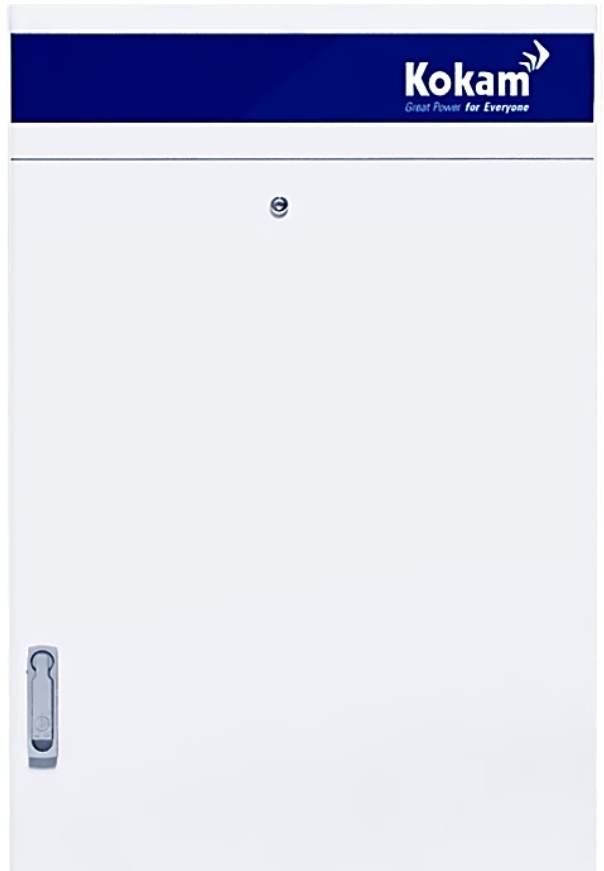




High Power Type

# 40.0kWh Battery Rack



- › Highly advanced lithium-ion battery solution for mission-critical applications
- › Exceptionally high power performance (Up to 9 C-rate)
- › Exceedingly small footprint due to high energy density
- › 2-pole and 3-pole topology available
- › Long cycle and calendar life (Over 8,000 cycles and up to 15 years<sup>1</sup>)
- › Highly intelligent BMS<sup>2</sup> for sophisticated system control and monitoring

1. Depending on the load profile, the warranty condition may differ / 2. BMS: Battery Management System  
\*The image above is a reference, and the actual product may differ from the above image

# Battery Rack Specification

**Model: KST040471A14ADC00** (Previous Model Name: KUPS-1C4R-128S-HP-40-P04-F06)

Item	Specification	Remarks			
<b>Electrical</b>					
Configuration	Rack	4 modules in series			
	Module	1P32S			
	Cell	High Power			
Installed Energy	40.0kWh	-			
Usable Energy <sup>1</sup>	36.8kWh	@ 1P discharge, BOL			
Nominal Voltage	471.0Vdc	-			
Operating Voltage Range	409.6 ~ 528.6Vdc	-			
Float Voltage	523.5Vdc	-			
Charging	Power	Rated	40.0kW	1P	
		Max <sup>2</sup>	80.0kW	2P	
	Current	Rated	85.0A	1C	
		Max <sup>2</sup>	170.0A	2C	
Discharging	Power	Rated	40.0kW	1P	
		Max <sup>2</sup>	235.5kW	5.8P, ≤7 min.	
		Peak	280.2kW	7P, ≤5 min 30 sec.	
	Current	Peak	320.3kW	8P, ≤4 min 20 sec.	
			360.3kW	9P, ≤1 min.	
			85.0A	1C	
		Rated	Max <sup>2</sup>	500.0A	5.8C, ≤7 min.
			Peak	595.0A	7C, ≤5 min 30 sec.
			Peak	680.0A	8C, ≤4 min 20 sec.
Round Trip DC Efficiency	>95%	@ 1P, BOL			
Control Power	DC 24V	-			
<b>Mechanical</b>					
Dimension	580 (W) x 740 (D) x 1,960 (H) mm	± 5mm			
Weight	Approx. 534kg	± 5%			
IP Grade	20	-			
<b>Communication</b>					
Communication Interface	Ethernet/RS-485	Modbus TCP/ Modbus RTU			
Monitoring	RS-232C	-			
<b>Operating Conditions</b>					
Operating Temperature <sup>3</sup>	Charging	0 ~ 10°C	<0.2P		
		10 ~ 35°C	<2P		
		35 ~ 45°C	<1P		
	Discharging	0 ~ 55°C	-		
<b>Environment</b>					
Ambient Temperature	23±5°C	-			
Storage Humidity	<60±25% RH	Non-condensing			
Storage Temperature <sup>4</sup>	1 Year	-20 ~ 25°C	30≤ SOC ≤50%		
	6 Months	-20 ~ 35°C			
	3 Months	-20 ~ 45°C			
	<1 Week	-20 ~ 60°C			
<b>Expected Cycle &amp; Calendar Life<sup>5</sup></b>					
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	@ 25±3°C, SOC ≤80%, SOH 70%			
<b>Certification &amp; Compliance</b>					
Certifications <sup>6</sup>	UL 1642, UL 1973, IEC 62619, UL 9540A, UN 38.3	Cell level			
	CE, IEC 62619, UN 38.3	Module level			
	CE, IEC 62619, IEC 60730-1 Annex H	Rack level			
Compliance	RoHS II, REACH	-			

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

- The usable energy may change depending on the calendar life of the battery cells.
- After max. charging or discharging, it is recommended to rest the battery rack until the cell temperature returns to 23±5°C.
- Operating temperature is based on the cell temperature.
- When resting the battery system after an operation for longer than 1 month, the user shall ensure that the SOC is above 30%. The ambient temperature shall be controlled at 23±5°C when resting the battery system. During storage, the temperature and SOC conditions shall always be adhered to.
- Cycle and calendar life shall be depending on the load profile, and the warranty condition may differ according to Kokam Limited Product Warranty.
- Certification update (incl. model name). Expected to be completed in 1Q 2022.

#### DISCLAIMERS OF WARRANTIES:

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