

# energyhub™

48V DC BACK UP - SMALLER, SMARTER.



LOWERED OPEX

PLUG & PLAY SCALABLE

5G EDGE POWER

MODULAR LITHIUM BATTERY

## Plug in peace of mind

Unprecedented simplicity, pioneering modularity, programmable control and new value-add features are integrated with the inherent advantages of lithium-ion (Li-ion) technology. The result is the energyhub, a uniquely flexible design that meets current and future market requirements for a 48V backup solution.

enatel | energy



Empowering The Future

BTI Solutions  
INCORPORATED

# Do more with less

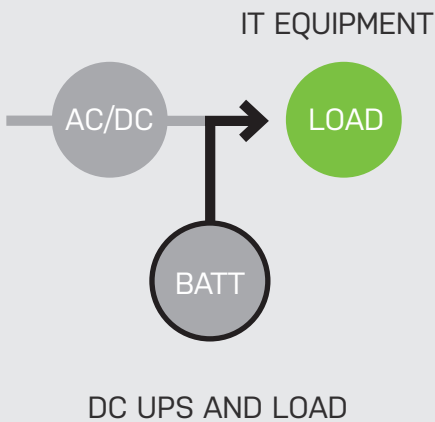
**energyhub** delivers 42Ah from a 3U rack installation that takes up half the room of an equivalent lead-acid battery alternative. It's four times as light and tolerates a higher ambient temperature.

That gives you twice as much space for revenue-generating equipment, whether upgrading existing infrastructure or new site design. This in an environmentally resilient system that requires less to cool.

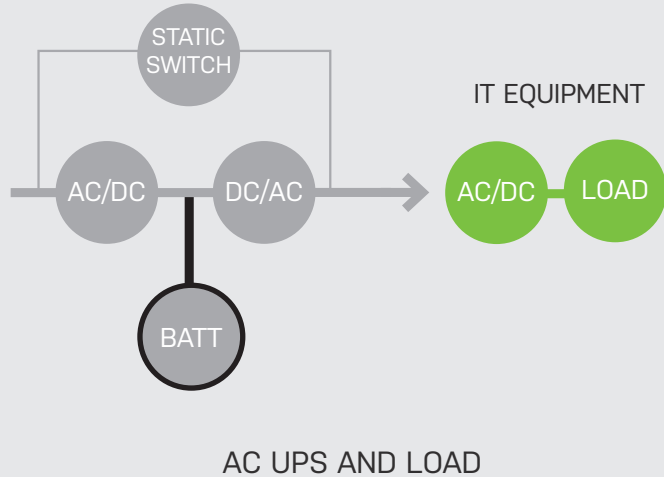
	SYSTEM WITH VRLA BATTERY	SYSTEM WITH LFP BATTERY	<b>energyhub</b>
Capacity	40Ah	40Ah	42Ah
Space	8U	5U	3U
Weight	80kg	30kg	18kg
Ambient temp	25°C	35°C	35°C

# Embrace simplicity

**energyhub** is a DC UPS. The battery is connected directly to the load greatly increasing operational reliability.



In comparison, an AC UPS is more complicated with multiple points of failure possible. The battery is not connected directly to the load.



# Modular power pioneers

**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.

## VERSATILITY EXEMPLIFIED

**energyhub** is a 48V DC backup solution suitable for mission critical Telecommunications and Industrial applications:

- 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



## KEY FEATURES:

- State-of-the-art energymanager, fully programmable
- Customizable inputs and outputs for temperature sensing, alarms, site management and more
- Intergrated active cell management, protection and reporting
- Full front-access
- State of Health (SoH), State of Charge (SoC) indicators, battery End of Life (EoL) indicators
- Detailed event and status based logs available remotely
- Fully automated, 100% battery testing
- Allows intelligent storage redundancy
- Each battery includes a test button for status/capacity display

## KEY BENEFITS:

### PERFORMANCE:

- Extended back-up license option
- No derating at higher discharge compared to VLRA batteries
- No battery distribution/wiring or parameter setting required
- Ease of use and safety maximised by hot pluggable/cold terminal battery interface
- Light-weight and easy to handle
- Extended back-up license option<sup>1</sup>
- Faster grid outage recovery due to high rate of charge (.5C) and greater depth of discharge
- Modules can closely match load demand for optimum efficiency
- Seamless expansion enabled by modular design

### FINANCIAL:

- Reduced initial investment
- Requires zero set up, installed and commissioned by one person in seconds
- Grid Tariff Optimization (GTO) licenced feature for peak shaving
- Lower total cost of ownership
- Modules can closely match load demand for optimum efficiency
- Minimised install, training and service expenses
- Extended battery life and lower cooling costs
- Reduced downtime with higher 9s availability
- Reduced incentive for theft
- High energy density/small footprint, leaving more room for revenue generating equipment

# TECHNICAL SPECIFICATIONS

## energyhub system

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 4U (20 energypaks) shelves max.

DC DISTRIBUTION	
5 x load MCBs (see short form for standard configurations)	
Electronic fail detection	
No tool connect - 5 x 6mm <sup>2</sup> [0.2 x 0.24in <sup>2</sup> ] push-in spring cage	

ENVIRONMENTAL	
Operating Temperature:	Charge 0 to 45°C [32°F to 113°F]
	Discharge -20 to 60°C [-4°F to 140°F]
Humidity:	0 to 95% (non-condensing)
Storage:	1 year: -20 to 25°C [-4°F to 77°F]
	3 months: -20 to 45°C [-4°F to 113°F]
	1 month: -20 to 60°C [-4°F to 140°F]
Altitude:	0 – 3,000m (de-rate @ 3°C per 330m above 2,000m)
	[0 – 9,842ft (derate @ 37.4°F per 1,083ft above 6,562ft)]
Cooling:	Rectifier RM848HE: fan cooled temperature controlled
	Battery BM248EP: convection cooled

PROTOCOLS	
SNMP V2C, SNMP V3, MODBUS-TCP <sup>1</sup> , HTTP	

<sup>1</sup>Under implementation, contact your Enatel representative for availability.  
Due to product development, specifications are subject to change without prior notice. Pictures may be representative: actual products may differ.

energypak battery module: DC OUPUT RATINGS	
NOMINAL VOLTAGE:	50.0V
VOLTAGE RANGE:	43.0 V to 56.7V (discharge possible to 40.6V)
NOMINAL CAPACITY:	4.3Ah / 215Wh
CHARGE/DISCHARGE:	Standard 2.5A (0.5C) Max 5.0A (1C)
CHARGE TIME:	4.0h
SHORT CIRCUIT:	>36A/21ms

MECHANICAL	
EPS23:	2U (88.9mm) [3.5 in] x 19" mounting x 285mm [11.22 in] [23" mounting kit is available]
WEIGHT:	10.0kg [22.05 lbs] (excluding rectifier + battery modules)

CERTIFICATIONS	
SAFETY:	EN60950
	EN62619
OTHER:	CE, RoHS, UN38.3

ORDERING CODES	
See shortform catalogue	

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 <sup>1</sup> :	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)