



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
- Easy integration into Rolls-Royce Microgrid Solutions

Support

- Global product support offered

System configurations

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

Options

- Corrosion protection
- Customer branding
- Fire suppression system
- Optimization for mobile applications
- ... and many more

Certifications

- CE declaration of conformity



A Rolls-Royce
solution

Battery energy storage systems

mtu - a Rolls-Royce solution - offers a wide portfolio of battery energy storage systems starting from 200 kVA up to 2,000 kVA and capacities up to 2,084 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.

mtu EnergyPack QS type		QS 400/6	QS 400/4	QS 200/4	QS 200/3
Nominal capacity (DC)	kWh	624	416	416	312
Nominal apparent power	kVA	400	400	200	200
Overload (kVA) acceptance (60s)	%	30	30	50	50
Weight	t	10.5	9.1	9.1	8.4

Technical data - **mtu** EnergyPack QS ^{1,2}

Sections	Value	Sign	Unit	mtu EnergyPack QS
Battery	Cell chemistry			NMC
	Nominal capacity		kWh	up to 624
Cooling	Max. ambient temperature	T_{max}	°C	45 (50 ⁵)
	Min. ambient temperature	T_{min}	°C	-20
Electrical	Nominal apparent power	S_{nom}	kVA	up to 400
	AC short circuit capability		kA	17
	Grid frequency	f	Hz	50 (60)
	Max apparent power (1 min)	S_{peak}	%	up to 150 of S_{nom}
	Nominal voltage	U_{nom}	V	400 ³
	Power factor range	$\cos \phi$		0 ind. ...1 ... 0 cap.
	Black start capability			yes
Housing	Corrosion protection			CX / C5
	Height	H	mm	2,530
	Length	L	mm	3,300
	Width	W	mm	2,220
	Protection class battery room			IP55
Interface	Supported communication protocol			Modbus / TCP (IEC 60870-5-104, IEC 61850, DNP3)
	Supported communication channels			3G / 4G 100MB/s CAT5
System	Humidity	ϕ_{rel}	%	100 condensing
	Max. operation elevation	H_{max}	m	2,000
	Nominal round trip efficiency ⁴ (w/o HVAC)	η_{nom}	%	> 85
	Weight	m	kg	up to 10,500

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

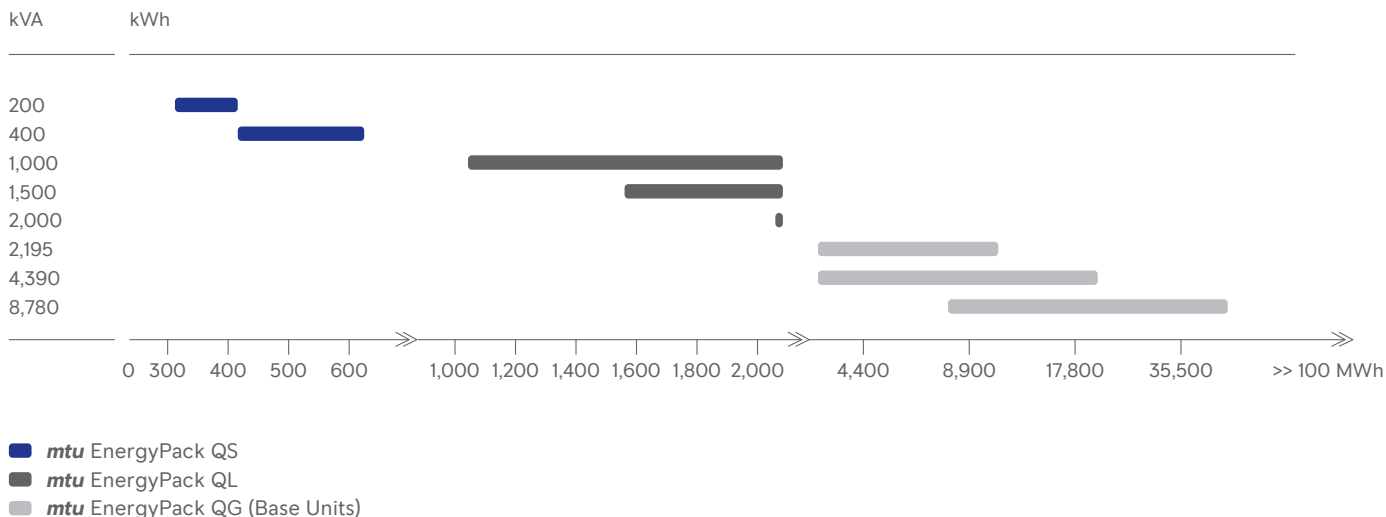
3) Other voltage levels available on request

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

5) With derating

Battery energy storage systems

The **mtu** EnergyPack is available in different sizes: The QS and the QL, ranging from 200 kVA to 2,000 kVA, and from 312 kWh to 2,084 kWh, and the QG for grid scale storage needs, ranging from 4,400 kVA and 8,900 kWh to virtually any size.



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.