

SOLAR POWER



WOLF INTERNATIONAL



1.1k~3.3kTL-G3

1100/1600/2200/2700/3000/3300

Single-Phase

Single-MPPT

1.4

1.4 DC overload



IP65 ingress protection

97.7%

Max. efficiency up to 97.7%



Light weight, quick and easy to install

0

Built-in zero export function



Smart monitoring, RS485, Wifi/Ethernet/GPRS(optional)



DATASHEET 1100-3300W-1Ph

Input (DC)	1100TL-G3	1600TL-G3	2200TL-G3	2700TL-G3	3000TL-G3	3300TL-G3
Recommended Max. PV input power	1500Wp	2200Wp	3000Wp	3700Wp	4100Wp	4500Wp
Max. Input voltage	500V	500V	500V	550V	550V	550V
Start-up voltage	70V					
Rated input voltage	360V					
MPPT operating voltage range	50-500V	50-500V	50-500V	50-550V	50-550V	50-550V
Full power MPPT voltage range	110-450V	150-450V	200-450V	250-500V	275-500V	300-500V
Max. Input current MPPT	12A					
Maximum DC input short circuit current per MPPT	15A					
Number of MPPT/ String per MPPT	1/1					
Input terminal type	MC4/H4					
Output (AC)						
Rated power	1100W	1600W	2200W	2700W	3000W	3300W
Max. AC power	1100VA	1600VA	2200VA	2700VA	3000VA	3300VA
Rated Output current	4.8A	7A	9.6A	11.8A	13A	14.3A
Max. Output current	5.3A	7.7A	10.6A	13A	14.5A	16A
Nominal grid voltage	L/N/PE, 220Vac, 230Vac, 240Vac					
Grid voltage range	180Vac-276Vac (According to local standard)					
Nominal frequency	50Hz/60Hz					
Grid frequency range	45~55Hz/54~66Hz (According to local standard)					
THDi	<3%					
Power factor	1 default (adjustable +/-0.8)					
Efficiency						
Max. Efficiency	97.5%	97.5%	97.5%	97.7%	97.7%	97.7%
European weighted efficiency	96.9%	96.9%	96.9%	97.2%	97.2%	97.2%
Self-consumption at night	<1W					
MPPT efficiency	>99.9%					
Protection						
Anti-Islanding protection	Yes					
DC reverse polarity protection	Yes					
Over temp protection	Yes					
Leakage current protection	Yes					
Over voltage protection	Yes					
Over current protection	Yes					
Earth fault protection	Yes					
SPD	MOV: Type III standard					
Communication						
Standard communication mode	RS485, WiFi/GPRS/Ethernet(optional), USB					
General Data						
Topology	Transformerless					
Ambient temperature range	-30°C~+60°C					
Allowable relative humidity range	0~100%					
Noise	<25dB					
DC switch	optional					
Cooling	Natural					
Max. Operating altitude	2000m					
Dimension[mm]	303*260.5*118	303*260.5*118	303*260.5*118	321*260.5*131.5	321*260.5*131.5	321*260.5*131.5
Support bracket	Wall-mounted					
Weight	5.5kg	5.5kg	5.5kg	6.3kg	6.3kg	6.3kg
Display	LCD+LED					
Degree of protection	IP65					
Warranty	5 years/ 7 years/ 10 years					
Standard						
EMC	EN 61000-6-1, EN 61000-6-3, EN 61000-3-2, EN 61000-3-3					
Safety standards	IEC 62116, IEC 61727, IEC 61683, IEC 60068(1,2,14,30), IEC 62109-1/2					
Grid standards	AS 4777, VDE V 0124-100, VDE V 0126-1-1, VDE-AR-N 4105, G83/2, C10/11, RD 1699					

**3k~7.5kTL-G2**

3000/3600/4000/4600/5000/6000/7500

Single-Phase Dual-MPPT

-  Built-in zero export function
-  IP65 ingress protection
-  Max. efficiency up to 98.2%
-  Smart monitoring, RS485, Wifi/Ethernet/GPRS (optional)
-  2 MPPT high precision string detection
-  I-V curve scanning function
-  Built-in sound and light alarm function



DATASHEET 3000-7500W-1Ph

Input (DC)	3KTLM-G2	3.6KTLM-G2	4KTLM-G2	4.6KTLM-G2	5KTLM-G2	6KTLM-G2	7.5KTLM
Recommended Max. PV input power	3990Wp	4790Wp	5320Wp	6120Wp	6650Wp	7980Wp	9980Wp
Max DC power for single MPPT	2000W	2400W	2600W	3000W	3300W	4000W	2*2750W/ 2750W
Number of MPP trackers	2						
Number of DC inputs	1/1			2/1			
Max. Input voltage	600V						
Start-up voltage	120V						
Rated input voltage	360V						
MPPT operating voltage range	90-580V						
Full power MPPT voltage range	160V-520V	180V-520V	200V-520V	230V-520V	250V-520V	300V-520V	250V-520V
Max. Input current per MPPT	11A/11A						22A/11A
Maximun DC input short circuit current per MPPT	13.2A						26.4/13.2A
Output (AC)							
Rated power	3000W	3680W	4000W	4600W	5000W	6000W	7500W
Max. AC power	3000VA	3680VA	4000VA	4600VA	5000VA	6000VA	7500VA
Max. Output current	13.7A	16A	18.2A	21A	22.8A	27.3A	32.6A
Nominal grid voltage	L/N/PE, 220Vac, 230Vac, 240Vac						
Grid voltage range	180Vac-276Vac (According to local standard)						
Nominal frequency	50Hz/60Hz						
Grid frequency range	45Hz-55Hz/54Hz-66Hz (According to local standard)						
Active power adjustable range	0~100%						
THDi	<3%						
Power factor	1 default (adjustable +/-0.8)						
Power limit export	Zero export or adjustable power limit export						
Performance							
Max efficiency	98.0%						98.2%
European weighted efficiency	97.5%						97.6%
Self-consumption at night	<1W						
MPPT efficiency	>99.9%						
Protection							
DC reverse polarity protection	Yes						
DC switch	Optional						
Protection class/overvoltage category	I/III						
Safety protection	Anti islanding, RCMU, Ground fault monitoring						
SPD	MOV: Type III standard						
Communication							
Power management unit	According to certification and request						
Standard communication mode	Rs485, Wifi/Ethernet/GPRS(optional), SD card(optional)						
Operation data storage	25 years						
General Data							
Ambient temperature range	-25℃~+60℃						-30℃~+60℃
Topology	Transformerless						
Degree of protection	IP65						
Allowable relative humidity range	0~100%						
Max. Operating altitude	2000m						
Noise	<25dB						
Weight	11.5kg						18kg
Cooling	Natural						
Dimension	405*315*135mm						467*352*157mm
Display	LCD display						
Warranty	5 years/ 7 years/ 10 years						
Standard							
EMC	EN 61000-6-2, EN 61000-6-3, EN 61000-3-2, EN 61000-3-3, EN 61000-3-11, EN 61000-3-12						
Safety standards	IEC62109-1/2, IEC62116, IEC61727, IEC-61683, IEC60068(1,2,14,30)						
Grid standards	AS/NZS 4777, VDE V 0124-100, V 0126-1-1, VDE-AR-N 4105, CEI 0-21, EN50549, G83/G59/G98/G99, NB/T32004; ABNT NBR 16149/16150 (for SOFAR3KTLM-G2, SOFAR5KTLM-G2& 7.5KTLM)						



3.3k~12kTL-X

3300/4400/5000/5500/6600/8800/11000/12000

Three-Phase Dual-MPPT

98.3%

Max. efficiency up to 98.3%

DRM

Built-in DRM port and logic



Integrated with DC switch

4"

Super large 4-inch LCD



Smart monitoring, RS485, Wifi/Ethernet/GPRS (optional)



Over / under voltage, over current, over temperature, Anti-islanding and other multiple protections



DATASHEET 3000-12000W-3Ph

Input (DC)	3.3KTL-X	4.4KTL-X	5KTL-X	5.5KTL-X	6.6KTL-X	8.8KTL-X	11KTL-X	12KTL-X
Recommended Max. PV input power	4390Wp	5860Wp	6650Wp	7320Wp	8780Wp	11710Wp	14630Wp	15960Wp
Max DC power for single MPPT	3550W	4500W	5700W	5700W	6250W	6200W	6200W	6850W
Number of MPP trackers	2							
Number of DC inputs	1 for each MPPT							
Max. Input voltage	1000V							
Start-up voltage	200V							
Rated input voltage	600V							
MPPT operating voltage range	160-960V							
Full power MPPT voltage range	160V-850V	190V-850V	240V-850V	240V-850V	290V-850V	380V-850V	480V-850V	575V-850V
Max. Input current per MPPT	11A/11A							
Maximum DC input short circuit current per MPPT	14A							
Output (AC)								
Rated power	3000W	4000W	5000W	5000W	6000W	8000W	10000W	12000W
Max. AC power	3300VA	4400VA	5000VA	5500VA	6600VA	8800VA	11000VA	13200VA
Max. Output current	4.8A	6.4A	8.0A	8.0A	9.6A	12.8A	15.9A	19.1A
Nominal grid voltage	3/N/PE, 220/380Vac, 230/400Vac, 240/415Vac							
Grid voltage range	310Vac-480Vac (According to local standard)							
Nominal frequency	50Hz/60Hz							
Grid frequency range	45Hz-55Hz/54Hz-66Hz (According to local standard)							
Active power adjustable range	0~100%							
THDi	<3%							
Power factor	1 default (adjustable +/-0.8)							
Power limit export	Zero export or adjustable power limit export							
Performance								
Max efficiency	98.0%	98.0%	98.0%	98.0%	98.0%	98.3%	98.3%	98.3%
European weighted efficiency	97.5%	97.5%	97.5%	97.5%	97.5%	98.0%	98.0%	98.0%
Self-consumption at night	<1W							
MPPT efficiency	>99.9%							
Protection								
DC reverse polarity protection	Yes							
DC switch	Yes							
Safety protection	Anti islanding, RCMU, Ground fault monitoring							
ARPC	Anti reverse power controller(optional)							
Communication								
Power management unit	According to certification and request							
Standard communication mode	RS485, Wifi/Ethernet/GPRS(optional), SD card							
Operation data storage	25 years							
General Data								
Ambient temperature range	-25°C~+60°C							
Topology	Transformerless							
Degree of protection	IP65							
Allowable relative humidity range	0~100%							
Max. Operating altitude	2000m							
Noise	<29dB							
Weight	21kg	21kg	21kg	21kg	21kg	22kg	22kg	22kg
Cooling	Natural							
Dimension	457*452*202mm							
Display	LCD display							
Warranty	5 years/ 7 years/ 10 years							
Standard								
EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4							
Safety standards	IEC62109-1/2, IEC62116, IEC61727, IEC-61683, IEC60068(1,2,14,30), IEC60255							
Grid standards	AS/NZS 4777, VDE V 0124-100, V 0126-1-1, VDE-AR-N 4105, CEI 0-21, EN50549, G83, Rd1699, UTE C15-712-1, EN50530, NB/T32004							



10k~15kTL-G2

10000 / 12000 / 15000

Three-Phase Dual-MPPT



Fuse free design



Built-in DRM port and logic



I-V curve scanning function



Max. efficiency up to 98.3%



Outdoor IP65 protection level



Smart control and flexible configuration



DATASHEET 10000-15000kW-3Ph

Input (DC)	I 0000TL-G2	I 2000TL-G2	I 5000TL-G2
Max. PV input power	18000Wp	18000Wp	19950Wp
Max DC power for single MPPT	11000W/7500W	11000W/7500W	11000W/7500W
Number of MPP trackers		2	
Number for DC inputs		3	
Max. input voltage		1000V	
Start-up voltage		200V	
Rated input voltage		600V	
MPPT operating voltage range		160V-960V	
Full power MPPT voltage range		300V-840V	
Max. input MPPT current		21A/11A	
Maximum DC input short circuit current per MPPT		30A/15A	
Output (AC)			
Rated power	10000W	12000W	15000W
Max. AC power	11000VA	13200VA	16500VA
Max. Output current	3*16.5A	3*20A	3*24A
Nominal grid voltage		3/N/PE, 220/380Vac, 230/400Vac, 240/415Vac	
Grid voltage range		310Vac-480Vac (According to local standard)	
Nominal frequency		50/60Hz	
Grid Frequency range		45Hz-55Hz/54Hz-66Hz (According to local standard)	
Active power adjustable range		0~100%	
THDi		<3%	
Power factor		>0.99 (adjustable +/-0.8)	
Performance			
Max efficiency		98.3%	
European weighted efficiency		98.0%	
Self-consumption at night		<1W	
MPPT efficiency		>99.9%	
Protection			
DC reverse polarity protection		Yes	
DC switch		Yes	
ARPC		Anti reverse power controller (optional)	
Safety protection		Anti islanding, RCMU, Ground fault monitoring	
Communication			
Power management unit		According to certification and request	
Standard communication mode		RS485, Wifi/Ethernet/GPRS (optional), SD card	
Operation data storage		25 years	
General Data			
Ambient temperature range		-25°C~+60°C	
Topology		Transformerless	
Degree of protection		IP65	
Allowable relative humidity range		0~100%	
Max. Operating altitude		2000m	
Noise		<45dB	
Weight	23.5kg	23.5kg	25kg
Cooling		Fan	
Dimension		539*452*202mm	
Display		LCD display	
Warranty		5 years/ 7 years/ 10 years	
Standard			
EMC		EN 61000-6-1, EN 61000-6-3	
Safety standards		IEC62109-1/2, IEC62116, IEC61727, IEC-61683, IEC60068(1,2,14,30)	
Grid standards		AS/NZS 4777, VDE-AR-N 4105, CEI 0-21, EN50549, V 0126-1-1, NB/T32004	



20k~33kTL-G2

20000/ 25000/ 30000/ 33000

Three-Phase Dual-MPPT

1100v

1100V voltage level design

98.6%

Max. efficiency up to 98.6%

4"

Super large 4-inch LCD

DRM

Built-in DRM port and logic

I-V

I-V curve scanning function

SPD

Built-in SPD, over / under voltage, over current, over temperature, Anti-islanding and other multiple protections



DATASHEET 20000-33000W-3Ph

Input (DC)	20000TL-G2	25000TL-G2	30000TL-G2	33000TL-G2
Recommended Max. PV input power	26600Wp	33250Wp	39900Wp	43890Wp
Max DC power for single MPPT	13000W	16000W	18000W	20000W
Number of MPP trackers	2			
Number for DC inputs	2 for each MPPT	3 for each MPPT	3 for each MPPT	3 for each MPPT
Max. input voltage	1100V			
Start-up voltage	250V			
Rated input voltage	620V			
MPPT operating voltage range	230V-960V			
Full power MPPT voltage range	480V-850V	460V-850V	520V-850V	580V-850V
Max. input MPPT current	24A/24A	28A/28A	30A/30A	30A/30A
Maximum DC input short circuit current per MPPT	30A	35A	37.5A	37.5A
Output (AC)				
Rated power	20000W	25000W	30000W	33000W
Max. AC power	22000VA	27500VA	33000VA	36300VA
Max. Output current	32A	40A	48A	53A
Nominal grid voltage	3/N/PE, 220/380Vac, 230/400Vac, 240/415Vac			
Grid voltage range	310Vac-480Vac (According to local standard)			
Nominal frequency	50/60Hz			
Grid Frequency range	45Hz-55Hz/54Hz-66Hz (According to local standard)			
Active power adjustable range	0~100%			
THDi	<3%			
Power factor	>0.99 (adjustable +/-0.8)			
Performance				
Max efficiency	98.2%	98.4%	98.4%	98.6%
European weighted efficiency	98.0%	98.2%	98.2%	98.2%
Self-consumption at night	<1W			
MPPT efficiency	>99.9%			
Protection				
DC reverse polarity protection	Yes			
DC switch	Yes			
Protection class/ overvoltage category	I/III			
Safety protection	Anti islanding, RCMU, Ground fault monitoring			
ARPC	Anti reverse power controller (optional)			
Communication				
Power management unit	According to certification and request			
Standard communication mode	RS485, Wifi/Ethernet/GPRS(optional), SD card			
Operation data storage	25 years			
General Data				
Ambient temperature range	-25°C ~ +60°C			
Topology	Transformerless			
Degree of protection	IP65			
Allowable relative humidity range	0~100%			
Max. operating altitude	2000m			
Noise	<30dB	<45dB	<45dB	<45dB
Weight	37kg			
Cooling	Natural	Fan	Fan	Fan
Dimension	666*512*254mm			
Display	LCD display			
Warranty	5 years/ 7 years/ 10 years			
Standard				
EMC	EN 61000-6-2, EN 61000-6-3, EN 61000-3-11, EN 61000-3-12			
Safety standards	IEC62109-1/2, IEC62116, IEC61727, IEC-61683, IEC60068(1,2,14,30), IEC60255			
Grid standards	AS/NZS 4417, VDE V 0124-100, V 0126-1-1, VDE-AR-N 4105, CEI 0-21/CEI 0-16, EN 50549, G59, P.O. 12.3, RD1699, UTE C15-712-1, EN 50530, NB/T32004			



50k~70kTL

50000/ 60000/ 70000

Three-Phase Three-MPPT



Fuse free design



Built-in DRM port and logic



Max. efficiency up to 98.6%



Super large 4-inch LCD



Outdoor IP65 protection level



Sound and light alarm function



DC SPD Class 2, over/under voltage, over current, over temperature,
Anti-islanding and other multiple protections



DATASHEET 50000-70000W-3Ph

Input (DC)	50000TL	60000TL	70000TL-HV
Recommended Max. PV input power	66500Wp	79800Wp	93100Wp
Max DC power for single MPPT	22000W 16000W 16000W	22000W 22000W 22000W	26000W 26000W 26000W
Number of MPP trackers		3	
Number for DC inputs	4/3/3	4/4/4	4/4/4
Max. input voltage		1000V	
Start-up voltage		350V	
Rated input voltage	600V	600V	700V
MPPT operating voltage range		250V-950V	
Full power MPPT voltage range	530V-800V	530V-800V	660V-800V
Max. input MPPT current	40A/30A/30A	40A/40A/40A	40A/40A/40A
Max. input current per string		12A	
Maximum DC input short circuit current per MPPT	48A/36A/36A	48A	48A
Output (AC)			
Rated power	50000W	60000W	70000W
Max. AC power	50000VA	60000VA	75000VA
Max. Output current	80A	90A	90A
Nominal grid voltage	3/N/PE, 220/380Vac, 230/400Vac, 240/415Vac		3/N/PE or 3/PE, 277/480Vac
Grid voltage range	310Vac-480Vac (According to local standard)		422Vac-528Vac(According to local standard)
Nominal frequency		50/60Hz	
Grid Frequency range		45Hz-55Hz/54Hz-66Hz (According to local standard)	
Active power adjustable range		0~100%	
THDi		<3%	
Power factor		>0.99 (adjustable +/-0.8)	
Performance			
Max efficiency	98.5%	98.6%	98.6%
European weighted efficiency	98.3%	98.4%	98.4%
Self-consumption at night		<1W	
MPPT efficiency		>99.9%	
Protection			
DC reverse polarity protection		Yes	
DC switch		Yes	
Protection class/ overvoltage category		I/III	
Input/ output SPD(III)		PV: type II standard, AC: type II optional	
Safety protection		Anti islanding, RCMU, Ground fault monitoring	
ARPC		Anti reverse power controller (optional)	
Communication			
Power management unit		According to certification and request	
Standard communication mode		RS485, Wifi/Ethernet/GPRS(optional), SD card, Multi-function relay	
Operation data storage		25 years	
General Data			
Ambient temperature range		-25°C ~ +60°C	
Topology		Transformerless	
Degree of protection		IP65	
Allowable relative humidity range		0~100%	
Max. operating altitude		4000m	
Noise		≤60dB	
Weight	68kg	70kg	70kg
Cooling Display		Fan LCD display	
Dimension		713*737*297mm	
Warranty		5 years/ 7 years/ 10 years	
Standard			
EMC		EN 61000-6-2, EN 61000-6-4, EN 61000-3-11, EN 61000-3-12	
Safety standards		IEC621109-1/2, IEC62116, IEC61727, IEC-61683, IEC60068(1,2,14,30)	
Grid standards	AS/NZS 4777, VDE V 0124-100, V 0126-1-1, VDE-AR-N 4105, BDEW, CEI 0-21/CEI 0-16, UNE 206 007-1, EN50549, G59, EN50530, NB/T32004		



80K~136KTL

80KTL/100KTL/100KTL-HV/125KTL-HV/136KTL-HV

Three-Phase Eight to twelve MPPTs



Remote firmware upgrade



I-V curve scanning function



Maximum 12 MPP trackers with 1.5* DC overload



Max. efficiency up to 99%



Outdoor IP66 protection level



Type II SPD for both DC and AC



Support Modbus communication, external Wifi/ PLC/ GPRS (optional)



AC / DC dual power supply redundant design, 24-hour status monitoring



DATASHEET 80000-136000W-3Ph

Input (DC)	80KTL	100KTL	100KTL-HV	125KTL-HV	136KTL-HV
Max. input voltage			1100V		
Rated input voltage	600V	600V	680V	680V	680V
Start-up voltage			200V		
MPPT operating voltage range			180V-1000V		
Full power MPPT voltage range	500V-850V	500V-850V	550V-850V	550V-850V	550V-850V
Number of MPP trackers	8	10	10	10	12
Number for DC inputs	16	20	20	20	24
Max. input MPPT current			26A		
Max. DC input short circuit current per MPPT			40A		
Output (AC)					
Rated power	80kW	100kW	100kW	125kW	136kW
Max. AC power	88kVA	110kVA	110kVA	137kVA	150kVA
Max. output current	128A	160A	128A	160A	160A
Nominal grid voltage	3/N/PE, 230V/400Vac, 220V/380Vac		3/PE, 288V/500Vac	3/PE, 288V/500Vac	3/PE, 311V/540Vac
Grid voltage range	310Vac-480Vac	310Vac-480Vac	400Vac-575Vac	400Vac-575Vac	432Vac-621Vac
Nominal frequency			50/60Hz		
Grid frequency range		45Hz-55Hz/54Hz-66Hz (According to local standard)			
Active power adjustable range			0~100%		
THDi			<3%		
Power factor			1 default (adjustable+/-0.8)		
Performance					
Max. Efficiency	98.60%	98.70%	98.80%	99.00%	99.00%
European weighted efficiency	98.20%	98.30%	98.50%	98.50%	98.51%
MPPT efficiency			>99.9%		
Protection					
DC reverse polarity protection			Yes		
Anti-islanding protection			Yes		
Leakage current protection			Yes		
Ground fault monitoring			Yes		
PV-array string fault monitoring			Yes		
Zero voltage ride through			Yes		
DC switch			Yes		
Anti-PID protection			Optional		
AFCI			Optional		
Protection class/ Overvoltage category			I/III		
Input/ Output SPD			PV: type II standard, AC: type II standard		
Communication					
Power management unit			According to certification and request		
Communication			RS485, Optional: WiFi /GPRS /PLC		
Operation data storage			25 years		
General Data					
Ambient temperature range			-30℃~+60℃		
Topology			Transformerless		
Degree of protection			IP66		
Allowable relative humidity range			0~100%		
Max. operating altitude			4000m		
Noise			≤60 dB		
Weight	72kg	84kg	72kg	84kg	85kg
Cooling			Smart forced air cooling		
Dimension			1051*660*340mm		
Display			LCD&Bluetooth+APP		
Warranty			5 years/ 7 years/ 10 years		
Standard					
EMC			EN 61000-6-2, EN 61000-6-4, EN 61000-3-11, EN 61000-3-12		
Safety standard			IEC62109-1/2, IEC62116, IEC61727, IEC-61683, IEC60068(1,2,14,30)		
Grid standard			AS/NZS 4777, VDE V 0124-100, V 0126-1-1, VDE-AR-N 4105, CEI 0-21/CEI 0-16, UNE 206 007-1, EN50549, G99, EN50530, NB/T32004		



3000SP
3KW AC

Coupled energy storage inverter

-  LCD+ LED – human friendly-machine interface
-  Smart battery energy management system
-  Flexible configuration of lead acid or lithium battery
-  A variety of work modes are optional
-  Outdoor IP65 design
-  Compatible with other brands of inverter
-  Integrated fanless self-recognition heat dissipation design



DATASHEETS 3 kW INVERTER

Battery Parameters

ME 3000SP

Battery Type	Lithium-ion, Lead-acid
Nominal battery voltage	48V
Battery voltage range	42-58V
Recommended battery capacity	200Ah (100~500Ah optional)
Recommended storage capacity	9.6kWh
Max. Charging current	60A
Charging current range	0-60A (Programmable)
Charging curve	3-Stage adaptive with maintenance
Max. Discharging current	60A
Electronic protection	OCP OTP OVP
Short circuit protection	Fuse (100A)
Discharge times (Hour)	Po=1kVA9.6h
	Po=3kVA3.2h
Depth of discharge	Lithium-ion: 0-80% DOD adjustable
	Lead-acid: 0-50% DOD adjustable

AC Parameters

Max. Output power	3kVA
Rated Input/ Output voltage	230V
Max. Input/ Output current	13A
AC Input/ Voltage range	180V-270V
Grid frequency range	44~55Hz / 54~66Hz
THD	<3%
Power factor	1 default (+/-0.8 adjustable)
Connection phase	Single
Current (inrush)	0.8A/ 1us
Maximum output fault current	100A/ 1us
Maximum output over current protection	13A

System Parameters

Max. Charging efficiency	>95%
Max. Discharging efficiency	>95%
Standby losses	<5W
Topology	High frequency isolated transformer
Degree of protection	IP65
Safety protection	Anti islanding, RCMU, Ground fault monitoring
Communication	RS485, Wifi/Ethernet/GPRS, CAN2.0
SPD protection	III

Environmental

Ambient temperature range	-25°C~ +60°C (Above 45°C Derating)
Allowable relative humidity range	0~100%
Protective class	Class I
Max. Operating altitude	2000m
Current sensor connection	External

Emergency Power Supply

EPS rated power	3000VA
EPS rated voltage, Frequency	230V, 50/60Hz
EPS rated current	13A
Total harmonic distortion	<3%
Switch time	<3s

General Data

Noise	<25dB
Weight Dimension (W*H*D) Display	16kg 530*360*173mm LCD display
Cooling	Natural
Warranty	5 Years (Optional: Extension to 10 years)

Standard

EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Safety standards	IEC62109-1/2, IEC62040-1
Grid standards	AS/NZS 4777, AS/NZS 62040, VDE V 0124-100, V 0126-1-1, VDE-AR-N 4105, CEI 0-21, EN50549, G83/G98, UTE C15-712-I



3k~6k-ES

3000/3600/4000/4600/5000/6000

Single-Phase Energy storage integrated inverter



Compatible with on grid and off grid



EPS function, switching time is less than 10ms



Flexible configuration of lead acid or lithium battery



Outdoor IP65 design



A variety of work modes are optional



Built-in zero export function



Integrated fanless self-recognition heat dissipation design



DATASHEETS 3-6 kW INVERTER

Battery Parameters		3000-ES	3600-ES	4000-ES	4600-ES	5000-ES	6000-ES
Battery Type				Lithium-ion, Lead-acid			
Nominal battery voltage				48V			
Battery voltage range				42-58V			
Battery Capacity				50-2000Ah			
Maximum Charging / Discharging Power				3000W			
Maximum Charging Current				65A (Programmable)			
Maximum Discharging Current				70A (Programmable)			
Charging curve(Lithium-ion)				BMS			
Charging curve(Lead-acid)				3-Stage adaptive with maintenance			
Depth of discharge				Lithium-ion: 0-90% DOD adjustable, Lead-acid:0-50% DOD adjustable			
Input DC(PV side)							
Recommended Max. PV input power		3990Wp	4790Wp	5320Wp	6120Wp	6650Wp	7980Wp
Max DC power for single MPPT		2000W	2400W	2600W	2800W	3000W	3500W
Max. input voltage				600V			
Start-up voltage				120V			
Nominal DC Voltage				360V			
MPPT operating voltage range				90-580V			
Full power MPPT voltage range		160V-520V	180V-520V	200V-520V	230V-520V	250V-520V	300V-520V
MPPT number				2			
The max DC input current				12A/12A			
The max DC input short current				15A/15A			
Output AC(Grid side)							
Rated Power		3000W	3680W	4000W	4600W	5000W	6000W
Max. Output Power		3000VA	3680VA	4000VA	4600VA	5000VA	6000VA
Nominal Grid Voltage				L/N/PE, 220, 230, 240			
Operation phase				Single (L-N-PE)			
Max. Input / Output current		13.7A	16A	18.2A	21.0A	22.8A	27.3A
AC voltage Range				180V~276V (According to local standard)			
Grid Frequency range				44-55Hz/54-66Hz (According to local standard)			
THD				<3%			
Power factor				1 default (+/-0.8 adjustable)			
Output AC(Emergency Power Supply)							
EPS rated power				3000VA			
Operation phase				Single (L-N-PE)			
EPS rated voltage,Frequency				230V, 50/60Hz			
EPS rated current				13.2A			
Peak Output Apparent Power				4000VA, 10s			
THD				180-276Vac (According to local standard)			
Switch time				10ms default			
Efficiency							
MPPT efficiency				99.9%			
Max efficiency of solar Inverter		97.6%	97.6%	97.6%	97.8%	97.8%	98.0%
European efficiency of solar Inverter		97.2%	97.2%	97.2%	97.3%	97.3%	97.5%
Max. Charging / Discharging efficiency of battery				94.6%	94.6%		
Protection							
PV reverse polarity protection				Yes			
PV insulation detection				Yes			
Ground fault monitoring				Yes			
Over current protection				Yes			
Over voltage protection				Yes			
Battery soft start protection				Yes			
SPD protection				III			
General Data							
Ambient temperature range				-25℃~+60℃ (Above 45℃ Derating)			
Standby Losses				<10W			
Topology				High frequency insulation (for bat)			
DC-Switch				Yes			
Degree Of Protection				IP65			
Allowable Relative Humidity Range				0~100%			
Communication				RS485, Wifi/Ethernet/GPRS, SD, CAN2.0			
Protective class				Class I			
Max. Operating Altitude				2000m			
Current Sensor Connection				External			
Noise	Weight	Dimension (W*H*D)	Display	<25dB	20.5kg	566*394*173 mm	LCD display
Cooling				Natural			
Warranty				5 Years or more			
Standard							
EMC			EN 61000-6-2, EN 61000-6-3, EN 61000-3-2, EN 61000-3-3, EN 61000-3-11, EN 61000-3-12				
Safety standards			IEC62109-1/2, IEC62040-1, IEC62116, IEC61727, IEC-61683, IEC60068(1,2,14,30)				
Grid standards			AS/NZS 4777, VDE V 0124-100, V 0126-1-1, VDE-AR-N 4105, CEI 0-21, EN50549, G83/G59/G98/G99, UTE C15-712-1, UNE 206 007-1				



5K~20KTL-3PH

5000/6000/8000/10000/15000/20000

Three-Phase Energy storage integrated inverter

APF

APF mode, improved grid power quality

0123
456
789

Full digital control, higher control accuracy

2
MPPT

2 MPPT input, more flexible configuration



Diversified work patterns and rapid gains



Multiple parallel systems, more flexible system solutions



Off-grid output can be connected to unbalanced load, three-phase separate output is supported



DATASHEET 5-20kW 3Ph STORAGE INVERTER

Battery Input Data		5KTL-3PH	6KTL-3PH	8KTL-3PH	10KTL-3PH	15KTL-3PH	20KTL-3PH
Battery type		Li-Ion					
No. of battery input		1	1	1	2	2	2
Battery voltage range		180V-800V					
Battery voltage range for full load		200V-800V	240V-800V	320V-800V	200V-800V	300V-800V	400V-800V
Nominal charging/discharging power		5000W	6000W	8000W	10000W	15000W	20000W
Max. charging/discharging current		25A	25A	25A	50A(25A/25A)	50A(25A/25A)	50A(25A/25A)
Peak charging/discharging current, Duration		40A, 60s	40A, 60s	40A, 60s	70A(35A/35A), 60s	70A(35A/35A), 60s	70A(35A/35A), 60s
Charging strategy for battery		Self-adaption to BMS					
Battery capacity		25Ah~100Ah					
Communication interfaces		CAN(RS485)					
PV String Input Data							
Recommended Max. PV input power		7500Wp(6000Wp/6000Wp)	9000Wp(6600Wp/6600Wp)	12000Wp(6600Wp/6600Wp)	15000Wp(7500Wp/7500Wp)	22500Wp(11250Wp/11250Wp)	30000Wp(15000Wp/15000Wp)
Max. DC voltage		1000V					
Start-up operating voltage		200V					
MPPT voltage range		180V-960V					
Nominal DC voltage		600V					
Full power MPPT voltage range		250V-850V	320V-850V	360V-850V	220V-850V	350V-850V	450V-850V
Max. input current		12.5A/12.5A	12.5A/12.5A	12.5A/12.5A	25A/25A	25A/25A	25A/25A
Max. short current		15A/15A	15A/15A	15A/15A	30A/30A	30A/30A	30A/30A
No. of MPP trackers		2					
No. of strings per MPP tracker		1	1	1	2	2	2
AC Output Data (On-grid)							
Nominal AC power		5000W	6000W	8000W	10000W	15000W	20000W
Max. AC power output to utility grid		5500VA	6600VA	8800VA	11000VA	16500VA	22000VA
Max. AC power from utility grid		10000VA	12000VA	16000VA	20000VA	30000VA	40000VA
Max. AC current output to utility grid		8A	10A	13A	16A	24A	32A
Max. AC current from utility grid		15A	17A	24A	29A	44A	58A
Nominal grid voltage		3/N/PE, 220/380Vac, 230/400Vac					
Grid voltage range		184Vac~276Vac					
Nominal grid frequency		50/60Hz					
Grid frequency range		45Hz~55Hz/55Hz~65Hz					
Output power factor		~1(0.8 leading to 0.8 lagging)					
Output THDi (@Nominal output)		<3%					
AC Output Data (Back-up)							
Nominal output power		5000W	6000W	8000W	10000W	15000W	20000W
Max. output power		5500VA	6600VA	8800VA	11000VA	16500VA	22000VA
Peak output power, Duration		10000VA, 60s	12000VA, 60s	16000VA, 60s	20000VA, 60s	22000VA, 60s	22000VA, 60s
Max. output current		8A	10A	13A	16A	24A	32A
Peak output current, Duration		15A, 60s	18A, 60s	24A, 60s	30A, 60s	32A, 60s	32A, 60s
Nominal output voltage		3/N/PE, 220/380Vac, 230/400Vac					
Nominal output frequency		50/60Hz					
Output THDv (@Liner load)		<3%					
Switch time		<20ms					
Efficiency							
MPPT efficiency		99.9%					
Euro efficiency		97.5%	97.5%	97.5%	97.7%	97.7%	97.7%
Max. efficiency		98.0%	98.0%	98.0%	98.2%	98.2%	98.2%
Max. battery charge/discharge efficiency		97.6%	97.6%	97.6%	97.8%	97.8%	97.8%
Protection							
DC switch	PV reverse polarity protection	Output over current protection	Insulation resistor detection				Yes
Output over voltage protection	Anti-islanding protection	Residual current detection	Battery reverse protection				Yes
Surge protection level		II					
General Data							
Dimension		571.4*515*264.1mm					
Weight		33kg	33kg	33kg	37kg	37kg	37kg
Inverter topology		Transformerless					
Standby self-consumption		<10W					
Operating temperature range		-30℃~+60℃					
Relative humidity		0~100%					
Noise		<45dB					
Operating altitude		<4000m					
Cooling		Natural	Natural	Natural	Forced airflow	Forced airflow	Forced airflow
Protection degree		IP65					
Feature							
DC terminal		MC4					
Grid AC terminal		5P Connector					
Back-up AC terminal		5P Connector					
Display		LCD Display					
Monitoring interfaces		Bluetooth / RS485 / WIFI / GPRS (optional)					
Parallel operation		Yes					
Standard warranty		Standard 5 years					
Certifications & Standards							
EMC		EN61000-6-1, EN61000-6-3					
Safety		IEC62109-1, IEC62109-2, NB-T32004/IEC62040-1					
Grid		AS/NZS 4777, VDE V 0124-100, V0126-1-1, VDE-AR-N 4105, CEI 0-16/CEI 0-21, EN50549, G98/G99, UTE C15-712-1					



STORE BATTERY

GTX2000



Multi-level energy management, longer battery life



One-button switch machine, more convenient operation



Modular, ultra-thin wall hanging design, convenient installation



Multiple parallel support, high current charge and discharge



High BMS compatibility, perfect match of energy storage inverter



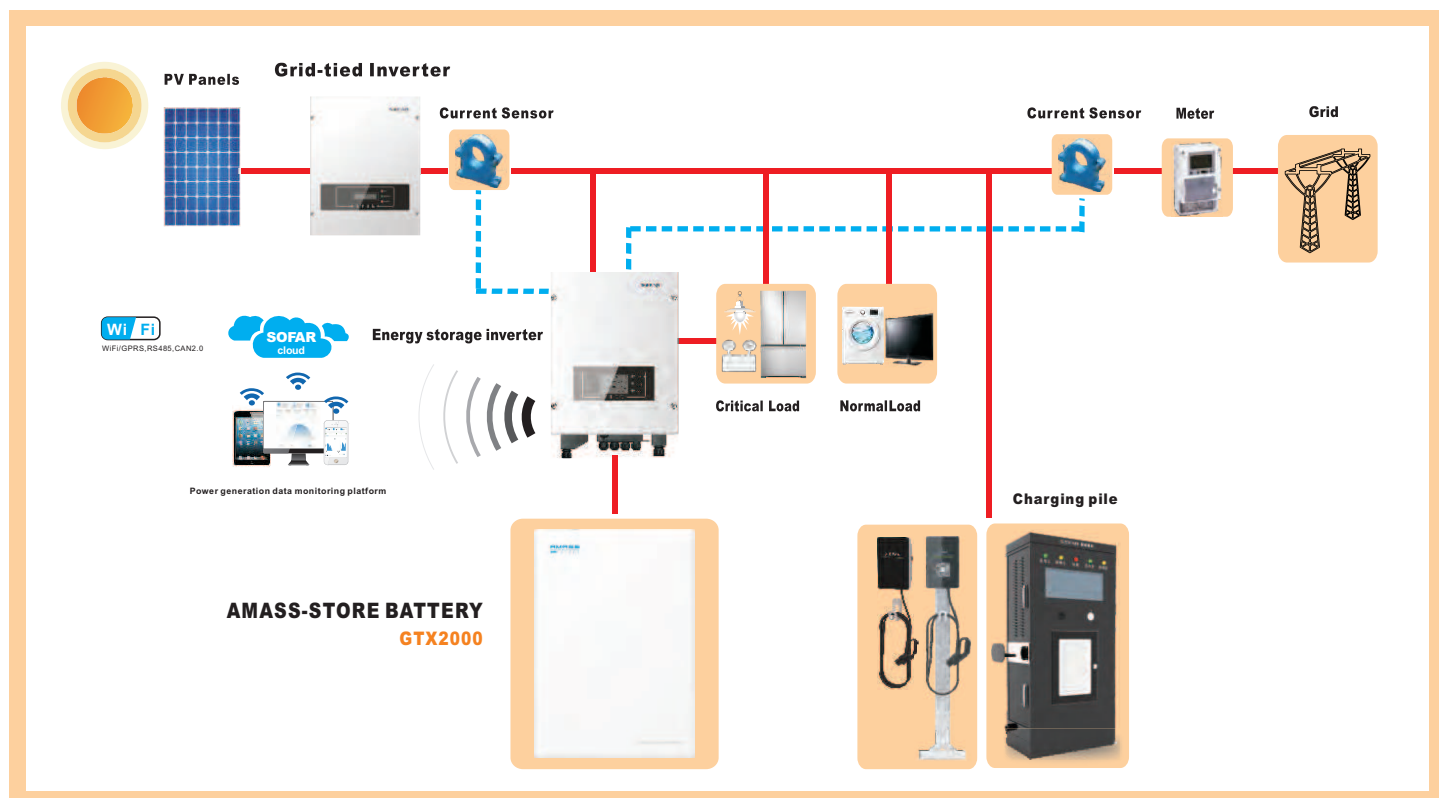
The adoption of high-performance processors, international brand devices, better stability



DATASHEET STORE BATTERY

Basic Parameters	GTX2000
Total energy	2400Wh
Usable energy	2000Wh
Nominal voltage	48.0V
Depth of discharge (DOD)	80%
Cycle life (80%DOD)	>6000, 25°C
Design life	10+ Years(25 °C 77°F)
Discharge voltage	45V ~ 54.0V
Charge voltage	51.5V ~ 54.0V
Cont. Charge current	25A
Max. Charge current	25A
Cont. Discharge current	50A
Max. Discharge current	65A
Communication port	CANbus 2.0B+RS485
Storage temperature	5°C ~ +45°C
Altitude	<4000m
Humidity	10%~90%
Scalable	Up to 4 units
Installation method	Wall-mounted
Protection rating	IP20
Operating temperature	-10°C ~ +50°C (discharge) 0°C ~ +50°C (charge)
Weight	31kg
Dimension	95mm*450mm*640mm
Certificates	CE / IEC62619 / RCM / SAA

AC Coupled Solar System





STORE BATTERY

GTX5000



Remote diagnosis and real-time data monitoring



Certification of IEC62619, UN38.3, IEC62040-I ...



Compatible with multi-brand storage inverters



Supports parallel expansion, supports up to 4 parallels



CATL brand battery, long cycle life (6000 times)



Wall-mounted or floor-mounted installation, time and cost saving installation



Han's Laser automated PACK production line, stable and reliable production quality



One-button automatic assignment of parallel ID, simple and convenient operation

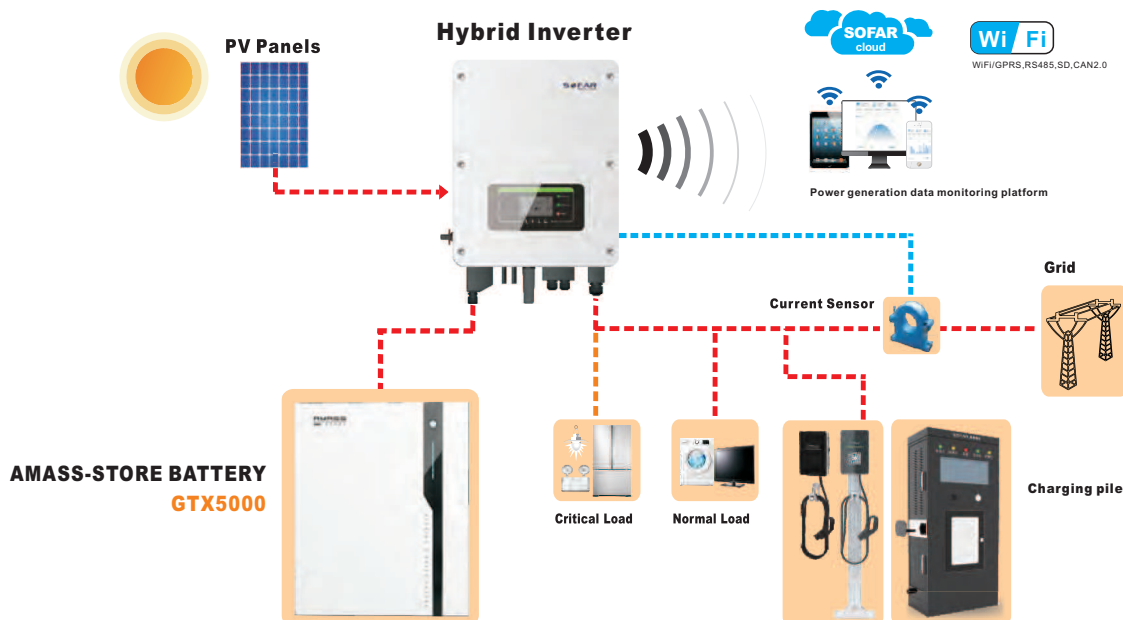


Basic Parameters

GTX5000

Total Energy	5100Wh		
Usable Energy	3500W		
Rated Capacity	100AH		
Nominal Voltage	51.2Vdc		
Charge Voltage	55.2-56.16Vdc		
Discharge Voltage	47.2-49.92Vdc		
Nominal Charge Current	50A		
Max. Charge Current	50A		
Nominal Discharge Current	50A		
Max. Discharge Current	75A (3.5 kW)		
Communication	RS232、RS485、CAN		
Charge Temperature	≤ -10℃	0	
	-9 ~ 2℃	0.05C	
	3 ~ 10℃	0.2C	
	11℃ ~ 39℃	0.5C	
	40℃ ~ 49℃	0.2C	
	50℃ ~ 54℃	0.05C	
Discharge Temperature	≥ 55℃	0	
	≤ -20℃	0	
	-19 ~ -10℃	0.2C	
	-9 ~ 2℃	0.3C	
	3℃ ~ 49℃	0.5C	
	50℃ ~ 59℃	0.2C	
Storage Temperature	≤ 25℃, 12 months	≤ 35℃, 6 months	≤ 45℃, 3 months
Operating humidity	Storage humidity < 95% RH		
Max. Operating Altitude	≤ 2000 m		
Degree of protection	IP20		
Weight Dimension	54kg 480mm*211.5mm*600mm		
Certificates	IEC62619、UN38.3、IEC62040-1		
Design Life	10 years (25℃)		
Cycle Life	6000 Cycles@ 80% DOD / 25℃ / 0.5C Charge , 70% EOL		

Hybrid Solar System





Inverter Logger

GPRS / WCDMA

- ▶ Ensure completeness of collected data
- ▶ Realtime alerts with immediate notification for fast troubleshooting
- ▶ Industrial-level SIM chip integrated for stable operation and high performance
- ▶ Suitable for rural areas where no network connection is available
- ▶ High network coverage around the world
- ▶ Devices could be upgraded and debugged remotely for easy maintenance
- ▶ Quick installation and easy operation with “Plug & Play” function
- ▶ Check the system status anytime and anywhere via online portal or app, no additional software required



General		LIG-1
Max. number of inverters		Basic ver.: I
		Advanced ver.: I-4
		Professional ver.: I-I0
		*For inverters with RS232,
		each data logger can only
		Support one inverter at a time
Inverter communication		RS485/422/232(Optional)
Remote communication		GSM
Electrical		
Communication rate		I 200-57600bps (Adjustable)
Frequency		850/1900/1800/1900MHz
Wireless communication range		
Transmitting power		3W (Max) / 1W (Min)
Data collection intervals		5 minutes (Default) / 1-15 minutes (Optional)
Preference setting		Serial port AT instruction
Data access		485/422 Remote server
Status display		4 LEDs
Memory		2M Flash(Default) / 512k-16M BYTE Flash(Optional)
Input voltage		DC 5.0V(+/-5%)
Static power consumption		<3W
Max. instantaneous power consumption		3W
Operating temperature		-25°C ~ +65°C
Operating humidity		10%-90% Relative humidity, no condensation
Status display		4 LEDs
Storage temperature		-25°C ~ +65°C
Storage humidity		<40%
Protection class		IP21
Physical		
Dimension		110*80*24mm
Weight		102g
Installation		Wall mounted or flatwise



Stick Logger

GPRS / WIFI / 4G / ETHERNET / NB-IOT

- ▶ External light indicator, logging status at a glance
- ▶ External design, easier to replace faulty equipment
- ▶ IP65 water-proof design, resistant to bad weather, enhance stability
- ▶ Plug and play, pick power within inverter, no external power needed, easy to install
- ▶ Independent from inverter to protect parts inside inverter, eliminate potential problems
- ▶ End-user can monitor yields at any time with SOLARMAN APP



DATASHEET STICK LOGGER



	LSG-3	LSG-4	LSW-3	LS4G-3	LSE-3
Remote communication interface	GPRS	GPRS	WiFi	4G	LAN
Working frequency	GSM850/EGSM900 /DCS1800/ PCS1900MHz	GSM850/EGSM900 /DCS1800/ PCS1900MHz	2.142GHz~ 2.484GHz	704~960MHz 1710~2690MHz	Adaptive Network 10M / 100M
Satellite positioning	-	GPS / Beidou < 15m	-	-	-
Antenna	External GPRS Stick Antenna	External GPRS Stick Antenna	External WiFi Stick Antenna	External 4G Stick Antenna	- -
Data interface	RS232				
Working voltage	DC4.7V ~ DC15V				
Working power	3W	3W	1.5W	5W	1W
SIM card	Chip card/MicroSIM	Chip card/MicroSIM	-	MicroSIM	-
Memory	2M Flash (2M-16M Optional)				
Working temperature	-40°C ~ +85°C				
Working humidity	< 90% (No Condensing)				
No. of connections	One				
Serial communication rate	bps (1200-115200bps Configurable)				
Data acquisition interval	Default 5min (1-15min Configurable)				
Use configuration	AT + Instruction Set Remote server				
	Bluetooth	APP/Web	APP/Web	Local serial port	Web
Firmware upgrade	Remote Upgrade				
Others	Real-time Control, Data resuming				



Pro Logger

GPRS / WIFI / 4G / ETHERNET

- ▶ Multi-interfaces: RS485, RS232, RS422, CAN; supports connection of P1 meter;
- ▶ Support magnetic latching relay controlling 250VAC/16A circuit externally;
- ▶ Standard accessory: 8GB TF card; supports 20-year storage; data in Solarman platform will be saved permanently;
- ▶ Support multi-channel digital/analog input interface; support grid dispatching, sensor and multi-scenarios;
- ▶ SOLARMAN Pro version supports intelligent plant management.
- ▶ Dual SIM chips, supporting on-grid project that requires private network power supply;
- ▶ Support static page configuration or upgrade, local/remote multi-mode monitoring;
- ▶ Support importing data and error history via USB;
- ▶ Embedded super capacitor supports power-off reminder; Simplify plant O&M significantly;



Wireless Parameters		LP-1	LP-2
Remote Communication 1	GPRS		4G
Frequency	GSM850/EGSM900/ DCS1800/PCS1900MHz		LTE-FDD/LTE-TDD/WCDMA/ TD-SCDMA/CDMA/GSM
Remote Communication 2	GPRS / 4G		
Remote Communication 3	-		WiFi
Antenna	Sucker Antenna		
Hardware Parameters			
Ethernet	Adaptive Network: 10 / 100M		
Input Voltage	DC 15V~60V		
Working Power	< 10W		
Output Voltage	DC 12V 500mA		
Indicator Light	LED x4		
Memory	128MByte NAND FLASH		
	8GB TF Card (Optional)	8GB TF Card (Standard)	
Analog / Digital Input	Analog Input x6 / Digital Input x6		Analog Input x4 / Digital Input x4
Digital Output	16A 250VAC Magnetic Latching Relay Output x2		
USB	Mini USB x1		USB x1
S0 in	NA		2
Clock	Chip Internal Clock		
RS 485	4		4
RS 232	1		1
CAN	1		1
PI	-		1
Power off Reminder	X		√
Operating Temperature	-20℃~+60℃		
Operating Humidity	10-95% (No Condensing)		
Dimension	240*118*49mm		
IP Grade	IP20		
Installation Method	35mm Din-Rail Mount		
Software Parameters			
No. of Connections	1-100		
Data Acquisition Interval	Default: 5mins (1-15 mins Configurable)		
User Configuration	AT+ Instruction Set, Remote Server		
Firmware Upgrade	SMS / Remote / Local		
Others	Real-time Control, Data Resuming Transfer		



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