



COMPLETE TEST SOLUTIONS FOR

Conducted Immunity Testing



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 Smart navigation through technical specifications. Click the green links.



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, Ring wave, 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.

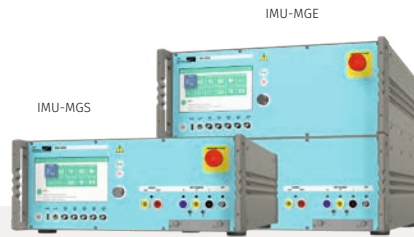


DOW series

- DOW Mainframe Unit

Available Modules

- SLOW 100kHz & 1MHz / 4.4kV
- FAST 3MHz, 10MHz & 30MHz / 4 kV
- CDN 690Vac & 500Vdc / 32A
- Insulation 1.2/50us 500Ω / 0.5J 8kV



IMU series

- IMU Mainframe Unit

Available Modules

- Surge / CWG 4kV / 5 kV / 6kV / 8kV
- Ring Wave 6kV / 8kV
- Telecom 6kV / 8kV
- EFT 4kV / 5kV / 6kV / 7kV / 8kV
- Common Mode 35V / 330V
- AC & DC Interrupts 16A / 32A / 75A
- AC DIPS & Variation 16A
- Differential Mode voltage / current
- ESD 16kV

WHY MODULARITY ?

You get a cost-effective solution that fits your test requirements. Also, you can extend your system for other tests after initial purchase and on-site whenever you have new test requirements.



GENERATORS

IMU-MGS

IMU-MGS Mainframe

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



IMU-MGS Control Features

Operating system	EPOS proprietary firmware
Languages	8 menu languages, selectable
User interface	7" capacitive touch display
Connectivity	gigabit ethernet, USB, RS485
Environment meas.	built-in temperature and humidity sensor
EUT power monitor	supply voltage, current and freq. on screen
EUT supply voltage waveform	monitoring BNC output connector max. 15 V
EUT supply current waveform	monitoring BNC output connector max. 15 V
Surge monitoring	peak voltage and current on screen, waveform available at BNC outputs
Surge voltage waveform	monitoring BNC output connector max. 15 V
Surge current waveform	monitoring BNC output connector max. 15 V
Trigger out	BNC connector, max. 6 V
Trigger in	auto, manual or via programmable BNC
Programmable connectors	2 BNC connectors (inputs/outputs) as follows
Programmable input functions	Trigger Input, Start Test, Stop Test, EUT Fail, EUT Mark, Emergency Stop
Programmable input max. voltage	low range: 0 – 1.5 V, high range: 2.3 – 24 V
Programmable output functions	Running State, Safety Circuit State
Programmable output max. U, I	max. 24 V, max. 300 mA
Synchronization source	EUT power, direct out, external
Synchronization angle	0 – 359° ± 5°, 1° step
Input EUT power selection	PWR1 and PWR2 selectable on the screen

Power ON/OFF process	sophisticated functions allow to switch EUT power ON/OFF at selectable voltage angle (0 – 359°, 1° step)
Impulse polarity	positive, negative, alternating
Automatic ramps	test level, sync. angle, coupling path
EUT overcurrent protection	automatic programmable fuse up to 16 A
PS3 control	DC, 16.7 Hz, 50 Hz, 60 Hz supply power
Safety features (standard)	Emergency stop button on front panel red/yellow as per IEC 60947-5-5, IEC 60204-1, ISO 13850, Safety circuit
Safety accessories (optional)	WARNING LAMP (24 V, max. 2.4 W), TC-ST test cabinet Remote EMERGENCY STOP button

IMU-MGS module: EXT-IMU P

Application	enhances CDN DC capability from 90 V to 300 V required when the D module is not included
EUT power	0 V - 300 V max. 16 A
EUT frequency	DC - 60 Hz

IMU-MGS module: EXT-IMU-E, ESD extension 16 kV

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

IMU-MGS module: EXT-IMU4000 F4, EFT / Burst extension 4.4 kV

Standard	IEC 61000-4-4 latest edition
Output impedance	50 Ω
Voltage OC	0.2 kV – 4.4 kV
Voltage into 50 Ω	0.1 kV – 2.2 kV ± 10 %
Waveform into 50 Ω	5 ± 1.5 ns / 50 ± 15 ns
Voltage into 1 kΩ	0.191 kV - 4.18 kV ± 20%
Waveform into 1 kΩ	5 ± 1.5 ns / 50 ns (-15/+100 ns)
Spike frequency	1 kHz - 1 MHz
Maximum spikes / second	8000 @ 1 kV
Burst duration	0.01 ms - 30 ms, continuous up to 8 kHz
Burst repetition	1 - 1000 ms
Polarity	positive, negative, alternating
Synchronization	0 – 359°, step 1°
Ramps	voltage, spike frequency, burst duration
Optional accessories	CDNs , Accessories

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

Standard	IEC 61000-4-4 latest edition
Output impedance	50 Ω
Voltage OC	0.2 kV – 5.1 kV
Voltage into 50 Ω	0.1 kV – 2.55 kV \pm 10 %
Waveform into 50 Ω	5 \pm 1.5 ns / 50 \pm 15 ns
Voltage into 1 k Ω	0.191 kV – 4.85 kV \pm 20 %
Waveform into 1 k Ω	5 \pm 1.5 ns / 50 ns (-15/+100 ns)
Spike frequency	1 kHz - 1 MHz
Maximum spikes / second	8000 @ 1 kV
Burst duration	0.01 ms - 30 ms, continuous up to 8 kHz
Burst repetition	1 - 1000 ms
Polarity	positive, negative, alternating
Synchronization	0 – 359°, step 1°
Ramps	voltage, spike frequency, burst duration
Optional accessories	CDNs , Accessories

IMU-MGS module: EXT-IMU4000 S4, CWG / Surge extension 4.1 kV

Standard	IEC 61000-4-5 latest edition
Output impedance	2 Ω
Voltage OC	0.25 kV - 4.1 kV \pm 10 %
Voltage waveform	1.2 μ s \pm 30 % / 50 μ s \pm 20 %
Current SC	0.125 kA - 2.05 kA \pm 10 %
Current waveform	8 μ s \pm 20 % / 20 μ s \pm 20 %
Pulse repetition	up to 1 / s @ 0.8 kV, 1 / 5 s @ 4.1 kV
Polarity	positive, negative, alternating
Synchronization	0 – 359°, step 1°
Ramps	voltage, synchronisation angle
Magnetic pulse test	IEC 61000-4-9, see MF1000-x coils
Optional accessories	CDNs , CDNs for I/O Lines , Accessories

IMU-MGS module: EXT-IMU4000 S5, CWG / Surge extension 5.1 kV

Standard	IEC 61000-4-5 latest edition
Output impedance	2 Ω
Voltage OC	0.25 kV - 5.1 kV \pm 10 %
Voltage waveform	1.2 μ s \pm 30 % / 50 μ s \pm 20 %
Current SC	0.125 kA - 2.55 kA \pm 10 %
Current waveform	8 μ s \pm 20 % / 20 μ s \pm 20 %
Pulse repetition	up to 1 / s @ 0.8 kV, 1 / 5.5 s @ 5.1 kV
Polarity	positive, negative, alternating
Synchronization	0 – 359°, step 1°
Ramps	voltage, synchronisation angle
Magnetic pulse test	IEC 61000-4-9, see MF1000-x coils
Optional accessories	CDNs , CDNs for I/O Lines , Accessories

IMU-MGS module: EXT-IMU D, AC/DC dips, interruptions extension

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

Standard	IEC 61000-4-29 latest edition
EUT DC power	24 – 300 V, 0 – 16 A @ 300V
Switch time into 100 Ω	1 μs – 50 μs
Interruption time	0.1 ms – 60000 ms
Requires	1 x PS3 for DC interrupt., 2 x PS3 for DC dips

IMU-MGS module: EXT-IMU V, dips and variations extension

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

IMU-MGS 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 up to 35 V
Sweep time	adjustable, decade time: 10 s – 1000 s
Test voltage short duration	0.1 – 330 Vrms: requires PS3, EXT-IMU C-SHORT
Power frequency test	DC, 16.7 Hz, 50 Hz, 60 Hz
Source impedance	50 Ω \pm 10 %
Sync. turn on/off for AC	0° \pm 5°
DC switching time	1 - 5 μ s
Residual ripple DC	< 5%
THD 15 Hz – 150 kHz	< 1%
THD power frequency	< 10%
Optional accessories	CNs for I/O Lines, Accessories

IMU-MGS module: IMU SLAVE SMART external module

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

POWER, WEIGHT, DIMENSIONS, CLIMATIC CONDITIONS

IMU-MGS mainframe

Operating voltage	100 – 240 V (50/60 Hz) \pm 10 %
Power consumption	ON < 150 VA, standby < 15 VA
Weight	16 kg (weight of modules not included)
W x d x h	520 x 433 x 180 mm
Version	19" unit, 4 UH
Temperature range	10 – 35 °C
Humidity	< 80 % non-condensing
Air pressure	86 – 106 kPa
Included articles	
Power cord	with country plug
Supply connection	3 cables x 2 m, banana plugs
User manual	digital format (PDF)
Calibration certificate	factory calibration
Ethernet cable	1 piece
USB stick	1 piece
CDN burst cal. adapter	1 piece