

TGB1NLM-40 Residual Current Circuit Breaker with Overcurrent Protection

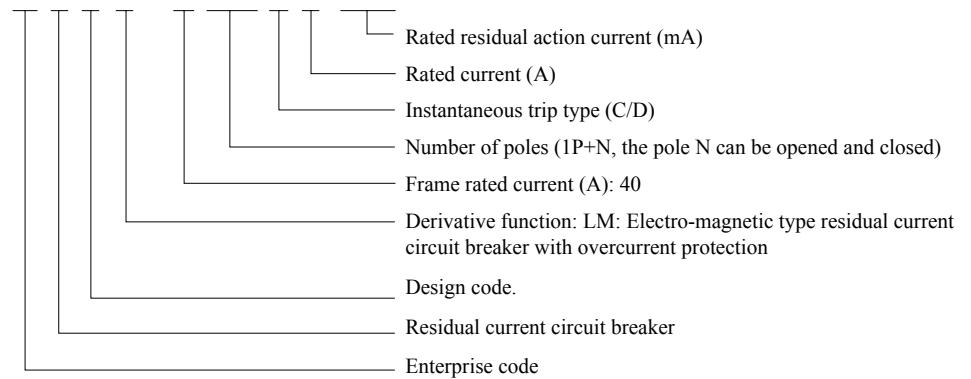
1 Product overview



TGB1NLM-40 series residual current circuit breaker with overcurrent protection(hereinafter referred to as residual-current circuit breaker) is mainly used in AC 50Hz with rated working voltage 230V and with rated current up to 40A. In case of personal electric shock or when the grid leakage current exceeds the specified value, the residual current action circuit breaker can work to quickly cut off the power supply within the very short time for protection of the safety of personnel and electrical equipment as infrequent conversion of the line under the overload, short-circuit, overvoltage and normal situations, especially suitable for industrial and business lighting power distribution system.

2 Type designation

TG B 1N LM - 40 1P+N C 16 30mA



3 Product parameters

3.1 Main technical parameters (see Table 1)

Table 1

Product name	TGB1NLM-40
Available standard	IEC61009-1
Product certification	CE
Electrical characteristics	
Number of poles	1P+N (the pole N can be opened and closed)
Rated frequency (Hz)	50
Frame rated current (A)	40
Rated current (A)	6, 10, 16, 20, 25, 32, 40
Rated voltage (V)	AC230
Rated insulation voltage (V)	500
Rated impulse withstand voltage (kV)	4
Rated operating short-circuit breaking capacity (kA)	4.5
Rated short-circuit breaking capacity (kA)	4.5
Instantaneous trip characteristics	C (5In-10In) D (10In-14In)
Trip type	Thermal magnetic trip
Pollution level	2
Electrical and mechanical accessories	-
Rated residual action current (mA)	30, 50
Max. breaking time at the rated residual current	0.1s
Overvoltage protection:	√
Mechanical properties	
Electrical life	10000
Mechanical life	20000

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Table 1, continued

Product name	TGB1NLM-40
Protection grade	IP20
Normal working conditions and installation features	
Ambient temperature	-35 °C ~+70 °C
Altitude at the installation site	Not exceed 2000m
Wiring terminal	Fixed with screws
Max. wiring capacity (mm ²)	10
Max. ultimate torque (Nm)	1.5
Installation category	Class II and III
Installation method	35mm standard rail
Incoming method	Upper incoming

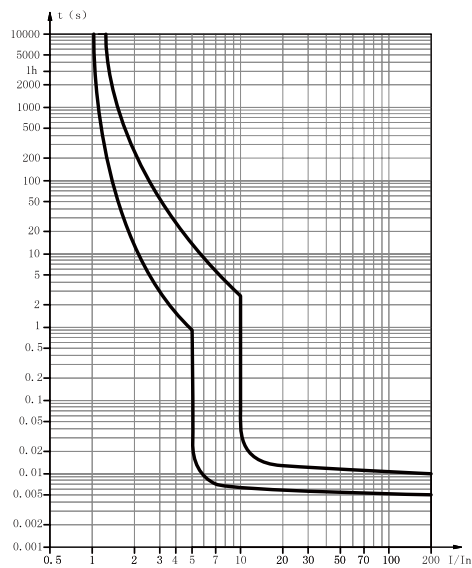
3.2 Action characteristics of circuit breaker overcurrent release (see Table 2)

Table 2

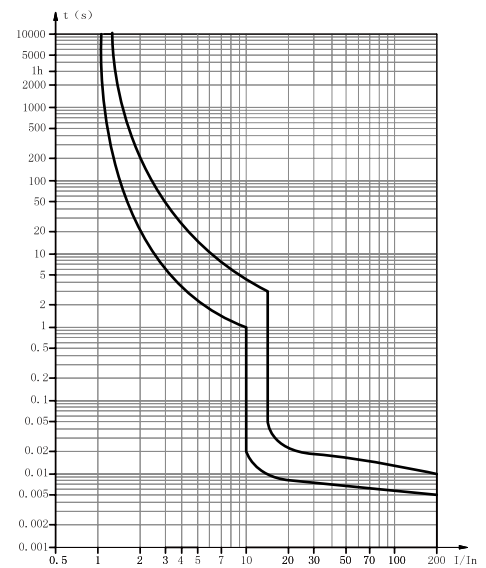
No.	Test current (A)	Starting state	Specified time	Expected results	Remarks
a	1.13I _n	Cold state	t≤1h	No trip	The current rises to the specified value smoothly within 5s
	1.45I _n	Just after 1.13I _n test	t<1h	trip	
	2.55I _n	Cold state	1s<t<60s (For I _n ≤32A) 1s<t<120s (For I _n ≤32A)	trip	
b	5I _n	Cold state	t≤0.1s	No trip	Turn on the auxiliary switch for power-on
	10I _n	Cold state	t<0.1s	trip	
c	10I _n	Cold state	t≤0.1s	No trip	Turn on the auxiliary switch for power-on
	14I _n	Cold state	t<0.1s	trip	

Note: The cold state refers to no load before test at 30 °C temperature.

3.3 Protection characteristic curve of circuit breaker



C type protection characteristic curve



D type protection characteristic curve

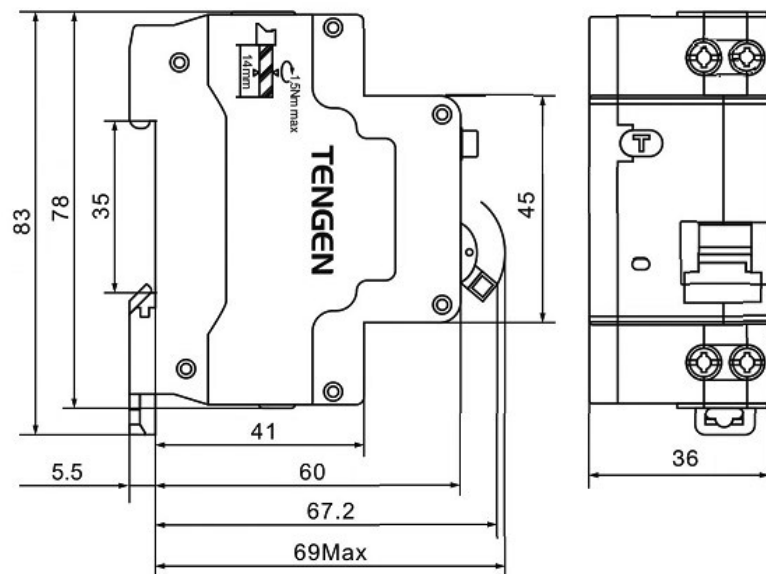
TGB1NLM-40 Residual Current Circuit Breaker with Overcurrent Protection

3.4 Wiring connection: The 10mm² and below wire is used for connection (see Table 3), the wires are fixed with screws according to the torque 1.5N.m.

Table 3

Rated current (A)	Cross area of wire (mm ²)
6	1
10	1.5
16-20	2.5
25	4
32	6
40	10

4 Installation dimensions



5 Order information

- 5.1 Product model and name, for example: TGB1NLM-40 residual current action circuit breaker
- 5.2 Trip type, such as: C type
- 5.3 Rated current, such as 10A
- 5.4 Rated residual action current, such as: 30mA
- 5.5 Order quantity: such as 50 units
- 5.6 Order example: TGB1NLM-40 1P+N C10 30mA, 50 units