

Sietová elektrárň (On-Grid)

s výkonom 3,185 kWp v paneloch a prípravou na batériu Huawei

Ponuka obsahuje:



7x Fotovoltaický panel
Hybridný menič
Nemecká konštrukcia
AC a DC istenie
Ostatný materiál
Administratíva
Ostatné služby

Monokryštalický panel 455Wp
Huawei SUN2000L-3KTL
Renusol, GmbH
ETI, Citel, OZ
Inšalačný materiál, kabeláž, chráničky, lišty
Revízna správa, vybavenie dotácie a pripojenia do DIS
Doprava, uvedenie do prevádzky, zaškolenie

Celková cena

4 750 €

Po odpočítaní dotácie (-1 500€)

3 250 € s DPH

7x FV panel 455Wp



SUN2000L-3KTL



Batéria LIFEPO4 Huawei Luna
5kWh + riadiaci modul

Doplatok za batériu +3 800€



VOLITELNÉ
PRÍSLUŠENSTVO

Distribučná
sústava



Chladnička
Notebook
Televízia

Prognóza energetických výnosov počas roka

Na základe Vašej lokality, orientácie strechy a sklonu strechy Vám vieme vypočítať prognózu výroby elektrárne.

Výpočet sa odráža od priemerných dát poskytovaných Európskou úniou v rámci projektu JRC

(odkaz: https://re.jrc.ec.europa.eu/pvg_tools/en/tools.html).

*štandardná aplikácia: orientácie strechy na juh, bez zatienenia a so sklonom 35 stupňov.

Dôležitým predpokladom plného využitia výkonu je dostatočný odber energie počas dňa.

Mesačná produkcia solárneho systému

Ukázková výroba sieťovej elektrárne s výkonom 3,185 kWp*



Priemerná denná výroba energie

v Januári cca **4,4 kWh / deň**
 v Máji cca **13,6 kWh / deň**
 v Júli cca **14,3 kWh / deň**
 v Septembri cca **11,8 kWh / deň**
 v Decembri cca **4 kWh / deň**

Za celý rok dokáže systém **vyrobiť cca 3726 kWh.**

Číslo	Položka	Typ	Počet
1	FV panely	Longi MONO 455Wp (prípadne iná dostupná alternatíva)	7
2	Menič	Huawei SUN2000L-3KTL (3kW)	1
3	Konštrukcia	Konštrukcie na šikmú strechu Renusol Germany	1
4	Instenie, kabeláž	Kabeláž, istenie na AC aj DC strane. ETI a Citel	1
5	Príslušenstvo	Solárny silový kábel 6mm, MC4 Páry	1
6	Montáž	+ doprava, oživenie, skúšky	1
7	Administratíva	Získanie dotácie od štátu	1
8	Administratíva	Pripojenie do distribučnej siete (komunikácia s DIS)	1
9	Administratíva	Projektová dokumentácia a revízna správa	1
Spolu			4 750 € s DPH
Spolu po odčítaní dotácie			-1 500 € 3 250 € s DPH

Voliteľné príslušenstvo

Solárny panel 455Wp + konštrukcia	+270 € / ks
Optimizér výkonu	+50 € / kus
Smart meter + zapojenie	+250 €
Wattrouter na reguláciu prebytkov + zapojenie	+500 €
Batéria LiFePo4 HUAWEI LUNA 5kWh	+2 620 €
Riadiaci modul pre batériu LUNA	+1 180 €
Povinné príslušenstvo v prípade lokality spadajúcej pod SSD a.s a VSD a.s.	+50 €

Cenová ponuka platí 1 mesiac od vypracovania.

Spoplatnenie dopravy materiálu a odborných pracovníkov je 0,5 €/km, v prípade ak je lokalita inštalácie vzdialená viac ako 100 km od sídla našej firmy (Bojnice)

Výhody našej ponuky

1 Záruky na zariadenia

✓ Solárne panely

12 rokov na produkt a vyhotovenie
25 rokov na lineárny pokles výkonu

✓ Menič

10 rokov (rozšírenie záruky o ďalších 10 rokov)

2 Monitoring

- ✓ Wifi
- ✓ Monitoring výroby elektrárne
- ✓ Monitoring spotreby v domácnosti
- ✓ Možnosť riešenia problémov na diaľku



3 Riadenie prebytkov

- ✓ Wattrouter +500€ s DPH
- ✓ Batérie +3800€ s DPH

4 Skúsenosti

- ✓ Inštalácie, administratíva

5 Certifikácie

Dizajn a inštalácia ostrovných fotovoltických elektrární a poradca v oblasti fotovoltiky.

6 10+ Rokov na trhu

O nás

Sme firma ktorá sa venuje predaju a výrobe energetických a ekologických produktov na e-shope, zároveň sme špecialisti na predaj, navrhovanie a inštalovanie solárnych systémov.

Na trhu pôsobíme od roku 2010, a neustále rastieme. Snažíme sa naším zákazníkom doručovať najkvalitnejšie riešenia navrhnuté na mieru podľa Vašich potrieb.

Dôraz kladieme nato, aby naše vedomosti na poli fotovoltiky boli čo najaktuálnejšie. To sa týka aktuálnych technológií, legislatívy, dotačných programov, či technických noriem.

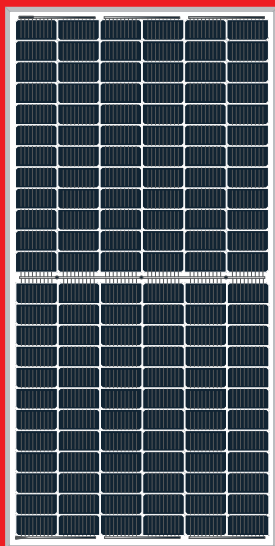
Radi Vám doručíme Wow službu, či produkt, ktorú by sme si sami radi kúpili!



Dotácia

Finančný príspevok na inštaláciu zariadenia/zariadení na využívanie obnoviteľných zdrojov energie v domácnostiach je poskytovaný z finančných prostriedkov Európskeho fondu regionálneho rozvoja a štátneho rozpočtu SR, prostredníctvom Operačného programu Kvalita životného prostredia v rámci národného projektu Zelená domácnostiam II v súlade so Všeobecnými podmienkami projektu zverejnenými na internetovej stránke zelenadomacnostiam.sk.

ECO PRODUKT s.r.o. je zapísaný v zozname oprávnených zhotoviteľov v zmysle Všeobecných podmienok národného projektu Zelená domácnostiam II.



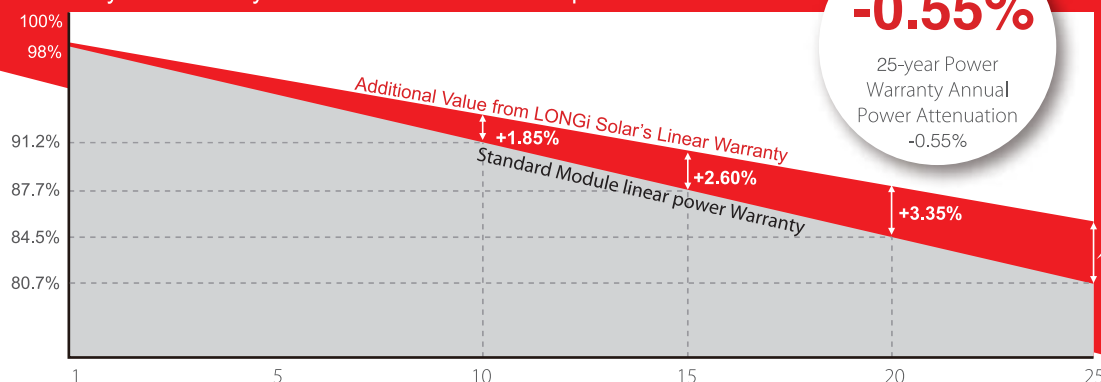
*Both 6BB & 9BB are available

LR4-72HPH 425~455M



**High Efficiency
Low LID Mono PERC with
Half-cut Technology**

12-year Warranty for Materials and Processing;
25-year Warranty for Extra Linear Power Output



-0.55%

25-year Power
Warranty Annual
Power Attenuation
-0.55%

+4.10%

Complete System and Product Certifications

IEC 61215, IEC 61730, UL 61730

ISO 9001:2008: ISO Quality Management System

ISO 14001: 2004: ISO Environment Management System

TS62941: Guideline for module design qualification and type approval

OHSAS 18001: 2007 Occupational Health and Safety



* Specifications subject to technical changes and tests.
LONGi Solar reserves the right of interpretation.

Positive power tolerance (0 ~ +5W) guaranteed

High module conversion efficiency (up to 20.9%)

Slower power degradation enabled by Low LID Mono PERC technology: first year <2%,
0.55% year 2-25

Solid PID resistance ensured by solar cell process optimization and careful module BOM
selection

Reduced resistive loss with lower operating current

Higher energy yield with lower operating temperature

Reduced hot spot risk with optimized electrical design and lower operating current

LONGi

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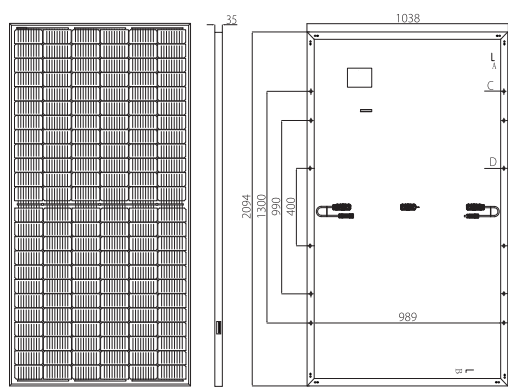
Note: Due to continuous technical innovation, R&D and improvement, technical data above mentioned may be of modification accordingly. LONGi have the sole right to make such modification at anytime without further notice; Demanding party shall request for the latest datasheet for such as contract need, and make it a consisting and binding part of lawful documentation duly signed by both parties.

* These Modules are not offered, distributed or supplied to Germany by the LONGi Group.
LONGi Solar Technologie GmbH does not offer, distribute or supply those Modules in Germany or any other country.

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LR4-72HPH 425~455M

Design (mm)



Mechanical Parameters

Cell Orientation: 144 (6×24)
 Junction Box: IP68, three diodes
 Output Cable: 4mm², 300mm in length,
 length can be customized
 Glass: Single glass
 3.2mm coated tempered glass
 Frame: Anodized aluminum alloy frame
 Weight: 23.5kg
 Dimension: 2094×1038×35mm
 Packaging: 30pcs per pallet
 150pcs per 20'GP
 660pcs per 40'HC

Operating Parameters

Operational Temperature: -40 °C ~ +85 °C
 Power Output Tolerance: 0 ~ +5 W
 Voc and Isc Tolerance: ±3%
 Maximum System Voltage: DC1500V (IEC/UL)
 Maximum Series Fuse Rating: 20A
 Nominal Operating Cell Temperature: 45±2 °C
 Safety Class: Class II
 Fire Rating: UL type 1 or 2

Electrical Characteristics

Test uncertainty for Pmax: ±3%

Model Number	LR4-72HPH-425M		LR4-72HPH-430M		LR4-72HPH-435M		LR4-72HPH-440M		LR4-72HPH-445M		LR4-72HPH-450M		LR4-72HPH-455M	
Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	425	317.4	430	321.1	435	324.9	440	328.6	445	332.3	450	336.1	455	339.8
Open Circuit Voltage (Voc/V)	48.3	45.3	48.5	45.5	48.7	45.7	48.9	45.8	49.1	46.0	49.3	46.2	49.5	46.4
Short Circuit Current (Isc/A)	11.23	9.08	11.31	9.15	11.39	9.21	11.46	9.27	11.53	9.33	11.60	9.38	11.66	9.43
Voltage at Maximum Power (Vmp/V)	40.5	37.7	40.7	37.9	40.9	38.1	41.1	38.3	41.3	38.5	41.5	38.6	41.7	38.8
Current at Maximum Power (Imp/A)	10.50	8.42	10.57	8.47	10.64	8.53	10.71	8.59	10.78	8.64	10.85	8.70	10.92	8.75
Module Efficiency(%)	19.6		19.8		20.0		20.2		20.5		20.7		20.9	

STC (Standard Testing Conditions): Irradiance 1000W/m², Cell Temperature 25 °C, Spectra at AM1.5

NOCT (Nominal Operating Cell Temperature): Irradiance 800W/m², Ambient Temperature 20 °C, Spectra at AM1.5, Wind at 1m/s

Temperature Ratings (STC)

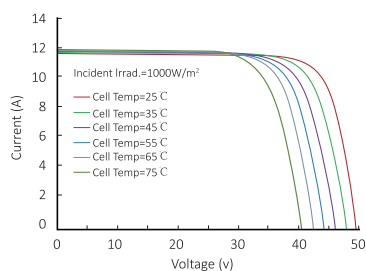
Temperature Coefficient of Isc	+0.048%/°C
Temperature Coefficient of Voc	-0.270%/°C
Temperature Coefficient of Pmax	-0.350%/°C

Mechanical Loading

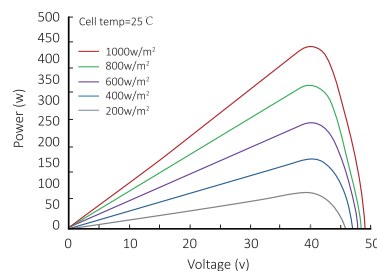
Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Hailstone Test	25mm Hailstone at the speed of 23m/s

I-V Curve

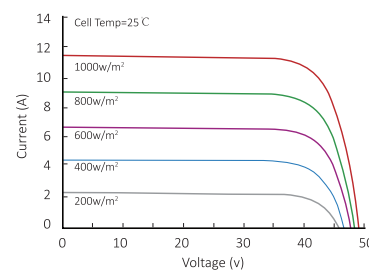
Current-Voltage Curve (LR4-72HPH-440M)



Power-Voltage Curve (LR4-72HPH-440M)



Current-Voltage Curve (LR4-72HPH-440M)



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Active Safety

AI Powered
Active Arcing Protection



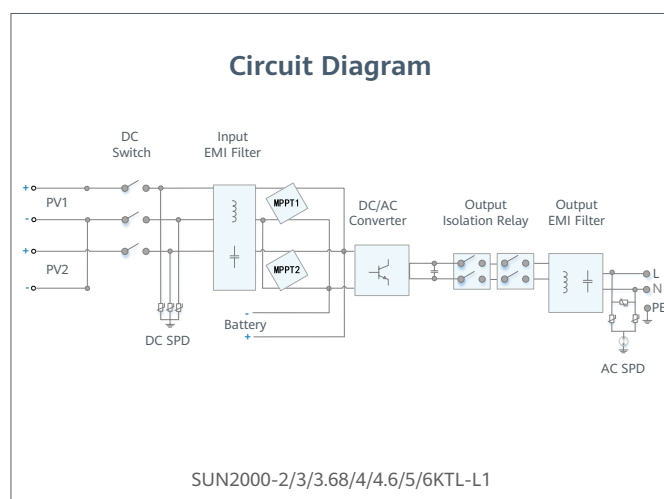
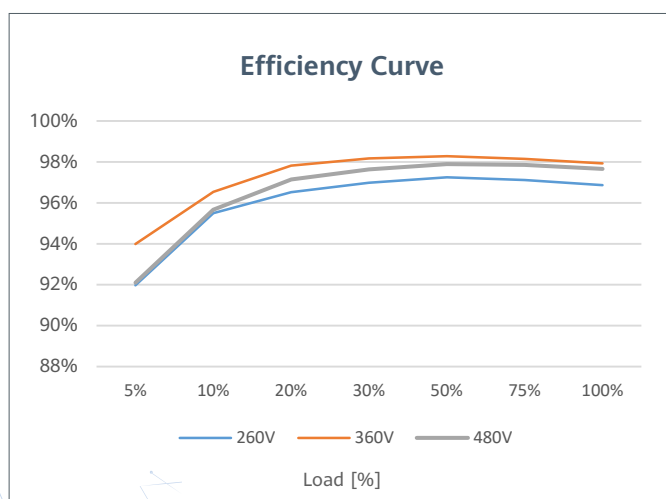
Higher Yields

Up to 30% More
Energy with Optimizer



2x POWER Battery Ready

5KW AC Output plus
5KW Battery Charge



Technical Specification

Technical Specification	SUN2000 -2KTL-L1	SUN2000 -3KTL-L1	SUN2000 -3.68KTL-L1	SUN2000 -4KTL-L1	SUN2000 -4.6KTL-L1	SUN2000 -5KTL-L1	SUN2000 -6KTL-L1 ¹
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Efficiency

Max. efficiency	98.2 %	98.3 %	98.4 %	98.4 %	98.4 %	98.4 %	98.4 %
European weighted efficiency	96.7 %	97.3 %	97.3 %	97.5 %	97.7 %	97.8 %	97.8 %

Input (PV)

Recommended max. PV power ²	3,000 Wp	4,500 Wp	5,520 Wp	6,000 Wp	6,900 Wp	7,500 Wp	9,000 Wp
Max. input voltage	600 V ³						
Start-up voltage	100 V						
MPPT operating voltage range	90 V – 560 V ³						
Rated input voltage	360 V						
Max. input current per MPPT	12.5 A						
Max. short-circuit current	18 A						
Number of MPP trackers	2						
Max. number of inputs	2						

Input (DC Battery)

Compatible Battery	LG Chem RESU 7H_R / 10H_R						
Operating voltage range	350 ~ 450 Vdc						
Max operating current	10 A @7H_R / 15 A @10H_R						
Max charge power	3,500 W @7H_R / 5,000 W @10H_R						
Max discharge Power @7H_R	2,200 W	3,300 W	3,500 W	3,500 W	3,500 W	3,500 W	3,500 W
Max discharge Power @10H_R	2,200 W	3,300 W	3,680 W	4,400 W	4,600 W	5,000 W	5,000 W
Compatible Battery	HUAWEI Smart ESS Battery 5kWh – 30kWh ¹						
Operating voltage range	350 ~ 560 Vdc						
Max operating current	15 A						
Max charge Power	5,000 W ⁴						
Max discharge Power	2,200 W	3,300 W	3,680 W	4,400 W	4,600 W	5,000 W	5,000 W

Output

Grid connection	Single phase						
Rated output power	2,000 W	3,000 W	3,680 W	4,000 W	4,600 W	5,000 W ⁵	6,000 W
Max. apparent power	2,200 VA	3,300 VA	3,680 VA	4,400 VA	5,000 VA ⁶	5,500 VA ⁷	6,000 VA
Rated output voltage	220 Vac / 230 Vac / 240 Vac						
Rated AC grid frequency	50 Hz / 60 Hz						
Max. output current	10 A	15 A	16 A	20 A	23 A ⁸	25 A ⁸	27.3 A
Adjustable power factor	0.8 leading ... 0.8 lagging						
Max. total harmonic distortion	≤ 3 %						
Backup power output	Yes (via Backup Box-5000 ¹)						

Protection & Feature

Anti-Islanding protection	Yes
DC reverse polarity protection	Yes
Insulation monitoring	Yes
DC surge protection	Yes, compatible with TYPE II protection class according to EN/IEC 61643-11
AC surge protection	Yes, compatible with TYPE II protection class according to EN/IEC 61643-11
Residual current monitoring	Yes
AC overcurrent protection	Yes
AC short-circuit protection	Yes
AC overvoltage protection	Yes
Over-heat protection	Yes
Arc fault protection	Yes
Battery reverse charging from grid	Yes

General Data

Operating temperature range	-25 ~ +60 °C (Derating above 45°C @ Rated output power)
Relative operating humidity	0 %RH ~ 100 %RH
Operating altitude	0 ~ 4,000 m (Derating above 2,000 m)
Cooling	Natural convection
Display	LED indicators; integrated WLAN + FusionSolar APP
Communication	RS485, WLAN via inverter built-in WLAN module Ethernet via Smart Dongle-WLAN-FE (Optional); 4G / 3G / 2G via Smart Dongle-4G (Optional)
Weight (incl. mounting bracket)	12.0 kg (26.5 lb)
Dimension (incl. mounting bracket)	365mm * 365mm * 156 mm (14.4 x 14.4 x 6.1 inch)
Degree of protection	IP65

Optimizer Compatibility

DC MBUS compatible optimizer	SUN2000-450W-P
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Standard Compliance (more available upon request)

Safety	EN/IEC 62109-1, EN/IEC 62109-2
Grid connection standards	G98, G99, EN 50549-1, CEI 0-21, VDE-AR-N-4105, AS 4777.2, C10/11, ABNT, UTE C15-712, RD 1699, TOR D4, IEC61727, IEC62116

¹ Available in 2020 Q3.² Inverter max input PV power is 10,000 Wp when long strings are designed and fully connected with SUN2000-450W-P power optimizers.³ The maximum input voltage and operating voltage upper limit will be reduced to 495 V when inverter connects and works with LG battery.⁴ 2,500 W @ 5kWh HUAWEI ESS battery⁵ AS4777.2: 4999W. ⁶ VDE-AR-N 4105: 4600VA / AS4777.2: 4999VA. ⁷ AS4777.2: 4999VA. ⁸ AS4777.2: 21.7A.

Smart String Energy Storage System



More Usable Energy

100% Depth of Discharge
Pack Level Energy Optimization



Flexible Investment

5kWh Modular Design,
Scalable from 5 to 30 kWh



Safe & Reliable

Lithium Iron Phosphate (LFP) Cell



Easy Installation

12 kg Power Module
50 kg Battery Module



Quick Commissioning

Automatically Detected in App

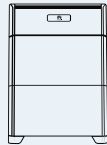
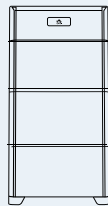


Perfect Compatibility

Compatible to Both Residential
Single & Three Phase Inverter

LUNA2000-5/10/15-S0

Technical Specification

Technical Specification	LUNA2000-5-S0	LUNA2000-10-S0	LUNA2000-15-S0
			

Performance			
Power module	LUNA2000-5KW-C0		
Number of power modules	1		
Battery module	LUNA2000-5-E0		
Battery module energy	5 kWh		
Number of battery Modules	1	2	3
Battery usable energy ¹	5 kWh	10 kWh	15 kWh
Max. output power	2.5 kW	5 kW	5 kW
Peak output power	3.5 kW, 10 s	7 kW, 10 s	7 kW, 10 s
Nominal voltage (single phase system)	360 V		
Operating voltage range (single phase system)	350 – 560 V		
Nominal voltage (three phase system)	600 V		
Operating voltage range (three phase system)	600 – 980 V		

Communication	
Display	SOC status indicator, LED indicator
Communication	RS485 / CAN (only for parallel operation)

General Specification			
Dimension (W*D*H)	670 * 150 * 600 mm (26.4 * 5.9 * 23.6 inch)	670 * 150 * 960 mm (26.4 * 5.9 * 37.8 inch)	670 * 150 * 1320 mm (26.4 * 5.9 * 60.0 inch)
Weight (Floor stand toolkit included)	63.8 kg (140.7 lb)	113.8 kg (250.9 lb)	163.8 kg (361.1 lb)
Power module dimension (W*D*H)	670 * 150 * 240 mm (26.4 * 5.9 * 9.4 inch)		
Power module weight	12 kg (26.5 lb)		
Battery module dimension (W*D*H)	670 * 150 * 360 mm (26.4 * 5.9 * 14.0 inch)		
Battery module weight	50 kg (110.2 lb)		
Installation	Floor stand (standard), Wall mount (optional)		
Operating temperature	-10°C ~ + 55°C (14°F ~ 131°F) ²		
Operating altitude	0 - 4,000 m (13,123 ft.) (Derating above 2,000 m)		
Relative humidity	5% ~ 95%		
Cooling	Natural convection		
Protection rating	IP 65		
Noise emission	<29 dB		
Cell technology	Lithium-iron phosphate (LiFePO4)		
Warranty	10 years ³		
Scalability	Max. 2 systems in parallel operation		
Compatible inverters	SUN2000L-2/3/3.68/4/4.6/5KTL ⁴ , SUN2000-2/3/3.68/4/4.6/5/6KTL-L1, SUN2000-3/4/5/6/8/10KTL-M0 ⁴ , SUN2000-3/4/5/6/8/10KTL-M1		

Standard Compliance (more available upon request)	
Certificates	CE, RCM, CEC, VDE2510-50, IEC62619, IEC 60730, UN38.3

Ordering and Deliverable Part	
Product ordering model ⁵	LUNA2000-5KW-C0, LUNA2000-5-E0, LUNA2000 Wall Mounting Bracket

1. Test conditions: 100% depth of discharge (DoD), 0.2C charge & discharge at 25°C

2. Charge/discharge derating occurs when the operating temperature from -10°C to 5 °C & 45 °C to 55 °C.

3. Refer to battery warranty letter for conditional application.

4. Available in Q1, 2021

5. Storage system is ordered and delivered in the form of power module and battery module separately with corresponding quantity.