Data Line Coupling Network

CDN 117

- **Surge testing of data lines**
- **Bench top housing for ease of use**
- **Conforms to IEC 61000-4-5**

Various product standards call for testing data, signal or peripheral lines with surge pulses of the form 1.2/50µs
Special network and matching coupling elements like the CDN 117 set, are required for these tests. The test method, severity levels, permissible reaction of the EUT and the specification of the coupling network are given in the basic standard IEC 61000-4-5.
The CDN 117 is delivered as a kit of coupling elements consisting of:

- the coupling network itself
- the interface cables to the surge generator
- a coupling adapter with a 0.5µF capacitor
- a coupling adapter with a spark gap device
- a coupling adapter with a 0.1µF capacitor and a spark gap device

All the coupling methods described for unshielded unsymmetrical line pairs can be performed both in differential mode and line to ground coupling mode.
Coupling modes are selected manually by connecting the generator's output to the appropriate input of the CDN 117.
Several CDN 117s can be arranged in parallel for applications where more than two conductors have to be decoupled.

Technical Specifications		CDN 117
Signal Line		
Max operating voltage	AC	50V
	DC	60V
Max operating current		1.5A
Ohmic resistance per path		<2.5Ω
Decoupling chokes 1kHz		20mH nominal
Pulse path		
Max pulse voltage, 1.2/50µs pulse		6.6KV
Series resistor		2 x 40Ω, 6W
Coupling adapters	INA 170	spark gap device, 90V trip voltage
	INA 171	capacitor 0.1µF; spark gap device, 90V trip voltage
	INA 174	capacitor 0.5µF

Telecom Line Coupling Network

CDN 118

- **Telecom line testing with surge pulses**
- **Complies with IEC 61000-4-5**
- **Complete set with all accessories**

The basic standard IEC 61000-4-5 specifies a requirement and a method to test telecommunication equipment with a 1.2/50µs or a 10/700µs surge pulse.
Special network and matching coupling elements like the CDN 118 set, are required for these tests.
The CDN 118 matches the 2050 EMC test system and is engineered as a bench top unit for easy interfacing with the EUT.
The application of the test pulse varies depending on the type of surge generator used and the number of pairs of telecommunication cables.
The CDN 118, therefore, is shipped as a set including a resistor box, coupling adapters, cables and connectors.
All the described coupling methods of the standard can be configured with this assembly.

Coupling modes are selected manually by connecting the generator's output to the appropriate input of the CDN 118.

Technical Specifications		CDN 118
Communication line path		
Max operating voltage	AC	50V
	DC	60V
Max operating current		0.5A
Ohmic resistance per path		3Ω
Decoupling chokes 1kHz		20mH nominal
Pulse path		
Max pulse voltage		
1.2/50µs and 10/700µs pulse		6.6KV line to ground, 3KV line to line
Accessories		
Resistor networks	INA 172	4 x 100Ω
	INA 175	4 x 160Ω
Coupling adapters	INA 170	spark gap device, 90V trip voltage
	INA 171	capacitor 0.1µF; spark gap device, 90V trip voltage