



TGB3-63HZ

Series Non-polar DC Circuit Breaker

TGB3-63HZ Series Non-polar DC Circuit Breaker

1 Overview

TGB3-63HZ series non-polar DC circuit breaker is primarily used in low-voltage terminal power distribution systems in the new energy field, and it has the overload, short circuit protection, isolation, and DC system protection functions.

The product complies with the following standards: GB/T 14048.2, IEC/EN 60947-2.

2 Working Environmental Conditions

- Altitude: Not exceed 2000m;
- Ambient air temperature: $-35^{\circ}\text{C}\sim+70^{\circ}\text{C}$; the mean temperature within 24h does not exceed $+40^{\circ}\text{C}$;
- Atmospheric conditions: The relative humidity of the air does not exceed 50% at a maximum temperature of $+40^{\circ}\text{C}$. Higher relative humidity can be allowed at lower temperatures, for example, the relative humidity is 90% at $+20^{\circ}\text{C}$.

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3 Type Designation

TG	B	3	-	☐	☐	☐	☐	☐	☐
①	②	③	④	⑤	⑥	⑦	⑧	⑨	

①	Enterprise code	
②	Circuit breakers	
③	Design No.	
④	Frame current (A)	63
⑤	Breaking capacity	H: 10kA
⑥	Derived code	Z: Nonpolar direct current
⑦	Number of poles	1P, 2P, 3P, 4P
⑧	Trip characteristics	Type B Type C Type D
⑨	Rated current (A)	1, 2, 3, 4, 5, 6, 10, 16, 20, 25, 32, 40, 50, 63

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4 Technical Parameters

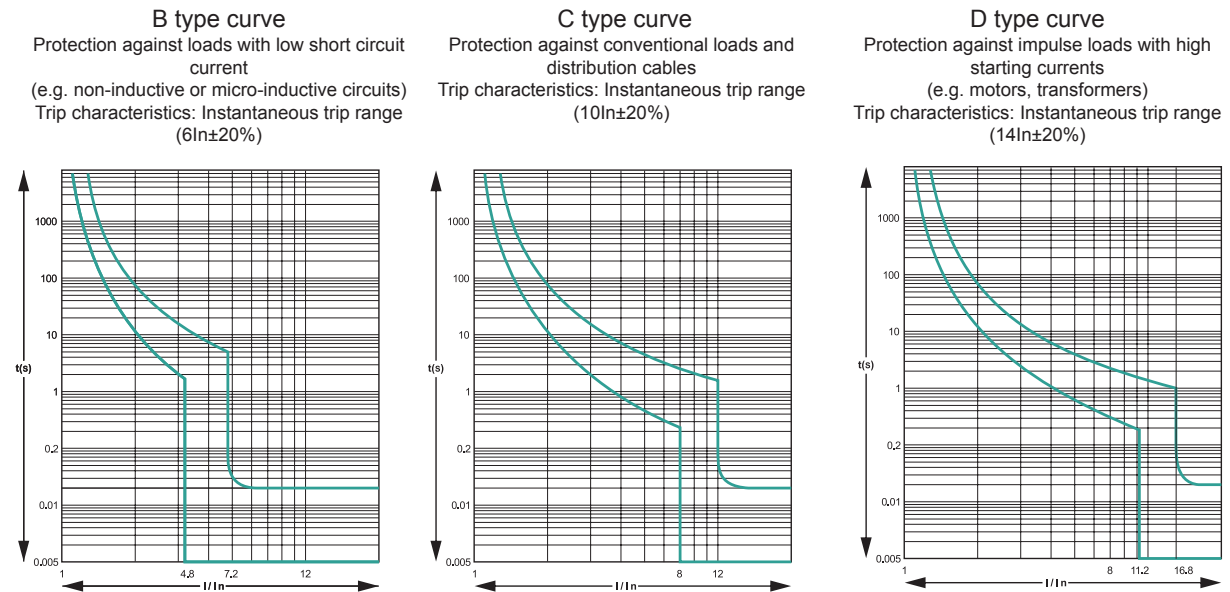
Table 1

Model	TGB3-63HZ
Standard	GB/T 14048.2 IEC/EN 60947-2 UL1077
Product certification	CCC, TUV, CE, CB, UL1077 (Special customization)
Frame current (A)	63
Number of poles	1P, 2P, 3P, 4P
Rated current In (A)	1, 2, 3, 4, 5, 6, 10, 16, 20, 25, 32, 40, 50, 63 UL1077: 6, 10, 16, 20, 25, 32, 40, 50, 63
Rated voltage Ue (V)	DC250V(1P), DC500V(2P), DC750V(3P), DC1000V(4P) UL1077: DC250V(1P), DC500V(2P), DC600V(3P), DC600V(4P)
Rated insulation voltage Ui (V)	1000
Rated impulse withstand voltage Uimp (kV)	6
Rated limit short-circuit breaking capacity Icu (kA)	10
Rated operating short-circuit breaking capacity Ics (kA)	7.5
Trip type	Thermal magnetic trip
Instantaneous trip characteristics (In)	B: 6±20% C: 10±20% D: 14±20% UL1077: B: 6±20% C: 10±20%
Pollution degree	3
Protection grade	IP20
Mechanical life	20,000 times
Electrical life	1500 times
Ambinet temp.	-35°C~+70°C
Altitude of installation site	≤2000m
Max. wiring capacity (mm ²)	25
Max. limit torque (N.m)	2.5
Installation category	Class II, III
Installation method	TH35-7.5 standard rail
Accessories	OF3: Aux. contact SD3: Alarm contact OF + OF3: Dual aux. integrated contact OF + SD3: Aux. and alarm integrated contact MX3: Shunt release MX + OF3: Shunt aux. release MV3: Overvoltage release MN3: Undervoltage release MV + MN3: Overvoltage / Undervoltage release MNs3: Undervoltage release

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5 Characteristic Curves

5.1 TGB3-63HZ Product Trip Curve



6 Temperature Correction Factors Table

TGB3-63HZ Temperature Correction Factors Table

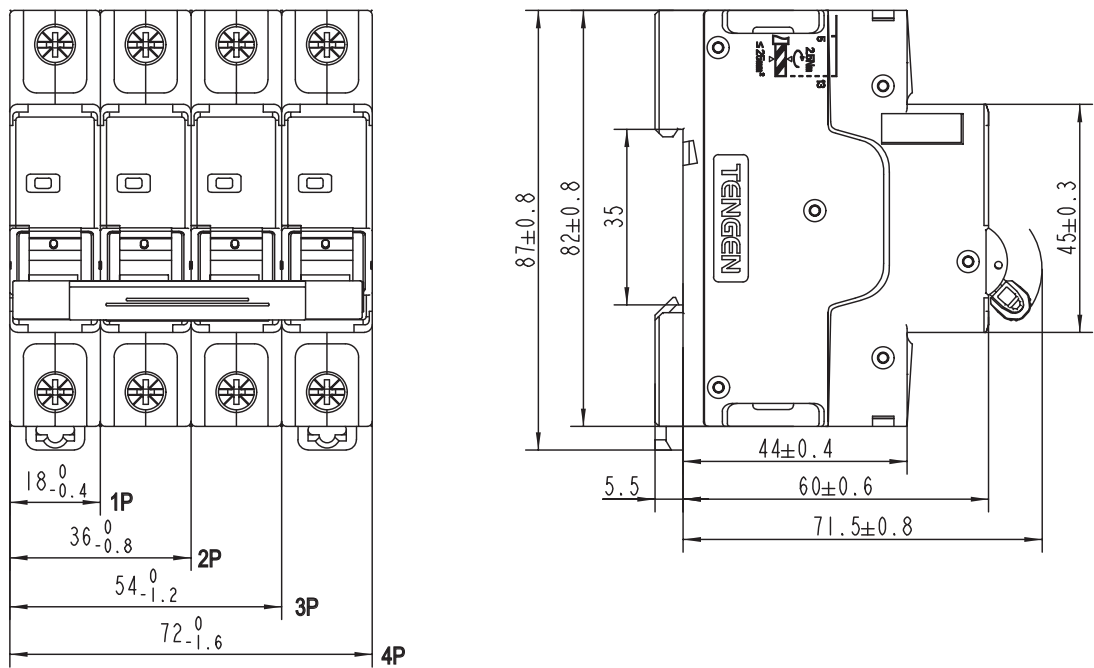
Rated current A	Correction current A											
	-35°C	-30°C	-25°C	-20°C	-15°C	-10°C	-5°C	0°C	5°C	10°C	15°C	20°C
1	1.39	1.37	1.34	1.32	1.29	1.27	1.24	1.22	1.17	1.14	1.12	1.09
2	2.7	2.65	2.6	2.56	2.51	2.47	2.43	2.38	2.34	2.28	2.23	2.18
3	4.03	3.97	3.91	3.85	3.79	3.72	3.66	3.59	3.51	3.42	3.35	3.27
4	5.34	5.27	5.19	5.11	5.03	4.94	4.86	4.77	4.68	4.56	4.46	4.36
5	7.94	7.77	7.6	7.43	7.26	7.09	6.91	6.72	6.53	6.3	6.08	5.85
6	9.51	9.31	9.11	8.91	8.7	8.49	8.28	8.06	7.83	7.56	7.29	7.02
10	12.9	12.75	12.6	12.5	12.3	12.1	11.9	11.7	11.5	11.2	11	10.8
16	20.8	20.5	20.2	19.9	19.6	19.3	19	18.7	18.4	17.92	17.6	17.28
20	26.1	25.7	25.3	24.9	24.6	24.2	23.8	23.4	23	22.4	22	21.6
25	32.7	32.2	31.7	31.2	30.8	30.3	29.8	29.3	28.8	28	27.5	27
32	41.6	41.1	40.5	39.9	39.3	38.7	38.1	37.4	36.8	35.84	35.2	34.56
40	51.2	50.6	49.9	49.2	48.5	47.8	47.1	46.3	45.6	44.8	43.8	42.8
50	64.2	63.3	62.4	61.5	60.6	59.7	58.8	57.9	57	56	54.8	53.5
63	80.2	79.2	78.2	77.2	76.1	75	73.9	72.8	70.3	69.3	68.4	67.4

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Rated current A	Correction current A									
	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C
1	1.07	1.05	1.03	1	0.96	0.88	0.8	0.75	0.68	0.61
2	2.14	2.1	2.05	2	1.92	1.76	1.6	1.5	1.36	1.22
3	3.21	3.15	3.08	3	2.88	2.64	2.4	2.25	2.03	1.82
4	4.28	4.2	4.1	4	3.84	3.52	3.2	3	2.71	2.43
5	5.63	5.4	5.2	5	4.95	4.93	4.9	4.88	3.39	3.04
6	6.75	6.48	6.24	6	5.94	5.91	5.88	5.85	4.07	3.65
10	10.6	10.4	10.2	10	9.6	9.4	9.2	9	8.73	8.50
16	16.96	16.64	16.32	16	15.36	15.04	14.72	14.08	14	13.60
20	21.2	20.8	20.4	20	19.2	18.8	18.4	17.6	17.5	17.00
25	26.5	26	25.5	25	24	23.5	23	22	21.8	21.25
32	33.92	33.28	32.64	32	30.72	30.08	29.44	28.16	27.9	27.21
40	42	41.2	40.6	40	38.8	37.4	36	34.6	33.8	32.68
50	52.5	51.5	50.8	50	48.5	44.85	41.2	39.35	36	33.10
63	66.5	65.5	64.3	63	60.5	57.23	53.95	50.95	48.8	46.01

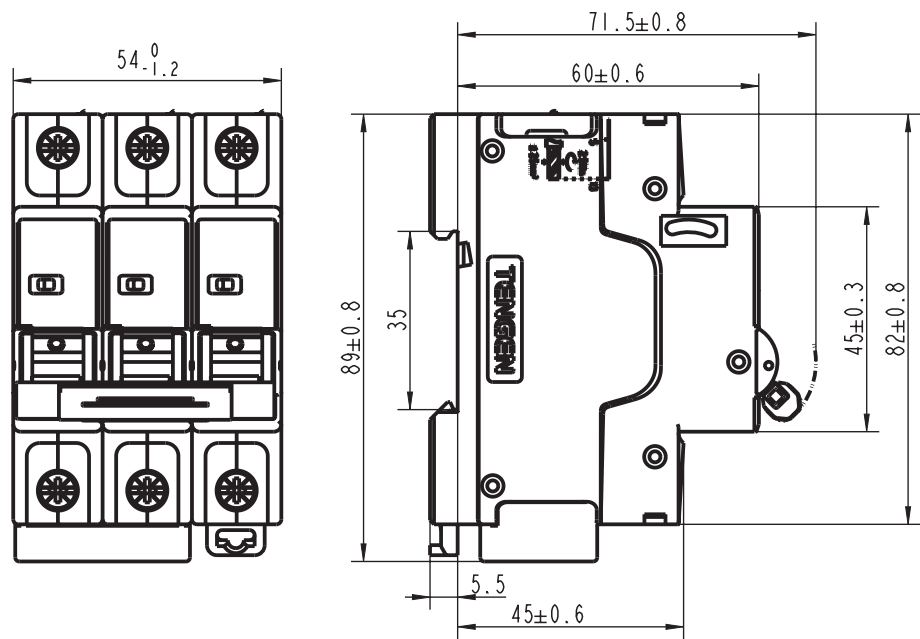
7 Outline and Installation Dimensions

7.1 TGB3-63HZ outline and installation dimensions without short busbars

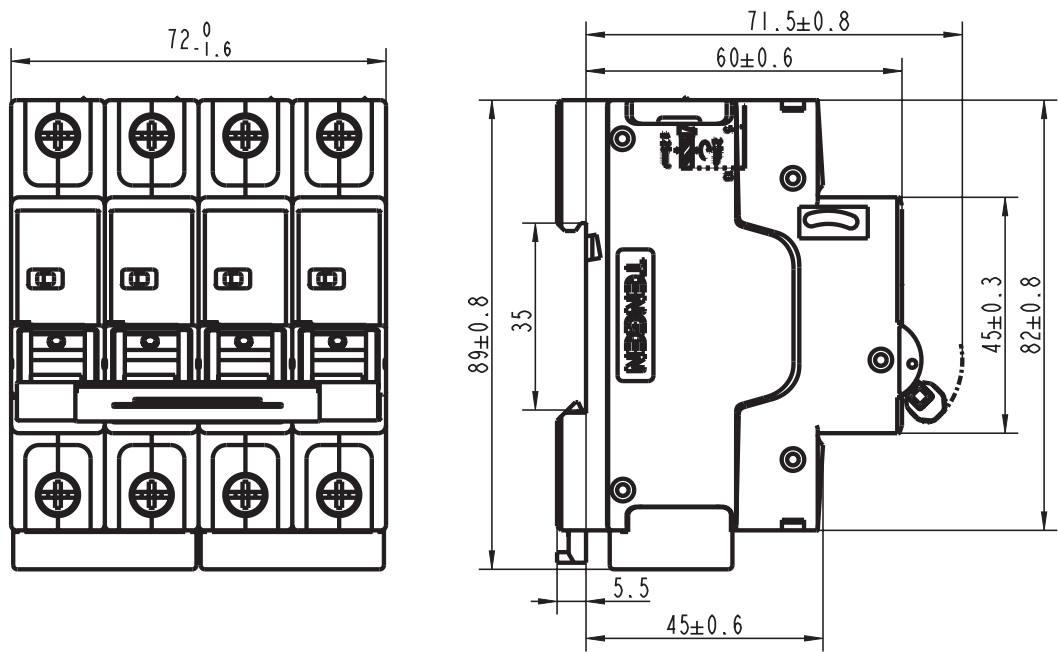


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7.2 TGB3-63HZ outline and installation dimensions with short busbars



3P product



4P product