PROJOY electric

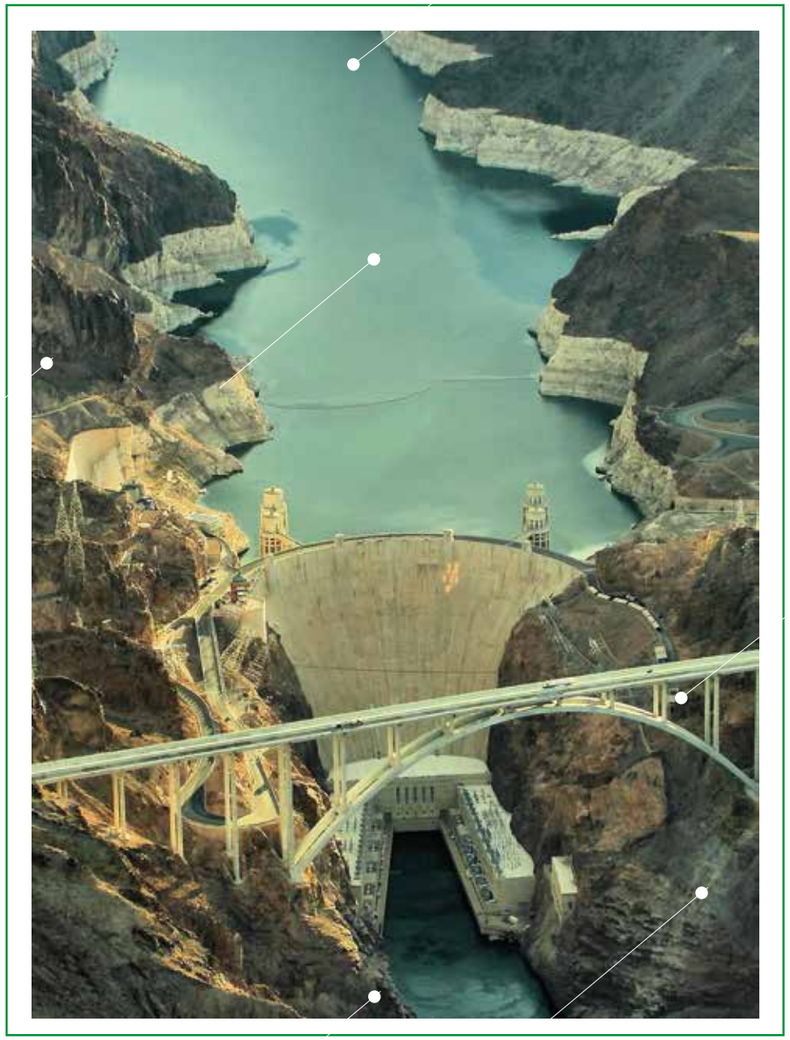
Projoy Electric Co., Ltd

Projoy Electric

XinTang Industrial Zone, North-city Street,PingJiang District, Suzhou, China
Tel: +86 512 6878 6489
Fax: +86 512 6878 6489
www.projoy-electric.com

Photovoltaic DC Switch Technical Manual

PROJOY electric



Switch To Safety!

CONTENT



COMPANY PROFILE

PROJOY ELECTRIC SRL is an electrical equipment manufacturer committed to supplying high-voltage and low-voltage DC switches, intelligent components and intelligent sensorsfor energy conversion equipment and intelligent energy management. Headquartered in Milan, Italy, Projoy Electric has three R & D centres (Milan, Italy; Suzhou, China; Xiamen,China) and subsidiaries in several countries including Italy, UK and China, to meet the
increasing international demand.

The products of Projoy Electric are applied in the areas such as energy power supply equipment (photovoltaic grid inverters, photovoltaic off-grid inverters, photovoltaic energystorage inverters, photovoltaic pump controller, etc.), intelligent management of householdpower supply (intelligent home energy monitoring, storage and rational use), intelligent management of domestic appliances and smart grids.

Projoy is joined by the most professional R&D team in electrical and intelligent power supplyapplications and has electrical product series of completely independent intellectual propertyrights and a number of the core patents on internal PV DC switches, external PV DC switches, various intelligent components, smart sensor components and so on. Technologylevels have leading in the world. Multiple international certifications, including UL and CSA inNorth America, CE certification, globally recognized CB certification, Sweden Nemko certification, Australia SAA certification, Germany VDE certification and China CCC certification have been awarded to Projoy Electric products. External PV DC switch productshave been exported to UK, Australia, France and Italy. In China, the internal PV switch has become components of products from well-known Chinese photovoltaic inverter manufacturers Huawei and Hefei Sungrow.

Projoy Electric employs advanced production equipment and sophisticated testingequipment and constantly introduces advancement in the production procedures and skilled personnel, thereby ensuring manufacturing and quality control. She has an experienced and professional team of international marketing and service, adhering to the localized marketingservice concept, to correctly grasp market trends and customer demands.

Projoy Electric will continue with professional, intelligent, modularised product developmentand constantly promote the product range. With the capable and shrewd administration andmanagement team, the globally competitive essential technology, advanced production equipment and sophisticated testing equipment and mature international market channels,Projoy Electric is world and illuminating the future.

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TERMINOLOGY

A PV Panel: basic PV equipment, exposed to light (for example sunlight), which generates electricity.

A Photovoltaic module: the smallest unit of PVpanels, which can completely protect environmental damage.

A Photovoltaic string: a serial circuit string of PV modules which generates a specific output voltage.

A PV array: a unit consisting of PV chains mechanically and electrically combined othercomponents that produce direct current units.

A PV combiner box: a box is where all PV arrays are electrically connected and any protective equipment for all PV can be placed.

A PV generation device: a collection of photovoltaicpower generation, also known as the photovoltaic field.

Photovoltaic conversion equipment: DC to AC conversion settings, also called inverters.

Standard test conditions (STC): test conditions of the photovoltaic cells and modules specified in NFEN60904-3 (C 57-323).

Open circuit voltage UocSTC : the terminalvoltage of the DC side of photovoltaic modules,photovoltaic chains, PV arrays without load of PV, or photovoltaic conversion device under standard testing.

Short circuit current IocSTC: the short-circuit current of photovoltaic modules, string, arraysor power plants under standard testing.

Maximum reverse current IRM: The maximumreverse current the module can withstand,without any damage, whose value is provided by the manufacturer.

Note 1: This value has nothing to do with the current diversion diodes can withstand and is a normal current in the reverse directiongoing into photovoltaic cells.

Note 2: IocSTC maximum power point (MPPor MPPT) of the module whose typical crystallinesilicon is 2 to 2.6 times, as its name indicates(maximum power point tracking), in principle can

track the MPPT of non-linear power generation devices, such as photovoltaic generation unit.MPPT or MPPTS usually indicates that an inverter under efficient illumination, through matching the load characteristics to the characteristics of PV devices, achieve optimal use of solar energy.

AC .....Alternating Current

DC.....Direct Current

I_e ..... Rated Operational Current

I_{sc} ..... Short-Circuit Current

I_{th}.....Thermal Current

MPPT.....Maximum Power Point Tracking

PV.....Photovoltaic

V_{oc} .....Open-Circuit Voltage

Impp.....MPPT Electric current

AC-21.....Switching of resistive loads, including moderate overloads

AC-22..... Switching ofmixed resistive and inductive loads, including moderate overloads

DC-21.....Switching of resistive loads, including moderate overloads

DC-22.....Switching of mixed resistive and inductive loads, including moderate overloads

Disconnector.....is a mechanical switching device used for carrying current in an electrical circuit under normal conditions and for providing off-load isolation, therefore it is onlyintended to be used for isolation once the current flow is negligible or has been interrupted by another device.

Switch disconnector.....is a mechanical switching device that meets the requirements for utilisation as both a switch and a disconnector, so it can be used to make and breakcurrent whilst also giving on-load isolation.

BS 7671.....Req uirements for Electrical Installations

EN 60364-7-712.....Thin-film terrestrial photovoltaic (PV) modules - Design qualification and type approval

EN 60529.....Specification fordegrees of protection provided byenclosures (IP code)

EN 60947-1.....Low-voltage switchgear and controlgear. Part 1:General rules

EN 60947-3 ..... Low-voltageswitchgear and controlgear.Part3:Switches,disconnectors,switch-disconnectors andfuse-combination units

IEC EN 61215..... Crystalline silicon terrestrial photovoltaic (PV)modules – Design qualification and type approval.

IEC EN 61646 .....Thin-film terrestrial photovoltaic (PV) modules -Design qualification and type approval.

Nema 250 .....Enclosures for Electrical Equipment (1000 Volts Maximum).

UL 94..... Standard for Tests for Flammability of PlasticMaterials for Parts in Devices and Appliances.

UL 508 .... Industrial Control Equipment

UL 508i .....Manual Disconnect Switches intended for use inPhotovoltaic Systems.

HOW TO CHOOSE THE DC SWITCH

True DC Isolators

True DC Isolators

With more than thirty years designing and manufacturing experiences of electrical connectors and switches, also based on the latest photovotaic power generation regulation and combined structural features of electrical sockets and switches, ProJoy Electric Co.,Ltd has designed and developed a DC isolators of rotation and insert type, which is an isolator truly specialised for DC power. The waveform of AC power is standard sine wave and pass through the zero point in every cycle with O Vac, while the DC power keeps straight line with a constant voltage and current without passing through the zero point. Therfore, it will be easier to break a current with zero voltage point than a current with constant non-zero voltage in operation-demandinga smaller breaking mechanical force and causing smaller electric arcing and shorter arc period. There are higher requirements with DC isolators than with AC isolators-larger on/off switching speed, stronger arcing-distinguishingabilities, better flame-retardant properties and higher stability.

Bridge Contacts

Bridge Contacts

Gerenal switch spring contacting mechanism adopts point-to-point, point-to-surfaceorline-to-surface contact methods. By using a third elastic component to increase or keep thepressure between contact pairs, contact performance can be improved such as AC contactors and RCCB (residual-current circuit breaker). When the switch turns off and buffer from the elasticcomponents, the turn-off time is prolonged and hence the arcing time too, which increases the abliation risk and influence the later contact performance. Considering that issue, we have made special treatments and multiple trials for the structure design of the movable and static springs. As for contact pairs, they are in an insertion contact method instead of a touching contact method. Based on the blade design from electric insertion components, the start point of static spring blades has an angle and curvetransition, which requires a lower insertion force and more stable contacting. Movable spring adopts clamp-on design, so it can clamp the static spring without using a third elastic component. When the two springs bounce off each other, the action is quick and sharp, so that the time for arcing is shortened. Meanwhile, based on birdge-type springs' double breaking method, the movable spring is given double insertion socket, allowing it closed with or disconnected with two static springs simultaneously so that one circuit can have two breaking points to ensure the contacting stability and the steadiness of the disconnected circuit.

Independent Switching Action Interacts with aSpring Mechanism

Independent Switching Action Interacts with a Spring Mechanism

Conpare to the linear motion in the AC contactor, Projoy DC isolator adopts rotation switching structure. Swtich button has no direct connection with strings, so the operator's turning speed and strengh will not influence the strings movement directly and further will not influence the switch from ON to OFF or from OFF to ON. There is a energy storage part inside the switch. When operating the button manually, the spring collects energy and active the "trigger"in a certain angle, the movable spring will be flicked immediately and accomplish the switching process, which takes only 5ms while AC contactor takes around 100ms. Shorter switching time contributes to a shorter arcing time length, which improve the physical properties and contact properties of the contact pairs.

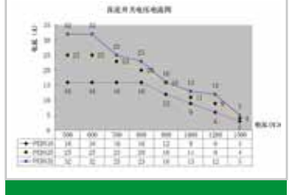
Reduce and Extinguish the Arc Effects

Reduce and Extinguish the Arc Effects It is inevitable to produce arc when the isolator is switched, moreover,
the arc of DC isolator is stronger and more persistent. Design of structure of contact paris and improvement of speed of isolator switch can reduce the produce and existing time of arc, structure design of blade spring also have advantage as follow:
1.Self-cleaning contact design, as using revolving contact mode,contact pairs revolve when touching so that touch area can be scrub clean, this design can clean the dirt produced by arc, keeping the renew of the contact, ensuring the function of contact.
2. Arc occur area is not coincide with contact area. Socket of movable spring structure and edge type static spring structure, arc is produced on the socket of movable spring and the edge of stable spring so that the arc will not be produced in the middle of contact area, so that the arc influence less to the conduction, to avoid contact pairs heat increase quickly caused by contact area burn and resistance increase.

Reduce and Extinguish the Arc Effects

Stringent Electrical Specification

1. Working voltage can be as high as 1500V
2.Working current can be as high as 58A
3.Level 2-12 design, can satisfied inverter with 6 MPPT tracking design maximum.
4.Using V-O standard insulation martial.
5.With high conduction copper, activities and wire contact point is copper plate zinc.



Stringent Electrical Specification

Higher Protection Level

1. Build-in isolator, adding soft gasket after the installation of panel, adding mechanical steal structure on the rotate. installing seal rings on the screw which is installed on the panel, installing in the case so that the protection level can get IP66, moreover, the seal rings ensure the solidness of isolator, outstanding water proof especially for panel with textured and waved, the it can reach IP 66.
2. External isolator, with mechanical steal between shell and revolving button rotate (patent),surrounded by stainless steel screw, with import steal rings between revolving button and moveaxle, ensuring IP66 protection for the hole of enclosure DC isolator.
3、There are 3 kinds of installation options: siding installation, the outer panel 2-hole mounting, theinside 4-hole mounting.

Flexible wiring

1. Built-in jumper, convenient for series and parallel wiring, saving space, more beautiful,
2. Space wring, easy to find.
3. 45°angle design for terminal with different face-con contact, making sure AC isolator can be wired in small space.
4. Enough space of the shell of external isolator so that wiring is convenient.
5. External switch is available for multi connectors(M25，M20，M16，M12), possible to choose water proof wire connecter or MC4 connecter.

Anti-misoperation Design

1. Possible to choose padlock or gate lock to avoid disoperation.
2.On/Off position is different from the limit of isolator way, to avoid the disoperation caused by not sure the situation of isolator.

Strong Environment Adaptability

1. Enough space for external isolator make sure it can work well with the environment of 25℃~70℃, the build-in isolator can also work with this environment.
2. 1500V insulation voltage testing standard, available to use safely in the AC system as high as 1500V, satisfied over or under voltage I~III standard, and pollution standard level 2.

APPLICATIONS FOR INDUSTRY

Photovoltaic devices,Wind power | The energy storage device,The power tra nsmission ,Electric traction

Photovoltaic devices

With the rapid development of the solar industry, the number of large capacity solar power plants is increasing, and so such power plants require more and more strictly on the performance of control and protection equipment.

When the power of a PV plant reach a certain level, a circuit breaker or disconnecting switch is needed. Especially, for protective isolation of an inverter, the requirements on low-voltage components are higher.

Wind power

Wind power is growing to a boom in the world. It does not require the use of fuel, nor does it produce radiation or air pollution. DC switches developed by Projoy are wide in the applicable voltage band and hence can be widely used in wind power generation and distribution systems.

The energy storage device

Application of energy storage technology in the photovoltaic power generation system provides the feasible solution to adverse effects of photovoltaic power generation on the power grid, and brings in economical
benefit to both in the user end and in the grid end. PV DC switches, as an important protection device in the application system,directly affect the safe and reliable operation of PV systems.

The power tra nsmission (direct cu rrent transmission .....)

Since the 1980s, the pace of development of power transmission technology has accelerated evidently. Direct current transmission has great practical significance to improving the transmission capacity of the existing transmission systems and exploiting the potential of the existing equipment. Its implement can have a significant impact. DC voltage solutions provided by Projoy can meet customer needs in this area.

Electric traction

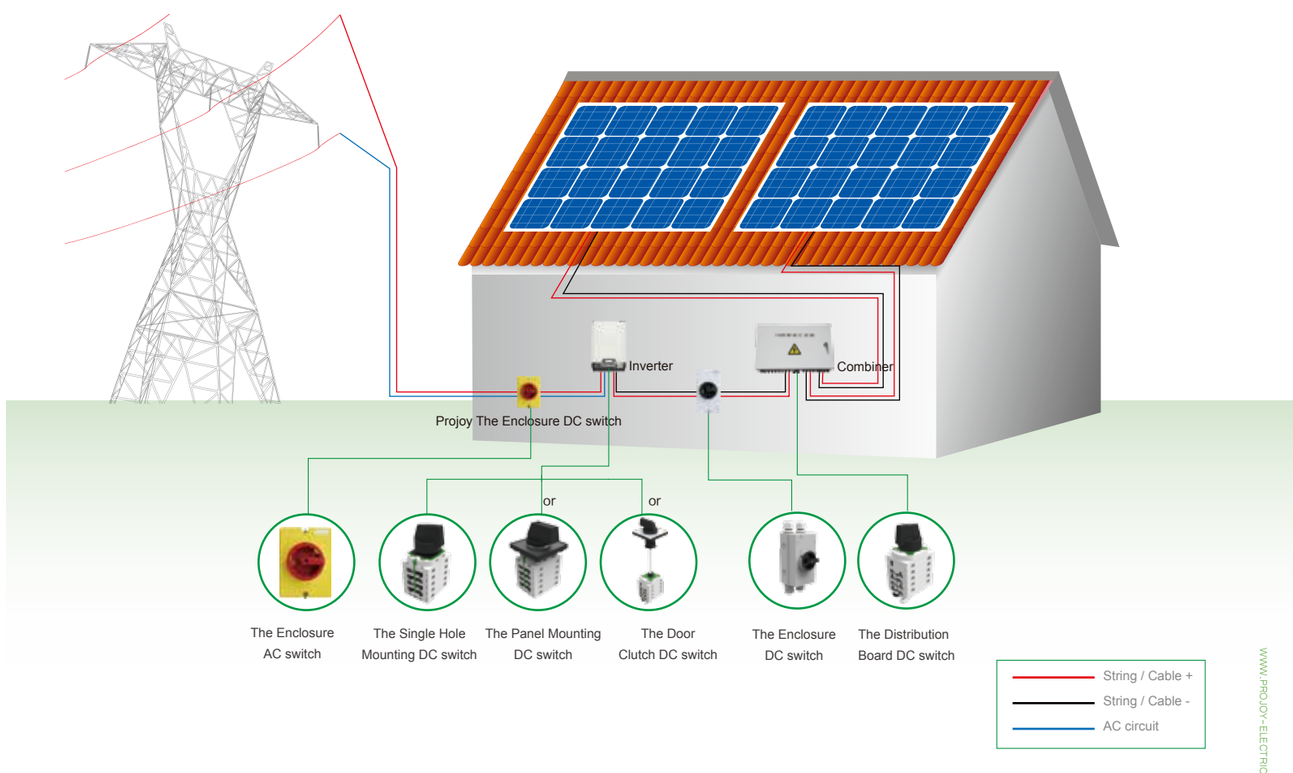
Electric traction is a means of traction where the electricity serves as power of a locomotive, mainly applied in track transport systems such as railways, urban transport and underground track. Since the operations of track transport systems relate to the safety of thousands of passengers,the safety and reliability of the whole system must be ever improved. Projoy offers a full range of products and solutions to the protection of the master drive system and the lighting system of electric locomotives.

CATEGORISATION OF SWITCHES

DC Switch	AC Switch	Switch Open
The Single Hole Mounting DC switch	The Single Hole Mounting AC switch	The Enclosure DC switch
The Panel Mounting DC switch	The Panel Mounting AC switch	The Enclosure AC switch
The Distribution Board DC switch	The Distribution Board AC switch	
The Door Clutch DC switch	The Door Clutch AC switch	

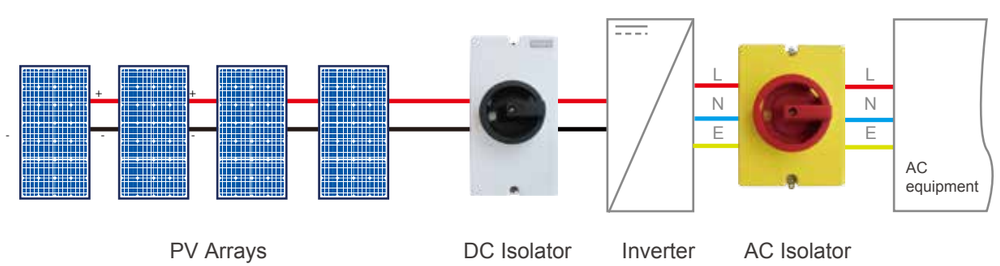
PV POWER PLANT SYSTEM SOLUTION DIAGRAM

Overall equipment of a solar photovoltaic power plant consists of solar trackers, DC combiner boxes, DC cabinets, the inversion system, the measurement and monitoring system, the AC power distribution and grid-tying systems. Projoy provides a complete range products specially design for PV usage to help reduce investment costs, to simplify the project construction and to provide equipment reliability while simplifying operations, reducing risk, and providing long-term and rapid service support.

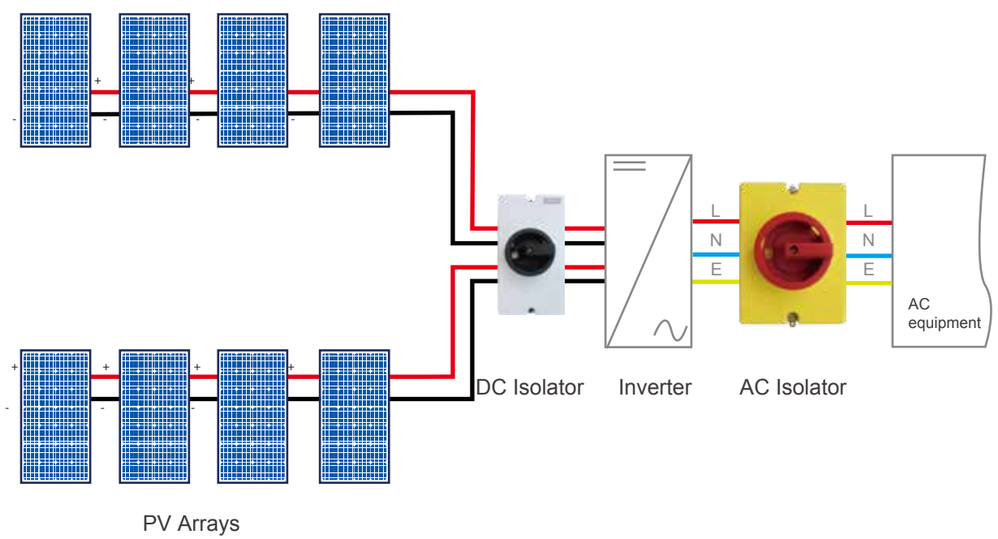


ISOLATOR POSITION IN THE SYSTEM

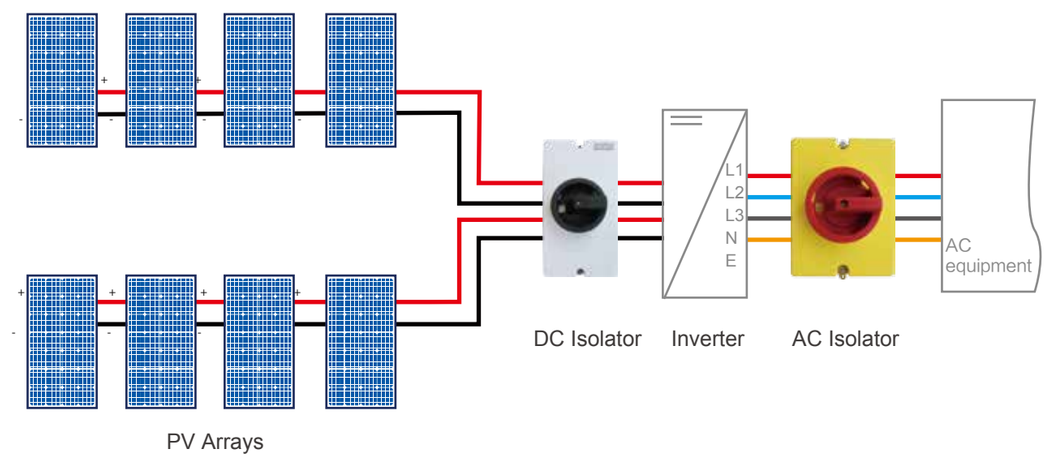
For 1MPPT single-phase inverter (1-3.6kW)



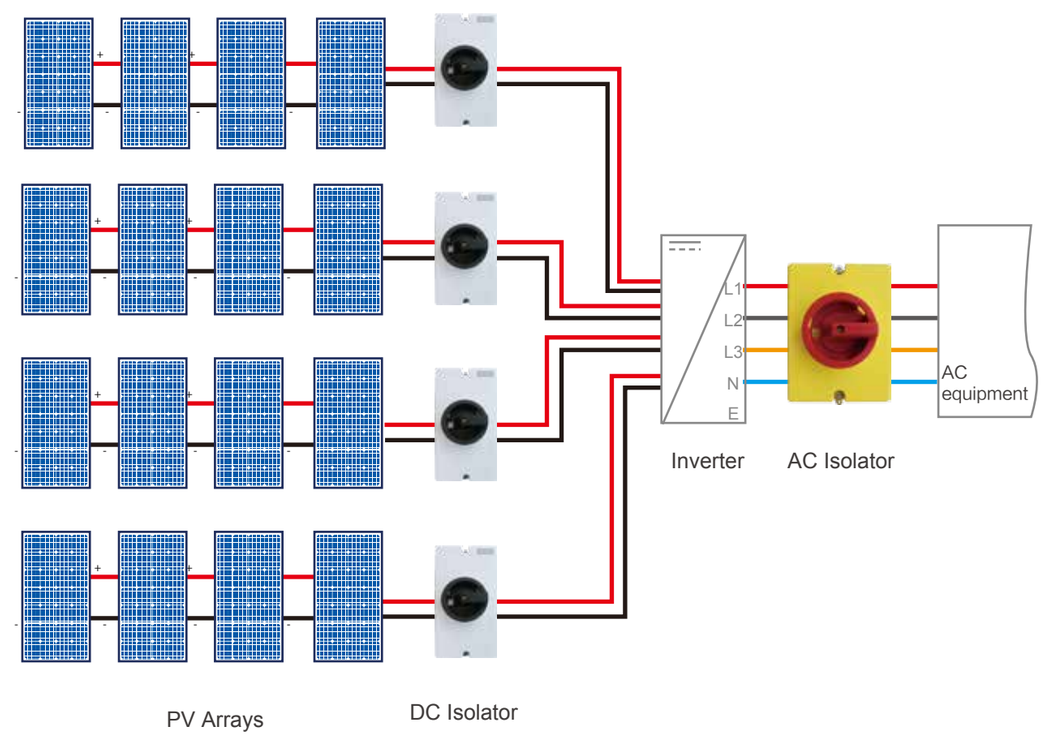
For 2MPPT single-phase inverter (3-6kW)



For 2MPPT three-phase inverter (6-20kW)



For multi-MPPT inverter, controlled individually



SINGLE HOLE MOUNTING DC ISOLATOR

PEDS150R-HM-X

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FEATURES

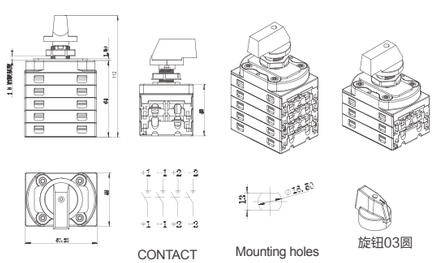
- Compact structure, modular design, level 2-8 with different versos are available,satisfied to the need of different situations.
- Single hole is easy to install,favorable seal design, use import seal component to make sure that the installation machines is available to reach IP66 standard.
- Incorporating a user independent switching action, spring mechanism, to ensure a very fast break/make action which means the disconnection of the load circuits and suppression of the arc is normally extinguished in a maximum of 5ms.
- Double arc extinguishing mechanism, magnetic and arc chutes, restrain the arc efficiency,especially DC arc.
- SAFE-LOCK with three rotational positions reducing the risks of tampering.
- Class B electrical nominal, stronger overload capacity, over-voltage III, and Pollutiondegree II.
- Rated DC voltage is 1500V, with international certifications like IEC60947-3, UL508i,GB14048.3.etc.

MODEL DESIGNATION MEANING

PEDS 150 R-HM 16 (L)-2

- 2、4、6、8 poles optional
- Level Actuator Lockable Optional
- Rated Thermal Current 16A
- single hole mounting
- Reversed Contacts Optional
- Rated Insulation Voltage 1500V
- PROJOY Electric DC Switch

PRODUCT DIMENSIONS



TECHNICAL DATA

PEDS150R-HM16-X

Technical data				HM16	HM25	HM32
Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.						
Main Parameters						
Rated insulation voltage	Ui		V	1500	1500	1500
Rated thermal current	Ithe		A	16	25	32
rated impulse withstand voltage	Uimp		V	8000	8000	8000
rated short-time withstand current (1s)	Icw	2, 4, 6, 8	A	800	900	1000
		2H, 3H, 4H	A	1300	1500	1700
rated short-circuit making capacity	Icm	2, 4, 6, 8	A	800	900	1000
		2H, 3H, 4H	A	1300	1500	1700
rated conditional short-circuit current	Icc		A	5000	5000	5000
Max. fuse size	gL (gG)		A	40	63	80
Maximum cable cross sections (incl. jumper)						
solid or standard			mm²	4-16	4-16	4-16
flexible			mm²	4-10	4-10	4-10
flexible (+ multicore cable end)			mm²	4-10	4-10	4-10
Torque						
Tightening torque terminal screws M4.			Nm	1.2-1.3		
Tightening torque panel mounting screws ST4.2(304 stainless steel)			Nm	NA		
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		
Power loss per switch Max.						
2			W	0.8	2	3
4			W	1.6	4	6
6			W	2.4	6	9
8			W	3.2	8	12
2H			W	0.4	1	1.5
3H			W	0.6	1.5	2.25
4H			W	0.8	2	3
General parameters						
method of mounting				single hole mounting		
type of knob				A	B	
knob positions				OFF at 12 hr,ON at 3 hr; (OFF at 9 hr,ON at 12 hr optional)		
Mechanical life				10,000		
number of DC poles				2 or 4 (6/8 pole optional)		
Distance of contacts (per pole)			mm	8		
Operation temperature			℃	-40 to +70		
Storage temperature			℃	-40 to +85		
Pollution degree				2		
Overvoltage category				III		
IP rating of shafte and mounting nut				IP66		

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Switch to Safety

TECHNICAL DATA

PEDS150R-HM16-X

Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.								Poles in series	No. of Strings	Part Number	Contact Configuration
500V	600V	700V	800V	900V	1000V	1200V	1500V				
9	6	4.5	3	2.5	1.5	/	/	1	1	PEDS150R-HM16-1	
11	8	6	4	3	2	/	/	1	1	PEDS150R-HM25-1	
13	10	7.5	5	4	2.5	/	/	1	1	PEDS150R-HM32-1	
16	16	16	16	13	9	6	3	2	1	PEDS150R-HM16-2	
25	25	23	20	16	11	8	4	2	1	PEDS150R-HM25-2	
32	32	27	23	20	13	10	5	2	1	PEDS150R-HM32-2	
16	16	16	16	13	9	6	3	2	2	PEDS150R-HM16-3	
25	25	23	20	16	11	8	4	2	2	PEDS150R-HM25-3	
32	32	27	23	20	13	10	5	2	2	PEDS150R-HM32-3	
29	29	16	16	13	9	6	3	2	1	PEDS150R-HM16-2H	
45	45	23	20	16	11	8	4	2	1	PEDS150R-HM25-2H	
58	50	27	23	20	13	10	5	2	1	PEDS150R-HM32-2H	
16	16	16	16	13	9	6	3	2	2	PEDS150R-HM16-4	
25	25	23	20	16	11	8	4	2	2	PEDS150R-HM25-4	
32	32	27	23	20	13	10	5	2	2	PEDS150R-HM32-4	
16	16	16	16	16	16	16	16	4	1	PEDS150R-HM16-4S	
25	25	25	25	25	25	25	20	4	1	PEDS150R-HM25-4S	
32	32	32	32	32	32	32	23	4	1	PEDS150R-HM32-4S	
16	16	16	16	16	16	16	16	4	1	PEDS150R-HM16-4T	
25	25	25	25	25	25	25	20	4	1	PEDS150R-HM25-4T	
32	32	32	32	32	32	32	23	4	1	PEDS150R-HM32-4T	
16	16	16	16	16	16	16	16	4	1	PEDS150R-HM16-4B	
25	25	25	25	25	25	25	20	4	1	PEDS150R-HM25-4B	
32	32	32	32	32	32	32	23	4	1	PEDS150R-HM32-4B	
16	16	16	16	13	9	6	3	2	3	PEDS150R-HM16-6	
25	25	23	20	16	11	8	4	2	3	PEDS150R-HM25-6	
32	32	27	23	20	13	10	5	2	3	PEDS150R-HM32-6	
29	29	29	29	29	29	12	9	3	1	PEDS150R-HM16-3H	
45	45	38	38	38	38	14	11	3	1	PEDS150R-HM25-3H	
58	50	45	45	45	45	16	13	3	1	PEDS150R-HM32-3H	
16	16	16	16	13	9	6	3	2	4	PEDS150R-HM16-8	
25	25	23	20	16	11	8	4	2	4	PEDS150R-HM25-8	
32	32	27	23	20	13	10	5	2	4	PEDS150R-HM32-8	
29	29	29	29	29	29	29	16	4	1	PEDS150R-HM16-4H	
45	45	45	45	45	45	45	20	4	1	PEDS150R-HM25-4H	
58	58	58	58	58	58	50	23	4	1	PEDS150R-HM32-4H	

PANEL MOUNTING DC ISOLATOR

PEDS150R-PM-X

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Switch to Safety

FEATURES

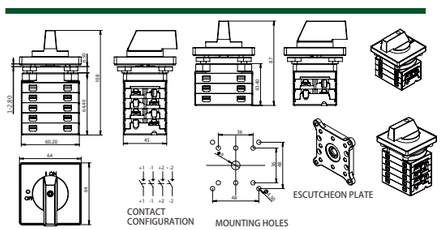
- Compactly structured, modularisedly designed, models with a number of 2-8 poles are available, meeting the demands of different scenarios.
- The panel mounting mode ensures the solid installation, with a good sealing design and sealing parts from world's leading manufacturers, and makes sure that the application mounted to reaches IP66 standard.
- A high speed break/make action is adopted using potential-building s prings where when the potential gets to a triggering point(before manual operation of the handle reaches the shift position) achieved is a rapid status change and the action time of breaking/making is less than 5ms.
- The mounting panel measures 48mm2, taking a small area on the base of the inverter or as such, more convenient for multiple terminals installation.
- The switch adopts flame resistant material with a insulation grade UL 94V-0, so that they can work under full load in ambient temperatures of -40℃~+70℃.
- Rated DC voltage is 1500V, with international certifications like IEC60947-3,UL508i,GB14048.3.etc.

MODEL DESIGNATION MEANING

PEDS 150 R-PM 16 (R)-2

- 2、4、6、8 poles optional
- Rotary Lockable Optional
- Rated Thermal Current 16A
- Panel Mounting
- Reversed Contacts
- Rated Insulation Voltage 1500V
- PROJOY Electric DC Switch

PRODUCT DIMENSIONS



MOUNTING HOLES
The above diagram contains three installation methods:
A, 4 holes, center distance of 48;
B, 4 holes, center distance 36;
C, 2 holes, the center distance of 36.

TECHNICAL DATA

PEDS150R-PM16-X

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rated impulse withstand voltage	Uimp		V	8000	8000	8000
rated short-time withstand current (1s)	Icw	2, 4, 6, 8	A	800	900	1000
		2H, 3H, 4H	A	1300	1500	1700
rated short-circuit making capacity	Icm	2, 4, 6, 8	A	800	900	1000
		2H, 3H, 4H	A	1300	1500	1700
rated conditional short-circuit current	Icc		A	5000	5000	5000
Max. fuse size	gL (gG)		A	40	63	80
Maximum cable cross sections (incl. jumper)						
solid or standard			mm^2	4-16	4-16	4-16
flexible			mm^2	4-10	4-10	4-10
flexible (+ multicore cable end)			mm^2	4-10	4-10	4-10
Torque						
Tightening torque terminal screws M4.			Nm	1.2-1.3		
Tightening torque panel mounting screws ST4.2(304 stainless steel)			Nm	0.8-0.9		
Tightening torque single hole mounting nut M16			Nm	NA		
Tightening torque knob screws M3			Nm	0.5-0.7		
Switching on or off torque			Nm	0.9-1.9		
Power loss per switch Max.						
2			W	0.8	2	3
4			W	1.6	4	6
6			W	2.4	6	9
8			W	3.2	8	12
2H			W	0.4	1	1.5
3H			W	0.6	1.5	2.25
4H			W	0.8	2	3
General parameters						
method of mounting				panel mounting		
type of knob				A	B	C
knob positions				OFF at 12 hr,ON at 3 hr; (OFF at 9 hr,ON at 12 hr optional)		
Mechanical life				10,000		
number of DC poles				2 or 4（6/8 pole optional）		
Distance of contacts (per pole)			mm	8		
Operation temperature			℃	-40 to +70		
Storage temperature			℃	-40 to +85		
Pollution degree				2		
Overvoltage category				III		
IP rating of shafte and mounting nut				IP66		

TECHNICAL DATA

PEDS150R-PM16-X

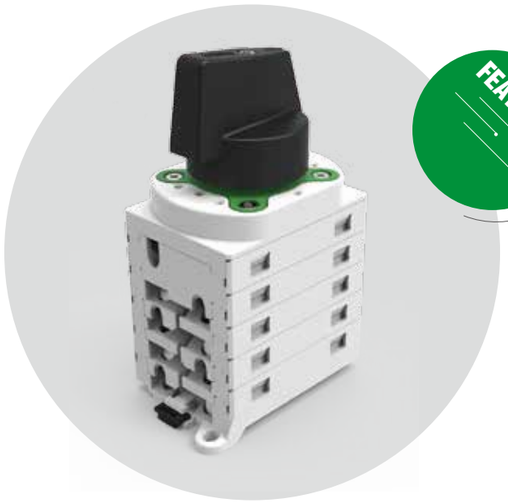
Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.								Poles in series	No. of Strings	Part Number	Contact Configuration
500V	600V	700V	800V	900V	1000V	1200V	1500V				
9	6	4.5	3	2.5	1.5	/	/	1	1	PEDS150R-PM16-1	
11	8	6	4	3	2	/	/	1	1	PEDS150R-PM25-1	
13	10	7.5	5	4	2.5	/	/	1	1	PEDS150R-PM32-1	
16	16	16	16	13	9	6	3	2	1	PEDS150R-PM16-2	
25	25	23	20	16	11	8	4	2	1	PEDS150R-PM25-2	
32	32	27	23	20	13	10	5	2	1	PEDS150R-PM32-2	
16	16	16	16	13	9	6	3	2	2	PEDS150R-PM16-3	
25	25	23	20	16	11	8	4	2	2	PEDS150R-PM25-3	
32	32	27	23	20	13	10	5	2	2	PEDS150R-PM32-3	
29	29	16	16	13	9	6	3	2	1	PEDS150R-PM16-2H	
45	45	23	20	16	11	8	4	2	1	PEDS150R-PM25-2H	
58	50	27	23	20	13	10	5	2	1	PEDS150R-PM32-2H	
16	16	16	16	13	9	6	3	2	2	PEDS150R-PM16-4	
25	25	23	20	16	11	8	4	2	2	PEDS150R-PM25-4	
32	32	27	23	20	13	10	5	2	2	PEDS150R-PM32-4	
16	16	16	16	16	16	16	16	4	1	PEDS150R-PM16-4S	
25	25	25	25	25	25	25	20	4	1	PEDS150R-PM25-4S	
32	32	32	32	32	32	32	23	4	1	PEDS150R-PM32-4S	
16	16	16	16	16	16	16	16	4	1	PEDS150R-PM16-4T	
25	25	25	25	25	25	25	20	4	1	PEDS150R-PM25-4T	
32	32	32	32	32	32	32	23	4	1	PEDS150R-PM32-4T	
16	16	16	16	16	16	16	16	4	1	PEDS150R-PM16-4B	
25	25	25	25	25	25	25	20	4	1	PEDS150R-PM25-4B	
32	32	32	32	32	32	32	23	4	1	PEDS150R-PM32-4B	
16	16	16	16	13	9	6	3	2	3	PEDS150R-PM16-6	
25	25	23	20	16	11	8	4	2	3	PEDS150R-PM25-6	
32	32	27	23	20	13	10	5	2	3	PEDS150R-PM32-6	
29	29	29	29	29	29	12	9	3	1	PEDS150R-PM16-3H	
45	45	38	38	38	38	14	11	3	1	PEDS150R-PM25-3H	
58	50	45	45	45	45	16	13	3	1	PEDS150R-PM32-3H	
16	16	16	16	13	9	6	3	2	4	PEDS150R-PM16-8	
25	25	23	20	16	11	8	4	2	4	PEDS150R-PM25-8	
32	32	27	23	20	13	10	5	2	4	PEDS150R-PM32-8	
29	29	29	29	29	29	29	16	4	1	PEDS150R-PM16-4H	
45	45	45	45	45	45	45	20	4	1	PEDS150R-PM25-4H	
58	58	58	58	58	58	50	23	4	1	PEDS150R-PM32-4H	

DISTRIBUTION BOARD DC ISOLATOR

PEDS150-DB-X

PROJOY electric

Switch to Safety



FEATURES

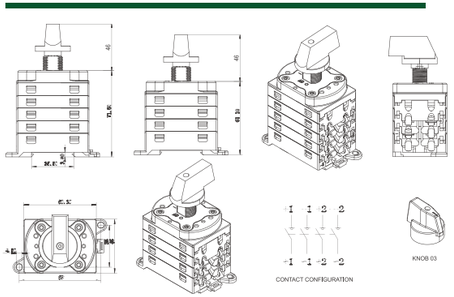
- Compactly structured, modularisedly designed, models with a number of 2-8 poles are available,meeting the demands of different scenarios.
- Ding rail and base mounting switches are applicable with the control box, the distribution box and the combiner box, with sealing parts from world's leading manufacturers and so theyachieve a grade of IP20.
- A high speed break/make action is adopted using potential-building springs where when the potential gets to a triggering point(before manual operation of the handle reaches the shift position) achieved is a rapid status change and the action time of breaking/making is less than 5ms.
- Improved design of the contact touch, increases the interface of contact, … improves the roughness of the surface, ensuring a high performance when contacts are from separate to touching or from touching to separate.
- The torque of the switch is 1Nm,easy to operate and the cable terminals match 4mm2~16mm2 cable terminals.
- SAFE-LOCK in three rotational positions is available, reducing the risk of mis-operation..
- A DC voltage Rating of 1500V is designed, awarded a number of international certifications such as IEC 60947-3.

MODEL DESIGNATION MEANING

PEDS 150 - DB 16 (L) - 2

- 2、4、6、8 poles optional
- Level Actuator Lockable Optional
- Rated Thermal Current
- Distribution Board
- Rated Insulation Voltage 1500V
- PROJOY Electric DC Switch

PRODUCT DIMENSIONS



TECHNICAL DATA

PEDS150R-DB16-X

Technical data				DB16	DB25	DB32
Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.						
Main Parameters						
Rated insulation voltage	Ui		V	1500	1500	1500
Rated thermal current	Ithe		A	16	25	32
rated impulse withstand voltage	Uimp		V	8000	8000	8000
rated short-time withstand current (1s)	Icw	2, 4, 6, 8	A	800	900	1000
		2H, 3H, 4H	A	1300	1500	1700
rated short-circuit making capacity	Icm	2, 4, 6, 8	A	800	900	1000
		2H, 3H, 4H	A	1300	1500	1700
rated conditional short-circuit current	Icc		A	5000	5000	5000
Max. fuse size	gL (gG)		A	40	63	80
Maximum cable cross sections (incl. jumper)						
solid or standard			mm^2	4-16	4-16	4-16
flexible			mm^2	4-10	4-10	4-10
flexible (+ multicore cable end)			mm^2	4-10	4-10	4-10
Torque						
Tightening torque terminal screws M4.			Nm	1.2-1.3		
Tightening torque panel mounting screws ST4.2(304 stainless steel)			Nm	0.8-0.9		
Tightening torque single hole mounting nut M16			Nm	NA		
Tightening torque knob screws M3			Nm	0.5-0.7		
Switching on or off torque			Nm	0.9-1.9		
Power loss per switch Max.						
2			W	0.8	2	3
4			W	1.6	4	6
6			W	2.4	6	9
8			W	3.2	8	12
2H			W	0.4	1	1.5
3H			W	0.6	1.5	2.25
4H			W	0.8	2	3
General parameters						
method of mounting				Ding rail mounting and base mounting		
type of knob				A	B	
knob positions				OFF at 12 hr,ON at 3 hr; (OFF at 9 hr,ON at 12 hr optional)		
Mechanical life				10,000		
number of DC poles				2 or 4（6/8 pole optional）		
Distance of contacts (per pole)			mm	8		
Operation temperature			℃	-40 to +70		
Storage temperature			℃	-40 to +85		
Pollution degree				2		
Overvoltage category				III		
IP rating of shafte and mounting nut				IP20		

TECHNICAL DATA

PEDS150R-DB16-X

Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.								Poles in series	No. of Strings	Part Number	Contact Configuration
500V	600V	700V	800V	900V	1000V	1200V	1500V				
9	6	4.5	3	2.5	1.5	/	/	1	1	PEDS150-DB16-1	
11	8	6	4	3	2	/	/	1	1	PEDS150-DB25-1	
13	10	7.5	5	4	2.5	/	/	1	1	PEDS150-DB32-1	
16	16	16	16	13	9	6	3	2	1	PEDS150-DB16-2	
25	25	23	20	16	11	8	4	2	1	PEDS150-DB25-2	
32	32	27	23	20	13	10	5	2	1	PEDS150-DB32-2	
16	16	16	16	13	9	6	3	2	2	PEDS150-DB16-3	
25	25	23	20	16	11	8	4	2	2	PEDS150-DB25-3	
32	32	27	23	20	13	10	5	2	2	PEDS150-DB32-3	
29	29	16	16	13	9	6	3	2	1	PEDS150-DB16-2H	
45	45	23	20	16	11	8	4	2	1	PEDS150-DB25-2H	
58	50	27	23	20	13	10	5	2	1	PEDS150-DB32-2H	
16	16	16	16	13	9	6	3	2	2	PEDS150-DB16-4	
25	25	23	20	16	11	8	4	2	2	PEDS150-DB25-4	
32	32	27	23	20	13	10	5	2	2	PEDS150-DB32-4	
16	16	16	16	16	16	16	16	4	1	PEDS150-DB16-4S	
25	25	25	25	25	25	25	20	4	1	PEDS150-DB25-4S	
32	32	32	32	32	32	32	23	4	1	PEDS150-DB32-4S	
16	16	16	16	16	16	16	16	4	1	PEDS150-DB16-4T	
25	25	25	25	25	25	25	20	4	1	PEDS150-DB25-4T	
32	32	32	32	32	32	32	23	4	1	PEDS150-DB32-4T	
16	16	16	16	16	16	16	16	4	1	PEDS150-DB16-4B	
25	25	25	25	25	25	25	20	4	1	PEDS150-DB25-4B	
32	32	32	32	32	32	32	23	4	1	PEDS150-DB32-4B	
16	16	16	16	13	9	6	3	2	3	PEDS150-DB16-6	
25	25	23	20	16	11	8	4	2	3	PEDS150-DB25-6	
32	32	27	23	20	13	10	5	2	3	PEDS150-DB32-6	
29	29	29	29	29	29	12	9	3	1	PEDS150-DB16-3H	
45	45	38	38	38	38	14	11	3	1	PEDS150-DB25-3H	
58	50	45	45	45	45	16	13	3	1	PEDS150-DB32-3H	
16	16	16	16	13	9	6	3	2	4	PEDS150-DB16-8	
25	25	23	20	16	11	8	4	2	4	PEDS150-DB25-8	
32	32	27	23	20	13	10	5	2	4	PEDS150-DB32-8	
29	29	29	29	29	29	29	16	4	1	PEDS150-DB16-4H	
45	45	45	45	45	45	45	20	4	1	PEDS150-DB25-4H	
58	58	58	58	58	58	50	23	4	1	PEDS150-DB32-4H	

DOOR CLUTCH DC ISOLATOR

PEDS150-DC-X

PROJOY electric

Switch to Safety

CE CB CCC ROHS SAA TÜV IEC

FEATURES

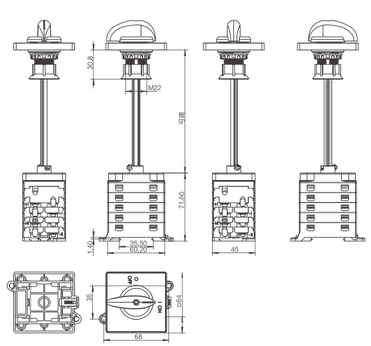
- The structure is compact, saving space; Base Mounting and Panel Mounting enable a firmer installation;
- Models optional with a number of 2-8 poles are available;
- the switch is also applicable in the separate input or parallel input of multiple DC currents;
- The contacts are designed to clean themselves; the rotary protective rack is able to effectively clean the grime produced on the surface, extending the life expectancy of the switch.
- Dual arcing-distinguishing mechanism, the magnetic arc-estinguishing and grating arc-estinguishing,is integrated and employed, which efficiently suppress the arcing, especially DC arcing;
- The sealing design is good, adopting sealing parts from world leading manufacturers, enablingthe device to a protection degree of IP66;
- Flame-retarding material from world leading manufacturers, with a isolation class of UL94V-0, is employed, so that under ambient temperatures -40 ℃ ~+70 ℃, the product can work without lowering the loads;
- The required torque to turn the switch is around 1Nm, easy the operate and the wiring terminal is easy to wire cables of 4mm²~16mm²;
- The structural design of the safety lock to prevent misuse makes the switch operation more secure;
  The use of B Class electric rating, provide a good capacity of overload, qualified for overvoltage levels III and Contamination Rating 2 environment ;
- A DC voltage Rating of 1500V is designed, awarded a number of international certifications such as IEC 60947-3.

MODEL DESIGNATION MEANING

PEDS 150 - DC 16 (L) - 2

- 2/4/6/8 poles optional
- Level Actuator Lockable Optional
- Rated Thermal Current
- Door Clutch
- Rated Insulation Voltage 1500V
- PROJOY Electric DC Switch

PRODUCT DIMENSIONS



TECHNICAL DATA

PEDS150-DC-X

Technical data				DC16	DC25	DC32
Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.						
Main Parameters						
Rated insulation voltage	Ui		V	1500	1500	1500
Rated thermal current	Ithe		A	16	25	32
rated impulse withstand voltage	Uimp		V	8000	8000	8000
rated short-time withstand current (1s)	Icw	2, 4, 6, 8	A	800	900	1000
		2H, 3H, 4H	A	1300	1500	1700
rated short-circuit making capacity	Icm	2, 4, 6, 8	A	800	900	1000
		2H, 3H, 4H	A	1300	1500	1700
rated conditional short-circuit current	Icc		A	5000	5000	5000
Max. fuse size	gL (gG)		A	40	63	80
Maximum cable cross sections (incl. jumper)						
solid or standard			mm²	4-16	4-16	4-16
flexible			mm²	4-10	4-10	4-10
flexible (+ multicore cable end)			mm²	4-10	4-10	4-10
Torque						
Tightening torque terminal screws M4.			Nm	1.2-1.3		
Tightening torque panel mounting screws ST4.2(304 stainless steel)			Nm	0.8-0.9		
Tightening torque single hole mounting nut M16			Nm	NA		
Tightening torque knob screws M3			Nm	0.5-0.7		
Switching on or off torque			Nm	0.9-1.9		
Power loss per switch Max.						
2			W	0.8	2	3
4			W	1.6	4	6
6			W	2.4	6	9
8			W	3.2	8	12
2H			W	0.4	1	1.5
3H			W	0.6	1.5	2.25
4H			W	0.8	2	3
General parameters						
method of mounting				Door Clutch		
type of knob				A	B	
knob positions				OFF at 12 hr,ON at 3 hr; (OFF at 9 hr,ON at 12 hr optional)		
Mechanical life				10,000		
number of DC poles				2 or 4 (6/8 pole optional)		
Distance of contacts (per pole)			mm	8		
Operation temperature			℃	-40 to +70		
Storage temperature			℃	-40 to +85		
Pollution degree				2		
Overvoltage category				III		
IP rating of shafte and mounting nut				IP66		

TECHNICAL DATA

PEDS150-DC-X

Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.								Poles in series	No. of Strings	Part Number	Contact Configuration
500V	600V	700V	800V	900V	1000V	1200V	1500V				
9	6	4.5	3	2.5	1.5	/	/	1	1	PEDS150R-DC16-1	
11	8	6	4	3	2	/	/	1	1	PEDS150R-DC25-1	
13	10	7.5	5	4	2.5	/	/	1	1	PEDS150R-DC32-1	
16	16	16	16	13	9	6	3	2	1	PEDS150R-DC16-2	
25	25	23	20	16	11	8	4	2	1	PEDS150R-DC25-2	
32	32	27	23	20	13	10	5	2	1	PEDS150R-DC32-2	
16	16	16	16	13	9	6	3	2	2	PEDS150R-DC16-3	
25	25	23	20	16	11	8	4	2	2	PEDS150R-DC25-3	
32	32	27	23	20	13	10	5	2	2	PEDS150R-DC32-3	
29	29	16	16	13	9	6	3	2	1	PEDS150R-DC16-2H	
45	45	23	20	16	11	8	4	2	1	PEDS150R-DC25-2H	
58	50	27	23	20	13	10	5	2	1	PEDS150R-DC32-2H	
16	16	16	16	13	9	6	3	2	2	PEDS150R-DC16-4	
25	25	23	20	16	11	8	4	2	2	PEDS150R-DC25-4	
32	32	27	23	20	13	10	5	2	2	PEDS150R-DC32-4	
16	16	16	16	16	16	16	16	4	1	PEDS150R-DC16-4S	
25	25	25	25	25	25	25	20	4	1	PEDS150R-DC25-4S	
32	32	32	32	32	32	32	23	4	1	PEDS150R-DC32-4S	
16	16	16	16	16	16	16	16	4	1	PEDS150R-DC16-4T	
25	25	25	25	25	25	25	20	4	1	PEDS150R-DC25-4T	
32	32	32	32	32	32	32	23	4	1	PEDS150R-DC32-4T	
16	16	16	16	16	16	16	16	4	1	PEDS150R-DC16-4B	
25	25	25	25	25	25	25	20	4	1	PEDS150R-DC25-4B	
32	32	32	32	32	32	32	23	4	1	PEDS150R-DC32-4B	
16	16	16	16	13	9	6	3	2	3	PEDS150R-DC16-6	
25	25	23	20	16	11	8	4	2	3	PEDS150R-DC25-6	
32	32	27	23	20	13	10	5	2	3	PEDS150R-DC32-6	
29	29	29	29	29	29	12	9	3	1	PEDS150R-DC16-3H	
45	45	38	38	38	38	14	11	3	1	PEDS150R-DC25-3H	
58	50	45	45	45	45	16	13	3	1	PEDS150R-DC32-3H	
16	16	16	16	13	9	6	3	2	4	PEDS150R-DC16-8	
25	25	23	20	16	11	8	4	2	4	PEDS150R-DC25-8	
32	32	27	23	20	13	10	5	2	4	PEDS150R-DC32-8	
29	29	29	29	29	29	29	16	4	1	PEDS150R-DC16-4H	
45	45	45	45	45	45	45	20	4	1	PEDS150R-DC25-4H	
58	58	58	58	58	58	50	23	4	1	PEDS150R-DC32-4H	

ENCLOSURE DC ISOLATOR

PEDS150-ELR-X

CE CB ROHS SAA TÜV IEC

FEATURES

IP66 box-type design
(1). The screws on the base do not interfere with the sealing performance;
(2). Multiple mechanical seals around the shaft guarantee the reliability of a waterproof and moisture-proof design;
(3). Stainless steel making of screw holders in the rotor does not rust nor gets damp;
(4). Standard cable interface is available with seal rings, both covers adopt seling parts from world leading manufacturers and the four fixing screws are sysmetric so that the installation can be rated to IP 66;
(5). Internal sealing in top and bottom covers, combined with 2 screws, guarantee an IP66 protectiondegree;

SAFE-LOCK in three rotational positions is available, reducing the risk of mis-operation. The switch is compatible with various wiring interface: M25, M20, M16, and M12, and optional with waterproof cable connectors and MC4 connectors.

Large operational space for ensures a convenient wiring even after the product has been mountedand the serial or parallel jumper between contact pairs is made by the user, friendly; the angled positioningof the Line Nill bridge jumper makes wiring further easy.

The internal spade is sufficient so cooling is good and the product can work at the ambient temperatures between -40℃-70℃。

Characteristics of the integrated built-in switches:
(1). The structure is compact, with models optional with 2 to 4 poles;
(2). A high speed break/make action is adopted, ensuring a mechanism free of the speed of the operator and the action of breaking/making is less than 5ms.
(3). The self-cleaning mechanism in contacts reduces heat dissipation and abrasion and improves the conduction performance,thereby reducing the resistance of and energy loss in the switch and hence extending the lifecycle of the switch.
(4). Dual arcing-distinguishing mechanism, the magnetic arc-estinguishing and grating arc-estinguishing,is integrated and employed, which efficiently suppress the arcing, especially DC arcing.

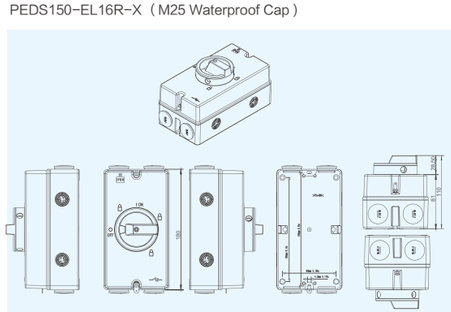
MODEL DESIGNATION MEANING

PEDS150-EL16R-2

- 2、4 poles optional
- Rotary Lockable
- Rated Thermal Current16A
- Enclosure
- Rated Insulation Voltage 1500V
- PROJOY Electric DC Switch

PRODUCT DIMENSIONS

PEDS150-EL16R-X（M25 Waterproof Cap）



TECHNICAL DATA

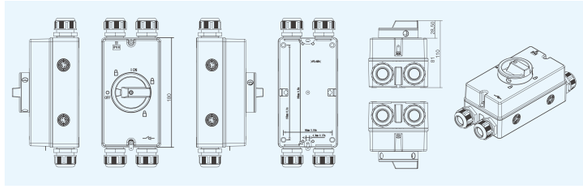
PEDS150-ELR-X

Technical data				EL16	EL25	EL32
Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.						
Main Parameters						
Rated insulation voltage	Ui		V	1500	1500	1500
Rated thermal current	Ithe		A	16	25	32
rated impulse withstand voltage	Uimp		V	8000	8000	8000
rated short-circuit making capacity	Icm	2H	A	1300	1500	1700
		2	A	800	900	1000
		2, 4	A	1300	1500	1700
rated conditional short-circuit current	Icc		A	5000	5000	5000
Max. fuse size	gL (gG)		A	40	63	80
Maximum cable cross sections (incl. jumper)						
solid or standard			mm^2	4-16	4-16	4-16
flexible			mm^2	4-10	4-10	4-10
flexible (+ multicore cable end)			mm^2	4-10	4-10	4-10
Torque						
Tightening torque terminal screws M4.			Nm	1.2-1.3		
Tightening torque shell mounting screws ST4.2(304 stainless steel)			Nm	1.1-1.2		
Tightening torque single hole mounting nut M16			Nm	NA		
Tightening torque knob screws M3			Nm	0.5-0.7		
Switching on or off torque			Nm	0.9-1.3		
Power loss per switch Max.						
2			W	0.8	2	3
4			W	1.6	4	6
2H			W	0.4	1	1.5
4H 8			W	N	NA	NA
General parameters						
method of mounting				Wall-mounted or screw installation		
type of knob				A	B	
knob positions				OFF at 9 hr,ON at 12 hr		
Mechanical life				10,000		
number of DC poles				2 or 4（6/8 pole optional）		
Distance of contacts (per pole)			mm	8		
Operation temperature			℃	-40 to +70		
Storage temperature			℃	-40 to +85		
Pollution degree				2		
Overvoltage category				III		
IP rating of shafting and mounting screws				IP66		
Type						
Specs	M25 Waterproof Cap			Cable Gland M25	Cable Gland M16	MC4/H4/Tyco
Independent Strings	1 or 2			1 or 2	1	1
Recommend Types	2/2H/4S or 4			2/2H/4S or 4	2/2H/4S	2/2H/4S

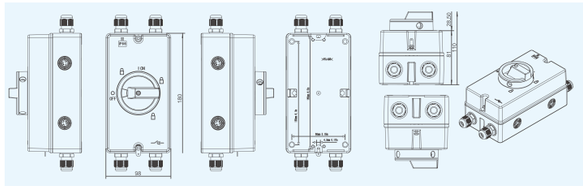
PROJOY electric
Switch to Safety

PRODUCT DIMENSIONS

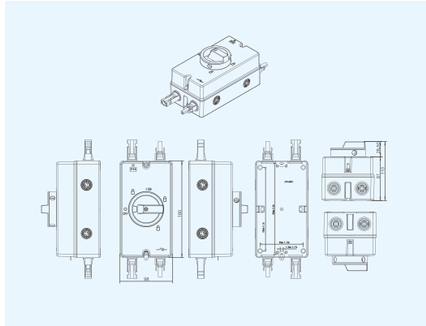
PEDS150-EL16R-X（Cable Gland M25）



PEDS150-EL16R-X（Cable Gland M16）



PEDS150-EL16R-X（MC4/H4/Tyco）



TECHNICAL DATA

PEDS150-EL-X

Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.								Poles in series	No. of Strings	Part Number	Contact Configuration
500V	600V	700V	800V	900V	1000V	1200V	1500V				
16	16	16	16	13	13	6	3	2	1	PEDS150-EL16R-2	
25	25	23	20	16	16	8	4	2	1	PEDS150-EL25R-2	
32	32	27	23	20	20	10	5	2	1	PEDS150-EL32R-2	
29	29	16	16	13	13	6	3	2	1	PEDS150-EL16R-2H	
45	45	23	20	16	16	8	4	2	1	PEDS150-EL25R-2H	
58	50	27	23	20	20	10	5	2	1	PEDS150-EL32R-2H	
16	16	16	16	13	13	6	3	2	2	PEDS150-EL16R-4	
25	25	23	20	16	16	8	4	2	2	PEDS150-EL25R-4	
32	32	27	23	20	20	10	5	2	2	PEDS150-EL32R-4	
16	16	16	16	16	16	16	16	4	1	PEDS150-EL16R-4S	
25	25	25	25	25	25	25	20	4	1	PEDS150-EL25R-4S	
32	32	32	32	32	32	32	23	4	1	PEDS150-EL32R-4S	
16	16	16	16	16	16	16	16	4	1	PEDS150-EL16R-4T	
25	25	25	25	25	25	25	20	4	1	PEDS150-EL25R-4T	
32	32	32	32	32	32	32	23	4	1	PEDS150-EL32R-4T	
16	16	16	16	16	16	16	16	4	1	PEDS150-EL16R-4B	
25	25	25	25	25	25	25	20	4	1	PEDS150-EL25R-4B	
32	32	32	32	32	32	32	23	4	1	PEDS150-EL32R-4B	

SINGLE HOLE MOUNTING DC ISOLATOR

PEDS40/55-HM-X

CE CB ROHS SAA TÜV IEC

FEATURES

- Reliable switching up to 1500V DC21B.
- Single-channel current can up to 40-55A.
- Positive contact, anti-contact optional.
- Single Hole Mounting.
- Modular design, optional 2-8 levels.
- Pass through the international certification like IEC/SAA / CE/TUV etc.
- Imported seals make sure the installation machines reach IP66 standard.

MODEL DESIGNATION MEANING

PEDS 150 R-HM 40 (L)-2

- 2、4、6、8 poles optional
- Level Actuator Lockable Optional
- Rated Thermal Current 40/55A
- single hole mounting
- Reversed Contacts Optional
- Rated Insulation Voltage 1500V
- PROJOY Electric DC Switch

TECHNICAL DATA

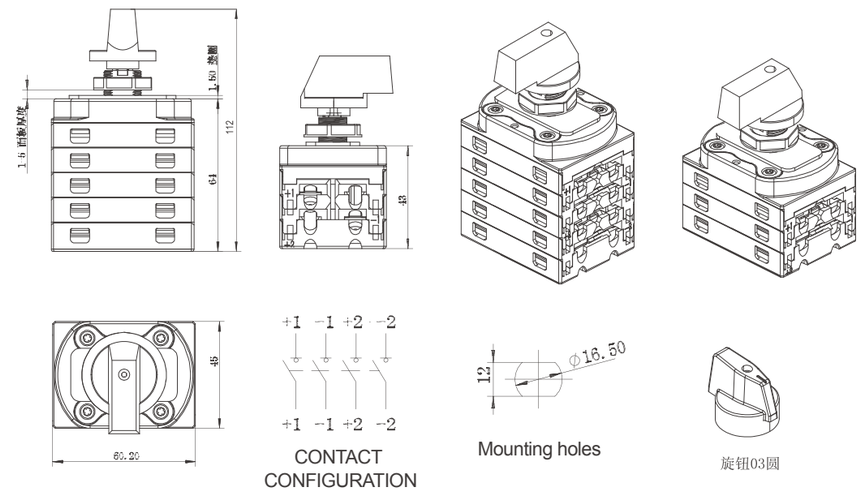
PEDS40/55-HM-X

Technical data			HM40	HM55
Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.				
Main Parameters				
Rated insulation voltage	Ui	V	1500V	1500V
Rated thermal current	I_{the}	A	40V	55V
rated impulse withstand voltage	U_{imp}	V	8000V	8000V
rated short-time withstand current (1s)	I_{cw}	2, 4, 6, 8 A	A2，A4：1200	A2，A4：1400
		2H, 3H, 4H A	A2+2：2000	A2+2：2400
rated short-circuit making capacity	I_{cm}	2, 4, 6, 8 A	A2，A4：1200	A2，A4：1400
		2H, 3H, 4H A	A2+2：2000	A2+2：2400
rated conditional short-circuit current	I_{cc}	A	5000A	5000A
Max. fuse size	gL (gG)	A	125	160
Maximum cable cross sections (incl. jumper)				
solid or standard		mm^2	4-16	4-16
flexible		mm^2	4-10	4-10
flexible (+ multicore cable end)		mm^2	4-10	4-10
Torque				
Tightening torque terminal screws M4.		Nm	1.2-1.3	
Tightening torque panel mounting screws ST4.2(304 stainless steel)		Nm	NA	
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	
Power loss per switch Max.				
2		W	4	6
4		W	8	12
6		W	12	18
8		W	16	24
2H		W	2	3
3H		W	3	4.5
4H		W	4	6
General parameters				
method of mounting			Single Hole Mounting	
type of knob			A	B
knob positions			OFF at 12 hr,ON at 3 hr;（OFF at 9 hr,ON at 12 hr optional）	
Mechanical life			10,000	
number of DC poles			2 or 4（6/8 pole optional）	
Distance of contacts (per pole)		mm	8	
Operation temperature		C	-40 to +70	
Storage temperature		C	-40 to +85	
Pollution degree			2	
Overvoltage category			III	
IP rating of shafte and mounting nut			IP66	

PROJOY electric

Switch to Safety

PRODUCT DIMENSIONS



TECHNICAL DATA

PEDS40/55-HM-X

Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.								Poles in series	No. of Strings	Part Number	Contact Configuration
500V	600V	700V	800V	900V	1000V	1200V	1500V				
19	15	10	8	6	4	/	/	1	1	PEDS150R-HM40-1	
25	20	15	10	8	6	/	/	1	1	PEDS150R-HM55-1	
40	40	35	30	25	20	10	6	2	1	PEDS150R-HM40-2	
55	55	55	45	35	25	15	8	2	1	PEDS150R-HM55-2	
40	40	35	30	25	20	10	6	3	1	PEDS150R-HM40-3	
55	55	55	45	35	25	15	8	3	1	PEDS150R-HM55-3	
72	64	35	30	25	20	10	6	2	1	PEDS150R-HM40-2H	
85	80	55	45	35	25	15	8	2	1	PEDS150R-HM55-2H	
40	40	35	30	25	20	10	6	4	2	PEDS150R-HM40-4	
55	55	55	45	35	25	15	8	4	2	PEDS150R-HM55-4	
40	40	40	40	40	40	40	30	2	1	PEDS150R-HM40-4S	
55	55	55	55	55	55	55	40	2	1	PEDS150R-HM55-4S	
40	40	40	40	40	40	40	30	2	1	PEDS150R-HM40-4T	
55	55	55	55	55	55	55	40	2	1	PEDS150R-HM55-4T	
40	40	40	40	40	40	40	30	2	1	PEDS150R-HM40-4B	
55	55	55	55	55	55	55	40	2	1	PEDS150R-HM55-4B	
40	40	35	30	25	20	10	6	6	3	PEDS150R-HM40-6	
55	55	55	45	35	25	15	8	6	3	PEDS150R-HM55-6	
40	40	35	30	25	20	10	6	8	4	PEDS150R-HM40-8	
55	55	55	45	35	25	15	8	8	4	PEDS150R-HM55-8	

	H1	H2	L	W	d2	d2	d2

PANEL MOUNTING DC ISOLATOR

PEDS40/55-PM-X

CE CB ROHS SAA TÜV IEC

PROJOY electric

Switch to Safety

FEATURES

- Reliable switching up to 1500V DC21B.
- Single-channel current can up to 40-55A.
- Positive contact, anti-contact optional.
- Single Hole Mounting.
- Modular design, optional 2-8 levels.
- Pass through the international certification like IEC/SAA / CE/TUV etc.
- Imported seals make sure the installation machines reach IP66 standard.

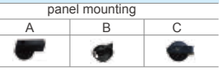
MODEL DESIGNATION MEANING

PEDS 150 R-PM 40 (R)-2

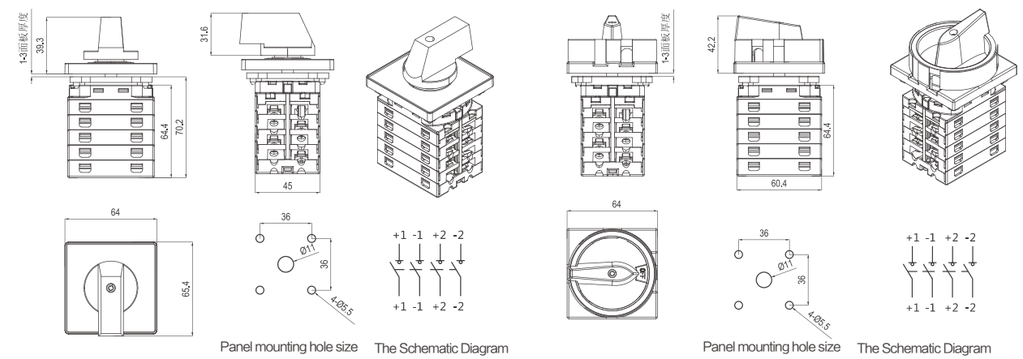
- 2、4、6、8 poles optional
- Rotary Lockable Optional
- Rated Thermal Current 40/55A
- Panel Mounting
- Reversed Contacts
- Rated Insulation Voltage 1500V
- PROJOY Electric DC Switch

TECHNICAL DATA

PEDS40/55-PM-X

Technical data				PM40	PM55
Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.					
Main Parameters					
Rated insulation voltage	Ui		V	1500V	1500V
Rated thermal current	I_{the}		A	40V	55V
rated impulse withstand voltage	U_{imp}		V	8000V	8000V
rated short-time withstand current (1s)	I_{cw}	2, 4, 6, 8	A	A2，A4：1200	A2，A4：1400
		2H, 3H, 4H	A	A2+2：2000	A2+2：2400
rated short-circuit making capacity	I_{cm}	2, 4, 6, 8	A	A2，A4：1200	A2，A4：1400
		2H, 3H, 4H	A	A2+2：2000	A2+2：2400
rated conditional short-circuit current	I_{cc}		A	5000A	5000A
Max. fuse size	gL (gG)		A	125	˜160
Maximum cable cross sections (incl. jumper)					
solid or standard			mm^2	4-16	4-16
flexible			mm^2	4-10	4-10
flexible (+ multicore cable end)			mm^2	4-10	4-10
Torque					
Tightening torque terminal screws M4.			Nm	1.2-1.3	
Tightening torque panel mounting screws ST4.2(304 stainless steel)			Nm	NA	
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	
Power loss per switch Max.					
2			W	4	6
4			W	8	12
6			W	12	18
8			W	16	24
2H			W	2	3
3H			W	3	4.5
4H			W	4	6
General parameters					
method of mounting				panel mounting	
type of knob				A 	B C
knob positions				OFF at 12 hr,ON at 3 hr;（OFF at 9 hr,ON at 12 hr optional）	
Mechanical life				10,000	
number of DC poles				2 or 4（6/8 pole optional）	
Distance of contacts (per pole)			mm	8	
Operation temperature			℃	-40 to +70	
Storage temperature			℃	-40 to +85	
Pollution degree				2	
Overvoltage category				III	
IP rating of shafte and mounting nut				IP66	

PRODUCT DIMENSIONS



Panel mounting hole size | The Schematic Diagram | Panel mounting hole size | The Schematic Diagram

TECHNICAL DATA

PEDS40/55-PM-X

Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.								Poles in series	No. of Strings	Part Number	Contact Configuration
500V	600V	700V	800V	900V	1000V	1200V	1500V				
19	15	10	8	6	4	/	/	1	1	PEDS150R-PM40-1	
25	20	15	10	8	6	/	/	1	1	PEDS150R-PM55-1	
40	40	35	30	25	20	10	6	2	1	PEDS150R-PM40-2	
55	55	55	45	35	25	15	8	2	1	PEDS150R-PM55-2	
40	40	35	30	25	20	10	6	3	1	PEDS150R-PM40-3	
55	55	55	45	35	25	15	8	3	1	PEDS150R-PM55-3	
72	64	35	30	25	20	10	6	2	1	PEDS150R-PM40-2H	
85	80	55	45	35	25	15	8	2	1	PEDS150R-PM55-2H	
40	40	35	30	25	20	10	6	4	2	PEDS150R-PM40-4	
55	55	55	45	35	25	15	8	4	2	PEDS150R-PM55-4	
40	40	40	40	40	40	40	30	2	1	PEDS150R-PM40-4S	
55	55	55	55	55	55	55	40	2	1	PEDS150R-PM55-4S	
40	40	40	40	40	40	40	30	2	1	PEDS150R-PM40-4T	
55	55	55	55	55	55	55	40	2	1	PEDS150R-PM55-4T	
40	40	40	40	40	40	40	30	2	1	PEDS150R-PM40-4B	
55	55	55	55	55	55	55	40	2	1	PEDS150R-PM55-4B	
40	40	35	30	25	20	10	6	6	3	PEDS150R-PM40-6	
55	55	55	45	35	25	15	8	6	3	PEDS150R-PM55-6	
40	40	35	30	25	20	10	6	8	4	PEDS150R-PM40-8	
55	55	55	45	35	25	15	8	8	4	PEDS150R-PM55-8	

DISTRIBUTION BOARD DC ISOLATOR

PEDS40/55-DB-X

CE CB ROHS SAA TÜV IEC

PROJOY electric
Switch to Safety

FEATURES

- Reliable switching up to 1500V DC21B.
- Single-channel current can up to 40-55A.
- Positive contact, anti-contact optional.
- Single Hole Mounting.
- Modular design, optional 2-8 levels.
- Pass through the international certification like IEC/SAA / CE/TUV etc.
- Imported seals make sure the installation machines reach IP66 standard.

MODEL DESIGNATION MEANING

PEDS 150 – DB 16 (L) – 2

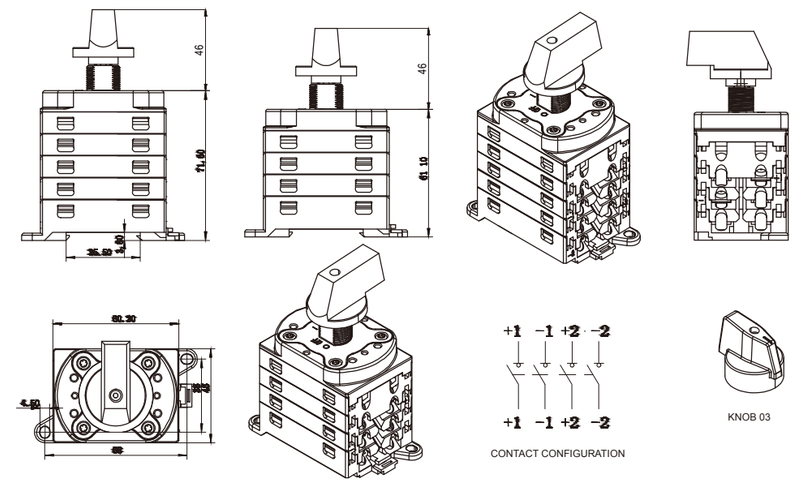
- 2、4、6、8 poles optional
- Level Actuator Lockable Optional
- Rated Thermal Current
- Distribution Board
- Rated Insulation Voltage 1500V
- PROJOY Electric DC Switch

TECHNICAL DATA

PEDS40/55-DB-X

Technical data				DB40	DB55
Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.					
Main Parameters					
Rated insulation voltage	Ui		V	1500V	1500V
Rated thermal current	I_{the}		A	40V	55V
rated impulse withstand voltage	U_{imp}		V	8000V	8000V
rated short-time withstand current (1s)	I_{cw}	2, 4, 6, 8	A	A2，A4：1200	A2，A4：1400
		2H, 3H, 4H	A	A2+2：2000	A2+2：2400
rated short-circuit making capacity	I_{cm}	2, 4, 6, 8	A	A2，A4：1200	A2，A4：1400
		2H, 3H, 4H	A	A2+2：2000	A2+2：2400
rated conditional short-circuit current	I_{cc}		A	5000A	5000A
Max. fuse size	gL (gG)		A	125	160
Maximum cable cross sections (incl. jumper)					
solid or standard			mm^2	4-16	4-16
flexible			mm^2	4-10	4-10
flexible (+ multicore cable end)			mm^2	4-10	4-10
Torque					
Tightening torque terminal screws M4.			Nm	1.2-1.3	
Tightening torque panel mounting screws ST4.2(304 stainless steel)			Nm	NA	
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	
Power loss per switch Max.					
2			W	4	6
4			W	8	12
6			W	12	18
8			W	16	24
2H			W	2	3
3H			W	3	4.5
4H			W	4	6
General parameters					
method of mounting				Ding rail mounting and base mounting	
type of knob				A	B / C
knob positions				OFF at 12 hr,ON at 3 hr;（OFF at 9 hr,ON at 12 hr optional）	
Mechanical life				10,000	
number of DC poles				2 or 4（6/8 pole optional）	
Distance of contacts (per pole)			mm	8	
Operation temperature			℃	-40 to +70	
Storage temperature			℃	-40 to +85	
Pollution degree				2	
Overvoltage category				III	
IP rating of shafte and mounting nut				IP66	

PRODUCT DIMENSIONS



TECHNICAL DATA

PEDS40/55-DB-X

Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.								Poles in series	No. of Strings	Part Number	Contact Configuration
500V	600V	700V	800V	900V	1000V	1200V	1500V				
19	15	10	8	6	4	/	/	1	1	PEDS150−DB40−1	
25	20	15	10	8	6	/	/	1	1	PEDS150−DB55−1	
40	40	35	30	25	20	10	6	2	1	PEDS150−DB40−2	
55	55	55	45	35	25	15	8	2	1	PEDS150−DB55−2	
40	40	35	30	25	20	10	6	3	1	PEDS150−DB40−3	
55	55	55	45	35	25	15	8	3	1	PEDS150−DB55−3	
72	64	35	30	25	20	10	6	2	1	PEDS150−DB40−2H	
85	80	55	45	35	25	15	8	2	1	PEDS150−DB55−2H	
40	40	35	30	25	20	10	6	4	2	PEDS150−DB40−4	
55	55	55	45	35	25	15	8	4	2	PEDS150−DB55−4	
40	40	40	40	40	40	40	30	2	1	PEDS150−DB40−4S	
55	55	55	55	55	55	55	40	2	1	PEDS150−DB55−4S	
40	40	40	40	40	40	40	30	2	1	PEDS150−DB40−4T	
55	55	55	55	55	55	55	40	2	1	PEDS150−DB55−4T	
40	40	40	40	40	40	40	30	2	1	PEDS150−DB40−4B	
55	55	55	55	55	55	55	40	2	1	PEDS150−DB55−4B	
40	40	35	30	25	20	10	6	6	3	PEDS150−DB40−6	
55	55	55	45	35	25	15	8	6	3	PEDS150−DB55−6	
40	40	35	30	25	20	10	6	8	4	PEDS150−DB40−8	
55	55	55	45	35	25	15	8	8	4	PEDS150−DB55−8	

DOOR CLUTCH DC ISOLATOR

PEDS40/55-DC-X

CE CB ROHS SAA TÜV IEC

PROJOY electric
Switch to Safety

FEATURES

- Reliable switching up to 1500V DC21B.
- Single-channel current can up to 40-55A.
- Positive contact, anti-contact optional.
- Single Hole Mounting.
- Modular design, optional 2-8 levels.
- Pass through the international certification like IEC/SAA / CE/TUV etc.
- Imported seals make sure the installation machines reach IP66 standard.

MODEL DESIGNATION MEANING

PEDS 150 – DC 16 (L) – 2

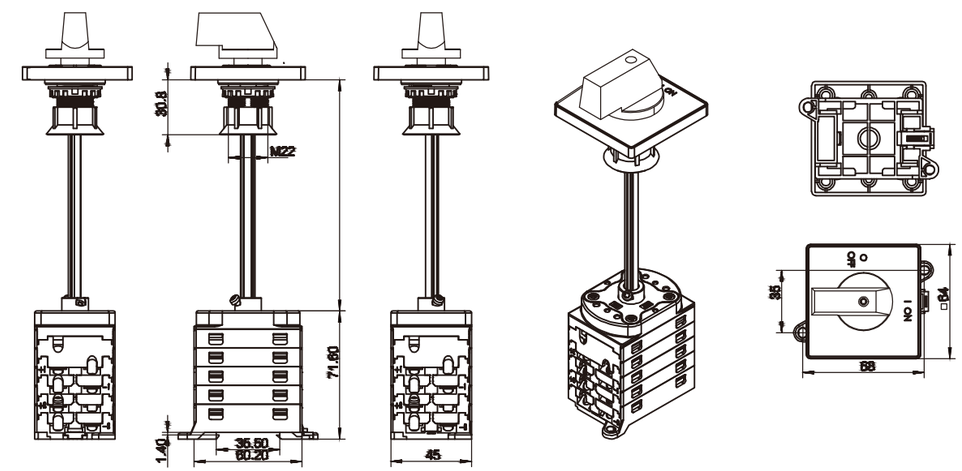
- 2/4/6/8 poles optional
- Level Actuator Lockable Optional
- Rated Thermal Current
- Door Clutch
- Rated Insulation Voltage 1500V
- PROJOY Electric DC Switch

TECHNICAL DATA

PEDS40/55-DC-X

Technical data				DC40	DC55
Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.					
Main Parameters					
Rated insulation voltage	U_i		V	1500V	1500V
Rated thermal current	I_{the}		A	40V	55V
rated impulse withstand voltage	U_{imp}		V	8000V	8000V
rated short-time withstand current (1s)	I_{cw}	2, 4, 6, 8	A	A2，A4：1200	A2，A4：1400
		2H, 3H, 4H	A	A2+2：2000	A2+2：2400
rated short-circuit making capacity	I_{cm}	2, 4, 6, 8	A	A2，A4：1200	A2，A4：1400
		2H, 3H, 4H	A	A2+2：2000	A2+2：2400
rated conditional short-circuit current	I_{cc}		A	5000A	5000A
Max. fuse size	gL (gG)		A	125	160
Maximum cable cross sections (incl. jumper)					
solid or standard			mm^2	4-16	4-16
flexible			mm^2	4-10	4-10
flexible (+ multicore cable end)			mm^2	4-10	4-10
Torque					
Tightening torque terminal screws M4.			Nm	1.2-1.3	
Tightening torque panel mounting screws ST4.2(304 stainless steel)			Nm	NA	
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	
Power loss per switch Max.					
2			W	4	6
4			W	8	12
6			W	12	18
8			W	16	24
2H			W	2	3
3H			W	3	4.5
4H			W	4	6
General parameters					
method of mounting				Door Clutch	
type of knob				A	
knob positions				OFF at 12 hr,ON at 3 hr;（OFF at 9 hr,ON at 12 hr optional）	
Mechanical life				10,000	
number of DC poles				2 or 4（6/8 pole optional）	
Distance of contacts (per pole)			mm	8	
Operation temperature			℃	-40 to +70	
Storage temperature			℃	-40 to +85	
Pollution degree				2	
Overvoltage category				III	
IP rating of shafte and mounting nut				IP66	

PRODUCT DIMENSIONS



TECHNICAL DATA

PEDS40/55-DC-X

Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.								Poles in series	No. of Strings	Part Number	Contact Configuration
500V	600V	700V	800V	900V	1000V	1200V	1500V				
19	15	10	8	6	4	/	/	1	1	PEDS150R–DC40–1	
25	20	15	10	8	6	/	/	1	1	PEDS150R–DC55–1	
40	40	35	30	25	20	10	6	2	1	PEDS150R–DC40–2	
55	55	55	45	35	25	15	8	2	1	PEDS150R–DC55–2	
40	40	35	30	25	20	10	6	3	1	PEDS150R–DC40–2	
55	55	55	45	35	25	15	8	3	1	PEDS150R–DC55–2	
72	64	35	30	25	20	10	6	2	1	PEDS150R–DC40–2H	
85	80	55	45	35	25	15	8	2	1	PEDS150R–DC55–2H	
40	40	35	30	25	20	10	6	4	2	PEDS150R–DC40–4	
55	55	55	45	35	25	15	8	4	2	PEDS150R–DC55–4	
40	40	40	40	40	40	40	30	2	1	PEDS150R–DC40–4S	
55	55	55	55	55	55	55	40	2	1	PEDS150R–DC55–4S	
40	40	40	40	40	40	40	30	2	1	PEDS150R–DC40–4T	
55	55	55	55	55	55	55	40	2	1	PEDS150R–DC55–4T	
40	40	40	40	40	40	40	30	2	1	PEDS150R–DC40–4B	
55	55	55	55	55	55	55	40	2	1	PEDS150R–DC55–4B	
40	40	35	30	25	20	10	6	6	3	PEDS150R–DC40–6	
55	55	55	45	35	25	15	8	6	3	PEDS150R–DC55–6	
40	40	35	30	25	20	10	6	8	4	PEDS150R–DC40–8	
55	55	55	45	35	25	15	8	8	4	PEDS150R–DC55–8	

ENCLOSURE DC ISOLATOR

PEDS40/55-ELR-X

CE CB ROHS SAA TÜV IEC

FEATURES

- Reliable switching up to 1500V DC21B.
- Single-channel current can up to 40-55A.
- Positive contact, anti-contact optional.
- Single Hole Mounting.
- Modular design, optional 2-8 levels.
- Pass through the international certification like IEC/SAA / CE/TUV etc.
- Imported seals make sure the installation machines reach IP66 standard.

MODEL DESIGNATION MEANING

PEDS150-EL16R-2

- 2、4 poles optional
- Rotary Lockable
- Rated Thermal Current16A
- Enclosure
- Rated Insulation Voltage 1500V
- PROJOY Electric DC Switch

TECHNICAL DATA

PEDS40/55-ELR-X

Technical data				EL40	EL55
Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.					
Main Parameters					
Rated insulation voltage	Ui		V	1500V	1500V
Rated thermal current	Ithe		A	40V	55V
rated impulse withstand voltage	Uimp		V	8000V	8000V
rated short-time withstand current (1s)	Icw	2, 4, 6, 8	A	A2，A4：1200	A2，A4：1400
		2H, 3H, 4H	A	A2+2：2000	A2+2：2400
rated short-circuit making capacity	Icm	2, 4, 6, 8	A	A2，A4：1200	A2，A4：1400
		2H, 3H, 4H	A	A2+2：2000	A2+2：2400
rated conditional short-circuit current	Icc		A	5000A	5000A
Max. fuse size	gL (gG)		A	125	160
Maximum cable cross sections (incl. jumper)					
solid or standard			mm^2	4-16	4-16
flexible			mm^2	4-10	4-10
flexible (+ multicore cable end)			mm^2	4-10	4-10
Torque					
Tightening torque terminal screws M4.			Nm	1.2-1.3	
Tightening torque shell mounting screws ST4.2(304 stainless steel)			Nm	1.1-1.2	
Tightening torque single hole mounting nut M16			Nm	NA	
Tightening torque knob screws M3			Nm	0.5-0.7	
Switching on or off torque			Nm	0.9-1.3	
Power loss per switch Max.					
2			W	4	6
2H			W	8	12
4			W	2	3
4H 8					
General parameters					
method of mounting				Wall-mounted or screw installation	
type of knob				A 	B 
knob positions				OFF at 12 hr,ON at 3 hr;（OFF at 9 hr,ON at 12 hr optional）	
Mechanical life				10,000	
number of DC poles				2 or 4（6/8 pole optional）	
Distance of contacts (per pole)			mm	8	
Operation temperature			℃	-40 to +70	
Storage temperature			℃	-40 to +85	
Pollution degree				2	
Overvoltage category				III	
IP rating of shafting and mounting screws				IP66	

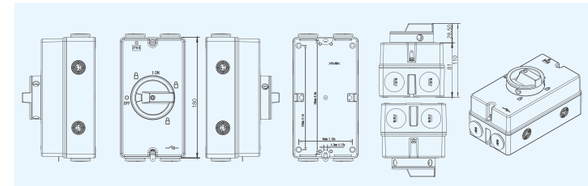
Type				
Specs	M25 Waterproof Cap	Cable Gland M25	Cable Gland M16	MC4/H4/Tyco
Independent Strings	1 or 2	1 or 2	1	1
Recommend Types	2/2H/4S or 4	2/2H/4S or 4	2/2H/4S	2/2H/4S

PROJOY electric

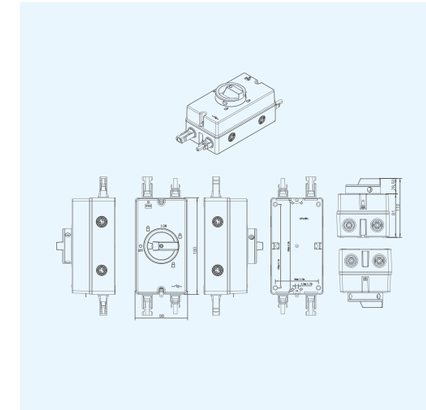
Switch to Safety

PRODUCT DIMENSIONS

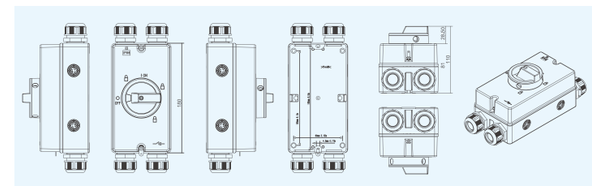
PEDS150-EL40R-X（M25 Waterproof Cap）



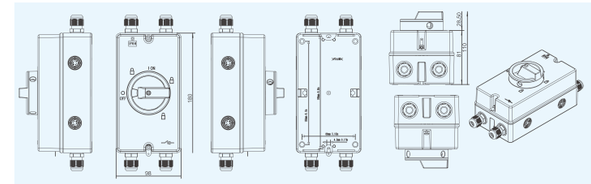
PEDS150-EL40R-X（MC4/H4/Tyco）



PEDS150-EL40R-X（Cable Gland M25）



PEDS150-EL40R-X（Cable Gland M16）



TECHNICAL DATA

PEDS40/55-EL-X

Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.								Poles in series	No. of Strings	Part Number	Contact Configuration
500V	600V	700V	800V	900V	1000V	1200V	1500V				
40	40	35	30	25	20	10	6	2	1	PEDS150R-EL40-2	
55	55	55	45	35	25	15	8	2	1	PEDS150R-EL55-2	
72	64	35	30	25	20	10	6	2	1	PEDS150R-EL40-2H	
85	80	55	45	35	25	15	8	2	1	PEDS150R-EL55-2H	
40	40	35	30	25	20	10	6	4	2	PEDS150R-EL40-4	
55	55	55	45	35	25	15	8	4	2	PEDS150R-EL55-4	
40	40	40	40	40	40	40	30	2	1	PEDS150R-EL40-4S	
55	55	55	55	55	55	55	40	2	1	PEDS150R-EL55-4S	
40	40	40	40	40	40	40	30	2	1	PEDS150R-EL40-4T	
55	55	55	55	55	55	55	40	2	1	PEDS150R-EL55-4T	
40	40	40	40	40	40	40	30	2	1	PEDS150R-EL40-4B	
55	55	55	55	55	55	55	40	2	1	PEDS150R-EL55-4B	

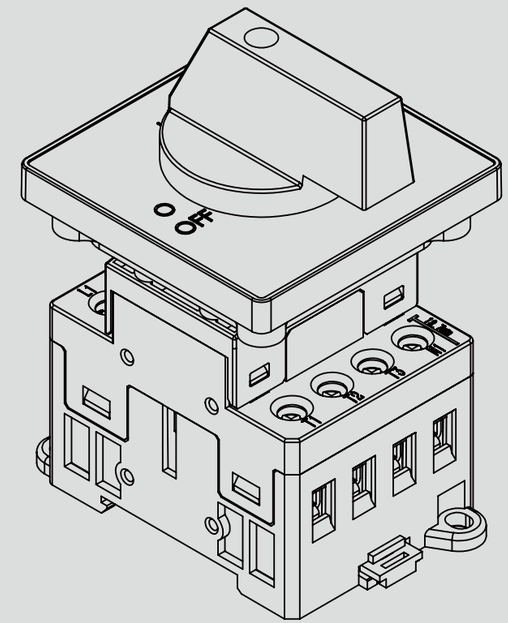
PANEL MOUNTING AC ISOLATOR

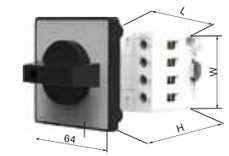
PEAS69-PM

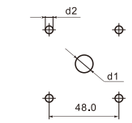
CE CB CCC ROHS SAA TÜV IEC

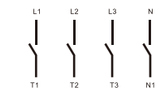
FEATURES

- Industrial control machinery and a variety of machines widely applicable.
- The use of special silver alloy contacts, electrical life long, high reliability.
- Small size, saving installation space.
- Rated load current 20A, 32A, 40A, 63A, 80A, 100A.
- With the protection of the structure of the fingers, so that safe operation.
- A variety of installation methods, easy to use for various purposes (panel mounted type, rail mounting type, sealed switch box type).
- IP65 protection class.





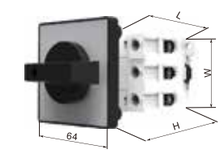


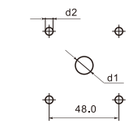


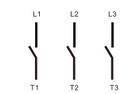
Circuit diagram

Unit: mm

Model	Dimensions			Holes Dimensions	
	H	L	W	d1	d2
PEAS69-PM20-4	66	64	48	10	4.5
PEAS69-PM32-4	66	64	48	10	4.5
PEAS69-PM40-4	66	64	48	10	4.5







Circuit diagram

Unit: mm

Model	Dimensions			Holes Dimensions	
	H	L	W	d1	d2
PEAS69-PM63-3	66	64	48	10	4.5
PEAS69-PM80-3	66	64	48	10	4.5

PRODUCT NAMING

PEAS 69 -PM 20 -3- RY48

- RY48: Direct red/yellow 48mm handle
- 3: 3 poles
- 20: Rated Thermal Current 20A
- PM: Front panel mount AC Isolator
- 69: Rated Insulation Voltage 690V
- PEAS: PROJOY Electric AC Switch

TECHNICAL DATA

PEAS69-PM

Technical Parameters		PEAS69-20		PEAS69-32		PEAS69-40		PEAS69-63		PEAS69-80	
Rated insulation voltage	V	690		690		660		690		690	
Rated current	A	20		32		40		63		80	
Rated operating current											
AC-23A	A	16		25		32		45		45	
AC-3	A	12		23		30		37		37	
Rated voltage Ue	V	240	440	240	440	240	440	240	440	240	440
Rated control power P											
AC-23A	KW	4	7.5	7.5	12.5	9	16	15	22	15	22
AC-3	KW	3	5.5	5.5	11	7.5	15	11	18.5	11	18.5
UL-CSA		240	440	240	440	240	440	240	440	240	440
Reference motor load	HP	3	7.5	5	10	5	10	10	20	10	20
Rated internal current Icw / s	A	250		400		500		600		800	
You can connect the wires	mm^2	0.5-10		0.5-10		0.5-10		1-25		1-25	
Assemble the screw torque	N · m	0.8-1.7		0.8-1.7		0.8-1.7		2-4		2-4	

AC-23A: Motor frequent conversion or other inductive load

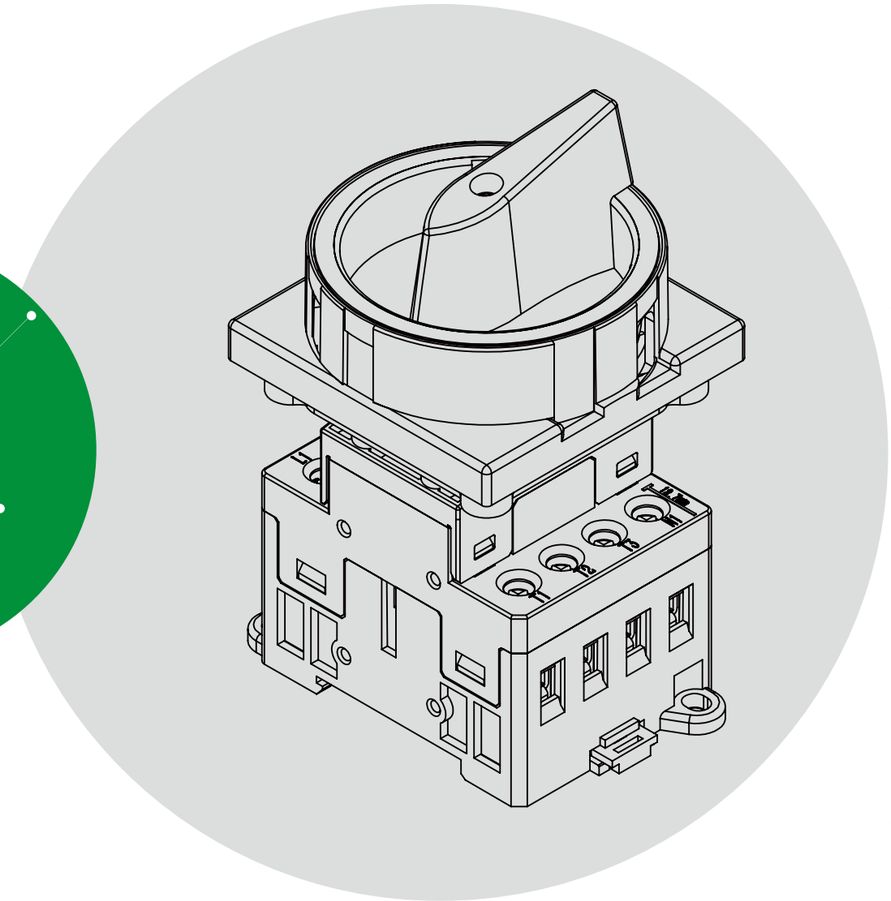
DISTRIBUTION BOARD AC ISOLATOR

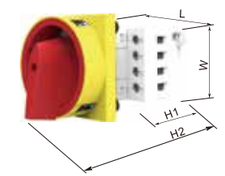
PEAS69-DB

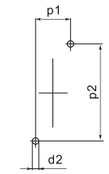
CE CB ROHS SAA TÜV IEC

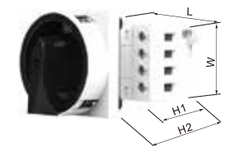
FEATURES

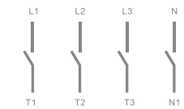
- Industrial control machinery and a variety of machines widely applicable.
- The use of special silver alloy contacts, electrical life long, high reliability.
- Small size, saving installation space.
- Rated load current 20A, 32A, 40A, 63A, 80A, 100A.
- With the protection of the structure of the fingers, so that safe operation.
- A variety of installation methods, easy to use for various purposes (panel mounted type, rail mounting type, sealed switch box type).
- IP65 protection class.







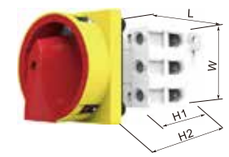


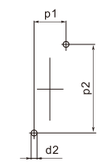


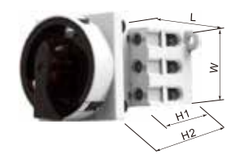
Circuit diagram

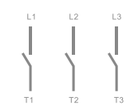
Unit: mm

Model	Dimensions				Holes Dimensions		
	H1	H2	L	W	d2	p2	p2
PEAS69-DB20-4	60	102	64	48	4.5	35	68
PEAS69-DB32-4	60	102	64	48	4.5	35	68
PEDS69-DB40-4	60	102	64	48	4.5	35	68









Circuit diagram

Unit: mm

Model	Dimensions				Holes Dimensions		
	H1	H2	L	W	d2	p2	p2
PEAS69-DB63-3	60	102	64	48	4.5	35	68
PEAS69-DB80-3	60	102	64	48	4.5	35	68

PRODUCT NAMING

PEAS 69 -DB 20 -3 - RY48

- RY48: Direct red/yellow 64mm handle
- 3: 3 poles
- 20: Rated Thermal Current 20A
- DB: Direct handle base mounted AC Isolator
- 69: Rated Insulation Voltage 690V
- PEAS: PROJOY Electric AC Switch

TECHNICAL DATA

PEAS69-DB

Technical Parameters		PEAS69-20		PEAS69-32		PEAS69-40		PEAS69-63		PEAS69-80	
Rated insulation voltage	V	690		690		660		690		690	
Rated current	A	20		32		40		63		80	
Rated operating current											
AC-23A	A	16		25		32		45		45	
AC-3	A	12		23		30		37		37	
Rated voltage Ue	V	240	440	240	440	240	440	240	440	240	440
Rated control power P											
AC-23A	KW	4	7.5	7.5	12.5	9	16	15	22	15	22
AC-3	KW	3	5.5	5.5	11	7.5	15	11	18.5	11	18.5
UL-CSA		240	440	240	440	240	440	240	440	240	440
Reference motor load	HP	3	7.5	5	10	5	10	10	20	10	20
Rated internal current Icw / s	A	250		400		500		600		800	
You can connect the wires	mm^2	0.5-10		0.5-10		0.5-10		1-25		1-25	
Assemble the screw torque	N · m	0.8-1.7		0.8-1.7		0.8-1.7		2-4		2-4	

AC-23A: Motor frequent conversion or other inductive load

DOOR CLUTCH AC ISOLATOR

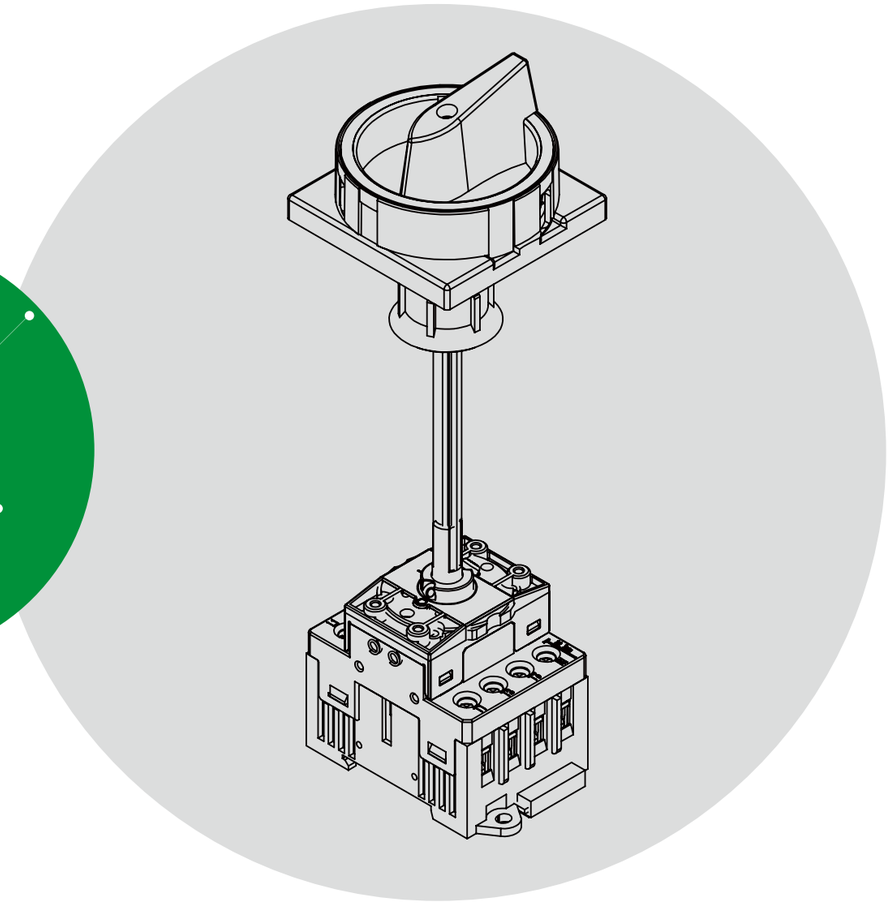
PEAS69-DC

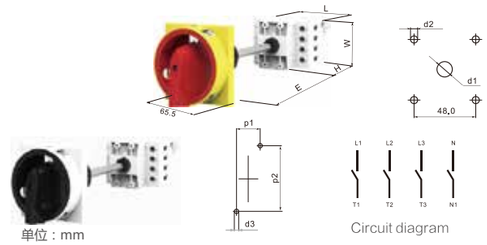
CE CB ROHS SAA TÜV IEC

EC safety certificate · CB certification · China Compulsory Certification · EU environmental directives · SAA certification · TUV Certification · IEC Certification

FEATURES

- Industrial control machinery and a variety of machines widely applicable.
- The use of special silver alloy contacts, electrical life long, high reliability.
- Small size, saving installation space.
- Rated load current 20A, 32A, 40A, 63A, 80A, 100A.
- With the protection of the structure of the fingers, so that safe operation.
- A variety of installation methods, easy to use for various purposes (panel mounted type, rail mounting type, sealed switch box type).
- IP65 protection class.

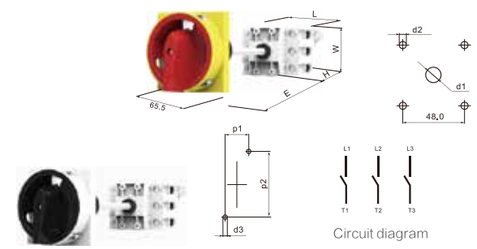




单位：mm

Circuit diagram

Model	Dimensions				Holes Dimensions		Installation Dimensions		
	H	L	W	E	d1	d2	d3	p1	p2
PEAS69-DC20-4	60	64	48	custom made	10	4.5	4.5	35	68
PEAS69- DC32-4	60	64	48	custom made	10	4.5	4.5	35	68
PEAS69- DC40-4	60	64	48	custom made	10	4.5	4.5	35	68



Circuit diagram

Unit: mm

Model	Dimensions				Holes Dimensions		Installation Dimensions		
	H	L	W	E	d1	d2	d3	p1	p2
PEAS69-DC63-3	60	64	48	custom made	10	4.5	4.5	35	68
PEAS69- DC80-3	60	64	48	custom made	10	4.5	4.5	35	68

PRODUCT NAMING

PEAS 69 -DC 20 -3 -B48

- B48: Direct black 48mm handle
- 3: 3 poles
- 20: Rated Thermal Current 20A
- DC: Base mount door interlock AC Isolator
- 69: Rated Insulation Voltage 690V
- PEAS: PROJOY Electric AC Switch

TECHNICAL DATA

PEAS69-EM

Technical Parameters		PEAS69-20		PEAS69-32		PEAS69-40		PEAS69-63		PEAS69-80	
Rated insulation voltage	V	690		690		660		690		690	
Rated current	A	20		32		40		63		80	
Rated operating current											
AC-23A	A	16		25		32		45		45	
AC-3	A	12		23		30		37		37	
Rated voltage Ue	V	240	440	240	440	240	440	240	440	240	440
Rated control power P											
AC-23A	KW	4	7.5	7.5	12.5	9	16	15	22	15	22
AC-3	KW	3	5.5	5.5	11	7.5	15	11	18.5	11	18.5
UL-CSA		240	440	240	440	240	440	240	440	240	440
Reference motor load	HP	3	7.5	5	10	5	10	10	20	10	20
Rated internal current Icw / s	A	250		400		500		600		800	
You can connect the wires	mm^2	0.5-10		0.5-10		0.5-10		1-25		1-25	
Assemble the screw torque	N · m	0.8-1.7		0.8-1.7		0.8-1.7		2-4		2-4	

AC-23A: Motor frequent conversion or other inductive load

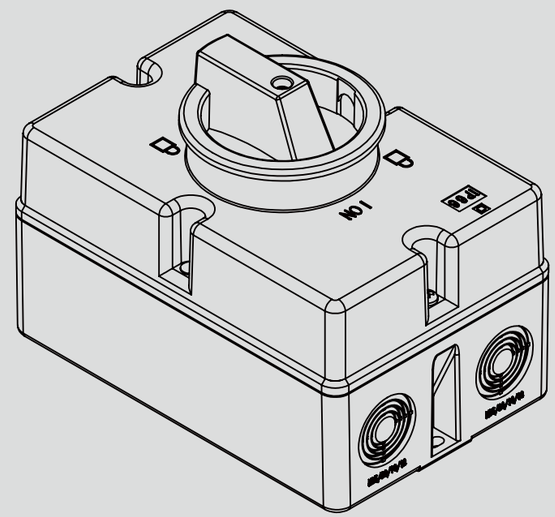
ENCLOSURE AC ISOLATOR

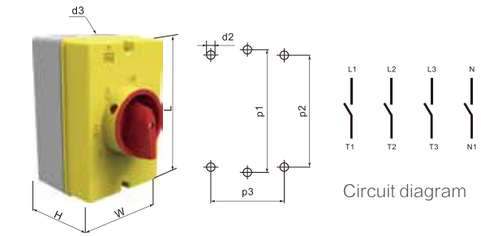
PEAS69-EL

CE CB CCC ROHS SAA TÜV IEC

FEATURES

- Industrial control machinery and a variety of machines widely applicable.
- The use of special silver alloy contacts, electrical life long, high reliability.
- Small size, saving installation space.
- Rated load current 20A, 32A, 40A, 63A, 80A, 100A.
- With the protection of the structure of the fingers, so that safe operation.
- A variety of installation methods, easy to use for various purposes (panel mounted type, rail mounting type, sealed switch box type).
- IP65 protection class.

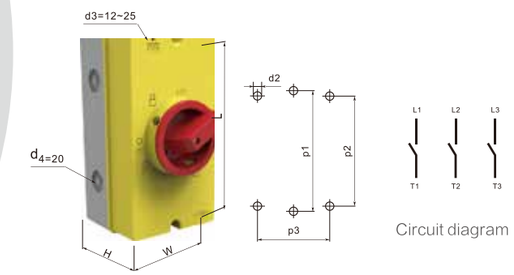




Circuit diagram

Unit: mm

Model	Dimensions				Holes Dimensions			
	d3	W	H	L	p1	p2	p3	d2
PEAS69- RL20-4	25	98	80	145	134	115	81	4.2
PEAS69- EL32-4	25	98	80	145	134	115	81	4.2
PEAS69- EL40-4	25	98	80	145	134	115	81	4.2



Circuit diagram

Unit: mm

Model	Dimensions					Holes Dimensions			
	d3	d4	W	H	L	p1	p2	p3	d2
PEAS69- EL63-3	25	20	98	81	180	169	155	80	4.2
PEAS69- EL80-3	25	20	98	81	180	169	155	80	4.2

PRODUCT NAMING

PEAS 69 -EL 20 R-3

- 3 poles
- Rotary Lockable
- Rated Thermal Current 20A
- Enclosure
- Rated Insulation Voltage 690V
- PROJOY Electric AC Switch

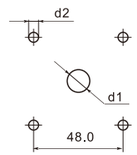
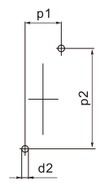
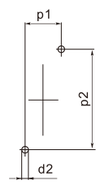
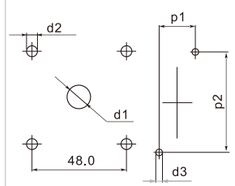
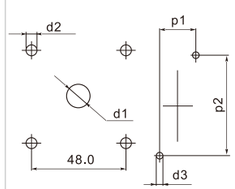
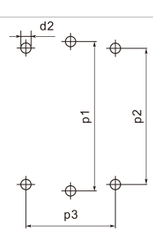
TECHNICAL DATA

PEAS69-EL

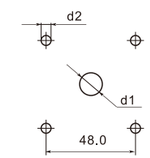
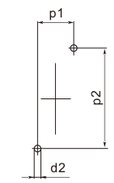
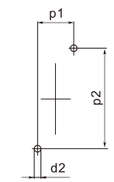
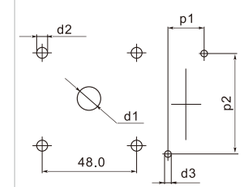
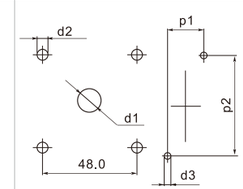
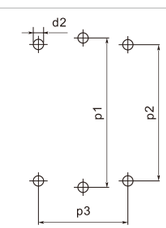
Technical Parameters		PEAS69-20		PEAS69-32		PEAS69-40		PEAS69-63		PEAS69-80	
Rated insulation voltage	V	690		690		660		690		690	
Rated current	A	20		32		40		63		80	
Rated operating current											
AC-23A	A	16		25		32		45		45	
AC-3	A	12		23		30		37		37	
Rated voltage Ue	V	240	440	240	440	240	440	240	440	240	440
Rated control power P											
AC-23A	KW	4	7.5	7.5	12.5	9	16	15	22	15	22
AC-3	KW	3	5.5	5.5	11	7.5	15	11	18.5	11	18.5
UL-CSA		240	440	240	440	240	440	240	440	240	440
Reference motor load	HP	3	7.5	5	10	5	10	10	20	10	20
Rated internal current Icw / s	A	250		400		500		600		800	
You can connect the wires	mm^2	0.5-10		0.5-10		0.5-10		1-25		1-25	
Assemble the screw torque	N · m	0.8-1.7		0.8-1.7		0.8-1.7		2-4		2-4	

AC-23A: Motor frequent conversion or other inductive load

Dimensions

Product picture	Product name	Installation	Hole Dimensions	Model
	Isolated Switch	pannel mount		PEAS69-PM40-4
	main switch estop	Direct handle base mount		PEAS69-DB40R-4RY64
	main switch estop	Direct handle base mount		PEAS69-DB40R-4B64
	main switch estop	base mount door coupling		PEAS69-DC40R-4RY64
	main switch estop	base mount door coupling		PEAS69-DC40R-4B64
	Isolated Switch	Enclosure		PEAS69-EL40R-4

Dimensions

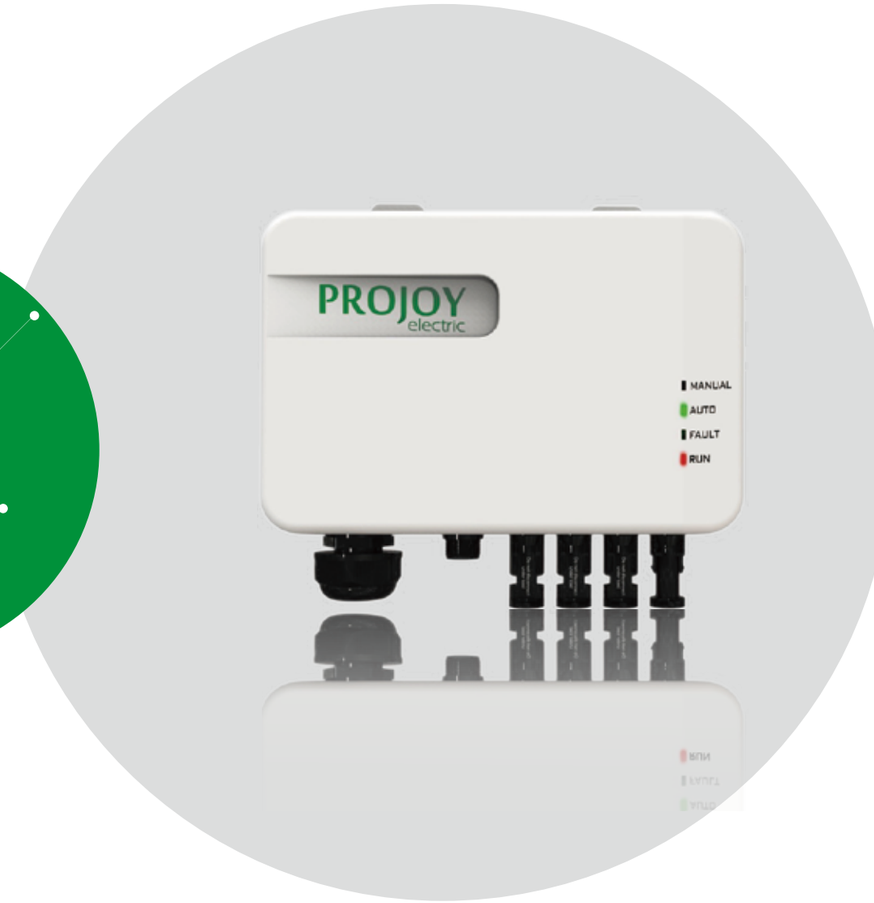
Product picture	Product name	Installation	Hole Dimensions	Model
	Isolated Switch	pannel mount		PEAS69-PM80-3
	main switch estop	Direct handle base mount		PEAS69-DB80R-3RY64
	main switch estop	Direct handle base mount		PEAS69-DB80R-3B64
	main switch estop	base mount door coupling		PEAS69-DC80R-3RY64
	main switch estop	base mount door coupling		PEAS69-DC80R-3B64
	Isolated Switch	Enclosure		PEAS69-EL80R-3

PROSOL-PVOBOX

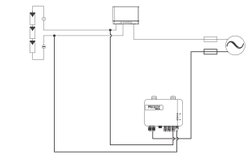
CE CB ROHS SAA TÜV IEC

FEATURES

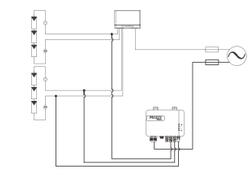
- Configured with ground-PV modules insulation resistance inspection and grid voltage detection function;
- Automatic and manual channel switching is available;
- Max DC voltage up to 1500V;
- Supporting the inverter of 1-, 2- or 3- MPPT' s, and each MPPT may be connected in parallel by multiple strings.
- Convenience to install;
- Same structure with the original photovoltaic system after using, without additional risks;
- Series operation with up to 18 units;



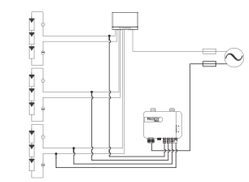
1 route MPPT



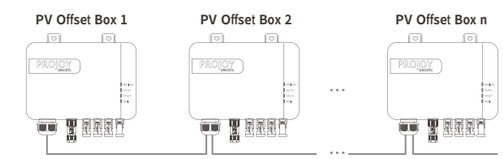
2 route MPPT



3 route MPPT



PROJOY PV Offset Box



For multiple string inverters power stations, PROJOY PV Offset Box supports multiple sets in series, through one set of alternating power supply , and connects to up to 16 PROJOY PV Offset Boxes.

PRODUCT NAMING

PID Explanation: According to the study , the high voltage between the crystal PV modules and grounded metal frames will cause panel efficiency to decrease continuously. There are a lot of factors leading to this decrease. For example, when panels work under high voltage as mentioned above, ionic migration occurs in the packaging materials and the outer layer ; hot carriers appear in the panel; the reallocation of charges weakens the active layer of the panel; the circuit in the region will corrode. These mechanisms that cause attenuation are called PID.

PROJOY PV Offset Box is designed to stop the panels from losing energy due to PID. PROJOY PV Offset Box connects to inverter in parallel to create a high voltage between the negative electrode and the earth on the panel. During night, it will release the charge panel saved up in the daytime due the negative bias between negative electrode and the earth, by doing so, we will have the damaged panels repaired.

TECHNICAL DATA
PROSOL-PVOBOX

Technical Parameters	
Alternating current Input	
Alternating input voltage	100Vac～264Vac
Alternating input frequency	50Hz/60Hz
Static state power dissipation	＜0.5W
Operating model power dissipation	3.75W
Operating model Max. power dissipation	＜8.75W
DC output	
Adjustable voltage to ground	400V/500V/600V/700V/800V/900V/1000V
Operating model Max. output current	3.3mA
Max. short circuitcurrent	6.7mA
PV modules and Inverter requirements	
Max. direct current for modules	1500V
Minimum direct current for modules	80V
Minimum direct current for inverter	＞75V

Technical Parameters	
Minimum insulating resistance	
Interactive ways for external information	200kΩ
Data	RS485（标准可选）
Alert	继电器（OP、NC）
Other Info	
Size (length×width×height)	228 mm×250 mm×63mm
weight	1.0kg
Defensive level	IP65
Protective level	Class II
Working temperature range	−20° C～+60° C
Relative humidity	0%～98%
Max. height	3000m
Installation	墙面固定

PROJOY ELECTRIC DISTRIBUTION BOX

CE CB ROHS SAA TÜV IEC

Recommandations and precautions

· This material should be installed under the guidance of a qualified technician
· Please note that the installation need two kinds of electric tension: **PHOTOVOLTAIC AND PUBLIC DISTRIBUTION NETWORK** ,so it can be checked the power cut better before the operation or the junction box.
· It is necessary to accomplish a control campaign which is tightening the cables after vibration and shock which can happen during the transportation of the box. Also press the fuse of lightning arresters to ensure proper positioning.
· Although the fuse of lightning arresters will be seperated under full load ,we recommend you to cut the circuit before there placement to avoid all risk of burning that may occur via conduction terminals.
· L' UTE C15-712-1 recommend to use same type and same mark for the assembly of male/female connector.

DC BOX

· Do not open the box while charging for this type of installation (use the inter disconnecting switch).
· The installation should under the voltage during the daytime(activate panel)
· The connections which are in operation: entry + (via the panels), entry- (via panels),output + and- toward to the inverter,earth grounding refer to the drawing
· once all the various element connected (panels, inverters, AC box..) set the switch in position 1.

AC BOX

· Disconnect the general controller of box before opening.
· It is advisable to test it once by me as all the differential circuit breaker, which is to support the touch test.Thecircuit breaker can start up and cut off the circuit when it mounted. This test should achieve one time to rearm the circuit breaker in position I.It should be foreseen by a qualified technician if the circuit breaker can not be triggered.
· The connections which are in operation : the inverter on the relevant circuit breakers ,depart to the transfer point and the grounding.

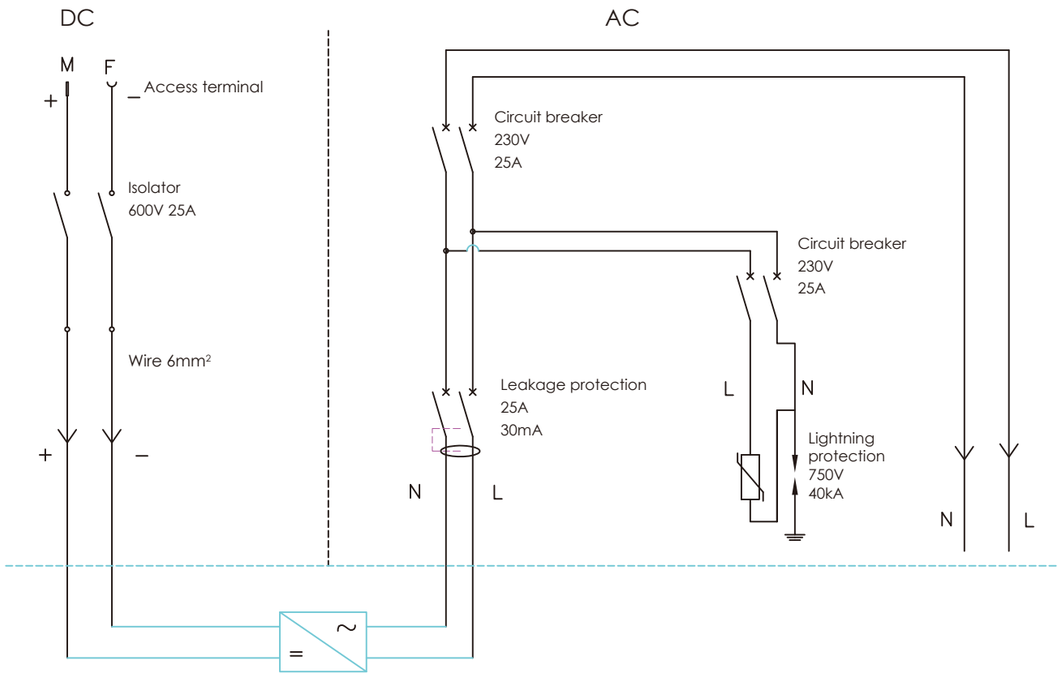
For the complete information please refer to UTE C15-712-1,NFC15-100,NFC14-100 instructions.

· Regard to the lightning arrester: they should equippe an optical error signal ,if it is red (see photo) ,it must change the relevant fuse (Decoupled the fuse through facade without disassemble the box)

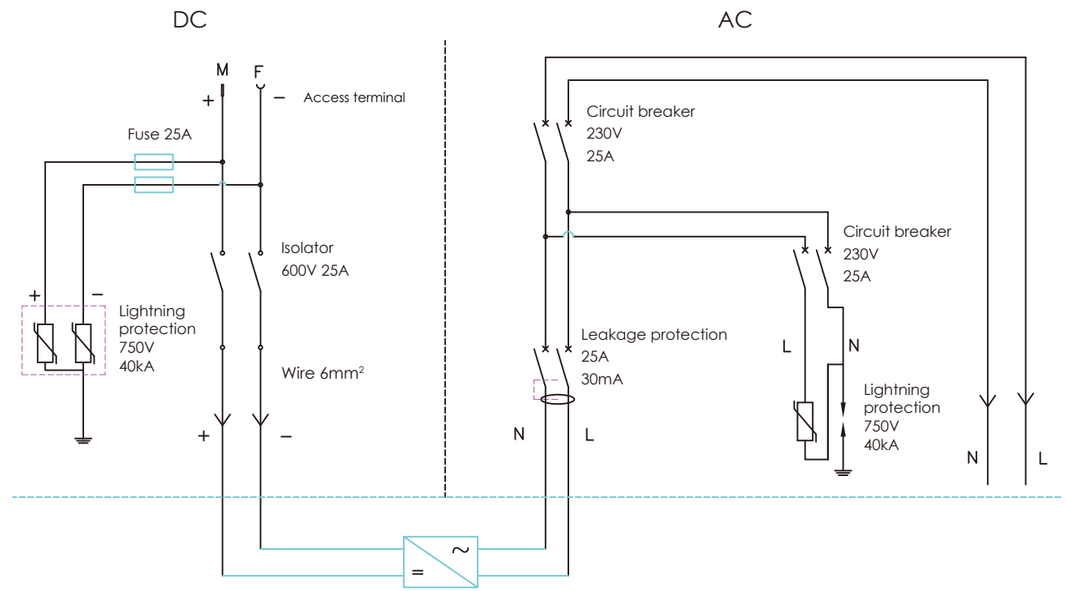
MODEL DESIGNATION MEANING

PEDS	3000	–	S	S	–	1
PROJOY ELECTRIC DISTRIBUTION BOX	Suitable for 1-3KW photovoltaic system		Single Phase System	Single MPPT		AC & DC Surge Protective Devices
	3000 – 1–3KW photovoltaic system 6000 – 3–6KWphotovoltaic system 9000 – 6–9KWphotovoltaic system 20000 – 10–20KWphotovoltaic system		S – Single Phase System T – Three Phase System	S – 1MPPT D – 2MPPT		1–AC & DC Surge Protective Devices 0–ACSurge Protective Devices

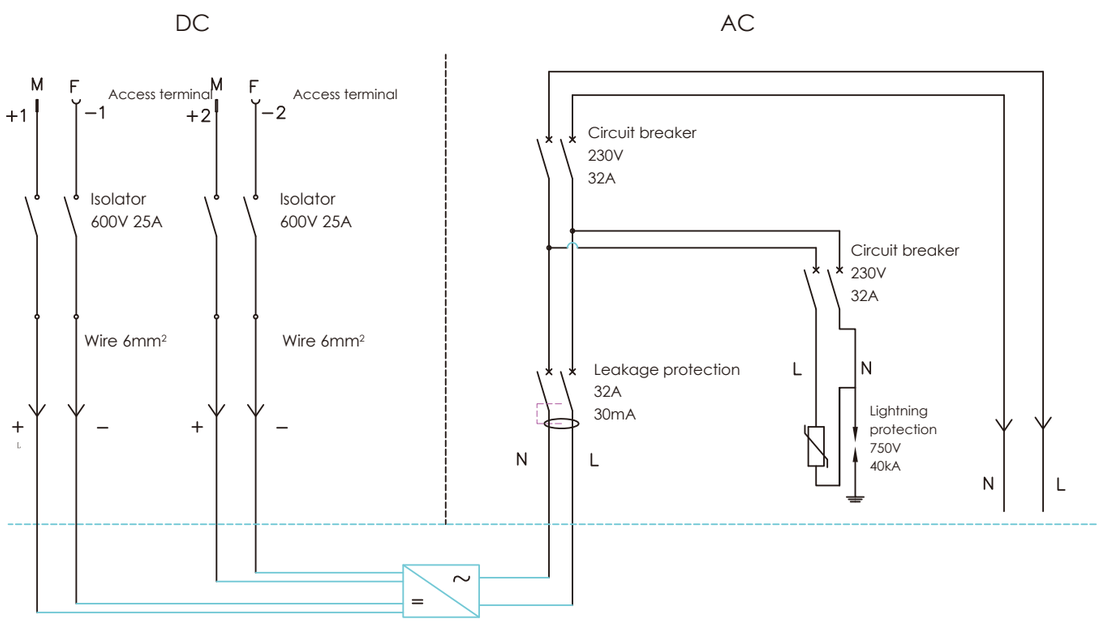
Schematic PEDB 3000SS-0



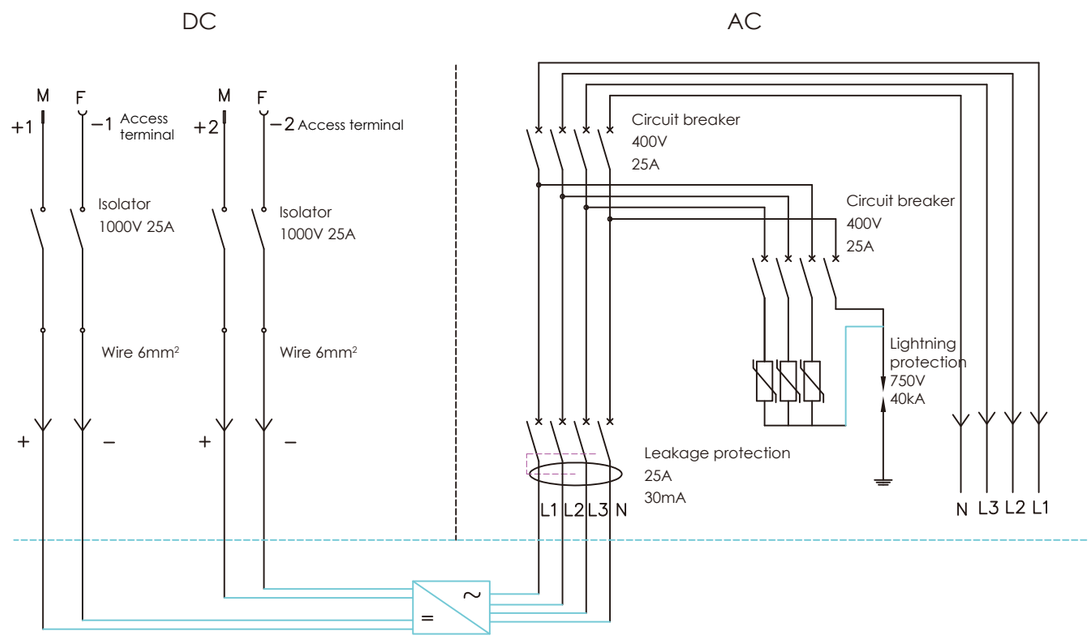
Schematic PEDB 3000SS-1



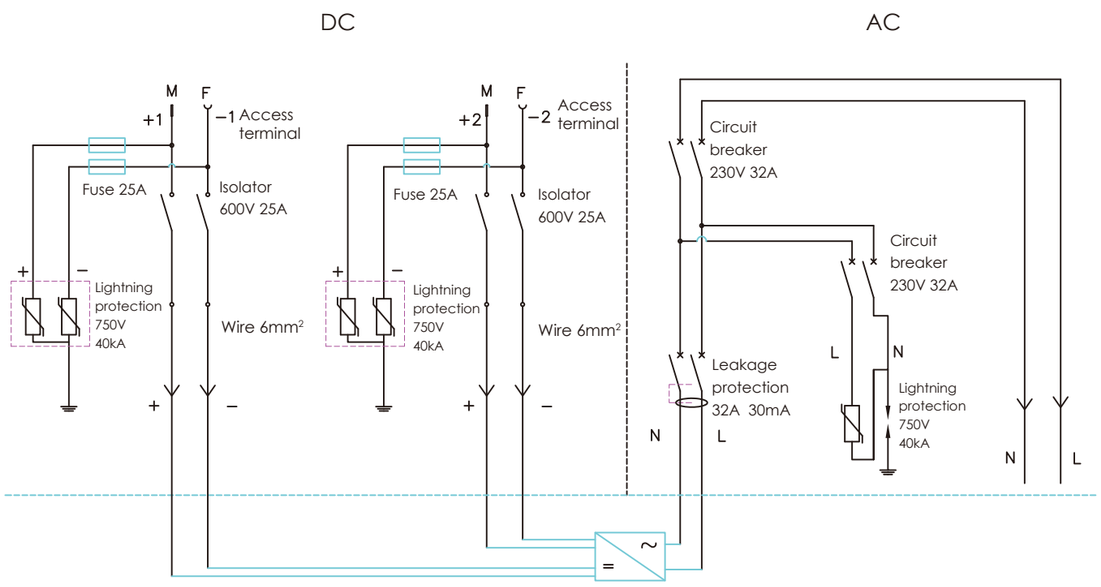
Schematic PEDB 6000SD-0



Schematic PEDB 6000TD-0



Schematic PEDB 6000SD-1



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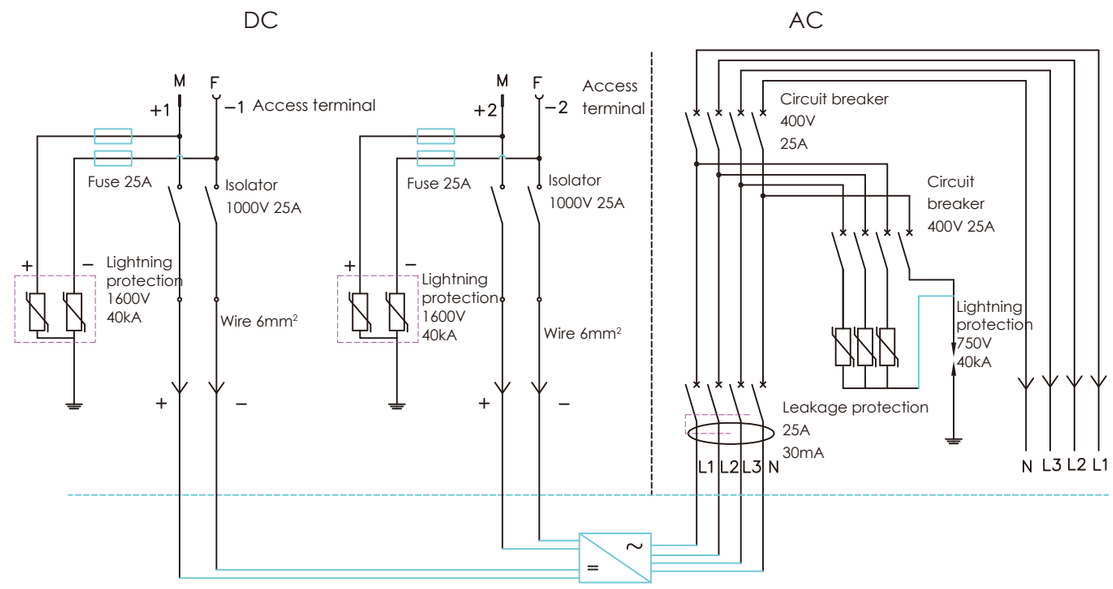

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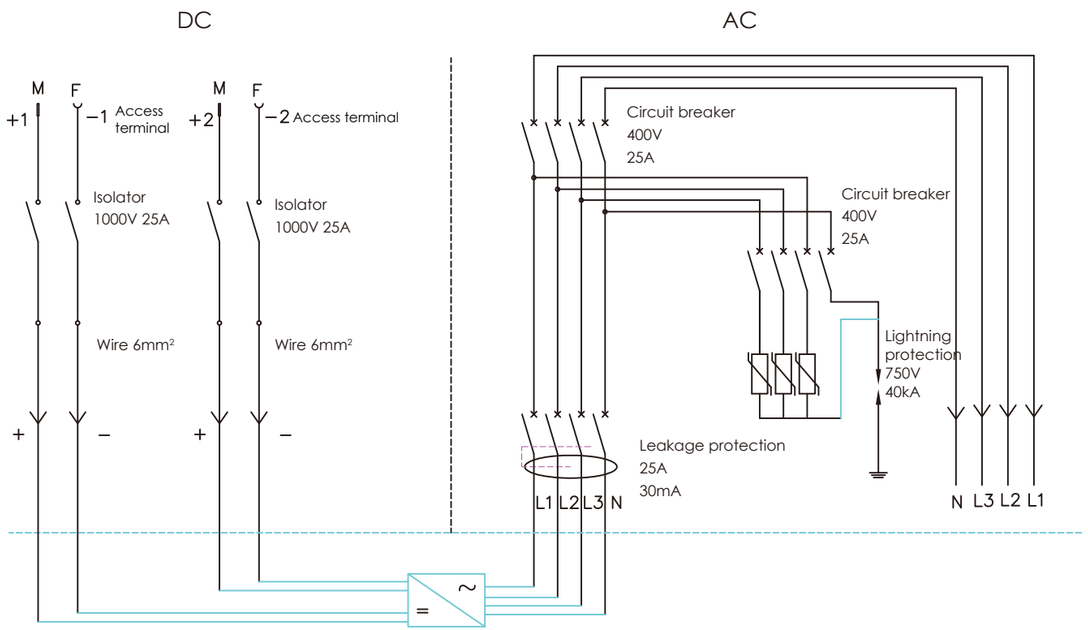
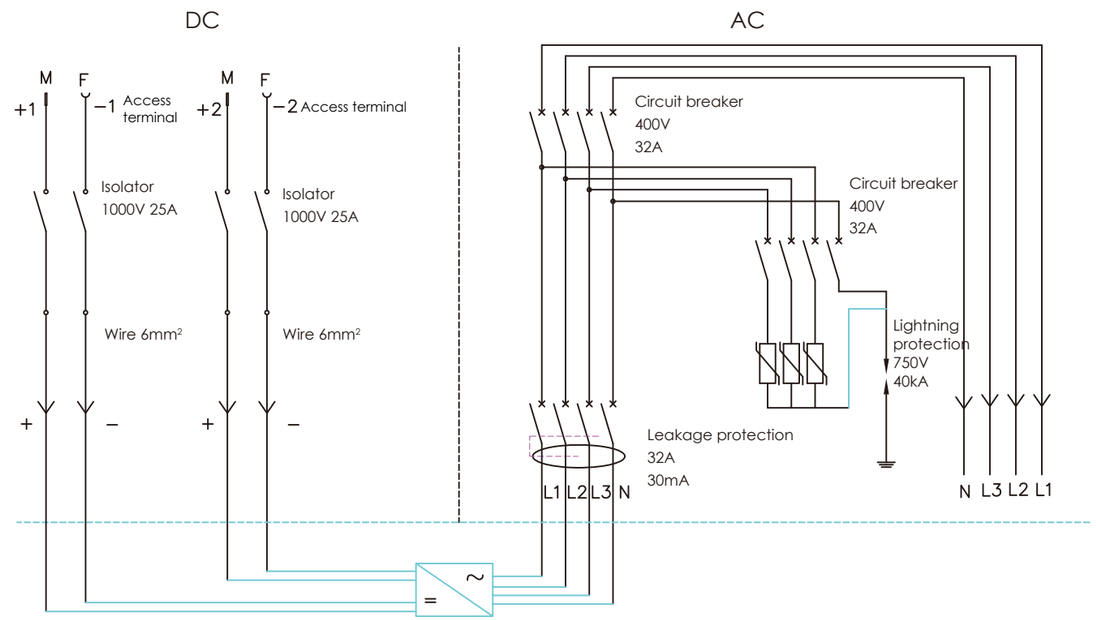


Schematic PEDB 20000TD-0



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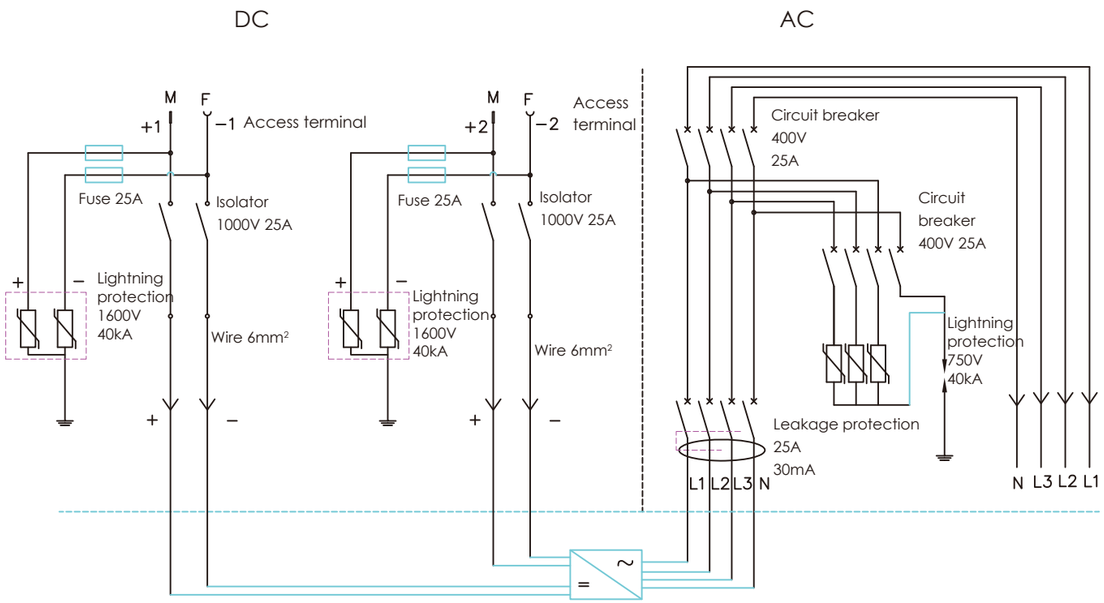
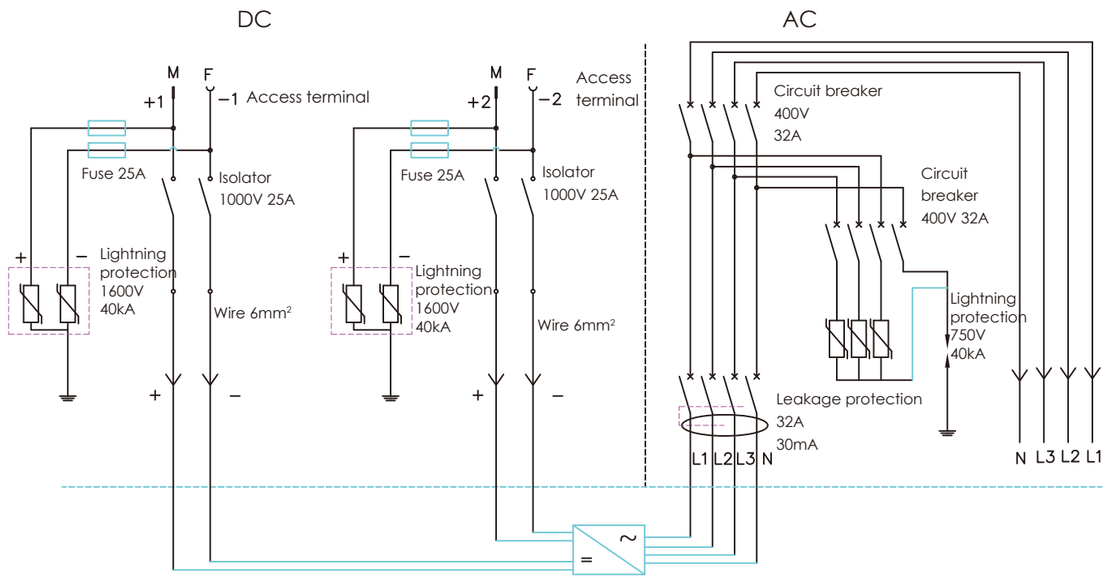


Schematic PEDB 20000TD-1



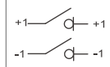
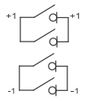
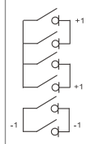
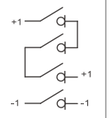
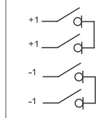
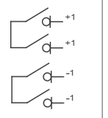
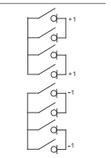
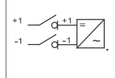
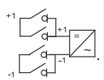
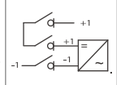
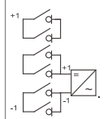
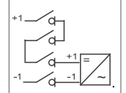
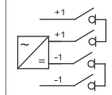
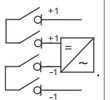
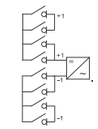
THE PARAMETER INDEX

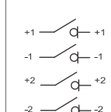
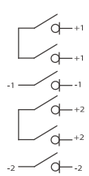
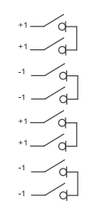
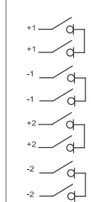
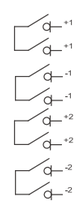
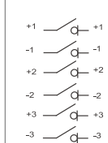
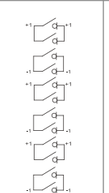
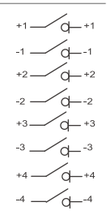
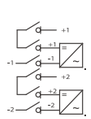
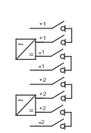
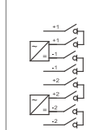
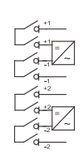
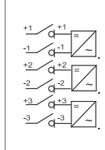
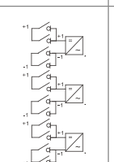
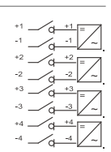
PV DC SWITCHES

	Single Hole Mounting	Panel Mounting	Distribution Block	Padlock mounting	Enclosure DC Switch
					
PEDS 16	HM16	PM16	DB16	DC16	EL16
PEDS 25	HM25	PM25	DB25	DC25	EL25
PEDS 32	HM32	PM32	DB32	DC32	EL32

	Single Hole Mounting	Panel Mounting	Distribution Block	Padlock mounting	Enclosure DC Switch
					
PEDS40	HM40	PM40	DB40	DC40	EL40
PEDS55	HM55	PM55	DB55	DC55	EL55

THE CONTACTS WIRING DIAGRAM

1MPPT								
Recommended Model	IEC		IEC		UL		UL	
	PEDS16-2		PEDS25-2		PEDS16-2		PEDS25-2	
Applicable inverter range	1~2kW		3~3.6kW		1~2kW		3~3.6kW	
PEDS16/25/32/40/55	...2	...2H	...3S	...3H	...4S	...4T	...4B	...4H
The Contacts Wiring Diagram								
Switching examples								

2MPPT						3MPPT		4MPPT
Recommended Model	IEC	IEC	IEC	IEC	UL	IEC	IEC	
	PEDS16-4	PEDS25-4	PEDS32-4	PEDS16-4H	PEDS16-4	PEDS32-6	3*3H(定制)	
Applicable inverter range	3~5kW	5~6kW	8~12kW	13~20kW	3~5kW	28~36kW	40~72kW	
PEDS16/25/32/40/55	...4	...2*3S	...2*4T	...2*4T	...2*4B	...6	...3*2H	...8
The Contacts Wiring Diagram								
Switching examples								

PARAMETER INDEX

Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.

Rated thermal current I_{the}				PEDS16	PEDS25	PEDS32	PEDS40	PEDS55
Rated insulation voltage			A	16	25	32	40	55
Distance of contacts (per pole)			V	1500	1500	1500	1500	1500
Rated operational current I_e			mm	8	8	8	8	8
DC22B L/R = 1ms	1 P +1	300V	A	16	23	27	40	55
		400V	A	12	14	16	30	40
		500V	A	9	11	13	19	25
		600V	A	6	8	10	15	20
		700V	A	4.5	6	7.5	10	15
		800V	A	3	4	5	8	10
		900V	A	2.5	3	4	6	8
		1000V	A	1.5	2	2.5	4	6
	2 P（2、4、6、8） +1 −1	500V	A	16	25	32	40	55
		600V	A	16	25	32	40	55
		700V	A	16	23	27	35	55
		800V	A	16	20	23	30	45
		900V	A	13	16	20	25	35
		1000V	A	9	11	13	20	25
		1200V	A	6	8	10	10	15
		1500V	A	3	4	5	6	8
	2 H +1 −1 +2 −2	500V	A	29	45	58	72	85
		600V	A	29	45	50	64	80
		700V	A	16	23	27	35	55
		800V	A	16	20	23	30	45
		900V	A	13	16	20	25	35
		1000V	A	9	11	13	20	25
		1200V	A	6	8	10	10	15
		1500V	A	3	4	5	6	8
	3 H +1 −1 +2 −2 +3 −3	500V	A	29	45	58	/	/
		600V	A	29	45	50	/	/
		700V	A	29	38	45	/	/
		800V	A	29	38	45	/	/
		900V	A	29	38	45	/	/
		1000V	A	29	38	45	/	/
		1200V	A	12	14	16	/	/
		1500V	A	9	11	13	/	/
	4 P（4T、4B、4S） +1 −1 +2 −2	500V	A	16	25	32	40	55
		600V	A	16	25	32	40	55
		700V	A	16	25	32	40	55
		800V	A	16	25	32	40	55
		900V	A	16	25	32	40	55
		1000V	A	16	25	32	40	55
		1200V	A	16	25	32	40	55
		1500V	A	16	20	23	30	40
	4 H +1 −1 +2 −2 +3 −3 +4 −4	500V	A	29	45	58	/	/
		600V	A	29	45	58	/	/
		700V	A	29	45	58	/	/
		800V	A	29	45	58	/	/
		900V	A	29	45	58	/	/
		1000V	A	29	45	58	/	/
		1200V	A	29	45	50	/	/
		1500V	A	16	20	23	/	/

PARAMETER INDEX

Data according to IEC60947-3(ed.3.2):2015, Utilization category DC-PV0/DC-PV1.

Technical Parameters		Moled		PEDS16	PEDS25	PEDS32	PEDS40	PEDS55
DC22B L/R = 1ms	1 P +1	350V	A	4	5	6	7.1	10
		500V	A	4	5	6	5.7	7
		600V	A	4	5	6	5	5.8
		700V	A	/	/	/	3.9	5
		800V	A	/	/	/	3.2	4.4
		900V	A	/	/	/	2.5	3.5
		1000V	A	/	/	/	1.5	2
	2 P（2、4、6、8） +1 −1	350V	A	16	20	25	40	55
		500V	A	16	20	25	40	55
		600V	A	16	20	25	40	55
		700V	A	/	/	/	32	46
		800V	A	/	/	/	26	37
		900V	A	/	/	/	20	28
		1000V	A	/	/	/	16	20
	2 H +1 −1 +2 −2	350V	A	29	45	58	72	85
		500V	A	29	38	40	53	66
		600V	A	21	23	25	42	55
		700V	A	/	/	/	35	47
		800V	A	/	/	/	30	40
		900V	A	/	/	/	26	32
		1000V	A	/	/	/	22	25
	4 P（4T、4B、4S） +1 −1 +2 −2	350V	A	16	20	25	40	55
		500V	A	16	20	25	40	55
		600V	A	16	20	25	40	55
		700V	A	/	/	/	40	55
		800V	A	/	/	/	40	55
		900V	A	/	/	/	40	55
		1000V	A	/	/	/	40	55
	3 H +1 −1 +2 −2 +3 −3	350V	A	29	45	58	/	/
		500V	A	29	38	50	/	/
		600V	A	21	38	45	/	/
	4 H +1 −1 +2 −2 +3 −3 +4 −4	350V	A	29	45	58	/	/
		500V	A	29	45	58	/	/
		600V	A	29	45	50	/	/

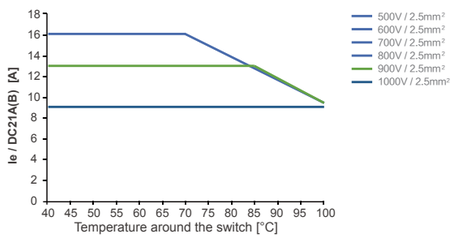
JUMPERS FOR SERIES

Models	A	B	C
	PEDS-J	PEDS-JL1	PEDS-JL2
			

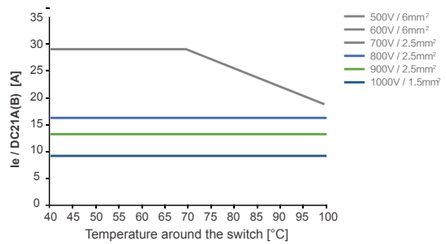
Jumpers can be selected based on your application.

TEMPERATURE CURVE

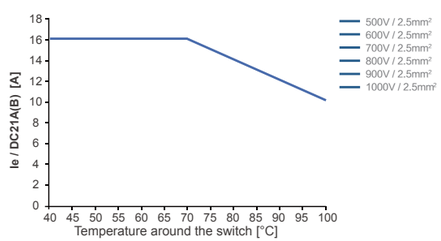
SWITCH PEDS 16 2/4/6/8 POLES OPEN



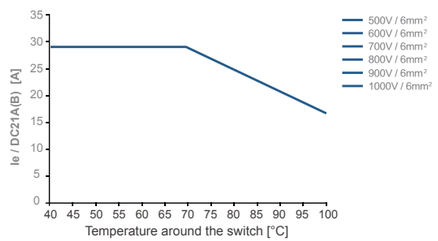
SWITCH PEDS 16 2H OPEN



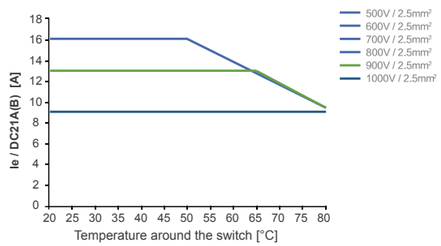
SWITCH PEDS 16 4S OPEN



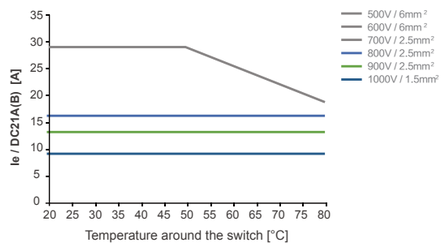
SWITCH PEDS 16 4H OPEN



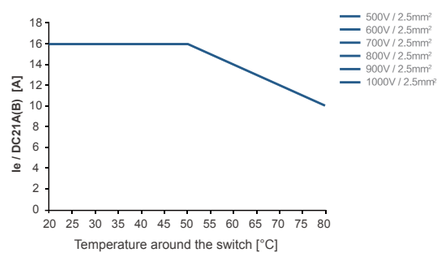
SWITCH PEDS 16 2/4 POLES ENCLOSED



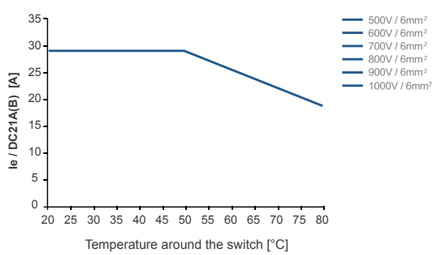
SWITCH PEDS 16 2H ENCLOSED



SWITCH PEDS 16 4S ENCLOSED

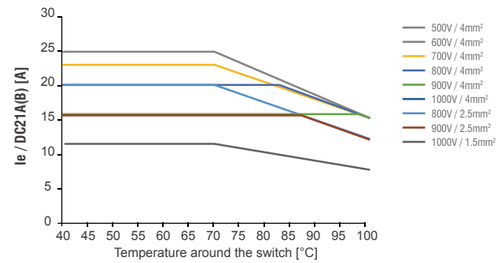


SWITCH PEDS 16 4H ENCLOSED

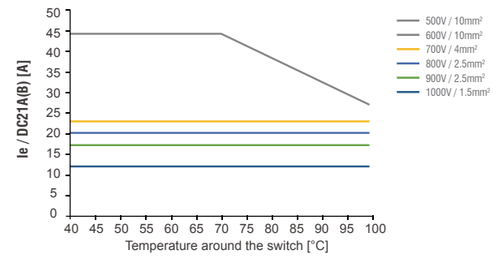


TEMPERATURE CURVE

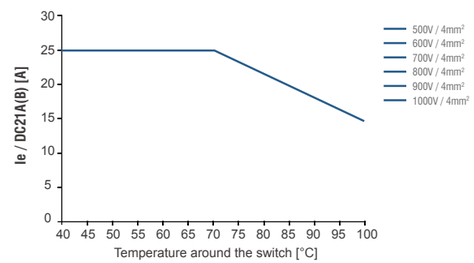
SWITCH SI25 2/4/6/8 POLES ALL TYPES EXCEPT PEL64R



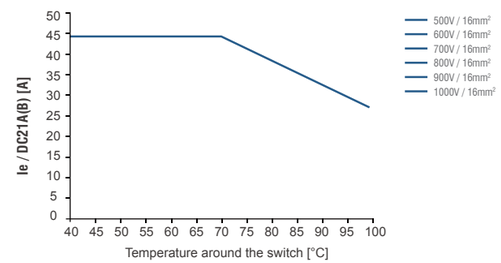
SWITCH SI25 2H ALL TYPES EXCEPT PEL64R



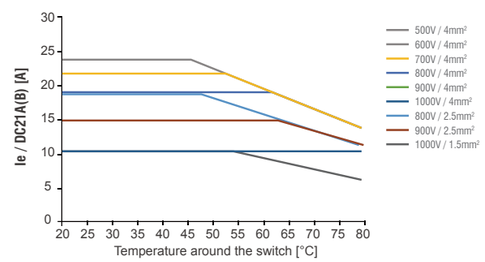
SWITCH SI25 4S ALL TYPES EXCEPT PEL64R



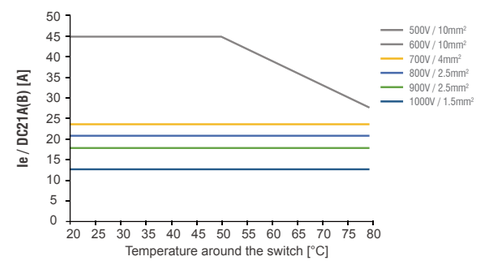
SWITCH SI25 4H ALL TYPES EXCEPT PEL64R



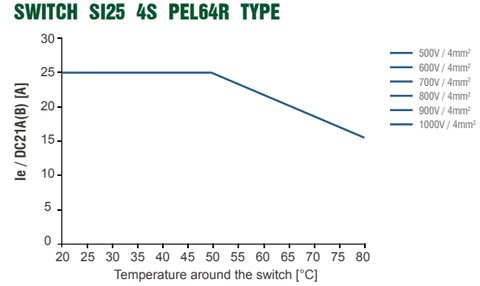
SWITCH SI25 2/4 POLES PEL64R TYPE



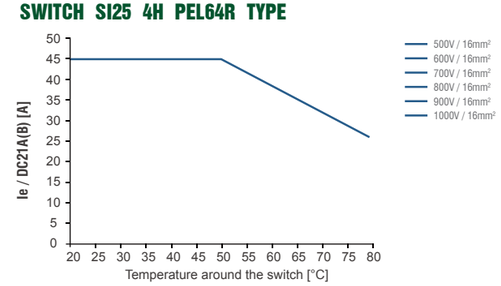
SWITCH SI25 2H PEL64R TYPE



SWITCH SI25 4S PEL64R TYPE

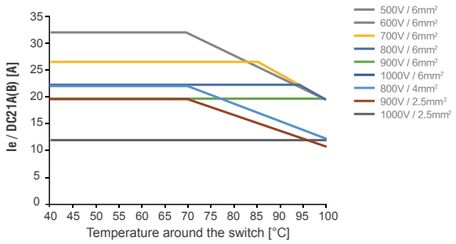


SWITCH SI25 4H PEL64R TYPE

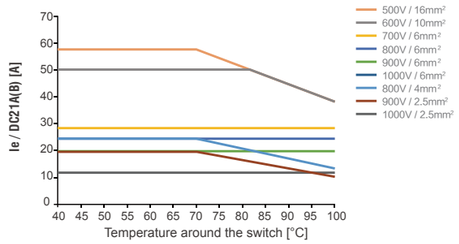


TEMPERATURE CURVE

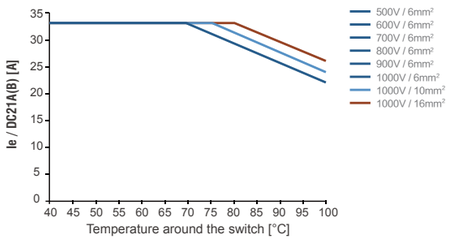
SWITCH SI32 2/4/6/8 POLES ALL TYPES EXCEPT PEL64R



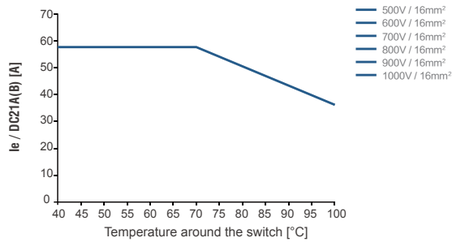
SWITCH SI32 2H ALL TYPES EXCEPT PEL64R



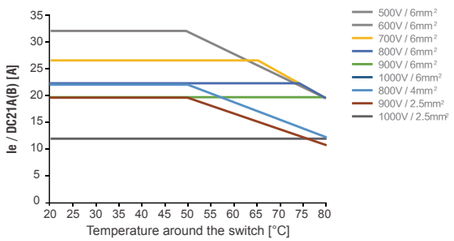
SWITCH SI32 4S ALL TYPES EXCEPT PEL64R



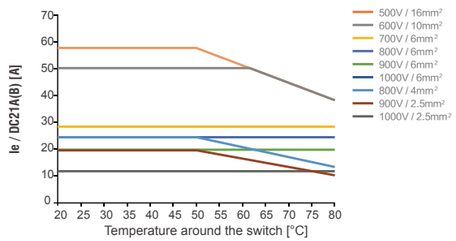
SWITCH SI32 4H ALL TYPES EXCEPT PEL64R



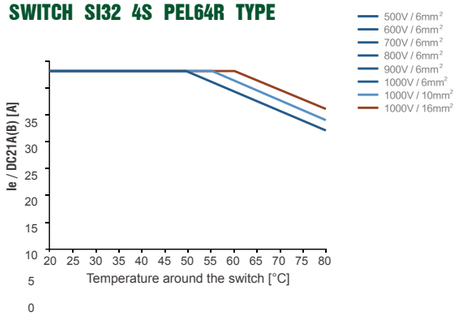
SWITCH SI32 2/4 PEL64R TYPE



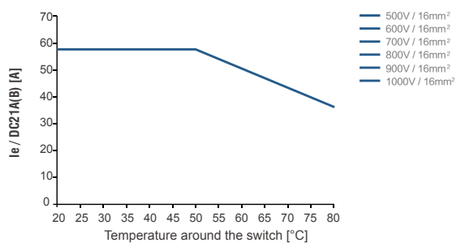
SWITCH SI32 2H PEL64R TYPE

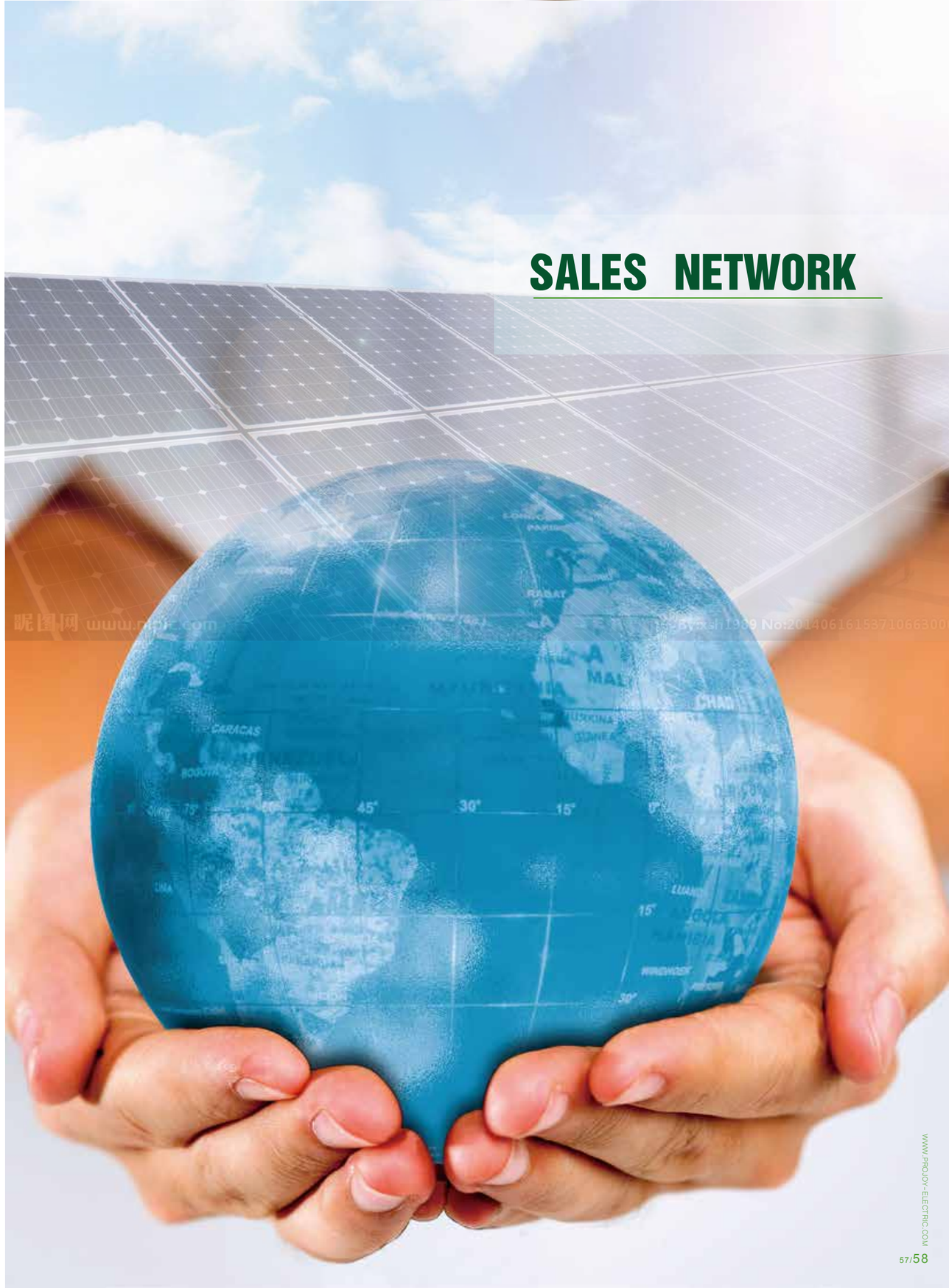


SWITCH SI32 4S PEL64R TYPE



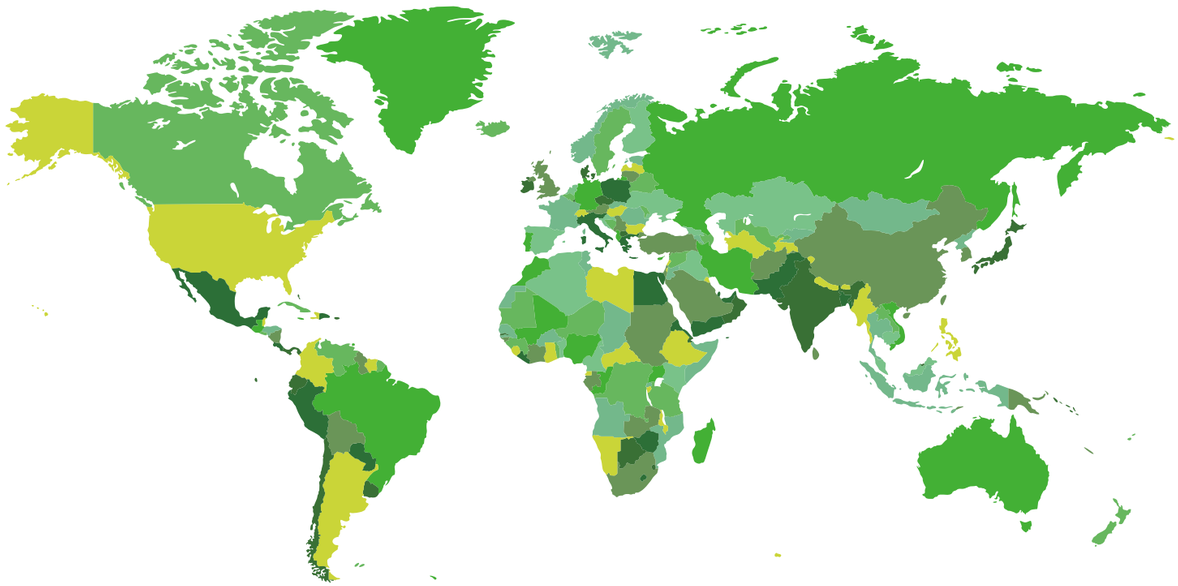
SWITCH SI32 4H PEL64R TYPE





GLOBALISED SERVICE AND LOCALISED SUPPORT

Projoy has set up branches in a number of countries,
the Netherlands, UK, China, Australia, India, etc., and can provide convenient localized service
and support to customers worldwide.



3

There are China three major R & D centers,Milan, Italy; Suzhou, and Xiamen,China.

5

Headquartered in Italy, PROJOY has offices in China, the UK, the Netherlands,Australia and India and other countries.

30+

Projoy has 30 year sexperience in product design and manufacturing of electrical switches and electrical connectors.

32+

There are 32 primary distributors in Italy, Britain, the Netherlands, Australia, India and so on.

60+

Projoy supply PV switches to over 60 inverter businesses worldwide

2000

2015 sales expect to reach 20 million euros.

GLOBAL PARTNERS

ITALY

ASIA-PACIFIC

CHINESE