

STANDARD RACK SPECIFICATION

Category		Energy	Medium	Power
Model name		UPCOMING	MEGA2.4	MEGA3.3
Capacity/Rack	kWh		47.6	47.6
C-rate	-		1C (2C Pulse)	2.5C (4C Pulse)
Power (Pulse 5min.)	kW		47.6 (71.4)	119.1 (190)
Nominal Voltage	Vdc		700	700
Operating Voltage	Vdc		595 ~ 787	595 ~ 787
Efficiency	%		>97% (@ 0.5 C-Rate)	
Operating Temperature	°C		23±5	
Capacity @ 40ft. Container	MWh		1.71	1.71
Certificates	-		UL1642,1973(Safety), UN38.3(Transport), CE	
Communication	-		MODBUS RTU, TCP/IP	
Cycle life*	Cycle		4,500	
Calendar life	Year		20	
Response time	ms		< 5	
Charging Method	-		CC-CV, CP-CV, CP	
Dimension(W x D x H)	mm		533 x 690 x 2290	533 x 690 x 2290
Weight	kg		700	730

* Include 10 years calendar life, DOD 80%

UPCOMING RACK SPECIFICATION

Category		Energy	Medium	Power
Model name		MEGA E	MEGA 2.6	MEGA 4.0
C-rate	-	158.6	59.5	47.6
Power	kW	0.5C	2C	4C
Operating Voltage	V	79.3	119	190
Capacity @ 40ft. Container	MWh	3.0	2.26	1.80
Cycle life*	Cycle	4,000	6,000	6,000
Schedule	-	'16.1Q	'15.2Q	'16.1Q

* Include 10 years calendar life, DOD 80%

HEADQUARTERS

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ENERGY STORAGE SYSTEM

for Utility, Commercial



From unit cell to full system ESS solutions from Samsung SDI

In utility sectors, including power generation, transmission and distribution, utility scale Energy Storage Solutions (ESS) is used to enhance grid stability and power quality through ancillary service such as frequency regulation. ESS reduces congestion on Transmission&Distribution(T&D) lines caused by uncontrollable renewable power injection to grid network and helps commercial end-users save their energy costs by cutting peak power. Samsung SDI has developed a scalable solution that delivers a wide range of capacity from a few kWh to multi-MWh with parallel configuration. Samsung SDI's efficient design maximizes space savings. Samsung SDI can offer the best battery system, a turnkey solution that includes PCS and balance of system through co-work with our fully qualified system integration partners.

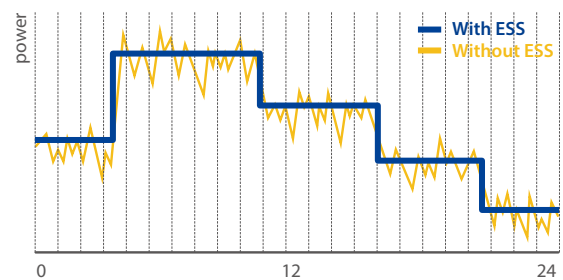


[Why Samsung SDI?]

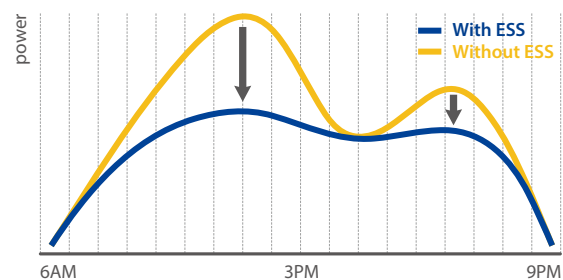
- One-stop battery solutions based on our key technology from cell to system.
- Rich experience in various global environments together with local and global partners.
- A long-term warranty program by Samsung SDI



Frequency Regulation



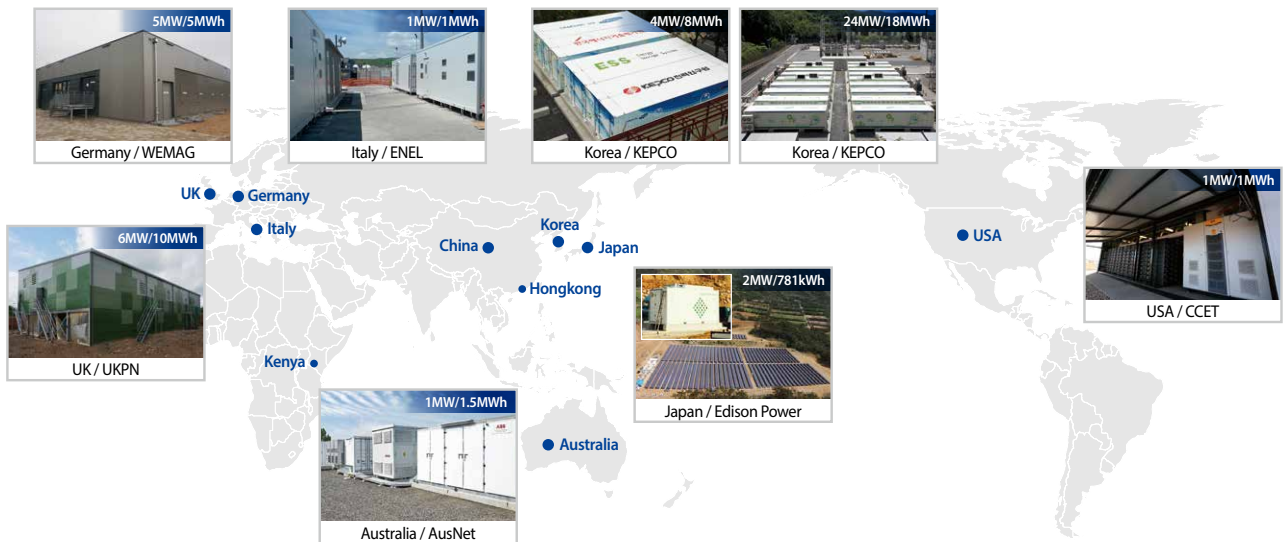
Peak Cut



Product Line-up

Energy	Medium	Power
<p>Power</p> <p>0.5C</p>	<p>1~2C</p>	<p>2.5C~4C</p>
<p>Duration</p>		
<p>Application</p> <ul style="list-style-type: none"> Energy Shifting Curtailment <p>Specification</p> <ul style="list-style-type: none"> Continuous 0.5C ↓ 10 year Operating <p>Schedule</p> <ul style="list-style-type: none"> (Q1. 2016) Mass production 	<p>Application</p> <ul style="list-style-type: none"> Peak cut Peak shift <p>Specification</p> <ul style="list-style-type: none"> Continuous 1.0C ~ 2.0C (max) 10 year Operating <p>Schedule</p> <ul style="list-style-type: none"> Mass production 	<p>Application</p> <ul style="list-style-type: none"> Frequency regulation Voltage regulation <p>Specification</p> <ul style="list-style-type: none"> Continuous 2.5C ~ 4.0C (max) 10 year Operating <p>Schedule</p> <ul style="list-style-type: none"> Mass production

Global Track Record



Country	Project Name	Operation	Application	Capacity
UK	Smart Network Storage	Dec.2014	F/R, Ancillary service	6MW/10MWh
Germany	WEMAG substation Schwerin	Sep.2014	F/R	5MW/5MWh
Italy	Grid4EU (ENEL Distribuzione)	Apr. 2014	Voltage Support	1MW/1MWh
Korea	KEPCO Sin-yongin s/s	Dec.2014	F/R	24MW/18MWh
Korea	KEPCO Jocheon s/s	Jun.2013	Utility	4MW/8MWh
Korea	Seoul-Incheon Intl' Airport	Dec.2014	Peak cut	1MW/2MWh
Japan	Tokunoshima Project	Apr.2015	F/R	2MW/781kWh
Australia	Grid Energy Storage System	Dec.2014	F/R, Power Back-up	1MW/1.5MWh
USA	CCET Wind power demo project (Texas)	Sep.2013	Primary response	1MW/1MWh