ETM1-63DC

Non-Polarity DC Mini Circuit Breaker



- Standard: IEC/EN 60947-2
- Rated current: 6~63A
- Poles: 1P, 2P, 3P, 4P
- Rated breaking capacity: 6kA
- Insulation voltage: 1200V
- Wiring method: According to the wiring diagram
- Rated operated voltage: 300VDC(1P), 600VDC(2P), 900VDC(3P), 1200VDC(4P)

Applications



Photovoltaic (PV) Systems



Energy Storage System



Communications and Data Center



Industrial and Automation Equipment

Overview

EKM1-63DC is a non-polarized DC miniature circuit breaker designed for photovoltaic, energy storage, and other high-voltage DC applic-ations. Supporting 6-63A at up to 1200VDC and available in 1P/2P/3P/4P configurations, its polarity-free design simplifies installation, eliminates wiring errors, and enables fast, efficient field deployment.

With high-voltage capability, dependable arc suppression, and precise tripping, it ensures reliable performance and enhanced safety for modern systems.

Product Tips



1. Line and load connection
2. The position of handle lock
3. Rated current up to 63A
4. Contacts position indication window

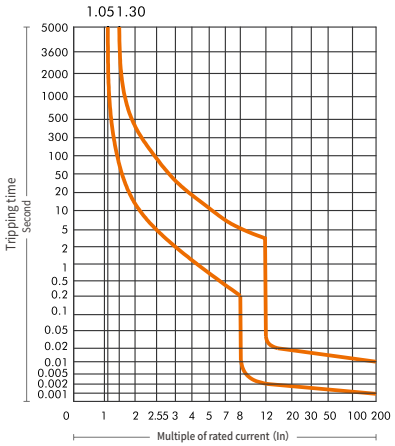
Technical Data

Standard		IEC/EN 60947-2			
Protection		Overcurrent and short circuit			
Type of trip		Thermal-magnetic			
No. of poles		1P	2P	3P	4P
Rated voltage (Ue)		300VDC	600VDC	900VDC	1200VDC
Rated currents (In)		6, 10, 16, 20, 25, 32, 40, 50, 63A			
Rated insulation voltage (Ui)		1200V			
Rated impulse withstand voltage (Uimp) (1.2/50μs)		6kV			
Rated service short circuit breaking capacity (Ics)		6kA			
Rated ultimate short circuit breaking capacity (Icu)		6kA			
Thermal tripping characteristics		1.05In: no tripping within an hour; 1.30In: tripping within an hour			
Instantaneous tripping characteristics	Standard	(8-12)×In			
	Customized	Z: (3-5)×In; L: (6-10)×In; K: (10-14)×In			
Electrical life	Actual value	>1,000 Cycles			
	Standard value	1,000 Cycles			
Mechanical life	Actual value	>20,000 Cycles			
	Standard value	8500 Cycles			
Contact position indicator		green OFF/ red ON			
Overvoltage category		3			
Pollution degree		3			
Ingress protection		IP40, Wiring port IP20			
Resistance to humidity and heat		Class 2			
Reference temperature		-30°C			
Operating ambient temperature (with daily average≤35°C)		-25°C ~ +55°C			
Ambient temperature		-30°C ~ +70°C			
Terminal connection type		Cable			
Max. terminal size for cable		16mm² flexible/ 25mm² rigid			
Max. tightening torque		2.5N.m			
Installation		Mounting on 35mm DIN rail			
Wiring method		According to the wiring diagram			

Auxiliary for remote tripping or signaling	
Auxiliary Contact	Yes
Shunt Release	Yes
Shunt Release & Auxiliary Contact	Yes
Voltage Loss Release	Yes
Over-voltage Release	Yes
Undervoltage Release	Yes
Over-undervoltage Release	Yes

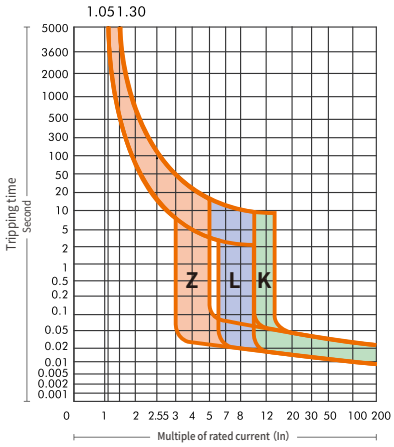
Tripping Characteristic

Standard curve: (8-12)×In



- I=1.05In, t≥1h, not trip
- I=1.3In, t<1h, trip
- I=2.55In, 1s<t<120s (In=1-63A)
- Instantaneous trip: 8In-12In

Customized: Z, L, K curve



- I=1.05In, t≥1h, not trip
- I=1.3In, t<1h, trip
- I=2.55In, 1s<t<120s (In=6-63A)
- Instantaneous trip: Z: 3In-5In; L: 6In-10In; K: 10In-14In

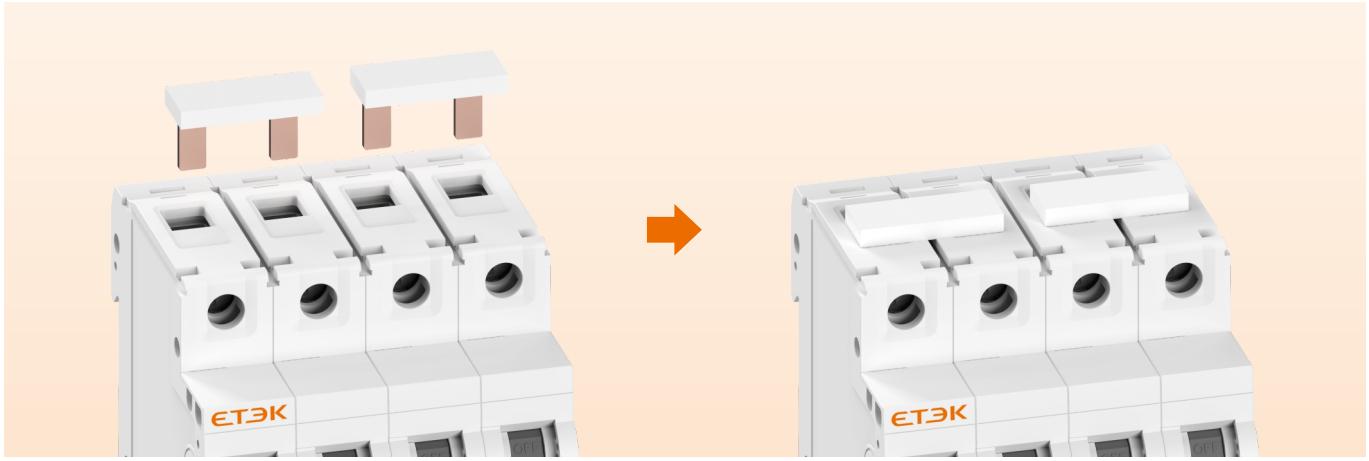
Temperature Derating Table

Rated current (A)	Correction factor for ambient temperature											
	-40°C	-30°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
6	8	7.7	7.5	7.2	6.9	6.6	6.3	6	5.7	5.3	4.9	4.5
10	13.3	12.9	12.5	12	11.5	11.1	10.5	10	9.4	8.8	8.2	7.5
16	21.3	20.7	20	19.2	18.5	17.7	16.9	16	15.1	14.1	13.1	11.9
20	26.7	25.8	24.9	24	23.1	22.1	21.1	20	18.9	17.6	16.3	14.9
25	33.3	32.3	31.2	30	28.9	27.6	26.4	25	23.6	22	20.4	18.6
32	42.7	41.3	39.9	38.5	37	35.4	33.7	32	30.2	28.2	26.1	23.9
40	53.3	51.6	49.9	48.1	46.2	44.2	42.2	40	37.7	35.3	32.7	29.8
50	66.7	64.5	62.4	60.1	57.7	55.3	52.7	50	47.1	44.1	40.8	37.3
63	84	81.3	78.6	75.7	72.7	69.6	66.4	63	59.4	55.6	51.4	47

Derating of Altitude

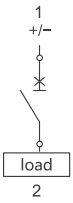
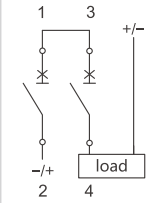
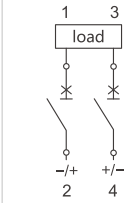
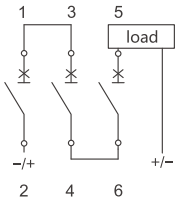
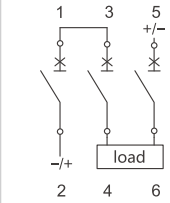
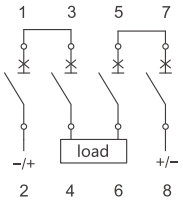
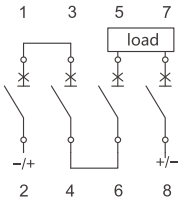
Altitude (m)	2000	3000	4000	5000
Rated current (In)	1	0.97	0.91	0.86
Rated insulation (Ui)	1	0.90	0.82	0.76
Power-frequency dielectric strength	1	0.90	0.82	0.76
Rated impact tolerance voltage (Uimp)	1	0.90	0.82	0.76
Values of rated shour-circuit capacity (Icn)	1	0.87	0.77	0.67
Electrical life (Cycles)	1	0.87	0.77	0.67

External Bridging Busbar



Note: Configure the external bridging busbars as required by the circuit diagram.

Wiring Diagram

1P	2P		3P		4P	
						

Dimension (mm)

