

Power line CDNs for IMU



EMC PARTNER AG



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

- ✓ What do customers want from a CDN?
- ✓ New CDN line overview
- ✓ New CN line vs. competitors

The CDN should:

- ✓ Meet test requirements and possibly exceed them
- ✓ Be upgradeable
- ✓ Have suitable accessories, optionally not standard included
- ✓ Have the best price

Meet test requirements and possibly exceed them:

- ✓ 4, 5, 6 , 7 kV EFT
- ✓ 4, 5, 6 or 8 kV Surge
- ✓ 6 or 8 kV Ring wave
- ✓ 6 or 8 kV Telecom Surge

- ✓ Voltage max. 3 x 690 V AC / 500 V DC (optional upgrades 1'000 V or 1'500 V DC)
- ✓ Current ratings: 32, 63, 125 or 200 A

Be upgradeable:

- ✓ DC voltage capability can be also added subsequently
- ✓ RWG capability can be also added subsequently
- ✓ Full Range option can be also added subsequently
- ✓ ANSI coupling can be also added subsequently

Have the best price:

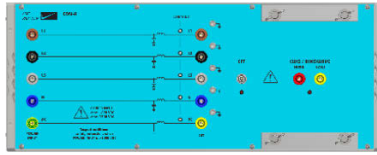
- ✓ Basis versions (4/6 kV and 8 kV) are extremely competitive
- ✓ With options, we expect to remain competitive when comparing apples to apples

Have suitable accessories, optionally not standard included:

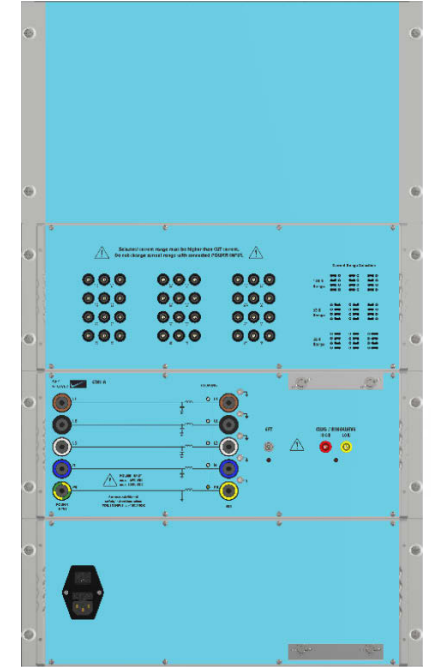
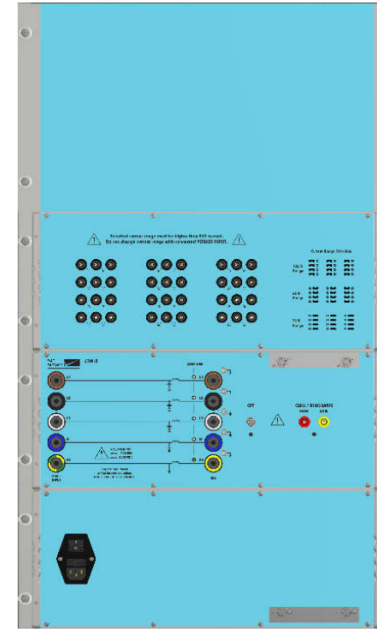
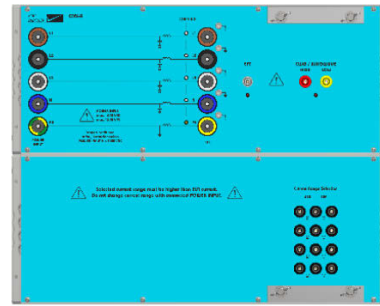
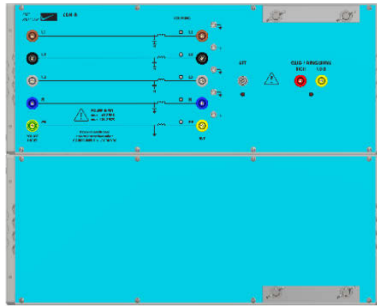
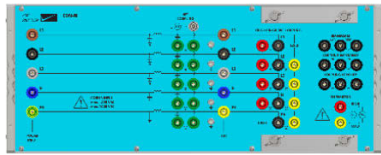
- ✓ DC voltage upgrades are optional
- ✓ AC and DC protections are optional
- ✓ RWG, ANSI coupling and FULL RANGE are optional
- ✓ Diode-Resistor networks for DC-DC converters are optional

- ✓ Fully compatible with IMU4000 and IMU3000, from 4 kV to 8 kV (ex. IMU4000 can come with 200 A now)
- ✓ Standard EUT voltage capability AC 690 V
- ✓ Supports DC EUTs up to 1'500 V
- ✓ Has the broadest range of accessories from the market
- ✓ Allows subsequent upgrades (unique in the market)
- ✓ Has a competitive price structure oriented towards customer's needs

4/6 kV



or



CDN-M-6-32

CDN-A-6-32

CDN-A-6-63

CDN-A-6-125

CDN-A-6-200

for IMU3000, IMU4000

for IMU3000, IMU4000

for IMU3000, IMU4000

for IMU3000, IMU4000

for IMU3000, IMU4000

6 kV EFT 6 kV CWG

6 kV EFT 6 kV CWG

6 kV EFT 6 kV CWG

6 kV EFT 6 kV CWG

6 kV EFT 6 kV CWG

690 V AC / 500 V DC

690 V AC / 500 V DC

690 V AC / 500 V DC

690 V AC / 500 V DC

690 V AC / 500 V DC

optional 1000 V DC

opt. 1000V or 1500 V DC

opt. 1000V or 1500 V DC

opt. 1000V or 1500 V DC

opt. 1000V or 1500 V DC

optional 6 kV RWG

optional 6 kV RWG, ANSI

optional 6 kV RWG, ANSI

optional 6 kV RWG, ANSI

optional 6 kV RWG, ANSI

AC/DC prot., **FULL RANGE**

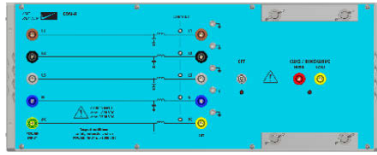
AC/DC prot., **FULL RANGE**

AC/DC prot., **FULL RANGE**

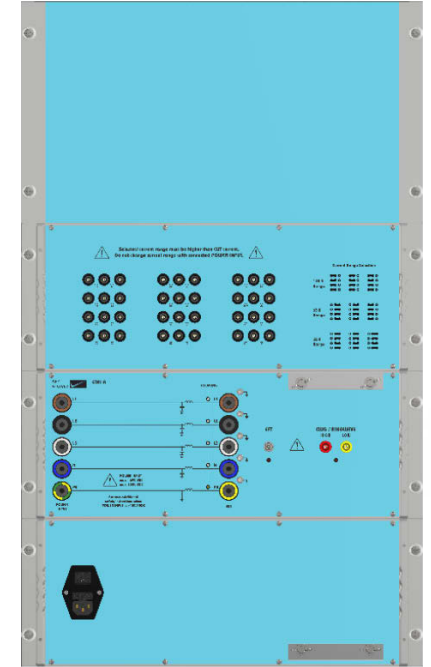
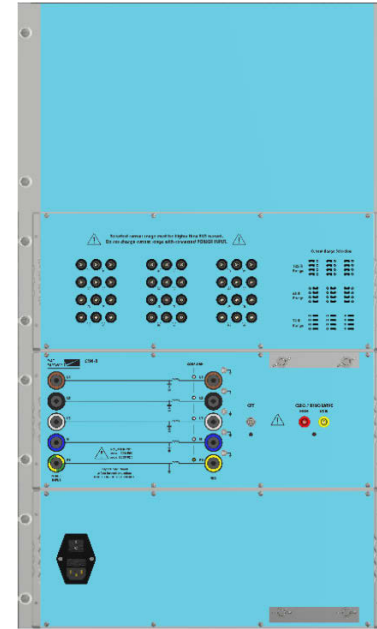
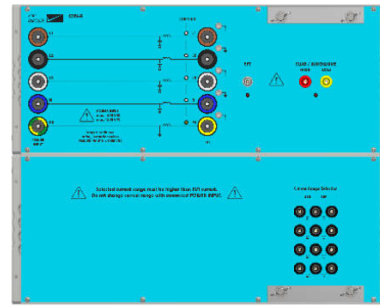
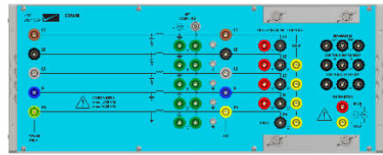
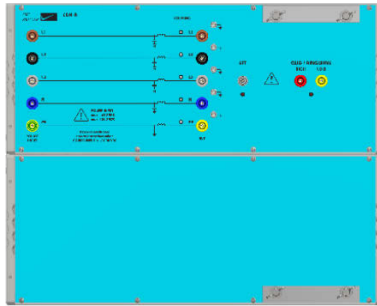
AC/DC prot., **FULL RANGE**

AC prot., **FULL RANGE**

8 kV



or



CDN-M-6-32

CDN-A-6-32

CDN-A-6-63

CDN-A-6-125

CDN-A-6-200

for IMU3000 8 kV

for IMU3000 8 kV

for IMU3000 8 kV

for IMU3000 8 kV

for IMU3000 8 kV

7 kV EFT 8 kV CWG

7 kV EFT 8 kV CWG

7 kV EFT 8 kV CWG

7 kV EFT 8 kV CWG

7 kV EFT 8 kV CWG

690 V AC / 500 V DC

690 V AC / 500 V DC

690 V AC / 500 V DC

690 V AC / 500 V DC

690 V AC / 500 V DC

optional 1000 V DC

opt. 1000V or 1500 V DC

opt. 1000V or 1500 V DC

opt. 1000V or 1500 V DC

opt. 1000V or 1500 V DC

optional 8 kV RWG

optional 8 kV RWG, ANSI

optional 8 kV RWG, ANSI

optional 8 kV RWG, ANSI

optional 8 kV RWG, ANSI

AC/DC prot., **FULL RANGE**

AC/DC prot., **FULL RANGE**

AC/DC prot., **FULL RANGE**

AC/DC prot., **FULL RANGE**

AC prot., **FULL RANGE**

- ✓ EUT supply AC voltage is always 3 x 690 V
- ✓ EUT supply DC voltage can go up to 1'000 V for manual CDN, or 1'500 V for all automatic CDNs
- ✓ Optional Ring wave allows better pricing for IMU4000 and configurations without Ring wave
- ✓ EUT overcurrent protections are now external

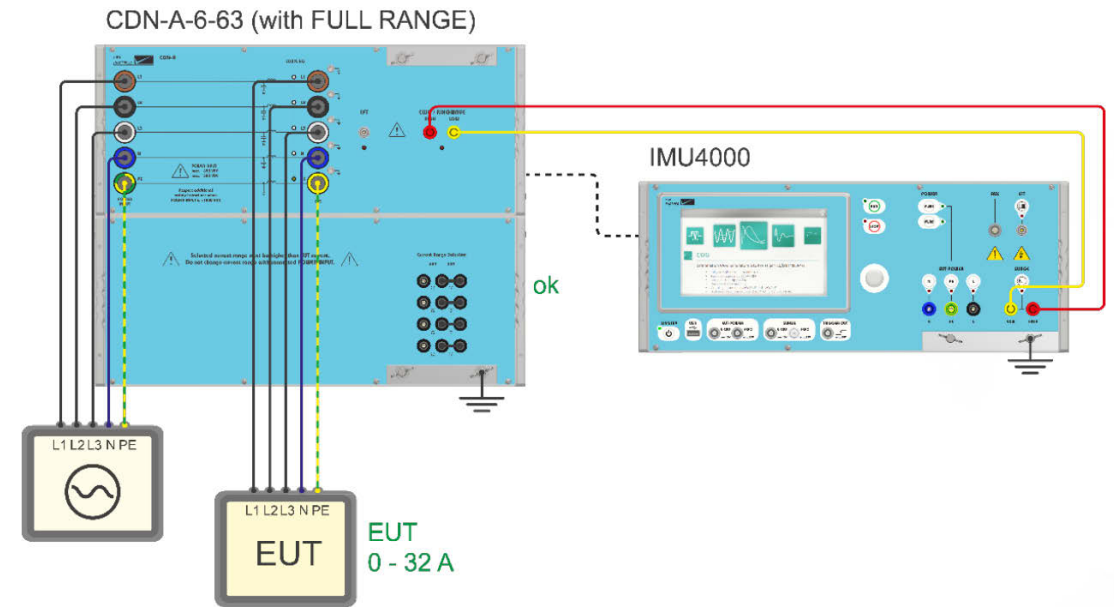
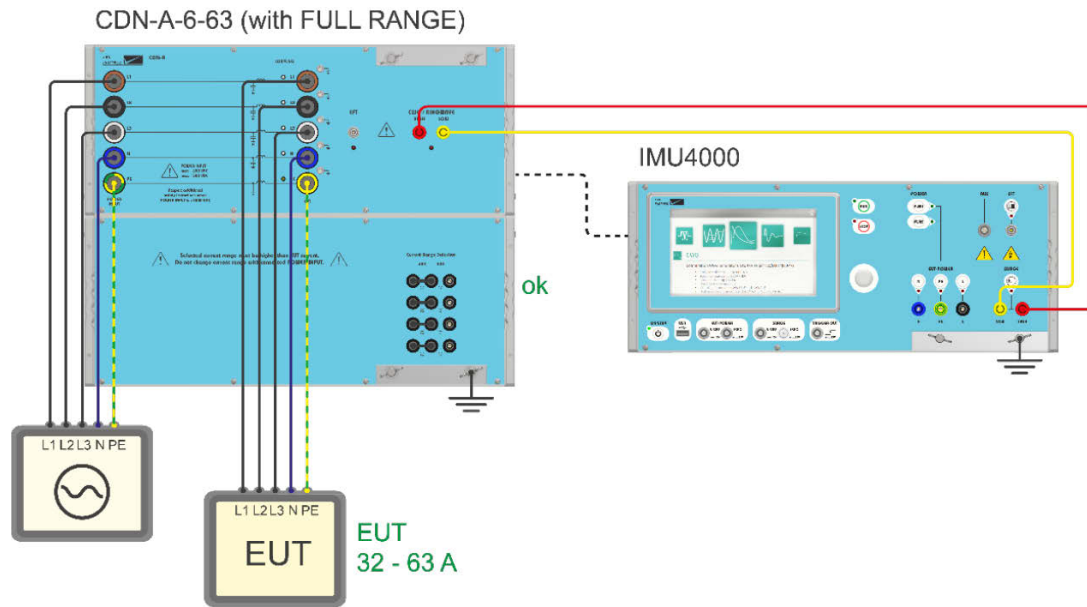
Surge test without full range option

	CDN-M-x-32	CDN-A-x-32	CDN-A-x-63	CDN-A-x-125	CDN-A-x-200
0 – 16 A	✓ full compliance	✓ full compliance	pre-compliance	pre-compliance	pre-compliance
16 – 32 A	✓ full compliance	✓ full compliance	pre-compliance	pre-compliance	pre-compliance
32 – 63 A			✓ full compliance	pre-compliance	pre-compliance
63 – 125 A				✓ full compliance	pre-compliance
125 – 200 A					✓ full compliance

Surge test with full range option

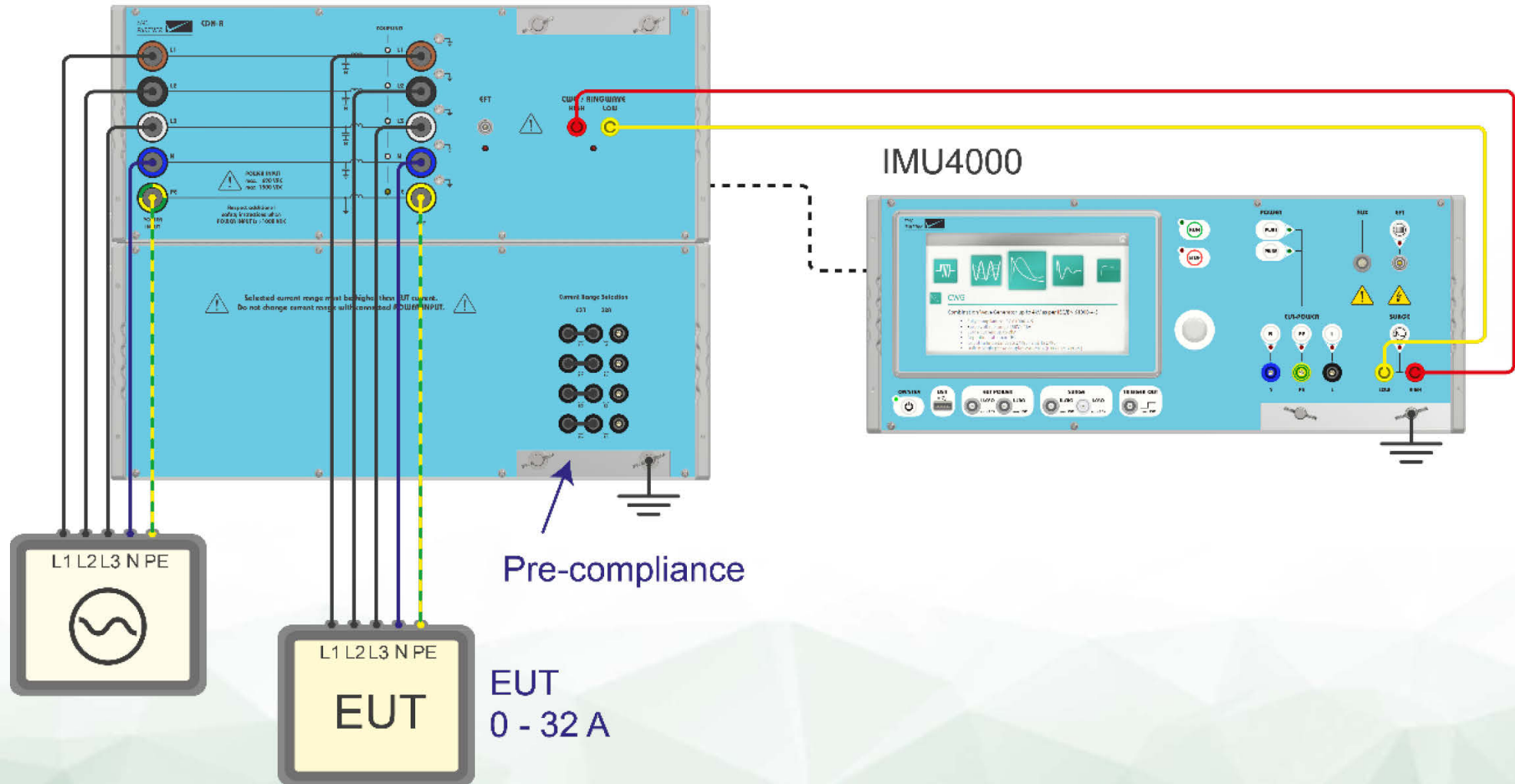
	CDN-M-x-32	CDN-A-x-32	CDN-A-x-63	CDN-A-x-125	CDN-A-x-200
0 – 16 A	✓ full compliance	✓ full compliance	✓ full compliance	✓ full compliance	✓ full compliance
16 – 32 A	✓ full compliance	✓ full compliance	✓ full compliance	✓ full compliance	✓ full compliance
32 – 63 A			✓ full compliance	✓ full compliance	✓ full compliance
63 – 125 A				✓ full compliance	✓ full compliance
125 – 200 A					✓ full compliance

✓ Correct setups 63 A CDN



Incorrect setup 63 A CDN

CDN-A-6-63 (with FULL RANGE)



Surge test without ANSI option

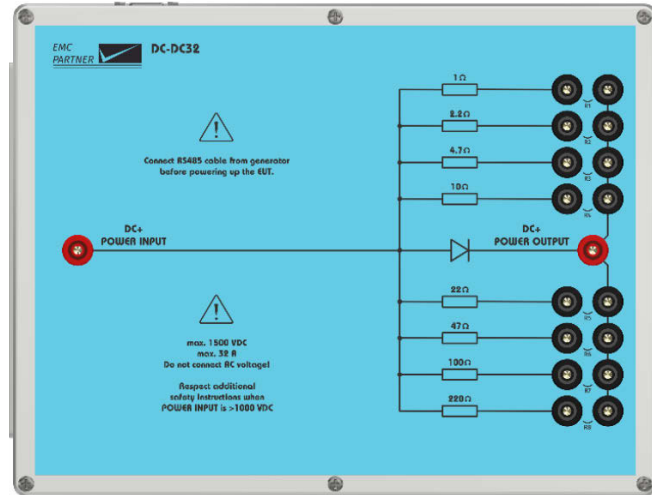
IEC couplings	Available
Lx-N, Lx-Ly, 2 Ω	✓ yes
Lx-PE, N-PE, 12 Ω	✓ yes

Surge test with ANSI option

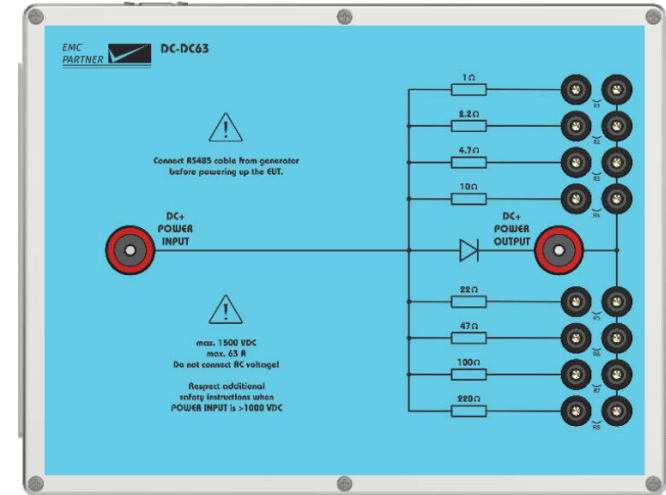
IEC and ANSI	Available
Lx-N, Lx-Ly, 2 or 12 Ω	✓ yes
Lx-PE, N-PE, 2 or 12 Ω	✓ yes
L1+N-PE, 2 or 12 Ω	✓ yes
L1+L2+L3+N-PE, 2 or 12 Ω	✓ yes

✓ The new option (**only**) for DC-DC converters or similar (IEC61000-4-5 Ed 3 AMD 1/2017)

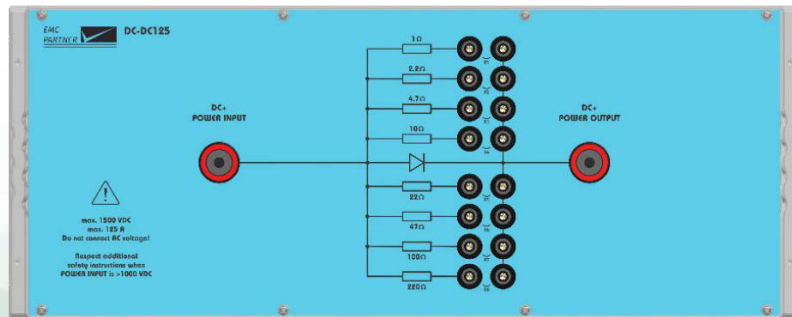
32 A



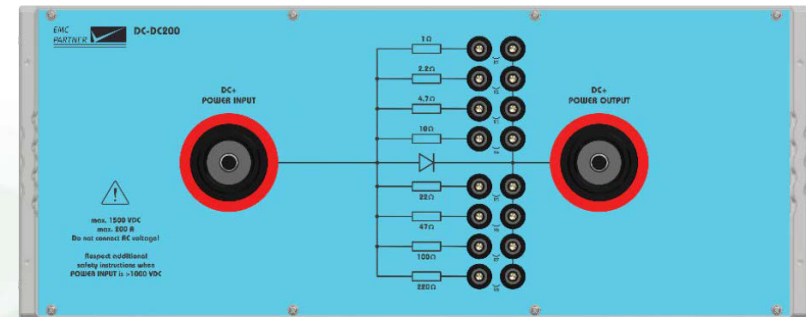
63 A



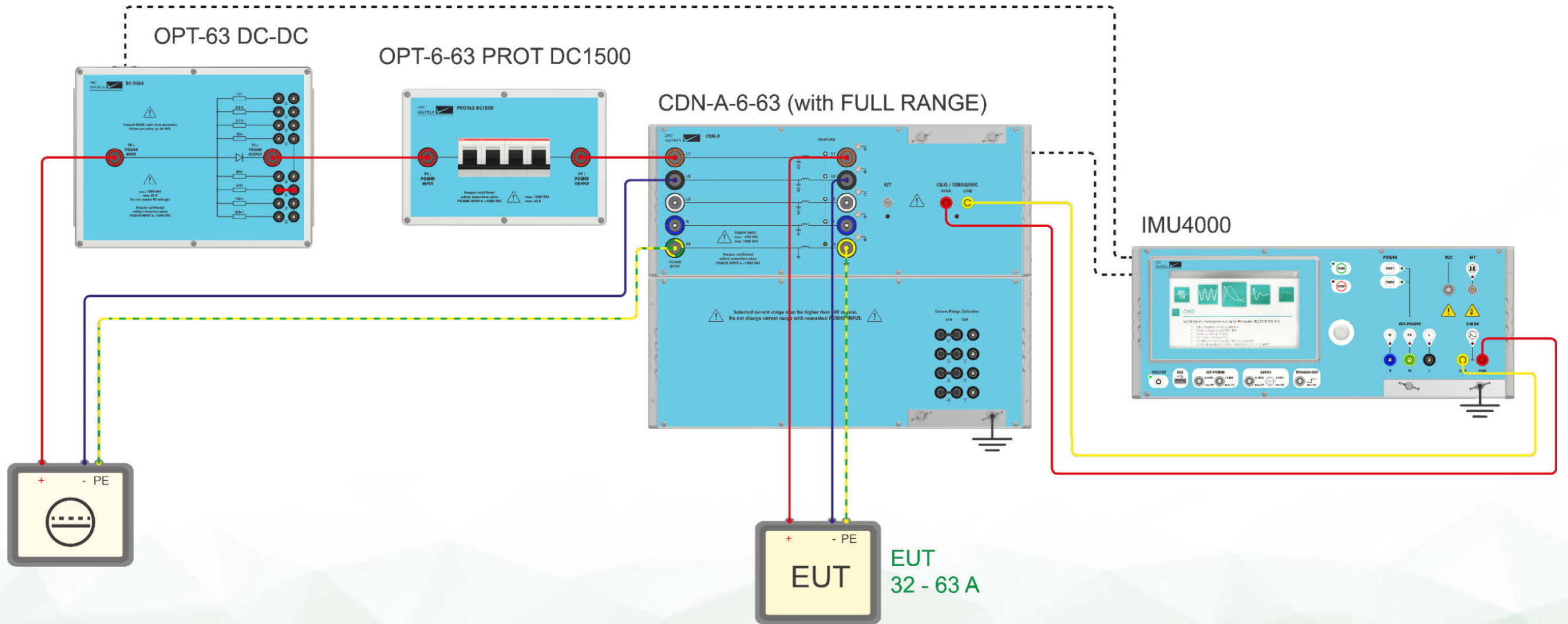
125 A



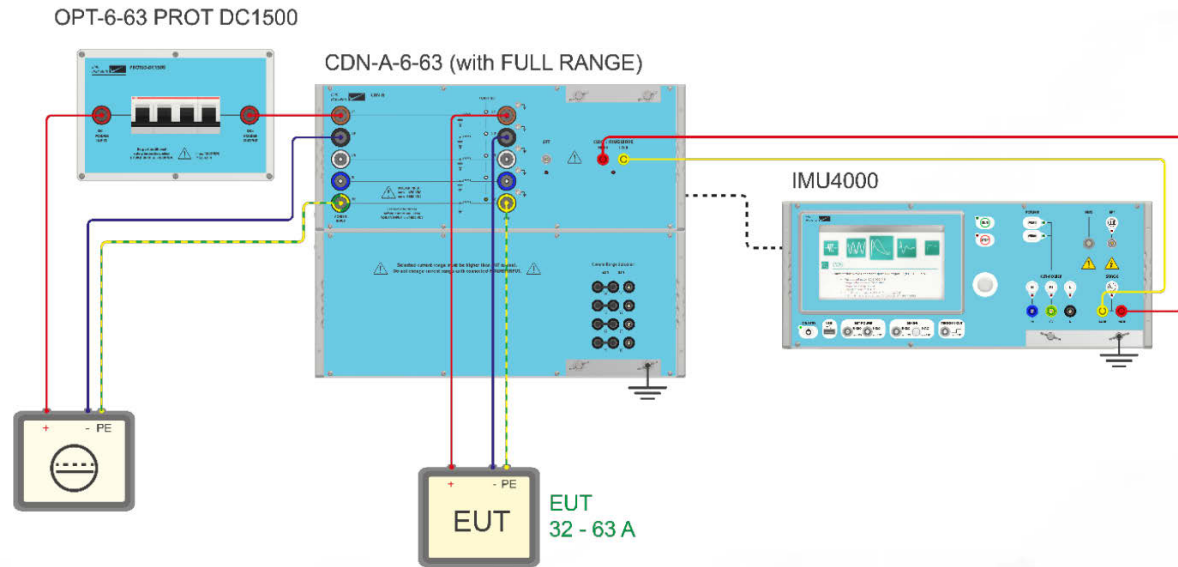
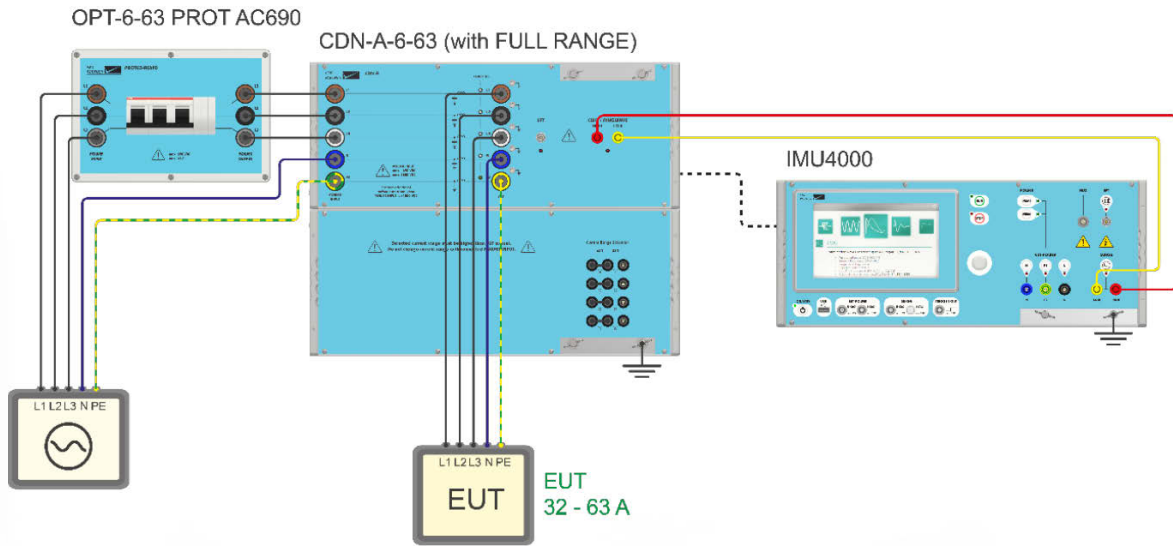
200 A



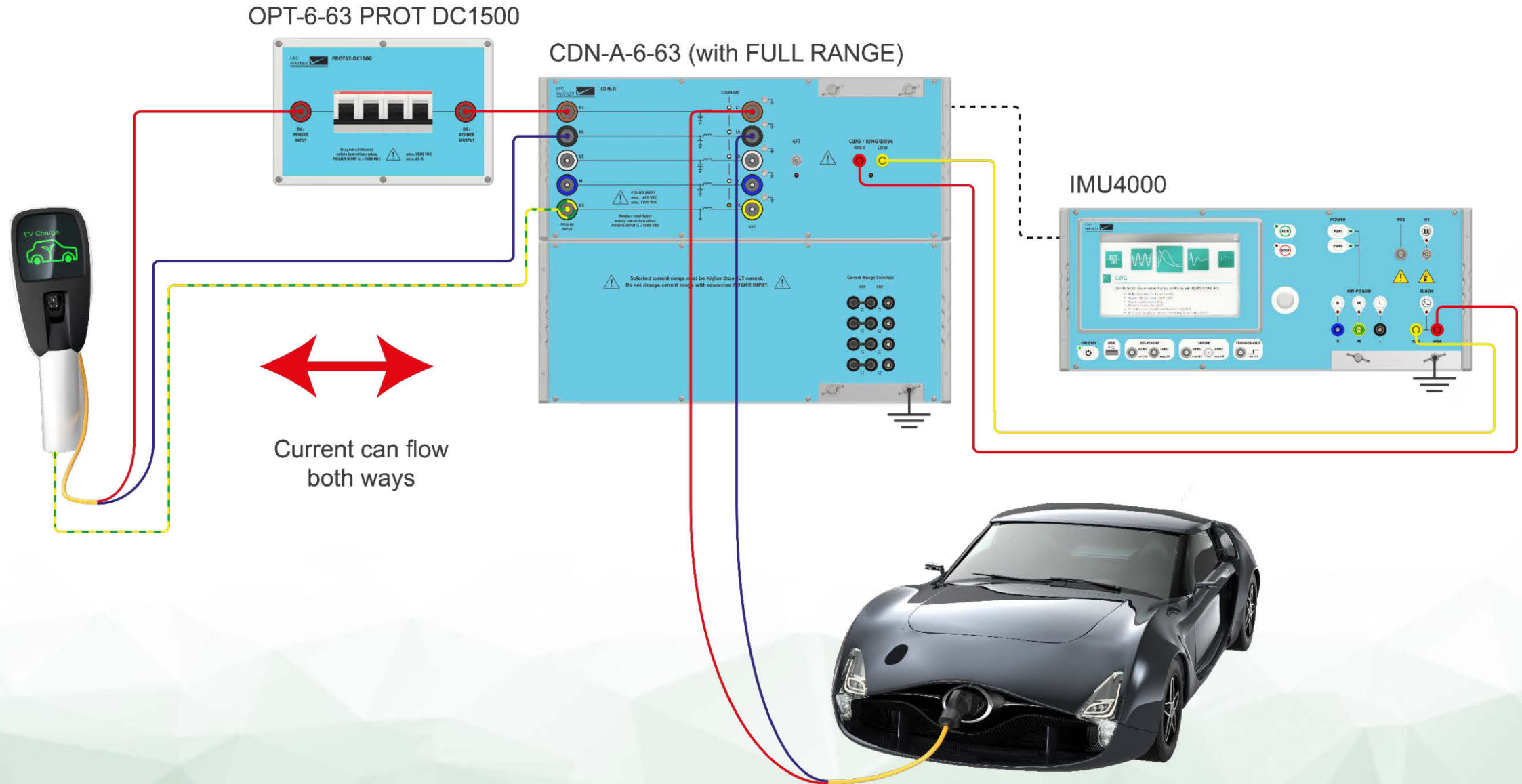
- ✓ The new option (**only**) for DC-DC converters or similar (IEC61000-4-5 Ed 3 AMD 1/2017)



- ✓ EUT overcurrent protection is now optional and external: flexibility, more capabilities



✓ Current can flow both ways



The new CDN line



www.emc-partner.com