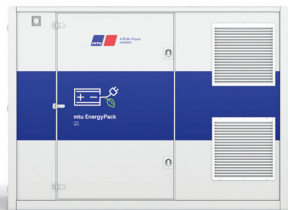




## Battery Energy Storage System

# **mtu** ENERGYPACK QS



Optional equipment shown. Standard equipment may vary.

## Product highlights

### Benefits

- Factory tested plug-and-play design
- Optimized system integration ability
- Highest power density
- Complete system within vandalism proof outdoor enclosure
- High safety & reliability
- Black start capability
- Grid-supporting & grid-forming mode
- Controlled switching between modes
- Supervision of the point of common coupling
  - Control of the external mains switch
  - Detection of power outages
  - Re-synchronization after grid recovery
- Various applications in combination with **mtu** Microgrid Controller
- Easy integration into Rolls-Royce Microgrid Solutions

### Support

- Global product support offered

### Standards

- Battery storage is designed and manufactured in facilities certified to standards ISO 2008:9001 and ISO 2004:14001
- AS/NSZ on request

### System configurations

- Power and capacity can be widely adjusted according to customer and project needs. Please see graph below and consult your local distributor for your individual configuration.

### Options

- 50°C ambient temperature\*
- Corrosion protection
- Touchscreen HMI display
- 50% overload capacity\*
- Customer branding
- ...and many more

\* for selected configurations

### Certifications

- CE conformity certification



A Rolls-Royce  
solution

## Battery energy storage systems

**mtu** - a Rolls-Royce solution - offers a wide portfolio of battery energy storage systems starting from 60 kVA up to 2,000 kVA and capacities up to 2,200 kWh. As integral part of flexible energy systems, energy from various distributed electricity sources can be stored in our battery energy storage systems. The **mtu** EnergyPacks are designed to improve reliability, quality and profitability of your individual energy system. For more information and solution consulting please contact your local distributor.

### Technical data - **mtu** EnergyPack QS <sup>1, 2</sup>

Sections	Value	Sign	Unit	<b>mtu</b> EnergyPack QS
<b>Battery</b>	Cell chemistry			NCM
	Nominal capacity		kWh	up to 550
<b>Cooling</b>	Max. ambient temperature	$T_{\max}$	°C	45 (50°C)
	Min. ambient temperature	$T_{\min}$	°C	-20
<b>Electrical</b>	Nominal apparent power	$S_{\text{nom}}$	kVA	up to 400
	AC short circuit capability		kA	17
	Grid frequency	f	Hz	50 (60)
	Max apparent power (1 min)	$S_{\text{peak}}$	%	110% (150%) of $S_{\text{nom}}$
	Nominal voltage	$U_{\text{nom}}$	V	400 V <sup>3</sup>
	Power factor range	$\cos \phi$		0 ind. ... 1 ... 0 cap.
	Black start capability			yes
	Corrosion protection			C3 (C5M)
<b>Housing</b>	Height	H	mm	2,400
	Length	L	mm	3,300
	Width	W	mm	2,200
	Protection class battery room			IP55
<b>Interface</b>	Supported communication protocol			Modbus-IP (Modbus-RTU, IEC 60870-5-104, IEC 61850, DNP3)
	Supported communication channels			3G / 4G 100MB/s CAT5
<b>System</b>	Humidity	$\phi_{\text{rel}}$	%	100% condensing
	Max. operation elevation	$H_{\text{max}}$	m	2,000
	Nominal round trip efficiency <sup>4</sup> (w/o HVAC)	$\eta_{\text{nom}}$	%	up to 88%
	Weight	m	kg	up to 8,900

1) Weights and dimensions are estimates only. Please consult the factory for accurate weights and dimensions for your specific battery storage container.

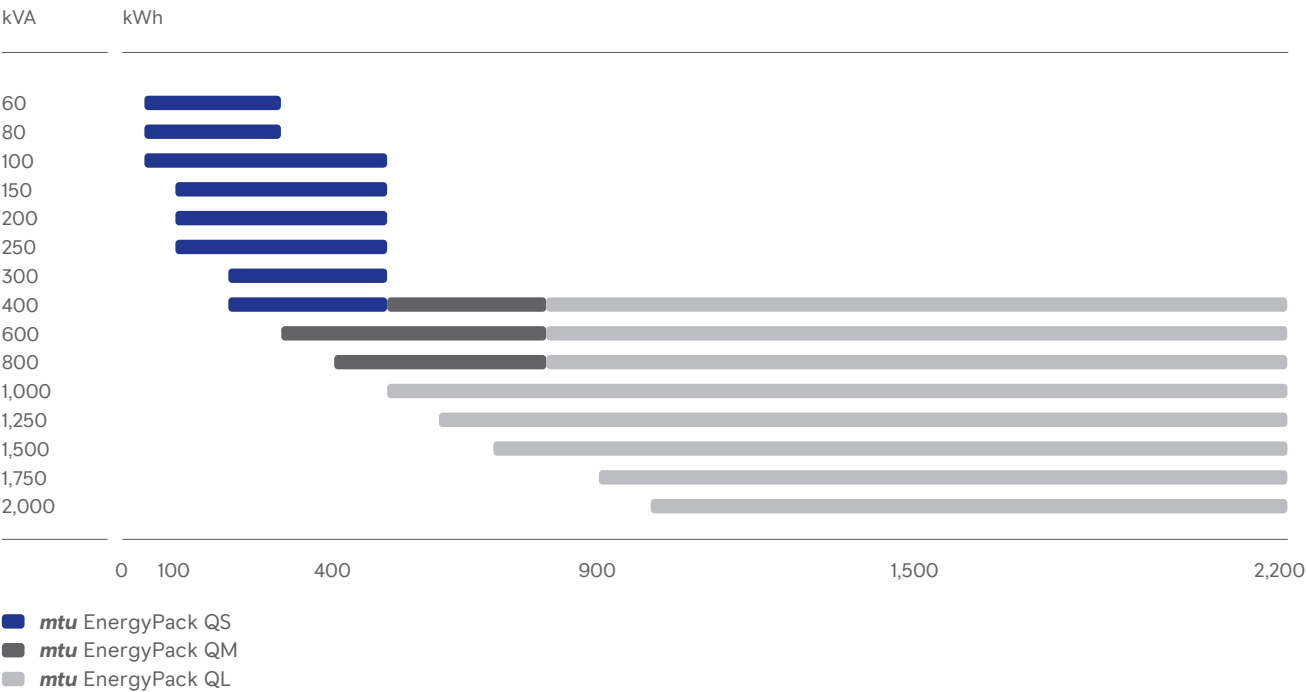
2) Product options in brackets

3) Other voltage levels available on request

4) At nominal power, excluding losses of external cabling. Depending on configuration and C-Rate

## Battery energy storage systems

Actual capacities and sizes may vary due to battery type and system configuration.  
2C configurations with limited availability.



## Sound data

— Consult your local distributor for sound data.

## Warranty and performance guarantee

— Consult your local distributor for information about warranty and performance guarantee.

Materials and specifications are subject to change without notice.  
Please consult your local distributor for further product information.