- Electrical life(times):1500
- Mechanical life(times): 20000
- Rated breaking capacity:

Model	Rated voltage (V)		Acc. to IEC 60947-2 Icn (kA)	Ics (kA)
B7-63DC	1P	400 V DC	10	7.5
	2P	800 V DC	10	7.5
	3P	1000 V DC	10	7.5
	4P	1500 V DC	10	7.5

- Mounting position: Any
- Conductor cross-sections
- Solid and stranded (mm^2): 0.75-35
- Finely stranded with end sleeve (mm^2): 0.75-35
- Terminal tightening torque (N·m): 3.0
- Ambient temperature (°C): -30~+70, max. 95 % humidity
- Storage temperature (°C):-40 ~ +85
- Connection Capacity (mm^2):1-35

Instruction of Type Code



Features

- No-polar,more convenient to install
- Both upper and lower incoming lines are acceptable
- Complete accessory configoration
- Built-in short-circuit wring

Miniature Circuit Breakers for DC Applications
3SB7-63DC Series

Magnetic Release

An electromagnet with plunger ensures instantaneous tripping in case of short circuit.

DC test current	Initial state	Time limit	Expected result	Remark
6In	Cold state	t≤0.1s	No tripping	The current rises steadily to the specified value within 5S
10In		t<0.1s	Tripping	Close the auxiliary switch to turn on the power

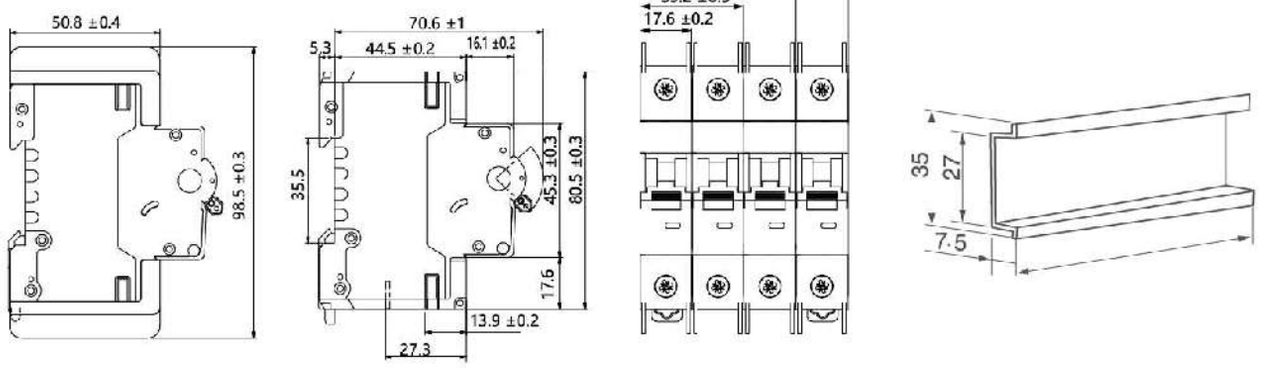
Thermal Release

- The release is initiated by a bimetal strip in case of overload.
- The standard defines the range of release for specific overload values.
- Reference ambient temperature is 30 °C

Test current	Initial condition	Limits of tripping or non-tripping time	Result to be obtained
1.05 In	Cold	t ≤ 1 h (In ≤ 63 A)	No tripping
1.30 In	Immediately follwing test a	t < 1 h (In ≤ 63 A)	Tripping
2.55 In	Cold	1s < t < 60 s (In ≤ 32 A) 1s < t < 120 s (In > 32 A)	Tripping

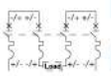
Outline and Installation Dimensions

unit in mm



Miniature Circuit Breakers for DC Applications
3SB7-63DC Series

IEC 60947-2 10 kA

	Number of poles	Rated current In (A)	Type code
	1	1	B7-63DC1P01
		2	B7-63DC1P02
		3	B7-63DC1P03
		4	B7-63DC1P04
		6	B7-63DC1P06
		10	B7-63DC1P10
		16	B7-63DC1P16
		20	B7-63DC1P20
		25	B7-63DC1P25
		32	B7-63DC1P32
		40	B7-63DC1P40
		50	B7-63DC1P50
		63	B7-63DC1P63
	2	1	B7-63DC2P01
		2	B7-63DC2P02
		3	B7-63DC2P03
		4	B7-63DC2P04
		6	B7-63DC2P06
		10	B7-63DC2P10
		16	B7-63DC2P16
		20	B7-63DC2P20
		25	B7-63DC2P25
		32	B7-63DC2P32
		40	B7-63DC2P40
		50	B7-63DC2P50
		63	B7-63DC2P63
	3	1	B7-63DC3P01
		2	B7-63DC3P02
		3	B7-63DC3P03
		4	B7-63DC3P04
		6	B7-63DC3P06
		10	B7-63DC3P10
		16	B7-63DC3P16
		20	B7-63DC3P20
		25	B7-63DC3P25
		32	B7-63DC3P32
		40	B7-63DC3P40
		50	B7-63DC3P50
		63	B7-63DC3P63
	4	1	B7-63DC4P01
		2	B7-63DC4P02
		3	B7-63DC4P03
		4	B7-63DC4P04
		6	B7-63DC4P06
		10	B7-63DC4P10
		16	B7-63DC4P16
		20	B7-63DC4P20
		25	B7-63DC4P25
		32	B7-63DC4P32
		40	B7-63DC4P40
		50	B7-63DC4P50
		63	B7-63DC4P63

Surge Protective Devices
3SU6DC

Functions

- Types 2 surge arresters
- Handling energy from distant /indirect lightning strikes or from switching operations
- Feature lower protection level (Up)
- Recommended at the incoming of installation for locations with no exposure to direct lightning impulses
- 3SU6 DC provide protection for equipment on photovoltaic connected system, against transient overvoltages that occur on the electrical network



Technical Specification of The Remote Signal Contact

- Contact type: 1 NO +1 NC
- Min. load: 24 V DC - 10 mA
- Max. load: 240 V AC - 1 A

Selection and Ordering Data

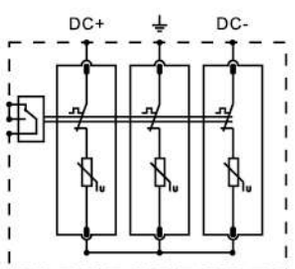
Surge protective devices, photovoltaic



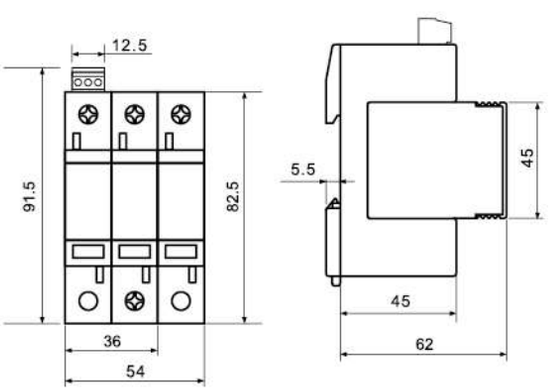
Number of poles	Max. Cont. operating voltage Uc (V)	Max. discharge current Imax (8/20) per pole (kA)	Nominal discharge current In (8/20) per pole (kA)	Voltage protection level Up (kV)	Type code
2	600	40	20	3.0	U6 600D
3	1000	40	20	3.5	U6 1000D
3	1500	40	20	5.5	U6 1500D

Outline and Installation Dimensions

Unit:mm



DC300-1500



3SU6 600V&1000V&1500V

Photovoltaic Fuse
RT16DC Series

Functions

Widely used in solar photovoltaic protection and DC energy storage system



Technical Specifications

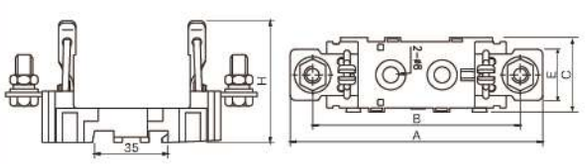
Type	RT16DC-00B	RT16DC-1B	RT16DC-2B	RT16DC-3B	RT16DC-1XLB	RT16DC-2XLB	RT16DC-3LB
Standards	IEC 60269-6						
Class of Operation	gPV						
Rated Voltage (V DC)	1000	1000	1000	1000	1500	1500	1500
Rated Current In (A)	125	200	350	500	250	400	630
Fuse type	RT16DC-00	RT16DC-1	RT16DC-2	RT16DC-3	RT16DC-1XL	RT16DC-2XL	RT16DC-H3L
Breaking Capacity	50kA	50kA	50kA	50kA	30kA	30kA	30kA
Time Constant	1-3ms	1-3ms	1-3ms	1-3ms	1-3ms	1-3ms	1-3ms

Technical Specifications

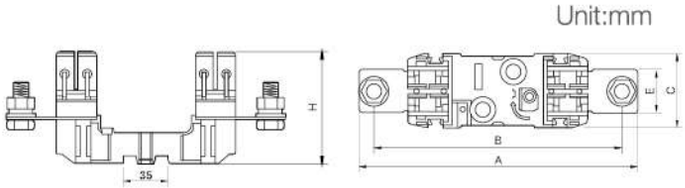
Model	Applicable fuse link	Rated Voltage (V)	Rated Current (A)	Overall dimension/size(mm)				
				A	B	C	E	H
RT16 DC-00B	RT16DC-00	1000V DC	125 A	119	102	35	23	57
RT16 DC-1B	RT16DC-1	1000V DC	200 A	208	176	58	32	82
RT16 DC-2B	RT16DC-2	1000V DC	350 A	224	198	58	35	89
RT16 DC-3B	RT16DC-3	1000V DC	500 A	239	207	58	40	106
RT16DC-1XLB	RT16DC-1XL	1500V DC	250 A	247	190	129	52	91
RT16DC-2XLB	RT16DC-2XL	1500V DC	400 A	278	210	135	63	104
RT16DC-3LB	RT16DC-3HL	1500V DC	630 A	300	210	135	63	108

Dimensions-mm

Unit:mm

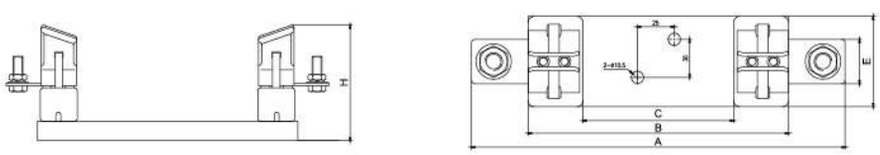


RT16 DC-00B



RT16 DC-1B

Unit:mm

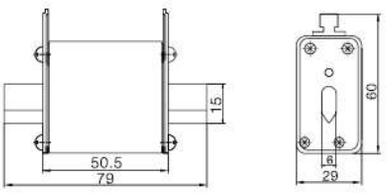


RT16DC-1XLB/2XLB/3LB

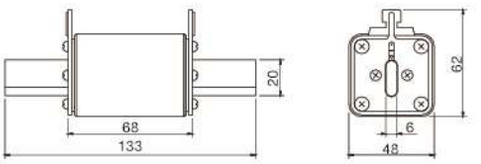
Photovoltaic Fuse
RT16DC Series

■ Dimensions-mm

Unit:mm

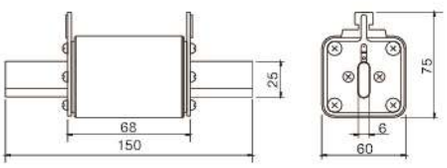


RT16DC-00

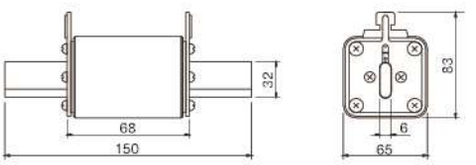


RT16DC-1

Unit:mm

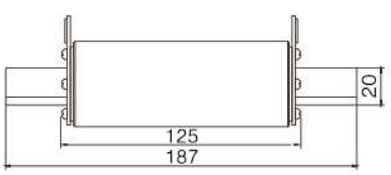


RT16DC-2

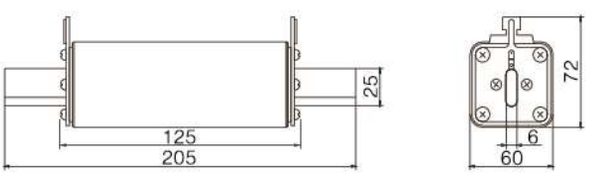


RT16DC-3

Unit:mm

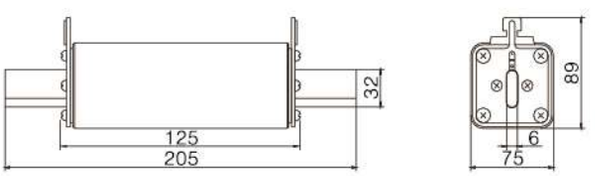


RT16DC-1XL



RT16DC-2XL

Unit:mm



RT16DC-H3L

Photovoltaic Fuse
RT18DC Series

■ Functions

Widely used in solar photovoltaic protection and DC energy storage system



■ Technical Specifications

Type	RT18-32DC	RT18-63DC
Standards	IEC 60269-6	
Class of Operation	gPV	
Poles	1,2,3	1,2,3
Connection Capacity (mm^2)	1~25	
Rated Voltage (V DC)	1000	1500
Rated Current In (A)	32	63
Fuse	10x38	10x85 (≤32A) 14X85 (>32A)
Breaking Capacity	20kA	20kA
Time Constant	1-3ms	1-3ms

■ Technical Specifications



Number of poles	Rated current In (A)	Fuse	Type Code
1	32	10X38	RT18A1D
2	32	10X38	RT18A2D
3	32	10X38	RT18A3D



Dimension (mm)	Maximum rated voltage (V)	Matched fuse base	Rated current In (A)	Type Code
Cylindrical 10×38	1000V DC	RT18-32DC	1	F10gPV01A
	1000V DC	RT18-32DC	2	F10gPV02A
	1000V DC	RT18-32DC	3	F10gPV03A
	1000V DC	RT18-32DC	4	F10gPV04A
	1000V DC	RT18-32DC	5	F10gPV05A
	1000V DC	RT18-32DC	6	F10gPV06A
	1000V DC	RT18-32DC	8	F10gPV08A
	1000V DC	RT18-32DC	10	F10gPV10A
	1000V DC	RT18-32DC	12	F10gPV12A
	1000V DC	RT18-32DC	15	F10gPV15A
	1000V DC	RT18-32DC	16	F10gPV16A
	1000V DC	RT18-32DC	20	F10gPV20A
	1000V DC	RT18-32DC	25	F10gPV25A
	1000V DC	RT18-32DC	30	F10gPV30A
	1000V DC	RT18-32DC	32	F10gPV32A

Photovoltaic Fuse
RT18DC Series

■ Selection and Ordering Data



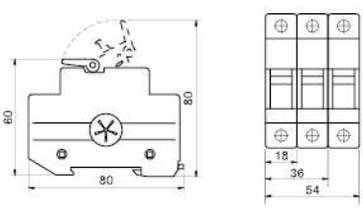
Number of poles	Rated current In (A)	Fuse	Type Code
1	63	10×85/14×85	RT18B1D
2	63	10×85/14×85	RT18B2D
3	63	10×85/14×85	RT18B3D



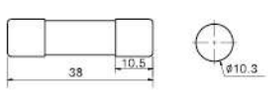
Dimension (mm)	Maximum rated voltage (V)	Matched fuse base	Rated current In (A)	Type Code
Cylindrical 10×85	1500V DC	RT18-63DC	3	F10gPV02B
	1500V DC	RT18-63DC	3	F10gPV03B
	1500V DC	RT18-63DC	4	F10gPV04B
	1500V DC	RT18-63DC	5	F10gPV05B
	1500V DC	RT18-63DC	6	F10gPV06B
	1500V DC	RT18-63DC	8	F10gPV08B
	1500V DC	RT18-63DC	10	F10gPV10B
	1500V DC	RT18-63DC	12	F10gPV12B
	1500V DC	RT18-63DC	15	F10gPV15B
	1500V DC	RT18-63DC	20	F10gPV20B
	1500V DC	RT18-63DC	25	F10gPV25B
	1500V DC	RT18-63DC	30	F10gPV30B
	1500V DC	RT18-63DC	32	F10gPV32B
Cylindrical 10×85	1500V DC	RT18-63DC	32	F14gPV32B
	1500V DC	RT18-63DC	40	F14gPV40B
	1500V DC	RT18-63DC	50	F14gPV50B

■ Dimensions-mm

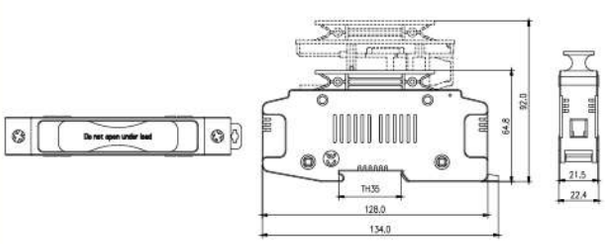
Unit:mm



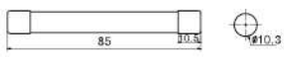
RT18DC-32



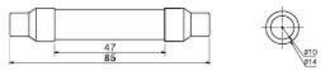
DC10X38



RT18DC-63



DC10X85



DC 14X85

DC Isolator Switches
3SDS-PV(16,25,32)NL1/T /PM2/ELR1 Series

Function Introduction

DC Isolator Switch is applied to 1~20 KW residential or commercial photovoltaic system, placed between photovoltage modules and inverters.Arcing time is less than 8ms, that keeps solar system more safe. To ensure its stability and long service life, our products are made by components with optimum quality. Max voltage is up to 1200V DC. It holds a safe lead among similar products.







Feature

- TYPE:3SDS-PV(16,25,32)NL1/T
- IP20 Protection Leve
- Din rail mounted
- Ultra-thin handle
- 2 Pole, 4 Poles are viable (Single I Double String)
- 16A, 25A, 32A, 1200V DC

- TYPE:3SDS-PV(16,25,32)PM2
- P65 Protection Level
- The handle can be padlocked in the "OFF" position
- Base mounted in the din rail, and handle mounted outside the door through the shaft
- The length of shaft can be customized by customer
- 2 Pole, 4 Pole are viable (Single I Double String)
- 16A, 25A, 32A, 1200V DC

- TYPE:3SDS-PV(16,25,32)ELR1
- IP66 rated enclosure, UV Resistant
- 2xmounting tabs, 4xM25 threaded holes
- The handle can be padlocked in the "OFF" position
- Mc4 plugs with adaptor or cable gland can be selected for convenient connection and space saving
- IP66 Air valve helps air flowing and reducing temperature
- 2 Pole, 4 Poles are viable (Single I Double String)
- 16A,25A,32A,1200V DC

Technical Specifications

Type		3SDS-PV NL1/T	3SDS-PV PM2	3SDS-PV ELR1
Function		Isolator, Control	Isolator, Control	Isolator, Control
Standard		IEC60947-3, AS60947. 3	IEC60947-3, AS60947. 3	IEC60947-3, AS60947. 3
Utilization category		DC-PV2/DC-PV1 /DC-21 B	DC-PV2/DC-PV1 /DC-21 B	DC-PV2/DC-PV1 /DC-21 B
Pole		4P	4P	4P
Rated frequency		DC	DC	DC
Rated operational voltage (Ue)		300V, 600V, 800V, 1000V, 1200V	300V, 600V, 800V, 1000V, 1200V	300V, 600V, 800V, 1000V, 1200V
Rated operational current (Ie)		See the next page	See the next page	See the next page
Rated insulation voltage (Ui)		1200V	1200V	1200V
Conventional free airthemal current(I_{th})		//	//	//
Conventional enclosed thermal current(I_{the})		Same as I_e	Same as I_e	Same as I_e
Rated short-time withstand current(Icw)		1kA, 1s	1kA, 1s	1kA, 1s
Rated impulsed withstand voltage(Uimp)		8.0 kV	8.0 kV	8.0 kV
Overvoltage category		II	II	II
Suitability for isolation		Yes	Yes	Yes
Polarity		No polarity, "+"and"-"polarities could be interchanged	No polarity, "+"and"-"polarities could be interchanged	No polarity, "+"and"-"polarities could be interchanged
Mechanical		18000	18000	18000
Electrical		2000	2000	2000
Ingress protection	Switch Body	Ip20	Ip65	Ip66
Storge temperature		-40°C~+85°	-40°C~+85°	-40°C~+85°
Cmounting Type		Vertically or horizontally	Vertically or horizontally	Vertically or horizontally
Pollution degree		3	3	3

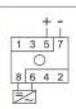
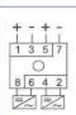
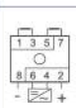
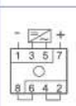
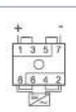
DC Isolator Switches
3SDS-PV(16,25,32)NL1/T /PM2/ELR1 Series

DC Isolator Switches

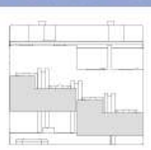
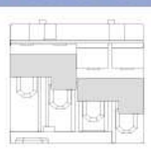
Wiring diagram for rated operational voltage Ue(V)& rated operational current Ie (A)

Contacts wiring diagram	300V			600V			800V			1000V			1200V			Poles in series			Number of strings			Type Number		
	16	25	32	16	25	32	16	25	32	16	25	32	16	25	32	16	25	32	16	25	32	16	25	32
5 7 6 8	16A	25A	32A	16A	25A	27A	12A	15A	17A	8A	9A	10A	6A	7A	8A	2	2	2	1	1	1	2P	2P	2P
1 3 5 7 2 4 6 8	16A	25A	32A	16A	25A	27A	12A	15A	17A	8A	9A	10A	6A	7A	8A	2	2	2	2	2	2	4P	4P	4P
1 3 5 7 2 4 6 8	16A	25A	32A	16A	25A	32A	16A	25A	32A	16A	25A	32A	16A	25A	32A	2	2	2	1	1	1	4T	4T	4T
1 3 5 7 2 4 6 8	16A	25A	32A	16A	25A	32A	16A	25A	32A	16A	25A	32A	16A	25A	32A	2	2	2	1	1	1	4B	4B	4B
1 3 5 7 2 4 6 8	16A	25A	32A	16A	25A	32A	16A	25A	32A	16A	25A	32A	16A	25A	32A	4	4	4	1	1	1	4S	4S	4S
1 3 5 7 2 4 6 8	35A	40A	45A	35A	40A	40A	/	/	/	/	/	/	/	/	/	2	2	2	1	1	1	2H	2H	2H

Switching configurations

Type	2-pole	4-pole	2-pole 4 poles in series Input and Output bottom	2-pole 4 poles in series Input and Output on top	2-pole 4 poles in series Input on top Output bottom	2-pole 4 parelleled Poles
/	2P	4P	4T	4B	4S	2H
Contacts Wiring graph	5 7 6 8	1 3 5 7 2 4 6 8	1 3 5 7 2 4 6 8	1 3 5 7 2 4 6 8	1 3 5 7 2 4 6 8	1 3 5 7 2 4 6 8
Switching example						

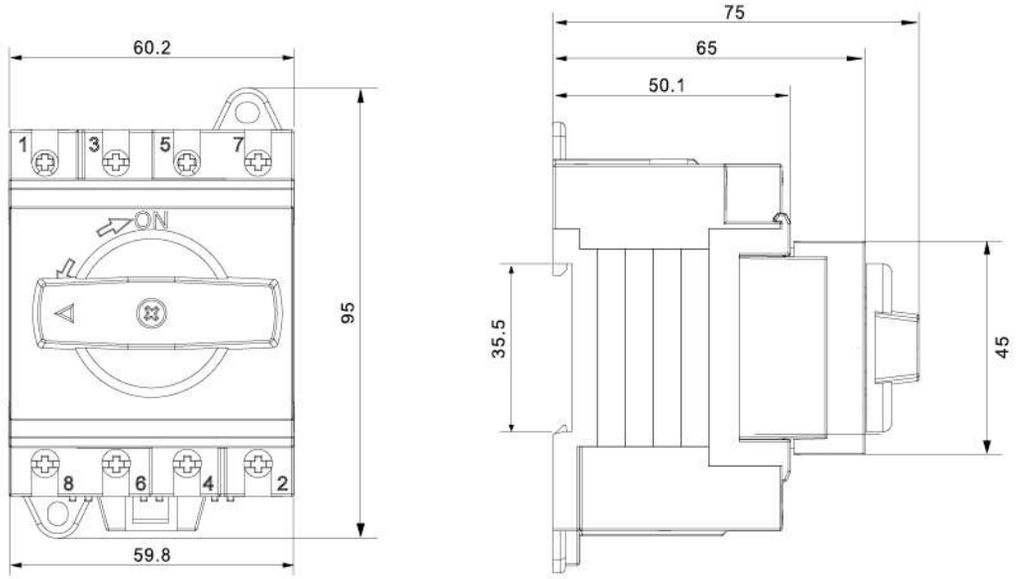
Switching configurations

installed incorrectly	installed correctly
	

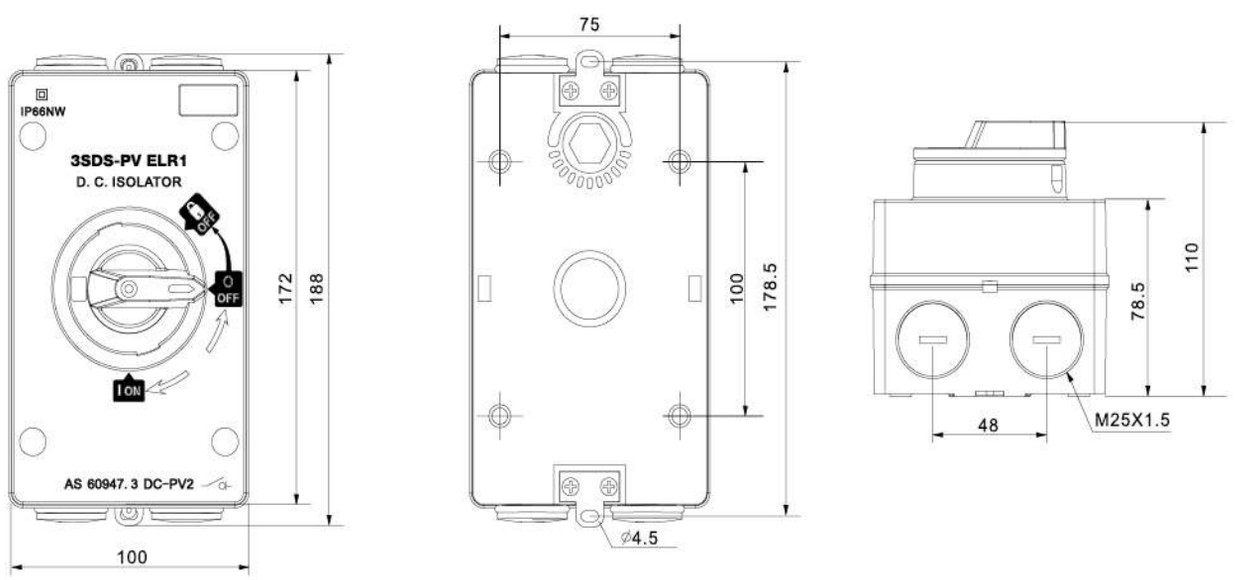
*Please note that all connections (including bridging link connections) should be tightened before energization.

DC Isolator Switches
3SDS-PV(16,25,32)NL1/T /PM2/ELR1 Series

Dimensions-mm



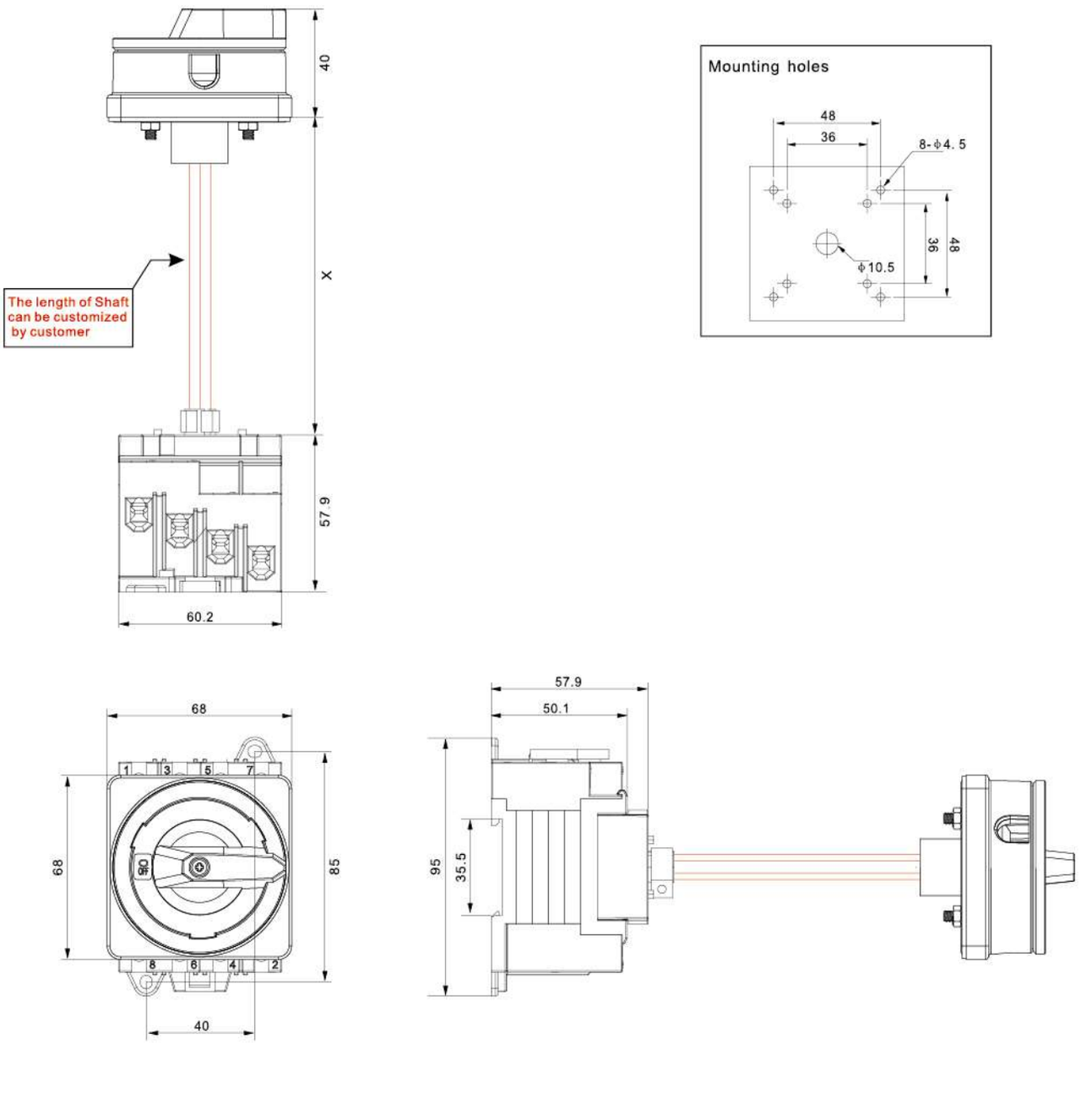
3SDS-PV(16,25,32)NL1/T Series



3SDS-ELR1(NL1T,PM2) Series

3SDS-PV(16,25,32)NL1/T /PM2/ELR1 Series

Dimensions-mm



DC Isolator Switches
3SDS-PVG6

Function Introduction

- 3SDS-PVG6 series switches are DC isolating switches specially designed for the solar photovoltaic industry;
- Small size, wide electrical range; maximum current 63A, maximum voltage 1500VDC;
- Modular design, flexible selection of different pole numbers;
- The product is easy and quick to install, with a variety of installation methods to choose from, including panel installation, guide rail installation and screw installation;
- The exclusive patented operating mechanism can achieve instant on-off switching, shortening the arc generation time.



Application areas

- Applied in photovoltaic equipment solution systems, wind power generation and distribution systems, and widely used in solar photovoltaic inverters.
- It can be widely used in residential, commercial and industrial buildings, photovoltaic energy storage, photovoltaic devices and other power distribution systems to provide solutions for system disconnection plan.

Implementation standards

- IEC/EN60947-3

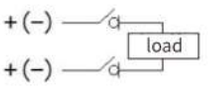
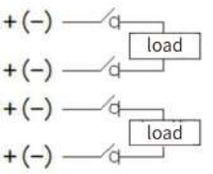
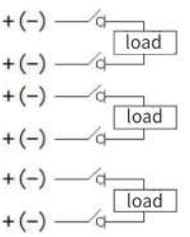
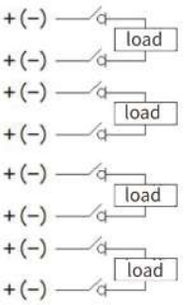
Electrical performance

Rated impulse withstand voltage Uimp	8KV			
Rated operating voltage	DC800V	DC1000V	DC1200V	DC1500V
Use Category	DC-PV2	DC-PV2	DC-PV2	DC-PV2
Rated operating current A	40 55 63	20 40 50	18 20 40	7.5 13 16
Rated chort-time withsiand current KA	0.8KA			
Rated short-circuit making capacity KA	1. 4KA			
Electrical life	300 times			
Mechanical life	15000 times			

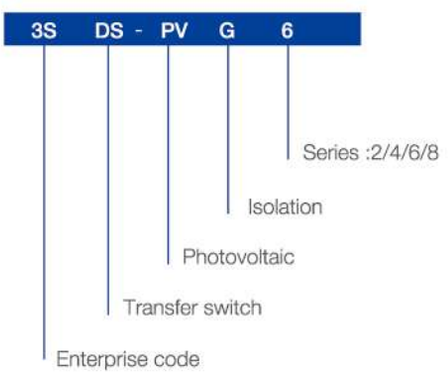
Connection and installation

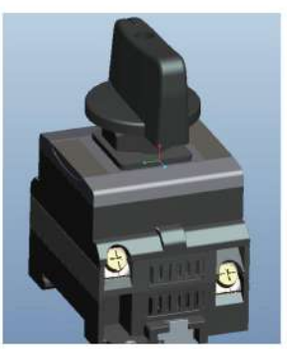
Installation	Panel mounting, rail mounting, screw mounting are available			
Operating torque	1.5-2.2 N·m			
Terminal block type	Tile type			
Terminal torque	1.5-1.7 N·m			
Operating temperature	-40~+85 degrees			
Pollution degree	3			
IP Rating	IP20(Panel mount IP65)			
Number of layers	2	4	6	8

DC Isolator Switches
3SDS-PVG6

Wiring method				

Model and meaning





3SDS-PVG6-2R

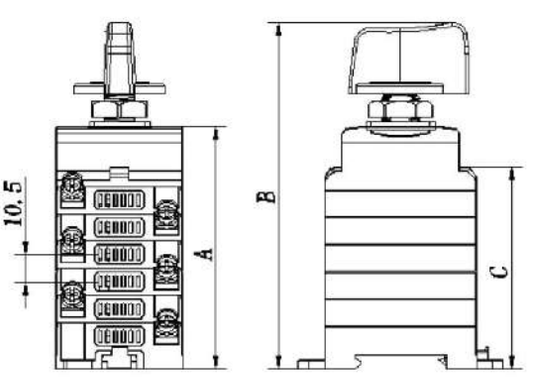


3SDS-PVG6-4R

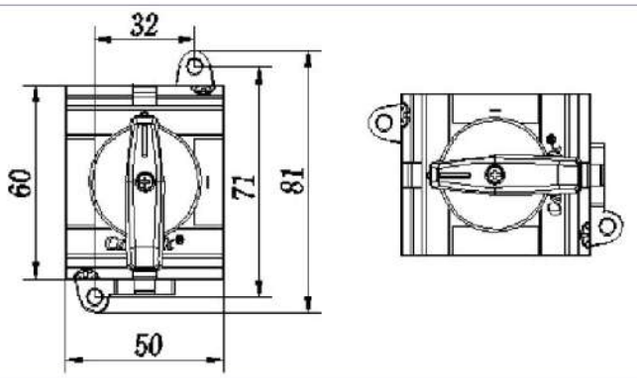


3SDS-PVG6-6R

Product size



DC Isolator Switches
3SDS-PVG6

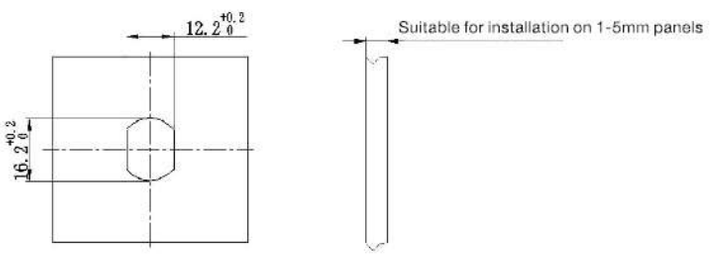


Number of layers	size		
	A	B	C
2	52	92	36
4	73	113	57
6	94	134	78
8	115	155	99
10	136	176	120

Installation dimensions

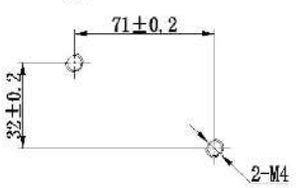
Panel installation

The recommended opening size for the installation panel

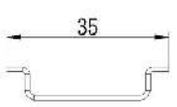


Screw installation

Suggested dimensions for screw installation openings



Guide rail installation: Standard 35mm guide rail installation



Miniature Circuit Breakers
VB510 Series

Functions

- Overload protection
- Short circuit protection
- Isolation
- Controlling
- Used in residential building, non-residential building, industry, energy and infrastructure.



Features

- The handle being sealable or equipped with padlock bracket avoids dangerous operation changes (ON / OFF)
- Clear indication of the contact position
- The emission of ionized gases is limited to the severest restrictions: 45 mm grid distance
- Suitable for household or similar applications in accordance with: IEC 60898-1 & IEC 60947-2, tripping characteristics B, C and D
- With U type busbar or without U type busbar is optional.

Technical specifications

				VB510	VB510H
Standards				IEC 60898-1	IEC 60947-2
Number of poles				1P, 1P+N, 2P, 3P, 3P+N, 4P	1P, 1P+N, 2P, 3P, 3P+N, 4P
Rated current In			A	1, 2, 3, 4, 5, 6, 10, 16, 20, 25, 32, 40, 50, 63	70, 80, 100
Rated operational voltage Ue	1P		V AC	230/400	230/400
	2P - 4P		V AC	400	400
Operational voltage			V AC	Min. : 24; Max. : 250/440	Min. : 24; Max. : 250/440
Rated frequency fn			Hz	50/60	50/60
Breaking capacity	Acc. to IEC/EN 60898-1	Icn	kA	6	-
		Ics	kA	6	-
	Acc. to IEC/EN 60947-2	Icu	kA	6	6
		Ics	kA	6	6
Tripping characteristics	Characteristic B		In	3-5	3-5
	Characteristic C		In	5-10	5-10
	Characteristic D		In	10-20	10-20
Thermal operating limit			In	1.13-1.45	1.05-1.3
Rated insulation voltage Ui	Phase to ground		V	250	250
	Phase to phase		V	500	500
Degree of protection				IP20, with connected conductors	IP20, with connected conductors
Endurance	Electrical		ops.	10,000	6,000
	Mechnical		ops.	20,000	20,000
Fire resistance according to IEC 60695				960 °C	960 °C
Mounting position				Any	Any
Cross-section of conductor	Solid and stranded		mm^2	1-35	1-50
(Min/Max)	Finely stranded with end sleeve		mm^2	1-16	1-35
Type of busbar				Pin type, U type	Pin type
Tighting torque			N·m	2.5	2.5
Ambient temperature			°C	-5 ~ +40, max. 95 % humidity	-5 ~ +40, max. 95 % humidity
Altitude (max.)			meter	2000	2000

Miniature Circuit Breakers
VB510 Series

Selection and ordering data

IEC 60898-1 Icn=Ics=6kA

Number of poles	Rated current In	Characteristic B without U type	Characteristic B with U type	Characteristic C without U type	Characteristic C with U type	Characteristic D without U type	Characteristic D with U type
	(A)	Type code	Type code	Type code	Type code	Type code	Type code
1P	1	VB511-B1	VB511-B1U	VB511-C1	VB511-C1U	VB511-D1	VB511-D1U
	2	VB511-B2	VB511-B2U	VB511-C2	VB511-C2U	VB511-D2	VB511-D2U
	3	VB511-B3	VB511-B3U	VB511-C3	VB511-C3U	VB511-D3	VB511-D3U
	4	VB511-B4	VB511-B4U	VB511-C4	VB511-C4U	VB511-D4	VB511-D4U
	5	VB511-B5	VB511-B5U	VB511-C5	VB511-C5U	VB511-D5	VB511-D5U
	6	VB511-B6	VB511-B6U	VB511-C6	VB511-C6U	VB511-D6	VB511-D6U
	10	VB511-B10	VB511-B10U	VB511-C10	VB511-C10U	VB511-D10	VB511-D10U
	16	VB511-B16	VB511-B16U	VB511-C16	VB511-C16U	VB511-D16	VB511-D16U
	20	VB511-B20	VB511-B20U	VB511-C20	VB511-C20U	VB511-D20	VB511-D20U
	25	VB511-B25	VB511-B25U	VB511-C25	VB511-C25U	VB511-D25	VB511-D25U
	32	VB511-B32	VB511-B32U	VB511-C32	VB511-C32U	VB511-D32	VB511-D32U
	40	VB511-B40	VB511-B40U	VB511-C40	VB511-C40U	VB511-D40	VB511-D40U
	50	VB511-B50	VB511-B50U	VB511-C50	VB511-C50U	VB511-D50	VB511-D50U
	63	VB511-B63	VB511-B63U	VB511-C63	VB511-C63U	VB511-D63	VB511-D63U
1P+N	1	VB515-B1	VB515-B1U	VB515-C1	VB515-C1U	VB515-D1	VB515-D1U
	2	VB515-B2	VB515-B2U	VB515-C2	VB515-C2U	VB515-D2	VB515-D2U
	3	VB515-B3	VB515-B3U	VB515-C3	VB515-C3U	VB515-D3	VB515-D3U
	4	VB515-B4	VB515-B4U	VB515-C4	VB515-C4U	VB515-D4	VB515-D4U
	5	VB515-B5	VB515-B5U	VB515-C5	VB515-C5U	VB515-D5	VB515-D5U
	6	VB515-B6	VB515-B6U	VB515-C6	VB515-C6U	VB515-D6	VB515-D6U
	10	VB515-B10	VB515-B10U	VB515-C10	VB515-C10U	VB515-D10	VB515-D10U
	16	VB515-B16	VB515-B16U	VB515-C16	VB515-C16U	VB515-D16	VB515-D16U
	20	VB515-B20	VB515-B20U	VB515-C20	VB515-C20U	VB515-D20	VB515-D20U
	25	VB515-B25	VB515-B25U	VB515-C25	VB515-C25U	VB515-D25	VB515-D25U
	32	VB515-B32	VB515-B32U	VB515-C32	VB515-C32U	VB515-D32	VB515-D32U
	40	VB515-B40	VB515-B40U	VB515-C40	VB515-C40U	VB515-D40	VB515-D40U
	50	VB515-B50	VB515-B50U	VB515-C50	VB515-C50U	VB515-D50	VB515-D50U
	63	VB515-B63	VB515-B63U	VB515-C63	VB515-C63U	VB515-D63	VB515-D63U
2P	1	VB512-B1	VB512-B1U	VB512-C1	VB512-C1U	VB512-D1	VB512-D1U
	2	VB512-B2	VB512-B2U	VB512-C2	VB512-C2U	VB512-D2	VB512-D2U
	3	VB512-B3	VB512-B3U	VB512-C3	VB512-C3U	VB512-D3	VB512-D3U
	4	VB512-B4	VB512-B4U	VB512-C4	VB512-C4U	VB512-D4	VB512-D4U
	5	VB512-B5	VB512-B5U	VB512-C5	VB512-C5U	VB512-D5	VB512-D5U
	6	VB512-B6	VB512-B6U	VB512-C6	VB512-C6U	VB512-D6	VB512-D6U
	10	VB512-B10	VB512-B10U	VB512-C10	VB512-C10U	VB512-D10	VB512-D10U
	16	VB512-B16	VB512-B16U	VB512-C16	VB512-C16U	VB512-D16	VB512-D16U
	20	VB512-B20	VB512-B20U	VB512-C20	VB512-C20U	VB512-D20	VB512-D20U
	25	VB512-B25	VB512-B25U	VB512-C25	VB512-C25U	VB512-D25	VB512-D25U
	32	VB512-B32	VB512-B32U	VB512-C32	VB512-C32U	VB512-D32	VB512-D32U
	40	VB512-B40	VB512-B40U	VB512-C40	VB512-C40U	VB512-D40	VB512-D40U
	50	VB512-B50	VB512-B50U	VB512-C50	VB512-C50U	VB512-D50	VB512-D50U
	63	VB512-B63	VB512-B63U	VB512-C63	VB512-C63U	VB512-D63	VB512-D63U

Miniature Circuit Breakers
VB510 Series

Selection and ordering data

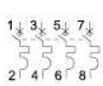
IEC 60898-1 Icn=Ics=6kA





Number of poles	Rated current In	Characteristic B without U type	Characteristic B with U type	Characteristic C without U type	Characteristic C with U type	Characteristic D without U type	Characteristic D with U type
	(A)	Type code	Type code	Type code	Type code	Type code	Type code
3P	1	VB513-B1	VB513-B1U	VB513-C1	VB513-C1U	VB513-D1	VB513-D1U
	2	VB513-B2	VB513-B2U	VB513-C2	VB513-C2U	VB513-D2	VB513-D2U
	3	VB513-B3	VB513-B3U	VB513-C3	VB513-C3U	VB513-D3	VB513-D3U
	4	VB513-B4	VB513-B4U	VB513-C4	VB513-C4U	VB513-D4	VB513-D4U
	5	VB513-B5	VB513-B5U	VB513-C5	VB513-C5U	VB513-D5	VB513-D5U
	6	VB513-B6	VB513-B6U	VB513-C6	VB513-C6U	VB513-D6	VB513-D6U
	10	VB513-B10	VB513-B10U	VB513-C10	VB513-C10U	VB513-D10	VB513-D10U
	16	VB513-B16	VB513-B16U	VB513-C16	VB513-C16U	VB513-D16	VB513-D16U
	20	VB513-B20	VB513-B20U	VB513-C20	VB513-C20U	VB513-D20	VB513-D20U
	25	VB513-B25	VB513-B25U	VB513-C25	VB513-C25U	VB513-D25	VB513-D25U
	32	VB513-B32	VB513-B32U	VB513-C32	VB513-C32U	VB513-D32	VB513-D32U
	40	VB513-B40	VB513-B40U	VB513-C40	VB513-C40U	VB513-D40	VB513-D40U
	50	VB513-B50	VB513-B50U	VB513-C50	VB513-C50U	VB513-D50	VB513-D50U
	63	VB513-B63	VB513-B63U	VB513-C63	VB513-C63U	VB513-D63	VB513-D63U
3P+N	1	VB516-B1	VB516-B1U	VB516-C1	VB516-C1U	VB516-D1	VB516-D1U
	2	VB516-B2	VB516-B2U	VB516-C2	VB516-C2U	VB516-D2	VB516-D2U
	3	VB516-B3	VB516-B3U	VB516-C3	VB516-C3U	VB516-D3	VB516-D3U
	4	VB516-B4	VB516-B4U	VB516-C4	VB516-C4U	VB516-D4	VB516-D4U
	5	VB516-B5	VB516-B5U	VB516-C5	VB516-C5U	VB516-D5	VB516-D5U
	6	VB516-B6	VB516-B6U	VB516-C6	VB516-C6U	VB516-D6	VB516-D6U
	10	VB516-B10	VB516-B10U	VB516-C10	VB516-C10U	VB516-D10	VB516-D10U
	16	VB516-B16	VB516-B16U	VB516-C16	VB516-C16U	VB516-D16	VB516-D16U
	20	VB516-B20	VB516-B20U	VB516-C20	VB516-C20U	VB516-D20	VB516-D20U
	25	VB516-B25	VB516-B25U	VB516-C25	VB516-C25U	VB516-D25	VB516-D25U
	32	VB516-B32	VB516-B32U	VB516-C32	VB516-C32U	VB516-D32	VB516-D32U
	40	VB516-B40	VB516-B40U	VB516-C40	VB516-C40U	VB516-D40	VB516-D40U
	50	VB516-B50	VB516-B50U	VB516-C50	VB516-C50U	VB516-D50	VB516-D50U
	63	VB516-B63	VB516-B63U	VB516-C63	VB516-C63U	VB516-D63	VB516-D63U



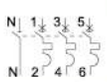
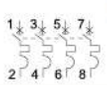


4P	1	VB514-B1	VB514-B1U	VB514-C1	VB514-C1U	VB514-D1	VB514-D1U
	2	VB514-B2	VB514-B2U	VB514-C2	VB514-C2U	VB514-D2	VB514-D2U
	3	VB514-B3	VB514-B3U	VB514-C3	VB514-C3U	VB514-D3	VB514-D3U
	4	VB514-B4	VB514-B4U	VB514-C4	VB514-C4U	VB514-D4	VB514-D4U
	5	VB514-B5	VB514-B5U	VB514-C5	VB514-C5U	VB514-D5	VB514-D5U
	6	VB514-B6	VB514-B6U	VB514-C6	VB514-C6U	VB514-D6	VB514-D6U
	10	VB514-B10	VB514-B10U	VB514-C10	VB514-C10U	VB514-D10	VB514-D10U
	16	VB514-B16	VB514-B16U	VB514-C16	VB514-C16U	VB514-D16	VB514-D16U
	20	VB514-B20	VB514-B20U	VB514-C20	VB514-C20U	VB514-D20	VB514-D20U
	25	VB514-B25	VB514-B25U	VB514-C25	VB514-C25U	VB514-D25	VB514-D25U
	32	VB514-B32	VB514-B32U	VB514-C32	VB514-C32U	VB514-D32	VB514-D32U
	40	VB514-B40	VB514-B40U	VB514-C40	VB514-C40U	VB514-D40	VB514-D40U
	50	VB514-B50	VB514-B50U	VB514-C50	VB514-C50U	VB514-D50	VB514-D50U
	63	VB514-B63	VB514-B63U	VB514-C63	VB514-C63U	VB514-D63	VB514-D63U

Miniature Circuit Breakers
VB510 Series

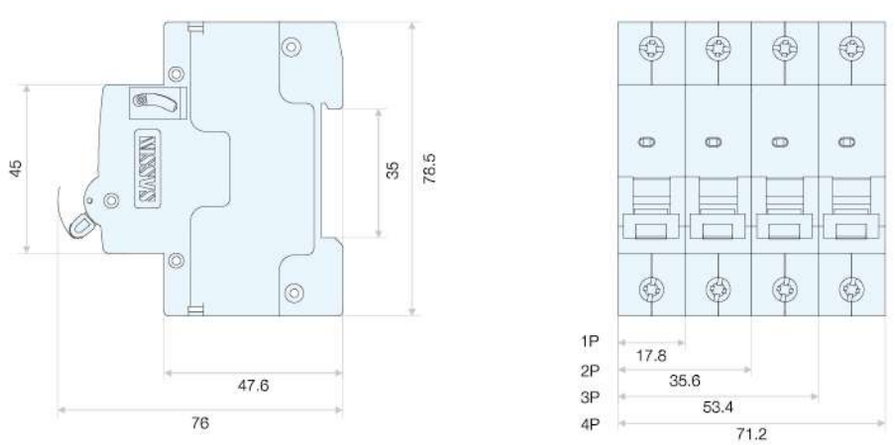
Selection and ordering data

IEC 60947-2 Icu=Ics=6kA

	Number of poles	Rated current In (A)	Characteristic B Type code	Characteristic C Type code	Characteristic D Type code
	1P 	70	VB511H-B70	VB511H-C70	VB511H-D70
		80	VB511H-B80	VB511H-C80	VB511H-D80
		100	VB511H-B100	VB511H-C100	VB511H-D100
	1P+N 	70	VB515H-B70	VB515H-C70	VB515H-D70
		80	VB515H-B80	VB515H-C80	VB515H-D80
		100	VB515H-B100	VB515H-C100	VB515H-D100
	2P 	70	VB512H-B70	VB512H-C70	VB512H-D70
		80	VB512H-B80	VB512H-C80	VB512H-D80
		100	VB512H-B100	VB512H-C100	VB512H-D100
	3P 	70	VB513H-B70	VB513H-C70	VB513H-D70
		80	VB513H-B80	VB513H-C80	VB513H-D80
		100	VB513H-B100	VB513H-C100	VB513H-D100
	3P+N 	70	VB516H-B70	VB516H-C70	VB516H-D70
		80	VB516H-B80	VB516H-C80	VB516H-D80
		100	VB516H-B100	VB516H-C100	VB516H-D100
	4P 	70	VB514H-B70	VB514H-C70	VB514H-D70
		80	VB514H-B80	VB514H-C80	VB514H-D80
		100	VB514H-B100	VB514H-C100	VB514H-D100

Outline and installation dimensions

unit in mm



Miniature Circuit Breakers
3SB7-63 Series



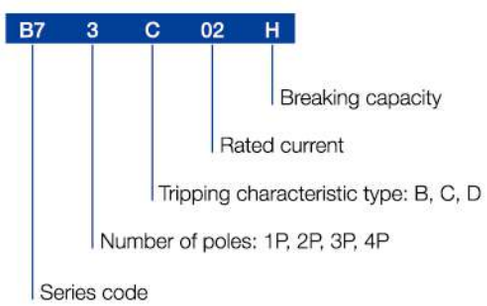
Functions

- Overload protection
- Short circuit protection
- Isolation
- Controlling
- Used in residential building, non-residential building, industry, energy and infrastructure.

Features

- Small size,simple structure,and high reliability
  Full sets of accessories
- The handle provides a clear indication of the contact position
- This MCB for household in accordance with: IEC 60898-1, B, C and D tripping characteristics
- Both top and bottom incoming lines are acceptable

Instruction of type code



Technical specifications

			3SB7-63
Standards			IEC/EN 60898-1
Number of poles			1P, 2P, 3P, 4P
Tripping characteristics			B, C, D
Rated current In		A	1, 2, 3, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63
Rated operational voltage Ue	1P	V AC	230/400
	2P, 3P, 4P	V AC	400
Minimum operating voltage		V AC	24
Rated frequency fn		Hz	50/60
Breaking capacity	Icn	kA	10
	Ics	kA	7.5
Rated insulation voltage Ui	Phase to ground	V	250
	Phase to phase	V	500
Rated impulse withstand voltage Uimp		kV	6
Endurance	Electrical	ops.	6000
	Mechnical	ops.	20000
Protection degree			IP20
Pollution degree			2
Isolating function			Yes
Mounting			DIN rail 35 mm
Mounting position			Any
Cross-section of conductor	Solid and stranded	mm^2	1-25
(Min/Max)	Finely stranded with end sleeve	mm^2	1-25
Type of busbar			Pin type, U type
Tighting torque		N·m	2.5
Ambient temperature		°C	-5 ~ +40, max 95% humidty
Altitude (max.)		meter	2000

Miniature Circuit Breakers
3SB7-63 Series

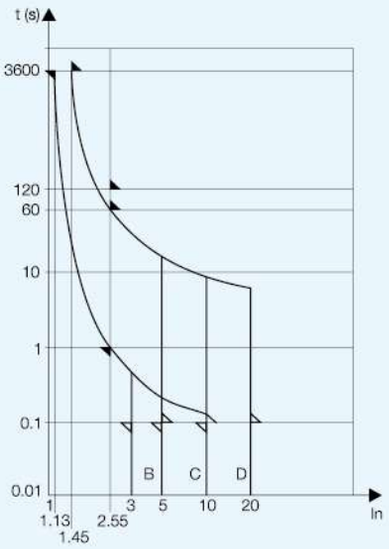
■ Selection and ordering data

	Number of poles	Rated current In (A)	Characteristic B Type code	Characteristic C Type code	Characteristic D Type code	Pack.
	1	1	B7 1B01H	B7 1C01H	B7 1D01H	12
		2	B7 1B02H	B7 1C02H	B7 1D02H	12
		3	B7 1B03H	B7 1C03H	B7 1D03H	12
		4	B7 1B04H	B7 1C04H	B7 1D04H	12
		6	B7 1B06H	B7 1C06H	B7 1D06H	12
		10	B7 1B10H	B7 1C10H	B7 1D10H	12
		16	B7 1B16H	B7 1C16H	B7 1D16H	12
		20	B7 1B20H	B7 1C20H	B7 1D20H	12
		25	B7 1B25H	B7 1C25H	B7 1D25H	12
		32	B7 1B32H	B7 1C32H	B7 1D32H	12
		40	B7 1B40H	B7 1C40H	B7 1D40H	12
		50	B7 1B50H	B7 1C50H	B7 1D50H	12
		63	B7 1B63H	B7 1C63H	B7 1D63H	12
	2	1	B7 2B01H	B7 2C01H	B7 2D01H	6
		2	B7 2B02H	B7 2C02H	B7 2D02H	6
		3	B7 2B03H	B7 2C03H	B7 2D03H	6
		4	B7 2B04H	B7 2C04H	B7 2D04H	6
		6	B7 2B06H	B7 2C06H	B7 2D06H	6
		10	B7 2B10H	B7 2C10H	B7 2D10H	6
		16	B7 2B16H	B7 2C16H	B7 2D16H	6
		20	B7 2B20H	B7 2C20H	B7 2D20H	6
		25	B7 2B25H	B7 2C25H	B7 2D25H	6
		32	B7 2B32H	B7 2C32H	B7 2D32H	6
		40	B7 2B40H	B7 2C40H	B7 2D40H	6
		50	B7 2B50H	B7 2C50H	B7 2D50H	6
		63	B7 2B63H	B7 2C63H	B7 2D63H	6
	3	1	B7 3B01H	B7 3C01H	B7 3D01H	4
		2	B7 3B02H	B7 3C02H	B7 3D02H	4
		3	B7 3B03H	B7 3C03H	B7 3D03H	4
		4	B7 3B04H	B7 3C04H	B7 3D04H	4
		6	B7 3B06H	B7 3C06H	B7 3D06H	4
		10	B7 3B10H	B7 3C10H	B7 3D10H	4
		16	B7 3B16H	B7 3C16H	B7 3D16H	4
		20	B7 3B20H	B7 3C20H	B7 3D20H	4
		25	B7 3B25H	B7 3C25H	B7 3D25H	4
		32	B7 3B32H	B7 3C32H	B7 3D32H	4
		40	B7 3B40H	B7 3C40H	B7 3D40H	4
		50	B7 3B50H	B7 3C50H	B7 3D50H	4
		63	B7 3B63H	B7 3C63H	B7 3D63H	4
	4	1	B7 4B01H	B7 4C01H	B7 4D01H	3
		2	B7 4B02H	B7 4C02H	B7 4D02H	3
		3	B7 4B03H	B7 4C03H	B7 4D03H	3
		4	B7 4B04H	B7 4C04H	B7 4D04H	3
		6	B7 4B06H	B7 4C06H	B7 4D06H	3
		10	B7 4B10H	B7 4C10H	B7 4D10H	3
		16	B7 4B16H	B7 4C16H	B7 4D16H	3
		20	B7 4B20H	B7 4C20H	B7 4D20H	3
		25	B7 4B25H	B7 4C25H	B7 4D25H	3
		32	B7 4B32H	B7 4C32H	B7 4D32H	3
		40	B7 4B40H	B7 4C40H	B7 4D40H	3
		50	B7 4B50H	B7 4C50H	B7 4D50H	3
		63	B7 4B63H	B7 4C63H	B7 4D63H	3

Miniature Circuit Breakers
3SB7-63 Series

■ Tripping characteristic curves

IEC 60898-1 Standard



Magnetic release

An electromagnet with plunger ensures instantaneous tripping in case of short circuit. The IEC 60898-1 distinguishes three different types, following the current for instantaneous release: type B, C, D

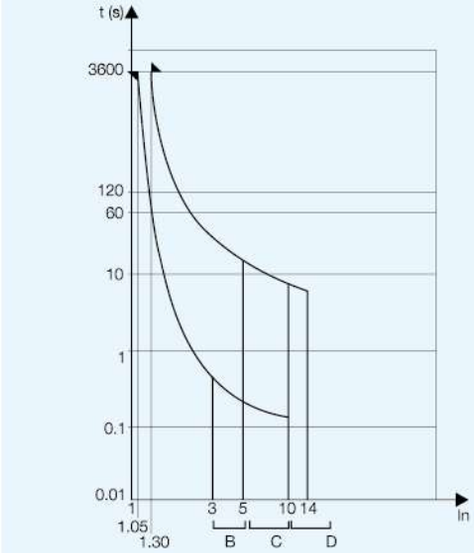
	Test current	Inital condition	Limits of tripping or non-tripping time	Result to be obtained
B	3 In	Cold	t ≤ 0.1 s	No Tripping
C	5 In			
D	10 In			
B	5 In	Cold	t < 0.1 s	Tripping
C	10 In			
D	20 In			

Thermal release

- The release is initiated by a bimetal strip in case of overload
- The standard defines the range of release for specific overload values
- Reference ambient temperature is 30 °C

Test	Test current	Inital condition	Limits of tripping or non-tripping time	Result to be obtained
a	1.13 In	Cold	t ≤ 1 h (In ≤ 63 A)	No Tripping
b	1.45 In	Immediately follwing test a	t < 1 h (In ≤ 63 A)	Tripping
c	2.55 In	Cold	1 s < t < 60 s (In ≤ 32 A) 1 s < t < 120 s (In > 32 A)	Tripping

IEC 60947-2 Standard



Magnetic release

- An electromagnet with plunger ensures instantaneous tripping in case of short circuit.
- The standard leaves the calibration of magnetic release to manufacturer's decision.
- SASSIN MCB series 3SB71-63 offers instantaneous tripping ranges
  - release B: 4 In
  - release C: 8 In
  - release D: 12 In

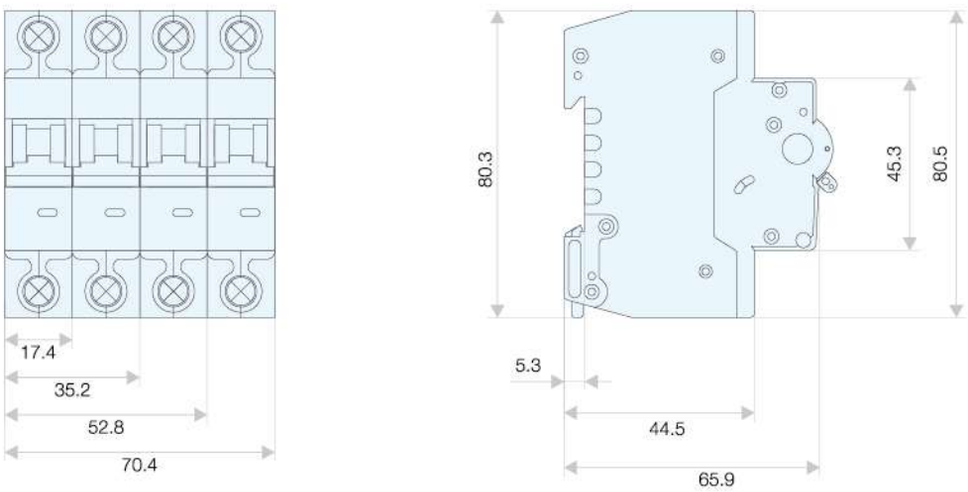
Thermal release

- The release is initiated by a bimetal strip in case of overload.
- The standard defines the range of release for two specific overload values.
- Reference ambient temperature is 30 °C.

Test	Test current	Inital condition	Limits of tripping or non-tripping time	Result to be obtained
a	1.05 In	Cold	t ≥ 1 h (In ≤ 63 A) t ≥ 2 h (In > 63 A)	No Tripping
b	1.30 In	Immediately follwing test a	t < 1 h (In ≤ 63 A) t < 2 h (In > 63 A)	Tripping

■ Outline and installation dimensions

unit in mm



Surge Protective Devices
3SU6 Series

Functions

- Types 2 surge arresters
- Handling energy from distant / indirect lightning strikes or from switching operations
- Feature lower protection level (Up)
- Recommended at the incoming of installation for locations with no exposure to direct lightning impulses



Technical specifications

Type		3SU6-20				3SU6-40				3SU6-60		3SU6-80	
Standard		IEC/EN 61643-11											
Type/Test class		2 / II											
Number of poles		1P, 2P, 3P, 4P, 1P+N, 3P+N											
Type of current		AC											
Frequency	Hz	50/60											
Max. discharge current (8/20μs) Imax	kA	10	10	10	10	20	20	20	20	30	30	40	40
Norminal discharge current (8/20μs) In	kA	20	20	20	20	40	40	40	40	60	60	80	80
Max. Cont. operating voltage Uc	V AC	275	320	385	440	275	320	385	440	385	440	385	440
Voltage protection level [L-PE] Up	kV	1.3	1.4	1.6	1.8	1.4	1.5	1.8	2.2	2.2	2.5	2.5	3.0
Response time	ns	< 25											
Degree of protection		IP20											
Pluggable cartridge		√											
State indicator		√											
Remote signal contact		√											
Remote communication connection		14 11: NO, 11 12: NC											
Mounting DIN rail		35 mm											
Solid and stranded	mm^2	2 ... 35											
Finely stranded with end sleeve	mm^2	2 ... 25											
Terminal tightening torque	N·m	2.8											
Flame retardant grade		V0											
Ambient temperature	°C	-25 ~ 70, max. 95% humidity											
Storage temperature	°C	-40 ~ 75											

Surge Protective Devices
3SU6 Series

Selection and ordering data

Auxiliary contact	Number of poles	Max. Cont. operating voltage Uc (V)	Max. discharge current Imax (8/20) per pole (kA)	Nominal discharge current In (8/20) per pole (kA)	Voltage protection level Up (kV)	Type code	Order code
without	1P	275	20	10	1.3	U6 10D1/275	
			40	20	1.4	U6 20D1/275	
		320	20	10	1.4	U6 10D1/320	
			40	20	1.5	U6 20D1/320	
		385	20	10	1.6	U6 10D1/385	
			40	20	1.8	U6 20D1/385	
			60	30	2.2	U6 30C1/385	
			80	40	2.5	U6 40C1/385	
		440	20	10	1.8	U6 10D1/440	
			40	20	2.2	U6 20D1/440	
			60	30	2.5	U6 30C1/440	
			80	40	2.5	U6 40C1/440	
with	1P	275	20	10	1.3	U6C 10D1/275	
			40	20	1.4	U6C 20D1/275	
		320	20	10	1.4	U6C 10D1/320	
			40	20	1.5	U6C 20D1/320	
		385	20	10	1.6	U6C 10D1/385	
			40	20	1.8	U6C 20D1/385	
			60	30	2.2	U6C 30C1/385	
			80	40	2.5	U6C 40C1/385	
		440	20	10	1.6	U6C 10D1/440	
			40	20	1.8	U6C 20D1/440	
			60	30	2.2	U6C 30C1/440	
			80	40	3.0	U6C 40C1/440	
without	1+NPE	275	20	10	1.3	U6 10D1N/275	
			40	20	1.4	U6 20D1N/275	
		320	20	10	1.4	U6 10D1N/320	
			40	20	1.5	U6 20D1N/320	
		385	20	10	1.6	U6 10D1N/385	
			40	20	1.8	U6 20D1N/385	
			60	30	2.2	U6 30C1N/385	
			80	40	2.5	U6 40C1N/385	
		440	20	10	1.6	U6 10D1N/440	
			40	20	1.8	U6 20D1N/440	
			60	30	2.2	U6 30C1N/440	
			80	40	3.0	U6 40C1N/440	
without	2P	275	20	10	1.3	U6 10D2/275	
			40	20	1.4	U6 20D2/275	
		320	20	10	1.4	U6 10D2/320	
			40	20	1.5	U6 20D2/320	
		385	20	10	1.6	U6 10D2/385	
			40	20	1.8	U6 20D2/385	
			60	30	2.2	U6 30C2/385	
			80	40	2.5	U6 40C2/385	
		440	20	10	1.6	U6 10D2/440	
			40	20	1.8	U6 20D2/440	
			60	30	2.2	U6 30C2/440	
			80	40	3.0	U6 40C2/440	
with	2P	275	20	10	1.3	U6C 10D2/275	
			40	20	1.4	U6C 20D2/275	
		320	20	10	1.4	U6C 10D2/320	
			40	20	1.5	U6C 20D2/320	
		385	20	10	1.6	U6C 10D2/385	
			40	20	1.8	U6C 20D2/385	
			60	30	2.2	U6C 30C2/385	
			80	40	2.5	U6C 40C2/385	
		440	20	10	1.6	U6C 10D2/440	
			40	20	1.8	U6C 20D2/440	
			60	30	2.2	U6C 30C2/440	
			80	40	3.0	U6C 40C2/440	

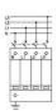






Surge Protective Devices
3SU6 Series

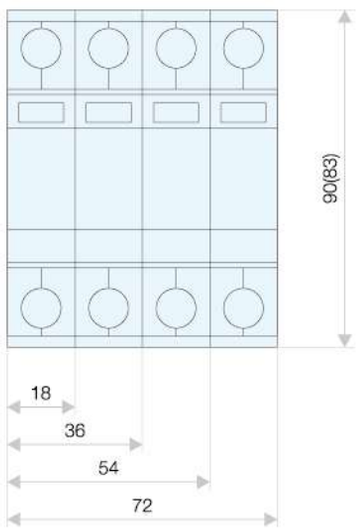
■ Selection and ordering data

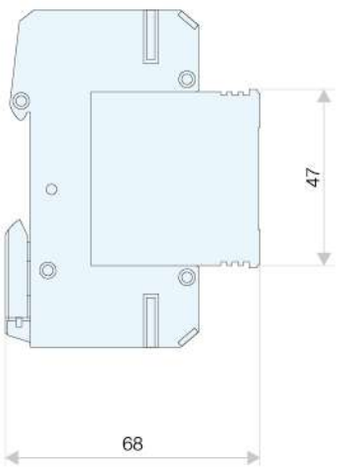
	Auxiliary contact	Number of poles	Max. Cont. operating voltage Uc (V)	Max. discharge current Imax (8/20) per pole (kA)	Nominal discharge current In (8/20) per pole (kA)	Voltage protection level Up (kV)	Type code	Order code
	without	3P	275	20	10	1.3	U6 10D3/275	
				40	20	1.4	U6 20D3/275	
			320	20	10	1.4	U6 10D3/320	
				40	20	1.5	U6 20D3/320	
			385	20	10	1.6	U6 10D3/385	
				40	20	1.8	U6 20D3/385	
				60	30	2.2	U6 30C3/385	
				80	40	2.5	U6 40C3/385	
			440	20	10	1.6	U6 10D3/440	
				40	20	1.8	U6 20D3/440	
				60	30	2.2	U6 30C3/440	
				80	40	3.0	U6 40C3/440	
	with	3P	275	20	10	1.3	U6C 10D3/275	
				40	20	1.4	U6C 20D3/275	
			320	20	10	1.4	U6C 10D3/320	
				40	20	1.5	U6C 20D3/320	
			385	20	10	1.6	U6C 10D3/385	
				40	20	1.8	U6C 20D3/385	
				60	30	2.2	U6C 30C3/385	
				80	40	2.5	U6C 40C3/385	
			440	20	10	1.6	U6C 10D3/440	
				40	20	1.8	U6C 20D3/440	
				60	30	2.2	U6C 30C3/440	
				80	40	3.0	U6C 40C3/440	
	without	3+NPE	275	20	10	1.3	U6 10D3N/275	
				40	20	1.4	U6 20D3N/275	
			320	20	10	1.4	U6 10D3N/320	
				40	20	1.5	U6 20D3N/320	
			385	20	10	1.6	U6 10D3N/385	
				40	20	1.8	U6 20D3N/385	
				60	30	2.2	U6 30C3N/385	
				80	40	2.5	U6 40C3N/385	
			440	20	10	1.6	U6 10D3N/440	
				40	20	1.8	U6 20D3N/440	
				60	30	2.2	U6 30C3N/440	
				80	40	3.0	U6 40C3N/440	
	without	4P	275	20	10	1.3	U6 10D4/275	
				40	20	1.4	U6 20D4/275	
			320	20	10	1.4	U6 10D4/320	
				40	20	1.5	U6 20D4/320	
			385	20	10	1.6	U6 10D4/385	
				40	20	1.8	U6 20D4/385	
				60	30	2.2	U6 30C4/385	
				80	40	2.5	U6 40C4/385	
			440	20	10	1.6	U6 10D4/440	
				40	20	1.8	U6 20D4/440	
				60	30	2.2	U6 30C4/440	
				80	40	3.0	U6 40C4/440	
	with	4P	275	20	10	1.3	U6C 10D4275	
				40	20	1.4	U6C 20D4/275	
			320	20	10	1.4	U6C 10D4320	
				40	20	1.5	U6C 20D4/320	
			385	20	10	1.6	U6C 10D4/385	
				40	20	1.8	U6C 20D4/385	
				60	30	2.2	U6C 30C4/385	
				80	40	2.5	U6C 40C4/385	
			440	20	10	1.6	U6C 10D4/440	
				40	20	1.8	U6C 20D4/440	
				60	30	2.2	U6C 30C4/440	
				80	40	3.0	U6C 40C4/440	

Surge Protective Devices
3SU6 Series

■ Outline and installation dimensions

unit in mm





Waterproof Distribution Box
3SHK Series

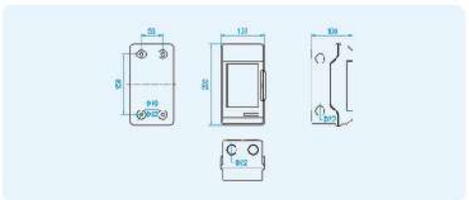
Product Overview

- Suitable for waterproof, dustproof, anti-corrosion and other special occasions
- Protection level: IP65



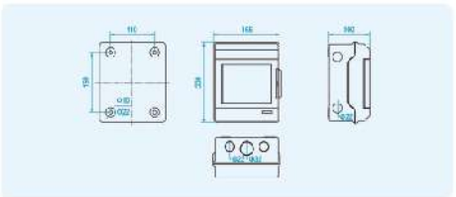
Order Code:3SHK-04
107x202x100





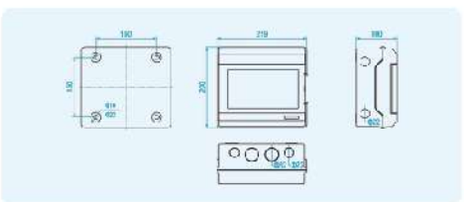
Order Code:3SHK-06
165x200x100





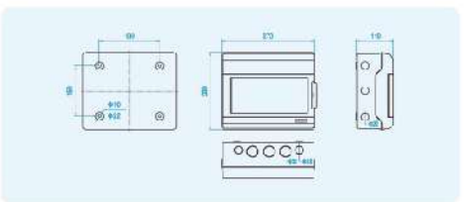
Order Code:3SHK-09
219x200x100





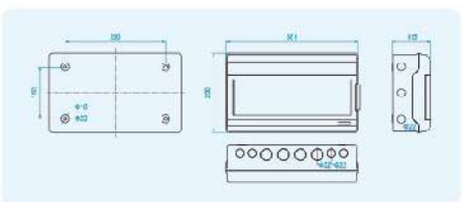
Order Code:3SHK-12
273x230x110





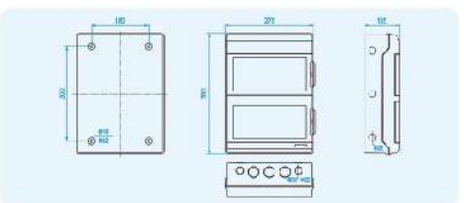
Order Code:3SHK-18
318x230x115





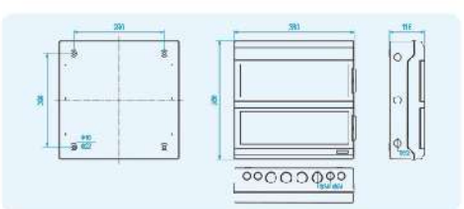
Order Code:3SHK-24
275x380x115





Order Code:3SHK-36
380x380x116





Automatic Transfer Switches
3SAQ4-63 Series

Features

- Used for AC systems with rated current 6-63A, 50/60Hz
- Conversion time <1s, contact conversion time <20ms
- High breaking capacity, rapid arc extinguishing
- Dual mounting ways: rail, screw

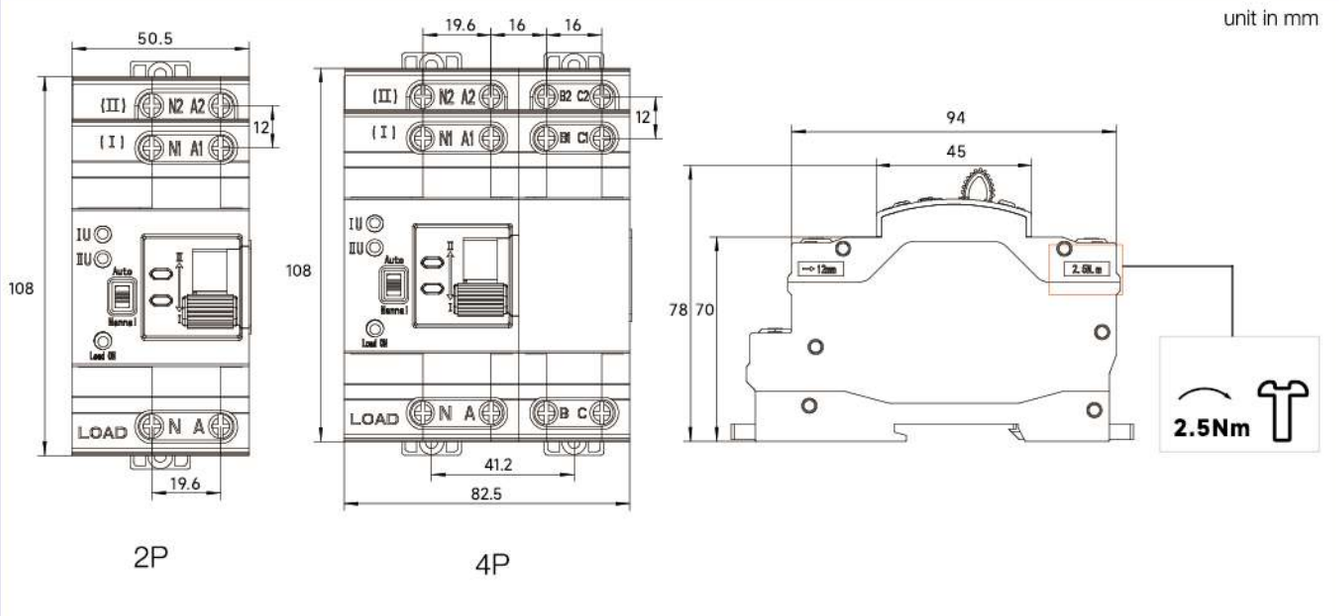


Technical Specifications

Standard	IEC 60947-6-1
Current frame (A)	63A
Rated operating current (A)	6, 10, 16, 20, 25, 32, 40, 50, 63
Number of poles (P)	2,4
Rated insulation voltage Ui (V AC)	690
Rated voltage Ue (V AC)	220V
Use category	AC-31
Class	PC
Rated short-circuit current Iq (Ka)	5
Rated impulse withstand voltage Uimp (kV)	8
Short circuit protection device (fuse)	RT16-00-63A
Normal working conditions	85%Us-110%Us
Overvoltage protection range (V)	260
Undervoltage protection range (V)	175
Electrical life (times)	1500
Mechanical life(times)	8000
Degree of protection	IP30
Ambient temperature	-25~ 55°C, max. 90% humidity
Altitude(Max.)	2000 m

Outline and installation dimensions

unit in mm



Automatic Transfer Switches
3SAQ5 Series

Features

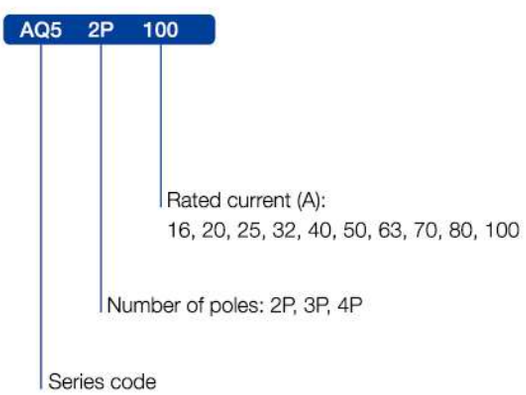
- Easily meet the power needs of various household appliances and industrial equipment
- Single device with two switching modes: PV/backup power, mains/backup power
- Easy wiring and easy installation



Technical specifications

- Standard: IEC 60947-3, IEC 60947-6-1
- Current frame (A): 100
- Rated operating current (A): 16, 20, 25, 32, 40, 50, 63, 70, 80, 100
- Number of poles (P): 2, 3, 4
- Rated insulation voltage Ui (V AC): 690
- Rated volage Ue (V AC): 400
- Use category: AC-33iB
- Rated conditional short-circuit current Iq (kA): 50
- SCPD (fuse): RT16-00-100A
- Rated impulse withstand voltage (kA): 8
- Rated control voltage Us: AC 220V, 50/60 Hz
- Correct working condition 85% Us ~ 110% Us
- Auxiliary circuit: AC 220V/AC 110V 50/60 Hz
- Contact transfer time (ms): < 50
- Operating transfer time (ms): < 50
- Return transfer time (ms): < 50
- Off time (ms): < 50
- Electrical life (times): 2000
- Mechanical life (times): 5000
- Degree of protection: IP20
- Ambient temperature: -5 ~ 40 °C, max. 95% humidity
- Altitude (Max.): 2000 m

Instruction of type code



Automatic Transfer Switches

3SAQ5 Series

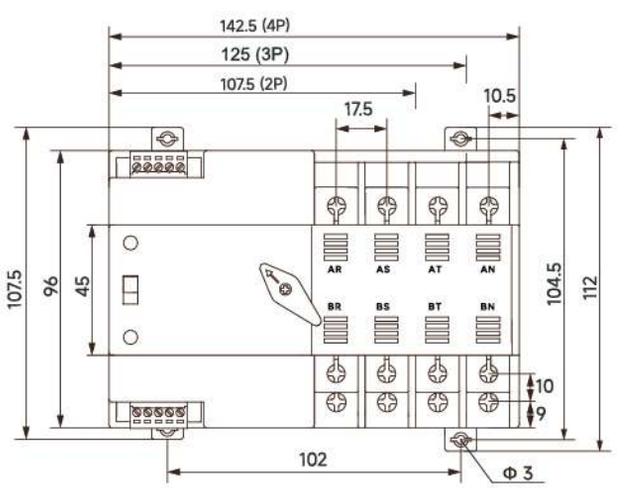
■ Features

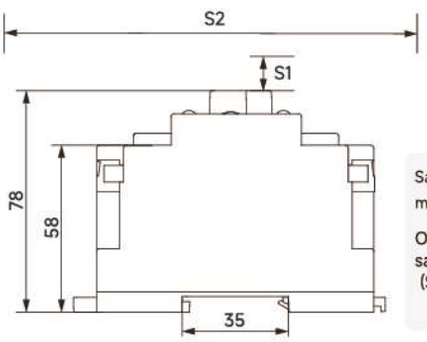


Poles (P)	Rated current (A)	NG Type code	Order code
2	16	AQ5 2P16	-
	20	AQ5 2P20	-
	25	AQ5 2P25	-
	32	AQ5 2P32	-
	40	AQ5 2P40	-
	50	AQ5 2P50	-
	63	AQ5 2P63	-
	70	AQ5 2P70	-
	80	AQ5 2P80	-
	100	AQ5 2P100	-
3	16	AQ5 3P16	-
	20	AQ5 3P20	-
	25	AQ5 3P25	-
	32	AQ5 3P32	-
	40	AQ5 3P40	-
	50	AQ5 3P50	-
	63	AQ5 3P63	-
	70	AQ5 3P70	-
	80	AQ5 3P80	-
	100	AQ5 3P100	-
4	16	AQ5 4P16	-
	20	AQ5 4P20	-
	25	AQ5 4P25	-
	32	AQ5 4P32	-
	40	AQ5 4P40	-
	50	AQ5 4P50	-
	63	AQ5 4P63	-
	70	AQ5 4P70	-
	80	AQ5 4P80	-
	100	AQ5 4P100	-

■ Outline and installation dimensions

unit in mm



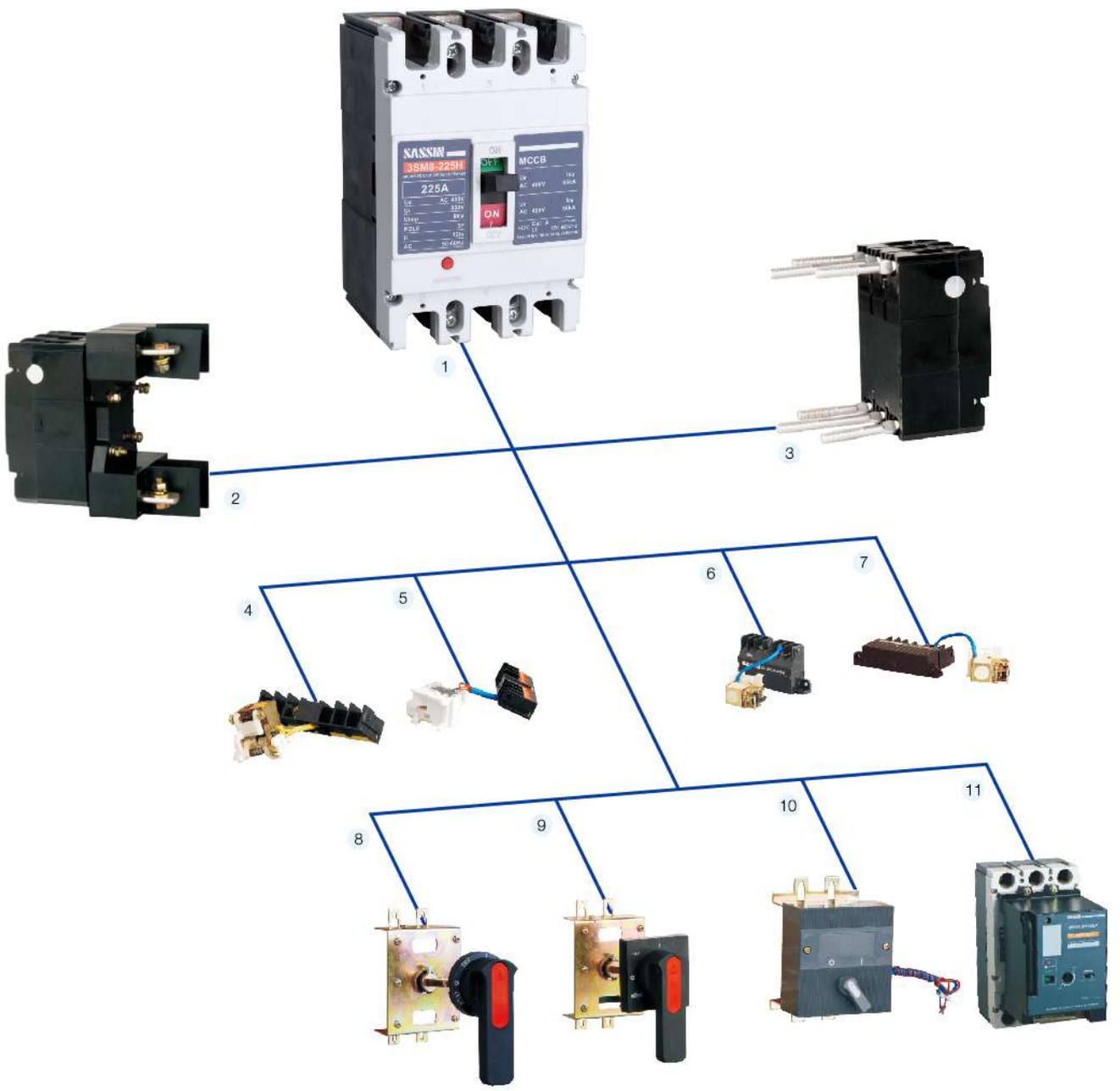


Safety distance S1: ≥30 mm S2: ≥208 mm

Observe the required safety clearances (S1, S2).

Moulded Case Circuit Breakers
3SM8 Series

■ Overview



3SM8 series product overview

1	Body	5	Alarm contact	9	Rotary handle operating mechanism
2	Plug-in connection	6	Shunt release	10	Electromagnetic operating mechanism
3	Rear panel connection	7	Under-voltage release	11	Electric motor operating mechanism
4	Auxiliary contact	8	Rotary handle operating mechanism		

Moulded Case Circuit Breakers
3SM8 Series

Applications and functions

- Incoming and outgoing function in distribution systems
- Switching and protection devices for motors, transformers and capacitors
- Disconnect or units with features for stopping and switching off in emergency mechanisms and terminal covers in conjunction with likeable rotary operating
- Available in the following versions
  - Power protection: the overload and short-circuit releases are designed for the protection of cables, leads and non-motor loads
  - Motor protection: the overload and short-circuit releases are designed for optimized protection and direct-on-line starting of induction squirrel-cage motors. The circuit breakers for motor protection are susceptible to phase failure and feature an adjustable trip class



Instruction of type code

M8 A 3 P 400 L

- Series code: M8
- Frame: A
  - A: 3SM8-63; B: 3SM8-100; C: 3SM8-225
  - D: 3SM8-400; E: 3SM8-630; F: 3SM8-800
- Poles (P): 3
  - 1: 1P; 2: 2P; 3: 3P; 4: 4P
- Protection type: P
  - P: Power protection
  - M: Motor protection
- Rated current (A): 400
  - 10, 16, 20, 25, 32, 40, 50, 63 (Frame A)
  - 16, 20, 25, 32, 40, 50, 63, 80, 100, 125 (Frame B)
  - 100, 125, 160, 180, 200, 225, 250 (Frame C)
  - 225, 250, 315, 350, 400 (Frame D)
  - 400, 500, 630 (Frame E)
  - 630, 700, 800 (Frame F)
- Breaking capacity: L
  - L: Standard breaking capacity
  - M: Middle breaking capacity
  - H: High breaking capacity

- There is no frame E and F for motor protection.
- Only M type (medium breaking capacity type) has 4 poles:
  - 4A: N-pole fixed without over-current release unit, it has been connected all along, and does not act with other three poles to turn on or off.
  - 4B: N-pole fixed without over-current release unit, it acts with other three poles.
  - 4C: N-pole fixed with over-current release unit, it acts with other three poles.
  - 4D: N-pole fixed with over-current release unit, it has been all along, and does not act with other three poles to turn on or off.

Moulded Case Circuit Breakers
3SM8 Series

■ Technical Specifications

Type	3SM8-63		3SM8-100			3SM8-225			3SM8-400			3SM8-630			3SM8-800	
Standards	IEC 60947-2		IEC 60947-2			IEC 60947-2			IEC 60947-2			IEC 60947-2			IEC 60947-2	
Frame type	A		B			C			D			E			F	
Class of breaking capacity	L	M	L	M	H	L	M	H	L	M	H	L	M	H	M	H
Number of poles (P)	3	3, 4	1, 2, 3	2, 3, 4	3	1, 2, 3	2, 3, 4	3	3	3, 4	3	3	3, 4	3	3, 4	3
Frame current Inm (A)	63		100			225			400			630			800	
Rated current In (A)	10, 16, 20, 25, 32, 40, 50, 63		16, 20, 25, 32, 40, 50, 63, 80,100, 125			100, 125, 160, 180, 200, 225, 250			225, 250, 315, 350, 400			400, 500, 630			630, 700, 800	
Rated insulating voltage Ui (V)	500		800			800			800			800			800	
Rated operating voltage, Ue (V)	400		400	690	400	400	690	400	400	690	400	400	690	400	690	400
Rated frequency (Hz)	50/60		50/60			50/60			50/60			50/60			50/60	
Rated impulsed withstand voltage, Uimp (kV)	6		8			8			8			8			8	
Rated ultimate short-circuit breaking capacity, Icu																
(AC) 50-60 Hz 230 V O-CO (kA) (1P)	-	-	35	50	-	35	50	-	-	-	-	-	-	-	-	-
(AC) 50-60 Hz 400 V O-CO (kA)	25	50	35	50	85	35	50	85	50	65	100	50	65	100	65	100
(AC) 50-60 Hz 690 V O-CO (kA)	-	-	-	20	-	-	20	-	-	20	-	-	20	-	20	-
Rated operating short-circuit breaking capacity, Ics																
(AC) 50-60 Hz 230 V O-CO-CO (kA) (1P)	-	-	22	35	-	22	35	-	-	-	-	-	-	-	-	-
(AC) 50-60 Hz 400 V O-CO-CO (kA)	18	35	22	35	50	22	35	50	35	42	65	35	42	65	42	65
(AC) 50-60 Hz 690 V O-CO-CO (kA)	-	-	-	10	-	-	10	-	-	10	-	-	10	-	15	-
Mechanical life (times)	20000		20000			20000			10000			10000			8000	
Electrical life (times)	10000		10000			10000			8000			8000			5000	
Flashover distance (mm)	≤ 50		≤ 50			≤ 50			≤ 50			≤ 100			≤ 100	
Thermal magnetic release	■		■			■			■			■			■	
Electronic release	-		-			-			-			-			-	
Utilization category (IEC 60947-2)	A		A			A			A			A			A	
Under-voltage release	■		■			■			■			■			■	
Shunt-release	■		■			■			■			■			■	
Auxiliary contact	■		■			■			■			■			■	
Alarm Contact	■		■			■			■			■			■	
Weight	-		-			-			-			-			-	
Ambient temperature	-5 to +40 °C, max. 95% humidity															
Storage temperature	-40 to +75 °C															
Altitude (Max)	2000 m															

Moulded Case Circuit Breakers
3SM8 Series

■ Selection and ordering data

	Breaking capacity at 400 V AC	Number of poles (P)	Rated current In (A)	Power distribution		Motor protection	
				Type code	Order code	Type code	Order code
	For 4 poles, please complete the code by adding N-pole code.						
Frame A 3SM8-63	L 25 kA	3	10	M8A 3P10L	**35290**	M8A 3M10L	**35291**
			16	M8A 3P16L	**25016**	M8A 3M16L	**10139**
			20	M8A 3P20L	**25017**	M8A 3M20L	**10140**
			25	M8A 3P25L	**25018**	M8A 3M25L	**10141**
			32	M8A 3P32L	**25019**	M8A 3M32L	**10142**
			40	M8A 3P40L	**25020**	M8A 3M40L	**10143**
			50	M8A 3P50L	**25021**	M8A 3M50L	**10144**
			63	M8A 3P63L	**25022**	M8A 3M63L	**10145**
	M 50 kA	3	10	M8A 3P10M	**35292**	M8A 3M10M	**35293**
			16	M8A 3P16M	**25025**	M8A 3M16M	**10148**
			20	M8A 3P20M	**25026**	M8A 3M20M	**10149**
			25	M8A 3P25M	**25027**	M8A 3M25M	**10150**
			32	M8A 3P32M	**25028**	M8A 3M32M	**10151**
			40	M8A 3P40M	**25029**	M8A 3M40M	**10152**
			50	M8A 3P50M	**25030**	M8A 3M50M	**10153**
			63	M8A 3P63M	**25031**	M8A 3M63M	**10154**
		4	10	M8A 4*P10M	**35294**	M8A 4*M10M	**35295**
			16	M8A 4*P16M	**25034***	M8A 4*M16M	**10157***
			20	M8A 4*P20M	**25035***	M8A 4*M20M	**10158***
			25	M8A 4*P25M	**25036***	M8A 4*M25M	**10159***
			32	M8A 4*P32M	**25037***	M8A 4*M32M	**10160***
			40	M8A 4*P40M	**25038***	M8A 4*M40M	**10161***
			50	M8A 4*P50M	**25039***	M8A 4*M50M	**10162***
			63	M8A 4*P63M	**25040***	M8A 4*M63M	**10163***
Frame B 3SM8-100	L 35 kA	1	16	M8B 1P16L	**13579**	M8B 1M16L	**38227**
			20	M8B 1P20L	**13580**	M8B 1M20L	**38228**
			25	M8B 1P25L	**13581**	M8B 1M25L	**38229**
			32	M8B 1P32L	**13582**	M8B 1M32L	**38230**
			40	M8B 1P40L	**13583**	M8B 1M40L	**38231**
			50	M8B 1P50L	**13584**	M8B 1M50L	**38232**
			63	M8B 1P63L	**13585**	M8B 1M63L	**38233**
			80	M8B 1P80L	**13586**	M8B 1M80L	**38234**
			100	M8B 1P100L	**13587**	M8B 1M100L	**38235**
			125	M8B 1P125L	**13588**	M8B 1M125L	**38236**
		2	16	M8B 2P16L	**13596**	M8B 2M16L	**38237**
			20	M8B 2P20L	**13597**	M8B 2M20L	**38238**
			25	M8B 2P25L	**13598**	M8B 2M25L	**38239**
			32	M8B 2P32L	**13599**	M8B 2M32L	**38240**
			40	M8B 2P40L	**13600**	M8B 2M40L	**38241**
			50	M8B 2P50L	**13601**	M8B 2M50L	**38242**
			63	M8B 2P63L	**13602**	M8B 2M63L	**38243**
			80	M8B 2P80L	**13603**	M8B 2M80L	**38244**
			100	M8B 2P100L	**13604**	M8B 2M100L	**38245**
			125	M8B 2P125L	**13605**	M8B 2M125L	**38246**
		3	16	M8B 3P016L	**25041**	M8B 3M016L	**10164**
			20	M8B 3P020L	**25042**	M8B 3M020L	**10165**
			25	M8B 3P025L	**25043**	M8B 3M025L	**10166**
			32	M8B 3P032L	**25044**	M8B 3M032L	**10167**
			40	M8B 3P040L	**25045**	M8B 3M040L	**10168**
			50	M8B 3P050L	**25046**	M8B 3M050L	**10169**
			63	M8B 3P063L	**25047**	M8B 3M063L	**10170**
			80	M8B 3P080L	**25048**	M8B 3M080L	**10171**
			100	M8B 3P100L	**25049**	M8B 3M100L	**10172**
			125	M8B 3P125L	**38247**	M8B 3M125L	**38248**

Moulded Case Circuit Breakers
3SM8 Series

Selection and ordering data

	Breaking capacity at 400 V AC	Number of poles (P)	Rated current In (A)	Power distribution Type code	Power distribution Order code	Motor protection Type code	Motor protection Order code
	For 4 poles, please complete the code by adding N-pole code.						
Frame B	M	2	16	M8B 2P16M	**35280**	M8B 2M16M	**35281**
3SM8-100	50 kA		20	M8B 2P20M	**38249**	M8B 2M20M	**38260**
			25	M8B 2P25M	**38250**	M8B 2M25M	**38261**
			32	M8B 2P32M	**38251**	M8B 2M32M	**38262**
			40	M8B 2P40M	**38252**	M8B 2M40M	**38263**
			50	M8B 2P50M	**38253**	M8B 2M50M	**38264**
			63	M8B 2P63M	**38254**	M8B 2M63M	**38265**
			80	M8B 2P80M	**38255**	M8B 2M80M	**38266**
			100	M8B 2P100M	**38256**	M8B 2M100M	**38267**
			125	M8B 2P125M	**38257**	M8B 2M125M	**38268**
		3	16	M8B 3P16M	**25050**	M8B 3M16M	**10173**
			20	M8B 3P20M	**25051**	M8B 3M20M	**10174**
			25	M8B 3P25M	**25052**	M8B 3M25M	**10175**
			32	M8B 3P32M	**25053**	M8B 3M32M	**10176**
			40	M8B 3P40M	**25054**	M8B 3M40M	**10177**
			50	M8B 3P50M	**25055**	M8B 3M50M	**10178**
			63	M8B 3P63M	**25056**	M8B 3M63M	**10179**
			80	M8B 3P80M	**25057**	M8B 3M80M	**10180**
			100	M8B 3P100M	**25058**	M8B 3M100M	**10181**
			125	M8B 3P125M	**38258**	M8B 3M125M	**38269**
		4	16	M8B 4*P16M	**25059***	M8B 4*M16M	**10182***
			20	M8B 4*P20M	**25060***	M8B 4*M20M	**10183***
			25	M8B 4*P25M	**25061***	M8B 4*M25M	**10184***
			32	M8B 4*P32M	**25062***	M8B 4*M32M	**10185***
			40	M8B 4*P40M	**25063***	M8B 4*M40M	**10186***
			50	M8B 4*P50M	**25064***	M8B 4*M50M	**10187***
			63	M8B 4*P63M	**25065***	M8B 4*M63M	**10188***
			80	M8B 4*P80M	**25066***	M8B 4*M80M	**10189***
			100	M8B 4*P100M	**25067***	M8B 4*M100M	**10190***
			125	M8B 4P125M	**38259**	M8B 4M125M	**38270**
	H	3	16	M8B 3P020H	**25068**	M8B 3M016H	**10191**
	85 kA		20	M8B 3P016H	**25069**	M8B 3M020H	**10192**
			25	M8B 3P025H	**25070**	M8B 3M025H	**10193**
			32	M8B 3P032H	**25071**	M8B 3M032H	**10194**
			40	M8B 3P040H	**25072**	M8B 3M040H	**10195**
			50	M8B 3P050H	**25073**	M8B 3M050H	**10196**
			63	M8B 3P063H	**25074**	M8B 3M063H	**10197**
			80	M8B 3P080H	**25075**	M8B 3M080H	**10198**
			100	M8B 3P100H	**25076**	M8B 3M100H	**10199**
			125	M8B 3P125H	**38271**	M8B 3M125H	**38272**



Moulded Case Circuit Breakers
3SM8 Series

■ Selection and ordering data

	Breaking capacity at 400 V AC	Number of poles (P)	Rated current In (A)	Power distribution		Motor protection	
				Type code	Order code	Type code	Order code
	For 4 poles, please complete the code by adding N-pole code.						
Frame C 3SM8-225	L 35 kA	1	100	M8C 1P100L	**35282**	M8C 1M100L	**35283**
			125	M8C 1P125L	**13589**	M8C 1M125L	**38273**
			140	M8C 1P140L	**13590**	M8C 1M140L	**38274**
			160	M8C 1P160L	**13591**	M8C 1M160L	**38275**
			180	M8C 1P180L	**13592**	M8C 1M180L	**38276**
			200	M8C 1P200L	**13593**	M8C 1M200L	**38277**
			225	M8C 1P225L	**13594**	M8C 1M225L	**38278**
			250	M8C 1P250L	**13595**	M8C 1M250L	**38279**
		2	100	M8C 2P100L	**35284**	M8C 2M100L	**35285**
			125	M8C 2P125L	**13606**	M8C 2M125L	**38280**
			140	M8C 2P140L	**13607**	M8C 2M140L	**38281**
			160	M8C 2P160L	**13608**	M8C 2M160L	**38282**
			180	M8C 2P180L	**13609**	M8C 2M180L	**38283**
			200	M8C 2P200L	**13610**	M8C 2M200L	**38284**
			225	M8C 2P225L	**13611**	M8C 2M225L	**38285**
			250	M8C 2P250L	**13612**	M8C 2M250L	**38286**
		3	100	M8C 3P100L	**25077**	M8C 3M100L	**10200**
			125	M8C 3P125L	**25078**	M8C 3M125L	**10201**
			160	M8C 3P160L	**25079**	M8C 3M160L	**10202**
			180	M8C 3P180L	**25080**	M8C 3M180L	**10203**
			200	M8C 3P200L	**25081**	M8C 3M200L	**10204**
			225	M8C 3P225L	**25082**	M8C 3M225L	**10205**
			250	M8C 3P250L	**38287**	M8C 3M250L	**38288**
	M 50 kA	2	100	M8C 2P100M	**35286**	M8C 2M100M	**35287**
			125	M8C 2P125M	**38289**	M8C 2M125M	**38298**
			140	M8C 2P140M	**38290**	M8C 2M140M	**38299**
			160	M8C 2P160M	**38291**	M8C 2M160M	**38300**
			180	M8C 2P180M	**38292**	M8C 2M180M	**38301**
			200	M8C 2P200M	**38293**	M8C 2M200M	**38302**
			225	M8C 2P225M	**38294**	M8C 2M225M	**38303**
			250	M8C 2P250M	**38295**	M8C 2M250M	**38304**
		3	100	M8C 3P100M	**25083**	M8C 3M100M	**10206**
			125	M8C 3P125M	**25084**	M8C 3M125M	**10207**
			160	M8C 3P160M	**25085**	M8C 3M160M	**10208**
			180	M8C 3P180M	**25086**	M8C 3M180M	**10209**
			200	M8C 3P200M	**25087**	M8C 3M200M	**10210**
			225	M8C 3P225M	**25088**	M8C 3M225M	**10211**
			250	M8C 3P250M	**38297**	M8C 3M250M	**38305**
		4	100	M8C 4*P100M	**25089***	M8C 4*M100M	**10212***
			125	M8C 4*P125M	**25090***	M8C 4*M125M	**10213***
			160	M8C 4*P160M	**25091***	M8C 4*M160M	**10214***
			180	M8C 4*P180M	**25092***	M8C 4*M180M	**10215***
			200	M8C 4*P200M	**25093***	M8C 4*M200M	**10216***
			225	M8C 4*P225M	**25094***	M8C 4*M225M	**10217***
			250	M8C 4*P250M	**38297**	M8C 4*M250M	**38306**
	H 85 kA	3	100	M8C 3P100H	**25095**	M8C 3M100H	**10218**
			125	M8C 3P125H	**25096**	M8C 3M125H	**10219**
			160	M8C 3P160H	**25097**	M8C 3M160H	**10220**
			180	M8C 3P180H	**25098**	M8C 3M180H	**10221**
			200	M8C 3P200H	**25099**	M8C 3M200H	**10222**
			225	M8C 3P225H	**25100**	M8C 3M225H	**10223**
			250	M8C 3P250H	**38307**	M8C 3M250H	**38308**



Moulded Case Circuit Breakers
3SM8 Series

■ Selection and ordering data

	Breaking capacity at 400 V AC	Number of poles (P)	Rated current In (A)	Power distribution		Motor protection	
				Type code	Order code	Type code	Order code
	For 4 poles, please complete the code by adding N-pole code.						
Frame D 3SM8-400	L 50 kA	3	225	M8D 3P225L	**25101**	M8D 3M225L	**10224**
			250	M8D 3P250L	**25102**	M8D 3M250L	**10225**
			315	M8D 3P315L	**25103**	M8D 3M315L	**10226**
			350	M8D 3P350L	**25104**	M8D 3M350L	**10227**
			400	M8D 3P400L	**25105**	M8D 3M400L	**10228**
	M 65 kA	3	225	M8D 3P225M	**25106**	M8D 3M225M	**10229**
			250	M8D 3P250M	**25107**	M8D 3M250M	**10230**
			315	M8D 3P315M	**25108**	M8D 3M315M	**10231**
			350	M8D 3P350M	**25109**	M8D 3M350M	**10232**
			400	M8D 3P400M	**25110**	M8D 3M400M	**10233**
		4	225	M8D 4*P225M	**25111***	M8D 4*M225M	**10234***
			250	M8D 4*P250M	**25112***	M8D 4*M250M	**10235***
			315	M8D 4*P315M	**25113***	M8D 4*M315M	**10236***
			350	M8D 4*P350M	**25114***	M8D 4*M350M	**10237***
			400	M8D 4*P400M	**25115***	M8D 4*M400M	**10238***
	H 100 kA	3	225	M8D 3P225H	**25116**	M8D 3M225H	**10239**
			250	M8D 3P250H	**25117**	M8D 3M250H	**10240**
			315	M8D 3P315H	**25118**	M8D 3M315H	**10241**
			350	M8D 3P350H	**25119**	M8D 3M350H	**10242**
			400	M8D 3P400H	**25120**	M8D 3M400H	**10243**
Frame E 3SM8-630	L 50 kA	3	400	M8E 3P400L	**25121**	-	-
			500	M8E 3P500L	**25122**	-	-
			630	M8E 3P630L	**25123**	-	-
	M 65 kA	3	400	M8E 3P400M	**25124**	-	-
			500	M8E 3P500M	**25125**	-	-
			630	M8E 3P630M	**25126**	-	-
		4	400	M8E 4*P400M	**25127***	-	-
			500	M8E 4*P500M	**25128***	-	-
			630	M8E 4*P630M	**25129***	-	-
	H 100 kA	3	400	M8E 3P400H	**25130**	-	-
			500	M8E 3P500H	**25131**	-	-
			630	M8E 3P630H	**25132**	-	-
Frame F 3SM8-800	M 65 kA	3	630	M8F 3P630M	**25133**	-	-
			700	M8F 3P700M	**25134**	-	-
			800	M8F 3P800M	**25135**	-	-
		4	630	M8F 4*P630M	**25136***	-	-
			700	M8F 4*P700M	**25137***	-	-
			800	M8F 4*P800M	**25138***	-	-
	H 100 kA	3	630	M8F 3P630H	**25139**	-	-
			700	M8F 3P700H	**25140**	-	-
			800	M8F 3P800H	**25141**	-	-

Moulded Case Circuit Breakers
3SM8 Series

■ Motor driven mechanism

Function

- Used for opening and closing the circuit breaker remotely

Technical specifications

Model type	CD2	
Application	3SM8-63, 3SM8-100, 3SM8-225	3SM8-400, 3SM8-630, 3SM8-800
Rated control voltage	230 V AC, 400 V AC	230 V AC, 400 V AC
Operating current (A)	≤ 0.5	≤ 2
Mechanical life (times)	14000	5000
Moter power (W)	14	35

Selection and ordering data

Model	Aplication		Rated control voltage (V AC)	Type code	Order code
MD2	Frame A	3SM8-63	230 V AC	M8A EM230A	**25184**
			400 V AC	M8A EM400A	**25196**
	Frame B	3SM8-100	230 V AC	M8B EM230A	**25185**
			400 V AC	M8B EM400A	**25197**
	Frame C	3SM8-225	230 V AC	M8C EM230A	**25186**
			400 V AC	M8C EM400A	**25198**
	Frame D	3SM8-400	230 V AC	M8D EM230A	**25187**
			400 V AC	M8D EM400A	**25199**
	Frame E	3SM8-630	230 V AC	M8E EM230A	**25188**
			400 V AC	M8E EM400A	**25200**
	Frame F	3SM8-800	230 V AC	M8F EM230A	**25189**
			400 V AC	M8F EM400A	**25201**



Moulded Case Circuit Breakers
3SM8 Series

■ Rotary handle operation mechanism

Function

- Used for opening and closing the circuit breaker
- Used for rotating the circuit breaker, not pushing-pulling it upwards-downwards

Selection and ordering data

Installation	Operation device	Rotary handle	Suitable frame		Without interlock	
					Type code	Order code
In breaker	RM1F	Round type	Frame A	3SM8-63	M8A RM1F	**25202**
			Frame B	3SM8-100	M8B RM1F	**25203**
			Frame C	3SM8-225	M8C RM1F	**25204**
			Frame D	3SM8-400	M8D RM1F	**25205**
			Frame E	3SM8-630	M8E RM1F	**25206**
			Frame F	3SM8-800	M8F RM1F	**25207**
		Square type	Frame A	3SM8-63	M8A RM1A	**25208**
			Frame B	3SM8-100	M8B RM1A	**25209**
			Frame C	3SM8-225	M8C RM1A	**25210**
			Frame D	3SM8-400	M8D RM1A	**25211**
			Frame E	3SM8-630	M8E RM1A	**25212**
			Frame F	3SM8-800	M8F RM1A	**25213**

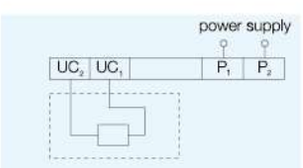


Accessories



- Under-voltage release

When voltage is 35 ~ 70 % of rated voltage, the under voltage release should make the breaker reliable operation.
When the voltage is more than 85 ~ 110 % of rated voltage, the under voltage release should make the breaker reliable operation.
When voltage is less than 35 % of rated voltage, the under voltage release should prevent breaker from making.

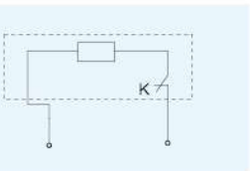


Frame		Rated voltage		
			Type code	Order code
A	3SM8-63	230V AC	M8A UR230A	**25154**
		400V AC	M8A UR400A	**25160**
B	3SM8-100	230V AC	M8B UR230A	**25155**
		400V AC	M8B UR400A	**25161**
C	3SM8-225	230V AC	M8C UR230A	**25156**
		400V AC	M8C UR400A	**25162**
D	3SM8-400	230V AC	M8D UR230A	**25157**
		400V AC	M8D UR400A	**25163**
E	3SM8-630	230V AC	M8E UR230A	**25158**
		400V AC	M8E UR400A	**25164**
F	3SM8-800	230V AC	M8F UR230A	**25159**
		400V AC	M8F UR400A	**25165**

Moulded Case Circuit Breakers
3SM8 Series

■ Accessories



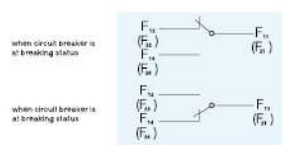


● Shunt release

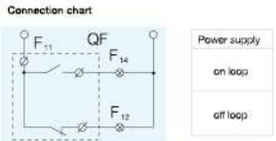
In 70% ~ 110% of the rated voltage, the breaker can reliably operate.

Frame		Rated voltage	Type code	Order code
A	3SM8-63	230 V AC	M8A SR230A	**25142**
		400 V AC	M8A SR400A	**25148**
		110 V DC	M8A SR110D	**10244**
		220 V DC	M8A SR220D	**10250**
B	3SM8-100	230 V AC	M8B SR230A	**25143**
		400 V AC	M8B SR400A	**25149**
		110 V DC	M8B SR110D	**10245**
		220 V DC	M8B SR220D	**10251**
C	3SM8-225	230 V AC	M8C SR230A	**25144**
		400 V AC	M8C SR400A	**25150**
		110 V DC	M8C SR110D	**10246**
		220 V DC	M8C SR220D	**10252**
D	3SM8-400	230 V AC	M8D SR230A	**25145**
		400 V AC	M8D SR400A	**25151**
		110 V DC	M8D SR110D	**10247**
		220 V DC	M8D SR220D	**10253**
E	3SM8-630	230 V AC	M8E SR230A	**25146**
		400 V AC	M8E SR400A	**25152**
		110 V DC	M8E SR110D	**10248**
		220 V DC	M8E SR220D	**10254**
F	3SM8-800	230 V AC	M8F SR230A	**25147**
		400 V AC	M8F SR400A	**25153**
		110 V DC	M8F SR110D	**10249**
		220 V DC	M8F SR220D	**10255**





Connection chart

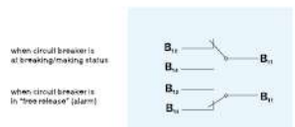


● Auxiliary contact

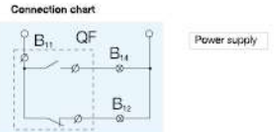
Indication of contacting status.

Frame			Type code	Order code
A	3SM8-63	Left	M8A ACL	**25166**
		Right	M8A ACR	**10256**
B	3SM8-100	Left	M8B ACL	**25167**
		Right	M8B ACR	**10257**
C	3SM8-225	Left	M8C ACL	**25168**
		Right	M8C ACR	**10258**
D	3SM8-400	Left	M8D ACL	**25169**
		Right	M8D ACR	**10259**
E	3SM8-630	Left	M8E ACL	**25170**
		Right	M8E ACR	**10260**
F	3SM8-800	Left	M8F ACL	**25171**
		Right	M8F ACR	**10261**





Connection chart



● Alarm contact

Indication of contacting status.

Frame		Type code	Order code
A	3SM8-63	M8A AMC	**25172**
B	3SM8-100	M8B AMC	**25173**
C	3SM8-225	M8C AMC	**25174**
D	3SM8-400	M8D AMC	**25175**
E	3SM8-630	M8E AMC	**25176**
F	3SM8-800	M8F AMC	**25177**

Moulded Case Circuit Breakers
3SM8 Series

■ Tripping Characteristic

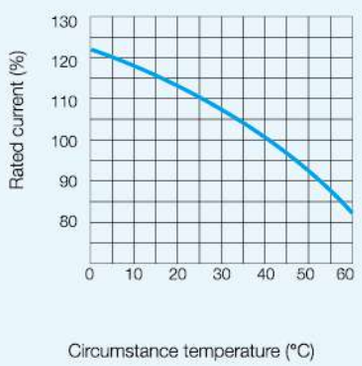
For power distribution

No.	Test current	I/In	Conventional time	Start status
1	Conventional non-trip current	1.05	2h (In > 63 A), 1h (In ≤ 63 A)	Cold status
2	Conventional trip current	1.3	2h (In > 63 A), 1h (In ≤ 63 A)	Right after test No.1

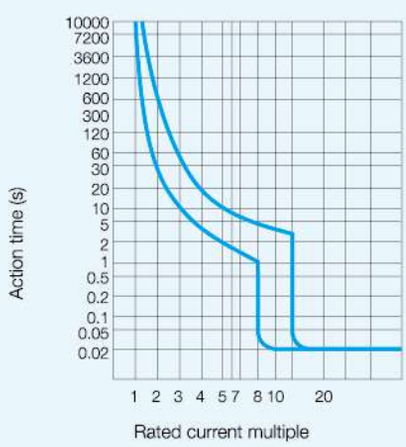
For motor protection

No.	Operational current	Conventional time	Start status	Remark
1	1.0 In	2 h	Cold status	-
2	1.2 In	≤ 2 h	Right after test No.1	-
3	1.5 In	≤ 4 min	Cold status	10 ≤ In ≤ 225
		≤ 8 min	Cold status	225 < In ≤ 630
4	7.2 In	4 s ≤ T ≤ 10 s	Cold status	10 ≤ In ≤ 225
		6 s ≤ T ≤ 20 s	Cold status	225 < In ≤ 630

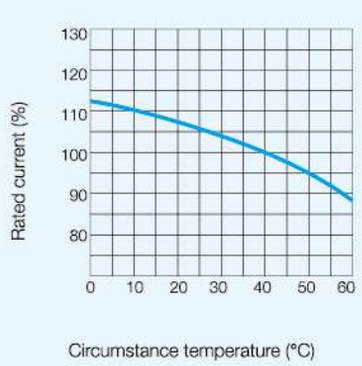
3SM8-63, 100 (10~32 A) Temperature emendation curve



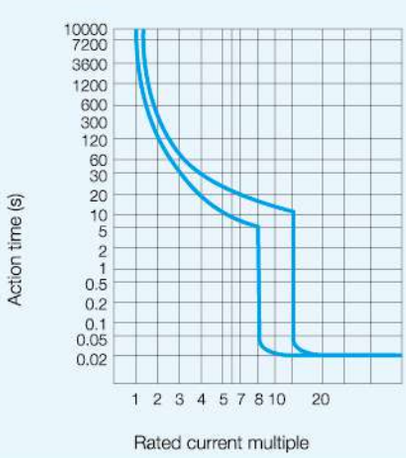
3SM8-63, 100 (10~32 A) Characteristic curve



3SM8-63, 100 (40~100 A) Temperature emendation curve

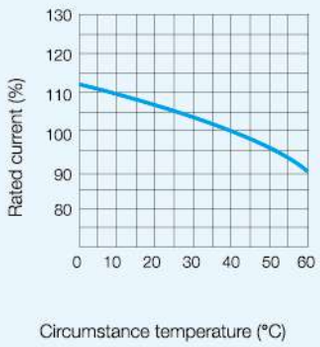


3SM8-63, 100 (40~100 A) Characteristic curve

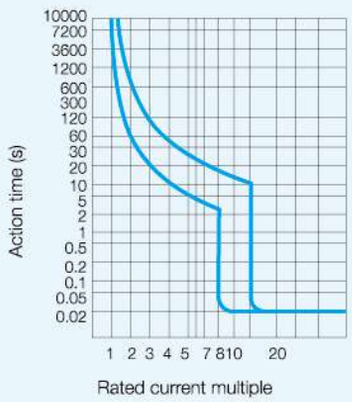


■ Temperature performance curve

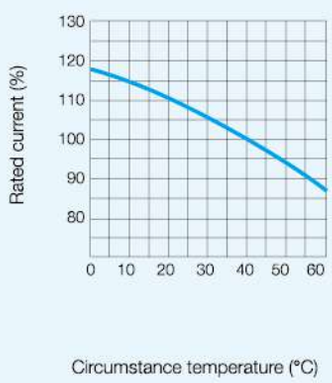
3SM8-225 Temperature emendation curve



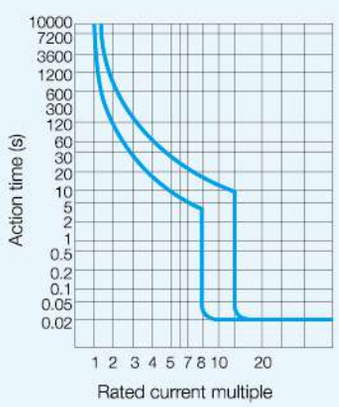
3SM8-225 Characteristic curve



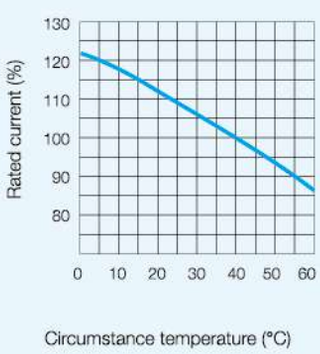
3SM8-400 Temperature emendation curve



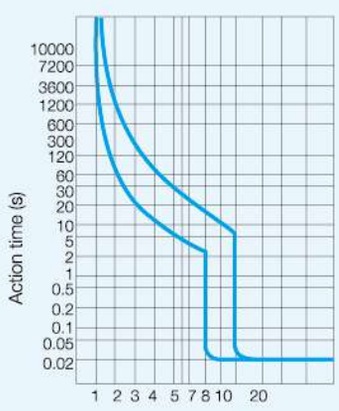
3SM8-400 Characteristic curve



3SM8-630, 800 Temperature emendation curve



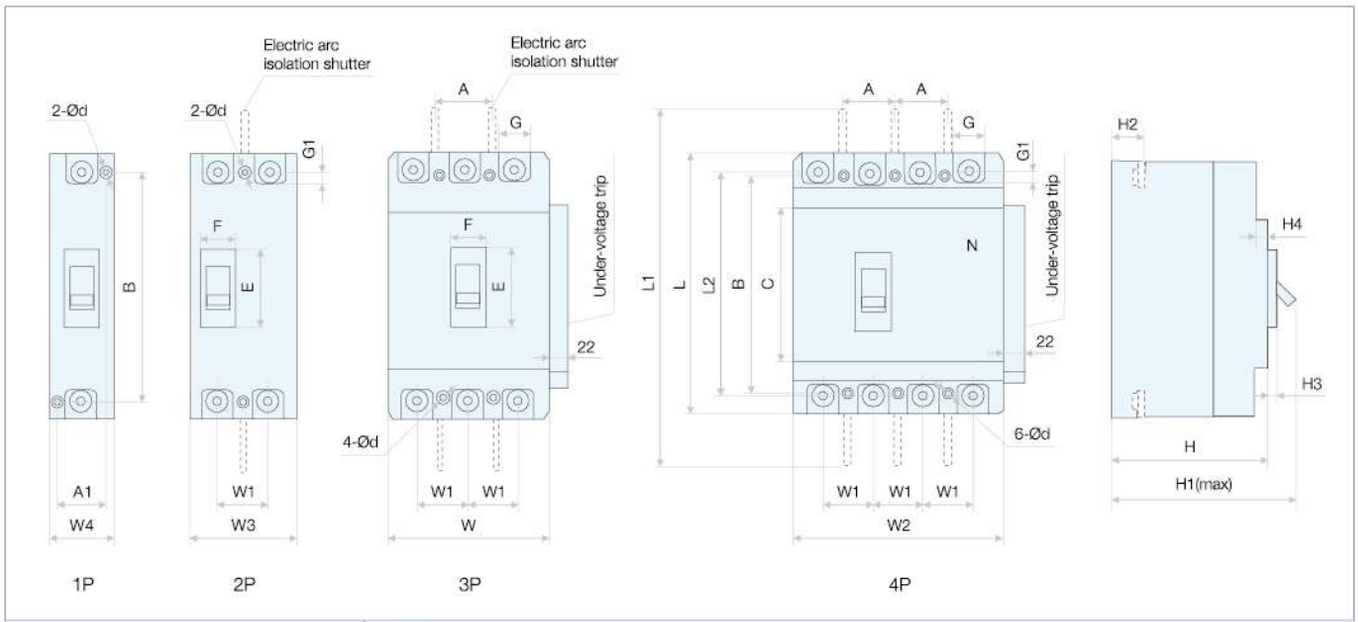
3SM8-630, 800 Characteristic curve



Moulded Case Circuit Breakers
3SM8 Series

■ Outline and installation dimensions

3SM8-63, 100, 225 (front connection)

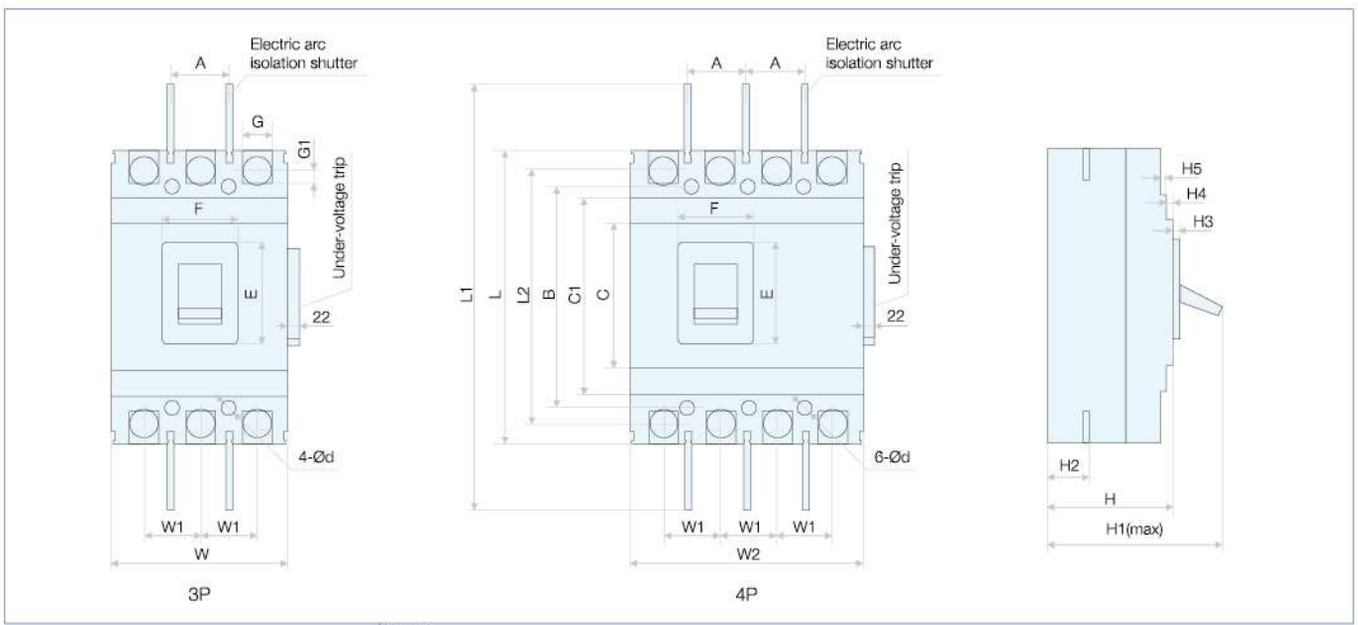


		Model					
		3SM8-63L	3SM8-63M	3SM8-100L 3SM8-100H	3SM8-100M	3SM8-225L 3SM8-225H	3SM8-225M
Dimensions	C	85	85	88.5	88.5	102	102
	E	50	50	50	50	55	55
	F	26	26	26	26	29	29
	G	14	14	17	17	22	22
	G1	6	6	7.5	7.5	16	10
	H	73.5	82.5	68	86	86.5	103
	H1	92	98.5	86	103	110	127
	H2	20	28	24	24	24	24
	H3	4.8	4.8	4.8	4	4	4
	H4	6.5	6.5	6.5	6.5	5	5
	L	135	135	150	150	165	165
	L1	172	172	255	255	360	360
	L2	114	114	132	132	144	144
	W	78	78	90	90	107	107
	W1	25	25	30	30	35	35
	W2	-	103	-	122	-	142
	W3	-	-	64.5	64.5	74.5	74.5
	W4	-	-	38	-	43	-
Installation dimensions	A1	-	-	29	-	32	-
	A	25	25	30	30	35	35
	B	117	117	129	130	126	126
	Ød	4.2	4.2	4.5	4.5	4.5	4.5

Moulded Case Circuit Breakers
3SM8 Series

■ Outline and installation dimensions

3SM8-400, 630, 800 (front connection)

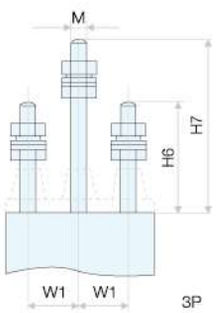


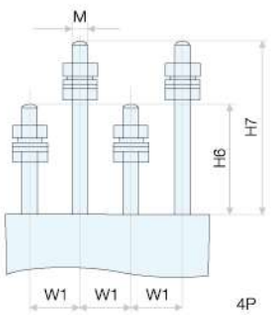
		Model				
		3SM8-400L	3SM8-400M	3SM8-630L 3SM8-630H	3SM8-630M	3SM8-800M 3SM8-800H
Dimensions	C	120	120	134	134	154
	C1	174	174	184	184	204
	E	89	89	89	89	81
	F	65	65	65	65	66
	G	32	32	44	44	46
	G1	11	11	14	14	14
	H	107	107	112.5	112.5	111.5
	H1	146.5	146.5	160	160	155
	H2	38	38	43	43	44
	H3	9	9	10	10	10
	H4	7.5	7.5	10	10	10.5
	H5	4.5	4.5	4.5	4.5	4.5
	L	257	257	270	270	280
	L1	457	457	470	470	470
	L2	224	224	234	234	243
	W	150	150	182	182	210
	W1	44	44	58	58	70
	W2	-	198	-	240	280
Installation dimensions	A	44	44	58	58	70
	B	194	194	200	200	243
	Ød	7	7	7	7	7

Moulded Case Circuit Breakers
3SM8 Series

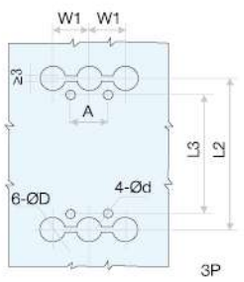
Outline and installation dimensions

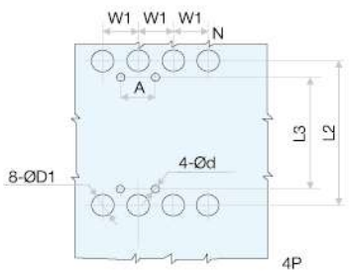
3SM8-63, 100, 225 (Rear connection)



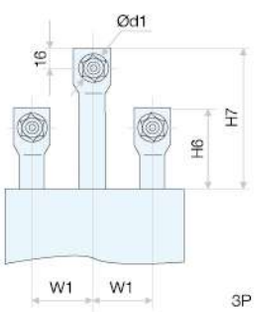


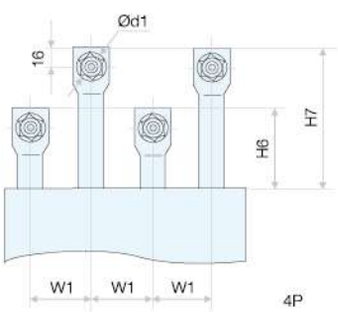
Rear connection stiletto chart



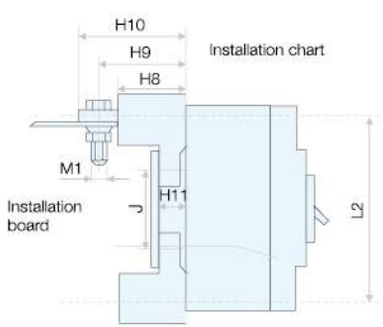


3SM8-400, 630, 800 (Rear connection)

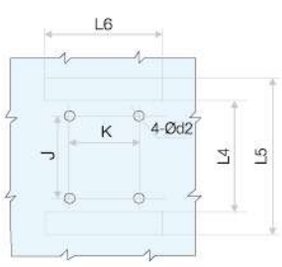




Insert style



Installation board stiletto chart



Moulded Case Circuit Breakers
3SM8 Series

■ Outline and installation dimensions

	3SM8-63L 3SM8-63M	3SM8-100L 3SM8-100M 3SM8-100H	3SM8-225L 3SM8-225M 3SM8-225H	3SM8-400L 3SM8-400M 3SM8-400H	3SM8-630L 3SM8-630M 3SM8-630H	3SM8-800M 3SM8-800H
A	25	30	35	44	58	70
Ød	Ø4.2	Ø4.5	Ø4.5	Ø6.5	Ø6.5	Ø7
Ød1	-	-	-	Ø12.5	Ø16.5	Ø16.5
Ød2	Ø5.5	Ø6.5	Ø6.5	Ø8.5	Ø8.5	Ø11.5
ØD	Ø14	Ø25	Ø25	Ø32	Ø40	Ø48
ØD1	Ø14	Ø25	Ø25	Ø32	Ø40	Ø48
H6	30	53	68	63.2	63.5	84
H7	50	88	89	104.5	104.5	84
H8	28	50	58	63.5	60	74
H9	36	64	65	80	92	-
H10	43	80	80	102	110	104
H11	10	15	17.5	20	21	30
L2	117	132	144	224	234	243
L3	117	107	126	194	200	243
L4	90	90	88	166	167	175
L5	146	172	190	282	303	305
L6	79	94	110	152	185	213
M	M5	M8	M8	-	-	-
K	50	60	70	60	100	90
J	60	56	54	129	123	123
M1	M5	M8	M8	M12	M12	M14
W1	25	30	35	48	58	70



SASSIN INTERNATIONAL ELECTRIC SHANGHAI CO.,LTD.
No.2588 JINHAI ROAD, PUDONG, SHANGHAI, CHINA 201209

TEL: +86-21-50210890 50219970
FAX: +86-21-50217333
E-mail: sassin@sassin.com
Http: //www.sassin.com