



CALIBRATION KIT FOR EFT / BURST CAPACITIVE COUPLING CLAMP INA 3425

USER MANUAL

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EFT / BURST CAPACITIVE
COUPLING CLAMP
INA 3425**

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CONTENTS

1	Safety instructions	5
2	Description	7
2.1	Intended purpose	7
2.2	Preparation for operation	8
2.3	Operating	8
3	Typical waveform data	11
3.1	Typical burst wave and parameters at generator output	11
3.2	Typical burst wave and parameters at Coupling clamp output	12
4	Technical data	13
4.1	Technical parameters INA 3425 transducer plate	13
4.2	technical parameters INA 3425 termination bracket (connecting adapter)	13
5	Accessory CAS 3025	14
6	Maintenance and warranty	15
6.1	Maintenance and cleaning	15
6.2	Warranty	15
6.3	Shipping	15
7	Addresses	18

1 SAFETY INSTRUCTIONS



INA 3425 calibration kit for EFT/Burst coupling clamp is an accessory to be used with IEC 61000-4-4 Burst generators and coupling clamps 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.



INA 3425 together with the EFT/Burst generator and coupling clamp should only be installed and used by authorised and trained EMC specialists or calibration engineers. (electrical engineers).



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.



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



Burst/EFT pulse are High voltage low energy pulses which will be applied to the top plate of the burst/EFT coupling clamp- 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 calibration kit for EFT/Bursts coupling clamps is designed for the calibration burst/EFT coupling clamps as specified in basic standard IEC 61000-4-4 Ed 3.0 : 2012

The INA 3425 consists in a transducer plate and a termination bracket (connection adapter)

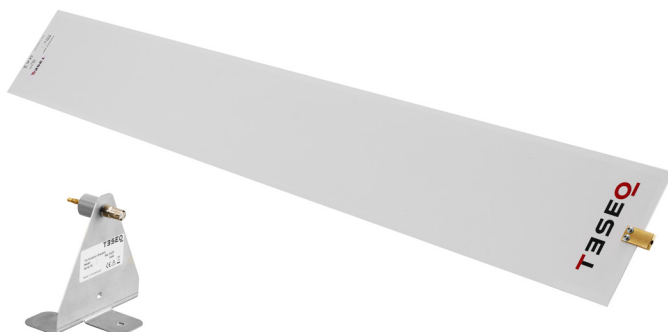


Fig. 1: INA 3425 transducer plate and termination bracket (connecting adapter)

2.2 Preparation for operation

The test rig is to be constructed in accordance with IEC/EN 61000-4-4 Ed 3.0 : 2012 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

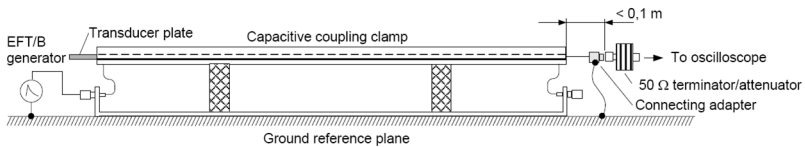


Fig. 2: Example of calibration test setup as described in IEC/EN 61000-4-4 Ed 3.0: 2012

2.3 Operating

- Set up Burst/EFT generator, oscilloscope and coupling clamp to calibrate on an adequate ground plane
- respect setup as specified in IEC 61000-4-4 Ed 3.0: 2012
- Use CAS 3025 (INA 265A) to verify the compliance of the reference burst/EFT generator, save waveshape and register pulse parameters for reference.
- Place the INA 3425 into the coupling clamp to be calibrated – position the whole as specified. Note that the Teseq sticker at the end of INA 3425 is placed the way that when in line with the end of the coupling clamp, the distances to the connecting adapter will automatically be < 10 cm as required by the standard.

- Connect the delivered HV pulse cable to the pulse output of the used EFT / Burst generator. As shown in Fig 3



Fig. 3: CDN 3425 connected to the EFT output of a NSG 3040 generator

- Connect termination bracket (connection adapter) at the other end of the coupling clamp to calibrate as shown in Fig 4



Fig. 4: connection of termination bracket (connecting adapter)

Note: insure good contacting of termination bracket to ground plane

- Connect CAS 3025 (or INA 265A – 50 Ω terminator/attenuator) and oscilloscope to the termination bracket as shown in Fig 5



Fig. 5: CAS 3025 (INA 265A – 50 Ω terminator/attenuator) and oscilloscope connected to termination bracket.

- the whole test setup might look like shown in Fig 6

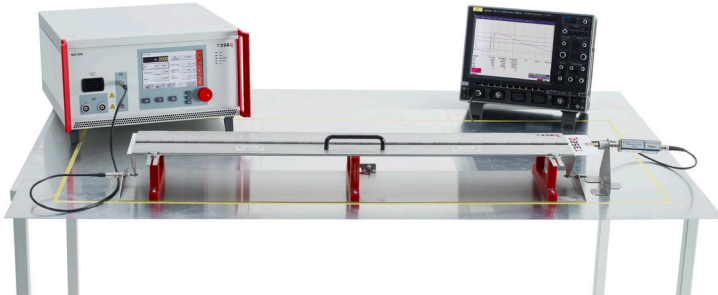


Fig. 6: complete test setup for Burst/EFT coupling clamp calibration

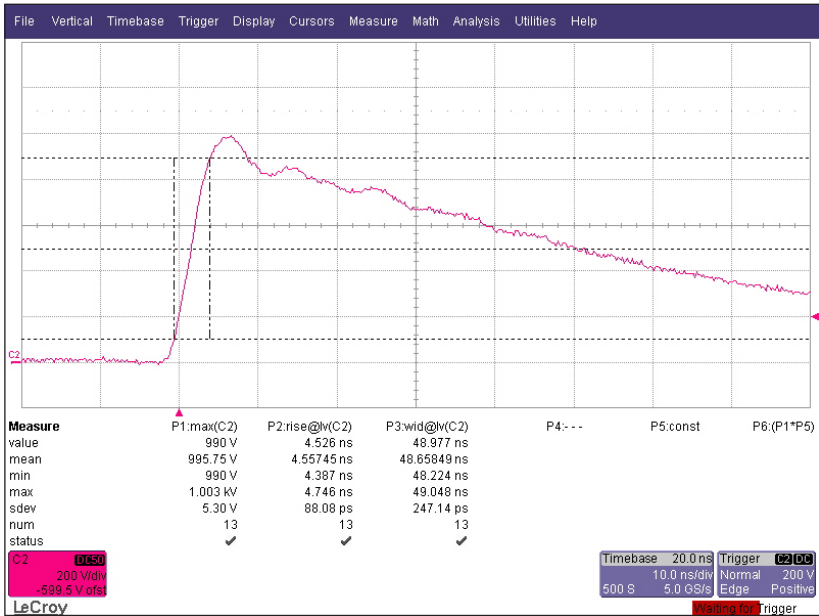
- set Burst generator to 2 kV
- measure burst pulse wavelshape and parameters at Coupling clamp output.
- turn the Burst coupling clamp in the other direction in order to verify/calibrate the other path, and repeat the measurements.

Calibration kit for EFT/Burst Capacitive coupling clamp INA 3425

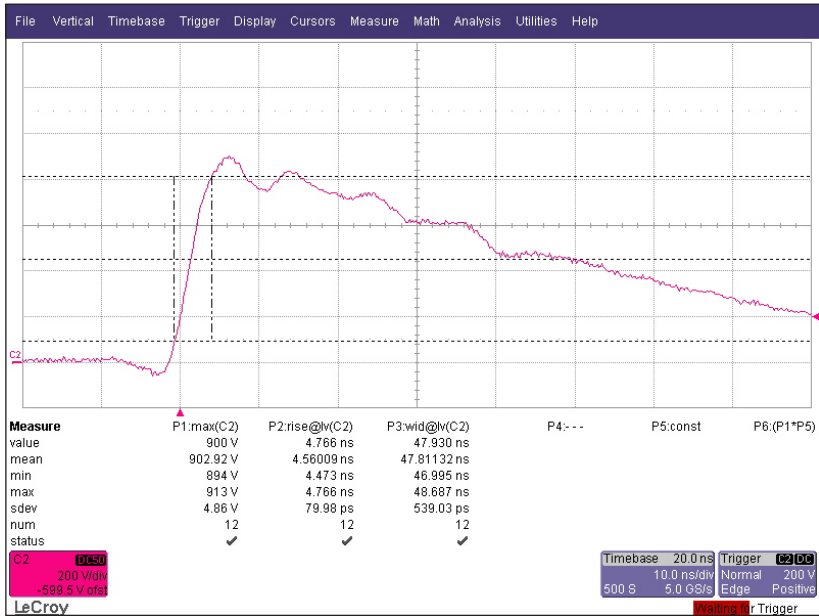
3 TYPICAL WAVEFORM DATA



3.1 Typical burst wave and parameters at generator output



3.2 Typical burst wave and parameters at Coupling clamp output



4 TECHNICAL DATA



4.1 Technical parameters INA 3425 transducer plate

Metallic sheet	120 x 1050 x 0,5 mm
Dielectric sheets (top and bottom)	140 x 1070 x 0,5 mm
Total thickness	1,5 mm
Dielectric strength (isolation)	5 kV
Weight	0.3 kg approx.

4.2 technical parameters INA 3425 termination bracket (connecting adapter)

Input connector	Banana
Output connector	SHV – fits for INA 265A (CAS 3025) – terminator/attenuator
Connection to ground	Low impedance through large contacting surfaces
Weight	0,15 kg approx.

5 ACCESSORY CAS 3025



CAS 3025 is a Calibration set for burts/EFT. It consists of INA 265A: 50 Ω / 1000 to 1 terminator / attenuator, and of INA 266: 1000 Ω / 2000 to 1 terminator / attenuator, of a coax cable of 1 meter, RG 58, and of a traceable calibration certificate, a user manual and carrying case. It is Full compliant to IEC 64000-4-4.



6 MAINTENANCE AND WARRANTY



5.1 Maintenance and cleaning

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

In general a moist cloth is sufficient for cleaning the outer housing. In stubborn cases use a small amount of a mild, non-foaming household cleanser as well. No chemicals should be used for cleaning purposes.

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.

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