

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

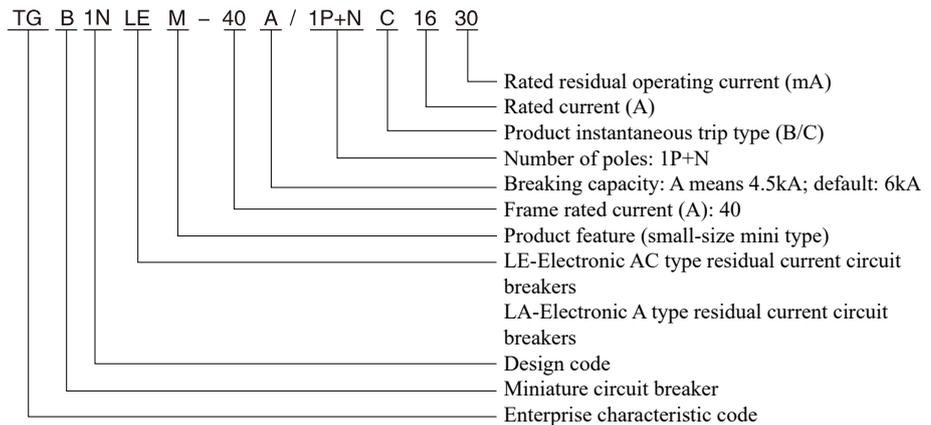
1 Overview

TGB1NLE(LA)M-40 Series Residual Current Circuit Breaker with Overcurrent Protection, Electronic A/AC Type is used in the AC 50Hz circuit with the rated voltage 230V 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; It is particularly suitable for lighting and distribution systems in buildings, industry and commerce.

The product complies with the IEC 61009-1 standard.



2 Type Designation



3 Main Technical Parameters

Table 1

Product name	TGB1NLEM-40A	TGB1NLEM-40	TGB1NLAM-40A	TGB1NLAM-40
Standard	IEC 61009-1			
Electrical characteristics				
Rated voltage (Ue)	AC230V			
Rated frequency (Hz)	50Hz			
Rated current (Ie)	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	500A			
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			

TGB1NLE(LA)M-40 Series Residual Current Circuit Breaker with Overcurrent Protection, Electronic A/C Type

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°C~ +70°C			
Installation altitude	Not exceed 2000m			
Wiring terminal	Screw-pressed			
Max. wiring capacity (mm ²)	16			
Max. ultimate torque (N.m)	2.5			
Installation category	Class II			
Installation method	TH35-7.5 standard rail			
Inlet method	Top inlet and bottom outlet			

4 Trip characteristics

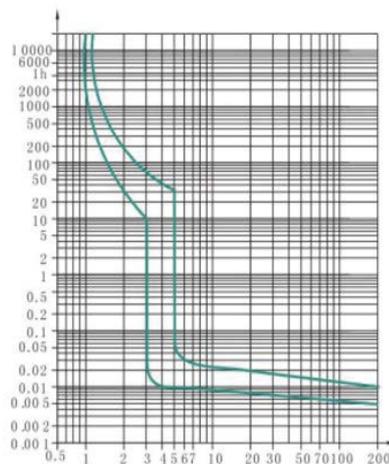
4.1 Operation characteristics of overcurrent release (Table 2)

Table 2

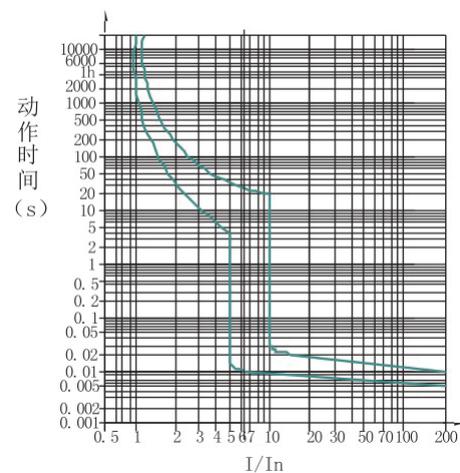
Instantaneous trip type	Test current (A)	Start state	Specified time	Expected results	Remarks
B type C type	1.13I _n	Cold state	t ≤ 1h	Non-trip	Current rises to the specified value stably within 5s
	1.45I _n	1.13I _n test followed	t < 1h	Trip	
	2.55I _n	Cold state	1s < t < 60s (For I _n ≤ 32A) 1s < t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

Note: the "cold state" refers to no load under the reference temperature +30°C before test.

4.2 Circuit breaker protection characteristic curve



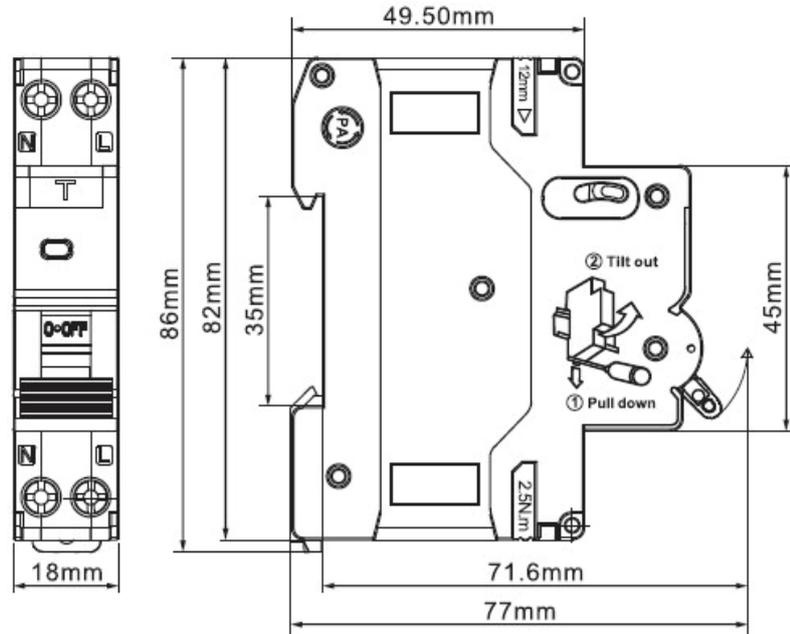
B type protection characteristic curve



C type protection characteristic curve

TGB1NLE(LA)M-40 Series Residual Current Circuit Breaker with Overcurrent Protection, 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.