

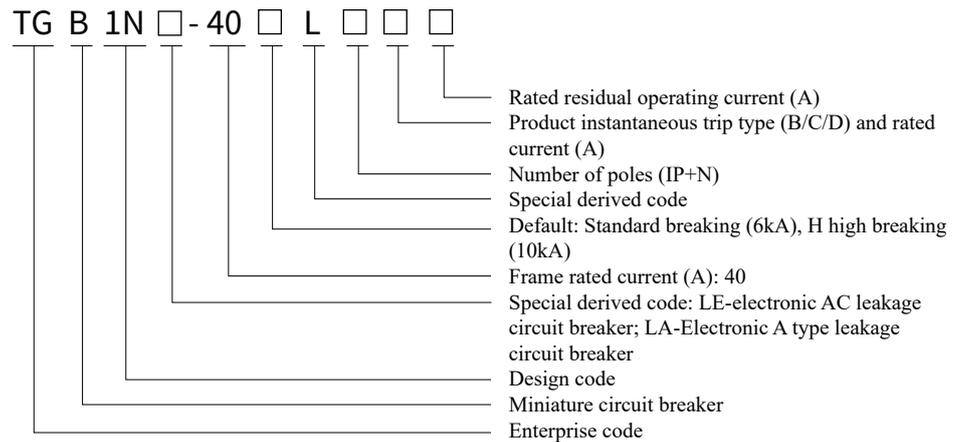


TGB1NLE(A)-40(H)L Series Residual Current Circuit Breaker with Overcurrent Protection, Electronic A/AC Type

1 Overview

TGB1NLE(A)-40(H)L Series Residual Current Circuit Breaker with Overcurrent Protection, Electronic A/AC Type is used in the AC 50Hz circuit with the rated voltage 240V and with the rated current up to 40A. When there is a personal electric shock or the leakage current of the grid exceeds the specified value, the Residual Current Circuit Breakers can quickly cut off the power supply within the very short time for personal protection and the safety protection of power equipment; it is also used as infrequent conversion of the line in the event of overload or short circuit and under the normal situations; TGB1NLE(A)-40(H)L is widely used in the charging pile industry and the power distribution lines with DC components.

2 Type Designation



3 Main Technical Parameters

Product name	TGB1NLE-40L	TGB1NLE-40HL	TGB1NLA-40L	TGB1NLA-40HL
Standard	IEC/EN 61009-1			
Product certification	TUV, CE, CB			
Electrical characteristics				
Rated voltage (Ue)	AC240V			
Rated frequency (Hz)	50/60Hz			
Rated current (Ie)	10, 16, 20, 25, 32, 40A			
Rated residual operating current $I_{\Delta n}$	30mA, 50mA, 75mA, 100mA, 300mA			
Rated operating current type	AC type		A type	
Rated operating current time (t)	$\leq 0.1s$			
Rated residual making and breaking capacity $I_{\Delta m}$	3000A			
Number of poles	1P+N (N pole cannot be open and closed)			
Rated insulation voltage (Ui)	500V			
Rated impulse withstand voltage (Uimp)	4kV			
Rated ultimate short circuit breaking capacity (ICN)	6kA	10kA	6kA	10kA
Rated run short circuit breaking capacity (ICS)	6kA	7.5kA	6kA	7.5kA
Instantaneous release type	B/C/D type			
Pollution degree	2			

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Product name	TGB1NLE-40L	TGB1NLE-40HL	TGB1NLA-40L	TGB1NLA-40HL
Mechanical characteristics				
Electrical life	4000 times			
Mechanical life	10000 times			
Protection grade	IP20			
Normal working conditions and installation characteristics				
Ambient temperature	-5°C~+70°C			
Installation altitude	Not exceed 2000m			
Wiring terminal	Screw-pressed			
Max. wiring capacity (mm ²)	10			
Max. ultimate torque (N.m)	Inlet 2.8, outlet 1.5			
Installation category	Class II, Class III			
Installation method	TH35-7.5 standard rail			
Inlet method	Top inlet and bottom outlet			

4 Trip characteristics

4.1 Operation characteristics of overcurrent release (Table 2)

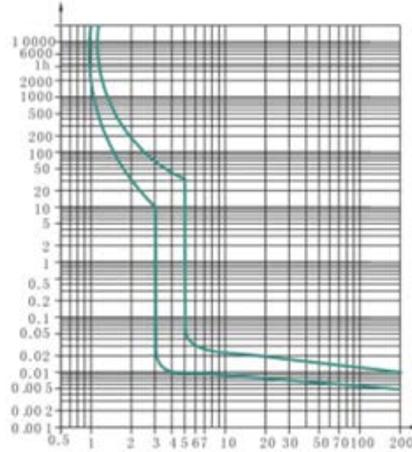
Table 2

Instantaneous trip type	Test current (A)	Start state	Specified time	Expected results	Remarks
B type C type D type	1.13I _n	Cold state	t ≤ 1h	Non-trip	Current rises to the specified value stably within 5s
	1.45I _n	1.13I _n test followed	t < 1h	Trip	
	2.55I _n	Cold state	1s < t < 60s (For I _n ≤ 32A) 1s < t < 120s (For I _n > 32A)	Trip	
B type C type D type	3I _n	Cold state	t ≤ 0.1s	Non-trip	Turn on aux. switch to power on the current
	5I _n				
	5I _n				
B type C type	5I _n	Cold state	t < 0.1s	Trip	
	10I _n				
	14I _n				

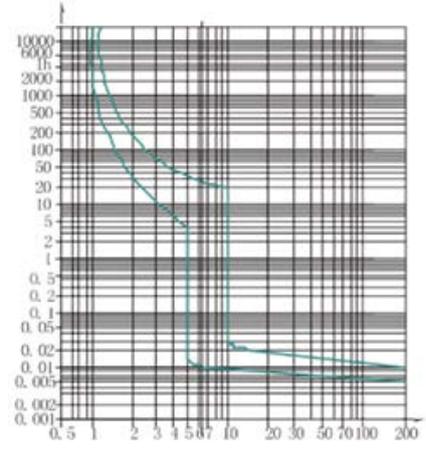
Note: the "cold state" refers to no load under the reference temperature +50°C before test.

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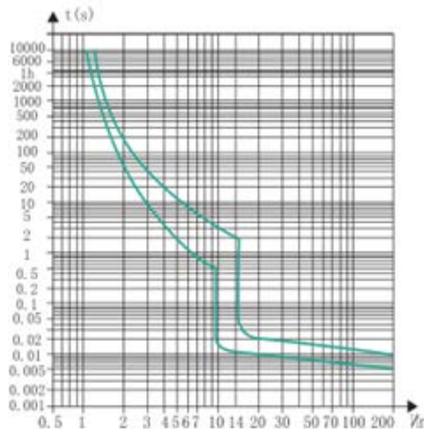
4.2 Circuit breaker protection characteristic curve



B type protection characteristic curve



C type protection characteristic curve



D type protection characteristic curve

4.3 Wiring: suitable for 10 mm² and below wiring connection (see Table 3)

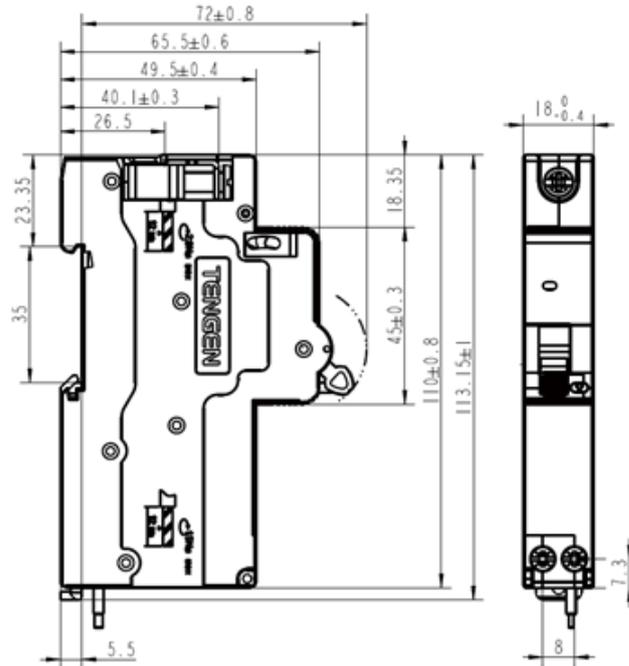
The wiring is connected through the screw, and the tightening torque is 2.5N.m at the inlet terminal, and is 1.2 N.m at the outlet terminal.

Table 3

Rated current (A)	Sectional area of wire (mm ²)
10	1.5
16 ~ 20	2.5
25	4
32	6
40	10

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5 Installation Dimensions



6 Ordering Notice

1. Product name and model, such as TGB1NLE-40HL Residual Current Circuit Breakers;
2. Number of poles: 1P+N
3. Product instantaneous trip type, such as C type;
4. Product rated current, such as 32A;
5. Product rated residual operating current, such as 30mA;
6. Product quantity, such as 108 units;
7. Order example, TGB1NLE-40HL 1P+N C16 30mA, 108 units.