

THE BRAND NEW IMU GENERATION

# IMU Modular Generator Standard & Extended



 This document has been  
optimized for electronic media

 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)
- › AC / DC Dips & Interrupts
- › AC / Impulse / 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 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.



**IMU-MGS**

- Standard IEC capabilites

## Available Modules

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



**IMU-MGE**

- Extended Capabilites

## Available Modules

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

## WHY

### MODULARITY ?

A cost-effective solution that fits your test requirements and can be easily extended with additional tests locally as required.



# AVAILABLE TESTS

## IMU Series



### ESD Electrostatic Discharges

up to 16kV

According to IEC/EN 61000-4-2



### Electric Fast Transient / Burst (EFT)

up to 7kV

According to IEC/EN 61000-4-4



### Combination Wave / Surge (CWG)

up to 8kV

According to IEC/EN 61000-4-5, ANSI C62.41



### Telecom Impulse (10/700)

up to 8kV

According to IEC/EN 61000-4-5, ITU-T K.44



### Ring Wave 100kHz (Ring)

up to 8kV

According to IEC/EN 61000-4-12, ANSI C62.41



### Common Mode (CM)

up to 35V continuous / 330V short

According to IEC/EN 61000-4-16



### Differential Mode (DM)

4.4A / 25V

According to IEC/EN 61000-4-19



### AC & DC Dips, Variations and Interruptions

up to 75 A

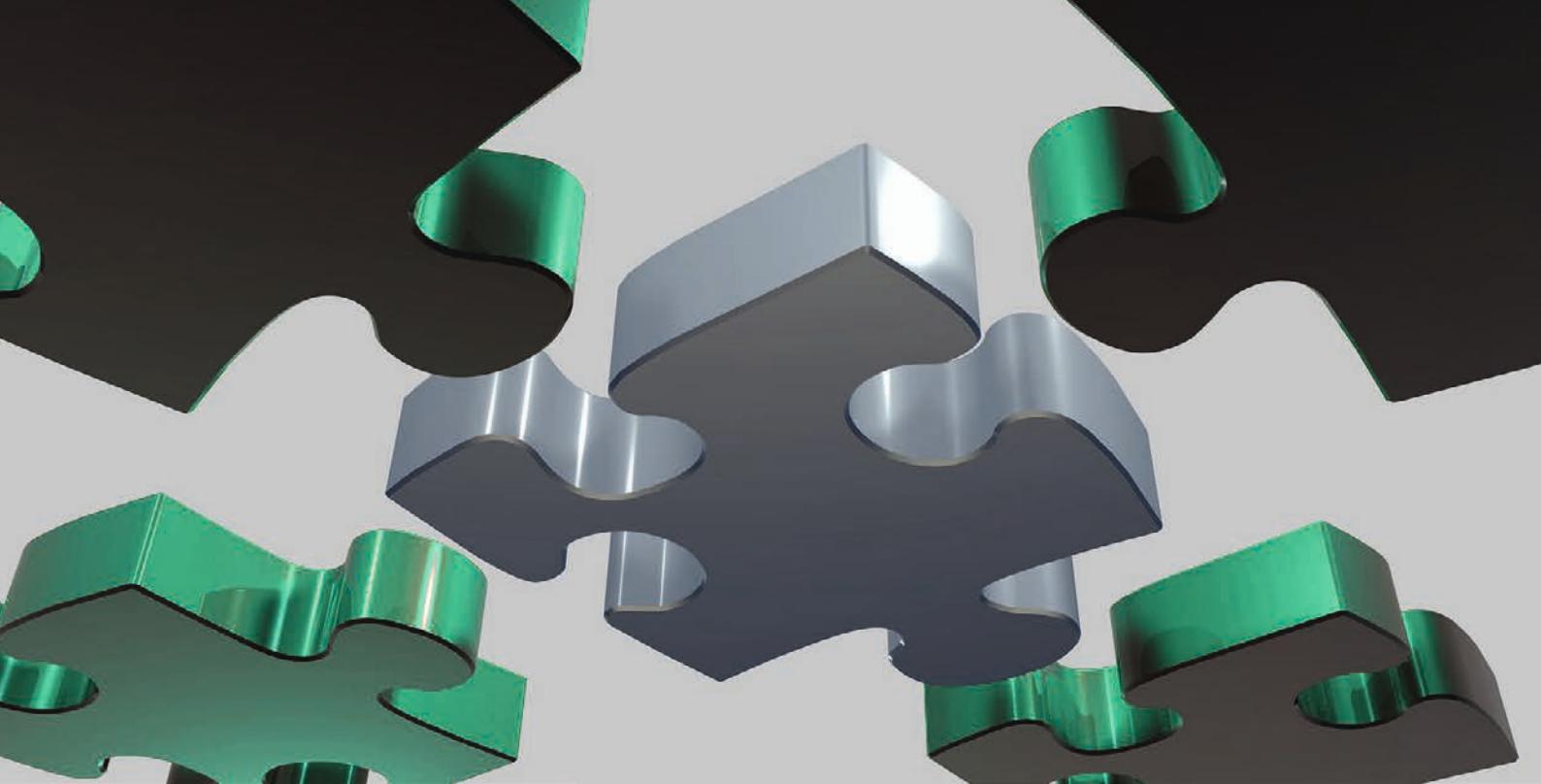
According to IEC/EN 61000-4-11 / -29 / -34



### Magnetic Field / Pulse

up to 1000 A/m

According to IEC/EN 61000-4-8 / -9



## UNIQUE FEATURES

Leading technology - New design takes 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

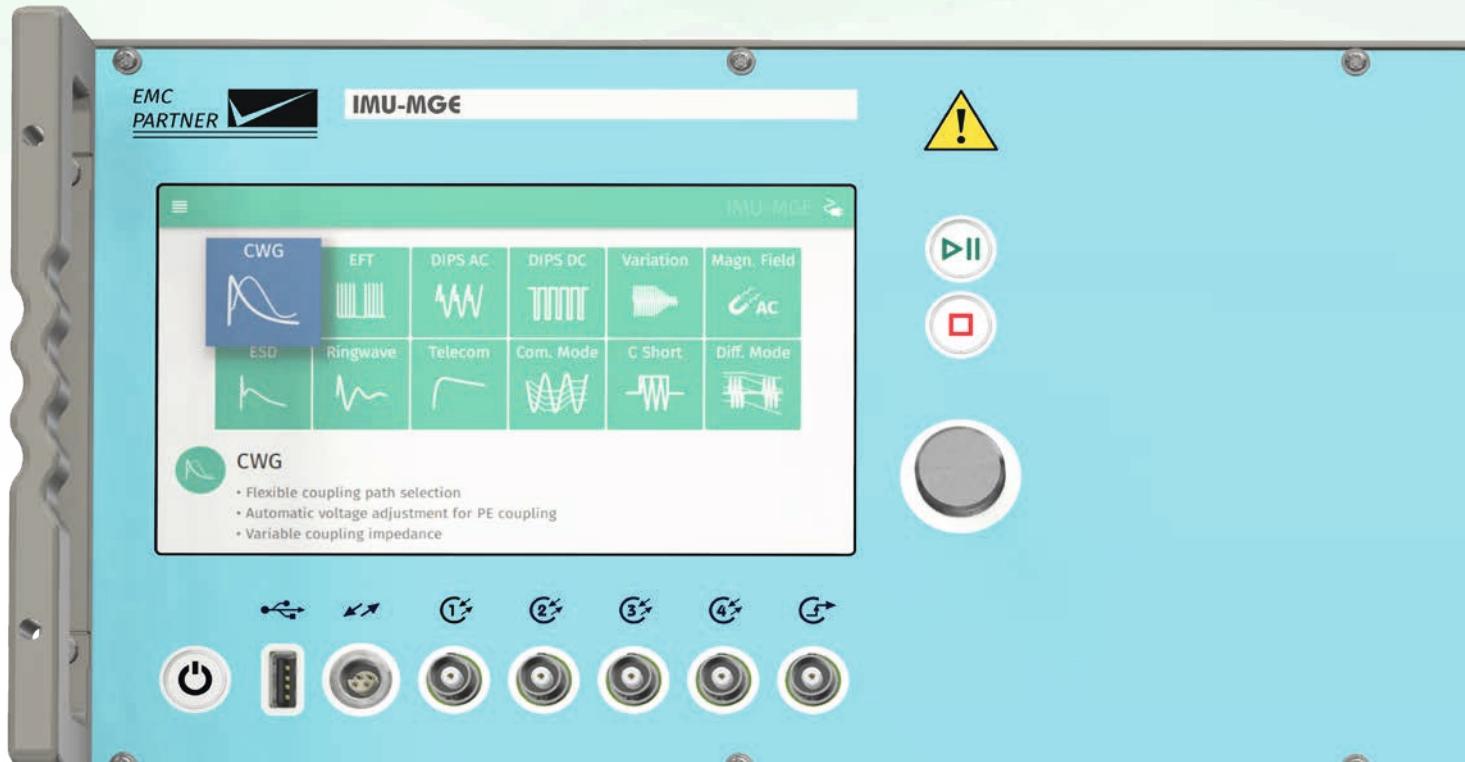


Software download from internet directly into the instrument.

### Extend testing capability



Hardware upgrades performed onsite, reducing downtime to practically zero.



## EPOS - BEYOND BETTER

EMC PARTNER Operating System (EPOS) has been driving IMU generators since 2012, the latest generation is a complete revision and enhancement bringing more features and user benefits. The user friendly full colour graphic interface with built-in help and on-screen set-up diagrams make operating instructions obsolete and accelerate the customer learning experience. The included web server enables test files and reports to be quickly and easily transferred between IMU generators or computers, without the need for specialist software.

### 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, customizable test reports and DSO integration.

**Want to know more? Further information and demo version available on the website**

### 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

## IMU-MGS

### IMU-MGS Mainframe

<b>EUT power input 1 (CDN)</b>	max. AC/DC 300V, 16A (fused 16A) c
<b>EUT power input 2 (CDN)</b>	max. AC/DC 300V, 16A (not fused) with <a href="#">P module</a>
<b>Internal CDN freq. range</b>	DC, 50 Hz, 60 Hz
<b>Power freq. synchr.</b>	50/60 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



### IMU-MGS 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>Programmable BNC</b>	6 connectors, bidirectional
<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 = 5 kV, max. 15 V
<b>Surge current monitor BNC</b>	10 V = 3 kA, max. 15 V
<b>Trigger out</b>	BNC
<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
<b>EUT overcurrent protection</b>	automatic programmable fuse up to 16 A
<b>Emergency stop</b>	BNC input and on front panel
<b>Warning lamp</b>	Connector on rear panel
<b>PS3 Control</b>	DC, 16.7Hz, 50Hz, 60Hz supply power

### IMU-MGS module: EXT-IMU P

<b>Application</b>	Enhance DC capability from 90 V to 300 V required when the D module is not included
<b>EUT power</b>	0 V – 300 V max. 16 A
<b>EUT frequency</b>	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**

<b>Standard</b>	IEC 61000-4-4 latest edition
<b>Output impedance</b>	50 Ω
<b>Voltage OC</b>	0.2 kV – 4.4 kV
<b>Voltage into 50 Ω</b>	0.1 kV – 2.2 kV ± 10 %
<b>Waveform into 50 Ω</b>	5 ± 1.5 ns / 50 ± 15 ns
<b>Voltage into 1 kΩ</b>	0.191 kV - 4.18 kV ± 20%
<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>	CDNs, Accessories

### **IMU-MGS 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>	0.2 kV – 5.1 kV
<b>Voltage into 50 Ω</b>	0.1 kV – 2.55 kV ± 10 %
<b>Waveform into 50 Ω</b>	5 ± 1.5 ns / 50 ± 15 ns
<b>Voltage into 1 kΩ</b>	0.191 kV – 4.85 kV ± 20 %
<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>	CDNs, Accessories

### **IMU-MGS module: EXT-IMU4000 S4, 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 @ 0.8 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 MF1000-x antennas
<b>Optional accessories</b>	CDNs, CDNs for I/O Lines, Accessories

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

<b>Standard</b>	IEC 61000-4-5 latest edition
<b>Output impedance</b>	2 Ω
<b>Voltage OC</b>	0.25 kV - 5.1 kV ± 10 %
<b>Voltage waveform</b>	1.2 µs ± 30 % / 50 µs ± 20 %
<b>Current SC</b>	0.125 kA - 2.55 kA ± 10 %
<b>Current waveform</b>	8 µs ± 20 % / 20 µs ± 20 %
<b>Pulse repetition</b>	up to 1 / s @ 0.8 kV, 1 / 5.5 s @ 5.1 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>

### **IMU-MGS 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 Ω</b>	1 µs – 5 µs
<b>Interruption time</b>	50 µs – 60 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 Ω</b>	1 µs – 50 µs
<b>Interruption time</b>	0.1 ms – 60000 ms
<b>Requires</b>	1 x <a href="#">PS3</a> for DC interrupt., 2 x <a href="#">PS3</a> for DC dips

### **IMU-MGS 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 AC</b>	20 – 250 V, 5 A, 50/60 Hz
<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 @ 50/60 Hz
<b>Magnetic field test</b>	IEC 61000-4-8, see <a href="#">MF1000-x</a> antennas

#### **IMU-MGS 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 PS3, EXT-IMU C-SHORT
<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>	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**

<b>Operating voltage</b>	100 – 240 V (50/60 Hz) ± 10 %
<b>Power consumption</b>	ON < 150 VA, standby < 15 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

# IMU-MGE

## IMU-MGE Mainframe

<b>EUT power input 1 (CDN)</b>	max. AC/DC 300V, 16A (fused 16A) with P module
<b>EUT power input 2 (CDN)</b>	max. AC/DC 300V, 16A (not fused) with P module
<b>Internal CDN freq. range</b>	DC, 50 Hz, 60 Hz
<b>Power freq. synchr.</b>	50/60 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



## IMU-MGE Control features

<b>Operating system</b>	EPOS proprietary firmware
<b>Languages</b>	10 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>Programmable BNC</b>	6 connectors, bidirectional
<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
<b>Warning lamp</b>	Connector on rear panel

## IMU-MGS module: EXT-IMU P

<b>Application</b>	Enhance DC capability from 90 V to 300 V required when the D module is not included
<b>EUT power</b>	0 V - 300 V max. 16 A
<b>EUT frequency</b>	DC - 60 Hz

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

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

### **IMU-MGE module: EXT-IMU3000 F5, EFT / Burst extension 5.3 kV**

<b>Standard</b>	IEC 61000-4-4 latest edition
<b>Output impedance</b>	50 Ω
<b>Voltage OC</b>	0.2 kV – 5.3 kV ± 10 %
<b>Voltage into 50 Ω</b>	0.1 kV – 2.65 kV ± 10 %
<b>Waveform into 50 Ω</b>	5 ± 1.5 ns / 50 ± 15 ns
<b>Voltage into 1 kΩ</b>	0.191 kV – 5.04 kV ± 20 %
<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>	CDNs, Accessories

### **IMU-MGE 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>	0.2 kV – 6.3 kV ± 10 %
<b>Voltage into 50 Ω</b>	0.1 kV – 3.15 kV ± 10 %
<b>Waveform into 50 Ω</b>	5 ± 1.5 ns / 50 ± 15 ns
<b>Voltage into 1 kΩ</b>	0.191 kV – 5.99 kV ± 20 %
<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>	CDNs, Accessories

### **IMU-MGE module: EXT-IMU3000 F7, EFT / Burst extension 7.1 kV**

<b>Standard</b>	IEC 61000-4-4 latest edition
<b>Output impedance</b>	50 Ω
<b>Voltage OC</b>	0.2 kV – 7.1 kV ± 10 %
<b>Voltage into 50 Ω</b>	0.1 kV – 3.5 kV ± 10 %
<b>Waveform into 50 Ω</b>	5 ± 1.5 ns / 50 ± 15 ns
<b>Voltage into 1 kΩ</b>	0.191 kV – 6.75 kV ± 20 %
<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>	CDNs, Accessories

### **IMU-MGE 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 @ 0.6 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 MF1000-X antennas
<b>Optional accessories</b>	CDNs, CDNs for I/O Lines, Accessories

### **IMU-MGE module: EXT-IMU3000 S8, CWG / Surge extension 8 kV**

<b>Standard</b>	IEC 61000-4-5 latest edition
<b>Output impedance</b>	2 Ω
<b>Voltage OC</b>	0.25 kV – 8 kV ± 10 %
<b>Voltage waveform</b>	1.2 µs ± 30 % / 50 µs ± 20 %
<b>Current SC</b>	0.125 kA – 4 kA ± 10 %
<b>Current waveform</b>	8 µs ± 20 % / 20 µs ± 20 %
<b>Pulse repetition</b>	up to 1 / s @ 0.6 kV, 1 / 12 s @ 8 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 MF1000-X antennas
<b>Optional accessories</b>	CDNs, CDNs for I/O Lines, Accessories

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

<b>Standard</b>	IEC 61000-4-5 latest edition
<b>Output impedance</b>	15 Ω, 40 Ω
<b>Voltage OC</b>	0.25 kV - 6.6 kV ± 10 %
<b>Voltage waveform</b>	10 µs ± 30 % / 700 µs ± 20 %
<b>Current SC into 40 Ω</b>	6.25 A – 165 A ± 10 %
<b>Current waveform</b>	5 µs ± 20 % / 320 µs ± 20 %
<b>Pulse repetition</b>	up to 1 / s @ 0.3 kV, 1 / 20 s @ 6.6 kV
<b>Polarity</b>	positive, negative, alternating
<b>Ramps</b>	voltage
<b>Optional accessories</b>	CDNs for I/O Lines, Accessories

### IMU-MGE module: EXT-IMU3000 T8, Telecom Surge extension 8 kV

<b>Standard</b>	IEC 61000-4-5 latest edition
<b>Output impedance</b>	15 Ω, 40 Ω
<b>Voltage OC</b>	0.25 kV - 8 kV ± 10 %
<b>Voltage waveform</b>	10 µs ± 30 % / 700 µs ± 20 %
<b>Current SC into 40 Ω</b>	6.25 A – 200 A ± 10 %
<b>Current waveform</b>	5 µs ± 20 % / 320 µs ± 20 %
<b>Pulse repetition</b>	up to 1 / s @ 0.3 kV, 1 / 24 s @ 8 kV
<b>Polarity</b>	positive, negative, alternating
<b>Ramps</b>	voltage
<b>Optional accessories</b>	CDNs for I/O Lines, Accessories

### IMU-MGE 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 – 300V @ 50 / 60 Hz, max. 16 A
<b>EUT frequency with variac</b>	48 Hz – 60 Hz
<b>Switch time into 100 Ω</b>	1 µs – 5 µs
<b>Interruption time</b>	50 µs – 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>	EXT-IMU V, SRC16-1P or VAR-EXT1000 for AC dips
<b>Optional accessories</b>	Accessories
<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 Ω</b>	1 µs – 50 µs
<b>Interruption time</b>	0.1 ms – 60000 ms
<b>Requires</b>	1 x PS3 for DC interrupt, 2 x PS3 for DC dips

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

<b>Standard</b>	IEC 61000-4-11 latest edition
<b>Construction</b>	internal variac
<b>Power input AC</b>	20 – 250 V, 5 A, 50/60 Hz
<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 MF1000-X antennas

#### IMU-MGE 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>	8.3 A – 220 A ± 10 %
<b>Current rise time</b>	0.2 - 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>	CDNs, CDNs for I/O Lines, Accessories

#### IMU-MGE module: EXT-IMU3000 R8, 100 kHz Ring wave extension 8 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 - 8 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>	20.83 A – 667 A ± 10 %
<b>Current SC into 30 Ω</b>	8.3 A – 267 A ± 10 %
<b>Current rise time</b>	0.2 - 1 µs
<b>Pulse repetition</b>	up to 1 / s @ 1 kV, 1 / s @ 8 kV
<b>Polarity</b>	positive, negative, alternating
<b>Synchronization</b>	0 – 359°, step 1°
<b>Ramps</b>	voltage, synchronisation angle
<b>Optional accessories</b>	CDNs, CDNs for I/O Lines, Accessories

### **IMU-MGE 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
<b>Sweep time</b>	adjustable, decade time: 10 s – 1000 s
<b>Test voltage short duration</b>	0.1 – 330 Vrms: PS3, EXT-IMU C-SHORT
<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>	CNs, CNs for I/O Lines, Accessories

### **IMU-MGE module: IMU SLAVE SMART external module**

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

## **POWER, WEIGHT, DIMENSIONS, CLIMATIC CONDITIONS**

### **IMU-MGE mainframe**

<b>Operating voltage</b>	100 – 240 V (50/60 Hz) ± 10 %
<b>Power consumption</b>	ON < 150 VA, standby < 15 VA
<b>Weight</b>	30 kg (weight of modules not included)
<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

### **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

For further information please do not hesitate to contact your local EMC PARTNER AG representative.  
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