

**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

BYH-32 BYH-32 with MC4



Accessories

Application

ZBENY 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 quality 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: 32A up to 1000VDC

Appearance Introduction

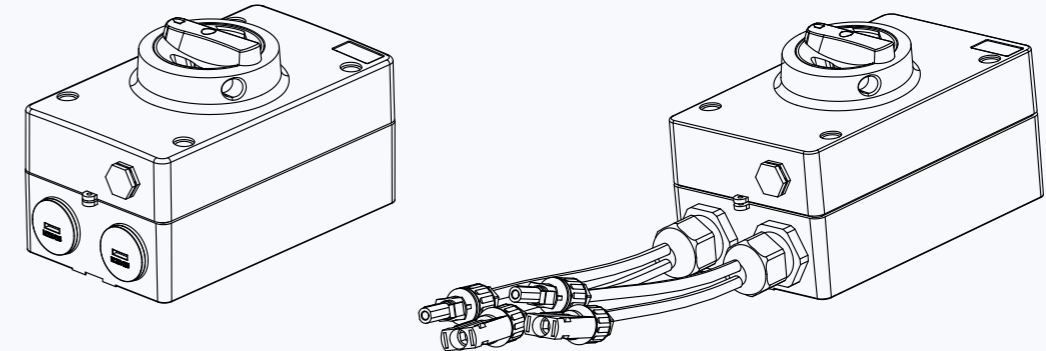


Parameter

| Electrical Characteristics | | |
|--|--|------|
| Type | BYH-32, BYH-32M1, BYH-32M2 | |
| Function | Isolator, Control | |
| Standard | IEC60947-3, AS60947.3 | |
| Utilization category | DC-PV2 | |
| Pole | 4P | |
| Rated frequency | DC | |
| Rated operational voltage (U_n) | 300V, 500V, 600V, 800V, 1000V | |
| Rated operational current (I_n) | See the next page | |
| Rated insulation voltage (U_i) | 1200V | |
| Conventional free air thermal current (I_{fa}) | II | |
| Conventional enclosed thermal current (I_{fe}) | Same as I_{fa} | |
| 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_{cs}) | 3kA | |
| Rated impulsive 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 | | |
|---|--|---|--|
| 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 outdoors at 40°C shade ambient air temperature without solar effects 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_o rated operational voltage DC Volts | I_n ; DC-PV2 rated operational current Amps | $I_{(make)}$ and $I_{(break)}$ DC-PV2 4 x I_n Amps |
| 4-pole 2 pole in series 4 | 300 | 32 | 128 |
| | 500 | 32 | 128 |
| | 600 | 13 | 52 |
| | 800 | 9 | 36 |
| | 1000 | 9 | 36 |
| 2-pole 4 pole in series 4B | 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 |

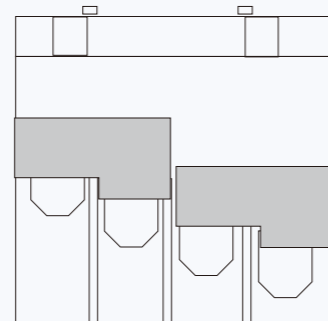
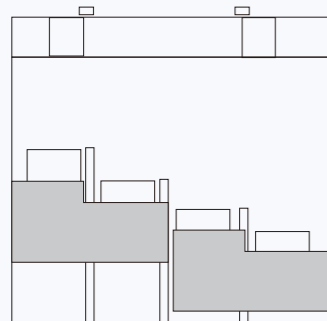
Switching Configurations

| 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 | | | | |

Bridgion Links Installation

Installed incorrectly

Installed correctly



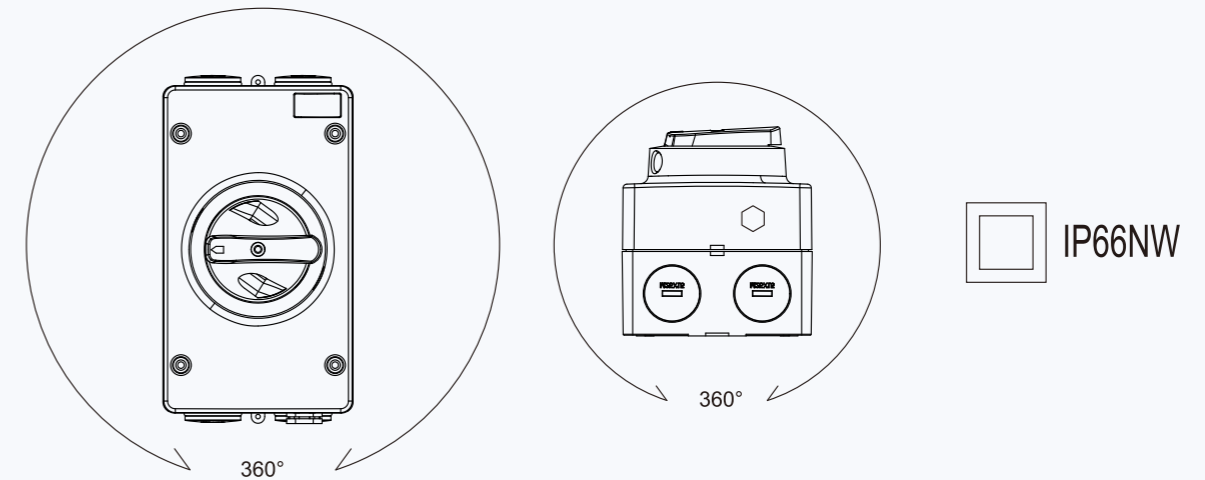
* Warning: You must ensure all connections (including bridging link connections) are suitable for the rated current, prepared to ensure only conductive parts are clamped and tightened to the manufacturers required torque before energization.

BYH Series Non-polarity DC Isolator Switches

Terminals / connection

| Type | BYH-32, BYH-32M1, BYH-32M2 |
|--|--|
| Number of poles | 4-pole |
| Terminal designation, main circuit | 1; 3; 5; 7; 2; 4; 6; 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 |

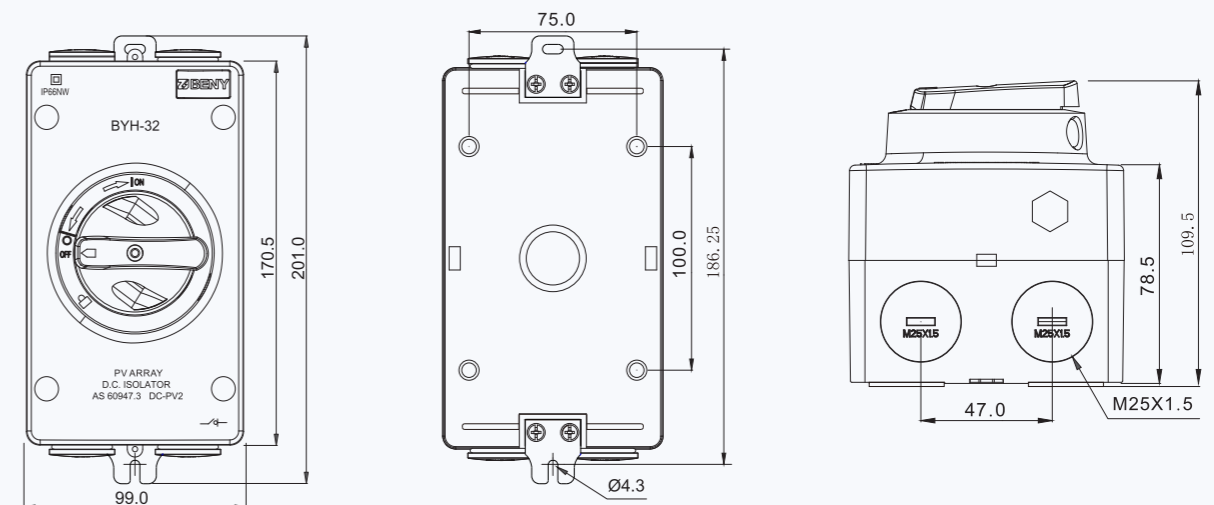
IP Rating




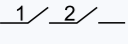
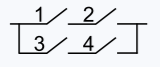
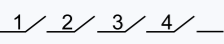
Remarks:

ZJBENY 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_{th} | | 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 |