OUTDOOR HYBRID POWER SYSTEM

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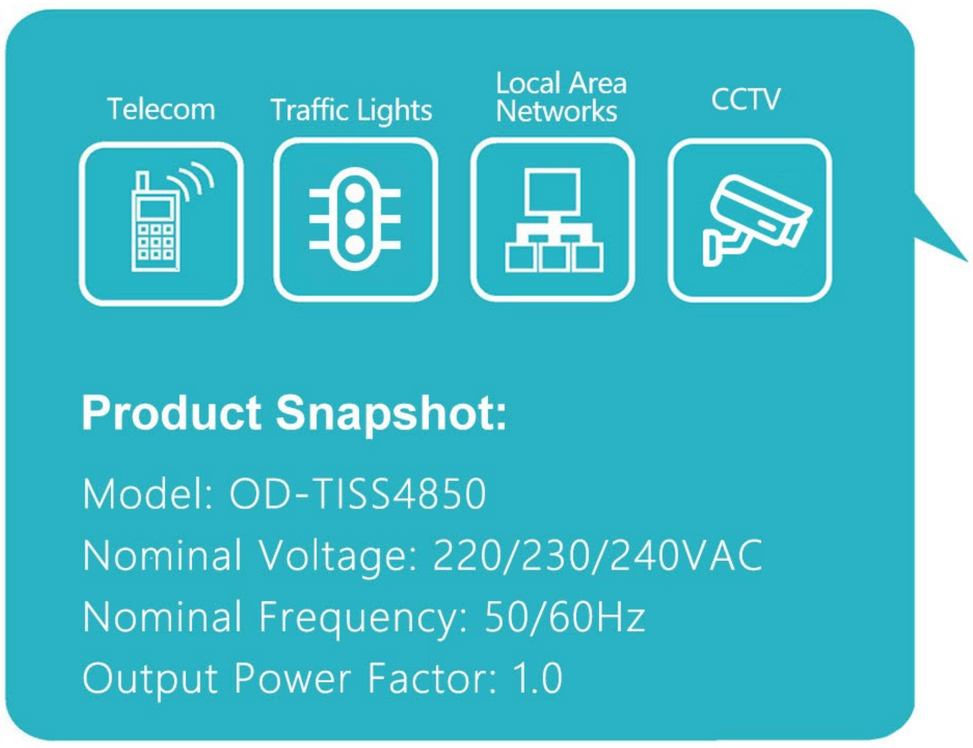
Outdoor Hybrid Power System

OD-TISS4850



Product Snapshot:

Model: OD-TISS4850
Nominal Voltage: 220/230/240VAC
Nominal Frequency: 50/60Hz
Output Power Factor: 1.0

Application:

OD-TISS4850 series outdoor hybrid power system is integrated of multi-energy complementary power supply ,battery storage and backup system, cooling system, monitor system to provide safe and reliable environment for outdoor equipments, such as traffic light, road surveillance cameras etc.

Reliable Power Supply:

The system is designed to efficiently utilization of clean energy, reducing or eliminating the reliance on mains electricity. Normally, the system is powered by solar panels， supply to inverter, DC load and charge the batteries as well. At the same time, the inverter convert DC power to AC power to supply AC loads. When there is no solar power or the solar is insufficient, the system changes to the mains to power or activate the battery backup power supply. The interactive power supply ways has enhanced the safety and stability of the system.

System Introdution:

The system configuration supports 1 hot swappable inverter modules and 1 hot swappable Low voltage solar charge controller module. The system monitoring module has battery management functions and power system monitoring functions. It can be configured with appropriate multiple sensors to achieve environmental monitoring. It can also provide RS485 communication interfaces for remot monitoring and unmanned operation.

Embedded Power Supply Frame:

Dimension(W x D x H)： 482.6*350*88mm

Monitoring Module Introduction:

Monitoring Module

The TM3 monitoring module is powered by multiple channels from the system busbar and battery, and supports a wide range of 24V-72VDC voltage input.

- Provides complete rectifier module energy-saving management and battery charge and discharge management functions;
- Has switch detection alarm, AC voltage, busbar voltage, battery voltage, battery midpoint voltage, load current, battery current, battery temperature, ambient temperature, ambient humidity and other analog quantity acquisition and reporting functions;
- Has the function of controlling load power-off and battery power-off;
- Through LCD, the real-time system information can be viewed and system parameters can be set;
- RS485 or Ethernet interface. The Ethernet interface adopts TCP/IP protocol, supports WEB browsing, supports SNMP protocol, and supports local or remote upgrade programs.

Solar Charge Controller Module Introduction:

Solar Charge Controller Module

Input	
Input Voltage	58Vdc ~150Vdc （Start voltage greater ＞75Vdc)
Rated Input Voltage	100Vdc
MPPT Voltage Range	58Vdc ~ 120Vdc
Rated Input Current	28.5A
Maximum Input Current	45A
Surge Current	Meets standard: EN/IEC61000-4-5
MPPT Efficiency	≥99.9% (Input power ≥400W)
Reverse Polarity Protection	Wrong input polarity, no damage
Maximum Input Voltage	165Vdc (Power supply cannot be damaged)
Output	
Output Voltage	+54.5Vdc
Output Voltage Setting Value	+54.5±0.1Vdc
Output Voltage Adjustable Range	+43.2Vdc ~ +58Vdc
Efficiency	≥97%
Source Effect	±0.1%
Load Effect	±0.5%
Voltage Regulation Accuracy	±0.6%
Maximum Output Current	Constant current 52A
Temperature Coefficient (1/℃)	≤±0.02%
Standby Power Consumption	≤4W (No loss in standby at night)
Maximum Capacitive Load	Output 54.5Vdc 40000uF

Inverter Module Introduction:

AC Input	
Input Mode	TT / TN / IT (Single-phase input)
Input Voltage Range	176Vac to 265Vac (176V-200V linear drop)
Rated Input Voltage	220Vac
Input Maximum Current	22A
Starting Surge Current	< 15A
Input THDi	<5%@ Output pure resistance full load
Input PF	> 0.99@ Output pure resistance full load
DC Input	
Input Voltage	42Vdc~58Vdc
Rated Input Voltage	53.5Vdc
Input Maximum Current	62.5A(RMS)
Starting Surge Current	< 45A
AC Output	
Output Voltage	Rated 220 Vac / 230 /240 Vac (Output voltage optional)
Output Frequency	Rated 50Hz / 60Hz (Frequency optional)
Power	1600VA~2000VA(176Vac-200Vac) 2000VA(200Vac-265Vac)
Standby Power	≤5W
Boot Start Time	< 10s
Efficiency	> 94% (Peak value) @AC INPUT > 92% (Peak value) @DC INPUT

Inverter Module

TECHNICAL SPECIFICATIONS

Model	OD-TISS4850
Capacity	2KW
AC Input	
Input Voltage	220VAC 50/60Hz
Input Voltage Range	176Vac to 265Vac
Frequency Range	47Hz~53Hz
Max. Input Current	20A
Input Current THD	<5% @output pure resistive full load
Power Factor	0.99@ output pure resistive full load
PV Input	
Input Voltage	100Vdc
Input Voltage Range	58Vdc~150Vdc
Maximum Input Voltage	165Vdc (The power supply cannot be damaged)
Maximum Input Current	45A
MPPT Efficiency	≥99.9%
Output	
DC Output Rated Voltage	54.5V
DC Output Voltage Adjustable Range	43.2Vdc~+58Vdc
DC Maximum Output Current	Constant current 52A
AC Output Rated Voltage	220Vac/230Vac (Optional)
Output Frequency	Rated 50Hz/60Hz (Frequency optional)
AC Output Power	2000VA
Battery	
Battery Voltage	48VDC
Battery Charge and Discharge Current	1C
Battery Capacity	50~100AH
Battery Size	3U
Input Voltage	42Vdc~58Vdc
Maximum Input Current	62.5A(RMS)
Maximum Input Voltage	60Vdc (The power supply cannot be damaged)
Configurations	
Structure	1U AC and DC power distribution space 1U Inverter module space and PV module space and SMU 3U 48VDC Lithium battery pack
MTBF	
Module (Magnitude:10)	10000 hours (25℃， rated input, full load output bellcore stress method prediction)
System (Magnitude:10)	10000 hours
Environmental Conditions	
Use Temperature	-40~50℃
Humidity	5%RH~90%RH
Altitude	3000m
Sound Noise	≤60dB (A)
Module Forced Air Cooling	Forward wind comes out after forward wind
Cabinet Forced Air Cooling	Bottom air in, top air out
Physical Characteristics	
Weight (KG)	100 KG
Cabinet Dimension (WxDxH)mm	530*350*840mm

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