BB1-63
PV Miniature Circuit Breaker

TUV-026660-EA

1 Brand
2 Type
3 Rated Current
4 Rated Voltage
5 Breaking Capacity
6 Current Setting
7 Wiring Diagram
8 Indicator

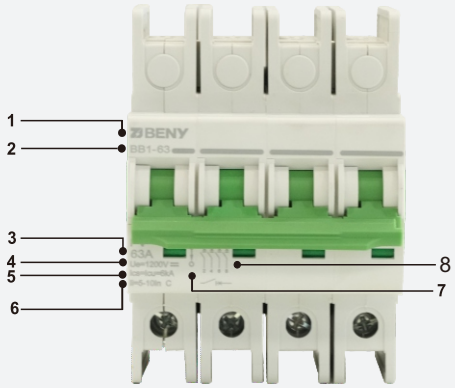
- Nonpolarity
- High short-circuit/breaking capacity
- Overload,Short circuit,Unfrequent operation and Anti-reflux protection
- Rated Voltage:1200V DC
- Breaking Capacity:6kA
- Body lengthening, Increase electrical clearance and creepagedistance
- Rated Current:63A
- Comply with:IEC60947-2/GB/T14048.2



Application

ZBENY BB1-63 series PV DC mini-circuit breaker is mainly used in PV power generation and distribution system, that is, photovoltaic bus box, inverter and other DC electrical equipment. Rated working voltage up to 1200V DC,rated working current up to 63A, scientific arc extinguishing and current limiting system, can quickly disconnect the DC distribution system fault current, and can achieve countercurrent protection, to ensure the reliable operation of photovoltaic power generation system.

Appearance Introduction



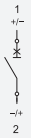
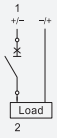
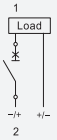
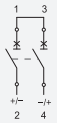
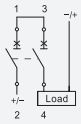
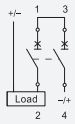
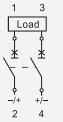
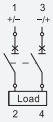
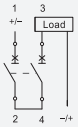
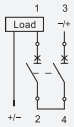
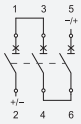
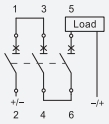
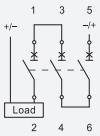
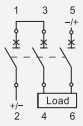
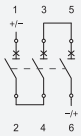
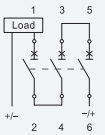
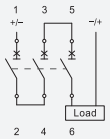
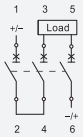
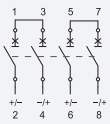
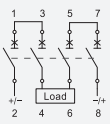
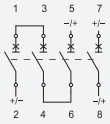
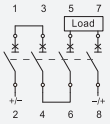
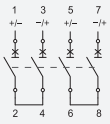
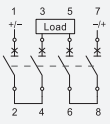
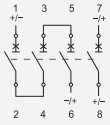
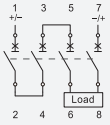
Type Instruction

BB1	- 63	- 4P	- 63A	- 1200V	- MF	- 4B
Product Code	Max Rated Current	Pole	Rated Current	Rated Voltage	Accessory	Wiring Method
PV Miniature Circuit Breaker	63A	1P 2P 3P 4P	6A,10A,13A 16A,20A,25A 32A,40A,50A 63A	300V 600V 900V 1200V	MX:Shunt Release OF:Auxiliary Contact MF:Shunt Release& Auxiliary Contact	customization

Parameter

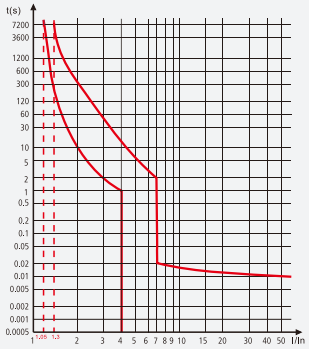
Electrical Characteristics					
Type		BB1-63			
Comply with		IEC 60947-2 /GB/T 14048.2			
Pole		1P	2P	3P	4P
Rated Working Voltage	Ue	300V	600V	900V	1200V
Max Rated Current	Ith	63A			
Rated Current	In	6A,10A,13A,16A,20A,25A,32A,40A,50A,63A			
Rated Insulated Voltage	Ui	1200V DC			
Rated Impulsed Voltage	Uimp	6kV			
Ultimate Breaking Capacity	Icu	6kA			
Run Breaking Capacity	Ics	6kA			
Tripping Type		Thermal Magnetic Type			
Service Life&Cycle Operation					
Mechenical	Actual Value	10000			
	Standard Value	9700			
Electrical	Actual Value	1000			
	Standard Value	300			
Installation Environment					
Ingress Protection		All Sides IP40,Connection TerminalIP20			
Terminal Cross Section		2.5-25mm²			
Product wiring torque M5		2N·m-2.5N·m			
Working Temperature		-40℃~+80℃			
Storage Temperature		-40℃~+85℃			
Resistance to Humidityand Heat		II（Humidity 55℃, relative humidity 95%）			
Fixed installation		Fixed to the 35mm guide rail			

Wiring Diagram

Type	Pole	Wiring Diagram			
	1P	1A			
	2P	2A			
		2B			
		2C			
	3P	3A			
		3B			
		3C			
		3D			
	4P	4A			
		4B			
		4C			
		4D			

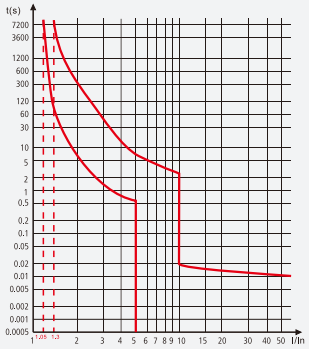
Characteristic Curve

B curve:(4-7)In



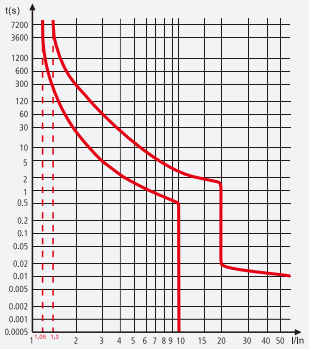
1) I=1.05In,t≥1h,not trip;
2) I=1.3In,t < 1h,trip;
3) I=2.55In,t≥1-120s(In=6-63A);
4) Instantaneous trip:(4-7)In.

C curve:(5-10)In



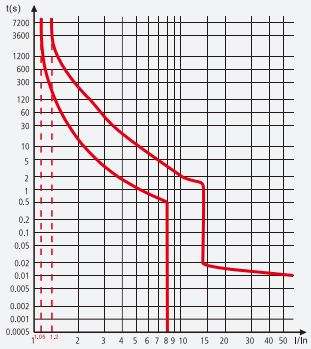
1) I=1.05In,t≥1h,not trip;
2) I=1.3In,t < 1h,trip;
3) I=2.55In,t≥1-120s(In=6-63A);
4) Instantaneous trip:(5-10)In.

D curve:(10-20)In



1) I=1.05In,t≥1h,not trip;
2) I=1.3In,t < 1h,trip;
3) I=2.55In,t≥1-120s(In=6-63A);
4) Instantaneous trip:(10-20)In.

K curve:(8-14)In



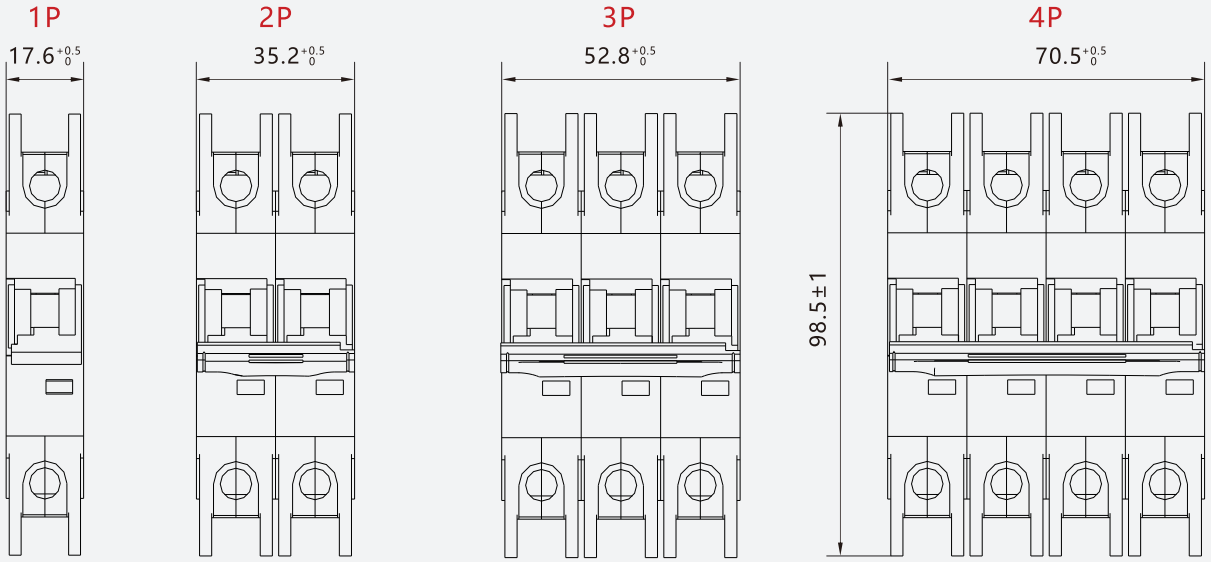
1) I=1.05In,t≥1h,not trip;
2) I=1.3In,t < 1h,trip;
3) I=2.55In,t≥1-120s(In=6-63A);
4) Instantaneous trip:(8-14)In.

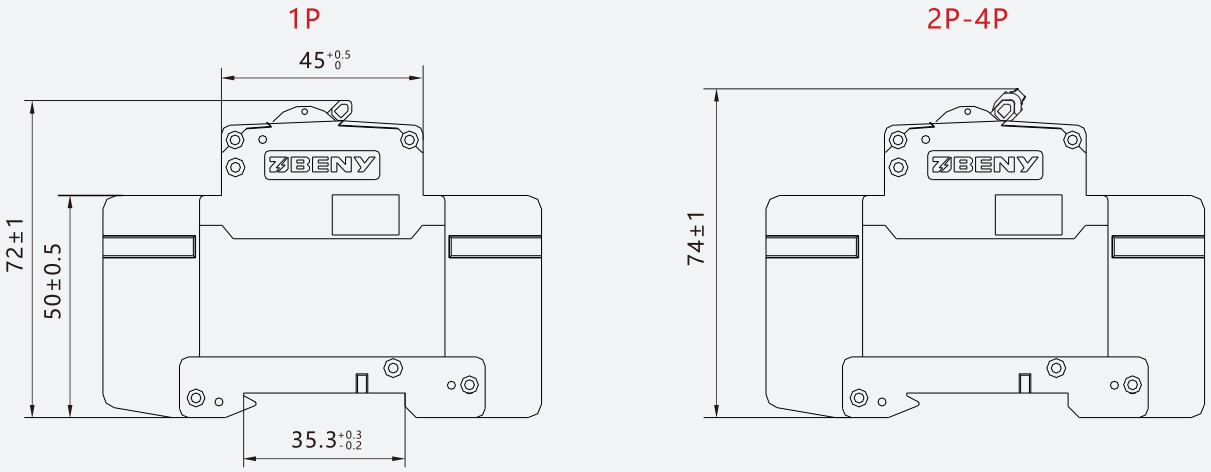
Derating Date

Derating Temperature					
Tem / Proprotion / Type	-40℃-40℃	50℃	60℃	70℃	80℃
BB1-63	100%	95%	90%	85%	80%

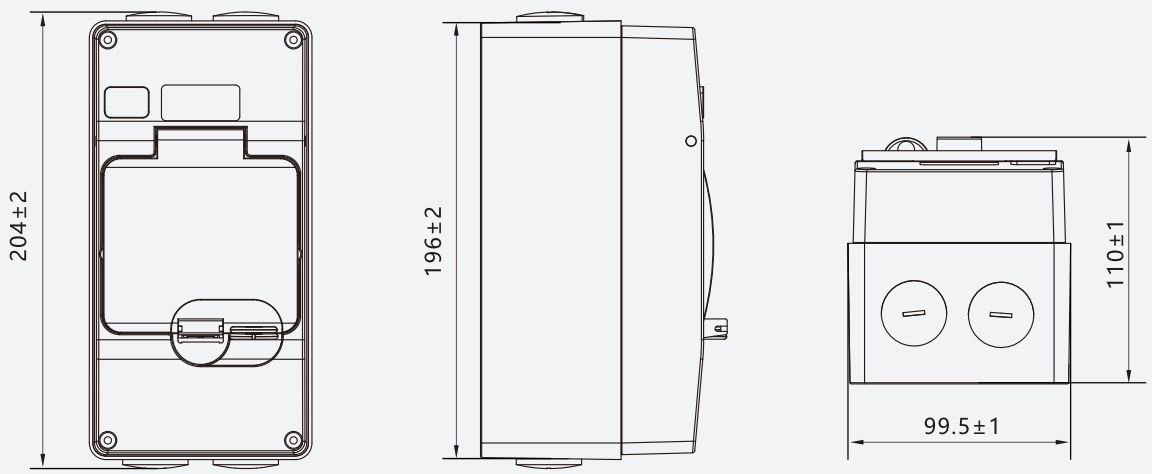
Altitude of Derating				
Altitude	2000m	3000m	4000m	5000m
Power frequency withstand voltage	100%	100%	100%	100%
Ui	100%	100%	100%	100%
In	100%	100%	90%	80%
Ue	N/A			

Dimensions(mm)





Dimensions with IP65 Waterproof Enclosure(mm)



BY-OF

Type Instruction

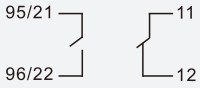
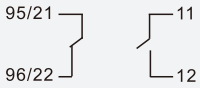
BY-OF – Auxiliary contact

- Auxiliary contact synchronnous with main contacts of device
- According IEC 60947-5-1，GB/T14048.5

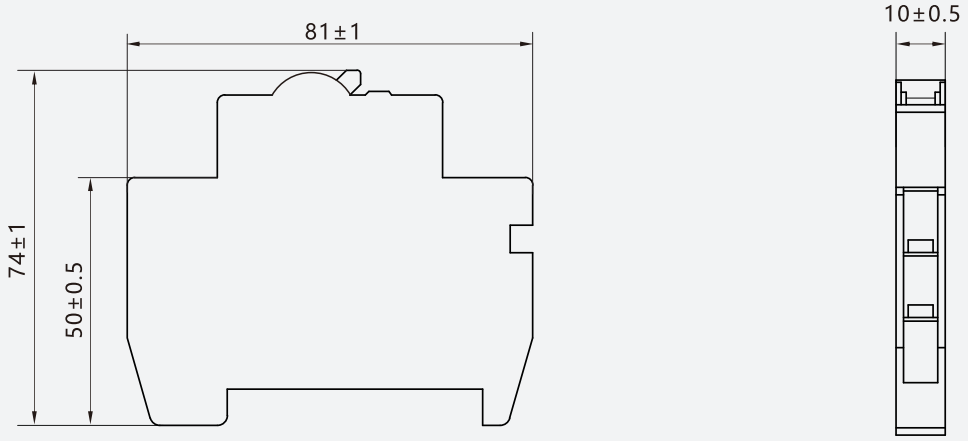
Parameter

Electrical Parametes		
Product parameters	AC 12	Ie=3A Ue=415V
		Ie=6A Ue=240V
	DC 12	Ie=1A Ue=110V
		Ie=2A Ue=48V
		Ie=6A Ue=24V
Rated Insulated Voltage Ui		500V
Rated Impulsed Voltage Uimp		4kV
Min.op.current per contact I_{min}		10mA
Min.op.voltage per contact U_{min}		11V DC
Rated frequency		50/60Hz
Mechanical parameters		
Mounting		Fixed to the 35mm guide rail
Degree of protection		IP20
Terminals capacity		1mm²-2.5mm²
Fastening torque of terminals		0.5N·m-0.7N·m
Working tempreture		-40~+80℃

Wiring Method

Show	Wiring Diagram
OFF	
ON	

Dimensions(mm)



BY-MX

Type Instruction

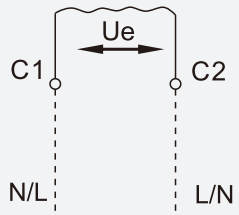
BY-MX – Shunt trip

- Shunt trip synchronnous with main contacts of device
- According GB/T 14048.1

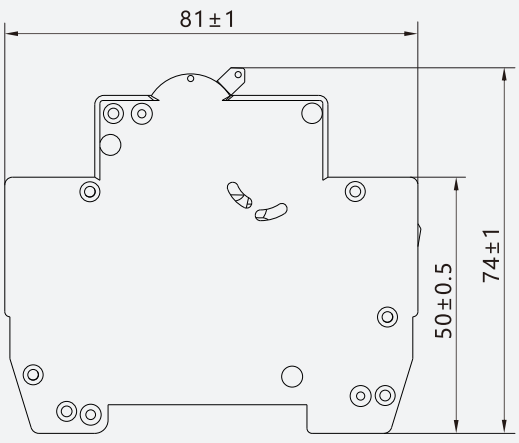
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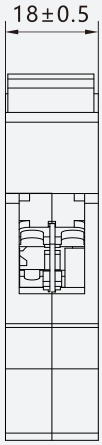
Electrical Parametes		
Rated op. voltage	AC	Ue=110/415V
		Ue=24/48V
	DC	Ue=24/48V
Conduction time	< 1s	
Min.op.voltage	Ue*70%	
Max. op. voltage	Ue*110%	
Working current	0.5A-5A	
Operation frequency	6 times per minute	
Rated frequency	50/60Hz	
Mechanical parameters		
Mounting	Fixed to the 35mm guide rail	
Degree of protection	IP20	
Terminals capacity	1mm²~2.5mm²	
Fastening torque of terminals	0. 8N. m-1N. m	
Working tempreture	-40~+80℃	

Wiring Method

Wiring Diagram	

Dimensions(mm)





BY-MF

Type Instruction

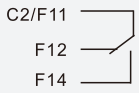
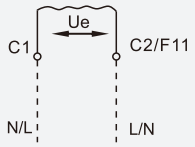
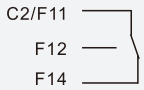
BY-MF – Shunt trip&Auxiliary contact

- Shunt assist one of the ports shared
- According GB/T 14048.1，GB/T14048.5，IEC 60947-5-1

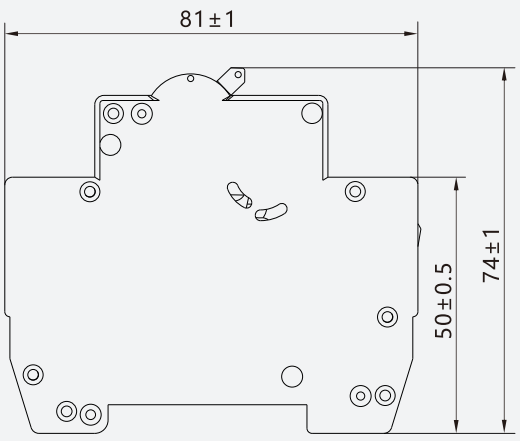
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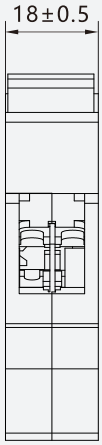
Electrical Parametes			
Product parameters	Shunt trip	AC	Ue=110/415V
			Ue=24/48V
		DC	Ue=24/48V
	Auxiliary contact	AC	Ie=3A Ue=415V
			Ie=6A Ue=240V
		DC	Ie=1A Ue=110V
			Ie=2A Ue=48V
			Ie=6A Ue=24V
Rated frequency			50/60Hz
Shunt trip parameters	Conduction time		< 1s
	Min.op.voltage		Ue*70%
	Max. op. voltage		Ue*110%
	Working current		0.5A-5A
	Operation frequency		6 times per minute
Mechanical parameters			
Mounting			Fixed to the 35mm guide rail
Degree of protection			IP20
Terminals capacity			1mm²-2.5mm²
Fastening torque of terminals			0. 8N. m-1N. m
Working tempreture			-40~+80℃

Wiring Method

Show	Auxiliary contact Wiring Diagram	Shunt Release Wiring Diagram
OFF		
ON		

Dimensions(mm)





BY-MF

Type Instruction

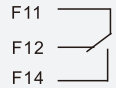
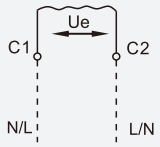
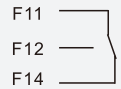
BY-MF – Shunt trip&Auxiliary contact

- Shunt auxiliary independent port
- According GB/T 14048.1，GB/T14048.5，IEC 60947-5-1

Parameter

Electrical Parametes			
Product parameters	Shunt trip	AC	Ue=110/415V
			Ue=24/48V
		DC	Ue=24/48V
	Auxiliary contact	AC	Ie=3A Ue=415V
			Ie=6A Ue=240V
		DC	Ie=1A Ue=110V
			Ie=2A Ue=48V
			Ie=6A Ue=24V
Rated frequency			50/60Hz
Shunt trip parameters	Conduction time		< 1s
	Min.op.voltage		Ue*70%
	Max. op. voltage		Ue*110%
	Working current		0.5A-5A
	Operation frequency		6 times per minute
Mechanical parameters			
Mounting			Fixed to the 35mm guide rail
Degree of protection			IP20
Terminals capacity			1mm²-2.5mm²
Fastening torque of terminals			0. 8N. m-1N. m
Working tempreture			-40~+80℃

Wiring Method

Show	Auxiliary contact Wiring Diagram	Shunt Release Wiring Diagram
OFF		
ON		

Dimensions(mm)

