Tyenaza CHLT-D100

Tyenaza CHLT-D100 4P 385V AC Surge Protective Device Instruction Manual

1. Introduction

This instruction manual provides essential information for the safe and effective installation, operation, and maintenance of the Tyenaza CHLT-D100 4P 385V AC Surge Protective Device (SPD). This device is designed to protect electrical systems and equipment from transient overvoltages caused by lightning strikes and switching operations. Please read this manual thoroughly before installation and use, and retain it for future reference.

2. Safety Information

WARNING: Electrical shock hazard. Installation and maintenance must be performed by qualified personnel only.

- Always disconnect the main power supply before attempting any installation, wiring, or maintenance on the device. Live operation is strictly prohibited.
- Ensure that all local and national electrical codes and regulations are followed during installation.
- Do not use the device if it appears damaged or if any components are missing.
- The device is designed for indoor use in environments within the specified working temperature and humidity ranges.
- Ensure proper grounding connections as per installation diagrams.

3. Product Overview

The Tyenaza CHLT-D100 is a 4-pole surge protective device designed for AC systems with a maximum continuous working voltage of 385V AC. It features a flame-retardant PC shell and a modular, plug-in design for standard 36MM DIN rail mounting. The device provides robust protection against high-energy surges, safeguarding connected electrical appliances and systems.

Figure 3.1: Front view of the Tyenaza CHLT-D100 Surge Protective Device, showing the four modules and connection terminals.

Figure 3.2: Side view of the Tyenaza CHLT-D100, illustrating its modular construction and DIN rail compatibility.

4. Specifications

Parameter	Value
Model	CHLT-D100
Material	Flame Retardant PC
Maximum Continuous Working Voltage (Uc)	385V AC
Nominal Discharge Current (In)	60kA
Maximum Discharge Current (Imax)	100kA
Voltage Protection Level (Up)	2.5kV
Number of Poles	4P
Protection Class	IP20
Working Temperature	-40°C to 80°C

Working Humidity	≤90% (at 25°C average)
Mounting Type	36MM DIN Rail

Figure 4.1: Dimensional drawing of the Tyenaza CHLT-D100, showing measurements for installation planning.

5. Setup and Installation

Before You Begin:

- Ensure the main power supply to the installation area is completely disconnected.
- Verify that the device specifications (e.g., voltage, number of poles) match your electrical system requirements.
- Prepare appropriate tools and personal protective equipment.

Installation Steps:

1. **Mounting:** The CHLT-D100 is designed for standard 36MM DIN rail mounting. Snap the device securely onto the DIN rail within your distribution box or circuit breaker panel.
2. **Wiring:** Connect the device according to the wiring diagram provided with your product or standard electrical practices. Ensure correct polarity: '+' for the positive wire and '-' for the negative wire. Incorrect wiring can damage the device or the electrical system.
3. **Grounding:** Ensure a robust and low-impedance connection to the main grounding system. Proper

grounding is critical for the effective operation of the surge protective device.

4. **Verification:** After completing all connections, double-check all wiring for tightness and correctness.
5. **Power Restoration:** Once installation is verified, close the automatic circuit breaker (fuse) switch to restore power. Observe the working status indicator on the device.

Figure 5.1: Example of a surge protective device installed within an electrical panel, demonstrating typical placement and wiring context.

Figure 5.2: Detailed view of the wiring terminals on the CHLT-D100, showing connection points for line and neutral conductors.

6. Operation

The Tyenaza CHLT-D100 operates automatically to protect your electrical system. When an overvoltage event (e.g., lightning strike, power surge) occurs, the device diverts the excess electrical energy safely to the ground, preventing it from reaching and damaging connected equipment. The device features a visual indicator on each module:

- **Green Indicator:** Indicates normal operation and protection is active.
- **Red Indicator (or absence of green):**Indicates that the module has absorbed a significant surge and needs replacement.

Figure 6.1: Conceptual illustration of surge protection, showing the device safeguarding household electronics from electrical disturbances.

7. Maintenance

The CHLT-D100 is designed for minimal maintenance. Regular visual inspection is recommended to ensure continued protection:

- Periodically check the visual indicator on each module. If the indicator is red (or the green is absent), the module has reached its end-of-life and requires replacement.
- Ensure that all connections remain tight and free from corrosion.
- Keep the device and its surroundings clean and free from dust or debris.

Module Replacement:
If a module indicator turns red, it must be replaced to restore full protection. This is a plug-in modular design, allowing for easy replacement of individual modules without disconnecting the entire device from the DIN rail. However, always disconnect the main power supply before replacing any module to prevent electrical hazards.

8. Troubleshooting

Most issues related to the surge protective device can be identified by its visual indicator:

- **Indicator is Red (or Green is Absent):**This signifies that the internal protection components have been activated and are no longer functional. The module needs to be replaced.
- **No Power to Protected Equipment:** If the SPD indicator is green but there is no power to protected equipment, check the upstream circuit breaker or fuse. The SPD itself does not interrupt power unless it has failed in a short-circuit condition, which would typically result in a red indicator.
- **Frequent Red Indicators:** If modules are frequently turning red, it may indicate a persistent overvoltage issue in your electrical system or that the SPD is undersized for the level of surges it is experiencing. Consult a qualified electrician to assess your electrical system and potentially upgrade the SPD.

For any issues not covered here, or if you are unsure about troubleshooting steps, contact a qualified electrician or the manufacturer's support.

9. Warranty and Support

For information regarding warranty coverage, technical support, or service, please refer to the documentation provided at the time of purchase or contact Tyenaza customer service directly. Ensure you have your product model (CHLT-D100) and purchase details available when contacting support.