

energyhub™

Think Big. Go Small.



energyhubTM from Enatel Energy

The personal computer. The telephone. The microchip. Now it's the turn of backup power to shrink as it gets smarter.

The energyhub charger and its battery, the energypak, offer a step change in secure power. Unprecedented simplicity combined with pioneering modularity, and the inherent advantages of lithium-ion (li-ion) technology, all designed to meet the market's need for a 48Vdc backup solution.

The result is a package that delivers all the power you're used to at half the size, twice the intelligence, and a fraction of traditional operational costs.

A complete li-ion power solution for critical infrastructure and communication sites, energyhub boasts a high energy density/small footprint design that:

- Leaves more room for revenue-generating equipment
- Provides data-driven visibility for effective remote management
- Offers lower total cost of ownership

Modular in design, the energyhub requires zero set-up, can be easily scaled up to meet changing load demands and shares a hot pluggable/cold terminal interface with energypak that maximises safety and usability.



Controller (energymanager)

- User friendly
- No setup required
- Remote comms & notifications
- Network & building systems compatible
- Lifetime logs

Battery (energypak)

- 50Vdc 220Wh high density
- Plug n play scalable
- Cold terminal
- Visual capacity, status & test

DC Output

- 5 x load MCBs
- Monitored
- Easy connect
- Front access

DCM Options

- Plug n play scalable
- 3 x Load MCBs with remote reboot & remote power

Rectifier

- 860W 48Vdc high efficiency
- Plug n play scalable

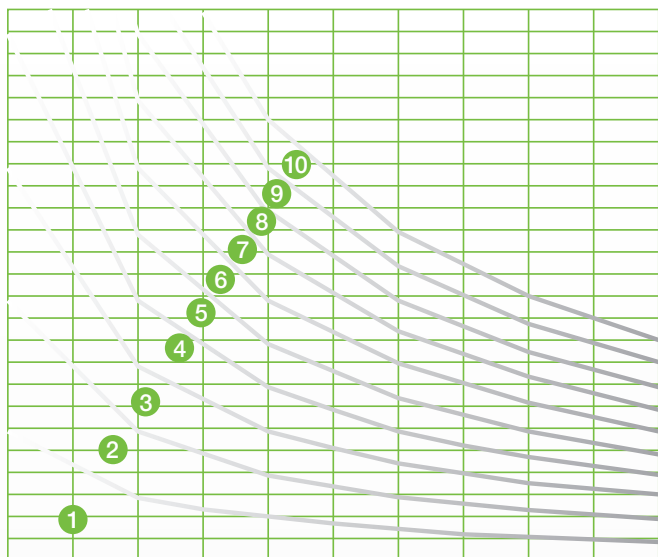
Extension Battery Shelf

- 1,100Wh/21Ah fully populated
- Expand to meet back up required
- 1U x 19" 5-position

AC Input

- IEC Front access
- Side & rear optional

Typical battery run-time¹



Versatility personified

energyhub is a 48Vdc backup solution suitable for:

Industrial Routers, Servers and Switches

Buildings, Enterprise and Private networks

VoIP, PoE, mid span

Equipment closets and Outdoor enclosures

OLT, Fibre Nodes – FTTN, VDSL

Wireless

5G, small cells, DAS, DMR

Public Safety and Transportation

video surveillance, ITS, – intelligent traffic systems

The people who pioneer high frequency modular power

energyhub is an exclusive, patented ICT power technology only available from Enatel Energy - one of the world's leading authorities on specialist DC power conversion and battery charging innovation.

Part of the Enatel group, Enatel Energy benefits from a world-class R&D and manufacturing facility in New Zealand and the expertise of some of the world's leading pioneers of high frequency switch mode modular power.

With a culture of innovation unconstrained by convention and a reputation for New Zealand-made quality, Enatel Energy has carved out a name for agilely creating industry leading battery chargers for communication networks across the globe.

KEY BENEFITS:

Financial:

- Lower total cost of ownership and operational costs compared to lead-acid batteries.
- Reduced initial investment. Modules can closely match load demand for optimum efficiency.
- Minimised install, training and service cost.
- Extended battery life and reduced cooling costs.
- Reduced downtime.
- Seamless expansion enabled by modular design.
- Reduced incentive for theft.

Performance:

- Faster grid outage recovery due to high rate of charge (1C) and greater depth of discharge.
- Extended back-up based on events.
- More space for revenue generation.
- No loss of capacity at shorter autonomy times.
- No battery distribution/wiring or parameter setting required.
- Ease of use and safety maximised by hot pluggable/cold terminal battery interface.
- Light-weight, scalable and easy to handle.

KEY FEATURES:

energyhub/energypak:

- Modularity for seamless system expansion to match load growth.
- Small footprint/high energy density design.
- Integrated active cell management, protection and reporting.
- Unique hot pluggable/cold terminal battery interface.

energyhub:

- Full Front-access AC input, DC output and communications – IEC AC plug and five push-in spring connect 48Vdc load.
- Emergency AC generator input.

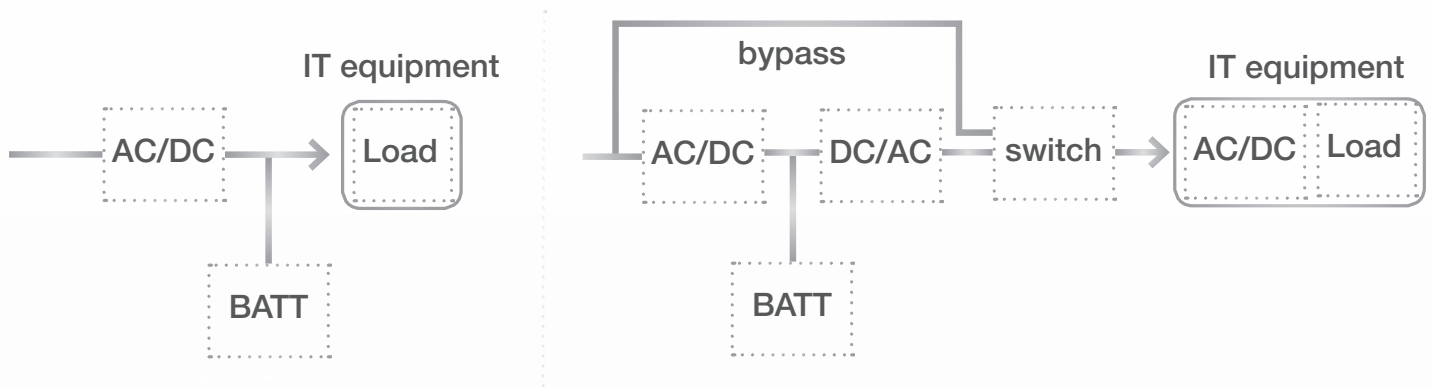
energypak:

- Battery End of Life (EoL) warning system.
- State of Health (SoH), State of Charge (SoC) indicators battery lifetime indicators.
- Fully automated, 100% battery testing.
- Each energypak features a test button and status/capacity display.

Embrace simplicity

energyhub personifies the compelling potential of the DC UPS concept. In fact, the only thing you need to manage is the voltage. Everything else is simple to set up and use, greatly increasing operational reliability.

In comparison, AC UPS is more complicated and harder to use. Voltage, frequency, phase and waveform. It all requires hands-on management and supervision, with AC bypass switches adding to the complexity.



Think outside the box

Communications power relies on the same battery technology used in the Model T. But just like the modern automobile, it's time we say goodbye to the lead-acid battery.

Li-ion performance:

The energypak replaces the high operational costs and 19th Century limitations of lead-acid with a truly dynamic li-ion solution. Embedded cell management in combination with Enatel Energy rectifiers ensure optimized charging/discharging to improve performance and longevity. And this is on top of the greater energy density and depth of discharge inherent to li-ion batteries.

Li-ion data-driven visibility:

Integrated electronics give you accurate visibility of battery capacity and state of health, allowing you to make more informed decisions to optimize operational costs. This translates into tighter and more transparent remote management of the storage assets your business depends on.

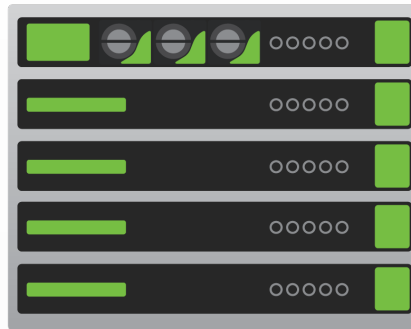
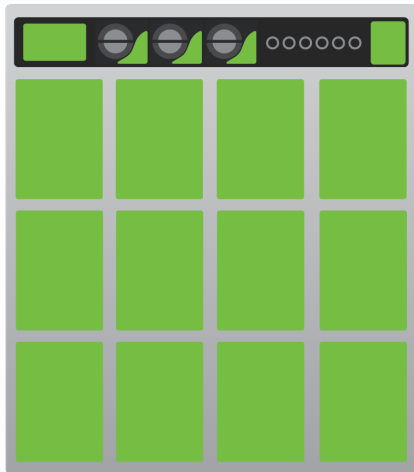


Do more with less

energyhub delivers 42Ah from a 3U rack installation that takes up half the room of an equivalent lead-acid battery alternative. It's four times as light and tolerates a higher ambient temperature.

That gives you twice as much space for revenue-generating equipment and a tough module that's easy to handle, while requiring less to cool.

Simply scale up to meet your output demands.



Revenue
Generating
Equipment

System with VRLA battery

- Capacity 40Ah
- Space 8U
- Weight 80kg
- Ambient temp 25°C

System with LFP battery

- Capacity 40Ah
- Space 5U
- Weight 30kg
- Ambient temp 35°C

energyhub

- Capacity 42Ah
- Space 3U
- Weight 18kg
- Ambient temp 35°C

Plug in peace of mind

Until now communications power solutions could rarely be called low maintenance. energyhub is maintenance-free.

Hot pluggable usability:

Nothing is easier to use than energyhub. Simply plug in AC power and move on to more important jobs. And with seamless integration between charger and battery, there's no need for a battery distribution, cabling, parameter setting or low voltage disconnects. No tools are required and it's entirely IT-friendly. Battery functions are managed and monitored for complete security and transparency.

Cold terminal safety:

Safety is inherent to the design of the energypak battery, which becomes 100% inactive the moment it leaves energyhub. Its cold terminal design stops voltage from travelling through the battery's power and control pins to cut off the supply of current when it's not connected to the charger.

Boasting state-of-the-art battery management and cells by one of the world's largest manufacturers, energypak is a truly safety-minded, modern lithium-ion solution.

Scalable resiliency:

The dependence on energy resiliency continues to grow as processes move to the network edge. energyhub is the completely secure, seamlessly scalable solution for this new environment.

Technical specifications

energyhub

AC INPUT

Nominal Input Voltage:	110V AC / 230V AC
Input Voltage Range:	90 – 300V AC (reduced below 180V AC)
Power Factor:	>0.99 (50 – 100% output)
Peak Efficiency:	>95% (>94.5% @ >40% output power)

DC OUTPUT

Nominal Output Voltage:	48V DC
Output Voltage Range:	43 – 60V DC
Maximum Output Power	energyhub 110V AC 1.8kW
	energyhub 230V AC 2.56kW
Maximum Battery Capacity:	Per 1U x 19": 21.0Ah / 1,100Wh

DC DISTRIBUTION

5 x load MCBs (see short form for standard configurations)
Electronic fail detection
No tool connect - 5 x 6mm² push-in spring cage

ENVIRONMENTAL

Operating Temperature:	Charge 0 – 45 °C Discharge -20 – +60 °C
Humidity:	0 – 95% (non-condensing)
Storage:	1 year: -20 – +25 °C 3 months: -20 – +45 °C 1 month: -20 – +60 °C
Altitude:	0 – 3,000m (de-rate @ 3 °C per 330m above 2,000m)
Cooling:	Rectifier RM848HE: fan cooled temperature controlled Battery BM248EP: convection cooled

Footnote:

- 1 Battery run-times indicated are estimated and vary based on battery charge, age, temperature and load.
- 2 Coming soon.

energypak

DC OUPUT RATINGS

Nominal Voltage:	51.0V
Voltage Range:	43.0 V to 58.8V (deep discharge possible to 38.0V)
Nominal Capacity:	4.2Ah / 220Wh
Charge/Discharge:	Standard 2.5A (0.5C) Max 5.0A (1C)
Charge Voltage:	57.6V (58.8Vmax)
Charge Time:	3.0h
Short Circuit:	>36A/25ms

MECHANICAL

EPS23:	2U (88.9mm) x 19" mounting x 285mm [23" mounting kit is available]
Weight:	10.0kg (excluding rectifier + battery modules)

CERTIFICATIONS

Safety:	EN60950 EN62619 (pending) UL1973 (pending)
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Other:	CE, RoHS, UN38.3
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ORDERING CODES

See shortform catalogue
Rectifier & Battery modules ship populated within EPS23

Individual Item Codes:	
Rectifier Part Number:	RM848HE 860W 17.9A 48V DC
Battery Part Number:	BM248EP 220Wh / 4.2Ah 51V DC
Battery Shelf:	1UBATTRAY 1U x 19"
Distribution Module ² :	Fit into empty battery position to expand load circuits and capabilities
DCM1:	3 x MCBs
DCM2:	3 x MCBs, metering & remote reboot
DCM3:	Metering, remote reboot & remote power (NEC Class 2)



For more information contact us
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*Due to product development, specifications are subject to change without prior notice. Pictures may be representative: actual products may differ.