



# Gridcom LMU

## 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 **Gridcom 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 **Gridcom LMU** offers optimum matching characteristics that cope with all impedances between PLC equipment and power line coupling capacitor circuits.

### Compatible with Existing Systems

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

## Key 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 envelop 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  $\mu$ s): < 1500  
AC discharge current (50 Hz, 1 s, 5 times): < 100 A  
Impulse discharge current (8/20  $\mu$ s): 150 kA  
Nominal current after striking: 30 A/1 s, 100 A/200 ms  
Insulation resistance:  
< 1010  $\Omega$  at 100 V

#### Secondary arrester

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

#### Drain coil (at temperature rate)

Impedance within 40 kHz to 500 kHz: > 5  $\Omega$   
Impedance at the power frequency: < 13  $\Omega$

#### 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:  
GPhase-to-ground  
GPhase-to-phase  
GIntercircuit  
Coupling capacitor: 2000 pF to 13000 pF  
Intermodulation: IEC 60481 compliant

### Attenuator option

Attenuation: 5 dB  
Impedance: 50, 75, 125, 150  $\Omega$

### Matching and tuning Nominal impedance

#### Line side:

Impedance: 50  $\Omega$  to 800  $\Omega$   
Mode: unbalanced  
Phase-to-ground

#### PLC side:

Impedance: 50, 75, 125, 150  $\Omega$   
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 mm<sup>2</sup> to 25 mm<sup>2</sup>

### Grounding

Bolt for Cu cable up to 75 mm<sup>2</sup>  
Connection: bolt and metric threading (M10)  
Cable: Cooper naked cable  
Section of cable: 50 mm<sup>2</sup> to 95 mm<sup>2</sup>

### Physical

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

For more information please contact  
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### Worldwide Contact Center

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