

USER MANUAL

DLMC SERIES SMART MCCB WITH AUTO-RECLOSURE FUNCTION



1. Product Overview

This product is suitable for low-voltage power grid systems with a three-phase four-wire neutral point directly grounded (TT), and is used to protect lines or electrical equipment from ground faults, overcurrent, short circuits, overvoltage, undervoltage, automatic tripping (power outage), and phase loss. It also provides indirect protection against electric shock hazards to personnel.

2. Product Features:

2.1 Protection Functions:

Features residual current automatic tracking, surge, and special wave protection functions; overvoltage, undervoltage, and phase loss protection; and automatic reclosure after voltage recovery. It provides electronic overload, short-circuit short-time delay, and instantaneous protection; zero-loss protection; and the ability to trip after power loss.

2.2 Display Functions:

In the closed state, it automatically cycles through and displays more than 30 parameters, including the current residual current, maximum phase current, current three-phase voltage parameters, current three-phase current parameters, rated residual current trip value, rated limit non-drive time, rated load current, real-time clock, baud rate, etc.

In the tripped state, it can freeze and display the cause of the trip, recording relevant parameters in real-time.

2.3 Setting and Query Functions:

Users can set the enabling or disabling of residual current alarm, automatic tracking, automatic reclosure, surge, special wave, overvoltage, undervoltage, phase loss, overload, and zero-loss protection functions via the buttons. These functions can also be set via communication.

Users can set main parameters, including rated residual current, rated limit non-drive time, rated current, short-circuit short-time delay multiples, short-circuit short-time delay time, short-circuit instantaneous multiples, timed trial trip time, real-time clock, and user password via the buttons.

Users can also query trip records, test records, total trip counts, lockout trip counts, baud rates, and other related parameters.

2.4 Control Functions:

Users can perform field test trip control via the test button.

Remote scheduled trip, reclosure, and trial trip functions are available, and users can cancel scheduled controls.

The external disconnection and reset interface allows for synchronized opening and closing of the protector.

2.5 Self-checking Functions:

Features remote test trip, timed test trip, and manual test trip functions.

2.6 Monitoring and Recording Functions:

Records the daily maximum and minimum values, along with timestamps, for residual current, three-phase voltage, and three-phase current within 30 days.

Records the residual current, three-phase voltage, and three-phase current parameters of the last 10 trips along with timestamps.

Records the last 10 residual current alarm (forced delivery) events, protector self-check events, and residual current exceeding limits events.

Accumulates and records the total number of trips, lockout trip counts, residual current trip counts, and other accumulated parameters.

2.7 Auxiliary Functions:

Supports RS485 communication functionality.

2.8 Residual Current Overlimit Alarm Function:

Equipped with a 4-digit high-brightness display, 8 indicators, and 8 buttons to enable parameter setting, calibration, program upgrades, data querying, test, and trip operations on-site.

3. Normal Operating Conditions

3.1 Ambient Temperature: -5°C to +55°C

3.2 Relative Air Humidity: During the wettest month, if the average minimum temperature does not exceed 25°C, the average maximum relative humidity for that month should not exceed 90%. Additionally, condensation on the product surface due to temperature changes should be taken into account.

3.3 Altitude: Not exceeding 2000 meters.

3.4 Pollution Degree: Degree 3.

4. Control Functions:

Item	Parameter Description
Frame Rated Current (A)	125, 250, 400, 630, 800
Rated Current I_r (A)	0.4 - 1.0 I_r (A), continuously adjustable
Auxiliary Power Supply Voltage U (ACV)	400V
Applicable Poles	3P+N
Rated Residual Operating Current (mA) $I_{\Delta n}$	50 - 900mA range, customizable based on customer request, 8 sets of parameters (default 50-1000mA)
Rated Residual Non-operating Current (mA) $I_{\Delta no}$	0.5 $I_{\Delta n}$
Rated Limit Non-drive Time (s)	Optional setting values, customizable based on customer request, 3 sets of parameters (default 60-300ms)
Rated Residual Short-Circuit Breaking Capacity $I_{\Delta m}$ (kA)	7.5, 8.75, 12.5, 16.25, 16.25
Delay Reclosure Time (s)	20 ~ 60
Overvoltage Trip Value (V)	Default 280±5% (Automatic Reclosure After Voltage Recovery)
Undervoltage Trip Value (V)	Default 145±5% (Automatic Reclosure After Voltage Recovery)
Phase Loss Trip Value (V)	Default 120±5%
Tripping Characteristics	AC Type
Product Usage Category	Category A

5. Tripping Characteristics of the Overload Relay

5.1 Overload Protection Characteristics (Inverse Time-Delay Tripping)

Rated Tripping Current (A)	Tripping (Ambient Temperature 40°C)	
	1.05 I_n (Cold State)	1.30 I_n (Hot State)
$I_n \leq 63A$	≥ 1h No Trip	< 1h Trip
$I_n > 63A$	≥ 2h No Trip	< 2h Trip

5.2 Instantaneous Overcurrent Trip Setting

Frame Rated Current (A)	Setting Current Multiple	Preset Time
125A	10 I _n ± 20%	< 0.2s
250A	10 I _n ± 20%	< 0.2s
400A	10 I _n ± 20%	< 0.2s
630A	10 I _n ± 20%	< 0.2s

6.1 Button Description

The circuit breaker has eight buttons: [Left Move], [Right Move], [Increase], [Decrease], [Confirm], [Reset], [Test], and [Open]. In addition to the basic functions mentioned above, the buttons are also defined with shortcut keys and combinations, as described below:

In the cyclic display mode (when in the tripped state, the trip reason is displayed), pressing the buttons:

- [◀]Enter the trip record query interface.
- [▶]Enter the trip count query interface.
- [▲]Enter the self-test record query interface.
- [▼]Enter the function setting interface.
- [Confirm] Enters the key verification; after successful key verification, it enters the parameter setting interface.
- [▲] + [▼] enters the key verification; after successful key verification, it enters the data clearing interface.
- [◀] + [▶] displays the current parameter information in cyclic mode.
- [Reset] + [▼] enters the manufacturer maintenance parameter interface.

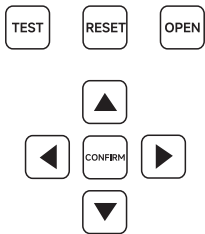


Figure 6-1 Button Functions



Figure 6-2 Display Interface

6.2 Display Instructions

The device features a high-brightness 4-digit LED display combined with 8 LED indicators for intuitive display.

The 8 LED indicators are as follows:

- **Operation Indicator (Green):** Indicates the system's operation status. It flashes every 3 seconds to indicate normal operation of the protector; otherwise, it indicates a system fault.
- **Status Indicator (Red):** Indicates the circuit breaker status. It is off for the closed state, on for the trip-lock state, and flashing for the auto-reclosure state.
- **Alarm Indicator (Yellow):** Indicates the alarm status. It is off when exiting the alarm state with no over-limit alarms. It is on for residual current alarms and flashes for leakage over-limit alarms.
- **Leakage Indicator (Green):** Indicates the residual current value. The indicator is on when the 4-digit display shows residual current parameters.
- **Voltage Indicator (Green):** Indicates the voltage value. The indicator is on when the 4-digit display shows voltage parameters.
- **Current Indicator (Green):** Indicates the current value. The indicator is on when the 4-digit display shows current parameters.
- **Communication Indicator (Green):** Indicates the communication status. It is off in the normal state; when there is communication, it flashes.
- **Setting Indicator (Green):** Indicates the setting status. The indicator is on when entering parameter or function setting mode; otherwise, it is off.

6.3 Operating Display Instructions

6.3.1 Protector Operating Display

During normal operation of the protector, the following four states may occur: closing operation, residual current alarm operation, trial closing, and trip-locking. In cyclic display mode or residual current alarm operation, the protector is in the power-on operation state, and the protector displays the current parameters according to Figures 6-3, 6-4, and 6-5.

The alarm indicator shows whether the protector is in the residual current alarm state, as shown in Figure 6-7.

During trial closing or trip-locking, the protector is in the disconnect operation state, and it displays the current trip information, as shown in Figure 6-8.

The status indicator shows the current circuit breaker position: it is off for the closed state, flashing for the trial closing state, and on for the trip-lock state.

Figure 6-3 Current Rated Residual Current Value

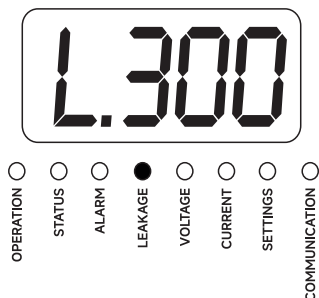


Figure 6-4 Current Residual Current Value and Maximum Phase

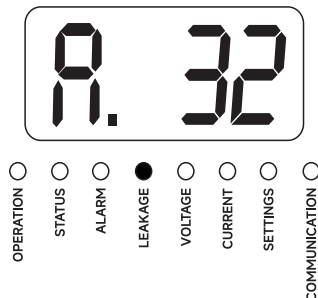


Figure 6-5 Current Phase A Voltage Value

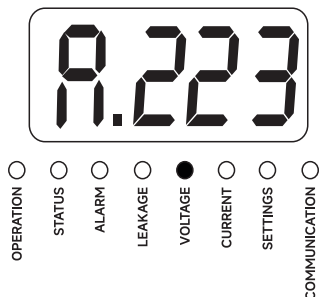


Figure 6-6

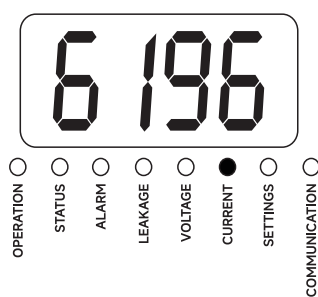


Figure 6-7

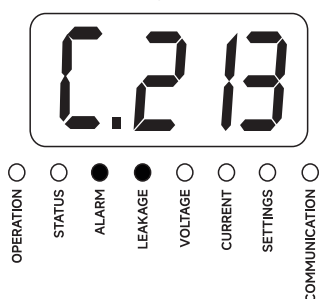
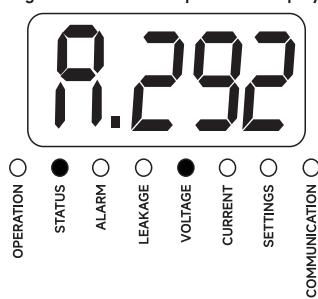


Figure 6-8 Current Trip Reason Display



6.3.2 Residual Current Overlimit Alarm

When the alarm indicator of the protector flashes, it indicates that the current residual current value has exceeded the set residual current alarm value. The alarm display is shown in Figure 6-7.

6.4 Button Operation Instructions

6.4.1 [RESET]:

Restores the system to normal operation; exits the setting and query functions, and returns to the cyclic display mode (if the circuit breaker is in the tripped state, it returns to the stop display mode). When the circuit breaker is in lockout state, pressing the [RESET] button initiates auto-reclosure.

6.4.2 [TEST]:

The button test-trip function. Pressing the [TEST] button will cause the circuit breaker to trip. If it does not trip, it indicates that the circuit breaker is not functioning properly and should be removed for repair. Detailed display instructions are provided in the self-check section.

6.4.3 [OPEN]:

The forced trip function. Pressing the [OPEN] button will immediately trip the circuit breaker and lock it. The circuit breaker will remain locked until the user presses the [Reset] button, which unlocks the circuit breaker and allows it to reclose.

6.4.4 [◀]:

Used to scroll pages during information query mode and to move the cursor left during setting and password input modes.

In cyclic display or tripped stop display mode, pressing the [◀] button enters the trip information query mode.

Pressing [▲] or [▼] allows the user to query the last 5 trips.

Pressing [◀] or [▶] allows the user to query the trip reason, trip date, and trip time for the current trip. For example, Figures 6-9, 6-10, and 6-11 show a trip due to overvoltage of 299V in phase C, with the trip timestamp of June 28th, 16:45.

Figure 6-9 Fault Cause Display

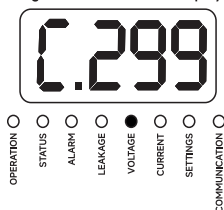


Figure 6-10 Fault Occurrence Date (Month/Day)

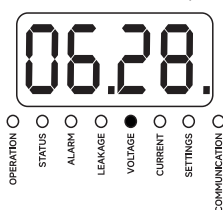
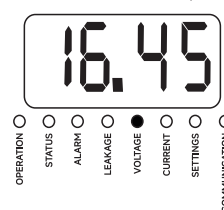


Figure 6-11 Fault Occurrence Time (Hour/Minute)

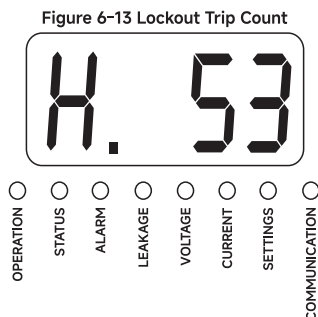
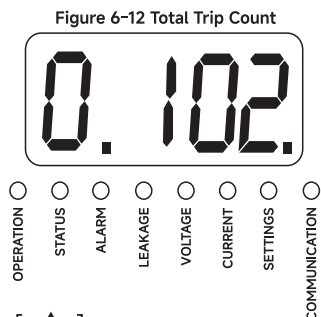


6.4.5 [►]:

Used for page scrolling in the information query state and for moving the cursor right in the setting and password input state.

In the cyclic display or tripped stop display state, pressing this button enters the trip count query state, showing the trip count parameters.

As shown in Figures 6-12 and 6-13, the total trip count is 102, with 53 lockout trips.



6.4.6 [▲]:

Used for page scrolling in the parameter query state and for digital increment in the setting and password input state.

In the cyclic display or tripped stop display state, pressing this button enters the self-test record query state.

Pressing [▲] or [▼] allows querying the last 5 self-test records.

Pressing [◀] or [▶] allows querying the self-test result, date, and time of the current self-test.

"DonE" indicates a passed self-test, while "FAIL" indicates a failed self-test.

As shown in Figures 6-14, 6-15, and 6-16, this self-test was successful, with the time 06/28 at 16:46.

Figure 6-14 Self-Test Success



Figure 6-15 Self-Test Occurrence Date (Month/Day)



Figure 6-16 Self-Test Occurrence Time (Hour/Minute)



6.4.7 [▼]:

Used for page scrolling in the parameter query state and for digital decrement in the setting and password input state.

In the cyclic display or tripped stop display state, pressing this button enters the key verification state, as shown in Figure 7-5. After successful key verification, it allows entry to the function item setting.

You can set the following 13 functions:

Leakage Current Alarm (L.300), Auto Tracking (Auto), Special Wave Protection (-tbo), Surge Protection (-tbn), Reclosure (rESu), Overvoltage (u.285), Undervoltage (n.165), Phase Loss (p.120), Overload (r.250), Short Circuit Delay (r2-), Full Loss Voltage (ULSt), Zero Loss (-qL-), External Disconnect (E-Fd)

Press [▲] or [▼] to switch function items, press [◀] to enable a function, and press [▶] to exit a function item. A flashing parameter display indicates the function is disabled, while a constant display indicates it is enabled.

Figures 6-17, 6-18, and 6-19 show the settings for leakage alarm, auto tracking, and overvoltage protection, respectively.

Figure 6-17
Residual Current Alarm Function

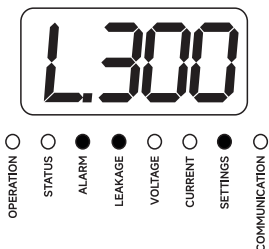


Figure 6-18
Auto Tracking Protection Function

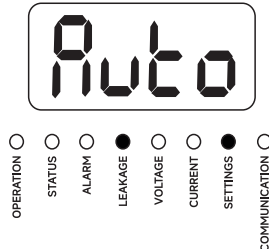
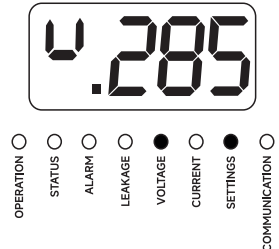


Figure 6-19
Overvoltage Protection Function



6.4.8 [CONFIRM]:

Used to confirm in the parameter setting and password input state.

In the cyclic display or tripped stop display state, pressing [CONFIRM] enters the key verification state, and after successful verification, it allows entry into parameter settings.

Press [◀] or [▶] to move the cursor, press [▲] or [▼] to change the parameter values.

Press [CONFIRM] to save the setting and move to the next setting (if the parameter is invalid, it stays in the current setting); press [RESET] to cancel the setting and exit the setting state.

You can set 18 parameters, including residual current trip value (L.300), rated limit non-drive time (t.300), residual current surge protection value (E.50), rated current (r.400), overload time delay (d.012), short-circuit delay multiple (r2.06), and more, as shown in Figures 6-20 to 6-25.

Figure 6-20
Rated Residual Current Setting

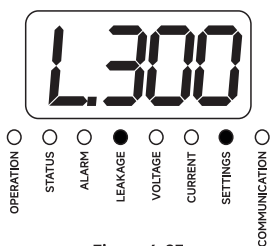


Figure 6-21
Rated Non-Drive Time Setting

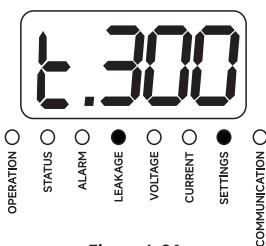


Figure 6-22
Surge Protection Value Setting

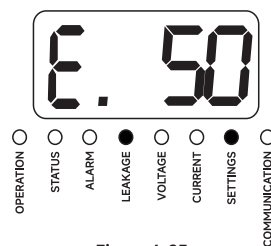


Figure 6-23
Rated Residual Current Setting

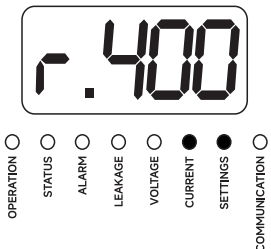


Figure 6-24
Short-Circuit Short-Time Delay Setting

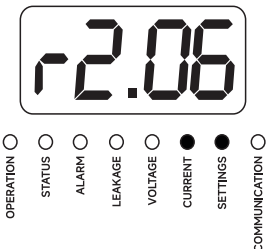
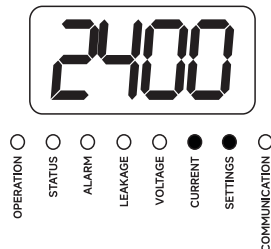
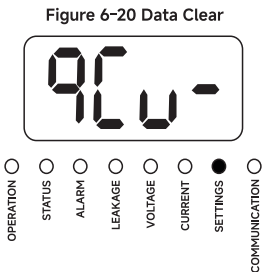


Figure 6-25
Communication Baud Rate Setting



6.4.9 [▲] + [▼]: Pressing these two buttons simultaneously enters the key verification state. After successful verification, it allows entry to the data clearing interface, as shown in Figure 6-26. Press [Confirm] to clear all stored record parameters and return to the normal display state.

6.4.10 [◀] + [▶]: Pressing these two buttons simultaneously enters the current parameter cyclic display state, as described in section 6.3.1.



7. Digital Display Description

Figure 7-1 Button Functions

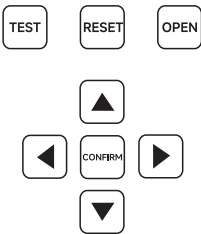
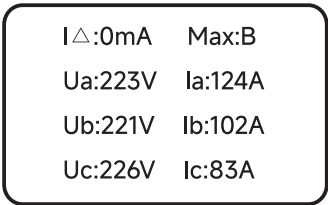


Figure 7-2 Button Functions



7.1 Protector Operating Display

During normal operation of the protector, four states may occur: closing operation, residual current alarm operation, trial closing, and trip-locking. When the protector is in the closing operation or residual current alarm operation state, it is in the power-on operation state, and the protector will cyclically display current parameters as shown in Figures 7-1, 7-2, or 7-3. When the protector is in the trial closing or trip-locking state, it is in the disconnect operation state, and the protector will display the current trip information and protector status as shown in Figures 7-4 or 7-5.

Figure 7-3

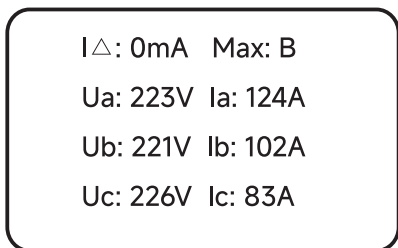


Figure 7-4

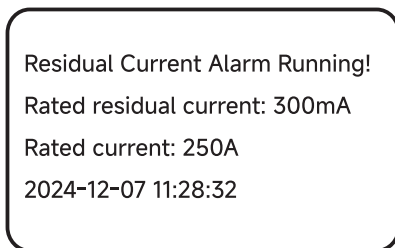


Figure 7-5

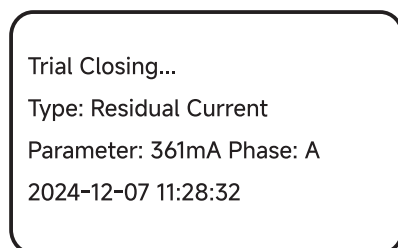
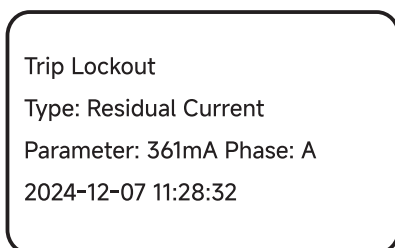


Figure 7-6



7.2 Residual Current Overlimit Alarm

When the current residual current value exceeds the set residual current alarm value, the protector will automatically display the alarm parameters, as shown in Figure 7-7.

Figure 7-7

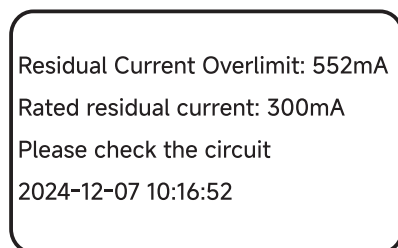
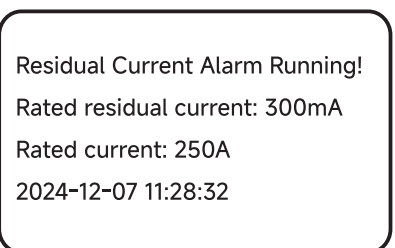


Figure 7-8



7.3 Overload Alarm

When the current value of any phase exceeds 1.3 times the rated current, the protector will automatically display the alarm parameters. The overload alarm display is shown in Figure 7-8.

7.4 Key Operation Instructions

7.4.1 [RESET]

Restores the system to normal operating status; exits setting and query functions, and returns to the scrolling display mode. (When the breaker is in the tripped state, it returns to the stop-display state.)

When the breaker is in the lockout state, pressing the [Reset] key initiates the reclosure process.

7.4.2 [TEST]

This is the manual trip test function. Pressing the [Test] key should cause the breaker to trip immediately. If it does not trip, it indicates a malfunction, and the breaker should be removed for repair. Detailed display instructions are provided in the “Self-test” section.

7.4.3 [OPEN]

Forced trip function. Pressing the [OPEN] key will cause the breaker to trip immediately and enter lockout status. It remains locked until the user presses the [RESET] key, at which point the breaker unlocks and reclosing can proceed.

7.4.4 [◀]

Used for screen paging in query mode; used for cursor left-shift in setting and password input mode.

In scrolling display or trip stop-display state, pressing [◀] enters the trip information query mode. By pressing [▲] and [▼], the latest trip records can be viewed.

As shown in Figure 7-9, the example indicates a trip caused by residual current in Phase C, with a maximum residual current of 241mA at the time of trip. The trip occurred on April 01, 2014, at 18:27:01.

Figure 7-9

Latest Trip Record (01):
Type: Residual Current
Value: 241mA
2024-12-01 16:27:01

Figure 7-10

Total Trips: 5
Lockout Trips: 2
Residual Current Trips: 3
Overcurrent Trips: 1

7.4.5 [►]:

Used for page scrolling in the information query state and for moving the cursor right in the setting and password input state.

In cyclic display or tripped stop display state, pressing this key enters the trip count query state, displaying the trip count parameters.

As shown in Figure 6-37, the total trip count is 5, lockout trips are 2, residual current trips are 3, and overcurrent trips are 1.

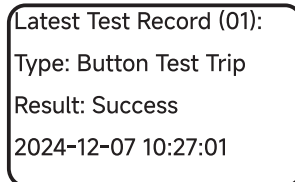
7.4.6 [▲]:

Used for page scrolling in the query parameter state and for digital increment in the setting and password input state.

In cyclic display or tripped stop display state, pressing the [▲] key enters the self-test record query state.

Pressing [▲] or [▼] keys allows the user to query the latest self-test records. As shown in Figure 7-11, it indicates a passed self-test, with the self-test time being December 7, 2017, at 10:27:01.

Figure 7-11



7.4.7 [▼]:

Used for page scrolling in the query parameter state and for digital decrement in the setting and password input state.

In cyclic display or tripped stop display state, pressing the [▼] key enters the function setting state.

As shown in Figures 7-12 and 7-13, you can enable or disable 13 functions, including residual current alarm, auto-set mode, surge protection, special wave protection, auto-reclosure, overvoltage protection, undervoltage protection, phase loss protection, full voltage loss protection, overload protection, short circuit delay protection, zero-loss protection, and remote trip disconnect. Press [◀] to enable, press [►] to disable.

Figure 7-12

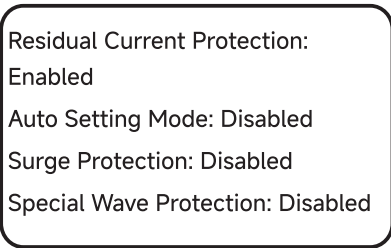
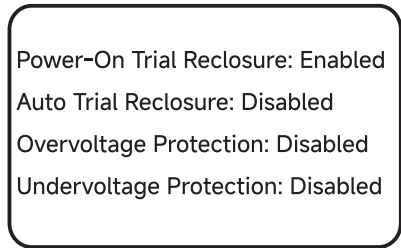


Figure 7-13



7.4.8 [CONFIRM]:

Used for confirming in the parameter setting and password input state.

In cyclic display or tripped stop display state, pressing the [CONFIRM] key enters the key verification state. After successful key verification, it enters the parameter adjustment interface.

Use [◀] or [▶] to move the cursor, and use [▲] or [▼] to change parameter values.

After completing the parameter input, press [CONFIRM] to confirm and move to the next setting.

(Note: If the input parameter exceeds the allowed range, the system will discard the new parameter and retain the original setting.)

Press [RESET] to cancel the setting and exit the setting state.

Parameters that can be set include: rated residual current, rated limit non-drive time, rated current, overload time delay, user password, current time, etc.

As shown in Figures 7-14, 7-15, it includes setting parameters such as residual current, limit non-drive time, overload current, long delay time, short delay multiple, and short delay time.

Figure 7-14

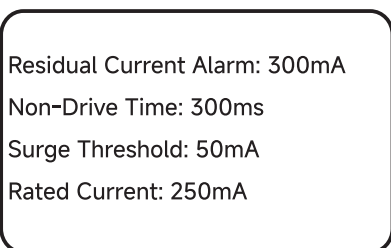
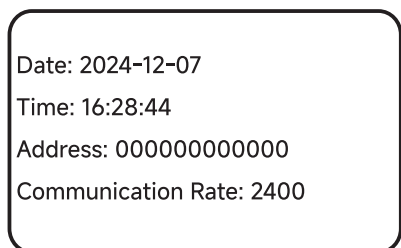


Figure 7-15



7.4.9 [▲]+[▼] Combination Key

Press [▲] and [▼] simultaneously to enter the Key Verification Mode. Once the verification succeeds, the system allows entry into the Data Clear Interface (as shown in Fig. 7-15).

Press [CONFIRM] to erase all stored records and restore the device to its normal display state.

Figure 7-16

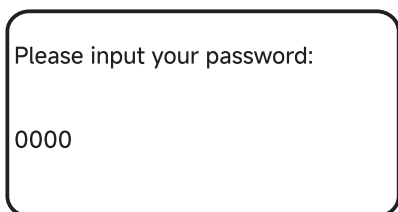
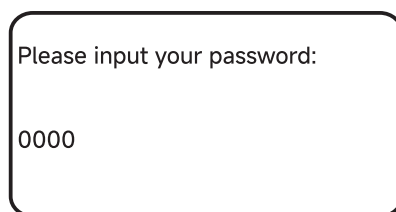


Figure 7-17



8. External Terminals Description

Our breakers provide multiple types of external terminals. Below are the functions and basic usage instructions. For detailed applications and model selection, please consult our Technical Department.

8.1 Type 1

3, 4, 5: External ON/OFF control terminals.

Short 3-4 (pulse type, can be disconnected after a short period): Breaker trips and locks. Short 4-5 (pulse type, can be disconnected after a short period): Breaker closes.

1, 2: RS485 communication interface. 6, 7: Auxiliary signal output (6 = positive, 7 = negative).

Terminal layout shown in Fig. 8-1.

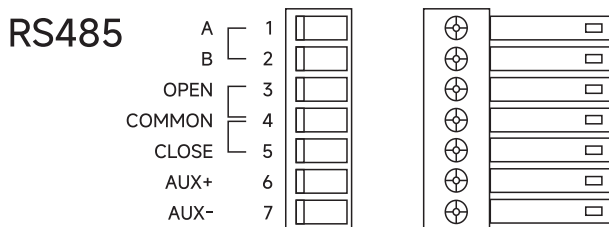


Figure 8-1

8.2 Type 2

1, 2: RS485 communication terminals (connection note: 2 = A, 1 = B; do not reverse)

3, 4: External control interface

Shorted: Breaker opens (trip)

Released: Breaker recloses automatically

5, 6, 7: Auxiliary contact interface (status based on breaker open state)

F5: Common terminal

F6: Normally closed (NC)

F7: Normally open (NO)

1	2	3	4	F5	F6	F7	1	2	3	4	F5	F6	F7
B	A	3 & 4 Shorted → Open 3 & 4 Open → Close		Comon	NC	NO	B	A	3 & 4 Shorted → Open 3 & 4 Open → Close		Comon	NC	NO
RS485				When the breaker is open			RS485				When the breaker is open		

Description of External Terminals of Right-Side & Left Side Communication Port

9. Installation and Initial Operation

9.1 The breaker must be installed vertically and fixed with screws through the mounting holes.

9.2 Select appropriate cables according to load, connect via copper terminals:

Upper terminals (N, L): Power input

Lower terminals: Output

Neutral line must be connected to terminal N.

9.3 After installation, ensure the rocker switch is ON before powering on:

Red LED flashing, display shows “-dd-”: Breaker is in open state, it will automatically close within 20–60 seconds. Once closed successfully, the red LED turns off and the display cycles through parameters.

Red LED steady on: Breaker has tripped and is locked. Press **【Reset】** to enable automatic reclosure.

10. Precautions

10.1 During operation, test the leakage breaker once per month and keep a record.

10.2 Do not test by shorting the live line directly to the neutral line, as this may cause short-circuit current and damage the device. Use a $\sim 1\text{k}\Omega$ resistor in series (value determined by regulations).

10.3 The breaker cannot provide protection against electric shock caused by simultaneous contact with two live conductors.

10.4 Do not dismantle the breaker without authorization. Otherwise, the user shall bear all consequences.

10.5 In emergency conditions (where power disconnection may cause accidents or significant loss of life/property), and with approval from the power company's technical authority, the breaker may be temporarily set to Residual Current Alarm Mode:

In alarm mode (alarm LED always on), the breaker loses residual current protection and only provides alarms.

After the emergency is resolved, the breaker must be restored to full operation. Continuous disabling of protection is strictly prohibited.

Appendix A: Display Code Reference Table

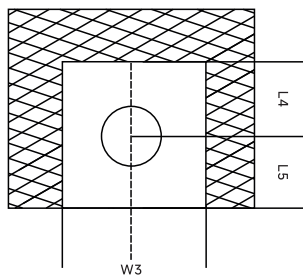
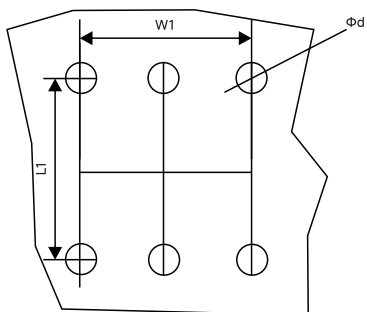
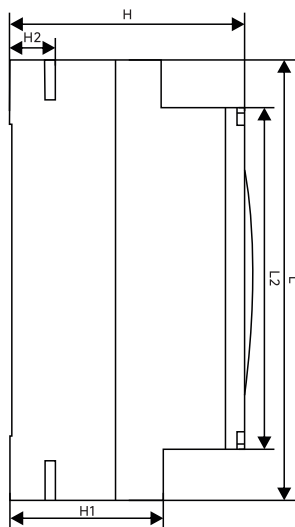
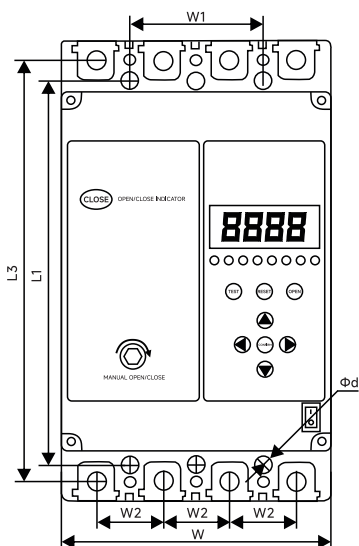
No.	Code	Indicator Light	Description
1. Function Settings			
1	L.300	Setting, Residual Current	Residual current alarm setting (300 is the actual set rated residual current trip value)
2	Auto	Setting, Residual Current	Residual current auto-tracking setting
3	-tbo	Setting, Residual Current	Residual current special wave protection setting
4	-tbn	Setting, Residual Current	Residual current surge protection setting
5	rESu	Setting, Residual Current	Reclosure function setting
6	u.285	Setting	Overvoltage protection setting (285 is the actual set overvoltage threshold)
7	n.185	Setting, Voltage	Undervoltage protection setting
8	p.120	Setting, Voltage	Phase loss protection setting
9	r.250	Setting, Voltage	Current protection setting
10	-r2-	Setting, Voltage	Short-circuit short delay protection setting
11	ULSt	Setting, Voltage	Full voltage loss protection setting
12	-qL-	Setting	Zero-loss protection setting
13	E-Fd	Setting	External disconnect function
2. Parameter Settings			
1	L.300	Setting, Residual Current	Rated residual current trip value is 300mA (8 levels customizable by user)
2	t.300	Setting, Residual Current	Limit non-drive time is 300ms (3 levels customizable by user)
3	E.50	Setting, Residual Current	Residual current surge value is 50mA (range: 30-99mA, step size: 1mA)
4	r.250	Setting, Current	Rated current set value is 250A (range: 0.4-1.0A, step size: 1A)
5	d.012	Setting, Current	Long delay time is 128 (range: 03-18, max: 18)
6	r2.08	Setting, Current	Short-circuit delay multiple is 8x (range: 2-10x, step size: 1x)
7	S.200	Setting, Current	Short-circuit delay time is 200ms (range: 30-600ms, step size: 1ms)
8	73.10	Setting, Current	Instantaneous current multiple is 10x (range: 4-12x, step size: 1x)
9	u.285	Setting, Voltage	Overvoltage setting is 285V (range: 220-350V, step size: 1V)
10	n.165	Setting, Voltage	Undervoltage setting is 165V (range: 150-220V, step size: 1V)
11	P120	Setting, Voltage	Phase loss setting is 120V (range: 80-150V, step size: 1V)
12	25.00	Setting	Timed trial trip time XXXX (year), X (month), 25 (day), 00 (hour)
13	14.04.	Setting	2014 (year), 04 (month)
14	10.14.	Setting	10 (day), 14 (hour)
15	33.28	Setting	33 (minutes), 28 (seconds)
16	0000.	Setting	Communication address: 000000000000
17	2400	Setting	Communication baud rate: 2400
18	0000	Setting	Password: 0000

Appendix A: Display Code Reference Table

No.	Code	Indicator Light	Description
3. Trip Cause Display			
1	A.999	Residual Current	Residual current (including surge, special wave) trip, maximum phase is A
2	B.298	Voltage	Phase B overvoltage tripPhase B overvoltage trip
3	-dd-	Voltage	Full voltage loss trip
4	C.618	Current	Phase C current overload trip
5	-r2-	Current	Short-circuit short delay trip
6	-r3-	Current	Instantaneous short-circuit trip
7	-AJ-	Residual Current	Manual test-trip
8	A.294	Voltage	Phase A 294V overvoltage trip
9	C.146	Voltage	Phase C 146V undervoltage trip
10	B.042	Voltage	Phase B 42V phase loss trip
11	-dS-	Residual Current	Timed trial trip
12	YCFd	Residual Current	Remote trip
13	-bS-	None	External manual trip
14	-Sd-	None	Manual trip
15	-HG-	None	CT fault trip
16	noFF	None	Trial reclosure failed
17	Boot	None	Firmware upgrade
18	FAIL	None	Trial trip failed
19	DonE	None	Trial trip successful
20	qCu-	None	Data clearance
21	-No-	None	No such parameter

Appendix B: Protector Trip Display and General Troubleshooting Suggestions

No.	Digital Display	Indicator Light	Fault Description	Troubleshooting Suggestions
1	XXXX	Status Light Flashing	Protector in Auto-Reclosure State	Confirm that the reclosure disable switch is in the "ON" position, and the protector will start auto-reclosure. If reclosure is unsuccessful within 60 seconds, it indicates that the auto-reclosure function has failed. You may use the provided hex wrench to rotate the manual ON/OFF knob in the indicated direction and manually close the breaker for emergency operation. It is recommended to replace the protector as soon as possible when conditions allow.
2	XXXX	Status Light Steady On	Protector in Lockout State	Press the "Reset" button, and the status indicator will flash as the protector starts auto-reclosure. If the indicator remains on, follow the description provided by the digital display and indicator light to take appropriate actions.
3	XXXX	Alarm Light	Residual Current Alarm Function Enabled	When the residual current alarm function is enabled, the protector will not trip during a key test or if residual current occurs. This does not affect the normal operation of other functions.
4	E.468	Residual Current	Residual Current 468mA, Trip Caused by Residual Current	Check and clear any residual current faults in the circuit, or enable the alarm function in the protector under allowed conditions.
5	-Sd-	N/A	Manual or User Presses the [Trip] Button to Open the Breaker	Press the [Reset] button, and the protector will automatically reclose.
6	-HG-	Residual Current	Current Transformer is Unplugged or Faulty	Insert the current transformer into the appropriate socket, or replace the current transformer.
7	A.295	Voltage	Phase A Voltage 295V, Trip Caused by Overvoltage	Once the voltage is restored to normal, the protector will automatically reclose; or enable the overvoltage protection function on the protector.
8	B.156	Voltage	Phase B Voltage 156V, Trip Caused by Undervoltage	Once the voltage is restored to normal, the protector will automatically reclose; or enable the undervoltage protection function on the protector.
9	C.109	Voltage	Phase C Voltage 109V, Trip Caused by Voltage Loss (Phase Loss)	Once the voltage is restored to normal, the protector will automatically reclose; or disable the undervoltage protection function on the protector.
10	-dd-	Voltage	Three-Phase Voltage Loss on the Upper Side of the Protector	The protector will automatically reclose once it detects normal voltage.
11	-Jd-	Residual Current	Line Ground Fault	Check and eliminate any grounding faults in the circuit, then press the [Reset] button to close the breaker.
12	-bS-	N/A	External Disconnect Trip	If the external wiring terminals (3-4) are shorted, and the breaker still cannot reclose after the short is removed, the protector needs to be replaced.
13	A.810	Current	Phase A Current 810A, Trip Caused by Overload Protection	If the circuit load exceeds the rated current setting, check the load situation. Increase the rated current setting if the protector allows it. If the load exceeds the rated value of the protector, a larger model of protector is required.
14	-r2-	Current	Current Short-Circuit Short Delay Protection	For a short circuit in the line, check the load situation. After clearing the fault, press the [Reset] button to reclose the breaker.
15	-r3-	Current	Current Short-Circuit Instantaneous Protection	For a short circuit in the line, check the load situation. After clearing the fault, press the [Reset] button to reclose the breaker.
16	-qL-	N/A	Line Zero-Loss Protection	If the neutral line on the lower voltage side of the protector is disconnected, check the neutral line. After clearing the fault, press the [Reset] button to reclose the breaker.
17	-dS-	Residual Current	Protector's Timed Trial Trip	The protector will automatically reclose. The timed trial trip function can be disabled through the master station settings.
18	-YC-	Residual Current	Remote Control of Protector's Trip by Master Station	Press the [Reset] button, and the protector will automatically reclose.
19	-AJ-	Residual Current	User Presses the [Test] Button for Successful Trial Trip	The protector will automatically reclose.
20	FAIL	N/A	Failure to Reclose	Trial trip failure; the protector should be replaced immediately.



Product Model	Product Shape & Installation Dimension													
	L	W	H	L1	L2	L3	L4	L5	W1	W2	W3	H1	H2	Φd
DLM1C-125	220	122	120	200	169	203	7.5	8	60	30	18	65	27	4.5
DLM1C-250	240	142	122	200	178	218	11.5	10	70	35	23	71	23	5
DLM1C-400	336	198	178	272	253	305	12	16	96	48	33	98.5	37	8
DLM1C-630	353	238	185	285	255	320	13.5	18	116	57	42	103	42	7.5
DLM1C-800	370	280	192	332	270	330	15	18	140	70	44	105	45	7.5