

The EP Cube is a flexible and intelligent all-in-one home energy storage solution for new and existing solar installations. With unrivalled flexibility and intelligent software management, it is designed to offer a quick and easy installation, simplified logistics, and cost-savings all round to make life easier for homeowners and installers.

#### **FEATURES**



### Flexible and convenient

- · Modular battery makes transport and installation easy.
- Capacity options from 10 kWh to 20 kWh.



#### Power guarantee

- · Automated power supply during grid outage.
- · High-power electrical appliances continue to function normally in case of grid blackout.



## Perfect compatibility

- · Compatible with existing and newly installed PV systems.
- Allows up to 16A DC PV input per MPPT.
- · Compatible with maximum 7.4 kW EV chargers.



### **Cost-saving**

- · All-in-one design saves installation time and cost.
- · Automates generation and consumption.



## Safe and reliable battery

- · LFP technology.
- · Meets highest certification standards.
- · IP67 protection.



### Intelligent management

- Monitors generation, storage and consumption of electricity in real time.
- Integrated Eskom API, to automatically backup batteries based on grid-scheduled outages(Only for South Africa).
- OTA (Over-The-Air) firmware upgrade.

# **EP CUBE TECHNICAL SPECIFICATION**







EP Cube HES-EU2-S7-15G



EP Cube HES-EU2-S7-20G

System components				
Type of inverter		Hybrid bidirectional		
Number of inverters (EP-Cube PCS-EU1-7G)	1			
Number of battery modules (EP Cube B2-5G2)	2	3	4	
Base (EP Cube Base2-G2)		1		
Hybrid inverter - DC Input (PV)				
Max PV input power		10 kW <sub>p</sub>		
MPPTs	2			
Number of inputs per MPPT	1			
Max input power per MPPT	5 kW <sub>p</sub>			
Max PV input voltage	600 V <sub>DC</sub>			
MPPT voltage range	90 V <sub>DC</sub> - 550 V <sub>DC</sub>			
Max MPPT input current	16 A			
Max MPPT short current	20 A			
MPPT start-up voltage	120 V <sub>DC</sub>			
Hybrid inverter - AC On-grid				
Rated AC output voltage	Single phase / L+N+PE / 230 V <sub>AC</sub>			
Rated grid frequency		50 Hz		
Max continuous power (battery + PV)	4.6 kVA			
Max continuous current (battery + PV)		19.5 A		
Output power factor	~1 (adjustable from 0.8 leading to 0.8 lagging)			
Total harmonic distortion @7.6 kW	< 3% (rated power)			
Hybrid inverter - AC Back-up 1				
Rated AC output voltage	Sing	Single Phase / L+N+PE / 230 V AC		
Rated output frequency	50 Hz			
Max continuous power (battery + PV)		7.6 kVA		
Max continuous current (battery + PV)	33 A			
Switching-time		< 30ms <sup>2</sup>		
Battery module				
Cell technology		LiFePO <sub>4</sub>		
Number of battery modules	2	3	4	
Nominal capacity <sup>3</sup>	10 kWh	15 kWh	20 kWh	
Max continuous power (battery only)	5 kW	7.6 kW	7.6 kW	
DOD		100% 4		
Voltage range	$43.2\mathrm{V}_{\mathrm{DC}}\sim58.4\mathrm{V}_{\mathrm{DC}}$			
Nominal voltage	51.2 V <sub>DC</sub>			
Weight	< 42 kg			
Dimensions (WxHxD)	600 x 532 x 200 mm 600 x 798 x 200 mm 600 x 1064x 200 mm			
IP Rating	IP 67 ( stacked together )			

# **EP CUBE TECHNICAL SPECIFICATION**







EP Cube HES-EU2-S7-15G



EP Cube HES-EU2-S7-20G

Applications   Self consumption / TOU / Backup   Type of inverter   Hybrid bidirectional   Inverter dimension (WxHAD)   600 x 505 x 243 mm   Inverter dimension (WxHAD)   600 x 505 x 243 mm   Inverter topology   Transformertess   Inverter topology   Transformer	stem			
Inverter dimension (WXHAD)	lications	Self consumption / TOU / Backup		
Inverter vesight   \$   \$   \$   \$   \$   \$   \$   \$   \$	e of inverter	Hybrid bidirectional		
Transformerless	rter dimension (WxHxD)	600 x 505 x 243 mm		
Dic battery protection	rter weight	< 38 kg		
Dimensions (WXHXD)         600 x 1111 x 243 mm         600 x 1378 x 243 mm         600 x 1645 x 243 mm           System weight         122 kg         164 kg         206 kg           Noise         < 30 dB	rter topology	Transformerless		
System weight         122 kg         164 kg         206 kg           Noise         < 30 dB	pattery protection	Fuse holder incl. fuses (+/-)		
Noise   \$\ \text{30 dB} \\   P Rating   P 65     Cooling type   Natural cooling   Operating altitude   3,000 m     Operating relative humidity   95% non-condensing   Operating temperature range   20°C to 50°C \$   Recommended operating temperature   20°C and / or 35°C \times than 1 month / 0°C \times 35°C up to 1 year \$   Storage temperature   20°C \times	ensions (WXHXD)	00 x 1111 x 243 mm 600 x 1378 x 243 mm 600 x 1645 x 243 mm		
PR Rating	iem weight	122 kg 164 kg 206 kg		
Cooling type         Natural cooling           Operating altitude         3,000 m           Operating relative humidity         95% non-condensing           Operating temperature range         -20°C to 50°C s           Recommended operating temperature         0°C to 30°C           Storage temperature         -20°C ~0°C and / or 35°C ~50°C less than 1 month / 0°C ~35°C up to 1 year s           Display         LED & APP           Installation method         Floor mounted (optional: wall mounted)           Communication interface         WFF, ethernet, RSABS, CAN, IO, Integrated Eskom API           Protection           Battery Input Reverse / Polarity Protection         Integrated           Over load Protection (DC-AC side)         Integrated           Output Over Current Protection / Output Short Circuit Protection         Integrated           Output Over Current Protection         Integrated           C (PV+Battery) Short Circuit Current Protection         Integrated           Ac Surge Protection: Grid and Back-up (SPD Type II)         Integrated           Acting Input Reverse Polarity Protection         Integrated           Ground Fault Monitoring         Integrated           Ground Fault Monitoring         Integrated           Integrated DC Switch (PV - Disconnector)         Integrated           I	se	< 30 dB		
Operating altitude Operating relative humidity Operating relative humidity Operating temperature range - 20°C to 50°C \$ Recommended operating temperature Operation Operation Operating temperature Operation	ating	IP 65		
Operating relative humidity         95% non-condensing           Operating temperature range         -20°C to 50°C 5           Recommended operating temperature         0°C to 30°C           Storage temperature         -20°C ~ 0°C and / or 35°C ~ 50°C less than 1 month / 0°C ~ 35°C up to 1 year 6           Display         LED & APP           Installation method         Floor mounted (optional: wall mounted)           Communication interface         WiFi, ethernet, RS485. CAN, IO, Integrated Eskom API           Protection           Battery Input Reverse / Polarity Protection         Integrated           Over load Protection (DC-AC side)         Integrated           AC Short Circuit Current Protection / Output Short Circuit Protection         Integrated           Output Over Current Protection         Integrated           AC Surge Protection: Grid and Back-up (SPD Type II)         Integrated           AC Surge Protection: Grid and Back-up (SPD Type II)         Integrated           VS String Input Reverse Polarity Protection         Integrated           Ground Fault Monitoring         Integrated           Temperature Protection (Inverter + Battery)         Integrated           Integrated DC Switch (PV - Disconnector)         Integrated           Remote stop         Integrated	ling type	Natural cooling		
Coperating temperature range   C20°C to 50°C 5°	rating altitude	3,000 m		
Recommended operating temperature 0°C to 30°C Storage temperature 20°C ~ 0°C and / or 35°C ~ 50°C less than 1 month / 0°C ~ 35°C up to 1 year 6 Display LED & APP Installation method Floor mounted (optional: wall mounted) Communication interface WiFi, ethernet, RS485, CAN, IO, Integrated Eskom API  Protection  Battery Input Reverse / Polarity Protection Integrated Integrated Over load Protection (DC-AC side) Integrated AC Short Circuit Current Protection / Output Short Circuit Protection Integrated Output Over Current Protection / Output Short Circuit Protection Integrated AC Surge Protection: Grid and Back-up (SPD Type II) Integrated AC Surge Protection: Grid and Back-up (SPD Type II) Integrated ACT Surge Protection: Grid and Back-up (SPD Type II) Integrated Ground Fault Monitoring Integrated Ground Fault Monitoring Integrated Integrated DC Switch (PV - Disconnector) Integrated Remote stop Integrated  Warranty	rating relative humidity	95% non-condensing		
Storage temperature   -20°C ~ 0°C and / or 35°C ~ 50°C less than 1 month / 0°C ~ 35°C up to 1 year 6     Display   LED & APP     Installation method   Floor mounted (optional: wall mounted)     Communication interface   WiFi, ethernet, RS485, CAN, IO, Integrated Eskom API     Protection     Battery Input Reverse / Polarity Protection   Integrated     Cosh of Circuit Current Protection / Output Short Circuit Protection   Integrated     Cosh of Circuit Current Protection / Output Short Circuit Protection   Integrated     Cosh of Circuit Current Protection   Integrated     Cosh of Cir	rating temperature range	- 20°C to 50°C <sup>5</sup>		
Display Installation method Integrated Eskom API  Protection  Bettery Input Reverse / Polarity Protection Integrated Over load Protection (DC-AC side) Integrated AC Short Circuit Current Protection / Output Short Circuit Protection Integrated Output Over Current Protection Integrated OC (PV+Battery) Short Circuit Current Protection Integrated AC Surge Protection: Grid and Back-up (SPD Type II) Integrated AC Surge Protection: Grid and Back-up (SPD Type III) Integrated PV String Input Reverse Polarity Protection Integrated Ground Fault Monitoring Integrated Fremperature Protection (Inverter + Battery) Integrated DC Switch (PV - Disconnector) Integrated Integ	ommended operating temperature	0°C to 30°C		
Installation method Floor mounted (optional: wall mounted)  Communication interface WiFi, ethernet, RS485, CAN, IO, Integrated Eskom API  Protection  Battery Input Reverse / Polarity Protection Integrated Inte	age temperature	$-20^{\circ}$ C $\sim$ 0°C and / or 35°C $\sim$ 50°C less than 1 month / 0°C $\sim$ 35°C up to 1 year $^{6}$		
Communication interface WiFi, ethernet, RS485. CAN, IO, Integrated Eskom API  Protection  Battery Input Reverse / Polarity Protection	play	LED & APP		
Protection         Battery Input Reverse / Polarity Protection       Integrated         Over load Protection (DC-AC side)       Integrated         AC Short Circuit Current Protection /Output Short Circuit Protection       Integrated         Output Over Current Protection       Integrated         DC (PV+Battery) Short Circuit Current Protection       Integrated         AC Surge Protection: Grid and Back-up (SPD Type II)       Integrated         Anti-islanding Protection       Integrated         PV String Input Reverse Polarity Protection       Integrated         Ground Fault Monitoring       Integrated         Temperature Protection (Inverter + Battery)       Integrated         Integrated DC Switch (PV - Disconnector)       Integrated         Remote stop       Integrated         Warranty	allation method	Floor mounted (optional: wall mounted)		
Battery Input Reverse / Polarity Protection Over load Protection (DC-AC side) AC Short Circuit Current Protection /Output Short Circuit Protection Integrated Output Over Current Protection Output Over Current Protection Integrated DC (PV+Battery) Short Circuit Current Protection Integrated AC Surge Protection: Grid and Back-up (SPD Type II) Integrated Anti-islanding Protection Integrated PV String Input Reverse Polarity Protection Integrated Ground Fault Monitoring Integrated Temperature Protection (Inverter + Battery) Integrated DC Switch (PV- Disconnector) Integrated Remote stop  Warranty	nmunication interface	WiFi, ethernet, RS485, CAN, IO, Integrated Eskom API		
Over load Protection (DC-AC side) AC Short Circuit Current Protection /Output Short Circuit Protection Integrated Output Over Current Protection Integrated DC (PV+Battery) Short Circuit Current Protection Integrated AC Surge Protection: Grid and Back-up (SPD Type II) Integrated Anti-islanding Protection Integrated PV String Input Reverse Polarity Protection Integrated Ground Fault Monitoring Integrated Temperature Protection (Inverter + Battery) Integrated DC Switch (PV - Disconnector) Integrated Remote stop  Warranty	tection			
AC Short Circuit Current Protection /Output Short Circuit Protection Integrated  Output Over Current Protection Integrated  DC (PV+Battery) Short Circuit Current Protection Integrated  AC Surge Protection: Grid and Back-up (SPD Type II) Integrated  Anti-islanding Protection Integrated  PV String Input Reverse Polarity Protection Integrated  Ground Fault Monitoring Integrated  Temperature Protection (Inverter + Battery) Integrated  Integrated DC Switch (PV - Disconnector) Integrated  Remote stop Integrated  Warranty	ery Input Reverse / Polarity Protection	Integrated		
Output Over Current Protection Integrated  DC (PV+Battery) Short Circuit Current Protection Integrated  AC Surge Protection: Grid and Back-up (SPD Type II) Integrated  Anti-islanding Protection Integrated  PV String Input Reverse Polarity Protection Integrated  Ground Fault Monitoring Integrated  Temperature Protection (Inverter + Battery) Integrated  Integrated DC Switch (PV - Disconnector) Integrated  Remote stop Integrated  Warranty	r load Protection (DC-AC side)	Integrated		
DC (PV+Battery) Short Circuit Current Protection Integrated AC Surge Protection: Grid and Back-up (SPD Type II) Integrated Anti-islanding Protection Integrated PV String Input Reverse Polarity Protection Integrated Ground Fault Monitoring Integrated Temperature Protection (Inverter + Battery) Integrated Integrated DC Switch (PV - Disconnector) Integrated Remote stop Integrated Warranty	Short Circuit Current Protection /Output Short Circ	Protection Integrated		
AC Surge Protection: Grid and Back-up (SPD Type II)  Anti-islanding Protection  PV String Input Reverse Polarity Protection  Ground Fault Monitoring  Integrated  Temperature Protection (Inverter + Battery)  Integrated DC Switch (PV - Disconnector)  Remote stop  Warranty  Integrated  Integrated  Integrated  Integrated  Integrated  Integrated  Integrated  Integrated	out Over Current Protection	Integrated		
Anti-islanding Protection Integrated PV String Input Reverse Polarity Protection Integrated Ground Fault Monitoring Integrated Temperature Protection (Inverter + Battery) Integrated Integrated DC Switch (PV - Disconnector) Integrated Remote stop Integrated Warranty	(PV+Battery) Short Circuit Current Protection	Integrated		
PV String Input Reverse Polarity Protection Integrated Ground Fault Monitoring Integrated Temperature Protection (Inverter + Battery) Integrated Integrated DC Switch (PV - Disconnector) Integrated Remote stop Integrated Warranty	Surge Protection: Grid and Back-up (SPD Type II)	Integrated		
Ground Fault Monitoring Integrated Temperature Protection (Inverter + Battery) Integrated DC Switch (PV - Disconnector) Integrated Remote stop Integrated Warranty	-islanding Protection	Integrated		
Temperature Protection (Inverter + Battery) Integrated DC Switch (PV - Disconnector) Integrated Integrated Integrated Integrated	String Input Reverse Polarity Protection	Integrated		
Integrated DC Switch (PV - Disconnector)  Remote stop  Warranty  Integrated  I	und Fault Monitoring	Integrated		
Remote stop Integrated  Warranty	nperature Protection (Inverter + Battery)	Integrated		
Warranty	grated DC Switch (PV - Disconnector)	Integrated		
	note stop	Integrated		
Inverter 10 years	rranty			
	rter	10 years		
Battery <sup>7</sup> > 80% capacity, up to 10 years or 6,000 cycles	ery <sup>7</sup>	> 80% capacity, up to 10 years or 6,000 cycles		
Accessories <sup>8</sup> 2 years	essories <sup>8</sup>	2 years		

# **EP CUBE TECHNICAL SPECIFICATION**











EP Cube HES-EU2-S7-20G

Certifications	
Safety	IEC / EN 62109-1, IEC / EN 62109-2, IEC / EN 62477-1, IEC / EN 62619-1, ISO 13849, IEC 60529, UN 38.3
EMC	IEC 61000-6-3, IEC / EN 61000-6-1
Grid Standards	NRS097-2-1
Accessories	Model
EP Cube AC Switch Box	EP CUBE ASB1-40
EP Cube Smart Meter	EP Cube 1PHM1
EP Cube Wall-mount Kit	EP Cube Wall-mount Kit1

#### Notes

- 1. Only in back-up mode in case of grid outage.
- 2. For reactive loads; time will be shorter for active loads.
- 3. Test conditions: 100% depth of discharge (DOD), 0.2C rate charge and discharge at 25°C, at the beginning of life.
- 4. EP Cube will maintain a minimum SOC of 10% during off-grid operation.
- 5. Performance may be de-rated at extreme operating temperatures.
- 6. Refer to the installation manual and follow the storage requirements and guidelines.
- 7. Battery capacity warranty up to 10 years or 6,000 cycles, (whichever occurs first).
- 8. As per Limited Warranty Statement.

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