

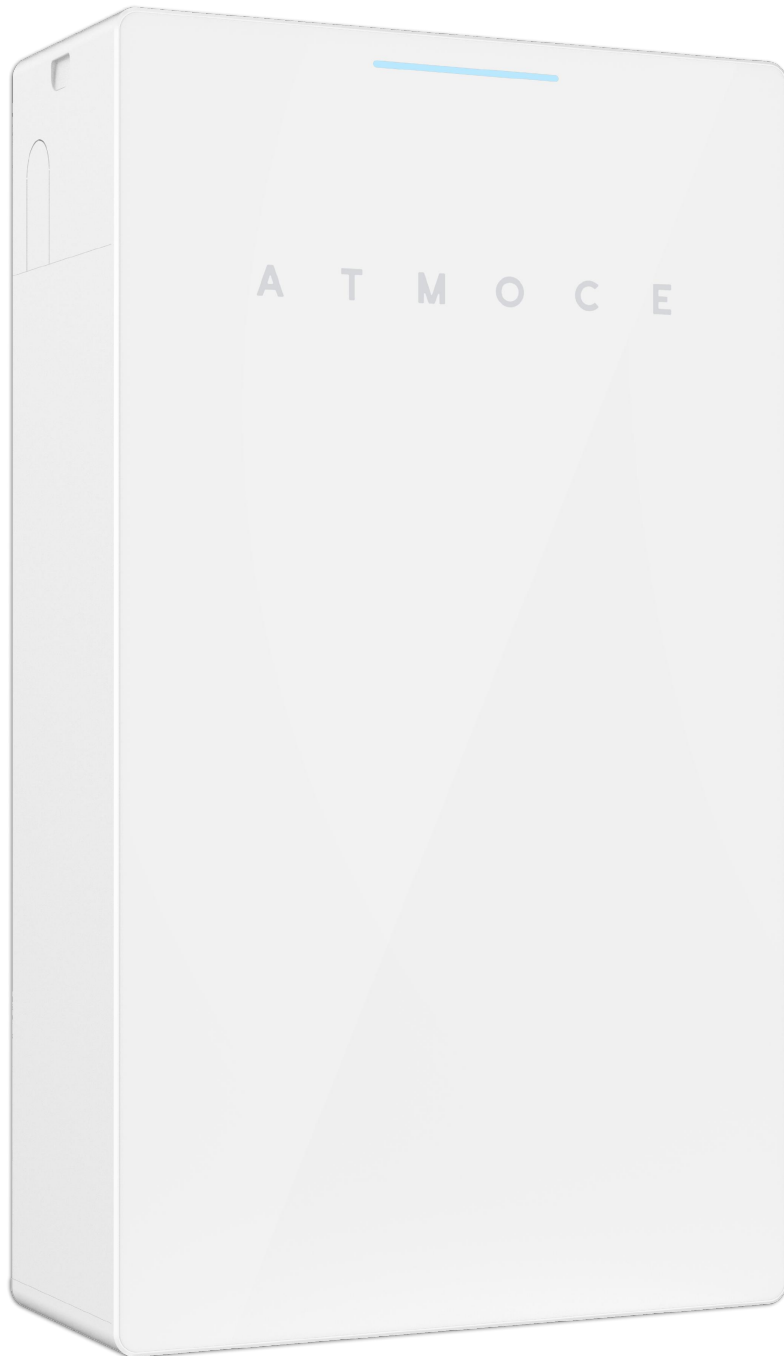
ATMOCE

Data Sheet

M-ELV Battery

MS-7K-U-1P/ MS-7K-U-3P /

MS-7K-U-1P + MC100PRO-S1P / MS-7K-U-3P + MC100PRO-T3P



Key Features

Ultimate Safety

- <30 Vdc extra low voltage
- Lithium iron phosphate (LFP) chemistry
- Cell level management and optimization
- Galvanic isolation between battery and grid

Higher Power

- 90% AC round trip efficiency
- 3.75 kVA Max. continuous input power, 5 kVA Max. output power
- 126 kWh scalability^a

Flexibility & Adaptability

- One SKU for all 1-phase, 3-phase & stand alone installations
- AC coupling, compatible with 3rd-party PV and EMS systems
- Supports self-consumption, TOU and grid ancillary services modes

More Reliability

- 12-year warranty
- 10,000 cycles
- Electrolytic capacitors free



a. This value defines the maximum scalable capacity achievable with one M-Gateway.

Technical Data

Based on the instruction to reference the parameter information for the individual components, the details are organized as follows:

Combination 1: MS-7K-U-1P + MC100PRO-S1P

(Referencing the parameter information for the MS-7K-U-1P and the MC100PRO-S1P below)

- a. Main Unit Model: MS-7K-U-1P
- b. Parameter Information: [Refer to the specific data for MS-7K-U-1P]
- c. Matching Component Model: MC100PRO-S1P
- d. Parameter Information: [Refer to the specific data for MC100PRO-S1P]

Combination 2: MS-7K-U-3P + MC100PRO-T3P

(Referencing the parameter information for the MS-7K-U-3P and the MC100PRO-T3P below)

- a. Main Unit Model: MS-7K-U-3P
- b. Parameter Information: [Refer to the specific data for MS-7K-U-3P]
- c. Matching Component Model: MC100PRO-T3P
- d. Parameter Information: [Refer to the specific data for MC100PRO-T3P]

Items	Unit	MS-7K-U-1P	MS-7K-U-3P
Electrical Parameters			
Rated output apparent power	kVA	4.5	
Max. output power	kVA	5	
Max. continuous input power	kVA	3.75	
Nominal voltage	V _{a.c.}	1/N/PE ~ 230	3/N/PE ~ 230/400
Operating voltage range (L to N)	V _{a.c.}	176 - 276	
Backfeed short-circuit current	A	27.27	9.09
Maximum short circuit current	A	27.27	9.09
Nominal frequency	Hz	50	
Frequency range	Hz	45-55 @50 Hz	
Max. input current	A	16.30 @ 230 V _{a.c.}	16.30 @ 230 V _{a.c.} , 5.41 @ 400 V _{a.c.}
Max. output current	A	21.74 @ 230 V _{a.c.}	21.74 @ 230 V _{a.c.} , 7.25 @ 400 V _{a.c.}
Power factor (adjustable)		0.8 leading---0.8 lagging	
Max. Battery Continuous Charging Current	A	235 (DC)	
Max. Battery Continuous Discharging Current	A	270 (DC)	
AC round-trip efficiency	%	90 ^b	
THDi	%	<3	
Battery			
Total energy capacity	kWh	7.168	
Rated battery energy	kWh	7	
Usable battery capacity	kWh	7	
Nominal battery capacity	Ah	280	
Nominal DC voltage	V	25.6	
Max. DC voltage	V	28.8	
Chemistry		Lithium iron phosphate (LFP)	
Number of cycles		10,000	
Battery depth of discharge	%	100 ^c	
DC round-trip efficiency	%	96	
Mechanical data			
Dimensions (without bracket)	mm	830 × 480 × 195 (H x W x D)	
Lifting weight (without bracket)	kg	73.5	
Mounting		Floor or wall mount	
Ambient operating temperature range	°C	-20 to 55	
Optimum operating temperature range	°C	0 to 30	
Storage temperature	°C	-20 to 55	
Protection class		I	
Ingress Rating		IP66	
Cooling		Intelligent air cooling	
Operating Humidity (RH)	%	4 to 100, condensing	
Altitude	m	Up to 3,000	
Pollution Rating		PD3	
Operation Noise	dB	< 35	

b. Limited by the ambient temperature of the battery, the maximum operating ambient temperature is 55 °C for outdoor unconditioned with solar effects.

c. For usable battery capacity, our DoD is 100%, while for total energy capacity, it is 98%.

Items	Unit	MS-7K-U-1P	MS-7K-U-3P
Protection			
AC port overvoltage class		III	
AC surge protection		TYPE II	
Galvanic Isolation		YES	
Insulation resistance monitor		YES	
Anti-islanding Protection		Yes (frequency shift)	
Features and compliance			
Indicator		LEDs for SOC & Status	
Communication		CAN	
Backup		Support with MC100PRO-S1P	Support with MC100PRO-T3P
Services ^d		Self-consumption, TOU, Grid ancillary services	
Cloud Service		ATMOCE Cloud & ATMOZEN APP	
Compliance		IEC 62619, ISO 13849, IEC 61000-6-1, IEC 61000-6-3, IEC 63056, IEC 62477-1, VDE- AR-E 2510-50, AS/ NZS 4777.2	
Country of manufacture		China	

d. Work together with ATMOCE Gateway.

Items	Unit	MC100PRO-T3P	MC100PRO-S1P
What's in the combiner PRO			
M-Gateway MG100		1 × MG100	
Gateway Breaker		1 × unit, 10 A, 3-pole	1 × unit, 10 A, 1-pole
PV Inverter-side Breaker ^e		1 × unit, 50 A, 3-pole	2 × unit, 50 A, 1-pole
PV Inverter-side Rated Input Current	A		40
PV Inverter-side Rated Input Apparent Power	VA	27600	9200
Grid-side Breaker		1 × unit, 63 A, 3-pole	1 × unit, 63 A, 1-pole
Grid-side Rated Input/Output Current	A		50
Non Backup terminal		1× unit, 3-pole	1 × unit, 1-pole
Non Backup Rated Output Current	A		50
Non Backup Rated Output Apparent Power	VA	34500	11500
Battery-side Breaker		1 × unit, 63 A, 3-pole	1 × unit, 63 A, 1-pole
Battery-side Rated Input/Output Current	A		50
Battery-side Rated Input/Output Apparent Power	VA	34500	11500
Bypass breaker		1 × unit, 63 A, 3-pole	1 × unit, 63 A, 1-pole
Backup Port breaker		1 × unit, 63 A, 3-pole	1 × unit, 63 A, 1-pole
Backup Port Rated Output Current	A		50
Backup Port Rated Output Apparent Power	VA	34500	11500
PV Inverter CT		3 × CTs, accurate up to 0.1%	1 × CT, accurate up to 0.1%
Battery CT		3 × CTs, accurate up to 0.1%	1 × CT, accurate up to 0.1%
Consumption CT interface		3 × CTs, accurate up to 0.1%	1 × CT, accurate up to 0.1%
Electrical parameters			
Grid setup		Three-phase	Single-phase
Nominal voltage	V	380/400/415Va.c.	220/230/240Va.c.
Operating voltage range (L to N)	V		176 to 276
Nominal frequency	Hz		50/60
Extended frequency range	Hz		45 to 65
Power factor range			1 leading---1 lagging
Maximum Output Fault Current	A	10.12	28.71
Overvoltage category			III
Mechanical parameters			
Dimensions (W × H × D)	mm	475 × 690 × 150	420 × 550 × 150
Weight	kg	19	11
Ambient temperature range	°C		-30 to 50
Cooling			Natural convection
Enclosure environmental rating			Outdoor, IP65
Wire sizes ^f	mm ²	PV side: 6 to 16 Grid side: 6 to 16 Battery side: 2.5 to 16	
Communication cable sizes	mm ²		0.25 to 0.75
Communication		PLC, Wi-Fi, BLE, ETH, CAN, RS485	
Noise	dB		<35
Altitude	m		3000
Protection class			II
Pollution degree			III

Items	Unit	MC100PRO-T3P	MC100PRO-S1P
Communication interfaces			
Grid side	DRM0		Support
Battery side	CAN		Support
Load side	ETH	1 × interface, 100 Mb/10 Mb auto-adaptability	
	Digital I/O		4 × 12 V DO, 3 × DI
	RS485		Support
	Digital I/O for Generator		1 × DO, 1 × DI, 1 × RS485
Atmoce-Cloud	Wi-Fi		2.4 GHz
	ETH	1 × interface, 100 Mb/10 Mb auto-adaptability	
Atmozen app	BLE		2.4 GHz
Indicators			5 × LEDs
Compliance			
Safety			IEC 61439-1/-2
Health			IEC 62311
EMC			EN 301 489-1/-17, IEC 61000-6-1/-3
Radio spectrum			EN 300 328
PLC			EN 50065-1/-2

e. The standard configuration of the PV-side breaker is 20A, which can be replaced with a 25A / 32A rated circuit breaker, supporting a maximum of 30kW.
f. Refer to the local electrical regulations to select the cable size.