

CN-EFT1000 capacitive coupling clamp

Revised: 3 May 2019

CN-EFT1000 is used for the common mode coupling of Electric Fast Transient (EFT) and Damped Oscillatory Wave (DOW) to a circuit under test without any galvanic connection.



1.1 Technical data

Insulation withstand capability	1.2/50 μ s	5 kV
Insulation withstand capability	EFT 5/50ns	8 kV
Usable diameter range	4 mm up to 70 mm	
Typical coupling capacitance	100 pF to 1 000 pF	depending on EUT cable

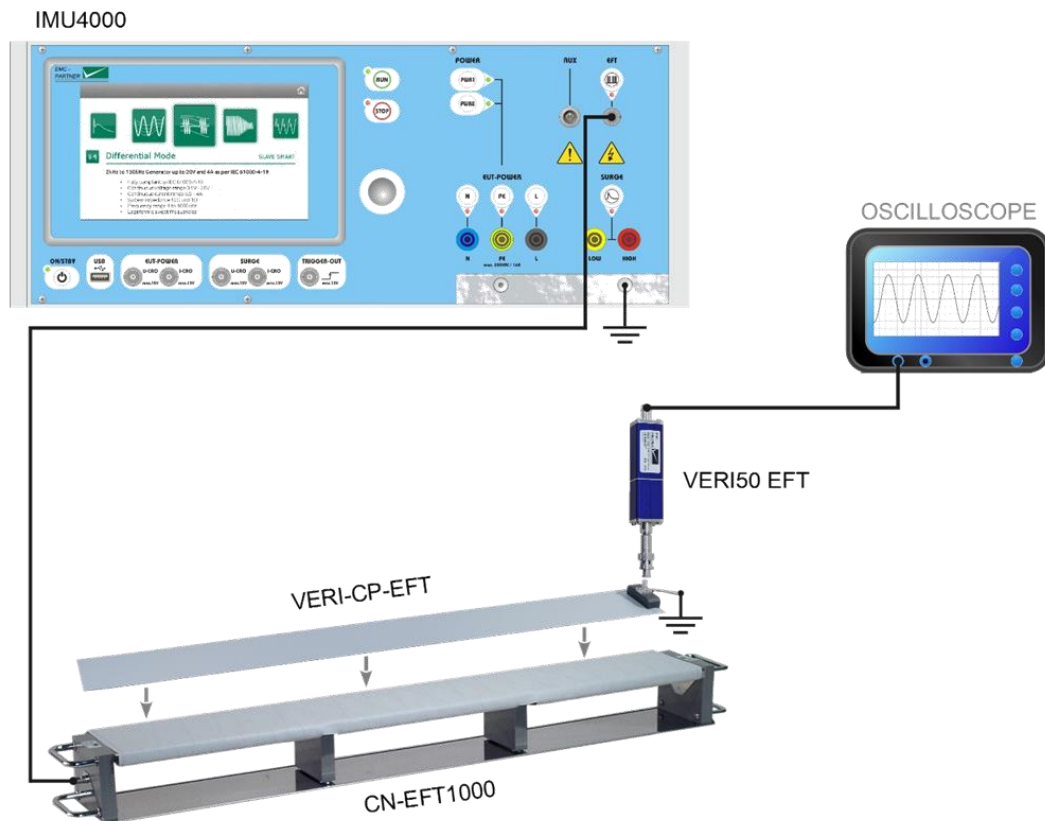
1.2 Capacitive coupling clamp overview

- Coupling capacitance of CN-EFT1000 depends on the cable diameter, material of the cables, and cable shielding (if any).
- CN-EFT1000 comprises a clamp unit to retain the EUT cables (flat or round) and an insulation to keep the cables the prescribed distance above the ground plane.
- CN-EFT1000 shall be placed on a ground reference plane with minimum area of 1 m². The ground (reference) plane shall extend beyond the CN-EFT1000 by at least 0,1 m on all sides.
- CN-EFT1000 has high-voltage coaxial connectors at either end that enable connection of the test generator. The generator shall be connected to that end of the clamp which is nearest to the EUT.
- CN-EFT1000 shall be closed as tightly as possible to provide maximum coupling capacitance between the cable and the clamp.
- The coupling method using the clamp is required for acceptance tests on lines connected to I/O and communication ports. It may also be used on ac/dc power supply ports only if a mains coupling/decoupling network cannot be used.
- CN-EFT1000 can be used with the following generators for;
 - EFT
 - TRA1000
 - TRA2000
 - TRA3000
 - IMU3000
 - IMU4000
 - DOW
 - MIG-OS-OS1
 - MIG-OS-OM-EXT
 - DOW3000

1.3 Calibration of EFT impulses

IEC 61000-4-4 ED3 prescribes calibration of EFT pulses in the capacitive coupling clamp. VERI-CP-EFT and VERI50EFT are used together with an EFT generator to perform this verification.

Below is an example using IMU4000.



1.4 Safety

The CN-EFT1000 belongs to Safety class 1

1.4.1 Safety standard

CN-EFT1000 fulfils the requirements of the safety standards IEC 61010 for laboratory measurements equipment „Safety requirements for electrical measuring, control and laboratory equipment“. Based on EN 61010 the declaration of conformity to low voltage directive (LVD 73/23/EEC O.J.N° L77, 1973-03-26) is given.

1.4.2 Precautionary measures during use

When testing with CN-EFT1000, we recommend the following simple rules:

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|---|
| • Never touch the CN-EFT1000 when a test is in operation. |
| • Do not touch connectors or interconnection cable when an EMC test is being performed. |
| • High voltage impulses should be turned off before any manipulation on the EUT is carried out. |

Any EMC test system should not be operated near sensitive measuring and control systems.

1.5 This instruction is an integral part of the equipment.



This instruction is an integral part of the CN-EFT1000. The safety rules and precautions must be observed. EMC PARTNER and their representatives are not responsible for damage to persons and equipment caused through failure to observe safety rules and precautions in this document.

1.6 Standard accessory, dimensions

1.6.1 Included articles, dimensions

CN-EFT1000 (Article No. 103468)	
Mechanical Dimensions	
Unit Height:	
Length:	114 cm
Width:	15 cm
Height:	10 cm
Net Weight:	4 kg
Included Articles	
According to STL-Variante 20, STL-Version 1	
<i>Qty</i>	<i>PN</i> <i>Description</i>
1	103194 EMCP User Manuals includes all User Manuals and Instruction sheets of all EMC PARTNER AG sales products.
1	106202 New format brochure Immunity
1	104802 Calibration certificate
1	103191 STANDARD ACCESSORY PACK

1.6.2 Standard accessories

Accessories to CN-EFT1000 (Article No. 103468)							
Qty	PN	Description	Weight (kg)	Length (cm)	Width (cm)	Height (cm)	
1	103017	Small components plastic bag transparent	0	15.5	11.5	0	
1	103027	Accessory plastic pack	0	0	0	0	
1	104366	HV-BNC 50 Ohm cable, length 1m to connect Generator with accessories	0	100	0	0	

2 RECYCLING / DISPOSAL

2.1 RoHS directive 2002/95/EG

The CN-EFT1000 complies with the directive 2002/95/EG (RoHS - Restriction of certain Hazardous Substances).

From December 2005, all EMC Partner products either hand soldered or by machine are produced using lead-free solder.

2.2 WEEE directive 2002/96/EG

The EMC Partner CN-EFT1000 is exempted from the directive 2002/96/EG (WEEE) under category 9.

The product should be recycled through a professional organisation with appropriate experience for the disposal and recycling of electronic products. EMC Partner are also available to help with questions relating to the recycling of this product.

2.3 Information for dismantling



Always remove the power cord.

There is no special danger involved in dismantling the CN-EFT1000.

2.4 Parts which can be recycled

The CN-EFT1000 contains parts made from steel, aluminium, PVC, two-component sealing compound. The various parts can be separated and recycled.

2.5 Parts which can not be recycled

All parts in the CN-EFT1000 can be recycled.

3 SERVICE INFORMATION

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