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DELING TECHNOLOGY

CBRB7BL **Smart Circuit Breaker** Automatic Reclosing MCB



D&T 德菱 | Type B Residual Current Device



COMPANY INTRODUCTION

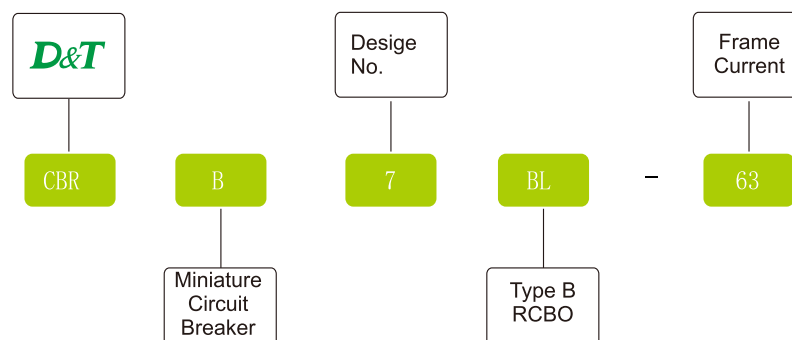
Deling (D&T) was founded in May 2007, with a factory covering an area of 37,000 square meters. The company completed its shareholding reform on July 30, 2015, and was listed on the National Equities Exchange and Quotations (NEEQ, New Third Board) in February 2016 (Stock Code: 835881). Since its establishment, D&T has been committed to the R&D of intelligent low-voltage electrical systems, and has earned wide recognition in the industry for its strong technological capabilities and forward-looking product development. The company has been awarded titles including Zhejiang Provincial Technology-based Small and Medium Enterprise, Wenzhou Municipal Enterprise Technology Center, and Wenzhou Municipal Patent Model Enterprise. In 2018, it was recognized as a "Technology Innovation Enterprise"; in 2019, it was accredited as a national high-tech enterprise at the provincial level and granted the title of "Enterprise Technology R&D Center". To date, D&T holds more than 100 patents of various categories.

We are committed to providing customers with systematic product portfolios and integrated solutions, focusing on OEM and ODM services for mid-to-high-end brands in the electrical industry, with annual sales revenue reaching billions of RMB. Our proprietary brand business has also maintained a robust growth momentum. Our core products cover molded case circuit breaker (MCCB), smart circuit breaker, residual current circuit breaker (RCCB), externally operated circuit breaker for energy meters, PV grid-connected circuit breaker, air circuit breaker (ACB), miniature circuit breaker (MCB) and etc.

Today, D&T has emerged as one of the most dynamic and promising manufacturers in the smart circuit breaker sector. As China accelerates the full construction of smart grids, Deling Technology will firmly seize the mission and opportunities of the era. We are comprehensively upgrading our low-voltage electrical technologies, leading the industry's digital and intelligent transformation, and meeting the forward-looking requirements of smart grid development with premium quality and professional services. Together with our global partners, we strive to scale new heights and contribute to a safer, more efficient, and more accessible electric energy future for all.



Model & Meaning



Application

The Intelligent Type B Residual Current Device (hereinafter referred to as the RCD) is suitable for use in intelligent power consumption locations such as households or commercial/industrial settings, with an AC supply of 50 Hz, rated operational voltages of 230 V or 400 V, and rated currents from 6 A to 63 A. It is also applicable in fields such as photovoltaic systems and charging piles, where electrical environments may have high DC components and potential complex leakage current patterns. In the event of personal electric shock or when the grid leakage current exceeds the specified value, the RCD can rapidly cut off the fault circuit within an extremely short time frame, thereby ensuring the safety of personnel and electrical equipment.

Product ComplianceThe product conforms to the following standards:

- IEC 61009-1: "Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs)"
- IEC 62423: "F and B type residual current operated circuit-breakers with and without integral overcurrent protection for household and similar uses"

Main Functions & Features

- ◆ Equipped with a high-precision clock chip capable of receiving time calibration commands from the concentrator, maintaining an accuracy of ± 0.5 s/day within a temperature range of -40°C to 70°C .
- ◆ Three-stage protection: long-time delay, short-time delay, and instantaneous trip.
- ◆ Enables remote control, allowing for remote switching, status inquiry, and intelligent management.
- ◆ Protections include overvoltage, undervoltage, temperature, phase failure, and neutral missing; parameters can be modified online.
- ◆ Measures forward/reverse active energy and four-quadrant reactive energy with Class 0.5 accuracy.
- ◆ Collects electrical parameters such as current, voltage, power, energy, frequency; acquires circuit breaker operational data; records historical operation and fault information; provides operational status indication, overload current indication, and communication indication.
- ◆ Supports functions like fault waveform recording, proactive reporting, clock synchronization, and data reset.
- ◆ Implements self-check, fault recording, switching on/off, alarm, contact position change logging, and high-voltage power loss/restoration records for operation and maintenance.
- ◆ Supports RS485 DL/T645 and Modbus RTU protocols.
- ◆ Bluetooth communication (optional).

Operating Environment

The installation site shall be free from conductive dust, corrosive gases, flammable or explosive gases, and rain or snow ingress.

- Altitude: Not exceeding 2000m.
- Ambient Temperature: -5°C to $+40^{\circ}\text{C}$, with a maximum daily average temperature $\leq +35^{\circ}\text{C}$.
- Relative Humidity: $\leq 50\%$ (when the ambient temperature is $+40^{\circ}\text{C}$).
- The external magnetic field at the installation site shall not exceed five times that of the Earth's magnetic field in any direction.
- The installation location shall have good ventilation and heat dissipation conditions. The installation site should be free from significant impact and vibration
- Install vertically using the TH35-7.5 standard rail, with the handle facing upwards as the power-on position.

Main
Technical
Parameters

Product Model	CBRB7BL-63
Rated Current(A)	6, 10, 16, 20, 25, 32, 40, 50, 63 A
Rated Voltage(V)	AC230V(2P), AC400V(4P)
Rated Frequency	50Hz
Instantaneous Tripping Type	B,C,D
Rated Insulation Voltage (Ui)	690V
Rated Impulse Withstand Voltage(kV)	6kV
Residual Current Protection Type	Type B
Rated Residual Operating Current	30mA (remotely programable)
Short-Circuit Breaking Capacity	Icn=Ics=6kA
Overload Protection	1.13 In (cold state), no trip within 1h; 1.45 In (hot state), trips within 1h.
Short-Circuit Protection	Type B ($3 I_n \leq I < 5 I_n$); Type C ($5 I_n \leq I < 10 I_n$); Type D ($10 I_n \leq I < 20 I_n$)
Overvoltage Protection	100~220V adjustable 2~999s delay timer, can be enabled/disabled
Undervoltage Protection	240~322V adjustable 4~999s delay timer, can be enabled/disabled
Temperature Protection	50~120°C, 0~999s delay timer
Phase Failure Protection (4P only)	10~100V adjustable
Neutral Loss Protection (4P only)	2~999s delay timer, can be enabled/disabled
Current Unbalance Protection (4P only)	2%~10%, 0~999s delay timer
Voltage Unbalance Protection (4P only)	2%~10%, 0~999s delay timer

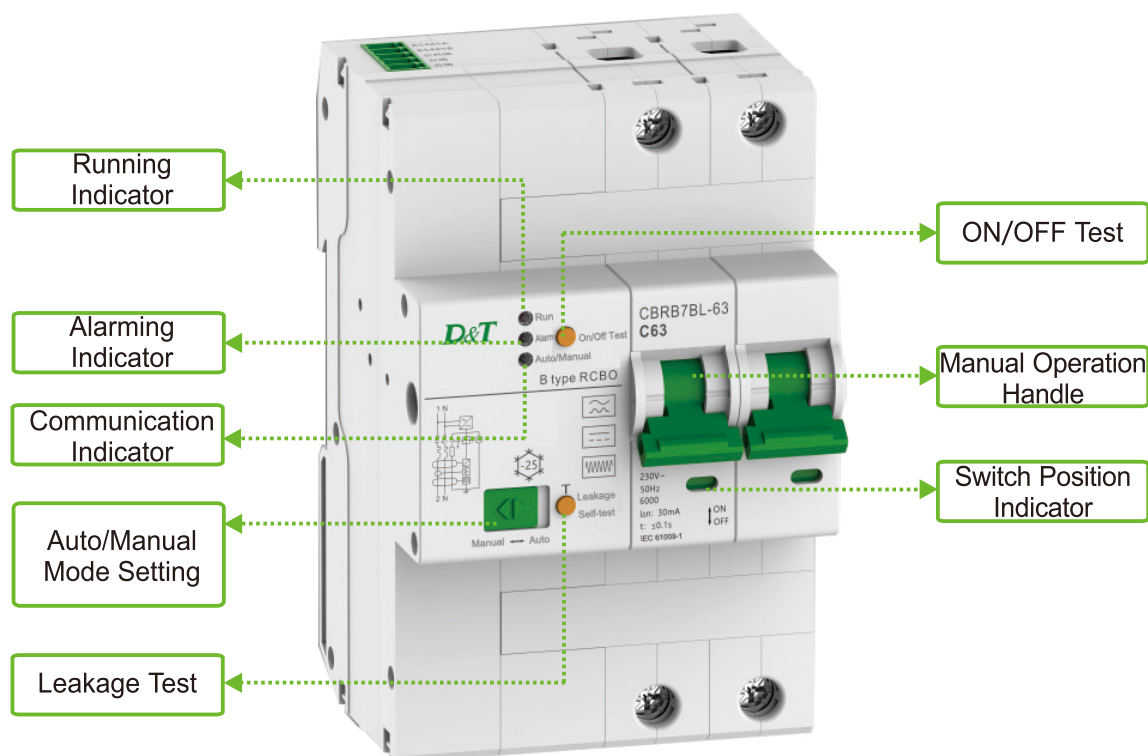
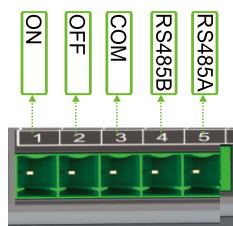
Measurement Functions

Current Measurement Range	0.004In ≤ I ≤ 0.01In, Accuracy: ±1% 0.01In ≤ I ≤ 1.2In, Accuracy: ±0.5%
Voltage Measurement Range	0.7Ue ≤ U ≤ 1.3Ue, Accuracy: ±0.5% (Ue=230V)
Leakage Current Measurement Range	0-300mA
Types of Measured Leakage Current	AC sinusoidal, Pulsating DC, Smooth DC, High -frequency AC, Composite residual current
Frequency	45.00~55.00Hz, Accuracy: ±0.1Hz
Power conditions: 1.0 inductive	Current Range: 0.05In~1.2In, Accuracy: ±0.5%
Power conditions: 0.5 inductive, 0.8 capacitive	Range: 0.05In~0.1In, Accuracy: ±0.75% Range: 0.1In~1.2In, Accuracy: ±0.5%
Power Factor	0.5~1.00, Accuracy: ±0.01
Total and per-phase active energy (forward and reverse)	Measures forward/reverse active energy and four-quadrant reactive energy. Accuracy Class: 0.5
Frozen Electric Energy	12 scheduled freezes, 3 instantaneous freezes, 1440 sets of minute freezes, 254 hourly freezes, 62 daily freezes, 12 monthly freezes
Harmonic Measurement	Measures THD and thd for three-phase voltage and current, and harmonic content from the 3rd to 31st order
Phase Sequence (4P only)	Voltage phase sequence detection (4P only)

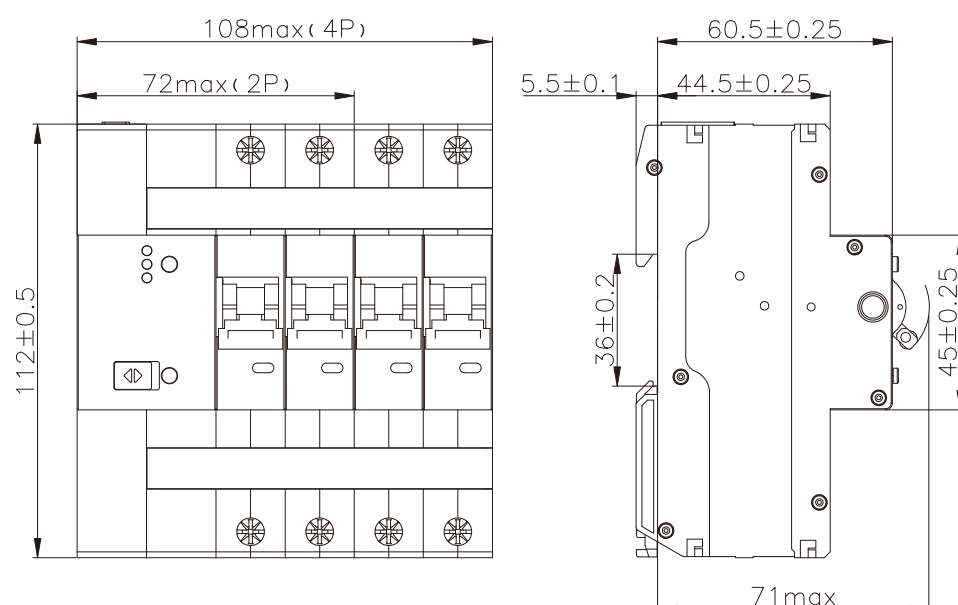
Communication Functions

RS485 Communication	Supports DLT645 and Modbus RTU protocols.
Bluetooth Communication	Supports local communication.
4G	Enables remote control (circuit breaker open /close), running status query.
ETH Communication	Supports local communication.

Panel Indicator
& Terminal Meanings



Outline & Installation
Dimensions



Transportation & Storage

Transportation

- ◆During transportation, the product must be protected from exposure to or mixed loading with liquids such as water, rain, snow, or other chemical solvents and corrosive fluids.
- ◆Protect the product from severe impact and compression between objects.
- ◆Stack according to the directional indicators on the packaging. Do not exceed 4 layers in height.

Storage

- ◆Storage Environment Conditions: Ambient temperature: -10°C to +45°C.
- ◆Relative Humidity: ≤50% (at an ambient temperature of +20°C).
- ◆The storage location must be free from dust and conductive particles.
- ◆The area must be free from corrosive, flammable, explosive, or other hazardous gases, and protected from rain and snow.
- ◆The storage area must be dry and well-ventilated. Stack according to the directional indicators on the packaging.
- ◆Do not stack higher than 4 layers.

Precautions

- ◆The company shall not be held responsible under the "Three Guarantees" (repair, replacement, refund) for any non-quality-related issues arising from improper installation or usage, or for any damage to the wiring terminals caused by incorrect wiring.
- ◆Should any problems occur during product use, please contact your local distributor or our customer service center.