



FusionSolar[®] Residential Smart PV Solution

SOLAR.HUAWEI.COM/LA/



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194,000+

R&D Personnel
96,000+

Countries
170+

Interbrand's Top 100
Best Global Brands
74

Fortune Global 500
49

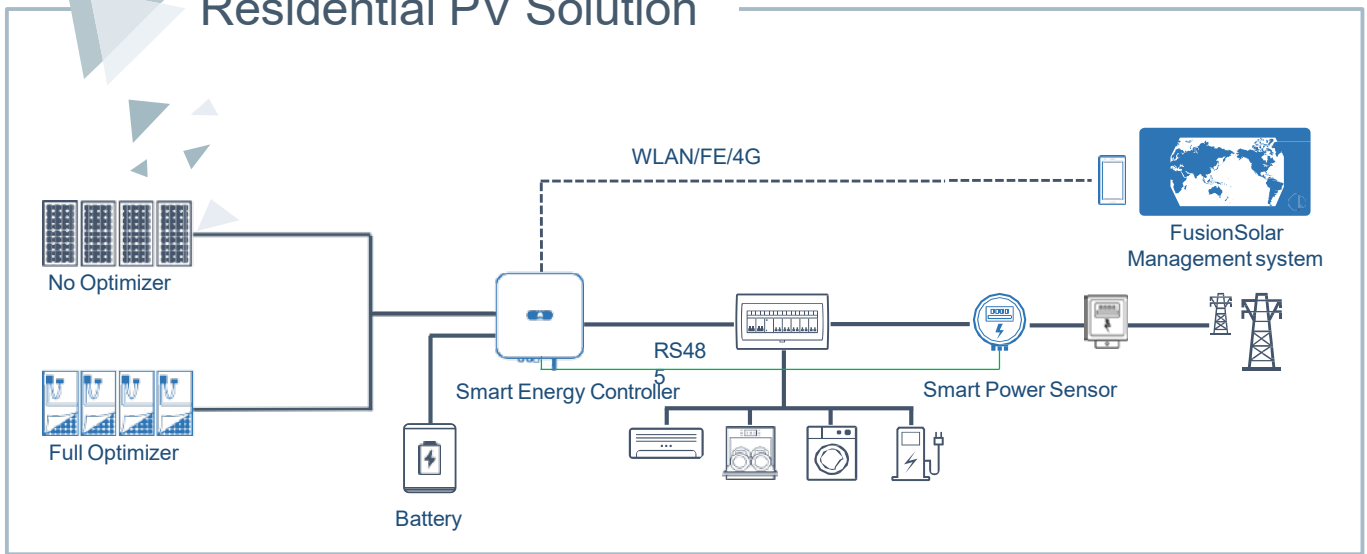
Research institutes
/labs/centers
14



160GW+

Accumulated global shipment by the end of 2020

Residential PV Solution



Active Safety

AI Powered Active Arcing Protection

Pinpoint Arc Fault Positioning

Higher Yields

Up to 30% More Energy by Optimizers

2x POWER Battery Ready with More Energy

Better Experience

One-Fits-All Optimizer, Easier Business

Module Auto-Mapping within 5 sec





Active Safety

AI Powered
Active Arcing Protection



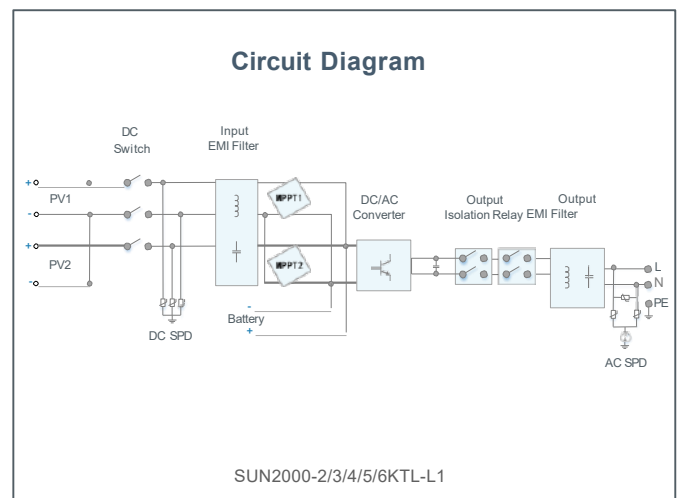
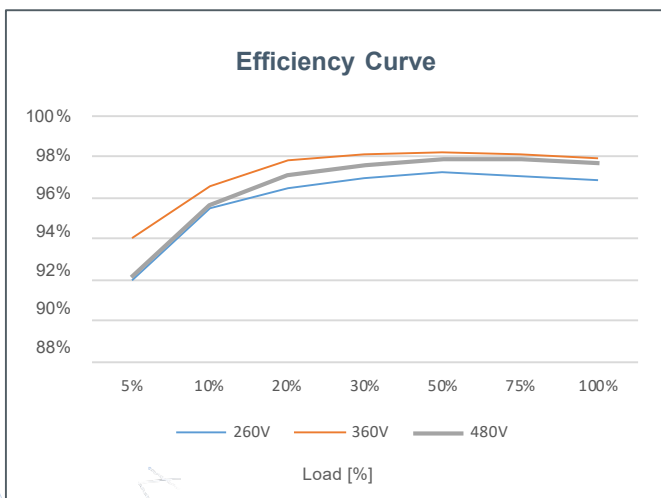
Higher Yields

Up to 30% More
Energy with Optimizer



2x POWER Battery Ready

5KWAC Output plus
5KW Battery Charge



SUN2000-2/3/4/5/6KTL-L1
Technical Specification

Technical Specification	SUN2000 -2KTL-L1	SUN2000 -3KTL-L1	SUN2000 -4KTL-L1	SUN2000 -5KTL-L1	SUN2000 -6KTL-L1 ¹
Efficiency					
Max. efficiency	98.2 %	98.3 %	98.4 %	98.4 %	98.4 %
European weighted efficiency	96.7 %	97.3 %	97.5 %	97.8 %	97.8 %
Input (PV)					
Recommended max. PV power ²	3,000 Wp	4,500 Wp	6,000 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 perMPPT	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
Max discharge Power @10H_R	2,200 W	3,300 W	4,400 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	4,400 W	5,000 W	5,000 W
Output					
Grid connection	Single phase				
Rated output power	2,000 W	3,000 W	4,000 W	5,000 W ⁵	6,000 W
Max. apparent power	2,200 VA	3,300 VA	4,400 VA	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	20 A	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				
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, NOM, LAPEM				

^{*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 battery

^{*5} AS4777.2:4999W. ^{*6} VDE-AR-N 4105: 4600VA/ AS4777.2:4999VA. ^{*7} AS4777.2:4999VA. ^{*8} AS4777.2:21.7A.

Smart Energy Controller



Active Safety

AI Powered
Active Arcing Protection



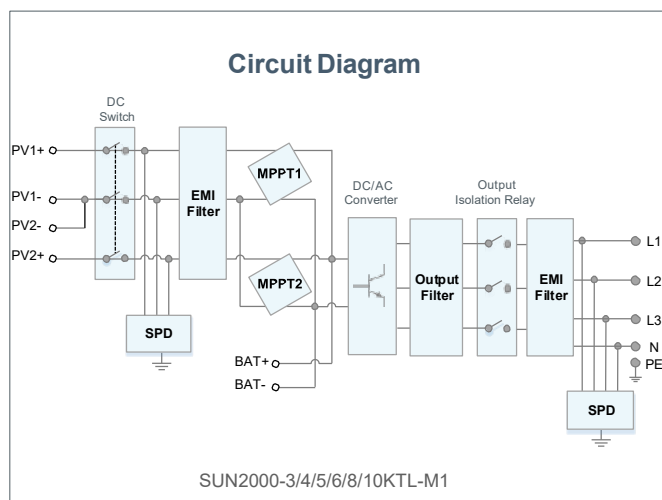
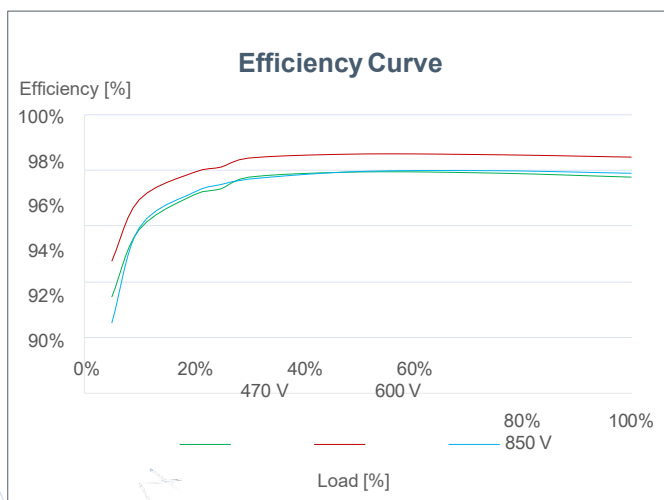
Higher Yields

Up to 30% More Energy
with Optimizer



Flexible Communication

WLAN, Fast Ethernet, 4G
Communication Supported



SUN2000-3/4/5/6/8/10KTL-M1 Technical Specification

Technical Specification	SUN2000-3KTL-M1	SUN2000-4KTL-M1	SUN2000-5KTL-M1	SUN2000-6KTL-M1	SUN2000-8KTL-M1	SUN2000-10KTL-M1
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Efficiency

Max. efficiency	98.2%	98.3%	98.4%	98.6%	98.6%	98.6%
European weighted efficiency	96.7%	97.1%	97.5%	97.7%	98.0%	98.1%

Input (PV)

Recommended max. PV power ¹	4,500 Wp	6,000 Wp	7,500 Wp	9,000 Wp	12,000 Wp	15,000 Wp
Max. input voltage ²	1,100 V					
Operating voltage range ³	140 V ~ 980 V					
Start-up voltage	200 V					
Rated input voltage	600 V					
Max. input current per MPPT	11 A					
Max. short-circuit current	15 A					
Number of MPPT trackers	2					
Max. number of inputs	2					

Input (DC Battery)

Compatible Battery	HUAWEI Smart String ESS 5kWh – 30kWh					
Operating voltage range	600 V ~ 980 V					
Max operating current	16.7 A					
Max charge Power	10,000 W					
Max discharge Power	3,000 W	4,000 W	5,000 W	6,000 W	8,000 W	10,000 W

Output

Grid connection	Three-phase					
Rated output power	3,000 W	4,000 W	5,000 W	6,000 W	8,000 W	10,000 W
Max. apparent power	3,300 VA	4,400 VA	5,500 VA	6,600 VA	8,800 VA	11,000 VA ⁴
Rated output voltage	220 Vac / 380 Vac, 230 Vac / 400 Vac, 3W / N+PE					
Rated AC grid frequency	50 Hz/ 60 Hz					
Max. output current	5.1 A	6.8 A	8.5 A	10.1 A	13.5 A	16.9 A
Adjustable powerfactor	0.8 leading ... 0.8 lagging					
Max. total harmonic distortion	≤ 3%					
Backup power output	Yes (via BackupBox-B1)					

Features & Protections

Input-side disconnection device	Yes
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
Arc fault protection	Yes
Ripple receiver control	Yes
Integrated PID recovery ⁵	Yes
Battery reverse charging from grid	Yes

General Data

Operating temperature range	-25 ~ + 60 °C (-13 °F ~ 140 °F)
Relative operating humidity	0 %RH ~ 100 %RH
Operating altitude	0 ~ 4,000 m (13,123 ft.) (Derating above 2000 m)
Cooling	Natural convection
Display	LED Indicators; Integrated WLAN + FusionSolar App
Communication	RS485; WLAN/Ethernet via Smart Dongle-WLAN-FE; 4G / 3G / 2G via Smart Dongle-4G (Optional)
Weight (incl. mounting bracket)	17 kg (37.5 lb)
Dimension (incl. mounting bracket)	525 x 470 x 146.5 mm (20.7 x 18.5 x 5.8 inch)
Degree of protection	IP65

Optimizer Compatibility

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

Certificate	EN/IEC 62109-1, EN/IEC 62109-2, IEC 62116
Grid connection standards	G98, G99, EN 50438, CEI 0-21, VDE-AR-N-4105, AS 4777, C10/11, ABNT, UTE C15-712, RD 1699, TOR D4, NRS 097-2-1, IEC61727, IEC62116, DEWA 2.0

¹ Inverter max input PV power is 20,000 Wp when long strings are designed and fully connected with SUN2000-450W-P power optimizers.

² The maximum input voltage is the upper limit of the DC voltage. Any higher input DC voltage would probably damage inverter.

³ Any DC input voltage beyond the operating voltage range may result in inverter improper operating.

⁴ C10 / 11: 10,000 VA

⁵ SUN2000-3~10KTL-M1 raises potential between PV- and ground to above zero through integrated PID recovery function to recover module degradation from PID. Supported module types include: P-type (mono, poly).

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



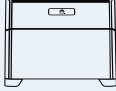


Perfect Compatibility

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)	450 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 (-4°F ~ 131°F) ²		
Operating altitude	0 - 4,000 m (13,123 ft.) (Derating above 2,000 m)		
Environment	Indoor / Outdoor		
Relative humidity	5% ~ 95%		
Cooling	Natural convection		
Protection rating	IP 66		
Noise emission	<29 dB		
Cell technology	Lithium-iron phosphate (LiFePO4)		
Scalability	Max. 2 systems in parallel operation		
Compatible inverters	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 rate charge & discharge at 25°C
2. Charge/discharge derating occurs when the operating temperature from -20°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.

Smart PV Optimizer



One-Fits-All Optimizer
Easier Business



<1.5 min Pairing with Inverter



<5s Module Auto-Mapping



Arc Fault Pinpoint
Positioning

Technical Specification	SUN2000-450W-P
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	Input
Rated Input DC Power ¹	450 W
Absolute maximum input voltage	80 V
MPPT operating voltage range	8 - 80 V
Maximum Short Circuit Current (Isc)	13 A
Max. efficiency	99.5 %
Weighted efficiency	99.0 %
Overvoltage category	II

	Output
Max. output voltage	80 V
Max. output current	15 A
Output bypass ²	Yes
Shutdown output voltage per optimizer ³	0 V
Shutdown output impedance per optimizer	1k ohm ± 10 %

	Standard Compliance
Safety	IEC62109-1 (class II safety)
RoHS	Yes

	General Data
Dimension (W x H x D)	71 x 138 x 25 mm (2.8 x 5.4 x 1.0 inch)
Weight (including cables)	0.55 kg (1.2 lb.)
Installation part (optional)	Grounding Plate, Grounding Lug, PV Module Frame Plate
Input connector	MC4
Output connector	MC4
Output wire length	1.2 m (3.9 ft.) ⁴
Operating temperature / humidity range	-40 °C ~ 85 °C ⁵ / 0 %RH ~ 100 %RH
Degree of protection	IP68
Compatible product	SUN2000-2/3/3.68/4/4.6/5/6KTL-L1, SUN2000-3/4/5/6/8/10KTL-M1, SUN2000-12/15/17/20KTL-M2

Long String Design (Full Optimizer)	SUN2000-2-6KTL-L1	SUN2000-3-10KTL-M1	SUN2000-12-20KTL-M2	SUN2000-30-40KTL-M3
Minimum optimizer number per string	4	6	6	6
Maximum optimizer number per string	25	50	50	26
Maximum DC power per string	5,000 W	10,000 W	10,000 W	10,000 W

¹ Rated power of the module at STC shall not exceed "Rated Input DC Power" of power optimizer. Modules with power up to +5% power tolerance are acceptable.

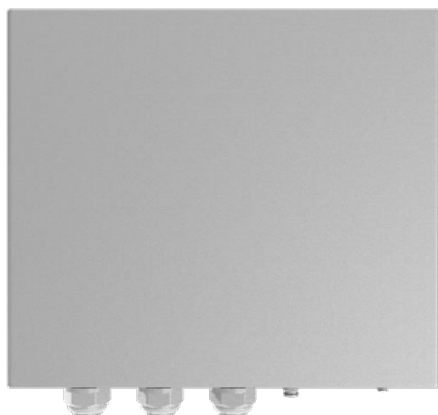
² Power optimizer is bypassed in the string connected to an operating inverter when it fails to work.

³ Power optimizer output 0Vdc when disconnecting to the inverter or inverter is shutdown.

⁴ Fits PV module in landscape and portrait installation.

⁵ Full power capability refers to online smart design tool.

Backup Box



Simple

Automatic detection & switchover



Reliable

Provide reliable backup power

Technical Specification	Backup Box-B0	Backup Box-B1
AC Output (On grid)		
Grid connection	Single Phase	Three Phase
Rated voltage	220 V / 230 V	380 V / 400 V
AC frequency	50Hz / 60Hz	
AC output voltage range	198 V ~ 253 V	342 V ~ 440 V
AC Output (Backup)		
Load connection	Single Phase	Single Phase
Rated voltage	220 V / 230 V	220 V / 230 V
AC frequency	50Hz / 60Hz	
Maximum apparent power	5,000 VA	3,300 VA
Maximum output current	22.7 A	15.2 A
Switchover time	<3 s	
AC Input (Inverter)		
Rated voltage	220 V / 230 V	380 V / 400 V
AC frequency	50Hz / 60Hz	
Compatible inverter	SUN2000-2/3/3.68/4/4.6/5/6KTL-L1	SUN2000-3/4/5/6/8/10KTL-M1
General Specification		
Operating temperature range	-20 °C to +45 °C (-4 °F to 113 °F)	
Relative humidity range	0 %RH~100 %RH	
Dimensions (W * H * D)	400 x 350 x 130 mm (15.8 x 13.8 x 5.1 inch)	
Weight	11 kg	
Degree of protection	IP 65	

Smart Power Sensor



Accurate

Class 1 measurement accuracy



Simple & Easy

LCD display, easy to set and check



Energy Efficient

Overall power consumption ≤ 1 W



Technical Specification	DDSU666-H	DTSU666-H	DTSU666-H 250A/50mA
General Data			
Dimension (H x W x D)	100 x 36 x 65.5 mm (3.9 x 1.4 x 2.6 inch)	100 x 72 x 65.5 mm (3.9 x 2.8 x 2.6 inch)	100 x 72 x 65.5 mm (3.9 x 2.8 x 2.6 inch)
Mounting type	DIN35 Rail		
Weight (including cables)	1.2 kg (2.6 lb)	1.5 kg (3.3 lb)	1.5 kg (3.3 lb)
Power Supply			
Power grid type	1P2W	3P4W	3P4W/3P3W
Input voltage (phase voltage)		176 Vac ~ 288 Vac	
Power consumption	≤ 0.8 W	≤ 1 W	≤ 1 W
Measurement Range			
Line voltage	/	304 Vac ~ 499 Vac	304 Vac ~ 499 Vac
Phase voltage		176 Vac ~ 288 Vac	
Current	0 ~ 100 A	0 ~ 100 A	0 ~ 250 A
Measurement Accuracy			
Voltage	± 0.5 %		
Current / Power / Energy	± 1 %		
Frequency	± 0.01 Hz		
Communication			
Interface	RS485		
Baud rate	9,600 bps		
Communication protocol	Modbus-RTU		
Environment			
Operating temperature range	-25 °C ~ 60 °C		
Storage temperature range	-40 °C ~ 70 °C		
Operating humidity	5 %RH ~ 95 %RH (non-condensing)		
Others			
Accessories	RS485 Cable (10 m / 33 ft.)		
	1 CT 100A / 40mA (5 m / 16.4 ft.)	3 CT 100A / 40mA (5m / 16.4 ft.)	3 CT 250A / 50mA (5m / 16.4 ft.)



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