



TRA-System

Accessories



I EFT: CN and CDN

II ESD: HCP, VCP; Stand

III Surge: CDN, CDN-Kits

IV Dips: MF Antenna, ExtVariac



Accessories EFT: Coupling Clamp, CDN

Capacitive coupling clamp

The capacitive coupling clamp CN-EFT1000 can be used to couple the EFT spikes into signal and data lines. Above 100 A power supply current the CN-EFT1000 can also be used for coupling onto power supply. The 1 m capacitive coupling clamp complies with the IEC Standard 61000-4-4. The characteristic impedance is 100 Ohm. No calibration of the coupling clamp is needed.

The hot plate is covered by a conductive plastic cloth. The plastic cloth can be opened and the affected cable take place between the hot plate and the plastic cloth.

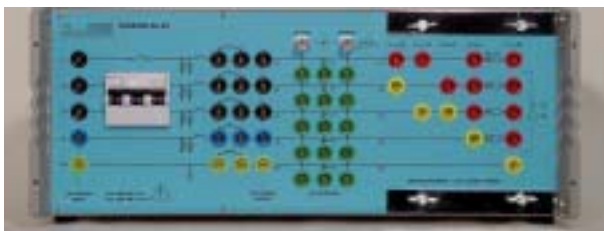


CDN2000-06-25

The CDN2000-06-25 three phase coupling network can be used to couple EFT spikes onto power supply lines.

Common mode coupling on each line and differential mode between different lines can be carried out.

In addition the CDN can be used for surge and ring wave coupling on power line and for 1MHz and 100 kHz damped oscillatory wave coupling onto power supply and onto maximum four data lines.



Other coupling CDN

Higher currents, automatic coupling paths selection, etc. are available on demand.

2

Accessories ESD: ESD2000, HCP, VCP

ESD2000

The test object itself determines which test method must be used: contact discharge when metallic parts are existing, air discharge where plastic housings with slots exist or indirect discharge at insulation enclosure.



- Same control as for the other immunity tests EFT, surge, dips, therefore automated tests programmable with other immunity tests.
- Automated polarity change after the pre-selected number of pulses.
- Signalisation when the 150 pF discharge capacitor does not discharge less than 10%. Application for contact discharge if no spark is visible.
- Recording of the ESD test results.

ESD-STAND3

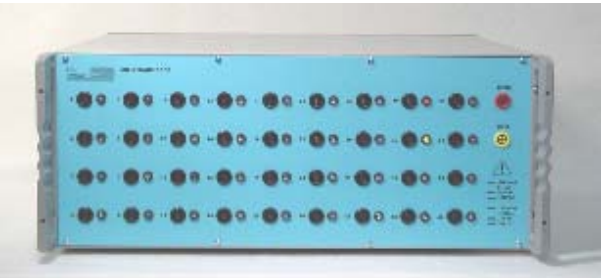
for long term tests and for statistical evaluation of measurements.



Connection between horizontal or vertical coupling plate and reference ground plate

Accessories Software

MIG-COMAT: The MIG-COMAT can be used to carry out surge tests on multiple pin connectors or wires. The MIG-COMAT must be connected either to the TRA2000 or a MIG tester. With the TEMA software the generator and the MIG-COMAT can be controlled.

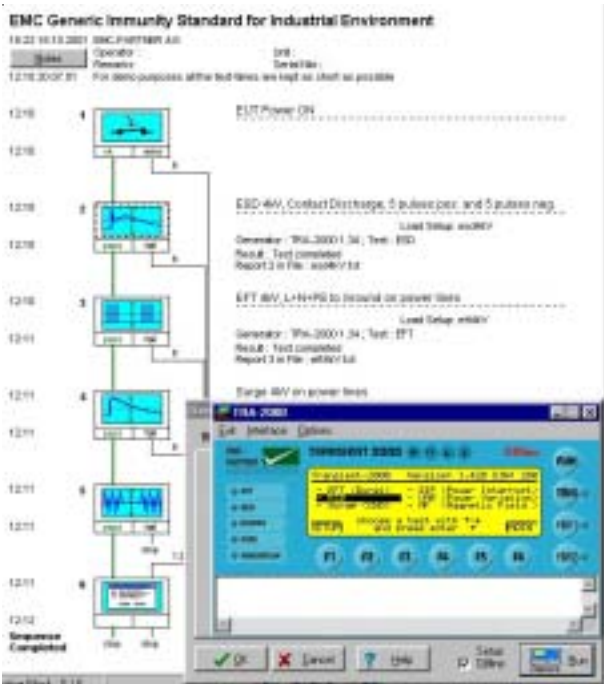


GENECS Software: Different „EUT failed” detections during EMC tests are possible. With the EUT-Input of the TRANSIENT-2000 or with the different buttons in operation mode.

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EUT-Control | Power: 0V 0.0A
-----|-----
Action if FAILURE: Upeak-max : 9999V
Protocol: Upeak-min : 0V
Next Setup: Ipeak-max : 9999A
Stop RUN: Ipeak-min : 0A
-----|-----
Action when EUT is FAILED
    
```

TEMA Software
Complex sequences can be programmed. For more information download demo soft from our homepage.



Accessories General: Serial Link, Power Aapters

Power Adapter: The power cord is a part of the EUT, therefore the immunity tests must be carried out with the original power cord. That the original power cord can be used different adapter can be delivered from stock fit in the output of the TRA tester.



TRA Set-up: EFT Connection TRA to reference plate and ESD connection HCP to RGP.



Common Mode 0 to 150 KHz. IEC 61000-4-16 Accessoires to DIPS Version TRA2000



Which System Configuration is needed Overview of the Accessories

Test System



Accessories depending on the EUT Ports

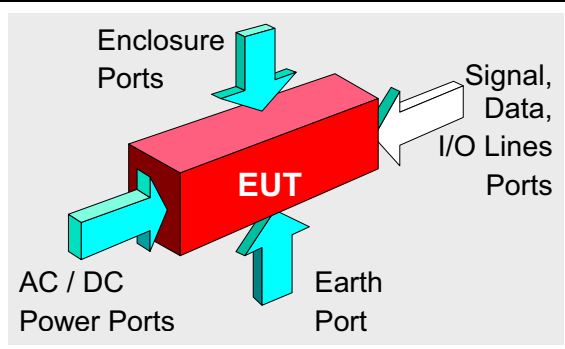
(EUT = Equipment Under Test)

Standard	Test	Limits of listed Tester Types **	Tester Type	A.C./D.C.	Signal Telecom
61000-4-2	ESD	CD* 10 kV; AD* 16 kV	TRA2000	-	-
61000-4-4	EFT	4,4 kV; 1 MHz	TRA2000	1 (24)***	1 + 3
61000-4-5	Surge	CWG 4,1 kV; 2 kA	TRA2000	1 (12)	1 + 18
61000-4-8	a.c. MF	160 A/m, 1050 A/m	TRA2000	-	-
61000-4-9	Surge MF	1600 A/m	TRA2000	-	-
61000-4-10	Oscillation MF	120 A/m	MIG-OS-OM	-	-
61000-4-11	Dips	16 A; different levels	TRA2000	1 (6, 12)	-
61000-4-11	Variation	5 A; different levels	TRA2000		
61000-4-12	Ring	6 kV	MIG0603IN4	1 (24)	-
61000-4-12	Oscillation	3 kV; 1 MHz; 100 kHz	MIG-OS-OSI	1 + 24	1 + 24
61000-4-13	Harmonics	16 A; 230 V	HAR1000	1 + 16	-
61000-4-14	V-Variation	16 A; 230 V	HAR1000	1 + 16	-
61000-4-16	Common Mode	300 V a.c.; 300 V d.c.	TRA2000	-	1 + 17
61000-4-17	Ripple on d.c.	16 A, 200 V d.c.	HAR1000	1 + 16	-
61000-4-29	Dips on d.c.	16 A, 110 V	TRA2000	1	-

N°	Description / Accessories	N°	Description / Accessories
1	See column "Tester Type"	9	Measuring current
2	ESD2000 with CD* sharp tip, AD* rounded tip	10	Measuring set VE
3	Coupling clamp CN-EFT1000	11	Measuring set VE
4	Surge coupling kit CDN-KIT1000	12	Three phase coup
5	Test pistols CN2000TT	13	ESD-STAND3
6	External variac VAR-EXT-1000	14	TEMA to MIG and
7	Antenna for magnetic field MF1000-1 (1 x 1 m)	15	Antenna for magn
8	Antenna for magnetic field MF1000-2 (1 x 2.6 m)	16	HARCS-Immunity

* CD = Contact Discharge; AD = Air Discharge ** For higher values please visit our homepage www.emc-partner.com

needed for a particular Immunity Test?
 applies to the TRANSIENT-2000.



Accessories for Calibration, Verification, Test Set-up, PC-Control



Product Model	Signal	Earth	Enclosure	Calibration, Verification	Test Set-up	Control via PC
	-	-	1 + 2 (13)	9	20 (21)	14 (23)
3	1 + 3	1 + 3	-	10	20 (21)	14 (23)
8	1 + 4	1 + 5	1 + 5	-	-	14 (23)
	-	-	1 + 7 + 8 + 15 (22)	-	(19)	14 (23)
	-	-	1 + 7 + 8 (22)	-	-	14 (23)
	-	-	1 + 7 + 8 (22)	-	-	-
	-	-	-	11	-	14 (23)
	-	-	-	-	-	14 (23)
4	1 + 24	-	-	-	-	14 (23)
	-	-	-	-	-	16
	-	-	-	-	-	16
7	1 + 17	-	-	-	-	14 (23)
	-	-	-	-	-	16
	-	-	-	-	-	14 (23)

Product Model / Accessories	N°	Description / Accessories
Current: ESD-TARGET, voltage: ESD-VERI-V	17	NW16S, CN16, CN16T
et VERI50, VERI1K	18	Coupling Kit Telecom CDN-KIT1000T
et VERI-DIPS (inrush current)	19	Stand to MF1000-3
e coupling CDN2000-04-32	20	Connection set (EFT, ESD) TRA-SETUP
03	21	Test set-up VCP to ESD, 10 cm EFT-Insul.
G and TRA	22	Stand to MF1000-1
magnetic field MF1000-3 (1 x 1 m, 3 s)	23	Fibre optic link
Immunity	24	Three phase coupling CDN2000-06-25

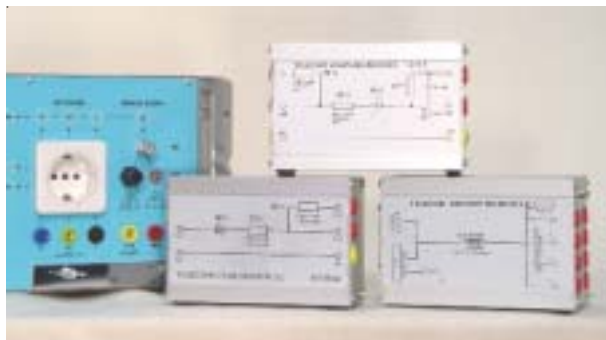
[c-partner.com/pages/products.htm](http://www.c-partner.com/pages/products.htm) *** Numbers in brackets = recommended additional accessories

Accessories SURGE: CDN, CDN-KIT

The **CDN-KIT1000** must be used for surge coupling onto signal and data lines.



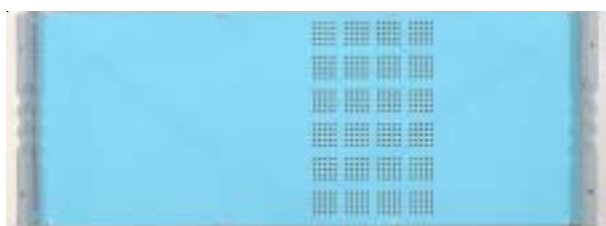
The **CDN-KIT1000T** must be used for surge coupling onto balanced operated telecommunication lines like ISDN.



The **CDN2000-06-25** must be used for surge coupling onto three phase power supply lines.



IN1000: The TRA1000 can be extended with Ring wave up to 6 kV or 10/700 μ s up to 4 kV. The IN1000 is controlled from the TRA. It can not be used with the TRA2000.



Accessories DIPS: External Variac, MF

VAR-EXT1000: When the internal VARIAC with 6 A current rating is too small for the voltage variation the VAR-EXT must be used. When the VAR-EXT1000 control cable is plugged to the TRA the control of the TRANSIENT automatically switches to the VAR-EXT.



MF Antennas: Three different antennas can be used together with the TRA tester:
 MF1000-1 a.c 50/60Hz IEC -8, 1 x 1 m
 MF1000-2 a.c 50/60Hz IEC -8, 1 x 2.6 m
 MF1000-3 a.c 50/60Hz IEC -8, 1000 A/m
 The MF1000-1 and MF1000-2 can also be used for MF surge and damped oscillatory waves IEC 61000-4-9 and -10. The MF1000-3 must be used for maximum 1000 A/m a.c.



EMC PARTNER's Product Range

Immunity Tests



The TRA2000 performs all of the following transient tests on electronic equipment that are required for the CE-mark up to full levels: **ESD, EFT, surge, dips, a.c. magnetic field, surge magnetic field and common mode tests**. A large range of accessories for different applications is available: MF antennas, three phase couplers, verification sets, coupling kits, etc. The TRA2000 complies with IEC 61000-4-2, -4, -5, -8, -9, -11, -12p, -16, -29p.



The Modular Impulse Generator (MIG) performs **damped oscillatory tests**: 100 kHz, 1 MHz, voltage and magnetic field tests. The MIG complies with IEC 61000-4-8, -9, -10, -12 as well as with IEC 60255-4, -5, -22.



The HAR1000 with the Immunity software performs the following tests: **harmonics, voltage variation and ripple on d.c.** The HARMONICS-1000 complies with IEC 61000-4-13, -14, -17, -29p.

Lightning Tests

EMC PARTNER offers a wide range of testers in accordance with FCC 68 part D, ITU K.44, ETS 300 046, Bellcore and RTCA DO-160D, etc. for telecom, aircraft and military electronic equipment testing.



Component Tests



EMC PARTNER offers a wide range of modular impulse generators (MIG) for transient component testing on: varistors, arresters, surge protective devices (SPD), capacitors, circuit breakers, watt-hour meters, protection relays, insulation material, suppressor diodes, connectors, chokes, fuses, resistors, emc-gaskets, cables, etc.

EMC PARTNER has the largest range of impulse generators in the range up to 100 kV and 100 kA. Below is an example for an insulation tester up to 24 kV.



Emission Measurements



One unit performs all measurements on the power supplies of electronic equipment and products for the CE-Mark. The HAR1000 includes an amplifier for a clean power source, a line impedance network, the measurement systems Harmonics and Flicker. Accessories: three phase extension, "Immunity" and "ANASIM" software. Complies with IEC 61000-3-2 and -3.

We look forward to working with you

For more detailed information please contact our representative in your area or EMC PARTNER in Switzerland. For information on further products please visit also our website.

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Australia: Australia, New Zealand

Europe: Austria, Belgium, France, Germany, Great Britain, Hungary, Ireland, Italy, Netherlands, Scandinavia, Spain, ...

You will find contact information for all representatives at EMC PARTNER's website www.emc-partner.com.

Your local representative:

EMC PARTNER offers the largest range of impulse test equipment up to 100 kA and 100 kV in the areas of:

Immunity Tests

Lightning Tests

Component Tests

Emission Measurements