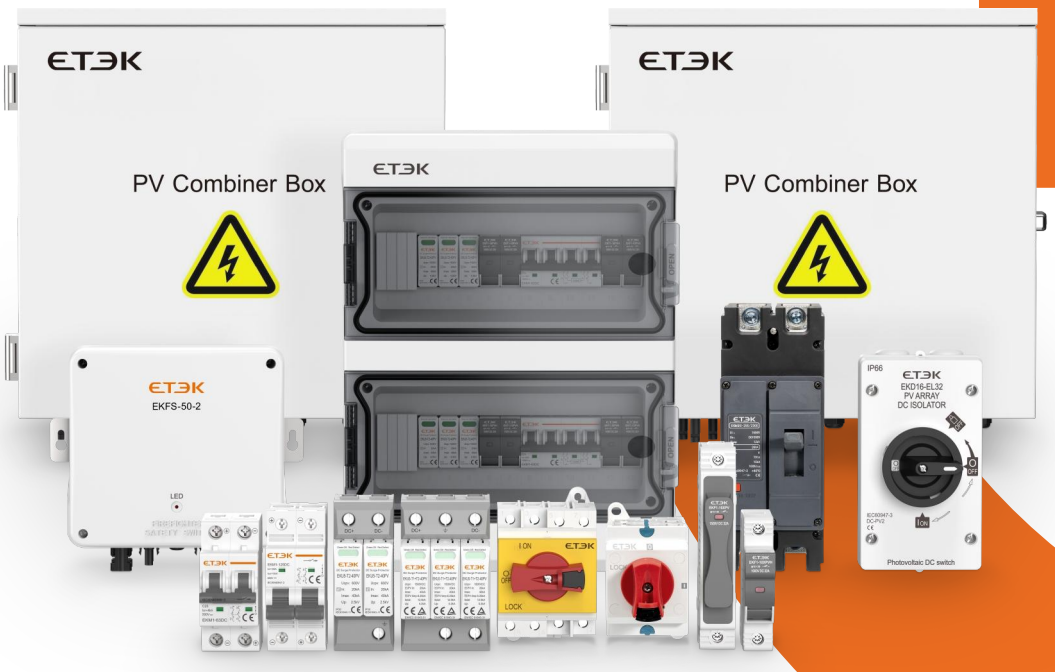
Circuit Protection Solutions for Photovoltaic Systems

Always for your safety



ZHEJIANG ETEK
ELECTRICAL TECHNOLOGY CO.,LTD.

Ver. 2025.1

Always for your safety

COMPANY INTRODUCTION

Zhejiang ETEK Electrical Technology Co., Ltd. is a professional manufacturing company specializing in the research, development, production, and sales of low-voltage electrical appliances. Established in 2011 and headquartered in Wenzhou, Zhejiang Province, ETEK Electric operates two modern manufacturing bases in Wenzhou and Wuhu, covering an area of 40,000 square meters. The company employs over 500 staff, including more than 50 R&D and technical professionals.

ETEK Electric has multiple production workshops for mold design, parts manufacturing, welding, and assembly. Additionally, it operates multiple automated production lines for MCB and RCCB. Its product portfolio includes MCB, RCCB, RCBO, AFDD, MCCB, ACB, EV Chargers, and Photovoltaic DC products, which are widely used in residential, commercial, and industrial sectors.

ETEK Electric has established its own low-voltage electrical testing center, where testing projects meet international IEC standards. The company has obtained ISO9001, ISO14001, and ISO45001 certifications, and its products are certified by international standards such as CB, TUV, VDE, CE, RoHS, among others.

With over 100 national patents, ETEK Electric continues to master core technologies in circuit breakers and remains committed to building its independent brand. The "ETEK" trademark is registered in over 80 countries, with products exported to more than 100 regions, including Europe, South America, the Middle East, Africa, and Southeast Asia.

Additionally, ETEK Electric supports OEM, ODM, OBM, SKD, CKD, and other business cooperation models, offering a complete suite of services including market cultivation, technical training, and assistance with factory construction.

Looking to the future, ETEK Electric is committed to becoming a globally renowned manufacturer in the power distribution and electrical industry, safeguarding the power safety of its customers around the world and contributing to the development of green and digital energy.

Wenzhou Factory

Wuhu Factory

Corporate Culture

Values

- Integrity
- Innovation
- Focus
- Win-win

Vision

Dedicated to becoming a globally renowned manufacturer in the power distribution equipment industry.

Mission

Manufacturing safer and smarter distribution electrical products to support the development of green and digital energy

WORKSHOPS

OEM & ODM BUSINESS

OEM & OEM

Customer request provide quotation

Research & development product design

Comfirmation PO & arrange advanced payment

Planning production & raw material inspection

Arrange production & quality inspection

Shipment ready & arrange balance payment

Delivery to customer

CONTENTS

Polarity DC MCB EKM1-63DC

Polarity Mini Circuit Breaker ---------- Standard_ IEC60947-2

Overview

EKM1-63DC series polarity DC miniature circuit breaker are mainly used in photovoltaic, energy storage and other DC systems that need to be interrupted and protected when overcurrent or short circuit occurs.

Features

- Standard: IEC/EN 60947-2
- Poles: 1P, 2P, 4P
- Insulation voltage: 500V
- Rated operated voltage: 250VDC(1P), 500VDC(2P), 1000VDC(4P)
- Rated current: 6A~63A
- Rated breaking capacity: 6kA
- Incoming method: According to the wiring diagram

Technical Data

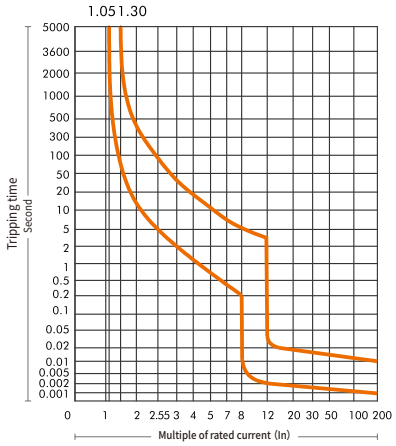
Standard	IEC/EN 60947-2		
Protection	Overcurrent and short circuit		
Type of trip	Thermo-magnetic		
No. of poles	1P	2P	4P
Rated voltage (Ue)	250VDC	500VDC	1000VDC
Rated currents (In)	6, 10, 16, 20, 25, 32, 40, 50, 63A		
Rated short-circuit capacity (Icn)	6kA		
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV		
Dielectric test voltage	3kV (50/60Hz, 1 min.)		
Thermal tripping characteristics	(1.05-1.30)×In		
Instantaneous tripping characteristics	(8-12)× In		
Electrical life	4,000 Cycles		
Mechanical life	10,000 Cycles		
Contact position indicator	green OFF/ red ON		
Protection degree	IP20		
Ambient temperature	-5°C to +40°C, Max.95% humidity		
Terminal connection type	Cable		
Max. terminal size for cable	16mm² flexible/ 25mm² rigid		
Max. tightening torque	2.5N.m		
Installation	Mounting on 35mm DIN rail		
Incoming method	According to the wiring diagram		

Polarity DC MCB EKM1-63DC

Polarity Mini Circuit Breaker ---------- Standard_ IEC60947-2

Tripping Characteristic

Rated current (In)	Tripping characteristic	Initial state	Test current (A)	Trip time (t)	Result to be obtained	Ambient temperature
⩽63A	Thermal release	Cold state	1.05In	⩾1h	No trip	40°C
		Hot state (Follow the above test)	1.30In	<1h	Trip	
	Magnetic release	Cold state	8In	⩽0.2s	No trip	Normal temperature
			12In	<0.2s	Trip	

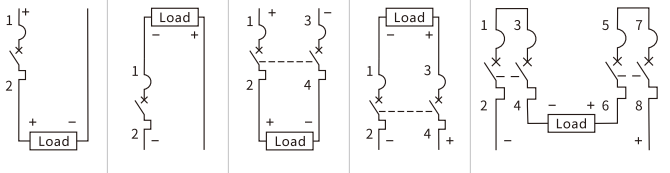


Temperature Derating Table

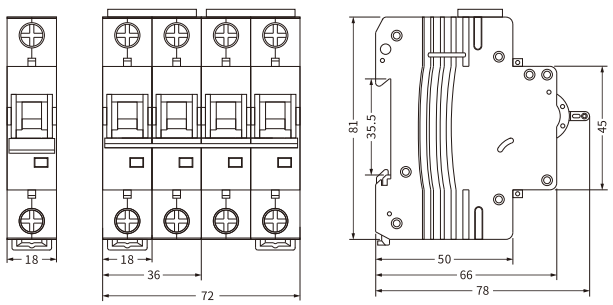
Rated current (A)	Correction factor for ambient temperature											
	-40°C	-30°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
6	8	7.7	7.5	7.2	6.9	6.6	6.3	6	5.7	5.3	4.9	4.5
10	13.3	12.9	12.5	12	11.5	11.1	10.5	10	9.4	8.8	8.2	7.5
16	21.3	20.7	20	19.2	18.5	17.7	16.9	16	15.1	14.1	13.1	11.9
20	26.7	25.8	24.9	24	23.1	22.1	21.1	20	18.9	17.6	16.3	14.9
25	33.3	32.3	31.2	30	28.9	27.6	26.4	25	23.6	22	20.4	18.6
32	42.7	41.3	39.9	38.5	37	35.4	33.7	32	30.2	28.2	26.1	23.9
40	53.3	51.6	49.9	48.1	46.2	44.2	42.2	40	37.7	35.3	32.7	29.8
50	66.7	64.5	62.4	60.1	57.7	55.3	52.7	50	47.1	44.1	40.8	37.3
63	84	81.3	78.6	75.7	72.7	69.6	66.4	63	59.4	55.6	51.4	47

Circuit Diagram

1P		2P		4P
Default	From down	Default	From down	



Dimension (mm)



Polarity DC MCB EKM1-125DC

Polarity Mini Circuit Breaker ---------- Standard_ IEC60947-2

Overview

EKM1-125DC series DC miniature circuit breakers are designed for photovoltaic, energy storage, and other DC systems requiring disconnection and protection. With a maximum rated voltage of 1000VDC and a rated current of 125A, they feature advanced arc extinguishing and current limiting mechanisms to quickly interrupt fault currents and ensure reliable DC system operation.

Features

- Standard: IEC/EN 60947-2
- Poles: 1P, 2P, 4P
- Insulation voltage: 500V
- Rated operated voltage: 250VDC(1P), 500VDC(2P), 1000VDC(4P)
- Rated current: 80A, 100A, 125A
- Rated breaking capacity: 10kA
- Incoming method: According to the wiring diagram

Technical Data

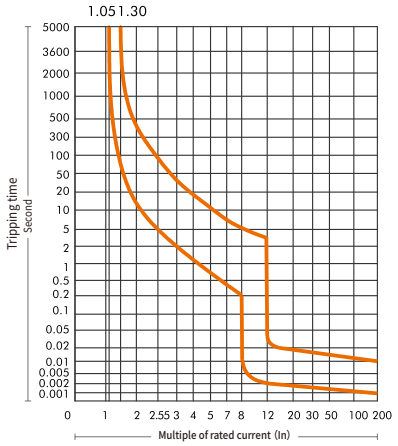
Standard	IEC/EN 60947-2		
Protection	Overcurrent and short circuit		
Type of trip	Thermo-magnetic		
No. of poles	1P	2P	4P
Rated voltage (Ue)	250VDC	500VDC	1000VDC
Rated currents (In)	80, 100, 125A		
Rated short-circuit capacity (Icn)	10kA		
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV		
Dielectric test voltage	3kV (50/60Hz, 1 min.)		
Thermal tripping characteristics	(1.05-1.30)×In		
Instantaneous tripping characteristics	(8-12)× In		
Electrical life	4,000 Cycles		
Mechanical life	10,000 Cycles		
Contact position indicator	green OFF/ red ON		
Protection degree	IP20		
Ambient temperature	-5°C to +40°C, Max.95% humidity		
Terminal connection type	Cable		
Max. terminal size for cable	35mm^2		
Max. tightening torque	2.5N.m		
Installation	Mounting on 35mm DIN rail		
Incoming method	According to the wiring diagram		

Polarity DC MCB EKM1-125DC

Polarity Mini Circuit Breaker ---------- Standard_ IEC60947-2

Tripping Characteristic

Rated current (In)	Tripping characteristic	Initial state	Test current (A)	Trip time (t)	Result to be obtained	Ambient temperature
⩽125A	Thermal release	Cold state	1.05In	⩾1h	No trip	40°C
		Hot state (Follow the above test)	1.30In	<1h	Trip	
	Magnetic release	Cold state	8In	⩽0.2s	No trip	Normal temperature
			12In	<0.2s	Trip	

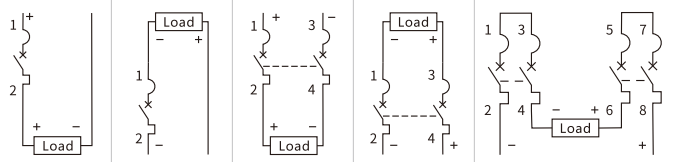


Temperature Derating Table

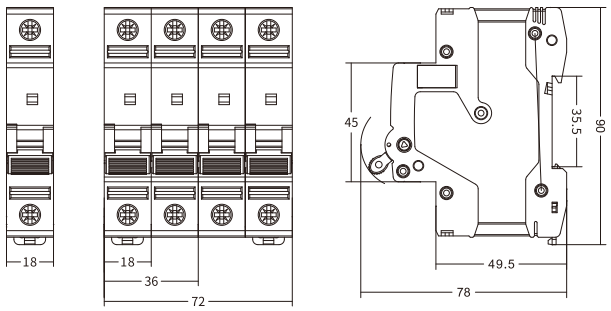
Rated current (A)	Correction factor for ambient temperature											
	-40°C	-30°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
80	106.4	103.2	100	96	92	88.8	84	80	75.2	70.4	65.6	60
100	133	129	125	120	115	111	105	100	94	88	82	75
125	166.3	161.3	156.3	150	143.8	138.8	131.3	125	117.5	110	102.5	93.8

Circuit Diagram

1P		2P		4P
Default	From down	Default	From down	



Dimension (mm)



EKM6 MCCB 250AF~800AF

1140V Moulded Case Circuit Breaker ---------- Standard_ IEC60947-2

EKM6-250H

EKM6-400H

EKM6-800H

Scope of Application

EKM6 series high voltage circuit breaker (referred to circuit breaker) is specially designed for high voltage electrical system with rated voltage up to 1140V and rated current 63A~800A. This circuit breakers can effectively protect electrical systems like the output loading of the string Inverters and others such as the loading capacity of the AC combiner box in the photovoltaic systems.

Normal Working Conditions and Installation Conditions

- The elevation of the installation site can't exceed 2000m;
- The temperature is not higher than +70°C, not lower than -45°C (Over +40°C, use it through capacity reduction the specific need to negotiate with the manufacturer);
- Atmospheric conditions: such as 90% at 20°C,and taking into account the condensation on the surface due to temperature changes. When the arounding temperature is 40°C, the relative humidity of the atmosphere does not exceed 50% and a higher relative humidity is allowed at a lower temperature;
- The pollution level is 3;
- Installation category is III;
- Installation magnetic field: The magnetic field of the installation position does not exceed 5 times the earth magnetic field in any direction;
- In a medium without explosion risk, and there is no gas and conductive dust sufficient to corrode metal and destroy insulation in the medium;
- Where there is no snow erosion;
- Installation conditions: It can be installed horizontally or vertically. There should be no significant impact or vibration at the installation place. It should not be installed in inflammable and explosive places;
- The circuit breaker has the isolation function, the symbol is —/⊢×— .

Quick Selection Table

EKM6 - 630 H Z / 3 300 630 □

EKM6	630	H	Z	3	300	630	
↓	↓	↓	↓	↓	↓	↓	↓
Product code	Frame current	High voltage	Operation mode	Poles	Accessory code	Rated current (A)	Installation method
EKM6 Series MCCB	250, 315, 400,630, 800		None: Direct operation P: Electrically operation Z: Turning handle	3P	See accessory table	63,80,100,125,140, 160,180,200,225,250, 280,300,315,400,500, 630,700,800	None: front connection Z1: rear connection Z3Q: Plug-in front connection Z3H: Plug-in rear connection

Technical Data

Model		EKM6-250H	EKM6-315H	EKM6-400H	EKM6-630H	EKM6-800H
Rated frame current Inm (A)		250	315	400	630	800
Number of poles		3P				
Rated current In (A)		63,80,100,125, 140,160,180, 200,225,250	280,300,315	250,280,315, 350,400	400,500,630	630,700,800
Rated operational voltage Ue (V)		AC800, AC1000, AC1140				
Rated insulation voltage Ui (V)		1150		1250		
Rated impulse withstand voltage Uimp (kV)		12		12		
Rated ultimate short-circuit breaking capacity Icu (kA)	AC800	50		50		
	AC1000	20		20		
	AC1140	15		15		
Rated service short-circuit breaking capacity Ics (kA)	AC800	35		37.5		
	AC1000	15		15		
	AC1140	15		15		
Isolation function		Available				
Utilization category		Cat.A				
Mechanical life (Times)		20000				
Electrical life (Times)		1500				
Arcing distance (mm)		0				
Dimensions (mm)	Without arcing cover	200×107×135		257×150×156		270×182×156
	With arcing cover	280×107×135		307×150×156		320×182×156
Reference ambient temperature (°C)		40				

Selection of Cross-sectional Areas of Connecting Busbars and Cables

Selection of busbars

Rated current (A)	63	80	100	125	160	180,200,225	250	280,300	315,350	400
Cross-sectional area (mm^2)	16	25	35	50	70	95	120	185	185	240

Selection of cable

Rated current (A)	Cross-sectional areas of cables		Copper busbar size	
	Quantity	Sectional area (mm^2)	Quantity	Sectional area (mm^2)
500	2	150	2	30×5
630	2	185	2	30×8
700	2	240	2	50×5
800	2	240	2	50×5

Product Protection Requirements for Power Distribution

Rated current (A)	Thermal release (ambient temperature +40°C)		Tripping current of electromagnetic release
	Non-operation time at 1.05 times rated current (cold state) in hours	Operation time at 1.3 times rated current (hot state) in hours	
63	⩾1	⩽1	10In±20%
63＜In⩽800	⩾2	⩽2	

The thermal release of circuit breakers have the particularity of inverse time limit; The electromagnetic release is an instantaneous action, and its characteristics are shown in the table above.

Power Loss Table

Model	Current (A)	Total Power Loss for Three-phase/Four-phase (W)			
		Front panel wiring	Backboard wiring	Plug in front wiring	Plug in Backboard wiring
EKM6-250H	250	62	63.5	66	70
EKM6-315H	315	67	73	75	78
EKM6-400H	400	115	117	120	125
EKM6-630H	630	187	192	190	210
EKM6-800H	800	260	262	265	290

Applicable Working Environment and Compensation Coefficient

Model	Ambient Temperature						
	+40°C	+45°C	+50°C	+55°C	+60°C	+65°C	+70°C
EKM6-250H	1.0In	0.983In	0.965In	0.94In	0.924In	0.904In	0.882In
EKM6-315H	1.0In	0.982In	0.962In	0.942In	0.922In	0.901In	0.880In
EKM6-400H	1.0In	0.980In	0.960In	0.940In	0.918In	0.898In	0.877In
EKM6-630H	1.0In	0.979In	0.958In	0.937In	0.912In	0.895In	0.872In
EKM6-800H	1.0In	0.977In	0.956In	0.931In	0.905In	0.893In	0.868 In

Note: When the ambient temperature is lower than 50°C, the product can be used normally, and there is no capacity reduction.

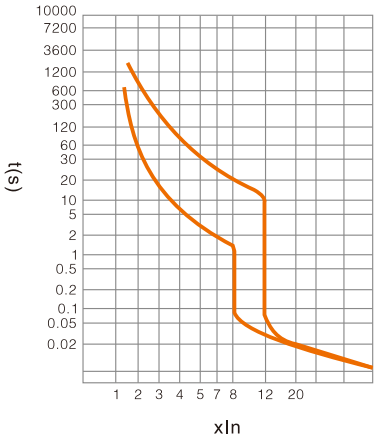
Derating Coefficient of Technical Parameters Based On Altitude

If the altitude exceeds 2000m in the applicable working environment, the electrical performance of the circuit breaker can be referred to the following table.

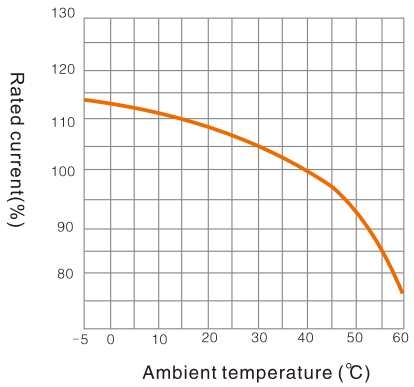
Altitude (M)	2000	2500	3000	3500	4000	4500	5000
Maximum operating current coefficient	1	1	0.98	0.97	0.95	0.94	0.93
Maximum operating voltage (V)	1140	1140	1060	1000	980	940	900
	1000	1000	900	850	810	770	730
	800	800	720	670	630	600	560
Power frequency withstand voltage (V)	3000	3000	2650	2500	2300	2150	2000
Insulation voltage (V)	1150	1150	1040	980	935	890	845
	1250	1250	1140	1080	1035	990	945

Tripping Characteristic Curve

EKM6-250H/315H

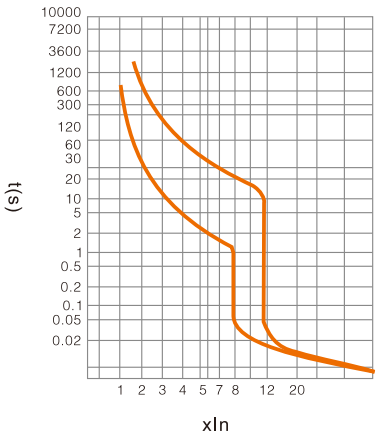


Tripping curve

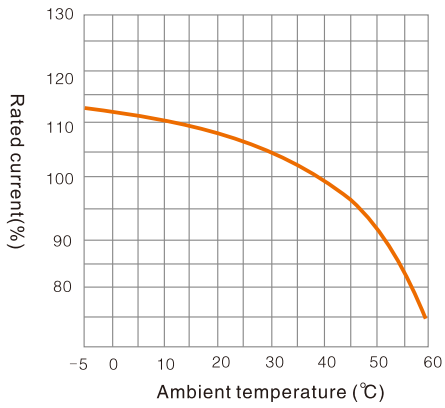


Temperature compensation curve

EKM6-400H

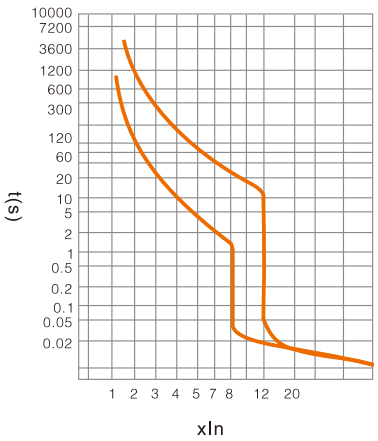


Tripping curve

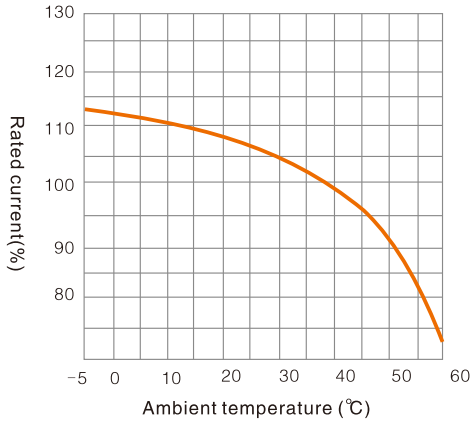


Temperature compensation curve

EKM6-630H/800H



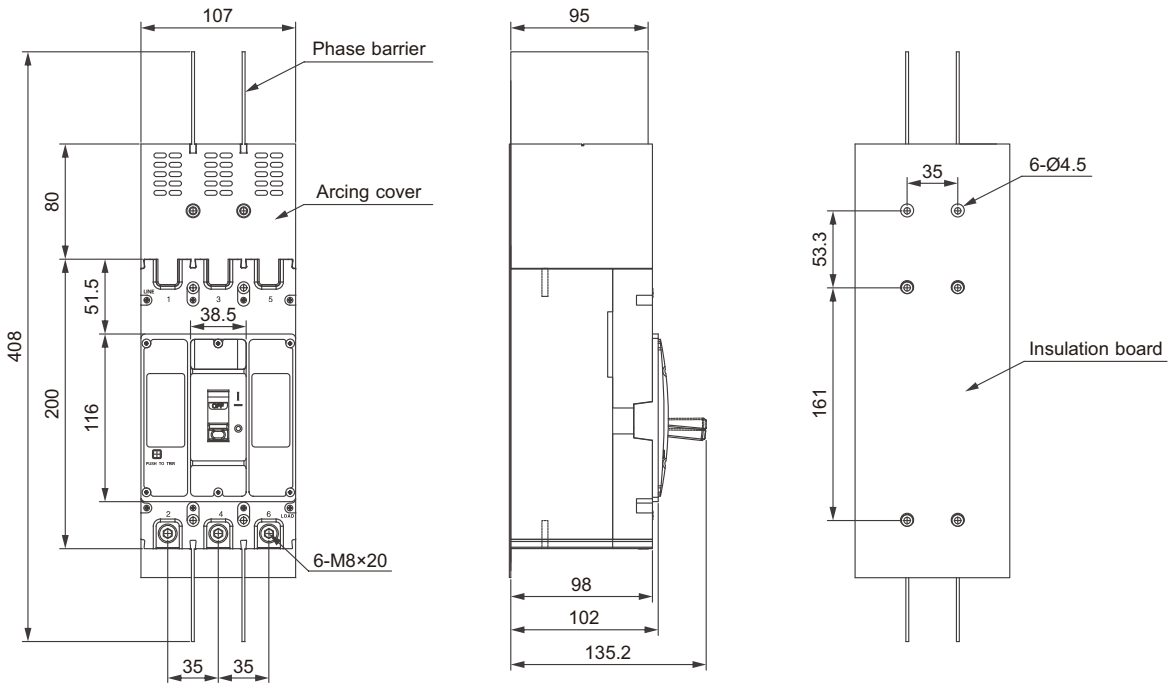
Tripping curve



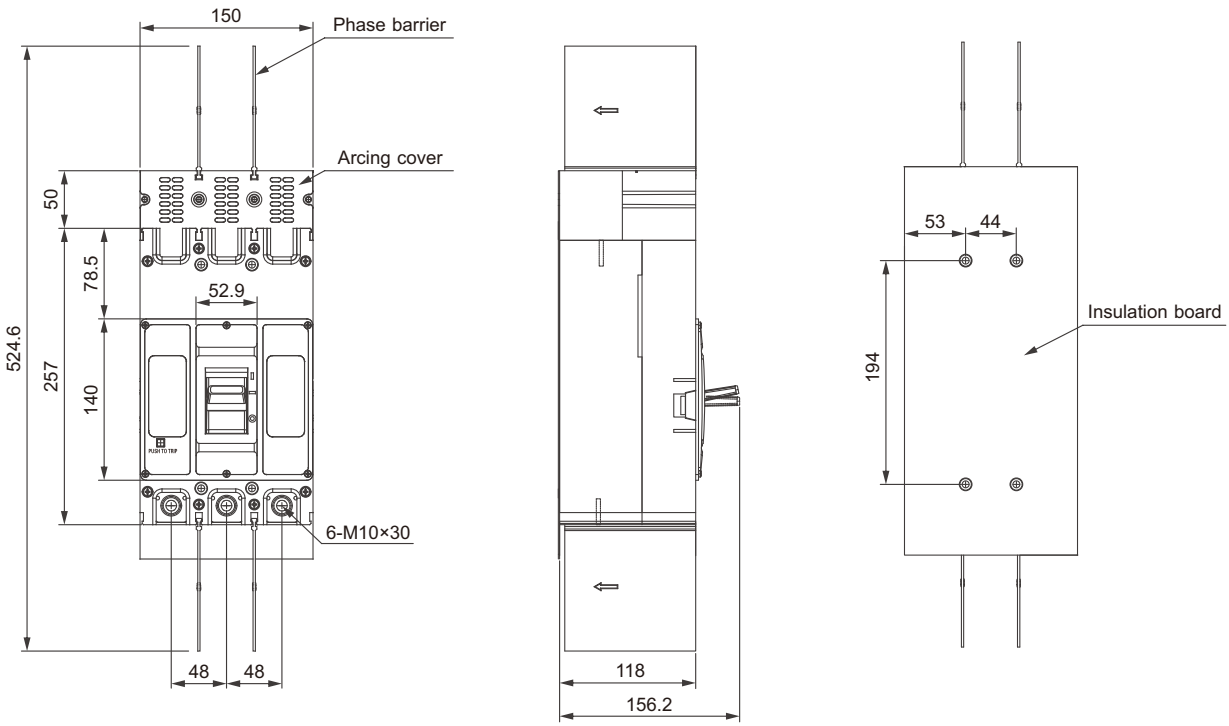
Temperature compensation curve

Overall Dimensions (mm)

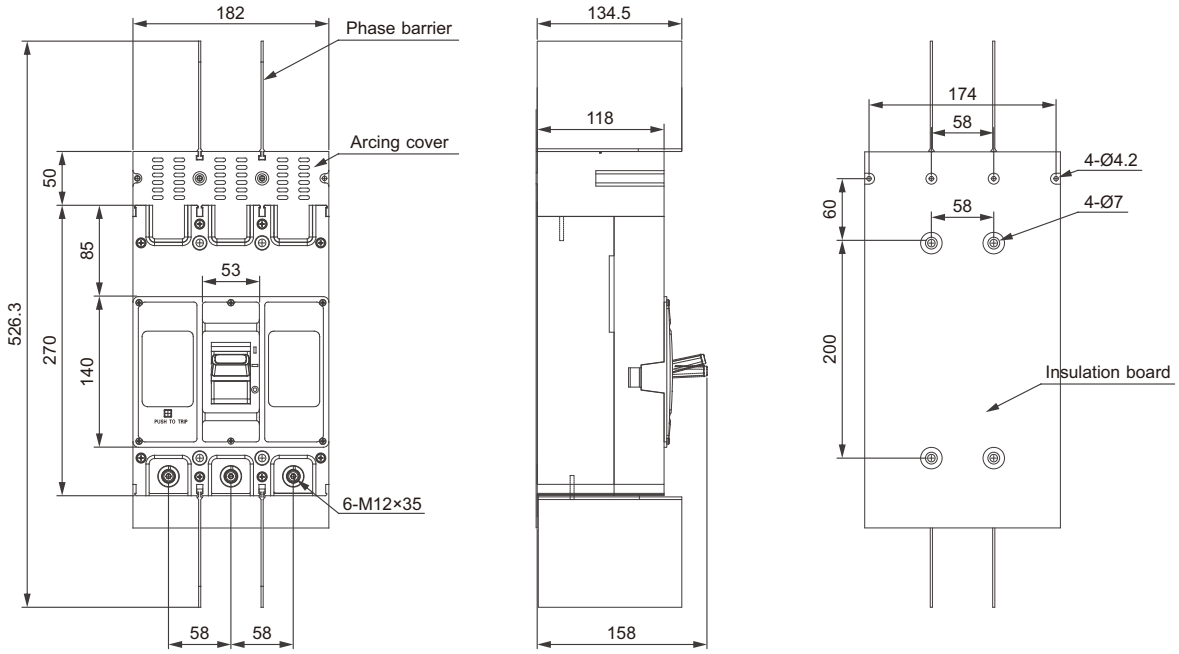
EKM6-250H/315H



EKM6-400H

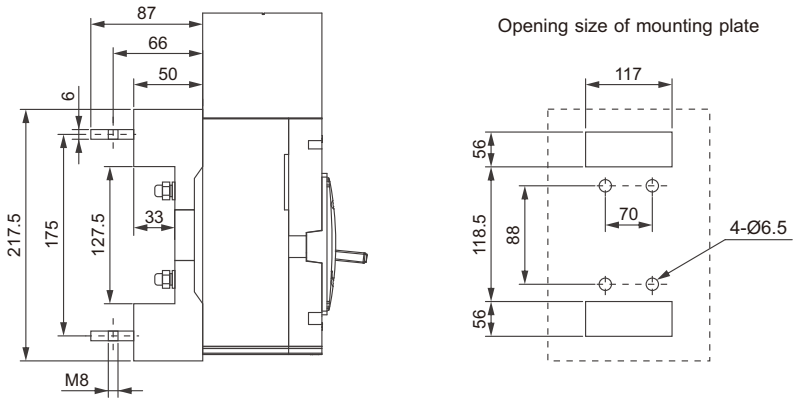


EKM6-630H/800H

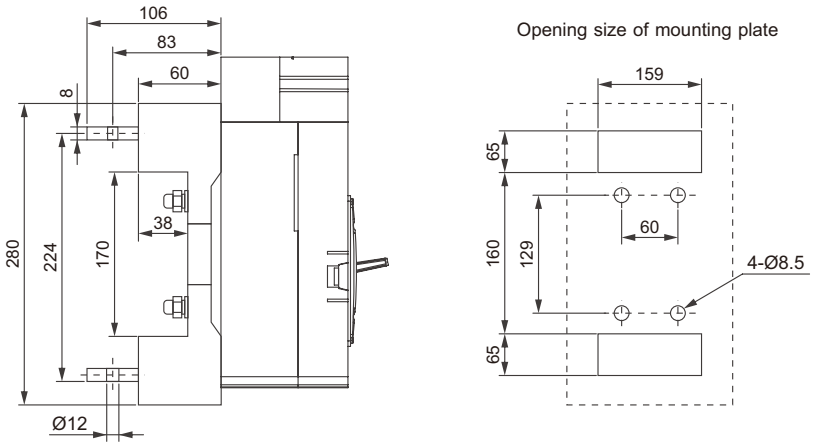


Mounting Dimension of Plug-in Rear Connection (mm)

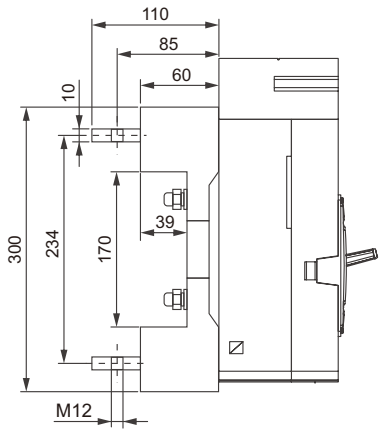
EKM6-250H/315H

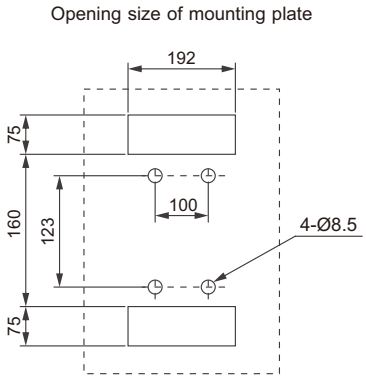


EKM6-400H

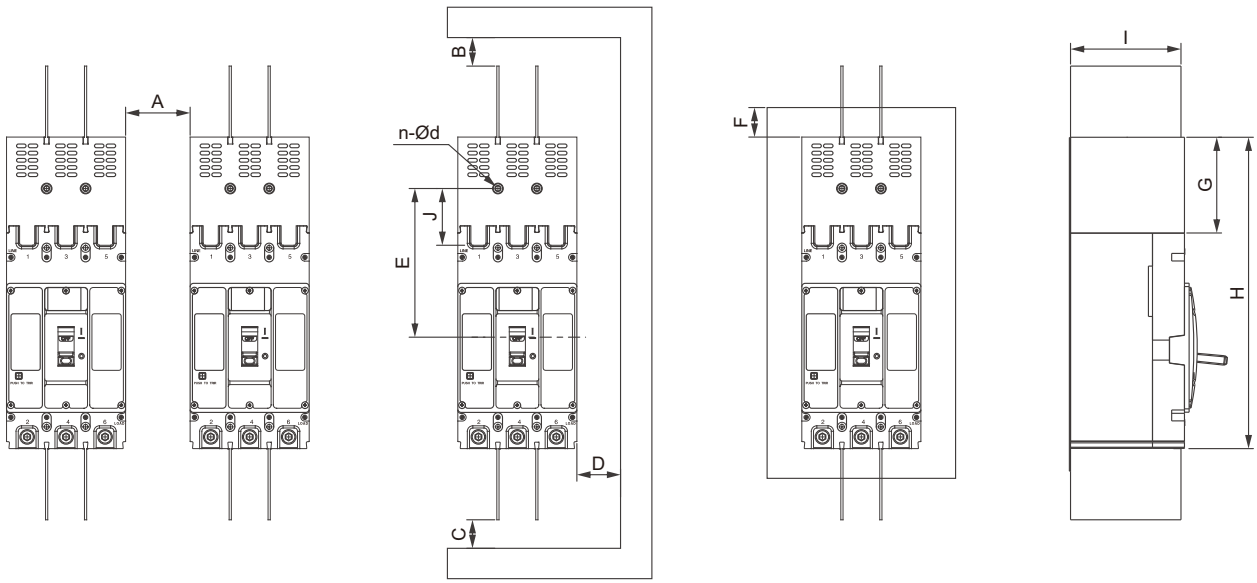


EKM6-630H/800H





Mounting Dimension



Model	Dimension (mm)										
	A	B	C	D	E	F	G	H	I	J	n-Ød
EKM6-250H	30	30	30	30	188	13	80	280	94	53	2-Ø4.5
EKM6-315H	30	30	30	30	188	13	80	280	94	53	2-Ø4.5
EKM6-400H	30	30	30	30	153.5	13	50	307	118	53	2-Ø4.5
EKM6-630H	30	30	30	30	185	13	50	320	118	60	2-Ø4.5
EKM6-800H	30	30	30	30	185	13	50	320	118	60	2-Ø4.5

Instruction: When using 1000V and 1140V, terminal covers should be installed on terminals 1, 3, and 5 of circuit breakers according to the diagram, and phase partition boards should be installed on terminals 2, 4, and 6 of circuit breakers, And install an insulation board between the circuit breaker and the metal mounting plate.

EKM6DC MCCB 250AF~800AF

1500V DC Moulded Case Circuit Breaker -- Standard_ IEC60947-2

EKM6DC-250 2P EKM6DC-250 3P EKM6DC-800 2P EKM6DC-800 3P

Scope of Application

EKM6DC Series DC Moulded Case Circuit Breaker is specially designed for DC electrical system with rated voltage up to DC1500V and rated current up to 800A. The Circuit Breaker can reliably protect the electrical system when the electrical loading of the system is overloaded or short-circuited, especially for PV and wind power application.

Normal Working Conditions and Installation Conditions

- The elevation of the installation site can't exceed 2000m;
- The temperature is not higher than +70°C, not lower than -45°C (Over +40°C, use it through capacity reduction the specific need to negotiate with the manufacturer);
- Atmospheric conditions: such as 90% at 20°C,and taking into account the condensation on the surface due to temperature changes. When the arounding temperature is 40°C, the relative humidity of the atmosphere does not exceed 50% and a higher relative humidity is allowed at a lower temperature;
- The pollution level is 3;
- Installation category is III;
- Installation magnetic field: The magnetic field of the installation position does not exceed 5 times the earth magnetic field in any direction;
- In a medium without explosion risk, and there is no gas and conductive dust sufficient to corrode metal and destroy insulation in the medium;
- Where there is no snow erosion;
- Installation conditions: It can be installed horizontally or vertically. There should be no significant impact or vibration at the installation place. It should not be installed in inflammable and explosive places;
- The circuit breaker has the isolation function, the symbol is .

Quick Selection Table

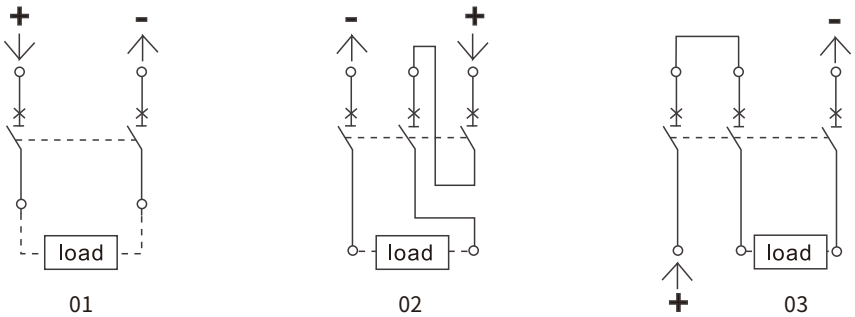
EKM6DC - 630 V Z / 3 300 630 [ ]

EKM6	630	V	Z	3	300	630	
↓	↓	↓	↓	↓	↓	↓	↓
Product code	Frame current	High breaking	Operation mode	Poles	Accessory code	Rated current (A)	Installation method
EKM6DC Series DC MCCB	250, 315, 400, 630, 800	None: No V: High breaking	None: Direct operation P: Electrically operation Z: Turning handle	2P, 3P	See accessory table	63,80,100,125, 140,160,180,200, 225,250,280,300, 315,400,500,630, 700,800	Front connection (optional)

Technical Data

Model			EKM6DC-250	EKM6DC-315	EKM6DC-400	EKM6DC-400V	EKM6DC-630	EKM6DC-630V	EKM6DC-800
Rated frame current Inm (A)			250	315	400	400	630	630	800
Rated current In (A)			63,80,100, 125,140,160, 180,200,225, 250	280,300,315	250,315,350, 400	250,315,350, 400	400,500,630	400,500,630	630,700,800
Rated insulation voltage Ui (V)			1500						
Rated impulse withstand voltage Uimp (kV)			12						
Rated operational voltage Ue (V)	2P		DC250V, DC500V, DC750V, DC1000V, DC1500V						
	3P		DC1000V, DC1500V						
Rated ultimate short-circuit breaking capacity Icu (kA)	2P	DC250V	-	25	70	25	70	25	
		DC500V	-	25	70	25	70	25	
		DC750V	-	15	50	15	50	15	
		DC1000V	15	15	50	15	50	15	
		DC1250V	-	-	20	-	20	-	
		DC1500V	5	10	20	10	20	10	
	3P	DC1000V	-	30	-	30	-	30	
		DC1500V	20	25	-	25	-	25	
Rated service short-circuit breaking capacity Ics (kA)			100% Icu						
Connection method			2P: 01; 3P: 02		2P:01; 3P:03	2P: 01	2P:01; 3P:02	2P: 01	2P:01; 3P:02
Isolation function			Available						
Utilization category			Cat.A						
Mechanical life (Times)			20000		15000		20000		15000
Electrical life (Times)			1500		1000	800	1500		800
Arcing distance (mm)			⩽50		⩽100				
Dimensions (mm)	2P		200x73x135		270x130x156	275x106x178	270x130x156	275x106x178	270x130x156
	3P		200x107x135		270x182x156	-	270x182x156	-	270x182x156
Reference ambient temperature (°C)			40						

Wiring Diagram



Selection of Cross-sectional Areas of Connecting Busbars and Cables

Selection of busbars

Rated current (A)	63	80	100	125	160	180,200,225	250	280,300	315,350	400
Cross-sectional area (mm^2)	16	25	35	50	70	95	120	185	185	240

Selection of cable

Rated current (A)	Cross-sectional areas of cables		Copper busbar size	
	Quantity	Sectional area (mm^2)	Quantity	Sectional area (mm^2)
500	2	150	2	30×5
630	2	185	2	30×8
700	2	240	2	50×5
800	2	240	2	50×5

Product Protection Requirements for Power Distribution

Rated current (A)	Thermal release (ambient temperature +40°C)		Tripping current of electromagnetic release
	Non-operation time at 1.05 times rated current (cold state) in hours	Operation time at 1.3 times rated current (hot state) in hours	
63	⩾1	⩽1	10In±20%
63＜In⩽800	⩾2	⩽2	

The thermal release of circuit breakers have the particularity of inverse time limit; The electromagnetic release is an instantaneous action, and its characteristics are shown in the table above.

Power Loss Table

Model	Current when energized (A)	Total Power Loss for Three-phase/Four-phase (W)
EKM6DC-250	250	40
EKM6DC-315	315	43
EKM6DC-400	400	115
EKM6DC-400V	400	105
EKM6DC-630	630	187
EKM6DC-630V	630	127
EKM6DC-800	800	262

Applicable Working Environment and Compensation Coefficient

Model	Ambient Temperature						
	+40°C	+45°C	+50°C	+55°C	+60°C	+65°C	+70°C
EKM6DC-250	1.0In	1.0In	1.0In	0.95In	0.93In	0.91In	0.88In
EKM6DC-315	1.0In	1.0In	1.0In	0.95In	0.93In	0.91In	0.88In
EKM6DC-400	1.0In	1.0In	1.0In	0.93In	0.91In	0.89In	0.85In
EKM6DC-630	1.0In	1.0In	1.0In	0.92In	0.90In	0.89In	0.83In
EKM6DC-800	1.0In	1.0In	1.0In	0.92In	0.89In	0.85In	0.80In

Note: The product can operate normally when the ambient temperature is below 50°C, and there is no derating

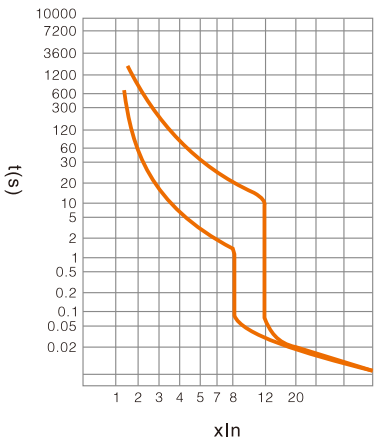
Derating Coefficient of Technical Parameters Based On Altitude

If the altitude exceeds 2000m of the applicable working environment, the electrical performance of the circuit breaker can be referred to the table below

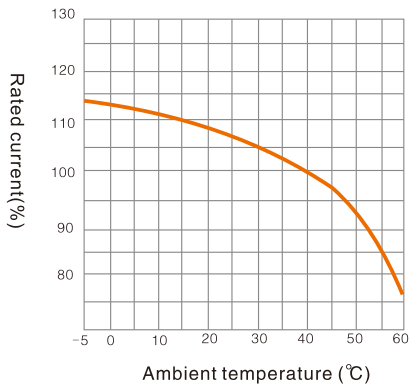
Altitude (M)	2000	2500	3000	3500	4000	4500	5000
Maximum operating current correction factor	In	In	0.98In	0.95In	0.93In	0.91In	0.89In
Maximum operating voltage correction factor	Ue	Ue	Ue	Ue	Ue	Ue	Ue
Power frequency withstand voltage correction factor	U	U	U	U	U	U	U

Tripping Characteristic Curve

EKM6DC-250/315

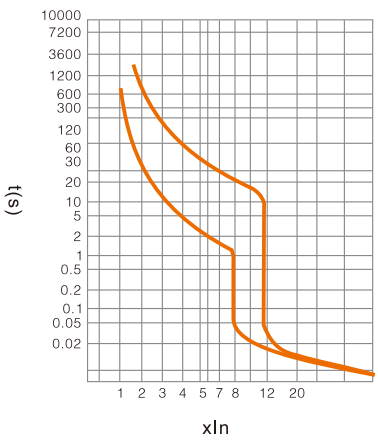


Tripping curve

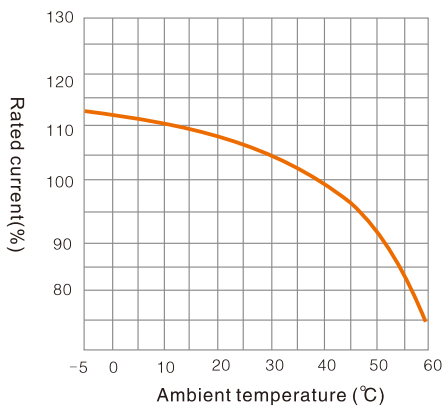


Temperature compensation curve

EKM6DC-400

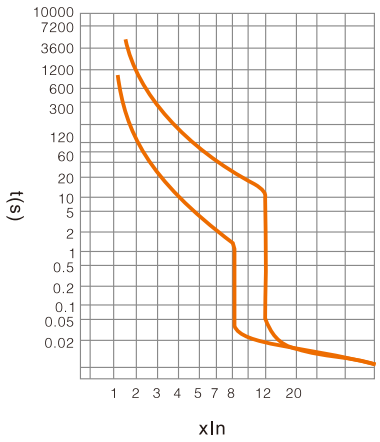


Tripping curve

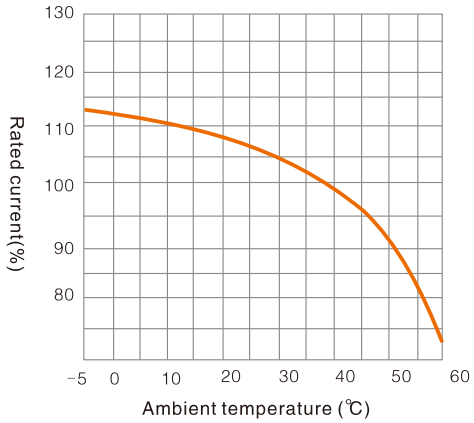


Temperature compensation curve

EKM6DC-630/800



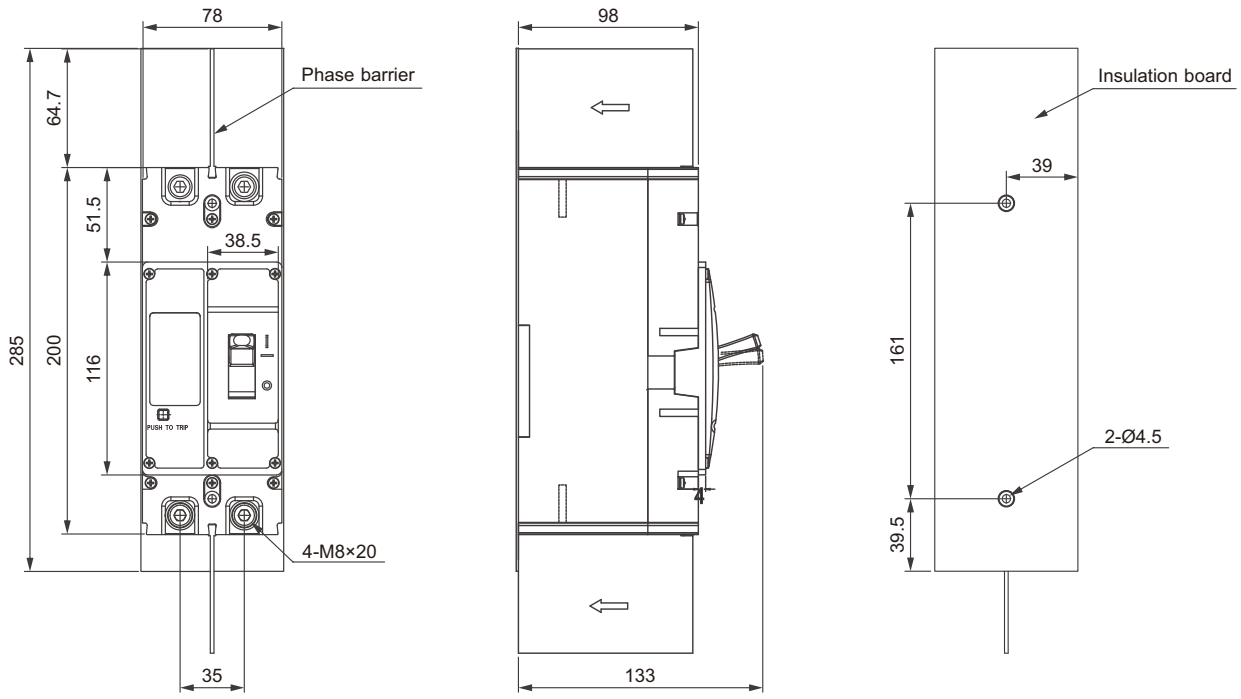
Tripping curve



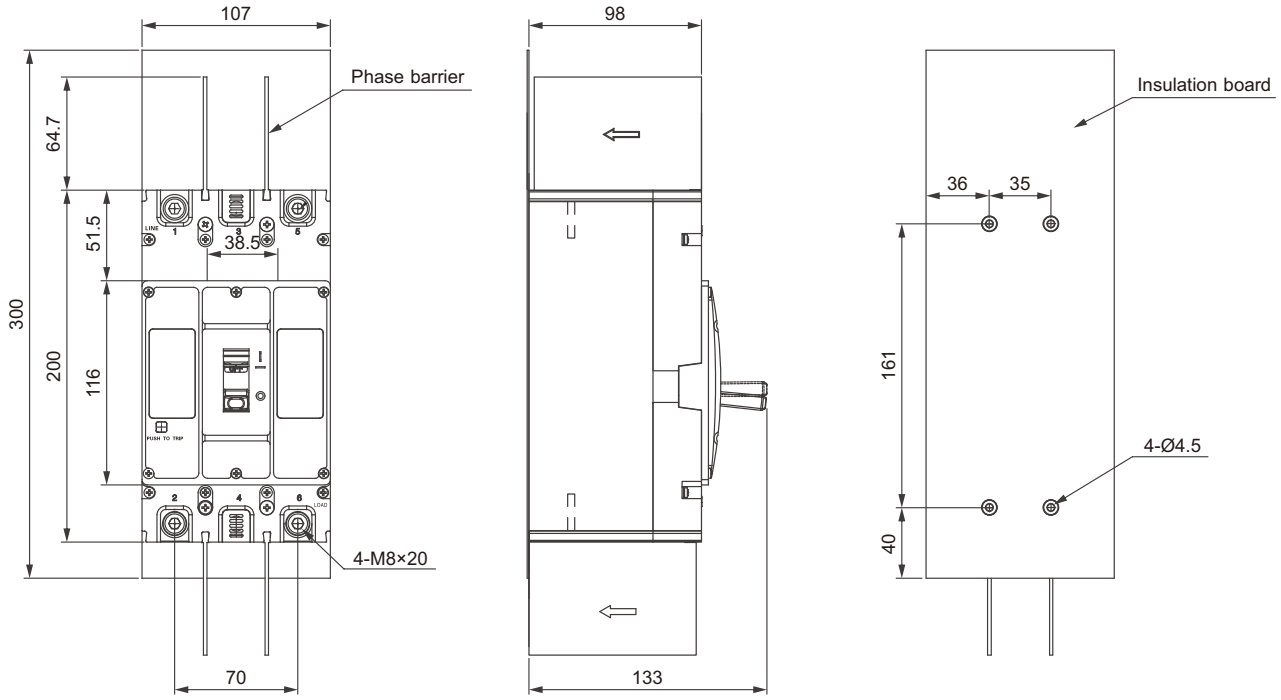
Temperature compensation curve

Overall Dimensions (mm)

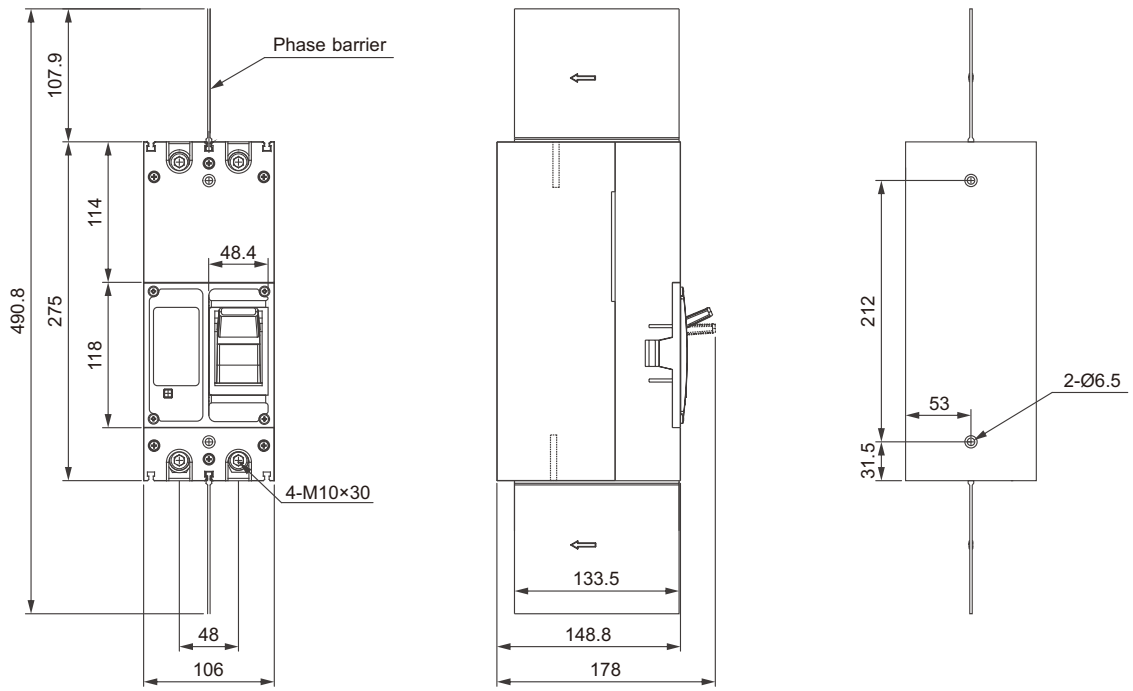
EKM6DC-250/315 (2P)



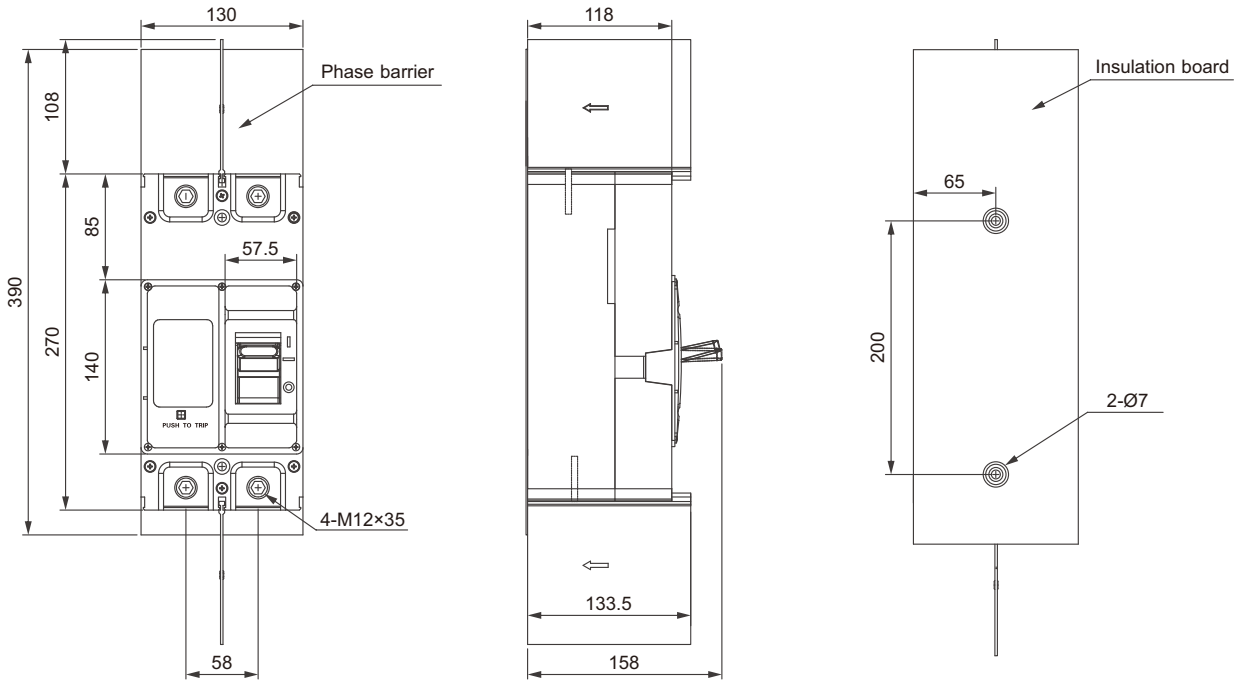
EKM6DC-250/315 (3P)



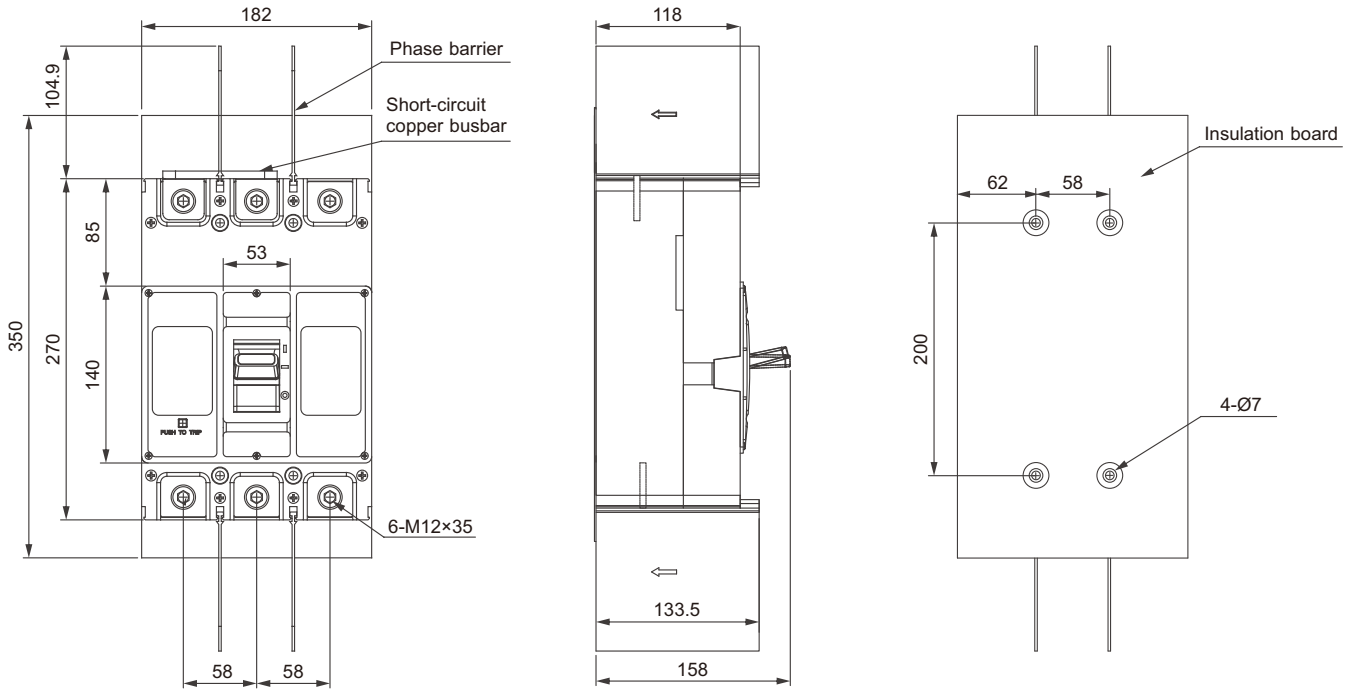
EKM6DC-400V/630V (2P)



EKM6DC-400/630/800 (2P)



EKM6DC-400/630/800 (3P)



Accessory Table

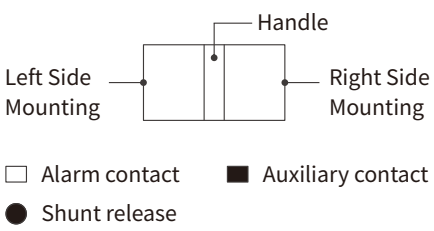
Electrical accessories for internal accessories of circuit breakers.
According to user needs, circuit breaker accessories can be directly led out with wires (wire length is 50cm, special requirements need to be specified) or equipped with terminal blocks.

Accessory code	Accessory name	EKM6-250H/315H	EKM6-400H	EKM6-630H/800H
		3P	3P	3P
208, 308	Alarm contact			
210, 310	Shunt release			
220, 320	Auxiliary contact			
240, 340	Shunt release + Auxiliary contact			
260, 360	Two group Auxiliary contact			
218, 318	Shunt release alarm contact			
228, 328	Auxiliary contact alarm contact			
248, 348	Shunt trip alarm contact			
268, 368	Two group Auxiliary contact + Alarm contact			

EKM6DC Accessory (DC Type)						
Accessory code	Accessory name	EKM6DC-250/315		EKM6DC-400V/630V	EKM6DC-400/630/800	
		2P	3P	2P	2P	3P
208, 308	Alarm contact					
210, 310	Shunt release					
220, 320	Auxiliary contact					
240, 340	Shunt release + Auxiliary contact					
260, 360	Two group Auxiliary contact					
218, 318	Shunt release alarm contact	-		-	-	
228, 328	Auxiliary contact alarm contact					
248, 348	Shunt trip alarm contact	-		-	-	
268, 368	Two group Auxiliary contact + Alarm contact	-		-	-	

Note: The first digit in the release method and internal accessory code indicates that 2 represents an electromagnetic (instantaneous) release, and 3 represents a thermal-magnetic (compound) release; the last two digits represent the internal accessory code, with 00 indicating no accessory.

For EKM6-630H and EKM6DC-630, in specifications 248 and 348, there is one pair of auxiliary contacts (one normally open and one normally closed), while in specifications 268 and 368, there are three pairs of auxiliary contacts (meaning three normally open and three normally closed).

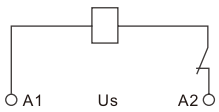


Accessories and Their Functions (Inner Accessories)

Shunt release

• Can be used for long-distance tripping of circuit breakers;

Rated voltage Us	AC230V, AC400V 50Hz DC220V, DC110V, DC24V
Reliable operating range	70%-110% Us

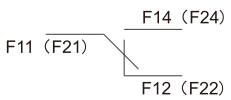
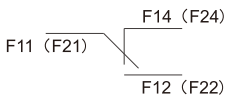


Note: When selecting a DC24V shunt release, the power supply at the terminal of the shunt release must be ⩾ 50W.

Auxiliary contact

• Used to indicate the opening and closing status of circuit breakers;
• One group is one normally open and one normally closed for Inm of 125 and 250;
• One set is two normally open and two normally closed, used for 1nm at 400, 630, and 800;

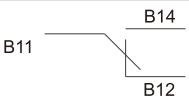
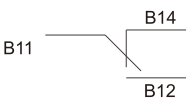
Inm(A)	250~800
Ith(A)	3
Ith(A) AC400V	0.3
Ith(A) DC220V	0.15

Circuit breaker status	Auxiliary contact status
When in the "opening" position	
When in the "closing" position	

Alarm contact

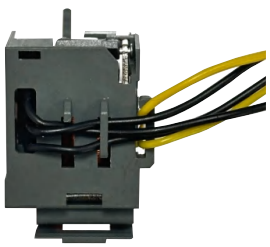
• Used to provide a signal if it trips caused by overload, short-circuit or undervoltage;
• The alarm contact does not operate during normal opening and closing of the circuit breaker, but only operates in a free tripping state or when a fault trips. After the circuit breaker is reconnected, the alarm contact will return to its original state.

Inm(A)	250~800
Ith(A)	3
Ith(A) AC400V	0.3
Ith(A) DC220V	0.15

Circuit breaker status	Auxiliary contact status
At opening and closing position	
At the "free release" alarm position	

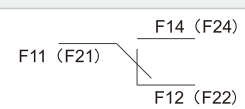
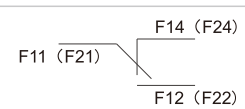
Note: For all internal accessories, except for undervoltage release devices, if the installation size is affected by external wiring terminals, lead type accessories can be selected.

Shunt release & Auxiliary contact



• Integrated, space saving, suitable for multi accessory installation;
• The performance and parameters of shunt release are consistent with those of independent shunt release.
• The auxiliary contact is one normally open and one normally closed;

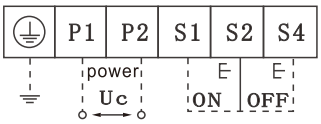
Rated voltage Us	AC230V, AC400V 50Hz DC220V, DC110V, DC24V
Reliable operating range	70%-110% Us
Inm(A)	250~800
Ith(A)	3
Ith(A) AC400V	0.3
Ith(A) DC220V	0.15

Circuit breaker status	Auxiliary contact status
When in the "opening" position	
When in the "closing" position	

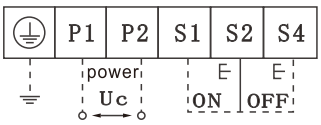
CD2 Type Motor Mechanism

- It can be used for electric and closing operation of circuit breakers;
- Available for EKM6, EKM6DC circuit breaker.

Schematic diagram of CD2 type motor mechanism



AC wiring diagram 1

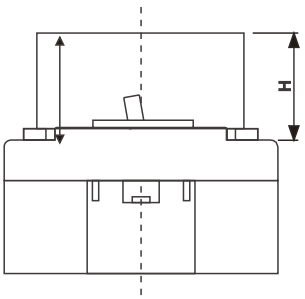


AC wiring diagram 2

P1, P2	External power input
SB1, SB2	Operation buttons (user provided)
Voltage specifications	AC50Hz/60Hz 110V, 230V DC24V, 110V, 220V

Note: The dashed box represents the wiring diagram of the internal accessories of the circuit breaker.

Installation of motor mechanism

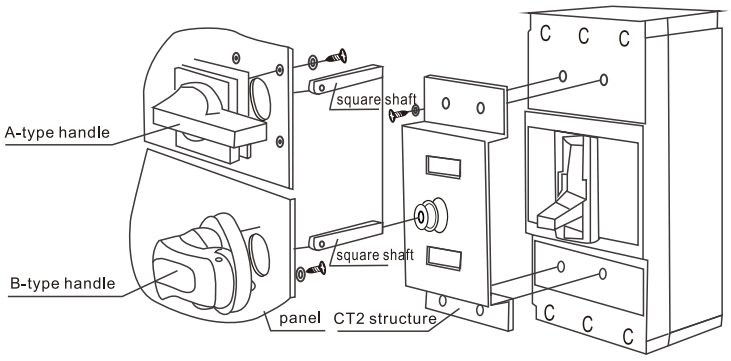


Frame current	H (mm)
250/315	98
400	136
630/800	138

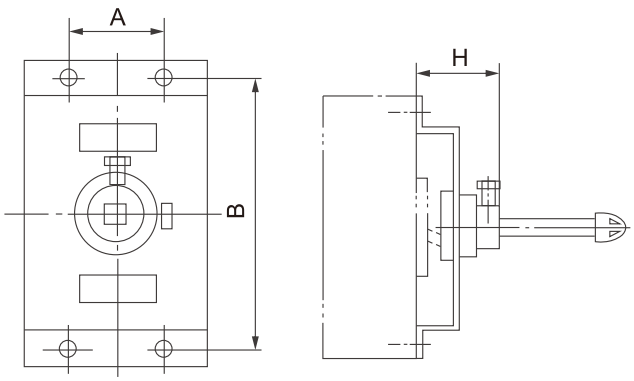
CT2 Type Extended Rotary Handle

- Used for manual opening and closing operations outside the circuit breaker cabinet.
- Can be used for EKM6, EKM6DC circuit breakers.

Installation diagram



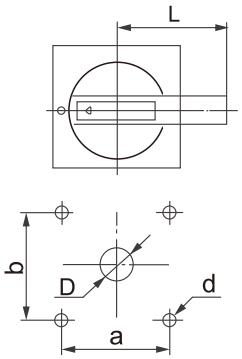
Installation dimension



Model		Dimension (mm)		
		A	B	H
EKM6-250H/315H		35	161	70
EKM6-400H		137	200	76
EKM6-630H/800H		167	214	76.3
EKM6DC-250/315	2P	-	161	62
	3P	35	161	70
EKM6DC-400/630/800	2P	116	200	76.3
	3P	167	214	76.3
EKM6DC-400V/630V		89	217	48

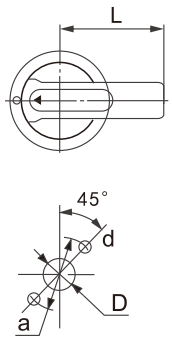
Outline and Installation Dimensions

A type handle



Handle specifications	Frame current	
	250-315	400-800
D	Ø35	Ø35
d	Ø4.5	Ø4.5
a	65	65
b	65	65
L	95	125

B type handle



Handle specifications	Frame current	
	250-315	400-800
D	Ø35	Ø35
d	Ø4.5	Ø4.5
a	65	65
b	53	53
L	95	125

EKM7 MCCB 1140V

High Voltage MCCB ---------- Standard_IEC60947-2

Overview

The EKM7 series high voltage molded case circuit breaker is designed to meet the needs of power distribution networks operating at AC 50/60Hz. With a rated insulation voltage of 1200V, it offers reliable protection for circuits with rated voltages ranging from 690V to 1140V, and a rated current of up to 630A.

This circuit breaker is ideal for infrequent switching of circuits and occasional motor starting. It effectively safeguards against overloads, short circuits, overvoltage, and undervoltage, ensuring the safety and stability of power lines.

In addition, the EKM7 series high voltage molded case circuit breaker complies with the IEC60947-2 standard, guaranteeing its quality and performance.

Product Features

- High mechanical life and electrical life.
- Short arcing distance: standard arc suppression cover and three-layer free metal partition to avoid secondary system failures caused by arcing during disconnection.
- Super current limiting capability.
- Super insulation performance.
- Reverse inlet line without capacity reduction.
- Anti-humidity, heat, salt spray, and mold resistance.
- New single breakpoint structure, more stable and reliable than double breakpoint structure.

Core Patented Technology

- Repulsion opening anti-drop technology with low repulsion opening reversal point of the moving contact.
- Arc Ionization elimination technology to realize shorter flashover.
- Arrangement of the handle away from the arc extinguishing area to make the operator safer.

Model Fast Selection Guide

EKM7 - 630 H / 3 00 D

EKM7	630	H	3	00	D
↓	↓	↓	↓	↓	↓
Product code	Frame size	Breaking capacity level	Poles	Product Accessories	Color code
EKM7 Series MCCB	320, 630	M: ordinary type H: high breaking type	3P	See accessory table	None: off-white cover, black handle D: dark gray cover, red handle

Technical Parameters

Model		EKM7-320					EKM7-630				
Rated Frame Current Inm (A)		320					630				
Rated current In (A)		16,20,25,32,40,50,63,75,80,100,125,140, 160,180,200,225,250,320A					225,250,320,350,400,500,630A				
Pole		3P									
Rated working voltage Ue (V)		380/415V, 690V, 800V, 1000V, 1140V									
Rated insulation voltage Ui (V)		1200V									
Rated impulse withstand voltage Uimp (kV)		12kV									
Power frequency withstand voltage (1min)(V)		3500V									
Rated ultimate short-circuit breaking capacity Icu(kA)	Breaking capacity level	AC380/ 415V	AC690V	AC800V	AC1000V	AC1140V	AC380/ 415V	AC690V	AC800V	AC1000V	AC1140V
	M	/	60	50	20	12	/	60	50	20	12
	H	100	65	50	30	20	100	65	50	32	20
Rated operating short-circuit breaking capacity Ics(kA)	M	/	60	50	20	12	/	60	50	20	12
	H	100	65	50	30	20	100	65	50	32	20
Mechanical life (cycles)		15000									
Electrical life (cycles)		5000	3000	3000	1000	1000	5000	3000	3000	1000	1000
Arc distance(mm)		50									
Dimension W×L×H (mm)		120×200×103					158×325×177				
Instantaneous release		5In or 10In									
Reference ambient temperature		40°C									
Working ambient temperature		-40°C ~ +70°C, no derating at +50°C									
Altitudes		5000m									

Applicable Working Environment and Compensation Coefficient

Ambient temperature	10°C	20°C	25°C	30°C	40°C	50°C	60°C	70°C
Compensation coefficient	1.17	1.14	1.12	1.06	1	0.96	0.87	0.76

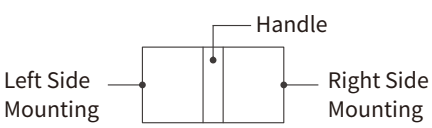
Derating Coefficient of Technical Parameters Based On Altitude

When the altitude is below 2000m, the characteristics of the circuit breaker will not be affected. If the altitude exceeds this value, the decrease in air insulation characteristics and cooling capacity must be considered. The following table provides the applicable correction values for altitudes exceeding 2000m.

Altitude (m)	2000	2500	3000	3500	4000	4500	5000
Rated current	1In	0.99In	0.98In	0.97In	0.96In	0.95In	0.94In
Rated voltage	1Ue	0.95Ue	0.88Ue	0.85Ue	0.82Ue	0.8Ue	0.75Ue
Rated power frequency withstand voltage	1U	0.95U	0.88U	0.85U	0.82U	0.8U	0.75U

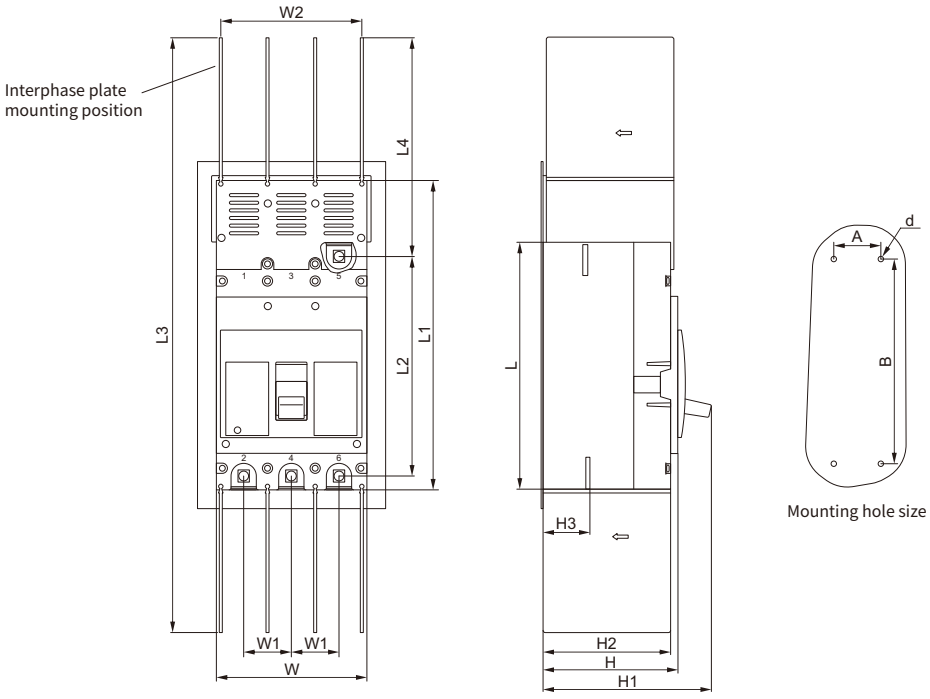
Accessory Table

Accessory code	Accessory name	EKM7-320	EKM7-630
		3P	3P
00	No	-	-
08	Alarm contact		
10	Shunt release		
18	Shunt release + Alarm contact		
20	Single auxiliary contact		
27	Dual auxiliary contacts		
28	Single auxiliary contact + Alarm contact		
29	Dual auxiliary contacts + Alarm contact		
30	Under voltage release		
38	Under voltage release + Alarm contact		
40	Shunt release + Single auxiliary contact		
41	Shunt release + Dual auxiliary contacts		
48	Shunt release + Auxiliary alarm		
50	Shunt release + Under voltage release		
60	Two sets of single auxiliary contacts		
61	Single auxiliary contact + Dual auxiliary contacts		
62	Two sets of dual auxiliary contacts		
68	Single auxiliary contact + Auxiliary alarm		
69	Dual auxiliary contact + Auxiliary alarm		
70	Under voltage release + Single auxiliary contact		
71	Under voltage release + Dual auxiliary contact		
78	Under voltage release + Auxiliary alarm		



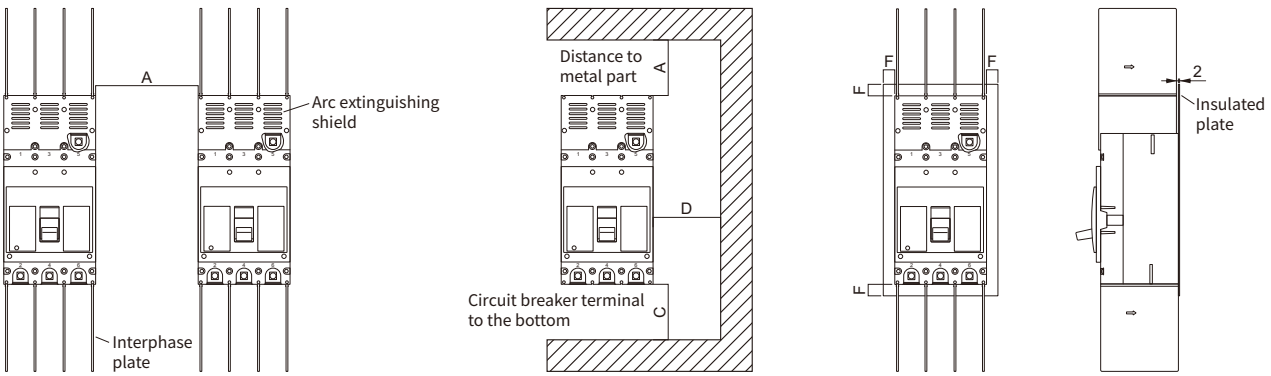
- Alarm contact
- Single auxiliary contact
- Dual auxiliary contacts
- Under voltage release (mechanical)
- Shunt trip (mechanical)

Overall Dimensions and Mounting Dimensions



Model	Dimensions (mm)														
	W	W1	W2	L	L1	L2	L3	L4	H	H1	H2	H3	A	B	d
EKM7-320	120	38	110	200	264	178	657	272	108	137	100	31.5	38	161	Ø5.5
EKM7-630	158	50	148	260	325	231	625	229	142	177	134	50	50	215	Ø6.5

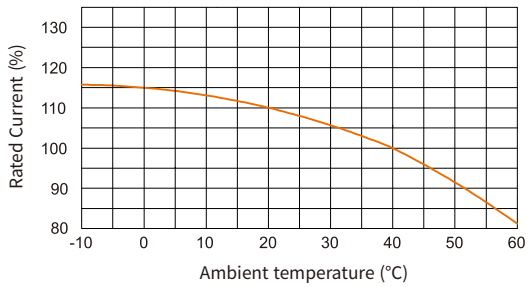
Mounting Diagram



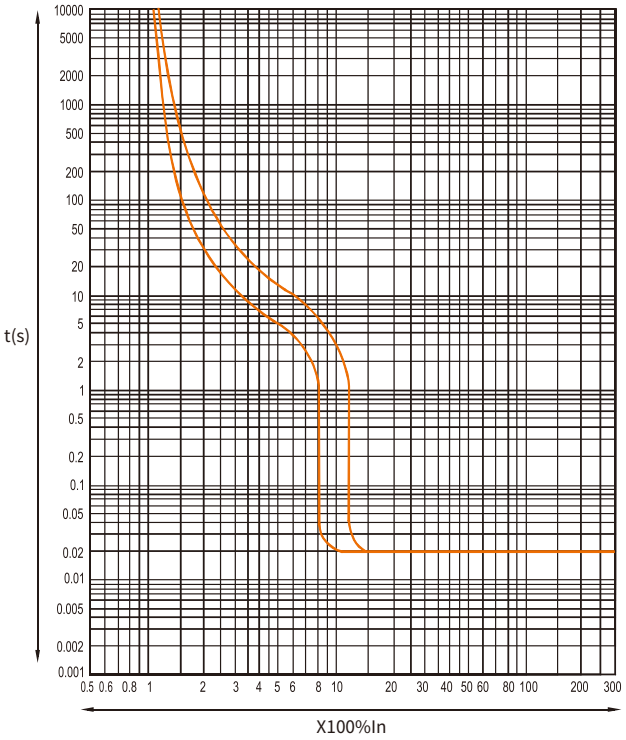
Model	Dimensions (mm)				
	A	B	C	D	F
EKM7-320	50	50	50	50	25
EKM7-630	50	50	50	50	20

Tripping Curve

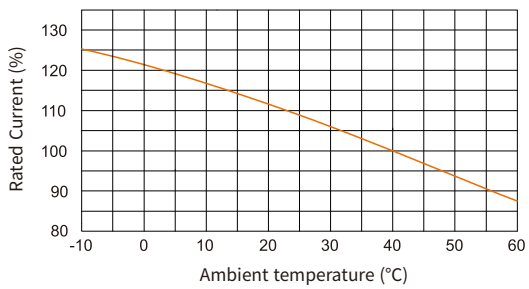
EKM7-320 Current-Temperature Characteristic



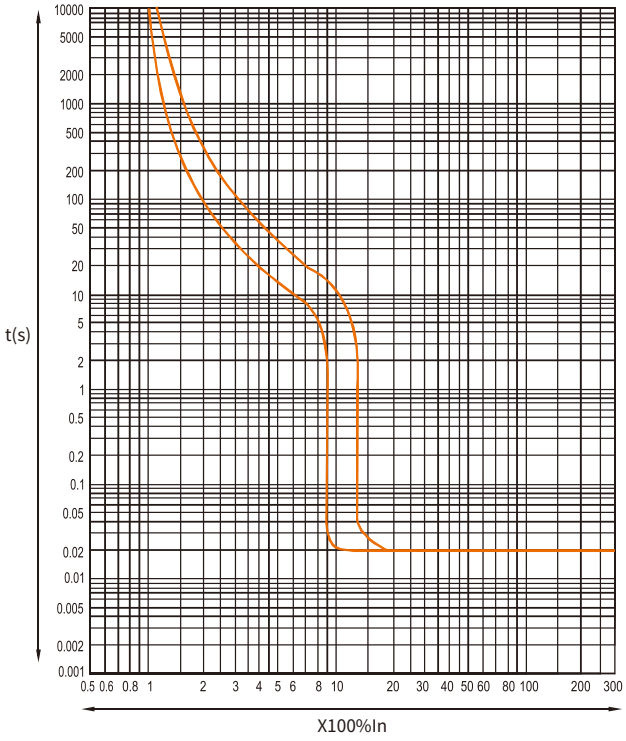
EKM7-320 Time/current Characteristic Curve



EKM7-630 Current-Temperature Characteristic



EKM7-630 Time/current Characteristic Curve



EKM7DC MCCB 1500V

Non-Polarity DC MCCB ---------- Standard_IEC60947-2

Application

EKM7DC series DC molded case circuit breaker (referred to as circuit breaker), has a rated operating voltage to DC1500V, rated insulation voltage 1500V, rated impulse withstand voltage up to 12kV, and rated current 100A~1600A.

The circuit breaker can be vertically or horizontally installed.

It complies with the following standards:
IEC 60947-1 and IEC 60947-2.

Working conditions

- The altitude is 2000m and below, high altitude capacity reduction coefficient is shown in the capacity reduction coefficient table;
  The temperature of the surrounding medium shall not be higher than +70°C (+45°C for Marine products) and not lower than -25°C (below -25°C, LC low-temperature products need to be customized), and the average value within 24h shall not exceed +35°C. When it is higher than +50°C, the user needs to use the capacity reduction coefficient, as shown in Table.
- Storage temperature -40°C ~+75°C.
- The relative humidity of the air at the installation site does not exceed 50% at the maximum temperature of +40°C, and can have a higher relative humidity at lower temperatures, such as 90% at 20°C. Special measures should be taken for occasional condensation due to temperature changes.
- The maximum inclination is ±22.5°.
  Be used in a medium without explosion risk, and the medium is not sufficient to corrode metal and destroy insulation gas and conductive dust.
- Be used where with no rain and snow hit.

Selection Guide

EKM7DC - 630 H / 2 300 Z 250A

EKM7DC	630	H	2	300	Z	630A
↓	↓	↓	↓	↓	↓	↓
Model	Frame size	Code of control circuit source voltage	Pole number	Trip mode and internal accessories	Special Application	Rated current
Molded case circuit breaker for solar products	320,400, 630,1600	Breaking capacity	2P,3P,4P	2: Electronic only (instantaneous release) 3: Thermo-Magnetic (compound)	Terminal cover	See the parameter table for details

Notes: EKM7DC-320 and above frame size are with terminal cover

Technical Parameters

Model		EKM7DC-320	EKM7DC-400	EKM7DC-630	EKM7DC-1600
Rated Frame Current Inm (A)		320	400	630	1600
Rated current In (A)		100,125,140,160,180, 200,225,250,280,315A	250,315,350,400A	400,500,630A	800,1000,1250,1500, 1600A
Pole number		2P	2P	2P	3P,4P
Rated working voltage Ue (V), DC		DC750V, DC1000V, DC1200V, DC1500V			
Rated insulation voltage Ui (V)		1600V			
Rated impulse withstand voltage Uimp (kV)		12kV			
Rated operating short-circuit capacity Ics=Icu (kA)	DC750V	85	85	85	50
	DC1000V	50	50	50	30
	DC1200V	35	35	35	15
	DC1500V	20	20	20	10
Machine life (times)		4000	4000	4000	2500
Electrical life (times)		1000	1000	1000	500
Arcing distance (mm)		50 (plus arc suppression cover)			
Instantaneous tripper		5In or 10In			

Capacity Reduction Coefficient

EKM7DC Molded case circuit breaker temperature change reduction coefficient table

Model	Frame size rated current(A)	50°C	55°C	60°C	65°C	70°C
EKM7DC-320/2300	250	1	0.95	0.93	0.91	0.88
EKM7DC-400/2300	400	1	0.93	0.91	0.89	0.85
EKM7DC-630/2300	630	1	0.92	0.90	0.89	0.83
EKM7DC-1600/2300	1600	1	0.936	0.915	0.894	0.873

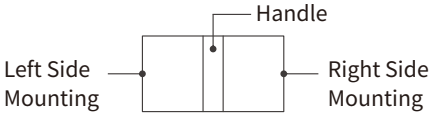
High Altitude Capacity Reduction

EKM7DC Molded case circuit breaker high altitude capacity reduction coefficient table

Altitude (m)	2000	2500	3000	3500	4000	4500	5000
Working current correction coefficient	1	1	0.98	0.97	0.96	0.95	0.94
Short-circuit breaking capacity correction coefficient	1	1	0.83	0.77	0.71	0.67	0.63
Power frequency withstand voltage correction coefficient	1	1	0.89	0.85	0.80	0.77	0.73

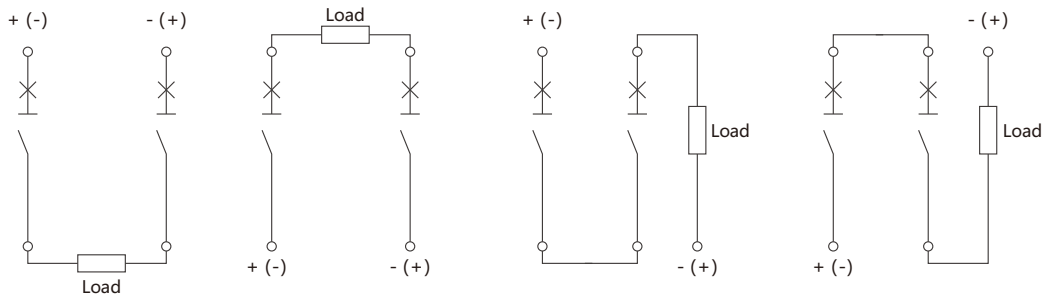
Accessory Table

Accessory code	Accessory name	EKM7DC-320	EKM7DC-400/630	EKM7DC-1600	
		2P	2P	3P	4P
00	No	-	-	-	-
08	Alarm contact				
10	Shunt release				
18	Shunt release + Alarm contact	-			
20	Single auxiliary contact				
27	Dual auxiliary contacts				
28	Single auxiliary contact + Alarm contact				
29	Dual auxiliary contacts + Alarm contact	-			
30	Under voltage release				
38	Under voltage release + Alarm contact	-			
40	Shunt release + Single auxiliary contact	-			
48	Shunt release + Auxiliary alarm	-			
62	Two sets of dual auxiliary contacts	-			
68	Single auxiliary contact + Auxiliary alarm				
69	Dual auxiliary contact + Auxiliary alarm	-			
70	Under voltage release + Single auxiliary contact	-			



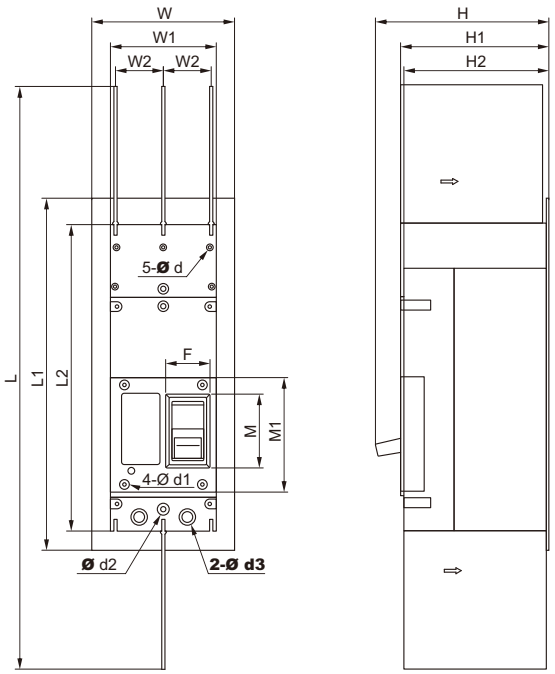
- Alarm contact
- Single auxiliary contact
- Dual auxiliary contacts
- Under voltage release (mechanical)
- Shunt trip (mechanical)

DC Circuit Breaker Connection Mode



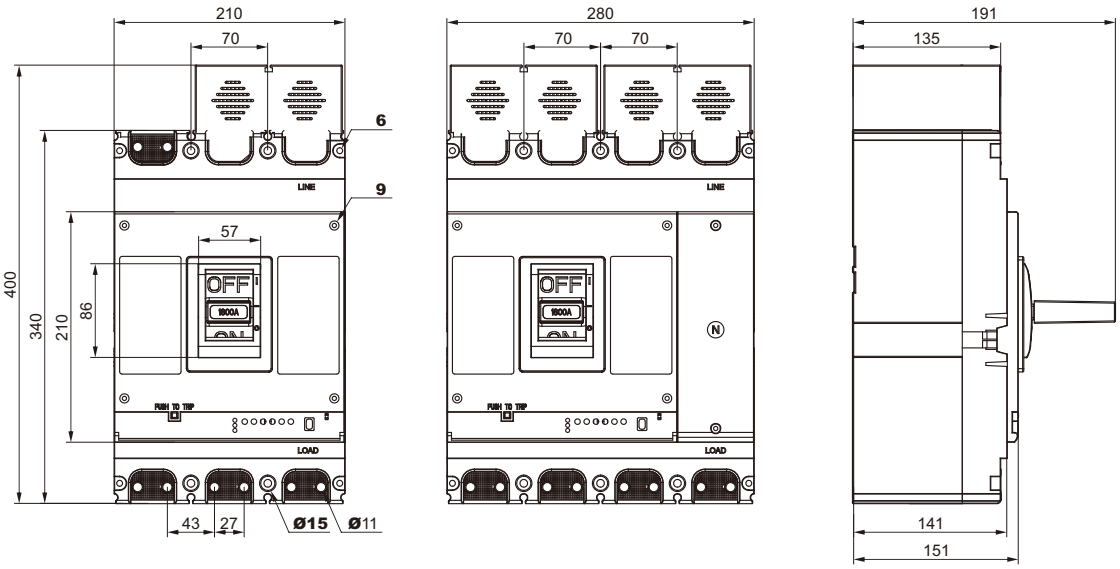
Note: (1) + positive power supply, - negative power supply.
The product has non-polar wiring characteristics, it can meet different wiring needs.

Overall Dimensions and Mounting Dimensions (mm)

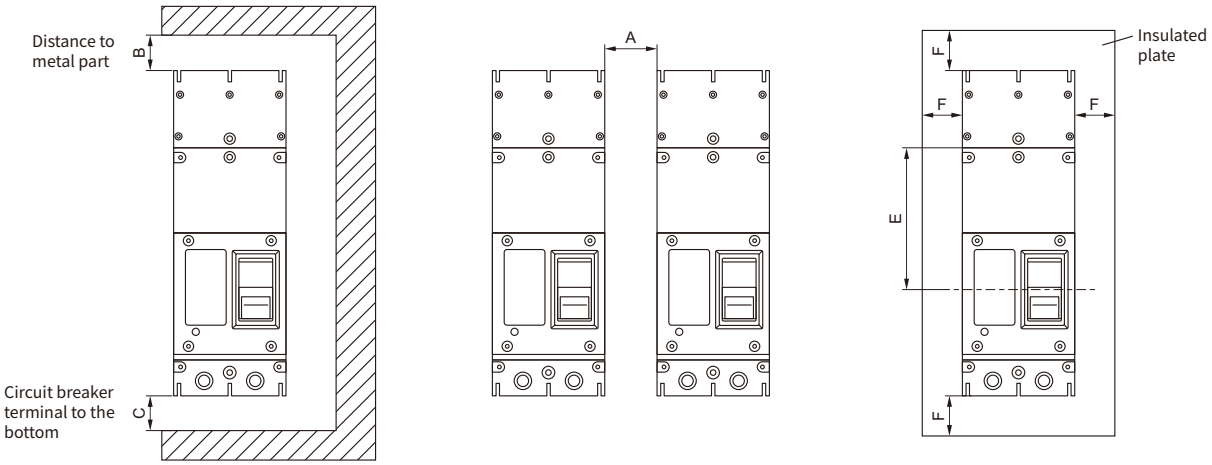


Model	W	W1	W2	L	L1	L2	M	M1	F	H	H1	H2	d	d1	d2	d3
EKM7DC-320	/	99	38	465	/	245	51	101	28	135	118	/	/	7	10	12.5
EKM7DC-400	148	110	49	605	365	319	76	119	45	178	154	150	8	11	13	19
EKM7DC-630	148	110	49	605	365	319	76	119	45	178	154	150	8	11	13	19

EKM7DC-1600



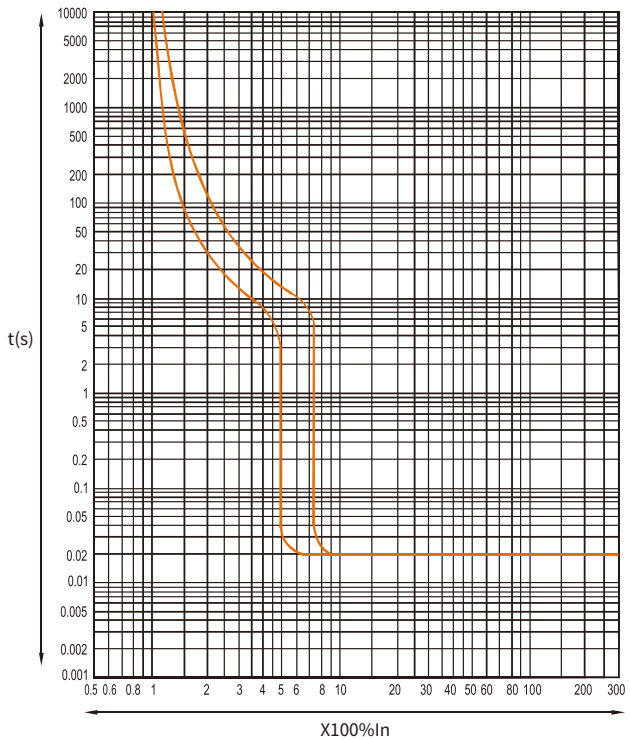
Mounting Diagram



Model	Dimensions (mm)					
	A	B	C	D	E	F
EKM7DC-320	30	30	30	30	93.8	25
EKM7DC-400	50	50	50	50	182.5	25
EKM7DC-630	50	50	50	50	182.5	25
EKM7DC-1600	100	110	110	50	162	110

Tripping Curve

Time/characteristic curve



EKU5-T1+T2-7 SPD TYPE T1+T2

Standard_IEC/EN61643-11

Product Selection Guide

EK	U5	-	T1+T2	-	7	-	1P	-	275	S

EK	ETEK
U5	SPD series No.5
T1+T2	Class Ⅰ+Ⅱ / Type 1+2
7	Iimp: 7kA
1P	No. of poles: 1:1P; 2:2P; 3:3P; 4:4P; 1PN:1P+NPE; 3PN:3P+NPE
275	Uc: 150:150V; 275:275V; 320:320V; 385:385V; 440:440V
S	With remote signaling

SPD Type Reference List

No. of poles	Max. continuous operating AC voltage				
	150V	275V	320V	385V	440V
1P	EKU5-T1+T2-7-1P150	EKU5-T1+T2-7-1P275	EKU5-T1+T2-7-1P320	EKU5-T1+T2-7-1P385	EKU5-T1+T2-7-1P440
2P	EKU5-T1+T2-7-2P150	EKU5-T1+T2-7-2P275	EKU5-T1+T2-7-2P320	EKU5-T1+T2-7-2P385	EKU5-T1+T2-7-2P440
3P	EKU5-T1+T2-7-3P150	EKU5-T1+T2-7-3P275	EKU5-T1+T2-7-3P320	EKU5-T1+T2-7-3P385	EKU5-T1+T2-7-3P440
4P	EKU5-T1+T2-7-4P150	EKU5-T1+T2-7-4P275	EKU5-T1+T2-7-4P320	EKU5-T1+T2-7-4P385	EKU5-T1+T2-7-4P440
1P+NPE	EKU5-T1+T2-7-1PN150	EKU5-T1+T2-7-1PN275	EKU5-T1+T2-7-1PN320	EKU5-T1+T2-7-1PN385	EKU5-T1+T2-7-1PN440
3P+NPE	EKU5-T1+T2-7-3PN150	EKU5-T1+T2-7-3PN275	EKU5-T1+T2-7-3PN320	EKU5-T1+T2-7-3PN385	EKU5-T1+T2-7-3PN440
With remote signaling					
1P	EKU5-T1+T2-7-1P150S	EKU5-T1+T2-7-1P275S	EKU5-T1+T2-7-1P320S	EKU5-T1+T2-7-1P385S	EKU5-T1+T2-7-1P440S
2P	EKU5-T1+T2-7-2P150S	EKU5-T1+T2-7-2P275S	EKU5-T1+T2-7-2P320S	EKU5-T1+T2-7-2P385S	EKU5-T1+T2-7-2P440S
3P	EKU5-T1+T2-7-3P150S	EKU5-T1+T2-7-3P275S	EKU5-T1+T2-7-3P320S	EKU5-T1+T2-7-3P385S	EKU5-T1+T2-7-3P440S
4P	EKU5-T1+T2-7-4P150S	EKU5-T1+T2-7-4P275S	EKU5-T1+T2-7-4P320S	EKU5-T1+T2-7-4P385S	EKU5-T1+T2-7-4P440S
1P+NPE	EKU5-T1+T2-7-1PN150S	EKU5-T1+T2-7-1PN275S	EKU5-T1+T2-7-1PN320S	EKU5-T1+T2-7-1PN385S	EKU5-T1+T2-7-1PN440S
3P+NPE	EKU5-T1+T2-7-3PN150S	EKU5-T1+T2-7-3PN275S	EKU5-T1+T2-7-3PN320S	EKU5-T1+T2-7-3PN385S	EKU5-T1+T2-7-3PN440S

EKU5-T1+T2-7 SPD TYPE T1+T2

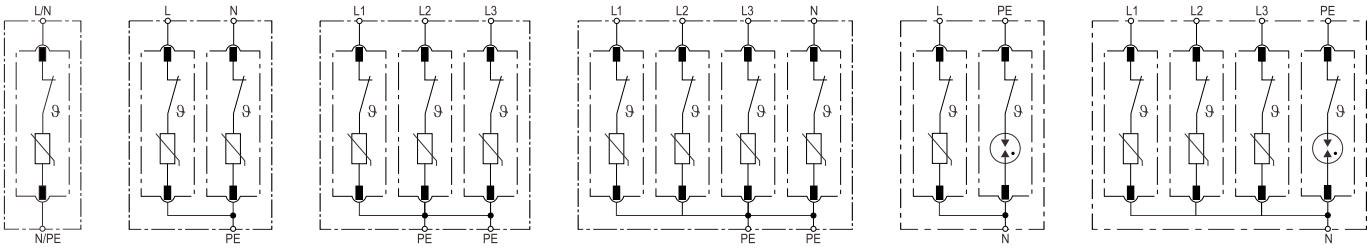
Standard_IEC/EN61643-11

Technical Data

No. of pole	1P	2P	3P	4P	1P+NPE	3P+NPE
Network systems	TN-S, TN-C, TT(only L-N)	TN-S	TN-C	TN-S	TT, TN-S	
Mode of protection	L-PE, N-PE(onlyTN-S), L-PEN, L-N	L-PE, N-PE	L-PEN	L-PE, N-PE	L-N, N-PE	
Protective elements	High energy MOV				High energy MOV and GDT	

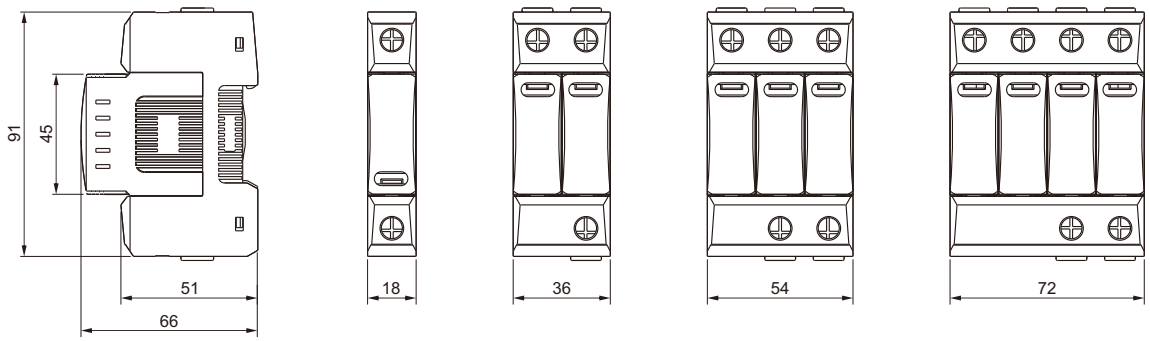
Maximum continuous operating voltage (L-N)	Uc	150V	275V	320V	385V	440V
Maximum continuous operating voltage (N-PE)	Uc	255V				
Impulse discharge current (10/350μs)	Iimp	7kA				
Norminal discharge current (8/20μs)	In	25kA				
Maximum discharge current (8/20μs)	Imax	50kA				
Voltage protection level (L-N)/(N-PE)	Up	1.2kV/1.5kV	1.4kV/1.5kV	1.6kV/1.5kV	1.8kV/1.5kV	2.0kV/1.5kV
Voltage protection level 5kA	Up	1.0kV	1.2kV	1.4kV	1.5kV	1.6kV
Response time (L-N)/(N-PE)	tA	⩽25ns/⩽100ns				
Operating temperature range	Tu	-40°C to +80°C				
Max. back-up fuse		160 A gL/gG				
Operating state/fault indication		Green/Red(L-N), Yellow(N-PE)				
Cross-section area (Min.)/(Max.)		4mm²/35mm²				
Mounting		35 mm DIN rail, EN 60715				
Enclosure material		Thermal plastic UL94-V0				
Degree of protection		IP20 (built-in)				

Basic Circuit Diagram



1P 2P 3P 4P 1P+NPE 3P+NPE

Dimension (mm)



EKU5-T1+T2-12 SPD TYPE T1+T2

Standard_IEC/EN61643-11

Product Selection Guide

EK	U5	-	T1+T2	-	12	-	1P	-	275	S

EK	ETEK
U5	SPD series No.5
T1+T2	Class Ⅰ+Ⅱ / Type 1+2
12	Iimp: 12.5kA
1P	No. of poles: 1:1P; 2:2P; 3:3P; 4:4P; 1PN:1P+NPE; 3PN:3P+NPE
275	Uc: 150:150V; 275:275V; 320:320V; 385:385V
S	With remote signaling

SPD Type Reference List

No. of poles	Max. continuous operating AC voltage			
	150V	275V	320V	385V
1P	EKU5-T1+T2-12-1P150	EKU5-T1+T2-12-1P275	EKU5-T1+T2-12-1P320	EKU5-T1+T2-12-1P385
2P	EKU5-T1+T2-12-2P150	EKU5-T1+T2-12-2P275	EKU5-T1+T2-12-2P320	EKU5-T1+T2-12-2P385
3P	EKU5-T1+T2-12-3P150	EKU5-T1+T2-12-3P275	EKU5-T1+T2-12-3P320	EKU5-T1+T2-12-3P385
4P	EKU5-T1+T2-12-4P150	EKU5-T1+T2-12-4P275	EKU5-T1+T2-12-4P320	EKU5-T1+T2-12-4P385
1P+NPE	EKU5-T1+T2-12-1PN150	EKU5-T1+T2-12-1PN275	EKU5-T1+T2-12-1PN320	EKU5-T1+T2-12-1PN385
3P+NPE	EKU5-T1+T2-12-3PN150	EKU5-T1+T2-12-3PN275	EKU5-T1+T2-12-3PN320	EKU5-T1+T2-12-3PN385
With remote signaling				
1P	EKU5-T1+T2-12-1P150S	EKU5-T1+T2-12-1P275S	EKU5-T1+T2-12-1P320S	EKU5-T1+T2-12-1P385S
2P	EKU5-T1+T2-12-2P150S	EKU5-T1+T2-12-2P275S	EKU5-T1+T2-12-2P320S	EKU5-T1+T2-12-2P385S
3P	EKU5-T1+T2-12-3P150S	EKU5-T1+T2-12-3P275S	EKU5-T1+T2-12-3P320S	EKU5-T1+T2-12-3P385S
4P	EKU5-T1+T2-12-4P150S	EKU5-T1+T2-12-4P275S	EKU5-T1+T2-12-4P320S	EKU5-T1+T2-12-4P385S
1P+NPE	EKU5-T1+T2-12-1PN150S	EKU5-T1+T2-12-1PN275S	EKU5-T1+T2-12-1PN320S	EKU5-T1+T2-12-1PN385S
3P+NPE	EKU5-T1+T2-12-3PN150S	EKU5-T1+T2-12-3PN275S	EKU5-T1+T2-12-3PN320S	EKU5-T1+T2-12-3PN385S

EKU5-T1+T2-12 SPD TYPE T1+T2

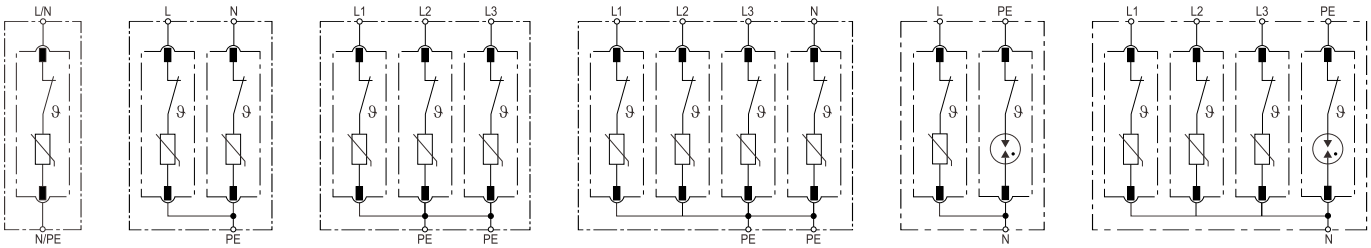
Standard_IEC/EN61643-11

Technical Data

No. of poles	1P	2P	3P	4P	1P+NPE	3P+NPE
Network systems	TN-S, TN-C, TT(only L-N)	TN-S	TN-C	TN-S	TT, TN-S	
Mode of protection	L-PE, N-PE(onlyTN-S), L-PEN, L-N	L-PE, N-PE	L-PEN	L-PE, N-PE	L-N, N-PE	
Protective elements	High energy MOV				High energy MOV and GDT	

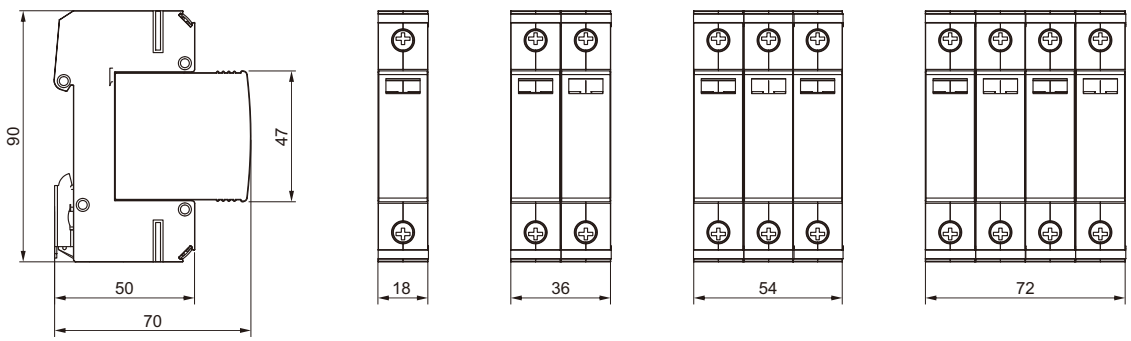
Maximum continuous operating voltage (L-N)	Uc	150V	275V	320V	385V
Maximum continuous operating voltage (N-PE)	Uc	255V			
Impulse discharge current (10/350μs)	Iimp	12.5kA			
Norminal discharge current (8/20μs)	In	30kA			
Maximum discharge current (8/20μs)	Imax	60kA			
Voltage protection level (L-N)/(N-PE)	Up	1.2kV/1.5kV	1.5kV/1.5kV	1.6kV/1.5kV	1.8kV/1.5kV
Voltage protection level 5kA	Up	0.6kV	1.0kV	1.2kV	1.3kV
Response time (L-N)/(N-PE)	tA	⩽25ns/⩽100ns			
Operating temperature range	Tu	-40°C to +80°C			
Max. Back-up fuse		160 A gL/gG			
Operating state/fault indication		Green/Red(L-N), Yellow(N-PE)			
Cross-section area (Min.)/(Max.)		4mm²/35mm²			
Mounting		35 mm DIN rail, EN 60715			
Enclosure material		Thermal plastic UL94-V0			
Degree of protection		IP20 (built-in)			

Basic Circuit Diagram



1P 2P 3P 4P 1P+NPE 3P+NPE

Dimension (mm)



EKU5-T2-20 SPD TYPE T2

Standard_IEC/EN61643-11

Product Selection Guide

EK	U5	-	T2	-	20	-	1P	-	275	S

EK	ETEK
U5	SPD series No.5
T2	Class II / Type 2
20	I.max: 20kA
1P	No. of poles: 1:1P; 2:2P; 3:3P; 4:4P; 1PN:1P+NPE; 3PN:3P+NPE
275	Uc: 150:150V; 275:275V; 320:320V; 385:385V; 440:440V
S	With remote signaling

SPD Type Reference List

No. of poles	Max. continuous operating AC voltage				
	150V	275V	320V	385V	440V
1P	EKU5-T2-20-1P150	EKU5-T2-20-1P275	EKU5-T2-20-1P320	EKU5-T2-20-1P385	EKU5-T2-20-1P440
2P	EKU5-T2-20-2P150	EKU5-T2-20-2P275	EKU5-T2-20-2P320	EKU5-T2-20-2P385	EKU5-T2-20-2P440
3P	EKU5-T2-20-3P150	EKU5-T2-20-3P275	EKU5-T2-20-3P320	EKU5-T2-20-3P385	EKU5-T2-20-3P440
4P	EKU5-T2-20-4P150	EKU5-T2-20-4P275	EKU5-T2-20-4P320	EKU5-T2-20-4P385	EKU5-T2-20-4P440
1P+NPE	EKU5-T2-20-1PN150	EKU5-T2-20-1PN275	EKU5-T2-20-1PN320	EKU5-T2-20-1PN385	EKU5-T2-20-1PN440
3P+NPE	EKU5-T2-20-3PN150	EKU5-T2-20-3PN275	EKU5-T2-20-3PN320	EKU5-T2-20-3PN385	EKU5-T2-20-3PN440
With remote signaling					
1P	EKU5-T2-20-1P150S	EKU5-T2-20-1P275S	EKU5-T2-20-1P320S	EKU5-T2-20-1P385S	EKU5-T2-20-1P440S
2P	EKU5-T2-20-2P150S	EKU5-T2-20-2P275S	EKU5-T2-20-2P320S	EKU5-T2-20-2P385S	EKU5-T2-20-2P440S
3P	EKU5-T2-20-3P150S	EKU5-T2-20-3P275S	EKU5-T2-20-3P320S	EKU5-T2-20-3P385S	EKU5-T2-20-3P440S
4P	EKU5-T2-20-4P150S	EKU5-T2-20-4P275S	EKU5-T2-20-4P320S	EKU5-T2-20-4P385S	EKU5-T2-20-4P440S
1P+NPE	EKU5-T2-20-1PN150S	EKU5-T2-20-1PN275S	EKU5-T2-20-1PN320S	EKU5-T2-20-1PN385S	EKU5-T2-20-1PN440S
3P+NPE	EKU5-T2-20-3PN150S	EKU5-T2-20-3PN275S	EKU5-T2-20-3PN320S	EKU5-T2-20-3PN385S	EKU5-T2-20-3PN440S

EKU5-T2-20 SPD TYPE T2

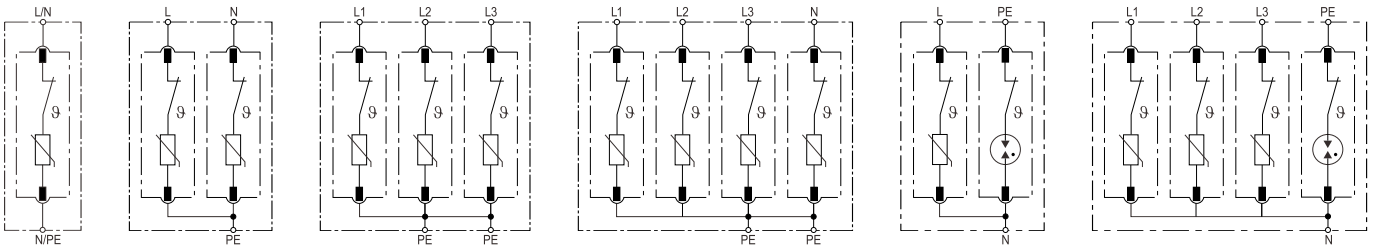
Standard_IEC/EN61643-11

Technical Data

No. of poles	1P	2P	3P	4P	1P+NPE	3P+NPE
Network systems	TN-S, TN-C, TT(only L-N)	TN-S	TN-C	TN-S	TT, TN-S	
Mode of protection	L-PE, N-PE(onlyTN-S), L-PEN, L-N	L-PE, N-PE	L-PEN	L-PE, N-PE	L-N, N-PE	
Protective elements	High energy MOV				High energy MOV and GDT	

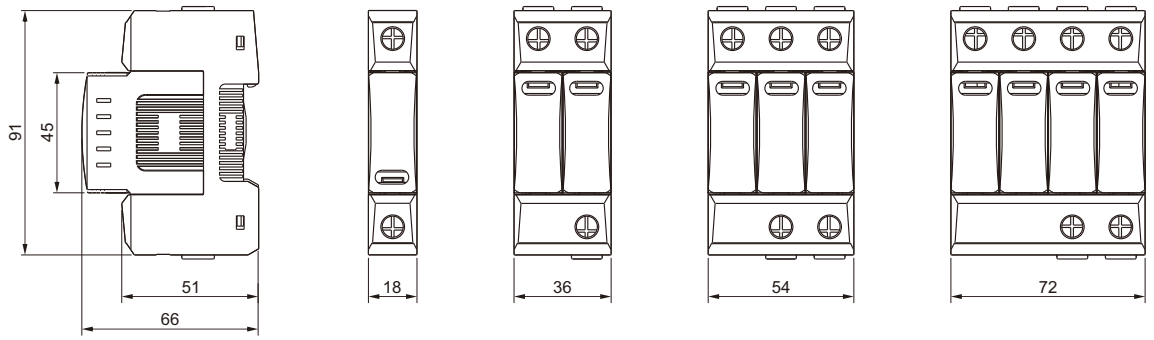
Maximum continuous operating voltage (L-N)	Uc	150V	275V	320V	385V	440V
Maximum continuous operating voltage (N-PE)	Uc	255V				
Norminal discharge current (8/20μs) (L-N)/(N-PE)	In	10kA				
Maximum discharge current (8/20μs) (L-N)/(N-PE)	Imax	20kA				
Voltage protection level (L-N)/(N-PE)	Up	0.8kV/1.5kV	1.0kV/1.5kV	1.2kV/1.5kV	1.45kV/1.5kV	1.6kV/1.5kV
Voltage protection level 5kA	Up	0.5kV	0.8kV	1.0kV	1.2kV	1.4kV
Response time (L-N)/(N-PE)	tA	⩽25ns/⩽100ns				
Operating temperature range	Tu	-40°C to +80°C				
Max. Back-up fuse		125 A gL/gG				
Operating state/fault indication		Green/Red(L-N), Yellow(N-PE)				
Cross-section area (Min.)/(Max.)		4mm²/35mm²				
Mounting		35 mm DIN rail, EN 60715				
Enclosure material		Thermal plastic UL94-V0				
Degree of protection		IP20 (built-in)				

Basic Circuit Diagram



1P 2P 3P 4P 1P+NPE 3P+NPE

Dimension (mm)



EKU5-T2-40 SPD TYPE T2

Standard_IEC/EN61643-11

Product Selection Guide

EK	U5	-	T2	-	40	-	1P	-	275	S

EK	ETEK
U5	SPD series No.5
T2	Class II / Type 2
40	I.max: 40kA
1P	No. of poles: 1:1P; 2:2P; 3:3P; 4:4P; 1PN:1P+NPE; 3PN:3P+NPE
275	Uc: 150:150V; 275:275V; 320:320V; 385:385V; 440:440V
S	With remote signaling

SPD Type Reference List

No. of poles	Max. continuous operating AC voltage				
	150V	275V	320V	385V	440V
1P	EKU5-T2-40-1P150	EKU5-T2-40-1P275	EKU5-T2-40-1P320	EKU5-T2-40-1P385	EKU5-T2-40-1P440
2P	EKU5-T2-40-2P150	EKU5-T2-40-2P275	EKU5-T2-40-2P320	EKU5-T2-40-2P385	EKU5-T2-40-2P440
3P	EKU5-T2-40-3P150	EKU5-T2-40-3P275	EKU5-T2-40-3P320	EKU5-T2-40-3P385	EKU5-T2-40-3P440
4P	EKU5-T2-40-4P150	EKU5-T2-40-4P275	EKU5-T2-40-4P320	EKU5-T2-40-4P385	EKU5-T2-40-4P440
1P+NPE	EKU5-T2-40-1PN150	EKU5-T2-40-1PN275	EKU5-T2-40-1PN320	EKU5-T2-40-1PN385	EKU5-T2-40-1PN440
3P+NPE	EKU5-T2-40-3PN150	EKU5-T2-40-3PN275	EKU5-T2-40-3PN320	EKU5-T2-40-3PN385	EKU5-T2-40-3PN440
With remote signaling					
1P	EKU5-T2-40-1P150S	EKU5-T2-40-1P275S	EKU5-T2-40-1P320S	EKU5-T2-40-1P385S	EKU5-T2-40-1P440S
2P	EKU5-T2-40-2P150S	EKU5-T2-40-2P275S	EKU5-T2-40-2P320S	EKU5-T2-40-2P385S	EKU5-T2-40-2P440S
3P	EKU5-T2-40-3P150S	EKU5-T2-40-3P275S	EKU5-T2-40-3P320S	EKU5-T2-40-3P385S	EKU5-T2-40-3P440S
4P	EKU5-T2-40-4P150S	EKU5-T2-40-4P275S	EKU5-T2-40-4P320S	EKU5-T2-40-4P385S	EKU5-T2-40-4P440S
1P+NPE	EKU5-T2-40-1PN150S	EKU5-T2-40-1PN275S	EKU5-T2-40-1PN320S	EKU5-T2-40-1PN385S	EKU5-T2-40-1PN440S
3P+NPE	EKU5-T2-40-3PN150S	EKU5-T2-40-3PN275S	EKU5-T2-40-3PN320S	EKU5-T2-40-3PN385S	EKU5-T2-40-3PN440S

EKU5-T2-40 SPD TYPE T2

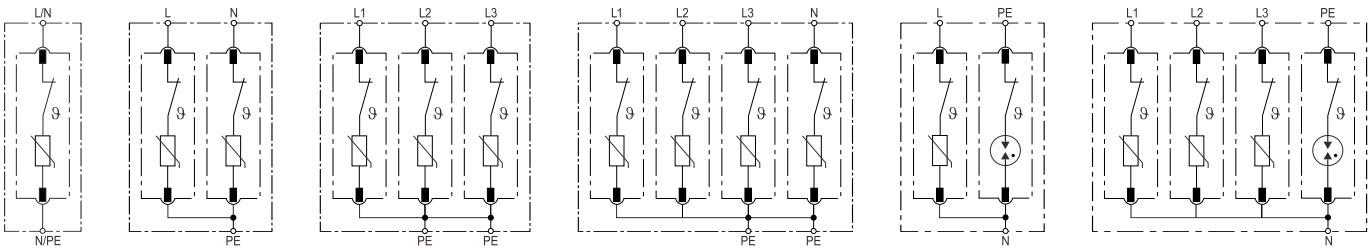
Standard_IEC/EN61643-11

Technical Data

No. of poles	1P	2P	3P	4P	1P+NPE	3P+NPE
Network systems	TN-S, TN-C, TT(only L-N)	TN-S	TN-C	TN-S	TT, TN-S	
Mode of protection	L-PE, N-PE(onlyTN-S), L-PEN, L-N	L-PE, N-PE	L-PEN	L-PE, N-PE	L-N, N-PE	
Protective elements	High energy MOV				High energy MOV and GDT	

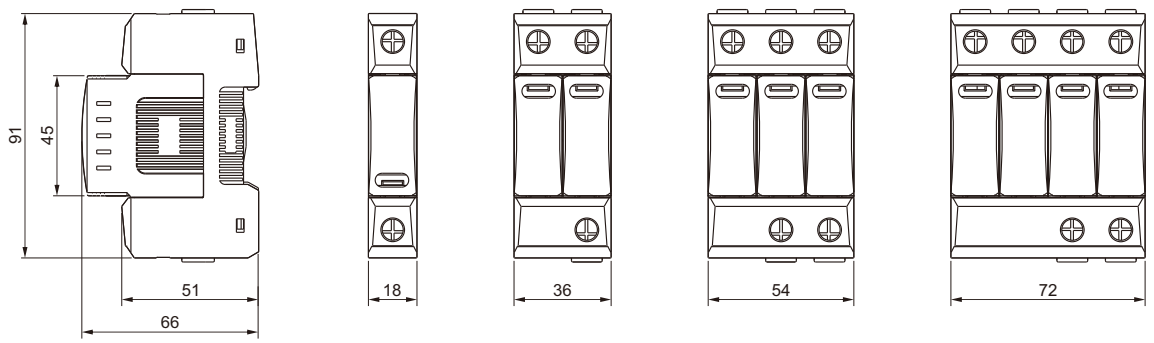
Maximum continuous operating voltage (L-N)	Uc	150V	275V	320V	385V	440V
Maximum continuous operating voltage (N-PE)	Uc	255V				
Norminal discharge current (8/20μs) (L-N)/(N-PE)	In	20kA				
Maximum discharge current (8/20μs) (L-N)/(N-PE)	Imax	40kA				
Voltage protection level (L-N)/(N-PE)	Up	0.8kV/1.5kV	1.3kV/1.5kV	1.5kV/1.5kV	1.8kV/1.5kV	2.0kV/1.5kV
Voltage protection level 5kA	Up	0.6kV	1.0kV	1.2kV	1.4kV	1.6kV
Response time (L-N)/(N-PE)	tA	⩽25ns/⩽100ns				
Operating temperature range	Tu	-40°C to +80°C				
Max. Back-up fuse		125 A gL/gG				
Operating state/fault indication		Green/Red(L-N), Yellow(N-PE)				
Cross-section area (Min.)/(Max.)		4mm²/35mm²				
Mounting		35 mm DIN rail, EN 60715				
Enclosure material		Thermal plastic UL94-V0				
Degree of protection		IP20 (built-in)				

Basic Circuit Diagram



1P 2P 3P 4P 1P+NPE 3P+NPE

Dimension (mm)



EKU5-T2-20PV SPD TYPE T2

Standard_IEC/EN61643-31

Product Selection Guide

EK	U5	-	T2	-	20	PV	-	2M	-	600	S

EK	ETEK
U5	SPD series No.5
T2	Class II / Type 2
20	I.max: 20kA
PV	Solar PV system
2M	No. of module: 2: 2 module; 3: 3 module
600	Uc: 600: DC600V; 800: DC800V; 1000: DC1000V; 1500: DC1500V
S	With remote signaling

SPD Type Reference List

No. of module	Max. continuous operating DC voltage			
	600VDC	800VDC	1000VDC	1500VDC
2 module	EKU5-T2-20PV-2M600	EKU5-T2-20PV-2M800	EKU5-T2-20PV-2M1000	-
3 module	-	-	EKU5-T2-20PV-3M1000	EKU5-T2-20PV-3M1500
With remote signaling				
2 module	EKU5-T2-20PV-2M600S	EKU5-T2-20PV-2M800S	EKU5-T2-20PV-2M1000S	-
3 module	-	-	EKU5-T2-20PV-3M1000S	EKU5-T2-20PV-3M1500S

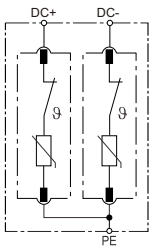
EKU5-T2-20PV SPD TYPE T2

Standard_IEC/EN61643-31

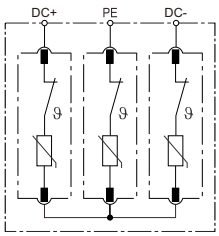
Technical Data

No. of poles		2P(2Mods), 3P(3Mods)			
Location of Use		String box, Inverter			
Mode of protection		(DC+)-PE, (DC-)-PE, (DC+)-(DC-)			
Protective elements		High energy MOV			
Maximum continuous operating DC voltage	Ucpv	600V	800V	1000V	1500V
Norminal discharge current (8/20μs)	In	10kA			
Total discharge current (8/20μs)	ITotal	20kA			
Maximum discharge current (8/20μs)	Imax	20kA			
Voltage protection level (2P)	Up	2.6kV	3.5kV	4.0kV	-
Voltage protection level (3P)	Up	-	-	4.0kV	5.2kV
Response time	tA	⩽25ns			
Operating temperature range	Tu	-40°C to +80°C			
Operating state/fault indication		Green/Red			
Cross-section area (Min.)/(Max.)		$4mm^2/35mm^2$			
Mounting		35 mm DIN rail, EN 60715			
Enclosure material		Thermal plastic UL94-V0			
Degree of protection		IP20 (built-in)			

Basic Circuit Diagram

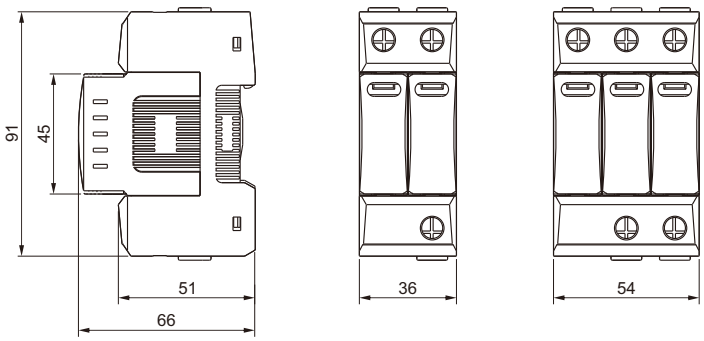


2P



3P

Dimension (mm)



EKU5-T2-40PV SPD TYPE T2

Standard_IEC/EN61643-31

Product Selection Guide

EK	U5	-	T2	-	40	PV	-	2M	-	600	S

EK	ETEK
U5	SPD series No.5
T2	Class II / Type 2
40	I.max: 40kA
PV	Solar PV system
2M	No. of module: 2: 2 module; 3: 3 module
600	Uc: 600: DC600V; 800: DC800V; 1000: DC1000V; 1500: DC1500V
S	With remote signaling

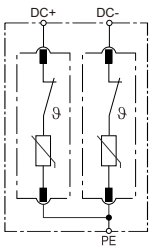
SPD Type Reference List

No. of module	Max. continuous operating DC voltage			
	600VDC	800VDC	1000VDC	1500VDC
2 module	EKU5-T2-40PV-2M600	EKU5-T2-40PV-2M800	EKU5-T2-40PV-2M1000	-
3 module	-	-	EKU5-T2-40PV-3M1000	EKU5-T2-40PV-3M1500
With remote signaling				
2 module	EKU5-T2-40PV-2M600S	EKU5-T2-40PV-2M800S	EKU5-T2-40PV-2M1000S	-
3 module	-	-	EKU5-T2-40PV-3M1000S	EKU5-T2-40PV-3M1500S

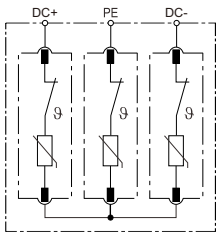
Technical Data

No. of poles		2P(2Mods), 3P(3Mods)			
Location of Use		String box, Inverter			
Mode of protection		(DC+)-PE, (DC-)-PE, (DC+)-(DC-)			
Protective elements		High energy MOV			
Maximum continuous operating DC voltage	Ucpv	600V	800V	1000V	1500V
Norminal discharge current (8/20μs)	In	20kA			
Total discharge current (8/20μs)	ITotal	40kA			
Maximum discharge current (8/20μs)	Imax	40kA			
Voltage protection level (2P)	Up	2.6kV	3.5kV	4.0kV	-
Voltage protection level (3P)	Up	-	-	4.0kV	5.2kV
Response time	tA	⩽25ns			
Operating temperature range	Tu	-40°C to +80°C			
Operating state/fault indication		Green/Red			
Cross-section area (Min.)/(Max.)		$4mm^2/35mm^2$			
Mounting		35 mm DIN rail, EN 60715			
Enclosure material		Thermal plastic UL94-V0			
Degree of protection		IP20 (built-in)			

Basic Circuit Diagram

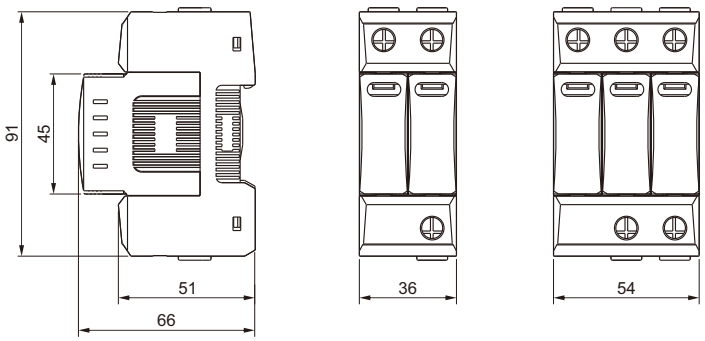


2P



3P

Dimension (mm)



EKU5-T1+T2-40PV SPD TYPE T1+T2

Standard_ IEC/EN61643-31

Product Selection Guide

EK	U5	-	T1+T2	-	40	PV	-	3M	-	1500	S

EK	ETEK
U5	SPD series No.5
T1+T2	Class I + II / Type 1+2
40	I.max: 40kA
PV	Solar PV system
3M	No. of module: 3: 3 module
1500	Uc: 1000: DC1000V; 1500: DC1500V
S	With remote signaling

SPD Type Reference List

No. of module	Max. continuous operating DC voltage	
	1000VDC	1500VDC
3 module	EKU5-T1+T2-40PV-3M1000	EKU5-T1+T2-40PV-3M1500
With remote signaling		
3 module	EKU5-T1+T2-40PV-3M1000S	EKU5-T1+T2-40PV-3M1500S

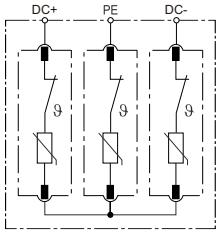
EKU5-T1+T2-40PV SPD TYPE T1+T2

Standard_ IEC/EN61643-31

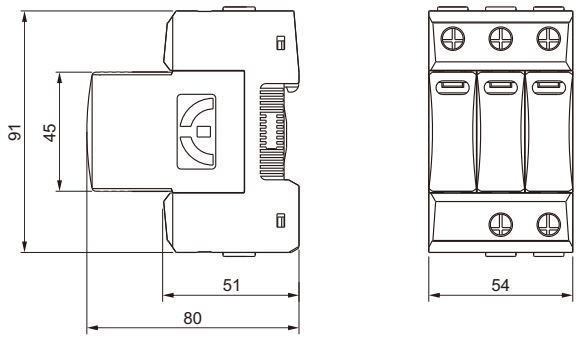
Technical Data

No. of poles		3P	
Location of Use		String box, Inverter	
Mode of protection		(DC+)-PE, (DC-)-PE, (DC+)-(DC-)	
Protective elements		High energy MOV	
Maximum continuous operating DC voltage	Ucpv	1000V	1500V
Norminal discharge current (8/20μs)	In	20kA	
Impulse discharge current (10/350μs)	Iimp	6.25kA	
Total discharge current (10/350μs)	ITotal	12.5kA	
Total discharge current (8/20μs)	ITotal	40kA	
Maximum discharge current (8/20μs)	Imax	40kA	
Voltage protection level (DC+)-PE,(DC-)-PE	Up	4.0kV	5.2kV
Voltage protection level (DC+)-(DC-)	Up	4.0kV	5.2kV
Response time	tA	⩽25ns	
Operating temperature range	Tu	-40°C to +80°C	
Operating state/fault indication		Green/Red	
Cross-section area (Min.)/(Max.)		$4mm^2/35mm^2$	
Mounting		35 mm DIN rail, EN 60715	
Enclosure material		Thermal plastic UL94-V0	
Degree of protection		IP20 (built-in)	

Basic Circuit Diagram



Dimension (mm)



EKFL10D10

Cylindrical Fuse Link

General

Rated voltage: 1000V

Rated current: 2A~32A

Core size: 10×38mm

Utilization category: gPV

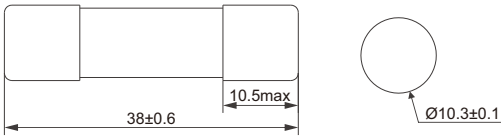
Standard: IEC60269-6

Breaking capacity: 30kA

Main Technical Data

Model	Rated current (A)	I^2t (Amps^2 seconds)		Power loss (W)	
		Pre-arcing	Total clear	0.8In	1.0In
EKFL10D1002	2	1.2	3.3	0.68	1.36
EKFL10D1003	3	3.9	11	0.75	1.42
EKFL10D1004	4	10	27	0.94	1.58
EKFL10D1005	5	18	48	0.98	1.83
EKFL10D1006	6	31	89	1.10	1.84
EKFL10D1008	8	3.1	31	1.13	1.86
EKFL10D1010	10	7.2	68	1.21	2.08
EKFL10D1012	12	16	136	1.38	2.62
EKFL10D1015	15	24	215	1.67	2.95
EKFL10D1020	20	38	392	1.92	3.12
EKFL10D1025	25	71	508	2.10	3.46
EKFL10D1030	30	102	821	2.30	3.78
EKFL10D1032	32	264	1020	2.60	4.20

Dimension (mm)



EKFL15D10L

Cylindrical Fuse Link

General

Rated voltage: 1500V

Rated current: 2A~35A

Core size: 10×85mm

Utilization category: gPV

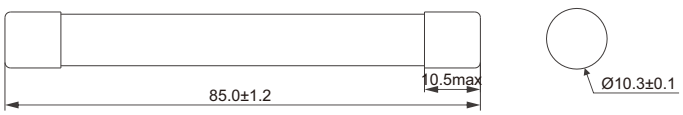
Standard: IEC60269-6

Breaking capacity: 50kA

Main Technical Data

Model	Rated current (A)	I^2t (Amps^2 seconds)		Power loss (W)	
		Pre-arcing	Total clear	0.8In	1.0In
EKFL15D10L02	2	4	8	1.0	2.0
EKFL15D10L03	3	6	11	1.1	2.1
EKFL15D10L04	4	8	14	1.2	2.2
EKFL15D10L05	5	11	22	1.4	2.4
EKFL15D10L06	6	15	30	1.5	2.6
EKFL15D10L08	8	9	35	1.8	3.0
EKFL15D10L10	10	10	98	2.2	3.5
EKFL15D10L12	12	12	120	2.5	3.8
EKFL15D10L15	15	14	170	3.0	4.8
EKFL15D10L20	20	34	400	3.5	6.2
EKFL15D10L25	25	65	550	4.0	7.2
EKFL15D10L30	30	95	750	4.5	8.3
EKFL15D10L32	32	116	792	4.8	8.9
EKFL15D10L35	35	143	980	5.0	9.3

Dimension (mm)



EKFL15D14L

Cylindrical Fuse Link

General

Rated voltage: 1500V

Rated current: 25A~50A

Core size: 14×85mm

Utilization category: gPV

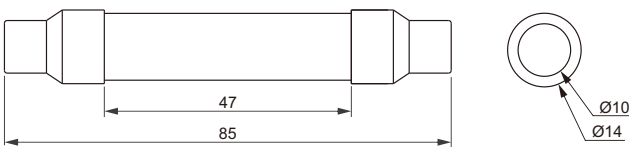
Standard: IEC60269-6

Breaking capacity: 30kA

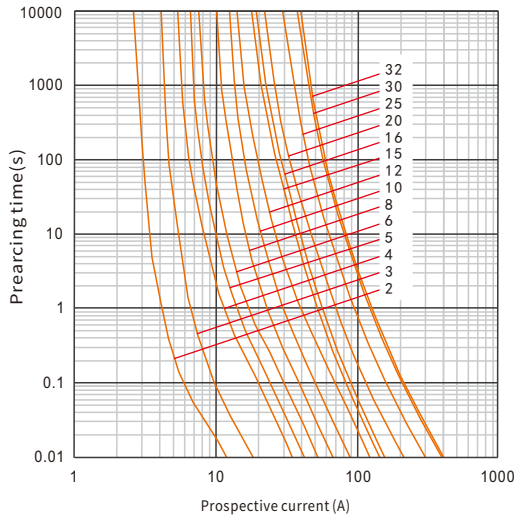
Main Technical Data

Model	Rated current (A)	I^2t (Amps^2 seconds)		Power loss (W)	
		Pre-arcing	Total clear	0.8In	1.0In
EKFL15D14L25	25	160	580	4.3	7.8
EKFL15D14L30	30	230	780	5.0	9.2
EKFL15D14L32	32	250	1050	6.0	11
EKFL15D14L40	40	650	2640	8.2	15
EKFL15D14L45	45	900	3260	8.8	16
EKFL15D14L50	50	1065	3820	10.3	18.8

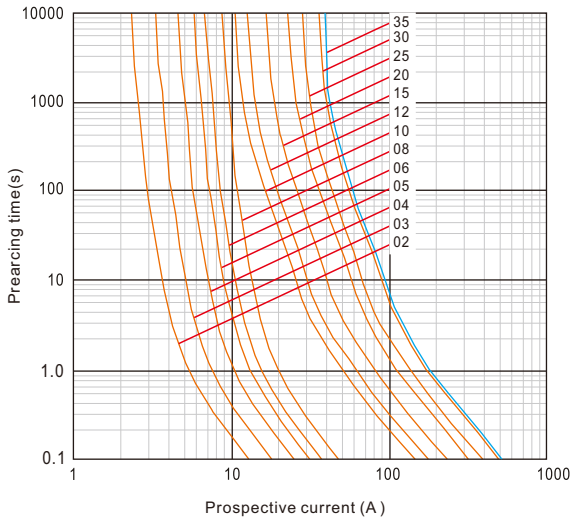
Dimension (mm)



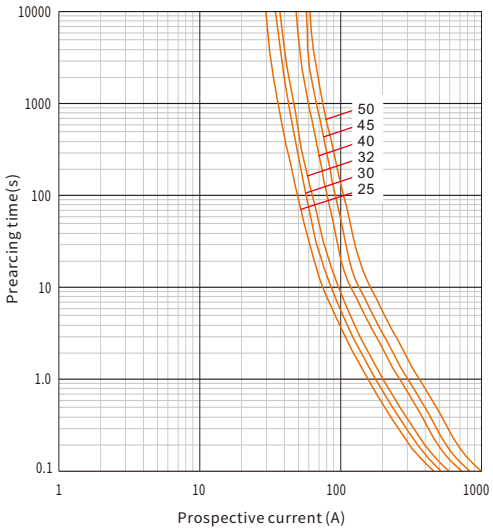
Cylindrical Fuse Link



EKFL10D10



EKFL15D10L



EKFL15D14L

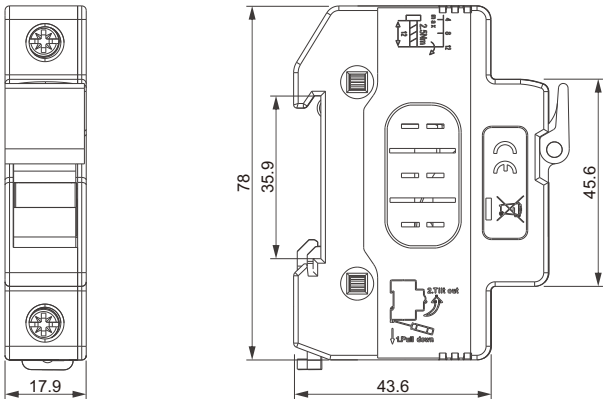
EKF1-10(X)PV

PV Fuse Holder

Main Technical Data

Rated voltage	1000VDC
Rated current	32A
Size of Fuse Link	10×38mm
Protection characteristics	gPV
Mechanical Life	500
Product Width	18mm
Tightening Torque	2.5Nm 14In-lbs
Terminal size for Cable	6mm^2 8-18AWG
Ambient temperature	-20°C~+55°C
Storage Temperature	-25°C~+70°C
Standard	IEC60269-6, IEC60947-3
Mounting	On DIN rail EN60715(35mm) by means of fast clip device

Dimension (mm)



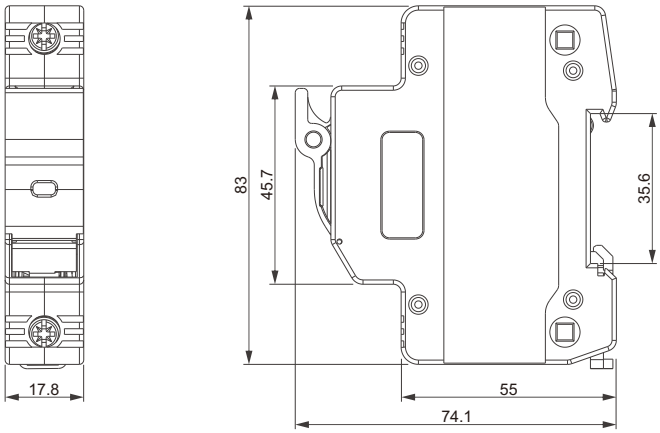
EKF1-10(X)PVH

PV Fuse Holder

Main Technical Data

Rated voltage	1000VDC
Rated current	32A
Size of Fuse Link	10×38mm
Protection characteristics	gPV
Mechanical Life	500
Product Width	18mm
Tightening Torque	2.5Nm 14In-lbs
Terminal size for Cable	6mm^2 8-18AWG
Ambient temperature	-20°C~+55°C
Storage Temperature	-25°C~+70°C
Standard	IEC60269-6, IEC60947-3
Mounting	On DIN rail EN60715(35mm) by means of fast clip device

Dimension (mm)



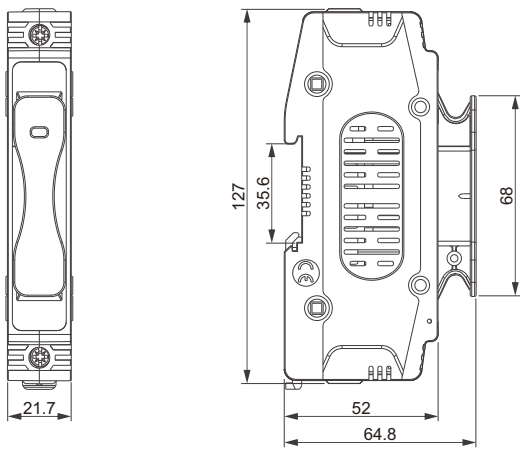
EKF1-15(X)PV

PV Fuse Holder

Main Technical Data

Rated voltage	1500VDC
Rated current	50A
Size of Fuse Link	10×85mm, 14×85mm
Protection characteristics	gPV
Mechanical Life	500
Product Width	22mm
Tightening Torque	2.5Nm 14In-lbs
Terminal size for Cable	10mm^2 8-18AWG
Ambient temperature	-20°C~+55°C
Storage Temperature	-25°C~+70°C
Standard	IEC60269-6, IEC60947-3
Mounting	On DIN rail EN60715(35mm) by means of fast clip device

Dimension (mm)



EKD16

DC Isolator Switch

Standard_ IEC60947-3

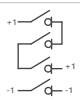
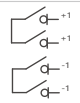
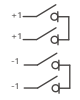
Overview

EKD16 series DC isolator switches are developed for photovoltaic (PV) systems with rated voltage up to DC 1200V and current up to 32A. The product is suitable for infrequent switching and allows simultaneous disconnection of one or both DC polarity lines (positive and negative), providing safe and reliable isolation between solar arrays and inverters in HVDC transmission and distribution systems.

Features

- Standard: IEC/EN 60947-3
- Model: EKD16-DB32, EKD16-EL32
- Poles type: A2, A4, 4T, 4B, 4S
- Insulation voltage: 1500V
- Rated operated voltage: 300VDC~1500VDC
- Rated current: 32A@1200VDC
- Utilization category: DC-PV1, DC-PV2, DC-21B
- Rated short-time making capacity (Icm): 10kA
- Rated impulse withstand voltage: 8kV
- Degree of protection: IP20, IP66(with plastic enclosure)

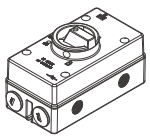
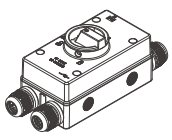
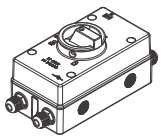
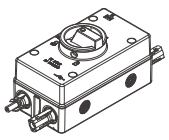
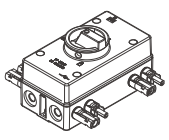
Technical Data

Utilization category DC-PV1/DC-PV2						Poles type	No.of strings	Part number	Contact configuration
300V	600V	800V	1000V	1200V	1500V				
32	32	32	16	13	7	A2	1	EKD16-DB32-2 EKD16-EL32-2	
32	32	32	16	13	7	A4	2	EKD16-DB32-4 EKD16-EL32-4	
32	32	32	32	32	23	4S	1	EKD16-DB32-4S EKD16-EL32-4S	
32	32	32	32	32	23	4B	1	EKD16-DB32-4B EKD16-EL32-4B	
32	32	32	32	32	23	4T	1	EKD16-DB32-4T EKD16-EL32-4T	

Technical Data

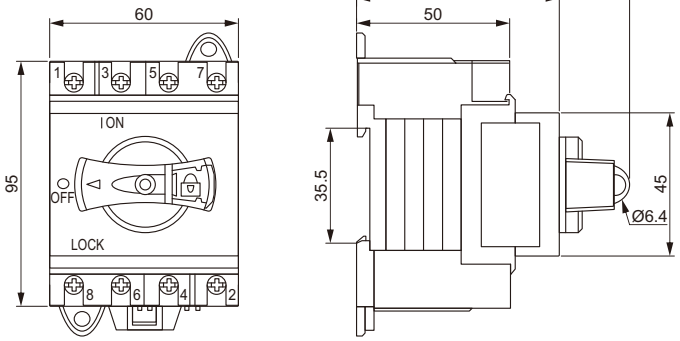
Main Parameters	EKD16-DB32	EKD16-EL32
Rated insulation voltage Ui (V)	1500	
Rated thermal current Ithe (A)	32	
Rated impulse withstand voltage Uimp (V)	8000	
Rated short-circuit making capacity Icm (A)	1000	
Rated conditional short-circuit current Icc (A)	5000	
Max. fuse size gL/gG (A)	80	
Maximum cable cross sections (incl. jumper)		
Solid or standard (mm^2)	4-16	
Flexible (mm^2)	4-10	
Flexible (+ multicore cable end) (mm^2)	4-10	
Torque		
Tightening torque terminal screws M4. (Nm)	1.2-1.8	
Tightening torque panel mounting screws ST4.2 (304 stainless steel) (Nm)	-	1.5-2.0
Tightening torque knob screws M3 (Nm)	0.5-0.7	
Switching on or off torque (Nm)	0.9-1.3	
General parameters		
Method of mounting	Din-rail mounting	Wall-mounted or screw installation
Knob positions	OFF at 9 hr, ON at 12 hr	
Mechanical life	10000	
Number of DC poles	2 or 4	
Operation temperature (°C)	-40°C to +70°C	
Storage temperature (°C)	-40°C to +85°C	
Pollution degree	2	
Overvoltage category	III	
Degree of protection	IP20	IP66

EKD16-EL32 Configuration

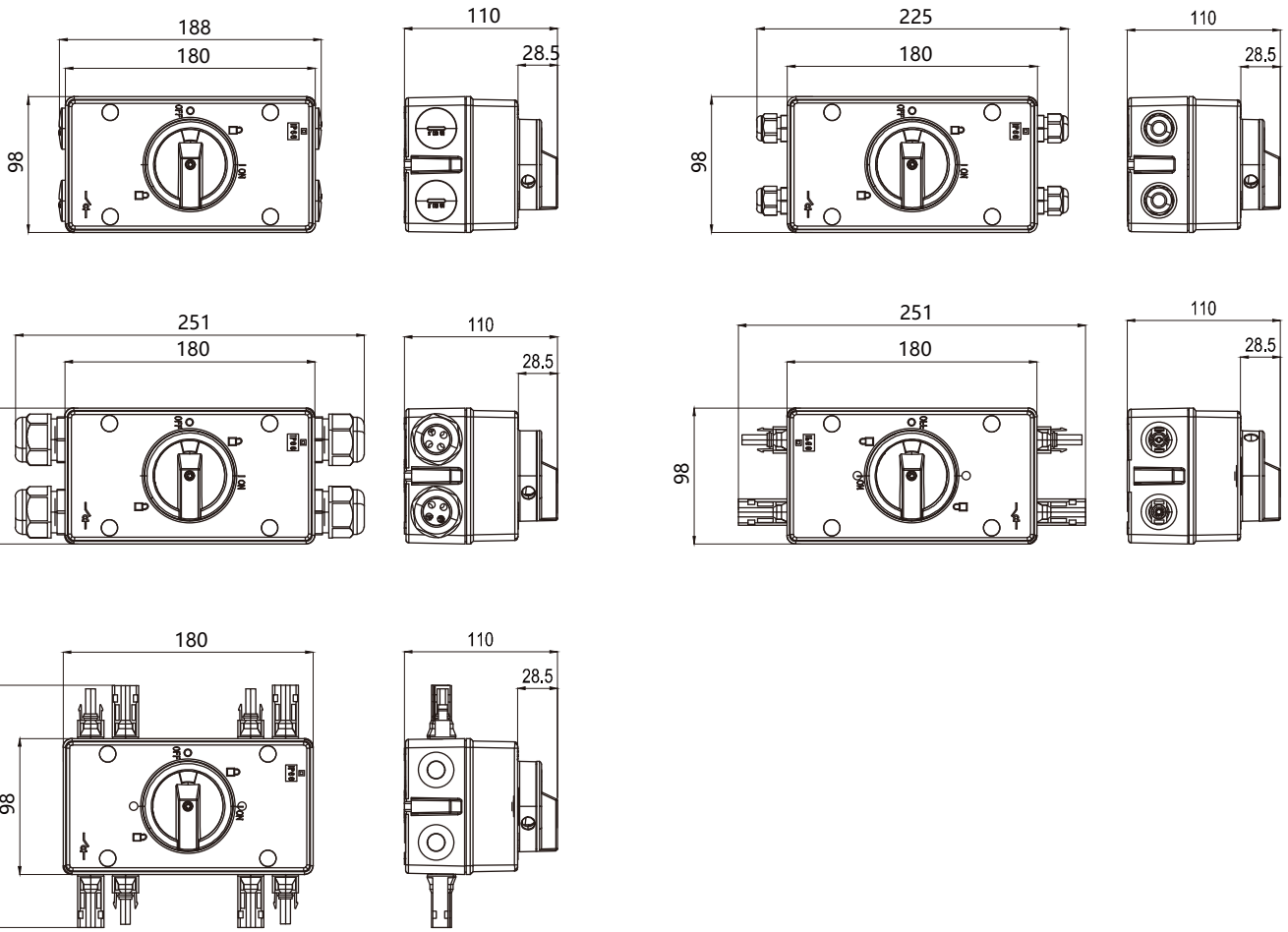
Types					
Specs	M25 waterproof cap	Cable gland M25	Cable gland M16	2MC4	4MC4
Independent strings	1 or 2	1 or 2	1	1	1
Recommend types	All	All	2/4S/4T/4B	2/4S/4T/4B	4

Dimension (mm)

EKD16-DB32



EKD16-EL32



EKDS7

DC Isolator Switch ---------- Standard_ IEC60947-3

Overview

EKDS7 DC multi-circuit disconnect switch is designed for photovoltaic systems, offering rated currents from 13A to 55A, operating voltages up to 1500V DC, and 2 to 10 poles configurations to suit various applications.

Features

- Non-polarity DC isolator switch.
- Modular design, available 2-10 levels.
- Single hole mounting, panel mounting, distribution board, door clutch or enclosure available.
- Dynamic sealing design and world class sealing materials guarantee an IP66 protection rate.
- DC 1500V insulation voltage design, passed IEC/EN60947-3 test, TUV, CE available.
- Impact resistance: IK08.
- Rated current: 13A, 20A, 25A, 40A, 50A.

Select Code

EK	DS	7	DB	-	25	-	4P	R
①	②	③	④		⑤		⑥	⑦

Code name	Meaning
①	ETEK
②	DC isolation switch
③	Series 7
④	Mounting type: DB: Rail installation PM: Panel mounting DC: Door interlock HM: Hole mounting EL: Enclosured

Code name	Meaning
⑤	Rated current: 13: 13A; 20: 20A; 25: 25A; 40: 40A; 50: 50A
⑥	Pole: 2P, 3P, 4P, 6P, 8P, 10P 2H, 3H, 4H 4T, 4B, 4S, 3T, 6T, 9T
⑦	R: Lockable Nil: With out lock

Note: The direction of the PM series rotary button is closed at 9hr and open at 12hr.
The direction of the other rotary buttons is closed at 12hr and open at 3hr.
HM series rotary buttons have both the directions. If you have special needs, please kindly check with us.

Technical Data

Rated operating current at 1000V (In)		13A	20A	25A	40A	50A
Rated insulation voltage (Ui)		1500V				
Rated thermal current (Ith)		32A	40A	55A	55A	63A
Rated impulse withstand voltage (Uimp)		8000V				
Rated short-time withstand current (1s) (Icw)		780A				
Rated short-time making capacity (Icm)		1200A				
Maximum cable cross sections (incl. jumper)	Solid or standard	4-16mm^2				
	Flexible	4-16mm^2				
	Flexible (+ multicore cable end)	4-16mm^2				
Tightening torque terminal screws M4.		1.2-1.8N · m				
Tightening torque single hole mounting nut M16		2.0-2.3N · m				
Tightening torque knob screws M3		0.5-0.7N · m				
Switching on or off torque		0.9-1.3N · m				
Knob positions		OFF at 9hr, ON at 12hr; OFF at 12hr, ON at 3hr				
Electrical Life	Actual	3000 Cycles				
	Standard	300 Cycles				
Mechanical Life	Actual	10000 Cycles				
	Standard	1000 Cycles				
Distance of contacts (per pole)		8mm				
Operation temperature		-40°C to +85°C				
Store temperature		-40°C to +85°C				
Pollution degree		3				
Overvoltage category		II				
IP rating of shafte and mounting nut		IP66				

Utilization Category DC-PV1 (IEC/EN 60947-3)

Poles	600VDC	800VDC	1000VDC	1100VDC	1200VDC	1300VDC	1500VDC	Model
2/3/4/6/8/10	32	26	13	13	10	10	5	EKDS7XX-13-YZ
	40	30	20	20	12	12	6	EKDS7XX-20-YZ
	55	45	25	25	15	15	8	EKDS7XX-25-YZ
	-	50	40	40	30	30	20	EKDS7XX-40-YZ
	-	63	50	50	40	35	32	EKDS7XX-50-YZ
4T/4B/4S	-	-	32	-	26	-	13	EKDS7XX-13-YZ
	-	-	40	-	30	-	20	EKDS7XX-20-YZ
	-	-	55	-	40	-	30	EKDS7XX-25-YZ
	-	-	-	-	-	-	45	EKDS7XX-40-YZ
	-	-	-	-	-	-	50	EKDS7XX-50-YZ
3T/6T/9T	-	-	32	-	23	-	10	EKDS7XX-13-YZ
	-	-	40	-	30	-	13	EKDS7XX-20-YZ
	-	-	55	-	40	-	20	EKDS7XX-25-YZ
	-	-	-	-	45	-	30	EKDS7XX-40-YZ
	-	-	-	-	50	-	40	EKDS7XX-50-YZ
2H	50	26	13	-	10	-	5	EKDS7XX-13-YZ
	64	30	20	-	12	-	6	EKDS7XX-20-YZ
	80	45	25	-	15	-	8	EKDS7XX-25-YZ
	90	50	40	-	30	-	20	EKDS7XX-40-YZ
	100	55	50	-	40	-	30	EKDS7XX-50-YZ
3H	-	50	13	-	10	-	5	EKDS7XX-13-YZ
	-	64	20	-	12	-	6	EKDS7XX-20-YZ
	-	80	25	-	15	-	8	EKDS7XX-25-YZ
	-	90	40	-	30	-	20	EKDS7XX-40-YZ
	-	100	50	-	40	-	30	EKDS7XX-50-YZ
4H	-	-	50	-	10	-	5	EKDS7XX-13-YZ
	-	-	64	-	12	-	6	EKDS7XX-20-YZ
	-	-	80	-	15	-	8	EKDS7XX-25-YZ
	-	-	90	-	30	-	20	EKDS7XX-40-YZ
	-	-	100	-	40	-	30	EKDS7XX-50-YZ

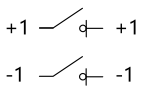
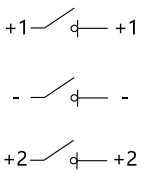
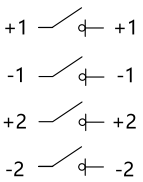
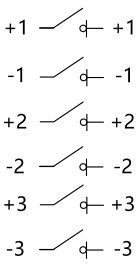
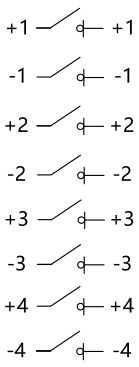
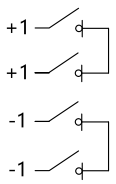
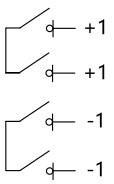
Note: XX stands for mounting type, Y stands for pole, Z stands for konb look.

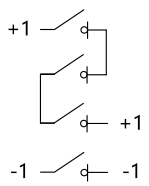
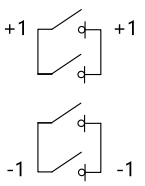
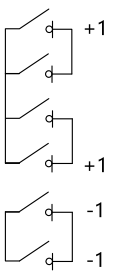
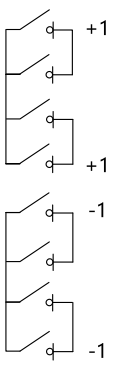
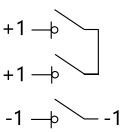
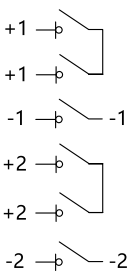
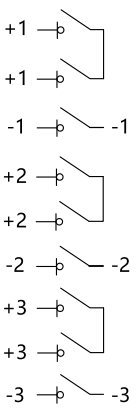
Utilization Category DC-PV2 (IEC/EN 60947-3)

Poles	600VDC	800VDC	1000VDC	1200VDC	1500VDC	Model
2/3/4/6/8/10	13	13	6	4	3	EKDS7XX-13-YZ
	20	15	8	6	4	EKDS7XX-20-YZ
	25	23	10	8	5	EKDS7XX-25-YZ
	40	30	20	15	8	EKDS7XX-40-YZ
	50	40	25	18	10	EKDS7XX-50-YZ
4T/4B/4S/3T/6T/9T	-	-	12	-	-	EKDS7XX-13-YZ
	-	-	18	-	-	EKDS7XX-20-YZ
	-	-	20	-	-	EKDS7XX-25-YZ
	-	-	40	-	-	EKDS7XX-40-YZ
	-	-	50	-	-	EKDS7XX-50-YZ

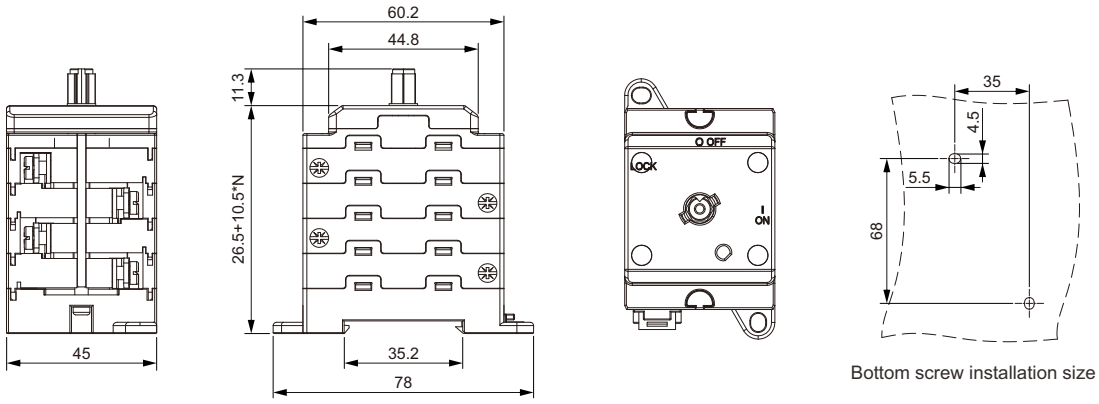
Note: XX stands for mounting type, Y stands for pole, Z stands for konb look.

Wiring Diagram

2	3	4	6	8	4T	4B
						

4S	2H	3H	4H	3T	6T	9T
						

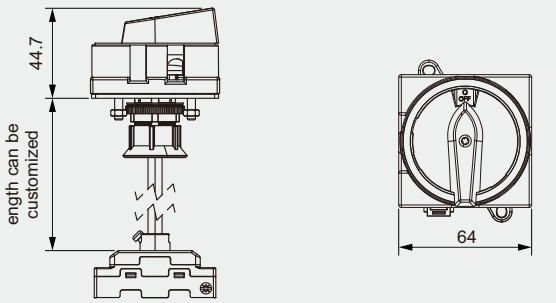
With Ear Dimension (mm)



N is the number of layers

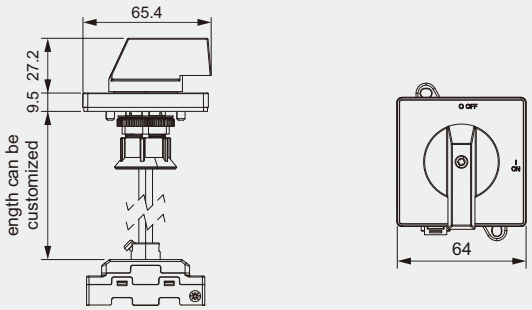
Bottom screw installation size

EKDS7DC-R
Knob



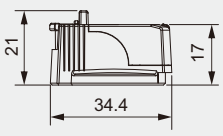
OFF at 9hr
ON at 12hr

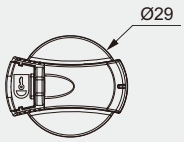
EKDS7DC
Knob



OFF at 9hr
ON at 12hr

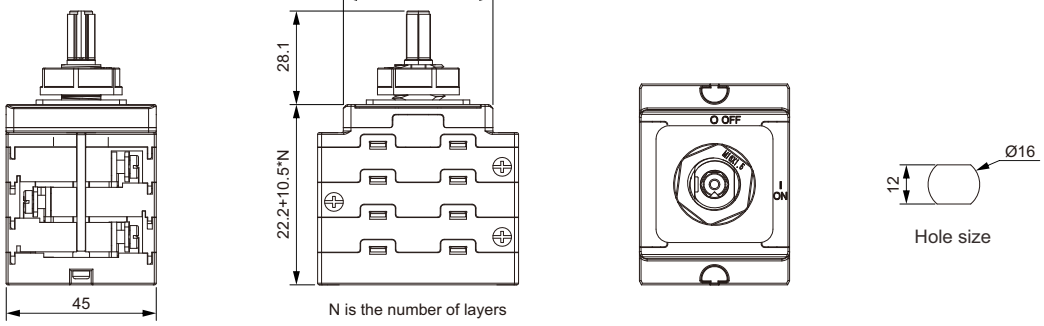
EKDS7DB-R
Knob



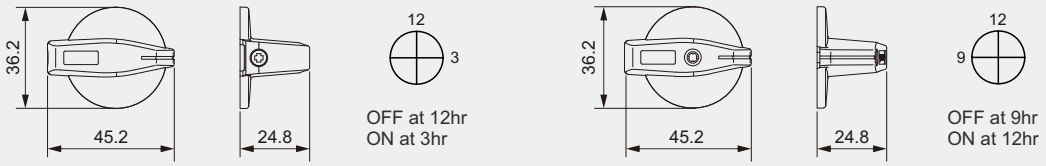


OFF at 12hr
ON at 3hr

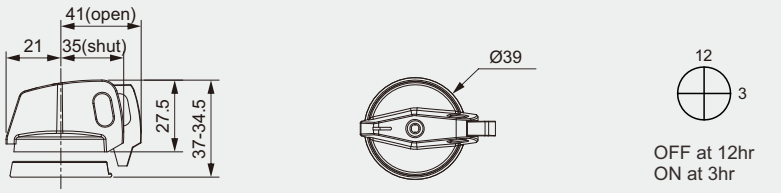
No-ear Dimension (mm)



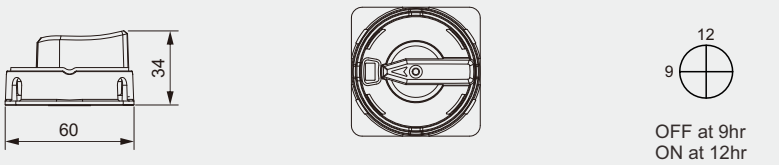
EKDS7HM
Knob



EKDS7HM-R
Knob



EKDS7PM-R
Knob



EKFS-50

Firefighter Safety Switch

Product Overview

ETEK EKFS Series Firefighter Safety Switch is a specialized safety device designed for photovoltaic (solar) systems to enhance the safety of firefighters and emergency responders during fire emergencies. It enables the quick disconnection of the photovoltaic system, ensuring the safe shutdown of direct current (DC) from solar panels to eliminate potential electrical hazards.

This device supports a maximum operating current of 50A at a voltage of 1000VDC, ensuring dependable performance in high-voltage conditions. Built with an IP65 protection rating, it provides excellent resistance to dust and water, making it highly suitable for outdoor installations.

Product Features

- 1~2 strings available
- Maximum circuit current up to 50A
- Maximum circuit voltage up to 1500VDC
- PC+ ABS material, IP65 protection grade
- Automatic shutdown at temperatures exceeding 70°C
- Plug and play for easy installation
- Compatible with most string inverters and panels

Model Fast Selection Guide

EK	FS	50	-	2
①	②	③		④

Code name	Meaning
①	ETEK
②	Firefighter safety switch

Code name	Meaning
③	Max DC current: 50A(1000VDC)
④	Number of strings: 1, 2

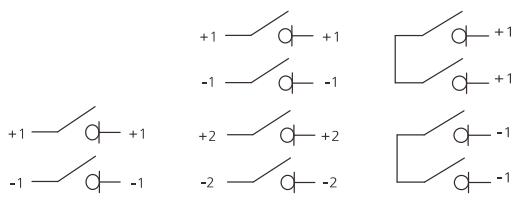
EKFS-50

Firefighter Safety Switch

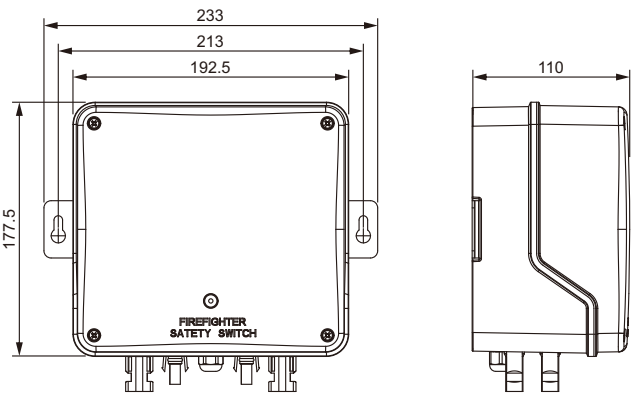
Technical Data

Model	EKFS-50-1	EKFS-50-2
No. of strings	1	2
Max string voltage	300-1500VDC	
Max string current	55A(800VDC), 50A(1000VDC), 40A(1250VDC), 30A(1500VDC)	
Switch wiring	2/4B	4
DC connector	MC4	
Power supply type	AC single phase	
Operating voltage	100-270VAC	
Nominal voltage	230VAC	
Operating frequency	47-53Hz	
Nominal frequency	50Hz	
Nominal current	30mA	
Start up (loading) current	100mA (AWG)	
Switch on action current	300mA	
AC connector	Plug-in	
Protection degree	IP65	
Protection level	Class II	
Switch according to	EN60947-3	
Mechanical endurance	9700	
Electrical endurance	300	
Operating temperature	-20°C ~ 70°C	
Storage temperature	-40°C ~ 85°C	
Max temperature for automatic shutdown	70°C	

DC Isolator Contact Configuration

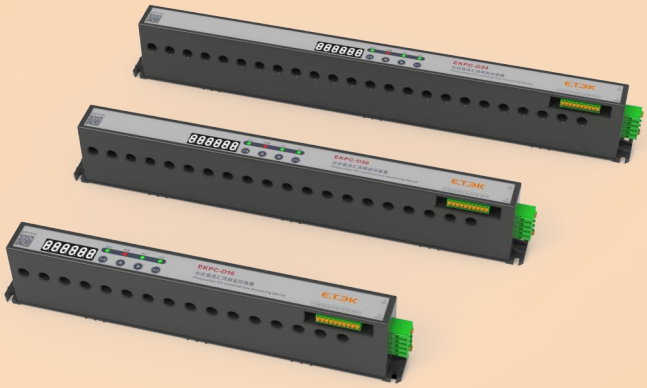


Dimension(mm)



EKPC-D

Solar PV String Level Monitoring Device



Overview

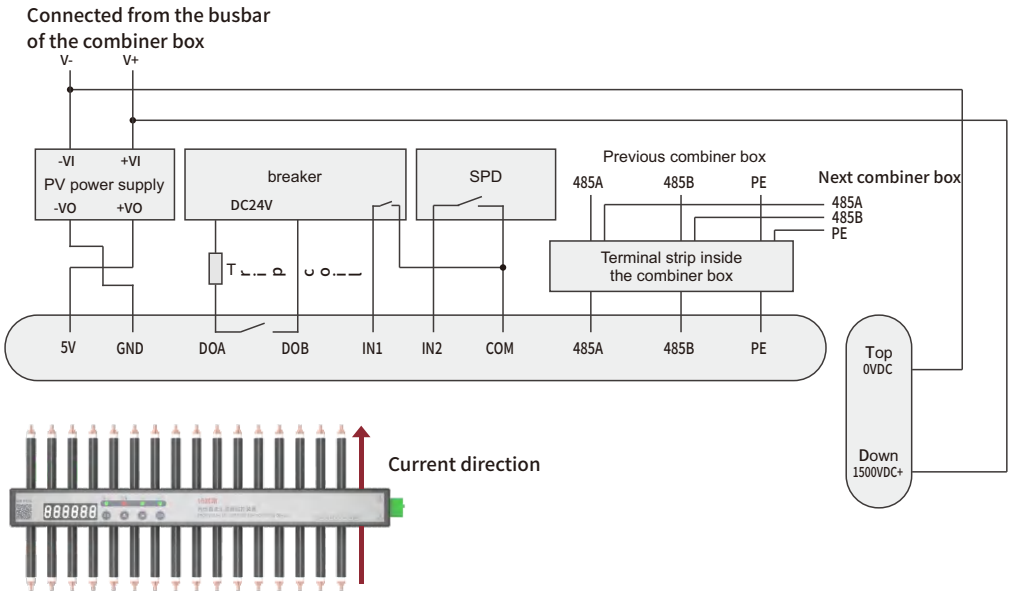
EKPC-D Solar PV String Level Monitoring Device monitors current and voltage at the string level inside a combiner box. This device is compatible with PV string voltages up to 1500VDC. It can monitor 8, 12, 16, 20, and 24 strings and measure up to 20A per string.

The EKPC-D Solar PV String Level Monitoring Device can be directly powered by the solar array while providing reliable information and data. It adopts an RS485 interface and supports the MODBUS protocol.

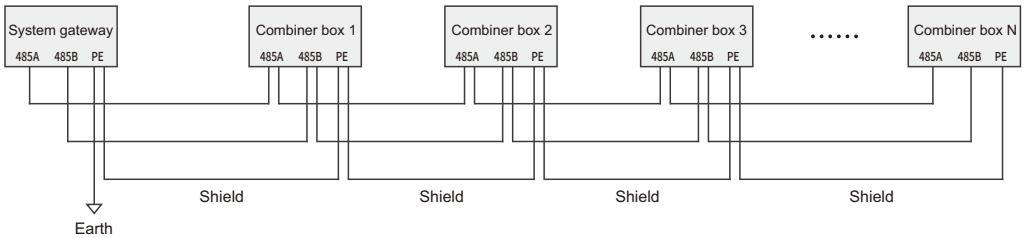
Technical Data

Model	EKPC-D8	EKPC-D12	EKPC-D16	EKPC-D20	EKPC-D24
Input channels	8	12	16	20	24
DC operating voltage	DC50V~DC1500V				
PV string current input	0~20A				
Accuracy	1%				
Response time	1S				
Temperature measuring range	-40°C~+80°C				
Temperature coefficient	250PPM/°C				
Auxiliary power input voltage	DC5V±5%				
Industrial frequency withstand voltage	2.5kV				
Communicate interface	RS485/ModBus-RTU protocol				
Baud rate	1200、2400、4800、9600、19200、38400、57600、115200bps				
Communication medium	1.5mm² screen twisted pair, communication distance 1000 meters, maximum 128 nodes per loop				
Power consumption	＜5W				
Operating temperature	-30°C~+70°C				
Storage temperature	-40°C~+80°C				
Relative humidity	0%~95%				
Altitude	⩽3000m				
Insulation resistance	⩾100MΩ				
Protection degree	IP30				
Dimensions(D×W×H)	210×30×67.3mm	274×30×67.3mm	346×30×67.3mm	418×30×67.3mm	490×30×67.3mm

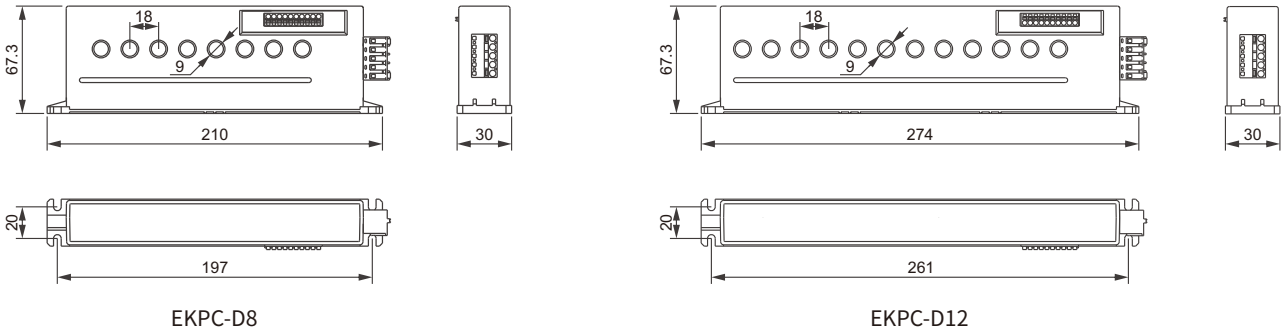
Wiring Diagram



Networking Diagram

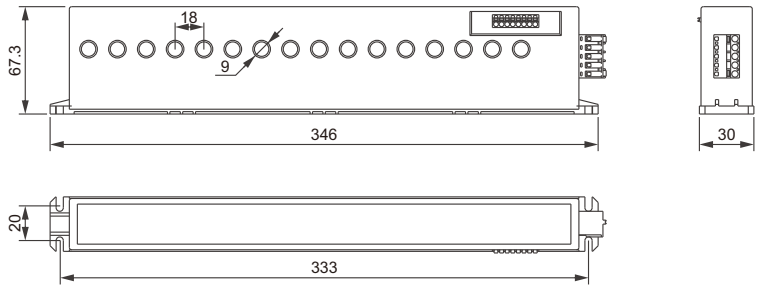


Dimensions (mm)

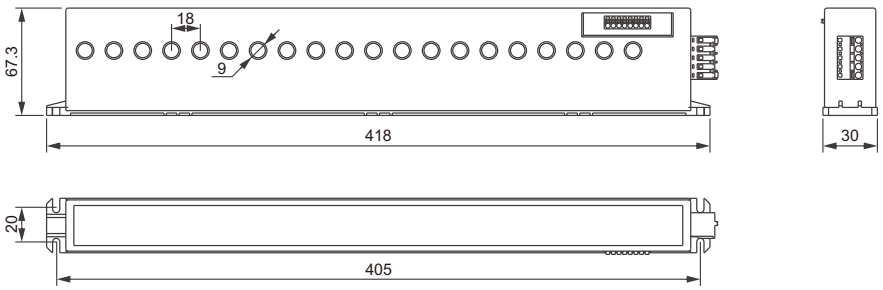


EKPC-D8

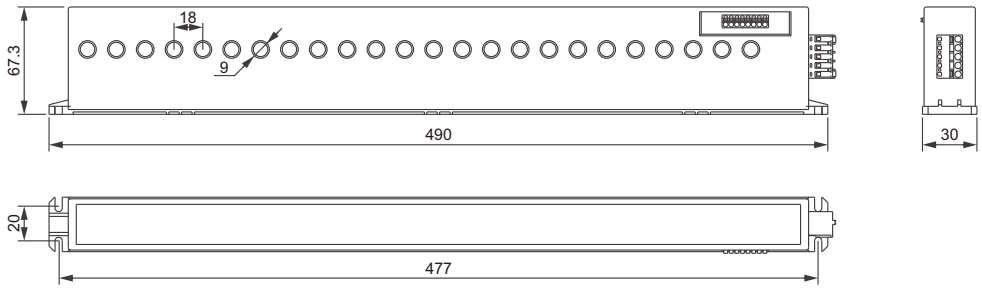
EKPC-D12



EKPC-D16



EKPC-D20



EKPC-D24

PWR-DC1500

Auxiliary Power Supply for Solar PV String Monitoring Device

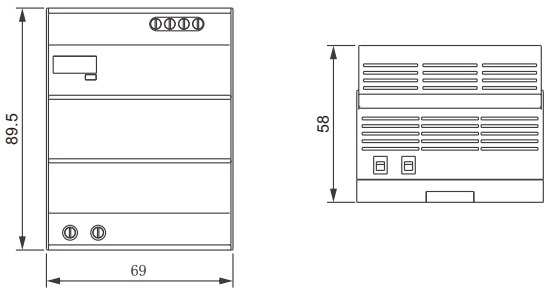
Overview

PWR-DC1500 Auxiliary power supply for solar PV string monitoring device is a power supply device specially used in solar photovoltaic systems. It is used to provide reliable power supply for photovoltaic string monitoring equipment to ensure the normal operation of the monitoring system.

Technical Data

Model	PWR-DC1500
Rated operating voltage	210VDC~1800VDC
Power	5W
Power derating	4%/°C (above 70°C)
Output voltage and current	5V/1A
Ripple noise	⩽100mVp-p
Maximum working efficiency	85%
Power-off time	20ms(TYP)/at Vin:1000VDC
Start-up delay time	500ms(TYP)/at Vin:1000VDC
Dynamic response	25% nominal load jump ±4%/500us
Insulation voltage	2000VDC (2000VAC)
Insulation resistance	⩾100MΩ
Leakage current	0.03mA RMS TYP.1200VDC
Safety level	Class I
MTBF	>215000h @25°C
Operating temperature	-40°C~+70°C
Storage temperature	-40°C~+105°C

Dimensions (mm)



EKDB10

IP65 Plastic Waterproof Distribution Box ---------- Standard_IEC60529

Product Overview

EKDB10 series waterproof distribution box, made of durable PC engineering plastics, offers excellent mechanical strength and weather resistance. Designed to meet international IEC standards, it ensures reliable protection for electrical equipment in industrial, commercial, photovoltaic, and other indoor or outdoor applications.

Standard: IEC 60529, IEC 62262:2021, IEC 60695- 2-10:2013.

Features

High-quality PC material
It has excellent toughness and high strength, excellent impact resistance, and can withstand the test of harsh environments.

IP65 waterproof and dustproof
Completely prevents dust ingress and can withstand high-pressure water jets from multiple angles.

IK08 mechanical impact protection
Strong impact resistance (equivalent to 5kg hammer impact from 40cm height)

Excellent flame-retardant performance
Passed the glow wire flammability test: 960±15°C.

Support anti-theft lock installation
Reserve padlock position to improve facility security and prevent human damage.

Full copper terminal assembly
High-quality full copper terminals are integrated inside to provide convenience for wiring.

Flexible configuration
7 different sizes available.

Product Selection Form

					
Model	Without terminal	EKDB10-4	EKDB10-6	EKDB10-9	EKDB10-13
	With terminal	EKDB10-4T	EKDB10-6T	EKDB10-9T	EKDB10-13T
Ways		4	6	9	13
Layers		Single			
Neutral bar configuration		6 holes	6 holes	6 holes	10 holes
Ground bar configuration		6 holes	6 holes	6 holes	10 holes

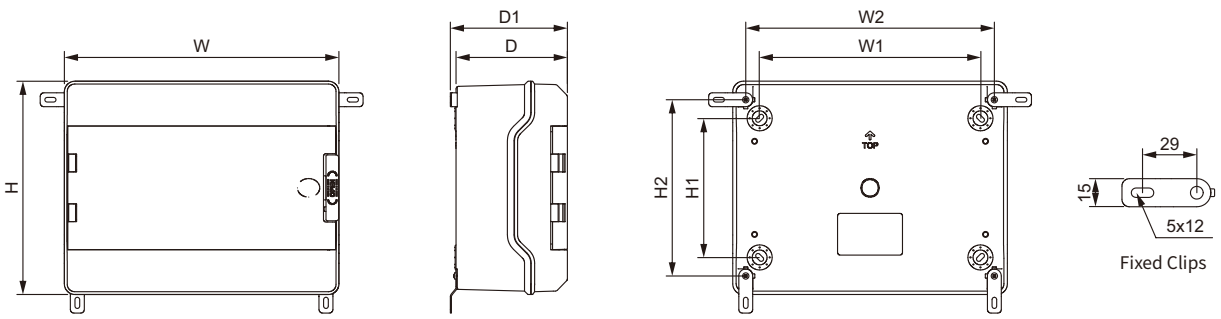
EKDB10

IP65 Plastic Waterproof Distribution Box

Standard_IEC60529

				
Model	Without terminal	EKDB10-18	EKDB10-26	EKDB10-39
	With terminal	EKDB10-18T	EKDB10-26T	EKDB10-39T
Ways		18	26	39
Layers		Single	Double	Triple
Neutral bar configuration		10 holes	2×10 holes	2×10 holes
Ground bar configuration		10 holes	2×10 holes	2×10 holes

Dimension (mm)



Model	W	H	D	W1	H1	D1	W2	H2
EKDB10-4	128	200	103.5	74	150	-	-	-
EKDB10-6	164	200	103.5	108	150	-	-	-
EKDB10-9	218	200	103.5	162	150	-	-	-
EKDB10-13	296	230	121.5	238	150	126.2	268	190
EKDB10-18	380	230	121.5	328	150	126.2	358	190
EKDB10-26	296.5	390.5	131.5	238	310	136.2	268.5	350.5
EKDB10-39	296.6	550.6	131.5	238	470	136.2	268.5	510.6

EKDBS-PV

Solar DC Combiner Box

Overview

The EKDBS series of solar DC combiner boxes are designed with a high-strength plastic shell, ensuring a robust and durable product. The boxes have an IP65 protection level, providing optimal protection against harsh environmental conditions. These combiner boxes are suitable for both household and industrial photovoltaic power generation systems that operate at 500V, 600V and 1000V.

The boxes can be equipped with a range of components such as DC circuit breakers, isolator switches, DC surge protectors, DC fuses, photovoltaic connectors, or waterproof joints.

The EKDBS series offers lightning protection, short circuit protection, and ground protection, ensuring the safety of the system. The EKDBS series supports one or multiple outputs and can be easily installed on walls. All components, apart from the core components, can be customized according to user requirements.

Model Preparation Meaning

EK	DBS	PV	2/1	IFS	1000
①	②	③	④	⑤	⑥

Code name	Meaning
①	ETEK
②	DBT: Metal box
③	PV: General photovoltaic sites

Code name	Meaning
④	String in/String out: 1/1, 2/1, 2/2, 3/1, 4/1, 4/2, 6/2
⑤	I: Isolator; B: Breaker; F: Fuse; S: SPD
⑥	600: 600V; 1000: 1000V

EKDBS-PV

Solar DC Combiner Box

Photo				
Model	EKDBS-PV1/1-IFS-600	EKDBS-PV2/1-IFS-600	EKDBS-PV2/2-IFS-600	EKDBS-PV3/1-BFS-600
Number of input strings	1	2	2	3
Number of output strings	1	1	2	1
Max. DC voltage	600V	600V	600V	600V
Max. input current	32A	15A	32A	20A
Max. output current	32A	32A	32A	63A
Surge Protection				
Experimental Level	Type 2			
Max. operation voltage (Ucpv)	600V			
Max. discharge current (Imax)	40kA			
Voltage protection level	2.6kV			
Poles	2			
Design features	Plug-in module			
Standard	IEC/EN 61643-31			
DC Fuse				
Rated operation voltage(Ue)	1000V	1000V	1000V	1000V
Rated current (Ie)(Changeable)	15A	15A	15A	15A
Fuse size	10×38mm, 30kA	10×38mm, 30kA	10×38mm, 30kA	10×38mm, 30kA
Standard	IEC 60947-3 & IEC 60269-6			
DC Protection Switch	**DC Isolator**			**DC MCB**
Rated insulation voltage (Ui)	1500V			500V
Rated operating voltage (Ue)	600V			600V
Rated current (Ie)	32A			63A
Poles	4P			2P
Standard	IEC/EN 60947-3			IEC/EN 60947-2
Enclosure				
Material type	PC			
Degree of Protection	IP65			
Impact protection level	IK08			
Enclosure size	218×200×103.5mm (9 ways)	296×230×121.5mm (13 ways)	380×230×121.5mm (18 ways)	296×230×121.5mm (13 ways)
Input or output connector	Waterproof gland (default), MC4 connector (optional)			
Environment				
Operating Temperature	-25°C to +55°C			
Cooling way	Natural cooling			
Humidity	0~95%			
Altitude	2000m			
Installation	Wall Mounting			

EKDBS-PV

Solar DC Combiner Box

Photo				
Model	EKDBS-PV1/1-IFS-1000	EKDBS-PV2/1-IFS-1000	EKDBS-PV3/1-BFS-1000	EKDBS-PV4/1-BFS-1000
Number of input strings	1	2	3	4
Number of output strings	1	1	1	1
Max. DC voltage	1000V	1000V	1000V	1000V
Max. input current	32A	15A	20A	15A
Max. output current	32A	32A	63A	63A
Surge Protection				
Experimental Level	Type 2			
Max. operation voltage (Ucpv)	1000V			
Max. discharge current (Imax)	40kA			
Voltage protection level	4kV			
Poles	2			
Design features	Plug-in module			
Standard	IEC/EN 61643-31			
DC Fuse				
Rated operation voltage(Ue)	1000V	1000V	1000V	1000V
Rated current (Ie)(Changeable)	15A	15A	15A	15A
Fuse size	10×38mm, 30kA	10×38mm, 30kA	10×38mm, 30kA	10×38mm, 30kA
Standard	IEC 60947-3 & IEC 60269-6			
DC Protection Switch	**DC Isolator**		**DC MCB**	
Rated insulation voltage (Ui)	1500V		500V	
Rated operating voltage (Ue)	1000V		1000V	
Rated current (Ie)	32A		63A	
Poles	4P		4P	
Standard	IEC/EN 60947-3		IEC/EN 60947-2	
Enclosure				
Material type	PC			
Degree of Protection	IP65			
Impact protection level	IK08			
Enclosure size	218×200×103.5mm (9 ways)	296×230×121.5mm (13 ways)	296×230×121.5mm (13 ways)	380×230×121.5mm (18 ways)
Input or output connector	Waterproof gland (default), MC4 connector (optional)			
Environment				
Operating Temperature	-25°C to +55°C			
Cooling way	Natural cooling			
Humidity	0~95%			
Altitude	2000m			
Installation	Wall Mounting			

EKDBS-PV

Solar DC Combiner Box

Photo			
Model	EKDBS-PV2/2-IFS-1000	EKDBS-PV4/2-IFS-1000	EKDBS-PV6/2-BFS-1000
Number of input strings	2	4	6
Number of output strings	2	2	2
Max. DC voltage	1000V	1000V	1000V
Max. input current	32A	15A	20A
Max. output current	32A	32A	63A
Surge Protection			
Experimental Level	Type 2		
Max. operation voltage (Ucpv)	1000V		
Max. discharge current (Imax)	40kA		
Voltage protection level	4kV		
Poles	2		
Design features	Plug-in module		
Standard	IEC/EN 61643-31		
DC Fuse			
Rated operation voltage(Ue)	1000V	1000V	1000V
Rated current (Ie)(Changeable)	15A	15A	15A
Fuse size	10×38mm, 30kA	10×38mm, 30kA	10×38mm, 30kA
Standard	IEC 60947-3 & IEC 60269-6		
DC Protection Switch	**DC Isolator**		**DC MCB**
Rated insulation voltage (Ui)	1500V		500V
Rated operating voltage (Ue)	1000V		1000V
Rated current (Ie)	32A		63A
Poles	4P		4P
Standard	IEC/EN 60947-3		IEC/EN 60947-2
Enclosure			
Material type	PC		
Degree of Protection	IP65		
Impact protection level	IK08		
Enclosure size	380×230×121.5mm (18 ways)	296.5×390.5×131.5mm (26 ways)	296.5×390.5×131.5mm (26 ways)
Input or output connector	Waterproof gland (default), MC4 connector (optional)		
Environment			
Operating Temperature	-25°C to +55°C		
Cooling way	Natural cooling		
Humidity	0~95%		
Altitude	2000m		
Installation	Wall Mounting		

EKDBT-PV

Solar DC Combiner Box

Overview

The EKDBT series photovoltaic DC combiner box is a metal casing with an IP65 protection level. It supports the merging of the DC inputs of up to 24 photovoltaic cell module strings into one or more outputs. It is suitable for residential, commercial, and Industrial photovoltaic power generation systems operating under 1000V, 1500V DC voltage.

This series of products integrates short-circuit and over-voltage protection devices such as DC circuit breakers, fuses, isolator switches, surge protectors, etc., which simplifies the input wiring of DC distribution cabinets and inverters, ensuring the safety of the photovoltaic power generation system, reliable operation.

Here we only list some of the combiner box configuration types on the market. If there are special needs, they can be customized according to the user's needs.

Model Preparation Meaning

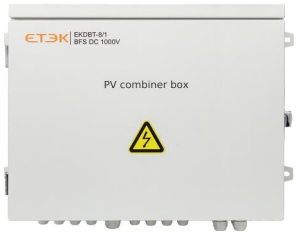
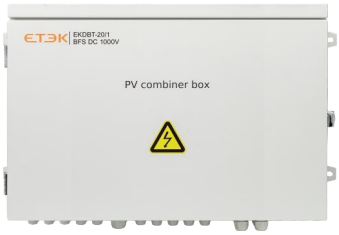
EK	DBT	PV	4/1	IFS	1000
①	②	③	④	⑤	⑥

Code name	Meaning
①	ETEK
②	DBT: Metal box
③	PV: General photovoltaic sites

Code name	Meaning
④	String in/String out: 8/1, 12/1, 16/1, 20/1, 24/1
⑤	B: Breaker; F: Fuse; S: SPD
⑥	1000: 1000V; 1500: 1500V

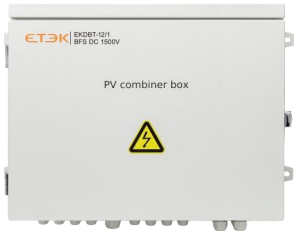
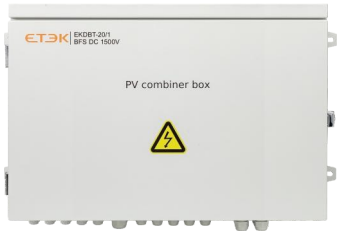
EKDBT-PV

Solar DC Combiner Box

Photo					
Model	EKDBT-PV8/1-1000	EKDBT-PV12/1-1000	EKDBT-PV16/1-1000	EKDBT-PV20/1-1000	EKDBT-PV24/1-1000
Number of input strings	8	12	16	20	24
Number of output strings	1	1	1	1	1
Max. DC voltage	1000V	1000V	1000V	1000V	1000V
Max. input current	30A	20A	15A	20A	30A
Max. output current	250A	250A	250A	400A	630A
Surge Protection					
Experimental Level	Type 2 (optional: Type1+2)				
Max. operation voltage (Ucpv)	1000V				
Max. discharge current (Imax)	40kA				
Voltage protection level	4kV				
Poles	2				
Design features	Plug-in module				
Standard	IEC/EN 61643-31				
DC Fuse					
Rated operation voltage(Ue)	1000V	1000V	1000V	1000V	1000V
Rated current (Ie)(Changeable)	15A	15A	15A	15A	15A
Fuse size	10×38mm, 30kA	10×38mm, 30kA	10×38mm, 30kA	10×38mm, 30kA	10×38mm, 30kA
Standard	IEC 60947-3 & IEC 60269-6				
DC Protection Switch	**DC MCCB**				
Rated insulation voltage (Ui)	1500V				
Rated operating voltage (Ue)	1000V				
Rated current (Ie)	250A	250A	250A	400A	630A
Poles	2P				
Rated short-circuit breaking capacity (Ics/Icu)	15kA/15kA @1000VDC				
Standard	IEC/EN 60947-2				
Others					
Anti reflection diode	Optional				
String monitoring module	Optional (50~1500V, 0~20A, RS485/ModBus-RTU)				
Enclosure					
Enclosure type	Metal (Other shell materials can be customized)				
Degree of Protection	IP65				
Impact protection level	IK10				
Enclosure size	750×560×180mm	750×560×180mm	750×560×180mm	860×560×200mm	860×560×200mm
Input or output connector	Waterproof gland (default), MC4 connector (optional)				
Environment					
Operating Temperature	-25°C to +55°C				
Cooling way	Natural cooling				
Humidity	0~95%				
Altitude	2000m				
Installation	Wall Mounting				

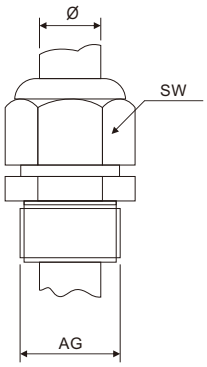
EKDBT-PV

Solar DC Combiner Box

Photo				
Model	EKDBT-PV12/1-1500	EKDBT-PV16/1-1500	EKDBT-PV20/1-1500	EKDBT-PV24/1-1500
Number of input strings	12	16	20	24
Number of output strings	1	1	1	1
Max. DC voltage	1500V	1500V	1500V	1500V
Max. input current	20A	25A	20A	25A
Max. output current	250A	400A	400A	630A
Surge Protection				
Experimental Level	Type 2 (optional: Type1+2)			
Max. operation voltage (Ucpv)	1000V			
Max. discharge current (Imax)	40kA			
Voltage protection level	4kV			
Poles	2P (optional: 3P)			
Design features	Plug-in module			
Standard	IEC/EN 61643-31			
DC Fuse				
Rated operation voltage(Ue)	1500V	1500V	1500V	1500V
Rated current (Ie)(Changeable)	32A	25A	20A	15A
Fuse size	10×85mm, 50kA	10×85mm, 50kA	10×85mm, 50kA	10×85mm, 50kA
Standard	IEC 60947-3 & IEC 60269-6			
DC Protection Switch	**DC MCCB**			
Rated insulation voltage (Ui)	1500V			
Rated operating voltage (Ue)	1500V			
Rated current (Ie)	250A	400A	400A	630A
Poles	2P (optional: 3P)			
Rated short-circuit breaking capacity (Ics/Icu)	5kA/5kA @1500VDC			
Standard	IEC/EN 60947-2			
Others				
Anti reflection diode	Optional			
String monitoring module	Optional (50~1500V, 0~20A, RS485/ModBus-RTU)			
Enclosure				
Enclosure type	Metal (Other shell materials can be customized)			
Degree of Protection	IP65			
Impact protection level	IK10			
Enclosure size	750×560×180mm	750×560×200mm	860×560×200mm	860×560×200mm
Input or output connector	Waterproof gland (default), MC4 connector (optional)			
Environment				
Operating Temperature	-25°C to +55°C			
Cooling way	Natural cooling			
Humidity	0~95%			
Altitude	2000m			
Installation	Wall Mounting			

AC-PG

Waterproof Cable Gland



Technical Parameters

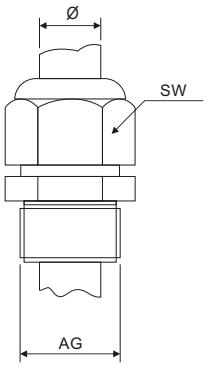
Material	UL approved nylon PA66, nitrile rubber
Thread Specifications	Metric, PG, G, NPT
Operating temperature	Static -40°C ~ 100°C, instantaneous heat to 120°C, dynamic -20°C ~ 80°C, instantaneous heat to 100°C
Features	Special clamping claws and rubber parts design, clamping range, especially tensile strength, waterproof, dustproof, salt, acid, alcohol, grease and common solvents
Color Category	Black, gray, special colors (white, red, blue, dark gray) can be customized
Protection class	IP68

Specifications Model

Model	Thread size (mm)	Hole size AG(mm)	Thread length (mm)	Wall thickness (mm)	Applicable cable Φ(mm)	Wrench size SW(mm)
PG7	12.5	Ø12.6-13	9	3	3.5-7	18/16
PG9	15.2	Ø15.3-15.5	9	3	4-9	22/19
PG11	18.6	Ø18.7-19	9	3	5-11	24/22
PG13.5	20.4	Ø20.5-21	9	4	6-12	27/24
PG16	22.5	Ø22.6-23	10	5	10-14	30/27
PG19	24	Ø24.2-24.5	10	5	12-15	30/28
PG21	28.3	Ø28.5-29	12	5	13-18	36/33
PG25	30	Ø30.2-30.5	12	6	16-21	37/35
PG29	37	Ø37.2-37.5	12	6	18-25	45/42
PG36	47	Ø47.3-48	17	7	22-32	58/52
PG42	54	Ø54.5-55	19	7	32-39	65/60
PG48	59.3	Ø60-61	19	7	37-44	70/69
PG63	71	Ø71.5-72	27	19	42-51	83/75

AC-M

Waterproof Cable Gland



Technical Parameters

Material	UL approved nylon PA66, nitrile rubber
Thread Specifications	Metric, PG, G, NPT
Operating temperature	Static -40°C ~ 100°C, instantaneous heat to 120°C, dynamic -20°C ~ 80°C, instantaneous heat to 100°C
Features	Special clamping claws and rubber parts design, clamping range, especially tensile strength, waterproof, dustproof, salt, acid, alcohol, grease and common solvents
Color Category	Black, gray, special colors (white, red, blue, dark gray) can be customized
Protection class	IP68

Specifications Model

Model	Thread size (mm)	Hole size AG(mm)	Thread length (mm)	Wall thickness (mm)	Applicable cable Φ(mm)	Wrench size SW(mm)
M12	M12×1.5	Φ12.2-12.5	9	3	3-7	18/16
M16	M16×1.5	Φ16.2-16.5	9	3	4-8	22/19
M18	M18×1.5	Φ18.2-18.5	9	3	5-10	24/22
M20	M20×1.5	Φ20.2-20.5	9	5	6-12	27/24
M22	M22×1.5	Φ22.2-22.5	10	5	10-14	30/27
M24	M24×1.5	Φ24.2-24.5	10	5	12-15	33/28
M25	M25×1.5	Φ25.2-25.5	10	5	13-15	33/28
M25	M25×1.5	Φ25.2-25.5	12	5	13-18	33/30
M27	M27×1.5	Φ27.2-27.5	12	5	13-18	35/33
M30	M30×1.5	Φ30.2-30.5	12	6	16-21	37/37
M32	M32×1.5	Φ32.2-32.5	12	6	16-21	39/35
M36	M36×1.5	Φ36.2-37	12	6	18-25	45/42
M40	M40×1.5	Φ40.2-41	17	7	20-26	52/52
M50	M50×1.5	Φ50.5-51	19	10	32-39	60/60
M63	M63×1.5	Φ63.5-64	19	10	37-44	74/69
M72	M72×1.5	Φ72.5-73	27	15	42-52	83/77

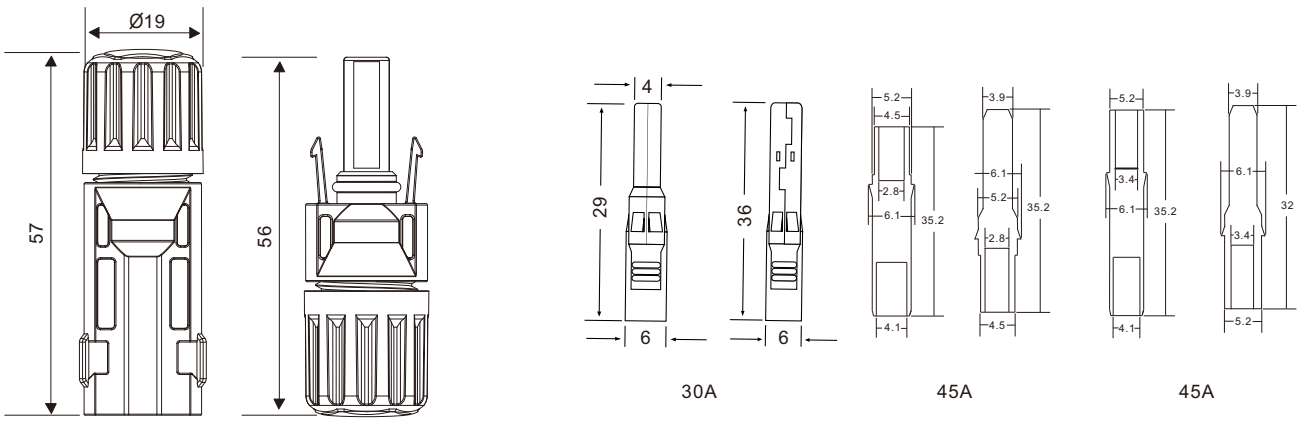
PV-EK01(1000V)/PV-EK01-1(1000V)

Solar DC Connector ---------- Standard_IEC60068-2-52

Technical Data

Connector system	Φ2.5mm, Φ4mm, Φ6mm
Rated voltage	1000V DC
Rated current	30A(2.5mm^2, 4mm^2, 6mm^2; 14AWG, 12AWG, 10AWG) 45A(4mm^2, 6mm^2; 12AWG, 10AWG)
Test voltage	6kV(50Hz,1min.)
Ambient temperature range	-40°C... +90°C(IEC); -40°C... +194°F(UL)
Upper limiting temperature	+105°C(IEC)
Degree of protection, mated	IP67
Unmated	IP2X
Comtact resistanceof plug connectors	0.5mΩ
Safety class	II
Contact material	Messing, verzinnt copper alloy, tin plated
Insulation material	PC/PPO
Locking system	Snap-in
Flame class	UL-94-V0
Salt mist spray test, degree of severity 5	IEC 60068-2-52

Dimension (mm)



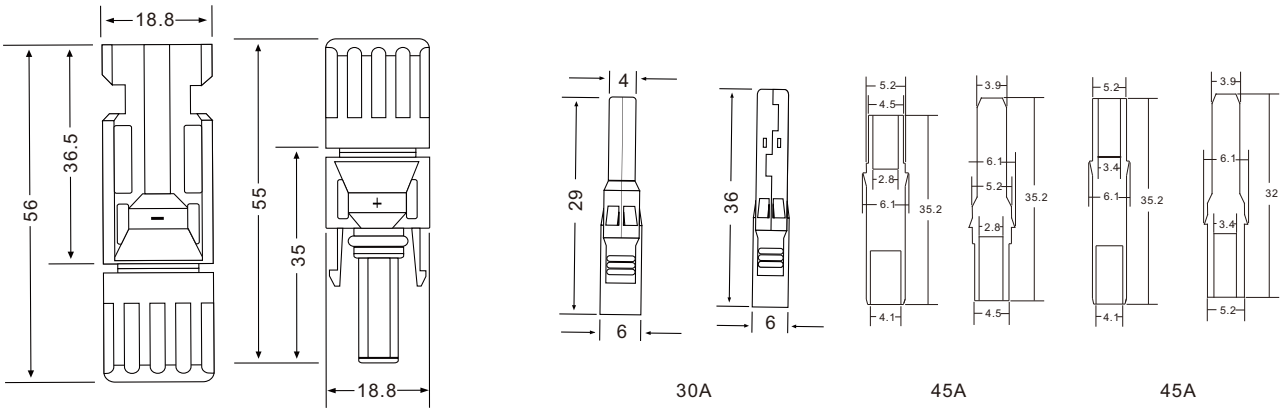
PV-EK02(1000V)/PV-EK02-1(1000V)

Solar DC Connector ---------- Standard_IEC60068-2-52

Technical Data

Connector system	Φ2.5mm, Φ4mm, Φ6mm
Rated voltage	1000V DC
Rated current	30A(2.5mm^2, 4mm^2, 6mm^2; 14AWG, 12AWG, 10AWG) 45A(4mm^2, 6mm^2; 12AWG, 10AWG)
Test voltage	6kV(50Hz,1min.)
Ambient temperature range	-40°C... +90°C(IEC); -40°C... +194°F(UL)
Upper limiting temperature	+105°C(IEC)
Degree of protection, mated	IP67
Unmated	IP2X
Comtact resistanceof plug connectors	0.5mΩ
Safety class	II
Contact material	Messing, verzinnt copper alloy, tin plated
Insulation material	PC/PPO
Locking system	Snap-in
Flame class	UL-94-V0
Salt mist spray test, degree of severity 5	IEC 60068-2-52

Dimension (mm)



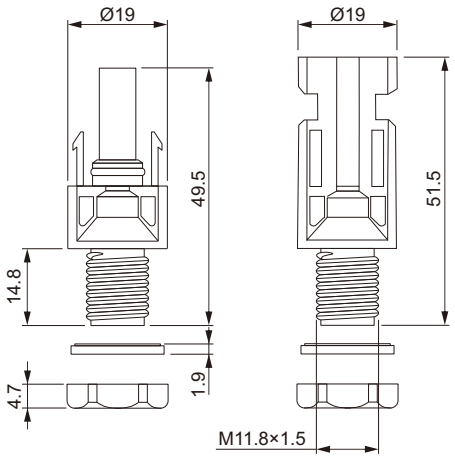
PV-EK03(1000V)/PV-EK03-1(1000V)

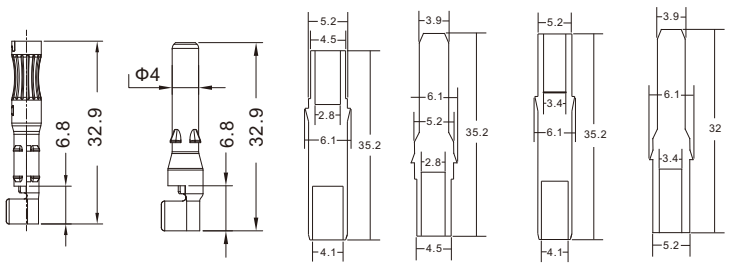
Solar DC Connector ---------- Standard_IEC60068-2-52

Technical Data

Connector system	Φ2.5mm, Φ4mm, Φ6mm
Rated voltage	1000V DC
Rated current	30A(2.5mm^2, 4mm^2, 6mm^2; 14AWG, 12AWG, 10AWG) 45A(4mm^2, 6mm^2; 12AWG, 10AWG)
Test voltage	6kV(50Hz,1min.)
Ambient temperature range	-40°C... +90°C(IEC); -40°C... +194°F(UL)
Upper limiting temperature	+105°C(IEC)
Degree of protection, mated	IP67
Unmated	IP2X
Comtact resistanceof plug connectors	0.5mΩ
Safety class	II
Contact material	Messing, verzinnt copper alloy, tin plated
Insulation material	PC/PPO
Locking system	Snap-in
Flame class	UL-94-V0
Salt mist spray test, degree of severity 5	IEC 60068-2-52

Dimension (mm)





30A 45A 45A

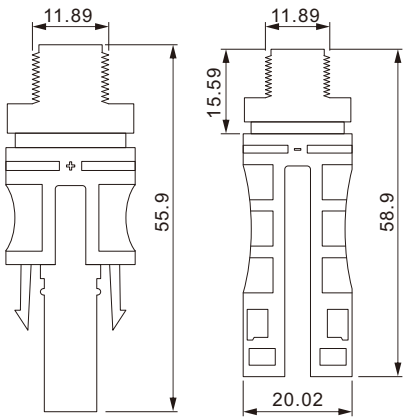
PV-EK04(1500V)/PV-EK04-1(1500V)

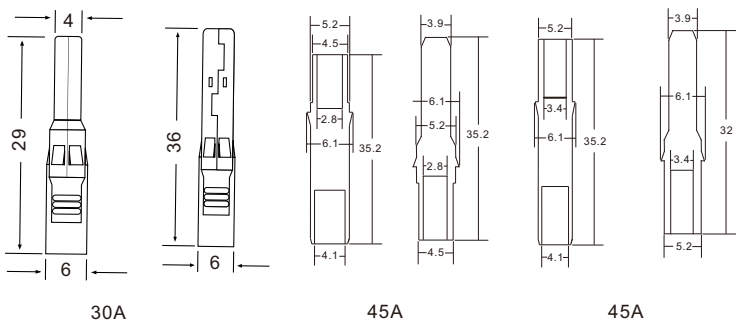
Solar DC Connector ---------- Standard_IEC60068-2-52

Technical Data

Connector system	Φ2.5mm, Φ4mm, Φ6mm
Rated voltage	1500V DC
Rated current	30A(2.5mm^2, 4mm^2, 6mm^2; 14AWG, 12AWG, 10AWG) 45A(4mm^2, 6mm^2; 12AWG, 10AWG)
Test voltage	6kV(50Hz,1min.)
Ambient temperature range	-40°C... +90°C(IEC); -40°C... +194°F(UL)
Upper limiting temperature	+105°C(IEC)
Degree of protection, mated	IP67
Unmated	IP2X
Comtact resistanceof plug connectors	0.5mΩ
Safety class	II
Contact material	Messing, verzinnt copper alloy, tin plated
Insulation material	PC/PPO
Locking system	Snap-in
Flame class	UL-94-V0
Salt mist spray test, degree of severity 5	IEC 60068-2-52

Dimension (mm)





30A 45A 45A

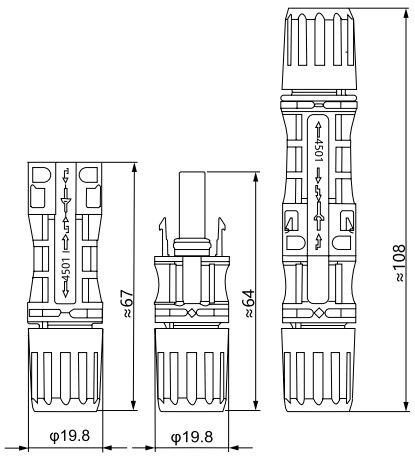
PV-EK05(1500V)/PV-EK05-1(1500V)

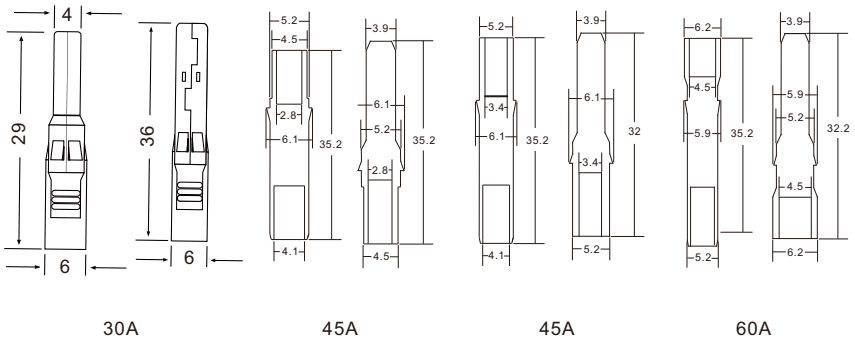
Solar DC Connector ---------- Standard_IEC60068-2-52

Technical Data

Connector system	Φ2.5mm, Φ4mm, Φ6mm, Φ10mm, Φ16mm
Rated voltage	1500V DC
Rated current	30A(2.5mm^2, 4mm^2, 6mm^2; 14AWG, 12AWG, 10AWG) 45A(4mm^2, 6mm^2; 12AWG, 10AWG) 60A(10mm^2; 8AWG) 80A(16mm^2; 7AWG)
Test voltage	6kV(50Hz,1min.)
Ambient temperature range	-40°C... +90°C(IEC); -40°C... +194°F(UL)
Upper limiting temperature	+105°C(IEC)
Degree of protection, mated	IP67
Unmated	IP2X
Comtact resistanceof plug connectors	0.5mΩ
Safety class	II
Contact material	Messing, verzinnt copper alloy, tin plated
Insulation material	PC/PPO
Locking system	Snap-in
Flame class	UL-94-V0
Salt mist spray test, degree of severity 5	IEC 60068-2-52

Dimension (mm)





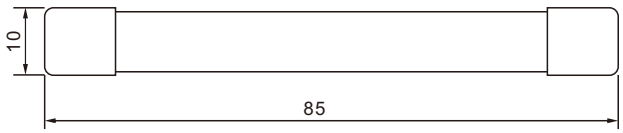
PV-EKF02(1500V)

Solar DC Connector ---------- Standard_IEC60068-2-52

Technical Data

Connector system	Φ4mm
Rated voltage	1500V DC(IEC)[1]
Rated current	10A,15A,20A,25A
Test voltage	6kV(50Hz,1min.)
Ambient temperature range	-40°C... +90°C(IEC); -40°C... +194°F(UL)
Upper limiting temperature	+105°C(IEC)
Degree of protection, mated	IP67
Unmated	IP2X
Comtact resistanceof plug connectors	0.5mΩ
Safety class	II
Contact material	Messing, verzinnt copper alloy, tin plated
Insulation material	PC/PPO
Locking system	Snap-in
Flame class	UL-94-V0
Salt mist spray test, degree of severity 5	IEC 60068-2-52

Dimension (mm)



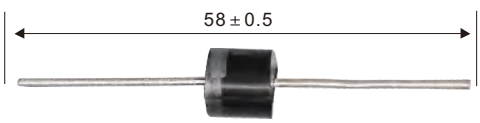
PV-EKD01

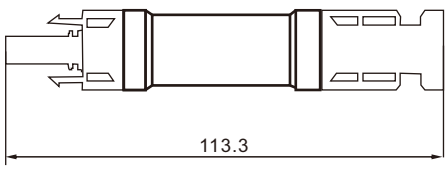
Solar DC Connector ---------- Standard_IEC60068-2-52

Technical Data

Connector system	Φ4mm
Rated voltage	1000V DC
Rated current	10A,15A,20A,30A
Test voltage	6kV(50Hz,1min.)
Ambient temperature range	-40°C... +90°C(IEC)
Upper limiting temperature	+105°C(IEC)
Degree of protection, mated	IP67
Unmated	IP2X
Comtact resistanceof plug connectors	0.5mΩ
Safety class	II
Contact material	Messing, verzinnt copper alloy, tin plated
Insulation material	PC/PPO
Locking system	Snap-in
Flame class	UL-94-V0
Salt mist spray test, degree of severity 5	IEC 60068-2-52

Dimension (mm)





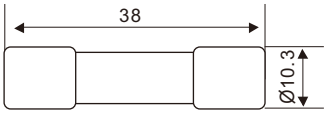
PV-EKF01

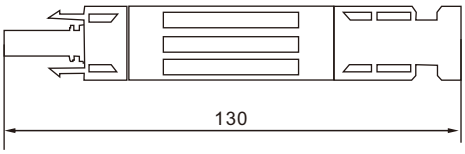
Solar DC Connector ---------- Standard_IEC60068-2-52

Technical Data

Connector system	Φ4mm
Rated voltage	1000V DC
Rated current	10A,15A,20A,25A,30A
Test voltage	6kV(50Hz,1min.)
Ambient temperature range	-40°C... +90°C(IEC)
Upper limiting temperature	+105°C(IEC)
Degree of protection, mated	IP67
Unmated	IP2X
Comtact resistanceof plug connectors	0.5mΩ
Safety class	II
Contact material	Messing, verzinnt copper alloy, tin plated
Insulation material	PC/PPO
Locking system	Snap-in
Flame class	UL-94-V0
Salt mist spray test, degree of severity 5	IEC 60068-2-52

Dimension (mm)





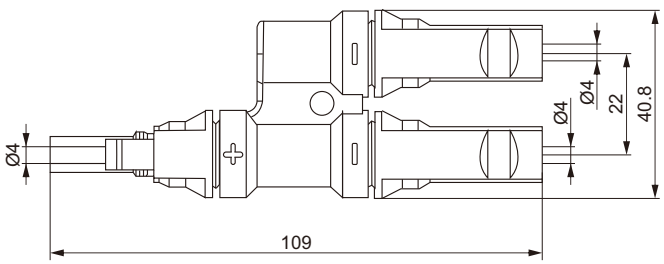
PV-EKB2

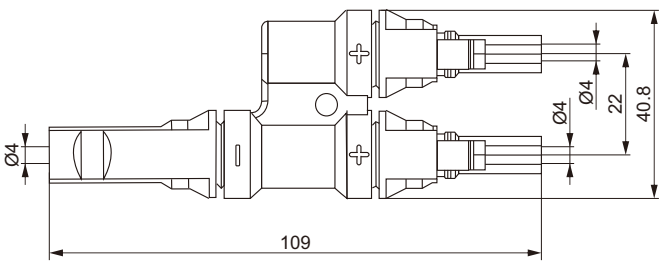
Solar DC Connector ---------- Standard_IEC60068-2-52

Technical Data

Insulation meterial	PPO
Contact material	Copper, tin plated
Suitable current	50A
Rated voltage	1000V(TUV), 600V(UL)
Test voltage	6kV (TUV 50Hz, 1min)
Contact resistance	＜0.5mΩ
Degree of protection	IP67
Ambient temperature range	-40°C ~ +85°C
Flame class	UL 94-VO
Safety class	II
Pin dimensions	Φ4mm

Dimension (mm)





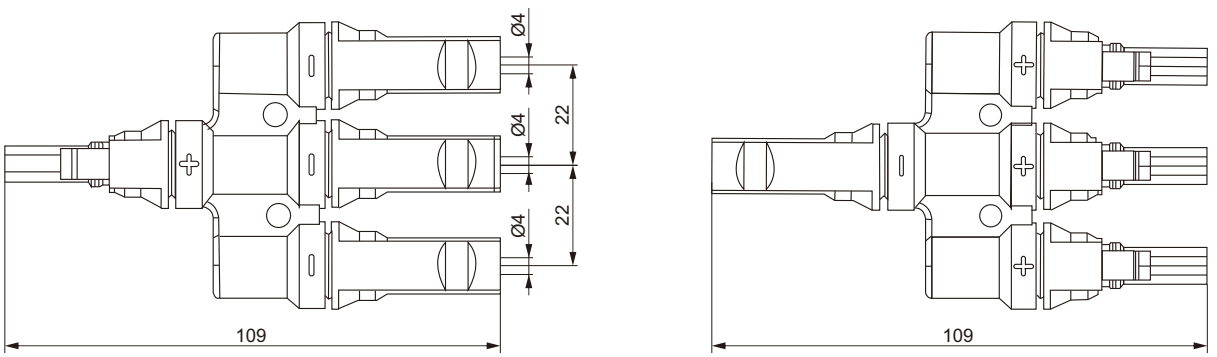
PV-EKB3

Solar DC Connector ---------- Standard_IEC60068-2-52

Technical Data

Insulation meterial	PPO
Contact material	Copper, tin plated
Suitable current	50A
Rated voltage	1000V(TUV), 600V(UL)
Test voltage	6kV (TUV 50Hz, 1min)
Contact resistance	＜0.5mΩ
Degree of protection	IP67
Ambient temperature range	-40°C ~ +85°C
Flame class	UL 94-VO
Safety class	II
Pin dimensions	Φ4mm

Dimension (mm)



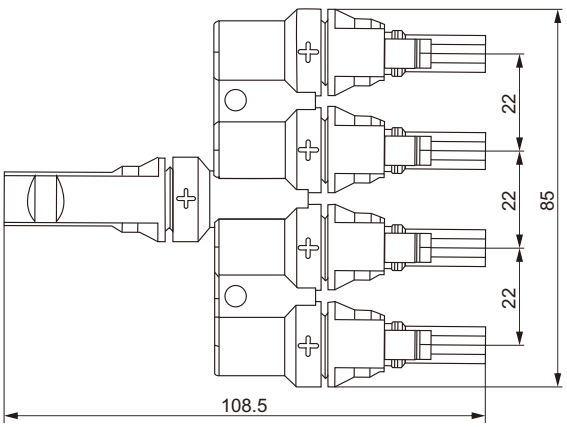
PV-EKB4

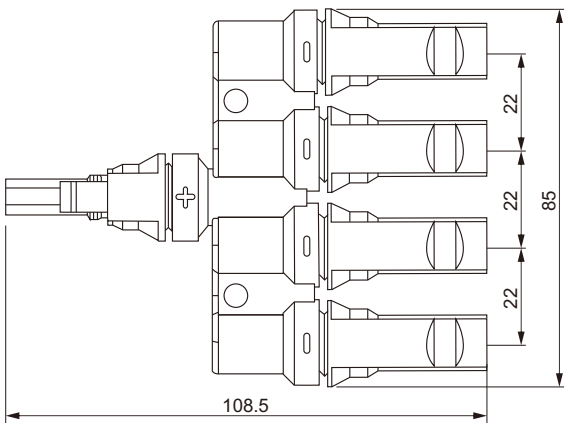
Solar DC Connector ---------- Standard_IEC60068-2-52

Technical Data

Insulation meterial	PPO
Contact material	Copper, tin plated
Suitable current	30A
Rated voltage	1000V(TUV), 600V(UL)
Test voltage	6kV (TUV 50Hz, 1min)
Contact resistance	＜0.5mΩ
Degree of protection	IP67
Ambient temperature range	-40°C ~ +85°C
Flame class	UL 94-VO
Safety class	II
Pin dimensions	Φ4mm

Dimension (mm)





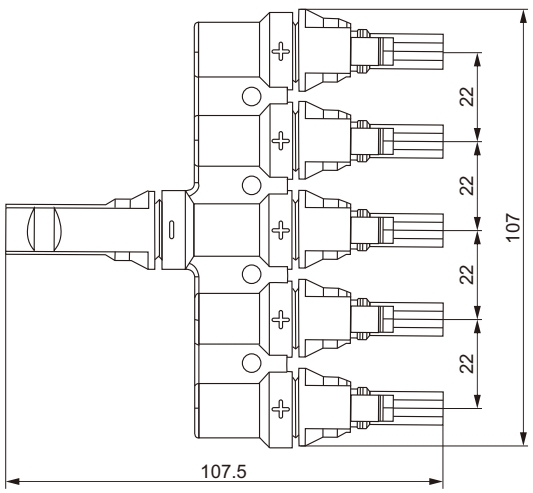
PV-EKB5

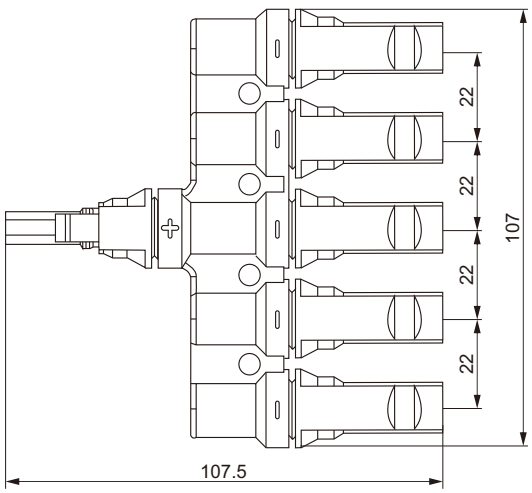
Solar DC Connector ---------- Standard_IEC60068-2-52

Technical Data

Insulation meterial	PPO
Contact material	Copper, tin plated
Suitable current	30A
Rated voltage	1000V(TUV), 600V(UL)
Test voltage	6kV (TUV 50Hz, 1min)
Contact resistance	＜0.5mΩ
Degree of protection	IP67
Ambient temperature range	-40°C ~ +85°C
Flame class	UL 94-VO
Safety class	II
Pin dimensions	Φ4mm

Dimension (mm)





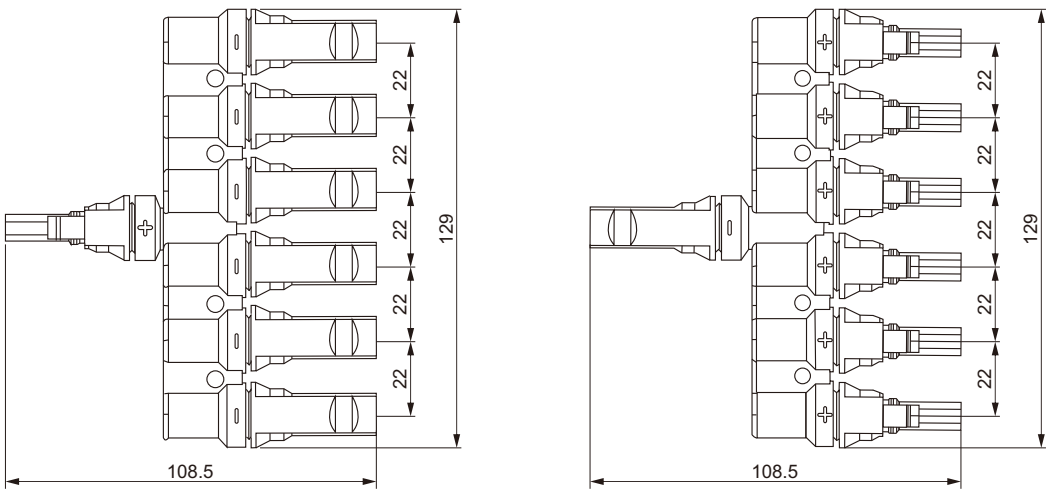
PV-EKB6

Solar DC Connector ---------- Standard_IEC60068-2-52

Technical Data

Insulation meterial	PPO
Contact material	Copper, tin plated
Suitable current	50A
Rated voltage	1000V(TUV), 600V(UL)
Test voltage	6kV (TUV 50Hz, 1min)
Contact resistance	＜0.5mΩ
Degree of protection	IP67
Ambient temperature range	-40°C ~ +85°C
Flame class	UL 94-VO
Safety class	II
Pin dimensions	Φ4mm

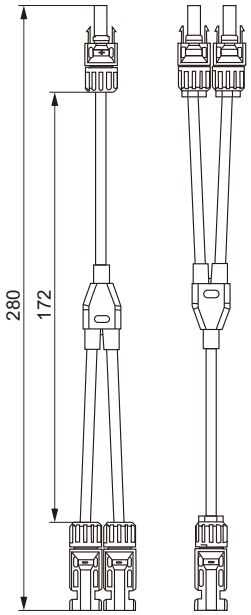
Dimension (mm)



PV-EKY2

Branch Cable ---------- Standard_IEC60068-2-52

Dimension (mm)



Dimensions are measured by hand
and are for reference only

Technical Data

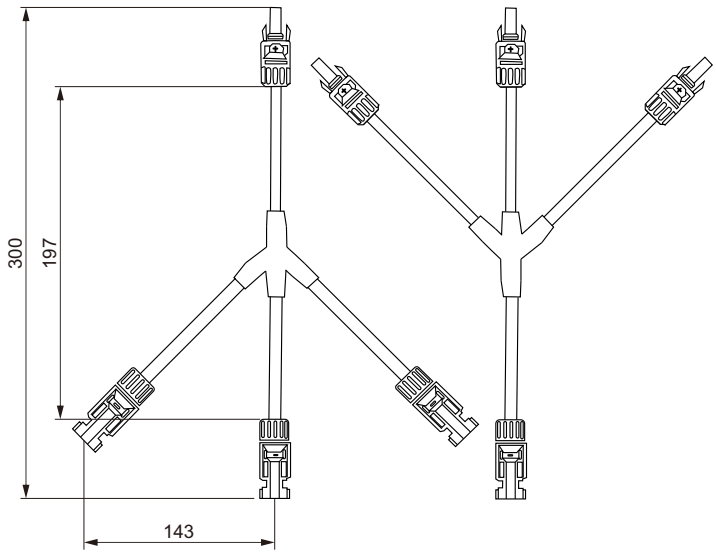
Connector system	Φ4mm
Rated voltage	1000V DC(IEC)[1]
Rated current	30A
Test voltage	6kV(50HZ,1min.)
Ambient temperature range	-40°C... +90°C(IEC); -40°C... +75°C(UL)
Upper limiting temper ature	+105°C(IEC)
Degree of protection, mated	IP67
unmated	IP2X
Comtact resistanceof plug connectors	0.5mΩ
Safetyclass	II
Contact material	Messing, verzinnt copper alloy, tin plated
Insulation material	PC/PA
Locking system	Snap-in
Flame class	UL-94-V0
Salt mist spray test, degree of severity 5	IEC 60068-2-52

PV-EKY3

Branch Cable

Standard_IEC60068-2-52

Dimension (mm)



Dimensions are measured by hand and are for reference only

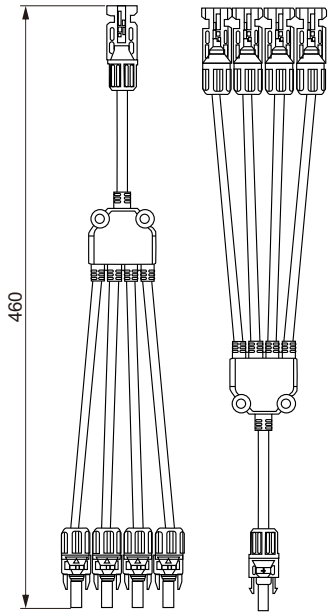
Technical Data

Connector system	Φ4mm
Rated voltage	1000V DC(IEC)[1]
Rated current	30A
Test voltage	6kV(50HZ,1min.)
Ambient temperature range	-40°C... +90°C(IEC); -40°C... +75°C(UL)
Upper limiting temper ature	+105°C(IEC)
Degree of protection, mated	IP67
unmated	IP2X
Comtact resistanceof plug connectors	0.5mΩ
Safetyclass	II
Contact material	Messing, verzinnt copper alloy, tin plated
Insulation material	PC/PA
Locking system	Snap-in
Flame class	UL-94-V0
Salt mist spray test, degree of severity 5	IEC 60068-2-52

PV-EKY4

Branch Cable ---------- Standard_IEC60068-2-52

Dimension (mm)



Technical Data

Connector system	Φ4mm
Rated voltage	1000V DC(IEC)[1]
Rated current	30A
Test voltage	6kV(50HZ,1min.)
Ambient temperature range	-40°C... +90°C(IEC); -40°C... +75°C(UL)
Upper limiting temper ature	+105°C(IEC)
Degree of protection, mated	IP67
unmated	IP2X
Comtact resistanceof plug connectors	0.5mΩ
Safetyclass	II
Contact material	Messing, verzinnt copper alloy, tin plated
Insulation material	PC/PA
Locking system	Snap-in
Flame class	UL-94-V0
Salt mist spray test, degree of severity 5	IEC 60068-2-52

PV-LT006 Tow-set Spanners

PV-LTM2(1000V)

PV-LTM5(1500V) dedicated

PV-LTM2/M4(1000V) dedicated

Crimping Tool & Strippina Tool

Suitable for crimping the cable of 2.5~6.0mm^2(AWG10-14)Suitable for solar system installation site, flexible application.

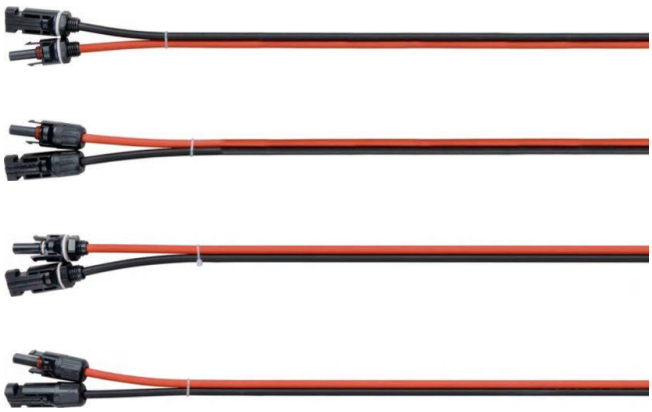
PV-B001
Crimping Tool

PV-B002
Crimping Tool

PV-B003
Crimping Tool

PV-B004
Strippina Tool

2.5mm² 14AWM, 4mm², 6mm² 12AWM, 10AWM PV MDC Cable



2.5mm², 4mm², 6mm² PV MDC Cable

2.5mm²

4mm²

6mm²

The product data referred to in the company shall be subject to material object. Subject to change without notice. The company has the final right to interpret.

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