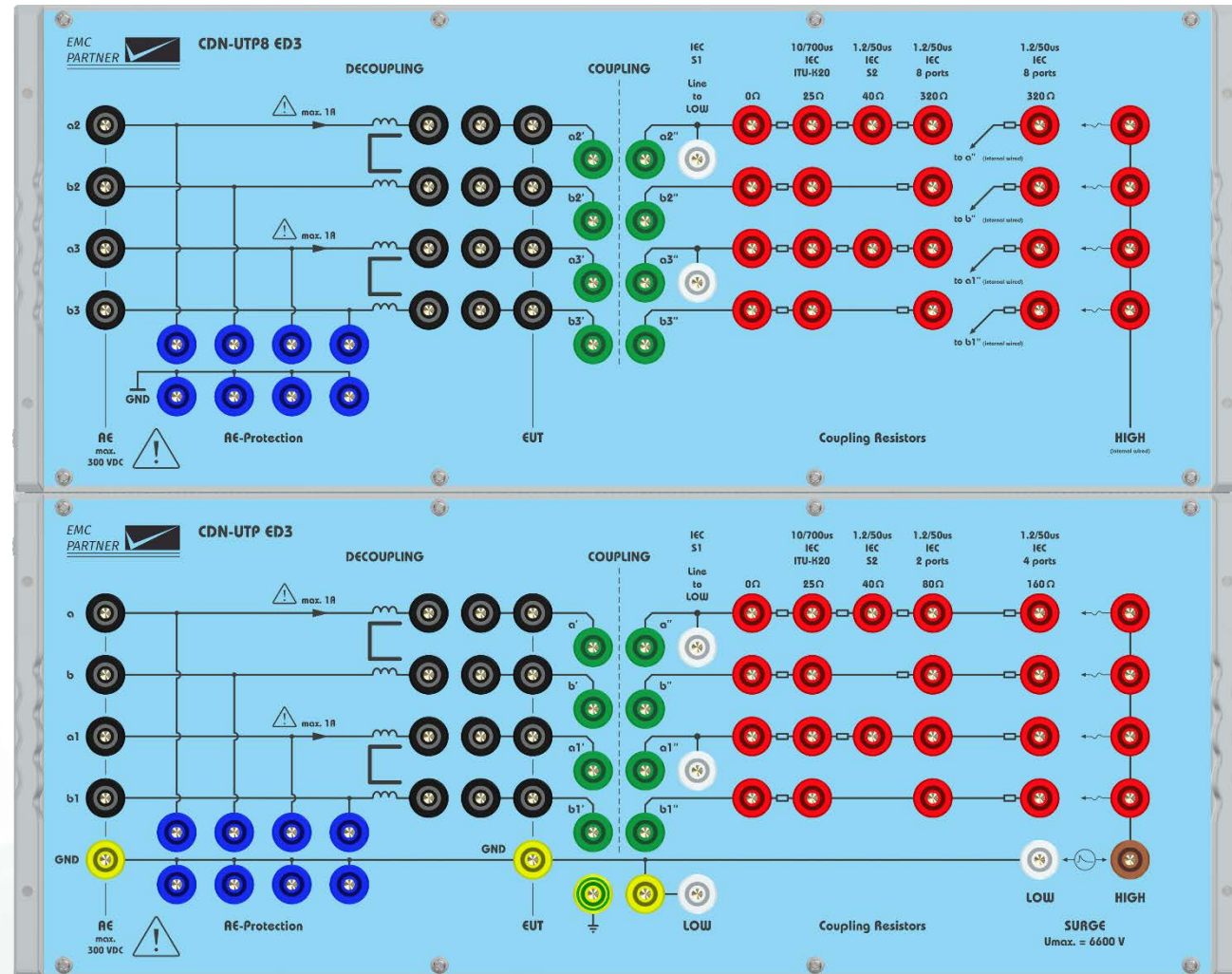


CDN UTP8 ED3

Flagship CDN for I/O lines up to 1 Gbps





EMC PARTNER AG

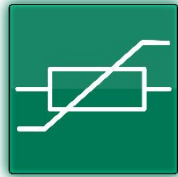
- ✓ Founded in 1994
- ✓ **Swiss** private company, headquarters in Laufen
- ✓ Largest choice of impulse generators
- ✓ Market leading supplier, reputed worldwide
- ✓ Development, production and testing in house
- ✓ Global network of representatives



EMC PARTNER provides conducted immunity test solutions for a broad range of sectors



Industry &
Household



Components



Renewable
energy



Avionics



Military



Telecom

- ✓ Applications for CDN UTP8 ED3
- ✓ Technical specification
- ✓ Test setups according to standard
- ✓ Accessories delivered
- ✓ Customer benefits

According to our knowledge, CDN UTP8 ED3 is the only CDN in the world capable to apply up to **6 kV surge (1.2/50 μ s) and telecom surge (10/700 μ s) pulses on 1 Gbps lines!**

Maximum Ethernet speed: **1 Gbps**

Maximum test level(CWG, RWG, TEL): **6 kV**

Lines to be tested: up to 4 pairs (8 symmetrical lines)
up to 4 unsymmetrical lines

IEC 61000-4-5 ed. 3.1 : fig. 9, fig. 10 and fig. 11, fig. A.4

IEC 61000-4-12 ed. 3.0: fig. 8, fig. 9 and fig. 10

All in one product!



Many requirements, one solution!

IEC 61000-4-5 Ed. 3.1
Figures 9, 10, 11 and A.4

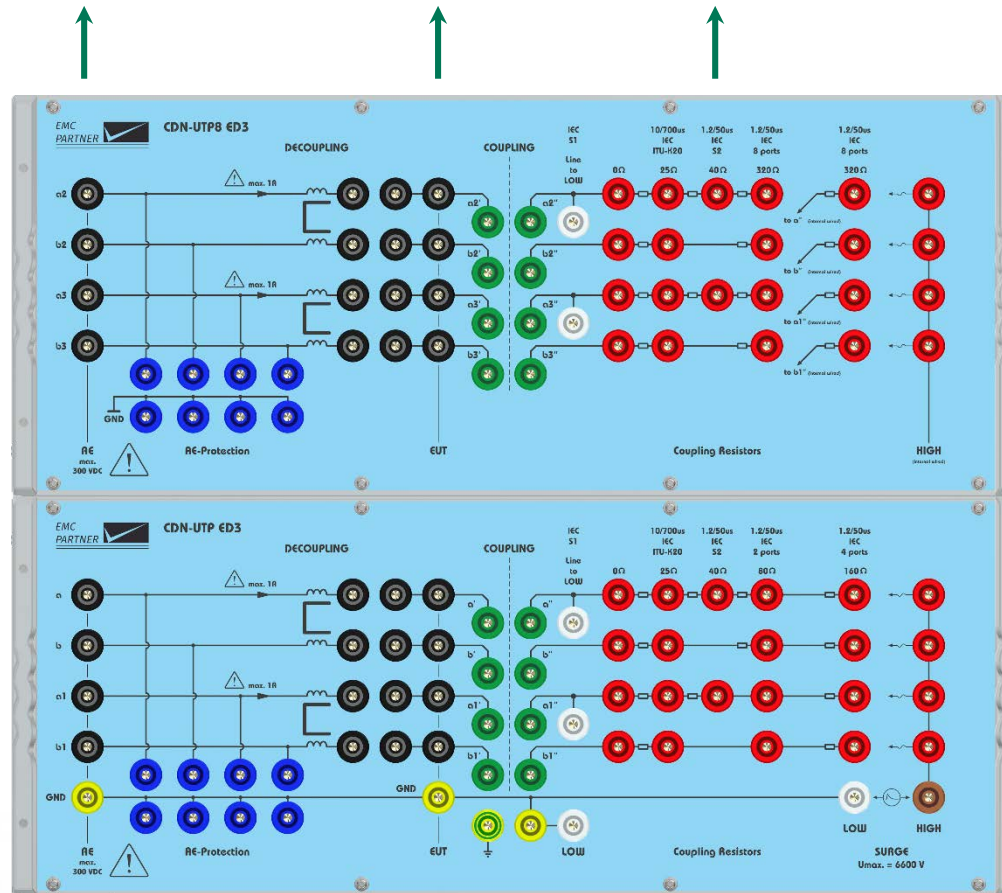
IEC61000-4-12 Ed. 3
Figures 8, 9 and 10

FCC part 68,
TIA 968B

ITU-T K.20, ITU-T K.21, ITU-T K.44

Line type	Data rate	Physical layer
Gigabit Ethernet	10 Mbs – 1 Gbps	8 wires / 4 pairs
Ethernet 10Base-T	10 Mbps, 100 Mbps	4 wires / 2 pairs
USB	12 Mbps, 480 Mbps	2 w. supply, 2 w. data
Analogue subscriber	100 Hz – 3.4 kHz	2 wires
ISDN	25 kHz – 120 kHz	4 wires
ISDN	25 kHz – 1104 kHz	4 wires
Inter bus	up to 500 kbps	4 wires + gnd.
Profi bus	up to 500 kbps	2 wires
CAN bus	up to 1 Mbps	2 wires
RS-232, RS-423, RS-485	up to 10 Mbps	2 wires, 4 wires, etc.

AE connection EUT connection Coupling impedance selection



Additional AE protection

Coupling device(s) selection

Decoupling devices selection

EUTs with following connections are supported:

- ✓ For 1.2/50 μ s and 10/700 μ s surge test:

Symmetrical: 2 lines (1 pair), 4 lines (2 pairs), 8 lines (4 pairs)

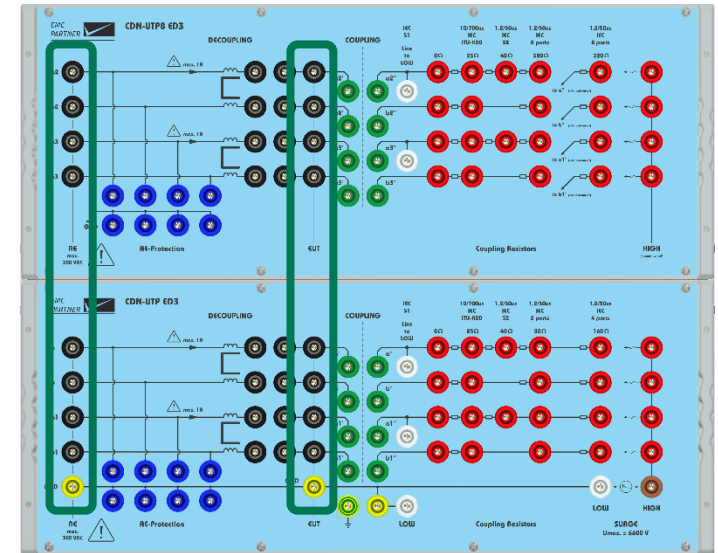
Unsymmetrical: 2 lines, 4 lines

- ✓ For 0.5 μ s / 100 kHz ring wave test:

Symmetrical: 2 lines (1 pair), 4 lines (2 pairs), 8 lines (4 pairs)

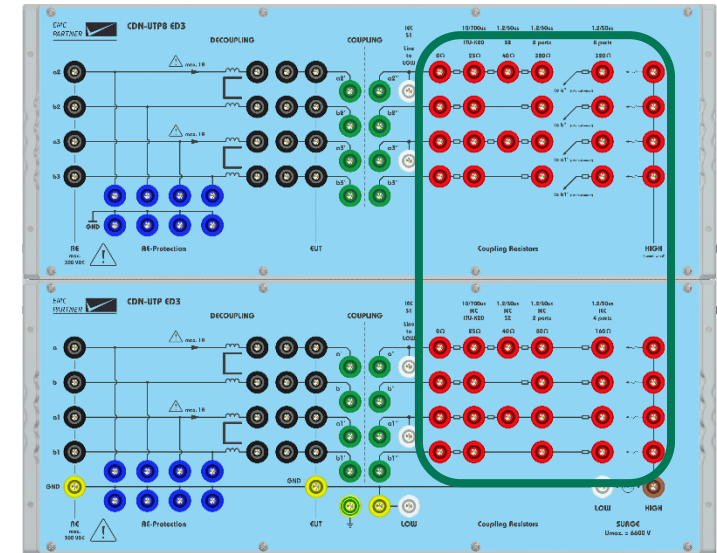
Maximum voltage per line: 300 V

Maximum current per line: 1 A rms (max. 2 A r.m.s. on all 8 lines at a time)



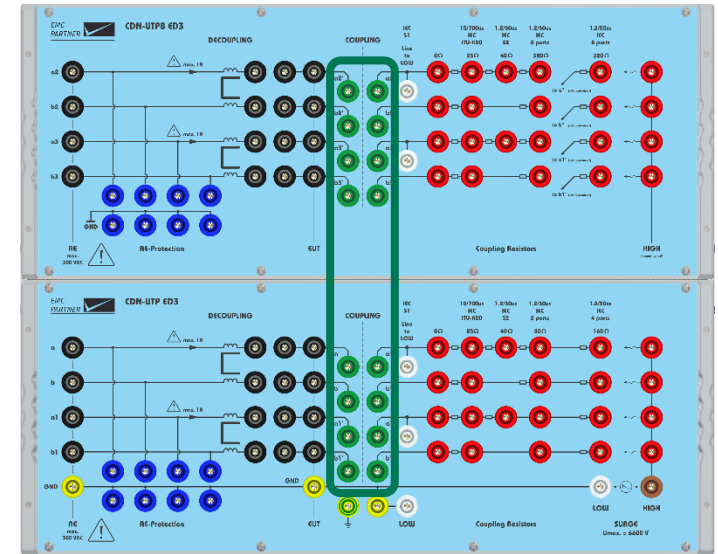
Coupling impedance selection:

Coupling	Standard	max. test level
Unsymmetrical lines		
1 x 40 Ω (with 0.5 μF)	IEC 1.2/50 μs (fig. 9)	6 kV (1.2/50 μs)
Symmetrical lines		
2 x 80 Ω	IEC 1.2/50 μs (fig. 10)	6 kV (1.2/50 μs)
4 x 160 Ω	IEC 1.2/50 μs (fig. 10)	6 kV (1.2/50 μs)
8 x 320 Ω	IEC 1.2/50 μs (fig. 10/11)	6 kV (1.2/50 μs)
2 x 25 Ω	FCC68/TIA 968B, IEC	6 kV (10/700 μs)
4 x 25 Ω	ITU-T K.20, 21, IEC	6 kV (10/700 μs)
8 x 25 Ω	IEC (fig. A.4), ITU	6 kV (10/700 μs)
Up to 8 x direct	IEC ring wave	6 kV
Custom coupling modules can be ordered at EMC PARTNER		



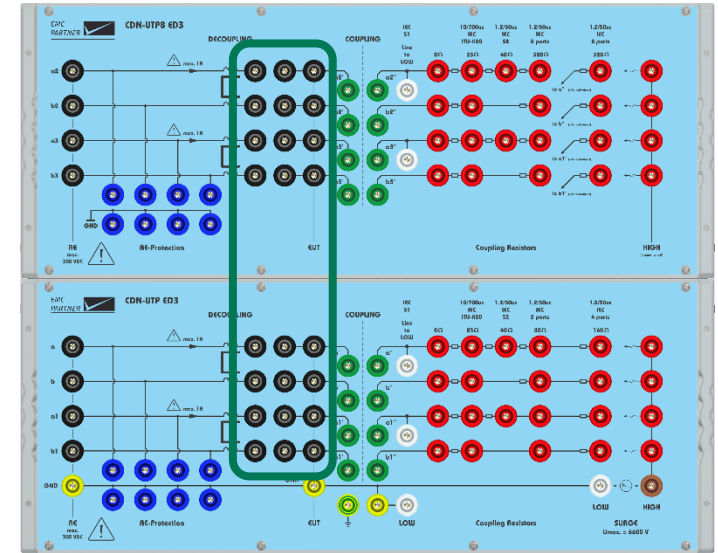
Coupling device(s) selection:

- ✓ 1 x 0.5 μ F (for IEC fig. 9), included in delivery
- ✓ 8 x GDT 90V coupling elements for high-speed lines included in delivery, can be used for 1.2/50 μ s or 10/700 μ s surge pulses
- ✓ other (custom) coupling elements can be ordered at EMC PARTNER
- ✓ other (custom) coupling elements can be used by experienced customers



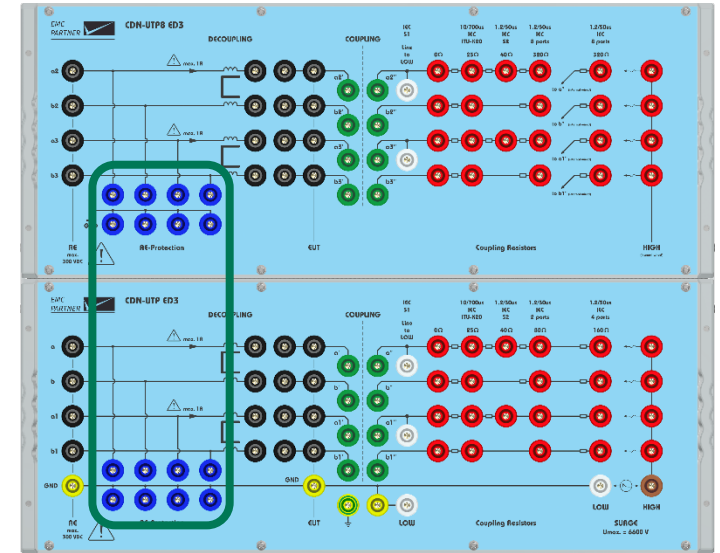
Decoupling devices selection:

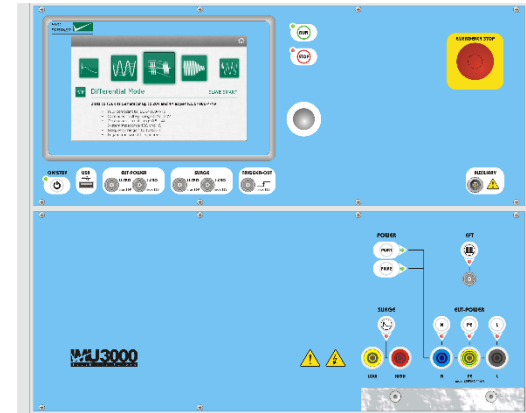
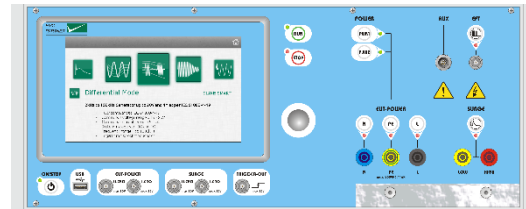
- ✓ standard 20 mH per line are built-in
- ✓ ITU decoupling 8 x GDT 90V coupling elements for high-speed lines included in delivery, can be used for 1.2/50 μ s or 10/700 μ s surge pulses
- ✓ other (custom) decoupling elements can be ordered at EMC PARTNER
- ✓ other (custom) decoupling elements can be used by experienced customers



Additional AE protection selection:

- ✓ 8 x GDT 90V are included in delivery for additional AE protection
- ✓ other (custom) protection elements can be ordered at EMC PARTNER
- ✓ other (custom) protection elements can be used by experienced customers

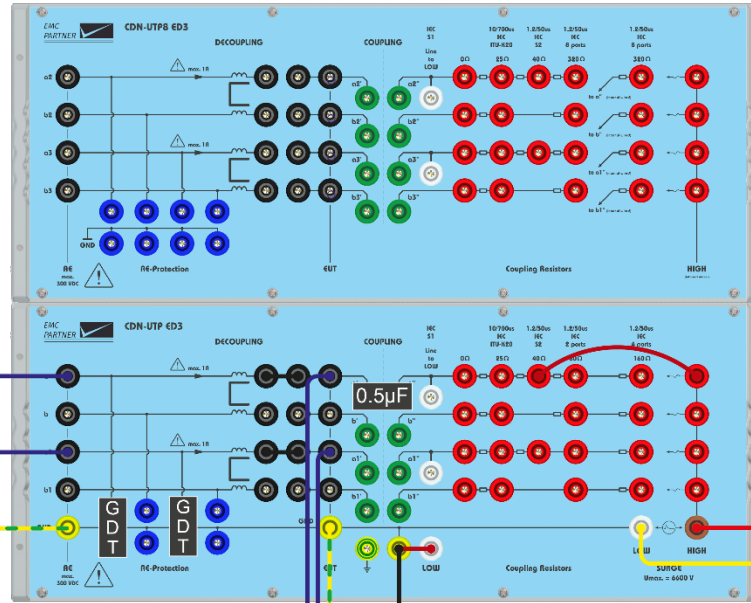




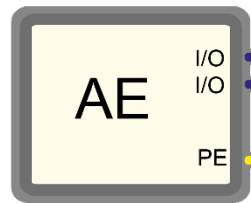
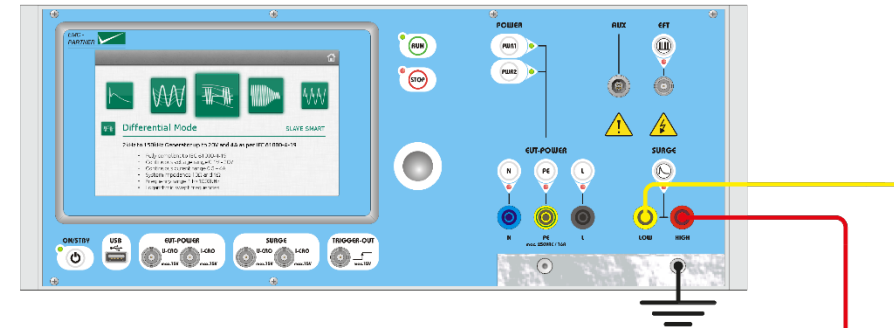
Impulse/ Generator	IMU4000	IMU3000
1.2/50 μ s surge	up to 4 kV or 5 kV	up to 6 kV
10/700 μ s surge	-	up to 6 kV
0.5 μ s/100 kV ring wave	-	up to 6 kV

max. 5 kV (IMU4000)

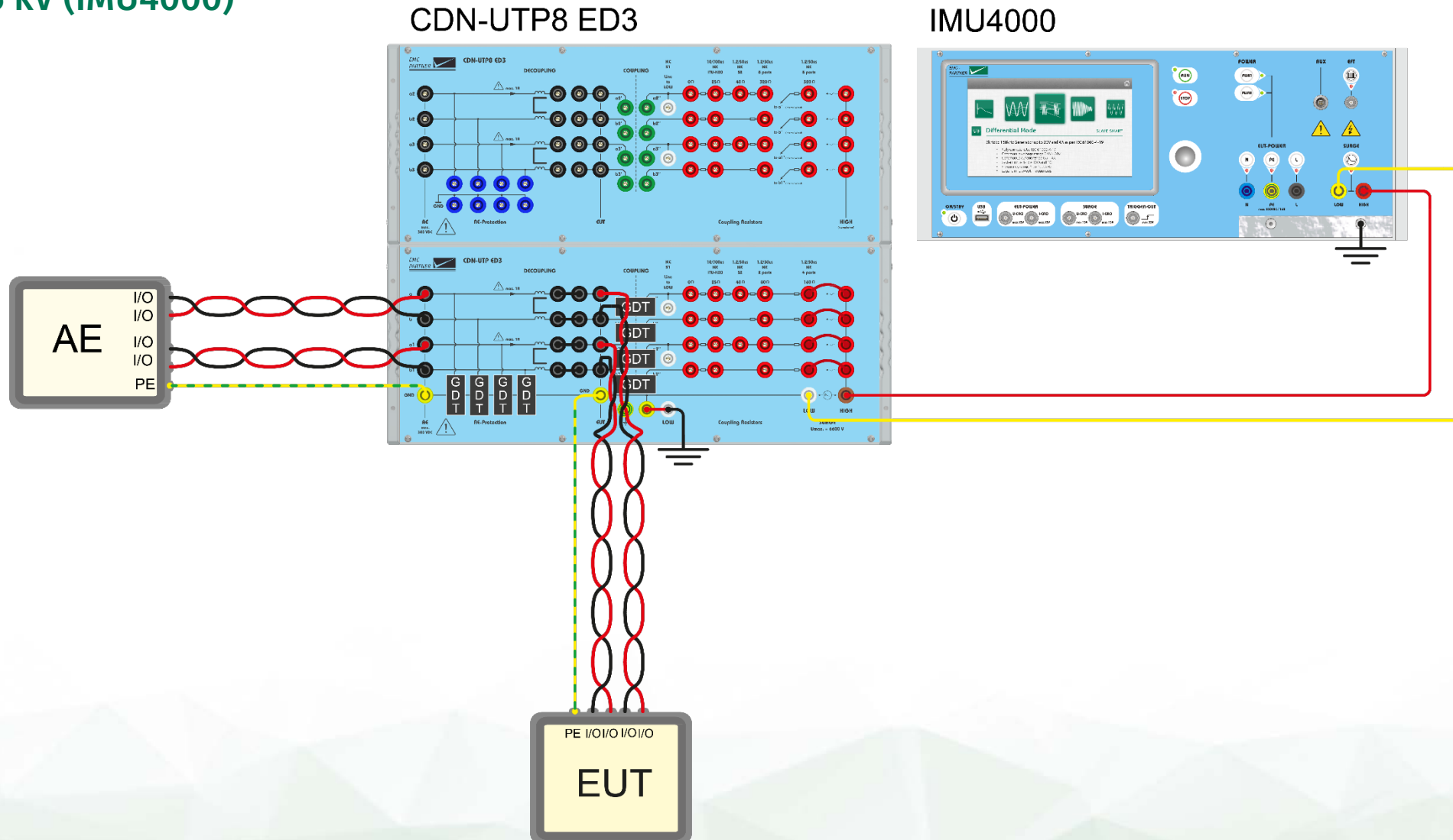
CDN-UTP8 ED3



IMU4000



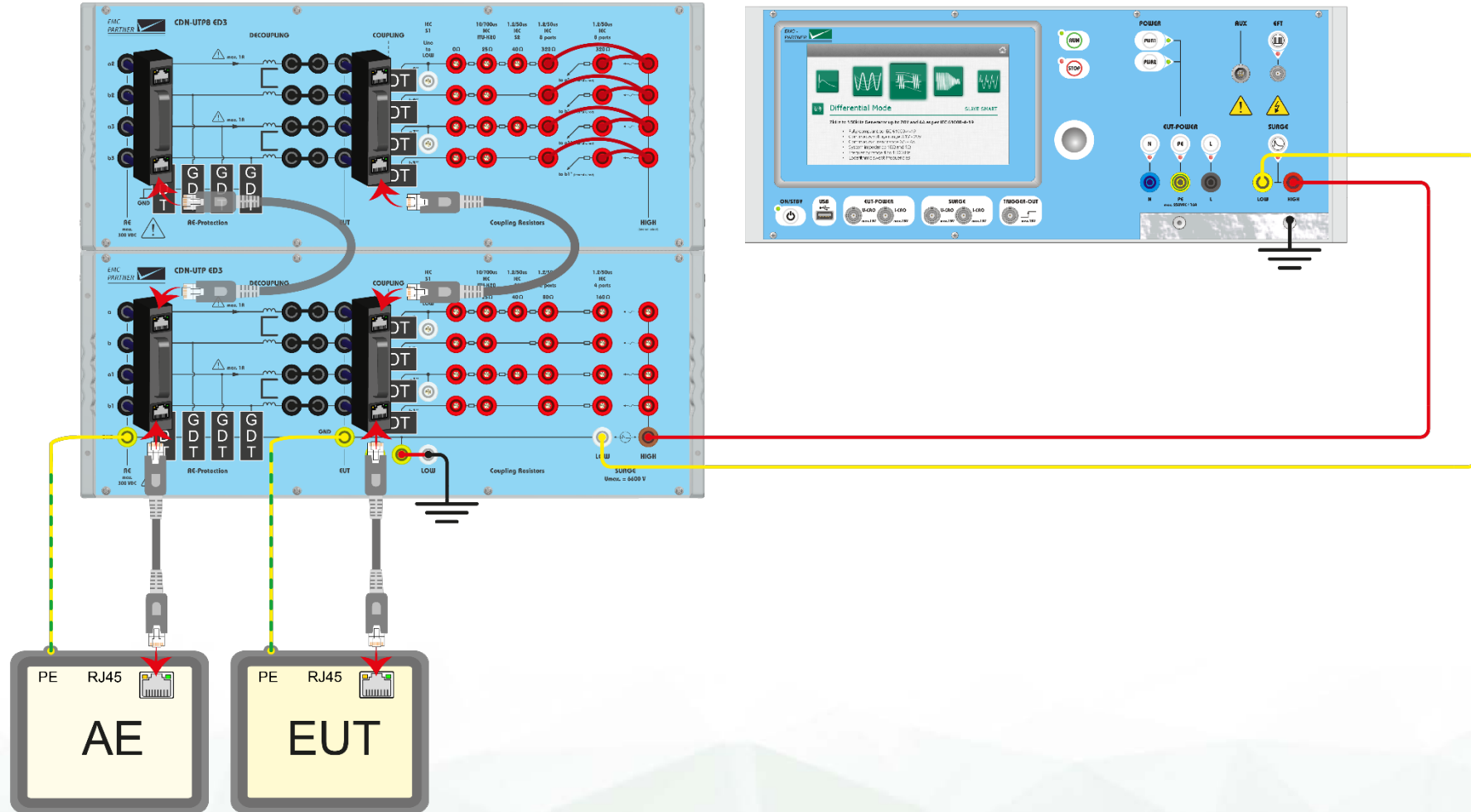
max. 5 kV (IMU4000)



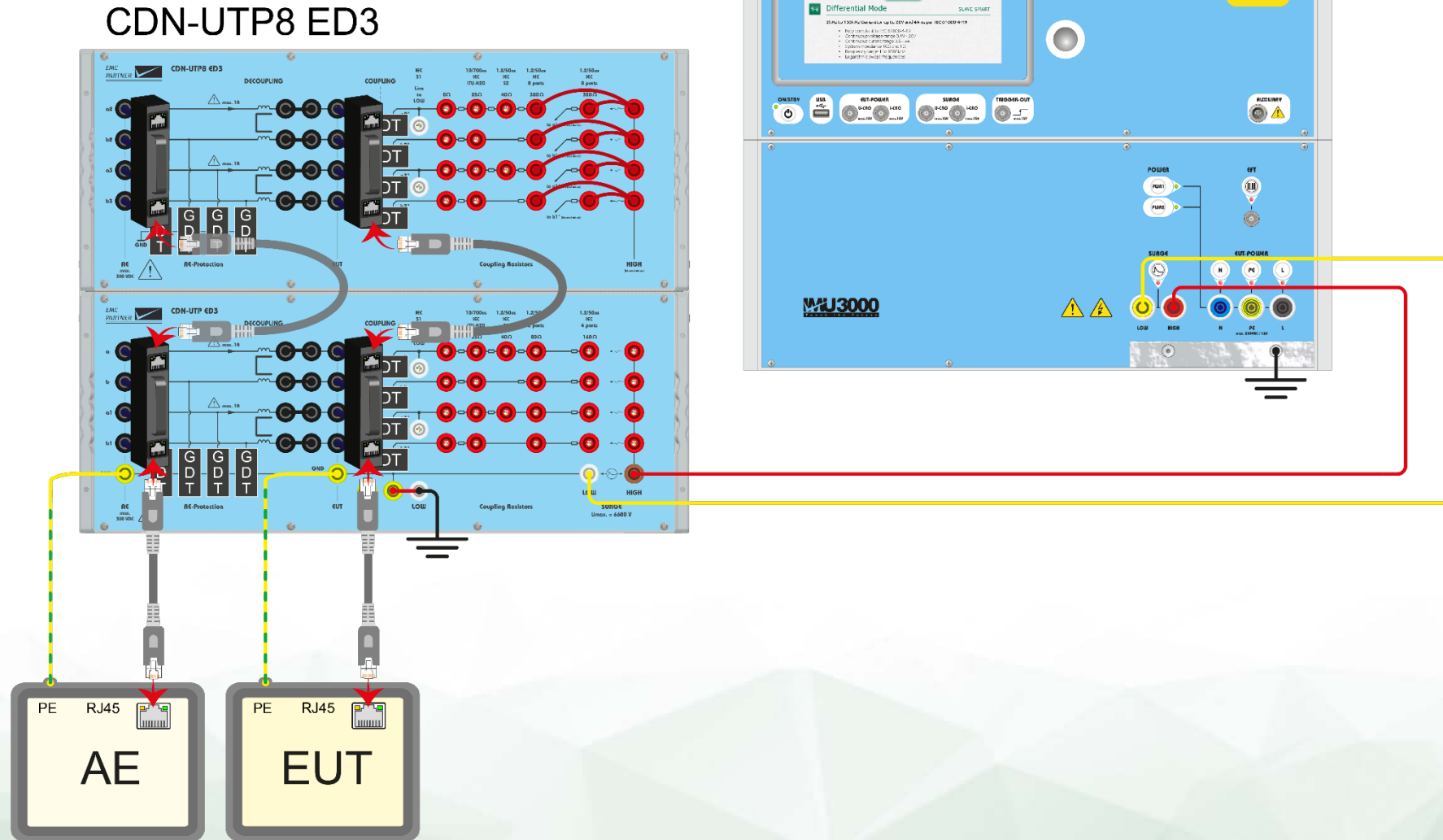
max. 5 kV (IMU4000)

CDN-UTP8 ED3

IMU4000

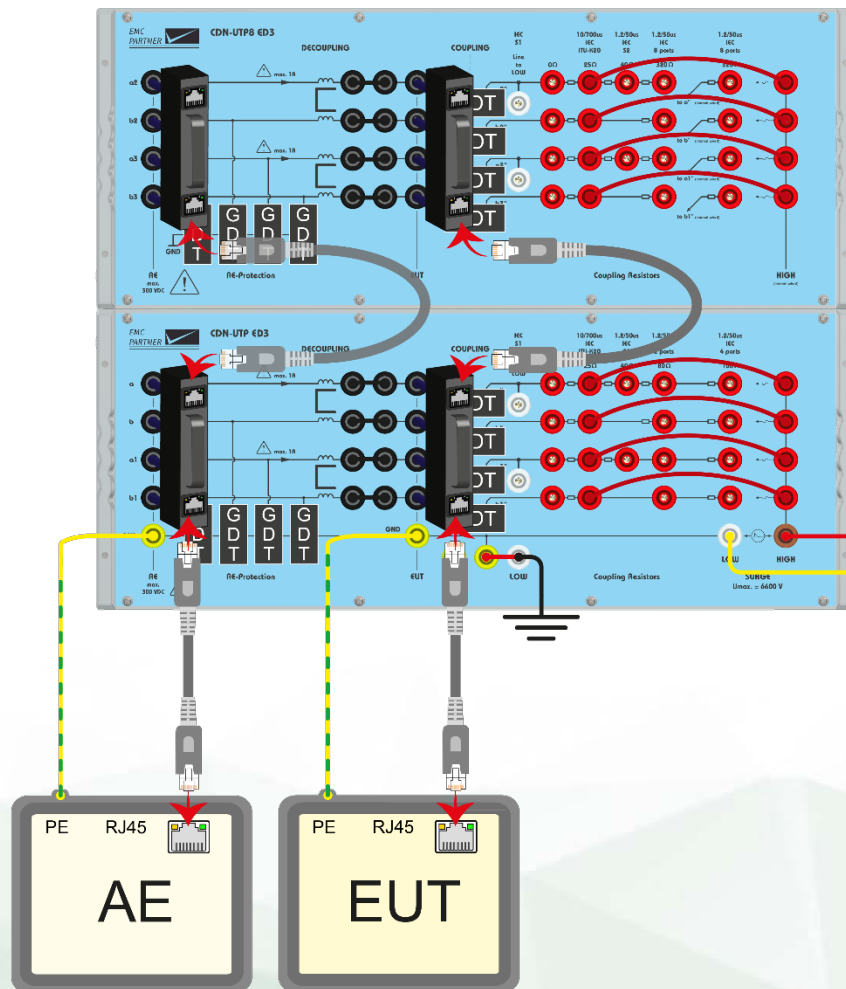


max. 6 kV (IMU3000)

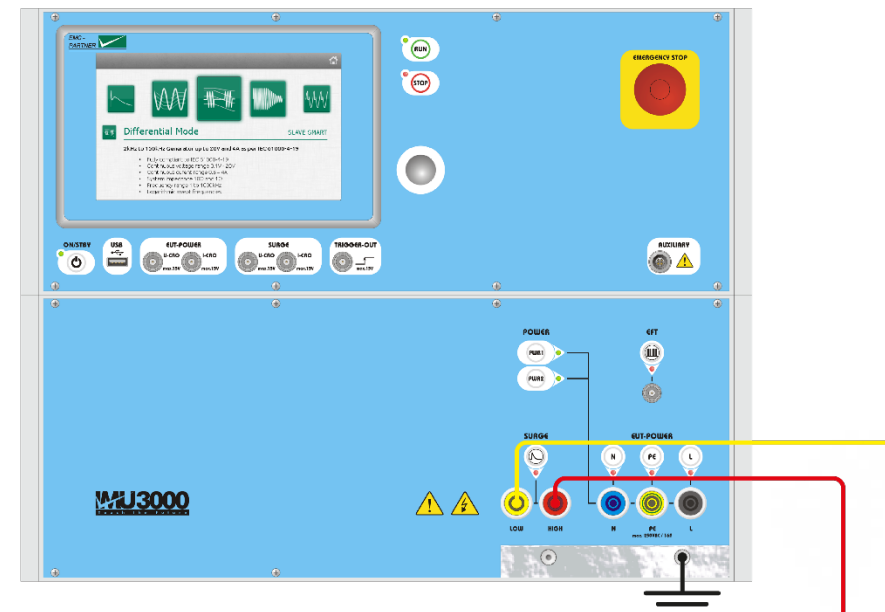


max. 6 kV (IMU3000)

CDN-UTP8 ED3



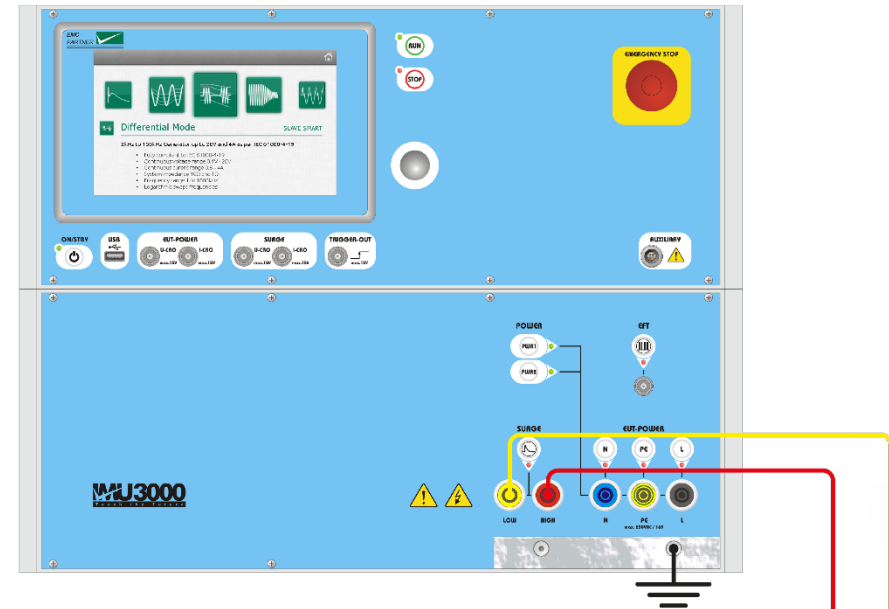
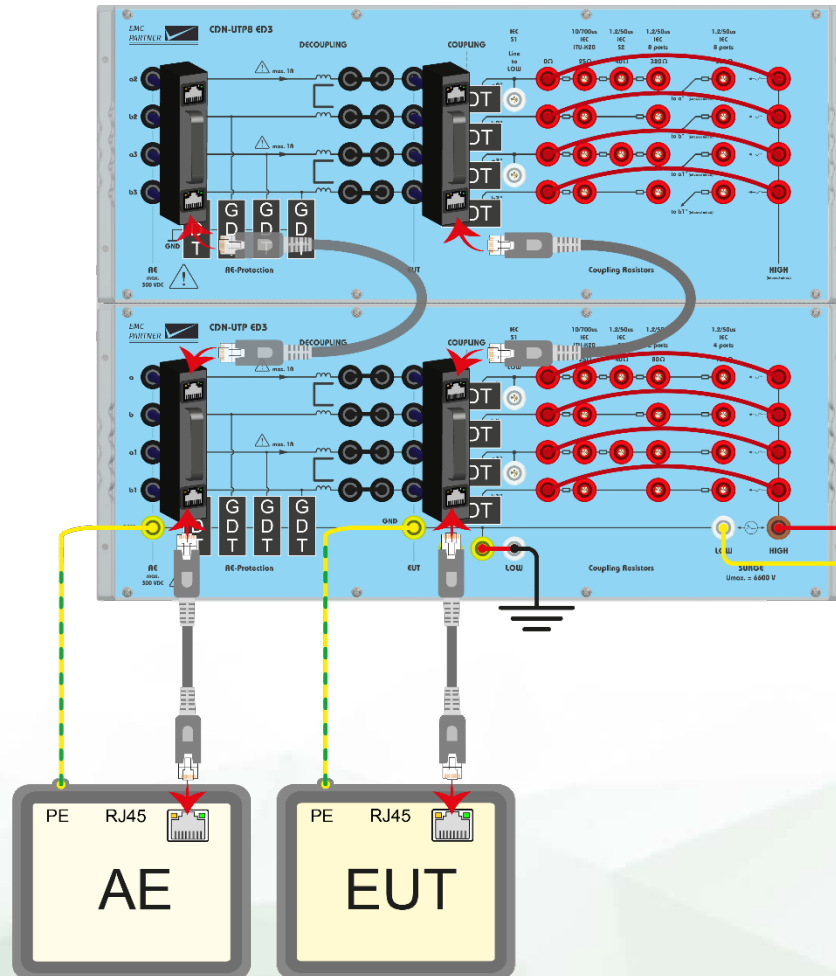
IMU3000



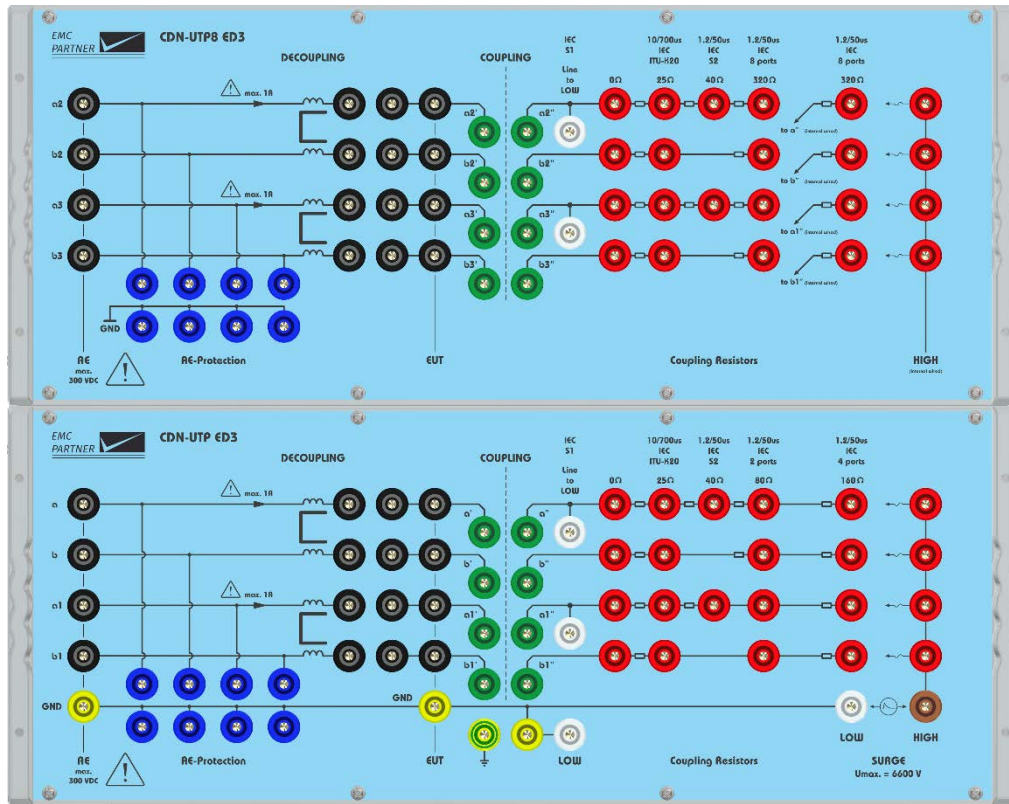
max. 6 kV (IMU3000)

IMU3000

CDN-UTP8 ED3



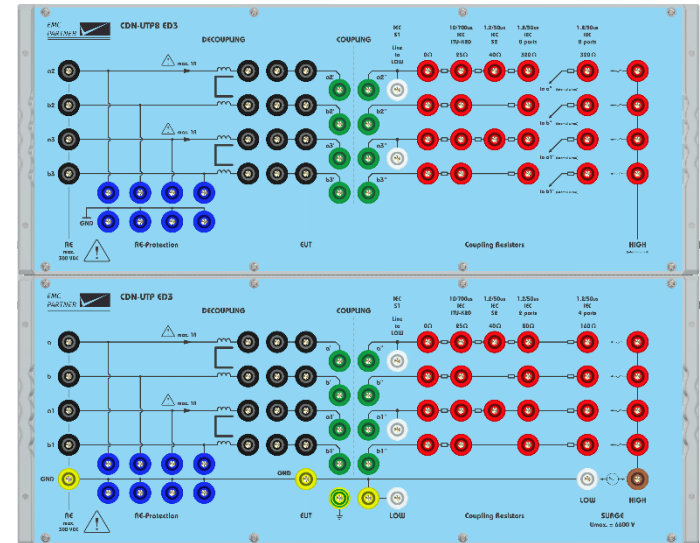
Standard	Fig. no.	Waveform	Generator	CDN-UTP ED3	CDN-UTP8 ED3
IEC 61000-4-5	9	1.2/50 μ s	IMU4000	max. 5 kV (2 lines)	max. 5 kV (2, 4 lines)
	10	1.2/50 μ s	IMU4000	max. 5 kV (2, 4 lines)	max. 5 kV (2, 4, 8 lines)
	11	1.2/50 μ s	IMU4000	-	max. 5 kV (2, 4, 8 lines)
	9	1.2/50 μ s	IMU3000	max. 6 kV (2 lines)	max. 6 kV (2, 4 lines)
	10	1.2/50 μ s	IMU3000	max. 6 kV (2, 4 lines)	max. 6 kV (2, 4, 8 lines)
	11	1.2/50 μ s	IMU3000	-	max. 6 kV (2, 4, 8 lines)
IEC 61000-4-5	A.4	10/700 μ s	IMU3000	max. 6 kV (2, 4 lines)	max. 6 kV (2, 4, 8 lines)
IEC 61000-4-12	8	0.5 μ s/100 kHz	IMU3000	max. 6 kV (2 lines)	max. 6 kV (2, 4 lines)
	9	0.5 μ s/100 kHz	IMU3000	max. 6 kV (2, 4 lines)	max. 6 kV (2, 4, 8 lines)
	10	0.5 μ s/100 kHz	IMU3000	-	max. 6 kV (2, 4, 8 lines)



- + different connection cables
- + connection bridges
- + 1 x 0.5 μ F capacitor
- + 16 x GDT 90V
- + 8 x empty adapter boxes (for custom setups)



- ✓ Highest test level (6 kV) possible for 1 Gpbs lines
- ✓ Most flexible solution for symmetrical and unsymmetrical lines
- ✓ Most flexible solution in terms of coupling impedance
- ✓ Proven long term reliability
- ✓ High value for money



Thank you !



Contact us worldwide: www.emc-partner.com