BENLONG AUTOMATION

SINCE 2008

MCB SERIES

BL47-125 Circuit Breaker

instruction manual

GB/T10963.1 ; IEC60898-1

www.benlongkj.com zzl@benlongkj.cn

MCB Miniature Circuit Breaker

(Instruction Manual)

GB/T10963.1 ; IEC60898-1

MCB,MCCB,RCBO,ACB,VCB,AC,SPD

RCCB,ATS,EV, DC, DB,GW

BENLONG AUTOMATION TECHNOLOGY CO., LTD

+86 150 5837 0007 +86 133 9695 8981

www.benlongkj.com zzl@benlongkj.cn

Tik tok: BenLong Automation

CONTENTS

Execution standard: GB/T10963.1; IEC60898-1

1. Use and scope of application

1.1:Use

BL47-125 series plastic shell circuit breaker is mainly used for 50Hz,voltage 230V/400V current to 125A protection line in the overload, short circuit, but also in normal circumstances infrequent on and off electrical devices and lighting lines.

1.2:Scope of application:

1.2.1:Surrounding air temperature, the surrounding air temperature is not lower than -5 ℃, not higher than +40 ℃, the average daily value does not exceed +35 ℃

1.2.2:Altitude

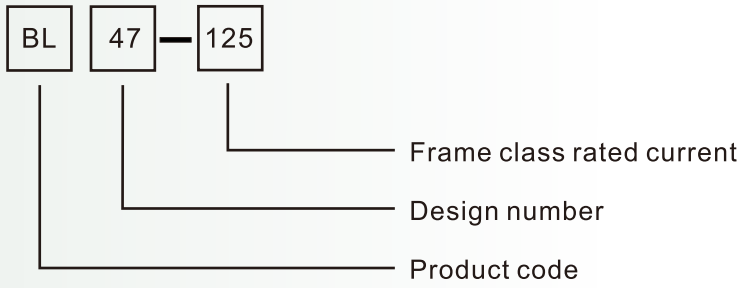
The altitude of the installation site does not exceed 2000m.

1.2.3: Atmospheric conditions, the relative temperature and humidity of the atmosphere at the highest temperature +40 ℃ does not exceed 50%, at lower temperatures can be higher humidity, such as the monthly average relative temperature of +25 ℃, the monthly average relative humidity does not exceed 90%. And take into account the condensation box that occurs on the surface of the product due to temperature changes.

1.2.4:Installation category, this circuit breaker is snap type installation, can be installed on the mounting rail.

2.Product model and specification

2.1 Product model specifications and their meaning:



2.2 Classification

2.2.1:Classification by rated current:32A,40A,50A,63A,80A,100A,125A

2.2.2:Classified by the number of poles:1P,2P,3P,4P

2.2.3:According to the type of instantaneous release device: 10Inch 20%.

3.Main structure and working principle

3.1:Small circuit breaker is mainly assembled by shell, operating mechanism, instantaneous overload disconnector and intelligent module excitation disconnector. The shell is made of flame retardant arc-resistant new PA66 plastic, so it has good impact strength and flame retardant properties.

3.2:The working principle of the circuit breaker is: when the breaker handle points to ON position, the mechanical mechanism drives the contact to the static contact and reliable contact, so that the circuit is connected when the protected line overload fault occurs, the fault current makes the double gold element bending and deformation, and pushes the lever to make the mechanical locking mechanism reset, and the movable contact is moved away from the static contact, so as to realize the function of breaking the line: when the protected line short circuit fault occurs, the fault current makes the instantaneous overload detector and intelligent module shunt detector assembled. When a short circuit fault occurs in the protected line, the fault current makes the instantaneous release mechanism act, and the top lever in the iron core assembly rapidly pushes the lever to make the locking mechanism reset, thus realizing the function of breaking the line.

3.3: The product is designed for single-phase, three-phase four-wire fee-controlled intelligent energy meter supporting the use of the design, it has an inverse time limit overload and short-circuit protection and connecting to the fee-controlled intelligent energy meter signals to cut off the circuit, to prevent the user from defaulting on electricity bills. It has been widely used in the national grid one household one meter renovation project.

3.4: The circuit breaker has no deformation in the working temperature range of -40℃~+70℃.

4. Main functions and technical parameters

4.1:Rated voltage short-circuit breaking capacity is shown in the table below.

Model specifications	Rated current	Rated voltage	Rated short-circuit breaking capacity	
BL47-125	32A,40A,50A,63A 80A,100A,125A	1P:230V/400V 2P,3P,4P:400V	Icn:7.5kA Ics:10kA	COSΦ:0.65-0.7

4.2:The current release characteristics are shown in the following table

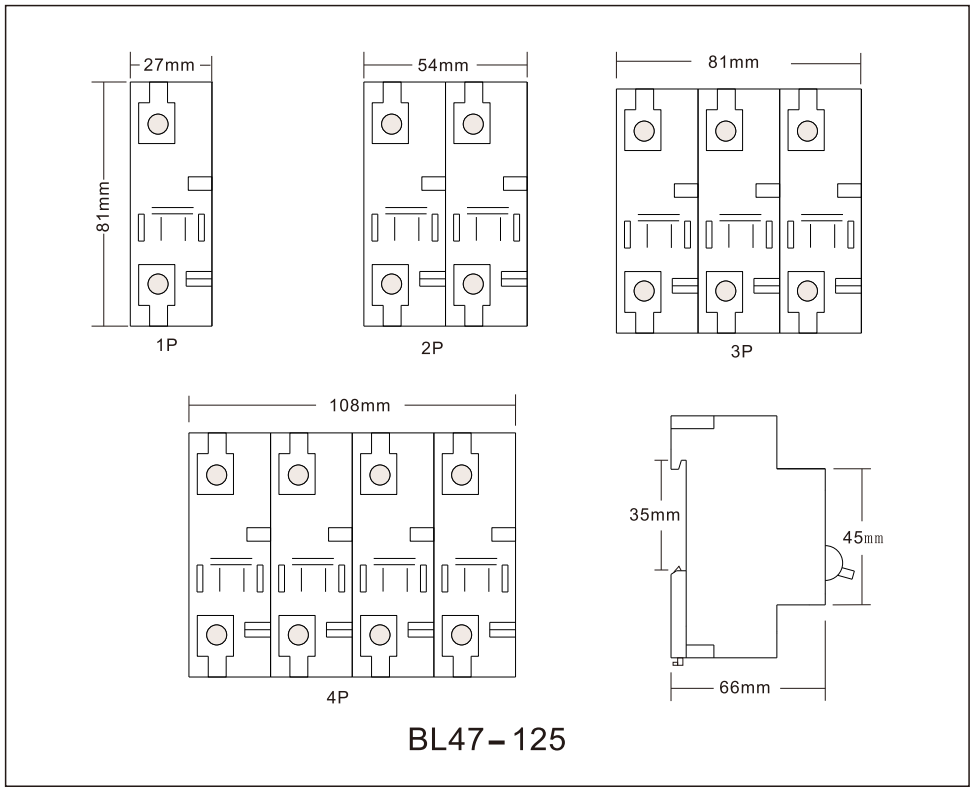
sequences	Rated current	Starting state	Test current	Time requirements	Expected results	Remarks
A	In≤63A	cold state	1.13In	t≤1h	No Tripping	
	In>63A			t≤2h		
B	In≤63A	Following this, Experiment A will be conducted	1.45In	t<1h	Tripping	The current increases steadily over 5s
	In>63A			t<2h		
C	In≤32A	cold state	2.55In	1s<t<60s	Tripping	
	In>32A			1s<t<120s		
D	B	cold state	3In-5In	t≤0.1s	Tripping	
E	C	cold state	5In-10In	t≤0.1s	Tripping	
F	D	cold state	10In-20In	t≤0.1s	Tripping	

4.3:Mechanical and electrical life

The mechanical life of the circuit breaker is more than 20,000 times

Electrical life of the circuit breaker is more than 10,000 cycles

5. Circuit breaker installation and size



5.1:The circuit breaker should pay attention to the following matters before installation:

5.1.1:Check the circuit breaker to make sure it is intact and undamaged, manually operate it a few times before energizing it, and the operation mechanism of the circuit breaker should be flexible.

5.1.2:Check whether the circuit breaker marking is compatible with the normal working conditions used.

5.1.3:The circuit breaker should be installed so that the handle is at the bottom, so that the contacts move in the direction of closure when the handle moves upward.

6. Use and maintenance of circuit breakers

6.1:Circuit breakers (including boxed products) in the process of transportation, storage and use, shall not be subject to rain, the product is placed or installed in no rain or snow intrusion, air flow, the monthly average relative humidity is not greater than 90% (at 20 +5 ℃) air temperature is not higher than 40 ℃ and not lower than -5 ℃ in the environment.

6.2:Circuit breakers should be inspected periodically during operation, the inspection period is decided depending on the working conditions, the power supply should be cut off during the inspection, the main items of inspection include:

6.2.1: Remove dust and dirt, especially pay attention to removing the dirt between the poles of the inlet and outlet wires, in order to prevent short circuit between poles.

6.2.2:Tighten the screws.

7. Ordering instructions

7.1:To order circuit breakers need to be marked with the following points

7.1.1:Product model and name, such as BL47-125 plastic shell circuit breaker

7.1.2:Circuit breaker release form and rated current, such as C100A.

7.1.3:Circuit breaker pole number, such as 2P

7.1.5:Order quantity example BL47-125 2P C100 60 units