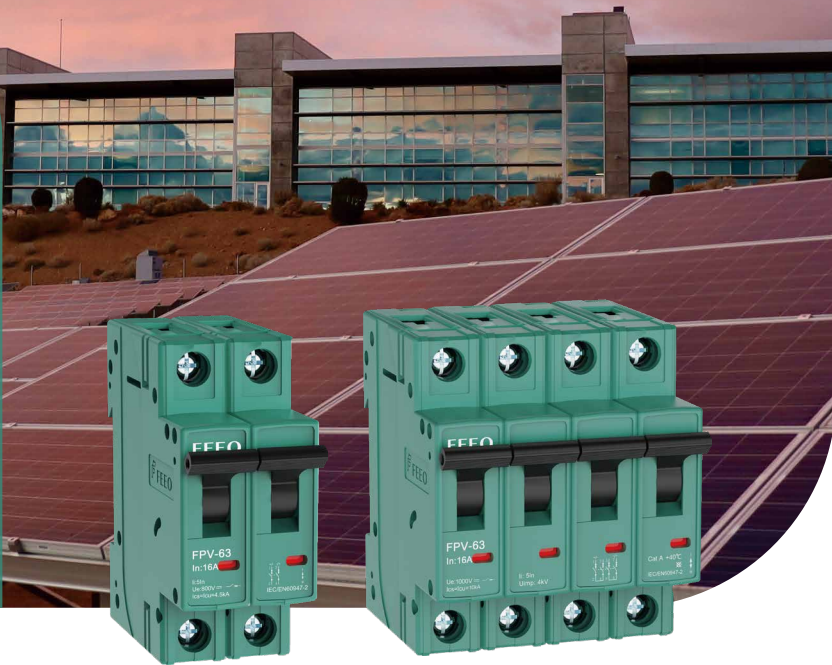




FPV-63

Solar DC Mini Circuit Breaker (DC MCB)

FPV-63 DC MCB supplementary protectors are designed to provide overcurrent protection within appliances or electrical equipment, where a branch circuit protection is already provided or not required. Devices are designed for direct current (DC) control circuit applications.



Specifications

FPV-63 Series Circuit Breaker		FPV-63			
Frame Degree Rated Current (A)		63			
Pole		1P	2P	3P	4P
Rated Operating Voltage (V DC)		250	550/800	750	1000/1200/1500
Rated Insulation Voltage Ui (V DC)		1200V			
Rated Current In (A)		6, 10, 16, 20, 25, 32, 40, 50, 63A			
Rated Impact Voltage Uimp (kV)		4			
Ultimate Breaking Capacity Icu (kA)		10			
Run Breaking Capacity Ics (%Icu)		100%			
Curve Type		C			
Trip Type		Thermal-magnetic			
Mechanical	Actual average value	7800			
	Standard value	7800			
Electric	Actual average value	200			
	Standard value	300 (accord to TUV standard)			

Control and Indication

Shunt release (SHT)	Option
Undervoltage release (UNT)	
Auxiliary contact (AX)	
Alarm contact (AL)	

Condition and Installation

Wiring capacity (mm²)		In ≤ 32A, 1-6, I ≥ 40A, 10-16			
Ambient temperature (°C)		40			
Altitude		≤ 2000			
Relative humidity		≤ 95%			
Pollution Level		3			
Installation Environment		No obvious shock and vibration			
Installation category		Class III			
Installation		DIN Standard rail			
Dimensions (W)x(H)x(Deep)	W	18	36	54	72
	H	80	80	80	80
	Deep	71	71	71	71
Weight (kg)		0.12	0.24	0.36	0.48

Connection

Wiring capacity (mm2)	1P	2P	3P	4P
Connection				

Over current tripping characteristic

Test	Test Current	Initial State	Limited Time	Expected Result	Remarks
a	1.05In	Cold state	t > 1h	Non-tripping	
b	1.3In	Right after test number a	t < 1h	Tripping	The current is rising within 5s
c	7In	Cold state	t ≤ s	Non-tripping	
d	10In	Cold state	t < 0.1s	Tripping	

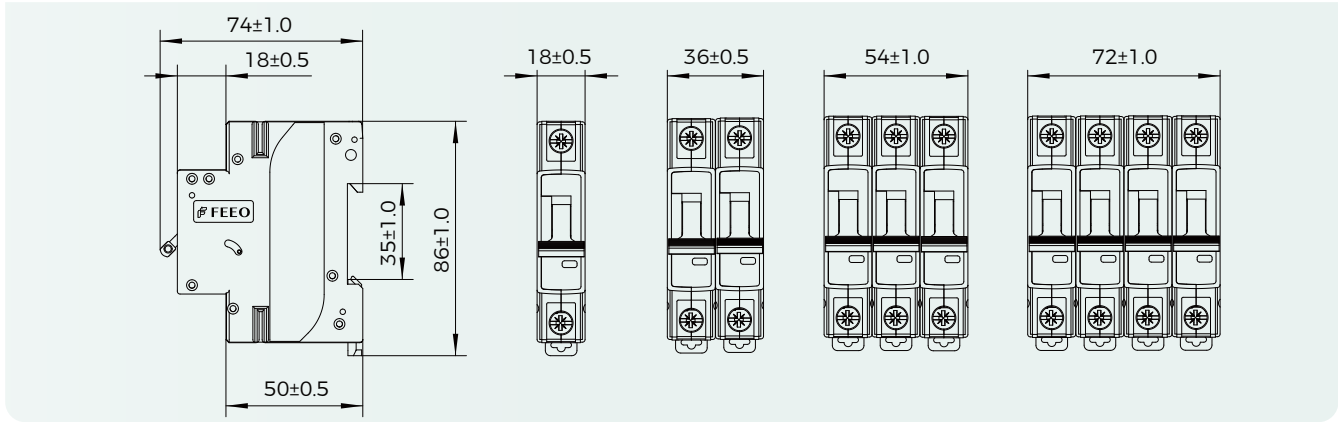
Current correction values used at different ambient temperatures

Temperature Fixed current (A) Rated Current (A)	-35	-30	-20	-10	0	10	20	30	40	50	60	70
3A	3.9	3.78	3.69	3.57	3.42	3.3	3.12	3	2.88	2.79	2.64	2.49
6A	7.8	7.56	7.38	7.14	6.84	6.6	6.24	6	5.76	5.64	5.28	4.98
10A	13.2	12.7	12.5	12	11.5	11.1	10.6	10	9.6	9.3	8.9	8.4
16A	21.12	20.48	20	19.2	18.4	17.76	16.96	16	15.36	14.88	14.24	13.44
20A	26.4	26.4	25	24	23	22.2	21.2	20	19.2	18.6	17.8	16.8
25A	33	32	31.25	30	28.75	27.75	26.5	25	24	23.25	22.25	21
32A	42.56	41.28	40	38.72	37.12	35.52	33.93	32	30.72	29.76	28.16	26.88
40A	53.2	51.2	50	48	46.4	44.8	42.4	40	38.4	37.2	35.56	33.6
50A	67	65.5	63	60.5	58	56	53	50	48	46.5	44	41.5
63A	83.79	81.9	80.01	76.86	73.71	70.56	66.78	63	60.48	58.9	55.44	52.29

Wire connection terminals

Rated current In (A)	Copper wire nominal cross sectional area (mm²)
3,6	1
10	1.5
16,20	2.5
25	4
32	6
40,50	10
63	16

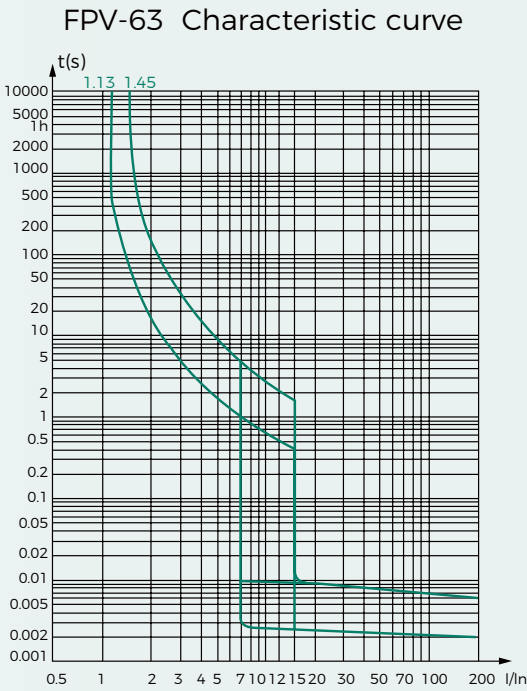
Current correction factor used at different altitudes



Current correction factor used at different altitudes

Rated Current (A)	Different altitude correction factors		
	≤ 2000m	2000-3000m	≥ 3000m
3,6,10,16,20,25,32,40,50,63A	1.0	0.9	0.8

Characteristic Curve





FPV-125

Solar DC Mini Circuit Breaker (DC MCB)

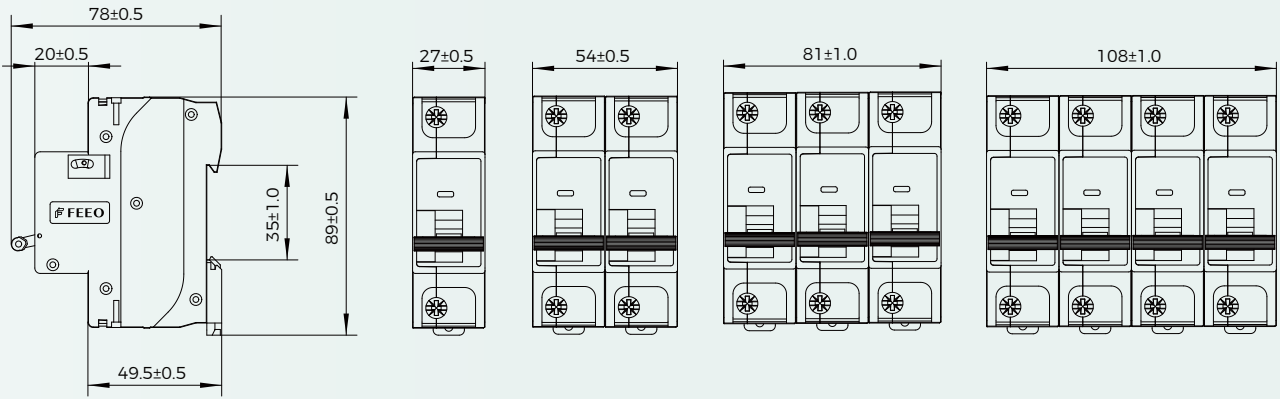
FPV-125 high breaking capacity circuit breaker is specially for solar PV system. The current is form 63A to 125A and voltage up to 1500VDC. Standard according to IEC/EN60947-2.



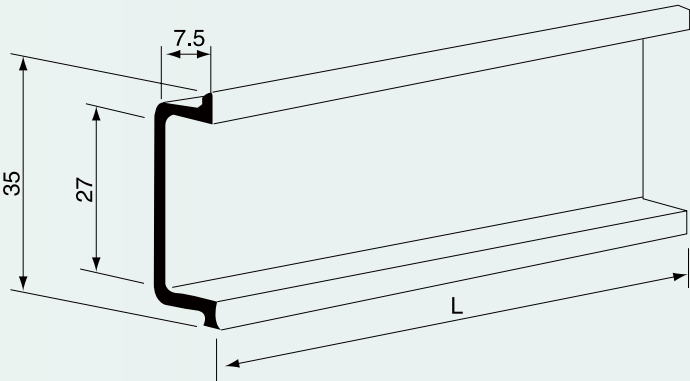
Specifications

Rated Current	80,100,125A			
Rated Voltage (V DC)	250	550/800	750	1000/1200/1500
No. of Pole	1P	2P	3P	4P
Mechanical Life	7800 times (C.O.)			
Electrical Life	20000 times			
Icu	10KA			
Ics	10KA			
Weight(G)	150	300	460	620

Characteristic Curve



Installation



Over current tripping characteristic

Test	Rated Current (A)	Initial State	Test Current	Limited Time	Prospective Result	Starting State
a	In = 63	Cold state	1.05In	t ≤ 1h	Non-tripping	
	In > 63	Cold state	1.05In	t ≤ 2h	Non-tripping	
c	In = 63	Hot state	1.3In	t < 1h	Tripping	The current rise steadily to a fixed value within 5s
	In > 63	Hot state	1.3In	t < 2h	Tripping	
d	In ≥ 63	Cold state	8In	t ≤ 0.5s	Non-tripping	
			12In	t < 0.2s	Tripping	

Current correction values used at different ambient temperatures

Temperature Fixed current(A) Rated Current (A)	-35	-30	-20	-10	0	10	20	30	40	50	60	70
63A	90.4	88.52	84.75	80.33	76.55	72.45	67.73	63	57.65	51.98	46.31	40.95
80A	114.8	112	106.8	101.6	96.4	90.8	85.6	80	74	67.6	60.4	53.2
100A	143.5	140.5	134.5	127.5	121	113.5	107.5	100	92.5	84.5	75.5	66.5
125A	178.75	173.75	164.38	156.25	148.75	140.63	135	125	116.25	107.5	97.5	85

Current correction factor used at different altitudes

Rated Current (A)	Different altitude correction factors		
	$\leq 2000\text{m}$	2000~3000m	$\geq 3000\text{m}$
80,100,125A	1.0	0.9	0.8

Characteristic Curve

FPV-125 Characteristic curve

