Coupling/Decoupling Network for Damped Oscillatory Waves Testing on Unshielded Symmetrical High-Speed Communication Lines

CDN 418TH8

- IEC/EN 61000-4-12
- IEC/EN 61000-4-18
- GB/T 17626.12
- GB/T 17626.18

Features

> Compatible with all brands of EMC generators without additional adaptation
> Excellent decoupling performance, no extra protection required for auxiliary equipment
> Compatible with multiple scenarios and has two coupling modes including line-to-line and line-to-ground
> Data rate is 1,000 Mbit/s
> The coupling and decoupling modules are externally mounted and replaceable

Introduction

The CDN 418TH8 is a coupling/decoupling networks for damped oscillatory waves testing on unshielded symmetrical high-speed communication lines complies with IEC 61000-4-12, IEC 61000-4-18, GB/T 17626.12 and GB/T 17626.18.

The CDN 418TH8 is applicable to tests for ISDN and 10/100/1000 Mbit/s Ethernet. Its strong decoupling capability protects AE from damped oscillatory waves and ensures test repeatability. At a damped oscillatory test voltage of 2 kV, the max. residual voltage at the AE port is only 90 V, and no additional decoupling components are required.

This is the first domestic damped oscillatory wave coupling decoupling network supporting high-speed communication up to 1,000 Mbit/s. It delivers stable decoupling performance and transmission speed, and features compact size for easy carrying and operation.

Application Areas

Technical Parameters

Coupling waveforms	Ring wave: voltage rise time 0.5 μs, current rise time 0.2 μs ~ 1 μs, frequency: 100 kHz
	Damped oscillatory wave: voltage rise time 75 ns, frequency: 100 kHz/1 MHz
Pulse Voltage	Max. 4 kV
Coupling Mode	Line-to-ground
Coupling Component	Built-in capacitor
Communication Rate	10/100/1,000 Mbit/s
Communication Interface	RJ45 female connector
Pin Assignment	Pair 1: pins 1 / 2
	Pair 2: pins 3 / 4
	Pair 3: pins 5 / 6
	Pair 4: pins 7 / 8
Data Rate	Max. 1,000 Mbit/s
Test Voltage	Max. 250 V DC
Test Current	Max. 1 A
Decoupling Inductance	20 mH
Residual Voltage	< 10%

General Parameters

Weight	Approx. 10 kg
Dimension	360 mm(L) * 220 mm(W) * 135 mm(H)
Enclosure Material	Aluminum
Ambient Temperature	15°C ~ 35°C
Relative Humidity	45% ~ 75%
Package	Carton

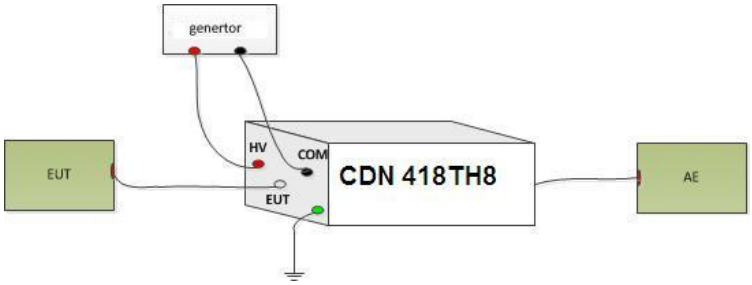
Standard Accessories

HV Cable, Grounding Wire, Shorting Wire, SCD 90, Network Cable, User Manual

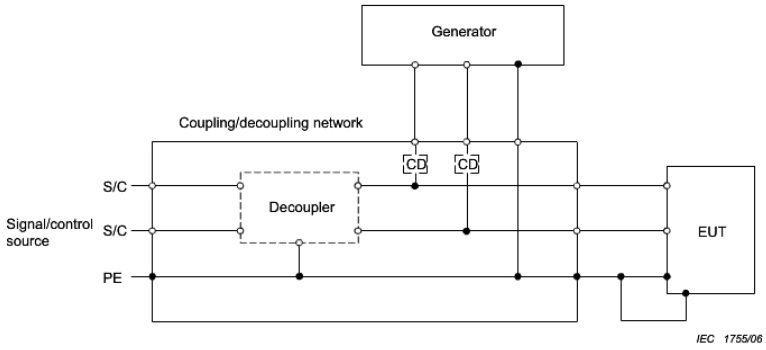
Optional Main Unit

1	Ring Wave Simulator	Model: RWS 600 Output voltage: 0.25 kV ~ 6 kV Oscillation frequency: 100 kHz	
2	Damped Oscillatory Wave Immunity Simulator	Model: DOS 300 Output voltage: 0.2 kV ~ 3.3 kV Oscillation frequency: 100 kHz/1 MHz	

Test Connection Diagram



Design Schematic Diagram



Comply with IEC 61000-4-18: 2006, Figure 11b

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