

1500VDC, 16A, 4Pole, PV2 Array DC Isolator Disconnect Switch MFG360-1500VDC16A4PPV2

Description:

MFG360-1500VDC16A4PPV2 DC 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.

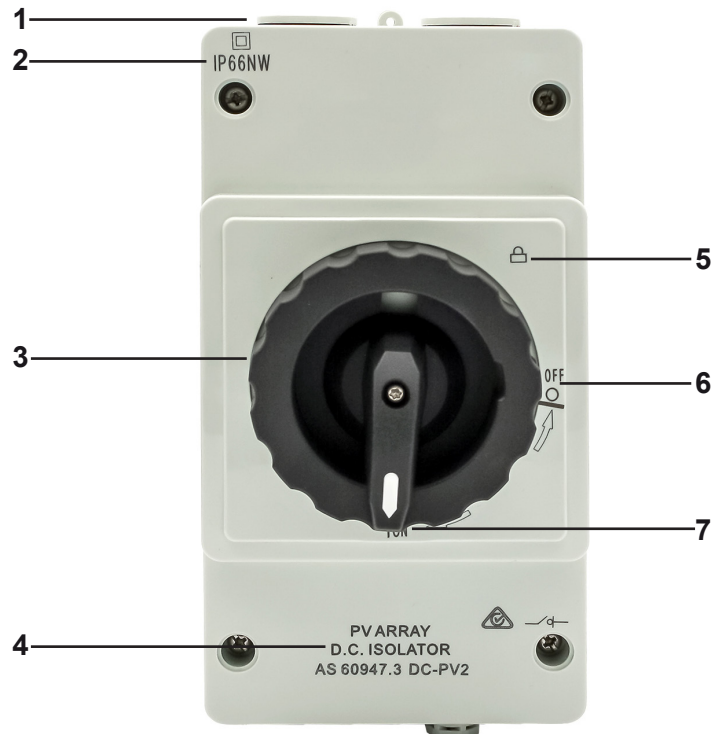
Features:

- 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

- 1 Waterproof Plug
- 2 IP66 Ingress Protection
- 3 Knob
- 4 Standard
- 5 LOCK
- 6 OFF
- 7 ON



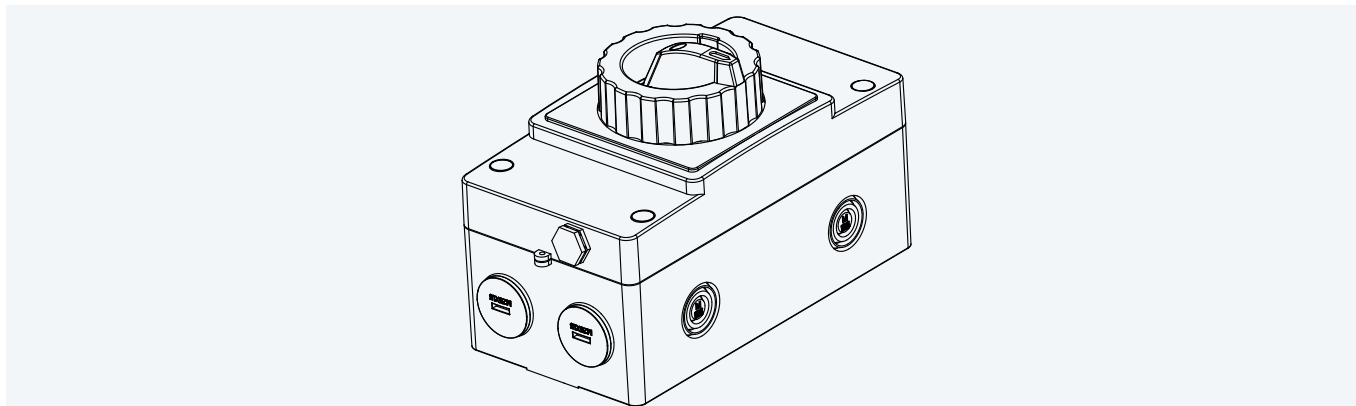
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Parameter

Electrical Characteristics		
Type	MFG360-1500VDC16A4PPV2	
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, 1200V, 1500V	
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})	1.5kA, 1s	
Rated short-time making capacity (I_{cm})	2kA	
Rated conditional short-circuit current (I_{cn})	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	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	

Breathing Valve



Remarks:

MFG360-1500VDC16A4PPV2 DC Isolator has a breathing valve already, to avoid the condensation issue.

Identification		Rating Data		
Switch, unenclosed - catalogue number (with DC-PV2 rating)		MFG360-1500VDC16A4PPV2		
Specific dedicated individual enclosure - catalogue number (with minimum IP56NW rating)		MFG360-1500VDC16A4PPV2 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_{the} rated thermal current, indoors, at 40°C shade ambient air temperature, in a specific dedicated enclosure		50 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		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_o rated operational voltage DC Volts	I_o ; DC-PV2 rated operational current Amps	$I_{(make)}$ and $I_{(break)}$ DC-PV2 4 x I_o 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 Ue (V) & Rated operational Ie (A)

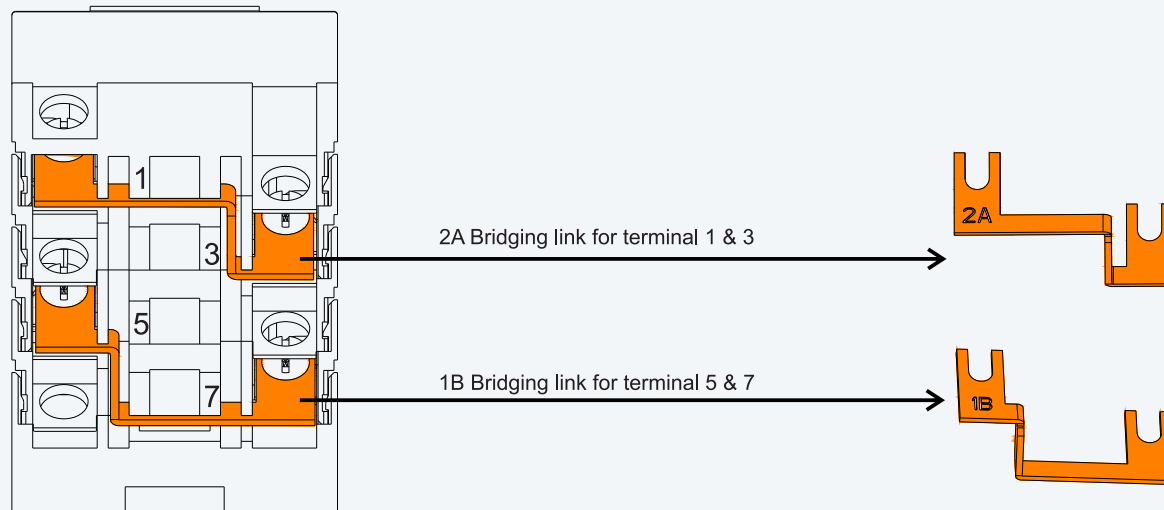
Contacts wiring diagram	300V	500V	1000V	1200V	1500V	Poles in series	Number of Strings	Type Number
	50A	50A	50A	32A	16A	2	2	4
	50A	50A	50A	50A	35A	4	1	4B

Switching Configuration

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



Bridging links installation

Installed Incorrectly

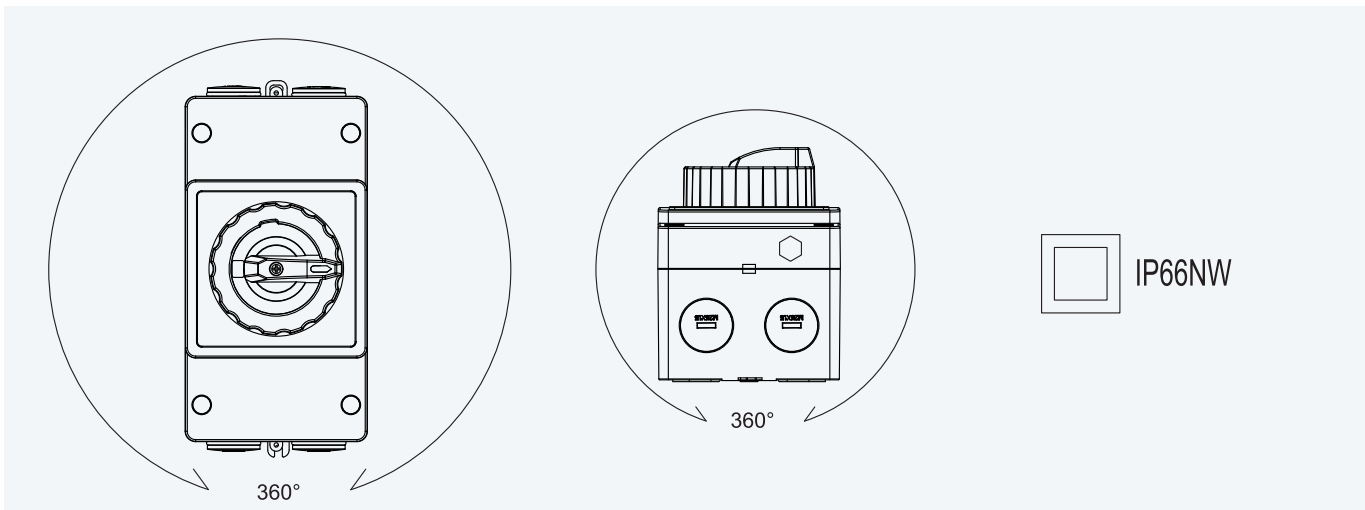


*Warning: Verify that all connections (including bridging link connections) are suitable for the rated current, prepared to ensure only conductive parts are clamped and tightened to the manufacturers required torque before energization.

Terminals / connection

Type		
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

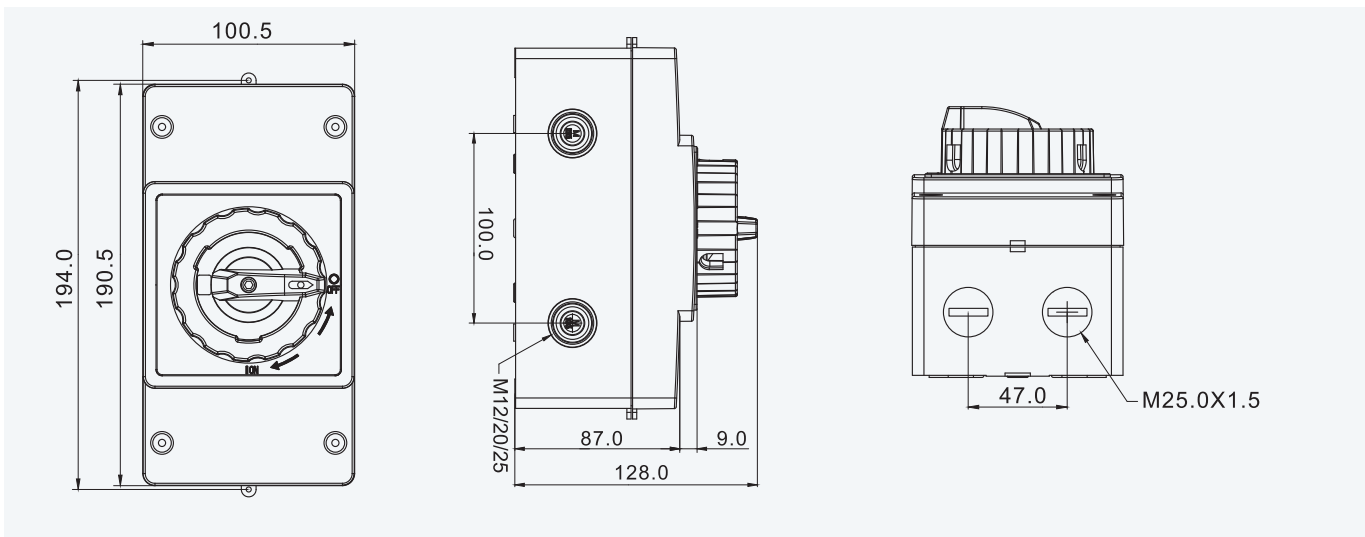
IP Rating



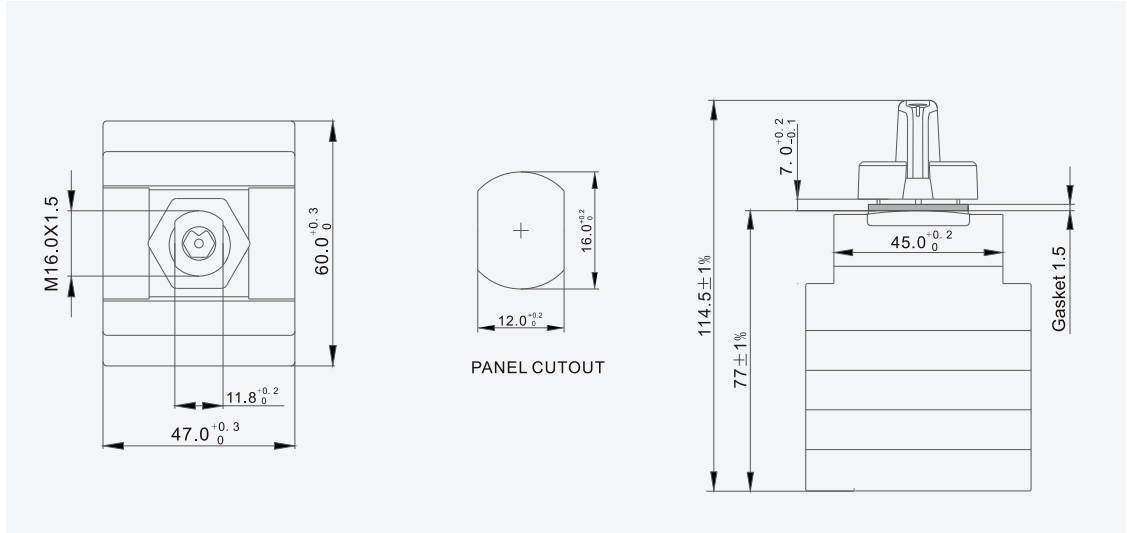
Remarks:

MFG360-1500VDC16A4PPV2 DC Isolator can be installed in any direction, but must do well performance for waterproof.

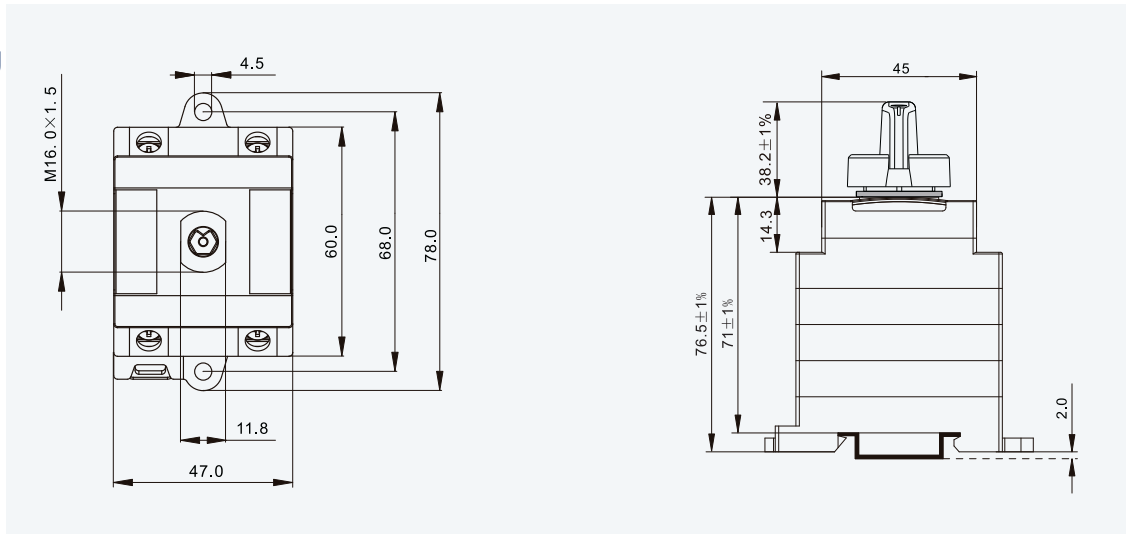
Dimensions (mm)



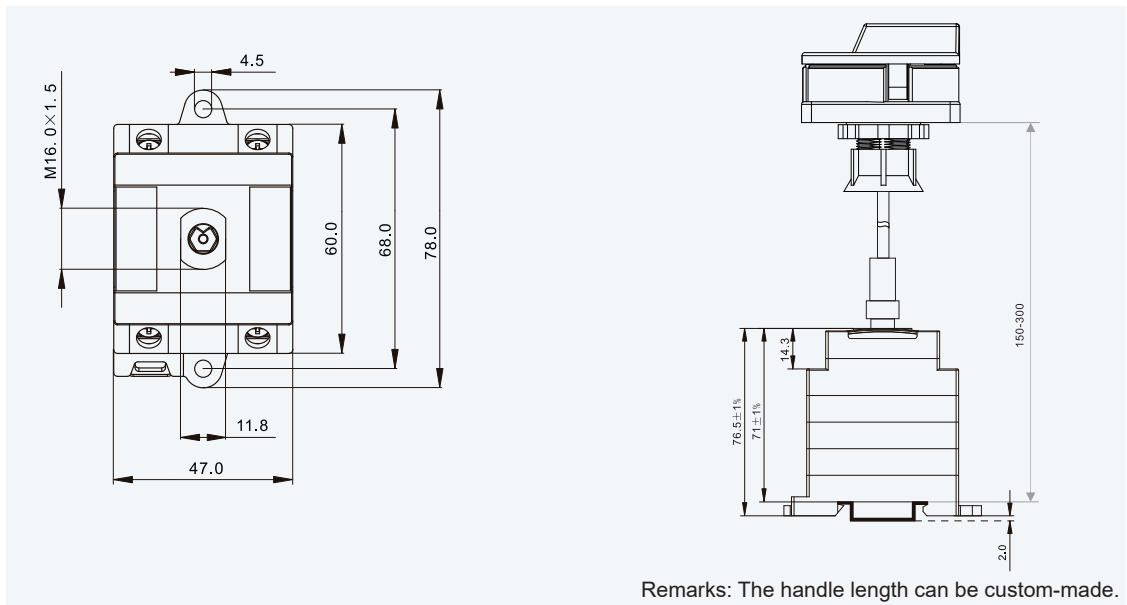
Panel Mounting IP66



DIN Rail Mounting Lockable Handle IP40



Base Mounting (Door Coupling) Lockable Handle IP66



Remarks: The handle length can be custom-made.

Data according to AS60947-3:2018

Main Contacts		Type	MFG360- 1500VDC16A4PPV2	Appendix B5
Rated thermal current I_{th}		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 <u>1</u>	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 <u>1</u> / <u>2</u> / —	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
2-pole 4 pole in series 4B <u>1</u> / <u>2</u> / <u>3</u> / <u>4</u> / —	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