


COMPLETE TEST SOLUTIONS FOR

# Conducted Immunity Testing



 This document has been optimized for electronic media



### Accredited Calibration

Quality at EMC PARTNER is based on an ISO 9001 management system. This is the foundation for an ISO 17025 accreditation verified by the Swiss Calibration Service (SCS). SCS No. 146 is the accreditation number of EMC PARTNER AG. Locally accredited but recognized worldwide through affiliation with the ILAC organisation



## THE CONDUCTED IMMUNITY TEST SYSTEM

# MANY CHOICES ONE SOLUTION

Basic and product standards require a mix of conducted immunity EMC tests.

Required test types can include:

- › Electric Fast Transient (EFT)
- › SURGE (CWG, RINGWAVE, TELECOM)
- › Damped Oscillatory Wave (DOW)
- › AC / DC Dips & Interrupts
- › AC / Impulse / DOW magnetic field
- › Common Mode
- › Differential Mode

The ideal is a flexible test equipment that combines any or all of these requirements into one single solution.

# CUSTOM IS STANDARD

IMU and DOW generators are designed with the user in mind. A modular architecture allows configuration of test circuits to meet any requirement. A solution that can easily be extended with more modules when additional tests are needed.



## DOW series

- DOW Mainframe Unit

### Available Modules

- SLOW 100kHz & 1MHz / 4.4kV
- FAST 3MHz, 10MHz & 30MHz / 4.4kV
- CDN 690Vac & 500Vdc / 32A
- Insulation 1.2/50us 500Ω / 0.5J 8kV



## IMU series

- IMU Mainframe Unit

### Available Modules




- Surge / CWG 4kV / 6kV / 8kV
- Ring Wave 6kV / 8kV
- Telecom 6kV / 8kV
- EFT 4kV / 5kV / 6kV
- Common Mode 35V / 330V
- AC & DC Interrupts 16A / 32A / 75A
- AC DIPS & Variation 16A
- Differential Mode voltage / current
- ESD Electrostatic Discharge 16kV

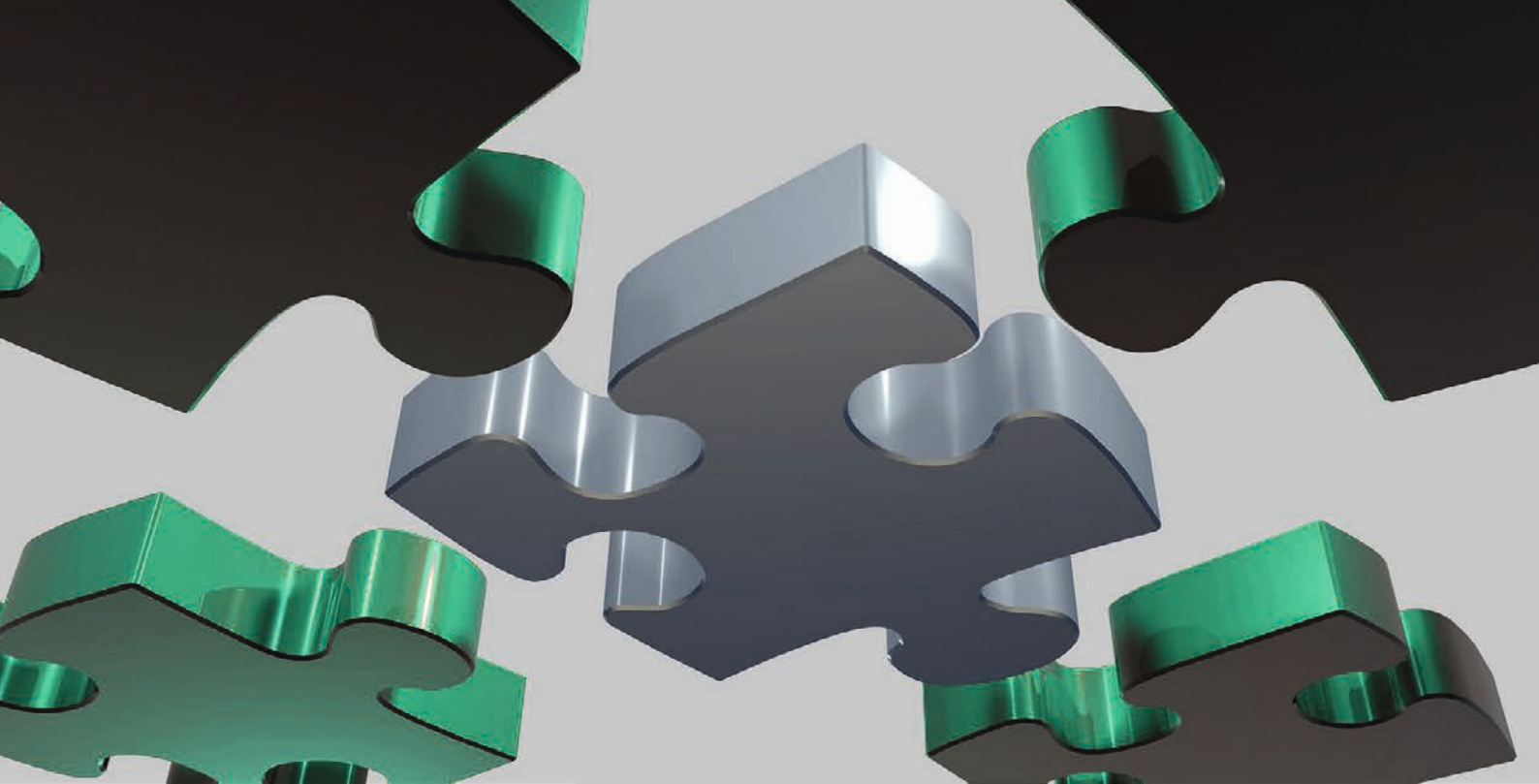
# AVAILABLE CIRCUITS

## IMU Series

	<b>ESD Electrostatic Discharges</b> <span style="float: right;"><b>up to 16kV</b></span>
	According to IEC/EN 61000-4-2
	<b>Electric Fast Transient / Burst (EFT)</b> <span style="float: right;"><b>up to 6kV</b></span>
	According to IEC/EN 61000-4-4
	<b>Combination Wave Generator / Surge (CWG)</b> <span style="float: right;"><b>up to 8kV</b></span>
	According to IEC/EN 61000-4-5, ANSI C62.41
	<b>Telecom Impulse (10/700)</b> <span style="float: right;"><b>up to 8kV</b></span>
	According to IEC/EN 61000-4-5, ITU-T K.44
	<b>Ring Wave 100kHz (Ring)</b> <span style="float: right;"><b>up to 8kV</b></span>
	According to IEC/EN 61000-4-12, ANSI C62.41
	<b>Common Mode Generator (CM)</b> <span style="float: right;"><b>up to 35V continuous / 330V short</b></span>
	According to IEC/EN 61000-4-16
	<b>AC &amp; DC Dips, Variations and Interrupts</b>
	According to IEC/EN 61000-4-11 /-29 /-34
	<b>Magnetic Field / Pulse</b>
	According to IEC/EN 61000-4-8 / -9
	<b>Differential Mode Generator (DM)</b>
	According to IEC/EN 61000-4-19

## DOW Series

	<b>SLOW Damped Oscillatory Waves</b> <span style="float: right;"><b>100kHz &amp; 1 MHz</b></span>
	According to IEC/EN 61000-4-18, -10, ANSI C37.90
	<b>FAST Damped Oscillatory Waves</b> <span style="float: right;"><b>3MHz, 10MHz, 30MHz</b></span>
	According to IEC/EN 61000-4-18
	<b>Insulation</b> <span style="float: right;"><b>up to 8kV</b></span>
	According to IEC60255-27



## UNIQUE FEATURES

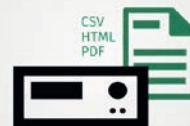
Leading technology - New designs take advantage of latest innovations.

### Test routines



Link together many different test types into one sequence.

### Test reporting



Generate test reports via USB interface or built in webserver as csv, html and pdf formats.

### Online updates free of charge

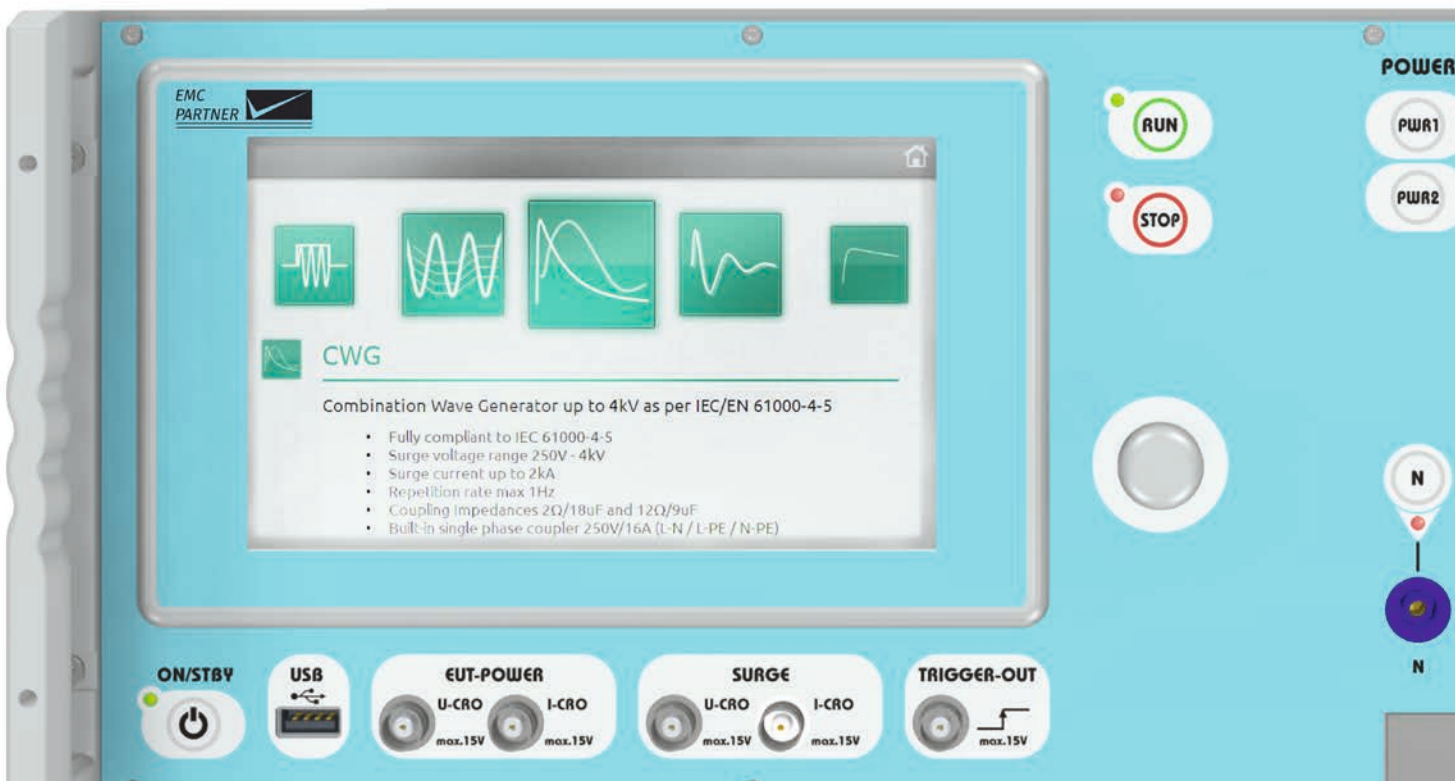


Software download from internet directly into the instrument.

### Extend testing capability



Hardware upgrades maintain the system value.



## EPOS – TOUCH THE FUTURE

EMC PARTNER Operating System (EPOS) is an independent software with free-of-charge updates for lifetime. EPOS is based on a full colour graphic interface and easy to follow on-screen graphics. Pop-up help gives information when needed, directly during the setting process. EPOS is full of features found only in top of the range instrumentation.

### Test setup libraries



Pre-programmed tests for all basic and generic standards included.

### Simple touch screen navigation



Save time with the latest in intuitive menu structures.

### Power management



Active monitor and control of EUT power. EUT current limit to prevent damage.

### We speak your language



Select between English, German, French, Italian, Spanish, Russian, Chinese (traditional and simplified).





## TEMA3000 SOFTWARE SUITE

The best solution for professional EMC Test Labs enables comfortable test setups, easy parameter changes and customizable test reports and DSO integration.

### Customizable test reports



- › Customize & edit your protocols
- › Export to multiple file formats
- › Integrate DSO measurements

### Manage tests and sequences



- › Predefined test setups
- › Save and load own tests and sequences

### Productive workflow



- › Minimum learning time
- › Integrated assistant function

### Smart connectivity



- › Transfer tests / reports to PC
- › Integrated web server
- › Remote control from computer



# Technical Specifications

# GENERATORS

- > IMU3000
- > IMU4000
- > DOW3000

## CDNs

<b>IEC 61000-4- Supply Lines</b>	<b>-2</b>	<b>-4</b>	<b>-5</b>	<b>-8</b>	<b>-9</b>	<b>-11</b>	<b>-12</b>	<b>-16</b>	<b>-18</b>	<b>-19</b>	<b>-29</b>	<b>-34</b>
CN-A-IMU-ANSI			ANSI				ANSI					
CDN2000-06-32		✓	✓				✓					
CDN2000A-06-32		✓	✓									
CDN2000A-06-32 480V		✓	✓									
CDN2000A-06-32 690V		✓	✓									
CDN2000A-06-63		✓	✓									
CDN3000A-06-32 480V		✓	✓				✓					
CDN3000A-06-32 690V		✓	✓				✓					
CDN3000-08-32 480V		✓	✓				✓					
CDN3000A-08-32 690V		✓	✓				✓					
CDN3000A-08-32 CMC 690V		✓	✓				✓					
CDN-A-3P100-480 F-S		✓	✓									
CDN-A-3P100-690 F-S		✓	✓									
CDN-A-3P100-AC-DC		✓	✓				✓					
CDN-A-3P200-480 F-S		✓	✓									
CDN-A-3P200-690 F-S		✓	✓									
CDN-A-3P200-AC-DC		✓	✓				✓					
CN16								✓				
CN16DC								✓				
DN16-1P6								✓				
DN16-1P16								✓				
<b>I/O Lines</b>	<b>-2</b>	<b>-4</b>	<b>-5</b>	<b>-8</b>	<b>-9</b>	<b>-11</b>	<b>-12</b>	<b>-16</b>	<b>-18</b>	<b>-19</b>	<b>-29</b>	<b>-34</b>
CDN-KIT1000 ED3			✓									
<b>CN-R40C05</b>			other									
CDN-DATA-4L			✓				✓					
CDN-DATA-8L			✓				✓					
CDN-UTP ED3			✓									
CDN-UTP8 ED3			✓									
CN16T								✓				
CDN-DOW-DATA-LF									✓			
CDN-DOW-DATA-HF									✓			
CDN-DOW-DATA-HF18									✓			
ADAPTER BOX TRA-ACC	For most of the external CDNs for supply lines and PFS devices											

# ACCESSORIES

IEC 61000-	-2	-4	-5	-8	-9	-11	-12	-16	-18	-19	-29	-34	Other
EXT-IMU-E	✓												
ESD-TARGET2	✓												
ESD-VERI-V	✓												
ESD-STAND Ed2	✓												
EARTH CABLE	✓												
ESD-VCP50	✓												
CN-EFT1000		✓							✓				
VERI50 EFT		✓											
VERI1K EFT		✓							✓				
VERI-CP-EFT		✓											
ADAPTER EFT-CDN		✓											
ADAPTER EFT100		✓											
ADAPTER EFT250		✓											
CN-BALUN AC		✓											ANSI
EFT-INSULATION		✓											
MF1000-1				✓	✓								
MF1STAND				✓	✓								
MF1000-2				✓	✓								
MF1000-3				✓									
MF3STAND				✓									
VAR-EXT1000				✓		✓							
SRC16-1P						✓							
VERI-DIPS						✓					✓	✓	
DIPS100E						✓					✓	✓	
PFS32						✓						✓	
SRC32-18UH						✓						✓	
SRC32-AMD1						✓						✓	
SRC32-AMD1 36UH						✓						✓	
PFS75						✓						✓	
PFS75-690V						✓						✓	
SRC75-18UH						✓						✓	
SRC75-690V						✓						✓	
PS3								✓			✓		
RS485-RS232 ADAPT.								✓			✓		
EXT-IMU-C-SHORT								✓					
VERI01 OSI									✓				
IMU SLAVE SMART V1										✓			
IMU SLAVE SMART I1										✓			
IMU SLAVE SMART I1V1										✓			
VERI10/50										✓			
EXT-IMU D-29D											✓		
EXT-IMU D-29I											✓		

# 1. IMU4000

## 1.1. TECHNICAL SPECIFICATIONS

### IMU4000 Mainframe

<b>EUT power input 1 (CDN)</b>	AC/DC 300V, 16A (fused 16A)
<b>EUT power input 2 (CDN)</b>	AC/DC 300V, 16A (not fused)
<b>Internal CDN freq. range</b>	DC, 50 Hz, 60 Hz
<b>Power freq. synchr.</b>	16 Hz up to 60 Hz
<b>Coupling Burst</b>	L, N, PE, L+N, L+PE, N+PE, L+N+PE, direct out
<b>Coupling Surge</b>	2 Ω: L-N, direct out, 12 Ω: L-PE, N-PE



### IMU4000 Control features

<b>Operating system</b>	EPOS proprietary firmware
<b>Languages</b>	8 menu languages, selectable
<b>User interface</b>	7" colour touch display
<b>Connectivity</b>	ethernet, USB, RS485
<b>Environment meas.</b>	built-in temperature and humidity sensor
<b>EUT power monitor</b>	supply voltage, current and freq. on screen
<b>EUT voltage monitor BNC</b>	10 V = 400 Vac, max. 15 V
<b>EUT current monitor BNC</b>	10 V = 50 Aac, max. 15 V
<b>Surge voltage monitor BNC</b>	10 V = 8 kV, max. 15 V
<b>Surge current monitor BNC</b>	10 V = 4 kA, max. 15 V
<b>Trigger out</b>	BNC, max. 15 V
<b>Trigger in</b>	auto, manual
<b>Synchro. source</b>	EUT Power, direct out, external
<b>Power synchro. on/off</b>	0 – 359°, 1° step
<b>Input power selection</b>	PWR1 or PWR2 buttons on front panel
<b>EUT overcurrent protection</b>	automatic programmable fuse up to 16 A
<b>Emergency stop</b>	BNC input
<b>PS3 Control</b>	DC, 16.7Hz, 50Hz, 60Hz supply power

### IMU4000 module: EXT-IMU-E, ESD extension 16 kV

See section Accessories for IMU Series: IEC 61000-4-2

### IMU4000 module: EXT-IMU4000 F, EFT / Burst extension 4.4 kV

<b>Standard</b>	IEC 61000-4-4 (latest edition)
<b>Output impedance</b>	50 Ω
<b>Voltage OC</b>	0.25 kV – 4.4 kV ± 10 %
<b>Voltage into 50 Ω</b>	0.125 kV – 2.2 kV ± 10 %
<b>Waveform into 50 Ω</b>	5 ± 1.5 ns / 50 ± 15 ns
<b>Voltage into 1 kΩ</b>	0.238 kV - 4 kV
<b>Waveform into 1 kΩ</b>	5 ± 1.5 ns / 50 ns (-15/+100 ns)

**Overview** | [IMU4000](#) | [IMU3000](#) | [DOW3000](#) | [CDNs](#) | [Accessories](#)

<b>Spike frequency</b>	1 kHz - 1 MHz
<b>Maximum spikes / second</b>	8000 @ 1 kV
<b>Burst duration</b>	0.01 ms - 30 ms, continuous up to 8 kHz
<b>Burst repetition</b>	1 - 1000 ms
<b>Polarity</b>	positive, negative, alternating
<b>Synchronization</b>	0 – 359°, step 1°
<b>Ramps</b>	voltage, spike frequency, burst duration
<b>Optional accessories</b>	<a href="#">CDNs</a> , <a href="#">Accessories</a>

### IMU4000 module: EXT-IMU4000 F5, EFT / Burst extension 5.1 kV

<b>Standard</b>	IEC 61000-4-4 (latest edition)
<b>Output impedance</b>	50 Ω
<b>Voltage OC</b>	0.25 kV – 5.1 kV ± 10 %
<b>Voltage into 50 Ω</b>	0.125 kV – 2.55 kV ± 10 %
<b>Waveform into 50 Ω</b>	5 ± 1.5 ns / 50 ± 15 ns
<b>Voltage into 1 kΩ</b>	0.238 kV – 4.86 kV
<b>Waveform into 1 kΩ</b>	5 ± 1.5 ns / 50 ns (-15/+100 ns)
<b>Spike frequency</b>	1 kHz - 1 MHz
<b>Maximum spikes / second</b>	8000 @ 1 kV
<b>Burst duration</b>	0.01 ms - 30 ms, continuous up to 8 kHz
<b>Burst repetition</b>	1 - 1000 ms
<b>Polarity</b>	positive, negative, alternating
<b>Synchronization</b>	0 – 359°, step 1°
<b>Ramps</b>	voltage, spike frequency, burst duration
<b>Optional accessories</b>	<a href="#">CDNs</a> , <a href="#">Accessories</a>

### IMU4000 module: EXT-IMU4000 S, CWG / Surge extension 4.1 kV

<b>Standard</b>	IEC 61000-4-5 (latest edition)
<b>Output impedance</b>	2 Ω
<b>Voltage OC</b>	0.25 kV - 4.1 kV ± 10 %
<b>Voltage waveform</b>	1.2 μs ± 30 % / 50 μs ± 20 %
<b>Current SC</b>	0.125 kA - 2.05 kA ± 10 %
<b>Current waveform</b>	8 μs ± 20 % / 20 μs ± 20 %
<b>Pulse repetition</b>	up to 1 / s @ 1 kV, 1 / 5 s @ 4.1 kV
<b>Polarity</b>	positive, negative, alternating
<b>Synchronization</b>	0 – 359°, step 1°
<b>Ramps</b>	voltage, synchronisation angle
<b>Magnetic pulse test</b>	IEC 61000-4-9, see <a href="#">MF1000-x</a> antennas
<b>Optional accessories</b>	<a href="#">CDNs</a> , <a href="#">CDNs for I/O Lines</a> , <a href="#">Accessories</a>

### IMU4000 module: EXT-IMU D, AC/DC Dips, Interruptions extension

<b>Standard</b>	IEC 61000-4-11 (latest edition)
<b>EUT AC power</b>	0 V – 300 V, max. 16 A
<b>EUT frequency with variac</b>	48 Hz – 60 Hz
<b>Switch time into 100 <math>\Omega</math></b>	1 $\mu$ s – 5 $\mu$ s
<b>Interruption time</b>	50 $\mu$ s – 30 s
<b>Inrush current</b>	> 500 A peak
<b>Dips internal variac</b>	voltage 0 – 110 %, max. 5 A
<b>Dips extern. variac</b>	voltage 0 – 110 %, max. 16 A
<b>EUT turn ON/OFF phase</b>	selectable, 0° – 359°
<b>Variation mode</b>	adjust, abrupt
<b>Variation internal variac</b>	voltage 0 – 100 %, max. 5A
<b>Variation external variac</b>	voltage 0 – 100 %, max 16A
<b>Interruption &lt; one period</b>	input as phase angle
<b>Interruption &gt; one period</b>	input in ms
<b>Ramps</b>	voltage, synchronisation angle, time
<b>Requires</b>	<a href="#">EXT-IMU V</a> , <a href="#">SRC16-1P</a> or <a href="#">VAR-EXT1000</a> for AC dips
<b>Optional accessories</b>	<a href="#">Accessories</a>

<b>Standard</b>	IEC 61000-4-29 (latest edition)
<b>EUT DC power</b>	24 – 300 V, 0 – 16 A @ 300V
<b>Switch time into 100 <math>\Omega</math></b>	1 $\mu$ s – 50 $\mu$ s
<b>Interruption time</b>	1 ms – 29999 ms
<b>Requires</b>	1 x <a href="#">PS3</a> for DC interrupt., 2 x <a href="#">PS3</a> for DC dips

### IMU4000 module: EXT-IMU V, dips and variations extension

<b>Standard</b>	IEC 61000-4-11 (latest edition)
<b>Construction</b>	internal variac
<b>Power input</b>	20 – 250 V, 5 A
<b>Power output dips</b>	max. 275 V (110 %), max. 5 A continuous
<b>Power output variations</b>	max. 250 V (100 %), max. 5 A continuous
<b>Current capability dips</b>	10 A for 5 sec., 16 A for 300 ms
<b>Variation mode</b>	adjust, abrupt
<b>Voltage slew rate</b>	< 1.2 s from 0 to 100 %
<b>Switching time abrupt</b>	1 – 5 $\mu$ s
<b>Ramp transition time</b>	25 – 999 periods @ 50/60 Hz
<b>Magnetic field test</b>	IEC 61000-4-8, see <a href="#">MF1000-x</a> antennas

### IMU4000 module: EXT-IMU C, Common mode extension

<b>Standard</b>	IEC 61000-4-16 (latest edition)
<b>Test voltage continuous</b>	0.1 – 35 Vrms
<b>Power harmonic test</b>	15 Hz – 150 kHz up to 35 V
<b>Sweep time</b>	adjustable, decade time: 10 s – 1000 s
<b>Test voltage short duration</b>	0.1 – 330 Vrms: requires <a href="#">PS3</a> , <a href="#">EXT-IMU C-SHORT</a>
<b>Power frequency test</b>	DC, 16.7 Hz, 50 Hz, 60 Hz



<b>Source impedance</b>	50 Ω ± 10 %
<b>Sync. turn on/off for AC</b>	0° ± 5 %
<b>DC switching time</b>	1 - 5 μs
<b>Residual ripple DC</b>	< 5%
<b>THD 15 Hz – 150 kHz</b>	< 1%
<b>THD power frequency</b>	< 10%
<b>Optional accessories</b>	CDNs, CDNs for I/O Lines, Accessories

**IMU4000 module:**  
**IMU SLAVE SMART external module**

See section [Accessories](#) for IMU Series: IEC 61000-4-19

## 1.2. POWER, WEIGHT, DIMENSIONS, CLIMATIC CONDITIONS

### IMU4000 mainframe

<b>Operating voltage</b>	100 – 240 V (50/60 Hz) ± 10 %
<b>Power consumption</b>	ON < 50 VA, standby < 5 VA
<b>Weight</b>	16 kg (Weight of modules not included)
<b>W x d x h</b>	520 x 433 x 180 mm
<b>Version</b>	19" unit, 4 UH
<b>Temperature range</b>	10 – 35 °C
<b>Humidity</b>	< 80 % non-condensing
<b>Air pressure</b>	86 – 106 kPa
<b>Included articles</b>	
<b>Power cord</b>	with country plug
<b>Supply connection</b>	3 cables x 2 m, banana plugs
<b>User manual</b>	digital format (PDF)
<b>Calibration certificate</b>	factory calibration
<b>Ethernet cable</b>	1 piece
<b>USB stick</b>	1 piece

## 2. IMU3000



### 2.1. TECHNICAL SPECIFICATIONS

#### IMU3000 Mainframe

<b>EUT power input 1 (CDN)</b>	AC/DC 300V, 16A (fused 16A)
<b>EUT power input 2 (CDN)</b>	AC/DC 300V, 16A (not fused)
<b>Internal CDN freq. range</b>	DC, 50 Hz, 60 Hz
<b>Power freq. synchr.</b>	16 Hz up to 60 Hz
<b>Coupling Burst</b>	L, N, PE, L+N, L+PE, N+PE, L+N+PE, direct out
<b>Coupling Surge</b>	2 Ω: L-N, direct out, 12 Ω: L-PE, N-PE, direct out
<b>Coupling Ring wave</b>	12 Ω and 30 Ω: L-N, N-PE, L-PE, direct out

#### IMU3000 Control features

<b>Operating system</b>	EPOS proprietary firmware
<b>Languages</b>	8 menu languages, selectable
<b>User interface</b>	7" colour touch display
<b>Connectivity</b>	ethernet, USB, RS485
<b>Environment meas.</b>	built-in temperature and humidity sensor
<b>EUT power monitor</b>	supply voltage, current and freq. on screen
<b>EUT voltage monitor BNC</b>	10 V = 400 Vac, max. 15 V
<b>EUT current monitor BNC</b>	10 V = 50 Aac, max. 15 V
<b>Surge voltage monitor BNC</b>	10 V = 8 kV, max. 15 V
<b>Surge current monitor BNC</b>	10 V = 4 kA, max. 15 V
<b>Trigger out</b>	BNC, max. 15 V
<b>Trigger in</b>	auto, manual, external (BNC input)
<b>Synchro. source</b>	EUT Power, direct out, external
<b>Power synchro. on/off</b>	0 – 359°, 1° step
<b>Input power selection</b>	PWR1 or PWR2 buttons on front panel
<b>EUT overcurrent protection</b>	automatic programmable fuse up to 16 A
<b>Emergency stop</b>	Emergency button on front panel, BNC input
<b>PS3 Control</b>	DC, 16.7Hz, 50Hz, 60Hz

#### IMU3000 module: EXT-IMU E, ESD extension 16 kV

See section Accessories for IMU Series: [IEC 61000-4-2](#)

#### IMU3000 module: EXT-IMU3000 F5, EFT / Burst extension 5.1 kV

<b>Standard</b>	IEC 61000-4-4 (latest edition)
<b>Output impedance</b>	50 Ω
<b>Voltage OC</b>	0.25 kV – 5.1 kV ± 10 %

<b>Voltage into 50 Ω</b>	0.125 kV – 2.55 kV ± 10 %
<b>Waveform into 50 Ω</b>	5 ± 1.5 ns / 50 ± 15 ns
<b>Voltage into 1 kΩ</b>	0.238 kV – 4.86 kV
<b>Waveform into 1 kΩ</b>	5 ± 1.5 ns / 50 ns (-15/+100 ns)
<b>Spike frequency</b>	1 kHz - 1 MHz
<b>Maximum spikes / second</b>	8000 @ 1 kV
<b>Burst duration</b>	0.01 ms - 30 ms, continuous up to 8 kHz
<b>Burst repetition</b>	1 - 1000 ms
<b>Polarity</b>	positive, negative, alternating
<b>Synchronization</b>	0 – 359°, step 1°
<b>Ramps</b>	voltage, spike frequency, burst duration
<b>Optional accessories</b>	<a href="#">CDNs</a> , <a href="#">Accessories</a>

### IMU3000 module: EXT-IMU3000 F6, EFT / Burst extension 6.3 kV

<b>Standard</b>	IEC 61000-4-4 (latest edition)
<b>Output impedance</b>	50 Ω
<b>Voltage OC</b>	0.25 kV – 6.3 kV ± 10 %
<b>Voltage into 50 Ω</b>	0.125 kV – 3.15 kV ± 10 %
<b>Waveform into 50 Ω</b>	5 ± 1.5 ns / 50 ± 15 ns
<b>Voltage into 1 kΩ</b>	0.238 kV – 5.98 kV
<b>Waveform into 1 kΩ</b>	5 ± 1.5 ns / 50 ns (-15/+100 ns)
<b>Spike frequency</b>	1 kHz - 1 MHz
<b>Maximum spikes / second</b>	8000 @ 1 kV
<b>Burst duration</b>	0.01 ms - 30 ms, continuous up to 8 kHz
<b>Burst repetition</b>	1 - 1000 ms
<b>Polarity</b>	positive, negative, alternating
<b>Synchronization</b>	0 – 359°, step 1°
<b>Ramps</b>	voltage, spike frequency, burst duration
<b>Optional accessories</b>	<a href="#">CDNs</a> , <a href="#">Accessories</a>

### IMU3000 module: EXT-IMU3000 S6, CWG / Surge extension 6.6 kV

<b>Standard</b>	IEC 61000-4-5 (latest edition)
<b>Output impedance</b>	2 Ω
<b>Voltage OC</b>	0.25 kV - 6.6 kV ± 10 %
<b>Voltage waveform</b>	1.2 μs ± 30 % / 50 μs ± 20 %
<b>Current SC</b>	0.125 kA – 3.3 kA ± 10 %
<b>Current waveform</b>	8 μs ± 20 % / 20 μs ± 20 %
<b>Pulse repetition</b>	up to 1 / s @ 1 kV, 1 / 10 s @ 6.6 kV
<b>Polarity</b>	positive, negative, alternating
<b>Synchronization</b>	0 – 359°, step 1°
<b>Ramps</b>	voltage, synchronisation angle
<b>Magnetic pulse test</b>	IEC 61000-4-9, see <a href="#">MF1000-x</a> antennas
<b>Optional accessories</b>	<a href="#">CDNs</a> , <a href="#">CDNs for I/O Lines</a> , <a href="#">Accessories</a>

### IMU3000 module: EXT-IMU3000 S, CWG / Surge extension 8 kV

Standard	IEC 61000-4-5 (latest edition)
Output impedance	2 $\Omega$
Voltage OC	0.25 kV – 8 kV $\pm$ 10 %
Voltage waveform	1.2 $\mu$ s $\pm$ 30 % / 50 $\mu$ s $\pm$ 20 %
Current SC	0.125 kA – 4 kA $\pm$ 10 %
Current waveform	8 $\mu$ s $\pm$ 20 % / 20 $\mu$ s $\pm$ 20 %
Pulse repetition	up to 1 / s @ 1 kV, 1 / 12 s @ 8 kV
Polarity	positive, negative, alternating
Synchronization	0 – 359°, step 1°
Ramps	voltage, synchronisation angle
Magnetic pulse test	IEC 61000-4-9, see MF1000-x antennas
Optional accessories	<a href="#">CDNs, CDNs for I/O Lines, Accessories</a>

### IMU3000 module: EXT-IMU3000 T6, Telecom Surge extension 6.6 kV

Standard	IEC 61000-4-5 (latest edition)
Output impedance	15 $\Omega$ , 40 $\Omega$
Voltage OC	0.25 kV - 6.6 kV $\pm$ 10 %
Voltage waveform	10 $\mu$ s $\pm$ 30 % / 700 $\mu$ s $\pm$ 20 %
Current SC into 40 $\Omega$	6.25 A – 165 A $\pm$ 10 %
Current waveform	5 $\mu$ s $\pm$ 20 % / 320 $\mu$ s $\pm$ 20 %
Pulse repetition	up to 1 / s @ 1 kV, 1 / 20 s @ 6.6 kV
Polarity	positive, negative, alternating
Ramps	voltage
Optional accessories	<a href="#">CDNs for I/O Lines, Accessories</a>

### IMU3000 module: EXT-IMU3000 T, Telecom Surge extension 8 kV

Standard	IEC 61000-4-5 (latest edition)
Output impedance	15 $\Omega$ , 40 $\Omega$
Voltage OC	0.25 kV - 8 kV $\pm$ 10 %
Voltage waveform	10 $\mu$ s $\pm$ 30 % / 700 $\mu$ s $\pm$ 20 %
Current SC into 40 $\Omega$	6.25 A – 200 A $\pm$ 10 %
Current waveform	5 $\mu$ s $\pm$ 20 % / 320 $\mu$ s $\pm$ 20 %
Pulse repetition	up to 1 / s @ 1 kV, 1 / 24 s @ 8 kV
Polarity	positive, negative, alternating
Ramps	voltage
Optional accessories	<a href="#">CDNs for I/O Lines, Accessories</a>

### IMU3000 module: EXT-IMU D, AC/DC Dips, Interruptions extension

Standard	IEC 61000-4-11 (latest edition)
EUT AC power	0 V – 300V @ 50 / 60 Hz, max. 16 A
EUT frequency with variac	48 Hz – 60 Hz
Switch time into 100 $\Omega$	1 $\mu$ s – 5 $\mu$ s
Interruption time	50 $\mu$ s – 30 s
Inrush current	> 500 A peak

<b>Dips internal variac</b>	voltage 0 – 110 %, max. 5 A
<b>Dips extern. variac</b>	voltage 0 – 110 %, max. 16 A
<b>EUT turn ON/OFF phase</b>	selectable, 0° – 359°
<b>Variation mode</b>	adjust, abrupt
<b>Variation internal variac</b>	voltage 0 – 100 %, max. 5A
<b>Variation external variac</b>	voltage 0 – 100 %, max 16A
<b>Interruption &lt; one period</b>	input as phase angle
<b>Interruption &gt; one period</b>	input in ms
<b>Ramps</b>	voltage, synchronisation angle, time
<b>Requires</b>	<a href="#">EXT-IMU V</a> , <a href="#">SRC16-1P</a> or <a href="#">VAR-EXT1000</a> for AC dips
<b>Optional accessories</b>	<a href="#">Accessories</a>

<b>Standard</b>	IEC 61000-4-29 (latest edition)
<b>EUT DC power</b>	20 – 300 V, 0 – 16 A @ 300V
<b>Switch time into 100 Ω</b>	1 μs – 50 μs
<b>Interruption time</b>	1 ms – 29999 ms
<b>Requires</b>	1 x <a href="#">PS3</a> for DC interrupt., 2 x <a href="#">PS3</a> for DC dips

### IMU3000 module: EXT-IMU V, Variations extension

<b>Standard</b>	IEC 61000-4-11 (latest edition)
<b>Construction</b>	internal variac
<b>Power input</b>	20 – 250 V, 5 A
<b>Power output dips</b>	max. 275 V (110 %), max. 5 A continuous
<b>Power output variations</b>	max. 250 V (100 %), max. 5 A continuous
<b>Current capability dips</b>	10 A for 5 sec., 16 A for 300 ms
<b>Variation mode</b>	adjust, abrupt
<b>Voltage slew rate</b>	< 1.2 s from 0 to 100 %
<b>Switching time abrupt</b>	1 – 5 μs
<b>Ramp transition time</b>	25 – 999 periods
<b>Magnetic field test</b>	IEC 61000-4-8, see <a href="#">MF1000-x</a> antennas

### IMU3000 module: EXT-IMU3000 R6, 100 kHz Ring wave extension 6.6 kV

<b>Standard</b>	IEC 61000-4-12 (latest edition)
<b>Output impedance</b>	12 Ω, 30 Ω
<b>Voltage OC</b>	0.25 kV - 6.6 kV ± 10 %, decay as in IEC, ANSI
<b>Voltage rise time/ osc. freq.</b>	0.5 μs ± 30 % / 100 kHz ± 10 %
<b>Current SC into 12 Ω</b>	20.833 A – 550 A ± 10 %
<b>Current SC into 30 Ω</b>	6.25 A – 220 A ± 10 %
<b>Current rise time</b>	< 1 μs
<b>Pulse repetition</b>	up to 1 / s @ 1 kV, 1 / s @ 6.6 kV
<b>Polarity</b>	positive, negative, alternating
<b>Synchronization</b>	0 – 359°, step 1°
<b>Ramps</b>	voltage, synchronisation angle
<b>Optional accessories</b>	<a href="#">CDNs</a> , <a href="#">CDNs for I/O Lines</a> , <a href="#">Accessories</a>

### IMU3000 module: EXT-IMU3000 R, 100 kHz Ring wave extension 8 kV

Standard	IEC 61000-4-12 (latest edition)
Output impedance	12 $\Omega$ $\pm$ 20 %, 30 $\Omega$ $\pm$ 20 %
Voltage OC	0.25 kV - 8 kV $\pm$ 10 %, decay as in IEC, ANSI
Voltage rise time/ osc. freq.	0.5 $\mu$ s $\pm$ 30 % / 100 kHz $\pm$ 10 %
Current SC into 12 $\Omega$	20.833 A - 667 A $\pm$ 10 %
Current SC into 30 $\Omega$	6.25 A - 267 A $\pm$ 10 %
Current rise time	< 1 $\mu$ s
Pulse repetition	up to 1 / s @ 1 kV, 1 / s @ 8 kV
Polarity	positive, negative, alternating
Synchronization	0 - 359°, step 1°
Ramps	voltage, synchronisation angle
Optional accessories	CDNs, CDNs for I/O Lines, Accessories

### IMU3000 module: EXT-IMU C, Common mode extension

Standard	IEC 61000-4-16 (latest edition)
Test voltage continuous	0.1 - 35 Vrms
Power harmonic test	15 Hz - 150 kHz
Sweep time	adjustable, decade time: 10 s - 1000 s
Test voltage short duration	0.1 - 330 Vrms: PS3, EXT-IMU C-SHORT
Power frequency test	DC, 16.7 Hz, 50 Hz, 60 Hz
Source impedance	50 $\Omega$ $\pm$ 10 %
Sync. turn on/off for AC	0° $\pm$ 5 %
DC switching time	1 - 5 $\mu$ s
Residual ripple DC	< 5%
THD 15 Hz - 150 kHz	< 1%
THD power frequency	< 10%
Optional accessories	CDNs, CDNs for I/O Lines, Accessories

### IMU3000 module: IMU SLAVE SMART external module

See section Accessories for IMU Series: IEC 61000-4-19

## 2.2. POWER, WEIGHT, DIMENSIONS, CLIMATIC CONDITIONS

### IMU3000 mainframe

Operating voltage	100 - 240 V (50/60 Hz) $\pm$ 10 %
Power consumption	ON < 50 VA, standby < 5 VA
Weight	30 kg (Weight of modules not included)
W x d x h	520 x 433 x 360 mm
Version	19" unit, 8 UH



<b>Temperature range</b>	10 – 35 °C
<b>Humidity</b>	< 80 % non-condensing
<b>Air pressure</b>	86 – 106 kPa

#### Included articles

<b>Power cord</b>	with country plug
<b>Supply connection</b>	3 cables x 2 m, banana plugs
<b>User manual</b>	digital format (PDF)
<b>Calibration certificate</b>	factory calibration
<b>Ethernet cable</b>	1 piece
<b>USB stick</b>	1 piece

## 3. DOW3000

### 3.1. TECHNICAL SPECIFICATIONS



#### DOW3000 Mainframe

<b>Built-in CDN</b>	three phase CDN integrated
<b>EUT voltage AC</b>	max. 3 x 690 V L-L (400 V L-N), 50 / 60 Hz
<b>EUT current AC</b>	max. 3 x 32 A
<b>EUT protection AC</b>	over-current automatic prot., Type C charact.
<b>EUT power DC</b>	max. 500 V, 32 A L-L or L-PE
<b>EUT power switch</b>	ON / OFF switch on the front panel
<b>Internal CDN freq. range</b>	DC, 50 Hz, 60 Hz
<b>Power freq. synchr.</b>	50 / 60 Hz for both slow and fast
<b>Coupling slow DOW</b>	L1-L2, L1-L3, L2-L3, L1-N, L2-N, L3-N, L1-PE, L2-PE, L3-PE, N-PE, L1+N to PE, L1+L2+L3+N to PE
<b>Coupling fast DOW</b>	L1-PE, L2-PE, L3-PE, N-PE, L1+N to PE, L1+L2+L3+N to PE

## DOW3000 Control features

<b>Operating system</b>	EPOS proprietary firmware
<b>Languages</b>	8 menu languages, selectable
<b>User interface</b>	7" colour touch display
<b>Connectivity</b>	ethernet, USB, RS485
<b>EUT power monitor</b>	supply voltage, current and freq. on screen
<b>Surge voltage monitor BNC</b>	1 V = 4 kV @ 50 Ω DSO input (only impulse)
<b>Trigger in</b>	auto, manual, external (BNC input max 24 V)
<b>Synchro. source</b>	EUT Power
<b>Power synchro. on/off</b>	0 – 359° ± 10°, 1° step
<b>Emergency stop</b>	emergency button on front panel
<b>EUT fail input</b>	BNC max 24 V
<b>Safety circuit</b>	safety circuit, output for warning lamps

## DOW3000 module: DOW3000 S Slow damped oscillatory wave 5 kV

<b>Standards</b>	IEC 61000-4-18 (latest), ANSI C37.90, IEC 61000-4-12:1995, IEC60255-27, other
<b>Oscillation frequencies</b>	100 kHz, 1 MHz ± 10 %
<b>Voltage OC direct out</b>	0.2 kV – 5 kV ± 10 %
<b>Voltage OC CDN out</b>	0.2 kV – 4.4 kV ± 10 %
<b>Current SC direct out</b>	1 A – 25 A ± 20 %
<b>Current SC CDN out</b>	1 A – 22 A ± 20 %
<b>Output impedance</b>	200 Ω
<b>Rise time</b>	75 ns ± 20 %
<b>Decay voltage waveform</b>	$Pk5 > \frac{1}{2} \cdot Pk1$ , $Pk10 < \frac{1}{2} \cdot Pk1$
<b>Pulse repetition @ 100 kHz</b>	max. 50 / s
<b>Pulse repetition @ 1 MHz</b>	max. 500 / s
<b>Burst duration</b>	1 ms – 20 s @ 100 kHz, @ 1 MHz
<b>Burst repetition</b>	100 ms – 200 s @ 100 kHz, @ 1 MHz
<b>Polarity</b>	positive, negative, alternating
<b>Synchronization</b>	0 – 359° ± 10°, 1° step
<b>Ramp</b>	test voltage
<b>Optional accessories</b>	<a href="#">CDNs for I/O Lines, Accessories</a>
<b>Standard</b>	IEC 61000-4-10
<b>Magnetic pulse generator</b>	as per IEC 61000-4 18 Slow DOW
<b>Magnetic field 100 kHz</b>	5 – 220 A/m with MF1000-1 ± 20 % 5 – 160 A/m with MF1000-2 ± 20 %
<b>Magnetic field 1 MHz</b>	2.5 – 110 A/m with MF1000-1 ± 20 % 2.5 – 60 A/m with MF1000-2 ± 20 %
<b>Requires</b>	<a href="#">MF1000-1</a> or <a href="#">MF1000-2</a> depend. on EUT size

### DOW3000 module: DOW3000 F Fast damped oscillatory wave 4 kV

<b>Standard</b>	IEC 61000-4-18 (latest edition)
<b>Oscillation frequencies</b>	3 MHz, 10 MHz, 30 MHz $\pm$ 10 %
<b>Voltage OC direct out</b>	0.4 kV – 4.4 kV $\pm$ 10 %
<b>Voltage OC CDN out</b>	0.4 kV – 4.0 kV $\pm$ 10 %
<b>Voltage calibrated</b>	0.5 kV – 4 kV
<b>Voltage waveform decay</b>	$Pk5 > \frac{1}{2} \cdot Pk1$ , $Pk10 < \frac{1}{2} \cdot Pk1$
<b>Output impedance</b>	50 $\Omega$
<b>Voltage rise time</b>	5 ns $\pm$ 30 %
<b>Pulse repetition</b>	max. 6000 / s
<b>Burst duration</b>	1 ms – 20 s
<b>Burst repetition</b>	10 ms – 200 s
<b>Current SC direct &amp; CDN</b>	8 A – 88 A $\pm$ 20 % @ all frequencies
<b>Current SC calibrated</b>	10 A – 80 A
<b>Current rise time</b>	< 330 ns @ 3 MHz < 100 ns @ 10 MHz < 33 ns @ 30 MHz
<b>Current waveform decay</b>	$Pk5 > \frac{1}{4} \cdot Pk1$ , $Pk10 < \frac{1}{4} \cdot Pk1$
<b>Polarity</b>	positive, negative, alternating
<b>Synchronization</b>	0 – 359° $\pm$ 10°, 1° step
<b>Ramp</b>	test voltage
<b>Optional accessories</b>	<a href="#">CN-EFT1000</a> , <a href="#">VERI01 OSI</a> , <a href="#">VERI1K EFT</a> , <a href="#">VERI50-EFT</a>

### DOW3000 module: DOW3000 I Insulation test 500 $\Omega$ / 0.5 J up to 8 kV

<b>Standards</b>	IEC 61180-1/2, IEC62052-11, IEC60255-27, IEC60834-1/2, EN50470-1
<b>Voltage test levels</b>	0.5 kV, 1 kV, 1.5 kV, 2 kV, 2.5 kV, 3 kV, 4 kV, 5 kV, 6 kV, 8 kV + 0 % / - 10 %
<b>Output impedance</b>	500 $\Omega$ $\pm$ 10 %
<b>Impulse rise time</b>	1.2 $\mu$ s $\pm$ 30 %
<b>Impulse duration</b>	50 $\mu$ s $\pm$ 20 %
<b>Pulse energy at test levels</b>	0.5 J $\pm$ 10 %
<b>Repetition rate</b>	1 s – 655 s
<b>Included articles</b>	cables and test clips

## 3.2. POWER, WEIGHT, DIMENSIONS, CLIMATIC CONDITIONS

### DOW3000 mainframe

<b>Operating voltage</b>	100 – 240 V (50/60 Hz) ± 10 %
<b>Power consumption</b>	ON < 400 VA, standby < 15 VA
<b>Weight</b>	43.3 kg full version
<b>W x d x h</b>	600 x 450 x 370 mm
<b>Version</b>	19" unit, 8 UH
<b>Temperature range</b>	10 – 35 °C
<b>Humidity</b>	< 80 % non-condensing
<b>Air pressure</b>	86 – 106 kPa
<b>Included articles</b>	
<b>Power cord</b>	with country plug
<b>Supply connection</b>	5 cables x 2 m, banana plugs
<b>User manual</b>	digital format (pdf)
<b>Calibration certificate</b>	factory calibration
<b>Calibration adapter</b>	included, for CDN
<b>Ethernet cable</b>	1 piece
<b>USB stick</b>	1 piece

## 4. ACCESSORIES FOR IEC TEST SYSTEMS

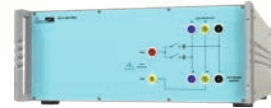
### 4.1. COUPLING/DECOUPLING NETWORKS FOR POWER LINES

#### TYPICAL COUPLING PATHS FOR 3P CDNs from EMC PARTNER

<b>IEC 61000-4-4</b>	L1 or L2 or L3 or N or PE to ground, any combination of 2, 3, 4 lines to ground, L1+L2+L3+N+PE to ground
<b>IEC 61000-4-5</b>	L1-L2, L1-L3, L2-L3, L1-N, L2-N, L3-N, L1-PE, L2-PE, L3-PE, N-PE
<b>IEC 61000-4-12</b>	L1-L2, L1-L3, L2-L3, L1-N, L2-N, L3-N, L1-PE, L2-PE, L3-PE, N-PE
<b>ANSI surge (if applicable)</b>	additional to IEC: L1+L2+L3+N to PE (2 Ω)
<b>ANSI ring (if applicable)</b>	additional to IEC: L1+L2+L3+N to PE (12/30 Ω)

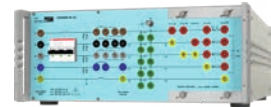
### CN-A-IMU-ANSI

<b>Standards</b>	ANSI C62.41 latest edition
<b>Type</b>	1P, automatic
<b>EUT voltage AC</b>	max. AC/DC 300V, 50 / 60 Hz
<b>EUT current AC</b>	max. 16 A
<b>Test level surge</b>	max. 8 kV, ANSI, L+N to PE included
<b>Test level ring wave</b>	max. 8 kV, ANSI, L+N to PE included
<b>Coupling and decoupling</b>	full compliant to latest edition
<b>Dimensions</b>	19 " unit, 4 UH
<b>Weight</b>	8 kg
<b>Generators</b>	IMU3000



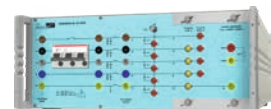
### CDN2000-06-32

<b>Standards</b>	IEC 61000-4-4, -4-5, -4-12 latest editions
<b>Type</b>	3P, manual
<b>EUT voltage AC</b>	max. 3 x 415 V L-L (280 V L-N), 50 / 60 Hz
<b>EUT current AC</b>	max. 3 x 32 A
<b>EUT protection AC</b>	over-current automatic prot., < 1 s @ 125 A
<b>EUT power DC</b>	max. 250 V, 60 A (ask for details)
<b>Test level burst</b>	max. 6 kV, all IEC couplings, additional ones
<b>Test level surge</b>	max. 6 kV, all IEC couplings
<b>Test level ring wave</b>	max. 6 kV, IMU3000 only, all IEC couplings
<b>Coupling and decoupling</b>	full compliant to latest editions
<b>Dimensions</b>	19 " unit, 4 UH
<b>Weight</b>	29 kg
<b>Generators</b>	IMU3000, IMU4000, other EMCP models



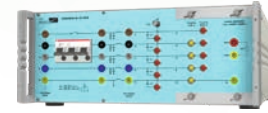
### CDN2000A-06-32

<b>Standards</b>	IEC 61000-4-4, -4-5, -4-12 latest editions
<b>Type</b>	3P, automatic
<b>EUT voltage AC</b>	max. 3 x 415 V L-L (280 V L-N), 50 / 60 Hz
<b>EUT current AC</b>	max. 3 x 32 A
<b>EUT protection AC</b>	over-current automatic prot., < 1 s @ 125 A
<b>EUT power DC</b>	max. 250 V, 60 A (ask for details)
<b>Test level burst</b>	max. 6 kV, all IEC couplings, additional ones
<b>Test level surge</b>	max. 6 kV, all IEC couplings
<b>Test level ring wave</b>	max. 6 kV, IMU3000 only, all IEC couplings
<b>Coupling and decoupling</b>	full compliant to latest editions
<b>Dimensions</b>	19 " unit, 4 UH
<b>Weight</b>	29 kg
<b>Generators</b>	IMU3000, IMU4000, other EMCP models



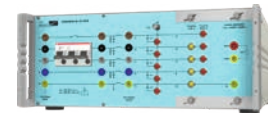
### CDN2000A-06-32 480 V

<b>Standards</b>	IEC 61000-4-4, -4-5 latest editions
<b>Type</b>	3P, automatic
<b>EUT voltage AC</b>	max. 3 x 480 V L-L (280 V L-N), 50 / 60 Hz
<b>EUT current AC</b>	max. 3 x 32 A
<b>EUT protection AC</b>	over-current automatic prot., < 1 s @ 125 A
<b>EUT power DC</b>	max. 300 V, 60 A (ask for details)
<b>Test level burst</b>	max. 6 kV, all IEC couplings, additional ones
<b>Test level surge</b>	max. 6 kV, all IEC couplings
<b>Coupling and decoupling</b>	full compliant to latest editions
<b>Dimensions</b>	19 " unit, 4 UH
<b>Weight</b>	29 kg
<b>Generators</b>	IMU3000, IMU4000, other EMCP models



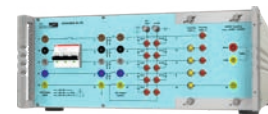
### CDN2000A-06-32 690 V

<b>Standards</b>	IEC 61000-4-4, -4-5 latest editions
<b>Type</b>	3P, automatic
<b>EUT voltage AC</b>	max. 3 x 690 V L-L (400 V L-N), 50 / 60 Hz
<b>EUT current AC</b>	max. 3 x 32 A
<b>EUT protection AC</b>	over-current automatic prot., < 1 s @ 125 A
<b>EUT power DC</b>	max. 420 V, 60 A (ask for details)
<b>Test level burst</b>	max. 6 kV, all IEC couplings, additional ones
<b>Test level surge</b>	max. 6 kV, all IEC couplings
<b>Coupling and decoupling</b>	full compliant to latest editions
<b>Dimensions</b>	19 " unit, 4 UH
<b>Weight</b>	29 kg
<b>Generators</b>	IMU3000, IMU4000, other EMCP models



### CDN3000A-06-32 480 V

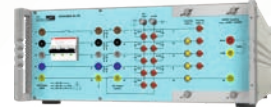
<b>Standards</b>	IEC 61000-4-4, -4-5, -4-12 latest editions
<b>Type</b>	3P, automatic
<b>EUT voltage AC</b>	max. 3 x 480 V L-L (280 V L-N), 50 / 60 Hz
<b>EUT current AC</b>	max. 3 x 32 A
<b>EUT protection AC</b>	over-current automatic prot., < 1 s @ 125 A
<b>EUT power DC</b>	max. 300 V, 60 A (ask for details)
<b>Test level burst</b>	max. 6 kV, all IEC couplings, additional ones
<b>Test level surge</b>	max. 6 kV, all IEC couplings
<b>Test level ring wave</b>	max. 6 kV, IMU3000 only, all IEC couplings
<b>Coupling and decoupling</b>	full compliant to latest editions
<b>Dimensions</b>	19 " unit, 4 UH
<b>Weight</b>	32 kg
<b>Generators</b>	IMU3000, other EMCP models





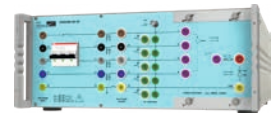
### CDN3000A-06-32 690 V

<b>Standards</b>	IEC 61000-4-4, -4-5, -4-12 latest editions
<b>Type</b>	3P, automatic
<b>EUT voltage AC</b>	max. 3 x 690 V L-L (400 V L-N), 50 / 60 Hz
<b>EUT current AC</b>	max. 3 x 32 A
<b>EUT protection AC</b>	over-current automatic prot., < 1 s @ 125 A
<b>EUT power DC</b>	max. 420 V, 60 A (ask for details)
<b>Test level burst</b>	max. 6 kV, all IEC couplings, additional ones
<b>Test level surge</b>	max. 6 kV, all IEC couplings
<b>Test level ring wave</b>	max. 6 kV, IMU3000 only, all IEC couplings
<b>Coupling and decoupling</b>	full compliant to latest editions
<b>Dimensions</b>	19 " unit, 4 UH
<b>Weight</b>	33 kg
<b>Generators</b>	IMU3000, other EMCP models



### CDN3000-08-32 480 V

<b>Standards</b>	IEC 61000-4-4, -4-5, -4-12 latest editions
<b>Type</b>	3P, manual
<b>EUT voltage AC</b>	max. 3 x 480 V L-L (280 V L-N), 50 / 60 Hz
<b>EUT current AC</b>	max. 3 x 32 A
<b>EUT protection AC</b>	over-current automatic prot., < 1 s @ 125 A
<b>EUT power DC</b>	max. 300 V, 60 A (ask for details)
<b>Test level burst</b>	max. 6 kV, all IEC couplings, additional ones
<b>Test level surge</b>	max. 8 kV, all IEC couplings
<b>Test level ring wave</b>	max. 8 kV, all IEC couplings
<b>Coupling and decoupling</b>	full compliant to latest editions
<b>Dimensions</b>	19 " unit, 4 UH
<b>Weight</b>	31 kg
<b>Generators</b>	IMU3000



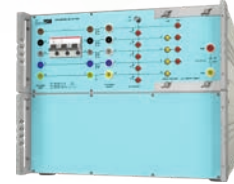
### CDN3000A-08-32 690 V

<b>Standards</b>	IEC 61000-4-4, -4-5, -4-12 latest editions
<b>Type</b>	3P, automatic
<b>EUT voltage AC</b>	max. 3 x 690 V L-L (400 V L-N), 50 / 60 Hz
<b>EUT current AC</b>	max. 3 x 32 A
<b>EUT protection AC</b>	over-current automatic prot., < 1 s @ 125 A
<b>EUT power DC</b>	max. 420 V, 60 A (ask for details)
<b>Test level burst</b>	max. 6 kV, all IEC couplings, additional ones
<b>Test level surge</b>	max. 8 kV, all IEC couplings
<b>Test level ring wave</b>	max. 8 kV, all IEC couplings
<b>Coupling and decoupling</b>	full compliant to latest editions
<b>Dimensions</b>	19 " unit, 8 UH
<b>Weight</b>	43 kg
<b>Generators</b>	IMU3000



### CDN3000A-08-32 CMC

<b>Standards</b>	IEC 61000-4-4, -4-5, -4-12, ANSI C62.45
<b>Type</b>	3P, automatic
<b>EUT voltage AC</b>	max. 3 x 690 V L-L (400 V L-N), 50 / 60 Hz
<b>EUT current AC</b>	max. 3 x 32 A
<b>EUT protection AC</b>	over-current automatic prot., < 1 s @ 125 A
<b>EUT power DC</b>	max. 420 V, 60 A (ask for details)
<b>Test level burst</b>	max. 6 kV, all IEC couplings, additional ones
<b>Test level surge</b>	max. 8 kV, all IEC couplings
<b>Test level ring wave</b>	max. 8 kV, all IEC couplings
<b>ANSI surge and ring wave additional couplings</b>	L1+L2+L3 -N, L1+L2+L3-N, L1+L2+L3+N-PE, surge: 2 Ω + 18 μF, ring wave: 12/ 30 Ω + 3 μF
<b>Coupling and decoupling</b>	full compliant to latest editions
<b>Dimensions</b>	19 " unit, 8 UH
<b>Weight</b>	46 kg
<b>Generators</b>	<a href="#">IMU3000</a>



### CDN2000A-06-63

<b>Standards</b>	IEC 61000-4-4, -4-5 latest editions
<b>Type</b>	3P, automatic
<b>EUT voltage AC</b>	max. 3 x 480 V L-L (280 V L-N), 50 / 60 Hz
<b>EUT current AC</b>	max. 3 x 63 A
<b>EUT protection AC</b>	over-current automatic prot., < 1 s @ 250 A
<b>EUT power DC</b>	max. 300 V, 100 A (ask for details)
<b>Test level burst</b>	max. 6 kV, all IEC couplings, additional ones
<b>Test level surge</b>	max. 6 kV, all IEC couplings
<b>Coupling and decoupling</b>	full compliant to latest editions
<b>Dimensions</b>	19 " unit, 8 UH
<b>Weight</b>	56 kg
<b>Generators</b>	<a href="#">IMU3000</a> , <a href="#">IMU4000</a> , other EMCP models



### CDN-A-3P100-480 F-S

<b>Standards</b>	IEC 61000-4-4, -4-5 latest editions
<b>Type</b>	3P, automatic
<b>EUT voltage AC</b>	max. 3 x 480 V L-L (280 V L-N), 50 / 60 Hz
<b>EUT current AC</b>	max. 3 x 100 A
<b>EUT protection AC</b>	over-current automatic prot., < 2 s @ 500 A
<b>EUT power DC</b>	max. 300 V, 160 A (ask for details)
<b>Test level burst</b>	max. 6 kV, all IEC couplings, additional ones
<b>Test level surge</b>	max. 6 kV, all IEC couplings
<b>Coupling and decoupling</b>	full compliant to latest editions
<b>Dimensions</b>	19 " rack (wheels), 18 UH
<b>Weight</b>	159 kg
<b>Generators</b>	<a href="#">IMU3000</a> , <a href="#">IMU4000</a>



### CDN-A-3P100-690 F-S

<b>Standards</b>	IEC 61000-4-4, -4-5 latest editions
<b>Type</b>	3P, automatic
<b>EUT voltage AC</b>	max. 3 x 690 V L-L (400 V L-N), 50 / 60 Hz
<b>EUT current AC</b>	max. 3 x 100 A
<b>EUT protection AC</b>	over-current automatic prot., < 2 s @ 500 A
<b>EUT power DC</b>	max. 420 V, 160 A (ask for details)
<b>Test level burst</b>	max. 6 kV, all IEC couplings, additional ones
<b>Test level surge</b>	max. 6 kV, all IEC couplings
<b>Coupling and decoupling</b>	full compliant to latest editions
<b>Dimensions</b>	19 " rack (wheels), 18 UH
<b>Weight</b>	160 kg
<b>Generators</b>	<a href="#">IMU3000</a> , <a href="#">IMU4000</a>



### CDN-A-3P100-AC-DC

<b>Standards</b>	IEC 61000-4-4, -4-5, -4-12 latest editions
<b>Type</b>	3P, automatic
<b>EUT voltage AC</b>	max. 3 x 690 V L-L (400 V L-N), 50 / 60 Hz
<b>EUT current AC</b>	max. 3 x 100 A
<b>EUT protection AC</b>	over-current automatic prot., < 2 s @ 500 A
<b>EUT power DC</b>	max. 1000 V, 2 x 100 A ( 2 x DC strings)
<b>Test level burst</b>	max. 6 kV, all IEC couplings, additional ones
<b>Burst coupling on DC</b>	DC1+ and/or DC1- to PE, same for DC2, all to PE
<b>Test level surge</b>	L-PE max. 8 kV, L-L max. 7.5 kV
<b>Surge coupling on DC</b>	DC1+ to DC1-, DC2+ to DC2-, DC1+ to DC2+, DC1- to DC2-, DC1+ to PE, DC1- to PE, DC2+ to PE, DC2- to PE
<b>Test level ring wave</b>	max. 8 kV, all IEC couplings
<b>Ring wave coupling on DC</b>	DC1+ to DC1-, DC2+ to DC2-, DC1+ to DC2+, DC1- to DC2-, DC1+ to PE, DC1- to PE, DC2+ to PE, DC2- to PE
<b>Coupling and decoupling</b>	full compliant to latest editions
<b>Dimensions</b>	19 " rack (wheels), 18 UH
<b>Weight</b>	174 kg
<b>Generators</b>	<a href="#">IMU3000</a>



### CDN-A-3P200-480 F-S

<b>Standards</b>	IEC 61000-4-4, -4-5 latest editions
<b>Type</b>	3P, automatic
<b>EUT voltage AC</b>	max. 3 x 480 V L-L (280 V L-N), 50 / 60 Hz
<b>EUT current AC</b>	max. 3 x 200 A
<b>EUT protection AC</b>	over-current automatic prot., < 2 s @ 500 A
<b>EUT power DC</b>	max. 300 V, 200 A (ask for details)
<b>Voltage drop</b>	< 10 V @ 200 A
<b>Test level burst</b>	max. 6 kV, all IEC couplings, additional ones
<b>Test level surge</b>	max. 8 kV, all IEC couplings
<b>Coupling and decoupling</b>	full compliant to latest editions
<b>Dimensions</b>	19 " rack (wheels), 36 UH
<b>Weight</b>	275 kg
<b>Generators</b>	<a href="#">IMU3000</a> , <a href="#">IMU4000</a>



### CDN-A-3P200-690 F-S

<b>Standards</b>	IEC 61000-4-4, -4-5 latest editions
<b>Type</b>	3P, automatic
<b>EUT voltage AC</b>	max. 3 x 690 V L-L (400 V L-N), 50 / 60 Hz
<b>EUT current AC</b>	max. 3 x 200 A
<b>EUT protection AC</b>	over-current automatic prot., < 2 s @ 500 A
<b>EUT power DC</b>	max. 420 V, 200 A (ask for details)
<b>Voltage drop</b>	< 10 V @ 200 A
<b>Test level burst</b>	max. 6 kV, all IEC couplings, additional ones
<b>Test level surge</b>	max. 8 kV, all IEC couplings
<b>Coupling and decoupling</b>	full compliant to latest editions
<b>Dimensions</b>	19 " rack (wheels), 36 UH
<b>Weight</b>	276 kg
<b>Generators</b>	<a href="#">IMU3000</a> , <a href="#">IMU4000</a>



### CDN-A-3P200-AC-DC

<b>Standards</b>	IEC 61000-4-4, -4-5, -4-12 latest editions
<b>Type</b>	3P, automatic
<b>EUT voltage AC</b>	max. 3 x 690 V L-L (400 V L-N), 50 / 60 Hz
<b>EUT current AC</b>	max. 3 x 200 A
<b>EUT protection AC</b>	over-current automatic prot., < 2 s @ 500 A
<b>EUT power DC</b>	max. 1000 V, 2 x 200 A ( 2 x DC strings)
<b>Test level burst</b>	max. 6 kV, all IEC couplings, additional ones
<b>Burst coupling on DC</b>	DC1+ and/or DC1- to PE, same for DC2, all to PE
<b>Test level surge</b>	L-PE max. 8 kV, L-L max. 7.5 kV
<b>Surge coupling on DC</b>	DC1+ to DC1-, DC2+ to DC2-, DC1+ to DC2+, DC1- to DC2-, DC1+ to PE, DC1- to PE, DC2+ to PE, DC2- to PE
<b>Test level ring wave</b>	max. 8 kV, all IEC couplings

<b>Ring wave coupling on DC</b>	DC1+ to DC1-, DC2+ to DC2-, DC1+ to DC2+, DC1- to DC2-, DC1+ to PE, DC1- to PE, DC2+ to PE, DC2- to PE
<b>Coupling and decoupling</b>	full compliant to latest editions
<b>Dimensions</b>	19 " rack (wheels), 36 UH
<b>Weight</b>	~ 290 kg
<b>Generators</b>	IMU3000

## COMMON MODE COUPLING NETWORKS AND DECOUPLING NETWORKS

Test type	CN 16	CN16 DC	DN16-1P6 EUT	DN16-1P16 EUT
AC test on AC lines	415 V	-	230 V / 6 A	230 V / 16 A
AC test on DC lines	415 V	-	-	-
DC test on AC lines	115 V (115V test level)	230 V / 16 A	230 V / 6 A	230 V / 16 A
DC test on DC lines	115 V (115V test level)	300 V / 16 A	-	-
Sweep test on AC lines	415 V	-	230 V / 6 A	230 V / 16 A
Sweep test on DC lines	415 V	-	-	-

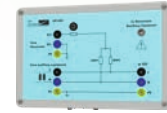
### CN16

<b>Standard</b>	IEC 61000-4-16
<b>Type</b>	manual, for 1, 2 or 4 power lines
<b>EUT voltage AC (see table)</b>	max. 3 x 415 V L-L (240 V L-N), 50 / 60 Hz
<b>EUT current AC</b>	limited only by decoupling
<b>EUT power DC (see table)</b>	max. 115 V, current limited only by decoupling
<b>Coupling paths</b>	1 x 100 Ω, 2 x 200 Ω, 4 x 400 Ω, 1 μF per line
<b>Test level power tests</b>	330 V @ 16.67 Hz, 50 Hz, 60 Hz, 115 V @ DC
<b>Test level sweep test</b>	35 V
<b>Dimensions</b>	28 x 18 x 11 cm
<b>Weight</b>	3 kg
<b>Optional</b>	PS3, EXT-IMU C-SHORT DN16-1P6 or DN16-1P16 decoupling transformer
<b>Generators</b>	IMU3000, IMU4000



## CN16DC

Standard	IEC 61000-4-16
Type	manual, for 2 power lines
EUT power AC (see table)	230 V, 50 / 60 Hz, 16 A
EUT power DC (see table)	300 V, 16 A
Coupling paths	2 x 200 $\Omega$
Test level power tests	330 V DC on AC and DC lines
Dimensions	28 x 19 x 11 cm
Weight	3 kg
Requires	PS3, EXT-IMU C-SHORT
Optional	DN16-1P6 or DN16-1P16 decoupling transformer
Generators	IMU3000, IMU4000



## CN16-22-7C

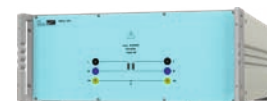
Standard	IEC60255-22-7
Type	manual, for 2 power lines, common mode test
EUT power AC	415 V, 50 / 60 Hz, 16 A
EUT power DC	300 V, 16 A
Coupling path	2 x 220 $\Omega \pm 5\%$ , 0.47 $\mu\text{F} \pm 5\%$ per line
Test level	max. 300 V
Dimensions	28 x 18 x 11 cm
Weight	3.3 kg
Requires	PS3, EXT-IMU C-SHORT
Generators	IMU3000, IMU4000

## CN16-22-7D

Standard	IEC60255-22-7
Type	manual, for 2 power lines, diff. mode test
EUT power AC	415 V, 50 / 60 Hz, 16 A
EUT power DC	300 V, 16 A
Coupling path 1 (class A)	2 x 100 $\Omega \pm 5\%$ , 0.1 $\mu\text{F} \pm 5\%$ per line
Coupling path 2 (class B)	2 x 100 $\Omega \pm 5\%$ , 0.47 $\mu\text{F} \pm 5\%$ per line
Test level	max. 300 V
Dimensions	28 x 18 x 11 cm
Weight	3.5 kg
Requires	PS3, EXT-IMU C-SHORT
Generators	IMU3000, IMU4000

## DN16-1P6

Standard	IEC 61000-4-16
Type	1P decoupling transformer for power lines
EUT power AC (see table)	230 V, 50 / 60 Hz, 6 A
EUT power DC	not suitable for DC applications
Test level	max. 330 V
Insulation	$\geq 1$ kV

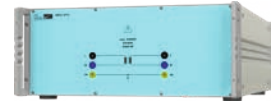




<b>CM decoupling</b>	> 60 dB in the range 15 Hz – 150 kHz
<b>Dimensions</b>	19 " unit, 4 UH
<b>Weight</b>	30 kg
<b>Requires</b>	<a href="#">CN16</a> or <a href="#">CN16DC</a>
<b>Generators</b>	<a href="#">IMU3000</a> , <a href="#">IMU4000</a>

### DN16-1P16

<b>Standard</b>	IEC 61000-4-16
<b>Type</b>	1P decoupling transformer for power lines
<b>EUT power AC (see table)</b>	230 V, 50 / 60 Hz, 16 A
<b>EUT power DC</b>	not suitable for DC applications
<b>Test level</b>	max. 330 V
<b>Insulation</b>	≥1 kV
<b>CM decoupling</b>	> 60 dB in the range 15 Hz – 150 kHz
<b>Dimensions</b>	19 " unit, 4 UH
<b>Weight</b>	50 kg
<b>Requires</b>	<a href="#">CN16</a> or <a href="#">CN16DC</a>
<b>Generators</b>	<a href="#">IMU3000</a> , <a href="#">IMU4000</a>



## 4.2. COUPLING/DECOUPLING NETWORKS FOR I/O (DATA) LINES

### CDN-KIT1000 ED3

<b>Standard</b>	IEC 61000-4-5 latest edition
<b>Application</b>	surge on 2 unsymmetrical lines, figure 9
<b>Test level surge</b>	max. 6 kV
<b>Low speed I/O</b>	unsymmetrical, coupling with capacitor
<b>EUT voltage per line</b>	max. 200 V DC or 240 V peak
<b>EUT current per line</b>	max. 3 A cont. or 5 A for 5 min.
<b>Coupling path 1</b>	40 Ω + 0.5 μF capacitor
<b>Decoupling 1</b>	20 mH per line (protected 275 V max.)
<b>Higher speed I/O</b>	unsymmetrical, coupling with diode
<b>EUT voltage per line</b>	max. 24 V DC or peak
<b>EUT current per line</b>	max. 3 A cont. or 5 A for 5 min.
<b>Coupling path 2</b>	40 Ω + 27 V diode
<b>Decoupling 2</b>	560 Ω per line (protected 18 V max.)
<b>Dimensions</b>	4 modules in carrying case: 33 x 27 x 17 cm
<b>Weight</b>	7 kg (all modules and carrying case)
<b>Generators</b>	<a href="#">IMU3000</a> , <a href="#">IMU4000</a> , other EMCP models



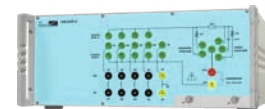
### CN-R40C05

<b>Standard</b>	EN50121-4 latest edition
<b>Application</b>	surge on 2 unsymmetrical lines
<b>Test level surge</b>	max. 6 kV
<b>Low speed I/O</b>	unsymmetrical, coupling with capacitor
<b>Coupling path 1</b>	40 $\Omega$ + 0.5 $\mu$ F capacitor
<b>EUT voltage and current</b>	determined by CDN used for decoupling
<b>Dimensions</b>	1 module
<b>Weight</b>	1 kg
<b>Requires</b>	IMU internal CDN or external CDN
<b>Generators</b>	IMU3000, IMU4000, other EMCP models



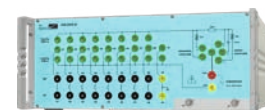
### CDN-DATA-4L

<b>Standards</b>	IEC 61000-4-5, -4-12 latest editions
<b>Application</b>	surge (fig. 9), ring wave on 4 asym. lines
<b>EUT voltage per line</b>	max. 200 V DC or 240 V peak
<b>EUT current per line</b>	max. 3 A cont. or 5 A for 5 min.
<b>Line speed</b>	max. 100 kHz as per IEC 61000-4-5
<b>Coupling path surge 1</b>	40 $\Omega$ + 0.5 $\mu$ F capacitor
<b>Coupling path surge 2</b>	40 $\Omega$ + 33 V bipolar diode
<b>Coupling path surge 3</b>	40 $\Omega$ + GDT 90 V, or any external element
<b>Coupling path ring wave 1</b>	33 V bipolar diode
<b>Coupling path ring wave 2</b>	any external element
<b>Decoupling</b>	20 mH per line, as per IEC 61000-4-5, -4-12
<b>Test level surge</b>	max. 6 kV, coupling L-L, L-PE
<b>Test level ring wave</b>	max. 6 kV, coupling L-L, L-PE (only IMU3000)
<b>Dimensions</b>	19" unit, 4 UH
<b>Weight</b>	17 kg
<b>Generators</b>	IMU3000, IMU4000, other EMCP models



### CDN-DATA-8L

<b>Standards</b>	IEC 61000-4-5, -4-12 latest editions
<b>Application</b>	surge (fig. 9), ring wave on 8 asym. lines
<b>EUT voltage per line</b>	max. 200 V DC or 240 V peak
<b>EUT current per line</b>	max. 3 A cont. or 5 A for 5 min.
<b>Line speed</b>	max. 100 kHz as per IEC 61000-4-5
<b>Coupling path surge 1</b>	40 $\Omega$ + 0.5 $\mu$ F capacitor
<b>Coupling path surge 2</b>	40 $\Omega$ + 33 V bipolar diode
<b>Coupling path surge 3</b>	40 $\Omega$ + GDT 90 V, or any external element
<b>Coupling path ring wave 1</b>	33 V bipolar diode
<b>Coupling path ring wave 2</b>	any external element
<b>Decoupling</b>	20 mH per line, as per IEC 61000-4-5, -4-12
<b>Test level surge</b>	max. 6 kV, coupling L-L, L-PE
<b>Test level ring wave</b>	max. 6 kV, coupling L-L, L-PE (only IMU3000)
<b>Dimensions</b>	19" unit, 4 UH
<b>Weight</b>	25 kg
<b>Generators</b>	IMU3000, IMU4000, other EMCP models



**Overview** [IMU4000](#) | [IMU3000](#) | [DOW3000](#) | [CDNs](#) | [Accessories](#)

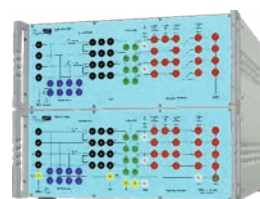
### CDN-UTP ED3

<b>Standards</b>	IEC 61000-4-5, IEC 61000-4-12 latest edition
<b>Application 1 (1.2 / 50 µs)</b>	surge (fig. 10) on up to 4 sym. lines
<b>Application 2 (1.2 / 50 µs)</b>	surge (fig. 9) on up to 2 asym. lines
<b>Application 3 ( 10 / 700 µs)</b>	telecom surge (fig. A.4) on up to 4 asym. lines
<b>Application 4 (0.5 µs /100kHz)</b>	ring wave as per fig. 8, 9 and 10
<b>EUT voltage per line</b>	max. 300 V DC or peak
<b>EUT current per line</b>	max. 1 A cont., total for all lines max. 2A
<b>EUT line(s) characteristics</b>	high speed, over 100 Mbps on 4 wires (2pairs)
<b>Example of EUT I/O lines</b>	RS485, USB, Ethernet 4 wires, CAN bus, etc.
<b>Coupling path surge 1</b>	2 x 80 Ω for 2 lines or 4 x 160 Ω for 4 lines
<b>Coupling path surge 2</b>	1 x 40 Ω + 0.5 µF
<b>Coupling path tel. surge 3</b>	2 x 25 Ω for 2 lines or 4 x 25 Ω for 4 lines
<b>Coupling path ring wave</b>	2 x GDT 90 V or 4 x GDT 90 V or 1 x 0.5 µF
<b>Coupling elements</b>	2 x GDT 90 V or 4 x GDT 90 V or 1 x 0.5 µF
<b>Decoupling</b>	up to 4 x 20 mH per line, current compensated
<b>AE protection</b>	4 x GDT 90 V or customer defined
<b>Test level surge, ring wave</b>	max. 6 kV, coupling CM and DM
<b>Test level telecom surge</b>	max. 6 kV, coupling CM (only IMU3000)
<b>Dimensions</b>	19" unit, 4 UH
<b>Weight</b>	40 kg
<b>Included</b>	Mentioned coupling elements, AE protection
<b>Optional</b>	ADAPTER BOX RJ45 (ask for details)
<b>Other relevant standards</b>	ITU-T K20, K21, K22, K44, FCC part 68 / D
<b>Generators</b>	IMU3000, IMU4000, other EMCP models



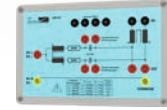
### CDN-UTP8 ED3

<b>Standards</b>	IEC 61000-4-5, IEC 61000-4-12 latest edition
<b>Application 1 (1.2 / 50 µs)</b>	surge (fig. 10) on up to 8 sym. lines
<b>Application 2 (1.2 / 50 µs)</b>	surge (fig. 9) on up to 4 asym. lines
<b>Application 3 ( 10 / 700 µs)</b>	telecom surge (fig. A.4) on up to 8 asym. lines
<b>Application 4 (0.5 µs /100kHz)</b>	ring wave as per fig. 8, 9 and 10
<b>EUT voltage per line</b>	max. 300 V DC or peak
<b>EUT current per line</b>	max. 1 A cont., total for all lines max. 2A
<b>EUT line(s) characteristics</b>	high speed, over 1 Gbps
<b>Example of EUT I/O lines</b>	RS485, USB, Ethernet 1Gbps, CAN bus, etc.
<b>Coupling path surge 1</b>	2 x 80 Ω, 4 x 160 Ω, 8 x 320 Ω
<b>Coupling path surge 2</b>	1 x 40 Ω + 0.5 µF
<b>Coupling path tel. surge 3</b>	2 x 25 Ω or 4 x 25 Ω or 8 x 25 Ω
<b>Coupling path ring wave</b>	2 or 4 or 8 x GDT 90 V or 1 x 0.5 µF
<b>Coupling elements</b>	2 or 4 or 8 x GDT 90 V or 1 x 0.5 µF
<b>Decoupling</b>	up to 8 x 20 mH per line, current compensated
<b>AE protection</b>	8 x GDT 90 V or customer defined
<b>Test level surge, ring wave</b>	max. 6 kV, coupling CM and DM
<b>Test level telecom surge</b>	max. 6 kV, coupling CM (only IMU3000)
<b>Dimensions</b>	19" unit, 8 UH
<b>Weight</b>	78 kg
<b>Included</b>	mentioned coupling elements, AE protection
<b>Optional</b>	ADAPTER BOX RJ45 (ask for details)
<b>Other relevant standards</b>	ITU-T K20, K21, K22, K44, FCC part 68 / D
<b>Generators</b>	IMU3000, IMU4000, other EMCP models



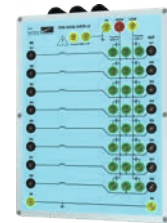
## CN16T

<b>Standard</b>	IEC 61000-4-16
<b>Type</b>	manual, for 2 symmetrical I/O lines
<b>EUT voltage</b>	max. 300 V (AC test), max. 115 V (DC test)
<b>EUT current</b>	max. 0.5 A
<b>Coupling path</b>	2 x 200 $\Omega$ , + 4.7 $\mu$ F per line
<b>Test level</b>	300 V (bridge closed), 115 V (bridge open)
<b>Dimensions</b>	28 x 18 x 11 cm
<b>Weight</b>	3 kg
<b>Generators</b>	<a href="#">IMU3000</a> , <a href="#">IMU4000</a>



## CDN-DOW-DATA-LF

<b>Standard</b>	IEC61000-4-18, IEC60255-26, ANSI C37.90
<b>Application</b>	manual CDN for applying SLOW DOW on max. 8 lines
<b>Frequency DOW</b>	100 kHz, 1 MHz $\pm$ 10 %
<b>Rise time</b>	75 ns $\pm$ 20 %
<b>Source impedance</b>	200 $\Omega$
<b>Decaying</b>	Pk5 to Pk1 > 50 %, Pk10 to Pk1 < 50 %
<b>EUT voltage per line</b>	max. 250 V DC or AC 50/60 Hz
<b>EUT current per line</b>	max. 4 A
<b>Coupling</b>	differential mode (line to line) CM: one pair to all other pairs (floating) CM: one pair to all other pairs (grounded)
<b>Decoupling</b>	> 1.5 mH per line
<b>Voltage test level</b>	200 V - 4400 V $\pm$ 10 %
<b>Short circuit current</b>	1 A - 22 A $\pm$ 20 %
<b>Dimensions</b>	30.5 x 23 x 11 cm
<b>Weight</b>	5 kg
<b>Generators</b>	<a href="#">DOW3000</a> , all models with SLOW module



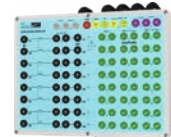
## CDN-DOW-DATA-HF18

<b>Standard</b>	IEC61000-4-18 SLOW DOW latest edition
<b>Application</b>	manual CDN for applying SLOW DOW on max. 8 sym. high speed lines (1 Gbps)
<b>Frequency DOW</b>	100 kHz, 1 MHz $\pm$ 10 %
<b>Rise time</b>	75 ns $\pm$ 20 %
<b>Source impedance</b>	200 $\Omega$
<b>Decaying</b>	Pk5 to Pk1 > 50 %, Pk10 to Pk1 < 50 %
<b>Number of data lines</b>	4 lines / 2 pairs, 8 lines / 4 pairs
<b>EUT voltage per line</b>	max. 60 V DC (PoE) or signal voltage
<b>EUT current per line</b>	max. 1 A (PoE all versions)
<b>Coupling</b>	as per IEC61000-4-18
<b>Decoupling</b>	> 1.5 mH per line
<b>Voltage test level</b>	200 V - 4000 V $\pm$ 10 %

<b>Short circuit current</b>	1 A – 20 A ± 20 %
<b>Dimensions</b>	30.5 x 23 x 11 cm
<b>Weight</b>	3.7 kg
<b>Generators</b>	<a href="#">DOW3000</a> , all models with SLOW module
<b>Optional accessories</b>	ADAPTER BOX RJ45-8L (2 pieces needed)

### CDN-DOW-DATA-HF

<b>Standard</b>	IEC60255-26 SLOW DOW, latest edition
<b>Application</b>	manual CDN for applying SLOW DOW on max. 8 sym. high speed lines (1 Gbps)
<b>Frequency DOW</b>	100 kHz, 1 MHz ± 10 %
<b>Rise time</b>	75 ns ± 20 %
<b>Source impedance</b>	200 Ω
<b>Decaying</b>	Pk5 to Pk1 > 50 %, Pk10 to Pk1 < 50 %
<b>Number of data lines</b>	4 lines / 2 pairs, 8 lines / 4 pairs
<b>EUT voltage per line</b>	max. 60 V DC (PoE) or signal voltage
<b>EUT current per line</b>	max. 1 A (PoE all versions)
<b>Coupling</b>	one pair to all other pairs (floating) one pair to all other pairs (grounded)
<b>Decoupling</b>	> 1.5 mH per line
<b>Voltage test level</b>	200 V - 4000 V ± 10 %
<b>Short circuit current</b>	1 A – 20 A ± 20 %
<b>Dimensions</b>	30.5 x 23 x 11 cm
<b>Weight</b>	3.7 kg
<b>Generators</b>	<a href="#">DOW3000</a> , all models with SLOW module
<b>Optional accessories</b>	ADAPTER BOX RJ45-8L (2 pieces needed)



## 4.3. ACCESSORIES AS PER IEC 61000-4-2 LATEST EDITION

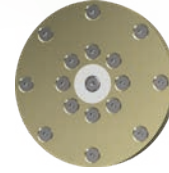
### EXT-IMU E, ESD extension 16 kV

<b>Discharge network</b>	150 pF, 330 Ω
<b>Rise time</b>	0.8 ns ± 25 %
<b>Current waveform</b>	as per IEC 61000-4-2
<b>Discharge modes</b>	air (AD) and contact (CD)
<b>Voltage range AD / CD</b>	2 – 16 kV ± 5 % / 2 – 10 kV ± 5 %
<b>Continuous firing mode</b>	2 – 16kV ± 5 %
<b>Voltage increment</b>	1 V step
<b>Discharge repetition CD</b>	0.05 s – 30 s (max. 20 Hz)
<b>Discharge Polarity</b>	positive, negative, alternating
<b>Counter</b>	pre-selectable 1-29999, discharge detection
<b>Ramp</b>	Voltage
<b>Temperature range</b>	15 - 35 °C
<b>Humidity</b>	30 - 60% non condensing
<b>Generators</b>	<a href="#">IMU3000</a> , <a href="#">IMU4000</a>



## ESD-TARGET2

<b>Application</b>	current target for calibration of ESD generator
<b>Input impedance</b>	2 $\Omega$
<b>Input voltage</b>	max. 10 kV CD
<b>Frequency range</b>	$\pm 0.5$ dB up to 1 GHz, $\pm 1.2$ dB up to 4 GHz
<b>Current range</b>	0 – 50 A standard, could be extended
<b>Transfer function</b>	0.2 V / 1 A with 20 dB
<b>Diameter</b>	70 mm
<b>Thickness</b>	40 mm
<b>Weight</b>	1 kg
<b>Fixing</b>	8 x M3 screws, not included in delivery
<b>Included</b>	20 dB att., 50 $\Omega$ coax. cable (1 m) with BNC out



## ESD-VERI-V

<b>Application</b>	target for ESD DC voltage measurement
<b>Input impedance</b>	20 G $\Omega$    3 pF
<b>Input voltage range</b>	0 – 32 kV
<b>Output voltage range</b>	0 – 1.6 V
<b>Output connector</b>	BNC
<b>Dimensions</b>	17 cm height, 5.5 cm diameter
<b>Weight</b>	0.5 kg
<b>Included</b>	earth conductor



## ESD-STAND Ed2

<b>Application</b>	stand for supporting ESD gun, fixed point test
<b>Height</b>	50 – 180 cm, adjustable
<b>Position</b>	360° adjustable
<b>Dimensions</b>	64 x 17 x 12 cm (packed)
<b>Weight</b>	4 kg
<b>Included</b>	cable holder for calibration



## EARTH CABLE

<b>Application</b>	connection of HCP or VCP to ground plane
<b>Impedance</b>	2 x 470 k $\Omega$
<b>Length</b>	2 m
<b>Connectors</b>	2 x banana plugs

## ESD-VCP50

<b>Application</b>	indirect ESD application as per standard
<b>Spacer in between</b>	10 cm plastic spacer
<b>Coupling plane</b>	50 x 50 cm
<b>Application points</b>	one on each side
<b>Dimensions</b>	50 x 50 x 10 cm
<b>Weight</b>	8 kg
<b>Included</b>	2 m earth cable (with 2 x 470 k $\Omega$ )



**Overview** [IMU4000](#) | [IMU3000](#) | [DOW3000](#) | [CDNs](#) | [Accessories](#)

## 4.4. ACCESSORIES AS PER IEC 61000-4-4 LATEST EDITION

### CN-EFT1000

<b>Application</b>	capacitive coupling clamp for EFT on I/O lines
<b>Coupling plate dimensions</b>	as per IEC 61000-4-4 latest edition
<b>Waveform into 50 Ω</b>	5 ± 1.5 ns / 50 ± 15 ns
<b>Insulation 5/50 ns</b>	up to 8 kV
<b>Insulation 1.2/50 μs</b>	up to 5 kV
<b>Usable cable diameter</b>	up to 70 mm
<b>Coupling capacitance</b>	typically 100 pF – 1000 pF
<b>Dimensions</b>	114 x 15 x 10 cm
<b>Weight</b>	4 kg
<b>Included</b>	high voltage cable for connection to IMU
<b>Other applications</b>	IEC 61000-4-18, ANSI C37.90



### CN-BALUN-AC

<b>Application</b>	differential mode burst test adapter
<b>Standards applicable</b>	ANSI C37.90, fig. 6, ISO7637-4
<b>Input</b>	6 kV EFT signal, common mode
<b>Output</b>	6 kV signal, differential mode, line to line
<b>EUT voltage</b>	max. 480 V L-L @ 50, 60 Hz
<b>Decoupling</b>	2 x 66 nF built-in
<b>Dimensions</b>	18 x 10 x 8 cm
<b>Weight</b>	2 kg including accessories
<b>Included</b>	2 x test tips and cables, cable to generator



### VERI50 EFT

<b>Application</b>	50 Ω calibration load for burst
<b>Input impedance</b>	50 Ω ± 2 %
<b>Input voltage</b>	max. 6.3 kV
<b>Tolerance up to 100 MHz</b>	± 1 dB, as per standard
<b>Tolerance up to 400 MHz</b>	± 3 dB in the range 100 MHz – 400 MHz
<b>Power dissipation</b>	max. 3 W, no EUT power during calibration
<b>Ratio 50 Ω DSO input</b>	1 :1000, 60 dB
<b>Ratio 1MΩ DSO input</b>	1:500, 54 dB
<b>Dimensions</b>	15.5 x 2.5 x 2.5 cm
<b>Weight</b>	0.2 kg



### VERI1K EFT

<b>Application</b>	1 kΩ calibration load for burst
<b>Input impedance</b>	1 kΩ ± 2 %
<b>Input voltage</b>	max. 6.3 kV
<b>Tolerance up to 100 MHz</b>	± 1 dB, as per standard





<b>Tolerance up to 400 MHz</b>	± 3 dB in the range 100 MHz – 400 MHz
<b>Power dissipation</b>	max. 3 W, no EUT power during calibration
<b>Ratio 50 Ω DSO input</b>	1 :2000, 66 dB
<b>Ratio 1MΩ DSO input</b>	1:1000, 60 dB
<b>Dimensions</b>	13.5 x 2.5 x 2.5 cm
<b>Weight</b>	0.2 kg
<b>Other applications</b>	IEC 61000-4-18, OC calibration for fast DOW

### VERI-CP-EFT

<b>Application</b>	calibration transducer plate for CN-EFT1000
<b>Plate width</b>	120 ± 1 mm, as per norm
<b>Plate length</b>	1050 ± 5 mm, as per norm
<b>Insulation 5/50 ns</b>	up to 4 kV
<b>Insulation 1.2/50 µs</b>	minimum 2.5 kV
<b>Dimensions</b>	113 x 7 x 5 cm
<b>Weight</b>	1 kg
<b>Requires</b>	<a href="#">VERI50 EFT</a>



### ADAPTER EFT-CDN

<b>Application</b>	matching VERI50 EFT to 16 A, 32 A, 63 A CDN
<b>Connector to CDN</b>	multi-contact, banana
<b>Connector to VERI50 EFT</b>	high voltage BNC
<b>Insulation 5/50 ns</b>	up to 8 kV with VERI50 EFT connected
<b>Dimensions</b>	27 x 6 x 2 cm with ground connection
<b>Weight</b>	0.2 kg
<b>Included</b>	ground connection



### ADAPTER EFT100

<b>Application</b>	matching VERI50 EFT to 100 A CDN
<b>Connector to CDN</b>	multi-contact, banana
<b>Connector to VERI50 EFT</b>	high voltage BNC
<b>Insulation 5/50 ns</b>	up to 8 kV with VERI50 EFT connected
<b>Dimensions</b>	15 x 6 x 4 cm with ground connection
<b>Weight</b>	0.2 kg
<b>Included</b>	ground connection



### ADAPTER EFT250

<b>Application</b>	matching <a href="#">VERI50 EFT</a> to 200 A or 1000 Vdc CDN
<b>Connector to CDN</b>	multi-contact, banana
<b>Connector to VERI50 EFT</b>	high voltage BNC
<b>Insulation 5/50 ns</b>	up to 8 kV with <a href="#">VERI50 EFT</a> connected
<b>Dimensions</b>	27 x 6 x 4 cm with ground connection
<b>Weight</b>	0.2 kg
<b>Included</b>	ground connection



## EFT-INSULATION

<b>Application</b>	EUT support for burst test
<b>Number of plates</b>	2 pieces
<b>Height of plates</b>	10 cm
<b>Surface of both plates</b>	100 x 40 cm
<b>Maximum EUT weight</b>	50 kg
<b>Dimensions</b>	100 x 40 x 10 cm (both plates)
<b>Weight</b>	16 kg (both plates)
<b>Other applications</b>	IEC 61000-4-9, IEC 61000-4-10

## 4.5. ACCESSORIES AS PER IEC 61000-4-5 LATEST EDITION

### V-PROBE-SI VOLTAGE PROBE

<b>Application</b>	measurement of surge U waveform up to 7 kV
<b>Type of probe</b>	differential (can measure CM as well)
<b>Waveforms</b>	1.2/50 $\mu$ s, 10/700 $\mu$ s, 0.5 $\mu$ s/100 kHz ring, slow DOW
<b>Bandwidth</b>	DC – 70 MHz (-3 dB)
<b>Accuracy</b>	$\pm$ 2 %
<b>Input impedance</b>	10 M $\Omega$    10 pF
<b>Input voltage</b>	max. 7 kV DC + peak, max. 2.5 kV r.m.s.
<b>Attenuation ratio</b>	1:100 or 1:1000
<b>Power supply</b>	4 x AA batteries and/or mains adapter
<b>Probe dimensions</b>	20.2 x 8.3 x 3.8 cm
<b>Weight</b>	0.5 kg
<b>Included</b>	carrying case, mains adapter, AA batteries

### I-PROBE-P101 CURRENT PROBE

<b>Application</b>	measurement of surge I waveform up to 5 kA
<b>Output impedance</b>	50 $\Omega$
<b>Waveforms</b>	8/20 $\mu$ s (surge), 5/320 $\mu$ s (telecom surge)
<b>Current rating</b>	5 kA peak or 200 A r.m.s.
<b>Bandwidth</b>	0.25 Hz - 4 MHz (-3 dB)
<b>Sensitivity</b>	0.01 V / A into 1 M $\Omega$
<b>Accuracy</b>	+1 % / -0 %
<b>Current time product</b>	2.5 As
<b>I/f</b>	12 A / Hz
<b>Probe dimensions</b>	12 x 10 x 3 cm, inner diameter 5 cm
<b>Weight</b>	1 kg
<b>Included</b>	carrying case

## 4.6. ACCESSORIES AS PER IEC 61000-4-8 LATEST EDITION

### MF1000-1

<b>Application</b>	antenna for AC magnetic field, magnetic pulses
<b>Antenna type</b>	1 x 1 m, one turn, as per standard
<b>Antenna factor</b>	0.87
<b>Magnetic field 50, 60 Hz</b>	1 – 160 A / m, continuous (IEC 61000-4-8)
<b>Duration continuous MF</b>	29999 s
<b>Magnetic pulse 8/20 µs</b>	93 – 1521 A / m or 1855 A / m (IEC 61000-4-9)
<b>Magnetic pulse DOW</b>	up to 220 A / m (IEC 61000-4-10)
<b>Dimensions</b>	120 x 100 x 10.5 cm
<b>Weight</b>	6 kg

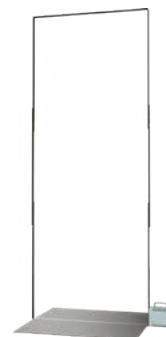


### MF1STAND

<b>Application</b>	stand for MF1000-1
<b>Height</b>	0.2 - 1.8 m
<b>Adjustable</b>	on all 3 directions, 360°
<b>Dimensions</b>	60 x 50 cm stand
<b>Weight</b>	16 kg

### MF1000-2

<b>Application</b>	antenna for AC magnetic field, magnetic pulses
<b>Antenna type</b>	1 x 2.6 m, one turn, as per standard
<b>Antenna factor</b>	0.66
<b>Magnetic field 50, 60 Hz</b>	1 – 110 A / m, continuous (IEC 61000-4-8)
<b>Duration continuous MF</b>	29999 s
<b>Magnetic pulse 8/20 µs</b>	67 – 1103 A / m or 1345 A / m (IEC 61000-4-9)
<b>Magnetic pulse DOW</b>	up to 110 A / m (IEC 61000-4-10)
<b>Dimensions</b>	260 x 100 x 10.5 cm
<b>Weight</b>	24 kg



### MF1000-3

<b>Application</b>	antenna for short duration magnetic field
<b>Antenna type</b>	1 x 1 m, one turn, as per standard
<b>Antenna factor</b>	0.87
<b>Magnetic field 50, 60 Hz</b>	150 – 500 A / m, continuous (IEC 61000-4-8)
<b>Duration continuous MF</b>	29999 s
<b>Magnetic field 50, 60 Hz</b>	150 – 1100 A / m, short term (IEC 61000-4-8)
<b>Duration short term MF</b>	3 s
<b>Dimensions</b>	100 x 100 x 13 cm
<b>Weight</b>	18 kg

## MF3STAND

<b>Application</b>	stand for MF1000-3
<b>Height</b>	0.2 - 1.8 m
<b>Adjustable</b>	360°, easy to move
<b>Dimensions</b>	2 x (60 x 50 cm) stands
<b>Weight</b>	32 kg

## 4.7. ACCESSORIES AS PER IEC 61000-4-9 LATEST EDITION

See MF1000-1

See MF1000-2

## 4.8. ACCESSORIES AS PER IEC 61000-4-10 LATEST EDITION

See MF1000-1

See MF1000-2

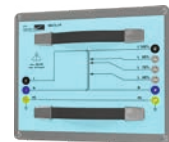
## 4.9. ACCESSORIES AS PER IEC 61000-4-11, -4-34 LATEST EDITIONS

### VAR-EXT1000

<b>Application</b>	1P variac for dips and variations, IEC61000-4-11
<b>Input voltage</b>	50 – 250 V, 50/60 Hz
<b>Output voltage 1</b>	input voltage
<b>Output voltage 2 dips</b>	0 – 110 % from input voltage, max. 275 V
<b>Output voltage 2 variations</b>	0 – 100 % from input voltage, max. 250 V
<b>EUT current</b>	max. 16 A continuous
<b>Voltage slew rate</b>	< 1.7 s from 0 to 100 %
<b>Dimensions</b>	19" unit, 4 UH
<b>Weight</b>	29 kg

### SRC16-1P

<b>Application</b>	1P step transformer for dips test, IEC61000-4-11
<b>Input voltage</b>	max. 300 V, 50/60 Hz
<b>Output voltage</b>	40 %, 70 %, 80 %, 100 % ± 5 % from input volt.
<b>EUT continuous current</b>	max. 16 A continuous
<b>Short time output current</b>	80 %: 20 A for 5 s 70 %: 23.6 A for 5 s 40 %: 40 A for 3 s
<b>Voltage change with load</b>	< 5 % of input (when input V ≥ 100 V)
<b>Dimensions</b>	28 x 23 x 10 cm
<b>Weight</b>	17.5 kg



## VERI-DIPS

<b>Application</b>	calibration of inrush current before dips test
<b>Current range</b>	1 A – 1 kA
<b>Capacitance</b>	1700 $\mu$ F $\pm$ 20 %
<b>Discharge resistor</b>	4.7 k $\Omega$ $\pm$ 10 %
<b>DSO output</b>	1 V = 400 A, BNC connector
<b>Dimensions</b>	20 x 10 x 11 cm
<b>Weight</b>	1 kg

## DIPS100E

<b>Application</b>	calibration of dips switch time
<b>Resistor</b>	100 $\Omega$ $\pm$ 5 %, non-inductive
<b>Power</b>	max. 1 kW
<b>Insulation</b>	3 kV
<b>Dimensions</b>	65 x 12 x 8 cm
<b>Weight</b>	3.8 kg

## PFS32

<b>Application</b>	3P AC dips generator, IEC 61000-4-34
<b>EUT AC voltage L-L</b>	3 x 200 V – 3 x 480 V, 50 or 60 Hz
<b>EUT AC current</b>	max. 3 x 32 A
<b>Output connection</b>	star or delta connection possible
<b>Overcurrent protection</b>	50 A per phase continuous, 220 A short term
<b>Rise &amp; fall time into 100 <math>\Omega</math></b>	1 – 5 $\mu$ s for AC
<b>Inrush current capability</b>	> 500 A
<b>Dip / interruption duration</b>	50 $\mu$ s – 60 s
<b>Synchronization</b>	0 – 359°, resolution 1°
<b>Output monitor BNC</b>	3 x I (1 V : 100 A), 3 x U (1 V : 100 V)
<b>Dimensions</b>	19" unit, 4 UH
<b>Weight</b>	26 kg
<b>Controlled by</b>	<a href="#">IMU3000 D</a> , <a href="#">IMU4000 D</a> , <a href="#">ADAPTER TRA-ACC</a>
<b>Requires</b>	<a href="#">SRC32-18 UH</a> , <a href="#">SRC32-AMD1</a> or <a href="#">AMD1-36 UH</a>

## SRC32-18UH

<b>Application</b>	3P tapped transformer for <a href="#">PFS32</a>
<b>Construction type</b>	automatic switch between dip levels
<b>EUT AC voltage L-L</b>	3 x 200 V – 3 x 480 V, 50 or 60 Hz, Y or $\Delta$
<b>EUT AC current</b>	max. 3 x 32 A at nominal voltage
<b>Overcurrent protection</b>	50 A per phase continuous, 220 A short term
<b>Dip levels</b>	0 %, 40 %, 70 %, 80 %, selectable
<b>Dimensions</b>	19" rack (wheels), 18 UH
<b>Weight</b>	307 kg
<b>Controlled by</b>	<a href="#">PFS32</a>

### SRC32-AMD1

<b>Application</b>	3P tapped transformer for PFS32
<b>Construction type</b>	automatic switch between dip levels
<b>EUT AC voltage L-L</b>	3 x 200 V – 3 x 480 V, 50 or 60 Hz, Y or $\Delta$
<b>EUT AC current</b>	max. 3 x 32 A at nominal voltage
<b>Overcurrent protection</b>	50 A per phase continuous, 220 A short term
<b>Dip levels</b>	0 %, 40 %, 50 %, 70 %, 80 %, selectable
<b>Dimensions</b>	19" rack (wheels), 18 UH
<b>Weight</b>	317 kg
<b>Controlled by</b>	<a href="#">PFS32</a>

### SRC32-AMD1 36UH

<b>Application</b>	3P tapped transformer for PFS32
<b>Construction type</b>	automatic switch between dip levels
<b>EUT AC voltage L-L</b>	3 x 200 V – 3 x 480 V, 50 or 60 Hz, Y or $\Delta$
<b>EUT AC current</b>	max. 3 x 32 A at nominal voltage
<b>Overcurrent protection</b>	50 A per phase continuous, 220 A short term
<b>Dip levels</b>	0 %, 40 %, 50 %, 70 %, 80 %, selectable
<b>Dimensions</b>	19" rack (wheels), 36 UH
<b>Weight</b>	336 kg
<b>Controlled by</b>	<a href="#">PFS32</a>

### PFS75

<b>Application</b>	3P AC dips generator, IEC 61000-4-34
<b>EUT AC voltage L-L</b>	3 x 200 V – 3 x 480 V, 50 or 60 Hz
<b>EUT AC current</b>	max. 3 x 75 A
<b>Output connection</b>	star or delta connection possible
<b>Overcurrent protection</b>	220 A short term (< 2 s)
<b>Rise &amp; fall time into 100 <math>\Omega</math></b>	1 – 5 $\mu$ s for AC
<b>Inrush current capability</b>	> 1000 A
<b>Dip / interruption duration</b>	50 $\mu$ s – 60 s
<b>Synchronization</b>	0 – 359°, resolution 1°
<b>Output monitor BNC</b>	3 x I (1 V : 100 A), 3 x U (1 V : 100 V)
<b>Dimensions</b>	19" unit, 8 UH
<b>Weight</b>	40 kg
<b>Controlled by</b>	<a href="#">IMU3000</a> , <a href="#">IMU4000</a> , <a href="#">ADAPTER TRA-ACC</a>
<b>Requires</b>	<a href="#">SRC75-18 UH</a>

### SRC75-18UH

<b>Application</b>	3P tapped transformer for PFS75
<b>Construction type</b>	automatic switch between dip levels
<b>EUT AC voltage L-L</b>	3 x 200 V – 3 x 480 V, 50 or 60 Hz, Y or $\Delta$
<b>EUT AC current</b>	max. 3 x 75 A at nominal voltage
<b>Overcurrent protection</b>	220 A short term (< 2 s)
<b>Dip levels</b>	0 %, 40 %, 70 %, 80 %, selectable
<b>Inrush current</b>	> 1000 A
<b>Dimensions</b>	19" rack (wheels), 18 UH
<b>Weight</b>	332 kg
<b>Controlled by</b>	<a href="#">PFS75</a>

### PFS75-690V

<b>Application</b>	3P AC dips generator, IEC 61000-4-34
<b>EUT AC voltage L-L</b>	3 x 200 V – 3 x 690 V, 50 or 60 Hz
<b>EUT AC current</b>	max. 3 x 75 A
<b>Output connection</b>	star or delta connection possible
<b>Overcurrent protection</b>	220 A short term (< 2 s)
<b>Rise &amp; fall time into 100 <math>\Omega</math></b>	1 – 5 $\mu$ s for AC
<b>Inrush current capability</b>	> 1000 A
<b>Dip / interruption duration</b>	50 $\mu$ s – 60 s
<b>Synchronization</b>	0 – 359°, resolution 1°
<b>Output monitor BNC</b>	3 x I (1 V : 100 A), 3 x U (1 V : 100 V)
<b>Dimensions</b>	19" unit, 8 UH
<b>Weight</b>	54 kg
<b>Controlled by</b>	<a href="#">IMU3000 D</a> , <a href="#">IMU4000 D</a> , <a href="#">ADAPTER TRA-ACC</a>
<b>Requires</b>	<a href="#">SRC75-690V</a>

### SRC75-690V

<b>Application</b>	3P tapped transformer for <a href="#">PFS75-690V</a>
<b>Construction type</b>	automatic switch between dip levels
<b>EUT AC voltage L-L</b>	3 x 200 V – 3 x 690 V, 50 or 60 Hz, Y or $\Delta$
<b>EUT AC current</b>	max. 3 x 75 A at nominal voltage
<b>Overcurrent protection</b>	220 A short term (< 2 s)
<b>Dip levels</b>	0 %, 40 %, 70 %, 80 %, selectable
<b>Inrush current</b>	> 1000 A
<b>Dimensions</b>	19" rack (wheels), 36 UH
<b>Weight</b>	332 kg
<b>Controlled by</b>	<a href="#">PFS75-690V</a>

## 4.10. ACCESSORIES AS PER IEC 61000-4-12 LATEST EDITION

See [voltage probe](#) from Surge.

## 4.11. ACCESSORIES AS PER IEC 61000-4-16 LATEST EDITION

### EXT-IMU C-SHORT

<b>Application</b>	extension for IMU -C module, power tests
<b>Output impedance</b>	50 $\Omega \pm 10 \%$
<b>Output voltage</b>	30 V – 330 V
<b>Power frequencies</b>	DC, 16.67 Hz, 50 Hz, 60 Hz
<b>Disturbance duration</b>	1 s – 1000 s to full test level
<b>Dimensions</b>	19" unit, 4 UH
<b>Weight</b>	54 kg
<b>Controlled by</b>	IMU4000 C or IMU3000 C
<b>Requires</b>	PS3, CN16 or CN16DC or CN16T

### PS3

<b>Application</b>	1P power source for IEC 61000-4-16, 300V test
<b>Type</b>	programmable, pre-programmed buttons
<b>Input</b>	AC 100 V – 240 V, 47 – 63 Hz
<b>Output voltage</b>	AC 50 – 250 V, DC 24 – 350 V
<b>Output frequency</b>	DC – 400 Hz
<b>Output current</b>	max. 16A @ 115V / 60Hz, 10 A @ 230V / 50Hz
<b>Output power</b>	max. 3 kW or 3 kVA
<b>Dimensions</b>	19" unit, 2 UH
<b>Weight</b>	18 kg
<b>Controlled by</b>	IMU4000 C or IMU3000 C for power test
<b>Requires</b>	EXT-IMU C-SHORT, RS485-RS232 ADAPT.
<b>Other applications</b>	IEC 61000-4-19, IEC 61000-4-29

## 4.12. ACCESSORIES AS PER IEC 61000-4-18 LATEST EDITION

### VERI50 EFT

See [VERI50 EFT](#) technical specification.

### VERI1K EFT

See [VERI1K EFT](#) technical specification.

### VERI01 OSI

<b>Application</b>	0.1 $\Omega$ shunt for 3, 10, 30 MHz DOW SC current
<b>Input impedance</b>	0.1 $\Omega \pm 2 \%$
<b>Input voltage</b>	max. 6.3 kV
<b>3 dB bandwidth</b>	> 400 MHz
<b>Power dissipation</b>	max. 3 W, max. 1000 spikes/s @ 4.4 kV





<b>Measurement ratio</b>	1 V @ 10 A in 1 M $\Omega$ $\pm$ 2 %
<b>Dimensions</b>	8.5 x 2.5 x 2.5 cm
<b>Weight</b>	0.1 kg
<b>At CDN outPUT</b>	Calibration adapter delivered with DOW3000

## 4.13. ACCESSORIES AS PER IEC 61000-4-19 LATEST EDITION

### IMU SLAVE SMART 11V1\*

<b>Application</b>	voltage & current test generator IEC 61000-4-19
<b>Voltage test module</b>	
<b>EUT voltage input</b>	80 – 500 V, L-L or L-N, 50 Hz and 60 Hz
<b>EUT current input</b>	0 – 16 A L-L or L-N
<b>Voltage waveform</b>	sinusoidal, THD < 5%
<b>Test voltage</b>	0.1 V – 25 V, tolerance $\pm$ 5%
<b>Output frequency range</b>	2 kHz – 150 kHz
<b>CDN output impedance</b>	10 $\Omega$ $\pm$ 30%, 2 kHz – 150 kHz
<b>CDN decoupling better than</b>	-10dB@10kHz, -50dB@50 kHz, -50dB@150kHz
<b>Frequency step</b>	2 % standard, adjustable 1 % - 100 %
<b>Dwell time</b>	3s standard, adjustable 1 s – 300 s
<b>Pause time</b>	300 ms $\pm$ 200 ms, adjustable 0.1 s – 30 s
<b>Signal type</b>	continuous / pause, 50% rect. modulation
<b>Modulation frequency</b>	for 50 Hz: 3 Hz, 101 Hz, 301 Hz, 601 Hz for 60 Hz: 4 Hz, 121 Hz, 361 Hz, 721 Hz
<b>Modulation frequency</b>	3 Hz – 1 kHz, adjustable
<b>Calibration load</b>	10 $\Omega$ load built-in, automatically switched
<b>Measurement and control</b>	internal, automatic
<b>Current test module</b>	
<b>EUT voltage input</b>	80 – 500 V, L-L or L-N, 50 Hz, 60 Hz, 400 Hz
<b>EUT current input</b>	0 – 25 A L-L or L-N (0 – 15 A at 400 Hz)
<b>Current waveform</b>	sinusoidal, THD < 5%
<b>Test current</b>	0.01 A – 4.4 A , tolerance $\pm$ 5%
<b>Output frequency range</b>	2 kHz – 150 kHz
<b>Output impedance</b>	1 $\Omega$ $\pm$ 30%, 2 kHz – 150 kHz
<b>Decoupling impedance</b>	1 $\Omega$ $\pm$ 30%, 2 kHz – 150 kHz
<b>Frequency step</b>	2 % standard, adjustable 1 % - 100 %
<b>Dwell time</b>	3s standard, adjustable 1 s – 300 s
<b>Pause time</b>	300 ms $\pm$ 200 ms, adjustable 0.1 s – 30 s
<b>Signal type</b>	continuous with pause, 50% rectangular modulation
<b>Modulation frequency</b>	for 50 Hz: 3 Hz, 101 Hz, 301 Hz, 601 Hz for 60 Hz: 4 Hz, 121 Hz, 361 Hz, 721 Hz
<b>Modulation frequency</b>	3 Hz – 1 kHz, adjustable
<b>Built-in reference load current source</b>	1 – 25 A @50/60 Hz (15A @400 Hz), synchr. to voltage input
<b>Measurement, synch.</b>	internal, automatic

**Overview** [IMU4000](#) | [IMU3000](#) | [DOW3000](#) | [CDNs](#) | [Accessories](#)

<b>Dimensions</b>	19" unit, 4 UH (both modules)
<b>Weight</b>	22 kg
<b>Controlled by</b>	IMU4000 or IMU3000, any configuration

\* Voltage or current modules can also be ordered separately, contact sales.

### VERI10-50

<b>Application</b>	10 / 50 $\Omega$ calibration balun for SLAVE SMART
<b>Input impedance</b>	2 x 10 $\Omega \pm 10 \%$
<b>Output impedance</b>	2 x 50 $\Omega \pm 10 \%$
<b>Frequency response</b>	2 kHz – 200 kHz $\pm 0.5$ dB
<b>Damping limit</b>	10 dB @ 2 kHz to 50 dB@ 150 kHz, linear var.
<b>Dimensions</b>	24 x 10 x 8 cm
<b>Weight</b>	1.2 kg

## 4.14. ACCESSORIES AS PER IEC 61000-4-29 LATEST EDITION

### PS3

See [PS3](#) technical specification.

1 x PS3 power source needed for DC interruptions, 2 x PS3 power sources needed for DC dips.

### EXT-IMU D-29D

Package of services including adjustment and calibration of [IMU3000 D](#) or [IMU4000 D](#) together with 2 x [PS3](#) and 2 x RS485-RS232 ADAPTER in order to ensure compliance of the test system with IEC 61000-4-29 requirements for DC dips. Requires 2x Resistor 500hm.

### EXT-IMU D-29I

Package of services including adjustment and calibration of [IMU3000 D](#) or [IMU4000 D](#) together with 1 x [PS3](#) and 1 x RS485-RS232 ADAPTER in order to ensure compliance of the test system with IEC 61000-4-29 requirements for DC interruptions.

## 4.15. GENERAL ACCESSORIES FOR IMU SERIES




### ADAPTER BOX TRA-ACC

<b>Application</b>	adapter for communication with accessories
<b>Type</b>	allows daisy chain connection
<b>Automatic CDN range</b>	-2000A, -3000A (6 kV), CDN-A-3Px00
<b>PFS range</b>	<a href="#">PFS32</a> , <a href="#">PFS75</a> , all other PFS models
<b>Communication with IMU</b>	1 x adapter for each accessory
<b>Dimensions</b>	10.5 x 5.5 x 3 cm
<b>Weight</b>	0.1 kg

# Specific EMC test requirements ?

Search & find your required test equipment with our powerful **QUICK SELECTOR** tool at







[www.emc-partner.com](http://www.emc-partner.com)

**EMC PARTNER**   

search...

HOME COMPANY PROFILE **EMC TEST EQUIPMENT** EMC TEST SOFTWARE CONTACT SERVICE & CALIBRATION

Documents Exhibitions & Seminars Links

Find your Products by  Categories  Standards  Application  Impulse  Keyword  Send Inquiry

### Search product by standard

Find Product by Standard: IEC, ITU, MIL-STD, EN, DO-160, Airbus & more...  
Select one or more checkboxes and press the search button to show the products.

<input type="checkbox"/> ABD0100.1.2	<input type="checkbox"/> IEC 60255-5	<input type="checkbox"/> IEC 61000-4-34	<input type="checkbox"/> IEC 62052-11	<input type="checkbox"/> MIL-STD-461 / CS117
<input type="checkbox"/> ABD0100.1.8.1	<input type="checkbox"/> IEC 60335-1	<input type="checkbox"/> IEC 61000-4-4	<input type="checkbox"/> ISO 10605	<input type="checkbox"/> MIL-STD-461 / CS118
<input type="checkbox"/> ANSI / IEEE 62.45	<input type="checkbox"/> IEC 60384-14	<input type="checkbox"/> IEC 61000-4-5	<input type="checkbox"/> ITU-T K.20	<input type="checkbox"/> MIL-STD-883
<input type="checkbox"/> ANSI C37.90	<input type="checkbox"/> IEC 60571	<input type="checkbox"/> IEC 61000-4-8	<input type="checkbox"/> ITU-T K.21	<input type="checkbox"/> NMI M6 Section A.219
<input type="checkbox"/> ANSI C62.41	<input type="checkbox"/> IEC 60664-1	<input type="checkbox"/> IEC 61000-4-9	<input type="checkbox"/> ITU-T K.22	<input type="checkbox"/> Renault 32-10-001/D
<input type="checkbox"/> ANSI C63.16	<input type="checkbox"/> IEC 60950-1	<input type="checkbox"/> IEC 61008-1	<input type="checkbox"/> ITU-T K.44	<input type="checkbox"/> Renault 32-10-035/A
<input type="checkbox"/> DC 10614	<input type="checkbox"/> IEC 61000-3-2	<input type="checkbox"/> IEC 61009-1	<input type="checkbox"/> ITU-T K.45	<input type="checkbox"/> RTCA DO-160 - Section 17
<input type="checkbox"/> EN 50121-3-2	<input type="checkbox"/> IEC 61000-3-3	<input type="checkbox"/> IEC 61010-1	<input type="checkbox"/> JASO D 001-94	<input type="checkbox"/> RTCA DO-160 - Section 19
<input type="checkbox"/> EN 50121-4	<input type="checkbox"/> IEC 61000-4-10	<input type="checkbox"/> IEC 61051-1	<input type="checkbox"/> JESD22-A114-B	<input type="checkbox"/> RTCA DO-160 - Section 22
<input type="checkbox"/> EN 50155	<input type="checkbox"/> IEC 61000-4-11	<input type="checkbox"/> IEC 61180-1	<input type="checkbox"/> JESD22-A115-A	<input type="checkbox"/> RTCA DO-160 - Section 25
<input type="checkbox"/> EUROCAE/ED-14	<input type="checkbox"/> IEC 61000-4-12	<input type="checkbox"/> IEC 61180-2	<input type="checkbox"/> MIL-DTL-23659D	<input type="checkbox"/> SAE J551-15
<input type="checkbox"/> FAA AC 20 -136	<input type="checkbox"/> IEC 61000-4-16	<input type="checkbox"/> IEC 61340-3-1	<input type="checkbox"/> MIL-STD-1512	<input type="checkbox"/> STANAG 4239
<input type="checkbox"/> IEC 60060-1	<input type="checkbox"/> IEC 61000-4-18	<input type="checkbox"/> IEC 61340-3-2	<input type="checkbox"/> MIL-STD-1541	<input type="checkbox"/> UL 1414
<input type="checkbox"/> IEC 60060-2	<input type="checkbox"/> IEC 61000-4-19	<input type="checkbox"/> IEC 61439	<input type="checkbox"/> MIL-STD-331	<input type="checkbox"/> UL1449
<input type="checkbox"/> IEC 60065-1	<input type="checkbox"/> IEC 61000-4-2	<input type="checkbox"/> IEC 61643-1	<input type="checkbox"/> MIL-STD-461 / CS106	<input type="checkbox"/> VDE 0675 Teil 6
<input type="checkbox"/> IEC 60255-22-1	<input type="checkbox"/> IEC 61000-4-28	<input type="checkbox"/> IEC 61730-1	<input type="checkbox"/> MIL-STD-461 / CS115	<input type="checkbox"/> VW TL 824-66

**Search Product by**

- Standard
- Application
- Impulse
- Keyword

or send us your concrete inquiry directly via website

# THE EMC PARTNER PRODUCT RANGE

**Find further brochures on our website [emc-partner.com/brochures](http://emc-partner.com/brochures) or contact your local representative for a hardcopy.**

## IMMUNITY TESTS

Transient Test Systems for all EMC tests on electronic equipment. ESD, EFT, surge, AC dips, AC magnetic field, surge magnetic field, common mode, damped oscillatory and DC dips. According to IEC and EN 61000-4-2, -4, -5, -8, -9, -10, -11, -12, -13, -14, -16, -18, -19, -29.



## LIGHTNING TESTS

Impulse test equipment and accessories for aircraft, military and telecom applications. Complete solutions for RTCA / DO-160 and EURO-CAE / ED-14 for indirect lightning on aircraft systems, MIL-STD-461 tests CS106, CS115, CS116, CS117, CS118 and Telecom, ITU-T .K44 basic and enhanced tests for impulse, power contact and power induction.



## EMISSION MEASUREMENTS

Measurement of Harmonics and Flicker in 1-phase and 3-phase electrical and electronic products according to IEC /EN 61000-3-2 and 61000-3-3 . HARCS Immunity software adds interharmonic tests, voltage variation according to IEC/EN 61000-4-13, -4-14.



## SYSTEM AUTOMATION

A full range of accessories enhance the test systems. Test cabinets, test pistols, adapters and remote control software, simplify interfacing with the EUT. Programmable PSU, EMC hardened for frequencies from 16.7Hz to 400Hz. PS3-SOFT-EXT complies with IEC / EN 61000-4-14 and -4-28.



## SERVICE

Our commitment starts with a quality management system backing up our ISO 17025 accreditation. With the SCS number 146, EMC PARTNER provide accredited calibration and repairs. Our customer support team are at your service!



For further information please do not hesitate to contact your local EMC PARTNER AG representative.  
Visit our website for more information and contact details.

# [www.emc-partner.com](http://www.emc-partner.com)

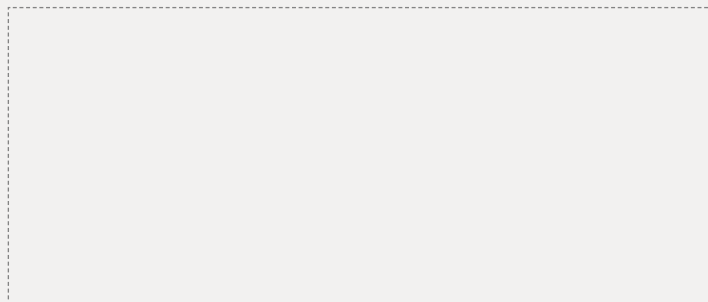


## Swiss Headquarters

EMC PARTNER AG  
Baselstrasse 160  
CH - 4242 Laufen

Phone +41 61 775 20 30  
Fax +41 61 775 20 59  
Email [sales@emc-partner.ch](mailto:sales@emc-partner.ch)  
Web [www.emc-partner.ch](http://www.emc-partner.ch)

## Your local representative



Information and specifications in this document are an indication of capability only. Version 2.4 .Subject to change without notice. EMC PARTNER AG publishes only the English version of this document. Translation into other languages is not guaranteed to be a true representation of content or specification.

© by EMC PARTNER AG. No changes or reproduction without permission of EMC PARTNER AG allowed.