



Energy for a sustainable future

The Grid Edge Quantum is a smart energy storage solution that uses a rechargeable Sodium Nickel battery technology designed to store energy at a residential or small commercial level for load shifting, backup power and self-consumption of solar power generation. The Quantum GEFM unit combines seamlessly with nearly every situation and can even integrate with the local grid to harness excess power. This gives customers the flexibility to draw energy from their own reserve.

## Technical data for Quantum GEFM range

The Quantum GEFM range is a smart, fully integrated Sodium Nickel battery storage system.



### Quantum GEFM1

Storage capacity 9.6 kWh  
Weight approx 200 Kg  
Dimensions 1250 x 700 x 490mm  
Rated inverter power 5000VA  
Output power 4.5kW  
Inverter Surge Power 9kW



### Quantum GEFM2

Storage capacity 19.2 kWh  
Weight approx 300 Kg  
Dimensions 1250 x 700 x 490mm  
Rated inverter power 5000VA  
Output power 4.5kW  
Inverter Surge Power 9kW

Maximum inverter efficiency	95%
Maximum battery efficiency	100%
Ambient temperature range	-40°C to +60°C
Dust & Water protection	IP20
Operation mode	Single Phase in line UPS Solar
Emergency power capability	Yes
Solar operational with Grid outage	Yes
Certifications	EN 60335-1, EN 60335-2-29
Battery service life	20 years
Battery warranty	5 years
System warranty	5 years
Monitoring	Front panel display, online, App
Battery recyclability at end of life	100% of all components

### Quantum GEFM.5

Storage capacity 3.84 kWh  
Weight approx 150Kg  
Rated inverter power 3000VA  
Output power 2.5kW  
Inverter Surge Power 5kW

### Quantum GEFM3

Storage capacity 28.8 kWh  
Weight approx 400Kg  
Rated inverter power 5000VA  
Output power 4.5kW  
Inverter Surge Power 9kW



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[www.gridedge.com.au](http://www.gridedge.com.au)

☎ 1300 GRIDEDGE (474 333)  
✉ [info@GridEdge.com.au](mailto:info@GridEdge.com.au)

*No more power outages*

*Rapid easy installation*

*Smart interfaces and control*

*No fire risk*

*No maintenance requirements*

*Wide Temperature operating environments (-40°C to +60°C)*

*No gas emissions*

*No cooling required*

*Shelf life (> 20 years)*

*Compact size*



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☎ 1300 GRIDEDGE (474 333)



## The QUANTUM GEFM - a lot more than a battery

Efficient electricity storage and active energy manager in just one system the QUANTUM GEFM is designed to utilize as much privately-generated electricity as possible and to minimise reliance on energy providers.

This includes the direct consumption of the solar power generated during the day as well as the storage and precise provision of electricity when it is required at a later point in time. Normally this occurs in the evening, at night and in the early morning. But this also implies that electrical appliances are switched on and operated when the battery is fully charged and excess solar power is still being generated. The QUANTUM GEFM can do all of this, if desired even fully automatically, the user doesn't even have to be at home.



The QUANTUM GEFM is a smart, fully integrated Sodium Nickel battery storage system. The batteries, inverter, load and generator controllers and software are all housed in a compact enclosure. Reliable smart meters can also be included with the AC-coupled storage system. They measure the amount of power generated by the PV system and the amount consumed by the household. As a smart system, the QUANTUM GEFM ensures that as much solar power as possible is consumed at home. It automatically maximises self-consumption without requiring any action by the customer.



### FIAMM SoNick Inside,

Sodium Nickel Chloride Batteries:

- High capacity (though smaller and lighter than Traditional batteries)
- Reliable at high temperatures (no cooling needed)
- Long life (reliability guaranteed for many years)
- No maintenance
- No dangerous materials

### Perfect interaction with all generators

As an AC-coupled system, the QUANTUM GEFM is compatible with virtually all generators. An obvious application is retrofitting to an existing photovoltaic system, but it can also be used with small wind turbines or fuel cells.

That's truly superior application versatility.

As a market pioneer, Grid Edge know the practical aspects of the market.

That's why we designed our QUANTUM GEFM to meet stringent requirements for easy placement, installation and commissioning.

The QUANTUM GEFM is extremely compact, with a footprint of less than half a square metre. The QUANTUM GEFM can easily be safely transported to the installation location by two people, since the batteries are fitted separately.

No expensive special tools are necessary for the installation process. An electrician can simply slide the battery modules into the enclosure and join them with plug-and-socket connectors – no screwdriver necessary. The battery modules also interface to the rest of the system through connectors. That saves time and minimizes installation effort. The external power meters are simply connected to the distribution board.

The modular design of the QUANTUM GEFM allows it to be adapted easily to individual needs.

It is available with various storage capacities and configurations, and it can be upgraded at a later date.

### A carefully conceived complete system for plug & play installation

All components are integrated into the sturdy, high-quality QUANTUM GEFM cabinet to form a complete, ready-to-install system. This avoids placing the burden of system selection and integration on the installers – they are not put in the role of manufacturer or forced to assume responsibility for the proper interplay of the selected components and the associated risk with respect to their customers.

It also eliminates the costly effort of complicated wiring.

Simply connect the QUANTUM GEFM to the photovoltaic system, the household electrical network and the household LAN or WiFi for monitoring, and it's ready to use.

Full system monitoring, including detailed load profiles and operating states of the QUANTUM GEFM, is easily made externally possible. If any problem does arise, the responsible Grid Edge centre first performs an online analysis.

If the problem cannot be remedied online even before the customer notices it, the Grid Edge centre then despatches a local service technician, regardless of whether or not the customer has noticed the problem.

This also means that external software maintenance and updates are equally possible.

### Smart Metering

The QUANTUM GEFM constantly measures the flow of electricity from the photovoltaic system and the local grid using an internal integrated meter, so that both the electricity production and the electricity consumption and supply are always conveniently available. The remote controlled sockets also measure the precise electricity consumption of the attached electrical appliances in real time. All the relevant data is displayed using clear and straightforward diagrams.