



EFT/BURST CAPACITIVE COUPLING CLAMP - CDN 3425

USER MANUAL

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USER MANUAL

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1 SAFETY



WARNING - CDN 3425 EFT/burst coupling clamp is an accessory to be used with IEC 61000-4-4 burst generators only. These type of instruments generate high voltage peaks up to 4 or even 8 kV. User manual and safety instructions of the EFT/burst generator needs to be followed during use of this accessory.



WARNING - CDN 3425 together with the EFT/burst generator should only be installed and used by authorised and trained EMC specialists (electrical engineers).



WARNING - Personnel fitted with a heart pacemaker must not operate the instrument and must not be in the vicinity of the test rig while it is in operation.



WARNING - Risk of radiating electromagnetic interference. Test equipment and test setup may need to be used in a shielded environment.



WARNING - Burst/EFT pulse are high voltage low energy pulses which will be applied to the top plate of the CDN 3425 - it is recommended NOT to touch the top plate during the time pulses are applied. Up to pulse voltages up to ca 1 kV the user will not notice anything by getting in contact with the plates, up to 4 kV he will notice some pain similar to what one feels during an electrostatic discharge. Over 4 kV, up to 8 kV, the pain will get worse – but stays undangerous for the normal human being. Teseq recommends the use of the safety cover with interlock for all applications using generators for more then 4 kV burst pulses.

2 DESCRIPTION



2.1 Intended purpose

The EFT/bursts coupling clamp CDN 3425 is designed for the injection of fast transients into signal and data lines as specified in basic standard IEC 61000-4-4.

The EFT/bursts coupling clamp CDN 3425 is to be used with a IEC 61000-4-4 compliant EFT/burst generator.

The IEC/EN 61000-4-4 standard also permits the capacitive coupling method to be used for pulse injection into AC and DC power supply cables when no suitable decoupling network is present.

The coupling capacitance between the coupling clamp and the cable laid in it depends on the type of cable, its diameter and various other factors such as screening, etc.

The option INA 3825 – Safety cover with Interlock is available which avoids the user to touch the conductive plate of the CDN 3425 while EFT/burst pulses get applied.

2.2 Preparation for operation

The test rig is to be constructed in accordance with IEC/EN 61000-4-4 with special reference to:

- Operation preferably in a screened room to protect the environment
- Distances to the EUT and peripherals to be as specified in the standard
- Good and large area contact to the earth plane

Tests on uninsulated cables is not permissible.

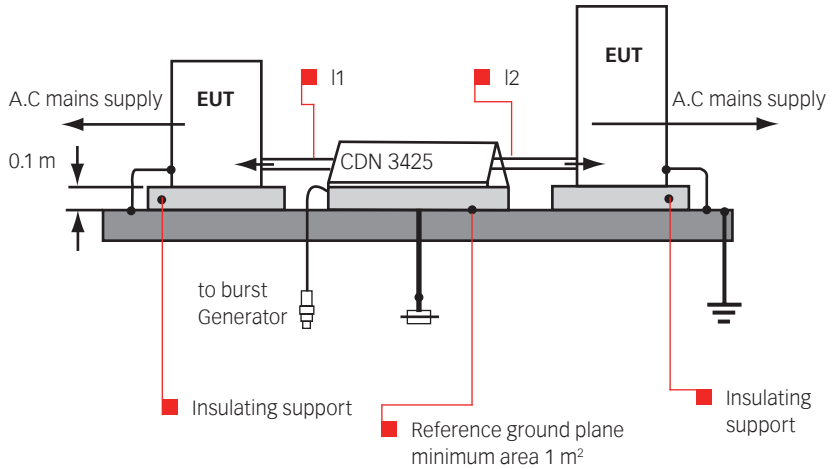


Figure 1: Example of test setup as described in IEC/EN 61000-4-4.

Consult IEC 61000-4-4 or relevant product Standard for details about test setup.

2.3 Operating

Connect the delivered HV pulse cable to the pulse output of the used EFT/ burst generator.



Figure 2: CDN 3425 connected to the EFT output of a NSG 3040 generator

If INA 3825 accessory is used, connect the Interlock cable to the interlock input of your generator, use the INA 3825 to cover the CDN 3425 the way the interlock switch (rear side – middle) gets activated.

Start the EFT/burst test. Follow instructions of EFT/burst generator user manual.

3 TECHNICAL DATA



Figure 3: CDN 3425 EFT coupling clamp

3.1 Mechanical parameters CDN 3425

Length:	1100 mm
Width:	200 mm
Height:	110 mm
Weight:	7.5 kg approx.

3.2 Mechanical parameters INA 3825

Length:	1230 mm
Width:	250 mm
Height:	170 mm
Weight:	3.5 kg approx.

3.3 Electrical parameters of the clamp

<i>Max. Permissible burst voltage</i>	<i>8 kV</i>
Usable length of the clamp:	1000 mm
Diameter of the test cable:	4 to 40 mm
Connectors:	SHV-NIM female, 50 Ω (on both ends)
Distance to the earth reference plane:	100 mm

4 ACCESSORY INA 3825



When used together with a burst EFT generator for more than 4 kV, it is recommended to cover the CDN 3425 with the INA 3825 cover with interlock, and to connect the foreseen interlock cable of INA 3825 to the interlock input of the EFT/burst generator.

This way the user is protected from touching the CDN 3425 coupling plate when EFT/burst pulses are applied.



Figure 4: CDN 3425 with INA 3825 cover

The INA 3825 cover is delivered with an interlock kit, consisting of a switch assy with nuts, – to be mounted by the end user, at the right place (middle of the rear side) of INA 3425 coupling clamp – see picture, and an interlock cable.



Figure 5: Switch assy with nuts

EFT/burst capacitive coupling clamp CDN 3425

The delivered cable is fitted with a 25 Way Sub D connector to be connected to the system interface connector of the Schaffner Modula series and Teseq NSG 3000 series. (Interlock link between pin 19 and 5).

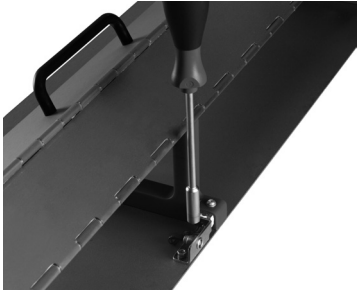


Figure 6: Mount the switch assy onto CDN 3425



Figure 7: Connect the interlock cable to system OUT interface port of NSG 3060 series generator

5 MAINTENANCE AND WARRANTY



5.1 Maintenance

Maintenance is limited to the removal of any foreign particles or objects from the contact surfaces since such matter can adversely affect the test parameters.

5.2 Warranty

Teseq grants a warranty of 24 months against material and manufacturing faults. The warranty does not cover damages due to transportation, poor packaging, and those damages caused through use of the equipment for unforeseen purposes and the effects of physical force.

5.3 Shipping

Always use original Teseq packaging, make sure the various warning labels for delicate instruments are well visible.

6 CERTIFICATION



Teseq AG Nordstrasse 11F, 4542 Lutetbach, Switzerland
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Declaration of conformity



Manufacturer: Teseq AG
Address: Nordstrasse 11F, 4542 Lutetbach, Switzerland
declares that the following product
Product: CDN 3425 EFT/Burst Coupling Clamp
Options: all
conforms to the following Directives and Regulations
EMC Directive 2004/108/EEC
LVD Directive 2006/95/EEC
Generic standards: EN61326-1, 2005
EN61326-2-1, 2005
EN61010-1, 2001
The relevant technical file is available for inspection:
Technical file: N° EMC_CDN3425_2011/ LVD_CDN3425_2011
Teseq AG
CH - 4542 Lutetbach

The purpose of this instrument is the generation of defined interference signals for EMI immunity testing. Depending on the arrangement of the test rig, the configuration, the cabling and the properties of the EUT itself, a significant amount of electromagnetic radiation may result that could also affect other equipment and systems. The user himself or herself is ultimately responsible for the correct and controlled operation of the rig. In case of doubt, the tests should be carried out in a Faraday cage.

European representative: Teseq AG, Nordstrasse 11F, 4542 Lutetbach, Switzerland

Place and Date: Lutetbach, February 23, 2011

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