

Reliable Power for Every Cell Tower

The 5G transition demands more power, greater resilience, and sustainable operations. Eneraq delivers batteries, rectifiers, solar hybrid, and surge protection to keep connectivity always on.

BATTERY STORAGE FOR BASE STATIONS

48V LFP batteries replacing lead-acid with 3-4x longer life and 70% less space.

■ LiFePO4 48V Technology

Modular batteries from 5 to 60 kWh per site, optimized for the telecom 48V DC standard.

■ BMS with SNMP Monitoring

Integrated battery management system with alarms, telemetry, and SNMP protocol for centralized NOC.

■ 70% Less Space

Higher energy density enables more compact cabinets and reduces ground lease costs.

■ 4 to 24-Hour Backup

Configurable autonomy based on site criticality, from urban towers to remote locations.

■ Superior Lifespan

3-4x longer life than lead-acid (>6,000 cycles), drastically reducing replacement OPEX.

■ EU Regulations

European regulations drive the migration from lead-acid to lithium for efficiency and environmental sustainability.

TELECOM RECTIFIERS

AC to -48V DC conversion with 2-6 kW hot-swap modules, N+1 redundancy, and 96%+ efficiency.

■ Hot-Swappable Modules

2-6 kW modules replaceable without service interruption, zero-downtime maintenance.

■ >96% Efficiency

High-efficiency AC/DC conversion reducing consumption and heat generation in the cabinet.

■ N+1 Redundancy

Architecture with backup modules ensuring continuous power even during hardware failures.

■ ETSI Compliant

Certified per ETSI EN 300 132-2, the European power interface standard for telecom equipment.

SOLAR + STORAGE HYBRID

Replace diesel generators at rural and off-grid towers. 2-10 kWp solar combined with 20-100 kWh storage.

■ Massive Fuel Savings

Diesel costs EUR 1-3/kWh; solar+storage reduces this to a fraction, with 2-4 year payback.

■ Flexible Configuration

2-10 kWp solar + 20-100 kWh storage, sized according to site consumption and required autonomy days.

■ Ideal for Spain

High Spanish solar irradiance (1,600-2,000 kWh/m2/year) maximizes production and profitability.

■ Autonomous Operation

Intelligent charge/discharge management, automatic diesel backup start if needed, and remote monitoring.

SURGE PROTECTION (AM-X)

Lightning protection mandatory at every site. Multi-stage SPDs (Type 1+2+3) with real-time monitoring.

■ Multi-Stage Protection

Type 1+2+3 coordinated SPDs for complete protection from the service entrance to active equipment.

■ Regulatory Requirement

IEC 62305 and local regulations require lightning protection at all telecommunications installations.

■ Real-Time Monitoring

Protector status visible via 5G/WiFi connectivity, with automatic alerts to NOC upon degradation.

■ Claims Reduction

Each lightning strike can destroy EUR 10,000-50,000 in equipment. Proactive protection avoids catastrophic costs.

THE 5G POWER CHALLENGE

5G sites consume 2-3x more than 4G, with demands of 5-25 kW per site.

■ 2-3x Higher Consumption

Massive MIMO antennas, broadband processing, and edge computing multiply energy demand per site.

■ Critical Cooling

Higher thermal dissipation requires more efficient climate systems or liquid cooling solutions.

■ Larger Battery Capacity

To maintain the same backup hours, 5G sites need significantly larger batteries.

■ Network Densification

5G requires more sites (small cells), multiplying the number of points to power and protect.

KEY MARKET FIGURES

60,000+

Cell sites in Spain

2-3x

5G power increase vs 4G

48V DC

Telecom power standard

**EUR 47-
130M/yr**

Addressable market (Spain)

CERTIFICATIONS

■ CE

■ IEC 62619

■ FCC

■ ETSI EN 300 132-2

■ UN 38.3

RELIABLE POWER FOR YOUR CELL TOWERS

Our engineering team designs tailored energy solutions for operators and towercos. From a single tower to full network rollouts.

Eneraq

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European technology · In-house R&D