Deye

Wireless Energy Manage System

A smart load management and home automation solution based on LoRa communication



Smart Plug



(low latency	Supports all Deye hybrid inverters	Easily define non-essential and critical loads
(C) Offline operation	談 Maximize the use of solar power	Minimize the electricity bill as much as possible
LoRa communication	🕼 Smart Load management	Charging control strategy based on time and SOC

Deye Wireless Energy Manage System

A smart load management and home automation solution based on LoRa communication.

Deye Wireless CT is installed in the distribution box to monitor power consumption, Supports both LoRa and RS485 communication methods simultaneously.



Deye Smart Switch is designed for outdoor high-power loads, offering the same logic control as Smart Plugs supporting both single-phase and three-phase loads. With the Deye Cloud APP or directly on the inverter's screen, you can customize the on/off logic for each Smart Plug based on factors like time and battery SOC levels.



All Deye hybrid inverters can serve as the local control center for the Deye Smart Home IoT System. Simply install the Deye Smart Transmitter(TX) to the inverter's Meter port to easily pair with Deye LoRa devices



Deye Smart Plug can be easily installed in any standard socket, instantly upgrading the appliance plugged in to a smart device.

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Deye Smart EV Charger can be directly connected to any AC port of the inverter and is controlled by the inverter via LoRa communication. It offers flexible options to take advantage of low-cost electricity, with modes such as Plug and Play, Time of Charge, or Solar Energy Only.





Why choose LoRa communication solutions?

LoRa devices have shorter wake-up times and lower communication latency, ensuring instant response.

In comparison, Wi-Fi devices typically take longer to wake up and may experience longer communication latency due to routing data and commands through the cloud platform.

Excessive latency makes it difficult for household energy systems to maintain stable operation.

If the Internet is not available, the Wi-Fi device may not be able to communicate with the server. But Deye's IoT devices communicate via LoRa protocol, so these devices can continue to conduct local commands.



Zero-Export Function Response Time Diagram

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Model				SUN-SMART-CT	٢٥1		

Electrical parameters		
Connection Type	L1/N(Single phase), L1/L2/L3/N(Three phase)	
СТ	Secondary current: 50mA	
Operation Voltage	85~300Va.c.(L-N)	
Rated Frequency/Range	50Hz(45Hz-55Hz)/60Hz(55Hz-65Hz)	
Self Consumption Power	≤2W	
AC voltage withstand	4KV/1min	
Accuracy		
Voltage	±0.1V	
Current	±0.01A	
Frequency	±0.01Hz	
Power	±1W	
Communication and Display		
Communication Interface	Lora/RS485	
Lora Communication Distance	≈200m(Barrier free)	
Display	LCD	
Display Data	Voltage、Current、Active power、Reactive power、 Frequency、Power Factor、Energy	
General Data		
Operation Temperature	-40 to +60°C	
Operation Humidity	0-75%	
Ingress Protection(IP) Rating	IP20	
Altitude	≤4000	
Mounting	DIN-Rail Mounting	
Size	53x96x64mm	
Weight	0.15kg	
Warranty	5 Years	
Certification standards	IEC/EN 61010-1	
Model	SUN-SMART-TX01	
Electrical Parameters		
Input Voltage	DC 5V	
Communication	Dest	
Communication Model	LoBa	
	≈200m(Barrier free)	
Basic Parameters	zoomburnerneey	
Operating Temperature Range	-40 to +60°C	
Permissible Ambient Humidity	0-100%	
Ingress Protection(IP) Rating	IP20(After installation IP65)	
Allowable Altitude	<4000	
Product size (WxHxD)	137.8x31.3xm	
Weight	45.8g	
Warranty	2 Years	
Standard	IEC/EN 62368-1	
LoRa Parameters		
Frequency Range	863MHz-870MHz	
Antenna	Built-in	
Antenna Gain	0.56dBi	



Model

SUN-SMART-SWITCH01P3

Voltage Range94-238Va.c.(Phase voltage)Connection TypeL1/N(single phase), L1/L2/L3/N(three phase)Maximum Current25Aa.c.(Phase current)Frequency and Range50Hz(45Hz-55Hz)/ 60Hz(55Hz-65Hz)ConnectionConnector plug-in typeConnectionConnector plug-in typeCommunicationLoRaLora Communication Distance~200m(Barrier free)Basic Parameters-40 to +45°CMov King Temperature Range-40 to +45°CAllow Environmental Humidity0-100% RHIngress Protection(IP) RatingIP65
Connection TypeL1/N(single phase), L1/L2/L3/N(three phase)Maximum Current25Aa.c.(Phase current)Frequency and Range50Hz(45Hz-55Hz)/ 60Hz(55Hz-65Hz)ConnectionConnector plug-in typeCommunicationCommunicationCommunication ModelLoRaLora Communication Distance≈200m(Barrier free)Basic Parameters-40 to +45°CWorking Temperature Range-40 to +45°CAllow Environmental Humidity0-100% RHIngress Protection(IP) RatingIP65
Maximum Current25Aa.c.(Phase current)Frequency and Range50Hz(45Hz-55Hz)/ 60Hz(55Hz-65Hz)ConnectionConnector plug-in typeCommunicationCommunicationCommunication ModelLoRaLora Communication Distance~200m(Barrier free)Basic Parameters-40 to +45°CWorking Temperature Range-40 to +45°CAllow Environmental Humidity0-100% RHIngress Protection(IP) RatingIP65
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Working Temperature Range-40 to +45°CAllow Environmental Humidity0-100% RHIngress Protection(IP) RatingIP65
Allow Environmental Humidity 0-100% RH Ingress Protection(IP) Rating IP65
Ingress Protection(IP) Rating IP65
Protection level CLASS I
Allowable altitude <4000m
Product size (WxHxD) 96.7x204.7x37.7mm
Weight 0.4kg
Warranty 5 Years
Standard IEC/EN 61010-1
Lora Parameters
Frequency Range 863MHz-870MHz
Antenna Internal antenna
Antenna Gain 1.58dBi@868MHz
Model SUN-SMART-PLUG01P1-F
Electrical Parameters
Rated voltage 220-250Va.c.
Maximum current 16Aa.c.
Frequency and Range 50Hz(45Hz-55Hz)/60Hz(55Hz-65Hz)
Connection Plug-type
Communication
Communication Model LoRa
Lora Communication Distance ≈200m(Barrier free)
Basic Parameters
Basic Parameters Working Temperature Range -40 to +60°C
Basic Parameters Working Temperature Range -40 to +60°C Ingress Protection(IP) Rating IP20
Basic Parameters Working Temperature Range -40 to +60°C Ingress Protection(IP) Rating IP20 Protection level CLASS I
Basic Parameters Working Temperature Range -40 to +60°C Ingress Protection(IP) Rating IP20 Protection level CLASS I Allowable altitude ≤3000m
Basic Parameters Working Temperature Range -40 to +60°C Ingress Protection(IP) Rating IP20 Protection level CLASS I Allowable altitude ≤3000m Product size (WxHxD) 51.2x51.2x64mm
Basic Parameters Working Temperature Range -40 to +60°C Ingress Protection(IP) Rating IP20 Protection level CLASS I Allowable altitude ≤3000m Product size (WxHxD) 51.2x51.2x64mm Weight 0.08kg
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Basic ParametersWorking Temperature Range-40 to +60°CIngress Protection(IP) RatingIP20Protection levelCLASS IAllowable altitude<3000m
Basic ParametersWorking Temperature Range-40 to +60°CIngress Protection(IP) RatingIP20Protection levelCLASS IAllowable altitude≤3000mProduct size (WxHxD)51.2x51.2x64mmWeight0.08kgWarranty5 YearsStandardVDE 0620-2-1;EN 61058LoRaContemport
Basic ParametersWorking Temperature Range-40 to +60°CIngress Protection(IP) RatingIP20Protection levelCLASS IAllowable altitude≤3000mProduct size (WxHxD)51.2x51.2x64mmWeight0.08kgWarranty5 YearsStandardVDE 0620-2-1;EN 61058LoRa863MHz-870MHz
Basic ParametersWorking Temperature Range-40 to +60°CIngress Protection(IP) RatingIP20Protection levelCLASS IAllowable altitude≤3000mProduct size (WxHxD)51.2x51.2x64mmWeight0.08kgWarranty5 YearsStandardVDE 0620-2-1;EN 61058LoRaFrequency Range863MHz-870MHzAntennaInternal antenna

Model SUN-EVSE11K01-EU-AC SUN-EVSE22K01-EU-AC Product Parameter Input Voltage/Range (V) 230/400 230(single phase). 230/400(three phase) Connection Mode 3L+N+PE L+N+PE.3L+N+PE Input Eurent (A) 16 32 Input Frequency/Range 50/45-55, 60/55-65 32 Maximu Output Power (kW) 11 7(single phase)/ 22(three phase) Starting Method Plug And Charge /Charge After Scanning/Schedule Charging Equipment Protection Cover Temperature Protection Yes 10 Over Voltage Protection Yes 10 Over Load Protection Yes 10 Cover Load Protection Yes 10 Surge Protection Level TYPE II 10 General Data Operating Temperature Range (°C) -40 to +60 Permissible Antitude (m) \$325 1 Noise (dB) \$255 1	Doyo	Doyo			
Product Parameter Input Voltage/Range (V) 230/400 230(single phase), 230/400(three phase) Connection Mode 31+N+PE L+N+PE_1 Input Current (A) 16 32 Input Frequency/Range 50/45-55, 60/55-65 5 Maximum Output Power (kW) 11 7(single phase)/ 22(three phase) Starting Method Plug And Charge /Charge After Scanning/Schedule Charging Equipment Protection Cover Temperature Protection Yes 1 1 Over Voltage Protection Yes 1 1 1 Over Voltage Protection Yes 1 <th>Model</th> <th>SUN-EVSE11K01-EU-AC</th> <th>SUN-EVSE22K01-EU-AC</th>	Model	SUN-EVSE11K01-EU-AC	SUN-EVSE22K01-EU-AC		
Input Voltage/Range (V) 230(400 230(single phase), 230/400(three phase) Connection Mode 31+N+PE L+N+PE,31+N+PE Input Current (A) 16 32 Input Frequency/Range 50/45-55, 60/55-65 Starting Method Plug And Charge /Charge Atters Scanning/Schedule Charging Equipment Protection Yes Cover Temperature Protection Yes Over Temperature Protection Yes Cover Voltage Protection Yes Under Voltage Protection Yes Cover Voltage Protection Yes Over Load Protection Yes Cover Voltage Protection Yes Over Load Protection Yes Cover Voltage Protection Yes Over Load Protection Yes Cover Voltage Protection Yes Cover Load Protection Yes	Product Parameter				
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Input Current (A) 16 32 Input Frequency/Range 50/45-55, 60/55-65 Maximum Output Power (kW) 11 7(single phase)/ 22(three phase) Starting Method Plug And Charge /Charge After Scanning/Schedule Charging Equipment Protection Yes Over Temperature Protection Yes Over Voltage Protection Yes Under Voltage Protection Yes Over Voltage Protection Yes Over Voltage Protection Yes Over Voltage Protection Yes Over Voltage Protection Yes Could Protection Yes Short Circuit Protection Yes Leakage Current Protection Yes Leakage Current Protection Yes Leakage Current Protection DC 6mA Surge Protection Level TYPE II General Data Operating Temperature Range (°C) Operating Temperature Range (°C) -40 to +60 Permissible Altitude (m) <3200	Connection Mode	3L+N+PE	L+N+PE.3L+N+PE		
Input Frequency/Range50/45-55, 60/55-65Maximum Output Power (kW)117(single phase)/ 22(three phase)Starting MethodPlug And Charge /Charge After Scanning/Schedule ChargingEquipment ProtectionYesOver Temperature ProtectionYesOver Voltage ProtectionYesOver Voltage ProtectionYesOver Voltage ProtectionYesOver Voltage ProtectionYesShort Circuit ProtectionYesOver Voltage ProtectionYesShort Circuit ProtectionYesCover Load ProtectionYesCover Load ProtectionYesEarth Fault ProtectionDC 6 mASurge ProtectionDC 6 mASurge ProtectionDC 6 mASurge Protection LevelTYPE IIGeneral Data-40 to +60Permissible Anbient Humidity5%-5% No condensationPermissible Anbient Humidity5%-5% No condensationPermissible Anbient Humidity525Ingress Protection(IP) Rating104x264x57.5Weight (kg)3.75Cuable Length (m)5Number Of Charging Guns1MTBF100,000hSafety EMC/StandardEN/IEC 61851-12019, EN/IEC 61851-23:2014InterfaceCommunication ModeCommunication ModeLosa/Wi-Fi	Input Current (A)	16	32		
Maximum Output Power (kW) 11 7(single phase)/ 22(three phase) Starting Method Plug And Charge /Charge After Scanning/Schedule Charging Equipment Protection Yes Cover Temperature Protection Yes Under Voltage Protection Yes Over Load Protection Yes Cover Load Protection Yes Cover Load Protection Yes Earth Fault Protection Yes Earth Fault Protection Pres General Data Dec 6mA Operating Temperature Range (°C) -40 to +60 Permissible Altitude (m) <3000	Input Frequency/Range	50/45-5	5, 60/55-65		
Starting Method Plug And Charge /Charge After Scanning/Schedule Charging Equipment Protection Yes Low Temperature Protection Yes Low Temperature Protection Yes Under Voltage Protection Yes Under Voltage Protection Yes Under Voltage Protection Yes Over Voltage Protection Yes Short Circuit Protection Yes Core Load Protection Yes Earth Fault Protection Yes Lakage Current Protection DC 6mA Surge Protection Level TYPE II General Data Operating Temperature Range (°C) -40 to +60 Permissible Altitude (m) Noise (dB) \$25 Ingress Protection(IP) Rating IP 67 Cabinet Size (WxHxD mm) 104x264x57.5 Weight (kg) 3.75 Gun Cable Length (m) 5 Number Of Charging Guns 1 MTBF 100,000h Safety EMC/Standard EN/IEC 61851-12:2014 Interface LoRa/Wi-Fi	Maximum Output Power (kW)	11	7(single phase)/ 22(three phase)		
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Over Temperature ProtectionYesLow Temperature ProtectionYesOver Voltage ProtectionYesUnder Voltage ProtectionYesUnder Voltage ProtectionYesShort Circuit ProtectionYesOver Load ProtectionYesEarth Fault ProtectionYesEarth Fault ProtectionYesLeakage Current ProtectionDC 6mASurge Protection LevelTYPE IIGeneral DataOperating Temperature Range (°C)-40 to +60\$25Permissible Ambient Humidity\$3000Noise (dB)\$25Ingress Protection(IP) RatingIP 67Cabinet Size (WxHxD mm)104x264x57.5Weight (kg)3.75Gun Cable Length (m)5Number Of Charging Guns1MTBF100,000hSafet EMC/StandardEN/IEC 61851-1-2019, EN/IEC 61851-23:2014InterfaceLoRa/Wi-Fi	Equipment Protection				
Low Temperature ProtectionYesOver Voltage ProtectionYesUnder Voltage ProtectionYesShort Circuit ProtectionYesShort Circuit ProtectionYesCover Load ProtectionYesEarth Fault ProtectionYesLeakage Current ProtectionYesLeakage Current ProtectionDC 6mASurge Protection LevelTYPE IIGeneral DataOperating Temperature Range (°C)Operating Temperature Range (°C)-40 to +60Permissible Ambient Humidity5%-95% No condensationPermissible Attitude (m)<3000	Over Temperature Protection	Yes			
Over Voltage ProtectionYesUnder Voltage ProtectionYesShort Circuit ProtectionYesOver Load ProtectionYesEarth Fault ProtectionYesLeakage Current ProtectionDC 6mASurge Protection LevelTYPE IIGeneral DataOperating Temperature Range (°C)-40 to +60Permissible Ambient Humidity5%~95% No condensationPermissible Altitude (m)<25	Low Temperature Protection	Yes			
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Short Circuit ProtectionYesOver Load ProtectionYesEarth Fault ProtectionYesLeakage Current ProtectionDC 6mASurge Protection LevelTYPE IIGeneral DataOperating Temperature Range (°C)-40 to +60-40 to +60Permissible Altitude (m)<3000	Under Voltage Protection	Yes			
Over Load ProtectionYesEarth Fault ProtectionYesLeakage Current ProtectionDC 6mASurge Protection LevelTYPE IIGeneral DatOperating Temperature Range (°C)Permissible Ambient Humidity5%-95% No condensationPermissible Altitude (m)<3000	Short Circuit Protection	Yes			
Earth Fault ProtectionYesLeakage Current ProtectionDC 6mASurge Protection LevelTYPE IIGeneral DataOperating Temperature Range (°C)-40 to +60Permissible Ambient Humidity5%~95% No condensationPermissible Altitude (m)<3000	Over Load Protection	Yes			
Leakage Current ProtectionDC 6mASurge Protection LevelTYPE IIGeneral DataOperating Temperature Range (°C)-40 to +60Permissible Ambient Humidity5%~95% No condensationPermissible Altitude (m)<3000	Earth Fault Protection	Yes			
Surge Protection LevelTYPE IIGeneral DataOperating Temperature Range (°C)-40 to +60Permissible Ambient Humidity5%-95% No condensationPermissible Altitude (m)<3000Noise (dB)<25Ingress Protection(IP) RatingIP 67Cabinet Size (WxHxD mm)104x264x57.5Weight (kg)3.75Gun Cable Length (m)5Number Of Charging Guns1MTBF100,000hSafety EMC/StandardEN/IEC 61851-1-2019, EN/IEC 61851-23:2014InterfaceLoBa/Wi-Fi	Leakage Current Protection	DC 6mA			
General DataOperating Temperature Range (°C)-40 to +60Permissible Ambient Humidity5%-95% No condensationPermissible Altitude (m)<3000	Surge Protection Level	TYPE II			
Operating Temperature Range (°C)40 to +60Permissible Ambient Humidity5%~95% No condensationPermissible Altitude (m)<3000	General Data				
Permissible Ambient Humidity 5%~95% No condensation Permissible Altitude (m) <3000	Operating Temperature Range (°C)	-40 to +60			
Permissible Altitude (m)<3000Noise (dB)≤25Ingress Protection(IP) RatingIP 67Cabinet Size (WxHxD mm)104x264x57.5Weight (kg)3.75Gun Cable Length (m)5Number Of Charging Guns1MTBF100,000hSafety EMC/StandardEN/IEC 61851-12019, EN/IEC 61851-23:2014InterfaceLoRa/Wi-Fi	Permissible Ambient Humidity	5%~95% No condensation			
Noise (ub)< 225Ingress Protection(IP) RatingIP 67Cabinet Size (WxHxD mm)104x264x57.5Weight (kg)3.75Gun Cable Length (m)5Number Of Charging Guns1MTBF100,000hSafety EMC/StandardEN/IEC 61851-12019, EN/IEC 61851-23:2014InterfaceLoRa/Wi-Fi	Permissible Altitude (m)	<3000			
Ingress Protection(P) Rating IP 07 Cabinet Size (WxHxD mm) 104x264x57.5 Weight (kg) 3.75 Gun Cable Length (m) 5 Number Of Charging Guns 1 MTBF 100,000h Safety EMC/Standard EN/IEC 61851-12019, EN/IEC 61851-23:2014 Interface Communication Mode	Ingress Protection(ID) Pating	≤25			
Cabinet Size (WXRXD min) 104x264x37.5 Weight (kg) 3.75 Gun Cable Length (m) 5 Number Of Charging Guns 1 MTBF 100,000h Safety EMC/Standard EN/IEC 61851-12019, EN/IEC 61851-23:2014 Interface LoRa/Wi-Fi	Cabinat Size (M(xHxD mm)				
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Number Of Charging Guns 1 MTBF 100,000h Safety EMC/Standard EN/IEC 61851-1-2019, EN/IEC 61851-23:2014 Interface Communication Mode	Gun Cable Length (m)				
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Interface Communication Mode LoRa/Wi-Fi	Safety EMC/Standard				
Communication Mode LoRa/Wi-Fi	Interface				
	Communication Mode	LoR	a/Wi-Fi		



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