



Advanced Test Equipment Corp.

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FP-COMB 63/690-1

Combined Automatic
3-Phase Coupling /
Decoupling Network

Datasheet



HAEFELY

Current and voltage – our passion

General Description

The FP-COMB 63/690-1 coupling/decoupling network – for Surge Combination Wave, Ring Wave and EFT/Burst – is fully compliant with the standard requirements of IEC/EN 61000-4-4, IEC/EN 61000-4-5 and IEC/EN 61000-4-12.

The FP-COMB 63/690-1 is controlled by the AXOS5 / AXOS8 expandable immunity test system(s). The CDN automatically changes the coupling paths, phase angles and source impedance based on test parameters set by the user via the AXOS controller – depending on the standard and coupling mode.

The FP-COMB 63/690-1 was designed to reduce residual voltage levels by integrating the proper decoupling inductors for each type of CDN application in order to meet the requirements (with regard to voltage drop at the rated current). Apart from covering the EN/IEC 61000-4-5 standard, the FP-COMB 63/690-1 also covers tests to meet surge requirements outlined in ANSI/IEEE C62.41.

FEATURES

Surge Combination Wave, 1.2/50 µs - 8/20 µs.

Ring Wave, 100 kHz.

Electrical Fast Transient (EFT) / Burst.

5 kV impulse voltage for Surge Combination Wave and Ring Wave.

5 kV impulse voltage for EFT/Burst.

Line voltage 690 V AC (phase-to-phase) / DC.

63 A EUT current per phase¹.

Phase angle synchronization for each path.

APPLICATIONS

- Single & three phase power line systems
- IEC/EN 61000-4-4 Edition 3
- IEC/EN 61000-4-5 Edition 3
- IEC/EN 61000-4-12 Edition 3
- ANSI C62.41 & C62.45
- Many IEC & EN product standards

¹ Depending on the voltage and frequency.

ADVANTAGES

→ **All in One** – Combined CDN for Surge Combination Wave, Ring Wave and EFT / Burst.

→ **Easy to use** – LEDs indicate active mode and coupling path.

→ **Automated** – Automatic selection of surge impedance.

→ **Remote controlled** – Fully remote controlled by the AXOS⁵ / AXOS⁸.

Scope of Supply

- FP-COMB 63/690-1
- AC mains cable (5m) with CEE-Plug (gray)
- 1 x Ground cable (3m)
- 5 x EUT mains cable (3m) 63 A with Plug & open end
- Calibration certificate
- Surge cable to AXOS
- EFT/Burst cable to AXOS
- User manual

Technical Data

COUPLING

CDN Inputs	CEE-socket 690V / 63A	1 connector
CDN Outputs	10mm socket front panel	5 connectors
Waveforms	EFT / Burst Surge Combination Wave Ring Wave	IEC / EN 61000-4-4 Ed.3 IEC / EN 61000-4-5 Ed.3 IEC / EN 61000-4-12 Ed.3
Maximum EFT / Burst Input Voltage	5 kV	
Maximum Surge Combination Wave Input Voltage	5 kV	
Maximum Ring Wave Input Voltage	5 kV	
Coupling Path Selection	Automatic	IEC + ANSI
Synchronization	10 V to 690 V input voltage 0° to 359°, step 1°	Sync. On coupling path, output BNC rear panel

DECOUPLING

Voltage AC	Up to 690 V 50/60 Hz, 16,7Hz, DC
Nominal Current	63 A ¹
EFT / Burst Input Voltage Range	0.2 kV – 5 kV
Surge Combination Wave Input Voltage Range	0.2 kV – 5 kV
Ring Wave Input Voltage Range	0.2 kV – 5 kV
Coupling Path Selection	Automatic
Synchronization	10 V to 690 V input voltage 0° to 359°, step 1°

INTERFACE

Extension Connector (37 pol. Sub-D connector)	Interface cable to AXOS
LEDs	Indication of coupling path Power ON LED CDN active LED, overtemp

DIMENSIONS AND WEIGHT

Dimensions	1552mm x 800mm x 1605mm (W x D x H) 552mm x 852mm x 1754mm incl. rack rollers, crane hook and power plug (W x D x H)
Weight	243 kg (without AXOS)

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Current and voltage – our passion



HV HIGH VOLTAGE

IN INSTRUMENT

EM EMC

