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Aswich

Safety Is On

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As standards, specifications and designs change
from time to time, please ask for confirmation of the
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ASwich | Safety Is On

Electrical Components for Photovoltaic

Leading Manufacturer Protects Solar Power Safety

version 2021



Brief Introduction

Passed IEC/EN60947-3:2009+A1+A2, AS60947.3, UL508I,GB/T14048.3 test, owned TUV, CE, CB, SAA, UL, CCC certifications.

Aswich started the switch and circuit breaker manufacturing in 1988. With over 30 years of experience and high investment in R&D, Aswich is now a specialist in the intelligent electric component sector.

Aswich is an ISO9001:2015 and ISO14001 accredited company. Located in Wenzhou, our production base owned the UL-approved laboratory, more than 30,000 square meters plant and multiple automated production lines. At present, it has more than 500 employees and approximately 30% are R&D technicians. Thanks to its strong ability of independent innovation, all Aswich products are developed and manufactured with the focus on reliability, safety and convenience according to the latest international standards.

Our main products are including DC and AC circuit breaker (MCB), DC and AC isolation switch, DC molded case circuit breaker (MCCB), DC fuse, DC lighting surge protector (SPD) and so on. Dealing with the needs of the market, Aswich can not only provide customized products but also integrates leading products into the overall solution, providing customers with a one-stop integrated service experience.

Innovation is the only way to the future. As one of the earliest electrical switch companies to obtain UL certification in China, Aswich has also obtained CE, IEC, TUV, CCC, SAA and other authoritative certifications and all products have passed the strict testing requirements of GB and IEC standards. It is widely used in more than 40 countries and regions such as Europe, North America, and the Asia Pacific, serving nearly a thousand key engineering projects.

So far, we have provided intelligent electrical solutions for hundreds of domestic and foreign customers such as CAT, LG, BYD, Panasonic, Honeywell, Huawei etc., and have been highly recognized by the professional market.



Fully-Functional Laboratory

Our laboratory has a complete set of testing equipment, which can conduct effective and reliable tests on materials and products, and has been approved by UL.






Our Certificates

ASWICH ensures that its products have obtained important certifications and recognitions from international authoritative organizations in order to have excellent effects in various scenarios.


ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATION
Certificate
YUEQING ZINZHAO ELECTRIC APPLIANCE CO., LTD.


CERTIFICATE


CERTIFICATE OF APPROVAL


CB TEST CERTIFICATE

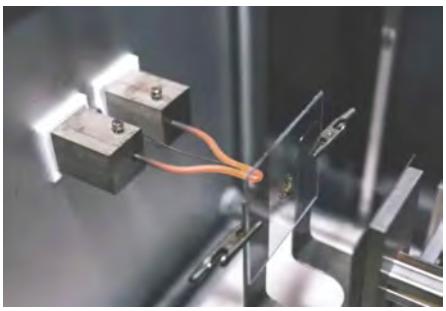

SAA
Certificate of Suitability
"Addendum"

Strict Quality Tests


Electrical Cycle Test


UV Aging Test


High Low-Temperature Humid-Heat Test


Glow-Wire Test


High-Temperature Test


IPX5-6 Strong Water Spray Test

DC ELECTRICAL COMPONENTS



DC ISOLATION SWITCH
1500V 50A
01-06



DC ISOLATION SWITCH
1000V & 1200V 32A
07-13



DC ISOLATION SWITCH
1500V 50A ENCLOSURE
14-16



DC LOAD BREAK SWITCH
1500V 800A
17-19



DC NO-POLARITY BREAKER
1000V 63A & 200V 125A
20-31



DC MOLDED
CASE CIRCUIT BREAKER
500V & 1000V & 1500V
32-36



DC SURGE PROTECTOR
600V & 1000V & 1500V
37-42



DC FUSE HOLDER
1000V & 1500V
43-52



FIREFIGHTER SAFETY SWITCH
1500V 50A
53-67



DC RAPID SHUTDOWN SWITCH
68-71

AC ELECTRICAL COMPONENTS



AC ISOLATION SWITCH
500V 63A
72-74



AC ISOLATION SWITCH
690V 80A
75-79



AC ISOLATION SWITCH
800V 125A
80-106



AC LOAD BREAK SWITCH
1000V 800A
107-109



AC CIRCUIT BREAKER
110-129



AC SURGE PROTECTOR
130-134



ENERGY METER
135-152

ELECTRIC BOX SOLUTION



ELECTRIC BOX
153-174



WATERPROOF BOX & ENCLOSURE
175-184

EDS7/8 Series DC Isolator



Product Benefits

- 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, AS60947.3, UL508i,GB/T14048.3 test, TUV, CE, CB, SAA, UL, CCC available.
- Impact resistance: IK08
- Rated current: 13A, 20A, 25A, 40A, 50A,

Select Code

E	D	S	□	□	/	□	/	□	□
1	2	3	4	5		6		7	8

Code	Name	Description
1	ASwich brand	E
2	DC	D
3	Isolation Switch	S
4	Series	7: Series 7 (PV1) 8: Series 8 (PV1/PV2)
5	Mounting Type	DB: Rail Installation PM: Panel Mounting DC: Door interlock HM :Hole Mounting
6	1000V Rated Current	13: 13A 40: 40A 20: 20A 50: 50A 25: 25A
7	Pole	2:2P 10:10P 3:3P 2H/3H/4H 4:4P 4T/4B/4S 6:6P 8:8P
8	konb look	R:lockable Nil : With out lock

EDS7/8 Series DC Isolator

Main Parameters

Rated Ccurrent		A	13	20	25	40	50
Rated insulation voltage	Ui	V	1500	1500	1500	1500	1500
Rated thermal current	Ith	A	32	40	55	55	55
Rated impulse withstand voltage	Uimp	V	8000				
Rated short-time withstand current (1ms)	Icw	A	780				
Rated short-time making capacity	Icw	A	1200				
Maximum cable cross sections (incl. jumper)							
Solid or standard		mm^2	4-16				
Flexible		mm^2	4-16				
Flexible (+ multicore cable end)		mm^2	4-16				
Torque							
Tightening torque terminal screws M4.		Nm	1.2-1.8				
Tightening torque single hole mounting nut M16		Nm	2.0-2.3				
Tightening torque knob screws M3		Nm	0.5-0.7				
Switching on or off torque		Nm	0.9-1.3				
General parameters							
Knob positions			9 o'clock,ON 12 o'clock,OFF 3 o'clock,OFF 12 o'clock,ON				
Electrical Life	Actual		3000 Cycles				
	Standard		300 Cycles				
Mechanical Life	Actual		10000 Cycles				
	Standard		10000 Cycles				
Number of DC poles			2 or 4 (6/8 geek choice)				
Distance of contacts (per pole)			8mm				
Operation temperature			-40℃ to +85℃				
Store temperature			-40℃ to +85℃				
Pollution degree			3				
Overvoltage category			II				
IP rating of shafte and mounting nut			IP66				

Data according to IEC/EN60947-3,AS60947.3, UL508i, GB/T14048.3. Utilization category DC-PV1/DC-PV2.

EDS7/8 Series DC Isolator

Layers	EDS7/8 Voltage / curren (DC-PV1)				
	600Vdc	800Vdc	1000Vdc	1200Vdc	1500Vdc
2/3/4/6/8/10	32	26	13	10	5
	40	30	20	12	6
	55	45	25	15	8
	/	50	40	30	20
	/	55	50	40	30
4T/B/S	/	/	32	26	13
	/	/	40	30	20
	/	/	55	40	30
	/	/	/	/	45
	/	/	/	/	50
3T/6T/9T	/	/	32	23	10
	/	/	40	30	13
	/	/	55	40	20
	/	/	/	45	30
	/	/	/	50	40

Layers	EDS8 Voltage / curren (DC-PV2)				
	600Vdc	800Vdc	1000Vdc	1200Vdc	1500Vdc
2/3/4/6/8/10	32	26	13	10	5
	40	30	20	12	6
	40	40	25	15	8
	/	45	32	26	15
	/	50	40	32	18
4T/B/S	/	/	32	26	13
	/	/	40	30	20
	/	/	40	32	25
	/	/	/	/	30
	/	/	/	/	36
3T/6T/9T		/	32	23	10
	/	/	40	30	13
	/	/	40	32	20
	/	/	/	40	30
	/	/	/	45	36

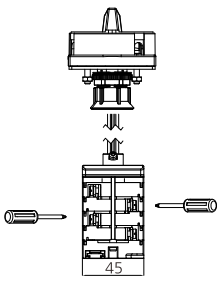
10P products needs to be customized, please kindly contact us if need them

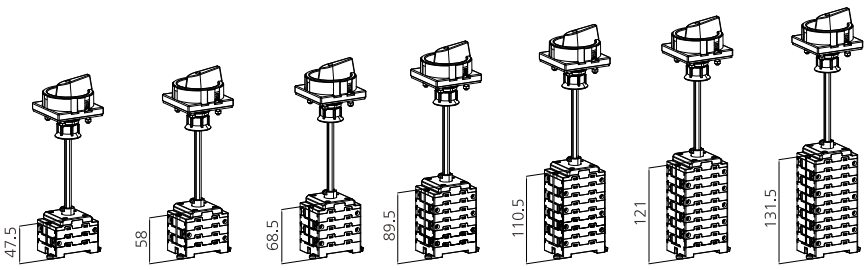
EDS7/8 Series DC Isolator

Drawing Size

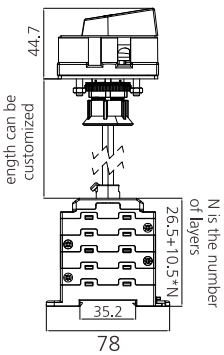
EDS7DC/...R EDS8DC/...R

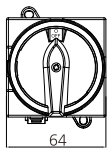




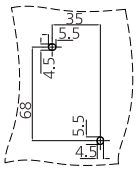


2 3/3T 4/4T/4B/4S/2H 6/6T/3H 8/4H 9T 10





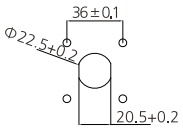
9 o'clock,OFF
12 o'clock,ON



Bottom screw installation size



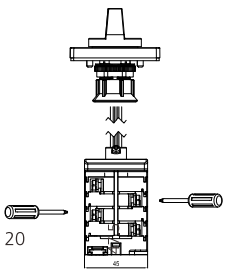
Rail size

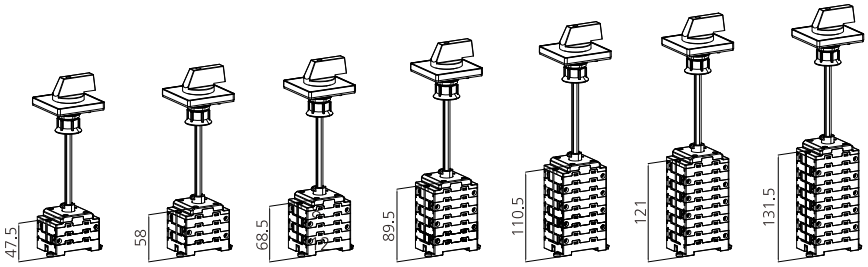


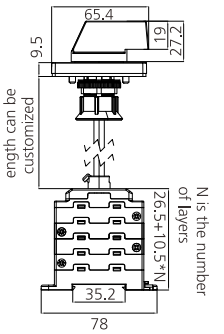
Panel cut-out size

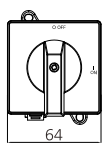
EDS7DC/... EDS8DC/...



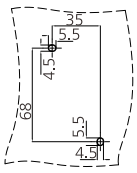








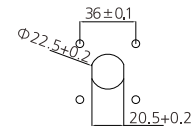
9 o'clock,OFF
12 o'clock,ON



Bottom screw installation size



Rail size



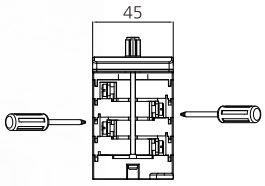
Panel cut-out size

EDS7/8 Series DC Isolator

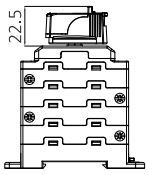
Drawing Size

EDS7DBR EDS8DBR

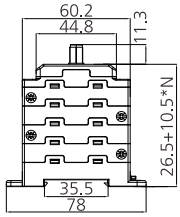




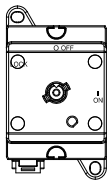
Wiring diagram

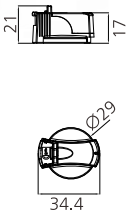


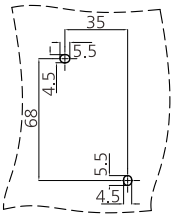
Head height



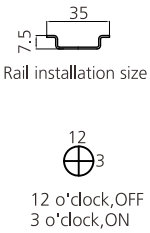
N is the number of layers







Bottom screw installation size

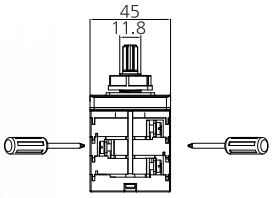


Rail installation size

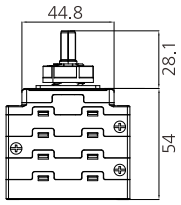
12 o'clock,OFF
3 o'clock,ON

EDS7HM EDS8HM



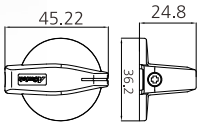


Wiring diagram



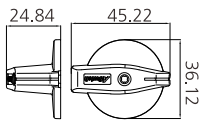
N is the number of layers





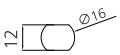


12 o'clock,OFF
3 o'clock,ON

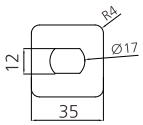




9 o'clock,OFF
12 o'clock,ON



Hole Size





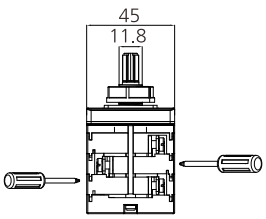
M16X1.5

EDS7/8 Series DC Isolator

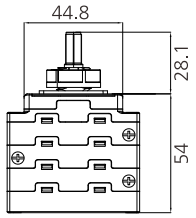
Drawing Size

EDS7PMR EDS8PMR

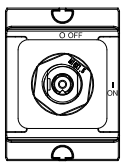


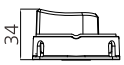


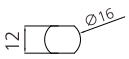
Wiring diagram



N is the number of layers



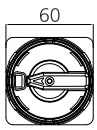


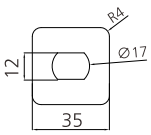


Hole Size



9 o'clock,OFF
12 o'clock,ON

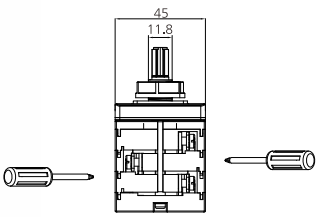




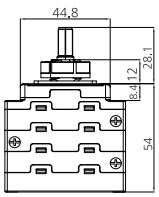

M16X1.5

EDS7HMR EDS8HMR

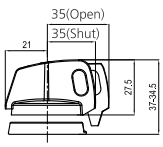


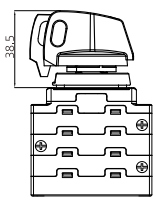


Wiring diagram



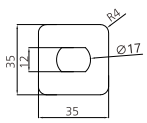
N is the number of layers



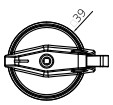


Head height



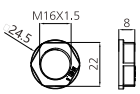


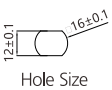






12 o'clock,OFF
3 o'clock,ON





Hole Size

EDS1 Series DC Isolator



Product Application

EDS1 series isolation switch is suitable for a power system with rated voltage DC 1200V or below and rated current 32A or below. The product can be used for infrequent switching-on and switching-off and can disconnect 1 - 2 MPPT lines at the same time. It is especially suitable for isolating lines in HVDC transmission and distribution systems, such as cutting off the high voltage DC current between solar panels and inverters

Product Benefits

- UV resistance and V0 flame retardant material
- Contact Silver Plating, silver layer thickness up to the industry's highest standards
- Arcing Time in 3 ms
- No Polarity
- Lockable at OFF position
- IEC/EN60947.3 standard and AS 60947.3
- Provide 5-year warranty product guarantee



Plastic box

Aluminum box

- Metal material, with anti-corrosion, anti-explosion resistance against IK10, can adapt to harsh environments



Aluminum box

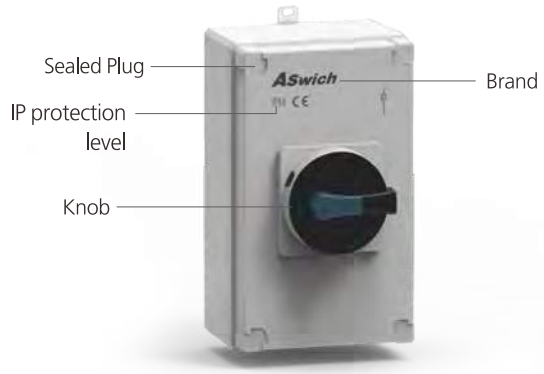
Select Code

E	D	S	□	□ / □	□ / □	□
1	2	3	4	5	6	7	8	9

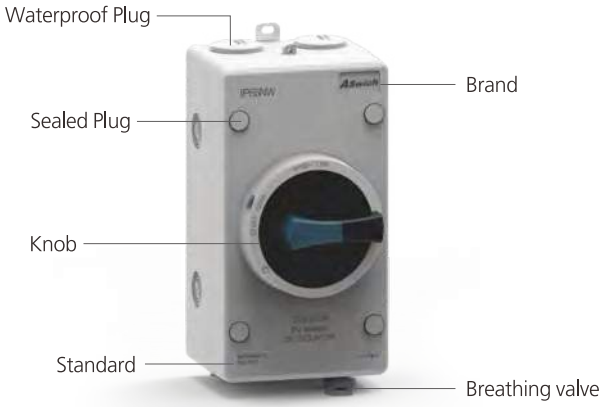
Code	Name	Description
1	ASwich brand	E
2	DC	D
3	Isolation Switch	S
4	Series	1: Series 1
5	Mounting Type	DB: Rail Installation PM: Panel Mounting DC: Door interlock EL: Plastic enclosure box ELA: Aluminum enclosure box
6	Voltage	N:1000VDC S:1200VDC
7	Ith	32:32A
8	Pole	2:2P 4:4P
9	With lock	R: With lock Nil: With out lock

EDS1 Series DC Isolator

Appearance Introduction



Aluminum box



Plastic box

Technical Data

Data according to IEC/EN60947-3:AS60947.3, UL508i, GB/T14048.3. Utilization category DC-PV1/DC-PV2.

Main Parameters			EDS1/N EDS1/S
Rated Insulation Voltage	Ui	V	1500
Rated thermal current	Ith	A	32
Rated impulse withstand voltage	Uimp	V	8000
Rated short-circuit making capacity	Icw	A	1 kA,1 S
Maximum cable section(incl.jumper)			
Solid		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 shell 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
The wiring Torque on Base		Nm	1.1-1.4
General parameters			
Knob Positions			12 o'clock,OFF 3 o'clock,ON 9 o'clock,OFF 12 o'clock,ON
Electrical Life	Actual		3000 Cycles
	Standard		300 Cycles
Mechanical Life	Actual		10000 Cycles
	Standard		10000 Cycles
Number of DC poles			2 or 4
Operation temperature		°C	-40 to +85
Storage termperature		°C	-40 to +85
Pollution degree			3
Overvoltage category			III
IP rating of shafte and mounting nul			IP66

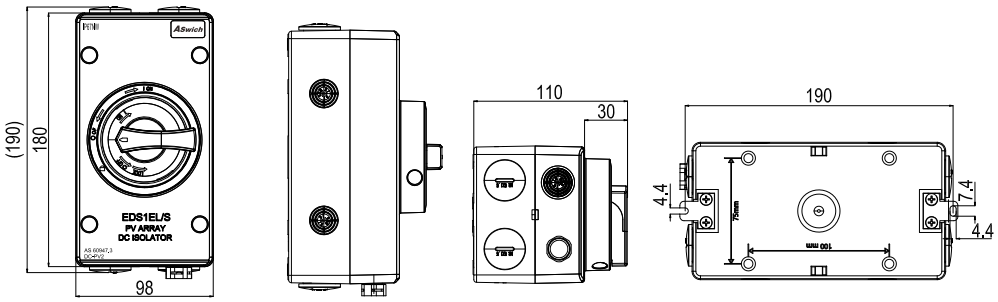
EDS1/N Series DC Isolator(DC1000V)

Dimensions

Enclosure Box



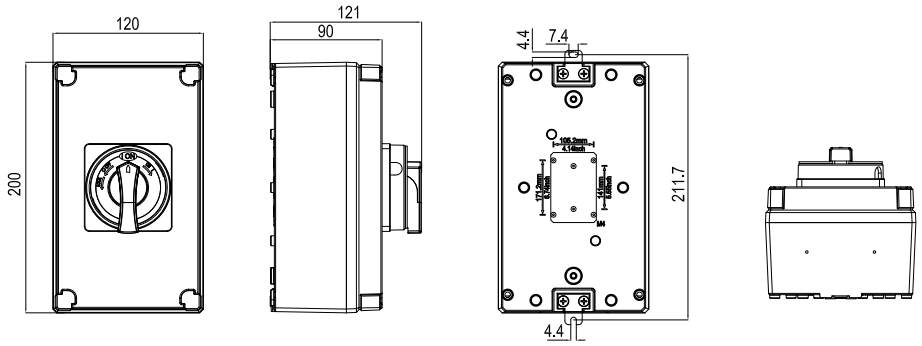
Plastic box
EDS1 EL/N32/...R



Enclosure Box



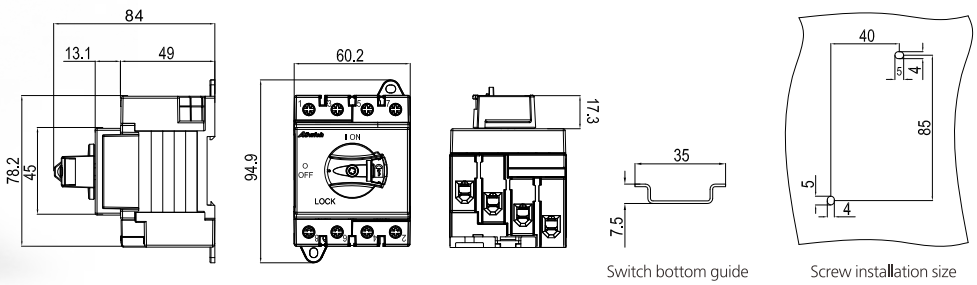
Aluminum box
EDS1 EL/N32/...R



Din-rail Mounting



EDS1 DB/N32/...R



Switch bottom guide rail installation size

Screw installation size

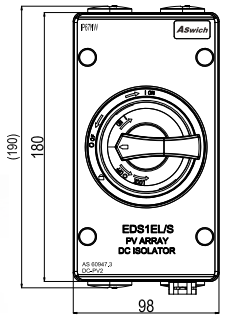
EDS1/S Series DC Isolator(DC1200V)

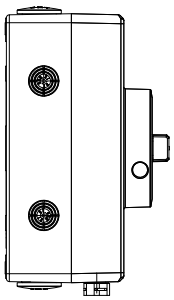
Dimensions

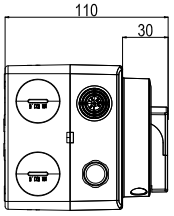
Enclosure Box

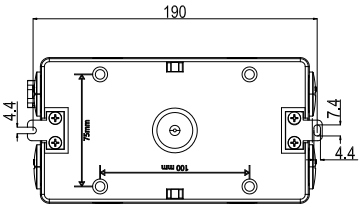


Plastic box
EDS1 EL/S32/...R





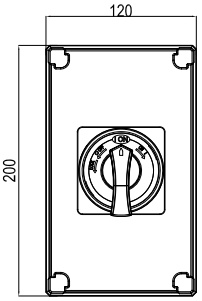


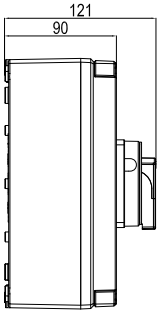


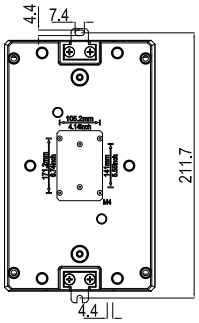
Enclosure Box

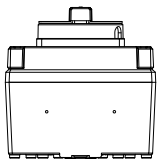


Aluminum box
EDS1 EL/S32/...R





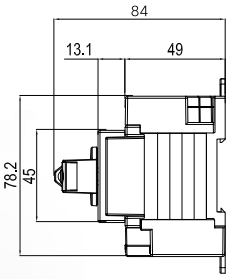


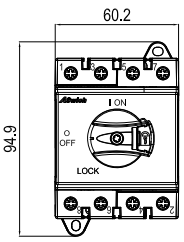


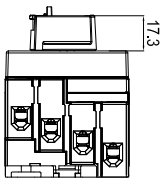
Din-rail Mounting

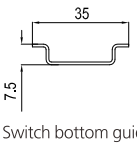


EDS1 DB/S32/...R

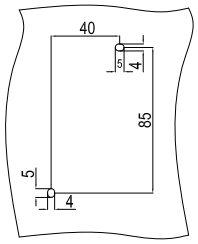








Switch bottom guide
rail installation size



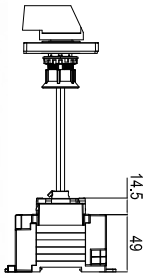
Screw installation size

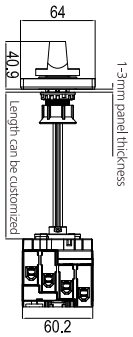
EDS1/N&S Series DC Isolator(Panel)

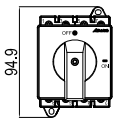
Door Interlock

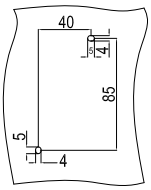


EDS1 DC/S32/...





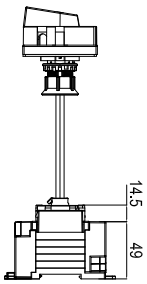


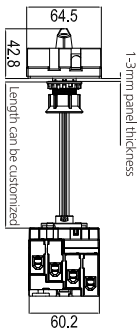


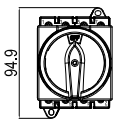
Screw installation size

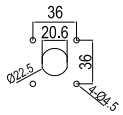


EDS1 DC/S32/...R









Head panel installation size

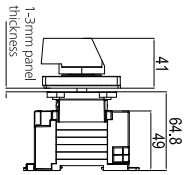


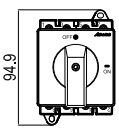
Switch bottom guide rail installation size

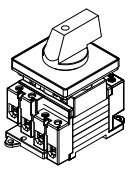
Panel Mounting



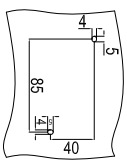
EDS1 PM/S32/...











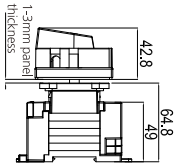
Screw installation size

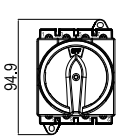


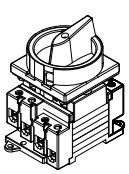
Switch bottom guide rail installation size

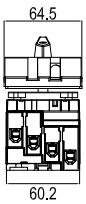


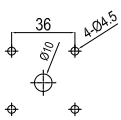
EDS1 PM/S32/...R











Head panel installation size

EDS1 Series DC Isolator (DC1000V)

Technical Data

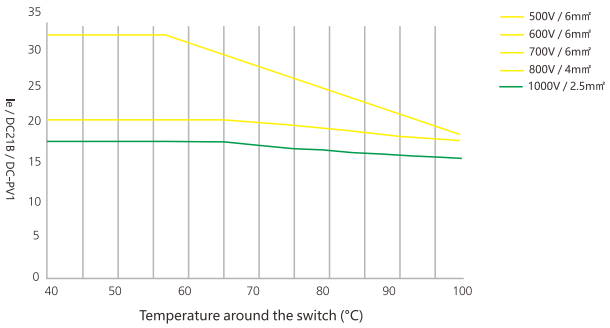
Data according to IEC/EN60947-3, AS60947.3, Utilization category DC-PV1, DC-PV2

300V		600V		800V		1000V		Pole	No. of Strings	Part Number
PV1	PV2	PV1	PV2	PV1	PV2	PV1	PV2			
32	32	32	32	32	16	16	9	2	1	EDS1/N32/2
32	32	32	32	32	16	16	9	4	2	EDS1/N32/4
32	32	32	32	32	32	32	32	4	1	EDS1/N32/4S
32	32	32	32	32	32	32	32	4	1	EDS1/N32/4B
32	32	32	32	32	32	32	32	4	1	EDS1/N32/4T

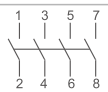
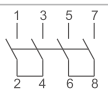
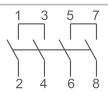
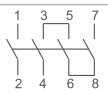
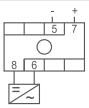
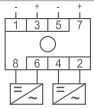
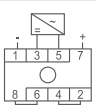
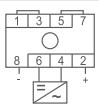
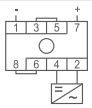
Data according to AS60947-3

Main Contacts		Voltage	EDS1/N32
Rated thermal current	I_{the}		32 A
Rated insulation voltage	U_i		1500 V
Distance of contacts(per pole)			8 mm
Rated operational current Ie(DC-PV2)			
4 layers, only 2layers in series, with two load 1 2		300V	32 A
		600V	32 A
		800V	16 A
		1000V	9 A
4 layers, 4 layers in series, with one load 1 2 3 4		300V	32 A
		600V	32 A
		800V	32 A
		1000V	32 A

Type	
Number of poles	4-pole
Terminal designation, main circuit	1; 3; 5;7; 2; 4; 6; 8
Type of terminal, main circuit	Screw terminal
Cable section	4.0-16mm²
Type of Conductor	4-16mm²(Rigid: Solid or Stranded)
	4-10mm²(Flexible)
Number of conductors per terminal	1
Required preparation of the conductor	Yes
Stripping length (mm), main circuit	8mm
Tightening torque (M4), main circuit	1.2~1.8N.m



Switching Configurations

Type	2-pole	4-pole	4-pole with Input and Output on top	4-pole with Input and Output bottom	4-pole with Input on top Output bottom
-	2	4	4T	4B	4S
Contacts Wiring graph					
Schematic diagram					

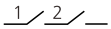
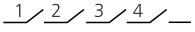
EDS1 Series DC Isolator (DC1200V)

Technical Data

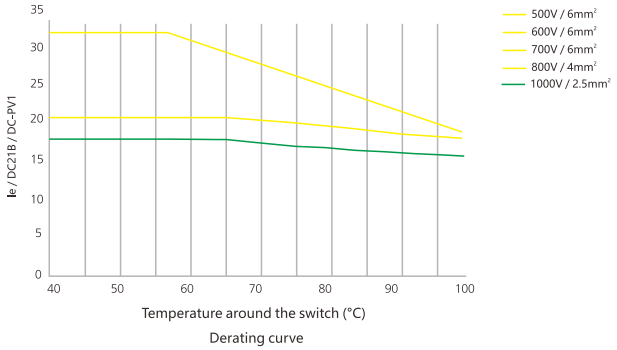
Data according to IEC/EN60947-3: AS60947.3, Utilization category DC-PV1, DC-PV2

300V		600V		800V		1000V		1200V		Pole	No. of Strings	Part Number
PV1	PV2	PV1	PV2	PV1	PV2	PV1	PV2	PV1	PV2			
32	32	32	32	32	16	16	9	13	9	2	1	EDS1/S32/2
32	32	32	32	32	16	16	9	13	9	4	2	EDS1/S32/4
32	32	32	32	32	32	32	32	32	32	4	1	EDS1/S32/4S
32	32	32	32	32	32	32	32	32	32	4	1	EDS1/S32/4B
32	32	32	32	32	32	32	32	32	32	4	1	EDS1/S32/4T

Data according to AS60947-3

Main Contacts	Voltage	EDS1/S32
Rated thermal current I_{the}		32 A
Rated insulation voltage U_i		1500 V
Distance of contacts(per pole)		8 mm
Rated operational current Ie(DC-PV2)		
4 layers, only 2layers in series, with two load 	300V	32 A
	600V	32 A
	800V	16 A
	1000V	9 A
	1200V	9 A
4 layers, 4 layers in series, with one load 	300V	32 A
	600V	32 A
	800V	32 A
	1000V	32 A
	1200V	32 A

Type		
Number of poles		4-pole
Terminal designation, main circuit		1; 3; 5;7; 2; 4; 6; 8
Type of terminal, main circuit		Screw terminal
Cable section		4.0-16mm²
Type of Conductor		4-16mm²(Rigid: Solid or Stranded)
		4-10mm²(Flexible)
Number of conductors per terminal		1
Required preparation of the conductor		Yes
Stripping length (mm), main circuit		8mm
Tightening torque (M4), main circuit		1.2~1.8N.m



Derating curve

DC ISOLATION SWITCH

EDS6EL DC Isolator(1500V) IP66 Enclosure



Aluminum box



Plastic box

Product Application

IP66 enclosure series - EDS6EL/50 DC Isolator is developed for 1000V commercial solar rooftops and installed between photovoltaic panels and inverters to guarantee safety. EDS6EL/50 DC Isolator has optional aluminum box and plastic box (optional breathable valve) and is produced by patented arc interrupter and UL certified materials to ensure the highest quality and solar DC safety.

Product Benefits

- IP66, UV Resistance
- Arcing Time < 1ms
- Earth Terminal
- IEC60947-3, AS60947.3
- 2 Poles, 4 Poles Available(Single | Double String)
- DC-PV2 / DC-21B: 55A up to 1500VDC

Aluminum box

- Metal material, with anti-corrosion, anti-explosion resistance against IK10, can adapt to harsh environments

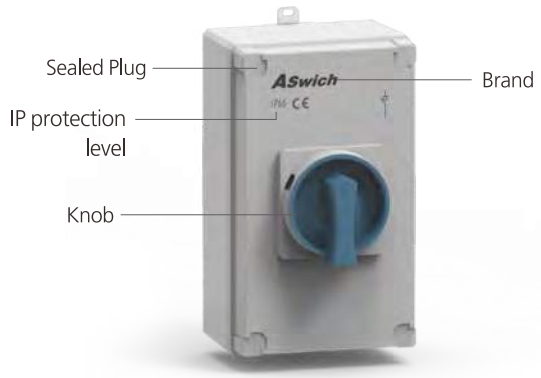
Select Code

E	D	S	□	□	/	□	/	□	□
1	2	3	4	5		6		7	8

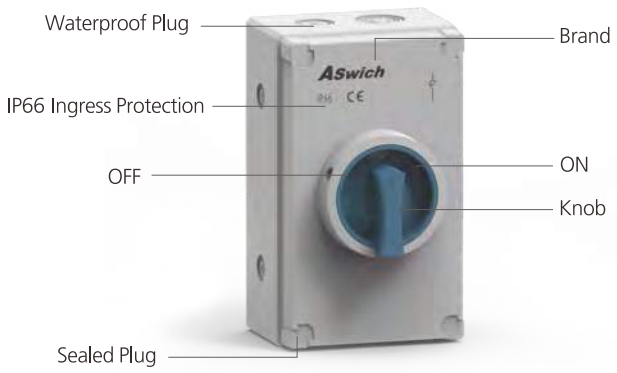
Code	Name	Description		
1	ASwich brand	E		
2	DC	D		
3	Isolation Switch	S		
4	Series	6: Series 6		
5	Mounting Type	EL: Plastic enclosure box ELA: Aluminum enclosure box		
6	1000V Rated Current	13: 13A 20: 20A 25: 25A	40: 40A 50: 50A	
7	Pole	2:2P	4:4P	4T/4B/4S
8	Lockable/Unlock	R:lockable Nill:unlockable		

EDS6EL DC Isolator(1500V) IP66 Enclosure

Appearance Introduction



Aluminum box



Plastic box

Technical Data

Data according to IEC/EN60947-3: AS60947.3, UL508i, GB/T14048.3. Utilization category DC-PV1/DC-PV2.

Main Parameters			13	20	25	40	50
Rated insulation voltage	Ui	V	1500	1500	1500	1500	1500
Rated thermal current	Ith	A	32	40	55	55	55
Rated impulse withstand voltage	Uimp	V	8000				
Rated short-time withstand current (1s)	Icm	A	780				
Rated short-time making capacity	Icm		1200A				
Maximum cable cross sections (incl. jumper)							
Solid or standard		mm²	4-16				
Flexible		mm²	4-16				
Flexible (+ multicore cable end)		mm²	4-16				
Torque							
Tightening torque terminal screws M4.		Nm	1.2-1.8				
Tightening torque single hole mounting nut M16		Nm	2.0-2.3				
Tightening torque knob screws M3		Nm	0.5-0.7				
Switching on or off torque		Nm	0.9-1.9				
General parameters							
Knob positions			9 o'clock OFF, 12 o'clock, ON				
Electrical Life	Actual		3000 Cycles				
	Standard		300 Cycles				
Mechanical Life	Actual		10000 Cycles				
	Standard		10000 Cycles				
Number of DC poles			2 or 4 (6/8 geek choice)				
Distance of contacts (per pole)		mm	8				
Operation temperature		℃	-40 to +85				
Store temperature		℃	-40 to +85				
Pollution degree			3				
Overvoltage category			III				
IP rating of shafte and mounting nut			IP66				

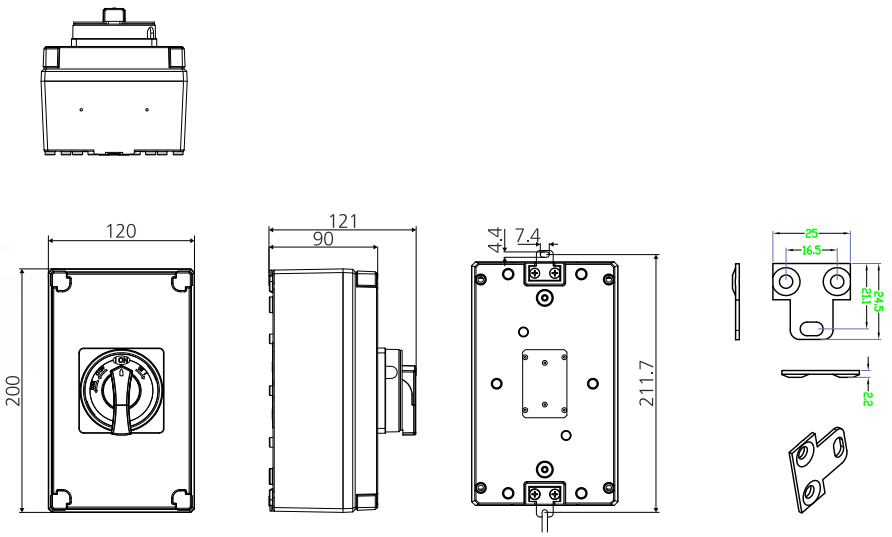
EDS6EL DC Isolator(1500V) IP66 Enclosure

Number of layers	Voltage/Current (DC-PV1)				
2/4	600Vdc	800Vdc	1000Vdc	1200Vdc	1500Vdc
	32	26	13	10	5
	40	30	20	12	6
	55	45	25	15	8
	/	50	40	30	20
	/	55	50	40	30
4T/B/S	/	/	32	26	13
	/	/	40	30	20
	/	/	55	40	30
	/	/	/	/	45
	/	/	/	/	50

Dimension and Mounting



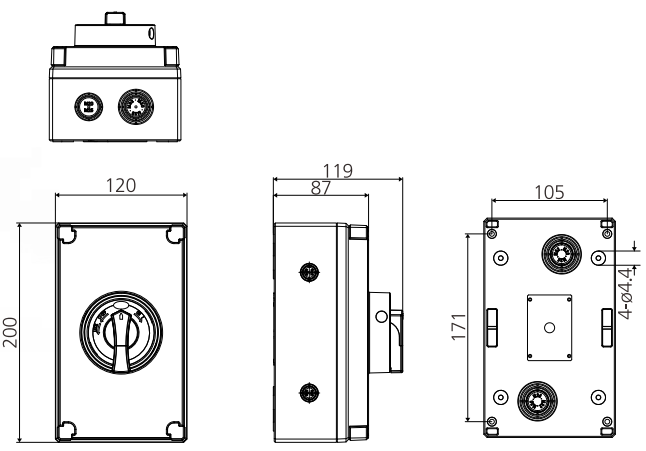
Aluminum box



Dimension and Mounting



Plastic box



EHD High Voltage DC Disconnector



EHD-315

Product Benefits

Easy to install

- Wiring: Switch is non-polarized, all types of wiring and connections are possible.
- Easy access without tools, and auxiliary contacts can be integrated without tools.
- The operating mechanism can be centered to meet the installation requirements.

Safe reliable operation

- Reliable position indicator through visible contacts.
- The opening and closing of the switch is fully independent from the speed of operation, ensuring safe operation under all conditions.
- High temperature withstand: no derating up to 70°C.
- Ambient Temperature: -40°C to +70°C.

Designed for harsh environments

- Vibration testing (from 13.2 to 100 Hz at 0.7 g).
- Shock testing (15 g during three cycles).
- Humid temperature testing (2 cycles, 55°C/131F with 95% humidity level).
- Salt mist testing(3 cycles with humidity storage, 40°C/104F, 93% humidity after each cycle).



EHD-600

Select Code

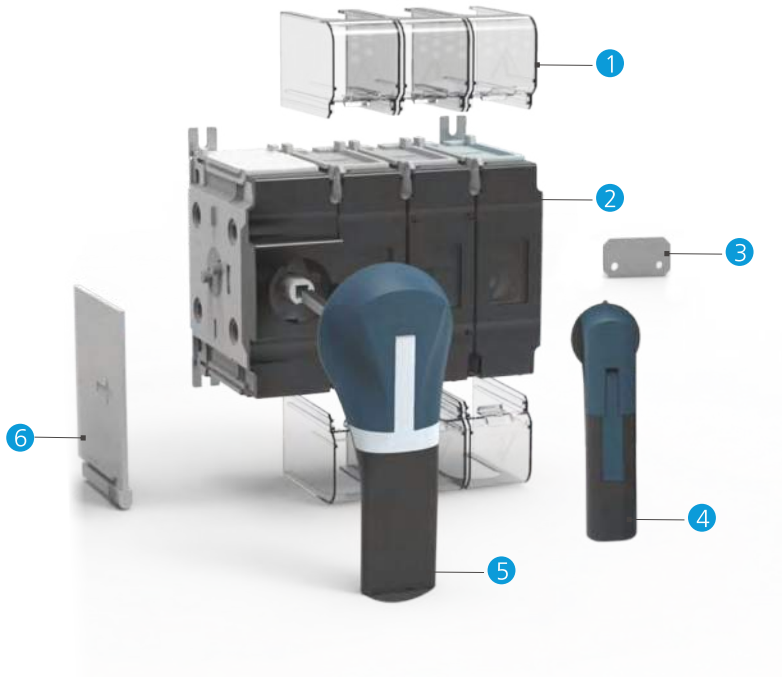
EHD	a	-	b	x	R	-	Y
1	2		3	4	5		6

No	Description	Code
1	High voltage DC disconnector	EHD
2	Rated Voltage	N:1000Vdc T:1500Vdc
3	Installation method	DB: Directly operate the handle in the cabinet DC: Outside handle
4	Rated current	160A, 250A, 315A, 400A 630A, 800A
5	Knob lock	R: With lock Nils: Without lock
6	Pole array	02, 11, 03, 12, 04, 22, 20, 21, 30, 40

*Note:The left digit represents the number on the left side of the operating mechanism, and the right digit represents the number on the right side of the operating mechanism

DC LOAD BREAK SWITCH

EHD High Voltage DC Disconnector



1 Termical shroud
2 Extension rod
3 Bridge bar
4 Direct handle
5 Door interlocked handle
6 Phase barrier

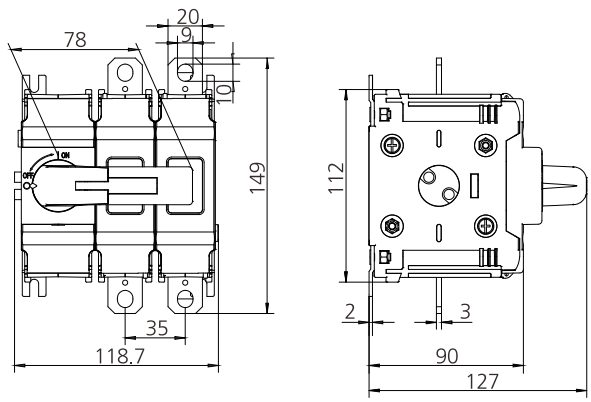
Technical Data

Rated current Ie					160A	250A	315A	400A	630A	800A
Frame size					EHD-315			EHD-600		
Thermal current (Ith)					160	250	315	400	630	800
Rated insulation voltage (Ui)					1500	1500	1500	1500	1500	1500
Rated impulse withstand voltage Uimp (KV)					12	12	12	12	12	12
Code	Number of poles		Rated voltage	Utilisation category	Ie(A)	Ie(A)	Ie(A)	Ie(A)	Ie(A)	Ie(A)
EHDN	2P(1P+,1P-)	4P(2P+,2P-)	1000VDC	DC-PV1/DC-21B	160	250	315	400	630	800
EHDT	2P(1P+,1P-)	4P(2P+,2P-)	1500VDC	DC-PV1/DC-21B	100	160	250	315	400	630
EHDT	3P(2P+,1P-)	6P(4P+,2P-)	1500VDC	DC-PV1/DC-21B	-	-	315	-	-	800
	Number of poles		Rated voltage	Utilisation category	Ie(A)	Ie(A)	Ie(A)	Ie(A)	Ie(A)	Ie(A)
EHDN	2P(1P+,1P-)	4P(2P+,2P-)	1000VDC	DC-PV2	160	250	315	400	630	800
EHDT	2P(1P+,1P-)	4P(2P+,2P-)	1500VDC	DC-PV2	100	160	250	315	400	630
EHDT	3P(2P+,1P-)	6P(4P+,2P-)	1500VDC	DC-PV2	-	-	315	-	-	800
The short-circuit capacity is between 1000 and 1500VDC (no protection)										
Rated short time withstand current Icw 1s (kAeff)				Icw	5	5	5	8	8	8
Rated short-circuit making capacity Icm(kA peak)- 60 ms				Icm	10	10	10	10	10	10
Cable										
Recommended Cu rigid cable cross section(mm)					70	120	185	240	2x185	2x240
Recommended Cu busbar width(mm)					20	20	20	25	25	25
Mechanical characteristics										
Durability (number of operating cycles)					8000	8000	8000	8000	8000	8000
Number of cycles of operation with current					1000	1000	1000	1000	1000	1000

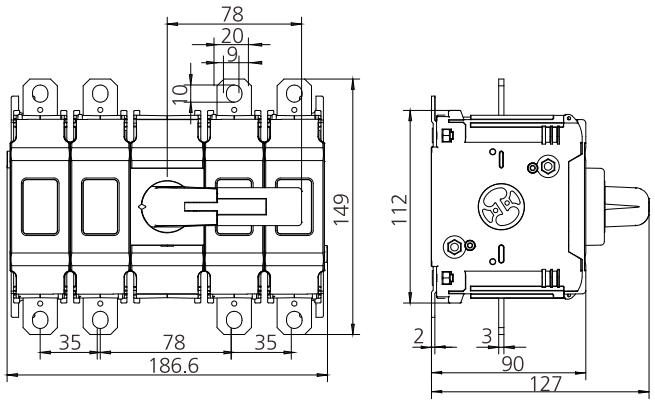
EHD High Voltage DC Disconnector

Dimensions

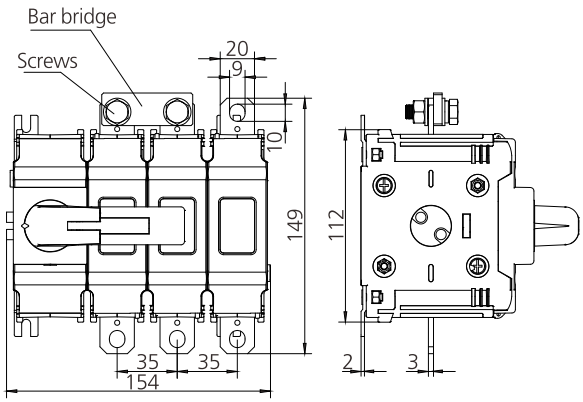
EHD-DB315R-02



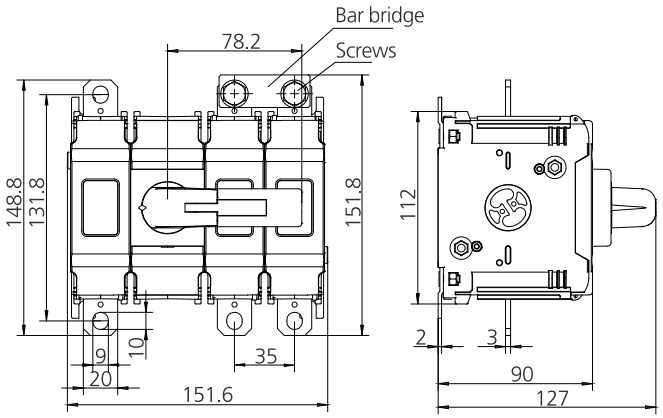
EHD-DB315R-22



EHDT-DB315R-03



EHDT-DB315R-12



DC NO-POLARITY ISOLATED SWITCH

EDB1-63 series DC isolated switch



Product Application

EDB1-63 Series PV DC Isolator switches are mainly be used in PV solar power system, which are applied for DC solar combiner box. controller etc. The Max voltage up to 1000V DC, current up to 63A.

Product Benefits

- Functions: Unfrequent operation and Isolation
- Rated Current:Up to 63A
- Rated Voltage:1000VDC
- Comply with:IEC60947-3 GB/T 14048.3

Select Code

E	D	B	1	-	63	/ □	/ □
1	2	3			4	5	6

Code	Name	Description
1	ASwich brand	E
2	DC	D
3	Miniature Circuit Breaker	B
4	Frame Current	63A
5	Rated current	10:10A 32:32A 16:16A 40:40A 20:20A 50:50A 25:25A 63:63A
6	Poles	1:1P 2:2P 3:3P 4:4P

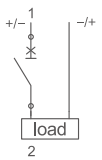
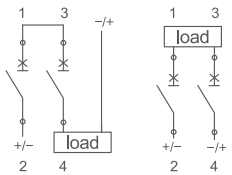
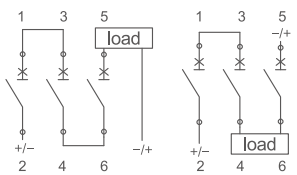
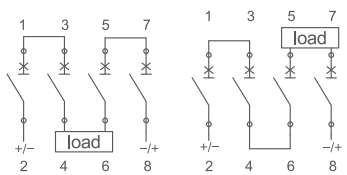
Appearance Introduction

1P	2P	3P	4P
			

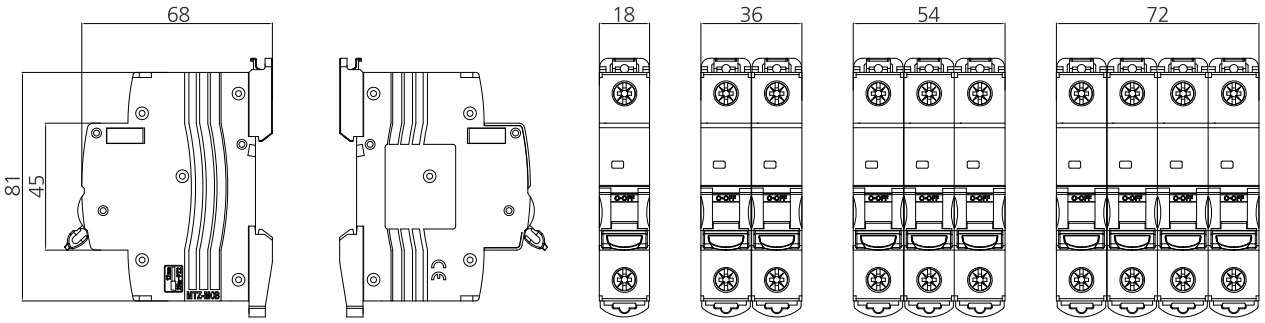
EDB1-63 series DC isolated switch

According to EN60947-3, AS/NZS 60947.3

Technical Data					
Pole		**1P**	**2P**	**3P**	**4P**
Rated Working Voltage	Ue	250V DC	500V DC	750V DC	1000V DC
Frame Current		63A			
Rated Current	In	10A,16A, 20A, 25A, 32A,40A, 50A, 63A			
Rated Insulation Voltage	Ui	1000V			
Rated Impulse Withstand Voltage	Uimp	6kV			
Electrical Life	Actual	2000 Cycles			
	Standard	1500 Cycles			
Mechanical Life	Actual	20000 Cycles			
	Standard	8500 Cycles			
Overvoltage Category		III			
Pollution Degree		3			
Ingress Protection		IP40; Wiring port IP20			
Resistance to humidity and heat		Class 2			
Relative Humidity		≤ 95 %			
Vibration		acc. to IEC60068-2-6			
Shocks		acc. to IEC60068-2-27			
Terminal capacity		2.5-25mm²			
Fastening Torque of Terminals		2.5 N·m			
Ambient Temperature		-30°C~70°C			
Storage Temperature		-40°C~85°C			
Installation Method		DIN			
Elevation		≤2000m			
Dimension		Width:18mm/Pole			
		High: 92mm			
		Depth: 74mm			

Contacts Configurations				
Pole	**1P**	**2P**	**3P**	**4P**
Contacts Configurations				

Dimensions



DC NO-POLARITY BREAKER

EDB1-63 series DC No-Polarity Miniature Circuit Breaker



Product Application

The circuit breaker has the functions of short circuit protection, overload protection, control, isolation and so on. It is suitable for terminal power distribution, civil construction, energy control, communication, and infrastructure construction fields.

Product Benefits

- Overload and the short circuit protection function
- Rated short circuit breaking capacity up to 10 kA
- Non-polarity and Polarity both available
- Rated Current In up to 63A
- Rated Voltage up to 1000V
- Designed for PV, energy storage and other DC applications
- AS/NZS 60947.2 and IEC 60947-2 standard



Select Code

E	D	B	1	-	63	□	/	□	□	/	□
1	2	3			4	5		6	7		8

Code	Name	Description
1	ASwich brand	E
2	DC	D
3	Miniature Circuit Breaker	B
4	Frame Current	63A
5	Breaking Capacity	Nil: 6kA H:10kA
6	Tripping curve	B C
7	Rated current	10:10A 32:32A 16:16A 40:40A 20:20A 50:50A 25:25A 63:63A
8	Poles	1:1P 2:2P 3:3P 4:4P

EDB1-63 series DC No-Polarity Miniature Circuit Breaker

Appearance Introduction



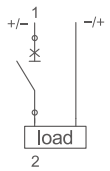
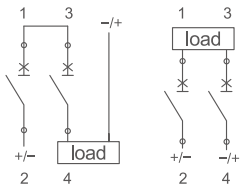
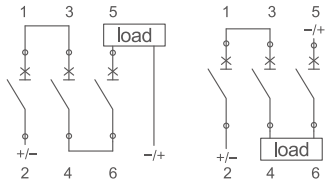
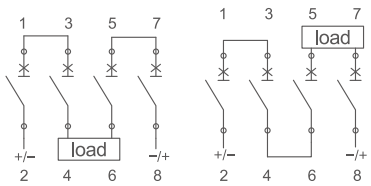
Technical Data

According to EN60947-2, AS/NZS 60947.2

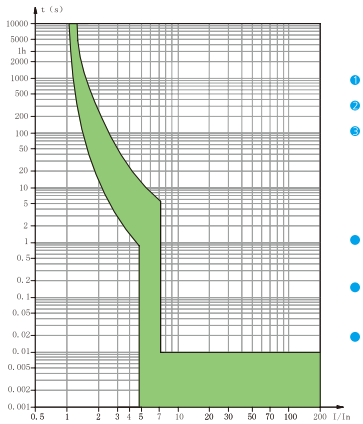
Pole		1P	2P	3P	4P
Rated Working Voltage	Ue	250V DC	500V DC	750V DC	1000V DC
Frame Current		63A			
Rated Current	In	10A,16A, 20A, 25A, 32A,40A, 50A, 63A			
Rated Insulation Voltage	Ui	1000V			
Rated Impulse Withstand Voltage	Uimp	6kV			
Tripping Characteristics		B/C			
Tripping Type		Thermal Magnetic			
Rated Ultimate Short-Circuit Breaking Capacity	Icu	6/10kA			
Rated Service Short-Circuit Interrupting Capacity	Ics	6/7.5 kA			
Electrical Life	Actual	2000 Cycles			
	Standard	1500 Cycles			
Mechanical Life	Actual	20000 Cycles			
	Standard	8500 Cycles			
Overvoltage Category		III			
Pollution Degree		3			
Ingress Protection		IP40; Wiring port IP20			
Resistance to humidity and heat		Class 2			
Relative Humidity		≤ 95 %			
Vibration		acc. to IEC60068-2-6			
Shocks		acc. to IEC60068-2-27			
Terminal capacity		2.5-25mm²			
Fastening Torque of Terminals		2.5 N·m			
Ambient Temperature		-30°C~70°C			
Storage Temperature		-40°C~85°C			
Installation Method		DIN			
Elevation		≤2000m			
Dimension		Width:18mm/Pole			
		High: 68mm			
		Depth: 81mm			
Weight		125.3g	250.55g	375.9g	501.1g

EDB1-63 series DC No-Polarity Miniature Circuit Breaker

Contacts Configurations

Pole	1P	2P
Contacts Configurations		
	3P	4P
		

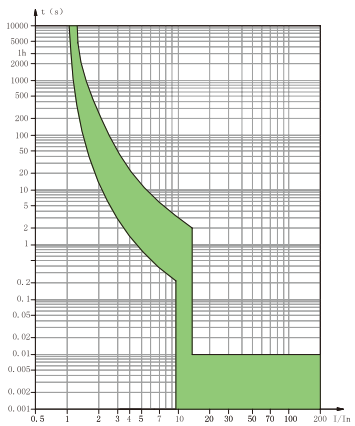
Tripping Characteristics



❶ Int=1.05In:t≤1h
❷ It=1.3In:t < 1h
❸ 2,55In:t=1-60s(In≤32A)
t=1-120s(In > 32A)

- Suitable for pure resistive load and microinductive circuit
- Available to rated current of 10A ~ 63A(63A Frame)
- Instantaneous tripping range: 4In±20%

B Curve 4In(1±20%)



❶ Int=1.05In:t≤1h
❷ It=1.3In:t < 1h
❸ 2,55In:t=1-60s(In≤32A)
t=1-120s(In > 32A)

- Suitable for general load and power distribution circuit
- Available to rated current of 10A ~ 63A(63A Frame)
- Instantaneous tripping range: 8In±20%

C Curve 8In (1±20%)

EDB1-63 series DC No-Polarity Miniature Circuit Breaker

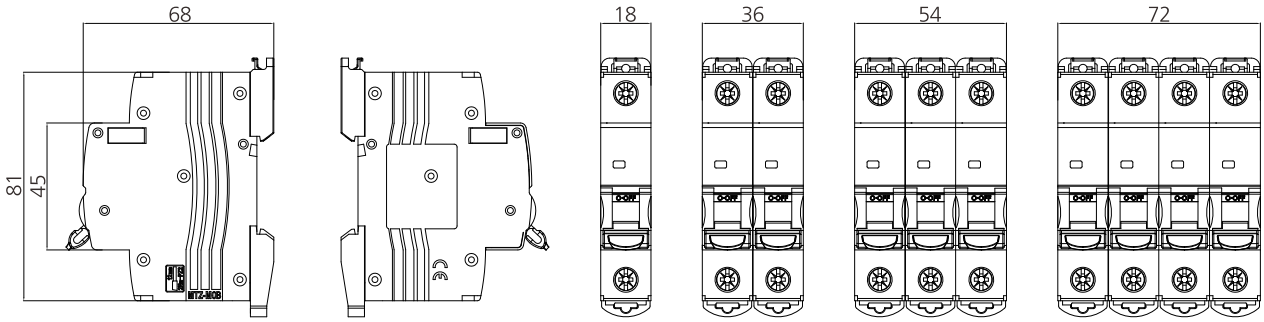
Installation



Disassemble



Dimensions



DC NO-POLARITY BREAKER

EDB1-125 series DC No-Polarity Miniature Circuit Breaker



Product Application

The circuit breaker has the functions of short circuit protection, overload protection, control, isolation and so on. It is especially suitable for the energy storage system and battery protection.

Product Benefits

- Overload and the short circuit protection function
- Rated short circuit breaking capacity up to 10 kA
- Non-polarity and Polarity both available
- Rated Current In up to 250A
- Rated Voltage up to 200V
- Designed for PV, energy storage and other DC applications
- AS/NZS 60947.2 and IEC 60947-2 standard



Select Code

E	D	B	1	-	125	□	/	□	□	/	□
1	2	3			4	5		6	7		8

Code	Name	Description
1	ASwich brand	E
2	DC	D
3	Miniature Circuit Breaker	B
4	Frame Current	125A
5	Breaking Capacity	Nil:6kA H:10kA
6	Tripping curve	B C
7	Rated current	63:63A 80:80A 100:100A 125:125A 250:250A
8	Poles	1:1P 2:2P 2H

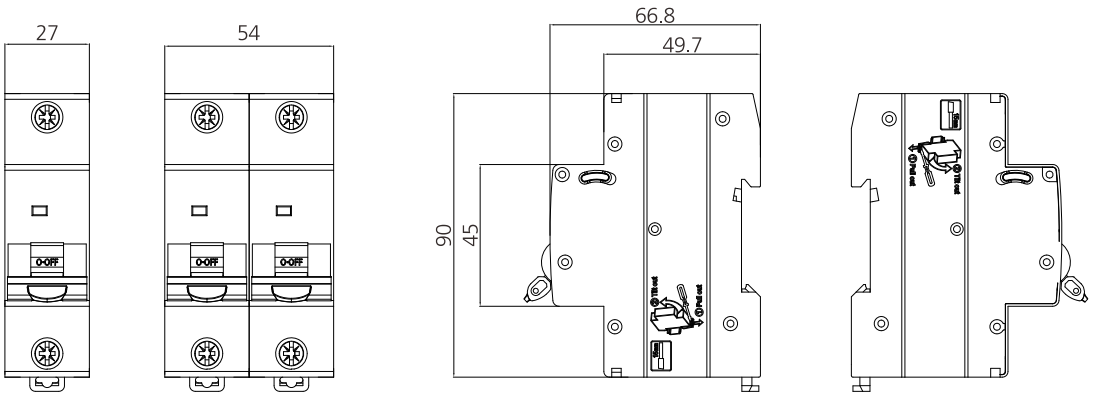
EDB1-125 series DC No-Polarity Miniature Circuit Breaker

Technical Data

According to AS/NZS 60947.2, IEC 60947-2

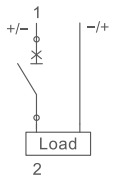
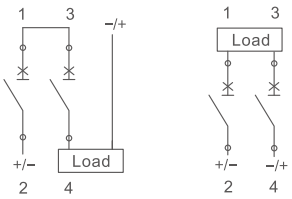
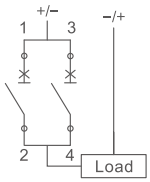
Pole			1P	2P	2H
Rated Working Voltage		Ue	100V	100V / 200V	100V
Frame Current			125A		
Rated CurrentIn			10A, 16A, 20A, 25A, 32A, 40A, 50A		250A
125A Frame			63A, 80A, 100A, 125A		
Rated Insulation Voltage		Ui	500V		
Rated Impulse Withstand Voltage		Uimp	6kV		
Tripping Characteristics			B/C		
Tripping Type			Thermal Magnetic		
Rated Ultimate Short-Circuit Breaking Capacity		Icu	6/10kA		
Rated Service Short-Circuit Interrupting Capacity		Ics	6/7.5kA		
Electrical Life		Actual	2000 Cycles		
		Standard	1000 Cycles		
Mechanical Life		Actual	20000 Cycles		
		Standard	7000 Cycles		
Overvoltage Category			III		
Pollution Degree			3		
Ingress Protection			IP40; Wiring port IP20		
Resistance to humidity and heat			Class 2		
Relative Humidity			≤95 %		
Vibration			acc. to IEC60068-2-6		
Shocks			acc. to IEC60068-2-27		
Terminal capacity			2.5~25mm²		
Tightening Torque of Terminals			2.0~2.5 N·m		
Ambient Temperature			-30°C~70°C		
Storage Temperature			-40°C~85°C		
Installation Method			DIN		
Elevation			≤2000m		
Weight			158.2g	316.4g	

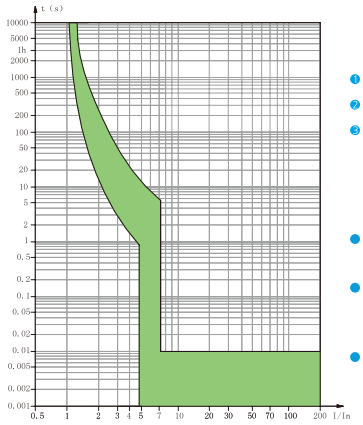
Dimensions



EDB1-125 series DC Miniature Circuit Breaker

Contacts Configurations

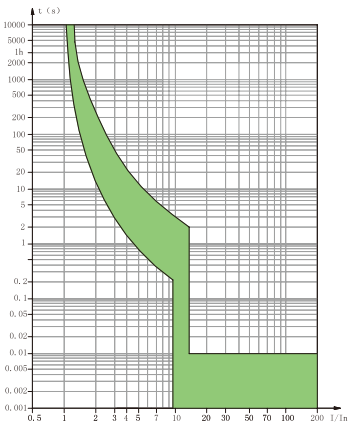
Pole	1P	2P	2H
Contacts Configurations			



- ❶ Int=1.05In:t≤1h
- ❷ It=1.3In:t < 1h
- ❸ 2.55In:t=1-60s(In≤32A) t=1-120s(In > 32A)

- Suitable for pure resistive load and microinductive circuit
- Available to rated current of 10A ~63A (63A Frame), 80A ~ 125A(125A Frame)
- Instantaneous tripping range: 4In±20%

B Curve 4In(1±20%)

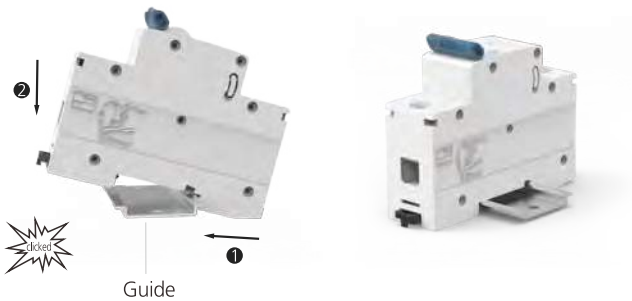


- ❶ Int=1.05In:t≤1h
- ❷ It=1.3In:t < 1h
- ❸ 2.55In:t=1-60s(In≤32A) t=1-120s(In > 32A)

- Suitable for general load and power distribution circuit
- Available to rated current of 10A ~63A (63A Frame), 80A ~ 125A(125A Frame)
- Instantaneous tripping range: 8In±20%

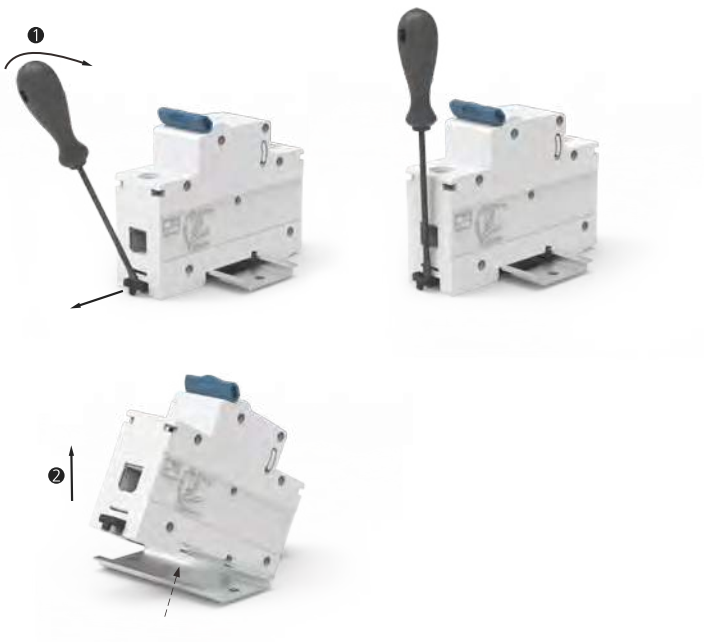
C Curve 8In (1±20%)

Installation



Guide

Disassemble



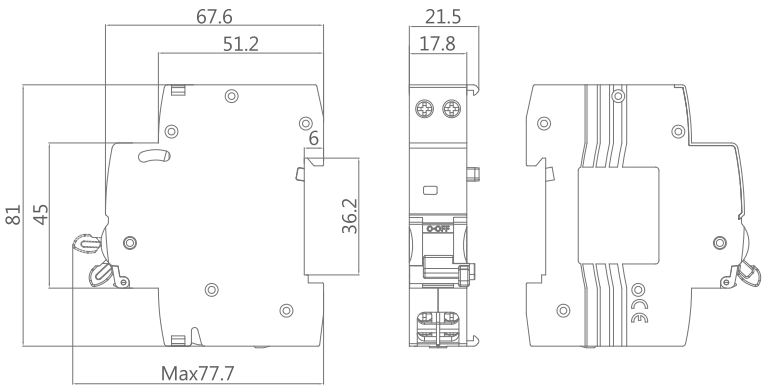
Shunt Release MX Alarm contact



General

1.1 Remote starting of the device when The voltage is applied.
1.2 To be mounted on the left side of the MCBs/RCBOs due to the special pin.

Dimension



Technical Data

	Standard	IEC/EN 60947-5-1	
Electrical features	Rated value	AC230/400 50/60Hz AC/DC24	
		UN (V)	In (A)
		AC400 50/60Hz	3
		AC230 50/60Hz	6
		DC130	1
		DC48	2
		DC24	6
	Rated impulse withstand voltage(1.2/50)Uimp	4000V	
	Dielectric Test Voltage at ind.Freq.for 1min	2kV	
	Insulation voltage Ui	500V	
	Pollution degree	2	
Mechanical features	Electrical life	4000	
	Mechanical life	4000	
	Protection degree	Ip20	
	Ambient temperature (with daily average≤35℃)	-30°C~70°C	
	Storage temperature	-40°C~85°C	
Installation	Terminal connection type	Cable	
	Terminal size top/ bottom for cable	2.5mm² / 18-14AWG	
	Tightening torque	0.8N·m	

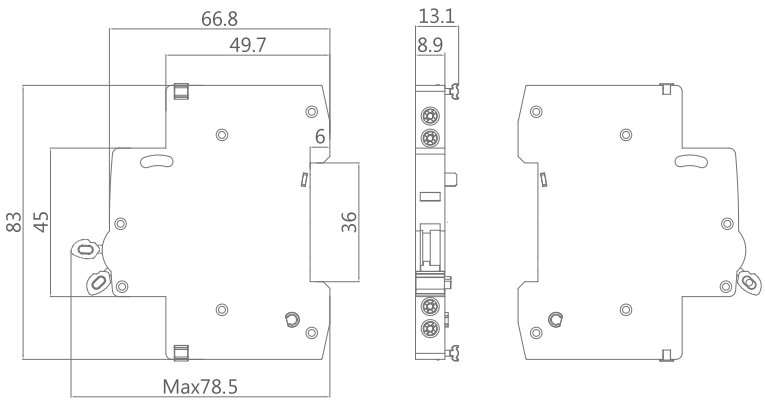
OF Auxiliary Contact



General

1.1 Indicate the position of the device's contacts.
1.2 To be mounted on the left side of the MCBs/RCBOs due to the special pin.

Dimension



Technical Data

	Standard	IEC/EN 60947-5-1	
Electrical features	Rated value	AC230/400 50/60Hz AC/DC24	
		UN (V)	In (A)
		AC400 50/60Hz	3
		AC230 50/60Hz	6
		DC130	1
		DC48	2
		DC24	6
	Configurations	IN/O+IN/C	
	Rated impulse withstand voltage(1.2/50)Uimp	4000V	
	Dielectric Test Voltage at ind.Freq.for 1min	2kV	
	Insulation voltage Ui	500V	
	Pollution degree	2	
Mechanical features	Electrical life	6050	
	Mechanical life	4000	
	Protection degree	IP20	
	Ambient temperature (with daily average≤35℃)	-30°C~70°C	
	Storage temperature	-40°C~85°C	
Installation	Terminal connection type	Cable	
	Terminal size top/ bottom for cable	2.5mm^2 / 18-14AWG	
	Tightening torque	0.5N·m	

MX-OF Shunt release DC24V+Auxiliary contact

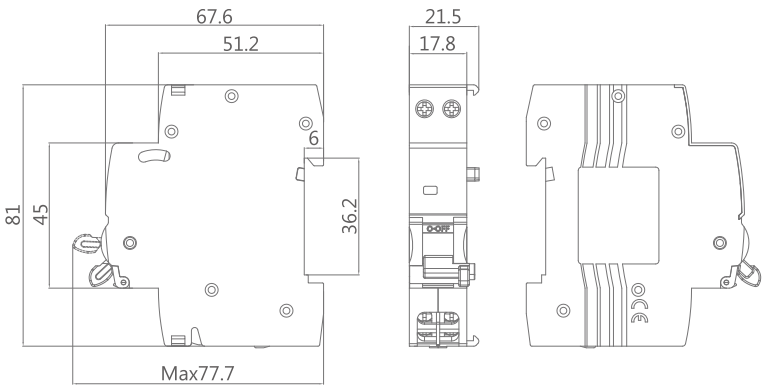
CE



General

1.1 Remote starting of the device when The voltage is applied.
1.2 Indicate the position of the device's contacts.
1.3 To be mounted on the left side of the MCBs/RCBOs due to the special pin.

Dimension



Technical Data

	Standard	IEC/EN 60947-5-1	
Electrical features	Rated value	AC230/400 50/60Hz AC/DC24	
		UN (V)	In (A)
		AC400 50/60Hz	3
		AC230 50/60Hz	6
		DC130	1
		DC48	2
		DC24	6
	Configurations	1N/O + 1N/C	
	Rated impulse withstand voltage(1.2/50)Uimp	4000V	
	Dielectric Test Voltage at ind.Freq.for 1min	2kV	
	Insulation voltage Ui	500V	
	Pollution degree	2	
Mechanical features	Electrical life	6050	
	Mechanical life	4000	
	Protection degree	IP20	
	Ambient temperature (with daily average≤35℃)	-30°C~70°C	
	Storage temperature	-40°C~85°C	
Installation	Terminal connection type	Cable	
	Terminal size top/ bottom for cable	2.5mm² / 18-14AWG	
	Tightening torque	0.8N·m	

EDM3 Series PV DC Moulded Case Circuit Breaker



EDM3 -250



EDM3 -250/EL

Product Application

EDM3 series PV DC moudled case circuit breaker protects the battery systems and energy storage systems,with over load protection and short circuit protection. Rated voltage is 500VDC. Rated current up to 250A. Ensure the solar PV systems including batteries operating well and high efficiency. A IP66 and UV resistance PC enclosure is optional.

Product Benefits

- High Breaking Capacity, relaiable insulating
- Over load protection and short-circuit protection
- Frequency operating and isolating
- Rated voltage 500VDC
- Max Rated Current 250A

Select Code

E	D	M	3 -	□	/	□	□	-	□	□
1	2	3		4		5	6		7	8

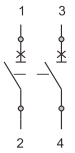
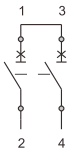
Code	Name	Description
1	ASwich brand	E
2	DC	D
3	Moulded Case Circuit Breaker	M
4	250	Max Rated Current 250A
5	Enclosure box	Nil: Without enclosure box EL: With enclosure box
6	Rated current	250:250A 180:180A 125:125A 225:225A 160:160A 200:200A 140:140A
7	Pole	2: 2P
8	Tripping	3: Electromagnetic tripping + thermal tripping

Appearance Introduction



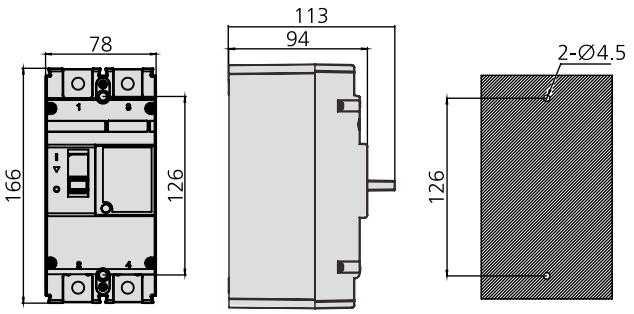
Technical Data

Type		EDM3-250
Pole		2P
Max Rated Current		250A
Electrical Characteristics		
Rated Working Voltage	Ue	500V DC
Rated Current	In(A)	125A, 140A,160A,180A, 200A, 225A,250A
Rated Insulated Voltage	Ui	1000V DC
Rated Impulsed Voltage	Uimp	8kV
1 Min Power Frequency Withstand Voltage		3.8 kV
Ultimate Breaking Capacity	Icu	20 kA
Run Breaking Capacity	Ics	10 kA
Over - current Release		Thermal , Electromagnetic

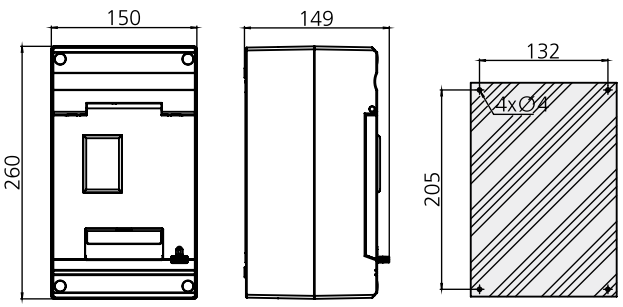
Pole	EDM3 - 250	
Contacts Configurations		

Type		EDM3-250
Tripping Type		
Control And Indication		Optional
Control Manual	Direct (RHD)	Optional
	Extended(ERH)	Optional
Service Life/Cycle Operation		
Mechanical		10000
Electrical		2000
Size (L x W x H)		166x78x113mm (EL 260x150x150mm)
Ingress Protection		IP20 (EL IP66)
Pollution Degree		III
Installation Environment		
Comply With		IEC60947-2 GB14048.2
Storage Temperature		-40°C~+85°C

Dimensions

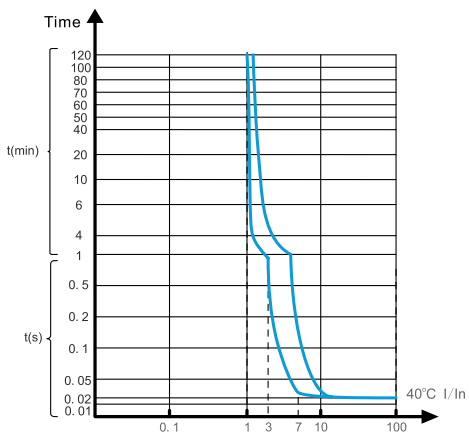


EDM3 -250 | Mounting panel



EDM3 -250/EL | Mounting panel

Characteristic Curve



DC MOULDED CASE CIRCUIT BREAKER

EM3DP-U PV DC Moulded Case Circuit Breaker



Product Application

- small volume
- Overload protection
- Flame retardant material
- Breaking height
- Short circuit protection
- Flying Fox Short
- Complete accessories
- Multiple wiring

Select Code

E 1 M3 2 DP 3 - □ 4 / □ 5 - □ 6 □ 7

Code	Name	Description
1	ASwich brand	E
2	M3	M3
3	DC Molded case circuit breaker for photovoltaic	DP
4	Frame Current	250U 320U 400U
5	Rated current See Table 1 for details	125. 140. 160. 180. 200. 225. 250. 280. 315. 320 315. 350. 400
6	Poles	2:2P 3:3P 4:4P
7	Tripping	3:Electromagnetic tripping + thermal tripping

Appearance Introduction

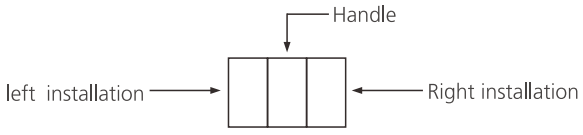
High flame retardant shell	Isolation function handle	1500V Built-in arc cover	All-steel large terminal
			

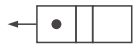
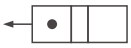
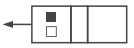
EM3DP-U PV DC Moulded Case Circuit Breaker

Technical Data

● Shunt release　　□ Alarm contact

→ Lead direction　　■ Auxiliary contact



Model number			EM3DP-250U			EM3DP-400U
Code	Accessory name	Number of poles	2	3	4	4
200,300	No internal accessories		—	—	—	—
208,308	Alarm contact					
210,310	Shunt release					
220,320	Auxiliary contact (1NO1NC)					—
	Auxiliary contact (2NO2NC)		—	—	—	
202,302	Auxiliary contact (2NO2NC)			—	—	—
240,340	Shunt release, auxiliary contact (1NO1NC)		—			—
	Shunt release, auxiliary contact (2NO2NC)		—	—	—	
212,312	Shunt release, auxiliary contact (2NO2NC)		—		—	—
260,360	Two sets of auxiliary contacts (2NO2NC)		—			—
	Two sets of auxiliary contacts (4NO4NC)		—	—	—	
218,318	Shunt release, alarm contact		—			
228,328	Auxiliary contact (1NO1NC), alarm contact		—			
248,348	Shunt release, alarm contact, auxiliary contact (1NO1NC)		—			
268,368	Two sets of auxiliary contacts (2NO2NC), alarm contacts		—			—
	Two sets of auxiliary contacts (3NO3NC), alarm contacts		—	—	—	

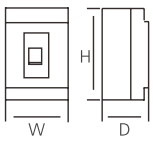
When the shunt and the alarm are installed at the same time, the DC24V shunt cannot be installed at this time, and only AC220V or AC400V shunt can be installed.

EM3DP-U PV DC Moulded Case Circuit Breaker

EM3DP-U series of DC plastic case circuit breakers for photovoltaics—parameters

Table I									
IEC60947-2 GB14048.2									
Electrical performance									
Frame rating rated current Inm (A)	250			320			400		
Rated currentIn (A)	125.140.160.180. 200.225.250			280.315.320			315.350.400		
Number of poles	2	3	3	2	3	3	4		
Rated Operating Voltage Ue (V) DC	1000	1250	1500	1000	1250	1500	1000	1250	1500
Rated insulation voltage Ui (V)	1000	1500	1500	1000	1500	1500	1500		
Rated impact withstand voltage Uimp (kV)	12								
Set display short-circuit breaking Icu (kA)	20								
Operating short-circuit breaking capacity Ics (kA)	20								
Connection method	Up in down out			Up in down out			Down in up out		
Mechanical life (total cycles)	10000								
Electrical life (total cycles)	2000								
Total breaking time (ms)	20								
Whether it has isolation characteristics	Yes								
Allowable ambient temperature	−40~+70℃								
Protection class	IP20								
Quality Certification	CCC . CE . CB . TUV								
Accessories available	Auxiliary. Alarm. Split excitation. Manual operation. Electric operation								
Arcing distance (mm)	⩾50 (Zero flashover after flashover cover)								
Instantaneous action value	10 In								
Installation method	Fixed and plug-in								

Dimensions



Number of poles	2P	4P	3P	4P	4P
W	75	133	140	198	240
H	190	200	190	257	270
D	108	109	109	108	120

Surge Protection Device



Product Application

EDP series surge protective devices have reliable voltage protection level, super surge discharge capacity and safety overload capacity, which are used for lightning protection of photovoltaic power generation system. The product is equipped with high-energy mov chip, so when the system has overvoltage due to lightning stroke or other reasons, it can introduce the voltage into the earth with nanosecond response speed, so as to protect the equipment.

Product Benefits

- Location of Use: String box, Inverter
- Mode of Protection: (DC+) - PE, (DC-) - PE, (DC+) - (DC-)
- Surge Ratings: I =20kA(8/20μs)
  $I_{n_{total}}$ =up to 40kA(8/20μs)
- IEC/EN/UL Category: Class I+II / Type 2
- Protective Elements: High Energy MOV
- Housing: Pluggable Design
- Compliance: IEC 61643-31 EN 50539-11+ A1

Select Code

E	D	P	□	□	-	□	□
1	2	3	4	5		6	7

Code	Name	Description
1	ASwich brand	E
2	D	DC
3	Product Code	P: Surge Protector
4	Voltage	G:600V N:1000V T:1500V
5	Imax	40:40kA
6	Pole	2:2P 3:3P
7	Remote signal	R: with RC Nil: with out RC

Appearance Introduction



Surge Protection Device

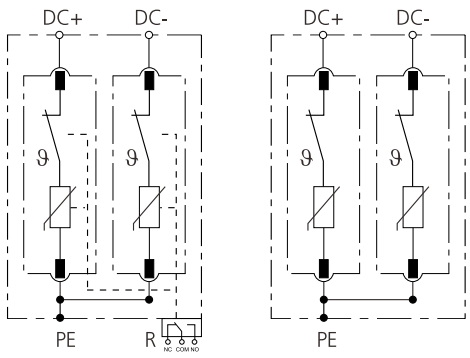
Technical Data



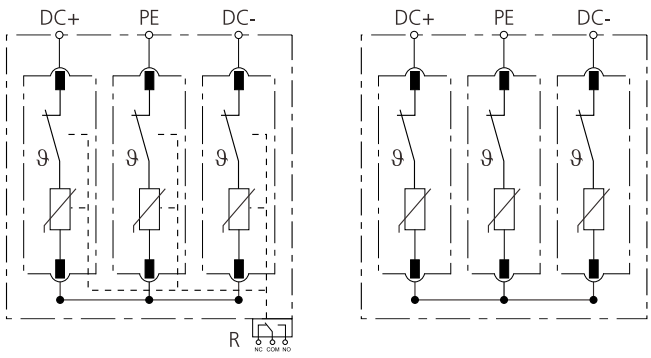
Product model			EDPG40-2 (R)	EDPN40-3 (R)	EDPT40-3 (R)
IEC Electrical					
Maximum Continuous Operating DC Voltage	(DC+) - PE, (DC-) - PE	U_{CPV}	600V	1000V	1500V
	(DC+) - (DC-)	U_{CPV}	-	1000V	1500V
Nominal Discharge Current (8/20 μs)		I_n	20kA		
Total Discharge Current (8/20 μs)		I_{Total}	40kA		
Maximum Discharge Current (8/20 μs)		I_{max}	40kA		
Voltage Protection Level	(DC+) - PE, (DC-) - PE	U_p	2200V	4000V	5200V
	(DC+) - (DC-)	U_p	-	4000V	5200V
Response Time		t_A	<25ns		
Short-Circuit Current Rating		I_{SCPV}	2000A		
Number of Ports			1		
Mechanical & Environmental					
Operating Temperature Range		T_a	-40°F to +158°F [-40°C to +70°C]		
Permissible Operating Humidity		RH	5%...95%		
Atmospheric pressure and altitude			80k Pa ... 106k Pa / -500m ... 2000m		
Terminal Screw Torque		M_{max}	39.9 lbf·in [2.0~2.5 N·m]		
Conductor Cross Section (max)			2 AWG (Solid, Stranded) / 4 AWG (Flexible)		
			35 mm^2(Solid, Stranded) / 25 mm^2 (Flexible)		
Mounting			35 mm DIN Rail, EN 60715		
Degree Of Protection			IP20 (built-in)		
Housing Material			Thermoplastic: Extinguishing Degree UL 94 V-0		
Thermal Protection			Yes		
Operating State / Fault Indication			Green ok / Red: failure		
Remote Contacts (RC)			Optional		
RC Switching Capacity			AC:250V / 0.5A;DC:250V / 0.1A;125V / 0.2A;75V / 0.5A		
RC Conductor Cross Section (max)			16 AWG (Solid) / 1.5 mm^2(Solid)		

Surge Protection Device

Appearance Introduction

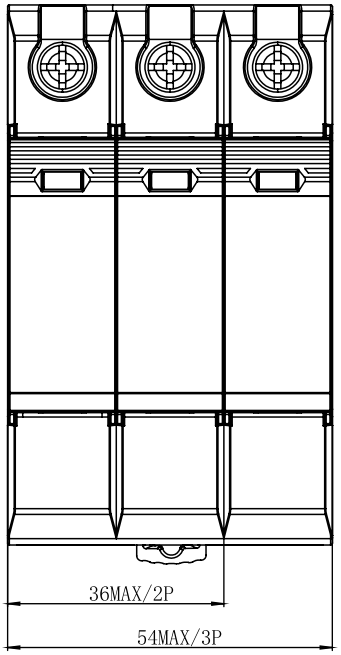


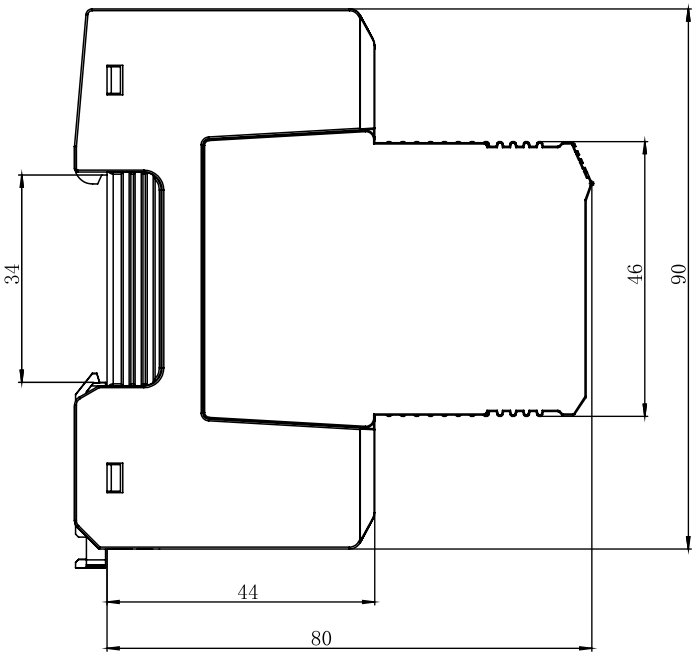
EDPG40-2 (R)



EDPN40-3 (R),EDPT40-3 (R)

Drawing size





DC SURGE PROTECTOR

Surge Protection Device



Product Application

EDP series surge protective devices have reliable voltage protection level, super surge discharge capacity and safety overload capacity, which are used for lightning protection of photovoltaic power generation system. The product is equipped with high-energy mov chip, so when the system has overvoltage due to lightning stroke or other reasons, it can introduce the voltage into the earth with nanosecond response speed, so as to protect the equipment.

Product Benefits

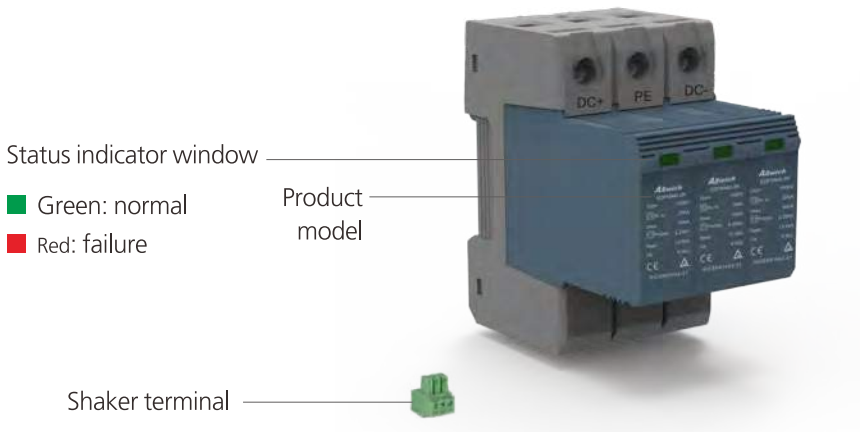
- Location of Use: String box, Inverter
- Mode of Protection: (DC+) - PE, (DC-) - PE, (DC+) - (DC-)
- Surge Ratings: I_{Total} =up to 12.5kA(10/350 μs)
  I_{Total} =up to 40kA(8/20 μs)
- IEC/EN/UL Category: Class I+II / Type 1+2
- Protective Elements: High Energy MOV
- Housing: Pluggable Design
- Compliance: IEC 61643-31 EN 50539-11+ A1

Select Code

E	D	P	□	□	-	□	□
1	2	3	4	5		6	7

Code	Name	Description
1	ASwich brand	E
2	D	DC
3	Product Code	P: Surge Protector
4	Voltage	AG:600V AN:1000V AT:1500V
5	Imax	40: 40kA
6	Pole	2:2P 3:3P
7	Remote signal	R: with RC Nil: with out RC

Appearance Introduction



Surge Protection Device

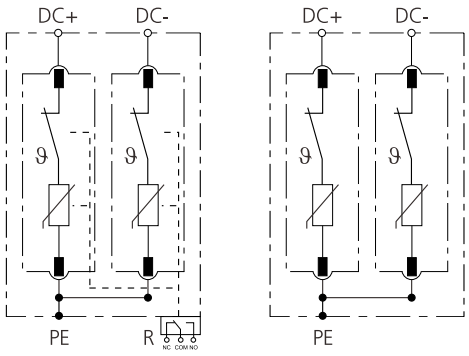
Technical Data



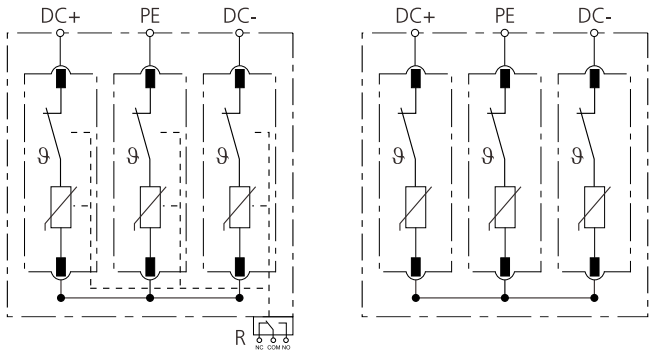
Product model			EDPAG40-2 (R)	EDPAN40-3 (R)	EDPAT40-3 (R)
IEC Electrical					
Maximum Continuous Operating DC Voltage	(DC+) - PE, (DC-) - PE	U_{CPV}	600V	1000V	1500V
	(DC+) - (DC-)	U_{CPV}	-	1000V	1500V
Nominal Discharge Current (8/20 µs)		I_n	20kA		
Impulse Discharge Current (10/350 µs)		I_{imp}	6.25kA		
Total Discharge Current (10/350 µs)		I_{Total}	12.5kA		
Total Discharge Current (8/20 µs)		I_{Total}	40kA		
Maximum Discharge Current (8/20 µs)		I_{max}	40kA		
Voltage Protection Level	(DC+) - PE, (DC-) - PE	U_p	2200V	4000V	5200V
	(DC+) - (DC-)	U_p	-	4000V	5200V
Response Time		t_A	<25ns		
Short-Circuit Current Rating		I_{SCPV}	1000A		
Number of Ports			1		
Mechanical & Environmental					
Operating Temperature Range		T_a	-40°F to +158°F [-40°C to +70°C]		
Permissible Operating Humidity		RH	5%...95%		
Atmospheric pressure and altitude			80k Pa ... 106k Pa / -500m ... 2000m		
Terminal Screw Torque		M_{max}	39.9 lbf·in [2.0~2.5 N·m]		
Conductor Cross Section (max)			2 AWG (Solid, Stranded) / 4 AWG (Flexible)		
			35 mm^2(Solid, Stranded) / 25 mm^2 (Flexible)		
Mounting			35 mm DIN Rail, EN 60715		
Degree Of Protection			IP20 (built-in)		
Housing Material			Thermoplastic: Extinguishing Degree UL 94 V-0		
Thermal Protection			Yes		
Operating State / Fault Indication			Green: ok / Red: failure		
Remote Contacts (RC)			Optional		
RC Switching Capacity			AC:250V / 0.5A;DC:250V / 0.1A;125V / 0.2A;75V / 0.5A		
RC Conductor Cross Section (max)			16 AWG (Solid) / 1.5 mm^2(Solid)		

Surge Protection Device

Appearance Introduction

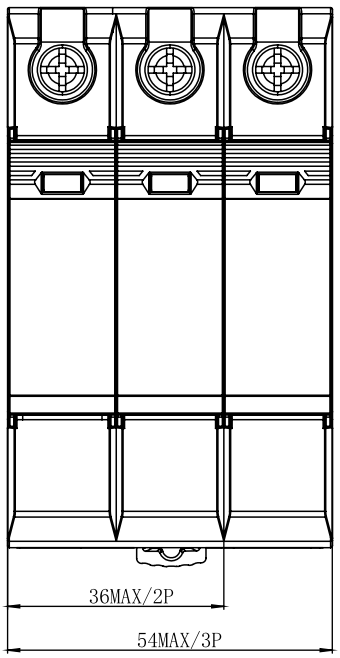


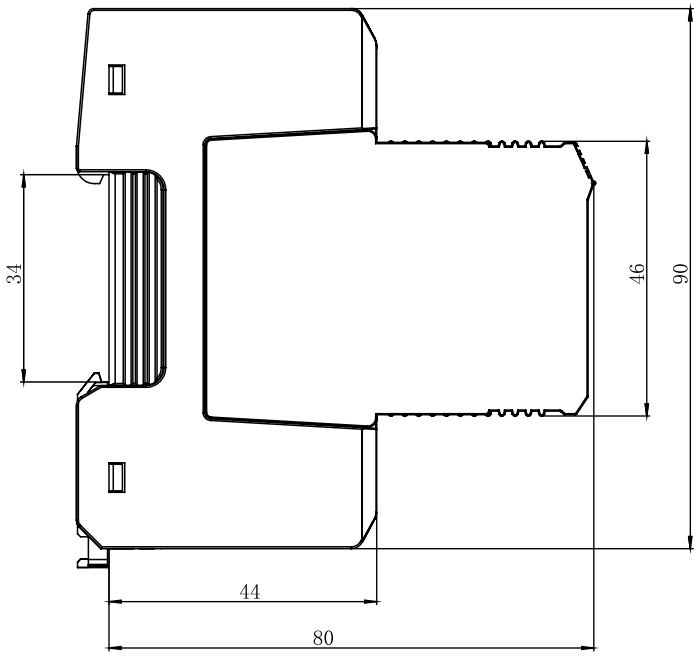
EDPAG40-2 (R)



EDPAN40-3 (R),EDPAT40-3 (R)

Drawing size





EDFH series DC Fuse 1000V





Product Application

EDFH series fuse holder is made of refractory material, and meets the standard of IEC 60947-3. The maximum rated voltage is 1000V and the maximum current is 30A. As a short circuit and over-current protector, it is widely used in the high and low voltage distribution system, control system, and electrical equipments, like distribution box and inverter.

Product Benefits

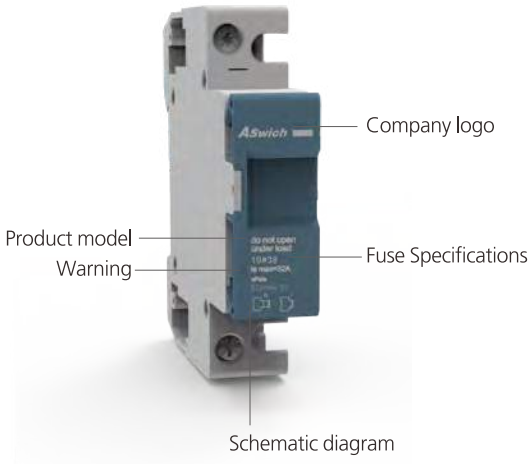
- DIN35 Rail Installation, Easy to Install
- Adjustable terminal block, Wiring firm
- Fire-retardant shell, high temperature resistance
- Flexible installation, Easy to replace

Select Code

E	D	FH	□	-	□	/	□
1	2	3	4		5		6

Code	Name	Description
1	ASwich brand	E
2	DC	D
3	Product Code	FH: Fuse Holder
4	Rated voltage	N: 1000VDC
5	Rated current	30: 30A
6	Pole	1:1P 2:2P

Appearance Introduction



EDFH series Fuse 1000V

Technical Data

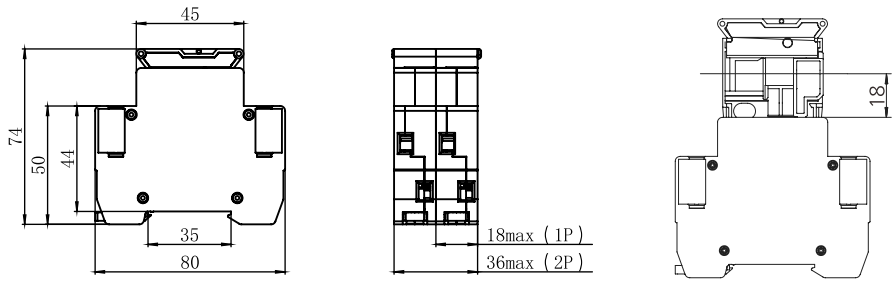
PV DC EDFH Fuse Holder Pole	1P
According to	IEC60947-3

Electrical Characteristics	
Rated Working Voltage	1000V DC
Rated Current	30A
Breaking Capacity	20kA
Max Power Dissipation	3W

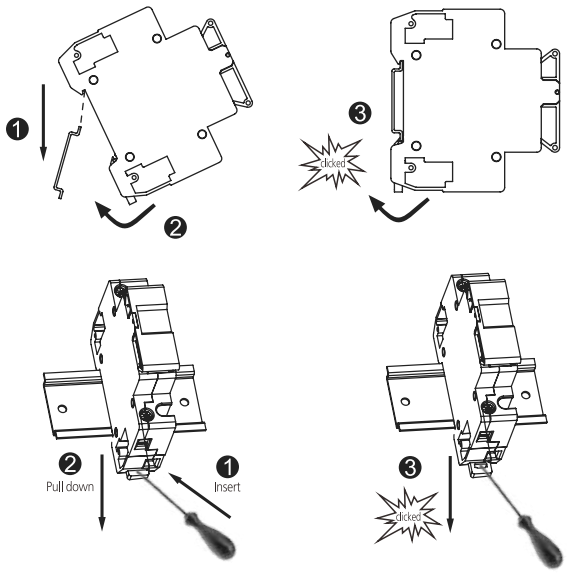
Control and Indication	
Connection and InstallationWire	2.5mm^2- 6.0mm^2
Terminal Screws	M3.5
Torque	0.8~1.2N·m
Degree of Protection	IP20

Installation Environment	
Fuse Size	10x38mm
Operating Temperature Range	-30°C~+70°C
Mounting	DIN rail IEC/EN 60715
Pollution Degree	3
Relative Humidity	+20°C ≤95%, +40°C ≤50%
Installation Class	III
Weight	0.07kg Per pole

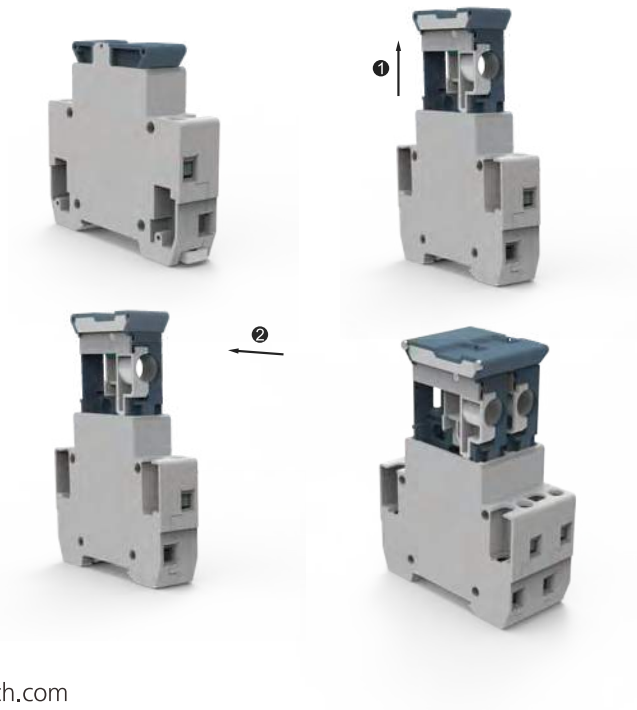
Dimensions



Installation



Replacement Fuse



EDFH series Fuse 1000V



Product Application

EDFH series fuse holder is made of refractory material, and meets the standard of IEC 60947-3. The maximum rated voltage is 1000V and the maximum current is 30A. As a short circuit and over-current protector, it is widely used in the high and low voltage distribution system, control system, and electrical equipments, like distribution box and inverter.

Product Benefits

- Din35 Rail Installation, Easy to Install
- Adjustable terminal block, Wiring firm
- Fire-retardant shell, high temperature resistance
- Flexible installation, Easy to replace

Select Code

E	D	FH	□	-	□	/	□	□
1	2	3	4		5		6	7

Code	Name	Description
1	ASwich brand	E
2	DC	D
3	Product Code	FH: Fuse Holder
4	Rated voltage	N: 1000VDC
5	Fuse Rated current	32: 32A
6	Pole	1: 1P
7	Light	L: with light Nil: with out light

Appearance Introduction



EDFH series Fuse 1000V

Technical Data

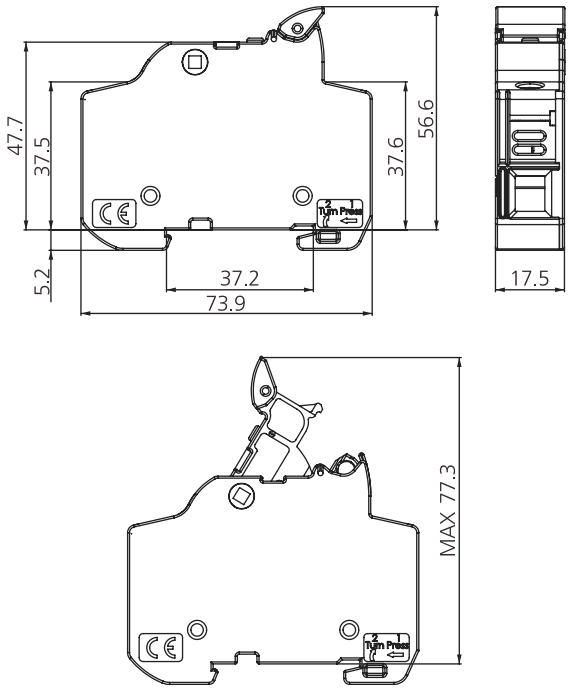
PV DC EDFH Fuse Holder Pole	1P
According to	IEC60947-3

Electrical Characteristics	
Rated Working Voltage	1000V DC
Rated Current	32A
Breaking Capacity	20kA
Max Power Dissipation	3W

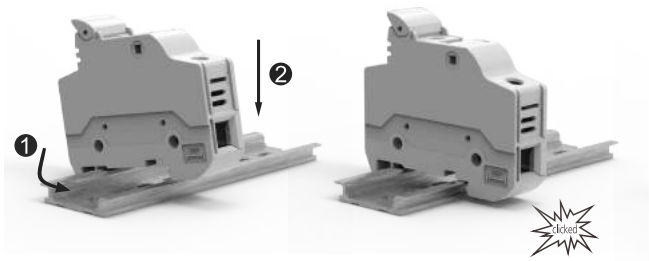
Control and Indication	
Operating State/Fault Indication	Indicator Light OFF/Indicator Light ON
Connection and InstallationWire	1.5mm^2- 10mm^2
Terminal Screws	M3.5
Torque	0.8~1.2N·m
Degree of Protection	IP20

Installation Environment	
Fuse Size	10x38mm
Operating Temperature Range	-30°C~+70°C
Mounting	DIN rail IEC/EN 60715
Pollution Degree	3
Relative Humidity	+20°C ≤95%, +40°C ≤50%
Installation Class	III
Weight	0.07kg Per pole

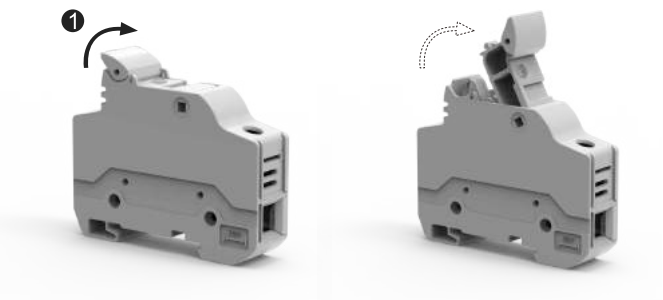
Dimensions



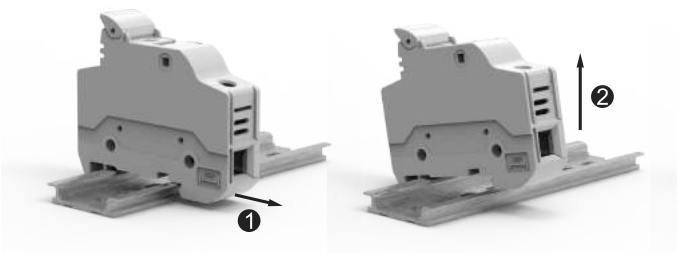
Installation

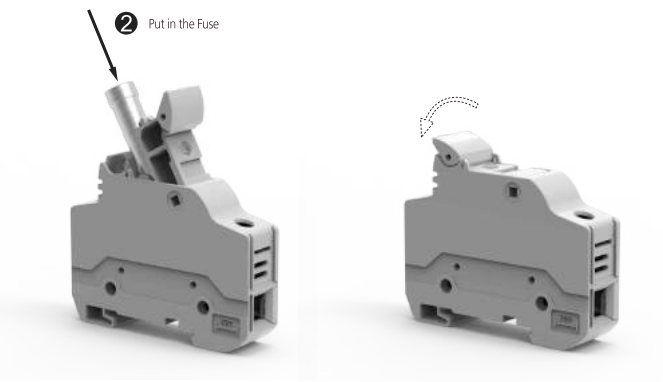


Replacement Fuse



Disassemble





10x38mm Photovoltaic Fuses



Product Benefits

- Amps:1~32A Volts: 1000VDC Breaking Capacity:30kA @1000DC
- Compact design.Low power loss.Excellent DC performance
- Low arc voltage and low energy let-through(I2t)
- Product storage temperature: -40°C~120°C. At 40°C, the relative humidity is not more than 70%, below 30°C, not more than 80%, below 20°C, not more than 90%
- Packaging and storage temperature: -40°C~80°C. The relative humidity is not more than 90%, and there is no condensation

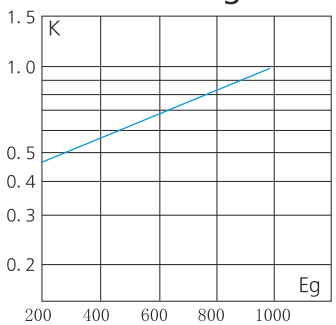
Altitude

- 2000 - 4500m
- Higher altitude mainly leads to insulation deterioration, heat dissipation condition deterioration and air pressure change.
  A) The temperature rise of the fuse increases by 0.1-0.5k every 100m above sea level.
  B) For every 100m increase in altitude, the average ambient temperature decreases by about 0.5K.
  C) In open environment, the influence of altitude on rated current can be ignored.
  D) When used in a closed environment, if the air temperature or box temperature does not decrease with the increase of altitude and still reaches more than 40°C, the rated current needs to be reduced. The rated current shall be reduced by 2%-5% for every 1000m increase in altitude.
- Effect of altitude on air insulation strength (breakdown strength)
  A) Within 2000-4500m, the insulation strength decreases by 12-15% for every 1000m increase in altitude
  B) the insulation gap between the fuse and other live structures and to the ground shall be considered by the user.

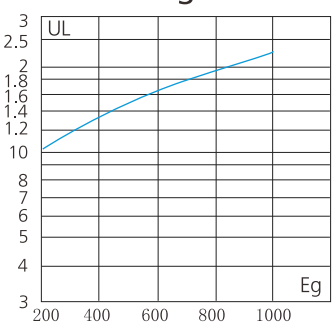
Vibration and Shock Resistance

- It has good resistance to vibration and impact, and can withstand more than 20g Comply with the IT application environment of rail transit and the use of general motor vehicles.
- In the application environment with strong vibration, the corresponding test can be negotiated, which generally needs a long period.

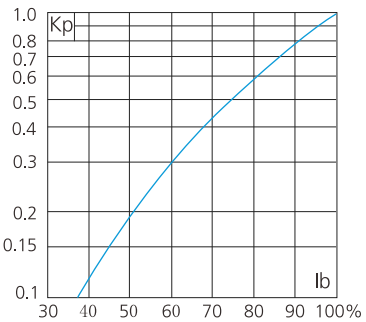
Total clearing I^2t



Arc Voltage



Power Losses



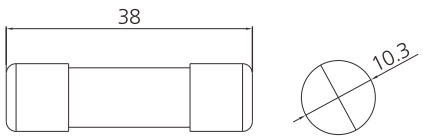
10x38mm Photovoltaic Fuses

Electrical Characteristics

Designed to: UL248-19/IEC60269-6 GB/T13539-6

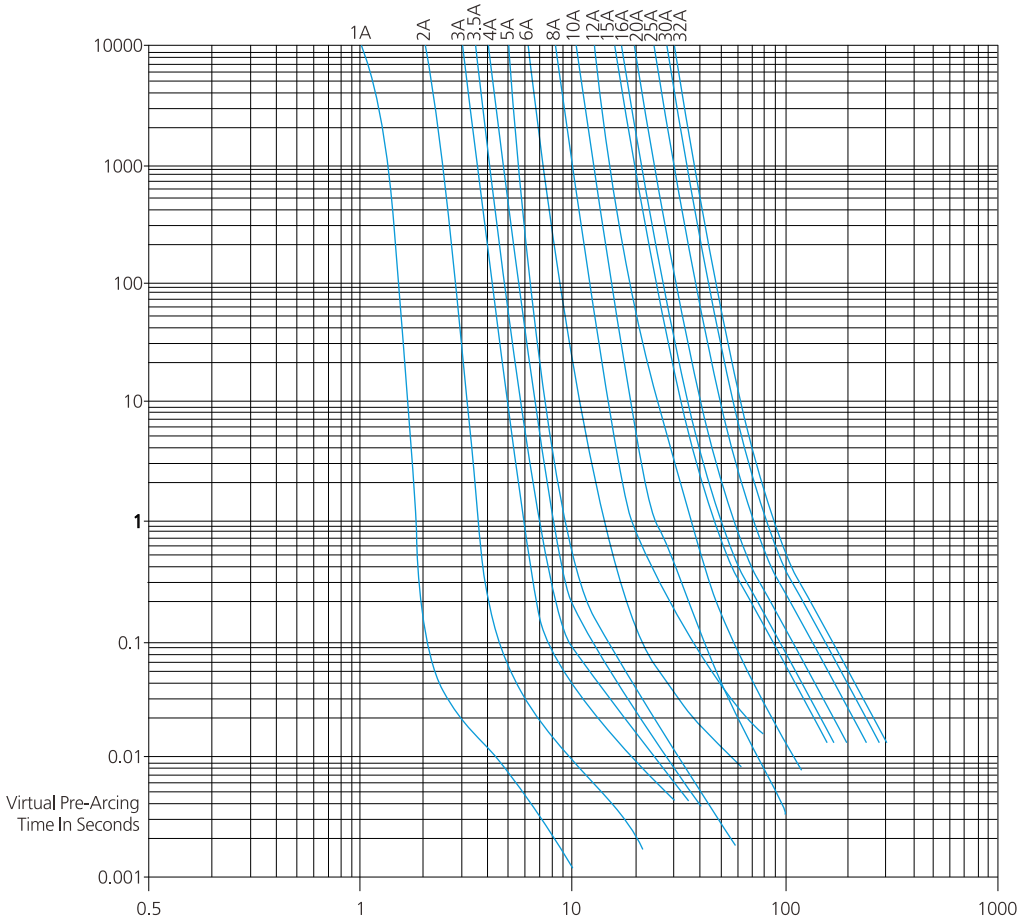
Serial number	Part Number	Rated Current(A)	Energy Integrals I^2t		Watts Loss		Use bolts	Installation torque
			Pre-Arcing	Clearing at 1000V	0.8In	1In		
1	1000VDC/10X38/1A	1	0.15	0.4	0.6	1.0	–	–
2	1000VDC/10X38/2A	2	1.3	3.4	0.7	1.1	–	–
3	1000VDC/10X38/3A	3	4	12	0.8	1.3	–	–
4	1000VDC/10X38/3.5A	3.5	6.5	20	0.9	1.4	–	–
5	1000VDC/10X38/4A	4	10	28	1.1	1.4	–	–
6	1000VDC/10X38/5A	5	19	50	1.1	1.4	–	–
7	1000VDC/10X38/6A	6	28	85	1.2	1.8	–	–
8	1000VDC/10X38/8A	8	32	93	1.2	2.2	–	–
9	1000VDC/10X38/10A	10	57	100	1.3	2.3	–	–
10	1000VDC/10X38/12A	12	60	150	1.5	2.8	–	–
11	1000VDC/10X38/15A	15	149	230	1.8	3	–	–
12	1000VDC/10X38/16A	16	155	260	2.0	3.2	–	–
13	1000VDC/10X38/20A	20	230	360	2.5	3.8	–	–
14	1000VDC/10X38/25A	25	400	500	3.2	4	–	–
15	1000VDC/10X38/30A	30	550	780	3.3	4.5	–	–
16	1000VDC/10X38/32A	32	612	940	3.5	5.5	–	–

Dimension(mm)



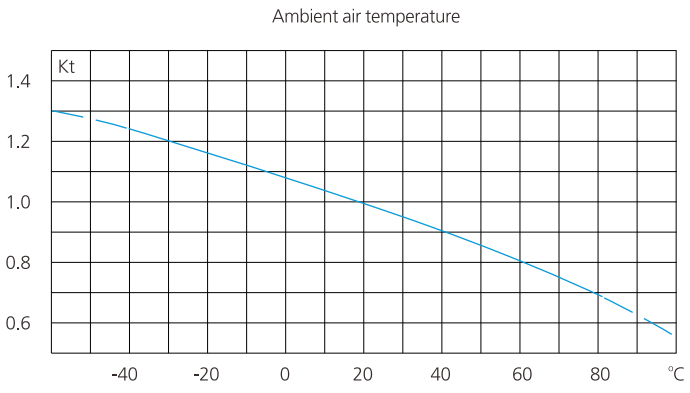
10x38mm Photovoltaic Fuses

Prospective Current In Amps RMS



Operating conditions

- When the fuse exceeds the service conditions, some parameters may need to be corrected, and our company should be consulted.
- It is recommended that the current value of long-term through current shall not be greater than 75% of the rated current.
- Normal service conditions: -5°C~ 40°C, allowable service conditions: -40°C~80°C.
- Parameters of air temperature change: when working below -5°C, the pre arc time of low times overload current of fuse is slightly prolonged and the rated current is slightly increased. Unless the working range is above -5°C, it is generally necessary to increase the rated current of fuse
- When the fuse works above 40°C, the rated current needs additional correction, and the correction factor is - KT



DC FUSE HOLEDER

EDFH series Fuse 1500V



Product Application

This series of fuse is suitable for solar photovoltaic power generation system,rated voltage up to 1500V,rated current to 50A,connected with photovoltaic panels and batteries ,to charge variable flow system for short circuit breaking protection in photovoltaic station and photovoltaic power generation system.the rated breaking capacity is 20KA,products confirms to UL248-19 IEC 60269-6

Product Benefits

- Ambient Temperature:-40°C- + 90°C.
- Equipment installation height:less than 2000m (if you want use exceedng this height,pls tell us in advance,we can design according to your requirements).
- Fuse Link is made of pure silver,welding low tin and encapsulated in the high-strength porcelain,the fuse tube filled with high pure quartz sand with chemically processed as a arc medium,fuse body is connected with contacting terminals by spot welding.

Select Code

E	D	FH	-	□	□	/	□	□
1	2	3		5	6		7	8

Code	Name	Description
1	ASwich brand	E
2	DC	D
3	Product Code	FH: Fuse Holder
5	Rated voltage	T: 1500V
6	Rated current	32: 32A
7	Pole	1:1P
8	Light	L: with light Nil: with out light

Appearance Introduction



Short-cicuit indicator

Optional: with light or without light



Replaceable Fuse

Detachable opening closing





Heat sink hole

Relese heat of inside



Latch

35mm Din rail bolt mounting

Electrical Characteristics	
Rated Working Voltage	1500V DC
Rated Current	50A
Breaking Capacity	20KA
Wire Range	1-16mm^2

Installation Environment	
Operating Temperature Range	-40°C~+90°C
Material	PC Flame Retardant PC
Torque	2.5N·m
Standard	UL248-19 IEC 60269-6



10x85mm 2~32A

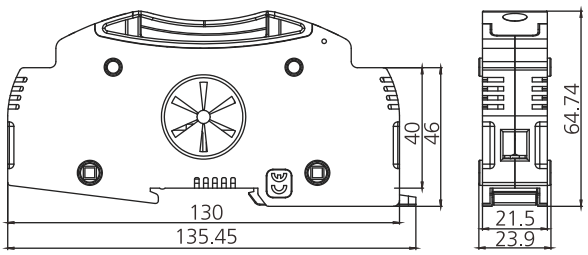


14x85mm 30~50A

Fuse Specifications		
Rated Working Voltage	1500V DC	
Rated Current	2~32A	30~50A
Breaking Capacity	20KA	
Class	GPV	
Time Constant	1-3ms	

Testing Method			
GPV The appointed time and current of Fuse			
GPV Fuse current rated	Appointed Time	Appointed Current	
		Inf	If
In≤63A	1	1500	15
63A<In≤160A	2		
160A<In≤400A	3		
In > 400A	4		

Dimensions



EDFHN-T32/1L EDFHN-T32/1

EDFH series Fuse 1500V

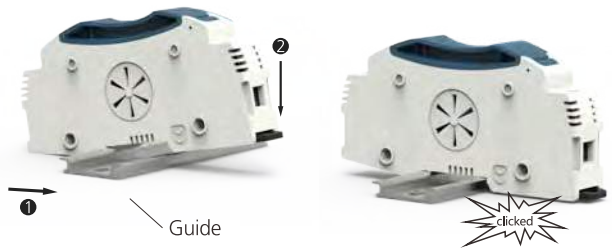
Electrical Characteristics

Designed to: UL248-19/IEC60269-6 GB/T13539-6

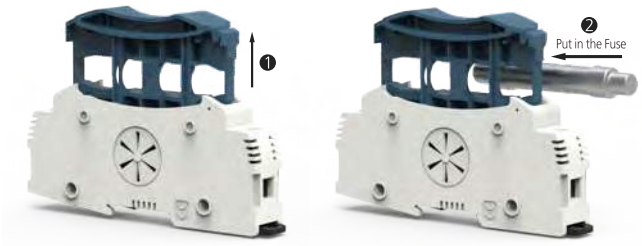
Serial number	Model	Rated Current(A)	Watts loss		Energy Integrals	
			0.8In (w)	1.0In (w)	Pre-arcing $I^2t(A^2s)$	Total $I^2t(A^2s)$
1	1500VDC/10X85/2A	2	1.7	3.20	4	8
2	1500VDC/10X85/3A	3	1.77	3.32	6	11
3	1500VDC/10X85/4A	4	1.69	3.19	8	14
4	1500VDC/10X85/5A	5	1.71	3.22	11	22
5	1500VDC/10X85/6A	6	1.73	3.25	15	30
6	1500VDC/10X85/8A	8	1.79	3.36	9	35
7	1500VDC/10X85/10A	10	1.99	3.74	10	98
8	1500VDC/10X85/12A	12	2.28	4.29	12	120
9	1500VDC/10X85/15A	15	2.63	4.95	14	170
10	1500VDC/10X85/16A	16	2.69	5.06	16	190
11	1500VDC/10X85/20A	20	3	5.65	34	400
12	1500VDC/10X85/25A	25	4.35	7.9	65	550
13	1500VDC/10X85/30A	30	4.68	8.5	85	680
14	1500VDC/10X85/32A	32	5.01	9.1	90	700

Serial number	Model	Rated Current(A)	Watts loss		Energy Integrals	
			0.8In (w)	1.0In (w)	Pre-arcing $I^2t(A^2s)$	Total $I^2t(A^2s)$
1	1500VDC/14X85/30A	30	4.57	8.6	90	720
2	1500VDC/14X85/32A	32	4.72	8.85	95	730
3	1500VDC/14X85/35A	35	5.12	9.35	95	750
4	1500VDC/14X85/40A	40	6.63	12.5	125	800
5	1500VDC/14X85/50A	50	7.25	13.65	125	920

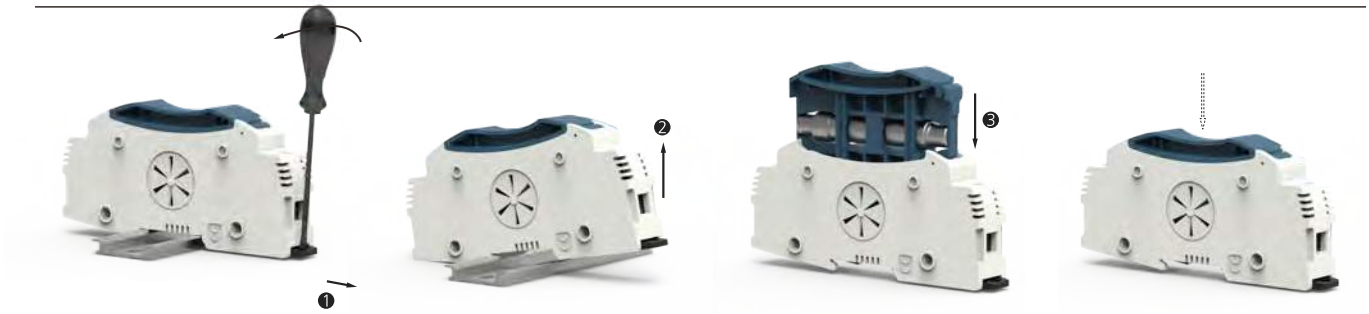
Installation



Replacement Fuse



Disassemble



ERS-2/4 Series



Product Benefits



- Max shut down one or two strings modules
- Maximum circuit current 55A
- Maximum cricuit voltage 1500vdc
- CE certificated
- PC + ABS material, IP66 protection grade
- Multi clock interface type optional (knockout hole / gland / MC4 terminal)
- The Isolation switches are TUV.CE.CB.SAA certificated
- Waterproof Vent valve to avoid condensation inside the shell
- Advanced temperature sensor is used to detect the highest temperature in the shell in real time temperature, when the internal temperature exceeds 70 degrees, automatic cut-off switch
- It is suitable for residential, industrial and commercial photovoltaic systems

Product naming						
E	RS	□	-	□	-	□
1	2	3		4		5

Code	Name	Description
1	ASwich brand	E
2	Rapid Shut-down Switch	RS
3	Rated Current	13:13A 20:20A 25:25A 40:40A 50:50A
4	Pole	2: 2P / 4: 4P / 4B
5	Wiring	Mc4: MC4 terminal / Blank

DC RAPID SHUTDOWN SWITCH

ERS-2/4 Series

Main parameter

Standard	Data
Main parameter	ERS
String voltage (VDC)	300~1500
String current (A)	9~55
Circuit	1/2
Connection mode of Isolation switch	2/4/4B
Working voltage	100Vac - 270Vac
Rated voltage	230Vac
Rated current	30mA
Starting (loading) current	100mA(AVG)
Action current	300mA(Max)
Contact action condition	24Vdc -300mA(Max)
Operating temperature	-20°C - +50°C
Maximum temperature before automatic shutdown	+70°C
Storage temperature	-40°C - +85°C
Protection level	IP66
Over current protection	II
Authentication	CE
The DC isolation switch meets the standard	EN 60947-1&3
Mechanical life	10000
Number of loaded operations (PV1)	>1500

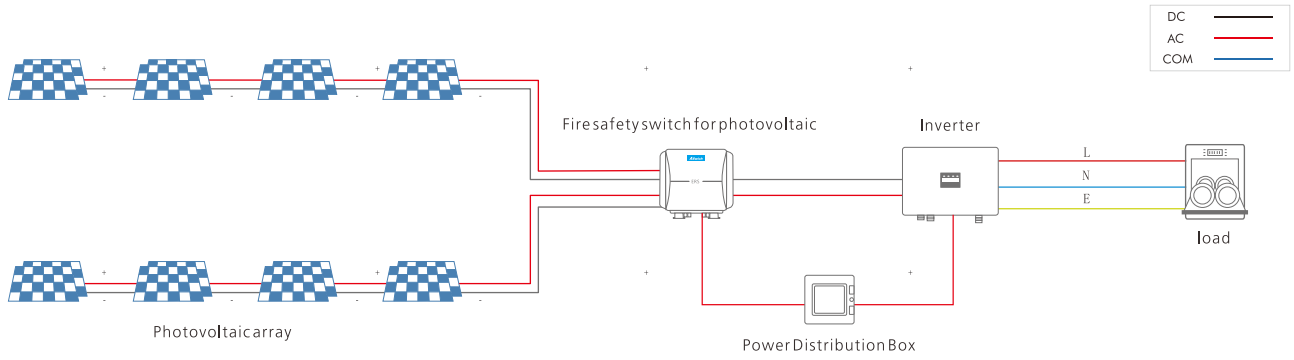
Technical data

Data of ERS refer to built-in DC isolators. Data according to IEC60947-3(ed.3.2):2015,UL508i.Utilization category DC-PV1.					Pole number	Circuit	Model
600V	800V	1000V	1200V	1500V			
32	26	13	10	5	2	1	ERS13-2
40	30	20	12	6	2	1	ERS20-2
55	40	25	15	8	2	1	ERS25-2
/	50	40	30	20	2	1	ERS40-2
/	55	50	40	30	2	1	ERS50-2
32	26	13	10	5	4	2	ERS13-4
40	30	20	12	6	4	2	ERS20-4
55	40	25	15	8	4	2	ERS25-4
/	50	40	30	20	4	2	ERS40-4
/	55	50	40	30	4	2	ERS50-4
32	26	13	10	5	4	1	ERS13-4B
40	40	40	30	20	4	1	ERS20-4B
/	/	55	40	30	4	1	ERS25-4B
/	/	/	/	45	4	1	ERS40-4B
/	/	/	/	50	4	1	ERS50-4B

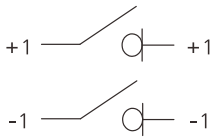
According to EN60947-3, AS/NZS 60947-3

ERS-2/4 Series

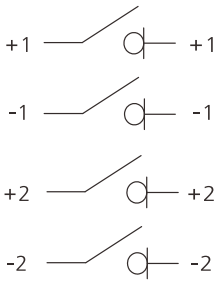
Sketch Map



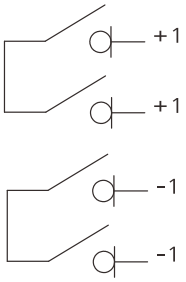
Wiring diagram



2



4

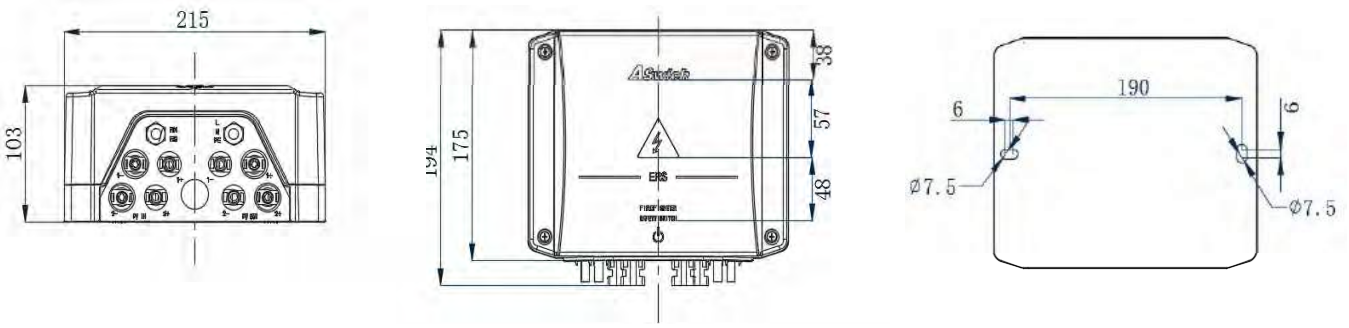


4B

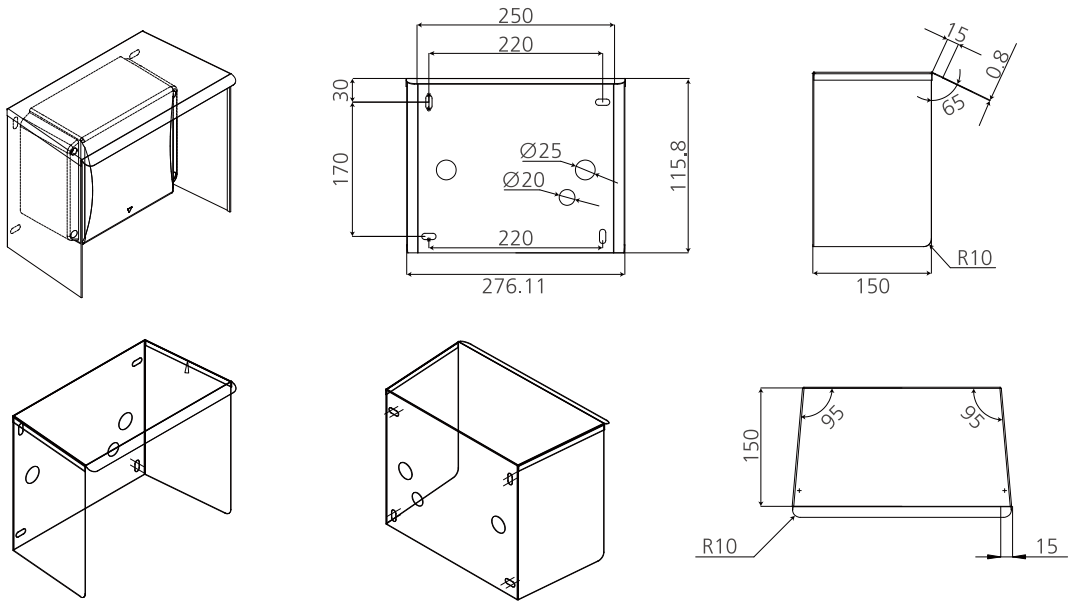
DC RAPID SHUTDOWN SWITCH

ERS-2/4 Series

Product size



Package size



Note: the fire safety switch cannot be installed in the place with direct sunlight, and the sun visor is recommended.

ERS-6/8 Series



Product features



- Suitable for 3-string, 4-string, 5-string modules
- Maximum circuit current 55A
- Maximum cricuit voltage 1500vdc
- CE certificated
- Sheet metal material, IP66 protection grade
- Multi clock interface type optional (knockout hole / gland / MC4 terminal)
- The Isolation switches are TUV.CE.CB.SAA certificated
- Waterproof Vent valve to avoid condensation inside the shell
- Advanced temperature sensor is used to detect the highest temperature in the shell in real time temperature, when the internal temperature exceeds 70 degrees, automatic cut-off switch
- It is suitable for residential, industrial and commercial photovoltaic systems

Product naming								
E		RS		□	-	□	-	□
1		2		3		4		5

Code	Name	Description
1	ASwich brand	E
2	Rapid Shut-down Switch	RS
3	Rated Current	13:13A 20:20A 25:25A 40:40A 50:50A
4	Pole	6:6P 8:8P
5	Wiring	Mc4: MC4 terminal / Blank

ERS-6/8 Series

Main parameter

Standard	Data
Main parameter	ERS
String voltage (VDC)	300~1500
String current (A)	9~55
Circuit	3/4/5
Connection mode of Isolation switch	6/8
Working voltage	100Vac - 270Vac
Rated voltage	230Vac
Rated current	30mA
Starting (loading) current	100mA(AVG)
Action current	300mA(Max)
Contact action condition	24Vdc -300mA(Max)
Operating temperature	-20°C - +50°C
Maximum temperature before automatic shutdown	+70°C
Storage temperature	-40°C - +85°C
Protection level	IP66
Over current protection	II
Authentication	CE
The DC isolation switch meets the standard	EN 60947-1&3
Mechanical life	10000
Number of loaded operations (PV1)	>1500

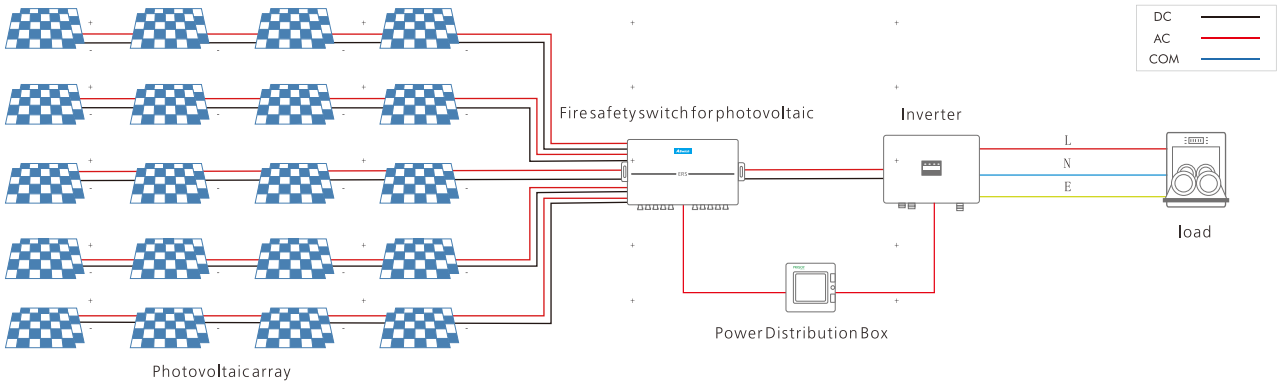
Technical data

Data of ERS refer to built-in DC isolators. Data according to IEC60947-3(ed.3.2):2015,UL508i.Utilization category DC-PV1.					Pole number	Circuit	Model
600V	800V	1000V	1200V	1500V			
32	26	13	10	5	6	3	ERS13-6
40	30	20	12	6	6	3	ERS20-6
55	40	25	15	8	6	3	ERS25-6
/	50	40	30	20	6	3	ERS40-6
/	55	50	40	30	6	3	ERS50-6
32	26	13	10	5	8	4	ERS13-8
40	30	20	12	6	8	4	ERS20-8
55	40	25	15	8	8	4	ERS25-8
/	50	40	30	20	8	4	ERS40-8
/	55	50	40	30	8	4	ERS50-8

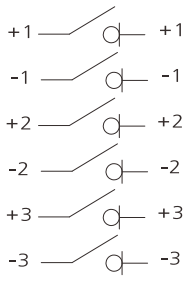
According to EN60947-3, AS/NZS 60947-3

ERS-6/8 Series

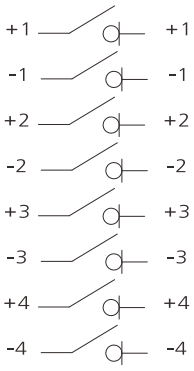
Sketch Map



Wiring diagram



6



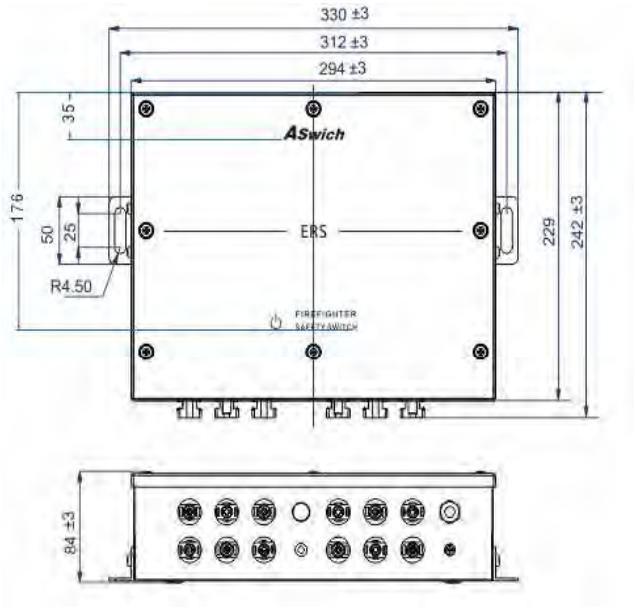
8

DC RAPID SHUTDOWN SWITCH

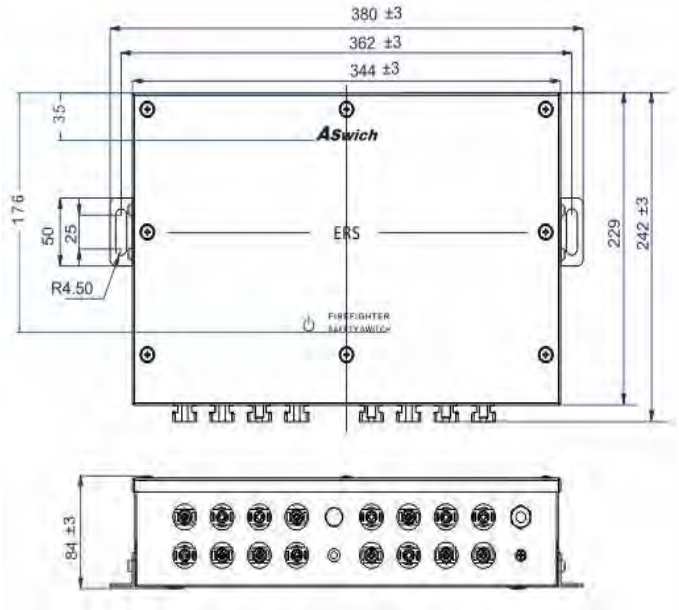
ERS-6/8 Series

Product size

6P



8P



Note: the fire safety switch cannot be installed in the place with direct sunlight, and the sun visor is recommended.

ERS-10 Series



Product features



- Suitable for 3-string,4-string,5-string modules
- Maximum circuit current 55A
- Maximum cricuit voltage 1500vdc
- CE certificated
- Sheet metal material, IP66 protection grade
- Multi clock interface type optional (knockout hole / gland / MC4 terminal)
- The Isolation switches are TUV.CE.CB.SAA certificated
- Waterproof Vent valve to avoid condensation inside the shell
- Advanced temperature sensor is used to detect the highest temperature in the shell in real time temperature, when the internal temperature exceeds 70 degrees, automatic cut-off switch
- It is suitable for residential, industrial and commercial photovoltaic systems

Product naming								
E	RS	□	-	□	-	□
1	2	3		4		5

Code	Name	Description
1	ASwich brand	E
2	Rapid Shut-down Switch	RS
3	Rated Current	13:13A 20:20A 25:25A 40:40A 50:50A
4	Pole	10:10P
5	Wiring	Mc4: MC4 terminal / Blank

DC RAPID SHUTDOWN SWITCH

ERS-10 Series

Main parameter

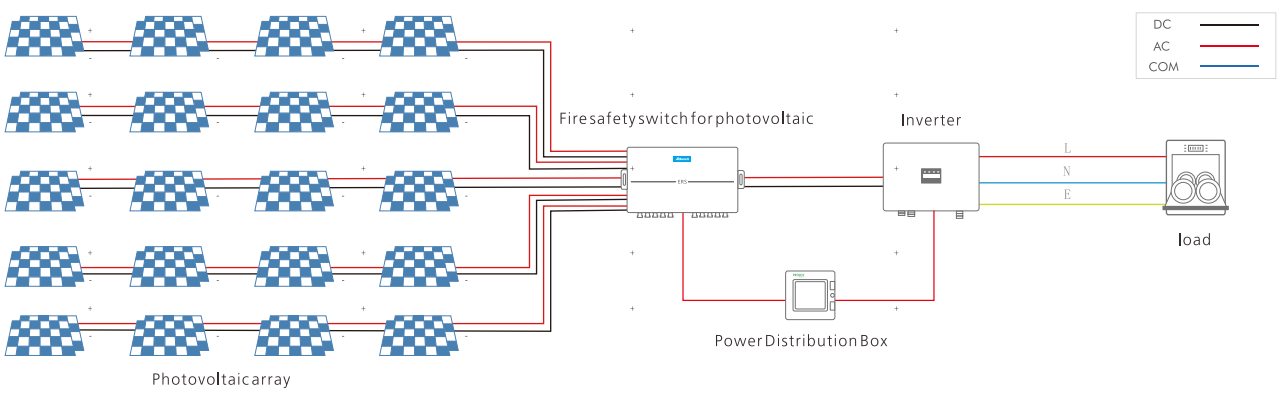
Standard	Data
Main parameter	ERS
String voltage (VDC)	300~1500
String current (A)	9~55
Circuit	3/4/5
Connection mode of Isolation switch	10
Working voltage	100Vac - 270Vac
Rated voltage	230Vac
Rated current	30mA
Starting (loading) current	100mA (AVG)
Action current	300mA (Max)
Contact action condition	24Vdc -300mA (Max)
Operating temperature	-20°C - +50°C
Maximum temperature before automatic shutdown	+70°C
Storage temperature	-40°C - +85°C
Protection level	IP66
Over current protection	II
Authentication	CE
The DC isolation switch meets the standard	EN 60947-1&3
Mechanical life	10000
Number of loaded operations (PV1)	>1500

Technical data

Data of ERS refer to built-in DC isolators. Data according to IEC60947-3(ed.3.2):2015,UL508i.Utilization category DC-PV1.					Pole number	Circuit	Model
600V	800V	1000V	1200V	1500V			
32	26	13	10	5	10	5	ERS13-10
40	30	20	12	6	10	5	ERS20-10
55	40	25	15	8	10	5	ERS25-10
/	50	40	30	20	10	5	ERS40-10
/	55	50	40	30	10	5	ERS50-10

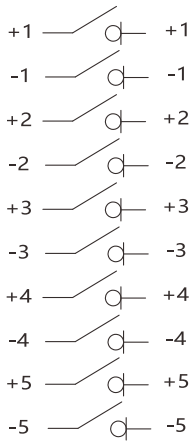
According to EN60947-3, AS/NZS 60947-3

Sketch Map



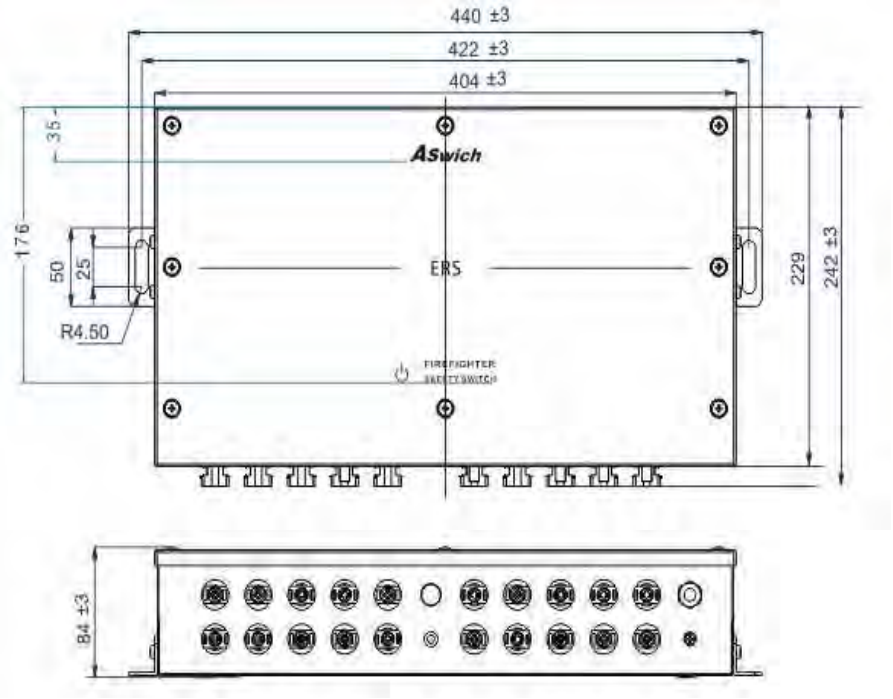
ERS-10 Series

Wiring diagram



10

Product size



Note: the fire safety switch cannot be installed in the place with direct sunlight, and the sun visor is recommended.

DC RAPID SHUTDOWN SWITCH

ERS-12~20 Large Series



Product features

- Suitable for 6-10-string modules
- Maximum circuit current 55A
- Maximum cricuit voltage 1500vdc
- CE certificated
- Sheet metal material, IP66 protection grade
- Multi clock interface type optional (knockout hole / gland / MC4 terminal)
- The Isolation switches are TUV.CE.CB.SAA certificated
- Waterproof Vent valve to avoid condensation inside the shell
- Advanced temperature sensor is used to detect the highest temperature in the shell in real time temperature, when the internal temperature exceeds 70 degrees, automatic cut-off switch
- It is suitable for residential, industrial and commercial photovoltaic systems

Product naming

E	RS	□	-	□	-	□
1	2	3		4		5

Code	Name	Description
1	ASwich brand	E
2	Rapid Shut-down Switch	RS
3	Rated Current	13:13A 20:20A 25:25A 40:40A 50:50A
4	Pole	12:12P 14:14P 16:16P 18:18P 20:20P
5	Wiring	Mc4: MC4 terminal / Blank

ERS-12~20 Large Series

Main parameter

Standard	Data
Main parameter	ERS
String voltage (VDC)	300~1500
String current (A)	9~55
Circuit	6 , 8 , 10
Connection mode of Isolation switch	12 , 16 , 20
Working voltage	100Vac - 270Vac
Rated voltage	230Vac
Rated current	60mA
Starting (loading) current	200mA(AVG)
Action current	600mA(Max)
Contact action condition	24Vdc -600mA(Max)
Operating temperature	-20°C - +50°C
Maximum temperature before automatic shutdown	+70°C
Storage temperature	-40°C - +85°C
Protection level	IP66
Protection level	II
Authentication	CE
The DC isolation switch meets the standard	EN 60947-1&3
Mechanical life	10000
Number of loaded operations (PV1)	>1500

Technical data

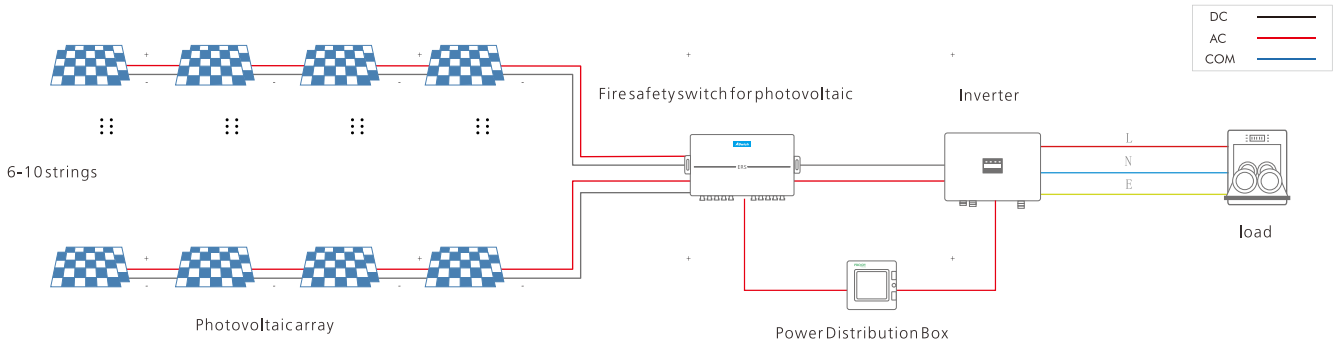
Data of ERS refer to built-in DC isolators. Data according to IEC60947-3(ed.3.2):2015,UL508i.Utilization category DC-PV1.					Pole number	Circuit	Model
600V	800V	1000V	1200V	1500V			
32	26	13	10	5	12	6	ERS13-12
40	30	20	12	6	12	6	ERS20-12
55	40	25	15	8	12	6	ERS25-12
/	50	40	30	20	12	6	ERS40-12
/	55	50	40	30	12	6	ERS50-12
32	26	13	10	5	14	6	ERS13-14
40	30	20	12	6	14	6	ERS20-14
55	40	25	15	8	14	6	ERS25-14
/	50	40	30	20	14	6	ERS40-14
/	55	50	40	30	14	6	ERS50-14
32	26	13	10	5	16	8	ERS13-16
40	30	20	12	6	16	8	ERS20-16
55	40	25	15	8	16	8	ERS25-16
/	50	40	30	20	16	8	ERS40-16
/	55	50	40	30	16	8	ERS50-16
32	26	13	10	5	18	8	ERS13-18
40	30	20	12	6	18	8	ERS20-18
55	40	25	15	8	18	8	ERS25-18
/	50	40	30	20	18	8	ERS40-18
/	55	50	40	30	18	8	ERS50-18
32	26	13	10	5	20	10	ERS13-20
40	30	20	12	6	20	10	ERS20-20
55	40	25	15	8	20	10	ERS25-20
/	50	40	30	20	20	10	ERS40-20
/	55	50	40	30	20	10	ERS50-20

According to EN60947-3, AS/NZS 60947-3

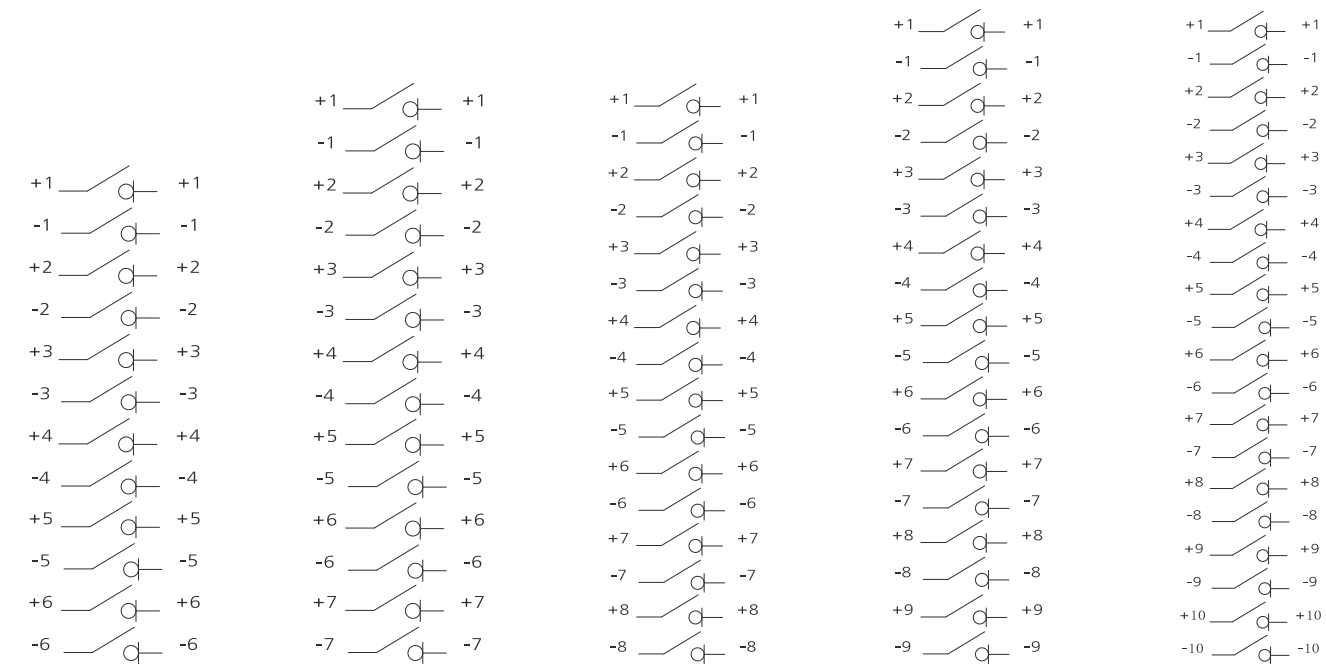
DC RAPID SHUTDOWN SWITCH

ERS-12~20 Large Series

Sketch Map



Wiring diagram

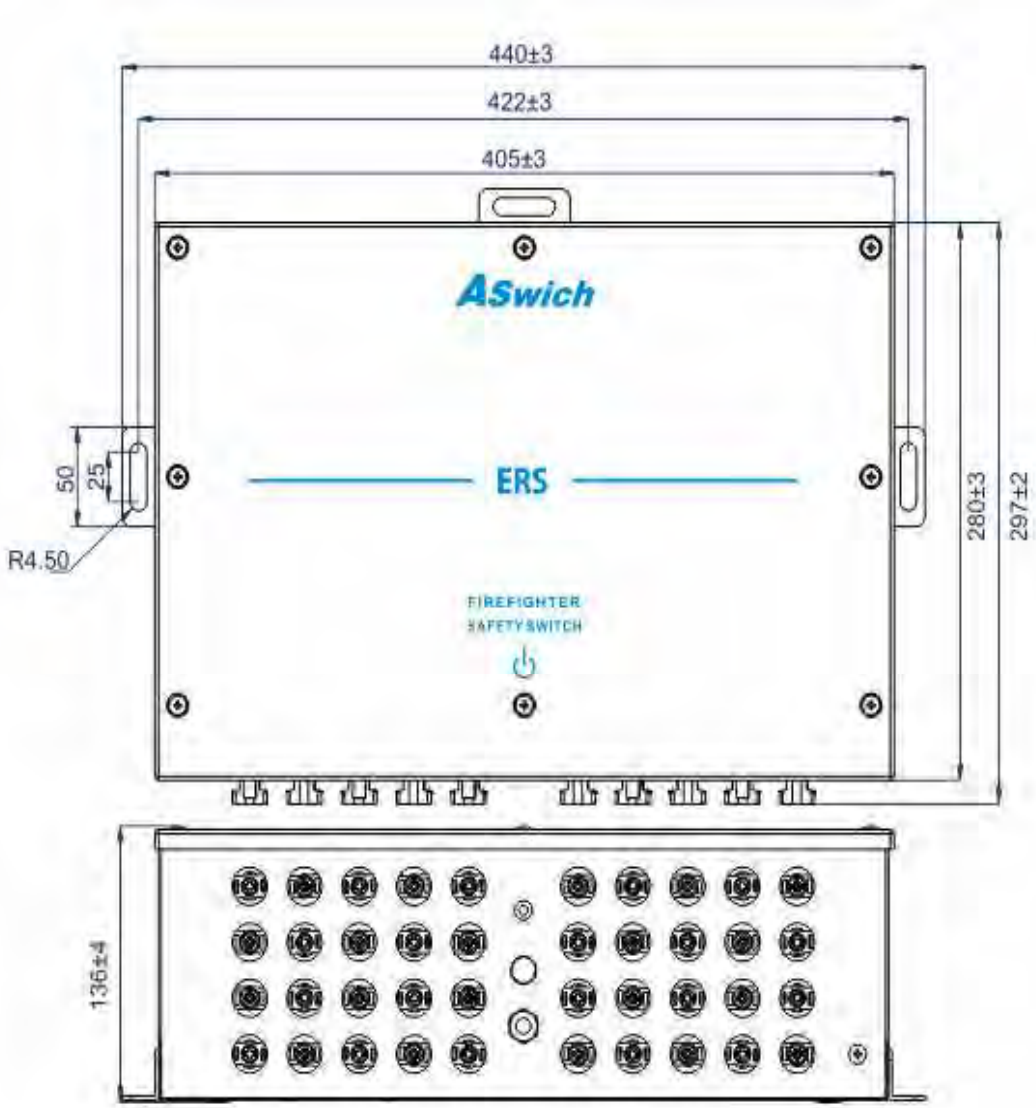


12	14	16	18	20

ERS-12~20 Large Series

■ Product size

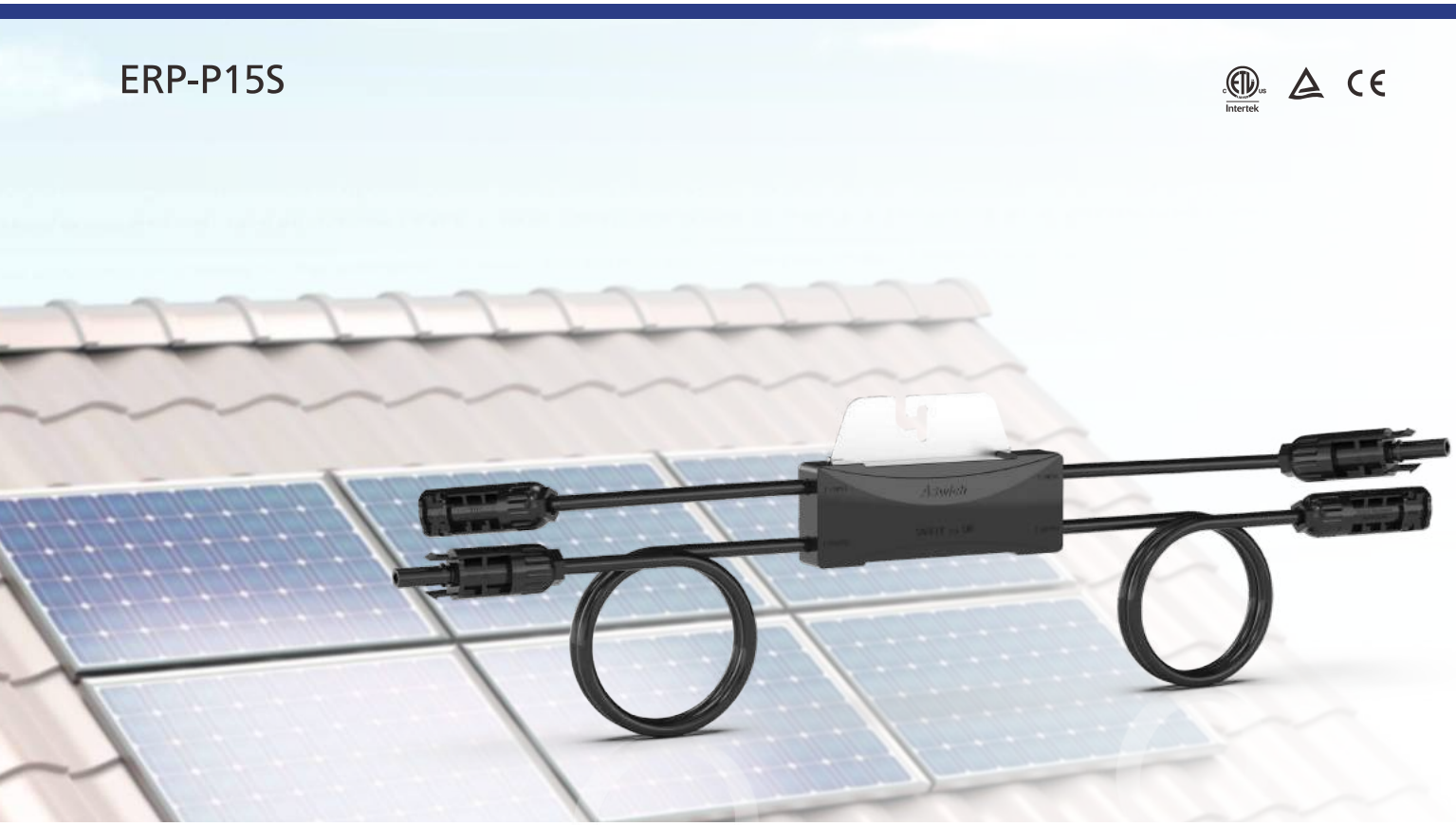
12P
~
20P



Note: the fire safety switch cannot be installed in the place with direct sunlight, and the sun visor is recommended.

DC RAPID SHUTDOWN SWITCH

ERP-P15S



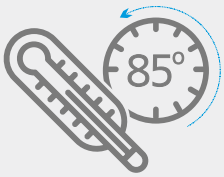
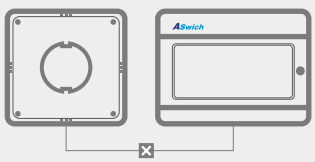
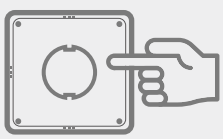
Shutdown while ambient temperature is over 85°C

Slim size match module perfectly

Flame retardant rating: UL94-V0

Protection Level: IP68

Shutdown Mode

Automatic Shutdown	Manual Shutdown	Manual Shutdown
		
Automatically shutdown the DC power of panels when detecting temperature of the area is higher than 85℃.	In an emergency, firefighters or homeowners can manually turn off the AC power of the distribution box.	In an emergency, it can be shut down manually through the Panel Level Rapid Shutdown Controller Box.

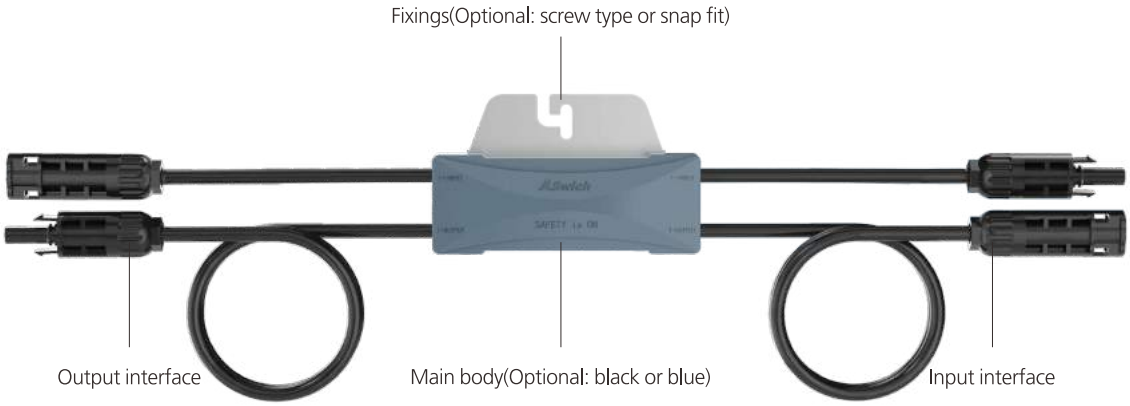
Product naming

E	RP	□	-	□	□	-	□
1	2	3		4	5		6

Code	Description	Name	
1	Electric	E	
2	Rapid shut-down switch/Panel Level	RP	
3	Curent rating	15:15A	25:25A
4	Communication	P:PLC	W:Wifi
5	PV Input	S:Single	D:Dual
6	Installation mode	S:Screw type	C:Clip type

PRODUCT INTRODUCTION

Product details



Main body colors



Optional: ■ blue



Optional: ■ black

Product back



Optional: screw type



Optional: clip type

Main parameter

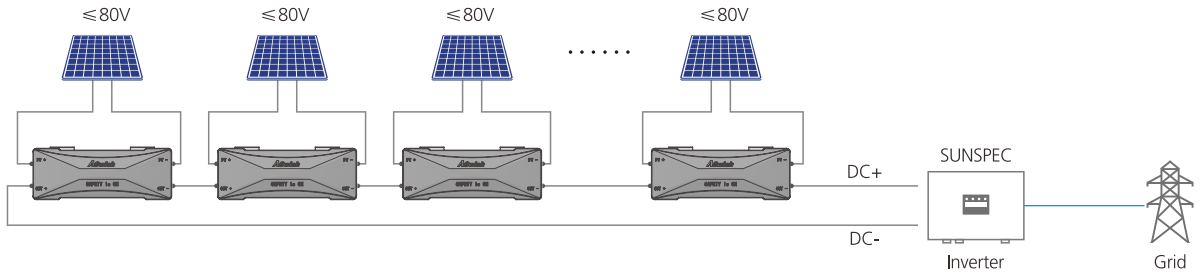
Standard	Data
Maximum Allowed Input Voltage	80V
Maximun Output Voltage	80V
Number of connectable panels	1/2
Maximum input current	15A / 25A
Maximum short circuit current	15A / 25A
Maximum system voltage	1000V(1500 optional)
Operating temperature	Negative 30-80°C (automatically shut down if over 85°C)
Operating environment temperature	Negative 30°C~+55°C

Standard	Data
Supply voltage	PV panels
Protection level	IP68
Fire-proof level	UL94-V0
Humidity	0%~90% at 20°C
Interface	MC4
Warranty	10 Years
Panel cable length	280±10mm
String cable length	1280±10mm
Communication	PLC
Standards compliant	UL 1741/NEC 2017 690.12

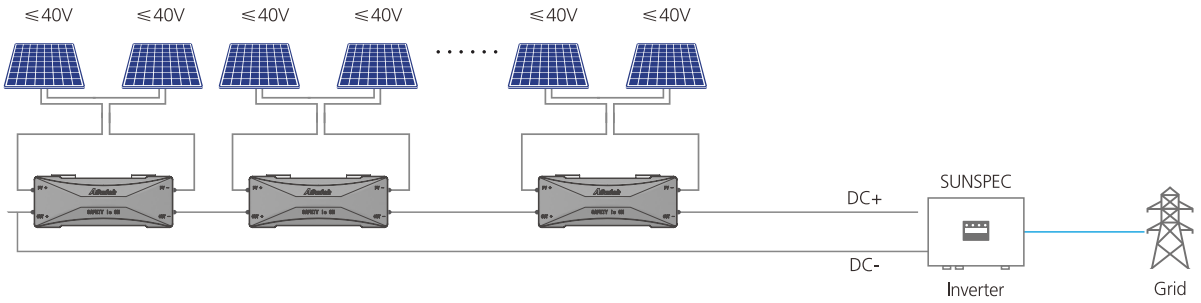
PRODUCT INTRODUCTION

The inverter contains sunspec

When the open-circuit voltage of PV panel is below 80V.

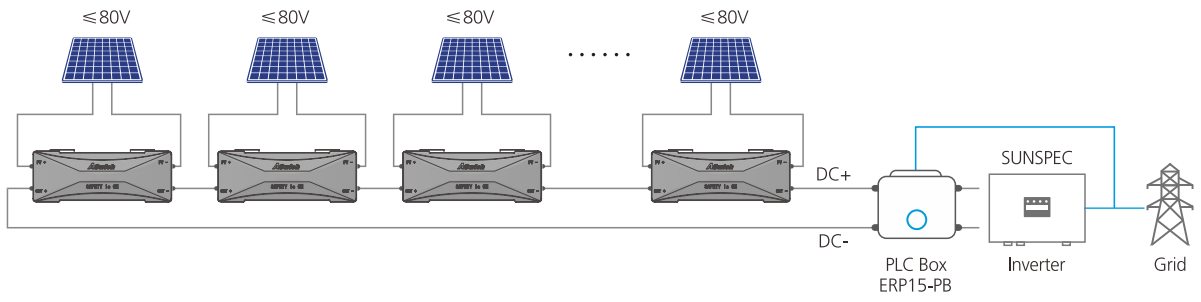


And When the open-circuit voltage of PV panel is below 40V.

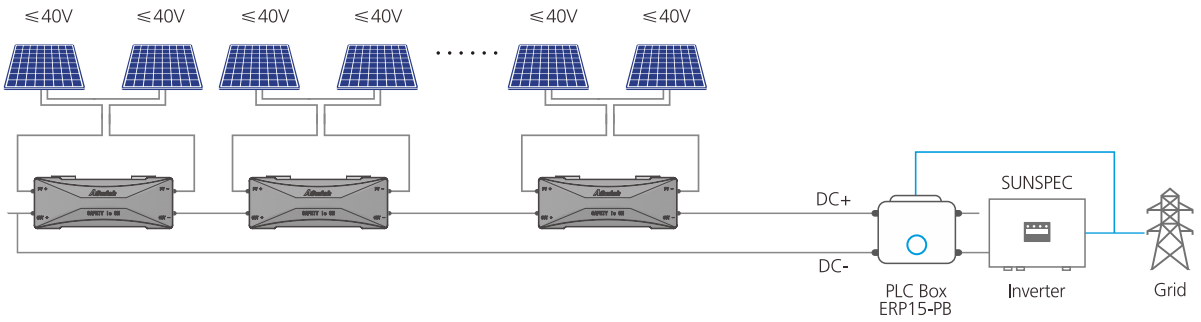


The inverter does not contain sunspec

When the open-circuit voltage of PV panel is below 80V.



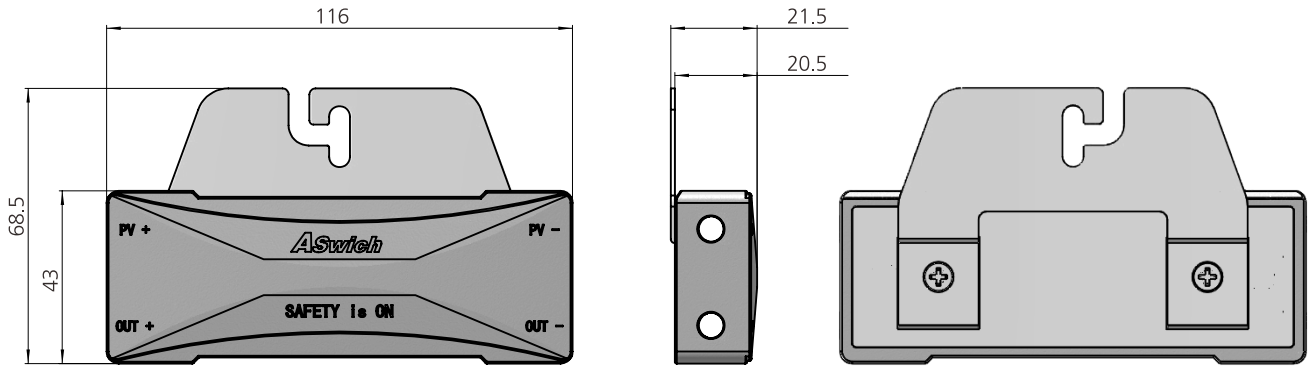
And When the open-circuit voltage of PV panel is below 40V.



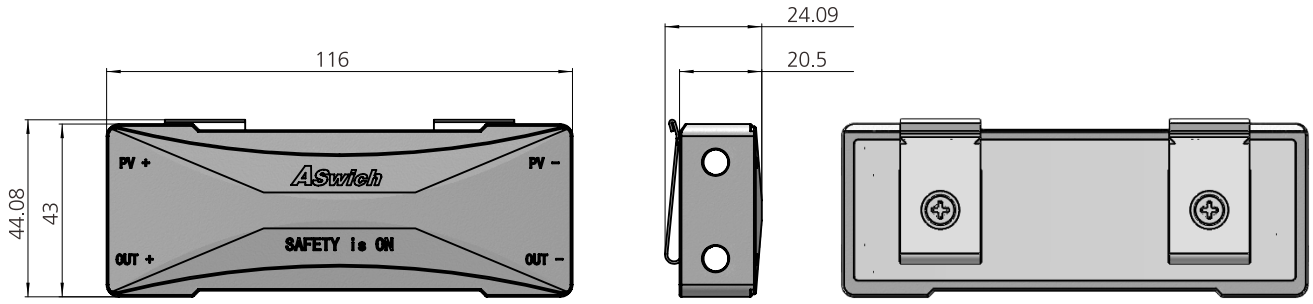
PRODUCT INTRODUCTION

Dimensions

Screw type



Clip type



Note: the fire safety switch cannot be installed in the place with direct sunlight, and the sun visor is recommended.

EAS series AC isolation switches





Product Application

The EAS Series AC isolation switches are suitable for switching on and off AC circuit systems, such as in PV systems and air conditioning systems. This weatherproof disconnector is particularly suited for outdoor installation and can achieve IP66 protection level. The base mounted mechanism provides more convenient termination and wiring room.

Product Benefits

- Switching ON &OFF on-load
- 4pcs screws with protective caps for high strength locking
- IP66 & UV resistance and flame-retardant material
- Dual 25mm threaded conduit entries on top and bottom
- Pad-lockable handle
- 5 years warranty, product insurance, and recall insurance available

Select Code

E	A	S	50	□	/	□	/	□	□
1	2	3	4	5		6		7	8

Code	Name	Description
1	ASwich brand	E
2	AC	A
3	Isolation Switch	S
4	Insulation Voltage Ui	50: 500V
5	Mounting Type	EL:Enclosure Box
6	Rated Current	20:20A 35:35A 63:63A
7	Pole	1:1P 2:2P 3:3P 4:4P
8	Size box	N:Big box NS:Small box

Appearance Introduction



EAS series AC isolation switches

Technical Data

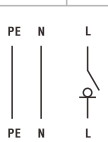
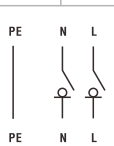
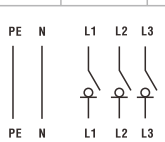
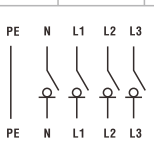
According to EN60947-3, AS/NZS 60947-3

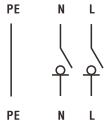
Type designation		EAS50EL/20	EAS50EL/35	EAS50EL/63
Ambient temperature		−5°C ~+40°C		
Interrupting medium		Air		
Utilization category		AC-22A		
Number of poles		1P(x=1), 2P(x=2) 1P(y=1), 2P(y=2), 3P(y=3) , 4P(y=4)		
Rated operational voltage / current		N: AC250(1P),AC440V(2P/3P/4P) / NS: AC(250V) (1P/2P)		
Rated frequency		20A	35A	63A
Rated Insulation voltage	(Ie)	50/60Hz		
Conventional free air thermal current		500 V		
Conventional enclosed thermal current	(Ui)	//		
Rated short-time withstand current	(Ith)	20A	35A	63A
Rated short-time making capacity	(Ithe)	0,76kA, 1s		
Rated conditional short-circuit current	(Icw)	1,5kA		
Short circuit protective device	(Icm)	//		
Rated Impulse withstand voltage	(Icn)	4,0 kV		
Overvoltage category		II		
IP code	(Uimp)	IP66		
Pollution degree		3		
Suitability for isolation		Yes		

Terminals /connection

Type designation	EAS50EL
Number of poles	1P, 2P, 3P, 4P
Terminal designation, main circuit	1, 2 ; 1, 2, 3, 4 ; 1, 2, 3, 4, 5, 6 ; 1, 2, 3, 4, 5, 6, 7, 8
Type of terminal, main circuit	Screw terminal
Rated cross sectional area, main circuit	2,5-25mm^2
Type of conductor	Flexible or rigid
Number of conductors per terminal	1
Required preparation of the conductor	No
Stripping length (mm), main circuit	-
Tightening torque, main circuit (Nm)	2,5Nm (M6)

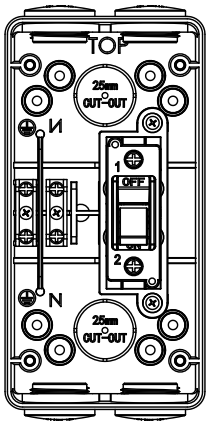
Contacts Wiring Diagram

Type	EAS50EL/N											
Pole	1 Pole			2 Pole			3 Pole			4 Pole		
Rated operational current	20A	35A	63A	20A	35A	63A	20A	35A	63A	20A	35A	63A
Contacts wiring diagram												

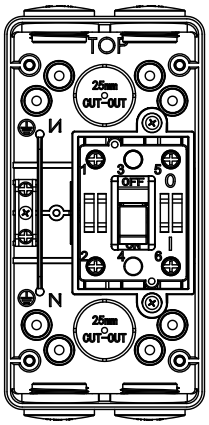
Type	EAS50EL/NS					
Pole	1 Pole			2 Pole		
Rated operational current	20A	35A	63A	20A	35A	63A
Contacts wiring diagram						

EAS series AC isolation switches

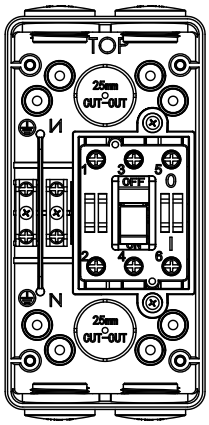
Structure



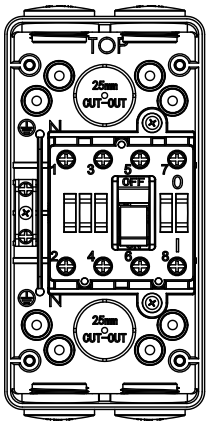
1Pole 250V (20A, 35A, 63A)



2Pole 440V (20A, 35A, 63A)

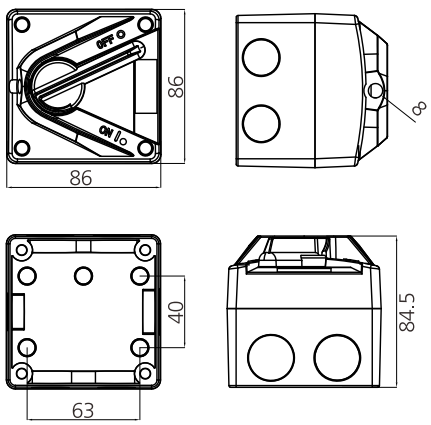


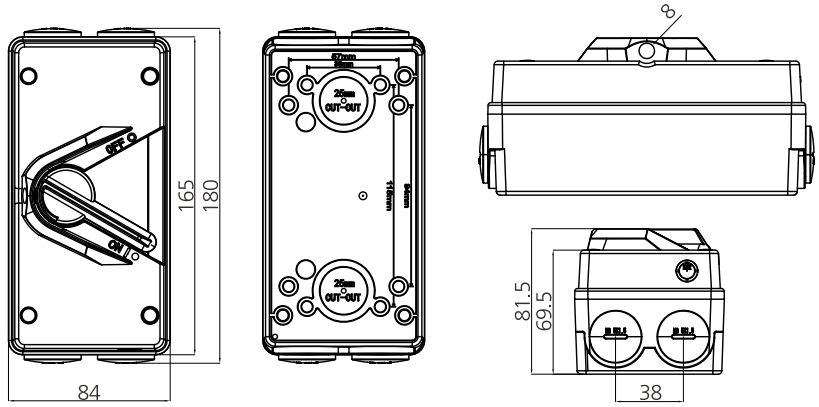
3Pole 440V (20A, 35A, 63A)



4Pole 440V (20A, 35A, 63A)

Dimensions(mm)





Related products available:







JHAS69 SERIES

AC Isolator 690V 80A



JHAS69 Series AC Isolator 690V 80A



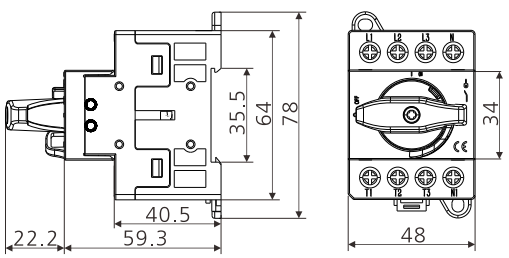
35-Rail mounting
/screw mounting



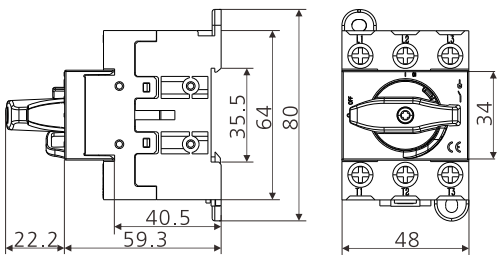


Current		20A	32A	40A	63A	80A
Type		JHAS69-LK20-4RY	JHAS69-LK32-4RY	JHAS69-LK40-4RY	JHAS69-LK63-3RY	JHAS69-LK80-3RY
Rated carry current		20A	32A	40A	63A	80A
Rated operating current AC-23A		16A	25A	32A	45A	45A
Rated operating current AC-3		12A	23A	30A	37A	37A
Rated power control	240V	4KW	7.5KW	9KW	15KW	15KW
AC-23A	440V	7.5KW	12.5KW	16KW	22KW	22KW
Rated power control	240V	3KW	5.5KW	7.5KW	11KW	11KW
AC-3	440V	5.5KW	11KW	15KW	18.5KW	18.5KW
UL-CSA	240V	3KW	5KW	5KW	10KW	10KW
Motor load	440V	7.5KW	10KW	10KW	20KW	20KW
Rated short-time withstand current		250A	400A	500A	600A	850A
Cable		0.5-10MM^2			1-16MM^2	
Screw torque		0.8-1.7N • m			1.5-2N • m	
Rated insulation voltage		690V				

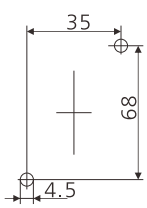
Dimensions



4Poles 20-40A



3Poles 63-80A



screw hole

JHAS69 Series AC Isolator 690V 80A



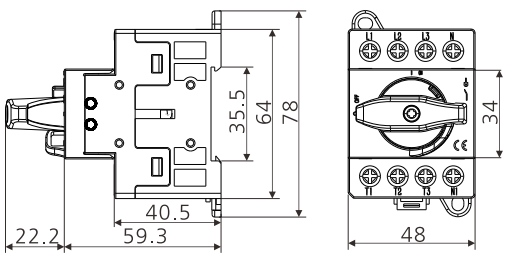
35-Rail mounting
/screw mounting



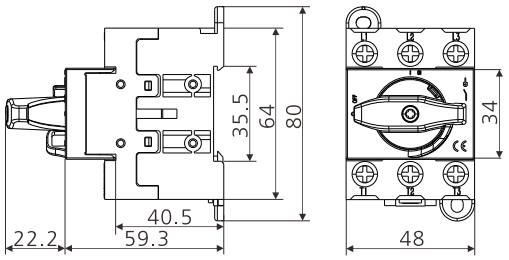


Current		20A	32A	40A	63A	80A
Type		JHAS69-LK20-4	JHAS69-LK32-4	JHAS69-LK40-4	JHAS69-LK63-3	JHAS69-LK80-3
Rated carry current		20A	32A	40A	63A	80A
Rated operating current AC-23A		16A	25A	32A	45A	45A
Rated operating current AC-3		12A	23A	30A	37A	37A
Rated power control	240V	4KW	7.5KW	9KW	15KW	15KW
AC-23A	440V	7.5KW	12.5KW	16KW	22KW	22KW
Rated power control	240V	3KW	5.5KW	7.5KW	11KW	11KW
AC-3	440V	5.5KW	11KW	15KW	18.5KW	18.5KW
UL-CSA	240V	3KW	5KW	5KW	10KW	10KW
Motor load	440V	7.5KW	10KW	10KW	20KW	20KW
Rated short-time withstand current		250A	400A	500A	600A	850A
Cable		0.5-10MM^2			1-16MM^2	
Screw torque		0.8-1.7N • m			1.5-2N • m	
Rated insulation voltage		690V				

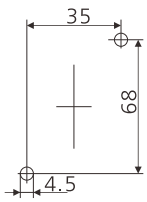
Dimensions



4Poles 20-40A



3Poles 63-80A



screw hole

JHAS69 Series AC Isolator 690V 80A



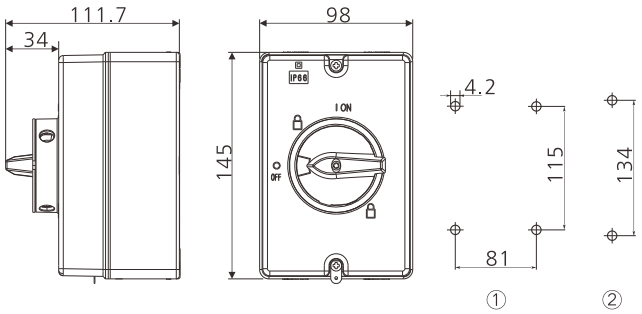
Enclosure mounting



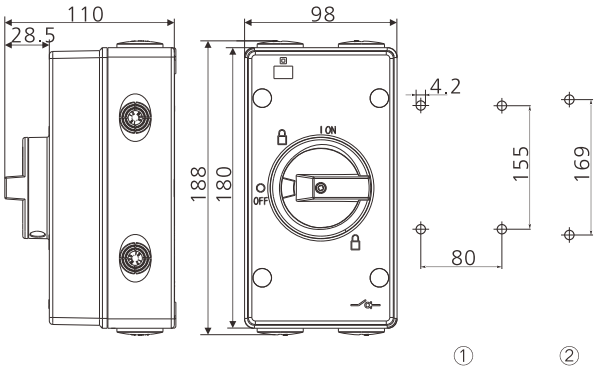


Current		20A	32A	40A	63A	80A
Type		JHAS69-EL20R-4	JHAS69-EL32R-4	JHAS69-EL40R-4	JHAS69-EL63R-3	JHAS69-EL80R-3
Rated carry current		20A	32A	40A	63A	80A
Rated operating current AC-23A		16A	25A	32A	45A	45A
Rated operating current AC-3		12A	23A	30A	37A	37A
Rated power control	240V	4KW	7.5KW	9KW	15KW	15KW
AC-23A	440V	7.5KW	12.5KW	16KW	22KW	22KW
Rated power control	240V	3KW	5.5KW	7.5KW	11KW	11KW
AC-3	440V	5.5KW	11KW	15KW	18.5KW	18.5KW
UL-CSA	240V	3KW	5KW	5KW	10KW	10KW
Motor load	440V	7.5KW	10KW	10KW	20KW	20KW
Rated short-time withstand current		250A	400A	500A	600A	850A
Cable		0.5-10MM^2			1-16MM^2	
Screw torque		0.8-1.7N • m			1.5-2N • m	
Rated insulation voltage		690V				

Reference Dimension



3Pole/4Poles 20-40A screw hole

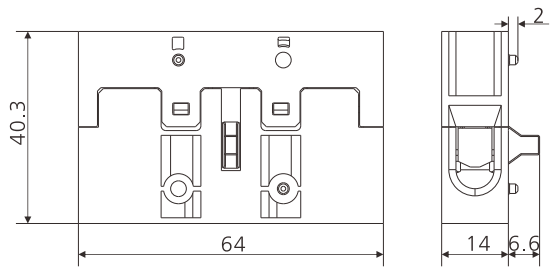


3Poles 63-80A screw hole

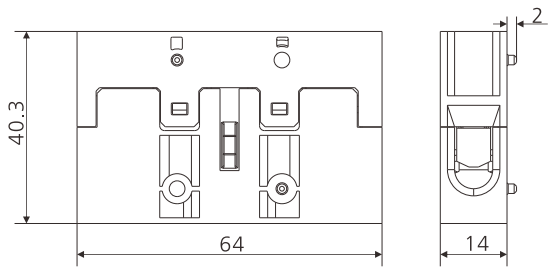
JHAS69 Series Add-on



Appearance	Type	Rated operation current	Applied to	Circuit diagram
	JHAC69-ACC01	80A	JHAS69	
	JHAC69-ACC02	80A	JHAS69	
	JHAC69-ACC03	-	JHAS69	



JHAC69-ACC01/02



JHAC69-ACC03

Model and meaning

JHAS69 — PM 20 R — 3 RY 64

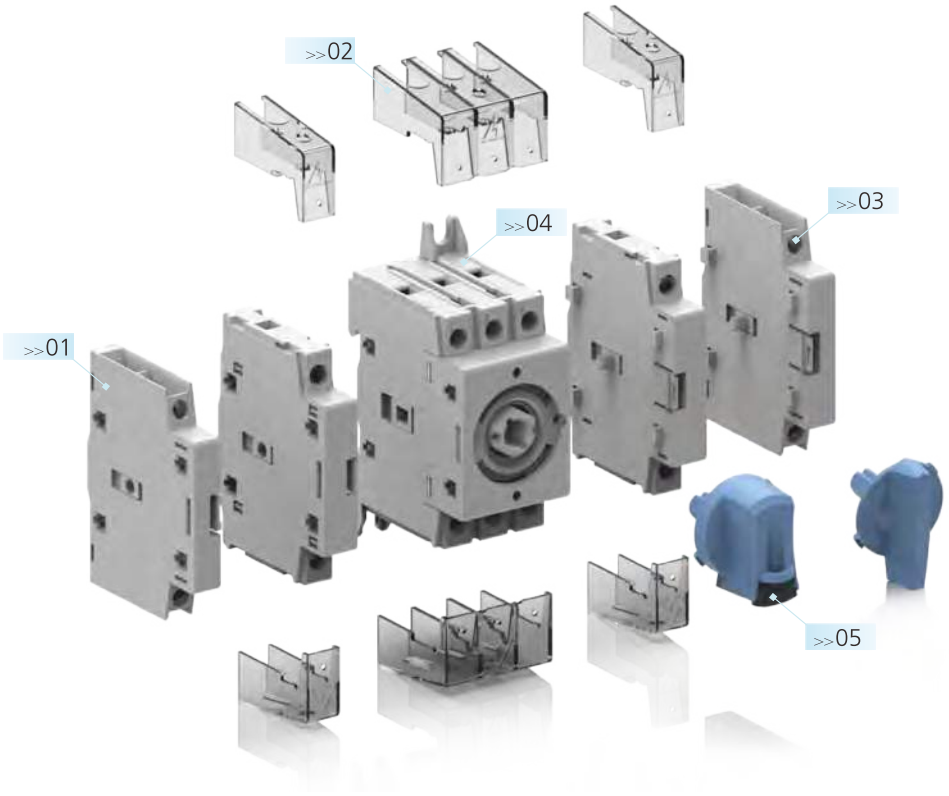
- Rubber Pad:64:Yes Blank:No
- Handle Options:
  RY:Rotating red/yellow handle
  B:Rotating black handle
- Poles: 3:3P 4:4P
- Locking mode:
  R:Rotating belt lock
  Blank:No lock
- Rated Current(A):
  20, 32, 40,63, 80
- Installation:
  PM, DC,LK, EL
- Type Of AC Isolated Switch

JHAS80 SERIES

AC Isolator 800V 125A



JHAS80-DB AC Isolator Din-Rail Mounting



Rail mounting

Mounting and removal of the fourth pole and auxiliary contact are quick and simple tool-free.

01 Add-on Auxiliary Contacts

The isolating switch adopts the same auxiliary contact, and the auxiliary contact and the main pole of the switch act at the same time. A normally open contact with pre-disconnect function can be provided as required.
The isolation switch can be installed with up to four auxiliary accessories (2 on the right, 2 on the left)

02 Terminal shrouds

The isolation switch terminal shroud has a simple appearance design, high-quality transparent PC material, flame-retardant, high strength, no color change after long-term use, high-quality waterproof and easy to install.

03 Side Mount Add-on Fourth Pole

Simultaneous or early contact operation of the fourth pole with respect to the switch disconnector poles.

04 Switch body

Aswich switch adopts compression contact opening and closing technology, and has the function of complete disconnection indication. According to its mechanical principle, this switch can work normally in any position, without having to consider the problem of dropping passengers.

05 Rotating Handle Parts

Rotating handle, with anti-misoperation padlock design to prevent misoperation, safe and reliable; using high-quality flame-retardant materials, insulation and impact resistance; elegant and stylish design, beautiful and durable.

Product code

Switch-disconnectors

JHAS80-	PM	80	R	-3	RY
1	2	3	4	5	6

No	Description	Code
1	Type of Switch disconnectors	JHAS80-
2	Installation Form	DB:Rail mounting PM:Panel mounting DC:Door interlocked EL:Plastic enclosure box ELA:Aluminum enclosure box
3	Rated current(A)	16:16A 20:20A 25:25A 32:32A 40:40A 63:63A 80:80A 80H:100A 100:100A 125:125A
4	Knob Lock	Nil:Without lock R:With lock
5	Poles	2 2P 3 3P 4 4P 5 5P 6 6P 7 7P 8 8P
6	Knob color	Nil:Blue knob G:Gray knob RY:Rotating red/yellow handle With lock only BW:Black/white rotating handle Optional with lock/without lock BB:Black/black rotating handle Only without lock

Product code

Side Mount Add-on Poles

JHAS80-(1) PS(2) R(3) 16(4)

No	Description	Code
1	Type of Switch disconnectors	JHAS80-
2	Add on pole code	PS Sync disconnected PD Pre-disconnect PN N terminal PE Protecting earthing
3	Mounting type	Nil DB / DC / EL front installation R PM , reverse installation form
4	Rated current(A)	16:16A 20:20A 25:25A 32:32A 40:40A 63:63A 80:80A 80H:100A 100:100A 125:125A

Add-on auxiliary contacts

JHAS80-(1) P1(2) R(3)

No	Description	Code
1	Type of Switch disconnectors	JHAS80-
2	Auxiliary contacts Code	P1 1NO+1NC P2 2NO
3	Mounting type	Nil DB / DC / EL , front installation form R PM reverse installation form

JHAS80-DB AC Isolator Din-Rail Mounting

		JHAS80-DB40R				JHAS80-DB80R				JHAS80-DB125R	
		35.5mm				52.5mm				69.1mm	
											
Type	3P	JHAS80-DB16R-3	JHAS80-DB20R-3	JHAS80-DB25R-3	JHAS80-DB32R-3	JHAS80-DB40R-3	JHAS80-DB63R-3	JHAS80-DB80R-3	JHAS80-DB80HR-3	JHAS80-DB100R-3	JHAS80-DB125R-3
	4P	JHAS80-DB16R-4	JHAS80-DB20R-4	JHAS80-DB25R-4	JHAS80-DB32R-4	JHAS80-DB40R-4	JHAS80-DB63R-4	JHAS80-DB80R-4	JHAS80-DB80HR-4	JHAS80-DB100R-4	JHAS80-DB125R-4
Current(≤40°C) Agreed heating current		16A	20A	25A	32A	40A	63A	80A	100A	100A	125A
IEC rated operational current Ie AC-21A/B(≤690V)		16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
IEC rated operational current Ie AC-22A/B	415V	16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
	500V					40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
	690V					32A/40A	40A/63A	63A/80A	63A/80A	80A/100A	100A/125A
IEC rated operational current Ie AC-23A/B	415V	16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
	500V				25A/25A		63A/63A			80A/80A	100A/100A
	690V						40A/40A			63/63A	63A/63A
IEC rated operational current Ie DC-21B	110VDC	16A ①	20A①	25A①	32A①	40A①	63A①	80A①	100A①	100A①	125A①
	250VDC	16A ②	20A②	25A②	32A②	40A②	63A②	80A②	100A②	100A②	125A②
	400VDC	16A ③	20A③	25A③	25A③		40A③			63A③	
IEC rated operational power (3 phase) AC-23A/B	415V	7.5KW	9KW	11KW	15KW	18.5KW	30KW	37KW	45KW		55KW
	500V										
	690V		11KW	15KW							
Short circuit withstand current of fuse protection (kA rms expected value)											
Fuse class	415V	16A	20A	25A	32A	40A	63A	80A	100A		125A
Rated conditional short-circuit current	415V	50kA								25kA	
Short circuit withstand current of circuit breaker for protection, any circuit breaker that can trip within 0.3s											
Rated short-time withstand current	0.3S	2.5kA					3kA			5kA	
Short circuit performance (unprotected)											
Rated short-time withstand current	1S	1.26kA					1.5kA			2.75kA	
Rated short circuit making capacity		1.8kA					2.1kA			3.9kA	
Cable cross section		1.5~16mm²					2.5~35mm²			10~70mm²	
Rated insulation voltage Ui		800V									
Rated impulse withstand voltage Uimp		8kV									
Mechanical Endurance		100000									
Ambient Temperature		Operating -25...+55°C Storage -40...+70°C									

① Each pole is used as positive and negative ② Three poles in series , two poles in series for positive , one pole for negative

③ Four poles in series , two poles in series for positive , other two poles in series for negative

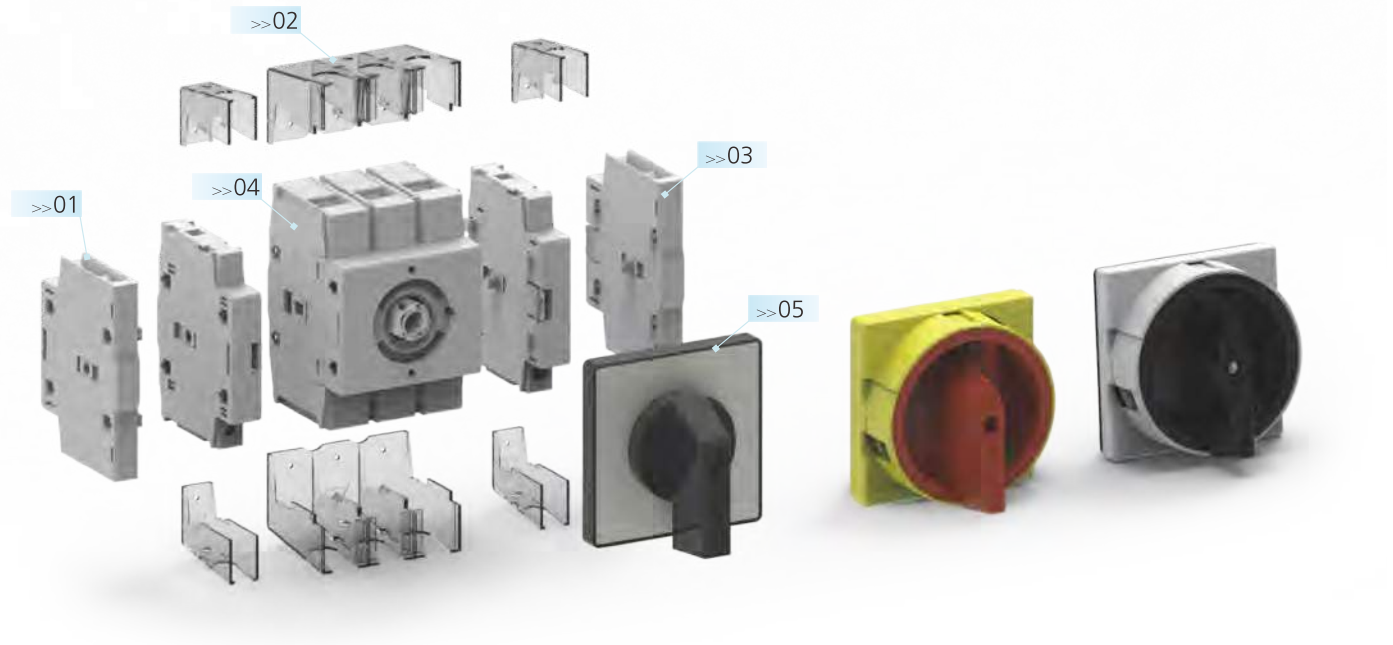
JHAS80-DB AC Isolator Din-Rail Mounting

		JHAS80-DB40				JHAS80-DB80				JHAS80-DB125	
		35.5mm				52.5mm				69.1mm	
											
Type	3P	JHAS80-DB16-3	JHAS80-DB20-3	JHAS80-DB25-3	JHAS80-DB32-3	JHAS80-DB40-3	JHAS80-DB63-3	JHAS80-DB80-3	JHAS80-DB80H-3	JHAS80-DB100-3	JHAS80-DB125-3
	4P	JHAS80-DB16-4	JHAS80-DB20-4	JHAS80-DB25-4	JHAS80-DB32-4	JHAS80-DB40-4	JHAS80-DB63-4	JHAS80-DB80-4	JHAS80-DB80H-4	JHAS80-DB100-4	JHAS80-DB125-4
Current(≤40°C) Agreed heating current		16A	20A	25A	32A	40A	63A	80A	100A	100A	125A
IEC rated operational current Ie AC-21A/B(≤690V)		16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
IEC rated operational current Ie AC-22A/B	415V	16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
	500V					32A/40A	40A/63A	63A/80A	63A/80A	80A/100A	100A/125A
	690V										
IEC rated operational current Ie AC-23A/B	415V	16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
	500V				25A/25A		63A/63A			80A/80A	100A/100A
	690V						40A/40A			63/63A	63A/63A
IEC rated operational current Ie DC-21B	110VDC	16A ①	20A①	25A①	32A①	40A①	63A①	80A①	100A①	100A①	125A①
	250VDC	16A ②	20A②	25A②	32A②	40A②	63A②	80A②	100A②	100A②	125A②
	400VDC	16A ③	20A③	25A③	25A③		40A③			63A③	
IEC rated operational power (3 phase) AC-23A/B	415V	7.5KW	9KW	11KW	15KW	18.5KW	30KW	37KW	45KW		55KW
	500V										
	690V		11KW	15KW							
Short circuit withstand current of fuse protection (kA rms expected value)											
Fuse class	415V	16A	20A	25A	32A	40A	63A	80A	100A		125A
Rated conditional short-circuit current	415V	50kA								25kA	
Short circuit withstand current of circuit breaker for protection, any circuit breaker that can trip within 0.3s											
Rated short-time withstand current	0.3S	2.5kA					3kA			5kA	
Short circuit performance (unprotected)											
Rated short-time withstand current	1S	1.26kA					1.5kA			2.75kA	
Rated short circuit making capacity		1.8kA					2.1kA			3.9kA	
Cable cross section		1.5~16mm²					2.5~35mm²			10~70mm²	
Rated insulation voltage Ui		800V									
Rated impulse withstand voltage Uimp		8kV									
Mechanical Endurance		100000									
Ambient Temperature		Operating -25...+55°C Storage -40...+70°C									

① Each pole is used as positive and negative ② Three poles in series , two poles in series for positive , one pole for negative

③ Four poles in series , two poles in series for positive , other two poles in series for negative

JHAS80-PM AC Isolator Panel Mounting



Pauel mounting

01 Add-on Auxiliary Contacts

The isolating switch adopts the same auxiliary contact, and the auxiliary contact and the main pole of the switch act at the same time. A normally open contact with pre-disconnect function can be provided as required.
The isolation switch can be installed with up to four auxiliary accessories (2 on the right, 2 on the left)

02 Terminal shrouds

The isolation switch terminal shroud has a simple appearance design, high-quality transparent PC material, flame-retardant, high strength, no color change after long-term use, high-quality waterproof and easy to install.

03 Side Mount Add-on Fourth Pole

Simultaneous or early contact operation of the fourth pole with respect to the switch disconnector poles.

04 Switch body

Aswich switch adopts compression contact opening and closing technology, and has the function of complete disconnection indication. According to its mechanical principle, this switch can work normally in any position, without having to consider the problem of dropping passengers.

05 Rotating Handle Parts

Rotating handle, with anti-misoperation padlock design to prevent misoperation, safe and reliable; using high-quality flame-retardant materials, insulation and impact resistance; elegant and stylish design, beautiful and durable.

JHAS80-PM AC Isolator Panel Mounting

		JHAS80-PM40R-RY				JHAS-PM80R-RY				JHAS-PM125R-RY	
		35.5mm				52.5mm				69.1mm	
											
Type	3P	JHAS80-PM16R-3RY	JHAS80-PM20R-3RY	JHAS80-PM25R-3RY	JHAS80-PM32R-3RY	JHAS80-PM40R-3RY	JHAS80-PM63R-3RY	JHAS80-PM80R-3RY	JHAS80-PM80HR-3RY	JHAS80-PM100R-3RY	JHAS80-PM125R-3RY
	4P	JHAS80-PM16R-4RY	JHAS80-PM20R-4RY	JHAS80-PM25R-4RY	JHAS80-PM32R-4RY	JHAS80-PM40R-4RY	JHAS80-PM63R-4RY	JHAS80-PM80R-4RY	JHAS80-PM80HR-4RY	JHAS80-PM100R-4RY	JHAS80-PM125R-4RY
Current(≤40°C) Agreed heating current		16A	20A	25A	32A	40A	63A	80A	100A	100A	125A
IEC rated operational current Ie AC-21A/B(≤690V)		16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
IEC rated operational current Ie AC-22A/B	415V	16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
	500V					32A/40A	40A/63A	63A/80A	63A/80A	80A/100A	100A/125A
	690V										
IEC rated operational current Ie AC-23A/B	415V	16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
	500V				25A/25A		63A/63A			80A/80A	100A/100A
	690V						40A/40A			63/63A	63A/63A
IEC rated operational current Ie DC-21B	110VDC	16A①	20A①	25A①	32A①	40A①	63A①	80A①	100A①	100A①	125A①
	250VDC	16A②	20A②	25A②	32A②	40A②	63A②	80A②	100A②	100A②	125A②
	400VDC	16A③	20A③	25A③	25A③		40A③			63A③	
IEC rated operational power (3 phase) AC-23A/B	415V	7.5KW	9KW	11KW	15KW	18.5KW	30KW	37KW	45KW		55KW
	500V										
	690V		11KW	15KW							
Short circuit withstand current of fuse protection (kA rms expected value)											
Fuse class	415V	16A	20A	25A	32A	40A	63A	80A	100A		125A
Rated conditional short-circuit current	415V	50kA								25kA	
Short circuit withstand current of circuit breaker for protection, any circuit breaker that can trip within 0.3s											
Rated short-time withstand current	0.3S	2.5kA					3kA			5kA	
Short circuit performance (unprotected)											
Rated short-time withstand current	1S	1.26kA					1.5kA			2.75kA	
Rated short circuit making capacity		1.8kA					2.1kA			3.9kA	
Cable cross section		1.5~16mm²					2.5~35mm²			10~70mm²	
Rated insulation voltage Ui		800V									
Rated impulse withstand voltage Uimp		8kV									
Mechanical Endurance		100000									
Ambient Temperature		Operating -25...+55°C Storage -40...+70°C									

① Each pole is used as positive and negative ② Three poles in series , two poles in series for positive , one pole for negative

③ Four poles in series , two poles in series for positive , other two poles in series for negative

JHAS80-PM AC Isolator Panel Mounting

		JHAS80-PM40R-BW				JHAS-PM80R-BW				JHAS-PM125R-BW	
		35.5mm				52.5mm				69.1mm	
											
Type	3P	JHAS80-PM16R-3BW	JHAS80-PM20R-3BW	JHAS80-PM25R-3BW	JHAS80-PM32R-3BW	JHAS80-PM40R-3BW	JHAS80-PM63R-3BW	JHAS80-PM80R-3BW	JHAS80-PM80HR-3BW	JHAS80-PM100R-3BW	JHAS80-PM125R-3BW
	4P	JHAS80-PM16R-4BW	JHAS80-PM20R-4BW	JHAS80-PM25R-4BW	JHAS80-PM32R-4BW	JHAS80-PM40R-4BW	JHAS80-PM63R-4BW	JHAS80-PM80R-4BW	JHAS80-PM80HR-4BW	JHAS80-PM100R-4BW	JHAS80-PM125R-4BW
Current(≤40°C) Agreed heating current		16A	20A	25A	32A	40A	63A	80A	100A	100A	125A
IEC rated operational current Ie AC-21A/B(≤690V)		16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
IEC rated operational current Ie AC-22A/B	415V	16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
	500V					40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
	690V					32A/40A	40A/63A	63A/80A	63A/80A	80A/100A	100A/125A
IEC rated operational current Ie AC-23A/B	415V	16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
	500V				25A/25A		63A/63A			80A/80A	100A/100A
	690V						40A/40A			63/63A	63A/63A
IEC rated operational current Ie DC-21B	110VDC	16A①	20A①	25A①	32A①	40A①	63A①	80A①	100A①	100A①	125A①
	250VDC	16A②	20A②	25A②	32A②	40A②	63A②	80A②	100A②	100A②	125A②
	400VDC	16A③	20A③	25A③	25A③		40A③			63A③	
IEC rated operational power (3 phase) AC-23A/B	415V	7.5KW	9KW	11KW	15KW	18.5KW	30KW	37KW	45KW		55KW
	500V										
	690V		11KW	15KW							
Short circuit withstand current of fuse protection (kA rms expected value)											
Fuse class	415V	16A	20A	25A	32A	40A	63A	80A	100A		125A
Rated conditional short-circuit current	415V	50kA								25kA	
Short circuit withstand current of circuit breaker for protection, any circuit breaker that can trip within 0.3s											
Rated short-time withstand current	0.3S	2.5kA					3kA			5kA	
Short circuit performance (unprotected)											
Rated short-time withstand current	1S	1.26kA					1.5kA			2.75kA	
Rated short circuit making capacity		1.8kA					2.1kA			3.9kA	
Cable cross section		1.5~16mm²					2.5~35mm²			10~70mm²	
Rated insulation voltage Ui		800V									
Rated impulse withstand voltage Uimp		8kV									
Mechanical Endurance		100000									
Ambient Temperature		Operating -25...+55°C Storage -40...+70°C									

① Each pole is used as positive and negative ② Three poles in series , two poles in series for positive , one pole for negative

③ Four poles in series , two poles in series for positive , other two poles in series for negative

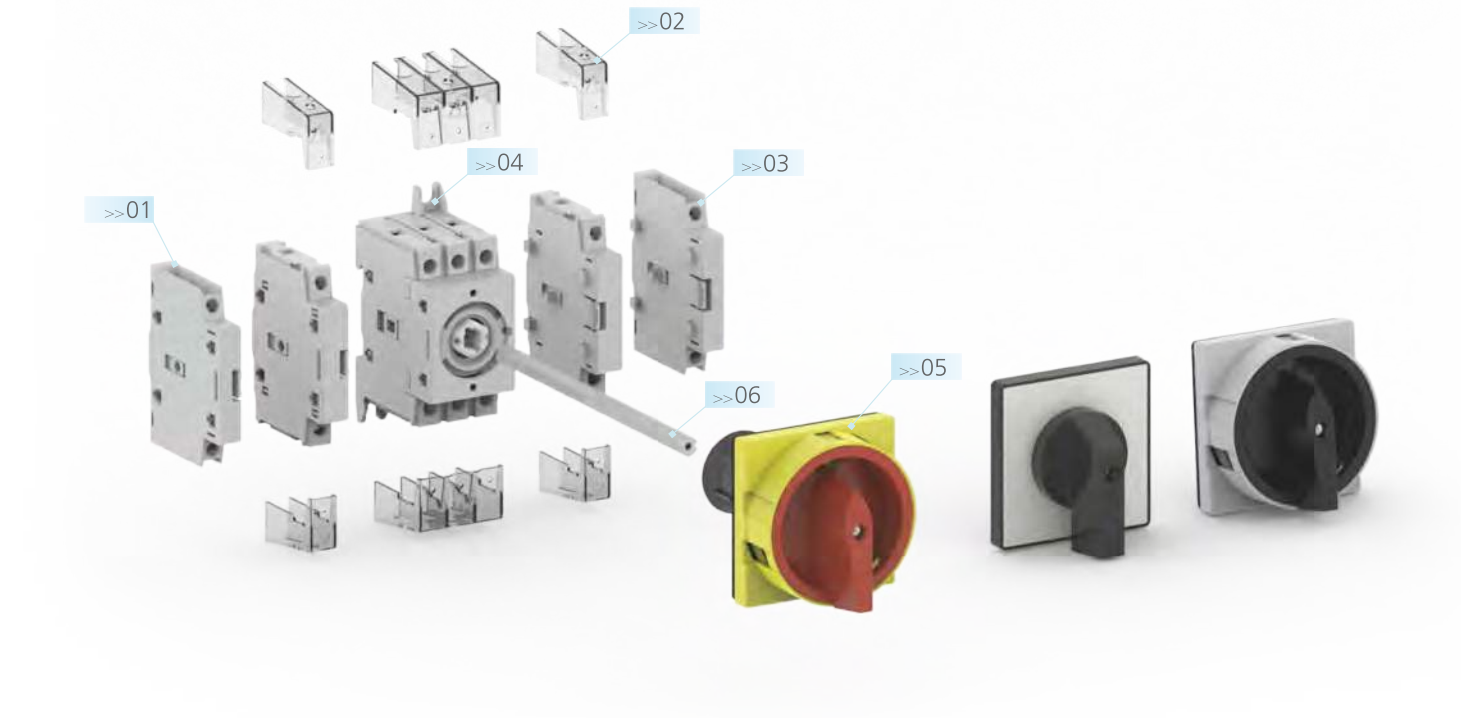
JHAS80-PM AC Isolator Panel Mounting

		JHAS80-PM40-BB				JHAS80-PM80-BB				JHAS80-PM125-BB	
		35.5mm				52.5mm				69.1mm	
											
Type	3P	JHAS80-PM16-3BB	JHAS80-PM20-3BB	JHAS80-PM25-3BB	JHAS80-PM32-3BB	JHAS80-PM40R-3BB	JHAS80-PM63-3BB	JHAS80-PM80-3BB	JHAS80-PM80H-3BB	JHAS80-PM100-3BB	JHAS80-PM125-3BB
	4P	JHAS80-PM16-4BB	JHAS80-PM20-4BB	JHAS80-PM25-4BB	JHAS80-PM32-4BB	JHAS80-PM40R-4BB	JHAS80-PM63-4BB	JHAS80-PM80-4BB	JHAS80-PM80H-4BB	JHAS80-PM100-4BB	JHAS80-PM125-4BB
Current(≤40°C) Agreed heating current		16A	20A	25A	32A	40A	63A	80A	100A	100A	125A
IEC rated operational current Ie AC-21A/B(≤690V)		16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
IEC rated operational current Ie AC-22A/B	415V	16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
	500V										
	690V					32A/40A	40A/63A	63A/80A	63A/80A	80A/100A	100A/125A
IEC rated operational current Ie AC-23A/B	415V	16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
	500V				25A/25A		63A/63A			80A/80A	100A/100A
	690V						40A/40A			63/63A	63A/63A
IEC rated operational current Ie DC-21B	110VDC	16A①	20A①	25A①	32A①	40A①	63A①	80A①	100A①	100A①	125A①
	250VDC	16A②	20A②	25A②	32A②	40A②	63A②	80A②	100A②	100A②	125A②
	400VDC	16A③	20A③	25A③	25A③		40A③			63A③	
IEC rated operational power (3 phase) AC-23A/B	415V	7.5KW	9KW	11KW	15KW	18.5KW	30KW	37KW	45KW		55KW
	500V										
	690V		11KW	15KW							
Short circuit withstand current of fuse protection (kA rms expected value)											
Fuse class	415V	16A	20A	25A	32A	40A	63A	80A	100A		125A
Rated conditional short-circuit current	415V	50kA								25kA	
Short circuit withstand current of circuit breaker for protection, any circuit breaker that can trip within 0.3s											
Rated short-time withstand current	0.3S	2.5kA					3kA			5kA	
Short circuit performance (unprotected)											
Rated short-time withstand current	1S	1.26kA					1.5kA			2.75kA	
Rated short circuit making capacity		1.8kA					2.1kA			3.9kA	
Cable cross section		1.5~16mm²					2.5~35mm²			10~70mm²	
Rated insulation voltage Ui		800V									
Rated impulse withstand voltage Uimp		8kV									
Mechanical Endurance		100000									
Ambient Temperature		Operating -25...+55°C Storage -40...+70°C									

① Each pole is used as positive and negative ② Three poles in series , two poles in series for positive , one pole for negative

③ Four poles in series , two poles in series for positive , other two poles in series for negative

JHAS80-DC AC Isolator Door Interlock



Rail mounting with door interlocked

Mounting and removal of the fourth pole and auxiliary contact are quick and simple tool-free.

01 Add-on Auxiliary Contacts

The isolating switch adopts the same auxiliary contact, and the auxiliary contact and the main pole of the switch act at the same time. A normally open contact with pre-disconnect function can be provided as required.
The isolation switch can be installed with up to four auxiliary accessories (2 on the right, 2 on the left)

02 Terminal shrouds

The isolation switch terminal shroud has a simple appearance design, high-quality transparent PC material, flame-retardant, high strength, no color change after long-term use, high-quality waterproof and easy to install.

03 Side Mount Add-on Fourth Pole

Simultaneous or early contact operation of the fourth pole with respect to the switch disconnector poles.

04 Switch body

Aswich switch adopts compression contact opening and closing technology, and has the function of complete disconnection indication. According to its mechanical principle, this switch can work normally in any position, without having to consider the problem of dropping passengers.

05 Rotating Handle Parts

Rotating handle, with anti-misoperation padlock design to prevent misoperation, safe and reliable; using high-quality flame-retardant materials, insulation and impact resistance; elegant and stylish design, beautiful and durable.

06 Rod extension

High-carbon steel material, beautiful and corrosion-resistant; coupled with high-temperature treatment, even if sufficient pressure is applied, it can maintain good smoothness; the products are standardized, easy to assemble, low cost, corrosion resistant, and cost-effective.

JHAS80-DC AC Isolator Door Interlock

		JHAS80-DC40-BB				JHAS80-DC80-BB				JHAS80-DC125-BB	
		35.5mm				52.5mm				69.1mm	
											
Type	3P	JHAS80-DC16-3BB	JHAS80-DC20-3BB	JHAS80-DC25-3BB	JHAS80-DC32-3BB	JHAS80-DC40R-3BB	JHAS80-DC63-3BB	JHAS80-DC80-3BB	JHAS80-DC80H-3BB	JHAS80-DC100-3BB	JHAS80-DC125-3BB
	4P	JHAS80-DC16-4BB	JHAS80-DC20-4BB	JHAS80-DC25-4BB	JHAS80-DC32-4BB	JHAS80-DC40R-4BB	JHAS80-DC63-4BB	JHAS80-DC80-4BB	JHAS80-DC80H-4BB	JHAS80-DC100-4BB	JHAS80-DC125-4BB
Current(≤40°C) Agreed heating current		16A	20A	25A	32A	40A	63A	80A	100A	100A	125A
IEC rated operational current Ie AC-21A/B(≤690V)		16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
IEC rated operational current Ie AC-22A/B	415V	16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
	500V					32A/40A	40A/63A	63A/80A	63A/80A	80A/100A	100A/125A
	690V										
IEC rated operational current Ie AC-23A/B	415V	16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
	500V				25A/25A		63A/63A			80A/80A	100A/100A
	690V						40A/40A			63/63A	63A/63A
IEC rated operational current Ie DC-21B	110VDC	16A①	20A①	25A①	32A①	40A①	63A①	80A①	100A①	100A①	125A①
	250VDC	16A②	20A②	25A②	32A②	40A②	63A②	80A②	100A②	100A②	125A②
	400VDC	16A③	20A③	25A③	25A③		40A③			63A③	
IEC rated operational power (3 phase) AC-23A/B	415V	7.5KW	9KW	11KW	15KW	18.5KW	30KW	37KW	45KW		55KW
	500V										
	690V		11KW	15KW							
Short circuit withstand current of fuse protection (kA rms expected value)											
Fuse class	415V	16A	20A	25A	32A	40A	63A	80A	100A		125A
Rated conditional short-circuit current	415V	50kA								25kA	
Short circuit withstand current of circuit breaker for protection, any circuit breaker that can trip within 0.3s											
Rated short-time withstand current	0.3S	2.5kA					3kA			5kA	
Short circuit performance (unprotected)											
Rated short-time withstand current	1S	1.26kA					1.5kA			2.75kA	
Rated short circuit making capacity		1.8kA					2.1kA			3.9kA	
Cable cross section		1.5~16mm²					2.5~35mm²			10~70mm²	
Rated insulation voltage Ui		800V									
Rated impulse withstand voltage Uimp		8kV									
Mechanical Endurance		100000									
Ambient Temperature		Operating -25...+55°C Storage -40...+70°C									

① Each pole is used as positive and negative ② Three poles in series , two poles in series for positive , one pole for negative

③ Four poles in series , two poles in series for positive , other two poles in series for negative

JHAS80-DC AC Isolator Door Interlock

		JHAS80-DC40R-RY				JHAS80-DC80R-RY				JHAS80-DC125R-RY	
		35.5mm				52.5mm				69.1mm	
											
Type	3P	JHAS80-DC16R-3RY	JHAS80-DC20R-3RY	JHAS80-DC25R-3RY	JHAS80-DC32R-3RY	JHAS80-DC40R-3RY	JHAS80-DC63R-3RY	JHAS80-DC80R-3RY	JHAS80-DC80HR-3RY	JHAS80-DC100R-3RY	JHAS80-DC125R-3RY
	4P	JHAS80-DC16R-4RY	JHAS80-DC20R-4RY	JHAS80-DC25R-4RY	JHAS80-DC32R-4RY	JHAS80-DC40R-4RY	JHAS80-DC63R-4RY	JHAS80-DC80R-4RY	JHAS80-DC80HR-4RY	JHAS80-DC100R-4RY	JHAS80-DC125R-4RY
Current(≤40°C) Agreed heating current		16A	20A	25A	32A	40A	63A	80A	100A	100A	125A
IEC rated operational current Ie AC-21A/B(≤690V)		16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
IEC rated operational current Ie AC-22A/B	415V	16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
	500V										
	690V					32A/40A	40A/63A	63A/80A	63A/80A	80A/100A	100A/125A
IEC rated operational current Ie AC-23A/B	415V	16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
	500V				25A/25A		63A/63A			80A/80A	100A/100A
	690V						40A/40A			63/63A	63A/63A
IEC rated operational current Ie DC-21B	110VDC	16A①	20A①	25A①	32A①	40A①	63A①	80A①	100A①	100A①	125A①
	250VDC	16A②	20A②	25A②	32A②	40A②	63A②	80A②	100A②	100A②	125A②
	400VDC	16A③	20A③	25A③	25A③		40A③			63A③	
IEC rated operational power (3 phase) AC-23A/B	415V	7.5KW	9KW	11KW	15KW	18.5KW	30KW	37KW	45KW		55KW
	500V										
	690V		11KW	15KW							
Short circuit withstand current of fuse protection (kA rms expected value)											
Fuse class	415V	16A	20A	25A	32A	40A	63A	80A	100A		125A
Rated conditional short-circuit current	415V	50kA								25kA	
Short circuit withstand current of circuit breaker for protection, any circuit breaker that can trip within 0.3s											
Rated short-time withstand current	0.3S	2.5kA					3kA			5kA	
Short circuit performance (unprotected)											
Rated short-time withstand current	1S	1.26kA					1.5kA			2.75kA	
Rated short circuit making capacity		1.8kA					2.1kA			3.9kA	
Cable cross section		1.5~16mm²					2.5~35mm²			10~70mm²	
Rated insulation voltage Ui		800V									
Rated impulse withstand voltage Uimp		8kV									
Mechanical Endurance		100000									
Ambient Temperature		Operating -25...+55°C Storage -40...+70°C									

① Each pole is used as positive and negative ② Three poles in series , two poles in series for positive , one pole for negative

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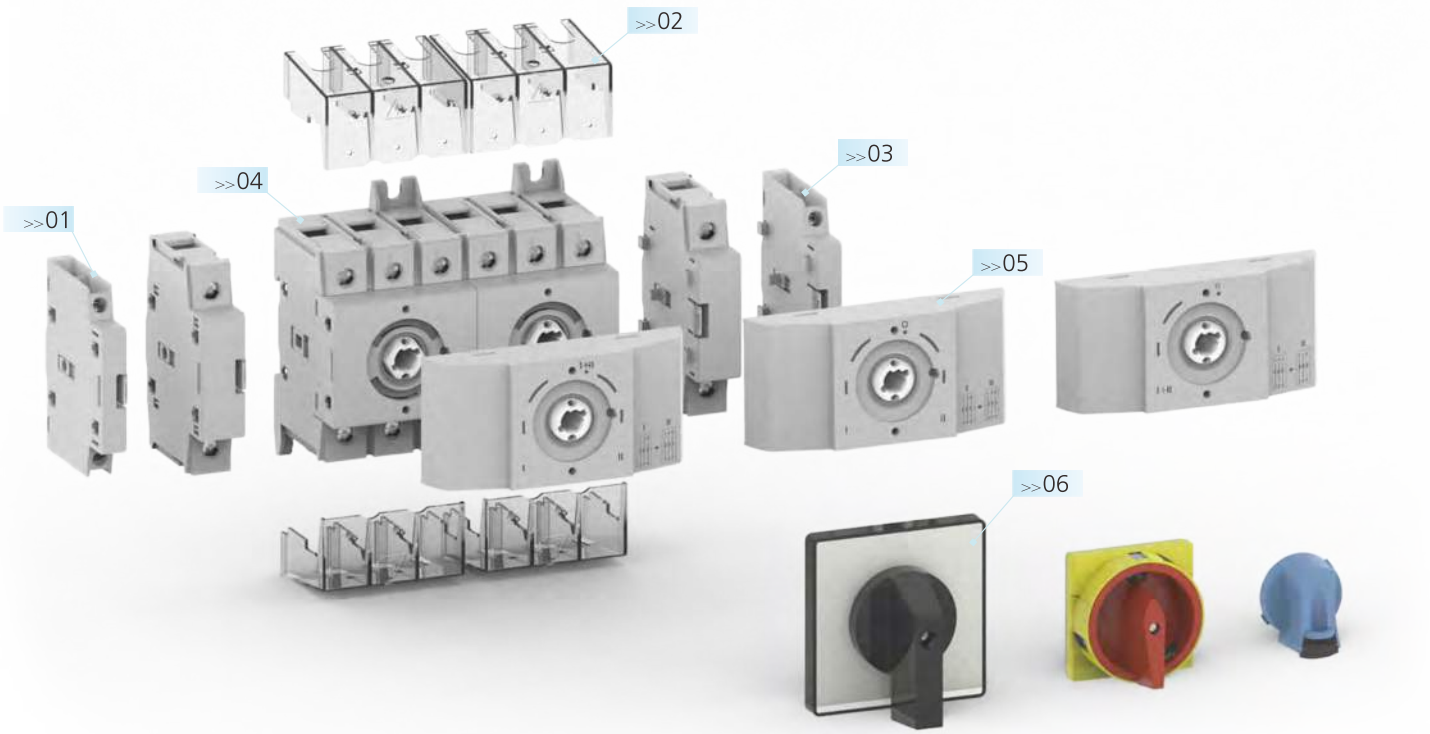
JHAS80-DC AC Isolator Door Interlock

		JHAS80-DC40R-BW				JHAS80-DC80R-BW				JHAS80-DC125R-BW	
		35.5mm				52.5mm				69.1mm	
											
Type	3P	JHAS80-DC16R-3BW	JHAS80-DC20R-3BW	JHAS80-DC25R-3BW	JHAS80-DC32R-3BW	JHAS80-DC40R-3BW	JHAS80-DC63R-3BW	JHAS80-DC80R-3BW	JHAS80-DC80HR-3BW	JHAS80-DC100R-3BW	JHAS80-DC125R-3BW
	4P	JHAS80-DC16R-4BW	JHAS80-DC20R-4BW	JHAS80-DC25R-4BW	JHAS80-DC32R-4BW	JHAS80-DC40R-4BW	JHAS80-DC63R-4BW	JHAS80-DC80R-4BW	JHAS80-DC80HR-4BW	JHAS80-DC100R-4BW	JHAS80-DC125R-4BW
Current(≤40°C) Agreed heating current		16A	20A	25A	32A	40A	63A	80A	100A	100A	125A
IEC rated operational current Ie AC-21A/B(≤690V)		16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
IEC rated operational current Ie AC-22A/B	415V	16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
	500V					32A/40A	40A/63A	63A/80A	63A/80A	80A/100A	100A/125A
	690V										
IEC rated operational current Ie AC-23A/B	415V	16A/16A	20A/20A	25A/25A	32A/32A	40A/40A	63A/63A	80A/80A	100A/100A	100A/100A	125A/125A
	500V				25A/25A		63A/63A			80A/80A	100A/100A
	690V						40A/40A			63/63A	63A/63A
IEC rated operational current Ie DC-21B	110VDC	16A ①	20A ①	25A ①	32A ①	40A ①	63A ①	80A ①	100A ①	100A ①	125A ①
	250VDC	16A ②	20A ②	25A ②	32A ②	40A ②	63A ②	80A ②	100A ②	100A ②	125A ②
	400VDC	16A ③	20A ③	25A ③	25A ③		40A ③			63A ③	
IEC rated operational power (3 phase) AC-23A/B	415V	7.5KW	9KW	11KW	15KW	18.5KW	30KW	37KW	45KW		55KW
	500V										
	690V		11KW	15KW							
Short circuit withstand current of fuse protection (kA rms expected value)											
Fuse class	415V	16A	20A	25A	32A	40A	63A	80A	100A		125A
Rated conditional short-circuit current	415V	50kA								25kA	
Short circuit withstand current of circuit breaker for protection, any circuit breaker that can trip within 0.3s											
Rated short-time withstand current	0.3S	2.5kA					3kA			5kA	
Short circuit performance (unprotected)											
Rated short-time withstand current	1S	1.26kA					1.5kA			2.75kA	
Rated short circuit making capacity		1.8kA					2.1kA			3.9kA	
Cable cross section		1.5~16mm²					2.5~35mm²			10~70mm²	
Rated insulation voltage Ui		800V									
Rated impulse withstand voltage Uimp		8kV									
Mechanical Endurance		100000									
Ambient Temperature		Operating -25...+55°C Storage -40...+70°C									

① Each pole is used as positive and negative ② Three poles in series , two poles in series for positive , one pole for negative

③ Four poles in series , two poles in series for positive , other two poles in series for negative

Mechanical Combination System



Modular Structure

Mounting and removal of the fourth pole and auxiliary contact are quick and simple tool-free.

01 Add-on Auxiliary Contacts

The isolating switch adopts the same auxiliary contact, and the auxiliary contact and the main pole of the switch act at the same time. A normally open contact with pre-disconnect function can be provided as required.
The isolation switch can be installed with up to four auxiliary accessories (2 on the right, 2 on the left)

02 Terminal shrouds

The isolation switch terminal shroud has a simple appearance design, high-quality transparent PC material, flame-retardant, high strength, no color change after long-term use, high-quality waterproof and easy to install.

03 Side Mount Add-on Fourth Pole

Simultaneous or early contact operation of the fourth pole with respect to the switch disconnector poles.

04 Switch body

Aswich switch adopts compression contact opening and closing technology, and has the function of complete disconnection indication. According to its mechanical principle, this switch can work normally in any position, without having to consider the problem of dropping passengers.

05 Mechanical interlocking mechanism

The interior is made of high-conductivity nickel-phosphorus copper, which has good conductivity and longer service life. The shell is made of high-strength flame-retardant PC material, which is fire-resistant and flame-retardant, in one step!

06 Rotating Handle Parts

Rotating handle, with anti-misoperation padlock design to prevent misoperation, safe and reliable; using high-quality flame-retardant materials, insulation and impact resistance; elegant and stylish design, beautiful and durable.

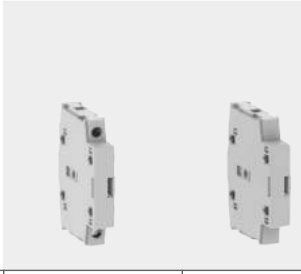
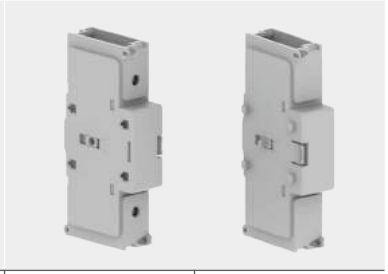
Mechanical Combination System

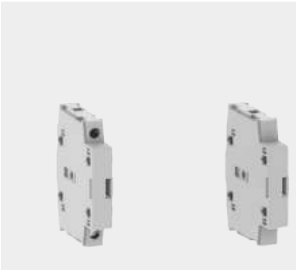
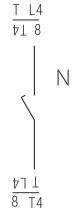
		JHAS80-DB80R-IM2			JHAS80-DB80R-IM31			JHAS80-DB80R-IM32		
		105mm			105mm			105mm		
		Mechanical combination system: for 6/8 pole			Mechanical interlock mechanism: for 3/4 pole I-I- I+II -II-II conversion			Mechanical interlock mechanism: for 3/4 pole I-O-II conversion		
										
Type	3P	JHAS80-DB63R-6R-IM2	JHAS80-DB80R-6R-IM2	JHAS80-DB80HR-6R-IM2	JHAS80-DB63R-3R-IM31	JHAS80-DB80R-3R-IM31	JHAS80-DB80HR-3R-IM31	JHAS80-DB63R-3R-IM32	JHAS80-DB80R-3R-IM32	JHAS80-DB80HR-3R-IM32
	4P	JHAS80-DB63R-8R-IM2	JHAS80-DB80R-8R-IM2	JHAS80-DB80HR-8R-IM2	JHAS80-DB63R-4R-IM31	JHAS80-DB80R-4R-IM31	JHAS80-DB80HR-4R-IM31	JHAS80-DB63R-4R-IM32	JHAS80-DB80R-4R-IM32	JHAS80-DB80HR-4R-IM32
Current(≤40°C) Agreed heating current		63A	80A	100A	63A	80A	100A	63A	80A	100A
IEC rated operational current Ie AC-21A/B(≤690V)		63A/63A	80A/80A	100A/100A	63A/63A	80A/80A	100A/100A	63A/63A	80A/80A	100A/100A
IEC rated operational current Ie AC-22A/B	415V	63A/63A	80A/80A	100A/100A	63A/63A	80A/80A	100A/100A	63A/63A	80A/80A	100A/100A
	500V									
	690V	40A/63A	63A/80A	63A/80A	40A/63A	63A/80A	63A/80A	40A/63A	63A/80A	63A/80A
IEC rated operational current Ie AC-23A/B	415V	63A/63A	80A/80A	100A/100A	63A/63A	80A/80A	100A/100A	63A/63A	80A/80A	100A/100A
	500V	63A/63A			63A/63A			63A/63A		
	690V	40A/40A			40A/40A			40A/40A		
IEC rated operational current Ie DC-21B	110VDC	63A●	80A①	100A①	63A①	80A①	100A①	63A①	80A①	100A①
	250VDC	63A●	80A②	100A②	63A②	80A②	100A②	63A②	80A②	100A②
	400VDC	40A③			40A③			40A③		
IEC rated operational power (3 phase) AC-23A/B	415V	30KW	37KW	45KW	30KW	37KW	45KW	30KW	37KW	45KW
	500V									
	690V									
Short circuit withstand current of fuse protection (kA rms expected value)										
Fuse class	415V	63A	80A	100A	63A	80A	100A	63A	80A	100A
Rated conditional short-circuit current	415V	50kA								
Short circuit withstand current of circuit breaker for protection, any circuit breaker that can trip within 0.3s										
Rated short-time withstand current	0.3S	3kA								
Short circuit performance (unprotected)										
Rated short-time withstand current	1S	1.5kA								
Rated short circuit making capacity		2.1kA								
Cable cross section		2.5~35mm²								
Rated insulation voltage Ui		800V								
Rated impulse withstand voltage Uimp		8kV								
Mechanical Endurance		100000								
Ambient Temperature		Operating -25...+55°C Storage -40...+70°C								

① Each pole is used as positive and negative ② Three poles in series , two poles in series for positive , one pole for negative

③ Four poles in series , two poles in series for positive , other two poles in series for negative

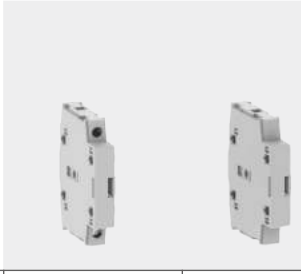
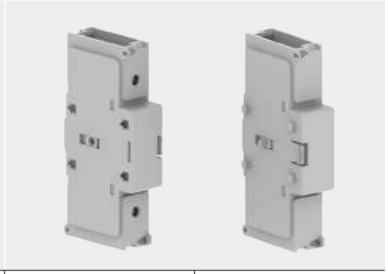
JHAS80 AC Isolator Add on

	JHAS80-PS40 JHAS80-PSR40		JHAS80-PS80 JHAS80-PSR80		JHAS80-PS125 JHAS80-PSR125	
Fourth pole, simultaneous closing operation as switch poles						
Type	JHAS80-PS40	JHAS80-PSR40	JHAS80-PS80	JHAS80-PSR80	JHAS80-PS125	JHAS80-PSR125
Ith	40A	40A	80A	80A	125A	125A
Width	11mm	11mm	16mm	16mm	21.3mm	21.3mm
Applied to	JHAS80-16~ JHAS80-40	JHAS80-PM16~ JHAS80-PM40	JHAS80-63~ JHAS80-80	JHAS80-PM63~ JHAS80-PM80	JHAS80-100~ JHAS80-125	JHAS80-PM100~ JHAS80-PM125
Function						

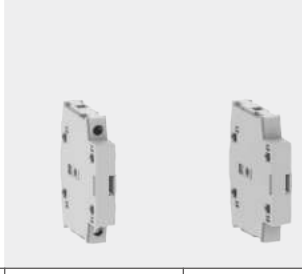
	JHAS80-PD40 JHAS80-PDR40		JHAS80-PD80 JHAS80-PDR80		JHAS80-PD125 JHAS80-PDR125	
Fourth pole, early-make closing operation with respect to switch poles						
Type	JHAS80-PD40	JHAS80-PDR40	JHAS80-PD80	JHAS80-PDR80	JHAS80-PD125	JHAS80-PDR125
Ith	40A	40A	80A	80A	125A	125A
Width	11mm	11mm	16mm	16mm	21.3mm	21.3mm
Applied to	JHAS80-16~ JHAS80-40	JHAS80-PM16~ JHAS80-PM40	JHAS80-63~ JHAS80-80	JHAS80-PM63~ JHAS80-PM80	JHAS80-100~ JHAS80-125	JHAS80-PM100~ JHAS80-PM125
Function						

JHAS80 AC Isolator Add on

Neutral plate terminal

	JHAS80-PN40 JHAS80-PNR40		JHAS80-PN80 JHAS80-PNR80		JHAS80-PN125 JHAS80-PNR125	
						
Type	JHAS80-PN40	JHAS80-PNR40	JHAS80-PN80	JHAS80-PNR80	JHAS80-PN125	JHAS80-PNR125
Ith	40A	40A	80A	80A	125A	125A
Width	11mm	11mm	16mm	16mm	21.3mm	21.3mm
Applied to	JHAS80-16~ JHAS80-40	JHAS80-PM16~ JHAS80-PM40	JHAS80-63~ JHAS80-80	JHAS80-PM63~ JHAS80-PM80	JHAS80-100~ JHAS80-125	JHAS80-PM100~ JHAS80-PM125
Function	N N		N N		N N	

Earth/Ground Plate terminal

	JHAS80-PE40 JHAS80-PER40		JHAS80-PE80 JHAS80-PER80		JHAS80-PE125 JHAS80-PER125	
						
Type	JHAS80-PE40	JHAS80-PER40	JHAS80-PE80	JHAS80-PER80	JHAS80-PE125	JHAS80-PER125
Ith	40A	40A	80A	80A	125A	125A
Width	11mm	11mm	16mm	16mm	21.3mm	21.3mm
Applied to	JHAS80-16~ JHAS80-40	JHAS80-PM16~ JHAS80-PM40	JHAS80-63~ JHAS80-80	JHAS80-PM63~ JHAS80-PM80	JHAS80-100~ JHAS80-125	JHAS80-PM100~ JHAS80-PM125
Function	PE PE		PE PE		PE PE	

JHAS80 AC Isolator Add on

Add-on Auxiliary Contacts

One only add-on block suitable for all the JHAS80 switch disconnectors, haveing simultaneous operation with the switch poles, Versions available with an early-break NO contact.



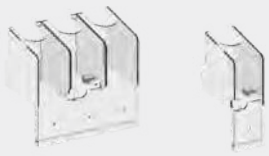


Type	JHAS80-P1	JHAS80-P2	JHAS80-P1R	JHAS80-P2R
Contacts	1NO+1NC	2NO	1NO+1NC	2NO
Width	9mm	9mm	9mm	9mm
Parameter	AC-13: 10A, 230V~ AC-15: 6A,230V~		AC-13: 10A, 230V~ AC-15: 6A,230V~	
Function	1NO+1NC 13 21 14 22	2NO 13 23 14 24	1NO+1NC 13 21 14 22	2NO 13 23 14 24
Description	for DB , DC , EL ,ELA series / for PM series			

Terminal cover







Type	JHAS80-TS40-3	JHAS80-TS40-1	JHAS80-TS80-3	JHAS80-TS80-1	JHAS80-TS125-3	JHAS80-TS125-1
Poles	3P	1P	3P	1P	3P	1P
Applied to	For the main body switch of 16Ato 40A	For the fourth pole of 16Ato 40A	For the main body switch of 63A to 80A	For the fourth pole of 63A to 80A	For the main body switch of 100A to 125A	For the fourth pole of 100A to 125A

JHAS80 AC Isolator Accessories

Mechanical combination system

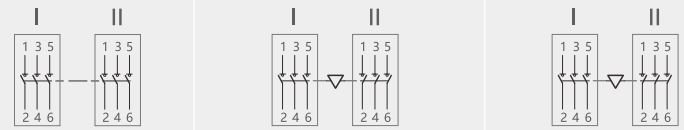
Mechanical interlock mechanism

Rod extension



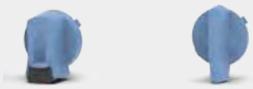



Type	JHAS80-IM280	JHAS80-IM3180	JHAS80-IM3280	JHAS80-SF150	JHAS80-SF200	JHAS80-SF320
Applied to	For the main body switch of 63A to 80A	For the main body switch of 63A to 80A	For the main body switch of 63A to 80A	150mm	200mm	320mm
Description	Mechanical combination system: for 6/8	Mechanical interlock mechanism: for 3/4 pole I-I- I+II -II-II conversion	Mechanical interlock mechanism: for 3/4 pole I-O-II conversion	Lenght customized		

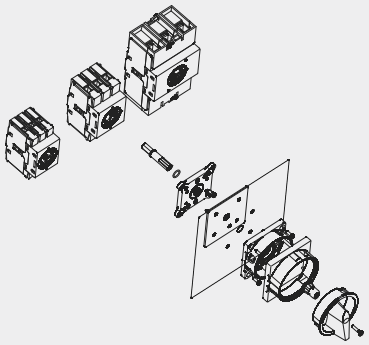


Rotating Handle Parts

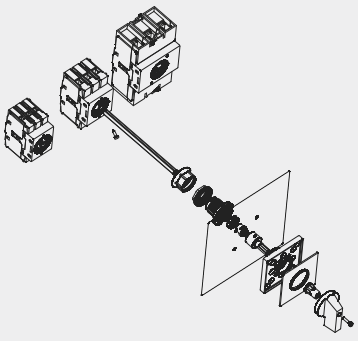




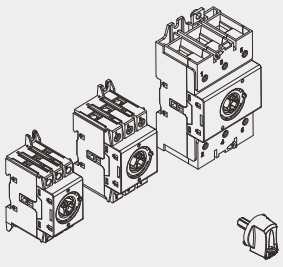
Type	80-PM-BB	80-PMR-RY	80-PMR-BW	80-DC-BB	80-DCR-RY	80-DCR-BW	80-DBR	80-DB
Fixing method	Screw	Screw	Screw	Nut/Screw	Nut/Screw	Nut/Screw	Clasp	Clasp
Size	☐ 64mm	☐ 64mm	☐ 64mm	☐ 64mm	☐ 64mm	☐ 64mm		
Description	For PM panel installation			For DC door lock installation			For DB Rail mounting	



Panel mounting

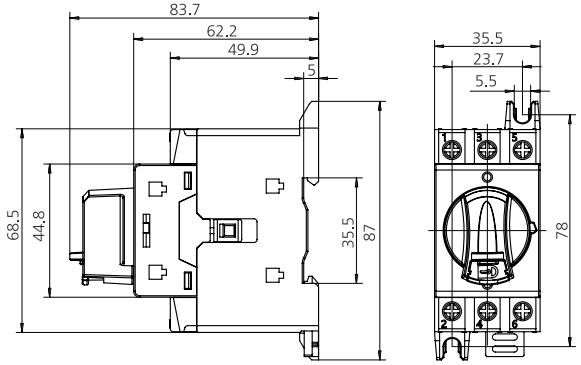


Door interlocked mounting

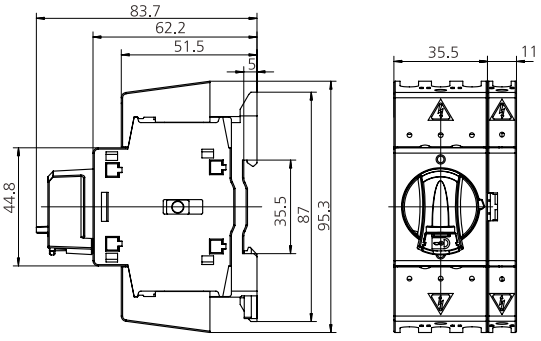


Rail mounting

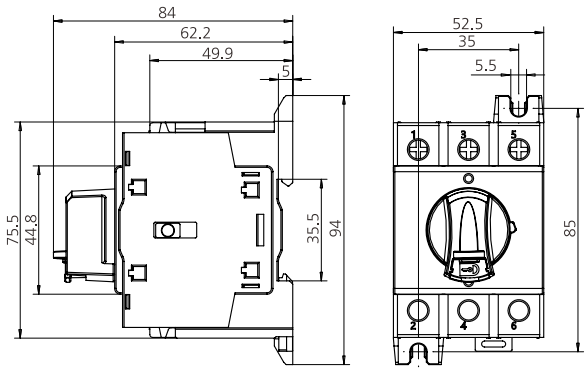
Overall and Installation Dimension(mm)



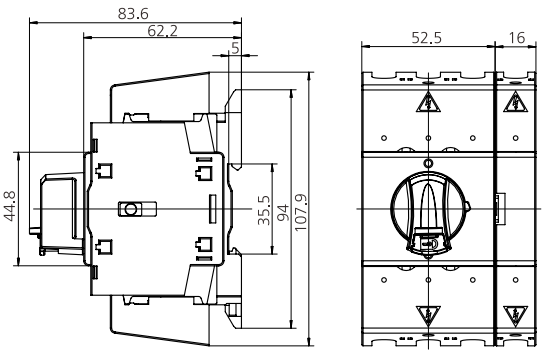
JHAS80-DB16R-3 JHAS80-DB32R-3
JHAS80-DB25R-3 JHAS80-DB40R-3



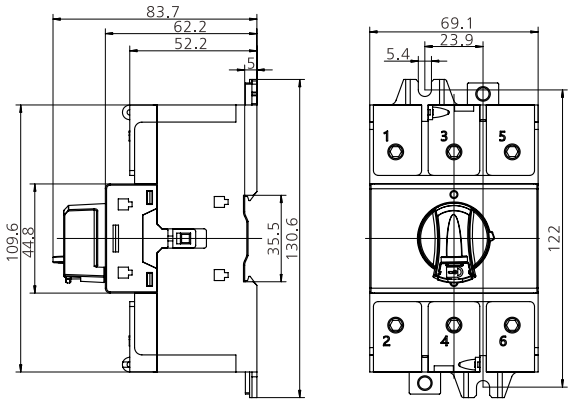
JHAS80-DB16R-4 JHAS80-DB32R-4
JHAS80-DB25R-4 JHAS80-DB40R-4



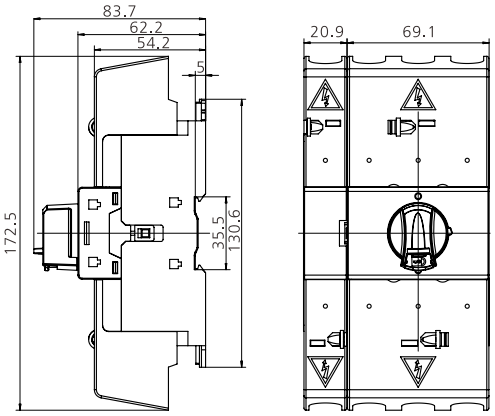
JHAS80-DB63R-3 JHAS80-DB80R-3



JHAS80-DB63R-4 JHAS80-DB80R-4

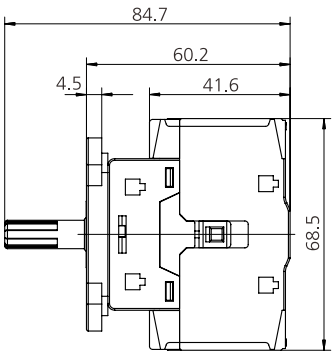


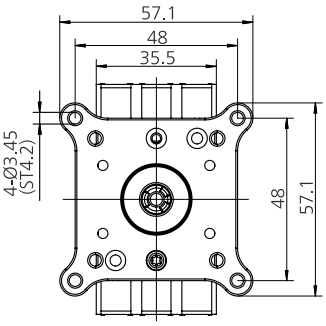
JHAS80-DB100R-3 JHAS80-DB125R-3



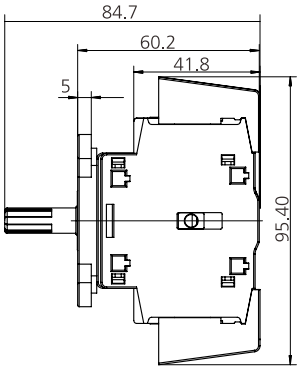
JHAS80-DB100R-4 JHAS80-DB125R-4

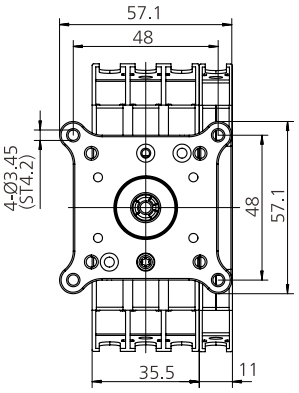
Overall and Installation Dimension(mm)



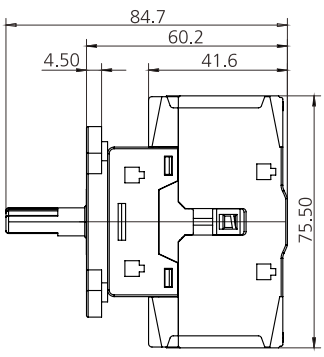


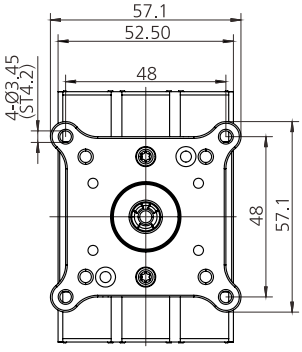
JHAS80-PM16R-3 JHAS80-PM32R-3
JHAS80-PM25R-3 JHAS80-PM40R-3



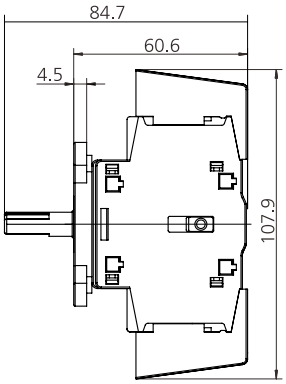


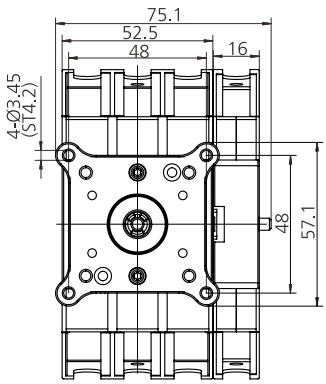
JHAS80-PM16R-4 JHAS80-PM32R-4
JHAS80-PM25R-4 JHAS80-PM40R-4



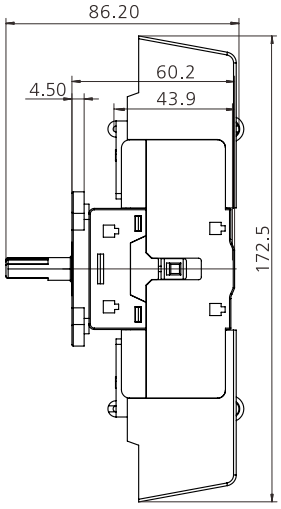


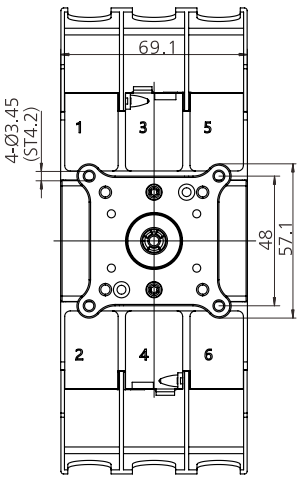
JHAS80-PM63R-3 JHAS80-PM80R-3



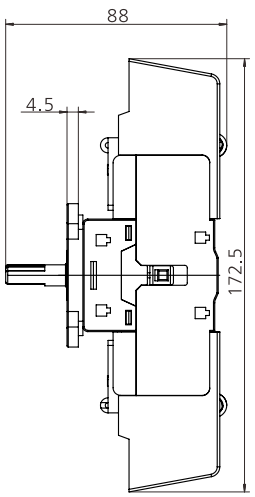


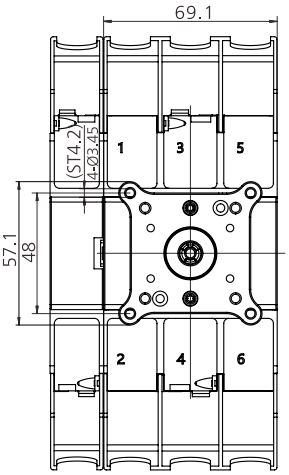
JHAS80-PM63R-4 JHAS80-PM80R-4





JHAS80-PM100R-3 JHAS80-PM125R-3

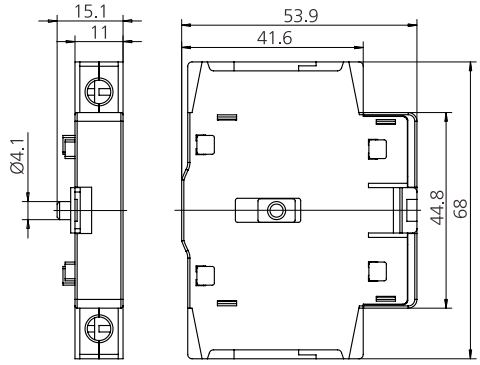




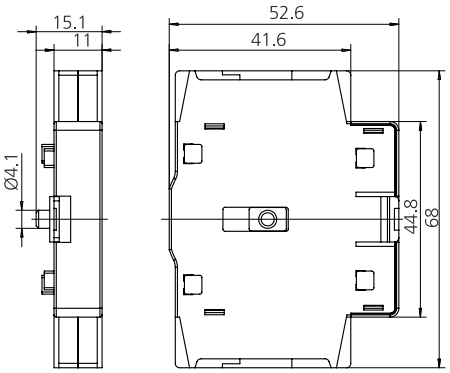
JHAS80-PM100R-4 JHAS80-PM125R-4

Overall and Installation Dimension(mm)

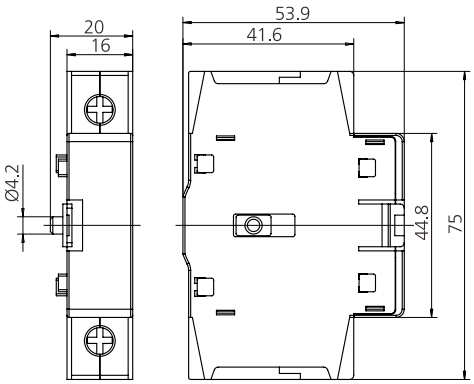
Add on pole



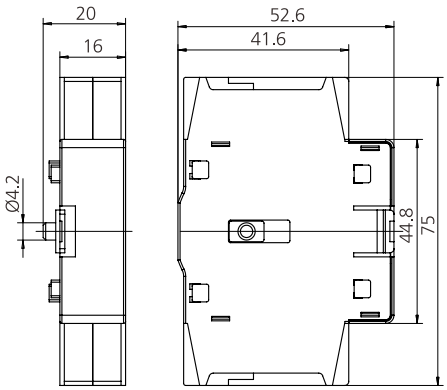
JHAS80-PS40 JHAS80-PN40
JHAS80-PD40 JHAS80-PE40



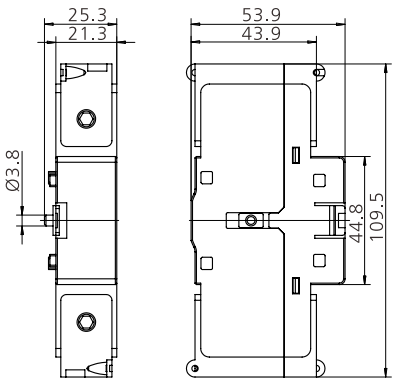
JHAS80-PS40R JHAS80-PN40R
JHAS80-PD40R JHAS80-PE40R



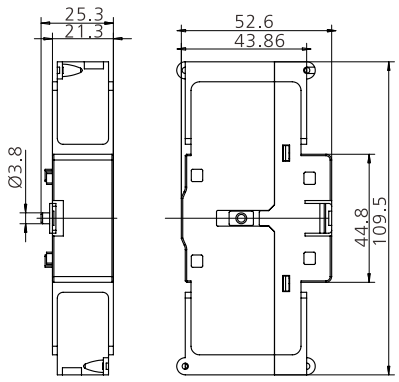
JHAS80-PS80 JHAS80-PN80
JHAS80-PD80 JHAS80-PE80



JHAS80-PS80R JHAS80-PN80R
JHAS80-PD80R JHAS80-PE80R



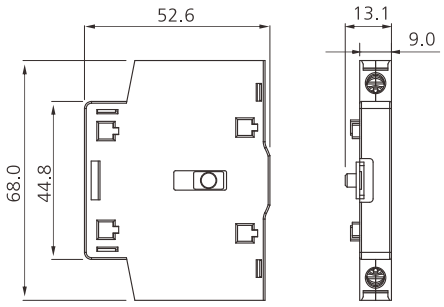
JHAS80-PS125 JHAS80-PN125
JHAS80-PS125 JHAS80-PE125



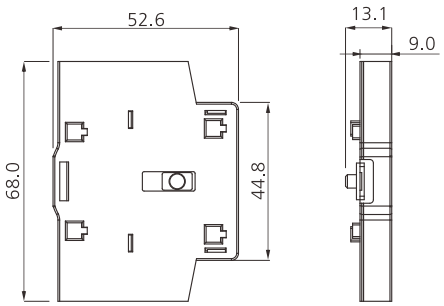
JHAS80-PSR125 JHAS80-PNR125
JHAS80-PSR125 JHAS80-PER125

Overall and Installation Dimension(mm)

Auxiliary contact

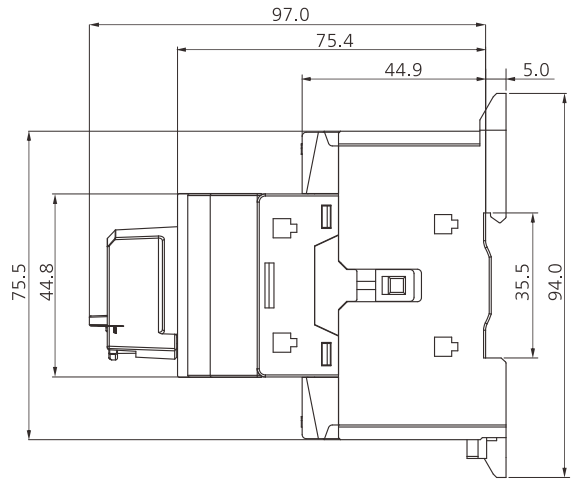


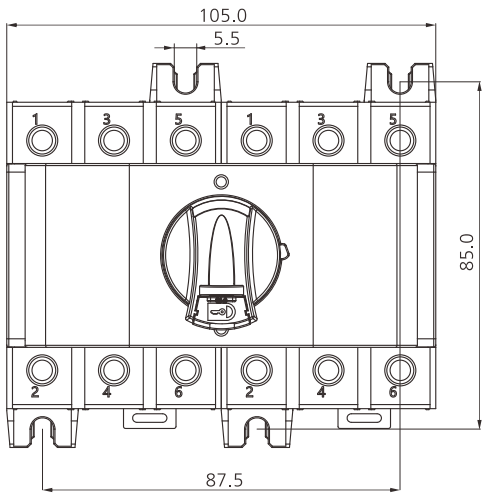
JHAS80-P1 JHAS80-P2



JHAS80-P1R JHAS80-P2R

Mechanical combination system





JHAS80-EL AC Isolator Enclosure Box

Advantages of plastic and aluminum box isolation switch



Multiple waterproof and double protection

Full coverage package, cover plate sealed and waterproof surrounded, multiple waterproof



Strong cold and scorching heat

Strong environmental adaptability, reliable operation even in harsh environments



High-quality profiles, safe and reliable

Multiple detection of flame retardant materials, high temperature resistance, strong flame retardant, anti-yellowing



Material environmental protection, protect the earth

Select environmentally friendly materials, some materials can be recycled and reused

Degree of protection: IP66 / Impact resistance: IK08
Rated current: 16A, 25A, 32A, 40A, 63A, 80A, 100A, 125A

JHAS80-EL AC Isolator Enclosure Box Plastic

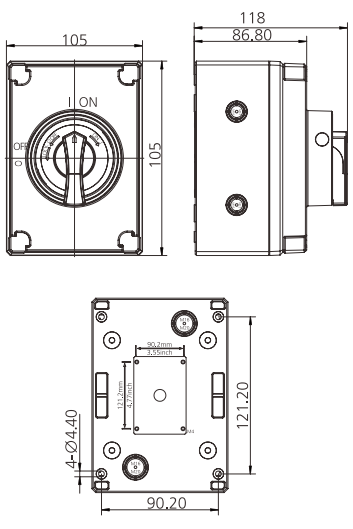
JHAS80-EL40R JHAS80-EL80R JHAS80-EL125R⚠



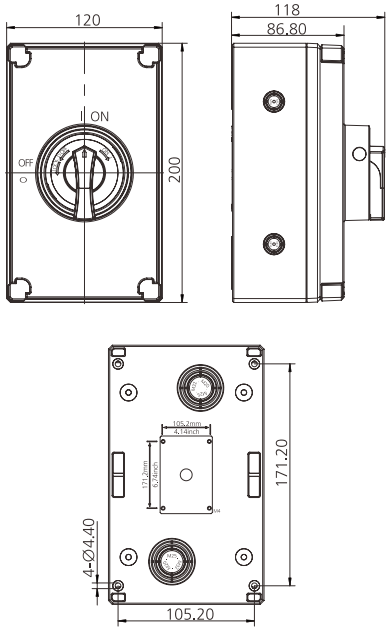
Type	JHAS80-EL40R				JHAS80-EL80R			JHAS80-EL125R	
Ithe conventional Enclosed thermal Current	16A	25A	32A	40A	63A	80A	100A	100A	125A
Components Enclosure	JHAS80-EL16	JHAS80-EL25	JHAS80-EL32	JHAS80-EL40	JHAS80-EL63	JHAS80-EL80	JHAS80-EL80H	JHAS80-EL100	JHAS80-EL125

⚠ soon coming

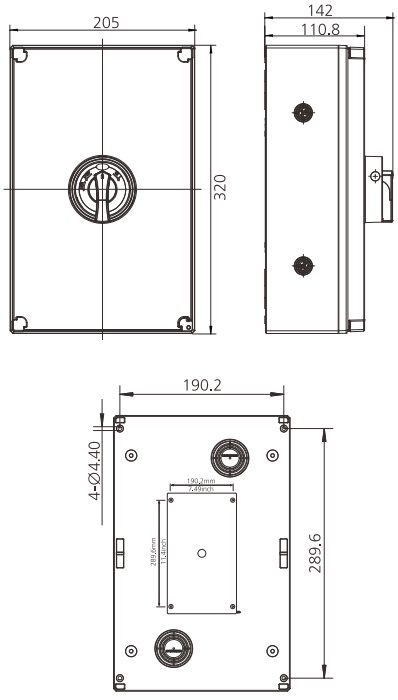
Overall and Installation Dimension(mm)



JHAS80-EL40R



JHAS80-EL80R



JHAS80-EL125R

JHAS80-EL AC Isolator Enclosure Box Aluminum

JHAS80-ELA40R

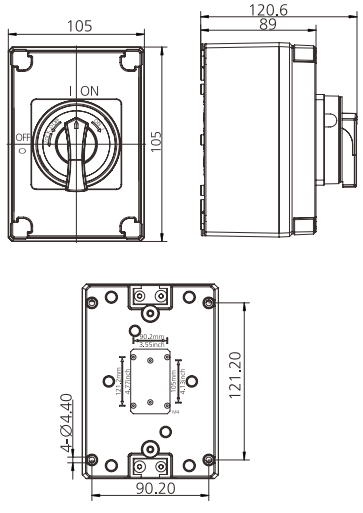


JHAS80-ELA80R

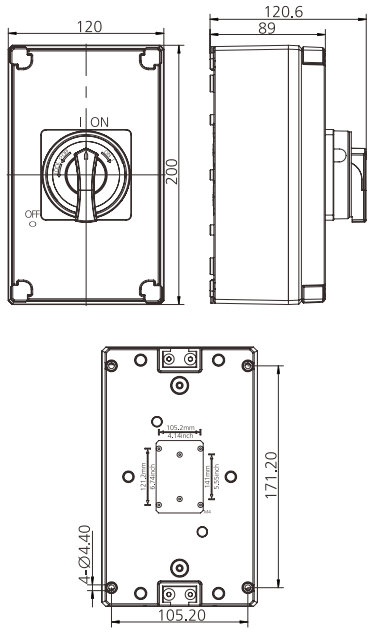


Type	JHAS80-ELA40R				JHAS80-ELA80R		
IEC Conventional free air thermal current Ith AC21A(≤690V)	16A	25A	32A	40A	63A	80A	100A
Components Enclosure	JHAS80-ELA16	JHAS80-ELA25	JHAS80-ELA32	JHAS80-ELA40	JHAS80-ELA63	JHAS80-ELA80	JHAS80-ELA80H

Overall and Installation Dimension(mm)



JHAS80-ELA40R



JHAS80-ELA80R

EHA High Voltage AC Disconnector



EHA-315

Product Benefits

Easy to install

- Wiring: Switch is non-polarized, all types of wiring and connections are possible.
- Easy access without tools, and auxiliary contacts can be integrated without tools.
- The operating mechanism can be centered to meet the installation requirements.

Safe reliable operation

- Reliable position indicator through visible contacts.
- The opening and closing of the switch is fully independent from the speed of operation, ensuring safe operation under all conditions.
- High temperature withstand: no derating up to 70°C.
- Ambient Temperature: -40°C to +70°C.

Designed for harsh environments

- Vibration testing (from 13.2 to 100 Hz at 0.7 g).
- Shock testing (15 g during three cycles).
- Humid temperature testing (2 cycles, 55°C/131F with 95% humidity level).
- Salt mist testing(3 cycles with humidity storage, 40°C/104F, 93% humidity after each cycle).



EHA-600

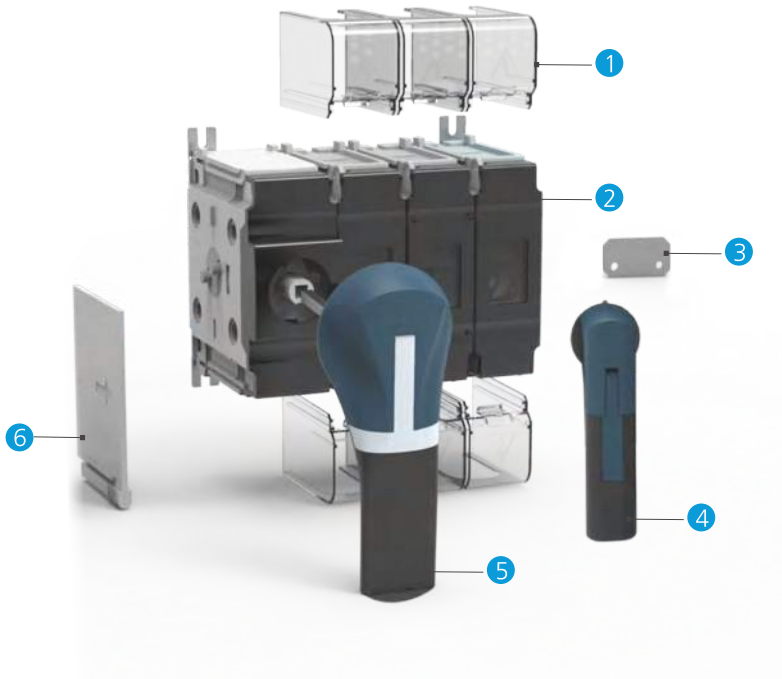
Select Code

EHA	a	-	b	x	R	-	Y
1	2		3	4	5		6

No	Description	Code
1	High voltage AC disconnector	EHA
2	Rated Voltage	1000VAC
3	Installation method	DB: Directly operate the handle in the cabinet DC: Outside handle
4	Rated current	160A, 250A, 315A, 400A 630A, 800A
5	Knob lock	R: With lock Nils: Without lock
6	Pole array	02, 11, 03, 12, 04, 22, 20, 21, 30, 40

*Note:The left digit represents the number on the left side of the operating mechanism, and the right digit represents the number on the right side of the operating mechanism

EHA High Voltage AC Disconnector



1 Termical shroud
2 Extension rod
3 Bridge bar
4 Direct handle
5 Door interlocked handle
6 Phase barrier

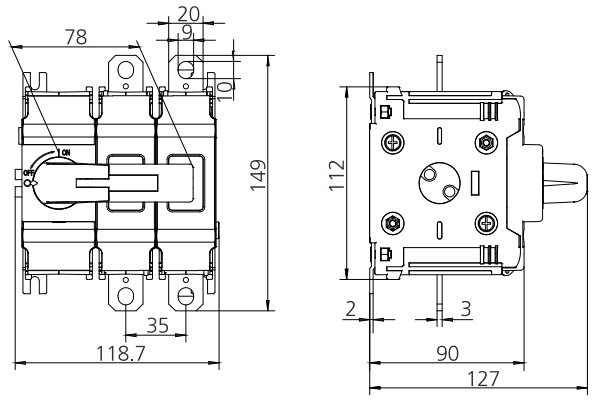
Technical Data

Rated current Ie					160A	250A	315A	400A	630A	800A
Frame size					EHA-315			EHA-600		
Thermal current (Ith)					160	250	315	400	630	800
Rated insulation voltage (Ui)					1000	1000	1000	1000	1000	1000
Rated impulse withstand voltage Uimp (KV)					12	12	12	12	12	12
Code	Number of poles		Rated voltage	Utilisation category	Ie(A)	Ie(A)	Ie(A)	Ie(A)	Ie(A)	Ie(A)
EHA	3P	4P	500VAC	AC-20A/AC-20B	160	250	315	400	630	800
EHA	3P	4P	500VAC	AC-21A/AC-21B	160	250	315	400	630	800
EHA	3P	4P	500VAC	AC-22A/AC-22B	160	250	315	400	630	800
EHA	3P	4P	500VAC	AC-23A/AC-23B	160	250	315	400	630	800
EHA	3P	4P	690VAC	AC-20A/AC-20B	160	250	315	400	630	800
EHA	3P	4P	690VAC	AC-21A/AC-21B	160	250	315	400	630	800
EHA	3P	4P	690VAC	AC-22A/AC-22B	160	250	315	400	630	800
EHA	3P	4P	690VAC	AC-23A/AC-23B	160	250	315	400	630	800
EHA	3P	4P	800VAC	AC-20A/AC-20B	160	250	315	400	630	800
EHA	3P	4P	800VAC	AC-21A/AC-21B	160	250	315	400	630	800
EHA	3P	4P	800VAC	AC-22A/AC-22B	160	250	315	400	630	800
EHA	3P	4P	800VAC	AC-23A/AC-23B	160	250	315	400	630	800
The short-circuit capacity is between 1000 and 1500VDC (no protection)										
Rated short time withstand current Icw 1s (kAeff)				Icw	8	8	8	11	11	11
Rated short-circuit making capacity Icm(kA peak)- 60 ms				Icm	22	22	22	22	22	22
Cable										
Recommended Cu rigid cable cross section(mm)					70	120	185	240	2x185	2x240
Recommended Cu busbar width(mm)					20	20	20	25	25	25
Mechanical characteristics										
Durability (number of operating cycles)					8000	8000	8000	8000	8000	8000
Number of cycles of operation with current					1000	1000	1000	1000	1000	1000

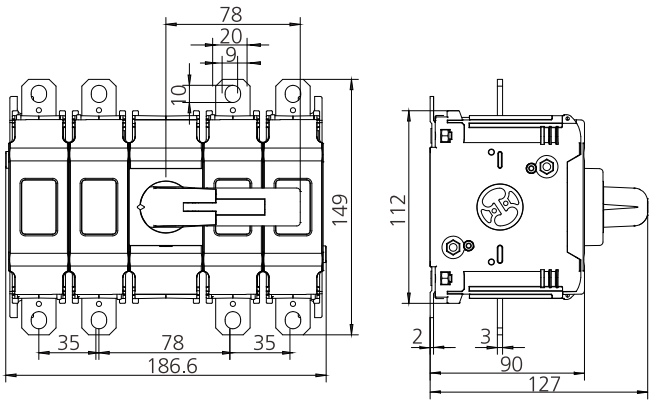
EHA High Voltage AC Disconnector

Dimensions

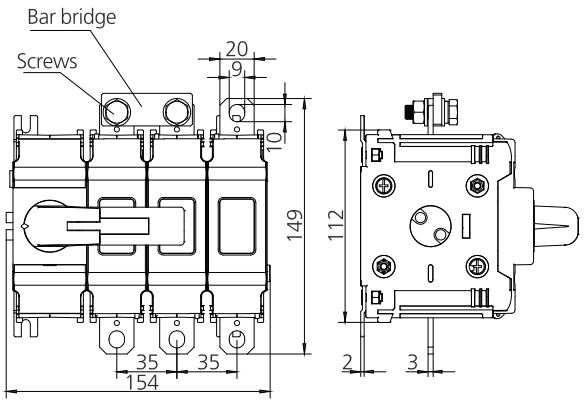
EHA-DB315R-02



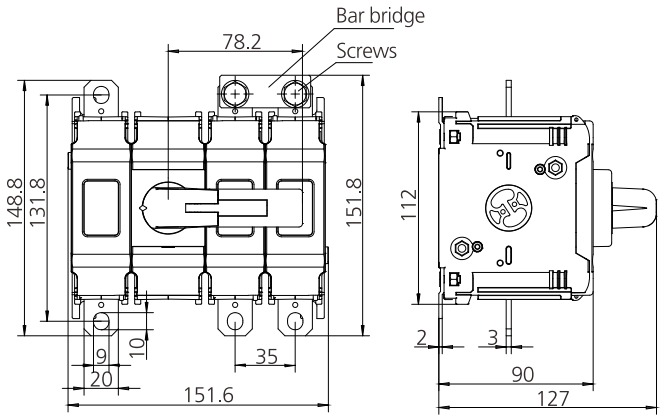
EHA-DB315R-22



EHA-DB315R-03



EHA-DB315R-12



AC MINIATURE CIRCUIT BREAKER

ESM1-63(10kA)MCB

Standard:IEC60898-1

- IEC 60898 10kA
- MCB can 100% pass 10kA
- Over 20,000 cycles mechanical and electrical endurance operation



Detail features

Fit for various connection terminal



Choice to use Busbar or cable in the same terminal, provides reliable connection

Red/Green indication



Clear indication of the ON/OFF switch status.

Select Code

E	S	M	1	-	63	/	□	□	/	□
1	2	3	4		4		5	6		7

Electrical Features		
Code	**Name**	**Description**
1	ASwich brand	E
2	AC	S
3	MCB	M
4	Series	1:Series1
5	Frame Current	63
6	Tripping curve	B / C / D
7	Rated current	1:1A 2:2A 3:3A 4:4A 6:6A 10:10A 16:16A 20:20A 25:25A 32:32A 40:40A 50:50A 63:63A
8	Poles	1:1P 2:2P 3:3P 4:4P

Technical Data

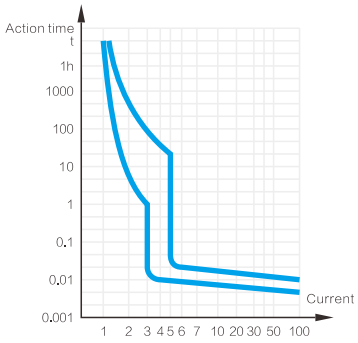
Electrical Features	
Rated current (In)	1-63A
Pole	1P 2P 3P 4P
Rated voltage (Ue)	1P: 240/415V~ 2/3/4P:415~
Insulation voltage (Ui)	500V
Rated frequency	50/60Hz

Rated breaking capacity (Icn)	10kA
Rated operating short circuit breaking capacity (Ics)	7.5kA
Energy limiting class	3
Tripping curve	B C D
Electrical and Mechanical life	20000

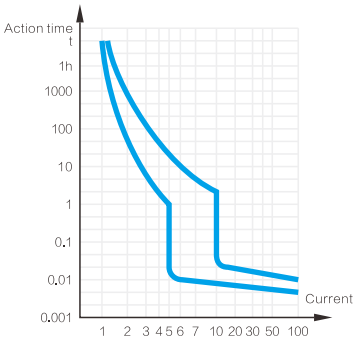
Combination with accessories	
Auxillary contact	YES
Alarm contact	YES
Shunt release	YES
Under voltage release	YES

ESM1-63(10kA)MCB

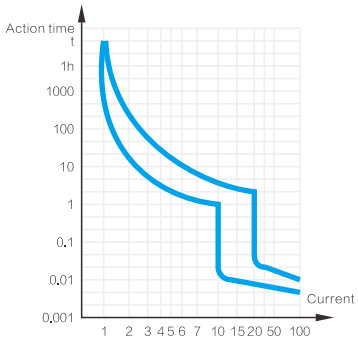
Standard: IEC60898-1



B curve



C curve

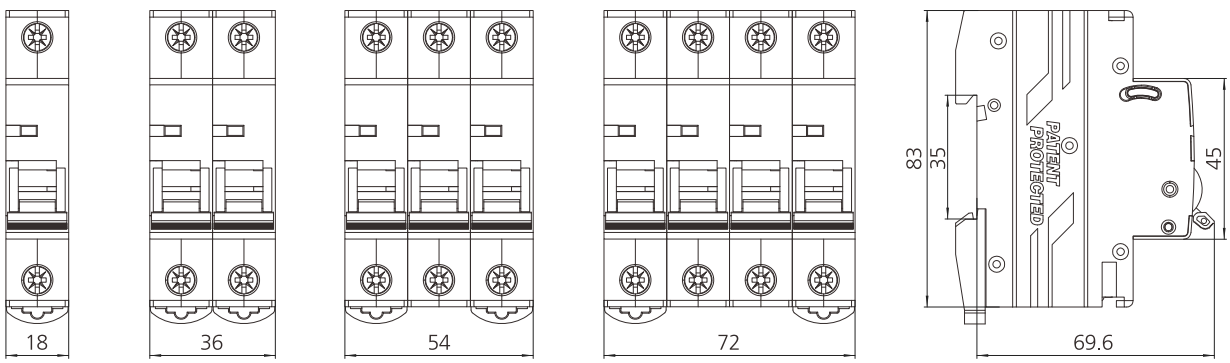


D curve

Overload Current Protection Characteristics						
Test Procedure	**Type**	**Test Current**	**Initial State**	**Tripping or Non-tripping Time Limit**	**Expected Result**	**Remark**
A	B.C.D	1.13In	Cold	t≤1h	no tripping	
B	B.C.D	1.45In	After test A	t≤1h	tripping	The current steadily rise to the specified value within 5s
C	B.C.D	2.55In	Cold	1s<t<60s(In≤32A) 1s<t<120s(In > 32A)	tripping	
D	B	3In	Cold	t≤0.1s	no tripping	Turn on the auxiliary switch to close the current
	C	5In				
	D	10In				
E	B	5In	Cold	t≤0.1s	tripping	Turn on the auxiliary switch to close the current
	C	10In				
	D	20In				

Installation	
Contact position indicator	Yes
Protection degree	IP20
Reference temperature for setting of thermal element	30°C
Ambient temperature	−5~+40°C and its average over a period of 24h does not exceed +35°C
Storage temperature	−25~+ 70°C
Terminal connection type	Cable/U-type busbar/Pin -type busbar
Terminal size top/bottom for cable	25mm^2
Tightening torque	2.5N·m
Mounting	On DIN rail FN 60715 (35mm) by means of fast clip device
Connection	Top and bottom

Dimensions(mm)



AC MINIATURE CIRCUIT BREAKER

ESM2-63(6kA)MCB

Standard:IEC60898-1

- All mass production products can pass 6kA
- Long mechanical and electrical endurance over 20000 cycles operation



Detail features

Din Rail Mounting



Two step snapping mechanism for easy & efficient mountion in 35mm DIN Rail steadily

Red/Green indication



Clear indication of the ON/OFF switch status.

Select Code

E	S	M	2	-	63	/	□	□	/	□
1	2	3	4		5		6	7		8

Electrical Features		
Code	**Name**	**Description**
1	ASwich brand	E
2	AC	S
3	MCB	M
4	Series	2:Series2
5	Frame Current	63
6	Tripping curve	B / C / D
7	Rated current	1:1A 2:2A 3:3A 4:4A 6:6A 10:10A 16:16A 20:20A 25:25A 32:32A 40:40A 50:50A 63:63A
8	Poles	1:1P 2:2P 3:3P 4:4P

Technical Data

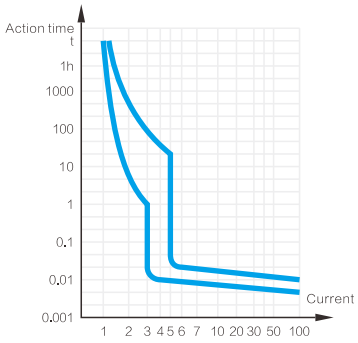
Electrical Features	
Rated current (In)	1-63A
Poles	1P 2P 3P 4P
Rated voltage (Ue)	1P: 240/415V~ 2/3/4P:415~
Insulation voltage (Ui)	500V
Rated frequency	50/60Hz

Rated breaking capacity (Icn)	6kA
Rated operating short circuit breaking capacity (Ics)	6kA
Energy limiting class	3
Tripping curve	B C D
Electrical and Mechanical life	20000

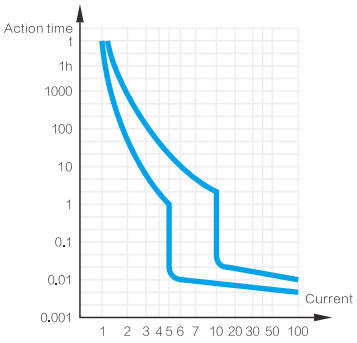
Combination with accessories	
Auxillary contact	YES
Alarm contact	YES
Shunt release	YES
Under voltage release	YES

ESM2-63(6kA)MCB

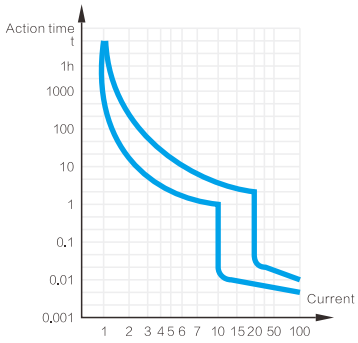
Standard: IEC60898-1



B curve



C curve

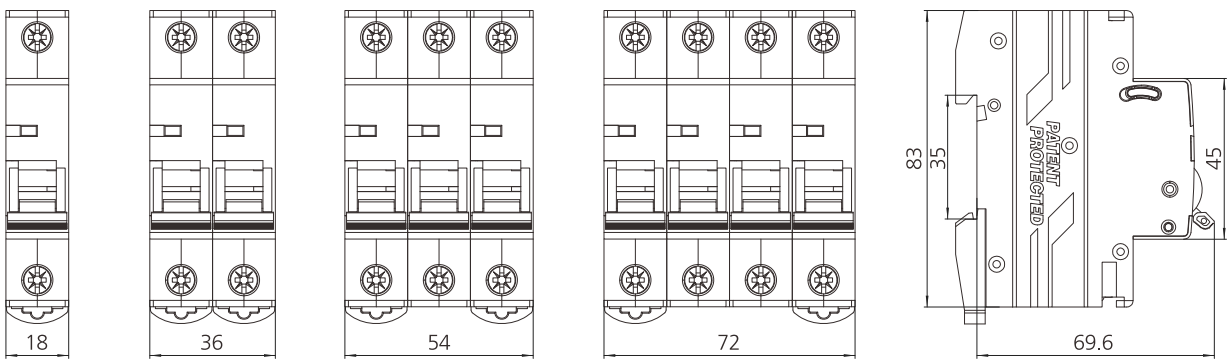


D curve

Overload Current Protection Characteristics						
Test Procedure	**Type**	**Test Current**	**Initial State**	**Tripping or Non-tripping Time Limit**	**Expected Result**	**Remark**
A	B.C.D	1.13In	Cold	t≤1h	no tripping	
B	B.C.D	1.45In	After test A	t≤1h	tripping	The current steadily rises to the specified value within 5s
C	B.C.D	2.55In	Cold	1s<t<60s(In≤32A) 1s<t<120s(In > 32A)	tripping	
D	B	3In	Cold	t≤0.1s	no tripping	Turn on the auxiliary switch to close the current
	C	5In				
	D	10In				
E	B	5In	Cold	t≤0.1s	tripping	Turn on the auxiliary switch to close the current
	C	10In				
	D	20In				

Installation	
Contact position indicator	Yes
Protection degree	IP20
Reference temperature for setting of thermal element	30°C
Ambient temperature	−5~+40°C and its average over a period of 24h does not exceed +35°C
Storage temperature	−25~+ 70°C
Terminal connection type	Cable/Pin -type busbar
Terminal size top/bottom for cable	25mm^2
Tightening torque	2.5N·m
Mounting	On DIN rail 60715 (35mm) by means of fast clip device
Connection	Top and bottom

Dimensions(mm)



AC MINIATURE CIRCUIT BREAKER

ESM1-32(1P+N)MCB

Standard:IEC60898-1 RoHS

- All mass production products can pass 4.5kA
- Passed NF test
- Long mechanical and electrical endurance over 20000 cycles operation



Detail features

Air circulation



When two poles are placed adjacent to each other,these channels form a tunnel resulting in effective air circulation around individual poles

Red/Green indication



Clear indication of the ON/OFF operational status of device

Select Code

E	S	M	1	-	32	/	□	□	/	□
1	2	3	4		5		6	7		8

Electrical Features		
Code	**Name**	**Description**
1	ASwich brand	E
2	AC	S
3	MCB	M
4	Series	1:Series1
5	Frame Current	32
6	Tripping curve	B / C / D
7	Rated current	1:1A 2:2A 3:3A 4:4A 6:6A 10:10A 16:16A 20:20A 25:25A 32:32A
8	Poles	1P+N

Technical Data

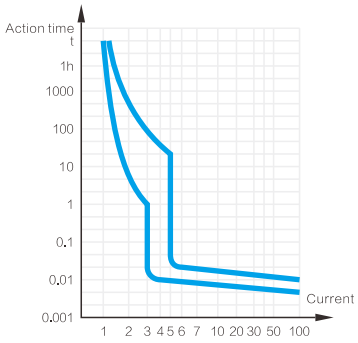
Electrical Features	
Rated current (In)	1-32A
Poles	1P+N
Rated voltage (Ue)	240~
Insulation voltage (Ui)	500V
Rated frequency	50/60Hz

Rated breaking capacity (Icn)	4.5kA
Rated operating short circuit breaking capacity (Ics)	4.5kA
Tripping curve	B C D
Electrical and Mechanical life	20000

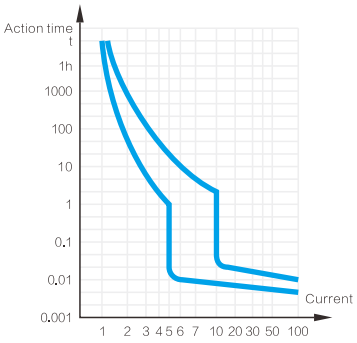
Combination with accessories	
Auxillary contact	YES
Alarm contact	YES
Shunt release	YES
Under voltage release	YES

ESM1-32(1P+N)MCB

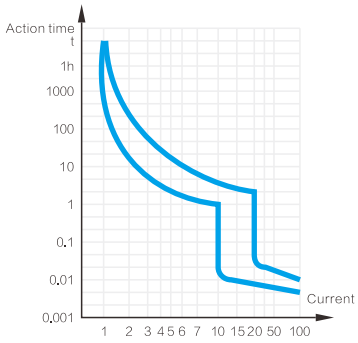
Standard: IEC60898-1



B curve



C curve

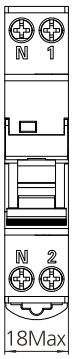


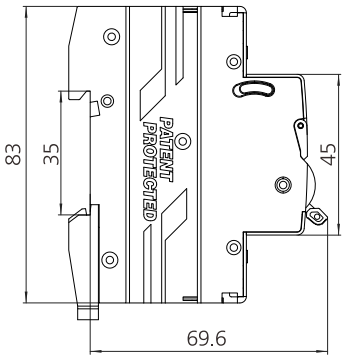
D curve

Overload Current Protection Characteristics						
Test Procedure	**Type**	**Test Current**	**Initial State**	**Tripping or Non-tripping Time Limit**	**Expected Result**	**Remark**
A	B.C.D	1.13In	Cold	t≤1h	no tripping	
B	B.C.D	1.45In	After test A	t≤1h	tripping	The current steadily rises to the specified value within 5s
C	B.C.D	2.55In	Cold	1s<t<60s(In≤32A)	tripping	
D	B	3In	Cold	t≤0.1s	no tripping	Turn on the auxiliary switch to close the current
	C	5In				
	D	10In				
E	B	5In	Cold	t≤0.1s	tripping	Turn on the auxiliary switch to close the current
	C	10In				
	D	20In				

Installation	
Contact position indicator	Yes
Protection degree	IP20
Reference temperature for setting of thermal element	30°C
Ambient temperature	−5~+40°C and its average over a period of 24h does not exceed +35°C
Storage temperature	−25~+ 70°C
Terminal connection type	Cable/Pin -type busbar
Terminal size top/bottom for cable	10mm^2
Tightening torque	1.2N·m
Mounting	On DIN rail FN 60715 (35mm) by means of fast clip device
Connection	Top and bottom

Dimensions(mm)





AC RESIDUAL CURRENT CIRCUIT BREAKER

ESL1-63 RCCB

- Comply with standard IEC61008-1



Detail features

Din Rail Mounting



Two step snapping mechanism for easy & efficient mountion in 35mm DIN Rail steadily

Test button



Testing product's performance regularly

Select Code

E	S	L	1	-	63	/	□	/	□	□	/	□
1	2	3	4		5		6		7	8		9

Electrical Features		
Code	**Name**	**Description**
1	ASwich brand	E
2	AC	S
3	RCCB	L
4	Series	1:Series1
5	Frame current	63
6	Rated current	25:25A 40:40A 63:63A 80:80A
7	Poles	2:2P 4:4P
8	Type	A / AC / G / S / A+S
9	Mode	E:Electronic M:Electromagnetic

Technical Data

Electrical Features	
Mode	Electromagnetic / Electronic
Type	A / AC / G / S / A+S
Rated current (In)	25/40/63/80A
Poles	2P 4P
Rated voltage (Ue)	2P:240V~ 4P:415V~
Rated frequency	50/60Hz

Insulation voltage (Ui)	500V
Rated residual operating current (IΔn)	30.100.300mA
Residual residual making and breaking capacity (IΔm)	1000A
Short-circuit current Inc=IΔc	10kA
SCPD fuse	10000
Electrical and Mechanical life	4000
Operating time	≤0.1s

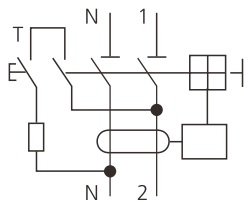
ESL1-63 RCCB

Standard: IEC61008-1

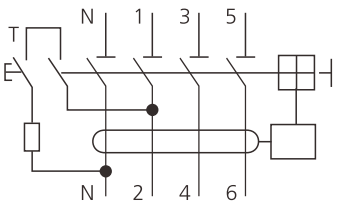
Overload Current Protection Characteristics			
Type	**Tripping current IΔ/A**		
AC		0.5IΔn<IΔ<IΔn	
A	Legging Angle	IΔn<0.01A	IΔn<0.01A
	0°	0.35IΔn<IΔ<1.4Δn	0.35IΔn<IΔ<2Δn
	90°	0.25IΔn<IΔ<1.4Δn	0.25IΔn<IΔ<2Δn
	135°	0.11IΔn<IΔ<1.4Δn	0.11IΔn<IΔ<2Δn

Installation	
Fault current indicator window	Yes
Protection degree	IP20
Ambient temperature	−5~+40°C and its average over a period of 24h does not exceed +35°C
Storage temperature	−25~+ 70°C
Terminal connection type	Cable/U-type busbar/Pin -type busbar
Terminal size top / bottom for cable	25mm²
Tightening torque	2.5 N·m
Mounting	On DIN rail FN 60715 (35mm) by means of fast clip device
Connection	Top and bottom

The wiring diagram

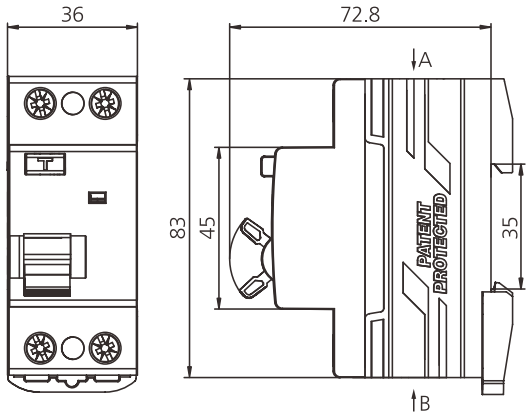


2P

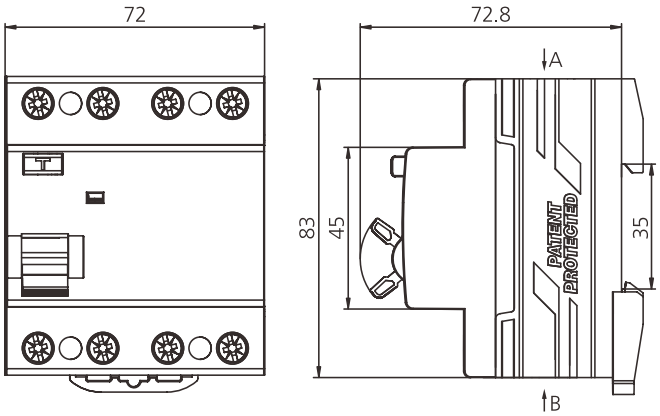


4P

Dimensions(mm)



2P



4P

ESRO1-50 RCBO

- Comply with standard IEC61009-1





Detail features

IP 20 Degree Protection



Terminals are finger touch proof.
Prevent electrical shock by accidental touch

Red/Green indication



Clear indication fo the ON/OFF operational status of device

Select Code

E	S	RO	1	- 50 / □	□ / □ / □
1	2	3	4	5 6	7 8 9

Electrical Features		
Code	**Name**	**Description**
1	ASwich brand	E
2	AC	S
3	RCBO	RO
4	Series	1 : Series1
5	Frame Current	50
6	Tripping curve	B / C / D
7	Rated current	6:6A 10:10A 16:16A 20:20A 25:25A 32:32A 40:40A 50:50A
8	Poles	1P+N
9	Type	A:A type AC:AC type

Technical Data

Electrical Features	
Mode	Electronic
Type	A / AC
Tripping curve	B C D
Pole No.	1P+N
Rated voltage	240V~
Rated frequency	50/60Hz

Rated current	6-50A
Rated residual operating current(IΔn)	30.100.300mA
Residual operating current range	0.5 IΔn~IΔn
Rated conditional short-circuit current(Inc)	10000A
Energy limiting	class 3
Electrical and Mechanical life	20000

ESRO1-50 RCBO

Standard: IEC61009-1

Overload Current Protection Characteristics						
Test Procedure	Type	Test Current	Initial State	Tripping or Non-tripping Time Limit	Expected Result	Remark
A	B.C.D	1.13In	Cold	t≤1h	no tripping	
B	B.C.D	1.45In	After test A	t≤1h	tripping	The current steadily rises to the specified value within 5s
C	B.C.D	2.55In	Cold	1s<t<60s	tripping	
D	B	3In	Cold	t≤0.1s	no tripping	Turn on the auxiliary switch to close the current
	C	5In				
	D	10In				
E	B	5In	Cold	t≤0.1s	tripping	Turn on the auxiliary switch to close the current
	C	10In				
	D	20In				

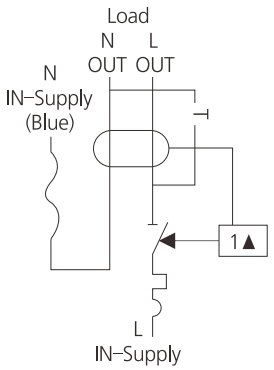
Residual Current Operating Breaking Time							
Type	In/A	IΔn/A	Residual Current(IΔ)Is Corresponding To The Following Breaking Time(S)				
AC type	Any value	Any value	In	2In	5In	5A.10A.20A.50A.100A.200A.500A	
A type		> 0.01	1.4In	2.8In	7In		
			0.3	0.15	0.04	0.04	Max breaking time

The general type RCBO whose current IΔn is 0.03mA or less can use 0.25A instead of 5IΔn.

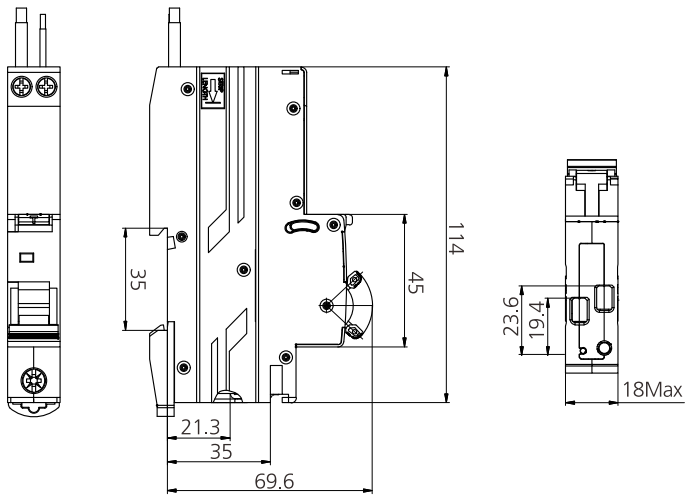
Installation

Fault current indicator window	Yes
Protection degree	IP20
Ambient temperature	−5~+40°C and its average over a period of 24h does not exceed +35°C
Storage temperature	−25~+ 70°C
Terminal connection type	Cable / U-type busbar / Pin-type busbar
Terminal size top for cable	10mm²
Terminal size bottom for cable	25mm²
Tightening torque	2.5N·m/1.2N·m
Mounting	On DIN rail FN 60715 (35mm) by means of fast clip device
Connection	Top and bottom

The wiring diagram

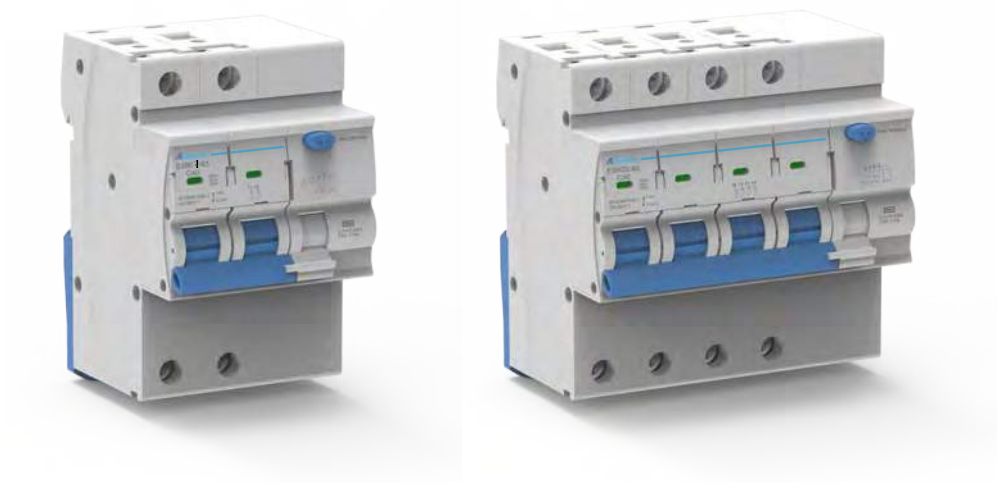


Dimensions(mm)



ESRO2-63 RCBO

- Adopt integrated circuits
- Breaking capacity 6kA/10kA
- Comply with standard IEC61009-1



Detail features

Fit for various connection terminal



Choice to use Busbar or cable in the same terminal cage,provides reliable termination

Test button



T: press test button monthly

Select Code

E	S	RO	2	- 63	/ □	□ / □	□ / □
1	2	3	4	5	6	7 8	9 10

Electrical Features		
Code	**Name**	**Description**
1	ASwich brand	E
2	AC	S
3	RCBO	RO
4	Series	2 : Series2
5	Frame Current	63
6	Tripping curve	B / C / D
7	Rated current	6:6A 10:10A 16:16A 20:20A 25:25A 32:32A 40:40A 50:50A 63:63A
8	Poles	2:2P 4:4P
9	Type	A:A type AC:AC type B:B type
10	Mode	E:Electronic M:Electromagnetic

Technical Data

Electrical Features	
Mode	Electronic / Electromagnetic
Type	A / AC / B
Tripping curve	B C D
Pole No.	2P / 4P
Rated voltage	230/400V~
Rated frequency	50/60Hz

Rated current	6-63A
Rated residual operating current(IΔn)	30.100.300mA
Residual operating current range	0.5 IΔn~IΔn
Rated conditional short-circuit current(Inc)	6000A / 10000A
Energy limiting	class 3
Electrical and Mechanical life	20000

ESRO2-63 RCBO

Standard: IEC61009-1

Overload Current Protection Characteristics						
Test Procedure	Type	Test Current	Initial State	Tripping or Non-tripping Time Limit	Expected Result	Remark
A	B.C.D	1.13In	Cold	t≤1h	no tripping	
B	B.C.D	1.45In	After test A	t≤1h	tripping	The current steadily rises to the specified value within 5s
C	B.C.D	2.55In	Cold	1s<t<60s	tripping	
D	B	3In	Cold	t≤0.1s	no tripping	Turn on the auxiliary switch to close the current
	C	5In				
	D	10In				
E	B	5In	Cold	t≤0.1s	tripping	Turn on the auxiliary switch to close the current
	C	10In				
	D	20In				

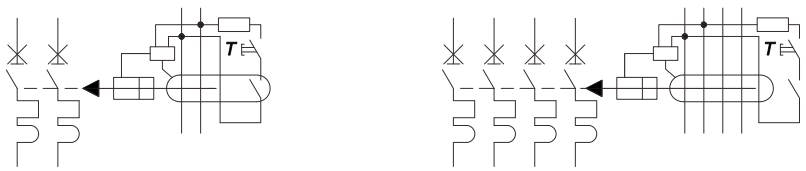
Residual Current Operating Breaking Time							
Type	In/A	IΔn/A	Residual Current(IΔ)Is Corresponding To The Following Breaking Time(S)				
AC type	Any value	Any value	In	2In	5In	5A.10A.20A.50A.100A.200A.500A	
A type		> 0.01	1.4In	2.8In	7In		
			0.3	0.15	0.04	0.04	Max breaking time

The general type RCBO whose current IΔn is 0.03mA or less can use 0.25A instead of 5IΔn.

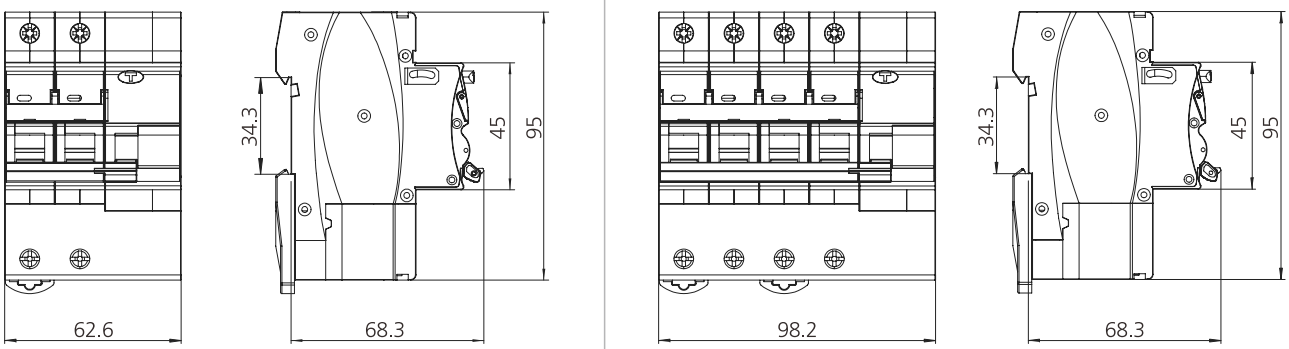
Installation	
Fault current indicator window	Yes
Protection degree	IP20
Ambient temperature	−5~+40°C and its average over a period of 24h does not exceed +35°C
Storage temperature	−25~+ 70°C

Terminal connection type	Cable / U-type busbar / Pin-type busbar
Terminal size top for cable	25mm²
Tightening torque	2.5N·m
Mounting	On DIN rail FN 60715 (35mm)
Connection	Top and bottom

The wiring diagram



Dimensions(mm)



2P 4P

ESRO3-40 RCBO

- Comply with standard IEC61009-1



Detail features

Air circulation



When two poles are placed adjacent to each other,these channels form a tunnel resulting in effective air circulation around individual poles

Bi-connect Termination Possible



Choice to use Busbar and/or cable in the same terminal,provides reliable termination

Select Code

E	S	RO	3	- 40	/ □	□	/ □	/ □
1	2	3	4	5	6	7	8	9

Electrical Features		
Code	**Name**	**Description**
1	ASwich brand	E
2	AC	S
3	RCBO	RO
4	Series	3:Series3
5	Frame Current	40
6	Tripping curve	B / C / D
7	Rated current	6:6A 10:10A 16:16A 20:20A 25:25A 32:32A 40:40A
8	Poles	1P+N
9	Type	A:A type AC:AC type

Technical Data

Electrical Features	
Mode	Electronic
Type	A / AC
Tripping curve	B C D
Pole No.	1P+N
Rated voltage	240V~
Rated frequency	50/60Hz

Rated current	6-40A
Rated residual operating current(IΔn)	30.100.300mA
Residual operating current range	0.5 IΔn~IΔn
Rated conditional short-circuit current(Inc)	6000A
Energy limiting	class 3
Electrical and Mechanical life	20000

ESRO3-40 RCBO

Standard: IEC61009-1

Overload Current Protection Characteristics						
Test Procedure	Type	Test Current	Initial State	Tripping or Non-tripping Time Limit	Expected Result	Remark
A	B.C.D	1.13In	Cold	t≤1h	no tripping	
B	B.C.D	1.45In	After test A	t≤1h	tripping	The current steadily rises to the specified value within 5s
C	B.C.D	2.55In	Cold	1s<t<60s	tripping	
D	B	3In	Cold	t≤0.1s	no tripping	Turn on the auxiliary switch to close the current
	C	5In				
	D	10In				
E	B	5In	Cold	t≤0.1s	tripping	Turn on the auxiliary switch to close the current
	C	10In				
	D	20In				

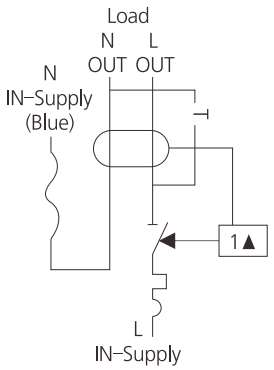
Residual Current Operating Breaking Time							
Type	In/A	IΔn/A	Residual Current(IΔ)Is Corresponding To The Following Breaking Time(S)				
AC type	Any value	Any value	In	2In	5In	5A.10A.20A.50A.100A.200A.500A	
A type		> 0.01	1.4In	2.8In	7In		
			0.3	0.15	0.04	0.04	Max breaking time

The general type RCBO whose current IΔn is 0.03mA or less can use 0.25A instead of 5IΔn.

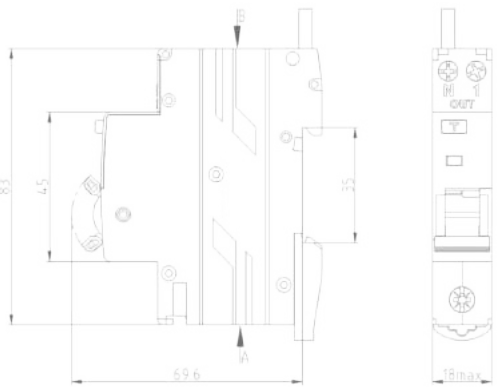
Installation

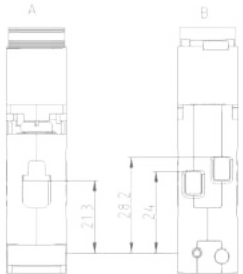
Fault current indicator window	Yes
Protection degree	IP20
Ambient temperature	−5~+40°C and its average over a period of 24h does not exceed +35°C
Storage temperature	−25~+ 70°C
Terminal connection type	Cable / U-type busbar / Pin-type busbar
Terminal size top for cable	10mm²
Terminal size bottom for cable	25mm²
Tightening torque	2.5N·m/1.2N·m
Mounting	On DIN rail FN 60715 (35mm) by means of fast clip device
Connection	Top and bottom

The wiring diagram



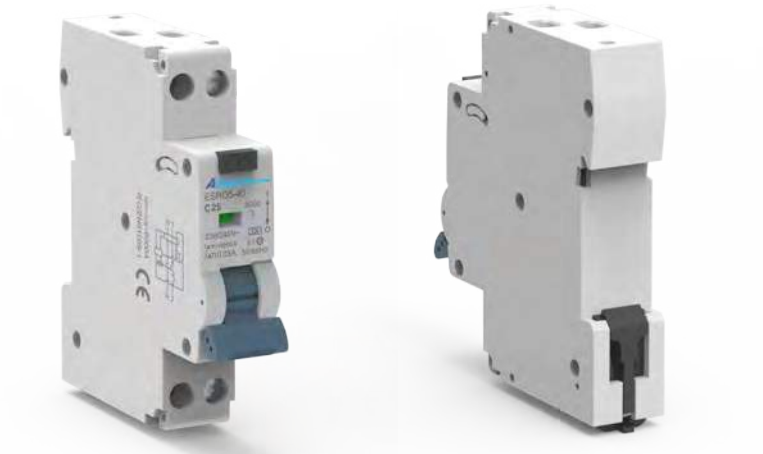
Dimensions(mm)





ESRO5-40 RCBO

- Comply with standard IEC61009-1
- Breaking capacity 6kA



Detail features

Din Rail Mounting



Two step snapping mechanism for easy & efficient mountion in 35mm DIN Rail steadily

Test button



Testing product's performance regularly

Select Code

E	S	RO	3	- 40	/ □	□	/ □	/ □
1	2	3	4	4	5	6	7	8

Electrical Features		
Code	**Name**	**Description**
1	ASwich brand	E
2	AC	S
3	RCBO	RO
4	Series	5:Series5
5	Frame Current	40
6	Tripping curve	B / C
7	Rated current	6:6A 8:8A 10:10A 13:13A 16:16A 20:20A 25:25A 32:32A 40:40A
8	Poles	1:1P+N
9	Type	A:A type AC:AC type

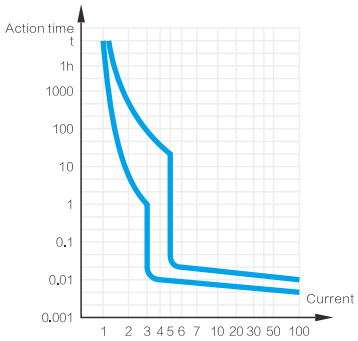
Technical Data

Electrical Features	
Mode	Electronic
Type	A / AC
Rated current(In)	6/8/10/13/16/20/25/32/40A
Pole No.	1P+N
Rated voltage	240V~
Rated frequency	50/60Hz
Insulation voltage(Ui)	500V

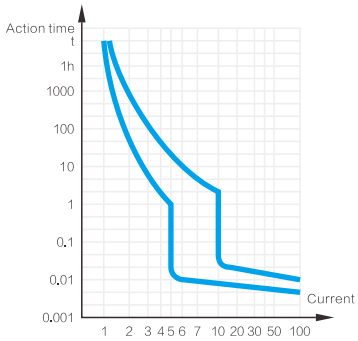
Rated residual operating current(IΔn)	10.30.100.300mA
Rated breaking capacity	6000A
Energy limiting	Class 3
Rated impulse withstand voltage(1.5/50) Uimp	4000V
Dielectric test voltage at ind.Freq.for 1 min	2000V
Pollution degree	2
Thermo-magnetic release characteristic	B.C

ESRO5-40 RCBO

Standard: IEC61009-1



B curve



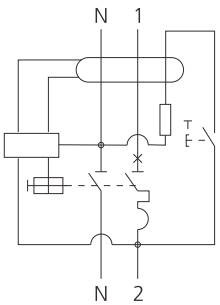
C curve

Thermal Tripping						
As per IEC 60898	NO tripping current	Tripping current I_2	Time Limits t	Hold current I_4	Trip current I_5	Trip Limits t
B Curve	1.13x I_N	1.45x I_N	⩾1h	3x I_N	5x I_N	⩾1s
			< 1h			< 1s
C Curve	1.13x I_N	1.45x I_N	⩾1h	5x I_N	10x I_N	⩾1s
			< 1h			< 1s

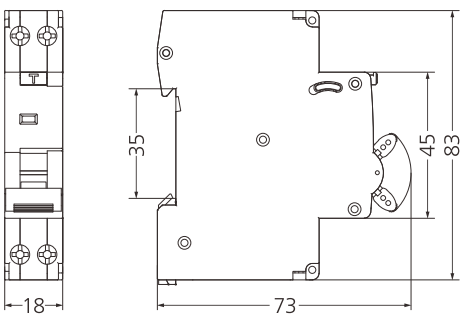
Residual Current Circuit Breaker Tripping Current Range			
Type	Tripping current IΔ/A		
AC		0.5IΔn<IΔ<IΔn	
A	Legging Angle	IΔn<0.01A	IΔn<0.01A
	0°	0.35IΔn<IΔ<1.4Δn	0.35IΔn<IΔ<2Δn
	90°	0.25IΔn<IΔ<1.4Δn	0.25IΔn<IΔ<2Δn
	135°	0.11IΔn<IΔ<1.4Δn	0.11IΔn<IΔ<2Δn

Installation	
Electrical/Mechanical life	4000/10000 Cycles
Contact position indicator	Yes
Protection degree	IP20
Reference temperature for setting of thermal element	30°C
Ambient temperature	−5~+40°C and its average over a period of 24h does not exceed +35°C
Storage temperature	−25~+ 70°C
Terminal connection type	Cable/Pin -type busbar
Terminal size top/bottom for cable	16mm² 18-5AWG
Terminal size top/bottom for busbar	16mm² 18-5AWG
Tightening torque	2.5N·m 22In-lbs
Mounting	On DIN rail FN 60715 (35mm) by means of fast clip device
Connection	Power supply from top

The wiring diagram



Dimensions(mm)



ESRO7-40 RCBO

- Breaking capacity 6kA/10kA
- Long mechanical and electrical endurance over 20000 cycles operation
- N pole can be switched



Detail features

Cable/Busbar connection



Free choice to connect by U-type/Pin-type busbar as well as cable

Clear and independent Indication



RCD part trip only when earth leakage occurs

Select Code

E	S	RO	7	- 40	/ □	□	/ □	/ □
1	2	3	4	5	6	7	8	9

Electrical Features		
Code	Name	Description
1	ASwich brand	E
2	AC	S
3	RCBO	RO
4	Series	7:Series7
5	Frame Current	40
6	Tripping curve	B / C / D
7	Rated current	6:6A 10:10A 16:16A 20:20A 25:25A 32:32A 40:40A
8	Poles	1P+N
9	Type	A:A type AC:AC type

Technical Data

Electrical Features	
Mode	Electronic
Type	A / AC
Tripping curve	B C D
Pole No.	1P+N
Rated voltage	240V~
Rated frequency	50/60Hz

Rated current	6-40A
Rated residual operating current(IΔn)	30.100.300mA
Residual operating current range	0.5 IΔn~IΔn
Rated conditional short-circuit current(Inc)	6000A
Energy limiting	class 3
Electrical and Mechanical life	20000

ESRO7-40 RCBO

Standard: IEC61009-1

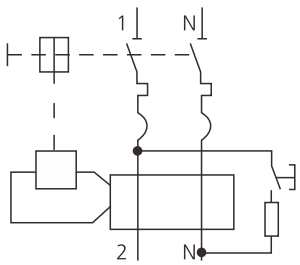
Overload Current Protection Characteristics						
Test Procedure	Type	Test Current	Initial State	Tripping or Non-tripping Time Limit	Expected Result	Remark
A	B.C.D	1.13In	Cold	t≤1h	no tripping	
B	B.C.D	1.45In	After test A	t≤1h	tripping	The current steadily rises to the specified value within 5s
C	B.C.D	2.55In	Cold	1s<t<60s	tripping	
D	B	3In	Cold	t≤0.1s	no tripping	Turn on the auxiliary switch to close the current
	C	5In				
	D	10In				
E	B	5In	Cold	t≤0.1s	tripping	Turn on the auxiliary switch to close the current
	C	10In				
	D	20In				

Residual Current Operating Breaking Time							
Type	In/A	IΔn/A	Residual Current(IΔ)Is Corresponding To The Following Breaking Time(S)				
AC type	Any value	Any value	In	2In	5In	5A.10A.20A.50A.100A.200A.500A	
A type		> 0.01	1.4In	2.8In	7In		
			0.3	0.15	0.04	0.04	Max breaking time

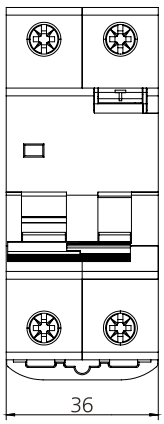
The general type RCBO whose current IΔn is 0.03mA or less can use 0.25A instead of 5IΔn.

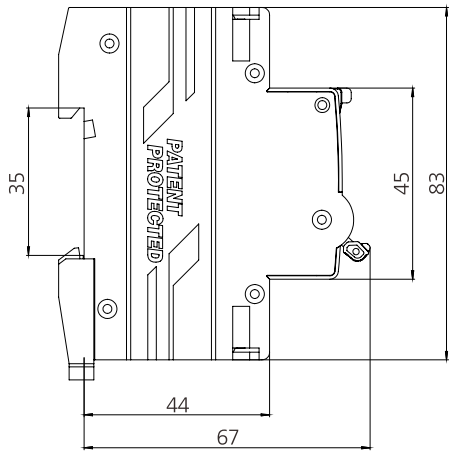
Installation	
Fault current indicator window	Yes
Protection degree	IP20
Ambient temperature	−5~+40°C and its average over a period of 24h does not exceed +35°C
Storage temperature	−25~+ 70°C
Terminal connection type	Cable
Terminal size top for cable	25mm²
Terminal size bottom for cable	25mm²
Tightening torque	2.5N·m
Mounting	On DIN rail FN 60715 (35mm) by means of fast clip device
Connection	Top and bottom

The wiring diagram



Dimensions(mm)





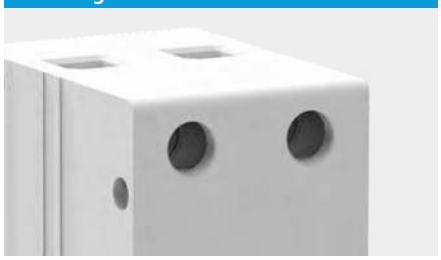
ESRO100-63 RCBO

- Cover and base material: DMC
- Mass production products can pass: 10kA
- Long mechanical and electrical endurance



Detail features

IP20 Degree Protection



Terminals are finger touch proof. Prevent electrical shock by accidental touch

Red/Green indication



With overload current,short circuit and residual current protection on each pole

Din Rail Mounting



Two step snapping mechanism for easy & efficient mountion in 35mm DIN Rail steadily

Technical Data

Electrical Features	
Mode	Electronic
Type	A / AC
Tripping curve	B C D
Pole No.	2P
Rated voltage	240V~
Rated frequency	50/60Hz

Rated current	6-63A
Rated residual operating current(IΔn)	30.100.300mA
Residual operating current range	0.5 IΔn~IΔn
Rated conditional short-circuit current(Inc)	10000A
Energy limiting	class 3
Electrical and Mechanical life	20000

ESRO100-63 RCBO

Standard: IEC61009-1

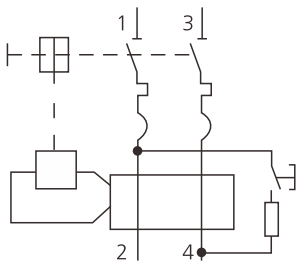
Overload Current Protection Characteristics						
Test Procedure	Type	Test Current	Initial State	Tripping or Non-tripping Time Limit	Expected Result	Remark
A	B.C.D	1.13In	Cold	t≤1h	no tripping	
B	B.C.D	1.45In	After test A	t≤1h	tripping	The current steadily rises to the specified value within 5s
C	B.C.D	2.55In	Cold	1s<t<60s	tripping	
D	B	3In	Cold	t≤0.1s	no tripping	Turn on the auxiliary switch to close the current
	C	5In				
	D	10In				
E	B	5In	Cold	t≤0.1s	tripping	Turn on the auxiliary switch to close the current
	C	10In				
	D	20In				

Residual Current Operating Breaking Time							
Type	In/A	IΔn/A	Residual Current(IΔ)Is Corresponding To The Following Breaking Time(S)				
AC type	Any value	Any value	In	2In	5In	5A.10A.20A.50A.100A.200A.500A	
A type		> 0.01	1.4In	2.8In	7In		
			0.3	0.15	0.04	0.04	Max breaking time

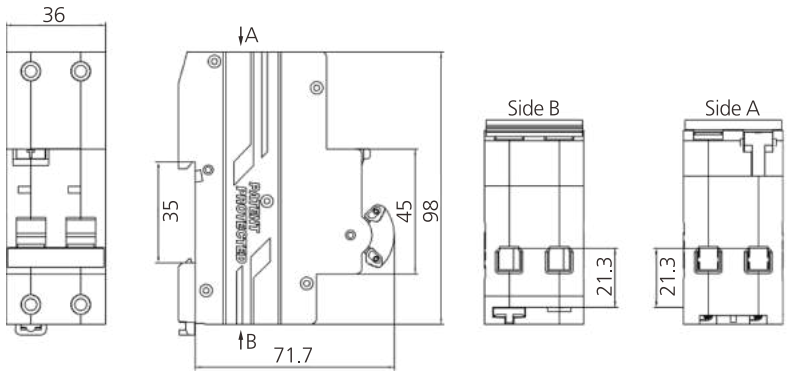
The general type RCBO whose current IΔn is 0.03mA or less can use 0.25A instead of 5IΔn.

Installation	
Fault current indicator window	Yes
Protection degree	IP20
Ambient temperature	−5~+40°C and its average over a period of 24h does not exceed +35°C
Storage temperature	−25~+ 70°C
Terminal connection type	Cable
Terminal size top for cable	25mm²
Terminal size bottom for cable	25mm²
Tightening torque	2.5N·m
Mounting	On DIN rail FN 60715 (35mm) by means of fast clip device
Connection	Top and bottom

The wiring diagram



Dimensions(mm)



AC Surge Protection Device

EAP SERIES AC SPD



Product Application

EAP Series Surge Protection Device was designed and manufactured, complying standard GB/T18802.1 /EN 61643-11 , Rated voltage 275V~、320V~、385V~, Maximum discharge current 40kA,High Energy Varistor, high effective for lightning protection.

Product Benefits

- Prewired Modular Complete Unit, Consisting of A Base Part and Plug-in Protection Modules.
- Plug-in Protection Module, Easily Installation and Maintainance.
- High Energy Varistor, Response Time Less Than 25 Nanosecond
- Optional Remote Signalling Contact(FM) for Monitoring Device (Floating Changeover Contact)

Select Code

E	A	P	320	/	□	-	□	□
1	2	3	4		5		6	7

Code	Name	Description
1	ASwich brand	E
2	AC	A
3	Product Code	P: Surge Protector
4	Voltage	275:275V 320:320V 385:385V
5	Imax	40:40kA
6	Pole	1:1P 2:2P 3:3P 4:4P 5:1+NPE 6:3+NPE
7	Remote signal	R: with RC Nil: with out RC

Appearance Introduction



EAP SERIES AC SPD

Technical Data



IEC Electrical				
Nominal AC Voltage (50/60Hz)	U_o/U_n	230V		
Maximum Continuous Operating Voltage (AC)	U_c	275V	320V	385V
Nominal Discharge Current (8/20 μs)	I_n	20kA	20kA	20kA
Maximum Discharge Current (8/20 μs)	I_{max}	40kA	40kA	40kA
Voltage Protection Level	U_p	1400V	1400V	1800V
Response Time	t_A	< 25ns		
Back-Up Fuse (max)		125A gL / gG		
Short-Circuit Current Rating (AC)	I_{SCCR}	25kA / 50kA		
TOV Withstand 5s	U_T	335V		
	U_T	440V		
TOV 120min	Mode	Safe Fail		
Number of Ports		1		
UL Electrical				
Maximum Continuous Operating Voltage (AC)	MCOV	275V	320V	385V
Voltage Protection Rating	VPR	900V	1000V	1200V
Nominal Discharge Current (8/20 μs)	I_n	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	I_{SCCR}	150kA	150kA	150kA
Mechanical & Environmental				
Operating Temperature Range	T_a	-40°F to +158°F [-40°C to +70°C]		
Permissible Operating Humidity	RH	5%...95%		
Atmospheric pressure and altitude		80k Pa ... 106k Pa / -500m ... 2000m		
Terminal Screw Torque	M_{max}	39.9 lbf·in [2.0~2.5 N·m]		
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)		
		35mm² (Solid, Stranded) / 25mm² (Flexible)		
Mounting		35mm DIN Rail, EN 60715		
Degree of Protection		IP20(built-in)		
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0		
Thermal Protection		Yes		
Operating State / Fault Indication		Green: ok / Red: failure		
Remote Contacts (RC)		Optional		
RC Switching Capacity		AC:250V / 0.5A; DC:250V / 0.1A; 125V / 0.2A; 75V / 0.5A		
RC Conductor Cross Section (max)		16AWG (Solid) / 1.5mm² (Solid)		

EAP SERIES AC SPD

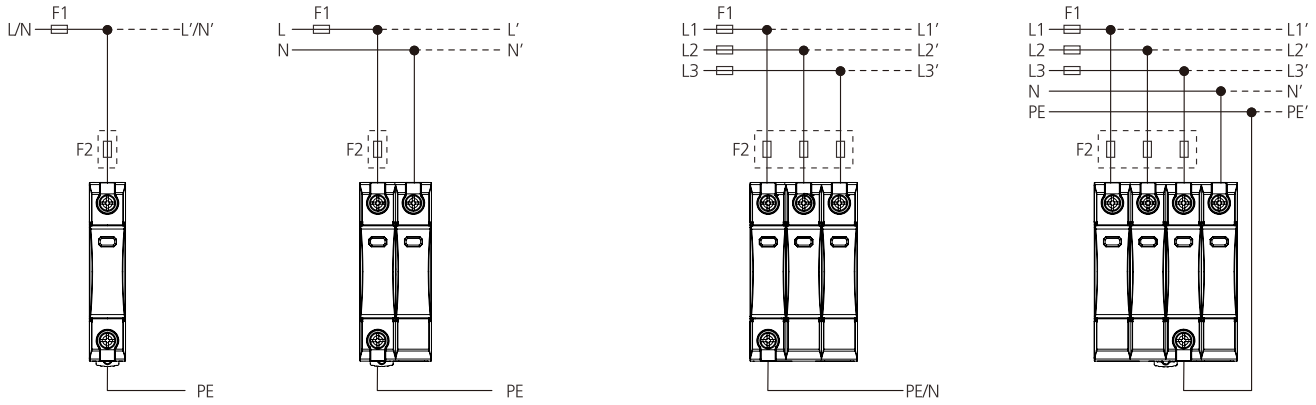
Technical Data



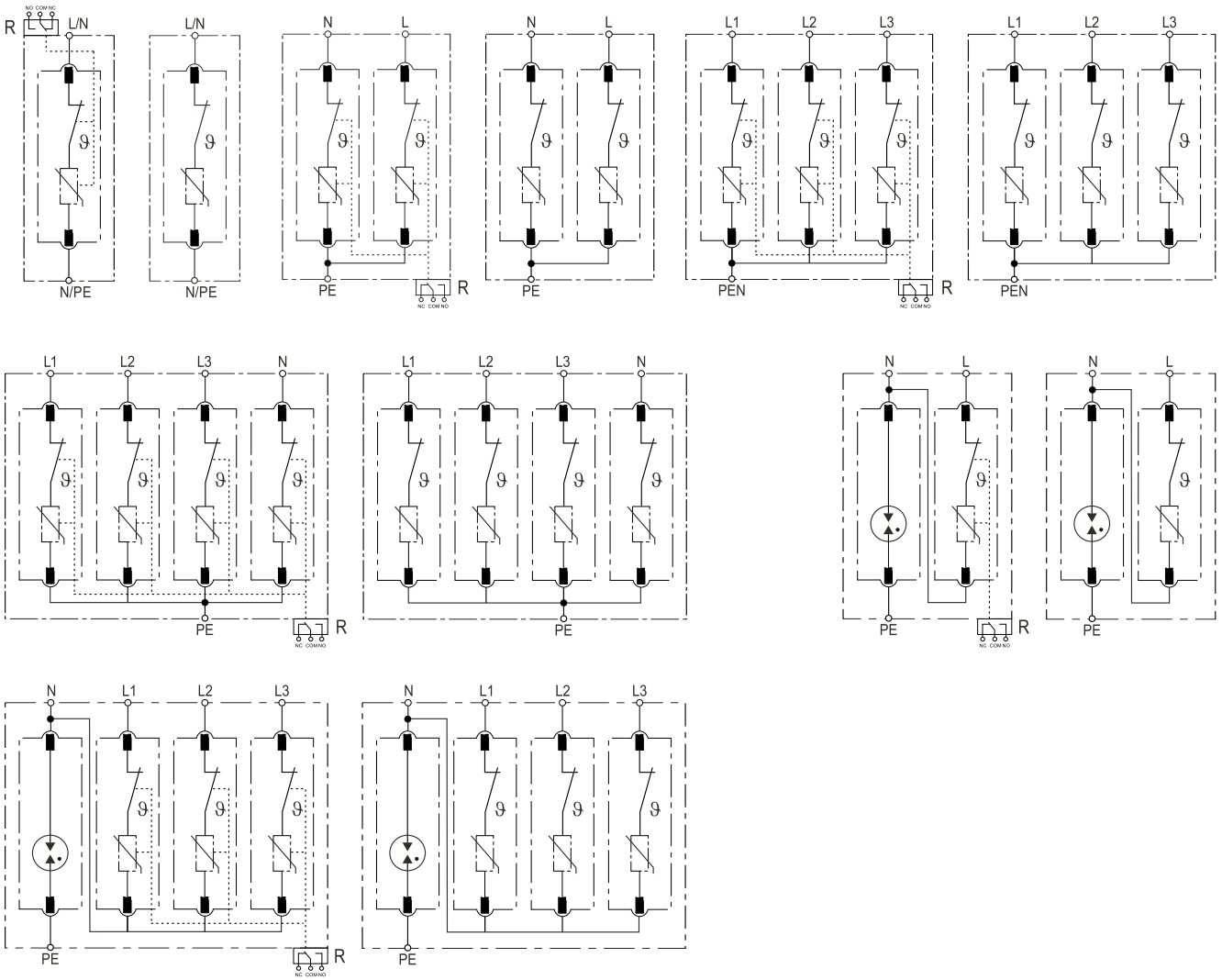
Product model				
IEC Electrical				
Nominal AC Voltage (50/60Hz)	U_o/U_n	230V		
Maximum Continuous Operating Voltage (AC)	U_c	275V/255V	320V/255V	385V/255V
Nominal Discharge Current (8/20 μs)	I_n	20kA/20kA	20kA/20kA	20kA/20kA
Maximum Discharge Current (8/20 μs)	I_{max}	40kA/40kA	40kA/40kA	40kA/40kA
Voltage Protection Level	U_p	< 1400V / 1400V	< 1400V / 1400V	< 1800V / 1400V
Response Time	t_A	< 25ns / 100ns		
Back-Up Fuse (max)		125A gL / gG		
Short-Circuit Current Rating (AC)	I_{SCCR}	25kA / 50kA		
TOV Withstand 5s	U_T	335V		
	U_T	440V		
TOV 120min	Mode	Safe Fail		
Number of Ports		1		
UL Electrical				
Maximum Continuous Operating Voltage (AC)	MCOV	275V	320V	385V
Voltage Protection Rating	VPR	900V	1000V	1200V
Nominal Discharge Current (8/20 μs)	I_n	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	I_{SCCR}	150kA	150kA	150kA
Mechanical & Environmental				
Operating Temperature Range	T_a	-40°F to +158°F [-40°C to +70°C]		
Permissible Operating Humidity	RH	5%...95%		
Atmospheric pressure and altitude		80k Pa ... 106k Pa / -500m ... 2000m		
Terminal Screw Torque	M_{max}	39.9 lbf·in [2.0~2.5 N·m]		
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)		
		35mm² (Solid, Stranded) / 25mm² (Flexible)		
Mounting		35mm DIN Rail, EN 60715		
Degree of Protection		IP20(built-in)		
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0		
Thermal Protection		Yes		
Operating State / Fault Indication		Green: ok / Red: failure		
Remote Contacts (RC)		Optional		
RC Switching Capacity		AC:250V / 0.5A; DC:250V / 0.1A; 125V / 0.2A; 75V / 0.5A		
RC Conductor Cross Section (max)		16AWG (Solid) / 1.5mm² (Solid)		

EAP SERIES AC SPD

Wiring Method

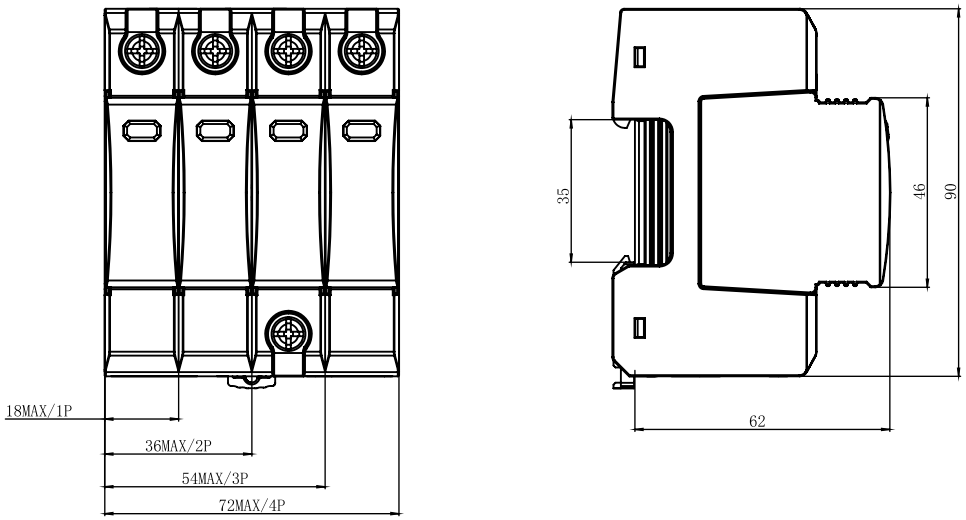


Principal Drawing

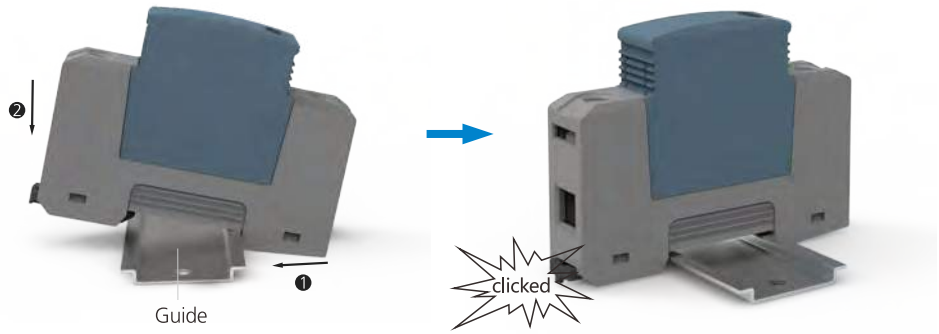


EAP SERIES AC SPD

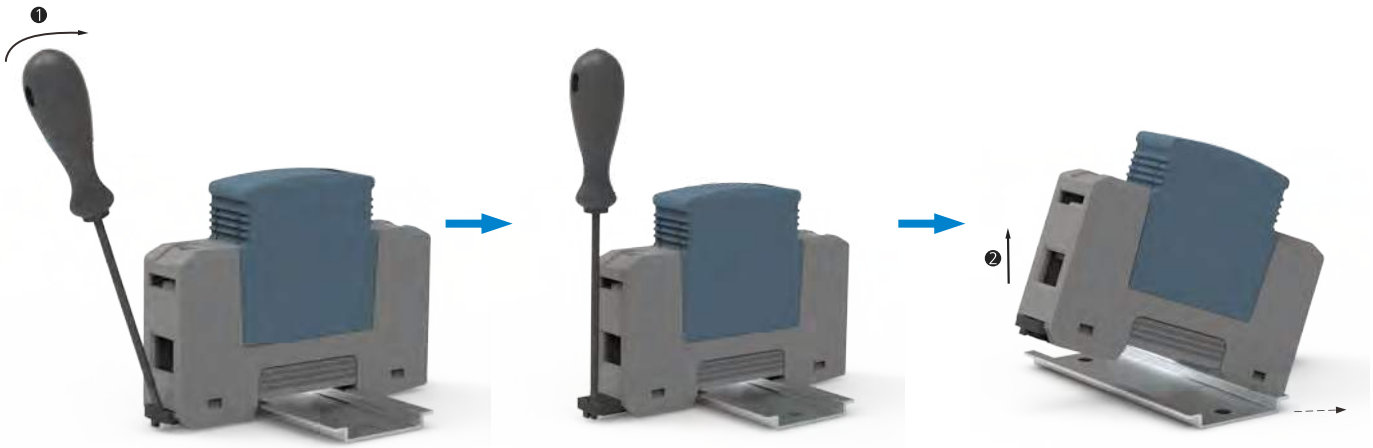
Dimensions(mm)



Installation



Disassemble

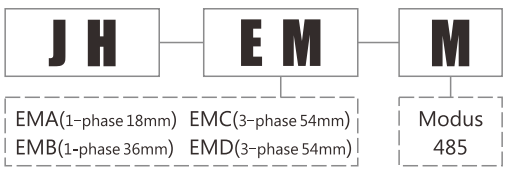


JHEM Energy Meter

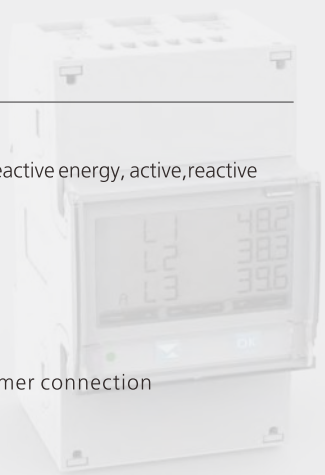
• Today, energy costs are impacting more and more importantly on the budgeting of any economic activity.
To ensure optimum energy efficiency, the only way is by measuring the energy consumption of different loads in departments, offices, and so on.For a simple house, the need is to check and prove its efficiency class by calculating and allocating the correct energy costs for heating and/or heat pump, whereas for a big building such as a hospital, a detailed energy profile of each ward or department and of each service (lifts, HVAC,heating, gas distribution system) is required.
The cost of manufacturing goods is also higher than ever,therefore measuring energy consumption in different types of production means that costs can be allocated and controlled in a more accurate manner.



• The JH-EM Series are very easy and straightforward to use. The exclusive TOUCH TECH display allows a greater and more rational use of available space, wear-free operation, and very simple access to all the available data, the set parameters and the programming procedure.



The ten advantages of the JH-EM



- Innovative and unique touch display
- LCD display with 7 to 8 digits according to the different models. Up to 3 variables in a single page. Active and reactive energy, active,reactive and apparent power, power demand and peak, currents, voltages, power factors and frequency are available.
- LCD backlight with self-switching off
- Single-phase energy analysers with extended direct current inputs from 45A to 100A
- Single-phase energy analysers with RS485 Modbus communication
- Integrated M-Bus communication
- Single-phase energy meter with electromechanical display
- Dual tariff management
- Only a two DIN modules housing for a three-phase energy analyser with external current transformer connection
- Only a three DIN modules housing for a three-phase direct connection energy analyser

TOUCH TECH display

- The JH-EM are the first energy analysers in the market to have the TOUCH TECH system, a display-integrated touch key-pad. The TOUCH TECH display makes page scrolling and programming simpler and more straightforward, avoiding all the issues related to mechanical keys. In this way the LCD area, backlit after the first touch, can display a complete set of variables and data.

Compact size, extended current inputs

- Thanks to their innovative measuring technique, the JH-EM can manage a high direct current in a very compact housing, with an extended accuracy range.The nominal current of the 1-DIN module-housing JH-EMAM is 45A; JH-EMBM can reach 100A (1-phase) in just 2-DIN modules, JH-EMDM up to 65A (3-phase) in a 3-DIN modules. The JH-EMCM is a compact 3-phase analyser by external current transformers.

Developed to communicate

- Together with accurate measurement and a clear data display, communication is the most valuable benefit of the JH-EM. The energy analysers are available with an integrated Modbus RTU or M-bus port. External M-bus gateways are no longer needed. All the energy data and instantaneous values can be easily read by any supervisory system using the same driver for all the models of the JH-EM Series. The JH-EM can also be optionally equipped with a pulse output to retransmit the consumed active energy to a supervisory PLC.



class 1 single-phase bidirectional and dual-tariff energy meters

JH-EMAM 120V or 240V; 45 A direct connection Backlit LCD display, 7-digit, Pulse output, Modbus RTU or M-bus port Digital input for dual tariff management 1-DIN module.

JH-EMBM 120V or 240V; 100 A direct connection Backlit LCD display, 8-digit, Pulse output, Modbus RTU or M-bus port Digital input for dual tariff management 2-DIN module.

class 1 three-phase bidirectional and dual-tariff energy meters

JH–EMCM 220V or 400VLL; 5 A CT connection Backlit LCD display, 3x8-digit Pulse output, Modbus RTU or M-bus port Digital input for dual tariff management 2-DIN module.

JH–EMDM 220V or 400VLL; 65 A direct connection Backlit LCD display, 3x8-digit Pulse output, Modbus RTU or M-bus port Digital input for dual tariff management 3-DIN module.

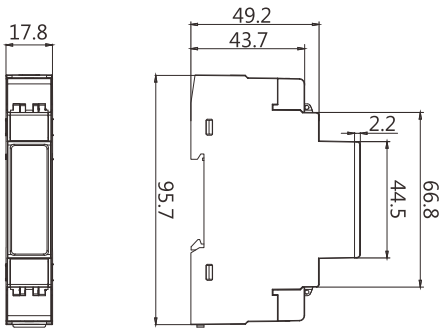
Type JH-EMAM

Description of Drawing Parameters



Product Benefits

- Single phase energy analyzer
- Class 1 (kWh) according to EN62053-21
- Class B (kWh) according to EN50470-3
- Accuracy ±0.5% RDG (current/voltage)
- Direct current measurement up to 45AAC
- Backlit LCD display with integrated touch key-pad
- Energy readout on display: 6 digit
- Variable readout on display: 2 digit
- Energy measurement: kWh ; kWh+by 2tariffs
- System variables, kW, kvar, V, A, PF, Hz, kWdmd, kWdmd peak
- Self power supply
- Dimensions: 1-DIN module
- Protection degree (front): IP51
- RS485 Modbus port



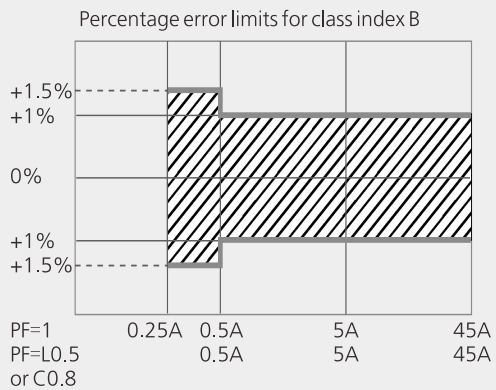
Product Application

• Single-phase energy analyzer with backlit LCD display with integrated touch keypad. Particularly indicated for active energy metering and for cost allocation in applications up to 45 A (direct connection), with dual tariff management availability. It can measure imported and exported energy or be programmed to consider only the imported one. Housing for DIN-rail mounting, with IP51 front degree protection.The meter with RS485 communication.

Accuracy

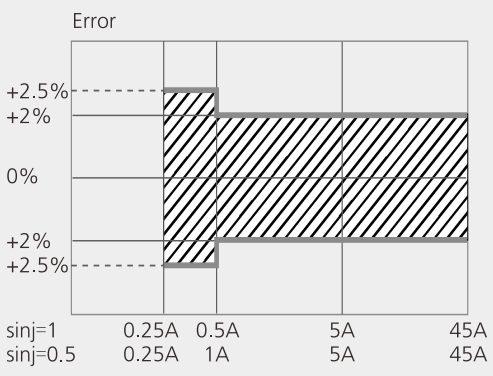
According to EN50470-3 and EN62053-23

• kWh



Class 1 accuracy limits (Active energy)
5(45)A Start-up current: 20mA

• kvarh, accuracy (RDG) depending on the current



Class 2 accuracy limits (Reactive energy)
5(45)A Start-up current: 20mA

Input specifications

• Rated Inputs

Current type	1-phase loads direct connection
Current range	5(45)A
Nominal voltage	220VLN AC (AV8 option)

• Accuracy

(@20°C ±5°C, R.H. 60%, 45 to 65 Hz)	
AV8	220V
Energies Active energy	Class 1 according to EN62053-21 Class B (Class B (kWh) according to EN50470-3)
Reactive energy	Class 2 according to EN62053-23
Start-up current	20mA (AV8) -20mA (Av8) positive or negative Self-consumption is not measured.
Start-up voltage	161VLN (AV8)

• Voltage Overloads

Continuous For 500ms	1.2 Un
Overload	In case a voltage iserroneously applied to the digital input, the input is not damaged up to

• Current overloads

Continuous For 10ms	45A @50Hz 1350A

• Resolution

Display/serial communication	
Current	0.001 A
Voltage	0.01 V
Power	0.01 kW or kVar
Frequency	0.1Hz
PF	0.01
Energies (positive)	0.01 kWh or kvarh
Energies (negative)	0.01 kWh or kvarh

• Energy additional errors

Influence quantities	According to EN62053-21
Temperature drift	⩽200ppm/°C
Sampling rate	4096samples/s @50Hz 4096samples/s @60Hz

• Digital inputs

Free of voltage contact Tariff	
Function	management (switch between t1-t2)
Number of inputs	1
Contact measurement voltage	5 V
Contact resistance	1kohm close contact 100kohm open contact

• Display and touch key-pad

Type	Backlit LCD 8-digit, h 4.5 mm
Read-out	Energy: 6digit Variables: 2digit
Touch key	1UP
Max. and Min. indication	Max. 999 999.99 Min. 0.00
Memory energy storage Energy	10^1 cycles Energy value is saved every time the less significant digit increases
Programming parameters	10^10 cycles. When a parameter is modified, only the relevant memory cell is overwritten
LEDs	Flashing red light pulses according to EN50470-3 EN62052-11 1600 imp./kWh (min. period: 80ms, max. frequency: 11 Hz) of X option

• Input impedance

Voltage input 220VL-N	1.2 Mohm
Voltage input	1.2 Mohm
Current input 5(45) A	< 0.5 VA

Output specifications

Description of Parameters

• RS485 serial port

Rs485 by screw connection.	
Function	For communication of measured data programming
Protocol	ModBus RTU (slave function)
Baud rate	1.2 , 2.4 , 4.8 , 9.6 kbaud,
Address Driver input	1 to 247 (default: 01) 1/8 unit load.

capability	Maximum 247 transceivers on the same bus.
Data refresh time	1sec
Read command	50 words available in 1 read command

Rx/Tx indication	Rx segment on display is shown when a valid Modbus command is sent to that specific meter Tx segment on display is shown when a valid Modbus reply is sent back to the master

General specifications

Parameter introduction

• Operating temperature

−20 to +70 °C, indoor,(R.H. from 0 to 90% non-condensing @ 40°C)	
Storage	−25°C to +80°C (R.H. < 90% non-condensing @ 40°C)
Overvoltage category	Cat. III
Insulation (for 1 minute)	4000 VAC RMS between measuring inputs and digital/ serial output (see table) 4000 VAC RMS
Dielectric strength	4000 VAC RMS for 1 minute

• Housing

Dimensions	17,8 x 95.5 x 65mm
Material	Noryl self-extinguishing: UL 94 V-0
Sealing covers	Included
Mounting	DIN-rail
Weight	Approx. 80 g (packing included)

• EMC

	According to EN62052-11
Electrostatic discharges	15kV air discharge
Immunity to irradiated electromagnetic fields	Test with current: 10V/m from 80 to 2000MHz; Test without any current: 30V/m from 80 to 2000MHz;
Burst	On current and voltage measuring inputs circuit: 4kV
Immunity to conducted disturbances	10V/m from 150KHz to 80MHz
Surge	On current and voltage measuring inputs circuit: 4kV
Radio frequency	According to CISPR 22

• Self power supply

Av8	220VAC VL-N -30% +20% 50 Hz

• Standard compliance

Safety	EN62052-11
Metrology	EN62053-21 EN50470-3

• Connections

Cable cross-section area	Measuring inputs: max. 6 mm² with/without metallic cable ferrule; Max. screw tightening torque: 1.1 Nm
Other terminals	1.5 mm² Min./Max. screws tightening torque: 0.4 Nm

• Protection degree

Front	Ip51
Screw terminals (cable inputs)	Ip20

• Power consumption

⩽ 1.0W, ⩽ 8VA

Insulation (for 1 minute)

Between inputs and outputs

	• Measuring input	• Digital or serial output	• Digital input
Measuring input	-	4 kV	4 kV
Digital or serial output	4 kV	-	-
Digital input	4 kV	-	-

MID compliance

PF option only

Accuracy	0.9 Un ⩽ U ⩽ 1.1 Un; 0.98 fn ⩽ f ⩽ 1.02 fn; fn: 50 Hz; cosj: 0.5 inductive to 0.8 capacitive. Class BConsidering listed Ib or In values
Operating temperature	−25 to +55°C (-13°F to 131°F) (R.H. from 0 to 90% non-condensing @ 40°C)
EMC compliance	E2
Mechanical compliance	M2

Display pages

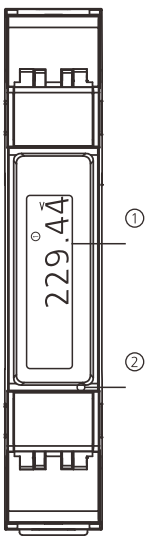
Display content introduction

• NO	• Variable
1	Total kWh
2	Total kWh+ (positive)
3	Total kWh- (exported)
4	Total kvarh
5	Total kvarh+ (positive)
6	Total kvarh- (negative)
7	Peak power kWh+ (positive) T1
8	Peak power kWh+ (positive) T2
9	Peak power kWh+ (positive) T3
10	Peak power kWh+ (positive) T4
11	V
12	A

• NO	• Variable
13	Hz
14	kW
15	kvar
16	kva
17	PF
18	CODE
19	IMP
20	Serial number
21	Communication address
22	Baud rate
23	Software version

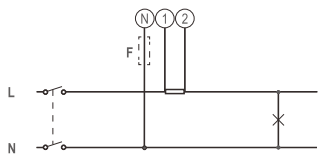
Wiring diagrams

Drawing introduction

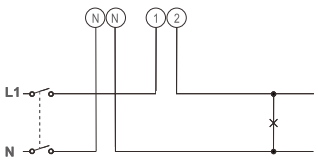


1. Display
Backlit LCD display with touch key-pad.
Upper part: enter
2. LED
LED proportional to kWh reading

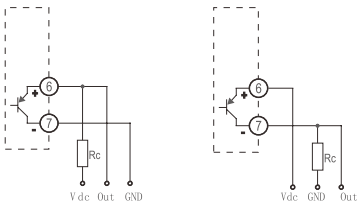
1-ph, 2-wire (F 315mA)



1-ph, 2-wire



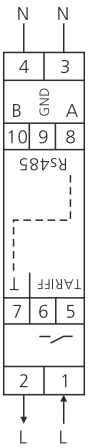
Open collectors output



Digital Input



Rs485 Modbus communication port



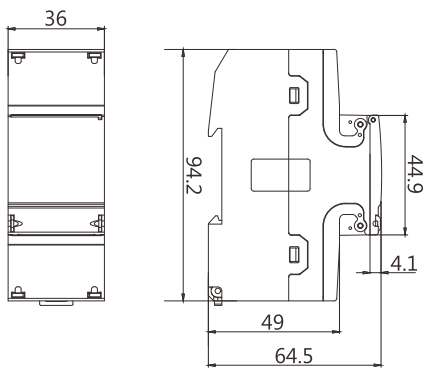
Type JH-EMBM

Description of Drawing Parameters



Product Benefits

- Single phase energy analyzer
- Class 1 (kWh) according to EN62053-21
- Class B (kWh) according to EN50470-3
- Accuracy ±0.5% RDG (current/voltage)
- Direct current measurement up to 100AAC
- Backlit LCD display (3x 8-digit) with integrated touch key-pad
- Energy readout on display: 6 digit
- Variable readout on display: 2 digit
- Energy measurement: kWh and kvarh (imported/exported); kWh+ by 2 tariffs
- System variables, kW, kvar, V, A, PF, Hz, kWdmd, kWdmd peak
- Dimensions: 2-DIN module
- Pulse output (optional, by open collector PNP)
- RS485 Modbus port (optional)
- M-bus port (optional)



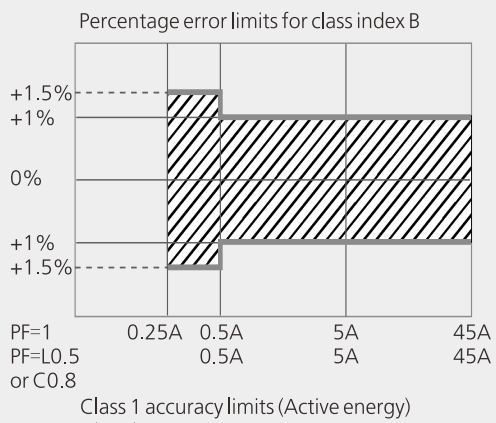
Product Application

• Single-phase energy analyzer with backlit LCD display with integrated touch keypad. Particularly indicated for active energy metering and for cost allocation in applications up to 100 A (direct connection), with dual tariff management availability. It can measure imported and exported energy or be programmed to consider only the imported one. Housing for DIN-rail mounting, with IP51 front degree protection.The meter with RS485 communication.

Accuracy

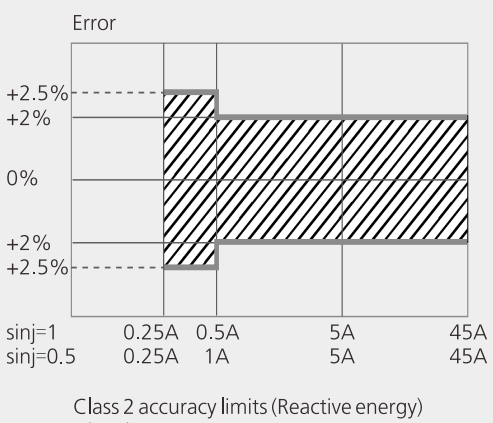
According to EN50470-3 and EN62053-23

• kWh



Class 1 accuracy limits (Active energy)
5(100)A Start-up current: 40mA

• kvarh, accuracy (RDG) depending on the current



Class 2 accuracy limits (Reactive energy)
5(100)A Start-up current: 40mA

Input specifications

• Rated Inputs

Current type	1-phase loads direct connection
Current range	5(100)A
Nominal voltage	220VLN AC

• Accuracy

(@25°C ±5°C, R.H. 60%, 45 to 65 Hz)	
Energies Active energy	Class 1 according to EN62053-21 Class B (Class B (kWh) according to EN50470-3)
Reactive energy	Class 2 according to EN62053-23
Start-up current	20mA positive or negative Self-consumption is not measured.
Start-up voltage	161VLN

• Voltage Overloads

Continuous For 500ms	1.2 Un
Overload	In case a voltage iserroneously applied to the digital input, the input is not damaged up to

• Input impedance

Voltage input 220VL-N	1.2 Mohm
Voltage input 120VL-N	1.2 Mohm
Current input 5(100) A	< 1.25 VA

• Resolution

	Display/serial communication
Current	0.001 A
Voltage	0.01 V
Power	0.01 kW or kVar
Frequency	0.1Hz
PF	0.01
Energies (positive)	0.01 kWh or kvarh
Energies (negative)	0.01 kWh or kvarh

• Energy additional errors

Influence quantities	According to EN62053-21
Temperature drift	⩽200ppm/°C
Sampling rate	4096samples/s @50Hz 4096samples/s @60Hz

• Digital inputs

	Free of voltage contact Tariff
Function	management (switch between 7-8)
Number of inputs	1
Contact measurement voltage	5 V
Contact resistance	≥ 1kohm close contact 100kohm open contact

• Display and touch key-pad

Type	Backlit LCD.3 rows by 8-digit each, h4.5mm
Read-out	Energy: 5digit Variables: 4digit
Touch key	2 (Enter and UP).
Max. and Min. indication	Max. 99 999 999 Min. 0.01
Variables	Max. 9999 Min. 0.01
Memory energy storage Energy	10^10 cycles Energy value is saved every time the less significant digit increases
Programming parameters	10^10 cycles. When a parameter is modified, only the relevant memory cell is overwritten
LEDs	Flashing red light pulses according to EN50470-3 EN62052-11 1000 imp./kWh (min. period: 80ms, max. frequency: 11 Hz) Fix orange light: wrong current direction only with PFB option or with "B" measurement selection in case of X option

• Current overloads

Continuous For 10ms	100A @50Hz 3000A

Output specifications

Description of Parameters

• RS485 serial port

	Rs485 by screw connection.
Function	For communication of measured data programming
Protocol	ModBus RTU (slave function)
Baud rate	1.2 , 2.4 , 4.8 , 9.6 kbaud,
Address Driver input	1 to 247 (default: 01) 1/8 unit load.

capability	Maximum 247 transceivers on the same bus.
Data refresh time	1sec
Read command	50 words available in 1 read command

Rx/Tx indication	Rx segment on display is shown when a valid Modbus command is sent to that specific meter Tx segment on display is shown when a valid Modbus reply is sent back to the master

General specifications

Parameter introduction

• Operating temperature

−20 to +70 °C, indoor,(R.H. from 0 to 90% non-condensing @ 40°C)	
Storage	−25°C to +80°C (R.H. < 90% non-condensing @ 40°C)
Overvoltage category	Cat. III
Insulation (for 1 minute)	4000 VAC RMS between measuring inputs and digital/ serial output (see table) 4000 VAC RMS
Dielectric strength	4000 VAC RMS for 1 minute

• Weight

Approx. 160 g (packing included)

• Housing

Dimensions	36 x 94 x 65mm
Material	Noryl self-extinguishing: UL 94 V-0
Sealing covers	Included
Mounting	DIN-rail
EMC	According to EN62052-11

• Standard compliance

Safety	EN62052-11
Metrology	EN62053-21 EN50470-3
Approvals	CE, MID (PF option only), cULus (AV1 option only)

• Power consumption

1.0W, 8VA

• Connections

Cable cross-section area	Measuring inputs: max. 25mm², min. 5mm² with/without metallic cable ferrule; Max. screw tightening torque: 2.8 Nm
Other terminals	1.5 mm² Min./Max. screws tightening torque: 0.5 Nm

• Protection degree

Front	Ip51
Screw terminals (cable inputs)	Ip20

• Self power supply

Av8	230VAC VL-N -30% +20% 50 Hz

Insulation (for 1 minute)

Between inputs and outputs

	• Measuring input	• Digital or serial output	• Digital input
Measuring input	-	4 kV	4 kV
Digital or serial output	4 kV	-	0 kV
Digital input	4 kV	0 kV	-

MID compliance

PF option only

Accuracy	0.9 Un U 1.1 Un; 0.98 fn f 1.02 fn; fn: 50 Hz; cosj: 0.5 inductive to 0.8 capacitive. Class B Considering listed Ib or In values
Operating temperature	−25 to +55°C (-13°F to 131°F) (R.H. from 0 to 90% non-condensing @ 40°C)
EMC compliance	E2
Mechanical compliance	M2

Display pages

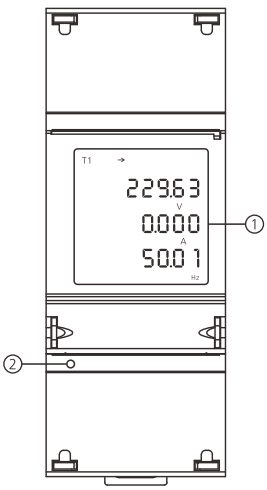
Display content introduction

• NO	• Variable
1	Total kWh
	Total kWh+ (positive)
	Total kWh- (exported)
2	Total kvarh
	Total kvarh+ (positive)
	Total kvarh- (negative)
3	Peak power kWh+(positive) T1
	Peak power kvarh+ (positive) T1
4	Peak power kWh+ (positive) T2
	Peak power kvarh+ (positive) T1
5	U
	A
	Hz

• NO	• Variable
6	kW
	Kvar
	Kva
7	PF
	CODE
	IMP
8	Communication address
	Baud rate
9	Software version
	Serial number

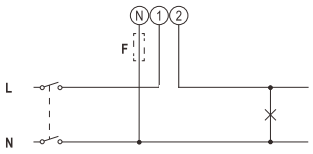
Wiring diagrams

Drawing introduction

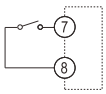


1. Display
Backlit LCD display with touch key-pad.
Upper part: enter
2. LED
LED proportional to kWh reading

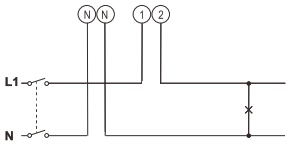
1-ph, 2-wire (F 315mA)



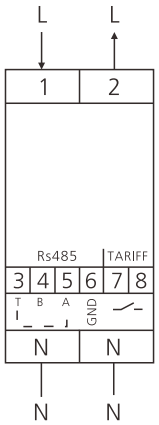
Digital Input



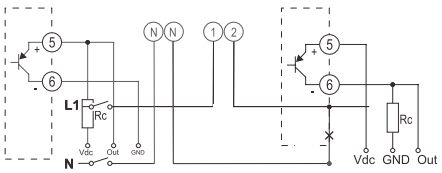
1-ph, 2-wire



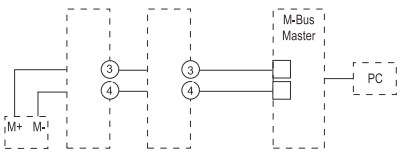
Rs485 Modbus communication port



Open collector output



M-Bus communication port



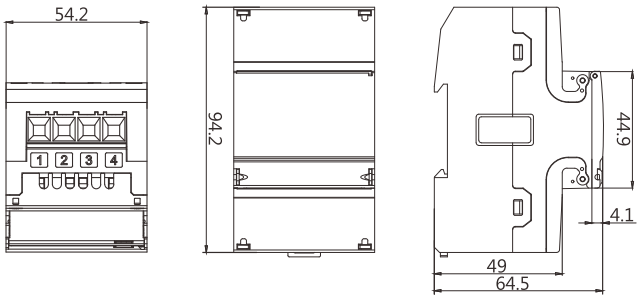
Type JH-EMCM

Description of Drawing Parameters



Product Benefits

- Three phase energy meter
- Class 1 (kWh) according to EN62053-21
- Class B (kWh) according to EN50470-3
- Accuracy ±0.5% RDG (current/voltage)
- Current measurement via CT
- Backlit LCD display (3x 8-digit)
- Energy readout on display: 6 digit
- Variable readout on display: 2 digit
- Energy measurement: kWh and kvarh (imported/exported); kWh per phase
- System variables: kW, kvar, kVA, VLN, PF, Hz
- Phase variables: kW, kvar, kVA, VLN, A, PF
- Auxiliary power supply
- Dimensions: 3-DIN module
- Protection degree (front): IP51
- RS485 Modbus port



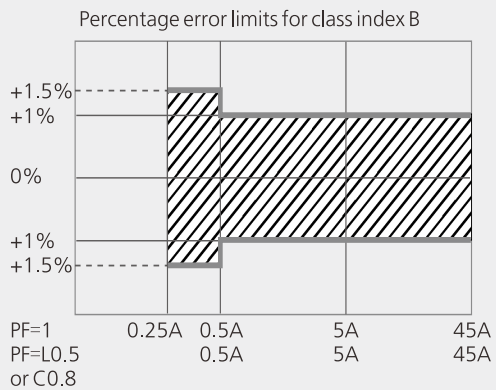
Product Application

- Three-phase energy meter with backlit LCD display. Particularly indicated for active energy metering and for cost allocation (CT connection)with dual tariff management availability. It can measure imported and exported energy or be programmed to consider only the imported one. Housing for DIN-rail mounting, with Ip51 front degree protection. The meter is optionally provided with pulse output proportional to the active energy being measured.

Accuracy

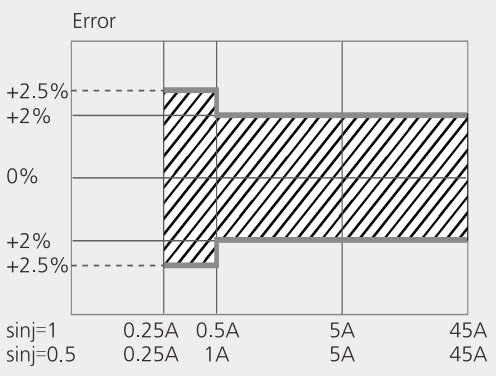
According to EN50470-3 and EN62053-23

• kWh



Class 1 accuracy limits (Active energy)
5(45)A Start-up current: 20mA

• kvarh, accuracy (RDG) depending on the current



Class 2 accuracy limits (Reactive energy)
5(45)A Start-up current: 20mA

Input specifications

• Accuracy

(@25°C ±5°C, R.H. ⩽60%, 45 to 65 Hz)	
Av5	AV5: Imin=0.25A; In: 5A, Imax: 6A; Un: 230 to 277 VLN (400 to 480 VLL)
Current	From 0.04In to 0.2In: ±(0.5%RDG+1DGT) From 0.2In to Imax: ±(0.5%RDG)
Phase-neutral voltage	In the range Un: ±(0.5% RDG)
Phase-phase voltage	In the range Un: ±(1% RDG)
Frequency	Range: 45 to 65Hz.
Active power	From 0.05 In to Imax, within Un range, PF= 1: ±(1% RDG) From 0.1 In to Imax, within Un range, PF=0.5L or 0.8C: ±(1% RDG)
Power factor	±[0.001+1% (1.000 - "PF RDG")]
Reactive power	From 0.05 In to Imax, within Un range, sinphì=1: ±(2% RDG) From 0.1 In to Imax, within Un range, sinphì=0.5L or 0.8C: ±(2% RDG)
Energies Active energy	Class 1 according to EN62053-21 and MID Annex MI-003 Class B(Class B (kWh) according to EN50470-3)
Reactive energy	Class 2 according to EN62053-23
Start-up current	10mA
Start-up voltage	90VLN

• Digital inputs

Free of voltage contact Tariff	
Function	management (switch between t1-t2)
Number of inputs	1

• Output specifications RS485 serial port

Rs485 by screw connection.	
Function	For communication of measured data programming
Protocol	ModBus RTU (slave function)
Baud rate	1.2 , 2.4 , 4.8 , 9.6 kbaud,
Address Driver input	1 to 247 (default: 01) 1/8 unit load.

• Resolution

Display/serial communication	
Current	0.001 A
Voltage	0.01 V
Power	0.001 kW or kVar
Frequency	0.01Hz
PF	0.01
Energies (positive)	0.01 kWh or kvarh
Energies (negative)	0.01 kWh or kvarh

• Energy additional errors

Influence quantities	According to EN62053-21
Temperature drift	⩽200ppm/°C
Sampling rate	6400samples/s @50Hz

• Input impedance

230VL-N	1.2 Mohm
5(45) A	< 0.5 VA

• Rated Inputs

Current type	3-phase loads, CT connection5(6)A
Current range	AV5: 400 to 480 VLL ac
Nominal voltage	AV5: 1000

• Voltage Overloads

Continuous For 500ms	1.2 Un 2 Un

• Digital inputs

Contact	5V
Input impedance Contact resistance	1kohm ⩽1kohm, close contact ⩾100kohm, open contact

capability	Maximum 247 transceivers on the same bus.
Data refresh time	1sec
Read command	50 words available in 1 read command

• Display and touch key-pad

Type	Backlit LCD,3 rows by 8-digit each, h 7 mm
Read-out	Energy: 6digit Variables: 2digit
Touch key	3 (down.enter and up)
Max. and Min. indication	Max. 999 999.99 Min. 0.01
Variables	Max. 9999999.99 Min. 0.01
Memory energy storage Energy	10^12 cycles Energy value is saved every time the less significant digit increases
Programming parameters	10^12 cycles. When a parameter is modified, only the relevant memory cell is overwritten

• LEDs

Flashing red light pulses	Proportional to the product of the CT and VT ratios
Weight (pulses/kWh)	12000 (CT x VT)
Duration	80ms
Fix orange light	wrong current direction (only with PFB option or with "B" measurement selection in case of X option)

• Current overloads

Continuous For 500ms	6A, @ 50Hz 5 In

• Overload

In case a voltage iserroneously applied to the digital input, the input is not damaged up to 30 VAC/DC

Rx/Tx indication	Rx segment on display is shown when a valid Modbus command is sent to that specific meter Tx segment on display is shown when a valid Modbus reply is sent back to the master

General specifications

Parameter introduction

• Operating temperature

−25 to +65 °C, indoor,(R.H. from 0 to 90% non-condensing @ 40°C)	
Storage	−30°C to +80°C (R.H. < 90% non-condensing @ 40°C)
Overvoltage category	Cat. III
Insulation (for 1 minute)	4000 VAC RMS between measuring inputs and digital/ serial output (see table) 4000 VAC RMS
Dielectric strength	4000 VAC RMS for 1 minute

• Housing

Dimensions	54 x 94 x 65mm
Material	Noryl self-extinguishing: UL 94 V-0
Sealing covers	Included
Mounting	DIN-rail

• EMC

	According to EN62052-11
Electrostatic discharges	15kV air discharge
Immunity to irradiated electromagnetic fields	Test with current: 10V/m from 80 to 2000MHz; Test without any current: 30V/m from 80 to 2000MHz;
Burst	On current and voltage measuring inputs circuit: 4kV
Immunity to conducted disturbances	10V/m from 150KHz to 80MHz
Surge	On current and voltage measuring inputs circuit: 4kV
Radio frequency	According to CISPR 22

• Protection degree

Front	Ip51

• Standard compliance

Safety	EN62052-11
Metrology	EN62053-21 EN50470-3
Approvals	CE, MID (PF option only), cULus (AV7 option only)

• Connections

Cable cross-section area	Measuring inputs: max. 4 mm² with/without metallic cable ferrule; Max. screw tightening torque: 0.6 Nm
Other terminals	1.5 mm² Min./Max. screws tightening torque: 0.4 Nm

• Weight

Approx. 240 g (packing included)

Display pages

Display content introduction

• NO	• display contents	• display format
1	total active energy	The first line: Absolute energy The second line: positive energy The third line: reverse energy
2	Total reactive energy	
3	Phase A active energy	
4	Phase A reactive energy	
5	Phase B active energy	
6	Phase B reactive energy	
7	Phase C active energy	
8	Phase C reactive energy	
9	Tariff 1	The second line: active positive power The third line: Reactive positive power
10	Tariff 2	
11	Total power	The first line: active power Second line: reactive power The third line: Apparent power
12	Phase A power	
13	Phase B power	
14	Phase C power	
15	Phase A eletrical parameter	First line: voltage Second line: current The third line: power factor
16	Phase B eletrical parameter	
17	Phase C eletrical parameter	
18		First line: grid frequency / Second line: total power factor / Third line: constant
19		Second line: Modbus address / The third line: baud rate
20		Second line: version number / Third line: serial number

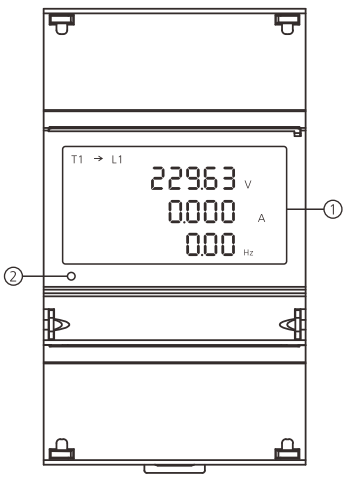
Insulation (for 1 minute)

Between inputs and outputs

	• Measuring input	• Digital or serial output	• Digital input
Measuring input	-	4 kV	4 kV
Digital or serial output	4 kV	-	0 kV
Digital input	4 kV	0 kV	-

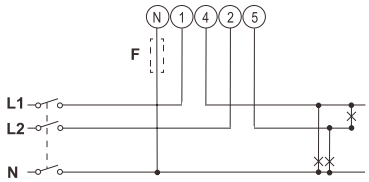
Wiring diagrams

Drawing introduction

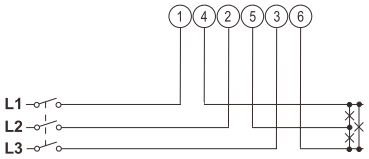


1. Display
Backlit LCD display
2. LED
LED proportional to kWh reading

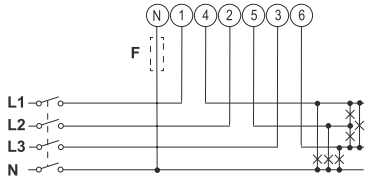
Two-phase system, 3-wire (F 315mA)



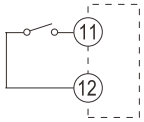
Three-phase system, 3-wire.



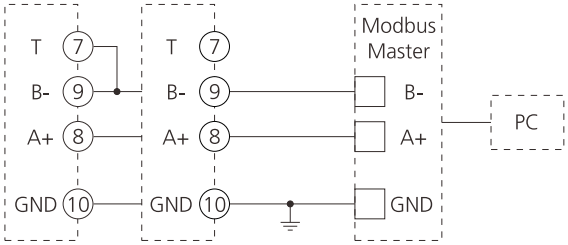
Three-phase system, 4-wire. (F 315mA)



Digital Input



Rs485 Modbus communication port



Additional instruments with RS485 are connected in parallel. The serial output must only be terminated on the last network device connecting terminals A- and T. For connections longer than 1000 m use a signal repeater. Maximum 247 transceivers on the same bus.

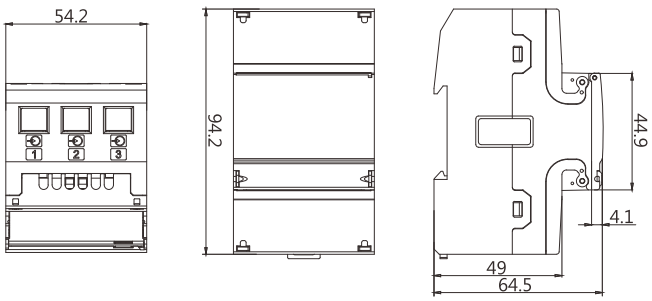
Type JH-EMDM

Description of Drawing Parameters



Product Benefits

- Three phase energy meter
- Class 1 (kWh) according to EN62053-21
- Class B (kWh) according to EN50470-3
- Accuracy ±0.5% RDG (current/voltage)
- Direct current measurement up to 65AAC
- Backlit LCD display (3x 8-digit)
- Energy readout on display: 6 digit
- Variable readout on display: 2 digit
- Energy measurement: kWh and kvarh (imported/exported); kWh per phase
- System variables: kW, kvar, kVA, VLN, PF, Hz
- Phase variables: kW, kvar, kVA, VLN, A, PF
- Self power supply
- Dimensions: 3-DIN module
- Protection degree (front): IP51
- RS485 Modbus port (optional)



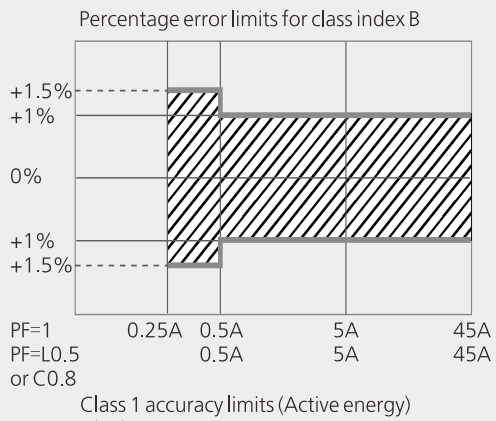
Product Application

- Three-phase energy meter with backlit LCD display . Particularly indicated for active energy metering and for cost allocation (CT connection)with dual tariff management availability. It can measure imported and exported energy or be programmed to consider only the imported one. Housing for DIN-rail mounting, with Ip51 front degree protection. The meter is optionally provided with proportional to the active energy being measured. The meter with Rs485 communication

Accuracy

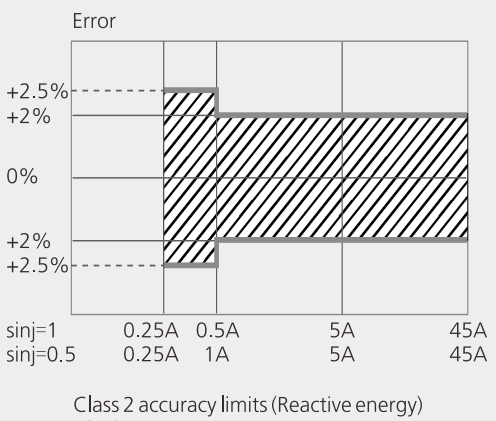
According to EN50470-3 and EN62053-23

• kWh



Class 1 accuracy limits (Active energy)
5(65)A Start-up current: 20mA

• kvarh, accuracy (RDG) depending on the current



Class 2 accuracy limits (Reactive energy)
5(65)A Start-up current: 20mA

Input specifications

• Rated Inputs

Current type	3-phase loads, direct connection
Current range	5(65)A
Nominal voltage	208 to 400 VLL AC

• Display and touch key-pad

Type	Backlit LCD,3 rows by 8-digit each, h 7 mm
Read-out	Energy: 6digit Variables: 2digit
Touch key	2 (down.enter and up)
Max. and Min. indication	Max. 99 9999.99 Min. 0.01
Variables	Max. 999999.99 Min. 0.01
Memory energy storage Energy	10^6 cycles Energy value is saved every time the less significant digit increases
Programming parameters	10^6 cycles. When a parameter is modified, only the relevant memory cell is overwritten

• Current overloads

Continuous For 10ms	65A, @ 50Hz 8450A

• Voltage Overloads

Continuous For 500ms	1.2 Un 2 Un

• Overload

	In case a voltage iserroneously applied to the digital input, the input is not damaged up to 30 VAC/DC

• Resolution

	Display/serial communication
Current	0.001 A
Voltage	0.01 V
Power	0.001 kW or kVar
Frequency	0.01Hz
PF	0.01
Energies (positive)	0.01 kWh or kvarh
Energies (negative)	0.01 kWh or kvarh

• Energy additional errors

Influence quantities	According to EN62053-21
Temperature drift	⩽200ppm/°C
Sampling rate	6400samples/s @50Hz 6400samples/s @60Hz

• Input impedance

230VL-N/120VL-N	1.2 Mohm
5(45) A	< 1.25 VA

• Digital inputs

	Free of voltage contact Tariff
Function	management (switch between t1-t2)
Number of inputs	1
Contact	5V
Input impedance Contact resistance	1kohm ⩽1kohm, close contact ⩾100kohm, open contact

• Accuracy

	Imin=0.25A; Ib: 5A
Av5	Imax: 65A; Un: 113 to 265VLN (196 to 460VLL) Imin=0.25A; Ib: 5A Imax: 65A; from 208 to 400 VLL AC
Current	From 0.04Ib to 0.2Ib: ±(0.5%RDG+1DGT) From 0.2Ib to Imax: ±(0.5%RDG)
Phase-neutral voltage	In the range Un: ±(0.5% RDG)
Phase-phase voltage	In the range Un: ±(1% RDG)
Frequency	Range: 45 to 65Hz.
Active power	From 0.05 In to Imax within Un range PF=1:±(1% RDG) From 0.1 In to Imax within Un range PF=0.5L or 0.8C: ±(1% RDG)
Power factor	±[0.001+1% (1.000 - "PF RDG")]
Reactive power	From 0.05 In to Imax within Un range sinphì=1: ±(2% RDG) From 0.1 In to Imax
	within Un range sinphì=0.5L or 0.8C: ±(2% RDG)
Energies Active energy	Class 1 according to EN62053-21 Class B (Class B (kWh) according to EN50470-3)
Reactive energy	Class 2 according to EN62053-23
Start-up current	20mA Self-consumption is not measured
Start-up voltage	90VLN

• Output specifications RS485 serial port

	Rs485 by screw connection.
Function	For communication of measured data programming
Protocol	ModBus RTU (slave function)
Baud rate	1.2 , 2.4 , 4.8 , 9.6 kbaud,
Address Driver input	1 to 247 (default: 01) 1/8 unit load.
capability	Maximum 247 transceivers on the same bus.
Data refresh time	1sec
Read command	50 words available in 1 read command
Rx/Tx indication	Rx segment on display is shown when a valid Modbus command is sent to that specific meter Tx segment on display is shown when a valid Modbus reply is sent back to the master

General specifications

Parameter introduction

• Operating temperature

−20 to +70 °C, indoor,(R.H. from 0 to 90% non-condensing @ 40°C)	
Storage	−25°C to +80°C (R.H. < 90% non-condensing @ 40°C)
Overvoltage category	Cat. III
Insulation (for 1 minute)	4000 VAC RMS between measuring inputs and digital/ serial output (see table) 4000 VAC RMS
Dielectric strength	4000 VAC RMS for 1 minute

• Housing

Dimensions	54 x 94 x 65mm
Material	Noryl self-extinguishing: UL 94 V-0
Sealing covers	Included
Mounting	DIN-rail

• EMC

	According to EN62052-11
Electrostatic discharges	15kV air discharge
Immunity to irradiated electromagnetic fields	Test with current: 10V/m from 80 to 2000MHz; Test without any current: 30V/m from 80 to 2000MHz;
Burst	On current and voltage measuring inputs circuit: 4kV
Immunity to conducted disturbances	10V/m from 150KHz to 80MHz
Surge	On current and voltage measuring inputs circuit: 4kV
Radio frequency	According to CISPR 22

• Protection degree

Front	IP51

• Standard compliance

Safety	EN62052-11
Metrology	EN62053-21 EN50470-3
Approvals	CE, MID (PF option only),

• Connections

Cable cross-section area	Measuring inputs: max. 16 mm² min. 2.5 mm² with/without metallic cable ferrule; Max. screw tightening torque: 2.8 Nm
Other terminals	1.5 mm² Min./Max. screws tightening torque: 0.4 Nm

• Weight Mounting

Approx. 240 g (packing included)

Display pages

Display content introduction

• NO	• display contents	• display format
1	total active energy	The first line: Absolute energy The second line: positive energy The third line: reverse energy
2	Total reactive energy	
3	Phase A active energy	
4	Phase A reactive energy	
5	Phase B active energy	
6	Phase B reactive energy	
7	Phase C active energy	
8	Phase C reactive energy	
9	Tariff 1	The second line: active positive power The third line: Reactive positive power
10	Tariff 2	
11	Total power	The first line: active power Second line: reactive power The third line: Apparent power
12	Phase A power	
13	Phase B power	
14	Phase C power	
15	Phase A eletrical parameter	First line: voltage Second line: current The third line: power factor
16	Phase B eletrical parameter	
17	Phase C eletrical parameter	
18		First line: grid frequency / Second line: total power factor / Third line: constant
19		Second line: Modbus address / The third line: baud rate
20		Second line: version number / Third line: serial number

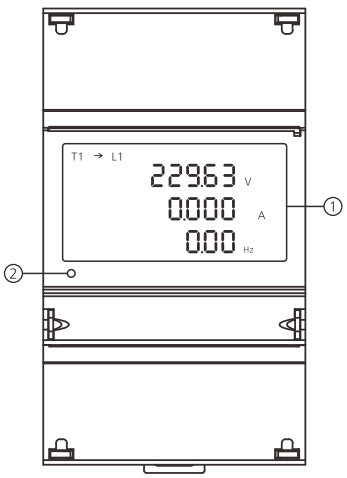
Insulation (for 1 minute)

Between inputs and outputs

	• Measuring input	• Digital or serial output	• Digital input
Measuring input	-	4 kV	4 kV
Digital or serial output	4 kV	-	0 kV
Digital input	4 kV	0 kV	-

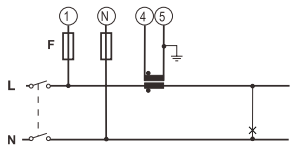
Wiring diagrams

Drawing introduction

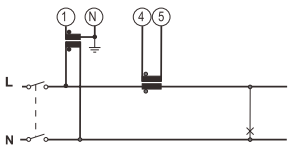


1. Display
Backlit LCD display
2. LED
LED proportional to kWh reading

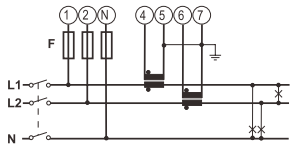
1-ph, 2-wire



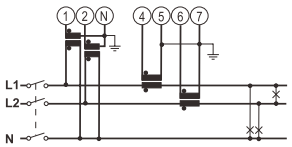
1-ph, 2-wire



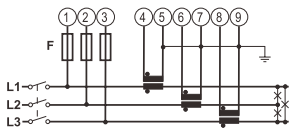
2-ph, 3-wire



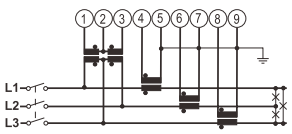
2-ph, 3-wire



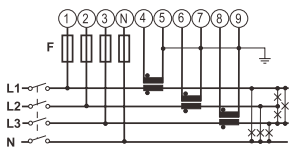
3-ph, 3-wire, unbalanced load



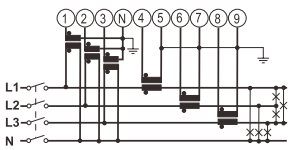
3-ph, 3-wire, unbalanced load



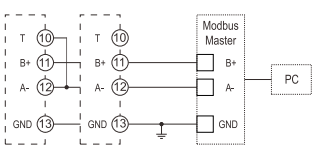
3-ph, 4-wire, unbalanced load



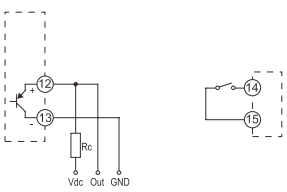
3-ph, 4-wire, unbalanced load



Rs485 Modbus communication port



Pulse output & Digital Input



ECBX SERIES

PV Combiner Box 600VDC /1000VDC



1 INPUT 1 OUTPUT 1000VDC

Product Application

Suitable for PV system, equipped with a surge protector and an isolator,providing isolation, leakage and grounding protection.

DC Surge Arrester

EDPN40-3 / EDPAN40-3

- Max Operation Voltage 1000V
- Standard Compliance with EN50539 Type2 / Type1+2
- Maximum Discharge Current 40 KA
- Certification TUV,CB,CE

DC Fuse

EDFHN-32

- LED Indicator or without LED indicator
- Rated Working Voltage 1000V
- Fuse Link 10x38mm LITTEL 15A
- Certification TUV,CB,CE
-



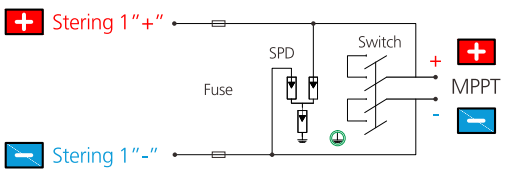
DC Switch Disconnector

EDS1DB/N

- Rated Insulation Voltage 1000V
- Rated Current 32A
- Certification TUV,CB,SAA,CE

Technical Data

Specification		
	1-1	Wiring diagram
Input	1 strings	
Output	1 strings	
Max Voltage	1000V	
Max DC Short Circuit Current Per Input	15A(Changeable)	
Max Current Output	32A	
Enclosure	**FCDB-EUS**	
Material	PC	
Degree of Protection	IP65	
Impacts	IK10	
Dimensions	BX-12: L273*W215*H118mm	
Cable input Entry	PG09 Cable Gland, 2.5-16mm^2	
Output Cable Gland	PG21,2.5-16mm^2	
Environment		
Operating temperature	-20°C- +60°C	
Humidity	99%	
Altitude	2000M	
Installation	Wall Mounting	



PV COMBINER BOX

2 INPUT 1 OUTPUT 1000VDC

Product Application

Suitable for PV system, equipped with a surge protector and an isolator,providing isolation, leakage and grounding protection.

DC Surge Arrester

EDPN40-3 / EDPAN40-3

- Max Operation Voltage 1000V
- Standard Compliance with EN50539 Type2 / Type1+2
- Maximum Discharge Current 40 KA
- Certification TUV,CB,CE

DC Fuse

EDFHN-32

- LED Indicator or without LED indicator
- Rated Working Voltage 1000V
- Fuse Link 10x38mm LITTEL 15A
- Certification TUV,CB,CE

DC Switch Disconnector

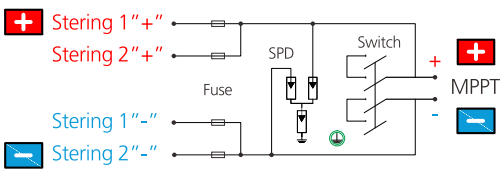
EDS1DB/N

- Rated Insulation Voltage 1000V
- Rated Current 32A
- Certification TUV,CB,SAA,CE



Technical Data

Specification		
	2-1	Wiring diagram
Input	2 strings	
Output	1 strings	
Max Voltage	1000V	
Max DC Short Circuit Current Per Input	15A(Changeable)	
Max Current Output	32A	
Enclosure	**FCDB-EUS**	
Material	PC	
Degree of Protection	IP65	
Impacts	IK10	
Dimensions	BX-12: L273*W215*H118mm	
Cable input Entry	PG09 Cable Gland, 2.5-16mm^2	
Output Cable Gland	PG21,2.5-16mm^2	
Environment		
Operating temperature	-20°C- +60°C	
Humidity	99%	
Altitude	2000M	
Installation	Wall Mounting	



2 INPUT 2 OUTPUT 1000VDC

Product Application

Suitable for PV system, equipped with a surge protector and an isolator,providing isolation, leakage and grounding protection.

DC Surge Arrester

EDPN40-3 / EDPAN40-3

- Max Operation Voltage 1000V
- Standard Compliance with EN50539 Type2 / Type1+2
- Maximum Discharge Current 40 KA
- Certification TUV,CB,CE

DC Fuse

EDFHN-32

- LED Indicator or without LED indicator
- Rated Working Voltage 1000V
- Fuse Link 10x38mm LITTEL 15A
- Certification TUV,CB,CE

DC Switch Disconnector

EDS1DB/N

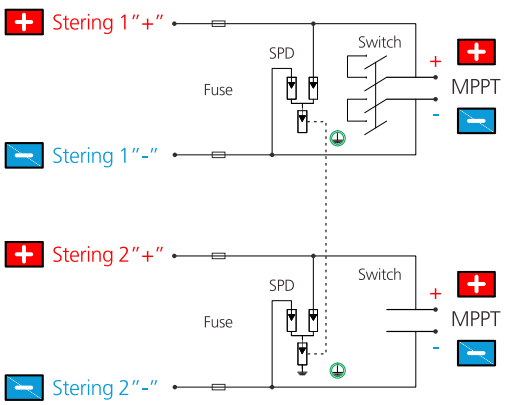
- Rated Insulation Voltage 1000V
- Rated Current 32A
- Certification TUV,CB,SAA,CE





Technical Data

Specification		Wiring diagram
	2-2	
Input	2 strings	
Output	2 strings	
Max Voltage	1000V	
Max DC Short Circuit Current Per Input	15A(Changeable)	
Max Current Output	32A	
Enclosure	**FCDB-EUS**	
Material	PC	
Degree of Protection	IP65	
Impacts	IK10	
Dimensions	BX-24: L273*W365*H118mm	
Cable input Entry	PG09 Cable Gland, 2.5-16mm^2	
Output Cable Gland	PG21,2.5-16mm^2	
Environment		
Operating temperature	-20°C- +60°C	
Humidity	99%	
Altitude	2000M	
Installation	Wall Mounting	



PV COMBINER BOX

3 INPUT 1 OUTPUT 1000VDC

Product Application

Suitable for PV system, equipped with a surge protector and an isolator,providing isolation, leakage and grounding protection.

DC Surge Arrester

EDPN40-3 / EDPAN40-3

- Max Operation Voltage 1000V
- Standard Compliance with EN50539 Type2 / Type1+2
- Maximum Discharge Current 40 KA
- Certification TUV,CB,CE

DC Fuse

EDFHN-32

- LED Indicator or without LED indicator
- Rated Working Voltage 1000V
- Fuse Link 10x38mm LITTEL 15A
- Certification TUV,CB,CE

DC Switch Disconnector

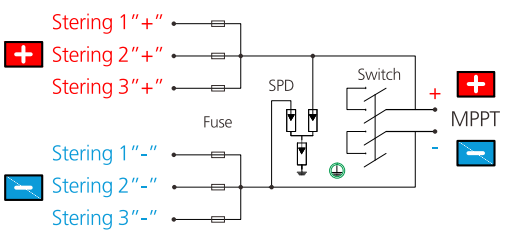
EDS1DB/N

- Rated Insulation Voltage 1000V
- Rated Current 32A
- Certification TUV,CB,SAA,CE



Technical Data

Specification		
	3-1	Wiring diagram
Input	3 strings	
Output	1 strings	
Max Voltage	1000V	
Max DC Short Circuit Current Per Input	15A(Changeable)	
Max Current Output	32A	
Enclosure	**FCDB-EUS**	
Material	PC	
Degree of Protection	IP65	
Impacts	IK10	
Dimensions	BX-18: L380.8*W215*H118mm	
Cable input Entry	PG09 Cable Gland, 2.5-16mm^2	
Output Cable Gland	PG21,2.5-16mm^2	
Environment		
Operating temperature	-20°C- +60°C	
Humidity	99%	
Altitude	2000M	
Installation	Wall Mounting	



4 INPUT 1 OUTPUT 1000VDC

Product Application

Suitable for PV system, equipped with a surge protector and an isolator,providing isolation, leakage and grounding protection.

DC Surge Arrester

EDPN40-3 / EDPAN40-3

- Max Operation Voltage 1000V
- Standard Compliance with EN50539 Type2 / Type1+2
- Maximum Discharge Current 40 KA
- Certification TUV,CB,CE

DC Fuse

EDFHN-32

- LED Indicator or without LED indicator
- Rated Working Voltage 1000V
- Fuse Link 10x38mm LITTEL 15A
- Certification TUV,CB,CE



DC Switch Disconnector

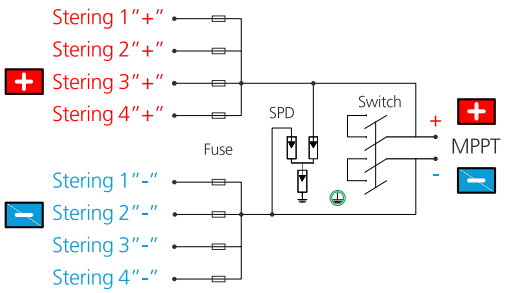
EDS6DB/R

- Rated Insulation Voltage 1000V
- Rated Current 32A
- Certification TUV,CB,SAA,CE



Technical Data

Specification		Wiring diagram
	4-1	
Input	4 strings	
Output	1 strings	
Max Voltage	1000V	
Max DC Short Circuit Current Per Input	15A(Changeable)	
Max Current Output	63A	
Enclosure	**FCDB-EU**	
Material	PC	
Degree of Protection	IP65	
Impacts	IK10	
Dimensions	BX-24: L309*W391*H114mm	
Cable input Entry	PG09 Cable Gland, 2.5-16mm^2	
Output Cable Gland	PG21,2.5-16mm^2	
Environment		
Operating temperature	-20°C- +60°C	
Humidity	99%	
Altitude	2000M	
Installation	Wall Mounting	



PV COMBINER BOX

4 INPUT 2 OUTPUT 1000VDC

Product Application

Suitable for PV system, equipped with a surge protector and an isolator,providing isolation, leakage and grounding protection.

DC Surge Arrester

EDPN40-3 / EDPAN40-3

- Max Operation Voltage 1000V
- Standard Compliance with EN50539 Type2 / Type1+2
- Maximum Discharge Current 40 KA
- Certification TUV,CB,CE

DC Fuse

EDFHN-32

- LED Indicator or without LED indicator
- Rated Working Voltage 1000V
- Fuse Link 10x38mm LITTEL 15A
- Certification TUV,CB,CE

DC Switch Disconnector

EDS1DB/N

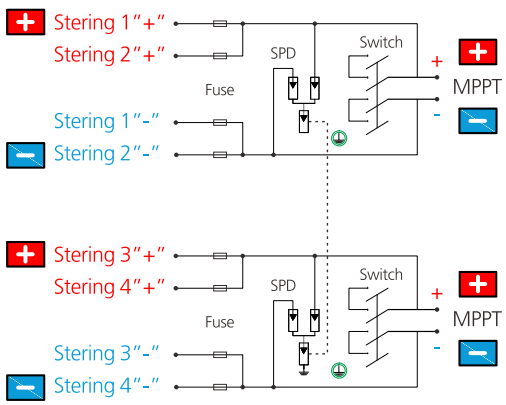
- Rated Insulation Voltage 1000V
- Rated Current 32A
- Certification TUV,CB,SAA,CE





Technical Data

Specification		Wiring diagram
	4-2	
Input	4 strings	
Output	2 strings	
Max Voltage	1000V	
Max DC Short Circuit Current Per Input	15A(Changeable)	
Max Current Output	32A	
Enclosure	**FCDB-EUS**	
Material	PC	
Degree of Protection	IP65	
Impacts	IK10	
Dimensions	BX-24: L273*W365*H118mm	
Cable input Entry	PG09 Cable Gland, 2.5-16mm^2	
Output Cable Gland	PG21,2.5-16mm^2	
Environment		
Operating temperature	-20°C- +60°C	
Humidity	99%	
Altitude	2000M	
Installation	Wall Mounting	



5 INPUT 2 OUTPUT 1000VDC

Product Application

Suitable for PV system, equipped with a surge protector and an isolator,providing isolation, leakage and grounding protection.

DC Surge Arrester

EDPN40-3 / EDPAN40-3

- Max Operation Voltage 1000V
- Standard Compliance with EN50539 Type2 / Type1+2
- Maximum Discharge Current 40 KA
- Certification TUV,CB,CE

DC Fuse

EDFHN-32

- LED Indicator or without LED indicator
- Rated Working Voltage 1000V
- Fuse Link 10x38mm LITTEL 15A
- Certification TUV,CB,CE





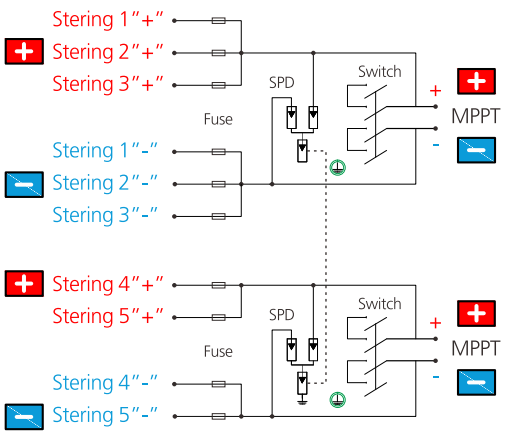
DC Switch Disconnector

EDS1DB/N

- Rated Insulation Voltage 1000V
- Rated Current 32A
- Certification TUV,CB,SAA,CE

Technical Data

Specification		
	5-2	Wiring diagram
Input	5 strings	
Output	2 strings	
Max Voltage	1000V	
Max DC Short Circuit Current Per Input	15A(Changeable)	
Max Current Output	32A	
Enclosure	**FCDB-EUS**	
Material	PC	
Degree of Protection	IP65	
Impacts	IK10	
Dimensions	BX-24: L273*W365*H118mm	
Cable input Entry	PG09 Cable Gland, 2.5-16mm^2	
Output Cable Gland	PG21,2.5-16mm^2	
Environment		
Operating temperature	-20°C- +60°C	
Humidity	99%	
Altitude	2000M	
Installation	Wall Mounting	



PV COMBINER BOX

6 INPUT 2 OUTPUT 1000VDC

Product Application

Suitable for PV system, equipped with a surge protector and an isolator,providing isolation, leakage and grounding protection.

DC Surge Arrester

EDPN40-3 / EDPAN40-3

- Max Operation Voltage 1000V
- Standard Compliance with EN50539 Type2 / Type1+2
- Maximum Discharge Current 40 KA
- Certification TUV,CB,CE

DC Fuse

EDFHN-32

- LED Indicator or without LED indicator
- Rated Working Voltage 1000V
- Fuse Link 10x38mm LITTEL 15A
- Certification TUV,CB,CE

DC Switch Disconnector

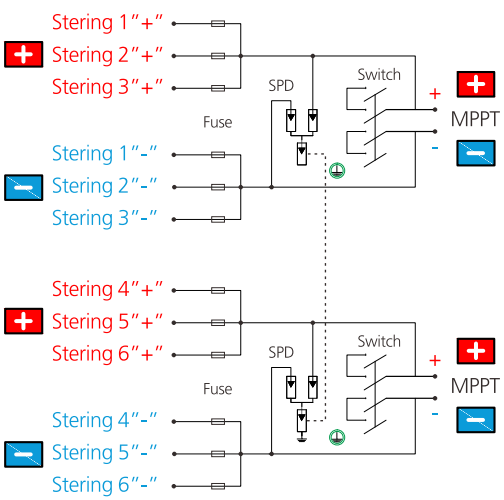
EDS1DB/N

- Rated Insulation Voltage 1000V
- Rated Current 32A
- Certification TUV,CB,SAA,CE



Technical Data

Specification		
	6-2	Wiring diagram
Input	6 strings	
Output	2 strings	
Max Voltage	1000V	
Max DC Short Circuit Current Per Input	15A(Changeable)	
Max Current Output	32A	
Enclosure	**FCDB-EUS**	
Material	PC	
Degree of Protection	IP65	
Impacts	IK10	
Dimensions	BX-36: L381*W365*H118mm	
Cable input Entry	PG09 Cable Gland, 2.5-16mm^2	
Output Cable Gland	PG21,2.5-16mm^2	
Environment		
Operating temperature	-20°C- +60°C	
Humidity	99%	
Altitude	2000M	
Installation	Wall Mounting	



ECBY SERIES

PV Combiner Box 600VDC / 1000VDC



PV COMBINER BOX

1 INPUT 1 OUTPUT 600VDC / 1000VDC

Product Application

IP65 DC string box is designed for 1 string PV system. For surge protection and over-load protection at solar DC side.

DC Breaker

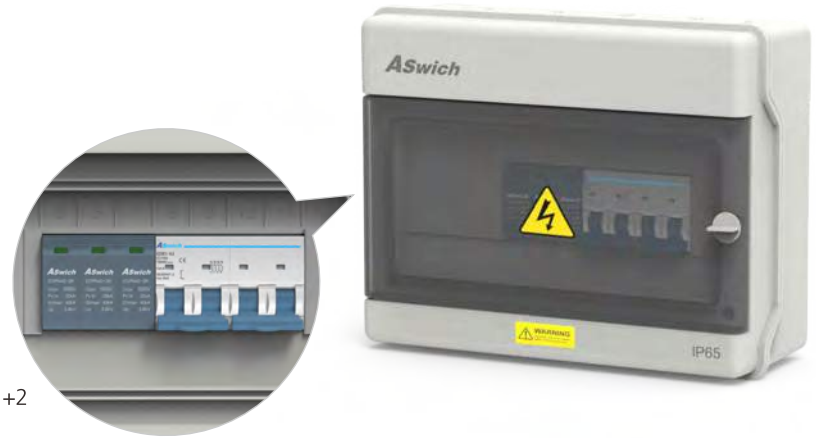
EDB1-63

- UL489B design,IEC60947-2 PV&DC standard
- Over-load,short circuit Protection
- Non Polarity for easier wiring

DC Surge Arrester

EDPN40-3 / EDPAN40-3

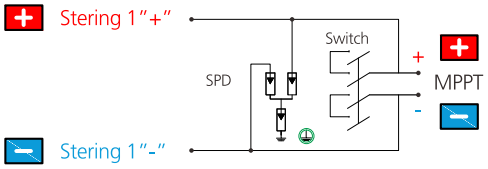
- Max Operation Voltage 1000V
- Standard Compliance with EN50539 Type2 / Type1+2
- Maximum Discharge Current 40 KA
- Certification TUV,CB,CE



Technical Data

Specification		
	1-1	
Input	1 strings	
Output	1 strings	
Max Voltage	600V	1000V
Rated Current of DC Breaker	15A	15A
Max Current Output	63A	40A
Enclosure	**FCDB-EUS**	
Material	PC	
Degree of Protection	IP65	
Impacts	IK10	
Dimensions	BX-12: L273*W215*H118mm	
Input Cable Glands	PG09,2.5-16	
Output Cable Gland	PG21,2.5-16	
Environment		
Operating temperature	-20°C- +60°C	
Humidity	99%	
Altitude	2000M	
Installation	Wall Mounting	

Wiring diagram



2 INPUT 1 OUTPUT 600VDC / 1000VDC

Product Application

IP65 DC string box is designed for 2 string PV system. For surge protection and current protection at solar DC side.

DC Breaker

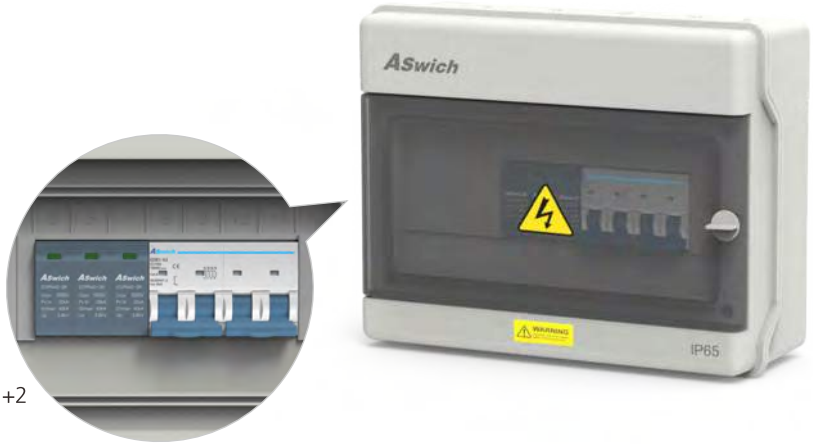
EDB1-63

- UL489B design,IEC60947-2 PV&DC standard
- Over-load,short circuit Protection
- Non Polarity for easier wiring

DC Surge Arrester

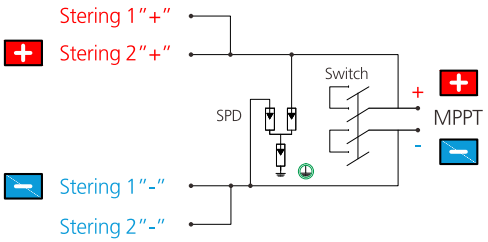
EDPN40-3 / EDPAN40-3

- Max Operation Voltage 1000V
- Standard Compliance with EN50539 Type2 / Type1+2
- Maximum Discharge Current 40 KA
- Certification TUV,CB,CE



Technical Data

Specification			Wiring diagram
	2-1		
Input	2 strings		
Output	1 strings		
Max Voltage	600V	1000V	
Rated Current of DC Breaker	25A	25A	
Max Current Output	63A	40A	
Enclosure	**FCDB-EUS**		
Material	PC		
Degree of Protection	IP65		
Impacts	IK10		
Dimensions	BX-12: L273*W215*H118mm		
Input Cable Glands	PG09,2.5-16		
Output Cable Gland	PG21,2.5-16		
Environment			
Operating temperature	-20℃- +60℃		
Humidity	99%		
Altitude	2000M		
Installation	Wall Mounting		



PV COMBINER BOX

2 INPUT 2 OUTPUT 600VDC / 1000VDC

Product Application

IP65 DC string box is designed for 2 string PV system. For surge protection and current protection at solar DC side.

DC Breaker

EDB1-63

- UL489B design,IEC60947-2 PV&DC standard
- Over-load,short circuit Protection
- Non Polarity for easier wiring

DC Surge Arrester

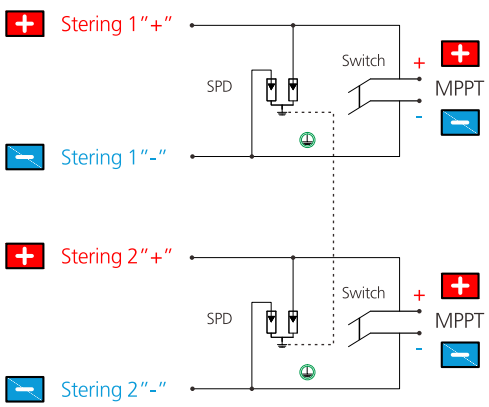
EDPG40-2 / EDPAN40-3

- Max Operation Voltage 600V
- Standard Compliance with EN50539 Type2 / Type1+2
- Maximum Discharge Current 40 KA
- Certification TUV,CB,CE



Technical Data

Specification		Wiring diagram
	2-2	
Input	2 strings	
Output	2 strings	
Max Voltage	600V	
Rated Current of DC Breaker	15A	
Max Current Output	63A	
Enclosure	**FCDB-EUS**	
Material		
Degree of Protection	IP65	
Impacts	IK10	
Dimensions	BX-12: L273*W215*H118mm	
Input Cable Glands	PG09,2.5-16	
Output Cable Gland	PG21,2.5-16	
Environment		
Operating temperature	-20°C- +60°C	
Humidity	99%	
Altitude	2000M	
Installation	Wall Mounting	



3 INPUT 1 OUTPUT 600VDC / 1000VDC

Product Application

IP65 DC string box is designed for 3 string PV system. For surge protection and current protection at solar DC side.

DC Breaker

EDB1-63

- UL489B design,IEC60947-2 PV&DC standard
- Over-load,short circuit Protection
- Non Polarity for easier wiring

DC Surge Arrester

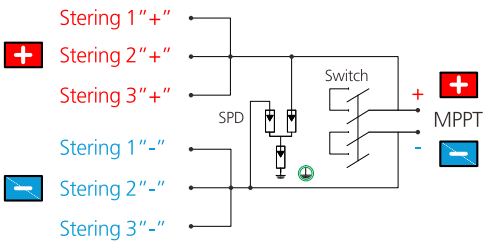
EDPN40-3 / EDPAN40-3

- Max Operation Voltage 1000V
- Standard Compliance with EN50539 Type2 / Type1+2
- Maximum Discharge Current 40 KA
- Certification TUV,CB,CE



Technical Data

Specification			Wiring diagram
	3-1		
Input	3 strings		
Output	1 strings		
Max Voltage	600V	1000V	
Rated Current of DC Breaker	40A	40A	
Max Current Output	63A	40A	
Enclosure	**FCDB-EUS**		
Material	PC		
Degree of Protection	IP65		
Impacts	IK10		
Dimensions	BX-12: L273*W215*H118mm		
Input Cable Glands	PG09,2.5-16		
Output Cable Gland	PG21,2.5-16		
Environment			
Operating temperature	-20°C- +60°C		
Humidity	99%		
Altitude	2000M		
Installation	Wall Mounting		



PV COMBINER BOX

3 INPUT 3 OUTPUT 600VDC / 1000VDC

Product Application

IP65 DC string box is designed for 3 string PV system. For surge protection and current protection at solar DC side.

DC Breaker

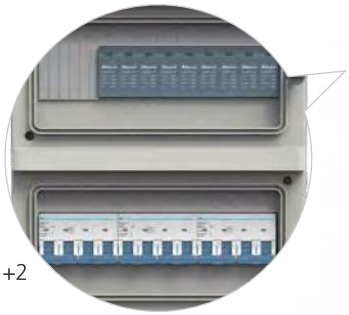
EDB1-63

- UL489B design,IEC60947-2 PV&DC standard
- Over-load,short circuit Protection
- Non Polarity for easier wiring

DC Surge Arrester

EDPN40-3 / EDPAN40-3

- Max Operation Voltage 1000V
- Standard Compliance with EN50539 Type2 / Type1+2
- Maximum Discharge Current 40 KA
- Certification TUV,CB,CE

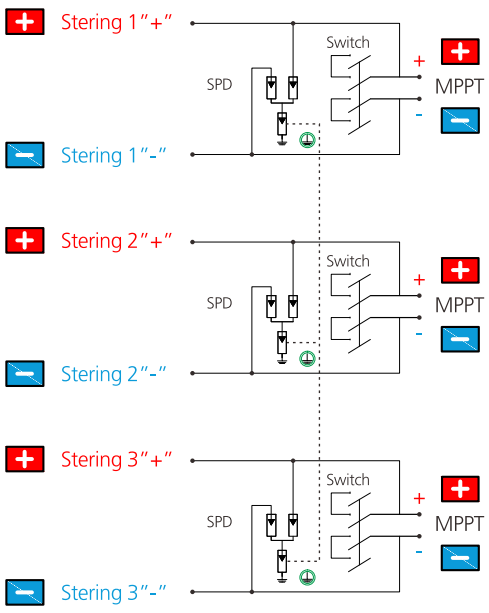




Technical Data

Specification		
	3-3	
Input	3 strings	
Output	3 strings	
Max Voltage	600V	1000V
Rated Current of DC Breaker	40A	40A
Max Current Output	63A	40A
Enclosure	**FCDB-EUS**	
Material	PC	
Degree of Protection	IP65	
Impacts	IK10	
Dimensions	BX-24: L273*W365*H118mm	
Input Cable Glands	PG09,2.5-16	
Output Cable Gland	PG21,2.5-16	
Environment		
Operating temperature	-20°C- +60°C	
Humidity	99%	
Altitude	2000M	
Installation	Wall Mounting	

Wiring diagram



4 INPUT 1 OUTPUT 1000VDC

Product Application

Suitable for PV system, equipped with a surge protector and an isolator,provid-ing isolation, leakage and grounding protection.

DC Surge Arrester

EDPN40-3 / EDPAN40-3

- Max Operation Voltage 1000V
- Standard Compliance with EN50539 Type2 / Type1+2
- Maximum Discharge Current 40 KA
- Certification TUV,CB,CE

DC Fuse

EDFHN-32

- LED Indicator or without LED indicator
- Rated Working Voltage 1000V
- Fuse Link 10x38mm LITTEL 15A
- Certification TUV,CB,CE





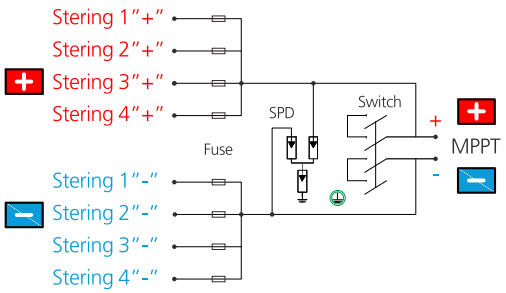
DC Breaker

EDB1-63

- UL489B design,IEC60947-2 PV&DC standard
- Over-load,short circuit Protection
- Non Polarity for easier wiring

Technical Data

Specification		
	4-1	Wiring diagram
Input	4 strings	
Output	1 strings	
Max Voltage	1000V	
Max DC Short Circuit Current Per Input	15A(Changeable)	
Max Current Output	63A	
Enclosure	**FCDB-EUS**	
Material	PC	
Degree of Protection	IP65	
Impacts	IK10	
Dimensions	L273*W365*H118mm	
Cable input Entry	PG09 Cable Gland, 2.5-16mm^2	
Output Cable Gland	PG21,2.5-16mm^2	
Environment		
Operating temperature	-20°C- +60°C	
Humidity	99%	
Altitude	2000M	
Installation	Wall Mounting	



PV COMBINER BOX

4 INPUT 2 OUTPUT 600VDC / 1000VDC

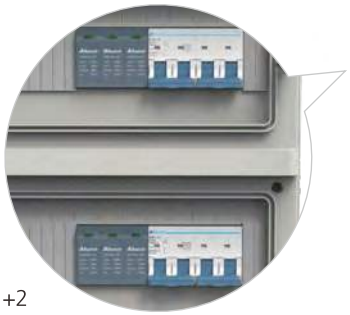
Product Application

IP65 DC string box is designed for 4 string PV system. For surge protection and current protection at solar DC side.

DC Breaker

EDB1-63

- UL489B design,IEC60947-2 PV&DC standard
- Over-load,short circuit Protection
- Non Polarity for easier wiring



DC Surge Arrester

EDPN40-3 / EDPAN40-3

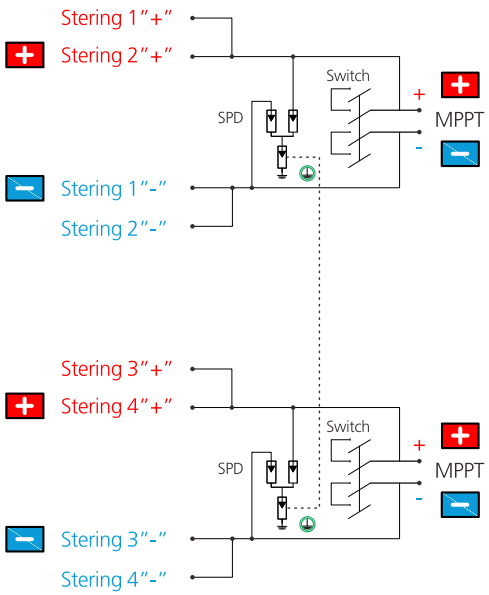
- Max Operation Voltage 1000V
- Standard Compliance with EN50539 Type2 / Type1+2
- Maximum Discharge Current 40 KA
- Certification TUV,CB,CE



Technical Data

Specification		
	4-2	
Input	4 strings	
Output	2 strings	
Max Voltage	600V	1000V
Rated Current of DC Breaker	25A / 25A	25A / 25A
Max Current Output	63A / 63A	63A / 63A
Enclosure	**FCDB-EUS**	
Material	PC	
Degree of Protection	IP65	
Impacts	IK10	
Dimensions	BX-24: L273*W365*H118mm	
Input Cable Glands	PG09,2.5-16	
Output Cable Gland	PG21,2.5-16	
Environment		
Operating temperature	-20°C- +60°C	
Humidity	99%	
Altitude	2000M	
Installation	Wall Mounting	

Wiring diagram



4 INPUT 4 OUTPUT 1000VDC

Product Application

IP65 DC string box is designed for 4 string PV system. For surge protection and current protection at solar DC side.

DC Breaker

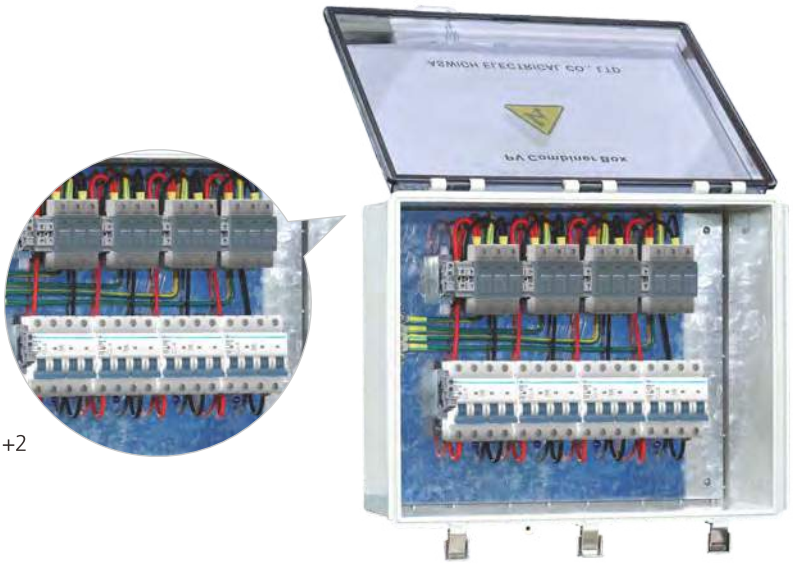
EDB1-63

- UL489B design,IEC60947-2 PV&DC standard
- Over-load,short circuit Protection
- Non Polarity for easier wiring

DC Surge Arrester

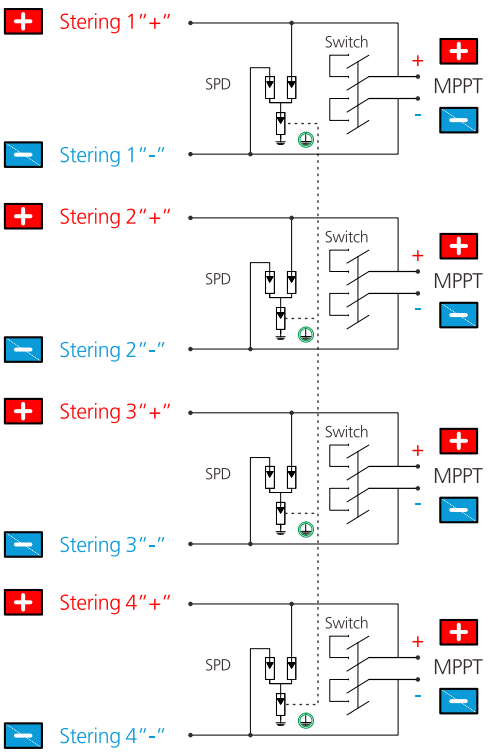
EDPN40-3 / EDPAN40-3

- Max Operation Voltage 1000V
- Standard Compliance with EN50539 Type2 / Type1+2
- Maximum Discharge Current 40 KA
- Certification TUV,CB,CE



Technical Data

Specification		
	4-4	Wiring diagram
Input	4 strings	
Output	4 strings	
Max Voltage	1000V	
Rated Current of DC Breaker	32A / 32A / 32A / 32A	
Max Current Output	63A / 63A / 63A / 63A	
Enclosure		
Material	PC	
Degree of Protection	IP65	
Impacts	IK10	
Dimensions	L400*W500*H200mm	
Input Cable Glands	PG09,2.5-16	
Output Cable Gland	PG21,2.5-16	
Environment		
Operating temperature	-20°C- +60°C	
Humidity	99%	
Altitude	2000M	
Installation	Wall Mounting	



PV COMBINER BOX

5 INPUT 1 OUTPUT 1000VDC

Product Application

IP65 DC string box is designed for 6 string PV system. For surge protection and current protection at solar DC side.

DC Surge Arrester

EDPN40-3 / EDPAN40-3

- Max Operation Voltage 1000V
- Standard Compliance with EN50539 Type2 / Type1+2
- Maximum Discharge Current 40 KA
- Certification TUV,CB,CE

DC Fuse

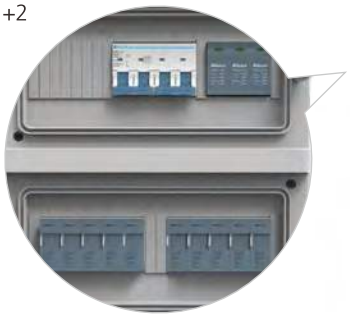
EDFHN-32

- LED Indicator or without LED indicator
- Rated Working Voltage 1000V
- Fuse Link 10x38mm LITTEL 15A
- Certification TUV,CB,CE

DC Breaker

EDB1-63

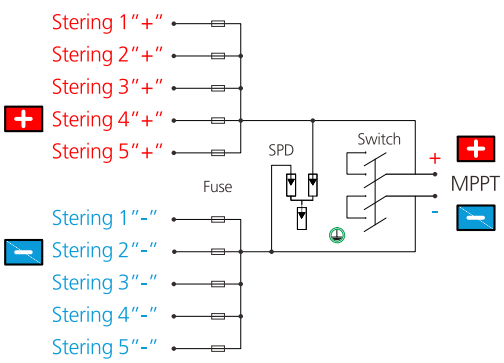
- UL489B design,IEC60947-2 PV&DC standard
- Over-load,short circuit Protection
- Non Polarity for easier wiring





Technical Data

Specification		Wiring diagram
	5-1	
Input	5 strings	
Output	1 strings	
Max Voltage	1000V	
Max DC Short Circuit Current Per Input	15A(Changeable)	
Max Current Output	63A	
Enclosure	**FCDB-EUS**	
Material	PC	
Degree of Protection	IP65	
Impacts	IK10	
Dimensions	BX-24: L273*W365*H118mm	
Cable input Entry	PG09 Cable Gland, 2.5-16mm^2	
Output Cable Gland	PG21,2.5-16mm^2	
Environment		
Operating temperature	-20°C- +60°C	
Humidity	99%	
Altitude	2000M	
Installation	Wall Mounting	



6 INPUT 2 OUTPUT 1000VDC

Product Application

IP65 DC string box is designed for 6 string PV system. For surge protection and current protection at solar DC side.

DC Breaker

EDB1-63

- UL489B design,IEC60947-2 PV&DC standard
- Over-load,short circuit Protection
- Non Polarity for easier wiring





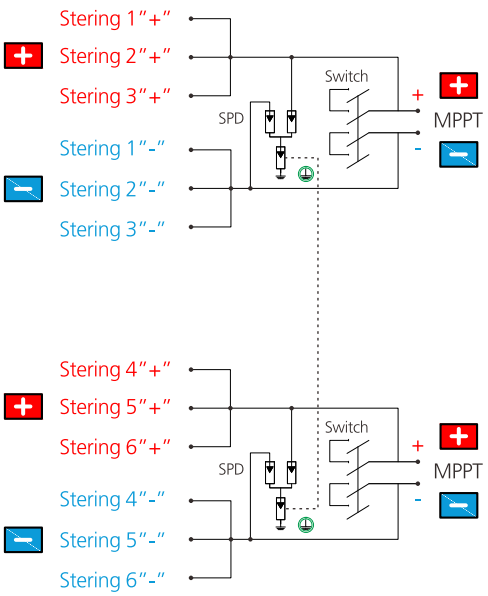
DC Surge Arrester

EDPN40-3 / EDPAN40-3

- Max Operation Voltage 1000V
- Standard Compliance with EN50539 Type2 / Type1+2
- Maximum Discharge Current 40 KA
- Certification TUV,CB,CE

Technical Data

Specification		
	6-2	Wiring diagram
Input	6 strings	
Output	2 strings	
Max Voltage	1000V	
Rated Current of DC Breaker	40A / 40A	
Max Current Output	63A / 63A	
Enclosure	**FCDB-EUS**	
Material	PC	
Degree of Protection	IP65	
Impacts	IK10	
Dimensions	BX-24: L273*W365*H118mm	
Input Cable Glands	PG09,2.5-16	
Output Cable Gland	PG21,2.5-16	
Environment		
Operating temperature	-20°C- +60°C	
Humidity	99%	
Altitude	2000M	
Installation	Wall Mounting	



PV COMBINER BOX

6 INPUT 3 OUTPUT 1000VDC

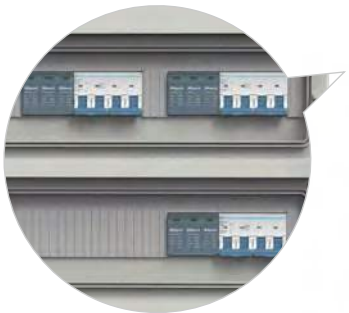
Product Application

IP65 DC string box is designed for 6 string PV system. For surge protection and current protection at solar DC side.

DC Breaker

EDB1-63

- UL489B design,IEC60947-2 PV&DC standard
- Over-load,short circuit Protection
- Non Polarity for easier wiring





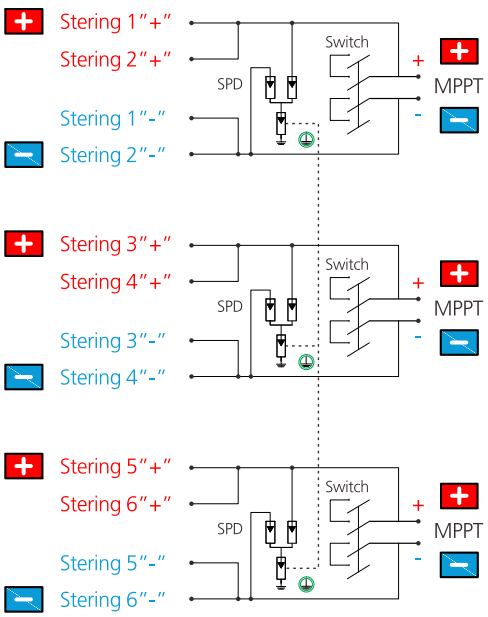
DC Surge Arrester

EDPN40-3 / EDPAN40-3

- Max Operation Voltage 1000V
- Standard Compliance with EN50539 Type2 / Type1+2
- Maximum Discharge Current 40 KA
- Certification TUV,CB,CE

Technical Data

Specification		Wiring diagram
	6-3	
Input	6 strings	
Output	3 strings	
Max Voltage	1000V	
Rated Current of DC Breaker	40A / 40A / 40A	
Max Current Output	40A / 40A / 40A	
Enclosure	**FCDB-EUS**	
Material	PC	
Degree of Protection	IP65	
Impacts	IK10	
Dimensions	BX-36: L381*W365*H118mm	
Input Cable Glands	PG09,2.5-16	
Output Cable Gland	PG21,2.5-16	
Environment		
Operating temperature	-20°C- +60°C	
Humidity	99%	
Altitude	2000M	
Installation	Wall Mounting	



6 INPUT 6 OUTPUT 1000VDC

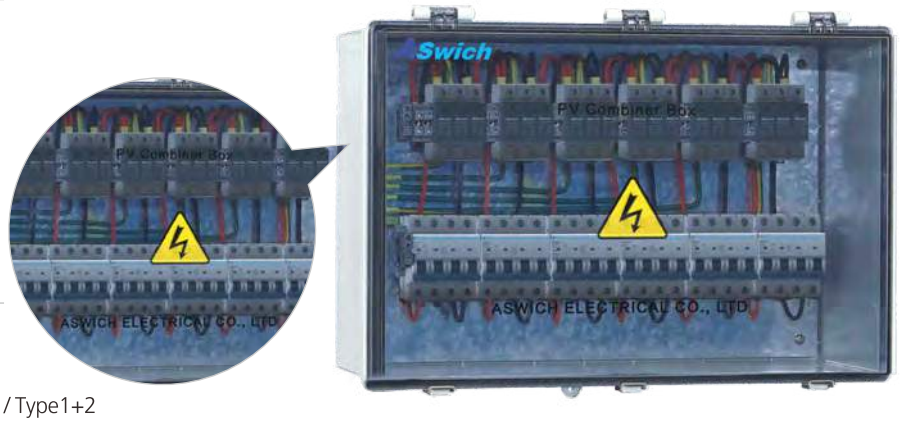
Product Application

IP65 DC string box is designed for 6 string PV system. For surge protection and current protection at solar DC side.

DC Breaker

EDB1-63

- UL489B design,IEC60947-2 PV&DC standard
- Over-load,short circuit Protection
- Non Polarity for easier wiring



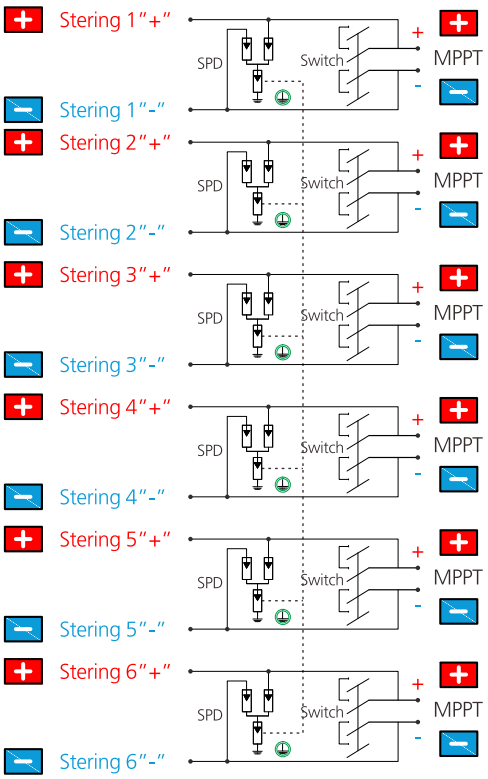
DC Surge Arrester

EDPN40-3 / EDPAN40-3

- Max Operation Voltage 1000V
- Standard Compliance with EN50539 Type2 / Type1+2
- Maximum Discharge Current 40 KA
- Certification TUV,CB,CE

Technical Data

Specification		Wiring diagram
	6-6	
Input	6 strings	
Output	6 strings	
Max Voltage	1000V	
Rated Current of DC Breaker	32A / 32A / 32A / 32A / 32A / 32A	
Max Current Output	40A / 40A / 40A / 40A / 40A / 40A	
Enclosure		
Material	PC	
Degree of Protection	IP65	
Impacts	IK10	
Dimensions	L400*W600*H230mm	
Input Cable Glands	PG09,2.5-16	
Output Cable Gland	PG21,2.5-16	
Environment		
Operating temperature	-20°C- +60°C	
Humidity	99%	
Altitude	2000M	
Installation	Wall Mounting	



- Customized combiner boxes are also acceptable

FCDB-EU Distribution Box



Product Application

The FCDB distribution enclosures are manufactured with the highest-quality plastic materials and are available in ABS and Polycarbonate. They have ample space for wiring and a modular capacity from 4 to 54 modules. They are intended for indoor and outdoor use, where enclosures with a high degree of protection and design are required

Technical Specifications

- Material:ABS or PC
- Degree of protection: IP65
- Resistance to impact: Ik08
- Glow wire resistancet: ABS: 650°C Polycarbonate:750°C.
- Storage temperature:-25°C/+90°C.
- DC Double insulation: Class II

Certifications

Compliant with the Low Voltage Directive 2014/ 35/UE
Standards: UNE-EN 62208 and UNE-EN 61439-1(as applicable





Structural features



Base

- Base with double-height providing greater space on the inside for wiring and devices, and a reinforcement rib that delivers greater rigidity.
- The top and bottom have cut-outs for the entry of M40.M32. M25 and M20 metric cables.
- The base has supports for fixing the neutral and earth bars, as well as DIN rail housings and slots on the bottom to secure the mounting plates, rails, bars. etc.



Frame

- The frame has double-height which gives it greater rigidity.
- The frame-base unit is closed by means of -turn captive plastic sealable power screws. It creates a box that can be sealed at four points.
- Covered with a sealing gasket that guarantees the IP protection of the uinit



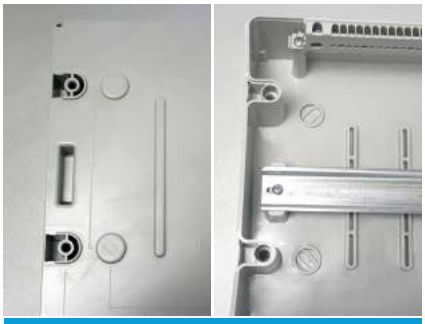
Window

- Transparent tinted windows with UV protection
- The window is covered with a sealing gasket to guarantee the assembly's IP protection degree
- Reversible 180 horizontal window opening
- New-look lock with the IDE Logotype with pressure-operated opening and closing. The lock can be replaced with key locks or triangular locks inserts supplied as accessories



DIN rail attachment

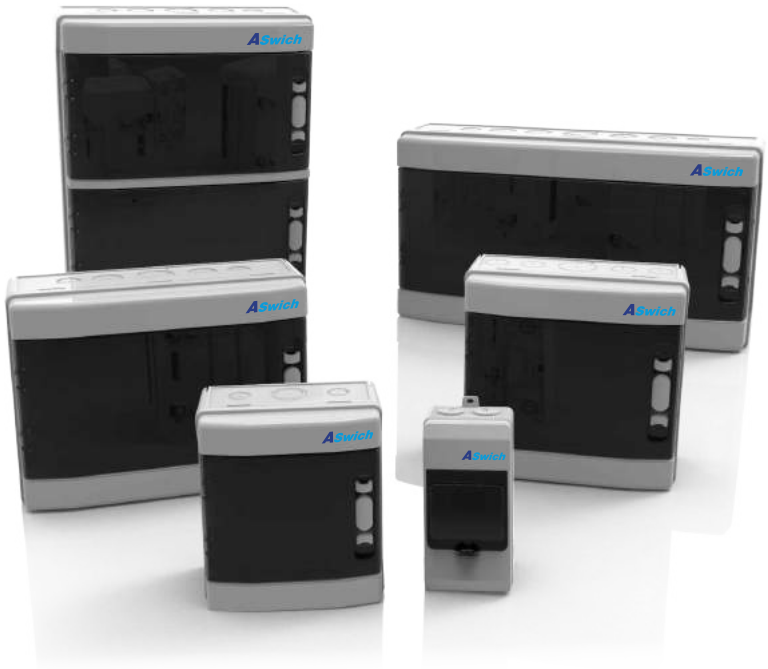
- For l-row models, the rail is inserted into the side housing without a screw and is secured by means of a screw on the other side
- For models with 2 or more rows, a detachable frame is inserted
- Double rail and frame positioning height as of 12 modules of capacity
- The DIN rail is attached to the base with 4x13 special screws or plastic
- The rails are supplied assembled in the bases



Wall-mounting types

- There are two possible wall-mounting systems:
- Using four screws, directly from the housings located at the bottom of the base provided for this purpose; these housings are covered with hermetic caps (supplied in the accessories bag, ref. 77650) to maintain the degree of protection and dielectric strength
- Through the holes made for the purpose of securing the frame-base, by means of four screws

FCDB-EU Distribution Box



Product series

Surface enclosures with a capacity of 4, 6, 8, 12, 18, 24 modules with transparent window

Material

ABS version

- Halogen-free plastic materials.
- Base and frame: ABS RAL 7035 grey.
- Transparent window: PC tinted window, with UV protection

Polycarbonate version.

- Plastic materials.
- Base and frame: PC RAL 7035 grey.
- Transparent window: PC tinted window, with UV protection
  Recommended for outdoor use.

Supply

- Supplied in individual packaging. When several items are sent together, they are bundled together with transparent film. TH35X7.5 trial rail in enclosures with one row of modules and a compact frame in enclosures with two or more rows of modules. They are supplied assembled in all references.
- Accessory bag:
  -Hermetic caps.
  -Cover-base locking screws.
  -Grey module cover (6 modules)
  -Module identification strips
  -Assembly instructions









Features

1. Suitable for PV system, UV resistant.
2. Enclosures are made of polycarbonate(PC-ABS)materials. IK08 high impact-resistance and light enoug to easily carry. IP65 rating for outdoor installation, resisting UV radiation, water, dust, reducing corrosion.
3. Through transparency cover, you can observe interior mechanism directly.
4. Reliable material and TUV, CE certificated, in accordance with IEC standard.
5. Waterproof cable connector & MC4 connector are optional.

Select Code

FC	DB	-	EU	-	A	4P	R
1	2		3		4	5	6

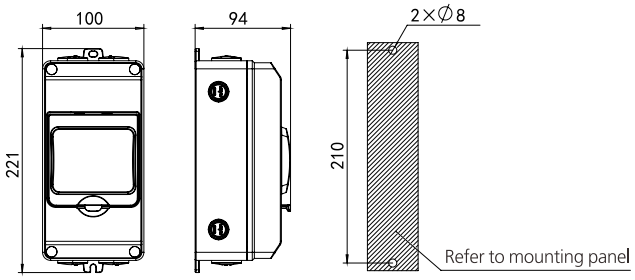
Code	Name	Description
1	FC	ASWICH CODE
2	DB	DISTRIBUTION BOX
3	Type	EU
4	Material	A: ABS P: PC
5	Pole	4P: 4POLE 12P: 12POLE 6P: 6POLE 18P: 18POLE 8P: 8POLE 24P: 24POLE
6	Lockable/Unlock	R:lockable Nil: Unlockable

FCDB-EU Distribution Box

1X4 modules

FCDB-EU-A4P

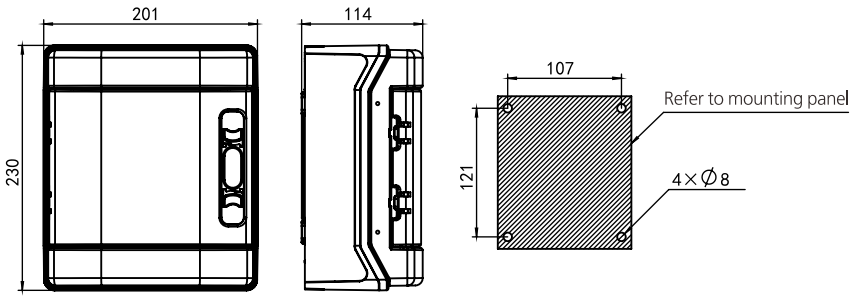




1X6 modules

FCDB-EU-A6P

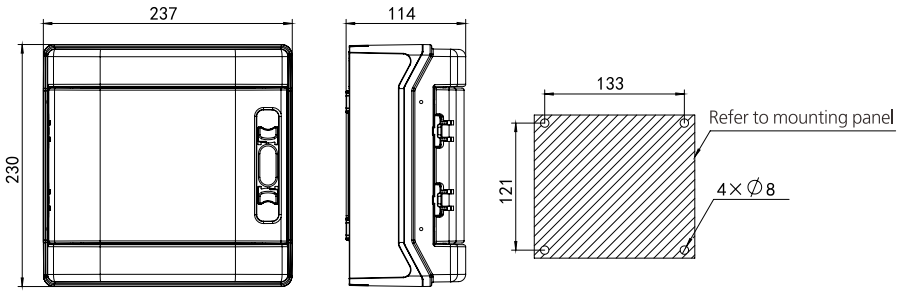




1X8 modules

FCDB-EU-A8P

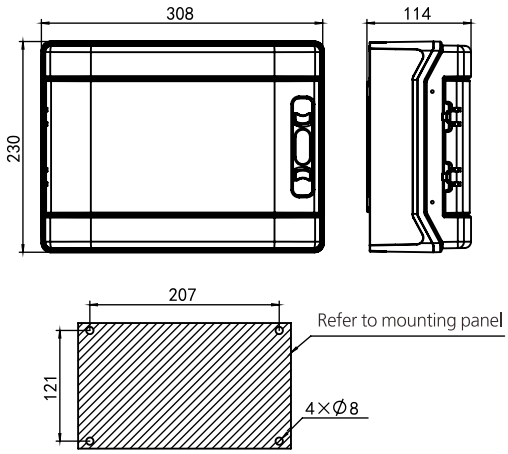




1X12 modules

FCDB-EU-A12P

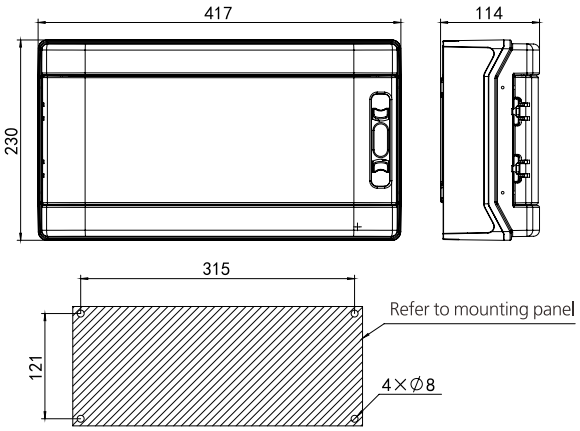




1X18 modules

FCDB-EU-A18P

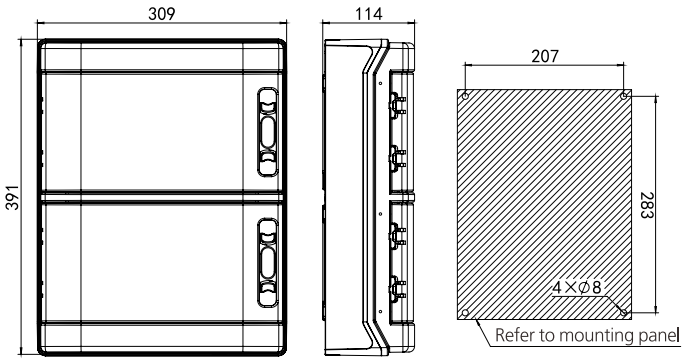




2X12(24) modules

FCDB-EU-A24P





FCDB-EUS Distribution Box



Features

1. Suitable for PV system, equipped with a surge protector and an isolator,provid-ing isolation, leakage and grounding protection.
2. Enclosures are made of polycarbonate(PC)materials. IK08 high impact-resistance and light enoug to easily carry. IP65 rating for outdoor installation, resisting UV radiation, water, dust, reducing corrosion.
3. Through transparency cover, you can observe interior mechanism directly.
4. Reliable components, with TUV, CE certificated, in accordance with IEC standard.
5. IP65 cable connector. Waterproof cable connector & MC4 connector are optional.

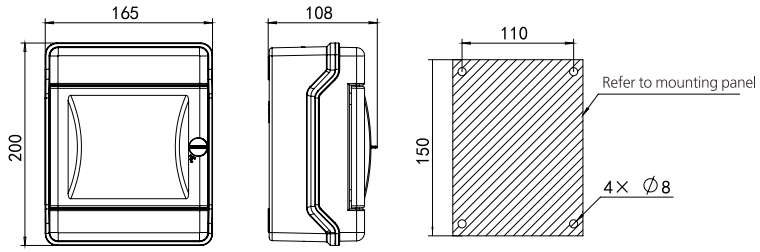
Select Code

FC	DB	-	EUS	-	4P	R
1	2		3		4	5

Code	Name	Description
1	FC	ASWICH CODE
2	DB	DISTRIBUTION BOX
3	Type	EUS
4	Pole	4P :4POLE 12P :12POLE 6P :6POLE 18P :18POLE 8P :8POLE 24P :24POLE
5	Lockable/Unlock	R:lockable Nil: Unlockable

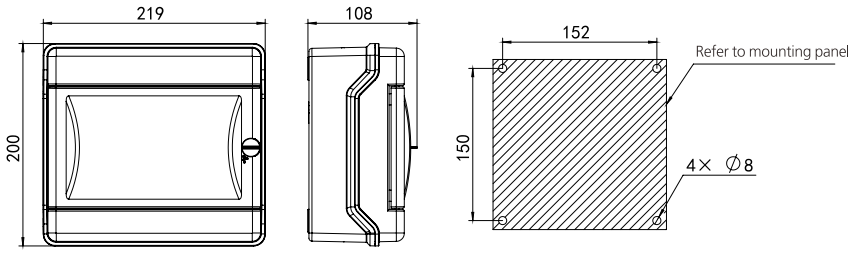
FCDB-EUS-6P





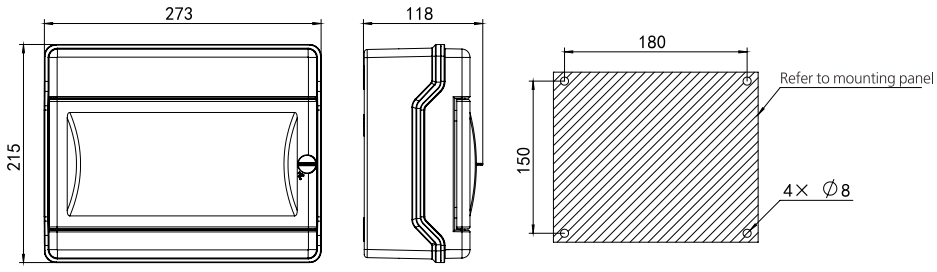
FCDB-EUS-9P





FCDB-EUS-12P

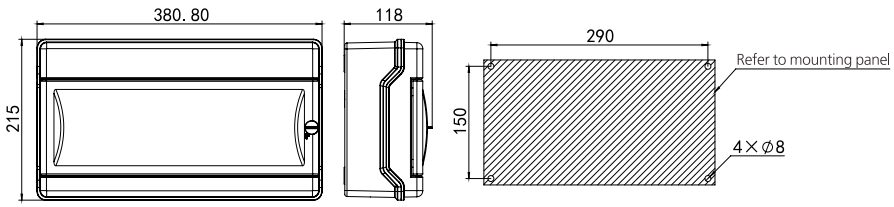




FCDB-EUS Distribution Box

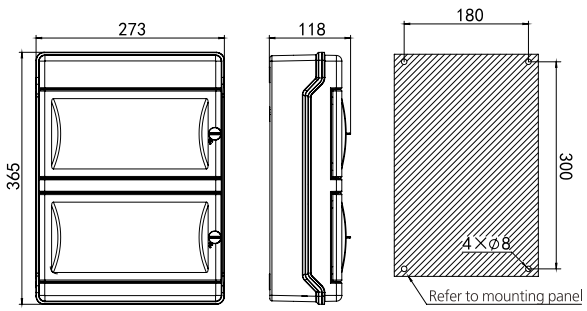
FCDB-EUS-18P





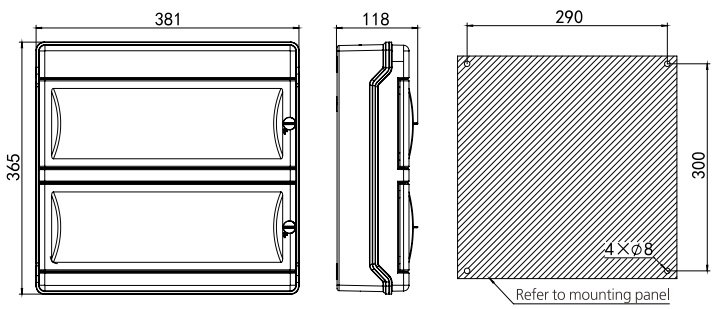
FCDB-EUS-24P





FCDB-EUS-36P





FCDB-EUS Distribution Box

IP65 surface distribution boxes(Series 1)

Reference No.	No of modules	Dimensions Height X Wdth X Depth	Weight G
FCDB-EU-A4P	1x4 DIN rail	221x100x94	550
FCDB-EU-A6P	1x6 DIN rail	231x202x114	1000
FCDB-EU-A8P	1x8 DIN rail	231x238x114	1400
FCDB-EU-A12P	1x12 DIN rail	231x310x114	1700
FCDB-EU-A18P	1x18 DIN rail	231x418x114	1980
FCDB-EU-A24P	2x12(24)DIN rail	392x310x114	2600

IP65 surface distribution boxes (Series 2)

Reference No.	No of modules	Dimensions Height X Wdth X Depth	Weight G
FCDB-EUS-6P	1x6 DIN rail	200x165x108	1000
FCDB-EUS-9P	1x9 DIN rail	200x219x108	1400
FCDB-EUS-12P	1x12 DIN rail	215x273x118	1700
FCDB-EUS-18P	2x9(18)DIN rail	215x381x118	1980
FCDB-EUS-24P	2x12(24)DIN rail	365x273x118	2600
FCDB-EUS-36P	2x18(36)DIN rail	365x381x118	3450

Available in Polycarbonate with a
UV ray-resistant transparent window

IP65

