


IMPULSE, POWER CONTACT & INDUCTION

Surge and Telecom 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



SPECIAL SURGE & TELECOM TEST SYSTEMS

MOVING WITH THE TIMES

Traditional telecom systems have been overtaken by modern high-speed digital equipment. Standard pulses based on the lightning event remain unchanged, but unique CDNs are needed to transfer impulse energy into high-speed communication systems. Exchange and household equipment solutions are complimented by specialist protection device test solutions.

- › International Telecommunications Union (ITU)
 - Basic and enhanced tests covered
- › Reproducible impulses
- › System and component level test solutions
- › Integrated personnel safety features



UNIQUE FEATURES

Test solutions built from a common hardware.

Complete Test Solutions



Impulse generators and specialist CDNs combined with equipment for Power Contact and Power Induction test solutions.

Standard, but also application specific



There is a high degree of hardware commonality in EMC PARTNER impulse generators. Adapted for specific applications.

Wide ranging



All impulse types available. Test applications from complete systems down to protection device component level.

Leading technology



Solid state high voltage switches deliver reproducible impulses. For more confidence in test results.

SPECIAL REQUIREMENTS ARE STANDARD

Long industry experience has produced many specialist generators to meet customer needs.

Lightning Impulse

1.2/50 μ s

- › IEC 60060-1
- › IEC 61180-1
- › IEC 61180-2
- › IEC 60335-1

CWG

1.2/50 μ s

8/20 μ s

- › IEC 61000-4-5

Telecom

10/700 μ s

5/320 μ s

- › ITU-T K20
- › ITU-T K21
- › ITU-T K44
- › IEC 60950

Ringwave

0.5/100kHz

- › IEC 61000-4-12

Current impulse

10/350 μ s

8/20 μ s

10/1000 μ s ITU-T K44

- › IEC 61643-11

Technical Specifications

TEST SYSTEMS

Test system model	IEC61000-4-5	IEC61000-4-5	IEC61000-4-12	ANSI C62.41, -45	ITU-T Kxx	Insulation	Other
Waveforms	1.2/50 μs, 8/20 μs	10/700 μs, 5/320 μs	0.5 μs / 100 kHz				
MIG0603IN S	6.1 kV			CW	K20, 21, 44		
MIG0603IN1 S-R	6.1 kV		6.3 kV	CW, RW	K20, 21, 44		
MIG0603IN2 S-T	6.1 kV	6.3 kV		CW	K20, 21, 44		
MIG0603IN3 S-R-T	6.1 kV	6.3 kV	6.3 kV	CW, RW	K20, 21, 44		
MIG0612T-K12					K12		
MIG0624T-K12					K12		
MIG-ITU-K44					K20, 21, 44		
MIG0624TEL					K20, 21, 44		
MIG0648TEL					K20, 21, 44		
MIG1206	12.5 kV			CW	K20, 21, 44	IEC60060-1	IEC61643-1
MIG1206-1P	12.5 kV			CW	K20, 21, 44	IEC60060-1	IEC61643-1
MIG1206-1P-T	12.5 kV	6.3 kV		CW	K20, 21, 44	IEC60060-1	IEC61643-1
MIG1206-3P	12.5 kV			CW	K20, 21, 44	IEC60060-1	IEC61643-1
MIG1206-3P-63A	12.5 kV			CW	K20, 21, 44	IEC60060-1	IEC61643-1
MIG1206-3P-T	12.5 kV	6.3 kV		CW	K20, 21, 44	IEC60060-1	IEC61643-1
TEL0305LP3	IEC62305-4, IEC61643-11, IEC61643-21, Ericsson 1/1528-HRB 105 102/1						

CW – Combination Wave (hybrid surge waveform)

RW – Ring wave 100 kHz

CDNS AND ACCESSORIES

Generator model	IEC61000-4-5	IEC61000-4-5	IEC61000-4-12	ANSI C62.41, .45	ITU-T Kxx	Insulation	Other
Waveforms	1.2/50 μs, 8/20 μs	10/700 μs, 5/320 μs	0.5 μs / 100 kHz				
CDN2000-06-32	6 kV		6 kV	CW, RW	K20, 21, 44		Burst
CDN2000A-06-32	6 kV			CW	K20, 21, 44		Burst
CDN2000A-06-32 480V	6 kV			CW	K20, 21, 44		Burst
CDN2000A-06-32 690V	6 kV			CW	K20, 21, 44		Burst
CDN2000A-06-63	6 kV			CW	K20, 21, 44		Burst
CDN-MIG12-32	12 kV						
CDN-MIG12-32 690 V	12 kV						
CDN-KIT1000 ED3	6 kV						
CDN-DATA-4L	6 kV		6 kV				
CDN-DATA-8L	6 kV		6 kV				
CDN-UTP ED3	6 kV	6 kV			6 kV		
CDN-UTP8 ED3	6 kV	6 kV			6 kV		
V-PROBE-SI	7 kV	7 kV	7 kV		6 kV		
I-PROBE-P101	5 kA	5 kA			5 kA		
MF1000-1	1.5 kA / m						
MF1-STAND	For MF						
MF1000-2	1.5 kA / m						
TC-MIG24						IEC60060-1	x
TC-MIG24HL						IEC60060-1	x
CN12-500						IEC60060-1	
CN12-12-500						IEC60060-1	

CW – Combination Wave (hybrid surge waveform)

RW – Ring wave 100 kHz

MIG0603IN S

MIG0603IN S circuit: CWG / Surge 6.1 kV

Standards	IEC61000-4-5, ANSI C62.45 (latest editions)
Impulse capacitance	10 μ F \pm 10 %
Energy at max. voltage	220 joules
Output impedance	2 Ω \pm 10 %
Adjustable voltage OC	0.25 kV – 6.1 kV \pm 10 %
Calibrated level	0.5 kV – 6 kV
Voltage waveform	1.2 μ s \pm 30 % / 50 μ s \pm 20 %
Current SC	0.125 kA – 3.05 kA \pm 10 % (ANSI: - 0 %)
Current waveform	8 μ s \pm 20 % / 20 μ s \pm 20 %
Undershoot	< 30 %
Pulse repetition	up to 1 / 4 s @ 0.5 kV, 1 / 9 s @ 6.1 kV
Polarity	positive, negative, alternating
Synchronization	0 – 360°, step 1°
Programmable ramps	voltage, synchronisation angle
Magnetic pulse test	IEC61000-4-9, see MF1000-x antennas

MIG0603IN S built-in automatic CDN

Test level surge	6 kV
EUT power input	AC 480V L-N, 280 V L/N-PE, 16A (fused 16A) DC 110 V, 16A (not fused)
EUT overcurrent protection	CDN input fused 16 A
Internal CDN freq. range	DC, 50 Hz, 60 Hz
Coupling surge IEC	2 Ω : L-N, direct out, 12 Ω : L-PE, N-PE
Coupling surge ANSI	2 Ω : L-N, L-PE, N-PE, L+N-PE 12 Ω : L-N, L-PE, N-PE
Decoupling	as in IEC61000-4-5

MIG0603IN S control features

User interface	LCD and keypad, efficient menu structure
Communication interface	RS232 with (optional) adapter to USB
Surge voltage monitor BNC	10 V = 6 kV, accuracy \pm 3%
Surge current monitor BNC	10 V = 3 kA, accuracy \pm 3%
Surge voltage on display	0.250 – 6.6 kV, accuracy \pm 3%
Surge current on display	0.125 – 3.3 kA, accuracy \pm 3%
Trigger out	BNC, max. 12 V
Trigger in	auto, manual, external (BNC input)
Synchro. source	EUT power, direct out
Power synchro. on/off	0 – 360°, 1° step
EUT input power	ON/OFF on front panel
Impulse counter	programmable up to 29'999
Emergency stop	Emergency Stop button, BNC input (EUT Fail)
Internal memory	up to 15 tests can be saved and recalled

MIG0603IN S supply, weight, dimensions, climatic conditions

Operating voltage	115 / 230 V (50/60 Hz) ± 10%
Power consumption	ON < 400 VA, standby < 10 VA
Weight	28 kg
W x d x h	45 x 57 x 19 cm
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	with conformity declaration
Calibration certificate	factory calibration

MIG0603IN S optional accessories

CDNs for power lines	CDN2000-06-32
CDNs for I/O lines	CDN-KIT1000 ED3, CDN-DATA-4L, CDN-DATA-8L, CDN-UTP ED3 and CDN-UTP8 ED3
Magnetic pulse antennas	MF1000-1, MF1000-2 (IEC61000-4-9)

MIG0603IN1 S-R

MIG0603IN1 S-R circuit: CWG / Surge 6.1 kV

Standards	IEC61000-4-5, ANSI C62.45 (latest editions)
Impulse capacitance	10 µF ± 10 %
Energy at max. voltage	220 joules
Output impedance	2 Ω ± 10 %
Adjustable voltage OC	0.25 kV - 6.1 kV ± 10 %
Calibrated level	0.5 kV – 6 kV
Voltage waveform	1.2 µs ± 30 % / 50 µs ± 20 %
Current SC	0.125 kA – 3.05 kA ± 10 % (ANSI: - 0 %)
Current waveform	8 µs ± 20 % / 20 µs ± 20 %
Undershoot	< 30 %
Pulse repetition	up to 1 / 4 s @ 0.5 kV, 1 / 9 s @ 6.1 kV
Polarity	positive, negative, alternating
Synchronization	0 – 360°, step 1°
Programmable ramps	voltage, synchronisation angle
Magnetic pulse test	IEC61000-4-9, see MF1000-x antennas

MIG0603IN1 S-R circuit: Ring wave 6.3 kV

Standards	IEC61000-4-12, ANSI C62.45 (latest editions)
Impulse capacitance	0.5 μ F \pm 10 %
Energy at max. voltage	10 joules
Output impedance	12 Ω , 30 Ω , 200 Ω \pm 10 %
Adjustable voltage OC	0.25 kV – 6.3 kV \pm 10 %, decay as in IEC, ANSI
Calibrated level	0.5 kV – 6 kV
Voltage rise time/ osc. freq.	0.5 μ s \pm 30 % / 100 kHz \pm 10 %
Current SC into 12 Ω	500 A \pm 10 % @ 6 kV
Current SC into 30 Ω	200 A \pm 10 % @ 6 kV
Current rise time	< 1 μ s for both 12 Ω and 30 Ω
Pulse repetition	up to 1 / 4 s @ 0.5 kV, 1 / 9 s @ 6.1 kV
Polarity	positive, negative, alternating
Synchronization	0 – 360°, step 1°
Programmable ramps	voltage, synchronisation angle

MIG0603IN1 S-R built-in automatic CDN

Test level surge	6 kV
Test level ring wave	6 kV
EUT power input	AC 480V L-N, 280 V L/N-PE, 16A (fused 16A) DC 110 V, 16A (not fused)
EUT overcurrent protection	CDN input fused 16 A
Internal CDN freq. range	DC, 50 Hz, 60 Hz
Coupling surge IEC	2 Ω : L-N, direct out, 12 Ω : L-PE, N-PE
Coupling surge ANSI	2 Ω : L-N, L-PE, N-PE, L+N-PE 12 Ω : L-N, L-PE, N-PE
Coupling ring wave	12 Ω , 30 Ω , 200 Ω : L-N, L-PE, N-PE, L+N-PE
Decoupling	as in IEC61000-4-5, IEC61000-4-12

MIG0603IN1 S-R control features

User interface	LCD and keypad, efficient menu structure
Communication interface	RS232 with (optional) adapter to USB
Pulse voltage monitor BNC	10 V = 6 kV, accuracy \pm 3%
Pulse current monitor BNC	10 V = 3 kA, accuracy \pm 3%
Pulse voltage on display	0.250 – 6.6 kV, accuracy \pm 3%
Pulse current on display	0.125 – 3.3 kA, accuracy \pm 3%
Trigger out	BNC, max. 12 V
Trigger in	auto, manual, external (BNC input)
Synchro. source	EUT power, direct out
Power synchro. on/off	0 – 360°, 1° step
EUT input power	ON/OFF on front panel
Impulse counter	programmable up to 29'999
Emergency stop	Emergency Stop button, BNC input (EUT Fail)
Internal memory	up to 15 tests can be saved and recalled

MIG0603IN1 S-R supply, weight, dimensions, climatic conditions

Operating voltage	115 / 230 V (50/60 Hz) ± 10%
Power consumption	ON < 400 VA, standby < 10 VA
Weight	31 kg
W x d x h	45 x 57 x 19 cm
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	with conformity declaration
Calibration certificate	factory calibration

MIG0603IN1 S-R optional accessories

CDNs for power lines (surge 1.2/50 µs and ring wave)	CDN2000-06-32
CDNs for I/O lines (surge 1.2/50 µs and ring wave)	CDN-KIT1000 ED3, CDN-DATA-4L, CCDN-DATA-8L, CDN-UTP ED3 (only surge) and CDN-UTP8 ED3 (only surge)
Magnetic pulse antennas	MF1000-1, MF1000-2 (IEC61000-4-9)

MIG0603IN2 S-T

MIG0603IN2 S-T circuit: CWG / Surge 6.1 kV

Standards	IEC61000-4-5, ANSI C62.45 (latest editions)
Impulse capacitance	10 µF ± 10 %
Energy at max. voltage	220 joules
Output impedance	2 Ω ± 10 %
Adjustable voltage OC	0.25 kV - 6.1 kV ± 10 %
Calibrated level	0.5 kV – 6 kV
Voltage waveform	1.2 µs ± 30 % / 50 µs ± 20 %
Current SC	0.125 kA – 3.05 kA ± 10 % (ANSI: - 0 %)
Current waveform	8 µs ± 20 % / 20 µs ± 20 %
Undershoot	< 30 %
Pulse repetition	up to 1 / 4 s @ 0.5 kV, 1 / 9 s @ 6.1 kV
Polarity	positive, negative, alternating
Synchronization	0 – 360°, step 1°

Programmable ramps	voltage, synchronisation angle
Magnetic pulse test	IEC61000-4-9, see MF1000-x antennas

MIG0603IN2 S-T circuit: Telecom surge 6.3 kV

Standards	IEC61000-4-5, ITU-T K.44
Impulse capacitance	20 μ F \pm 10 %
Energy at max. voltage	440 joules
Output impedance	15 Ω or 40 Ω \pm 10 %, selectable
Adjustable voltage OC	0.25 kV – 6.3 kV \pm 10 %
Calibrated level	0.5 kV – 6 kV
Voltage waveform OC	10 μ s \pm 30 % / 700 μ s \pm 20 %
Current SC into 40 Ω	6.25 A – 157.5 A \pm 10 %
Current waveform SC	5 μ s \pm 20 % / 320 μ s \pm 20 %
Pulse repetition	up to 1 / 4 s @ 0.5 kV, 1 / 9 s @ 6.1 kV
Polarity	positive, negative, alternating
Programmable ramps	voltage

MIG0603IN2 S-T built-in automatic CDN

Test level surge	6 kV
EUT power input	AC 480V L-N, 280 V L/N-PE, 16A (fused 16A) DC 110 V, 16A (not fused)
EUT overcurrent protection	CDN input fused 16 A
Internal CDN freq. range	DC, 50 Hz, 60 Hz
Coupling surge IEC	2 Ω : L-N, direct out, 12 Ω : L-PE, N-PE
Coupling surge ANSI	2 Ω : L-N, L-PE, N-PE, L+N-PE 12 Ω : L-N, L-PE, N-PE
Decoupling	as in IEC61000-4-5
Coupling telecom surge	not applicable to supply lines, see I/O CDNs

MIG0603IN2 S-T control features

User interface	LCD and keypad, efficient menu structure
Communication interface	RS232 with (optional) adapter to USB
Pulse voltage monitor BNC	10 V = 6 kV, accuracy \pm 3%
Pulse current monitor BNC	10 V = 3 kA, accuracy \pm 3%
Pulse voltage on display	0.250 – 6.6 kV, accuracy \pm 3%
Pulse current on display	0.125 – 3.3 kA, accuracy \pm 3%
Trigger out	BNC, max. 12 V
Trigger in	auto, manual, external (BNC input)
Synchro. source	EUT power, direct out
Power synchro. on/off	0 – 360°, 1° step
EUT input power	ON/OFF on front panel
Impulse counter	programmable up to 29'999
Emergency stop	Emergency Stop button, BNC input (EUT Fail)
Internal memory	up to 15 tests can be saved and recalled

MIG0603IN2 S-T supply, weight, dimensions, climatic conditions

Operating voltage	115 / 230 V (50/60 Hz) ± 10%
Power consumption	ON < 400 VA, standby < 10 VA
Weight	32 kg
W x d x h	45 x 57 x 19 cm
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	with conformity declaration
Calibration certificate	factory calibration

MIG0603IN2 S-T optional accessories

CDNs for power lines (only surge 1.2/50 µs)	CDN2000-06-32
CDNs for I/O lines (only surge 1.2/50 µs)	CDN-KIT1000 ED3, CDN-DATA-4L, CCDN-DATA-8L
CDNs for I/O lines (surge 1.2/50 µs and 10/700 µs)	CDN UTP ED3, CDN UTP8 ED3
Magnetic pulse antennas	MF1000-1, MF1000-2 (IEC61000-4-9)

MIG0603IN3 S-R-T

MIG0603IN3 S-R-T circuit: CWG / Surge 6.1 kV

Standards	IEC61000-4-5, ANSI C62.45 (latest editions)
Impulse capacitance	10 µF ± 10 %
Energy at max. voltage	220 joules
Output impedance	2 Ω ± 10 %
Adjustable voltage OC	0.25 kV - 6.1 kV ± 10 %
Calibrated level	0.5 kV – 6 kV
Voltage waveform	1.2 µs ± 30 % / 50 µs ± 20 %
Current SC	0.125 kA – 3.05 kA ± 10 % (ANSI: - 0 %)
Current waveform	8 µs ± 20 % / 20 µs ± 20 %
Undershoot	< 30 %
Pulse repetition	up to 1 / 4 s @ 0.5 kV, 1 / 9 s @ 6.1 kV
Polarity	positive, negative, alternating
Synchronization	0 – 360°, step 1°
Programmable ramps	voltage, synchronisation angle

Magnetic pulse test	IEC61000-4-9, see MF1000-x antennas
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MIG0603IN3 S-R-T circuit: Ring wave 6.3 kV

Standards	IEC61000-4-12, ANSI C62.45 (latest editions)
Impulse capacitance	0.5 μ F \pm 10 %
Energy at max. voltage	10 joules
Output impedance	12 Ω , 30 Ω , 200 Ω \pm 10 %
Adjustable voltage OC	0.25 kV – 6.3 kV \pm 10 %, decay as in IEC, ANSI
Calibrated level	0.5 kV – 6 kV
Voltage rise time/ osc. freq.	0.5 μ s \pm 30 % / 100 kHz \pm 10 %
Current SC into 12 Ω	500 A \pm 10 % @ 6 kV
Current SC into 30 Ω	200 A \pm 10 % @ 6 kV
Current rise time	< 1 μ s for both 12 Ω and 30 Ω
Pulse repetition	up to 1 / 4 s @ 0.5 kV, 1 / 9 s @ 6.1 kV
Polarity	positive, negative, alternating
Synchronization	0 – 360°, step 1°
Programmable ramps	voltage, synchronisation angle

MIG0603IN3 S-R-T circuit: Telecom surge 6.3 kV

Standards	IEC61000-4-5, ITU-T K.44
Impulse capacitance	20 μ F \pm 10 %
Energy at max. voltage	440 joules
Output impedance	15 Ω or 40 Ω \pm 10 %, selectable
Adjustable voltage OC	0.25 kV – 6.3 kV \pm 10 %
Calibrated level	0.5 kV – 6 kV
Voltage waveform OC	10 μ s \pm 30 % / 700 μ s \pm 20 %
Current SC into 40 Ω	6.25 A – 157.5 A \pm 10 %
Current waveform SC	5 μ s \pm 20 % / 320 μ s \pm 20 %
Pulse repetition	up to 1 / 4 s @ 0.5 kV, 1 / 9 s @ 6.1 kV
Polarity	positive, negative, alternating
Programmable ramps	voltage

MIG0603IN3 S-R-T built-in automatic CDN

Test level surge	6 kV
Test level ring wave	6 kV
EUT power input	AC 480V L-N, 280 V L/N-PE, 16A (fused 16A) DC 110 V, 16A (not fused)
EUT overcurrent protection	CDN input fused 16 A
Internal CDN freq. range	DC, 50 Hz, 60 Hz
Coupling surge IEC	2 Ω : L-N, direct out, 12 Ω : L-PE, N-PE
Coupling surge ANSI	2 Ω : L-N, L-PE, N-PE, L+N-PE 12 Ω : L-N, L-PE, N-PE
Coupling ring wave	12 Ω , 30 Ω , 200 Ω : L-N, L-PE, N-PE, L+N-PE
Decoupling	as in IEC61000-4-5, IEC61000-4-12
Coupling telecom surge	not applicable to supply lines, see I/O CDNs

MIG0603IN3 S-R-T control features

User interface	LCD and keypad, efficient menu structure
Communication interface	RS232 with (optional) adapter to USB
Pulse voltage monitor BNC	10 V = 6 kV, accuracy $\pm 3\%$
Pulse current monitor BNC	10 V = 3 kA, accuracy $\pm 3\%$
Pulse voltage on display	0.25 – 6.6 kV, accuracy $\pm 3\%$
Pulse current on display	0.125 – 3.3 kA, accuracy $\pm 3\%$
Trigger out	BNC, max. 12 V
Trigger in	auto, manual, external (BNC input)
Synchro. source	EUT power, direct out
Power synchro. on/off	0 – 360°, 1° step
EUT input power	ON/OFF on front panel
Impulse counter	programmable up to 29'999
Emergency stop	Emergency Stop button, BNC input (EUT Fail)
Internal memory	up to 15 tests can be saved and recalled

MIG0603IN3 S-R-T supply, weight, dimensions, climatic conditions

Operating voltage	115 / 230 V (50/60 Hz) $\pm 10\%$
Power consumption	ON < 400 VA, standby < 10 VA
Weight	33 kg
W x d x h	45 x 57 x 19 cm
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	with conformity declaration
Calibration certificate	factory calibration

MIG0603IN3 S-R-T optional accessories

CDNs for power lines (surge 1.2/50 μs and ring wave)	CDN2000-06-32
CDNs for I/O lines (surge 1.2/50 μs and ring wave)	CDN-KIT1000 ED3, CDN-DATA-4L, CCDN-DATA-8L
CDNs for I/O lines (surge 1.2/50 μs and 10/700 μs)	CDN-UTP ED3 and CDN-UTP8 ED3
Magnetic pulse antennas	MF1000-1, MF1000-2 (IEC61000-4-9)

MIG0612T-K12

MIG0612T-K12 circuit: 8/20 μ s, 12 kA

Standard	ITU-T K.12
Impulse capacitance	2 x 20 μ F \pm 10 %
Energy at max. voltage	2 x 435 joules
Adjustable current (<0.1 Ω)	(2 x) 0.25 kA – 6 kA \pm 10 %, max. 12 kA
Current waveform	8 μ s \pm 10 % / 20 μ s \pm 10 %
Reversal current	< 20 %
Pulse repetition	starting 1 pulse / 30 s
Polarity	positive, negative, alternating
Programmable ramp	current

MIG0612T-K12 circuit: 10/350 μ s (<40/350 μ s), 4.4 kA for GDT only

Standard	ITU-T K.12
Impulse capacitance	2 x 20 μ F \pm 10 %
Energy at max. voltage	2 x 435 joules
Adjustable current (<0.1 Ω)	(2 x) 0.1 kA – 2.2 kA \pm 10 %, max. 4.4 kA
Current waveform	rise time: < 50 μ s, 0 – 100 %
Current waveform	half time: 350 μ s \pm 20 %
Pulse repetition	starting 1 pulse / 30 s
Polarity	positive only
Programmable ramp	current

MIG0612T-K12 circuit: 10/1000 μ s (low range), 120 A

Standard	ITU-T K.12
Impulse capacitance	2 x 20 μ F \pm 10 %
Energy at max. voltage	2 x 435 joules
Adjustable current (<0.1 Ω)	(2 x) 3 A – 60 A \pm 10 %, max. 120 A
Current waveform	rise time: 10 μ s, 10 – 90 % x 1.25 \pm 20 %
Current waveform	half time: 1000 μ s \pm 20 %
Pulse repetition	starting 1 pulse / 30 s
Polarity	positive, negative
Programmable ramp	Current

MIG0612T-K12 circuit: 10/1000 μ s (100/1000 μ s, high range), 2 kA

Standard	ITU-T K.12
Impulse capacitance	2 x 20 μ F \pm 10 %
Energy at max. voltage	2 x 435 joules
Adjustable current (<0.1 Ω)	(2 x) 40 A – 1 kA \pm 10 %, max. 2 kA
Current waveform	rise time: 100 μ s, 10 – 90 % x 1.25 \pm 20 %
Current waveform	half time: 1000 μ s \pm 20 %
Pulse repetition	starting 1 pulse / 30 s
Polarity	positive only
Programmable ramp	Current

MIG0612T-K12 control features

User interface	LCD and keypad, efficient menu structure
Communication interface	RS232 with (optional) adapter to USB
Pulse voltage monitor BNC	10 V = 6 kV, accuracy \pm 3%
Pulse current monitor BNC	10 V = up to 20 kA, accuracy \pm 3%
Pulse voltage on display	0.25 – 6.6 kV, accuracy \pm 3%
Pulse current on display	0.1 – 11 kA, accuracy \pm 3%
Trigger out	BNC, max. 12 V
Trigger in	auto, manual, external (BNC input)
Impulse counter	programmable up to 29'999
Emergency stop	Emergency Stop button, BNC input (EUT Fail)
Internal memory	up to 15 tests can be saved and recalled

MIG0612T-K12 supply, weight, dimensions, climatic conditions

Operating voltage	115 / 230 V (50/60 Hz) \pm 10%
Power consumption	ON < 400 VA, standby < 10 VA
Weight	56 kg
W x d x h	45 x 57 x 61 cm
Version	19" unit, 12 UH
Temperature range	10 – 35 $^{\circ}$ C
Humidity	< 80 % non-condensing
Air pressure	86 – 106 kPa
Included articles	
Power cord	with country plug
User manual	with conformity declaration
Calibration certificate	factory calibration

MIG0612T-K12 optional accessories

Test cabinet	TC-MIG24 with warning lamps
Software	TEMA: sequence, report, for latest Windows

MIG0624T-K12

MIG0624T-K12 circuit: 8/20 μ s, 24 kA

Standard	ITU-T K.12
Impulse capacitance	2 x 18 μ F \pm 10 %
Adjustable current (<0.1 Ω)	(2 x) 0.5 kA – 12 kA \pm 0 % -10 %, max. 24 kA
Current waveform	8 μ s \pm 10 % / 20 μ s \pm 10 %
Reversal current	< 20 %
Pulse repetition	starting 1 pulse / 30 s
Polarity	positive, negative, alternating
Programmable ramp	current

MIG0624T-K12 circuit: 10/350 μ s (<40/350 μ s), 8.8 kA for GDT only

Standard	ITU-T K.12
Impulse capacitance	2 x 18 μ F \pm 10 %
Adjustable current (<0.1 Ω)	(2 x) 0.2 kA – 4.4 kA \pm 10 %, max. 8.8 kA
Current waveform	rise time: < 50 μ s, 0 – 100 %
Current waveform	half time: 350 μ s \pm 20 %
Pulse repetition	starting 1 pulse / 30 s
Polarity	positive only
Programmable ramp	current

MIG0624T-K12 circuit: 10/1000 μ s (low range), 240 A

Standard	ITU-T K.12
Impulse capacitance	2 x 18 μ F \pm 10 %
Adjustable current (<0.1 Ω)	(2 x) 5 A – 120 A \pm 10 %, max. 240 A
Current waveform	rise time: < 50 μ s, 0 – 100 %
Current waveform	half time: 1000 μ s \pm 20 %
Pulse repetition	starting 1 pulse / 30 s
Polarity	positive, negative
Programmable ramp	current

MIG0624T-K12 circuit: 10/1000 μ s (100/1000 μ s, high range), 4 kA

Standard	ITU-T K.12
Impulse capacitance	2 x 18 μ F \pm 10 %
Adjustable current (<0.1 Ω)	(2 x) 80 A – 2 kA \pm 10 %, max. 4 kA
Current waveform	rise time: < 100 μ s, 10 – 90 %
Current waveform	half time: 1000 μ s \pm 20 %
Pulse repetition	starting 1 pulse / 30 s
Polarity	positive only
Programmable ramp	current

MIG0624T-K12 control features

User interface	LCD and keypad, efficient menu structure
Communication interface	RS232 with (optional) adapter to USB
Pulse voltage monitor BNC	10 V = 6 kV, accuracy \pm 3%
Pulse current monitor BNC	10 V = up to 20 kA, accuracy \pm 3%
Pulse voltage on display	0.25 – 6.6 kV, accuracy \pm 3%
Pulse current on display	0.1 – 20 kA, accuracy \pm 3%
Trigger out	BNC, max. 12 V
Trigger in	auto, manual, external (BNC input)
Impulse counter	programmable up to 29'999
Emergency stop	Emergency Stop button, BNC input (EUT Fail)
Internal memory	up to 15 tests can be saved and recalled

MIG0624T-K12 supply, weight, dimensions, climatic conditions

Operating voltage	115 / 230 V (50/60 Hz) \pm 10%
Power consumption	ON < 400 VA, standby < 10 VA
Weight	71 kg
W x d x h	45 x 57 x 61 cm
Version	19" unit, 12 UH
Temperature range	10 – 35 $^{\circ}$ C
Humidity	< 80 % non-condensing
Air pressure	86 – 106 kPa
Included articles	
Power cord	with country plug
User manual	with conformity declaration
Calibration certificate	factory calibration

MIG0624T-K12 optional accessories

Test cabinet	TC-MIG24 with warning lamps
Software	TEMA: sequence, report, for latest Windows

MIG-ITU-K44

MIG-ITU-K44 circuit:

Application	power induction test at line freq. 50 and 60 Hz
Standards	ITU-T K.20, K.21, K.44
Power input	230 V, 16 A (fused)
Voltage output	50 – 1700 V (manually adjustable)
Voltage setting	10 V step
Output impedance	0 Ω , fuse protected (16 A) 2 x 200 Ω , overheat protected 2 x 600 Ω , overheat protected
Output power	3.5 kVA continuous, 7 kVA for 2 s
Specific energy	10 A ² s, with 200 Ω resistors 1 A ² s, with 600 Ω resistors 0.2 A ² s, achieved by reducing test time
Test frequencies	50 Hz and 60 Hz
Time setting	0.1 – 9.9 s
Voltage meas./displayed	1 – 1999 V \pm 3 %
Current meas./displayed	0 – 19.9 A \pm 3 %
Current waveform at BNC	10 V = 20 A \pm 3 %

MIG-ITU-K44 supply, weight, dimensions, climatic conditions

Operating voltage	115 / 230 V (50/60 Hz) \pm 10%
Power consumption	ON < 400 VA, standby < 50 VA
Weight	181 kg
W x d x h	60 x 65 x 123 cm
Version	19" rack, 18 UH
Temperature range	10 – 35 °C
Humidity	< 80 % non-condensing
Air pressure	86 – 106 kPa
Included articles	
Power cord	with country plug
User manual	with conformity declaration
Calibration certificate	factory calibration

Overview power induction tests and mains power contact tests

	Power induction tests			Mains power contact tests		
	600V 200Ω	600V 600Ω	1500V 200Ω	230V 10, 20, 40Ω	230V 80Ω, 160Ω	230V 300, 600, 1000Ω
MIG-ITU-K44	✓	✓	✓			
NW-K44-PI	✓	✓				
NW-K44-PC				✓	✓	✓
PCPI160E				✓	✓	

1: VAR-EXT1000 plus IMU can be used up to 23 A continuous

2: ITU basic and enhanced levels are differentiated by test time and accept. criteria A, B

3: NW-K44-PC and NW-K44-PI require IMU and VAR-EXT1000 as source

4: NW-K44-PI requires NW-K44-PC, IMU and VAR-EXT1000 as source

MIG0624TEL

MIG0624TEL circuit: 8/20 μs, 4 x 6 kA (4 lines output)

Standard	ITU-T K.20, K.21 (ITU-T K.44 lightning gen.)
Impulse capacitance	4 x 20 μF ± 10 %
Energy at max. voltage	1500 joules
Source impedance	1 Ω / line
Adjust. current (<0.02 Ω)	(4 x) 0.25 kA – 6 kA + 10 % -5 %
Current waveform	8 μs ± 20 % / 20 μs ± 20 %
Reversal current	< 20 %
Pulse repetition	starting 1 pulse / 30 s
Polarity	positive, negative, alternating
Programmable ramp	current
Voltage waveform OC	<1 μs / 90 μs (approximately)

MIG0624TEL circuit: 8/20 μs, 24 kA (1 line output)

Standard	ITU-T K.20, K.21 (ITU-T K.44 lightning gen.)
Impulse capacitance	4 x 20 μF ± 10 %
Energy at max. voltage	1500 joules
Source impedance	4 x 1 Ω in parallel: 0.25 Ω
Adjust. current (<0.02 Ω)	1 kA – 24 kA + 10 % -5 %
Current waveform	8 μs ± 20 % / 20 μs ± 20 %
Reversal current	< 20 %
Pulse repetition	starting 1 pulse / 30 s
Polarity	positive, negative, alternating
Programmable ramp	Current
Voltage waveform OC	<1 μs / 90 μs (approximately)

MIG0624TEL control features

User interface	LCD and keypad, efficient menu structure
Communication interface	RS232 with (optional) adapter to USB
Pulse voltage monitor BNC	10 V = 6 kV, accuracy $\pm 3\%$
Pulse current monitor BNC	10 V = up to 20 kA, accuracy $\pm 3\%$
Pulse voltage on display	0.25 – 6.6 kV, accuracy $\pm 3\%$
Pulse current on display	1 – 25 kA, accuracy $\pm 3\%$
Trigger out	BNC, max. 12 V
Trigger in	auto, manual, external (BNC input)
Impulse counter	programmable up to 29'999
Emergency stop	Emergency Stop button, BNC input (EUT Fail)
Internal memory	up to 15 tests can be saved and recalled

MIG0624TEL supply, weight, dimensions, climatic conditions

Operating voltage	115 / 230 V (50/60 Hz) $\pm 10\%$
Power consumption	ON < 400 VA, standby < 10 VA
Weight	60 kg
W x d x h	45 x 60 x 46 cm
Version	19" unit, 8 UH, plus connection box
Temperature range	10 – 35 °C
Humidity	< 80 % non-condensing
Air pressure	86 – 106 kPa
Included articles	
Power cord	with country plug
4 x connection cables 1m	waveform guaranteed at cables output
User manual	with conformity declaration
Calibration certificate	factory calibration

MIG0624TEL optional accessories

Software	TEMA: sequence, report, for latest Windows
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MIG0648TEL

MIG0648TEL circuit: 8/20 μ s, 8 x 6 kA (8 lines output)

Standards	ITU-T K.20, K.21 (ITU-T K.44 lightning gen.)
Impulse capacitance	8 x 20 μ F \pm 10 %
Energy at max. voltage	3000 joules
Source impedance	1 Ω / line
Adjust. current (<0.02 Ω)	(8 x) 0.25 kA – 6 kA + 10 % -5 %
Current waveform	8 μ s \pm 20 % / 20 μ s \pm 20 %
Reversal current	< 20 %
Pulse repetition	starting 1 pulse / 30 s
Polarity	positive, negative, alternating
Programmable ramp	current
Voltage waveform OC	<1 μ s / 90 μ s (approximately)

MIG0648TEL circuit: 8/20 μ s, 48 kA (1 line output)

Standards	ITU-T K.20, K.21 (ITU-T K.44 lightning gen.)
Impulse capacitance	8 x 20 μ F \pm 10 %
Energy at max. voltage	3000 joules
Source impedance	8 x 1 Ω in parallel: 0.125 Ω
Adjust. current (<0.02 Ω)	1 kA – 48 kA + 10 % -5 %
Current waveform	8 μ s \pm 20 % / 20 μ s \pm 20 %
Reversal current	< 20 %
Pulse repetition	starting 1 pulse / 30 s
Polarity	positive, negative, alternating
Programmable ramp	current
Voltage waveform OC	<1 μ s / 90 μ s (approximately)

MIG0648TEL control features

User interface	LCD and keypad, efficient menu structure
Communication interface	RS232 with (optional) adapter to USB
Pulse voltage monitor BNC	10 V = 6 kV, accuracy \pm 3%
Pulse current monitor BNC	10 V = up to 48 kA, accuracy \pm 3%
Pulse voltage on display	0.25 – 6.6 kV, accuracy \pm 3%
Pulse current on display	1 – 48 kA, accuracy \pm 3%
Trigger out	BNC, max. 12 V
Trigger in	auto, manual, external (BNC input)
Impulse counter	programmable up to 29'999
Emergency stop	Emergency Stop button, BNC input (EUT Fail)
Internal memory	up to 15 tests can be saved and recalled

MIG0648TEL supply, weight, dimensions, climatic conditions

Operating voltage	115 / 230 V (50/60 Hz) ± 10%
Power consumption	ON < 400 VA, standby < 10 VA
Weight	130 kg
W x d x h	61 x 68 x 123 cm
Version	19" rack, 18 UH, plus connection box
Temperature range	10 – 35 °C
Humidity	< 80 % non-condensing
Air pressure	86 – 106 kPa
Included articles	
Power cord	with country plug
8 x connection cables 1m	waveform guaranteed at cables output
User manual	with conformity declaration
Calibration certificate	factory calibration

MIG0648TEL optional accessories

Test cabinet	TC-MIG24 with warning lamps
Test cabinet heavy load	TC-MIG24HL with warning lamps
Software	TEMA: sequence, report, for latest Windows

MIG1206

MIG1206 circuit: CWG / Surge 12.5 kV

Standards	IEC61000-4-5, ANSI C62.41, C62.45, IEC60060-1, ITU-T K.20, 21, 44, IEC61643-1 Part 1/Class III
Impulse capacitance	10 µF ± 10 %
Energy at max. voltage	750 joules
Output impedance	2 Ω ± 10 %
Adjustable voltage OC	1 kV – 12.5 kV ± 10 %
Voltage waveform	1.2 µs ± 30 % / 50 µs ± 20 %
Current SC	0.5 kA – 6.25 kA ± 10 %
Current waveform	8 µs ± 20 % / 20 µs ± 20 %
Undershoot	< 30 %
Pulse repetition	up to 1 / 5 s @ 1 kV, 1 / 30 s @ 12 kV
Polarity	positive, negative, alternating
Synchronization	0 – 360°, step 1°
Programmable ramps	voltage, synchronisation angle

MIG1206 control features

User interface	LCD and keypad, efficient menu structure
Communication interface	RS232 with (optional) adapter to USB
Surge voltage monitor BNC	10 V = 12 kV, accuracy $\pm 3\%$
Surge current monitor BNC	10 V = 6 kA, accuracy $\pm 3\%$
Surge voltage on display	0.5 – 13.2 kV, accuracy $\pm 3\%$
Surge current on display	0.25 – 6.6 kA, accuracy $\pm 3\%$
Trigger out	BNC, max. 12 V
Trigger in	auto, manual, external (BNC input)
Synchro. source	EUT power, direct out
Power synchro. on/off	0 – 360°, 1° step
Impulse counter	programmable up to 29'999
Emergency stop	Emergency Stop button, BNC input (EUT Fail)
Internal memory	up to 15 tests can be saved and recalled

MIG1206 supply, weight, dimensions, climatic conditions

Operating voltage	115 / 230 V (50/60 Hz) $\pm 10\%$
Power consumption	ON < 400 VA, standby < 10 VA
Weight	37 kg
W x d x h	45 x 57 x 25 cm
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
User manual	with conformity declaration
Calibration certificate	factory calibration

MIG1206 optional accessories

Test cabinet	TC-MIG24 with warning lamps
CDN for power lines	CDN-MIG12-32 (manual, 3 phase)
Matching networks	CN12-12-500, CN12-500 (insulation test)
Software	TEMA: sequence, report, for latest Windows

MIG1206-1P

MIG1206-1P circuit: CWG / Surge 12.5 kV

Standards	IEC61000-4-5, ANSI C62.41, C62.45, IEC60060-1, ITU-T K.20, 21, 44, IEC61643-1 Part 1/Class III
Impulse capacitance	10 μ F \pm 10 %
Energy at max. voltage	750 joules
Output impedance	2 Ω \pm 10 %
Adjustable voltage OC	0.4 kV – 12.5 kV \pm 10 %
Calibrated level	1 kV – 12 kV
Voltage waveform	1.2 μ s \pm 30 % / 50 μ s \pm 20 %
Current SC	0.5 kA – 6.25 kA \pm 10 %
Current waveform	8 μ s \pm 20 % / 20 μ s \pm 20 %
Undershoot	< 30 %
Pulse repetition	up to 1 / 5 s @ 1 kV, 1 / 30 s @ 12 kV
Polarity	positive, negative, alternating
Synchronization	0 – 360°, step 1°
Programmable ramps	voltage, synchronisation angle

MIG1206-1P built-in automatic CDN

Test level surge	12 kV
EUT power input	AC 480V L-N, 480 V L/N-PE, 32A DC 110 V, 25A (not fused)
EUT overcurrent protection	CDN input fused 32 A AC
Internal CDN freq. range	DC, 50 Hz, 60 Hz
Coupling surge IEC	2 Ω : L-N, direct out, 12 Ω : L-PE, N-PE
Coupling surge ANSI	2 Ω : L-N, L-PE, N-PE, L+N-PE 12 Ω : L-N, L-PE, N-PE
Decoupling	as in IEC61000-4-5

MIG1206-1P control features

User interface	LCD and keypad, efficient menu structure
Communication interface	RS232 with (optional) adapter to USB
Surge voltage monitor BNC	10 V = 12 kV, accuracy \pm 3%
Surge current monitor BNC	10 V = 6 kA, accuracy \pm 3%
Surge voltage on display	0.5 – 13.2 kV, accuracy \pm 3%
Surge current on display	0.25 – 6.6 kA, accuracy \pm 3%
Trigger out	BNC, max. 12 V
Trigger in	auto, manual, external (BNC input)
Synchro. source	EUT power, direct out
Power synchro. on/off	0 – 360°, 1° step
Impulse counter	programmable up to 29'999
Emergency stop	Emergency Stop button, BNC input (EUT Fail)
Internal memory	up to 15 tests can be saved and recalled

MIG1206-1P supply, weight, dimensions, climatic conditions

Operating voltage	115 / 230 V (50/60 Hz) ± 10%
Power consumption	ON < 400 VA, standby < 10 VA
Weight	67 kg
W x d x h	45 x 60 x 37 cm
Version	19" unit, 8 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	with conformity declaration
Calibration certificate	factory calibration

MIG1206-1P optional accessories

Test cabinet	TC-MIG24HL with warning lamps
Software	TEMA: sequence, report, for latest Windows

MIG1206-1P-T

MIG1206-1P-T circuit: CWG / Surge 12.5 kV

Standards	IEC61000-4-5, ANSI C62.41, C62.45, IEC60060-1, ITU-T K.20, 21, 44, IEC61643-1 Part 1/Class III
Impulse capacitance	10 µF ± 10 %
Energy at max. voltage	750 joules
Output impedance	2 Ω ± 10 %
Adjustable voltage OC	0.4 kV – 12.5 kV ± 10 %
Calibrated level	1 kV – 12 kV
Voltage waveform	1.2 µs ± 30 % / 50 µs ± 20 %
Current SC	0.5 kA – 6.25 kA ± 10 %
Current waveform	8 µs ± 20 % / 20 µs ± 20 %
Undershoot	< 30 %
Pulse repetition	up to 1 / 5 s @ 1 kV, 1 / 30 s @ 12 kV
Polarity	positive, negative, alternating
Synchronization	0 – 360°, step 1°
Programmable ramps	voltage, synchronisation angle

MIG1206-1P-T circuit: Telecom surge

Standards	IEC61000-4-5, ITU-T K.44
Impulse capacitance	20 μ F \pm 10 %
Energy at max. voltage	440 joules
Output impedance	15 Ω or 40 Ω \pm 10 %, selectable
Voltage OC	0.25 kV – 6.3 kV \pm 10 %
Calibrated level	0.5 kV – 6 kV
Voltage waveform OC	10 μ s \pm 30 % / 700 μ s \pm 20 %
Current SC into 40 Ω	6.25 A – 157.5 A \pm 10 %
Current waveform SC	5 μ s \pm 20 % / 320 μ s \pm 20 %
Pulse repetition	up to 1 / 4 s @ 0.5 kV, 1 / 9 s @ 6.1 kV
Polarity	positive, negative, alternating
Programmable ramps	voltage

MIG1206-1P-T built-in automatic CDN

Test level surge	12 kV
EUT power input	AC 480V L-N, 480 V L/N-PE, 32A DC 110 V, 25A (not fused)
EUT overcurrent protection	CDN automatic input fuse 32 A AC
Internal CDN freq. range	DC, 50 Hz, 60 Hz
Coupling surge IEC	2 Ω : L-N, direct out, 12 Ω : L-PE, N-PE
Coupling surge ANSI	2 Ω : L-N, L-PE, N-PE 12 Ω : L-N, L-PE, N-PE, L+N-PE
Decoupling	as in IEC61000-4-5
Coupling telecom surge	not applicable to supply lines, see I/O CDNs

MIG1206-1P-T control features

User interface	LCD and keypad, efficient menu structure
Communication interface	RS232 with (optional) adapter to USB
Surge voltage monitor BNC	10 V = 12 kV, accuracy \pm 3%
Surge current monitor BNC	10 V = 6 kA, accuracy \pm 3%
Surge voltage on display	0.5 – 13.2 kV, accuracy \pm 3%
Surge current on display	0.25 – 6.6 kA, accuracy \pm 3%
Trigger out	BNC, max. 12 V
Trigger in	auto, manual, external (BNC input)
Synchro. source	EUT power, direct out
Power synchro. on/off	0 – 360°, 1° step
Impulse counter	programmable up to 29'999
Emergency stop	Emergency Stop button, BNC input (EUT Fail)
Internal memory	up to 15 tests can be saved and recalled

MIG1206-1P-T supply, weight, dimensions, climatic conditions

Operating voltage	115 / 230 V (50/60 Hz) ± 10%
Power consumption	ON < 400 VA, standby < 10 VA
Weight	83 kg
W x d x h	45 x 60 x 55 cm
Version	19" unit, 12 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	with conformity declaration
Calibration certificate	factory calibration

MIG1206-1P-T optional accessories

Test cabinet	TC-MIG24HL with warning lamps
CDNs for I/O lines (surge 1.2/50 µs)	CDN-KIT1000 ED3, CDN-DATA-4L, CDN-DATA-8L (all CDNs up to 6 kV)
CDNs for I/O lines (surge 1.2/50 µs and 10/700 µs)	CDN UTP ED3, CDN UTP8 ED3 (all CDNs up to 6 kV)
Software	TEMA: sequence, report, for latest Windows

MIG1206-3P

MIG1206-3P circuit: CWG / Surge 12.5 kV

Standards	IEC61000-4-5, ANSI C62.41, C62.45, IEC60060-1, ITU-T K.20, 21, 44, IEC61643-1 Part 1/Class III
Impulse capacitance	10 µF ± 10 %
Energy at max. voltage	750 joules
Output impedance	2 Ω ± 10 %
Adjustable voltage OC	1 kV – 12.5 kV ± 10 %
Calibrated level	1 kV – 12 kV
Voltage waveform	1.2 µs ± 30 % / 50 µs ± 20 %
Current SC	0.5 kA – 6.25 kA ± 10 %
Current waveform	8 µs ± 20 % / 20 µs ± 20 %
Undershoot	< 30 %
Pulse repetition	up to 1 / 5 s @ 1 kV, 1 / 30 s @ 12 kV
Polarity	positive, negative, alternating
Synchronization	0 – 360°, step 1°
Programmable ramps	voltage, synchronisation angle

MIG1206-3P built-in automatic 3 phase CDN

Test level surge	12 kV
EUT power input 3	AC 3 x 480V L-L, L-N/PE, 3 x 32 A DC 110 V, 25A per phase (not fused)
EUT overcurrent protection	CDN automatic input fuse 3 x 32 A AC
Internal CDN freq. range	DC, 50 Hz, 60 Hz
Coupling surge IEC	2 Ω: Lx-Ly, Lx-N, direct out, 12 Ω: Lx-PE, N-PE
Coupling surge ANSI	2 Ω: Lx-N, Lx-PE, N-PE 12 Ω: Lx-N, Lx-PE, N-PE
Decoupling	as in IEC61000-4-5

MIG1206-3P control features

User interface	LCD and keypad, efficient menu structure
Communication interface	RS232 with (optional) adapter to USB
Surge voltage monitor BNC	10 V = 12 kV, accuracy ± 3%
Surge current monitor BNC	10 V = 6 kA, accuracy ± 3%
Surge voltage on display	0.5 – 13.2 kV, accuracy ± 3%
Surge current on display	0.25 – 6.6 kA, accuracy ± 3%
Trigger out	BNC, max. 12 V
Trigger in	auto, manual, external (BNC input)
Synchro. source	EUT power, direct out
Power synchro. on/off	0 – 360°, 1° step
Impulse counter	programmable up to 29'999
Emergency stop	Emergency Stop button, BNC input (EUT Fail)
Internal memory	up to 15 tests can be saved and recalled

MIG1206-3P supply, weight, dimensions, climatic conditions

Operating voltage	115 / 230 V (50/60 Hz) ± 10%
Power consumption	ON < 400 VA, standby < 10 VA
Weight	180 kg
W x d x h	60 x 65 x 123 cm
Version	19" rack, 18 UH
Temperature range	10 – 35 °C
Humidity	< 80 % non-condensing
Air pressure	86 – 106 kPa
Included articles	
Power cord	with country plug
Supply connection	5 cables x 2 m, banana plugs
User manual	with conformity declaration
Calibration certificate	factory calibration

MIG1206-3P optional accessories

Test cabinet	TC-MIG24HL with warning lamps
Software	TEMA: sequence, report, for latest Windows

MIG1206-3P-63A

MIG1206-3P-63A circuit: CWG / Surge 12.5 kV

Standards	IEC61000-4-5, ANSI C62.41, C62.45, IEC60060-1, ITU-T K.20, 21, 44, IEC61643-1 Part 1/Class III
Impulse capacitance	10 μ F \pm 10 %
Energy at max. voltage	750 joules
Output impedance	2 Ω \pm 10 %
Adjustable voltage OC	1 kV – 12.5 kV \pm 10 %
Calibrated level	1 kV – 12 kV
Voltage waveform	1.2 μ s \pm 30 % / 50 μ s \pm 20 %
Current SC	0.5 kA – 6.25 kA \pm 10 %
Current waveform	8 μ s \pm 20 % / 20 μ s \pm 20 %
Undershoot	< 30 %
Pulse repetition	up to 1 / 5 s @ 1 kV, 1 / 30 s @ 12 kV
Polarity	positive, negative, alternating
Synchronization	0 – 360°, step 1°
Programmable ramps	voltage, synchronisation angle

MIG1206-3P-63A built-in automatic 3 phase CDN

Test level surge	12 kV
EUT power input 3	AC 3 x 480V L-L, L-N/PE, 3 x 63 A DC 110 V, 25A per phase (not fused)
EUT overcurrent protection	CDN automatic input fuse 3 x 63 A AC
Internal CDN freq. range	DC, 50 Hz, 60 Hz
Coupling surge IEC	2 Ω : Lx-Ly, Lx-N, direct out, 12 Ω : Lx-PE, N-PE
Coupling surge ANSI	2 Ω : Lx-N, Lx-PE, N-PE 12 Ω : Lx-N, Lx-PE, N-PE
Decoupling	as in IEC61000-4-5

MIG1206-3P-63A control features

User interface	LCD and keypad, efficient menu structure
Communication interface	RS232 with (optional) adapter to USB
Surge voltage monitor BNC	10 V = 12 kV, accuracy \pm 3%
Surge current monitor BNC	10 V = 6 kA, accuracy \pm 3%
Surge voltage on display	0.5 – 13.2 kV, accuracy \pm 3%

Surge current on display	0.25 – 6.6 kA, accuracy \pm 3%
Trigger out	BNC, max. 12 V
Trigger in	auto, manual, external (BNC input)
Synchro. source	EUT power, direct out
Power synchro. on/off	0 – 360°, 1° step
Impulse counter	programmable up to 29'999
Emergency stop	Emergency Stop button, BNC input (EUT Fail)
Internal memory	up to 15 tests can be saved and recalled

MIG1206-3P-63A supply, weight, dimensions, climatic conditions

Operating voltage	115 / 230 V (50/60 Hz) \pm 10%
Power consumption	ON < 400 VA, standby < 10 VA

Weight	220 kg
W x d x h	60 x 65 x 123 m
Version	19" rack, 18 UH

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

Included articles

Power cord	with country plug
Supply connection	5 cables x 2 m, banana plugs
User manual	with conformity declaration
Calibration certificate	factory calibration

MIG1206-3P-63A optional accessories

Test cabinet	TC-MIG24HL with warning lamps
Software	TEMA: sequence, report, for latest Windows

MIG1206-3P-T

MIG1206-3P circuit: CWG / Surge 12.5 kV

Standards	IEC61000-4-5, ANSI C62.41, C62.45, IEC60060-1, ITU-T K.20, 21, 44, IEC61643-1 Part 1/Class III
Impulse capacitance	10 μ F \pm 10 %
Energy at max. voltage	750 joules
Output impedance	2 Ω \pm 10 %
Adjustable voltage OC	1 kV – 12.5 kV \pm 10 %
Calibrated level	1 kV – 12 kV
Voltage waveform	1.2 μ s \pm 30 % / 50 μ s \pm 20 %
Current SC	0.5 kA – 6.25 kA \pm 10 %
Current waveform	8 μ s \pm 20 % / 20 μ s \pm 20 %
Undershoot	< 30 %
Pulse repetition	up to 1 / 5 s @ 1 kV, 1 / 30 s @ 12 kV
Polarity	positive, negative, alternating
Synchronization	0 – 360°, step 1°
Programmable ramps	voltage, synchronisation angle

MIG1206-3P-T circuit: Telecom surge

Standards	IEC61000-4-5, ITU-T K.44
Impulse capacitance	20 μ F \pm 10 %
Energy at max. voltage	440 joules
Output impedance	15 Ω or 40 Ω \pm 10 %, selectable
Voltage OC	0.25 kV – 6.3 kV \pm 10 %
Calibrated level	0.5 kV – 6 kV
Voltage waveform OC	10 μ s \pm 30 % / 700 μ s \pm 20 %
Current SC into 40 Ω	6.25 A – 157.5 A \pm 10 %
Current waveform SC	5 μ s \pm 20 % / 320 μ s \pm 20 %
Pulse repetition	up to 1 / 4 s @ 0.5 kV, 1 / 9 s @ 6.1 kV
Polarity	positive, negative, alternating
Programmable ramps	Voltage

MIG1206-3P-T built-in automatic 3 phase CDN

Test level surge	12 kV
EUT power input 3	AC 3 x 480V L-L, L-N/PE, 3 x 32 A DC 110 V, 25A per phase (not fused)
EUT overcurrent protection	CDN automatic input fuse 3 x 32 A AC
Internal CDN freq. range	DC, 50 Hz, 60 Hz
Coupling surge IEC	2 Ω : Lx-Ly, Lx-N, direct out, 12 Ω : Lx-PE, N-PE
Coupling surge ANSI	2 Ω : Lx-N, Lx-PE, N-PE 12 Ω : Lx-N, Lx-PE, N-PE
Decoupling	as in IEC61000-4-5

Coupling telecom surge	not applicable to supply lines, see I/O CDNs
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MIG1206-3P-T control features

User interface	LCD and keypad, efficient menu structure
Communication interface	RS232 with (optional) adapter to USB
Surge voltage monitor BNC	10 V = 12 kV, accuracy $\pm 3\%$
Surge current monitor BNC	10 V = 6 kA, accuracy $\pm 3\%$
Surge voltage on display	0.5 – 13.2 kV, accuracy $\pm 3\%$
Surge current on display	0.25 – 6.6 kA, accuracy $\pm 3\%$
Trigger out	BNC, max. 12 V
Trigger in	auto, manual, external (BNC input)
Synchro. source	EUT power, direct out
Power synchro. on/off	0 – 360°, 1° step
Impulse counter	programmable up to 29'999
Emergency stop	Emergency Stop button, BNC input (EUT Fail)
Internal memory	up to 15 tests can be saved and recalled

MIG1206-3P-T supply, weight, dimensions, climatic conditions

Operating voltage	115 / 230 V (50/60 Hz) $\pm 10\%$
Power consumption	ON < 400 VA, standby < 10 VA

Weight	187 kg
W x d x h	60 x 65 x 123 cm
Version	19" rack, 18 UH

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

Included articles	
Power cord	with country plug
Supply connection	5 cables x 2 m, banana plugs
User manual	with conformity declaration
Calibration certificate	factory calibration

MIG1206-3P-T optional accessories

Test cabinet	TC-MIG24HL with warning lamps
CDNs for I/O lines (surge 1.2/50 μs)	CDN-KIT1000 ED3, CDN-DATA-4L, CDN-DATA-8L (all CDNs up to 6 kV)
CDNs for I/O lines (surge 1.2/50 μs and 10/700 μs)	CDN UTP ED3, CDN UTP8 ED3 (all CDNs up to 6 kV)
Software	TEMA: sequence, report, for latest Windows

TEL0305LP3

TEL0305LP3 circuit: current 10/350 μ s, 6 kA

Standards	IEC62305-4, IEC61643-11, IEC61643-21, Ericsson 1/1528-HRB 105 102/1
Impulse capacitance	2 x 200 μ F \pm 10 %
Energy at max. voltage	2 x 3600 joules
Adjustable current (<0.1 Ω)	(2 x) 0.1 kA – 2.7 kA \pm 10 %, max. 5.4 kA
Calibrated level	0.1 – 2.5 kA / circuit, 0.2 kA– 5 kA for 2 circuits
Current waveform	rise time: 8 μ s \pm 10 % (10 – 90 %)
Current waveform	half time: 350 μ s \pm 10 %
Output impedance	1 Ω / circuit, 0.5 Ω / 2 parallel circuits
Pulse repetition	1 pulse / 12 s @ 0.5 kA, 1 pulse / 60 s @ 2.7 kA
Polarity	positive, negative
Programmable ramp	current

TEL0305LP3 control features

User interface	colour touchscreen 7", EPOS op. system
Communication interface	ethernet for PC, USB, RS485
Pulse voltage monitor	BNC out
Pulse current monitor	BNC out
Pulse voltage	on display, accuracy \pm 3%
Pulse current	on display, accuracy \pm 3%
Trigger out	BNC, max. 12 V
Trigger in	auto, manual, external (BNC input)
Impulse counter	programmable up to 29'999
Emergency stop	Emergency Stop button, safety circuit

TEL0305LP3 weight, dimensions, climatic conditions

Operating voltage	100 – 240 V (50/60 Hz) \pm 10%
Power consumption	ON < 450 VA, standby < 15 VA
Weight	146 kg
W x d x h	60 x 650 x 124 cm
Version	19" unit, 18 UH
Temperature range	10 – 35 $^{\circ}$ C
Humidity	< 80 % non-condensing
Air pressure	86 – 106 kPa
Included articles	
Power cord	with country plug

User manual	with conformity declaration
Calibration certificate	factory calibration

TEL0305LP3 optional accessories

Test cabinet	TC-MIG24 with warning lamps
Software	TEMA3000: sequence, report, for Windows10

ACCESSORIES FOR SURGE, TELECOM SURGE AND RING WAVE

TYPICAL COUPLING PATHS FOR 3P CDNs from EMC PARTNER

IEC61000-4-5	L1-L2, L1-L3, L2-L3, L1-N, L2-N, L3-N, L1-PE, L2-PE, L3-PE, N-PE
IEC61000-4-12	L1-L2, L1-L3, L2-L3, L1-N, L2-N, L3-N, L1-PE, L2-PE, L3-PE, N-PE

COUPLING/DECOUPLING NETWORKS FOR POWER LINES

CDN2000-06-32

Standards	IEC61000-4-4, -4-5, -4-12 latest editions
Type	3P, manual
EUT voltage AC	max. 3 x 415 V L-L (280 V L-N), 50 / 60 Hz
EUT current AC	max. 3 x 32 A
EUT protection AC	over-current automatic prot., < 1 s @ 125 A
EUT power DC	max. 250 V, 60 A (ask for details)
Test level burst	max. 6 kV, all IEC couplings, additional ones
Test level surge	max. 6 kV, all IEC couplings
Test level ring wave	max. 6 kV, IMU3000 only, all IEC couplings
Coupling and decoupling	full compliant to latest editions
Dimensions	19 " unit, 4 UH
Weight	29 kg
Generators	MIG0603IN generators, IMU generators

CDN2000A-06-32

Standards	IEC61000-4-4, -4-5, -4-12 latest editions
Type	3P, automatic
EUT voltage AC	max. 3 x 415 V L-L (280 V L-N), 50 / 60 Hz
EUT current AC	max. 3 x 32 A
EUT protection AC	over-current automatic prot., < 1 s @ 125 A
EUT power DC	max. 250 V, 60 A (ask for details)
Test level burst	max. 6 kV, all IEC couplings, additional ones
Test level surge	max. 6 kV, all IEC couplings
Test level ring wave	max. 6 kV, IMU3000 only, all IEC couplings
Coupling and decoupling	full compliant to latest editions
Dimensions	19 " unit, 4 UH
Weight	30 kg
Generators	MIG0603IN generators, IMU generators

CDN2000A-06-32 480 V

Standards	IEC61000-4-4, -4-5 latest editions
Type	3P, automatic
EUT voltage AC	max. 3 x 480 V L-L (280 V L-N), 50 / 60 Hz
EUT current AC	max. 3 x 32 A
EUT protection AC	over-current automatic prot., < 1 s @ 125 A
EUT power DC	max. 300 V, 60 A (ask for details)
Test level burst	max. 6 kV, all IEC couplings, additional ones
Test level surge	max. 6 kV, all IEC couplings
Test level ring wave	max. 6 kV, IMU3000 only, all IEC couplings
Coupling and decoupling	full compliant to latest editions
Dimensions	19 " unit, 4 UH
Weight	30 kg
Generators	MIG0603IN generators, IMU generators

CDN2000A-06-32 690 V

Standards	IEC61000-4-4, -4-5 latest editions
Type	3P, automatic
EUT voltage AC	max. 3 x 690 V L-L (400 V L-N), 50 / 60 Hz
EUT current AC	max. 3 x 32 A
EUT protection AC	over-current automatic prot., < 1 s @ 125 A
EUT power DC	max. 420 V, 60 A (ask for details)
Test level burst	max. 6 kV, all IEC couplings, additional ones
Test level surge	max. 6 kV, all IEC couplings
Test level ring wave	max. 6 kV, IMU3000 only, all IEC couplings
Coupling and decoupling	full compliant to latest editions
Dimensions	19 " unit, 4 UH
Weight	30 kg
Generators	MIG0603IN generators, IMU generators

CDN-MIG12-32

Standard	IEC61000-4-5 latest edition
Type	3P, manual
EUT voltage AC	max. 3 x 480 V L-L (280 V L-N), 50 / 60 Hz
EUT current AC	max. 3 x 32 A
EUT protection AC	over-current automatic prot., < 1 s @ 125 A
EUT power DC	max. 300 V, 60 A (ask for details)
Test level surge	max. 12 kV, all IEC coupling paths
Coupling paths	L1-L2, L1-L3, L2-L3, L1-N, L2-N, L3-N, L1-PE, L2-PE, L3-PE, N-PE
Coupling and decoupling	full compliant to latest editions
Dimensions	19 " unit, 4 UH
Weight	48 kg
Generators	MIG1206

CDN-MIG12-32 690 V

Standard	IEC61000-4-5 latest edition
Type	3P, manual
EUT voltage AC	max. 3 x 690 V L-L (400 V L-N), 50 / 60 Hz
EUT current AC	max. 3 x 32 A
EUT protection AC	over-current automatic prot., < 1 s @ 125 A
EUT power DC	max. 300 V, 60 A (ask for details)
Test level surge	max. 12 kV, all IEC coupling paths
Coupling paths	L1-L2, L1-L3, L2-L3, L1-N, L2-N, L3-N, L1-PE, L2-PE, L3-PE, N-PE
Coupling and decoupling	full compliant to latest editions
Dimensions	19 " unit, 4 UH
Weight	48 kg
Generators	MIG1206

COUPLING/DECOUPLING NETWORKS FOR I/O (DATA) LINES

CDN-KIT1000 ED3

Standard	IEC61000-4-5 latest edition
Application	surge on 2 asymmetrical lines, figure 9
Test level surge	max. 6 kV
Low speed I/O	
EUT voltage per line	max. 200 V DC or 240 V peak
EUT current per line	max. 3 A cont. or 5 A for 5 min.
Coupling path 1	40 Ω + 0.5 μF capacitor
Decoupling 1	20 mH per line (protected 275 V max.)
High speed I/O	
EUT voltage per line	max. 24 V DC or peak
EUT current per line	max. 3 A cont. or 5 A for 5 min.
Coupling path 2	40 Ω + 27 V diode
Decoupling 2	500 Ω per line (protected 18 V max.)
Dimensions	4 modules in carrying case: 33 x 27 x 17 cm
Weight	7 kg (all modules and carrying case)
Generators	MIG0603IN generators, IMU generators

CDN-DATA-4L

Standards	IEC61000-4-5, -4-12 latest editions
Application	surge (fig. 9), ring wave on 4 asym. lines
EUT voltage per line	max. 200 V DC or 240 V peak
EUT current per line	max. 3 A cont. or 5 A for 5 min.
Line speed	max. 100 kHz as per IEC61000-4-5
Coupling path surge 1	40 Ω + 0.5 μF capacitor
Coupling path surge 2	40 Ω + 33 V bipolar diode
Coupling path surge 3	40 Ω + GDT 90 V, or any external element
Coupling path ring wave 1	33 V bipolar diode
Coupling path ring wave 2	MIG0603IN generators, IMU generators
Decoupling	20 mH per line, as per IEC61000-4-5, -4-12
Test level surge	max. 6 kV, coupling L-L, L-PE
Test level ring wave	max. 6 kV, coupling L-L, L-PE
Dimensions	19" unit, 4 UH
Weight	17 kg
Generators	MIG0603IN generators, IMU generators

CDN-DATA-8L

Standards	IEC61000-4-5, -4-12 latest editions
Application	surge (fig. 9), ring wave on 8 asym. lines
EUT voltage per line	max. 200 V DC or 240 V peak
EUT current per line	max. 3 A cont. or 5 A for 5 min.
Line speed	max. 100 kHz as per IEC61000-4-5
Coupling path surge 1	40 Ω + 0.5 μF capacitor
Coupling path surge 2	40 Ω + 33 V bipolar diode

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Coupling path surge 3	40 Ω + GDT 90 V, or any external element
Coupling path ring wave 1	33 V bipolar diode
Coupling path ring wave 2	any external element
Decoupling	20 mH per line, as per IEC61000-4-5, -4-12
Test level surge	max. 6 kV, coupling L-L, L-PE
Test level ring wave	max. 6 kV, coupling L-L, L-PE
Dimensions	19" unit, 4 UH
Weight	25 kg
Generators	MIG0603IN generators, IMU generators

CDN-UTP ED3

Standards	IEC 61000-4-5, IEC 61000-4-12 latest edition
Application 1 (1.2 / 50 μs)	surge (fig. 10) on up to 4 sym. lines
Application 2 (1.2 / 50 μs)	surge (fig. 9) on up to 2 asym. lines
Application 3 (10 / 700 μs)	telecom surge (fig. A.4) on up to 4 asym. lines
Application 4 (0.5 μs / 100kHz)	ring wave as per fig. 8, 9 and 10
EUT voltage per line	max. 300 V DC or peak
EUT current per line	max. 1 A cont., total for all lines max. 2A
EUT line(s) characteristics	high speed, over 100 Mbps on 4 wires (2pairs)
Example of EUT I/O lines	RS485, USB, Ethernet 4 wires, CAN bus, etc.
Coupling path surge 1	2 x 80 Ω for 2 lines or 4 x 160 Ω for 4 lines
Coupling path surge 2	1 x 40 Ω + 0.5 μ F
Coupling path tel. surge 3	2 x 25 Ω for 2 lines or 4 x 25 Ω for 4 lines
Coupling path ring wave	2 x GDT 90 V or 4 x GDT 90 V or 1 x 0.5 μ F
Coupling elements	2 x GDT 90 V or 4 x GDT 90 V or 1 x 0.5 μ F
Decoupling	up to 4 x 20 mH per line, current compensated
AE protection	4 x GDT 90 V or customer defined
Test level surge, ring wave	max. 6 kV, coupling CM and DM
Test level telecom surge	max. 6 kV, coupling CM (only IMU3000)
Dimensions	19" unit, 4 UH
Weight	40 kg
Included	Mentioned coupling elements, AE protection
Optional	ADAPTER BOX RJ45 (ask for details)
Other relevant standards	ITU-T K20, K21, K22, K44, FCC part 68 / D
Generators	MIG0603IN generators, IMU generators

CDN-UTP8 ED3

Standards	IEC 61000-4-5, IEC 61000-4-12 latest edition
Application 1 (1.2 / 50 μs)	surge (fig. 10) on up to 8 sym. lines
Application 2 (1.2 / 50 μs)	surge (fig. 9) on up to 4 asym. lines
Application 3 (10 / 700 μs)	telecom surge (fig. A.4) on up to 8 asym. lines
Application 4 (0.5 μs /100kHz)	ring wave as per fig. 8, 9 and 10
EUT voltage per line	max. 300 V DC or peak
EUT current per line	max. 1 A cont., total for all lines max. 2A
EUT line(s) characteristics	high speed, up to 1 Gbps
Example of EUT I/O lines	RS485, USB, Ethernet 1Gbps, CAN bus, etc.
Coupling path surge 1	2 x 80 Ω , 4 x 160 Ω , 8 x 320 Ω
Coupling path surge 2	1 x 40 Ω + 0.5 μ F
Coupling path tel. surge 3	2 x 25 Ω or 4 x 25 Ω or 8 x 25 Ω
Coupling path ring wave	2 or 4 or 8 x GDT 90 V or 1 x 0.5 μ F
Coupling elements	2 or 4 or 8 x GDT 90 V or 1 x 0.5 μ F
Decoupling	up to 8 x 20 mH per line, current compensated
AE protection	8 x GDT 90 V or customer defined
Test level surge, ring wave	max. 6 kV, coupling CM and DM
Test level telecom surge	max. 6 kV, coupling CM (only IMU3000)
Dimensions	19" unit, 8 UH
Weight	78 kg
Included	mentioned coupling elements, AE protection
Optional	ADAPTER BOX RJ45 (ask for details)
Other relevant standards	ITU-T K20, K21, K22, K44, FCC part 68 / D
Generators	MIG0603IN generators, IMU generators

ACCESSORIES

ACCESSORIES AS PER IEC61000-4-5 latest edition

V-PROBE-SI VOLTAGE PROBE

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

Generators | CDNS & Accessories

I-PROBE-P101 CURRENT PROBE

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

ACCESSORIES AS PER IEC61000-4-9 latest edition

MF1000-1

Application	antenna for magnetic field, magnetic pulses
Antenna type	1 x 1 m, one turn, as per standard
Antenna factor	0.87
Magnetic field 50, 60 Hz	1 – 160 A / m, continuous (IEC61000-4-8)
Duration continuous MF	29999 s
Magnetic pulse 8/20 μs	250 – 1500 A / m (IEC61000-4-9)
Magnetic pulse DOW	up to 110 A / m (IEC61000-4-10)
Dimensions	120 x 100 x 10.5 cm
Weight	6 kg

MF1STAND

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

MF1000-2

Application	antenna for magnetic field, magnetic pulses
Antenna type	1 x 2.6 m, one turn, as per standard
Antenna factor	0.66
Magnetic field 50, 60 Hz	1 – 110 A / m, continuous (IEC61000-4-8)
Duration continuous MF	29999 s
Magnetic pulse 8/20 μs	250 – 1500 A / m (IEC61000-4-9)
Magnetic pulse DOW	up to 62 A / m (IEC61000-4-10)
Dimensions	260 x 100 x 10.5 cm
Weight	24 kg

ACCESSORIES AS PER IEC61000-4-12 latest edition

See voltage probe from Surge.

ACCESSORIES AS PER IEC60060-1 latest edition

CN12-500

Application	insulation test matching network
Standard	IEC60060-1
Output impedance	500 Ω
Test level	max. 12 kV
Output connectors	AMP
Dimensions	24 x 10 x 8.5 cm
Weight	1.5 kg
Generators	MIG1206
Accessories	CN-MIG18 AMP

CN12-12-500

Application	insulation test matching network
Standard	IEC60060-1
Output impedance	12 Ω , 500 Ω
Test level	max. 12 kV
Output connectors	AMP
Dimensions	24 x 10 x 8.5 cm
Weight	2 kg
Generators	MIG1206
Accessories	ask for details on connection cables

TC-MIG24

Generators | CDNS & Accessories

Standard	multiple
Application	test cabinet with safety circuit
EUT volume	20 x 20 x 30 cm
Warning lamps	red and green (2 lamps)
Test cabinet material	acrylic glass, cover position adjustable
Insulation withstand	pulse 1.2/50 μ s up to 36 kV
Weight	8.5 kg
Dimensions	43.5 x 47 x 25.4 cm
Included	control cable to generator
Requires	MIG generator up to 36 kV

TC-MIG24HL

Standard	multiple
Application	test cabinet for heavy EUTs, with safety circuit
Position of test cabinet	near the generator
EUT volume	20 x 20 x 30 cm
Warning lamps	red and green (2 lamps)
Test cabinet material	acrylic glass, cover position adjustable
Insulation withstand	pulse 1.2/50 μ s up to 36 kV
Weight	8.5 kg
Dimensions	43.5 x 47 x 25.4 cm
Included	control cable to generator
Requires	MIG generator up to 36 kV

Tradition meets Technology

Over 20 years devoted to combining
latest technologies into the best products.

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THE EMC PARTNER PRODUCT RANGE

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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.

COMPONENT TESTS

Impulse generators for testing; varistors, gas discharge tubes (GDT), surge protective devices (SPDs), X / Y capacitors, circuit breakers, electricity meters, protection relays, insulation material, suppressor diodes, connectors, chokes, fuses, resistors, emc-gaskets, cables, etc.

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

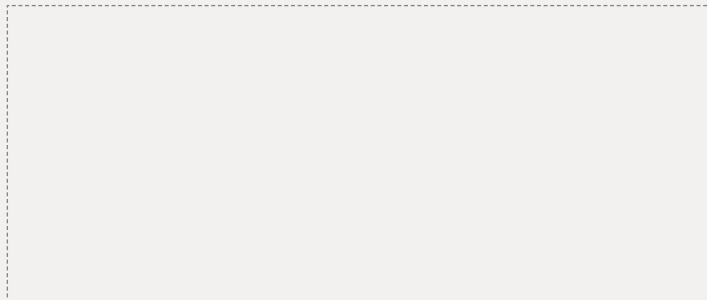


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