

BYH Series Non-polarity DC Isolator Switches

4P 1000V 32A



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



Accessories

Application

BENY BYH-32 true DC isolator switch in IP66 enclosure is developed for solar residential and commercial PV rooftop systems, should be installed between solar panels and inverter for DC power isolation. The first DC isolator complies with DC-PV2 AS60947.3 2018 standard. The patent arc-extinguish chamber and qualify material ensure the DC isolator's reliable and long working life. Breather valve is attached on the enclosure bottom. Max voltage up to 1000V.

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: 32A up to 1000VDC

Appearance Introduction



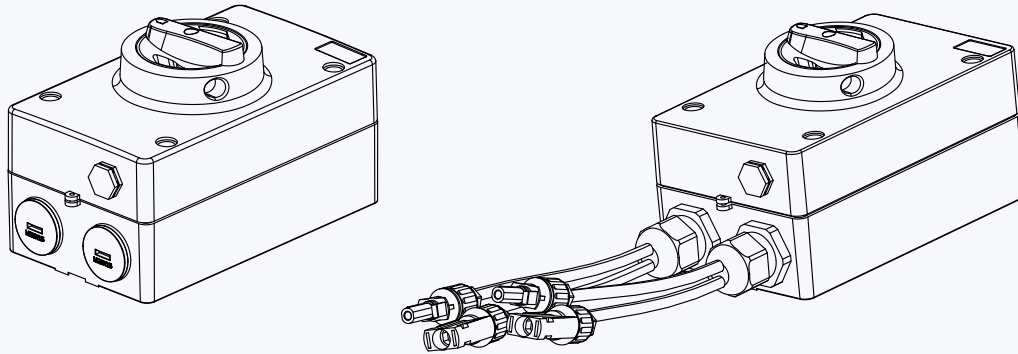
Parameter

Electrical Characteristics	
Type	BYH-32, BYH-32M1, BYH-32M2
Function	Isolator, Control
Standard	IEC60947-3, AS60947.3
Utilization category	DC-PV2 / DC-21B
Pole	4P
Rated frequency	DC
Rated operational voltage (U_e)	500V, 600V, 800V, 1000V
Rated operational current (I_e)	See the next page
Rated insulation voltage (U_i)	1200V
Conventional free air thermal current (I_{th})	//
Conventional enclosed thermal current (I_{the})	Same as I_e
Rated short-time withstand current (I_{cw})	1kA, 1s (4,4B); 1.7kA, 1s (2H)
Rated short-time making capacity (I_{cm})	1.7kA(4,4B); 3kA(2H)
Rated conditional short-circuit current (I_{cn})	3kA
Rated impuled 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	15000
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

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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)		BYH.1-32, BYH.2-32		
Specific dedicated individual enclosure - catalogue number (with minimum IP56NW rating)		BYH-32 IP66NW		
Assembly of switch and specific dedicated individual enclosure - catalogue number		/		
I_{th} rated thermal current, unenclosed, at 40°C shade ambient air temperature		32 amps		
I_{the} rated thermal current, indoors, at 40°C shade ambient air temperature, in a specific dedicated enclosure		32 amps		
I_{the} rated thermal current <u>outdoors</u> at 40°C shade ambient air temperature <u>without solar effects</u> in a specific dedicated enclosure rated IP66NW		32 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		29 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
4-pole 2 pole in series 4	(_1 / _2 / _)	300	32	128
		500	32	128
		600	13	52
		800	9	36
		1000	9	36
2-pole 4 pole in series 4B	(_1 / _2 / _3 / _4 / _)	300	32	128
		500	32	128
		600	32	128
		800	32	128
		1000	32	128

Wiring Diagram for Rated operational voltage Ue (V) & Rated operational current Ie (A)

Contacts wiring diagram	300V	500V	600V	800V	1000V	Poles in series	Number of Strings	Type Number
	32A	32A	13A	9A	9A	2	2	4
	40A	40A	/	/	/	4	1	2H
	32A	32A	32A	32A	32A	4	1	4B
	32A	32A	32A	32A	32A	4	1	4S

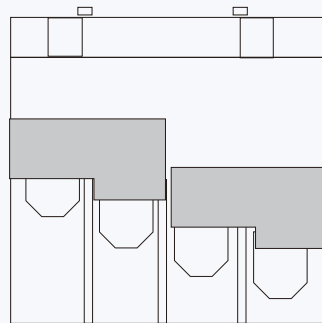
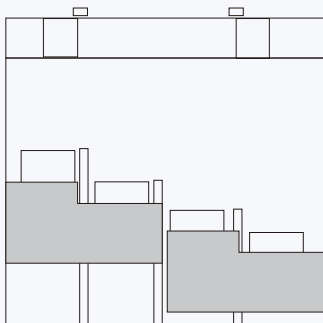
Switching Configurations

Type	4-pole	2-pole 4 Paralleled Poles	4-pole with Input and Output bottom	4-pole with Input on top Output bottom
/	4	2H	4B	4S
Contacts Wiring graph				
Switching example				

Bridging links installation

Installed incorrectly

Installed correctly



* Warning: Verify that 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.

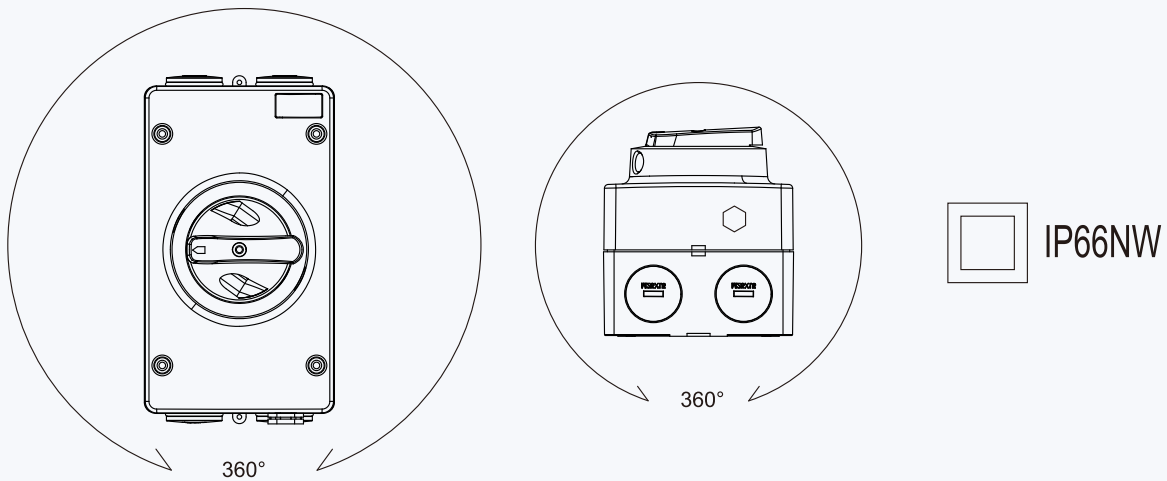
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Terminals / connection

Type	BYH-32, BYH-32M1, BYH-32M2
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	4.0-16mm ²
Type of Conductor	4-16mm ² (Rigid: Solid or Stranded) 4-10mm ² (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

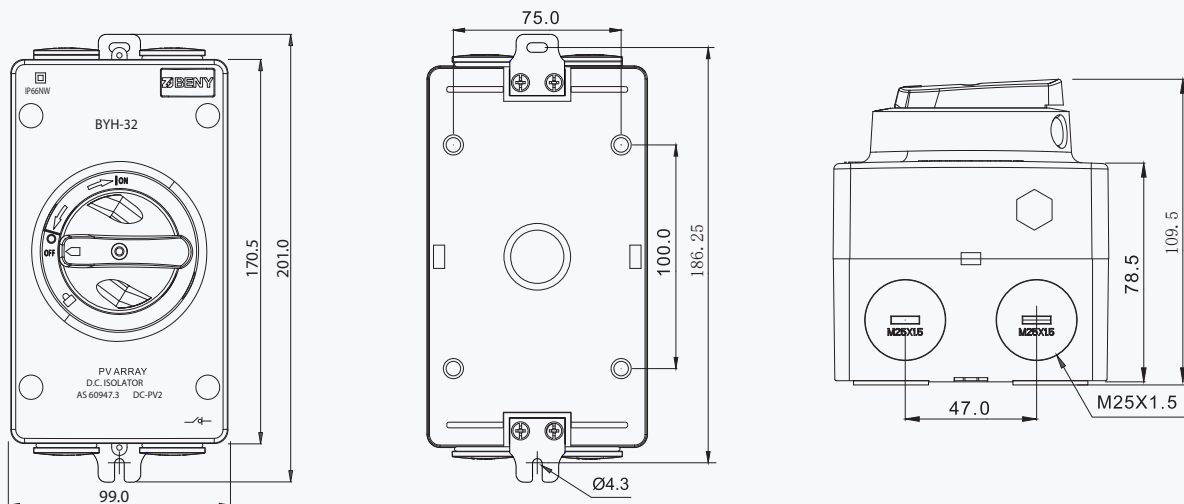
IP Rating




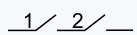
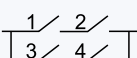
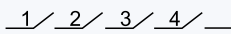
Remarks:

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

Dimensions(mm)



Data according to AS60947-3:2018

Main Contacts		Type	BYH-32	Appendix B5
Rated thermal current I_{the}		A	32	Making &
Rated insulation voltage U_i		V	1000	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	32	128
	600V	A	13	52
	700V	A	9	36
	800V	A	9	36
	900V	A	9	36
	1000V	A	9	36
2-pole 4 parallel poles 2H 	500V	A	40	160
	600V	A	/	/
	700V	A	/	/
	800V	A	/	/
	900V	A	/	/
	1000V	A	/	/
2-pole 4 pole in series 4B 	500V	A	32	128
	600V	A	32	128
	700V	A	32	128
	800V	A	32	128
	900V	A	32	128
	1000V	A	32	128