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Legrand 408643

Legrand DX³ 0.5A Triple Pole MCB C Curve 10kA Miniature Circuit Breaker User Manual

Model: 408643

1. Introduction

This manual provides essential information for the safe and effective installation, operation, and maintenance of the Legrand DX³ 0.5A Triple Pole Miniature Circuit Breaker (MCB). This device is designed for reliable overload and short circuit protection in 3-phase industrial, commercial, and office installations.

The Legrand DX³ MCB is ISI marked per IS/IEC 60898-1:2002, ensuring compliance with safety and performance standards. It features a 10kA breaking capacity and a C Curve tripping characteristic, making it suitable for general loads with moderate inrush current.



Figure 1: Legrand DX³ MCB - Trusted Electrical Protection.

2. Safety Information

WARNING: Installation and maintenance of this device must only be performed by qualified and authorized personnel. Failure to follow these instructions can result in serious injury, death, or property damage. Always disconnect power before working on electrical circuits.

- Ensure all power is disconnected at the main supply before installation or servicing.
- Use appropriate personal protective equipment (PPE) such as insulated gloves and safety glasses.
- Verify correct wiring and connections according to local electrical codes and standards.
- Do not operate the MCB if it appears damaged.
- The MCB is designed for specific current and voltage ratings. Do not exceed these limits.

3. Product Features

The Legrand DX³ 0.5A Triple Pole MCB offers advanced protection and convenience:

- **Triple Pole (TP) Configuration:** Protects all three phase conductors on three-phase 415V AC circuits. Ideal for very low-load signal circuits, instrumentation feeds, and control wiring in industrial and commercial panels.
- **10kA Breaking Capacity:** High breaking capacity ensures strong short-circuit protection.
- **C Curve Tripping Characteristic:** Suits 3-phase motors, lighting panels, and general loads with moderate inrush current, preventing unnecessary tripping from startup surges.
- **DC Application Rated:** Also rated for DC applications at 80V per pole up to 1kA, offering versatile protection across both AC and DC three-phase circuits.
- **ISI Certified:** Conforms to IS/IEC 60898-1:2002 standards.
- **Improved Air Channels:** Provides superior heat dissipation in continuous-load 3-phase environments.
- **Biconnect Terminals:** Offers flexibility for connecting lines through both wires and bus bars.
- **Integrated Label Holder:** Keeps circuit identification organized and visible.
- **Toggle Switch:** Manual ON/OFF control with automatic trip protection.
- **Innovative Bottom Clamp:** Allows easy removal from the DIN rail without unscrewing the entire row of MCBs.

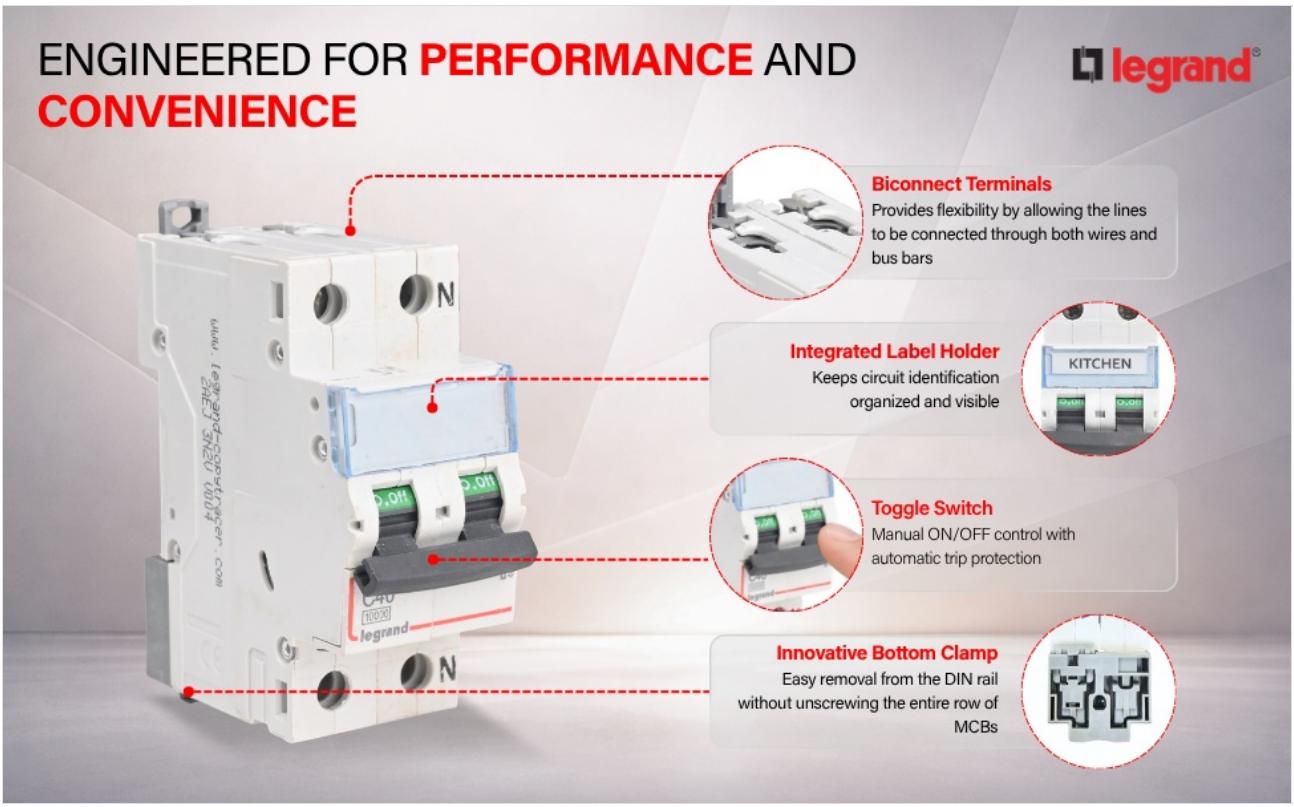


Figure 2: Engineered for Performance and Convenience - Key Features.

4. Technical Specifications

Specification	Value
Brand	Legrand
Model Number	408643
Current Rating	0.5 Amps
Number of Poles	3 (Triple Pole)
Breaking Capacity	10kA
Tripping Characteristic	C Curve
Standard Compliance	IS/IEC 60898-1:2002 (ISI Marked)
Product Dimensions (D x W x H)	5.3D x 8.8W x 7.8H Centimeters
Item Weight	78 Grams
Country of Origin	India



Figure 3: Technical Specifications Overview.

5. What's in the Box

Upon opening the product packaging, you will find:

- 1 x Legrand DX³ 0.5A Triple Pole MCB

6. Installation

IMPORTANT: Installation must be carried out by a certified electrician in accordance with all applicable national and local electrical codes and regulations.

1. **Power Disconnection:** Before beginning any work, ensure that the main power supply to the electrical panel is completely disconnected and locked out to prevent accidental re-energization. Verify with a voltage tester.
2. **Mounting:** The MCB is designed for DIN rail mounting. Snap the MCB onto the DIN rail in the designated slot within the distribution board.

3. **Wiring Connections:**
    - Connect the incoming three-phase supply wires to the upper terminals of the MCB.
    - Connect the outgoing load wires to the lower terminals of the MCB.
    - Ensure all connections are tight and secure to prevent loose contacts, which can cause overheating or arcing. Use appropriate wire gauges for the 0.5A rating.
    - Utilize the biconnect terminals for flexible wiring, accommodating both direct wire connections and bus bar systems.
4. **Circuit Identification:** Use the integrated label holder to clearly mark the circuit protected by this MCB.
5. **Verification:** Double-check all wiring and connections for correctness and security. Ensure no bare wires are exposed.
6. **Power Restoration:** Once installation is complete and verified, restore power to the main supply.



Figure 4: Legrand DX³ MCB in OFF state, ready for installation.

7. Operating Instructions

The Legrand DX³ MCB is designed for simple operation:

1. **Turning ON:** To energize the circuit, push the toggle switch upwards to the 'ON' position. The indicator will show 'ON'.
2. **Turning OFF:** To de-energize the circuit, push the toggle switch downwards to the 'OFF' position. The indicator will show 'OFF'.
3. **Tripped State:** If an overload or short circuit occurs, the MCB will automatically trip, moving the toggle switch to an intermediate or 'TRIP' position (often indicated by a red marker).
4. **Resetting After a Trip:**
    - First, identify and rectify the cause of the trip (e.g., remove overloaded appliances, fix short circuits).
    - Push the toggle switch fully down to the 'OFF' position.
    - Then, push the toggle switch upwards to the 'ON' position to restore power.
    - If the MCB trips immediately again, do not force it. Consult a qualified electrician.



Figure 5: Legrand DX³ MCB in ON state.

8. Maintenance

The Legrand DX³ MCB is designed for minimal maintenance. However, periodic checks are recommended:

- **Visual Inspection:** Regularly inspect the MCB for any signs of physical damage, discoloration, or loose connections.
- **Cleaning:** Keep the MCB and its surroundings clean and free from dust and debris. Use a dry, non-abrasive cloth for cleaning. Do not use liquids or solvents.
- **Connection Checks:** Periodically, and with power disconnected, verify that all terminal connections remain tight.
- **Functional Test:** If safe to do so, periodically test the MCB by simulating an overload (only if proper testing equipment is available and performed by a professional). Do not intentionally create a short circuit.
- **Professional Inspection:** It is advisable to have a qualified electrician inspect your electrical system, including MCBs, at regular intervals.

9. Troubleshooting

If you encounter issues with your Legrand DX³ MCB, consider the following:

- **MCB Trips Frequently:**
  - **Overload:** The connected load might be drawing more current than the MCB's 0.5A rating. Disconnect some appliances or redistribute loads.
  - **Short Circuit:** There might be a fault in the wiring or a connected appliance causing a direct path for current. Inspect wiring and appliances for damage.
  - **Faulty Appliance:** An appliance connected to the circuit might be defective. Disconnect appliances one by one to identify the faulty one.
  - **MCB Fault:** In rare cases, the MCB itself might be faulty. If all other causes are ruled out, replace the MCB.
- **MCB Does Not Trip During a Fault:**
  - This is a serious safety concern. Immediately disconnect power to the circuit at the main supply.
  - The MCB might be undersized for the fault current, or it could be defective. It must be inspected and potentially replaced by a qualified electrician.
- **MCB is Hot to Touch:**
  - This indicates excessive current flow or loose connections. Immediately disconnect power.
  - Check for overloads, short circuits, or loose terminal connections. Consult an electrician.

If you are unable to identify or resolve the issue, always consult a qualified electrician.

10. Application

The Legrand DX³ 0.5A Triple Pole MCB is versatile and suitable for various applications:

- **Industrial Installations:** Protection for machinery control circuits, instrumentation panels, and low-current industrial feeds.
- **Commercial Buildings:** Suitable for lighting panels, HVAC control systems, and general power distribution in offices and shops.
- **Residential Complexes:** Ideal for specific three-phase low-load circuits where precise 0.5A protection is required.
- **Specialized Circuits:** Designed for three-phase signal wiring, fire alarm control circuits, and other very low-load applications.



Figure 6: Versatile Protection for various applications.

11. Warranty and Support

The Legrand DX³ MCB comes with an **18-month warranty** from the date of shipment or **12 months** from the date of installation, whichever comes first.

For technical support, warranty claims, or any product-related inquiries, please contact Legrand customer service or visit the official Legrand website. Ensure you have your product model number (408643) and purchase details available when contacting support.

Manufacturer Contact Information:

Novateur Electrical and Digital Systems Pvt Ltd, 61/62, 6th floor, Kalpataru Square, Kondivita Road, Off. Andheri Kurla Road, Andheri (East), Mumbai 400 059, Maharashtra, India.

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