TGB1NLE(LA)M-40 Series RCBO, Electronic A/AC Type

1 Overview

TGB1NLE(LA)M-40 series residual current operated circuit breakers are used in the AC 50Hz circuit with the rated voltage 240V and with the rated current up to 40A. In the event of personal electric shock or the grid leakage current out of the specified range, the residual current operated circuit breaker can quickly work to cut off the power supply in a very short time to ensure the safety of personnel and power equipment, and it can be used for infrequent conversion of the lines in the case of overload or short circuit and under normal circumstances. The product is especially suitable for lighting distribution systems used in buildings, industries, and businesses.

2 Type Designation

TG B 1N LE M – 40 A / 1P+N C 16 30

- 30 — Rated residual operating current (mA)
- 16 — Rated current (A)
- C — Product instantaneous trip type (B/C)
- 1P+N — Number of poles: 1P+N
- A — Breaking capacity: A means 4.5kA; default: 6kA
- 40 — Frame rated current (A): 40
- M — Product feature (small-size mini type)
- LE — LE-Electronic AC type residual current circuit breakers
  LA-Electronic A type residual current circuit breakers
- 1N — Design code
- B — Miniature circuit breaker
- TG — Enterprise characteristic code

3 Main Technical Parameters

Table 1

Product name	TGB1NLEM-40A	TGB1NLEM-40	TGB1NLAM-40A	TGB1NLAM-40
Standard	IEC/EN 61009-1, ROHS2.0			
Product certification	TUV, CE			
Electrical characteristics				
Rated voltage (Ue)	AC230V			
Rated frequency (Hz)	50Hz			
Rated current (In)	6, 10, 16, 20, 25, 32, 40A			
Rated residual operating current IΔn	10mA, 30mA, 50mA			
Rated operating current type	AC type		A type	
Rated operating current time (t)	≤0.1s			
Rated residual making and breaking capacity IΔm	500V			
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)	4.5kA	6kA	4.5kA	6kA
Rated operating short circuit breaking capacity (Ics)	4.5kA	6kA	4.5kA	6kA
Instantaneous release type	B/C type			
Pollution degree	2			

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Product name	TGB1NLEM-40A	TGB1NLEM-40	TGB1NLAM-40A	TGB1NLAM-40
Mechanical characteristics				
Electrical life	4000 times			
Mechanical life	10000 times			
Protection grade	IP20			
Normal working conditions and installation characteristics				
Ambient temperature	-35℃~ +70℃			
Installation altitude	Not exceed 2000m			
Wiring terminal	Screw-pressed			
Max. wiring capacity (mm^2)	10			
Max. ultimate torque (N.m)	1.5			
Installation category	Class II, 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)

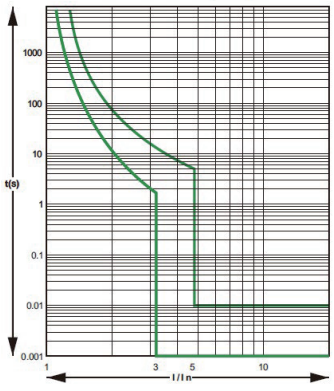
Table 2

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

Note: the “cold state” refers to no load under the reference temperature +30℃ before test.

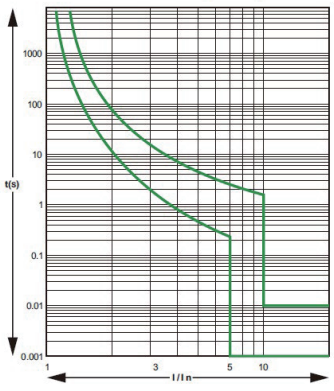
4.2 Circuit breaker protection characteristic curve

B type (3-5)In



B type protection characteristic curve

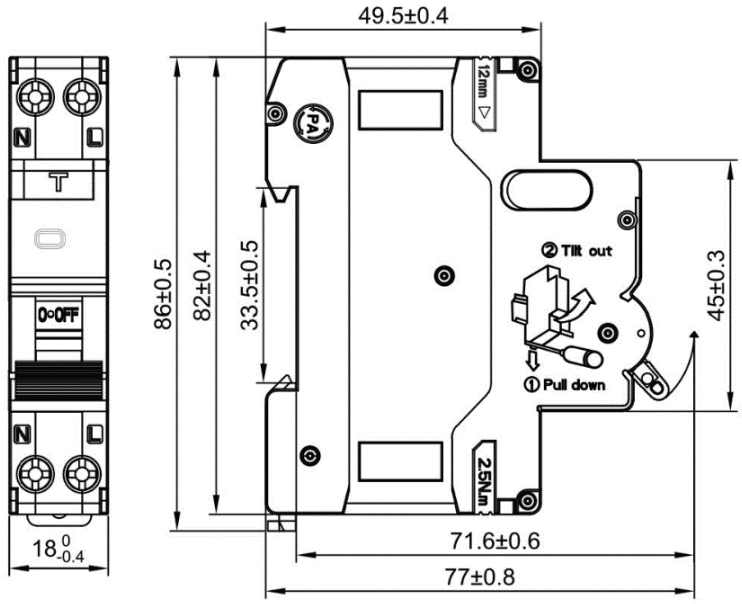
C type (5-10)In



C type protection characteristic curve

TGB1NLE(LA)M-40 Series RCBO, Electronic A/AC Type

5 Installation Dimensions



6 Ordering Notice

6.1 Product name and model, such as TGB1NLEM-40A Residual Current Circuit Breakers;
6.2 Product instantaneous trip type, such as C type;
6.3 Number of poles, such as 1P+N;
6.4 Product rated current, such as 32A;
6.5 Product rated residual operating current, such as 30mA;
6.6 Product breaking capacity, such as 4.5KA;
6.7 Qty., such as 100 units;
6.8 Order example, TGB1NLEM-40A 1P+N C32 30mA, 100 units.