

PV AC Combiner Boxes

Bundle and protect PV string inverters in utility-scale systems reliably and economically



PV AC combiner boxes

high quality, optimized, robust and efficient

For solar installations in the PV industry, reliability and availability are paramount. In systems with string inverters, our AC combiner boxes provide optimal short-circuit and overvoltage protection. Furthermore, each string inverter can be easily isolated from the system to do maintenance tasks.

The new PV AC Combiner boxes have been designed for PV systems with string inverters in trackers or fixed tilt installations. The product portfolio is suitable for inverters from 60 kW up to 200 kW and support voltages of 400 V, 690 V or 800 V AC. The combiner boxes allow to collect from 2 up to 6 string inverters in one single cabinet. They withstand ambient temperatures from -20 up to +50 °C to operate in hardest clima conditions, fulfilling the highest market standards as per IEC 61439-2 ed 3.0:2020.



Optimised design

By using advanced simulation 3D softwares, the product variants have been designed and tested to operate at the maximum mechanical and thermal efficiency in the most compact housing size.

Very resistant to short-circuits

Designed to operate in solar power plants with high requirements of short circuit current.

Technical data available online with 1-click

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Your benefits at a glance



Delivery time

Fast delivery time of maximum 4 weeks



Logistic savings

Global production locations (Malaysia, Spain and Brazil) allow cost- and time-optimised production and supply



5 years warranty

We increase the warranty period due to the high quality of our combiner boxes



Variants

Most common configurations covered with standard designs



Configuration

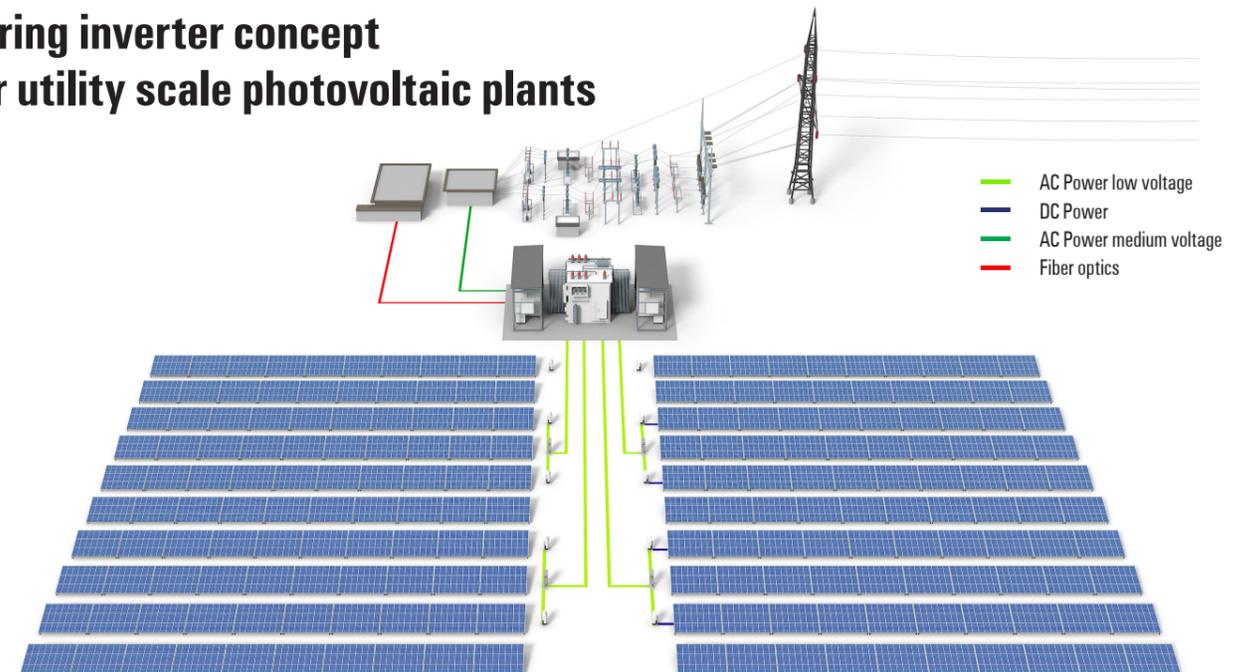
Configurations easily delivered on-demand



Maintenance

Fast replacement of units for maintenance

String inverter concept for utility scale photovoltaic plants



400 V AC COMBINER BOXES
AC combiner boxes suitable for inverters of 400 V AC



PV 40201S2V3C1A0ES

	PV 40601S2V1C0A1ES	PV 40301S2V1C2A1ES	PV 40401S2V1C1A1ES
Application data			
Operating ambient temp.	-20 °C to +50 °C		
Intended installation location	Protected outdoors (>1 km from sea)		
Conformity with norms	IEC 61439-ed 2.0/EN 61439-2:2011		
Altitude above sea level	Up to 3000 m		
Electrical characteristics			
Rated voltage	400 V AC		
Grid connection	TNC - TNS		
Rated insulation Voltage	690 V AC		
Number of inputs (inverters)	6	3	4
Rated current per input (Inc)	85 A	135 A	100 A
Rated frequency (Hz)	50 Hz		
Short Circuit strength	120 kA		
Fuse link factor form	NH-1	NH-1	NH-1
Fuse link rating	100 A	160 A	125 A
Number of outputs	1		
Protection Class	Class II		
Overvoltage protection	Type I+ II or Type II (optional)		
Earthing system	TN-S - TN-C		
Enclosure			
Enclosure size	850 x 1000 x 350 mm		
Enclosure material	GFRP (Glass Fiber Reinforced Polyester)		
Enclosure IP rating	IP65		
Enclosure fixing system	Wall mounted or pedestal		
Polycarbonate protection cover	Yes (optional)		
Inputs			
Input cable	4 x 70 mm ² or 4 x 95 mm ²		
Input cable gland	WM M50		
Outputs			
Output cable	1 x 240 mm ²		
Output cable gland	WM M40		
Others			
Main Switch disconnecter	Yes (optional)		

690 V AC COMBINER BOXES
AC combiner boxes suitable for inverters of 690 V AC



PV 40601S2V1C0A1ES

	PV40401S2V3C0A1ES	PV 40201S2V3C1A1ES
Application data		
Operating ambient temp.	-20 °C to +45 °C	-20 °C to +50 °C
Intended installation location	Protected outdoors (>1km from sea)	
Conformity with norms	IEC 61439-2 ed 3.0:2020/EN 61439-2:2011	
Altitude above sea level	Up to 3000 m	
Electrical characteristics		
Rated voltage	690 V AC	800 V AC
Grid connection	TNC - TNS	
Rated insulation Voltage	800 V AC	
Number of inputs (inverters)	4	2
Rated current per input (Inc)	85 A	110 A
Rated frequency (Hz)	50 Hz	
Short Circuit strength	120 kA	
Fuse link factor form	NH-00	NH-00
Fuse link rating	100 A	125 A
Number of outputs	1	
Protection Class	Class II	
Overvoltage protection	-	
Earthing system	TN-S - TN-C	
Enclosure		
Enclosure size	850 x 630 x 300 mm	
Enclosure material	GFRP (Glass Fiber Reinforced Polyester)	
Enclosure IP rating	IP66	
Enclosure fixing system	Wall mounted or pedestal	
Polycarbonate protection cover	Yes (optional)	
Inputs		
Input cable	4 x 70 mm ² or 4 x 95 mm ²	
Input cable gland	WM M50	
Outputs		
Output cable	1 x 240 mm ²	
Output cable gland	WM M40	
Others		
Main Switch disconnecter	Yes (optional)	

800V AC COMBINER BOXES
AC combiner boxes suitable for inverters of 800 V AC



PV 40601S2V1C0A1ES

	PV 40201S2V4C0A1ES	PV 40201S2V4C2A1ES
Application data		
Operating ambient temp.	-20 °C to +50 °C	
Intended installation location	Protected outdoors (>1km from sea)	
Conformity with norms	IEC 61439-2 ed 3.0:2020/EN 61439-2:2011	
Altitude above sea level	Up to 3000 m	
Electrical characteristics		
Rated voltage	800 V AC	
Grid connection	TNC - TNS	
Rated insulation Voltage	800 V AC	
Number of inputs (inverters)	2	2
Rated current per input (Inc)	85 A	135 A
Rated frequency (Hz)	50 Hz	
Short Circuit strength	120 kA	
Fuse link factor form	NH-00	
Fuse link rating	100 A	160 A
Number of outputs	1	
Protection Class	Class II	
Overvoltage protection	-	
Earthing system	TN-S - TN-C	
Enclosure		
Enclosure size	850 x 630 x 300 mm	
Enclosure material	GFRP (Glass Fiber Reinforced Polyester)	
Enclosure IP rating	IP66	
Enclosure fixing system	Wall mounted or pedestal	
Polycarbonate protection cover	Yes (optional)	
Inputs		
Input cable	4 x 70 mm ² or 4x95 mm ²	
Input cable gland	WM M50	
Outputs		
Output cable	1 x 240 mm ²	
Output cable gland	WM M40	
Others		
Main Switch disconnecter	Yes (optional)	

800V AC COMBINER BOXES
AC combiner boxes suitable for inverters of 800 V AC



PV 40601S2V1C0A1ES

	Input current	# of inputs	Type of inverter
String Inverters and PV AC Combiner Boxes 400 V			
PV 40601S2V1C0A1ES	85 A	6	ABB - TRIO-50.0-TL-OUTD ABB - TRIO-TM-50.0-TL-OUTD SMA - SUNNY TRIPOWER CORE1 STP 50-40 KACO - BLUEPLANET 50.0 TL3
PV 40301S2V1C2A1ES	135 A	3	HUAWEI - SUN2000-60KTL-M0 SCHNEIDER - Conext-CL-60E SUNGROW - SG60KTL
PV 40401S2V1C1A1ES	100 A	4	HUAWEI - SUN2000-60KTL-M0 SUNGROW - SG60KTL
String Inverters and PV AC Combiner Boxes 690 V			
PV 40401S2V3C0A1ES	85 A	4	ABB - TRIO-60.0-TL-OUTD-480 ABB - TRIO-TM-60.0-TL-OUTD-480 HUAWEI - SUN2000-60KTL-M0
PV 40201S2V3C1A1ES	110 A	2	SCHNEIDER - Conext-CL125E SUNGROW - SG80KTL SUNGROW - SG111HV SUNGROW - SG125HV KACO - BLUEPLANET 125TL3
String Inverters and PV AC Combiner Boxes 800 V			
PV 40201S2V4C0A1ES	85 A	2	HUAWEI - SUN2000-60KTL-HV-D1-001
PV 40201S2V4C2A1ES	135 A	2	HUAWEI - SUN2000-100KTL-H1 HUAWEI - SUN2000-105KTL-H1

Solutions for PV plants with string inverter

Our laboratory ensures the highest product quality

Our laboratory is accredited according to international standards. It operates independently and is recognised by institutions, registration services, and other institutions and authorities. As a member of the CTD program, Weidmüller is regularly audited by UL, especially about test methods, quality management and documentation.

Our PV AC combiner boxes are tested according to IEC 61439-2 ed 3.0:2020 and are constructed on the basis of the test results as well as assembled for the specific application. This ensures that each of the requirements of the target application is fully met.



Weidmüller – Your partner in Industrial Connectivity

As experienced experts we support our customers and partners around the world with products, solutions and services in the industrial environment of power, signal and data. We are at home in their industries and markets and know the technological challenges of tomorrow. We are therefore continuously developing innovative, sustainable and useful solutions for their individual needs. Together we set standards in Industrial Connectivity.

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