



PROJOY

Circuit Breaker Selection Manual



PEBS-H Series

(63A)

DC Miniature Circuit Breaker



PROJOY
electric

– Switch To Safety! –

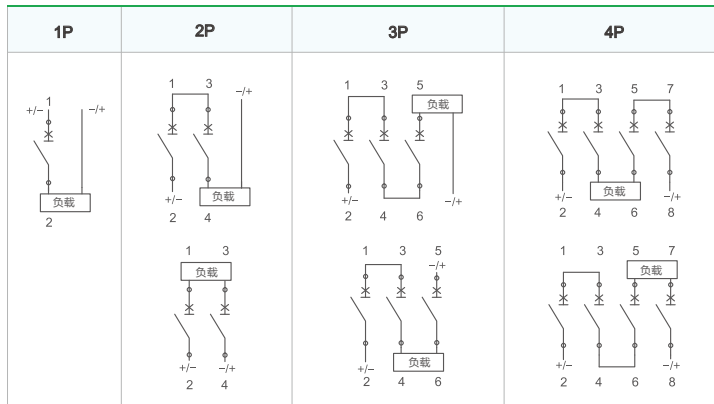
Features

DC Miniature Circuit Breakers PEBS-H, with capacities of load isolation and overload/short circuit protection, are designed for PV, energy storage and other DC applications, mainly placed between batteries and hybrid inverters. Max voltage up to 1000VDC, current up to 63A. The main designing criteria of this circuit breakers is to provide scientific arc extinguishing and flash barrier technology to fulfill quick and safe current interruption. Tested according to EN 60947-2, AS/NZS IEC 60947.2: 2015.



- Protection Functions: overload, short circuit
- Rated short circuit breaking capacity I_{cu} up to 6 kA
- Non-polarity, Easy wiring
- Rated Current I_n up to 63A
- Rated Voltage U_e up to 1000V
- Designed for PV, energy storage and other DC applications

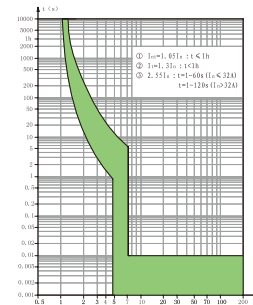
Contact Configuration



PEBS	a	b	c	d	H
PROJOY ELECTRIC BATTERY SWITCH	RATED VOLTAGE	RATED CURRENT	TRIPPING CURVE	POLES	LOW PRESSURE
	250V 500V 750V 1000V	63A, 50A 40A, 32A 25A, 20A 16A, 10A	B C	1 2 3 4	

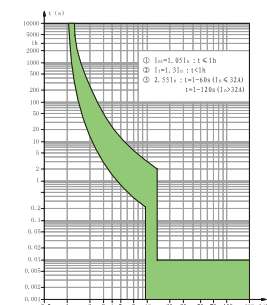


Tripping Characteristics



B Curve 4In(1±20%)

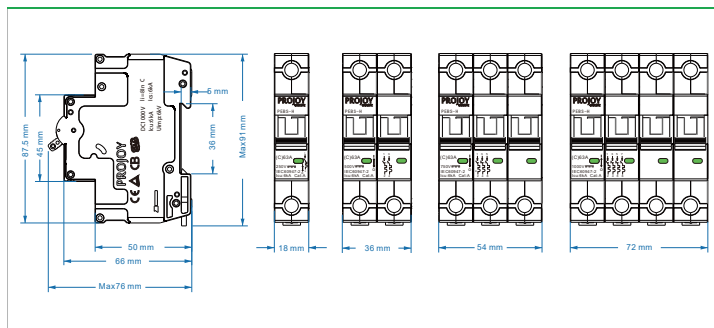
- Suitable for pure resistive load and microinductive circuit
- Available to rated current of 10A ~ 63A(63A Frame)
- Instantaneous tripping range: 4In±20%



C Curve 8In(1±20%)

- Suitable for general load and power distribution circuit
- Available to rated current of 10A ~ 63A(63A Frame)
- Instantaneous tripping range: 8In±20%

Dimensions



Technical data

According to EN60947-2, AS/NZS IEC 60947.2: 2015.

Pole		1P	2P	3P	4P
Rated Working Voltage U_e		250 V DC	500 V DC	750 V DC	1000 V DC
Frame Current		63A			
Rated Current I_n		63A, 50A, 40A, 32A, 25A, 20A, 16A, 10A			
Rated Insulation Voltage U_i		1000V			
Rated Impulse Withstand Voltage U_{imp}		6kV			
Tripping Characteristics		B/C			
Tripping Type		Thermal Magnetic			
Rated Ultimate Short-Circuit Breaking Capacity I_{cu}		6kA			
Rated Service Short-Circuit Interrupting Capacity I_{cs}		6kA			
Electrical Life	Actual	500 Cycles (63A Frame)			
	Standard	300 Cycles			
Mechanical Life	Actual	10000 Cycles (63A Frame)			
	Standard	9700 Cycles			
Overvoltage Category		III			
Pollution Degree		3			
Ingress Protection		IP40; Wiring port IP20			
Resistance to humidity and heat		Class 2			
Relative Humidity		≤ 95 %			
Vibration		acc. to IEC60068-2-6			
Shocks		acc. to IEC60068-2-27			
Terminal capacity		2.5~35mm ²			
Fastening Torque of Terminals		2.0 ~ 3.5 Nm			
Ambient Temperature		-30°C~70°C			
Storage Temperature		-40°C~85°C			
Installation Method		DIN			
Elevation		≤2000m			
Dimension		Width:72mm			
		High: 87.5mm			
		Depth: 76mm			
Weight		0.12kg/Pole			

Package Information					Storage
Current	Pole	Box	Carton	Pallet	<p>Products should be stored in the warehouse where there is ventilation. The relative humidity there should not exceed 80%, and the ambient temperature there is between -40 C to + 85 C . In addition, there should not be acidic, alkaline and corrosive gas in the air.</p> <p>Products should not be deposited more than 5 years in the above mentioned conditions since the producing date.</p>
63A/32A	1P	12	8	80	
	2P	6	8	80	
	3P	4	8	80	
	4P	3	8	80	

Order Choosing Specification															
Client Information:															
Rated Current (A)								Trip Type		No. of Pole				Quantity	Delivery Date
<input type="checkbox"/> 63	<input type="checkbox"/> 50	<input type="checkbox"/> 40	<input type="checkbox"/> 32	<input type="checkbox"/> 25	<input type="checkbox"/> 20	<input type="checkbox"/> 16	<input type="checkbox"/> 10	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4		
<input type="checkbox"/> 63	<input type="checkbox"/> 50	<input type="checkbox"/> 40	<input type="checkbox"/> 32	<input type="checkbox"/> 25	<input type="checkbox"/> 20	<input type="checkbox"/> 16	<input type="checkbox"/> 10	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4		
<input type="checkbox"/> 63	<input type="checkbox"/> 50	<input type="checkbox"/> 40	<input type="checkbox"/> 32	<input type="checkbox"/> 25	<input type="checkbox"/> 20	<input type="checkbox"/> 16	<input type="checkbox"/> 10	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4		
<input type="checkbox"/> 63	<input type="checkbox"/> 50	<input type="checkbox"/> 40	<input type="checkbox"/> 32	<input type="checkbox"/> 25	<input type="checkbox"/> 20	<input type="checkbox"/> 16	<input type="checkbox"/> 10	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4		

PEBS-H Series (125A) DC Miniature Circuit Breaker



PROJOY
electric

– Switch To Safety! –

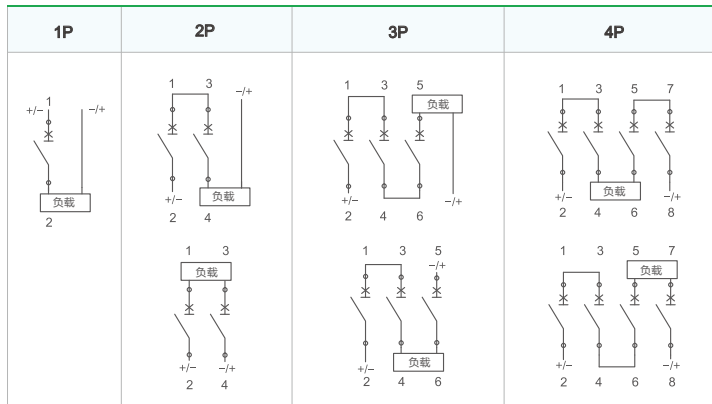
Features

DC Miniature Circuit Breakers PEBS-H, with capacities of load isolation and overload/short circuit protection, are designed for PV, energy storage and other DC applications, mainly placed between batteries and hybrid inverters. Max voltage up to 1000VDC, current up to 125A. The main designing criteria of this circuit breakers is to provide scientific arc extinguishing and flash barrier technology to fulfill quick and safe current interruption. Tested according to EN 60947-2, AS/NZS IEC 60947.2: 2015.



- Protection Functions: overload, short circuit
- Rated short circuit breaking capacity I_{cu} up to 15 kA
- Non-polarity, Easy wiring
- Rated Current I_n up to 125A
- Rated Voltage U_e up to 1000V
- Designed for PV, energy storage and other DC applications

Contact Configuration

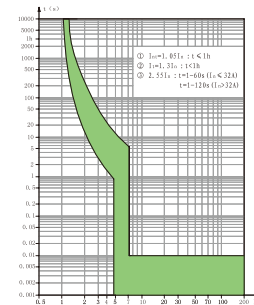
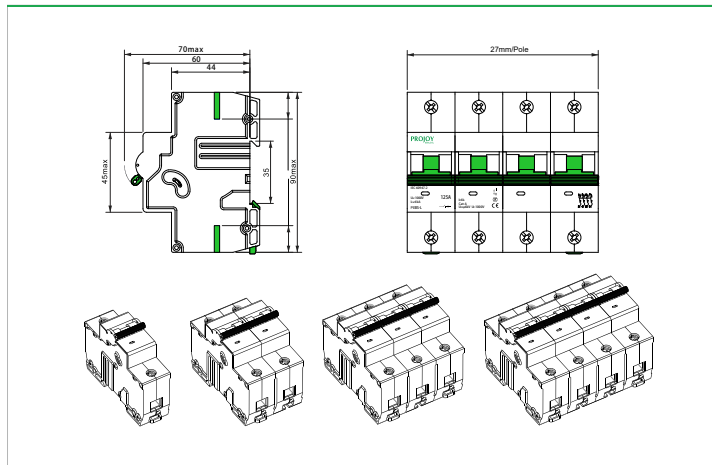


PEBS	a	b	c	d	H
PROJOY ELECTRIC BATTERY SWITCH	RATED VOLTAGE	RATED CURRENT	TRIPPING CURVE	POLES	LOW PRESSURE
	250V	63A, 50A	B	1	
	500V	40A, 32A	C	2	
	750V	25A, 20A		3	
	1000V	16A, 10A		4	



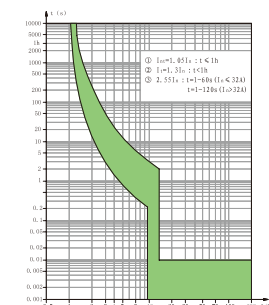
Tripping Characteristics

Dimensions



B Curve $4I_n (\pm 20\%)$

- Suitable for pure resistive load and microinductive circuit
- Available to rated current of 10A ~ 63A(63A Frame)
- Instantaneous tripping range: $4I_n \pm 20\%$



C Curve $8I_n (1 \pm 20\%)$

- Suitable for general load and power distribution circuit
- Available to rated current of 10A ~ 63A(63A Frame)
- Instantaneous tripping range: $8I_n \pm 20\%$

Technical data

According to EN60947-2, AS/NZS IEC 60947.2: 2015.

Pole		1P	2P	3P	4P
Rated Working Voltage U_e		250 V DC	500 V DC	750 V DC	1000 V DC
Frame Current		125A			
Rated Current I_n		63A, 80A, 100A, 125A			
Rated Insulation Voltage U_i		1000V			
Rated Impulse Withstand Voltage U_{imp}		6kV			
Tripping Characteristics		B/C			
Tripping Type		Thermal Magnetic			
Rated Ultimate Short-Circuit Breaking Capacity I_{cu}		15kA($I_n \leq 100A$), 10kA($I_n = 125A$)			
Rated Service Short-Circuit Interrupting Capacity I_{cs}		10kA($I_n \leq 100A$), 7.5kA($I_n = 125A$)			
Electrical Life	Actual	300 Cycles			
	Standard	300 Cycles			
Mechanical Life	Actual	10000 Cycles			
	Standard	9700 Cycles			
Overvoltage Category		III			
Pollution Degree		3			
Ingress Protection		IP40; Wiring port IP20			
Resistance to humidity and heat		Class 2			
Relative Humidity		$\leq 95\%$			
Vibration		acc. to IEC60068-2-6			
Shocks		acc. to IEC60068-2-27			
Terminal capacity		2.5~35mm ²			
Fastening Torque of Terminals		2.0 ~ 3.5 Nm			
Ambient Temperature		-30°C~70°C			
Storage Temperature		-40°C~85°C			
Installation Method		DIN			
Elevation		$\leq 2000m$			
Dimension		Width: 27mm			
		High: 90mm			
		Depth: 70mm			
Weight					

PEBS-L Series (125A) DC Miniature Circuit Breaker



PROJOY
electric

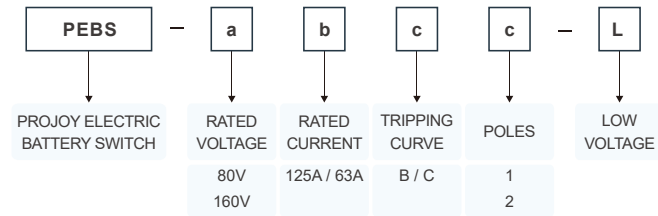
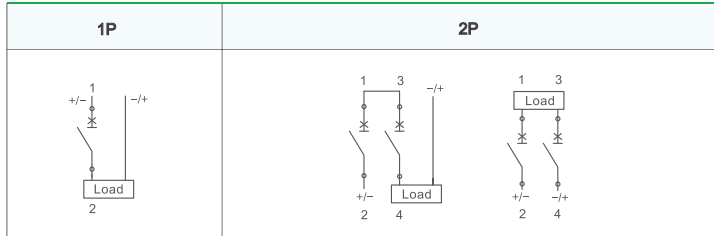
– Switch To Safety! –

Features

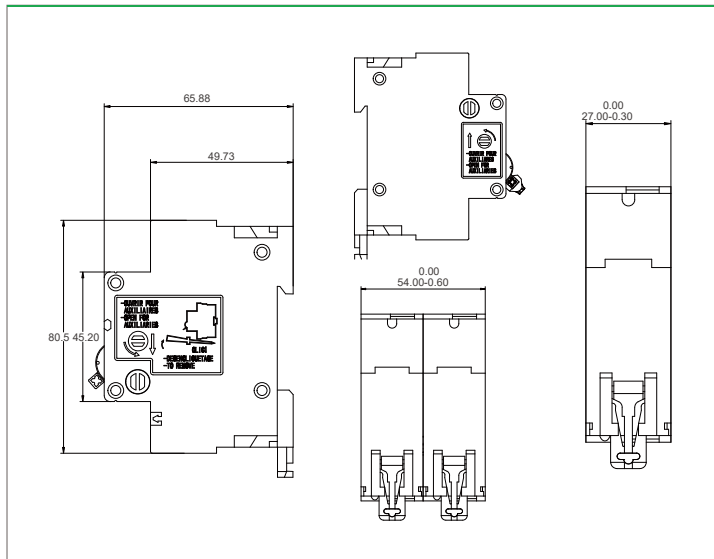
DC Miniature Circuit Breaker PEBS-L Series, with capacities of load isolation and overload/short circuit protection, are designed for PV, energy storage and other DC applications, mainly placed between batteries and hybrid inverters. Max voltage up to 160VDC, current up to 125A. The main designing criteria of PEBS is to provide scientific arc extinguishing and flash barrier technology to fulfill quick and safe current interruption. Tested according to EN 60947-2, AS/NZS IEC 60947.2: 2015.

- Protection Functions: overload, short circuit.
- Rated short circuit breaking capacity I_{cu} up to 10 kA.
- Non-polarity, Easy wiring.
- Rated Current I_n up to 125A.
- Rated Voltage U_e up to 160V.
- Designed for PV, energy storage and other DC applications.

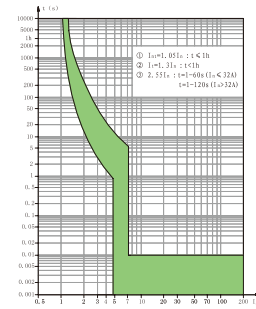
Contact Configuration



Dimensions

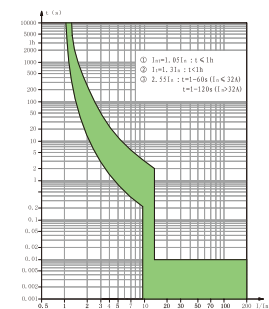


Tripping Characteristics



B Curve 4In(±20%)

- Suitable for pure resistive load and microinductive circuit
- Available to rated current of 10A ~ 63A (63A Frame), 80A ~ 125A(125A Frame)
- Instantaneous tripping range: 4In±20%



C Curve 8In(±20%)

- Suitable for general load and power distribution circuit
- Available to rated current of 10A ~ 63A (63A Frame), 80A ~ 125A(125A Frame)
- Instantaneous tripping range: 8In±20%

Technical data

According to EN60947-2, AS/NZS IEC 60947.2: 2015.		
Pole		1P 2P
Rated Working Voltage U_e		80V DC 80V DC / 160 V DC
Frame Current		63A, 125A
Rated Current I_n	63A Frame	10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
	125A Frame	63A, 80A, 100A, 125A
Rated Insulation Voltage U_i		500V
Rated Impulse Withstand Voltage U_{imp}		6kV
Tripping Characteristics		B/C
Tripping Type		Thermal Magnetic
Rated Ultimate Short-Circuit Breaking Capacity I_{cu}		10kA
Rated Service Short-Circuit Interrupting Capacity I_{cs}		7.5kA
Electrical Life	Actual	500 Cycles (63A Frame), 500 Cycles (125A Frame)
	Standard	300 Cycles
Mechanical Life	Actual	10000 Cycles (63A Frame), 10000 Cycles (125A Frame)
	Standard	9700 Cycles
Overvoltage Category		III
Pollution Degree		3
Ingress Protection		IP40; Wiring port IP20
Resistance to humidity and heat		Class 2
Relative Humidity		≤ 95 %
Vibration		acc. to IEC60068-2-6
Shocks		acc. to IEC60068-2-27
Terminal capacity		2.5~35mm ²
Fastening Torque of Terminals		2.0 ~ 3.5 Nm
Ambient Temperature		-30°C~70°C
Storage Temperature		-40°C~85°C
Installation Method		DIN
Elevation		≤2000m
		Width: 18mm/pole (63A Frame), 27mm/pole (125A Frame)
Dimension		High: 85mm
		Depth: 74mm
Weight		0.12kg/Pole

Package Information					Storage
Current	Pole	Box	Carton	Pallet	Products should be stored in the warehouse where there is ventilation. The relative humidity there should not exceed 80%, and the ambient temperature there is between -40 C to + 85 C. In addition, there should not be acidic, alkaline and corrosive gas in the air. Products should not be deposited more than 5 years in the above mentioned conditions since the producing date.
125A	1P	10	8	60	
	2P	5	8	60	
63A	1P	12	8	80	
	2P	6	8	80	

Order Choosing Specification																
Client Information:						Note: One pole for 80V, 2 poles for 80V or 160.										
Rated Current (A)				Trip Type	Voltage	No. of Pole	Quantity	Delivery Date								
63AFrame	<input type="checkbox"/> 63	<input type="checkbox"/> 50	<input type="checkbox"/> 40	<input type="checkbox"/> 32	<input type="checkbox"/> 25	<input type="checkbox"/> 20	<input type="checkbox"/> 16	<input type="checkbox"/> 10	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> 80	<input type="checkbox"/> 160	<input type="checkbox"/> 1	<input type="checkbox"/> 2		
125AFrame	<input type="checkbox"/> 125	<input type="checkbox"/> 100	<input type="checkbox"/> 80	<input type="checkbox"/> 63					<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> 80	<input type="checkbox"/> 160	<input type="checkbox"/> 1	<input type="checkbox"/> 2		
63AFrame	<input type="checkbox"/> 63	<input type="checkbox"/> 50	<input type="checkbox"/> 40	<input type="checkbox"/> 32	<input type="checkbox"/> 25	<input type="checkbox"/> 20	<input type="checkbox"/> 16	<input type="checkbox"/> 10	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> 80	<input type="checkbox"/> 160	<input type="checkbox"/> 1	<input type="checkbox"/> 2		
125AFrame	<input type="checkbox"/> 125	<input type="checkbox"/> 100	<input type="checkbox"/> 80	<input type="checkbox"/> 63					<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> 80	<input type="checkbox"/> 160	<input type="checkbox"/> 1	<input type="checkbox"/> 2		

PEM1-32 AC Miniature Circuit Breaker



PROJOY
electric

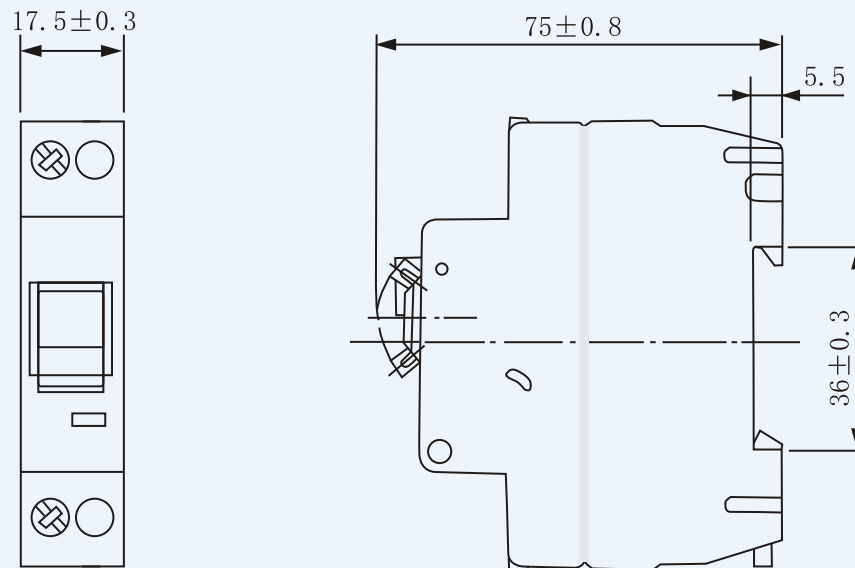
– Switch To Safety! –

PEM1-32 series miniature circuit breakers are designed for overload and short circuit protection in 50/60Hz circuits with rated voltage of 230/400V, and for infrequent switching operations under normal conditions.

Technical data

Electrical standards	EN/IEC60898-1
Pole	1P+N
Rated Current	6A, 10A, 16A, 20A, 25A, 32A
Rated Voltage	230V
Rated Frequency	50/60Hz
Rated Breaking Capacity	4.5kA
Tripping Characteristics	Type B,C,D
Connecting fuse	80A
Electrical Life	8000 times
Ingress Protection	Ip20
Terminal Connection Type	Cable / U-type busbar / Plug-type busbar
Ambient Temperature	-5~+40°C
Storage Temperature	-25~+70°C
Cable Terminal Dimensions top/bottom	6mm ²
Cable Terminal Dimensions top/bottom	3. 0N·m
Installation Method	Din Rail (35mm), with fast clamping device

Dimensions



PEM2-63 AC Miniature Circuit Breaker



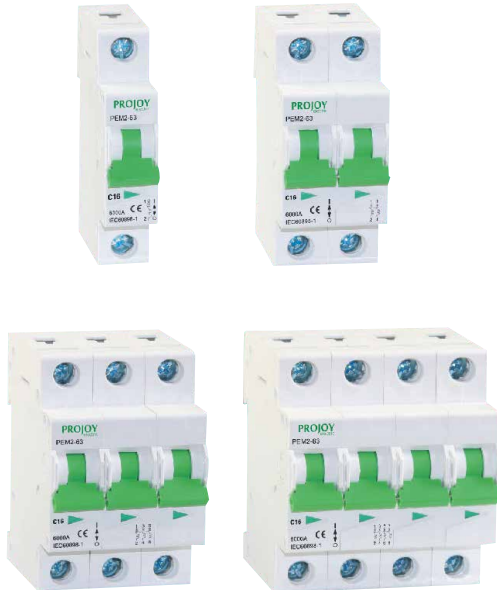
PROJOY
electric

– Switch To Safety! –

PEM2-63 series miniature circuit breakers are designed for overload and short circuit protection in 50/60Hz circuits with rated voltage of 230/400V, and for infrequent switching operations under normal conditions.

Technical data

Electrical standards	EN/IEC60898-1
Pole	1P, 2P, 3P, 4P
Rated Current	1A, 3A, 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
Rated Voltage	230/400V~
Rated Frequency	50/60Hz
Rated Breaking Capacity	6kA
Tripping Characteristics	Type B, (3I _n ~5I _n), Type C, (5I _n ~10I _n), Type D, (10I _n ~20I _n)
Connecting fuse	80A
Rated Impulse Withstand Voltage (1.2/50) U _{imp}	6kV
Electrical Life	8000 times
Mechanical Life	20000 times
Ingress Protection	IP20
Terminal Connection Type	Cable / U busbar / Plug busbar
Ambient Temperature	-5~+40°C
Storage Temperature	-25~+70°C
Cable Terminal Dimensions top/bottom	16mm ²
Tightening Torque	3.5N·m
Installation Method	Din Rail (35mm), with fast clamping device



PEM1-63 AC Miniature Circuit Breaker



PROJOY
electric

– Switch To Safety! –

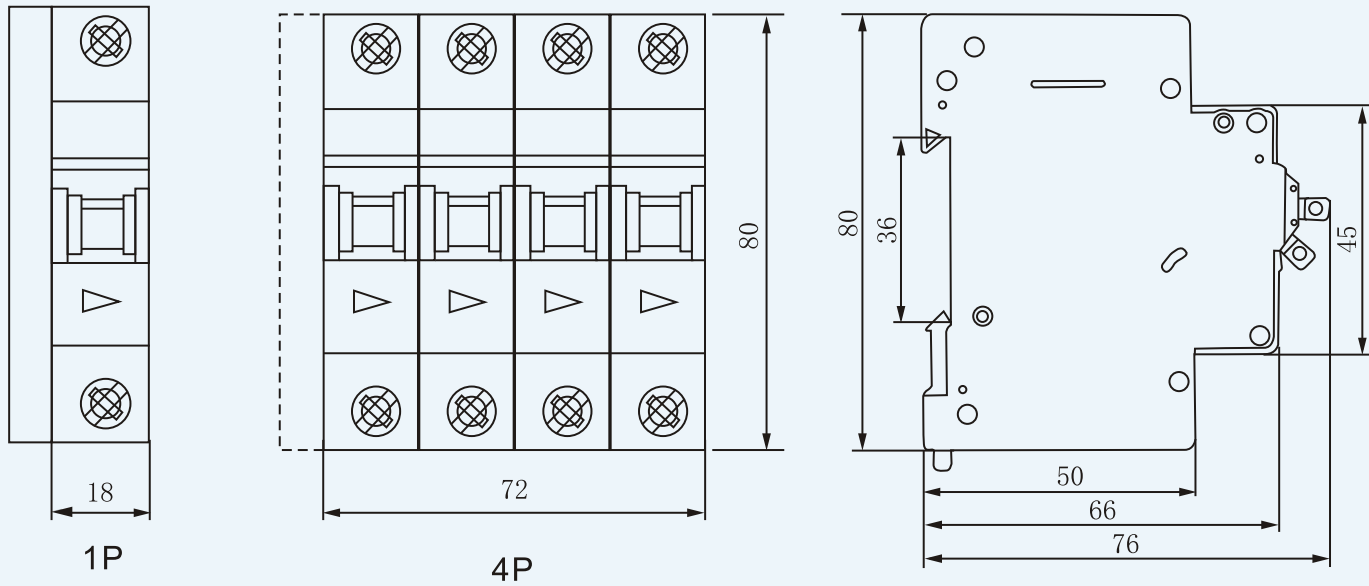
PEM1-63 series miniature circuit breakers are designed for overload and short circuit protection in 50/60Hz circuits with rated voltage of 230/400V, and for infrequent switching operations under normal conditions.

Technical data

Electrical standards	EN/IEC60898-1
Pole	1P, 2P, 3P, 4P
Rated Current	1A, 3A, 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
Rated Voltage	230/400V~
Rated Frequency	50/60Hz
Rated Breaking Capacity	10kA
Tripping Characteristics	Type B, (3I _n ~5I _n), Type C, (5I _n ~10I _n), Type D, (10I _n ~20I _n)
Connecting fuse	80A
Rated Impulse Withstand Voltage (1.2/50) U _{imp}	6kV
Electrical Life	8000 times
Mechanical Life	20000 times
Ingress Protection	IP20
Terminal Connection Type	Cable / U busbar / Plug busbar
Ambient Temperature	-5~+40°C
Storage Temperature	-25~+70°C
Cable Terminal Dimensions top/bottom	16mm ²
Tightening Torque	3.5N·m
Installation Method	Din Rail (35mm), with fast clamping device



Dimensions



PEL1-63 Residual Current Protector



PROJOY
electric

– Switch To Safety! –

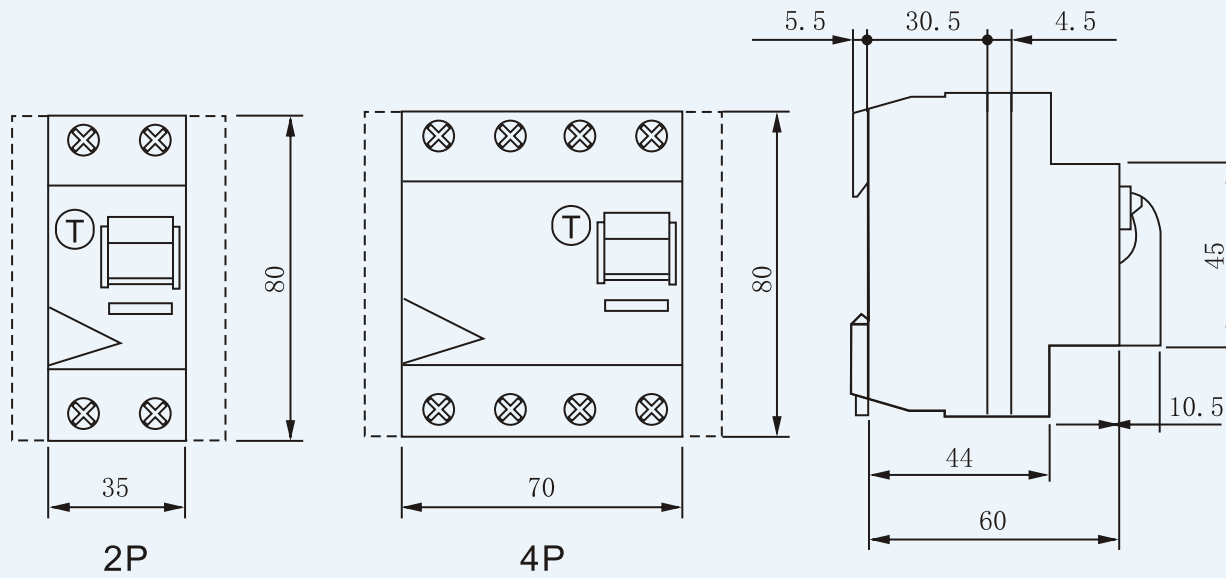
PEL1-63 series residual current protectors are designed to automatically disconnect the circuit or device when the ground fault/leakage current exceeds the rated sensitivity. Especially suitable for household lighting and socket circuit protection. It can also be used for non-frequent starting of circuits and motors.

Technical data

Electrical Standard	EN/IE61008-1
Pole	2P, 4P
Rated Current	16A, 20A, 25A, 32A, 40A, 50A, 63A
Rated Voltage	230-400V
Rated Frequency	50/60Hz
Rated Sensitivity	10mA, 30mA, 100mA, 300mA
Short-circuit current	6000A
SCPD fuse	80A
$I_{\Delta n}$ Operating time	≤ 0.1 s
Rated Impulse Withstand Voltage (1.2/50) Uimp	6kV
Electrical Life	4000 times
Mechanical Life	10000 times
Ingress Protection	IP20
Terminal Connection Type	Cable / U busbar / Plug busbar
Ambient Temperature	-5~+40°C
Storage Temperature	-25~+70°C
Cable Terminal Dimensions top/bottom	16mm ²
Tightening Torque	3.5 N·m
Installation Method	Din Rail (35mm), with fast clamping device



Dimensions





PROJOY
electric

— Switch To Safety! —

ProJoy Electric Co., Ltd.

2nd Floor, Building 3, No. 2266, Taiyang Road, Xiangcheng District, Suzhou, China

Tel: +86 512 6878 6489 | Fax: +86 512 6878 6489

Email: sales@projoy-electric.com | www.projoy-electric.com