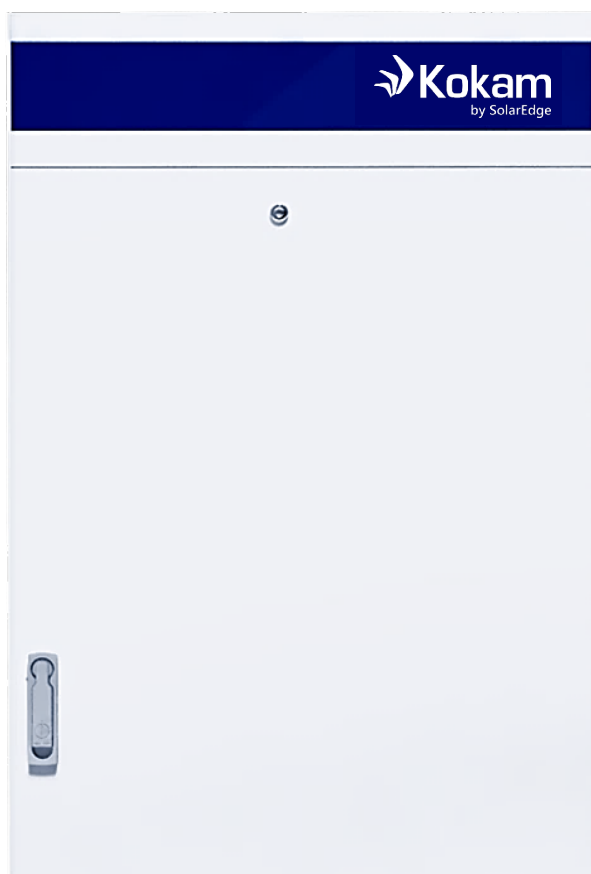


High Power Type

37kWh Battery Rack



- › Highly advanced lithium-ion battery solution for mission-critical applications
- › Exceptionally high power performance (Up to 6 C-rate)
- › Pre-assembled solution for ease of installation and maintenance
- › Exceedingly small footprint due to high energy density
- › 2-pole and 3-pole topology available
- › High reliability and unparalleled safety
- › Long cycle and calendar life (Over 8,000 cycles and up to 15 years*)
- › Highly intelligent BMS** for sophisticated system control and monitoring

*Depending on the load profile, the warranty condition may differ / **BMS: Battery Management System

Battery Rack Specification

Model: KUPSI-1C4RT2-37-UP

Item	Specification	Remarks	
Electrical			
Rack Configuration	4 modules in series	Cell: 120255255G1H (85Ah)	
Module Configuration	1P30S	-	
Installed Energy	37kWh	-	
Usable Energy	34kWh	@ 1P discharge, BOL	
Nominal Voltage	441Vdc	-	
Operating Voltage Range	384 ~ 495Vdc	-	
Float Voltage	495Vdc	-	
Max. Charge Power	75kW	@ 2P, 1 Cycle	
Max. Charge Current	170A	@ 2C, 1 Cycle	
Rated Charge Power	37kW	@ 1P	
Rated Charge Current	85A	@ 1C	
Max. Discharge Power**	225kW	@ 6P, ≤10 min., 1 Cycle	
Max. Discharge Current**	510A	@ 6C, ≤10 min., 1 Cycle	
Rated Discharge Power	37kW	@ 1P	
Rated Discharge Current	85A	@ 1C	
Round Trip DC Efficiency	>95%	@ 1P, BOL	
Control Power	AC 100~240V, 50/60Hz	1ph, 2 wire	
Mechanical			
Dimension	580 (W) x 740 (D) x 1,960 (H) mm	-	
Weight	Approx. 526kg	-	
IP Grade	20	-	
Communication			
Communication Interface	Ethernet/RS-485	ModBus TCP/ModBus RTU	
Monitoring	RS-232C	-	
Environment			
Operating Temperature	Charging	0 ~ 10°C	@ <0.2P
		10 ~ 35°C	@ <2P
		35 ~ 45°C	@ <1P
	Discharging	0 ~ 55°C	-
Operating Temperature		18 ~ 28°C	Recommended
Storage Humidity		<60 ± 25% RH	Non-condensing
Storage Temperature	1 year	-20 ~ 25°C	SOC 50 ± 5%
	6 months	25 ~ 35°C	
	3 months	35 ~ 45°C	
	<1 week	45 ~ 60°C	
Expected Cycle & Calendar Life***			
Cycle Life @ DoD 90%	≥6,000 cycles	@ 25±3°C, 1C/1C, SOH 70%	
Cycle Life @ DoD 80%	≥8,000 cycles	@ 25±3°C, 1C/1C, SOH 70%	
Calendar Life	Up to 15 years	-	
Certifications			
Certifications	UL1642, CB, UN38.3	@ Cell level	
	UL1973	@ Cell level, available by 3Q 2020	
	UL9540A	@ Cell level, available by 4Q 2020	

*P : Power-rate / C : Current-rate

**Depending on project specific back-up time requirement, these values may change (5-30 min.)

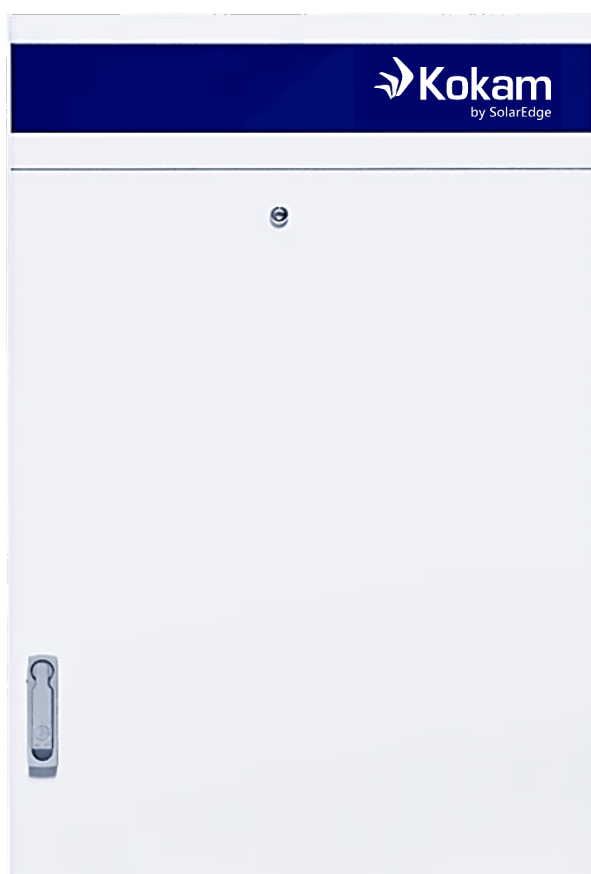
***Depending on the load profile, the warranty condition may differ

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High Power Type

41kWh Battery Rack



- › Highly advanced lithium-ion battery solution for mission-critical applications
- › Exceptionally high power performance (Up to 6 C-rate)
- › Pre-assembled solution for ease of installation and maintenance
- › Exceedingly small footprint due to high energy density
- › 2-pole and 3-pole topology available
- › High reliability and unparalleled safety
- › Long cycle and calendar life (Over 8,000 cycles and up to 15 years*)
- › Highly intelligent BMS** for sophisticated system control and monitoring

*Depending on the load profile, the warranty condition may differ / **BMS: Battery Management System

Battery Rack Specification

Model: KUPSI-1C4RT2-41-UP

Item	Specification	Remarks	
Electrical			
Rack Configuration	4 modules in series	Cell: 120255255G1H (85Ah)	
Module Configuration	1P33S	-	
Installed Energy	41kWh	-	
Usable Energy	37kWh	@ 1P discharge, BOL	
Nominal Voltage	485Vdc	-	
Operating Voltage Range	422 ~ 545Vdc	-	
Float Voltage	545Vdc	-	
Max. Charge Power	82kW	@ 2P, 1 Cycle	
Max. Charge Current	170A	@ 2C, 1 Cycle	
Rated Charge Power	41kW	@ 1P	
Rated Charge Current	85A	@ 1C	
Max. Discharge Power**	247kW	@ 6P, ≤10 min., 1 Cycle	
Max. Discharge Current**	510A	@ 6C, ≤10 min., 1 Cycle	
Rated Discharge Power	41kW	@ 1P	
Rated Discharge Current	85A	@ 1C	
Round Trip DC Efficiency	>95%	@ 1P, BOL	
Control Power	AC 100~240V, 50/60Hz	1ph, 2 wire	
Mechanical			
Dimension	580 (W) x 740 (D) x 1,960 (H) mm	-	
Weight	Approx. 546kg	-	
IP Grade	20	-	
Communication			
Communication Interface	Ethernet/RS-485	ModBus TCP/ModBus RTU	
Monitoring	RS-232C	-	
Environment			
Operating Temperature	Charging	0 ~ 10°C	@ <0.2P
		10 ~ 35°C	@ <2P
		35 ~ 45°C	@ <1P
	Discharging	0 ~ 55°C	-
Operating Temperature		18 ~ 28°C	Recommended
Storage Humidity		<60 ± 25% RH	Non-condensing
Storage Temperature	1 year	-20 ~ 25°C	SOC 50 ± 5%
	6 months	25 ~ 35°C	
	3 months	35 ~ 45°C	
	<1 week	45 ~ 60°C	
Expected Cycle & Calendar Life***			
Cycle Life @ DoD 90%	≥6,000 cycles	@ 25±3°C, 1C/1C, SOH 70%	
Cycle Life @ DoD 80%	≥8,000 cycles	@ 25±3°C, 1C/1C, SOH 70%	
Calendar Life	Up to 15 years	-	
Certifications			
Certifications	UL1642, CB, UN38.3	@ Cell level	
	UL1973	@ Cell level, available by 3Q 2020	
	UL9540A	@ Cell level, available by 4Q 2020	

*P : Power-rate / C : Current-rate

**Depending on project specific back-up time requirement, these values may change (5-30 min.)

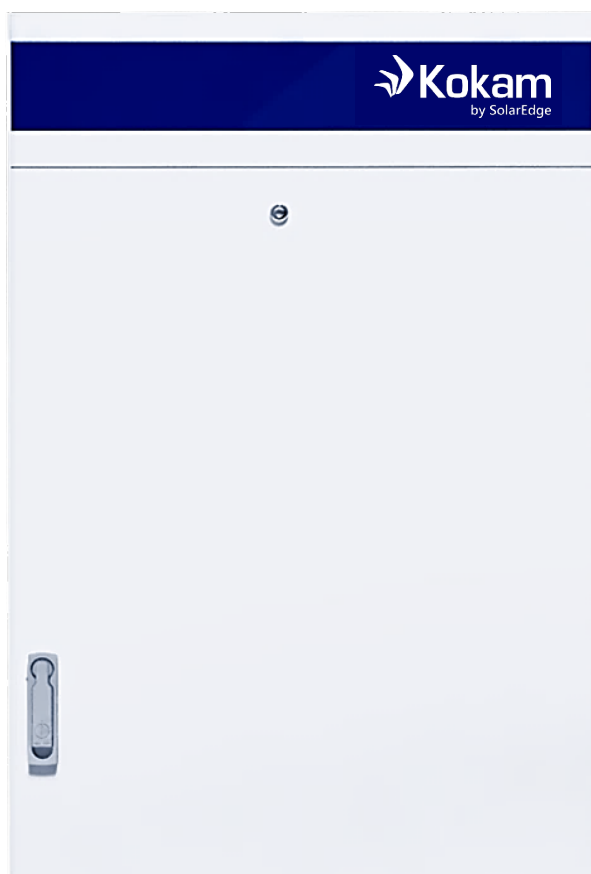
***Depending on the load profile, the warranty condition may differ

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High Power Type

43kWh Battery Rack



- › Highly advanced lithium-ion battery solution for mission-critical applications
- › Exceptionally high power performance (Up to 6 C-rate)
- › Pre-assembled solution for ease of installation and maintenance
- › Exceedingly small footprint due to high energy density
- › 2-pole and 3-pole topology available
- › High reliability and unparalleled safety
- › Long cycle and calendar life (Over 8,000 cycles and up to 15 years*)
- › Highly intelligent BMS** for sophisticated system control and monitoring

*Depending on the load profile, the warranty condition may differ / **BMS: Battery Management System

Battery Rack Specification

Model: KUPSI-1C4RT2-43-UP

Item	Specification	Remarks	
Electrical			
Rack Configuration	4 modules in series	Cell: 120255255G1H (85Ah)	
Module Configuration	1P35S	-	
Installed Energy	43kWh	-	
Usable Energy	40kWh	@ 1P discharge, BOL	
Nominal Voltage	515Vdc	-	
Operating Voltage Range	448 ~ 578Vdc	-	
Float Voltage	578Vdc	-	
Max. Charge Power	87kW	@ 2P, 1 Cycle	
Max. Charge Current	170A	@ 2C, 1 Cycle	
Rated Charge Power	43kW	@ 1P	
Rated Charge Current	85A	@ 1C	
Max. Discharge Power**	262kW	@ 6P, ≤10 min., 1 Cycle	
Max. Discharge Current**	510A	@ 6C, ≤10 min., 1 Cycle	
Rated Discharge Power	43kW	@ 1P	
Rated Discharge Current	85A	@ 1C	
Round Trip DC Efficiency	>95%	@ 1P, BOL	
Control Power	AC 100~240V, 50/60Hz	1ph, 2 wire	
Mechanical			
Dimension	580 (W) x 740 (D) x 1,960 (H) mm	-	
Weight	Approx. 562kg	-	
IP Grade	20	-	
Communication			
Communication Interface	Ethernet/RS-485	ModBus TCP/ModBus RTU	
Monitoring	RS-232C	-	
Environment			
Operating Temperature	Charging	0 ~ 10°C	@ <0.2P
		10 ~ 35°C	@ <2P
		35 ~ 45°C	@ <1P
	Discharging	0 ~ 55°C	-
Operating Temperature		18 ~ 28°C	Recommended
Storage Humidity		<60 ± 25% RH	Non-condensing
Storage Temperature	1 year	-20 ~ 25°C	SOC 50 ± 5%
	6 months	25 ~ 35°C	
	3 months	35 ~ 45°C	
	<1 week	45 ~ 60°C	
Expected Cycle & Calendar Life**			
Cycle Life @ DoD 90%	≥6,000 cycles	@ 25±3°C, 1C/1C, SOH 70%	
Cycle Life @ DoD 80%	≥8,000 cycles	@ 25±3°C, 1C/1C, SOH 70%	
Calendar Life	Up to 15 years	-	
Certifications			
Certifications	UL1642, CB, UN38.3	@ Cell level	
	UL1973	@ Cell level, available by 3Q 2020	
	UL9540A	@ Cell level, available by 4Q 2020	

*P : Power-rate / C : Current-rate

**Depending on project specific back-up time requirement, these values may change (5-30 min.)

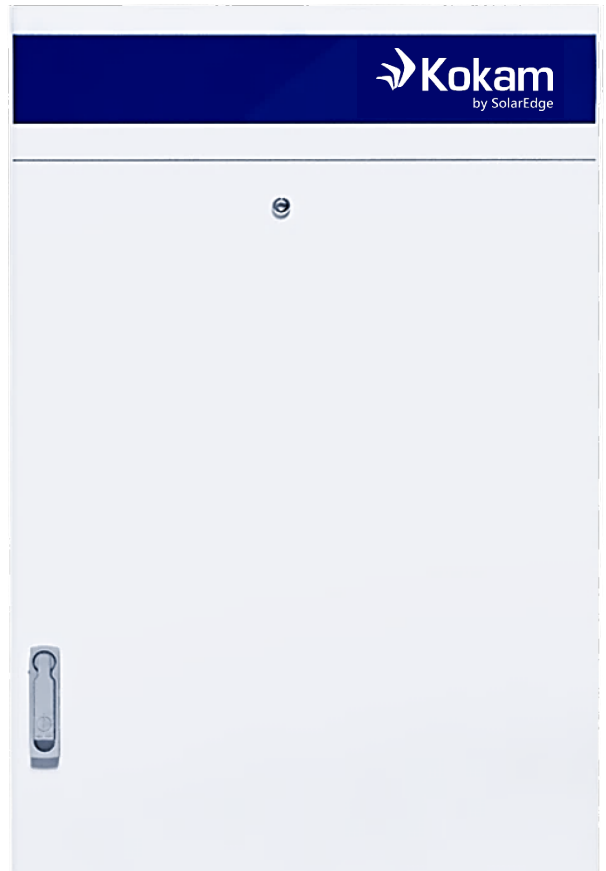
***Depending on the load profile, the warranty condition may differ

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High Power Type

50kWh Battery Rack



- › Highly advanced lithium-ion battery solution for mission-critical applications
- › Exceptionally high power performance (Up to 6 C-rate)
- › Pre-assembled solution for ease of installation and maintenance
- › Exceedingly small footprint due to high energy density
- › 2-pole and 3-pole topology available
- › High reliability and unparalleled safety
- › Long cycle and calendar life (Over 8,000 cycles and up to 15 years*)
- › Highly intelligent BMS** for sophisticated system control and monitoring

*Depending on the load profile, the warranty condition may differ / **BMS: Battery Management System

Battery Rack Specification

Model: KUPSI-2C5RT2-50-UP

Item	Specification	Remarks	
Electrical			
Rack Configuration	5 modules in series	Cell: 120255255G1H (85Ah)	
Module Configuration	1P32S	-	
Installed Energy	50kWh	-	
Usable Energy	46kWh	@ 1P discharge, BOL	
Nominal Voltage	588Vdc	-	
Operating Voltage Range	512 ~ 660Vdc	-	
Float Voltage	660Vdc	-	
Max. Charge Power	100kW	@ 2P, 1 Cycle	
Max. Charge Current	170A	@ 2C, 1 Cycle	
Rated Charge Power	50kW	@ 1P	
Rated Charge Current	85A	@ 1C	
Max. Discharge Power**	300kW	@ 6P, ≤10 min., 1 Cycle	
Max. Discharge Current**	510A	@ 6C, ≤10 min., 1 Cycle	
Rated Discharge Power	50kW	@ 1P	
Rated Discharge Current	85A	@ 1C	
Round Trip DC Efficiency	>95%	@ 1P, BOL	
Control Power	AC 100~240V, 50/60Hz	1ph, 2 wire	
Mechanical			
Dimension	780 (W) x 676 (D) x 2,237 (H) mm	-	
Weight	Approx. 700kg	-	
IP Grade	20	-	
Communication			
Communication Interface	Ethernet/RS-485	ModBus TCP/ModBus RTU	
Monitoring	RS-232C	-	
Environment			
Operating Temperature	Charging	0 ~ 10°C	@ <0.2P
		10 ~ 35°C	@ <2P
		35 ~ 45°C	@ <1P
	Discharging	0 ~ 55°C	-
Operating Temperature		18 ~ 28°C	Recommended
Storage Humidity		<60 ± 25% RH	Non-condensing
Storage Temperature	1 year	-20 ~ 25°C	SOC 50 ± 5%
	6 months	25 ~ 35°C	
	3 months	35 ~ 45°C	
	<1 week	45 ~ 60°C	
Expected Cycle & Calendar Life**			
Cycle Life @ DoD 90%	≥6,000 cycles	@ 25±3°C, 1C/1C, SOH 70%	
Cycle Life @ DoD 80%	≥8,000 cycles	@ 25±3°C, 1C/1C, SOH 70%	
Calendar Life	Up to 15 years	-	
Certifications			
Certifications	UL1642, CB, UN38.3	@ Cell level	
	UL1973	@ Cell level, available by 3Q 2020	
	UL9540A	@ Cell level, available by 4Q 2020	

*P : Power-rate / C : Current-rate

**Depending on project specific back-up time requirement, these values may change (5-30 min.)

***Depending on the load profile, the warranty condition may differ

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