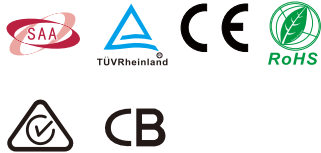


BYSS Series Non-polarity DC Isolator Switches

4P 1500V 35A



- 1 Waterproof Plug
- 2 IP66 Ingress Protection
- 3 Sealed Plug
- 4 Knob
- 5 Standard
- 6 Brand
- 7 Type
- 8 LOCK
- 9 ON
- 10 OFF

BYSS-50



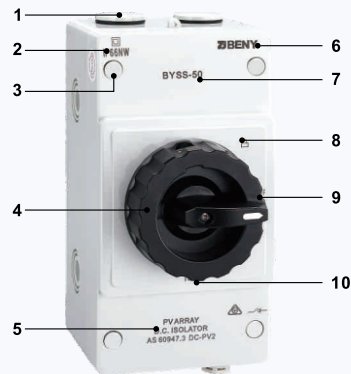
Application

BENY BYSS-50 true DC isolator switch in IP66 enclosure is developed for 1000V 1500V commercial solar rooftop, should be installed between solar panels and inverter for DC power isolation. Each poles up to 35A at 1500V or 50A at 1000V. A breather valve is attached on the enclosure bottom. Patent arc-extinguish chamber and UL listed qualify material ensure a highest level quality and solar DC safety.

Feature

- IP66, UV Resistance
- Arcing Time < 3ms
- Earth Terminal
- IEC60947-3, AS60947.3
- 2 Poles, 4 Poles Available(Single | Double String)
- DC-PV2 / DC-21B: 35A up to 1500VDC

Appearance Introduction



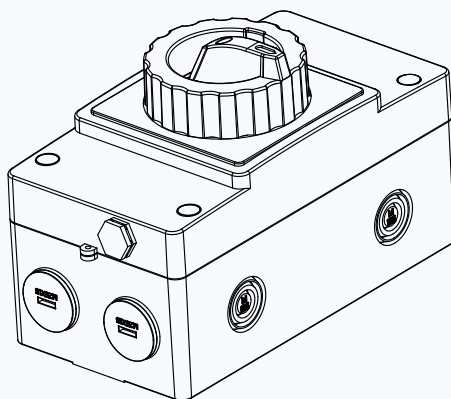
Parameter

Electrical Characteristics		
Type	BYSS-50, BYSS.1-50, BYSS.2-50	
Function	Isolator, Control	
Standard	IEC60947-3, AS60947.3	
Utilization category	DC-PV2 / DC-21B	
Pole	4P	
Rated frequency	DC	
Rated operational voltage (U_e)	300V, 600V, 1000V,1200V, 1500V	
Rated operational current (I_e)	See the next page	
Rated insulation voltage (U_i)	1200V	
Conventional free air thermal current(I_{th})	II	
Conventional enclosed thermal current(I_{the})	Same as I_e	
Rated short-time withstand current (I_{cw})	1.5kA, 1s	
Rated short-time making capacity (I_{cm})	2kA	
Rated conditional short-circuit current (I_{cn})	3kA	
Rated impulsed withstand voltage (U_{imp})	8.0kV	
Overvoltage category	II	
Suitability for isolation	Yes	
Polarity	No polarity, “+” and “-” polarities could be interchanged.	
Service Life/Cycle Operation		
Mechanical	10000	
Electrical	1000	
Installation Environment		
Ingress Protection	Enclosure	IP66
	Switch body	IP20
Storage Temperature	-50°C ~ +90°C	
Operation Temperature	-40°C ~ +85°C	
Mounting Type	Vertically or horizontally	
Pollution degree	3	
Suitable environment	Outdoor / Indoor	

BYSS Series

Non-polarity DC Isolator Switches

Breathing Valve



Remarks:

ZJBENY DC Isolator has a breathing valve already, to avoid the condensation issue.

Identification	Rating data		
Switch, unenclosed - catalogue number (with DC-PV2 rating)	BYSS.1-50, BYSS.2-50		
Specific dedicated individual enclosure - catalogue number (with minimum IP56NW rating)	BYSS-50 IP66NW		
Assembly of switch and specific dedicated individual enclosure - catalogue number	/		
I_{th} rated thermal current, unenclosed, at 40°C shade ambient air temperature	50 amps		
I_{tho} rated thermal current, indoors, at 40°C shade ambient air temperature, in a specific dedicated enclosure	50 amps		
I_{the} rated thermal current outdoors at 40°C shade ambient air temperature <u>without solar effects</u> in a specific dedicated enclosure rated IP66NW	50 amps		
I_{the} solar current value outdoors at 60°C shade ambient air temperature (see D.8.3.11,table D3), with solar effects in a specific dedicated enclosure rated IP66NW	50 amps		
	U_e rated operational voltage DC Volts	I_e , DC-PV2 rated operational current Amps	$I_{(make)}$ and $I_{(break)}$ DC-PV2 4 x I_e Amps
2 pole (1 / 2 /)	≤300	50	200
	600	50	200
	1000	50	200
	1200	32	128
	1500	16	64
4 pole (1 / 2 / 3 / 4 /)	≤300	50	200
	600	50	200
	1000	50	200
	1200	50	200
	1500	35	140

Wiring Diagram for Rated operational voltage U_e (V) & Rated operational current I_e (A)

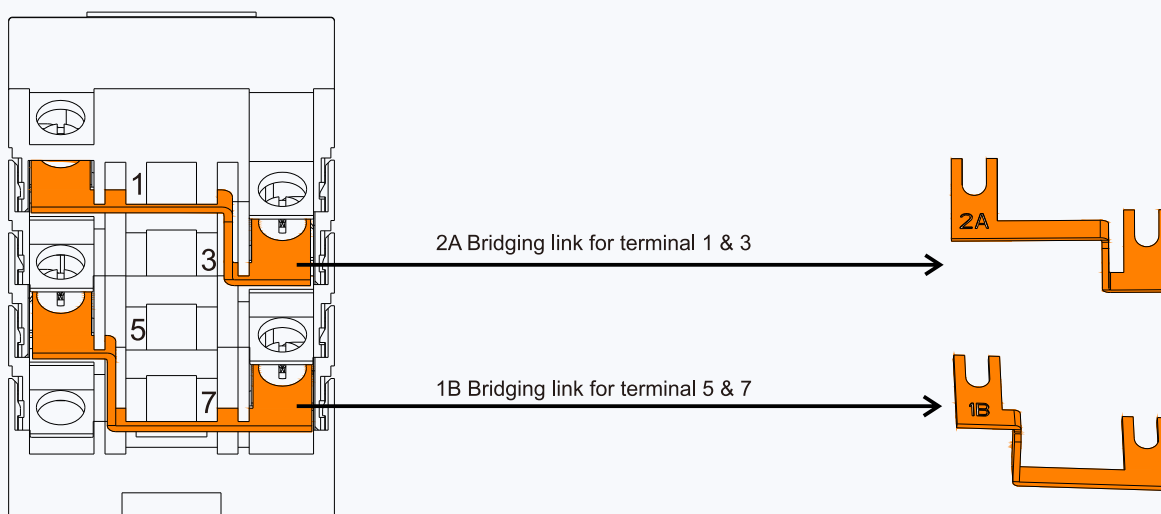
Contacts wiring diagram	300V	600V	1000V	1200V	1500V	Poles in series	Number of Strings	Type Number
	50A	50A	50A	32A	16A	2	2	4
	50A	50A	50A	50A	35A	4	1	4B

Switching Configurations

Type	4-pole	4-pole with Input and Output bottom
/	4	4B
Contacts Wiring graph		
Switching example		

Bridging links installation

Installed incorrectly



* Warning: You must ensure all connections (including bridging link connections) are suitable for the rated current, prepared to ensure only conductive parts are clamped and tightened to the manufacturers required torque before energization.

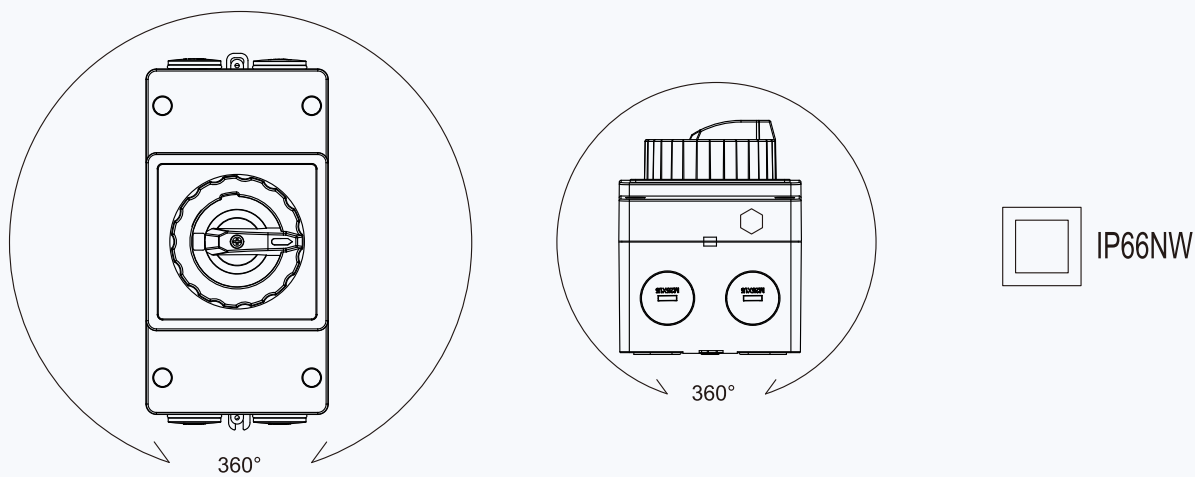
BYSS Series

Non-polarity DC Isolator Switches

Terminals / connection

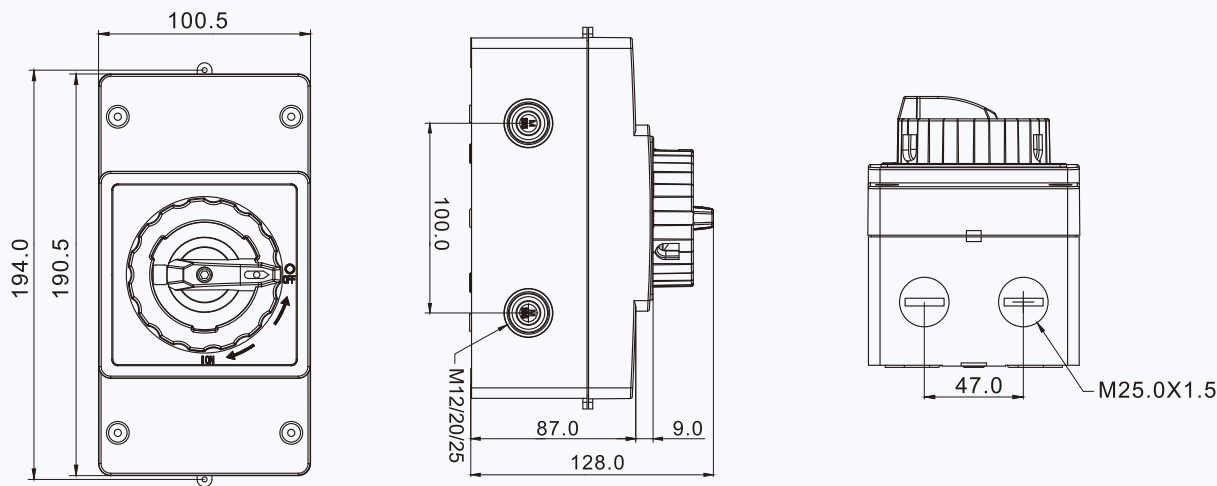
Type		BYSS-50, BYSS.1-50, BYSS.2-50
Number of poles		4-pole
Terminal designation, main circuit		1; 3; 5; 2; 4; 6; 7; 8
Type of terminal, main circuit		Screw terminal
Rated cross section area, main circuit		4.0-16mm²
Type of Conductor		4-16mm² (Rigid: Solid or Stranded)
		4-10mm² (Flexible)
Number of conductors per terminal		1
Required preparation of the conductor		Yes
Stripping length (mm), main circuit		8mm
Tightening torque (M4), main circuit		Min: 1.2Nm
		Max: 1.8Nm

IP Rating

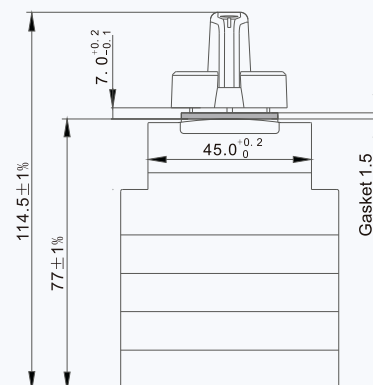
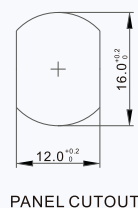
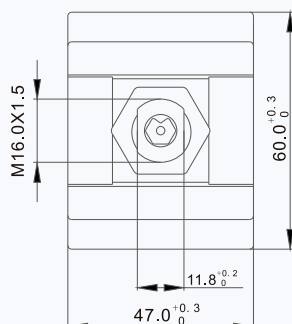


Remarks:
ZJBENY DC Isolator can be installed in any direction, but must do well performance for waterproof.

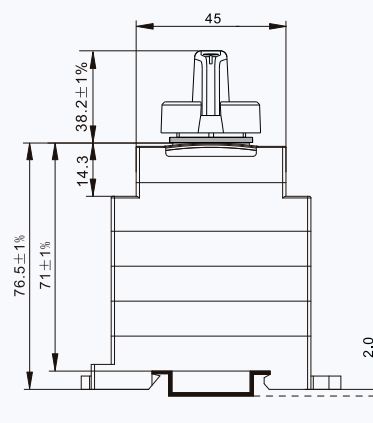
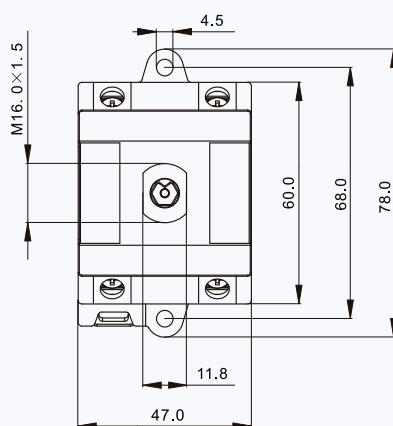
Dimensions(mm)



BYSS.1-50
Panel Mounting
IP66

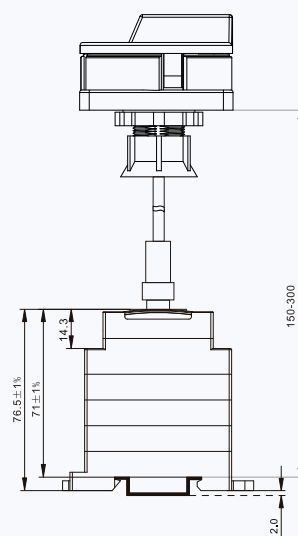
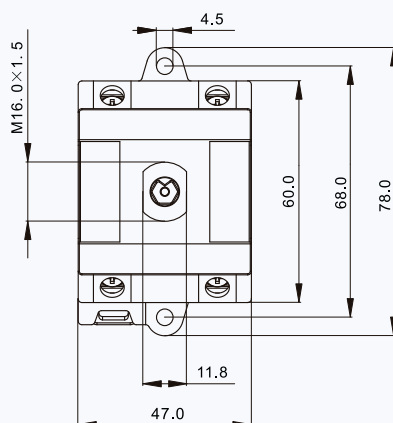


BYSS.2-50
DIN Rail Mounting
Lockable handle
IP40



BYSS.2-50
Base Mounting
(Door coupling)
Lockable handle
IP66

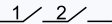
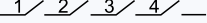
Remarks: The handle length can be custom-made.



BYSS Series

Non-polarity DC Isolator Switches

Data according to AS60947-3:2018

Main Contacts		Type	BYSS-50	Appendix B5
Rated thermal current I_{the}		A	35	Making &
Rated insulation voltage U_i		V	1500	Breaking
Distance of contacts (per pole)		mm	8	5x
Rated operational current I_e (DC-PV2)				operations
1 pole 1 	300V	A	25	100
	400V	A	10	40
	500V	A	8	32
	600V	A	8	32
	800V	A	3	12
	1000V	A	2	8
4-pole 2 pole in series 4 	500V	A	50	200
	600V	A	50	200
	700V	A	50	200
	800V	A	50	200
	900V	A	50	200
	1000V	A	50	200
	1200V	A	25	100
	1500V	A	16	64
2-pole 4 pole in series 4B 	500V	A	50	200
	600V	A	50	200
	700V	A	50	200
	800V	A	50	200
	900V	A	50	200
	1000V	A	50	200
	1200V	A	50	200
	1500V	A	35	140

DC Isolator Sizing Guide

DC-PV2 Ratings by Voltage, min Cables size and Temperature °C

1 pole Rating

BYSS.1-18 / BYSS.2-18
DC-PV2

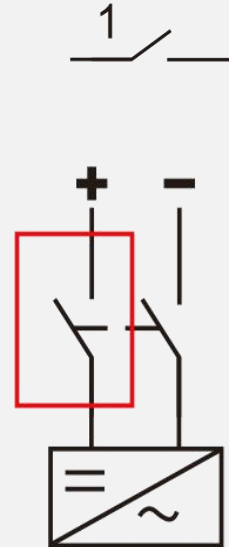
Ue	I_e/I_{th} +40°C Shade Ambient Unenclosed	4*IeA I and Ic	I_{the} Solar +60°C Shade Ambient Enclosed	Min Cable Size for rating
300V	25	100	25	4mm ²
600V	15	60	15	2.5mm ²
800V	6.2	25	6.2	1.5mm ²
1000V	4.5	18	4.5	1.5mm ²
1200V	3.7	15	3.7	1.5mm ²

BYSS.1-32 / BYSS.2-32
DC-PV2

Ue	I_e/I_{th} +40°C Shade Ambient Unenclosed	4*IeA I and Ic	I_{the} Solar +60°C Shade Ambient Enclosed	Min Cable Size for rating
300V	40	160	40	10mm ²
600V	25	100	25	4mm ²
800V	10	40	10	1.5mm ²
1000V	8	32	8	1.5mm ²
1200V	6.25	25	6.25	1.5mm ²

BYSS.1-50 / BYSS.2-50 / BYSS-50
DC-PV2

Ue	I_e/I_{th} +40°C Shade Ambient Unenclosed	4*IeA I and Ic	I_{the} Solar +60°C Shade Ambient Enclosed	Min Cable Size for rating
300V	50	200	50	10mm ²
600V	40	160	40	10mm ²
800V	15	60	15	2.5mm ²
1000V	12.5	50	12.5	2.5mm ²
1200V	8.7	35	8.7	1.5mm ²
1500V	4	16	4	1.5mm ²



2 poles in series Ratings

BYSS.1-50 / BYSS.2-50 / BYSS-50
DC-PV2

Ue	I_e/I_{th} +40°C Shade Ambient Unenclosed	4*IeA I and Ic	I_{the} +40°C Shade Ambient Dedicated Enclosure IP66NW	I_{the} +60°C Shade Ambient Dedicated Enclosure IP66NW	Min Cable Size for rating
300V	50	200	50	50	10mm ²
600V	50	200	50	50	10mm ²
800V	50	200	50	50	10mm ²
1000V	50	200	50	50	10mm ²
1200V	40	160	40	40	10mm ²
1500V	16	64	16	16	2.5mm ²

