MORNSUN®



POWER SOLUTIONS FOR PHOTOVOLTAIC INDUSTRY

Input voltage: **100-3300VDC**

Power: **5-350Watt**

EN62109/UL 1741/CSA-C22.2 No.107.1 safety certifications

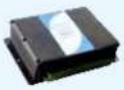
10 years of experience in the Photovoltaic industy

Customization is possible upon request

MORNSUN®

E-mail: info@mornsun.cn
Website: www.mornsun-power.com

PV POWER OVERVIEW

Power	100-1200VDC Input Voltage	150-1500VDC Input Voltage	250-3300VDC Input Voltage
350W		PV350-29Bxx Input :300-1500VDC Isolation :4000VAC Temperature :-40℃ to +85℃ Dimension :215.00*125.00*50.00mm 	
200W	PV200-27Bxx Input: 200-1000VDC Isolation: 4000VAC Temperature: -40℃ to +70℃ Dimension: 168.00*121.35*42.50mm 	PV200-29Bxx Input: 300-1500VDC Isolation: 4000VAC Temperature: -40℃ to +70℃ Dimension: 215.00*125.00*50.00mm 	
120W 150W	PV120-27Bxx Input: 200-1100VDC Isolation: 4000VAC Temperature: -40℃ to +70℃ Dimension: 144.50*105.00*40.00mm 	PV150-29Bxx Input: 250-1500VDC Isolation: 4000VAC Temperature: -40℃ to +70℃ Dimension: 168.00*111.20*42.50mm 	
50W 60W 75W	PV60-27Dxx Input: 200-1100VDC Isolation: 4000VAC Temperature: -40℃ to +70℃ Dimension: 162.00*269.00*32.00mm Meets UL/EN 62109 safety standards 	PV50-29Dxx Input: 150-1500VDC Isolation: 4000VAC Temperature: -25℃ to +65℃ Dimension: 150.00*100.00*38.70mm 	PV75-36Dxx Input: 250-3300VDC Isolation: 6000VAC/4000VAC Temperature: -40℃ to +85℃ Dimension: 220.00*157.00*40.00mm 
40W 45W	PV40-27Bxx Input: 200-1200VDC Isolation: 4000VAC Temperature: -40℃ to +70℃ Dimension: 89.00*63.50*25.00mm 	PV45-29Dxx Input: 150-1500VDC Isolation: 4000VAC/2500VAC Temperature: -40℃ to +85℃ Dimension: 144.50*105.00*40.00mm 	
5-40W	PV(5-15)-27BxxR2/R3 Input: 100-1000VDC Isolation: 4000VAC Temperature: -40℃ to +70℃ Dimension: 70.00*48.00*23.50mm 	PV(15/40)-29Bxx(L) Input: 200-1500VDC Isolation: 4000VAC Temperature: -40℃ to +70℃ Dimension: 125.00*75.00*40.00mm 	
10W/15W Triple output	PV10-27Cxx Input: 200-1200VDC Isolation: 4000VAC/3500VAC Temperature: -40℃ to +70℃ Dimension: 70.00*48.00*23.50mm Meets EN 62109 safety standards 	PV15-29Cxx Input: 200-1500VDC Isolation: 4000VAC/3500VAC Temperature: -40℃ to +70℃ Dimension: 89.00*63.50*25.00mm Meets EN 62109 safety standards 	

PACKAGE OPTION

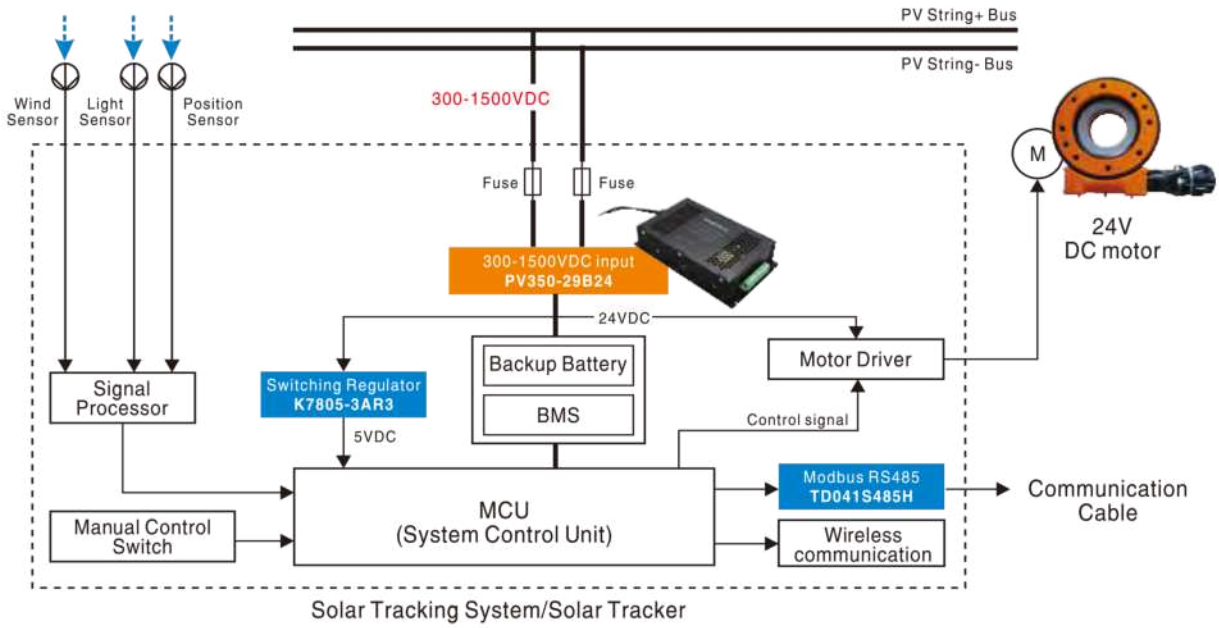
15W/40W Packages available	PV40-27Bxx	PV40-29Bxx	PV(5-15)-27BxxR2/R3
	A5 Chassis Mounting Dimension: 135.00*70.00*33.50mm 	A8 DIN-Rail Mounting Dimension: 146.00*138.00*55.00mm 	A2C Chassis Mounting Dimension: 96.10*54.00*32.00mm 
	A6 DIN-Rail Mounting Dimension: 137.00*70.00*39.00mm 	A10 DIN-Rail Mounting Dimension: 129.00*102.00*49.00mm 	A4C DIN-Rail Mounting Dimension: 96.10*54.00*36.60mm 

* The brochure is for reference only. For detailed datasheets please visit our website: www.mornsun-power.com.

Power Solution for Sun Tracking System (Driving Motor)

› 1. A 350Watt or higher DC/DC converter gets electricity from the solar panel array to supply power to the motor directly;

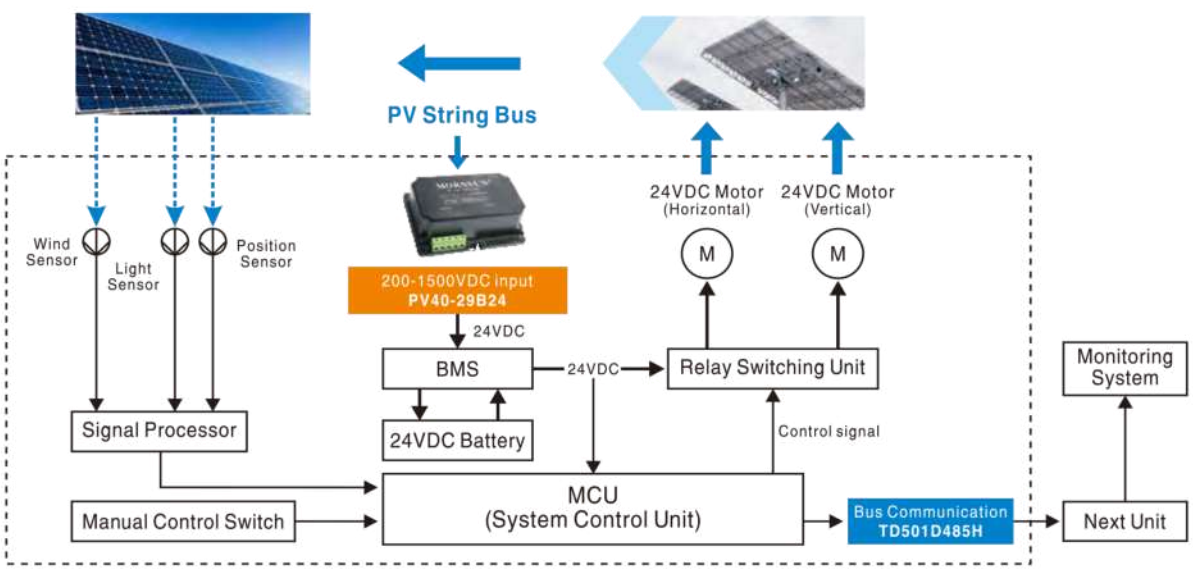
› 2. Requirements for PV350-29Bxx series: Higher power means better cooling materials and design, 300-1500VDC input voltage, input under-voltage protection, input reverse protection, 4000VAC isolation, 1500VDC safety certification; operating temperature range of -40℃ to +85℃, meets 5000m altitude requirement; with high temperature and high humidity resistance, cold and heat shock.



Power Solution for Sun Tracking System (Battery Charging)

› 1. A 40Watt DC/DC converter gets electricity from the solar panel array, and converts it to 24VDC or 28VDC to charge the battery. Then the battery supplies power to the motor;

› 2. Requirements for PV40-29Bxx series: 200-1500VDC input voltage, input under-voltage protection, input reverse protection, 4000VAC isolation, 1500VDC safety certification; operating temperature range of -40℃ to +70℃, meets 5000m altitude requirement; with high temperature and high humidity resistance, cold and heat shock.



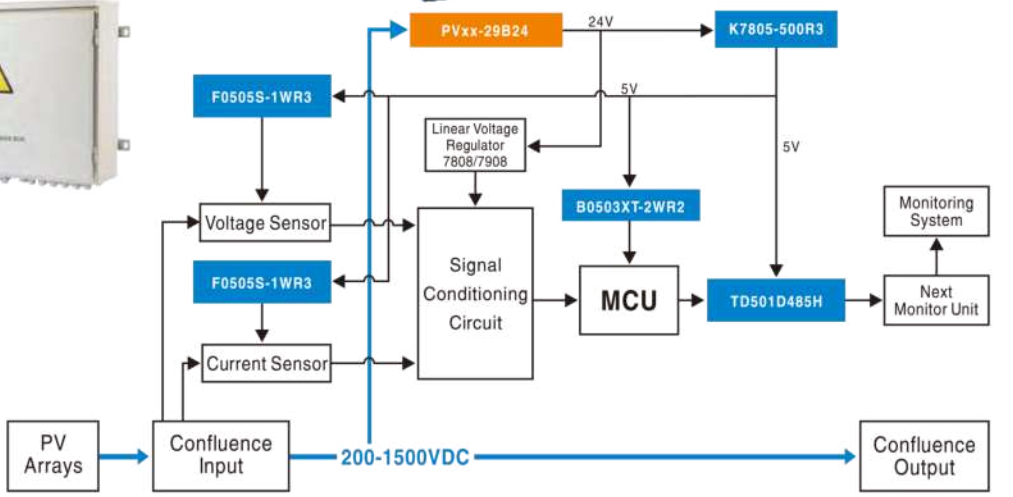
Power Solution for Smart PV Combiner Box

› 1. High-voltage side PVxx-29Bxx series: 200-1500VDC input voltage, input under-voltage protection, input reverse protection, 4000VAC isolation, 1500VDC safety certification; operating temperature range of -40℃ to +70℃, meets 5000m altitude requirement; with high temperature and high humidity resistance, cold and heat shock, dust shell process;

› 2. Low-voltage side: The voltage and current test circuits need an isolation voltage of 3000VDC or higher, the MCU or 485 bus communication needs an isolation voltage of 1500VDC.







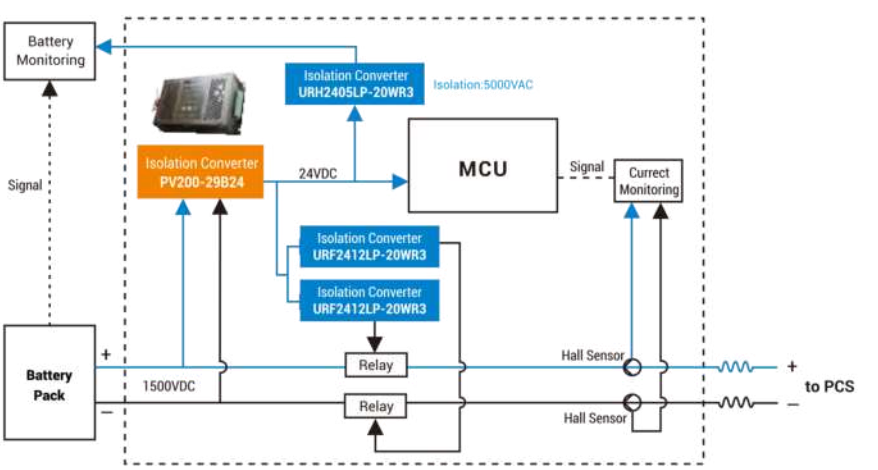
Power Solution for Energy Storage System -BMS

› 1. A 200Watt or higher DC/DC converter gets electricity from the battery bus to supply power to the whole low voltage control system such as MCU/BCU/BMU/fans/relay. Isolation and safety for each unit are the key features for the DC/DC converter;

› 2. High-voltage side PV200-29Bxx series: 300-1500VDC input voltage, input reverse protection, 1500VDC safety certification, more than 4000VAC isolation, operating temperature range of -40℃ to +70℃, meets 5000m altitude requirement;

› 3. Low-voltage side: Relay and contact circuit need a 3000VDC or higher DC/DC isolation, 485 bus communication also needs a 3000VDC isolation DC/DC.

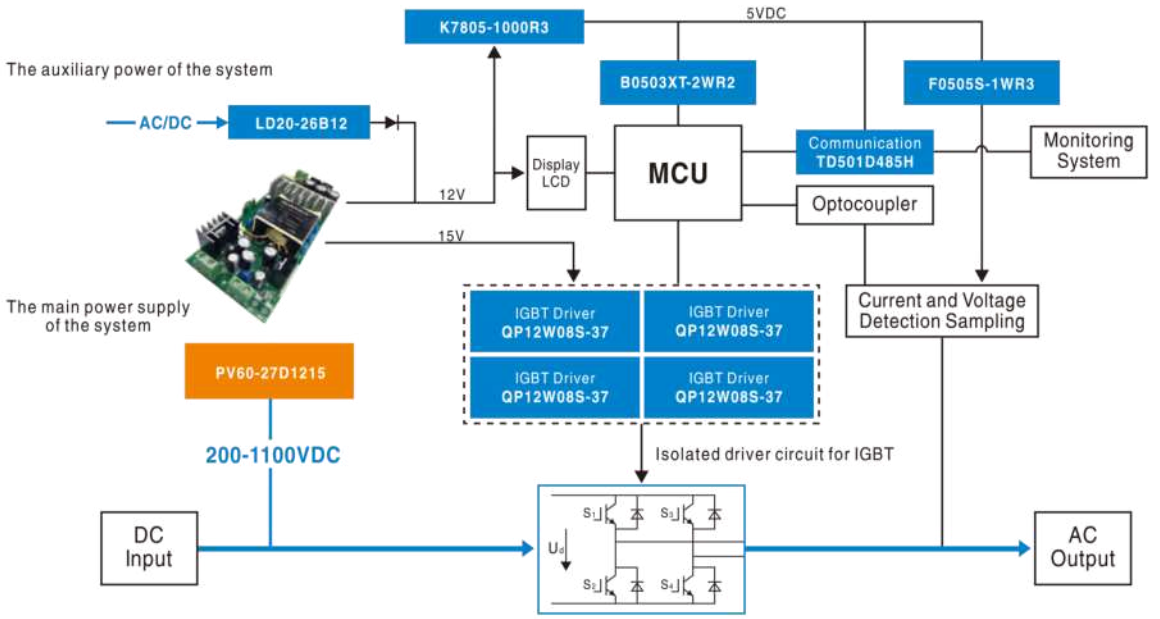




Power Solution for Distributed Solar Inverter

› 1. High-voltage side PV60-27B1215: 200-1100VDC input voltage, meets system's enclosed space requirements for high temperature and large load, long life span design, input /output 4000VAC isolation and Vo1/Vo2 4000VAC isolation can improve the reliability and reduce the cost;

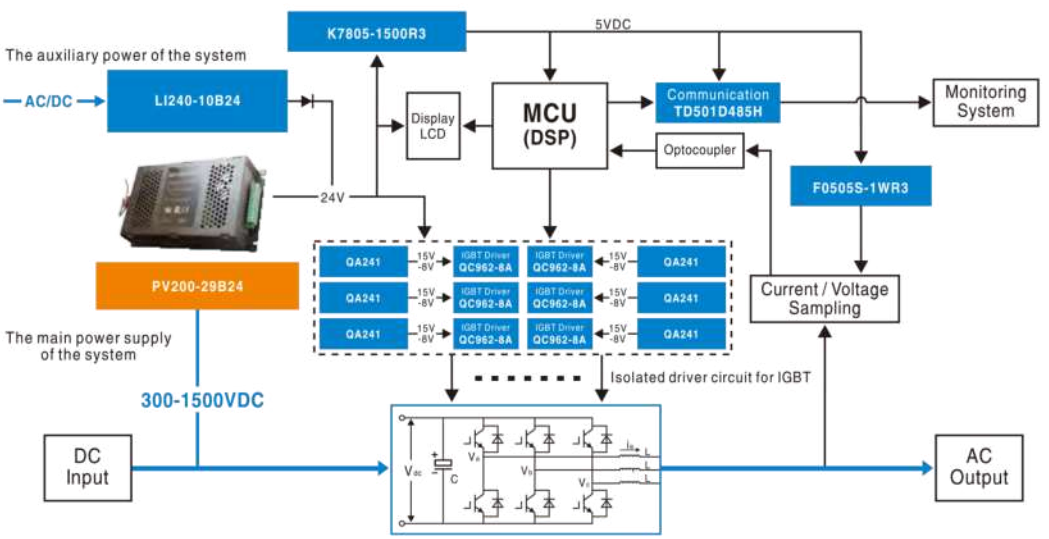
› 2. Low-voltage side: The IGBT driver has a built-in DC/DC converter which has a 2500VAC isolation and asymmetric output of +15/-8VDC. The high isolation ensures MCU's security and protects the MCU from IGBT interference.



Power Solution for Centralized Solar Inverter

› 1. High-voltage side PV200-29B24: Higher power means better cooling materials and design, 300-1500VDC input voltage, input under-voltage protection, input reverse protection, 4000VAC isolation, 1500VDC safety certification; operating temperature range of -40℃ to +70℃, meets 5000m altitude requirement; with high temperature and high humidity resistance, cold and heat shock;

› 2. Low-voltage side: The IGBT driver needs a DC/DC converter that has a 3000VAC isolation and asymmetric output of +15/-8VDC. The high isolation ensures MCU's security and protects the MCU from IGBT interference.





1500V Photovoltaic Power Generation System

A photovoltaic (PV) system is a system composed of photovoltaic array, combiner, DC power distribution cabinet, inverter, boosting transformer, etc.

Higher input and output voltage levels can reduce line losses of the AC/DC side and wiring losses of low-side voltage of the transformer, which is helpful to increase the system efficiency of the power station. In addition, power density improvement and compact size for the system can save the costs of transportation and maintenance.

MORNSUN's 1500V high input voltage DC/DC converters can directly get electricity from the bus voltage of PV strings and then convert it to supply power for the monitoring unit. They are widely used in applications of tracking system combiner box, tracking system inverter, energy storage system, wind energy conversion system, UHV tran-smission, SVG, etc.

Photovoltaic Power Generation System and Typical Applications

