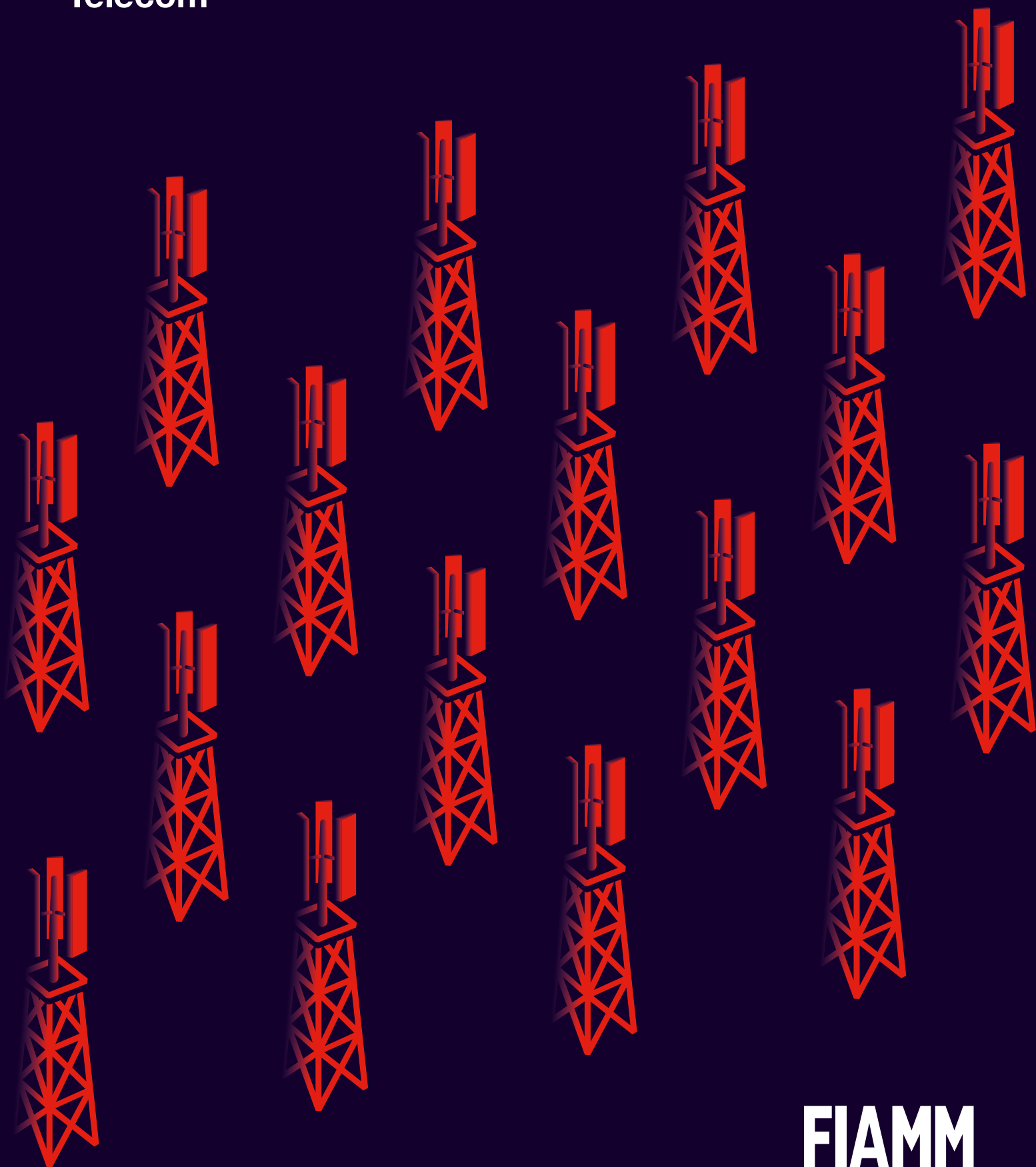


# Protecting the world's communication networks

Telecom



**FIAMM**  
+            -



Headquarters

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Company subject to the management and coordination of Resonac Corporation.

# FIAMM since 1942

FIAMM Energy Technology has been making batteries since 1942. We were established as a private company which set out to supply a national need for batteries to power vehicles. Since then, we have grown to be and become recognised international business engaged in the development, production and distribution of batteries and accumulators for industrial and mobile applications.

FIAMM Reserve Power Solutions offers a broad range of stationary batteries, designed to guarantee uninterrupted power supply in a myriad of fields.

As our business has expanded, so has our technical knowledge and understanding of how products can benefit customers' different needs. The result is a family of products and solutions to fit many different applications. We are now proud to supply many of the world's leading companies for telecommunications, data centers, railways, power plants, petrochemical plants and energy storage from renewable sources.

Batteries and energy storage solutions are a key enabler towards the global transition from fossil fuels to a cleaner and renewable energy. Our mission is to work with our partners and customers for the continued development of next generation solutions to meet the vital energy requirements for the future of our world.



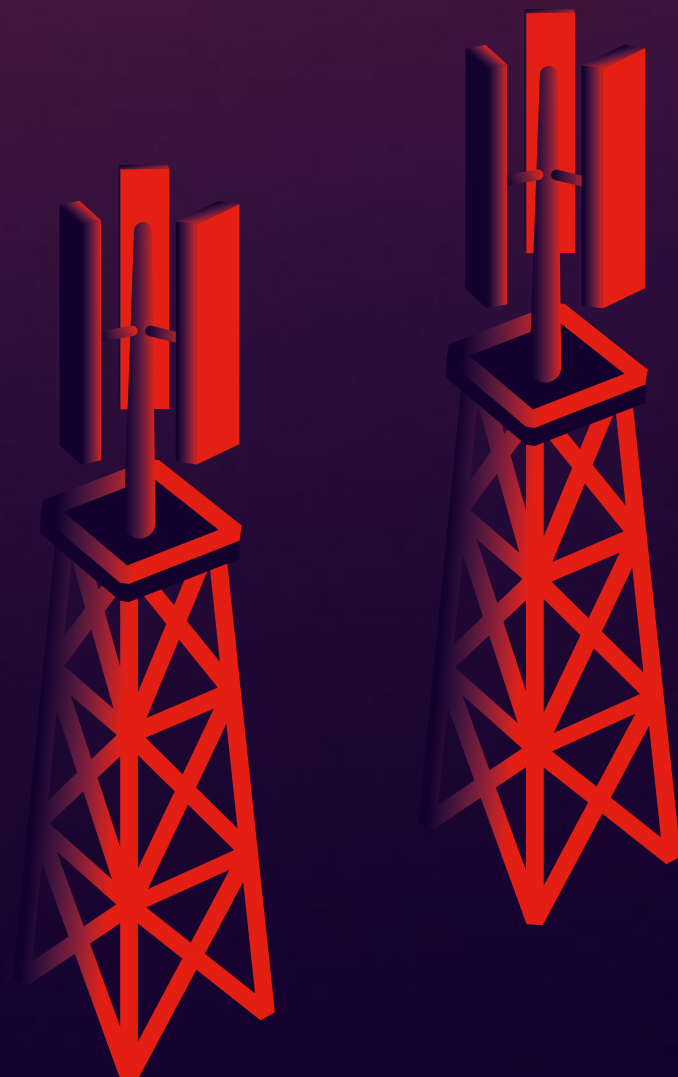
# Batteries for fixed and mobile networks

Telecom connects the world. It links people to people; people to information; people when there is a critical need.

The pace of change in telecom is astounding. In just a few decades our society has transitioned from fixed networks with connected lines to a mobile, wireless community. Today there are over five billion mobile smartphone users across the globe and the numbers continue to grow.

To support this revolution there is a complex architecture of masts, antennas and radio stations. As the telecom world transitions into its next technology upgrade from 4G to 5G there will be even more complexity. There are over 4 million mast antennas globally, supported by many more smaller booster systems.

All transmitter systems, fixed or mobile need, electrical energy to operate. Without this energy a network will fail. Batteries play a critical role and they provide back-up power when mains power fails.



The work of a battery in telecom is complex. Telecom systems exist in every location across the world from arid deserts to freezing sub-continent. Power outages in these areas can range from moments to hours and sometimes even no mains power. Batteries have to support this wide band of need.

FIAMM has been offering solutions for telecom applications for more than 70 years. Our battery and energy systems exist on every continent and are used by leading operators and OEMs across the world.

As the telecom world continues to change, we work day-to-day with our customers, listening to their evolving requirements, and innovating new solutions to support their needs.

FIAMM helping to keep your world connected.







# FIAMM telecom battery solutions



# Enhanced product performance

Our advanced AGM batteries are optimised for demanding applications that include cyclic, temperature or high rate

# Designed for life

All our products are designed and tested to ensure the best performance for the whole life.

# Best choice of technology

Our wide range of proven lead-acid battery technologies provide customers with the best choice for each application. AGM & Gel are maintenance free over life, while flooded technology cells have life of up to 25 years.

# Safety first

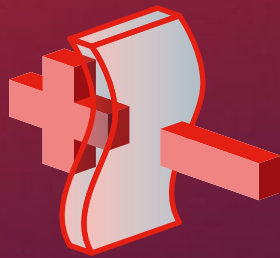
Flame retardant, high quality ABS plastic casings ensure maximum safety.





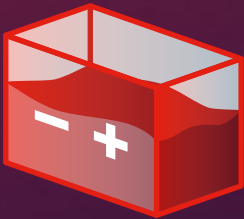
## AGM technology

AGM (Absorbed Glass Mat) batteries offer improved performance with faster charging, longer life and safer operation. These batteries are constructed with an absorbent glass-mat separator between the negative and positive plates. Special safety valves are fitted to minimise electrolyte dry-out over the life of the battery.



## GEL technology

GEL batteries use a jellified electrolyte between positive and negative plates to minimise dry out of the cell. Batteries with a GEL internal structure are very versatile. They offer excellent long life and perform well in a wide range of temperature conditions.



## Flooded technology

Batteries with a flooded electrolyte are extremely robust and have the longest life of lead acid accumulators. These cells are manufactured with clear containers showing electrolyte levels to allow periodic topping up.

**LONG  
DESIGN  
LIFE**

FIAMM batteries, with a very long life classification, are designed for more than 12 years operation in accordance with the Eurobat Guide.



## Flame retardant casing

Most FIAMM batteries are made with flame retardant plastic to provide an extra level of safety and customer assurance. This material offers maximum strength over life. See our product data sheet for more details concerning each range.

**99%**  
**RECY**  
**CLABLE**

FIAMM lead acid batteries are 99% recyclable. Our products are perfect for the circular economy. Lead recovered from our used batteries can be reprocess repeatedly without any loss on performance.

**HIGH**  
**TEMP**  
**ERATURE**  
**BATTERIES**

These batteries are designed to perform in higher operating conditions with excellent life characteristics. In indoor applications such as data centres and general battery rooms, operators, when using these batteries, can increase room temperatures, and save on costly air-conditioning and other cooling costs.



# FIT

**Very long-life, front Terminal AGM battery**

12 plus year very long design life, in flame retardant ABS cases



# SLA

**Very long-life, top terminal AGM battery**

12 plus year very long design life, in flame retardant ABS cases available in 2v, 6v, and 12v models



# SMG

**OPzV Maintenance-Free, Gel cell**

18 years design life GEL battery; perfect for demanding application



# FHT<sup>2</sup>

## **High temperature battery**

AGM technology, front terminal range designed for operating conditions up to 35°C



# LM

## **OPzS flooded cell**

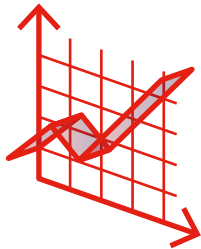
A very long-life battery, perfect for heavy demanding applications

# Solutions & accessories



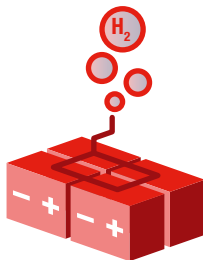
## GPS

FIAMM offers a clever solution to protect your assets. The self-powered monitoring device, which is embedded and concealed in the battery, can alert you with a signal and the location, when it is moved without permission. A perfect protection against theft.



## SmartLogger

The FIAMM SmartLogger monitors battery health, including temperature and voltage. It allows customers to retrieve operating condition at any time. The SmartLogger helps ensure correct operating parameters and optimum life for your product.



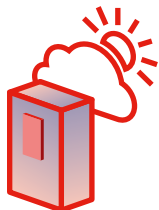
## RVS

The Remote Venting System (RVS) is a specially designed pipe system that exhausts hydrogen gases given off during the charging phase. The RVS system allows gases to be passed safely outside of the battery room. This solution can eliminate the need for internal venting and lower energy consumption.



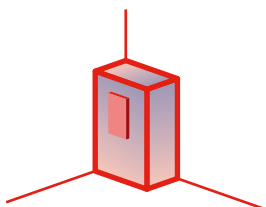
## Venting Plugs

FIAMM offers a wide range of venting plugs for flooded batteries, each designed for a specific need. As an example, our recombination plug, with its unique design to minimise water consumption during battery life.



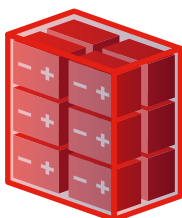
## Outdoor cabinets

Batteries, when situated outdoors need to be protected from the environment including theft and many other factors. We make a range of rugged enclosures designed to protect your valuable battery asset.



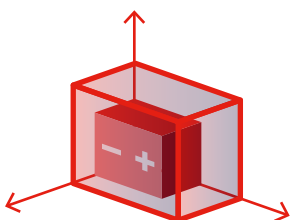
## Indoor cabinets

Batteries often need to be enclosed inside buildings and other structures. We offer a range of solutions to keep your batteries safe and help optimize costly real estate space. Our solutions cover many needs including seismic protection.



## Racks

We make a range of special rack solutions which are corrosion-proof and can be easily assembled and dismantled. A certified seismic version is available upon request.



## Battery sizing software

The FIAMM sizing software tool allows customers to select the most appropriate battery solution for their application. Using our purpose-designed software a customer can insert key parameters including electrical performance, temperature, operating life, layout and then choose from a number of variable solutions.

# FIAMM

