

ZN3796 Artificial Mains Coupling Network

Product Datasheet

Manufacturer: Beijing Daze Technology Co., Ltd.

1. Product Overview

Model: ZN3796
Type: Artificial Mains Coupling Network (LISN, Line Impedance Stabilization Network)
Impedance Type: V-Type 50Ω / 50μH + 5Ω
Frequency Range: 9 kHz – 30 MHz

The ZN3796 Artificial Mains Coupling Network is a Line Impedance Stabilization Network (LISN) used for conducted disturbance testing. It provides a stable impedance to the equipment under test within the specified frequency range, isolates the equipment from high-frequency interference on the power grid, and couples the disturbance voltage to the receiver for measurement. This device complies with the requirements of **CISPR 16-1** and is equivalent to the national standard **GB/T 6113.1**. The equipment supports both single-phase and three-phase testing and is suitable for conducted disturbance measurements on power ports.

2. Technical Specifications

Parameter	Specification
Frequency Range	9 kHz – 30 MHz
Impedance Characteristic	50Ω / 50μH + 5Ω
Impedance Tolerance	±20%
Phase Angle Tolerance	±11.5°
Voltage Division Factor	See voltage division factor graph
Isolation Factor	See isolation factor graph
Operating Voltage (Three-phase)	AC 0 – 450 V, 50 – 60 Hz, 32 A
Operating Voltage (Single-phase)	AC 0 – 305 V, 50 – 60 Hz, 16 A
RF Output	BNC, 50Ω
Dimensions	650 mm × 450 mm × 330 mm

Parameter	Specification
Weight	36 kg

3. Key Features

3.1 Meets Conducted Disturbance Test Requirements

Provides a stable network impedance to the equipment under test within the specified frequency range for conducted disturbance measurements.

3.2 Compatible with Single-phase / Three-phase Systems

Supports both single-phase and three-phase four-wire testing, offering wider application flexibility.

3.3 Stable Impedance Output

Adopts a $50\Omega / 50\mu\text{H} + 5\Omega$ network structure to meet LISN testing requirements.

3.4 Convenient Receiver Connection

Provides a BNC 50Ω RF output port for easy connection to disturbance receivers or measuring receivers.

3.5 Suitable for Standard EMC Conducted Test Applications

Can be used for disturbance voltage coupling and measurement on power ports, making it suitable for laboratory and standard EMC test environments.

4. Instructions for Use

4.1 Panel Functions

The user manual defines the front and rear panel functions, including:

- Ground terminal
- Single-phase measurement output
- Single-phase selector switch
- Single-phase power output
- Three-phase selector switch
- Three-phase power output
- Simulated hand
- Three-phase measurement output
- Ground reference plate
- Three-phase power input
- Single-phase power input
- Ground terminal

4.2 Three-phase Four-wire Operation

1. Securely connect the PE terminal to the ground reference plate, ensuring both front and rear grounding are connected.
2. Connect the front-panel L1, L2, L3, and N output terminals to the corresponding input terminals of the EUT, and connect the disturbance measuring equipment (50Ω input).
3. Connect the rear-panel L1, L2, L3, and N input terminals to the corresponding mains supply terminals, then switch on the power.
4. Select the required test line using the selector switch.

4.3 Single-phase Operation

1. Securely connect the PE terminal to the ground reference plate, ensuring both front and rear grounding are connected.
2. Connect the front-panel L and N terminals to the corresponding input terminals of the EUT, and connect the disturbance measuring equipment (50Ω input).
3. Connect the rear-panel L and N input terminals to the corresponding mains supply terminals, then switch on the power.
4. Select the L or N line to be tested using the selector switch.

4.4 Precautions

1. The operator must receive safety training before using this equipment. Untrained personnel must not approach or operate the device.
2. Read the user manual carefully before use and follow the required connection procedures.
3. The equipment should be used in a ventilated and dry environment.
4. Before operation, the PE terminal must be securely grounded and the grounding connector must be reliably connected to the ground reference plate.
5. Appropriate safety warning signs should be provided during operation.

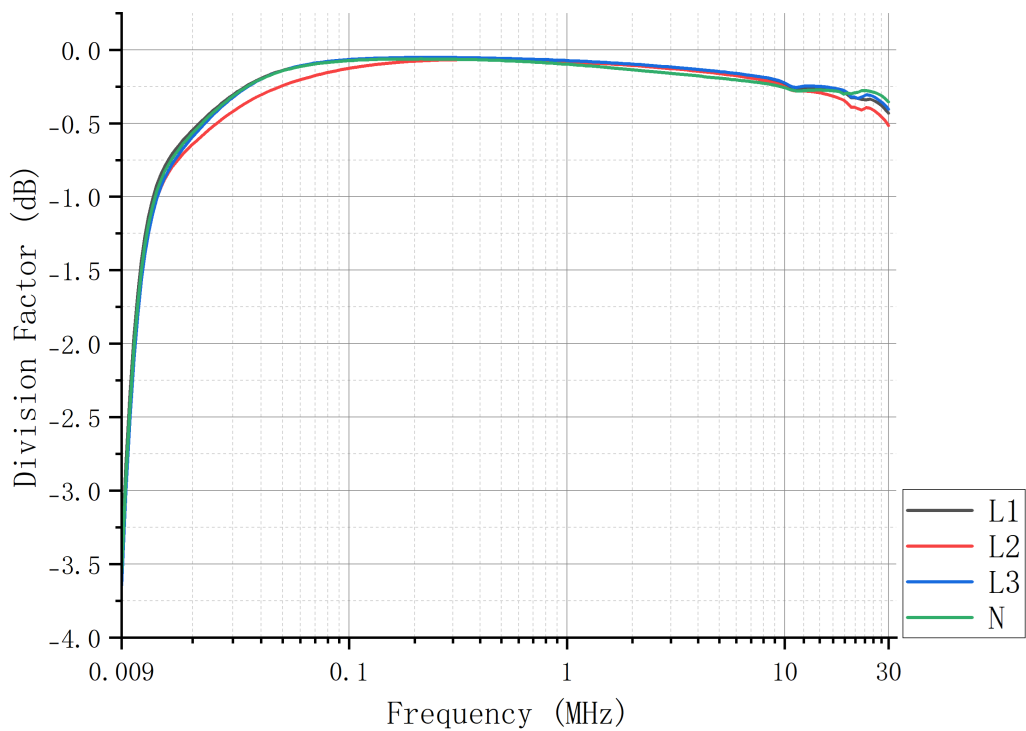
5. Standard Accessories

Item	Quantity
User Manual	1 copy
Test Cable (N-N, 1 m)	1 pc
Power Cable (16 A)	1 pc
Main Unit	1 unit

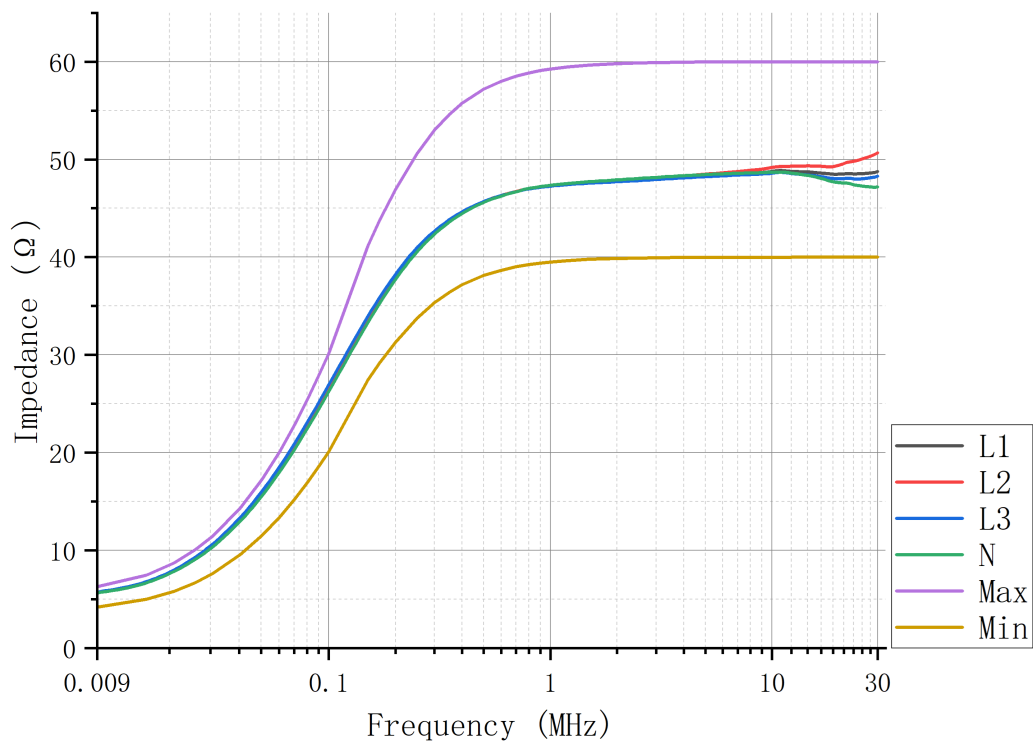
6. Warranty

Warranty Period: 18 months from the date of shipment.

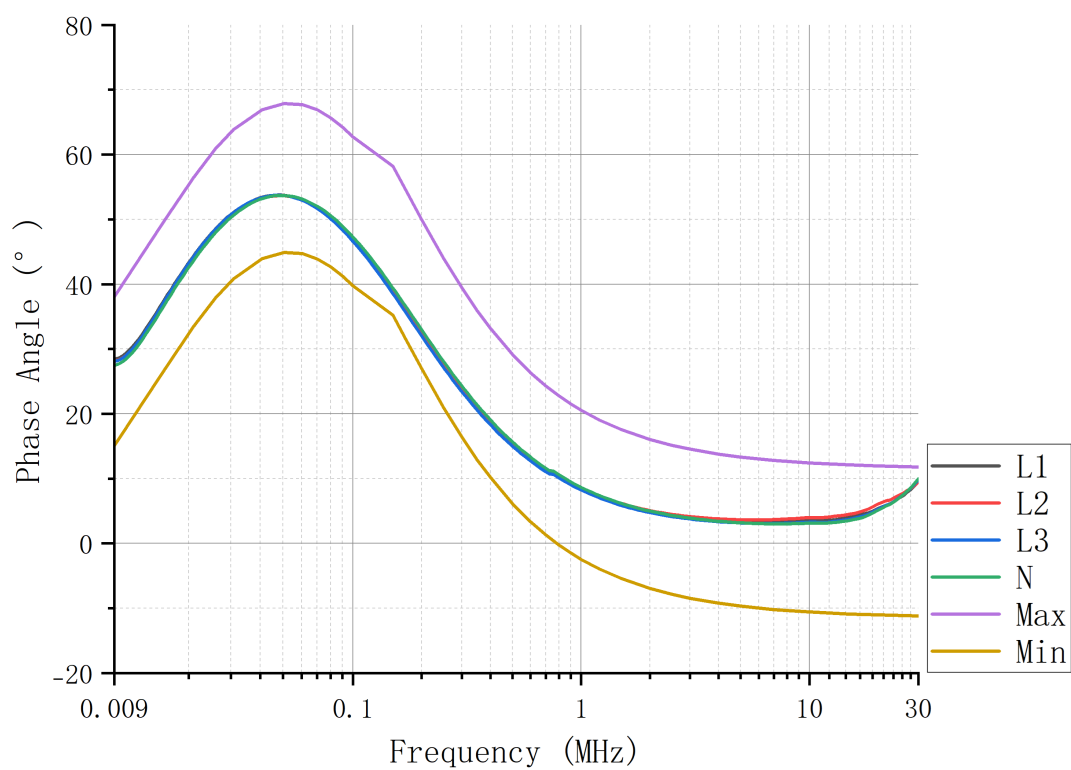
7. Product Graphs



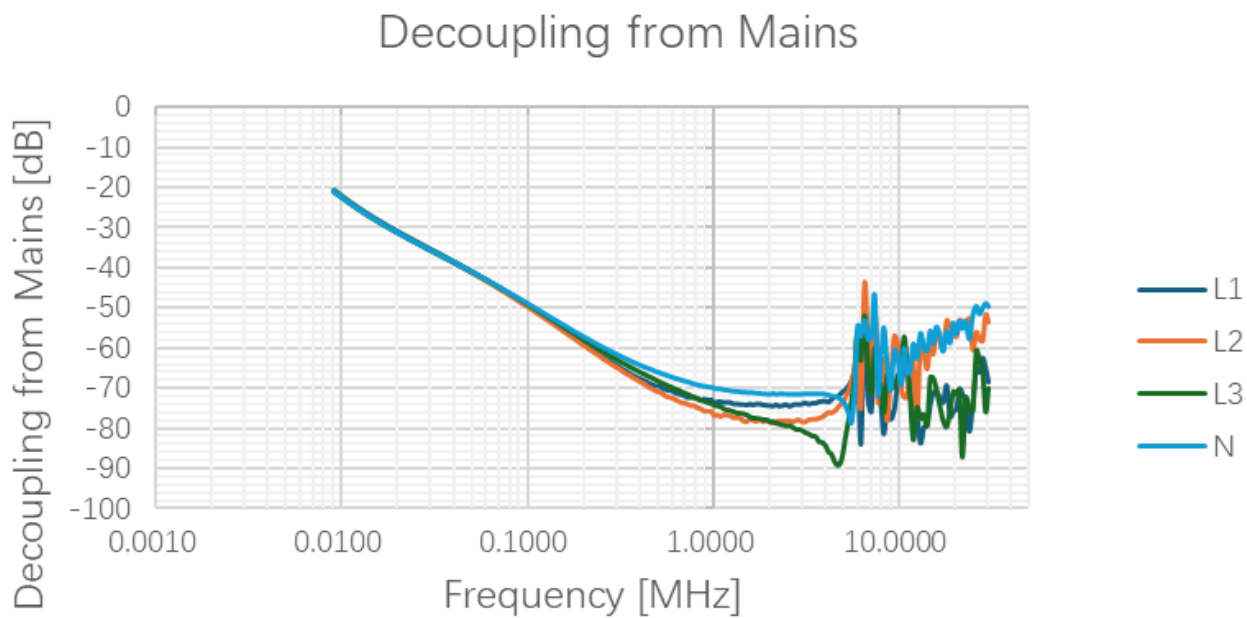
Three-Phase Voltage Division Coefficient



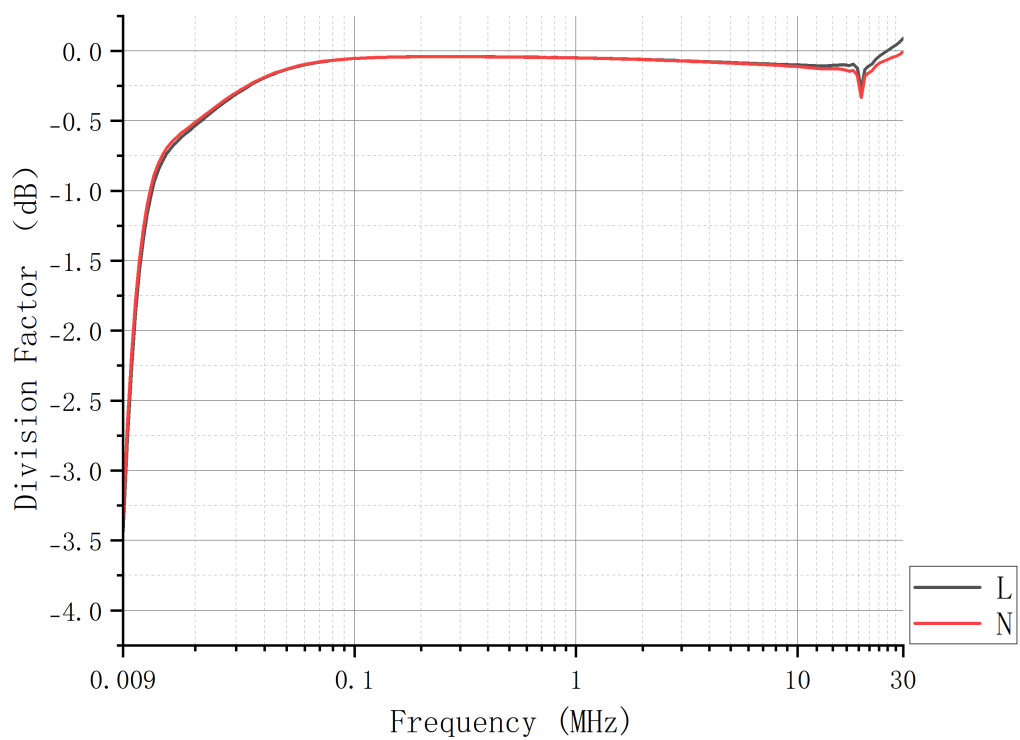
Three-phase impedance



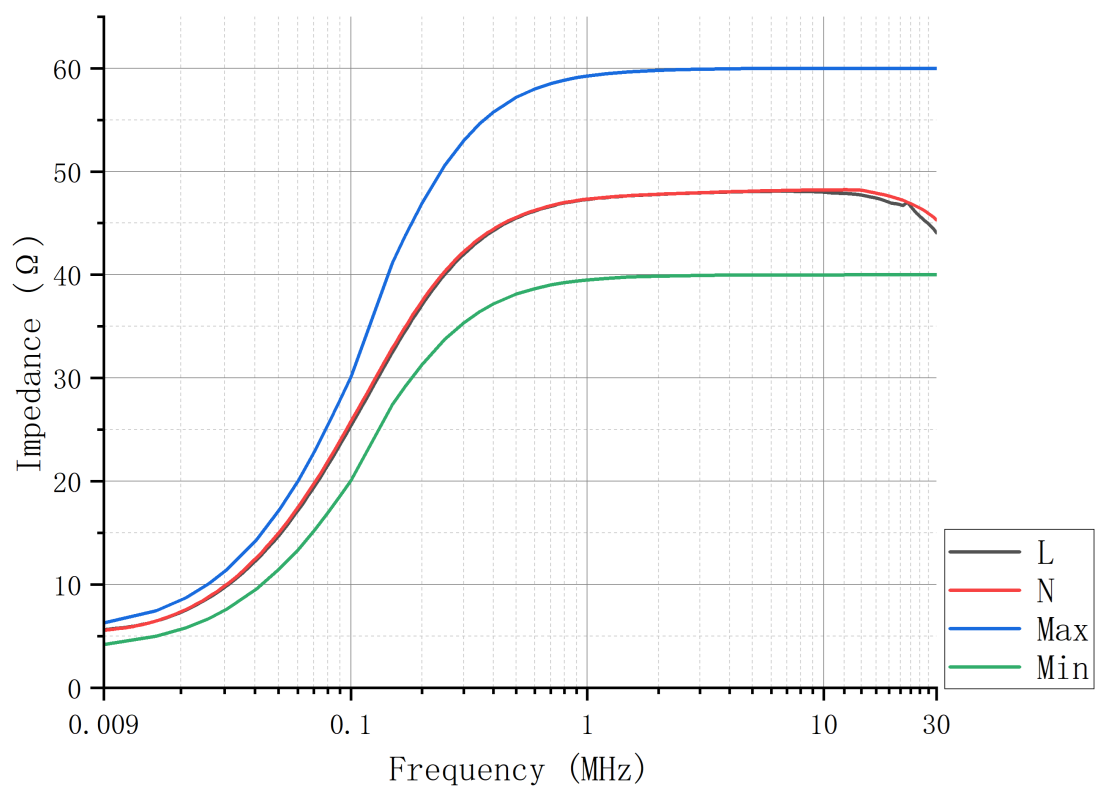
Three Phase Phase Angle



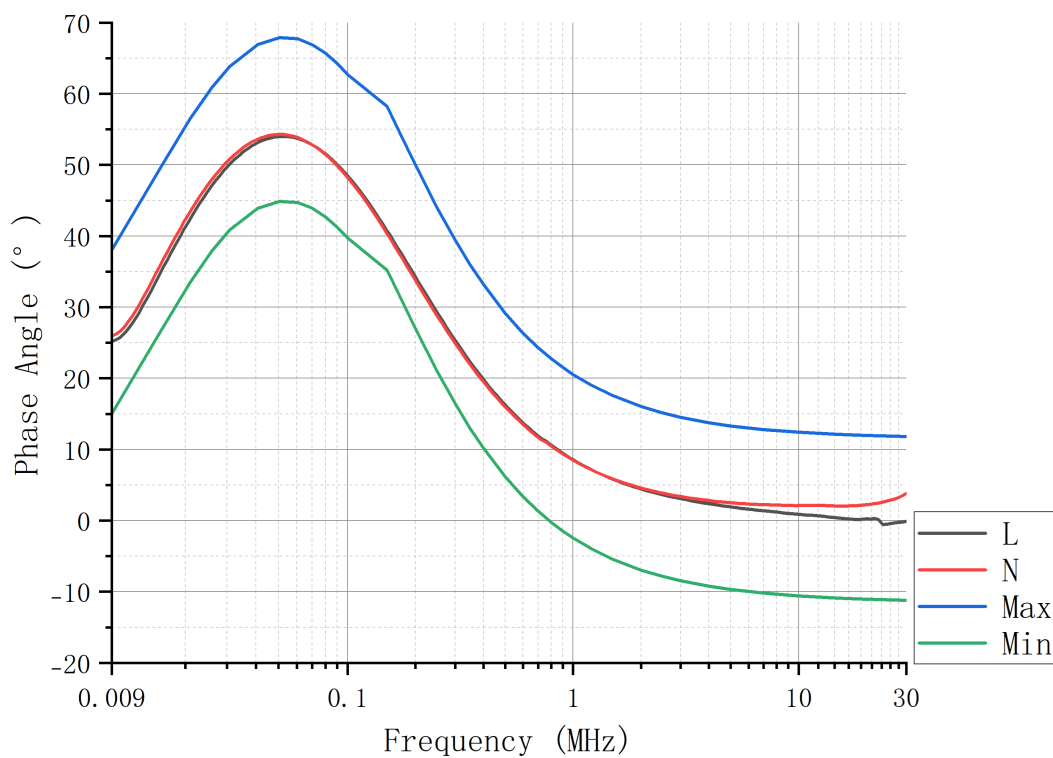
Isolation Coefficient



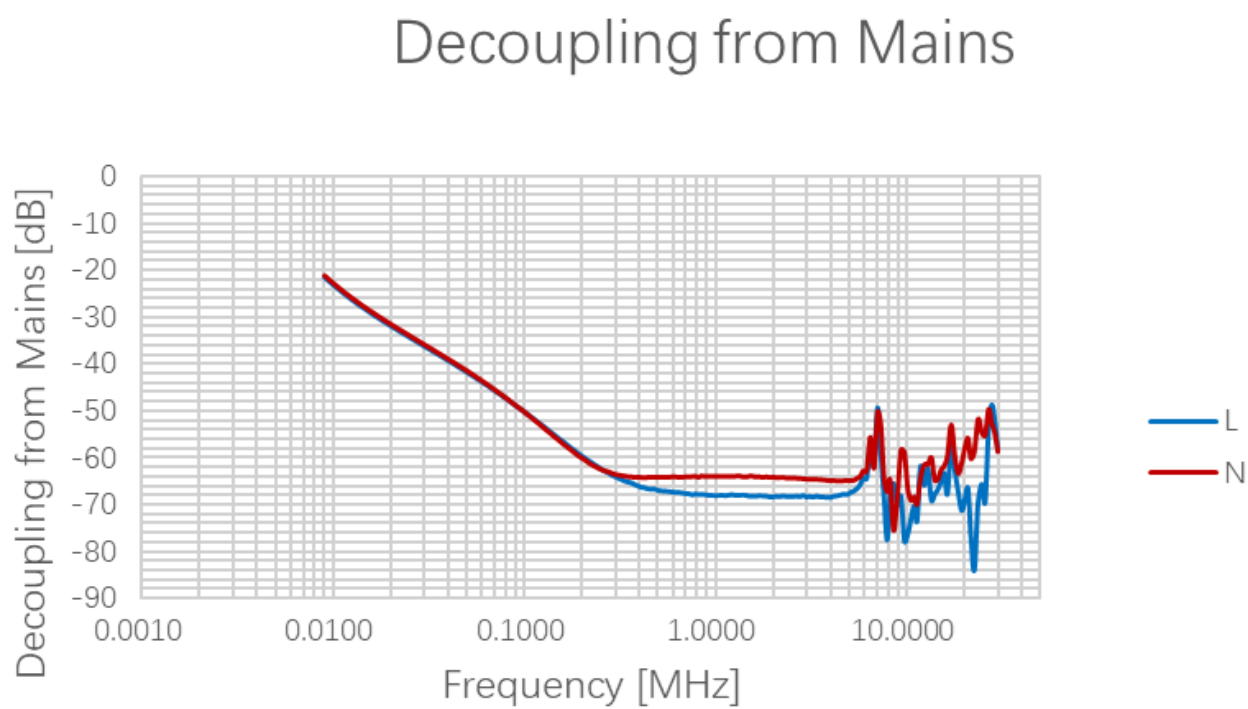
Single-Phase Voltage Division Coefficient



Single-phase impedance



Single Phase Phase Angle



Isolation Coefficient

8. Product Photo



9. Contact Information

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