

## 4P 1000V 32A



- 1 Waterproof Plug
- 2 IP66NW Ingress Protection
- 3 Sealing Plug
- 4 OFF
- 5 LOCK
- 6 Standard
- 7 Brand
- 8 Type
- 9 ON
- 10 Knob

BYH-32

BYH-32 with MC4



Accessories

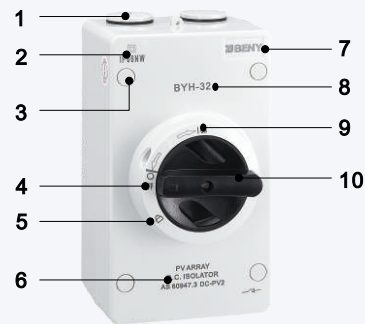
### Application

**BENY** BYH Series DC Isolator Switch in plastic enclosure is applied 1~20KW Residential or Commercial Photovoltaic system, placed between photovoltage modules and inverters. Arcing time less than 3ms, that keep solar system more safe. To ensure its stability and long service life, our products are made by components with optimum quality. Max voltage up to 1000V DC It holds a safe lead among similar products.

### Feature

- IP66 , UV Resistance
- Arcing Time < 3ms
- Earth Terminal
- IEC60947-3, AS60947.3
- 2 Pole, 4 Poles Available(Single | Double String)
- DC-PV2 / DC-21B: 32A up to 1000VDC

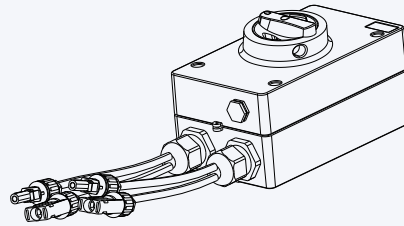
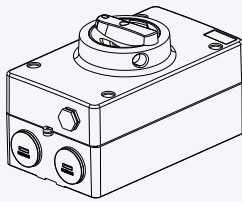
### Appearance Introduction



### 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 ( $U_o$ )	500V, 600V, 800V, 1000V	
Rated operational current ( $I_o$ )	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 $I_o$	
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	Enclsoure	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	

## Breathing Valve



Remarks:

ZBENY 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 in</u> 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 $I_{c(break)}$ DC-PV2 4 x $I_e$ Amps
4-pole 2 pole in series 4 ( <u>1</u> / <u>2</u> / ___ )	300	32	128
	500	32	128
	600	13	52
	800	9	36
	1000	9	36
2-pole 4 pole in series 4B ( <u>1</u> / <u>2</u> / <u>3</u> / <u>4</u> / ___ )	300	32	128
	500	32	128
	600	32	128
	800	32	128
	1000	32	128

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

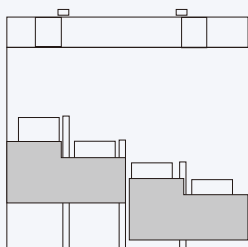
Contacts wiring diagram	300V	500V	600V	800V	1000V	Poles in series	Number of Strings	Type Number
	32A	32A	13A	9A	9A	2	2	4
	40A	40A	/	/	/	4	1	2H
	32A	32A	32A	32A	32A	4	1	4B
	32A	32A	32A	32A	32A	4	1	4S

### Switching Configurations

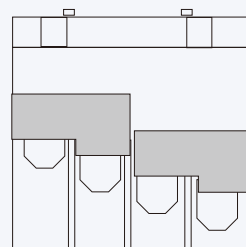
Type	4-pole	2-pole 4 Paralleled Poles	4-pole with Input and Output bottom	4-pole with Input on top Output bottom
/	4	2H	4B	4S
Contacts Wiring graph				
Switching example				

### Bridging links installation

**installed incorrectly**





**installed correctly**

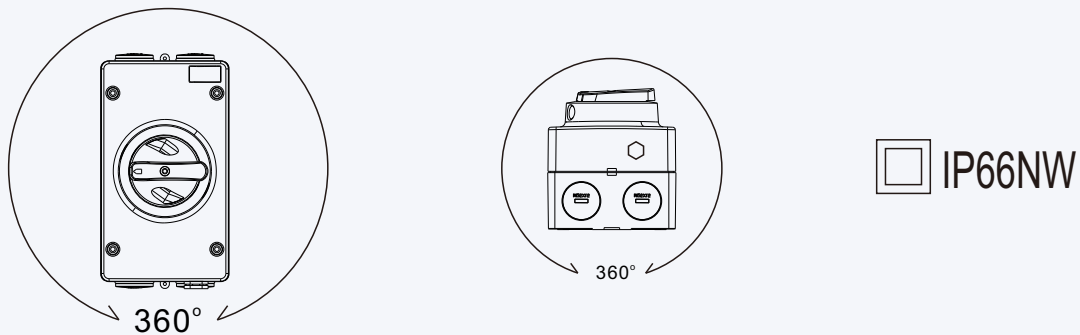


\* Warning: Verify that all connections (including bridging link connections) are suitable for the rated current, prepared to ensure only conductive parts are clamped and tightened to the manufacturers required torque before energization.

## 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 <sup>2</sup>	
Type of onductor		4-16mm <sup>2</sup> (Rigid: Solid or Stranded)
		4-10mm <sup>2</sup> (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	

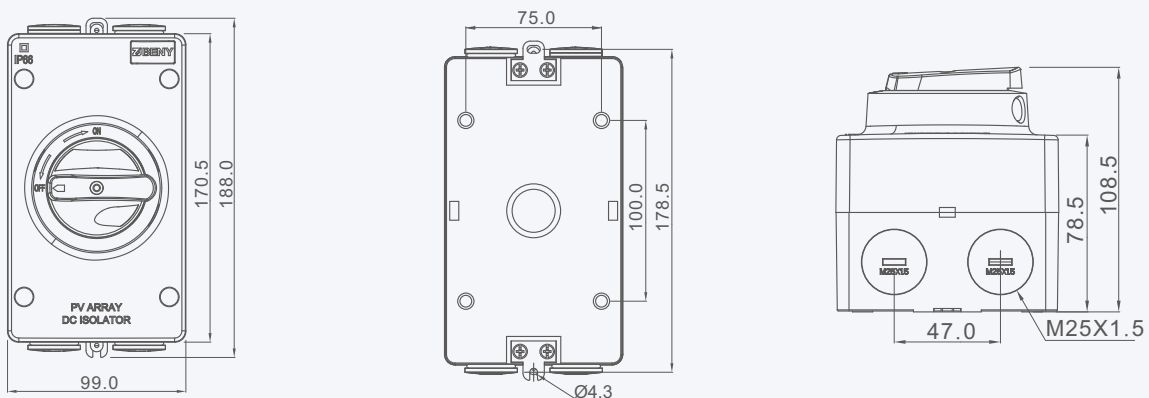
## IP Rating




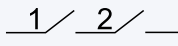
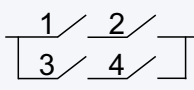
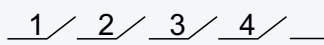
### Remarks:

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 & Breaking 5x operations	
Rated insulation voltage $U_i$	V	1000		
Distance of contacts (per pole)	mm	8		
Rated operational current $I_e$ ( <b>DC-PV2</b> )				
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