NanQue®

DZ47Z-125H
DC Circuit Breaker

New Direction
New Selection

DC Miniature Circuit Breaker
DZ47Z-125H

Product Introduction

DZ47Z-125H series DC miniature circuit breakers are mainly used for photovoltaic, generator and other lines with rated DC voltage of 100V-1000V, and can also be used for battery lines with DC voltage of 36-150V, as overload and short circuit protection of DC lines and infrequent line conversion. The maximum working current of the circuit breaker is 150A. The circuit breaker consists of a plastic shell, an operating mechanism, a contact arc extinguishing system, a tripping mechanism, etc. The non-polar design allows the upper and lower wiring to be swapped without affecting the protection performance. The interior uses red copper (red copper) as the main conductor, and composite silver contacts are used to extend the service life of the tripping structure. The unique arc extinguishing system design ensures efficient DC arc extinguishing. The shell is made of highly flame-retardant and high-strength special plastics, which are resistant to high voltage, corrosion, strong impact resistance and light weight.
This product complies with GB10963.2 and IEC60947-2 standards.

Model Meaning

DZ47Z-125H-2P-C150A-DC100-250V

- DZ47Z-125H: Model
- 2P: Poles
- C: Trip curve
- 150A: Rated current
- DC100-250V: Rated voltage

Normal Working Conditions

- Ambient air temperature: - 35℃ ~+70℃
- The relative humidity of the air is not greater than 95%
- The inclination to the vertical plane does not exceed 5°
- Where there is no significant shaking or impact vibration
- In a medium with no explosion hazard, and there are no gases and dust (including conductive dust) in the medium that can corrode metal and destroy insulation.

DC Miniature Circuit Breaker

DZ47Z-125H

Technical Parameters

Product model	DZ47Z-125H
Electrical characteristics	
Poles	Non-polarized 2P
Rated current Ie (A)	80,100,125,150, other currents can be customized
Rated voltage Ue (V)	DC100-250， DC260-500， DC510-1000
Rated insulation voltage Ui(V)	1200
Rated withstand impulse voltage Uimp (kV)	8
Rated breaking capacity Icu (kA)	8
Tripping mode	Thermal magnetic trip
Tripping curve	C curve (5In-10In) 8.5In (250V), 8.3In (500V), 8In (1000V)
Pollution level	2
Protection function	Overload protection, short circuit protection
Isolation function	Have
Mechanical characteristics	
Mechanical life (times)	20000
Electrical life (times)	6000
Protection level	IP20 (direct installation), >IP40 (installed in the distribution box)
Vibration resistance (IEC/EN 60068-2-6)	Where there is no significant vibration or shock
Resistance to moisture and heat (IEC 60068-2)	Category 2, 28 cycles, When the temperature is 55° C, the relative humidity is 90%~96% When the temperature is 25° C, the relative humidity is 95%~100%
Reference ambient temperature	30℃
Operating ambient temperature	-35℃ -+70℃
Storage temperature	-40℃ -+85℃
Installation characteristics	
Terminal Blocks	Tunnel terminal blocks

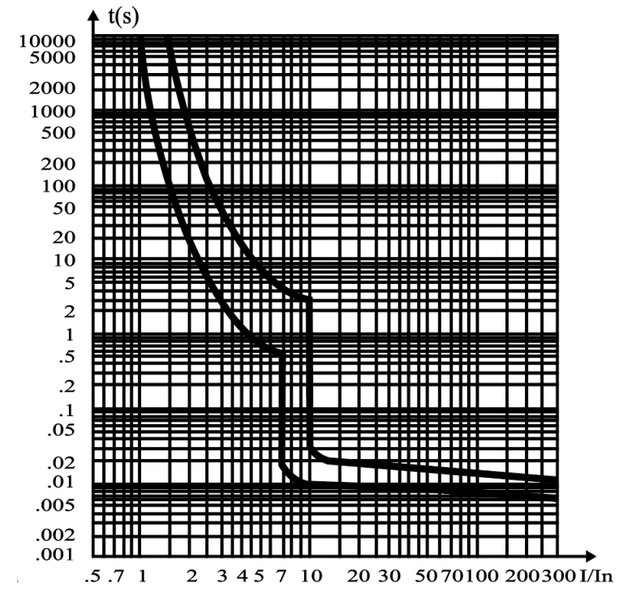
DC Miniature Circuit Breaker

DZ47Z-125H

Technical Parameters

Maximum wiring capacity	3.5N.m
Maximum wiring capacity	50mm²
Installation	Standard DIN rail (35mm width), panel bracket installation
Accessory	MX (shunt release), OF (auxiliary contact), SD (alarm contact)

Tripping Curve



C type thermal/electromagnetic tripping characteristic curve

DC Miniature Circuit Breaker

DZ47Z-125H

Overcurrent Protection Characteristics

Rated current	Rated current In A	Test current A	Starting State	Start time	Expected Results	Notes	Reference temperature
Ii=8.5In	≤ 63	1.05In	Cold	t ≤ 1h	No tripping	–	+30℃
Ii=8.5In		1.3In	Immediate test	t<1h	Trip	The current rises to a certain value within 5s	
Ii=8.5In		8.5In*80%	Cold	t<0.2s	No tripping	Close the auxiliary switch and turn on the power	
Ii=8.5In		8.5In*120%			Trip		

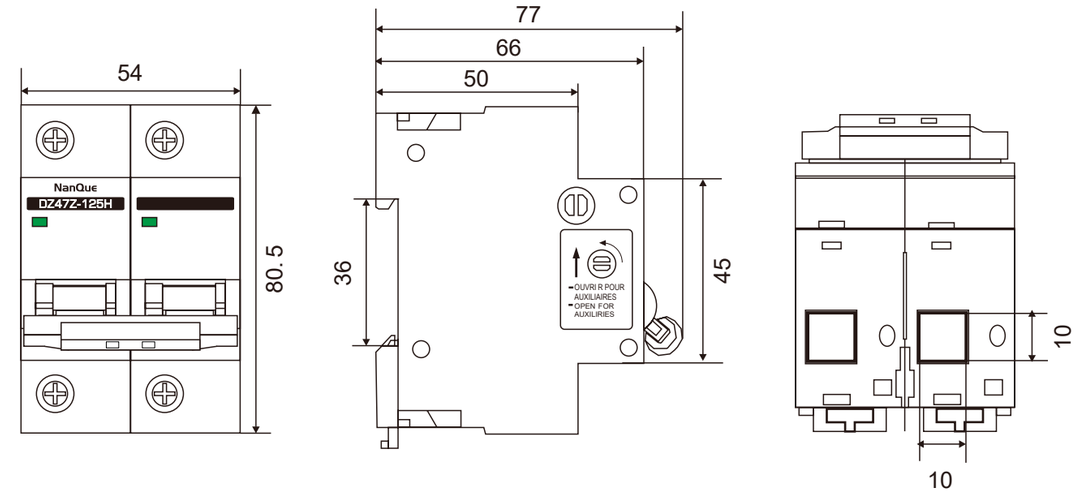
Rated Current Temperature Correction Coefficient Table

Temp (℃) / Rated Current (A)	-30	-20	-10	0	10	20	30	40	50	60	70
80	110	100	96	92	88	84	80	75.2	71	67	60
100	130	125	120	115	110	105	100	94	88	80	70
125	175.2	169.2	162.8	143.8	137.5	131.2	125	117.8	111.5	105	98.8
150	210	192.8	180.2	167.6	158.2	155.3	150	140.2	131.6	128.8	120.6

DC Miniature Circuit Breaker

DZ47Z-125H

Product Size

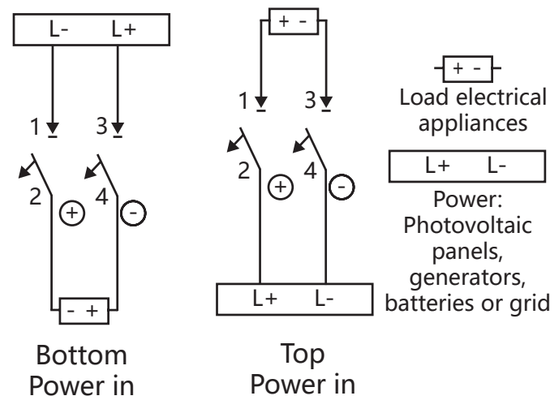


Unit: mm

Wiring Method

2P

Non-polarized wiring,
top and bottom,
left and right,
can be exchanged



Note:

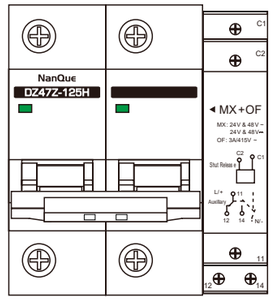
1, L+ power supply positive pole, L- power supply negative pole

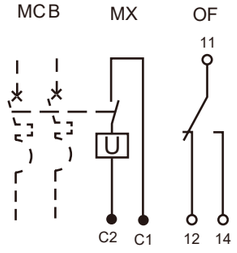
2, ⊕ circuit breaker positive pole, ⊖ circuit breaker negative pole

DC Miniature Circuit Breaker

DZ47Z-125H

Optional Accessories





MX-OF
Shunt release + auxiliary device

Working principle: by inputting the corresponding voltage and current, the circuit breaker can be remotely controlled to open and close, and the circuit breaker switch opening and closing status can be fed back;

MX control voltage: the control voltage can be ACDC24V, ACDC110V, ACDC220V, etc.;

Note: when controlling MX with DC, avoid connecting the constant current of the power supply directly to the feedback circuit OF to avoid burning the feedback indicating elements, such as indicator lights. At the same time, it is necessary to pay attention to whether the indicator light requires positive and negative polarity or no polarity.

Connecting Cables

Current	Recommended cable cross-section (mm²)	Maximum wiring capacity (mm²)
80A	25	50
100A	35	
125A	35	
150	50	

Appendix 1-Product Selection

2P DC100-250V

2P DC260-500V

2P DC510-1000V

Product Model	Poles	Voltage	Current	Order Code	Customized
DZ47Z-125H	2P	DC100-250V	80A	NQPD-0110-2PDCR30015	No
	2P	DC100-250V	100A	NQPD-0110-2PDCR30016	No
	2P	DC100-250V	125A	NQPD-0110-2PDCR30017	No
	2P	DC100-250V	150A	NQPD-0110-2PDCR30018	No
	2P	DC260-500V	80A	NQPD-0110-2PDCR40015	No
	2P	DC260-500V	100A	NQPD-0110-2PDCR40016	No
	2P	DC260-500V	125A	NQPD-0110-2PDCR40017	No
	2P	DC260-500V	150A	NQPD-0110-2PDCR40018	No
	2P	DC510-1000V	80A	NQPD-0110-2PDCR50015	No
	2P	DC510-1000V	100A	NQPD-0110-2PDCR50016	No
	2P	DC510-1000V	125A	NQPD-0110-2PDCR50017	No
	2P	DC510-1000V	150A	NQPD-0110-2PDCR50018	No