

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 industry

Customization available

MORNSUN[®]







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MORNSUN® PV POWER OVERVIEW

Single Output	Power	100-1200VDC Input Voltage	150-1500VDC Input Voltage
	350W		PV350-29Bxx(-TR) CE   Input: 300-1500VDC Isolation: 4000VAC Temperature: -40°C to +85°C Dimension: 215.00*125.00*50.00mm 
	200W	PV200-27Bxx CE  Input: 200-1000VDC Isolation: 4000VAC Temperature: -40°C to +85°C Dimension: 168.00*121.35*42.50mm 	PV200-29Bxx CE  Input: 300-1500VDC Isolation: 4000VAC Temperature: -40°C to +85°C Dimension: 215.00*125.00*50.00mm 
	150W 120W	PV120-27Bxx Input: 200-1100VDC Isolation: 4000VAC Temperature: -40°C to +85°C Dimension: 144.50*105.00*40.00mm 	PV150-29Bxx CE  Input: 250-1500VDC Isolation: 4000VAC Temperature: -40°C to +85°C Dimension: 168.00*111.20*42.50mm 
			PV150-29BxxL Input: 250-1500VDC Isolation: 4000VAC Temperature: -40°C to +85°C Dimension: 201.00*70.00*42.00mm 
	40W	PV40-27BxxR2 CE  Input: 200-1200VDC Isolation: 4000VAC Temperature: -40°C to +85°C Dimension: 89.00*63.50*25.00mm 	PV40-29Bxx CE  Input: 200-1500VDC Isolation: 4000VAC Temperature: -40°C to +85°C Dimension: 125.00*75.00*40.00mm 
	5-15W	PV15-27BxxR3 CE  Input: 100-1000VDC Isolation: 4000VAC Temperature: -40°C to +85°C Dimension: 70.00*48.00*23.50mm 	PV15-29BxxR3 CE  Input: 200-1500VDC Isolation: 4000VAC Temperature: -40°C to +85°C Dimension: 89.00*63.50*25.00mm 

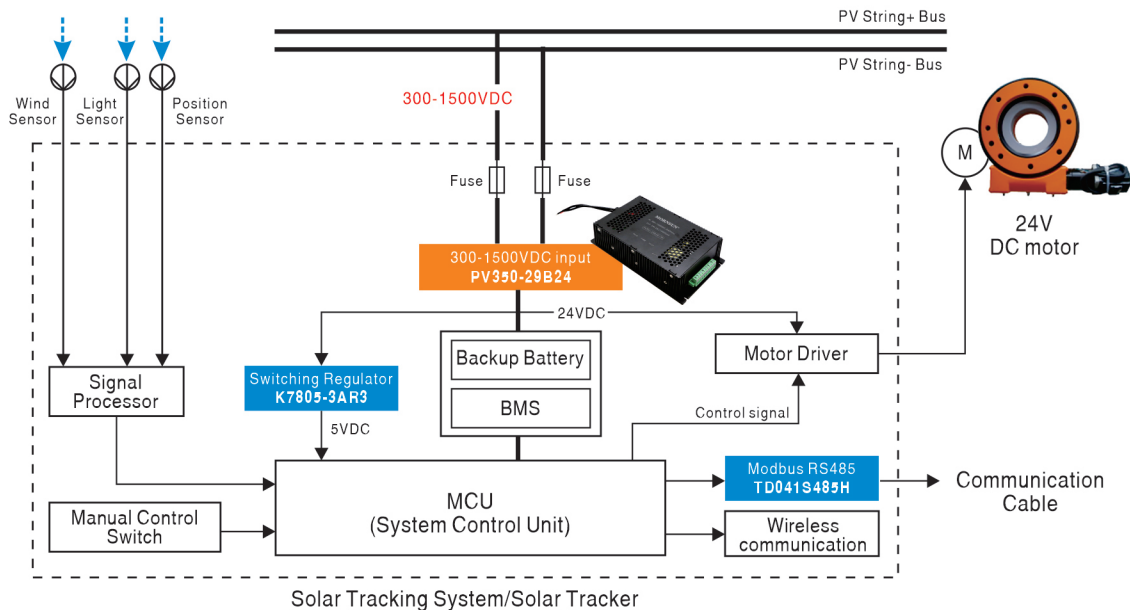
Multiple Outputs	Power	100-1200VDC Input Voltage	150-1500VDC Input Voltage	250-3300VDC Input Voltage
	75W 60W 50W	PV60-27Dxx Input: 200-1200VDC Isolation: 4000VAC Temperature: -40°C to +85°C Dimension: 162.00*69.00*32.00mm Meets UL/EN 62109 safety standards 	PV50-29Dxx Input: 150-1500VDC Isolation: 4000VAC/2500VAC Temperature: -25°C to +65°C Dimension: 150.00*100.00*38.70mm 	PV75-36Dxx Input: 250-3300VDC Isolation: 6000VAC/4000VAC Temperature: -40°C to +85°C Dimension: 220.00*157.00*40.00mm 
	45W		PV45-29Dxx Input: 150-1500VDC Isolation: 4000VAC/2500VAC Temperature: -40°C to +85°C Dimension: 144.50*105.00*40.00mm 	
	15W 10W	PV10-27Cxx Input: 200-1500VDC Isolation: 4000VAC/3500VAC Temperature: -40°C to +85°C Dimension: 70.00*48.00*23.50mm Meets EN 62109 safety standards 	PV15-29Cxx Input: 200-1500VDC Isolation: 4000VAC/3500VAC Temperature: -40°C to +85°C Dimension: 89.00*63.50*25.00mm Meets EN 62109 safety standards 	

Multiple packages	Power	PV15-29BxxR3	PV40-29Bxx	PV5/PV10/PV15 -27BxxR2/R3
	40W 15W	 A5 Classis Mounting Dimension: 135.00x70.00x33.50mm	 A8 DIN Rail Mounting Dimension: 148.00x138.00x55.00mm	 A2C Classis Mounting Dimension: 96.10x54.00x32.00mm
		 A6 DIN Rail Mounting Dimension: 137.00x70.00x39.00mm	 A10 DIN Rail Mounting Dimension: 129.00x102.00x49.00mm	 A4C DIN Rail Mounting Dimension: 96.10x54.00x36.60mm

* For more information, please visit <http://www.mornsun-power.com>

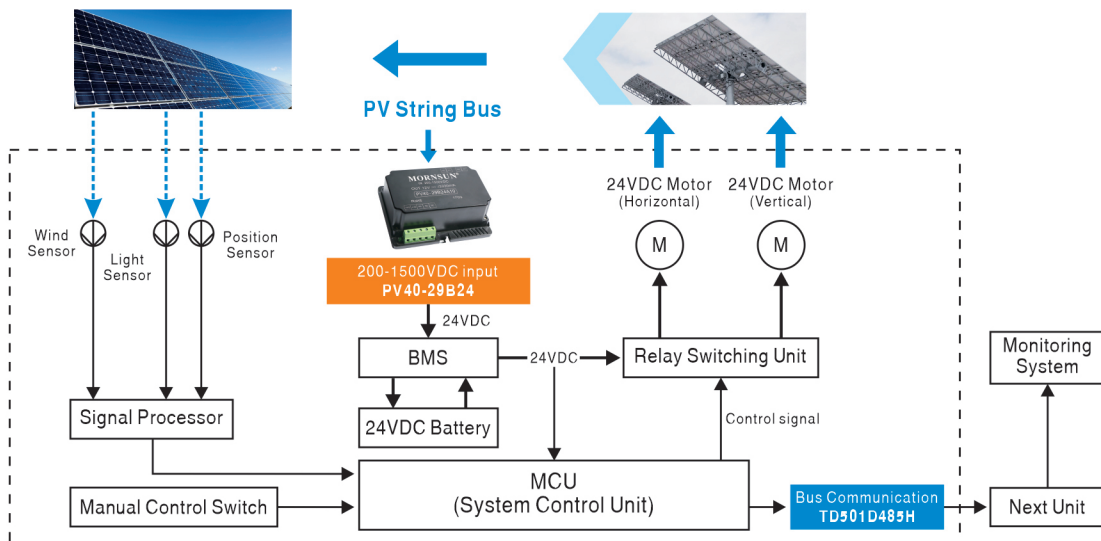
Power Solution for Solar Tracking System (Driving Motor)

- › 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°C to +85°C, meets 5000m altitude requirement; with high temperature and high humidity resistance, cold and heat shock.



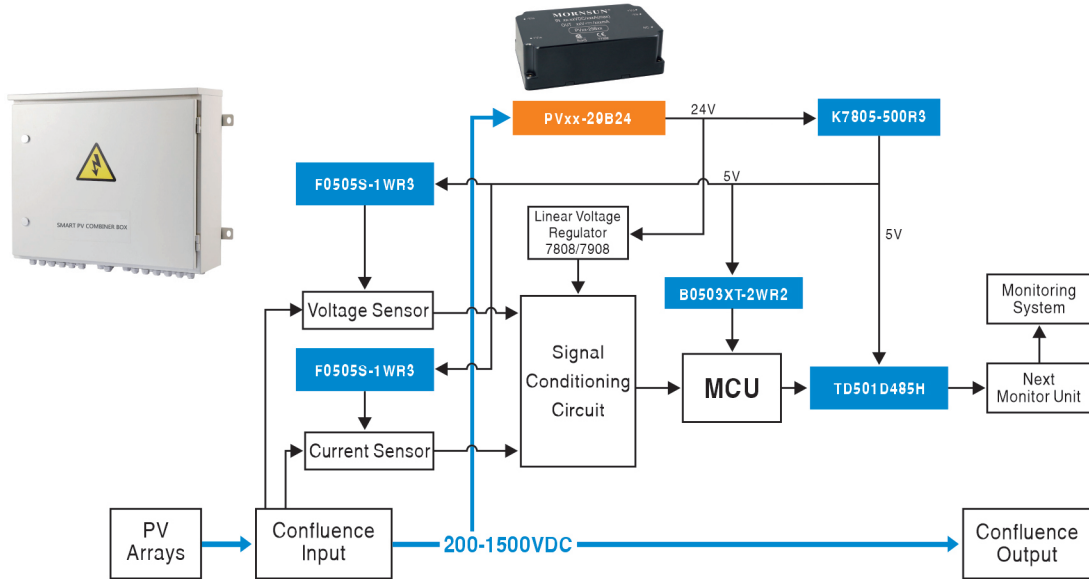
Power Solution for Solar Tracking System (Battery Charging)

- › 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°C to +70°C, meets 5000m altitude requirement; with high temperature and high humidity resistance, cold and heat shock.



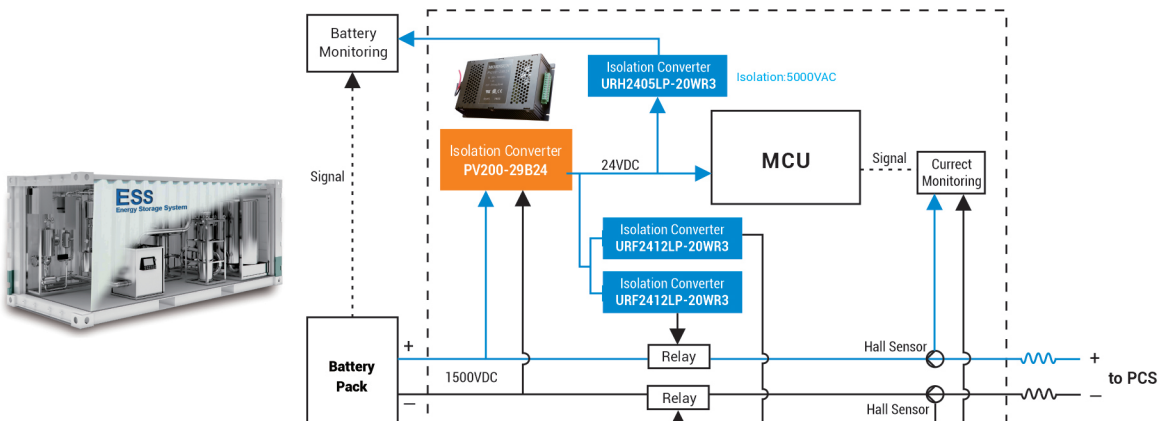
Power Solution for Smart PV Combiner Box

- 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°C to +70°C, 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.



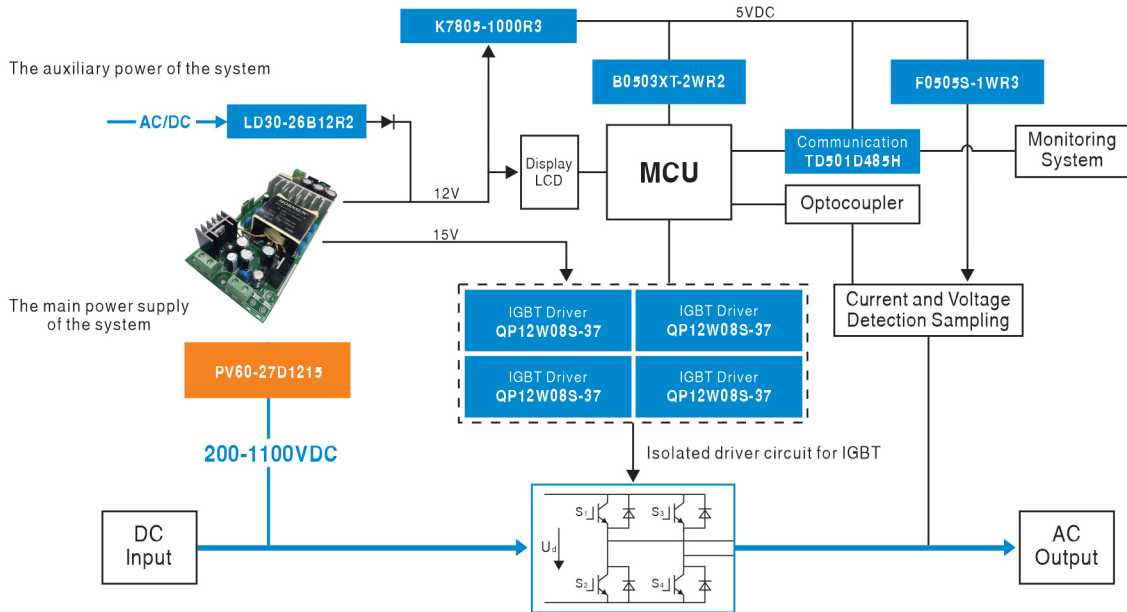
Power Solution for Energy Storage System -BMS

- 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°C to +70°C, 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.



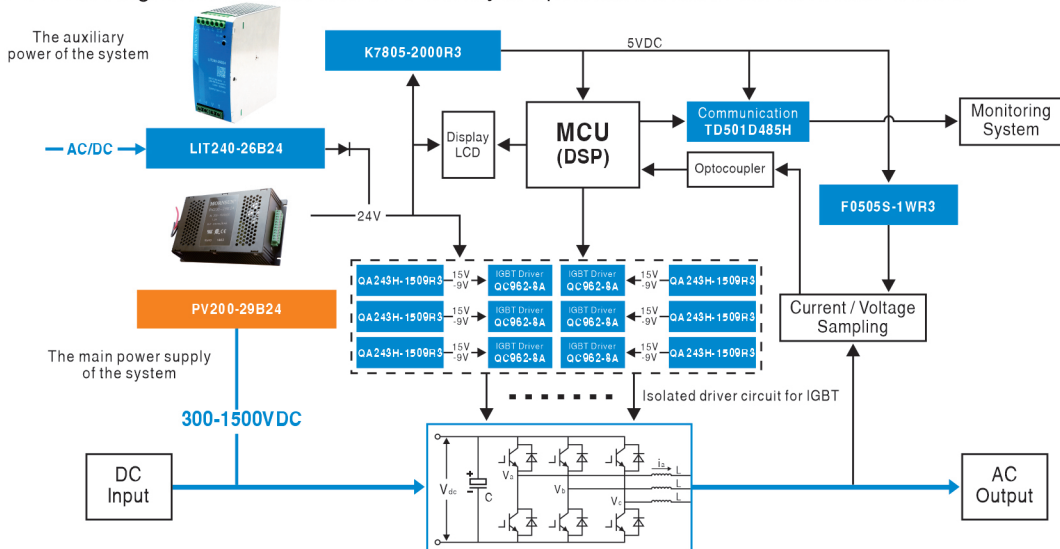
Power Solution for Distributed Solar Inverter

- 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°C to +70°C, 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/-9VDC. The high isolation ensures MCU's security and protects the MCU from IGBT interference.





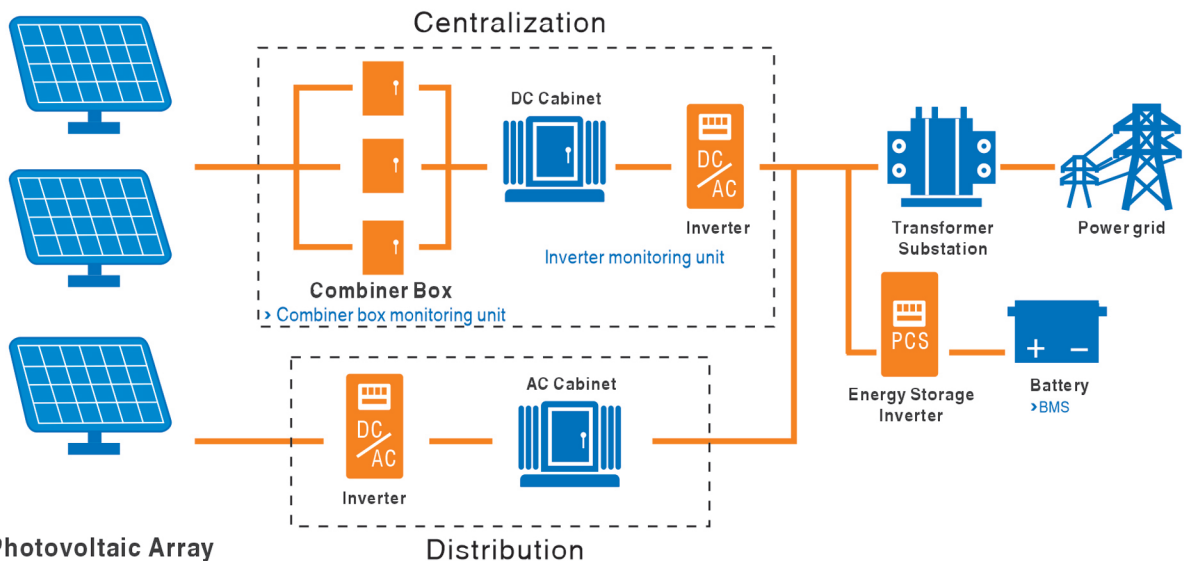
1500V Photovoltaic Power Generation System

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 transmission, SVG, etc.

Photovoltaic Power Generation System and Typical Applications



Photovoltaic Array

- > Heliostat tracking system
- > Anhydrous cleaning robot