



Grid Solutions
a GE and Alstom joint venture

TELECOMMUNICATIONS PRODUCT SOLUTIONS

e-terragridcom LMU

Coupling Device

The **e-terragridcom LMU** with compact design ensures easy maintenance and reduced installation space.



Comprehensive stand-alone coupling device for PLC telecommunications

The power line carrier technique uses the power line as the transmission medium for data transfer of voice, energy management and protection signaling of point-to-point PLC terminals by superimposing a modulated carrier frequency on the AC signal carried on the power line. The **e-terragridcom LMU** coupling device is designed to insert and extract PLC signals from high voltage power lines under an optimum impedance matching.

SAFETY AND RELIABILITY

An insulated and weather-proof enclosure provides full protection of equipment and personnel. The compact design offers easy maintenance and high reliability.

MATCHING CHARACTERISTICS

The **e-terragridcom LMU** offers optimum matching characteristics that cope with all impedances between PLC equipment and power line coupling capacitor circuits.

COMPATIBLE WITH EXISTING PLC SYSTEMS

Without any additional accessories, the **e-terragridcom LMU** fulfils various configurations encountered in the power line technique.

CUSTOMER BENEFITS

- High safety level
- Compatible with existing PLC systems
- Cost effective solution
- Easy to install and configure
- Extended temperature range
- Extended upper frequency value 750 kHz
- Enhanced peak envelope power 650 W
- IP66-compliant
- Visible grounding switching



TECHNICAL SPECIFICATIONS

ENVIRONMENTAL CHARACTERISTICS

Climatic characteristics

Protection index: IP 66 (IEC 60529)
Operational range temperature: 45 to + 70 °C
Relative humidity: 95 % at 23 °C
Storage temperature: -45 to +70 °C
Relative humidity: 100 %

Withstand & EMC characteristics

Basic constraints: IEC 60481
Power frequency insulation (primary-secondary): 5 kV rms
Impulse voltage insulation (primary): 6k V

PROTECTION CHARACTERISTICS

Grounding switch

Short-circuit current: 200 A/permanent
Visible external switching contacts

Primary arrester

DC spark-over voltage: 800 V + 20 %
Impulse spark-over voltage (1.2/50 µs): < 1500
AC discharge current (50 Hz, 1 s, 5 times): < 100 A
Impulse discharge current (8/20 µs): 150 kA
Nominal current after striking: 30 A/1 s, 100 A/200 ms
Insulation resistance: < 1010 Ω at 100 V

Secondary arrester

DC spark-over voltage: 350 V
Impulse spark-over voltage (1.2/50 µs): < 0,8 kV
AC discharge current (50 Hz, 1 s, 5 times): < 100 A
Impulse discharge current (8/20 µs): > 25 kA

Drain coil (at temperature rate)

Impedance within 40 kHz to 500 kHz: > 5 Ω
Impedance at the power frequency: < 13 Ω

Current capacity at 50 Hz

Permanent: 2 A
For 200 ms: > 50 A

RF Characteristics

General

Frequency range: 25 kHz – 750 kHz
Nominal P.E.P (Peak Envelope Power): 650 W
Coupling mode:

- Phase-to-ground
- Phase-to-phase
- Intercircuit

Coupling capacitor: 2000 pF to 13000 pF
Intermodulation: IEC 60481 compliant

Attenuator option

Attenuation: 5 dB
Impedance: 50, 75, 125, 150 Ω



Matching and tuning

Nominal impedance

Line side:

Impedance: 50 Ω to 800 Ω
Mode: unbalanced
Phase-to-ground

PLC side:

Impedance: 50, 75, 125, 150 Ω
Mode: balanced
unbalanced

MECHANICAL CHARACTERISTICS

Cables range

Coaxial-PLC side: from 8 mm to 18 mm

Coupling capacitor

Connection: bolt and metric threading (M8)
Cable: insulated cable or copper bar
Section: 16 mm² to 25 mm²

Grounding

Bolt for Cu cable up to 75 mm²
Connection: bolt and metric threading (M10)
Cable: Cooper naked cable
Section of cable: 50 mm² to 95 mm²

Physical

Box steel, textured polyester powder, paint finishing (EN 50298)

For more information please contact
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