

BB1-63 PV Miniature Circuit Breakers



- 1 Brand
- 2 Type
- 3 Rated Current
- 4 Rated Voltage
- 5 Standard Code
- 6 Indicator
- 7 Wiring Diagram

- Nonpolarity
- High Short-Circuit / Breaking Capacity
- Functions: Overload, Short Circuit, Unfrequent Operation and, Anti-reflux Protection
- Rated Voltage: 1200V, Ultimate
- Breaking Capacity : 5kA
- Rated Current: 50A
- Comply with : UL 489B



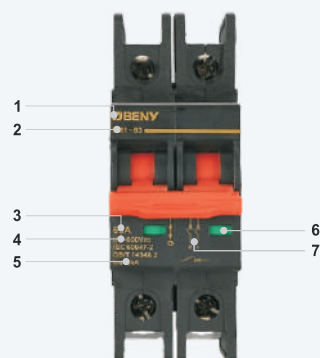
BB1F-63

with IP65 Waterproof Enclosure

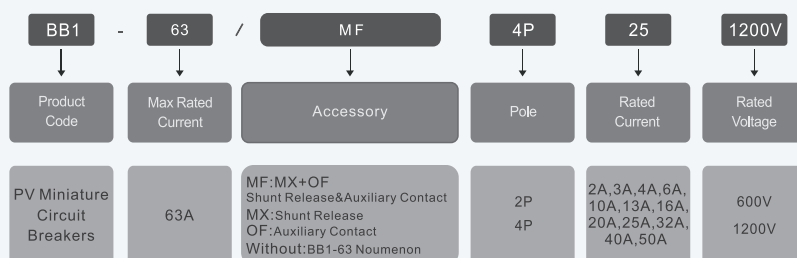
Application

ZBENY BB1-63 PV miniature circuit breakers are designed for solar DC strings protection according to UL489B standard. Offer overload protection, anti-reflux function and short-circuit protection to solar PV systems, UPS and BESS. The new design brings higher safety and durable working life.

Appearance Introduction





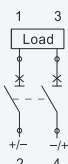
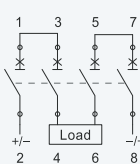
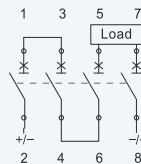
Type Instruction



Parameter

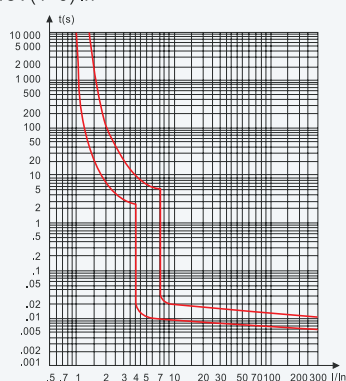
Electrical Characteristics			
Type	BB1-63		
Comply with	UL 489B		
Pole	2P	4P	
Rated Working Voltage	Ue	600V DC	1200V DC
Conventional thermal current	I _{th}	63A	
Rated Current	I _n	2A,3A, 4A, 6A,10A,13A,16A,20A,25A,32A,40A,50A	
Rated Insulated Voltage	U _i	1200V DC	
Rated Impulsed Voltage	U _{imp}	6kV	
Ultimate Breaking Capacity	I _{cs}	5kA	
Tripping Type	Thermal Magnetic Type		
Service Life/cycle Operation			
Mechanical	Actual Value	10000	
	Standard Value	1000	
Electrical	Actual Value	1000	
	Standard Value	1000	
Installation Environment			
Ingress Protection	All Sides IP40 ,Connection Terminal IP20		
Terminal Cross Section	2.5-25mm ²		
Working Temperature	-25°C ~ +70°C		
Storage Temperature	-40°C ~ +85°C		
Resistance to Humidity And Heat	II (when temperature arrived to 55°C, Relative Humidity95%)		

Wiring Meth

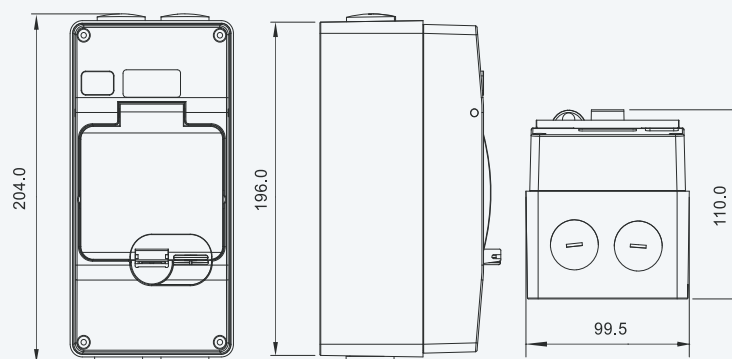
Pole	2P		4P	
Type				
Contacts Wiring graph	2B		4A	4B
				

Characteristic Curve

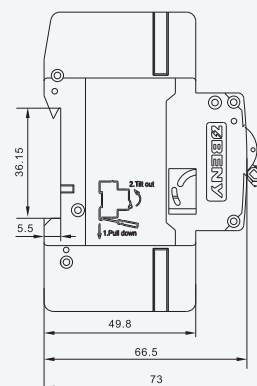
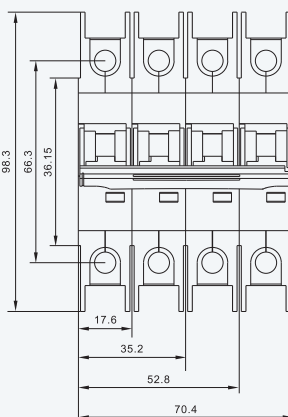
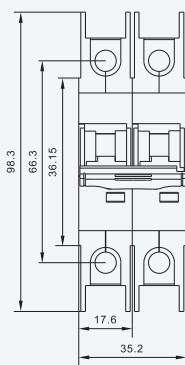
B curve : (4-6) In



Waterproof Enclosure Dimensions(mm)



Dimensions(mm)

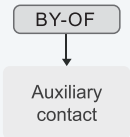


Auxiliary contact for BB1-63

Auxiliary contact unit must be mounted from the left to the device or to the release unit(s) when installed.
Contact units are equipped with changeover (CO) combination(s) of contacts.

- Auxiliary contact synchronnous with main contacts of device
- According to IEC/EN 62019

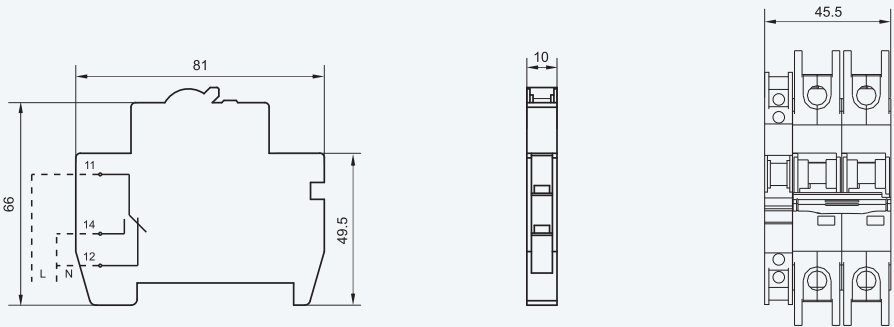
Type Instruction



Auxiliary contact		
Electrical parameters		
	BY-OF	
Contacts	2 changeover	
Contact function	auxiliary contact	
Tested according to	IEC/EN 62019	
Rated op. voltage	AC12	Ie=3A Ue=380/415V
	DC 12	Ie=1A Ue=110/125V
Min. op. current per contact I _{min}	10 mA	
Min. op. voltage per contact U _{min}	11V DC	
Rated frequency	50/60 Hz	
Mechanical parameters		
Mounting	easy fastening onto 35 mm device rail	
Degree of protection	(DIN)IP20	
Terminals	lift	
Terminal capacity	≤1mm²	
Fastening torque of terminals	0.8 — 1 N·m	
Working tempreture	- 35 ~ + 70 C	



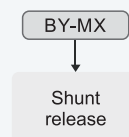
Dimensions(mm) (With Auxiliary Contact)



Shunt Release for BB1-63

- Shunt Release for installation devices BB1-63
- Shunt release
- According to IEC/EN 62019

Type Instruction



Shunt release

Electrical parameters

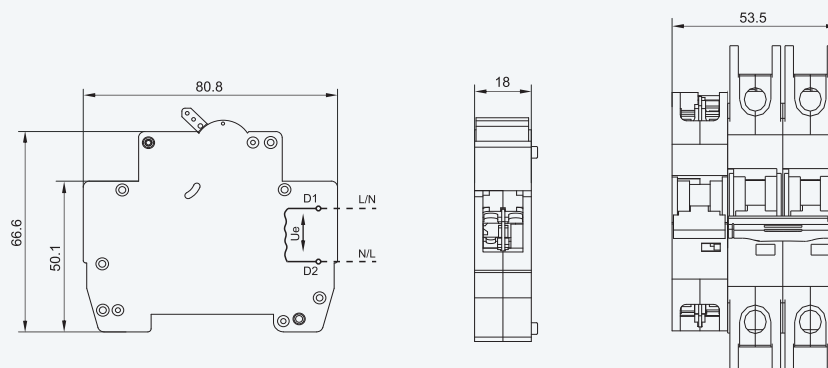
BY-MX		
Contacts	1 changeover (CO)	
Contact function	Shunt release	
Tested according to	IEC/EN 60947-5-1	
Rated op. voltage	AC	Ie=2A Ue=220/415V
		Ie=2A Ue=24/48V
	DC	Ie=2A Ue=24/48V
Min. op. voltage	Ue*75%	
Max. op. voltage	Ue*110%	
Starting current	1 A	
Rated frequency	50/60 Hz	

Mechanical parameters

Mounting	easy fastening onto 35 mm device rail	
Degree of protection	(DIN) IP20	
Terminals	lift	
Terminal capacity	≤1mm ²	
Fastening torque of terminals	0.8 — 1 N·m	
Working temperature	- 35 ~ + 70 °C	



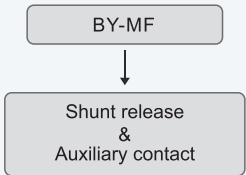
Dimensions(mm) (With Shunt Release)



Shunt Release and Auxiliary contact for BB1-63

- Shunt Release and Auxiliary contact for installation devices BB1-63
- Shunt release and Auxiliary contact

Type Instruction



BY-MF			
Electrical parameters			
	BY-MF		
Contacts	2 changeover (CO)		
Contact function	Shunt Release&Auxiliary Contact		
Rated op. voltage	Shunt release	AC	Ie=2A Ue=220/415V
			Ie=2A Ue=24/48V
	Auxiliary contact	DC	Ie=2A Ue=24/48V
		AC	Ie=3A Ue=220/415V
Rated frequency	50/60 Hz		
Mechanical parameters			
Mounting	easy fastening onto 35 mm device rail		
Degree of protection	(DIN) IP20		
Terminals	lift		
Terminal capacity	≤1mm²		
Fastening torque of terminals	0.8 — 1 N·m		
Working temperture	- 35 ~ + 70		



Dimensions(mm)(With Shunt Release&Auxiliary Contact)

