CI5500DC SERIES

DC HYBRID INVERTER

CoolWatts CI5500DC Series hybrid inverter is designed to make installs easier and be versatile enough to be used off-grid, grid-tied or even as a string inverter. The CI5500DC Series can support loads up to 5.5kW off-grid and 7kW grid-tied.

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KEY FEATURES

The CoolWatts CI5500DC Series supports a wide range of applications, including off-grid, self-consumption, net-metering, backup and time-of-use optimization.

To facilitate a smooth installation process, the CI5500DC Series is transformer less and has a built-in distribution box that includes breakers, disconnect switches and generator support circuitry.

- Up to 6.5kW PV with dual MPPT
- Up to 7kW continuous output to load
- Three-wire inverter for 240V and 120V direct connection50/60 Hz dual-frequency auto sensing
- Compatible with lithium or lead-acid batteries
- Manage and monitor system via control panel
- Stackable for double or triple the power (See CI55STKDC)
- 5-year standard warranty with 5-year extension option

ELECTRICAL SPECIFICATION

SOLAR DC INPUT		
Maximum Power	6500W	
Operation/MPPT Voltage Range	120 to 500VDC / 250 to 430VDC	
Minimum Start Voltage	150VDC	
Maximum Input Current	13A / 13A (Two String Input)	
AC OUTPUT TO LOAD	WITH GRID ABSENT	WITH GRID PRESENT
Output Power (Continuous) @25°C	5500W	7000W
Overload 40/30/5/1s @25°C & 240V	5500/--/6500/7500W	--/7500/--/--W
Overload 40/5/1s @25°C & 120V	2750/3250/3750W	NA
Rated Output Current (RMS)	23A (@120V and 240V)	29A (@120V and 240V)
Output Frequency (Auto Sensing)	50/60 Hz	
Output Voltage and Accuracy	L-N: 120V ± 3%; L-L: 240V ± 3%	
Output Voltage Limits	L-L: 180 to 280V (240V Nominal)	
Total Harmonic Distortion (THD)	< 5% at rated power	
Power Factor	>99%	
AC INPUT FROM GRID		
Automatic Transfer Power Rating / Typical Transfer Time	7000W / 20ms	
Input Voltage Range	L-L: 180 to 280V (240V Nominal)	
Input Frequency Range	45 to 54.9Hz / 55 to 65Hz	
AC OUTPUT TO GRID (GRID SUPPORT)		
Output Power (Continuous) @25°C	5000W	
Grid Feed-In Current Range	0 to 24A (@240V)	
Grid Feed-In Voltage Range	L-L: 211 to 264V ± 3.0V	
Grid Feed-In Frequency Range	49.3 to 50.5Hz / 59.3 to 60.5Hz	
EFFICIENCY		
Peak/CEC Weighted (PV to Grid)	96%/95.5%	
System Standby Power	20W	
System Idle Power	< 8W	

ELECTRICAL SPECIFICATION

DC BATTERY CHARGER	
Max Charge/Discharge Current	60A/150A
Output Voltage Range	44 to 58V (48V Nominal)
Compatible Battery Types	AGM, Gel, Li-ion, LiFePO4, Custom
GENERAL SPECIFICATIONS	
Weight	39.4kg (86.8 lb)
Dimensions (HxWxD)	990x448x150mm (39x17.6x5.9in)
Protection Rating	NEMA 1 Indoor / IP20
Operating Temperature	-20 to 50°C (-4 to 122°F)
Minimum Startup Temperature	0°C (32°F)
Storage Temperature	-25 to 70°C (-13 to 158°F)
Compliances	UL 1741 SA, CSA C22.2, IEEE 1547A, IEEE 1547.1, FCC Class B

MODE DEFINITION		CHARGE FROM[1]	FEED GRID FROM	PV USE PRIORITY			LOAD PRIORITY		
				1	2	3	1	2	3
1. Back-up (default)		PV or Grid	PV Only	Batt.	Load	Grid	PV	Grid	Batt.
2. Residential		PV Only	PV Only	Load	Batt.	Grid	PV	Batt.	Grid
3. Back-up w/o Feed-in		PV or Grid	None[2]	Batt.	Load	-[2]	PV	Grid	Batt.
4. Residential w/o Feed-in		PV Only	None[2]	Load	Batt.	-[2]	PV	Batt.	Grid
5. Time-of-Use (TOU)	Off-Peak	PV or Grid	PV Only	Batt.	Load	Grid	PV	Grid	Batt.
	Peak	PV Only	PV Only	Load	Batt.	Grid	PV	Batt.	Grid
6. TOU w/Batt. Feed-in	Off -Peak	PV or Grid	PV Only	Batt.	Load	Grid	PV	Grid	Batt.
	Peak	PV Only	PV or Batt.	Load	Grid	Batt.	PV	Batt.	Grid
7. String Inverter		--	PV Only	Load	Grid	--	PV	Grid	--
8. Remote Control[3]		PV or Grid	PV or Batt.	--	--	--	--	--	--

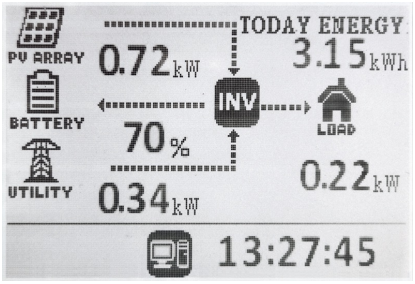
1. In modes 2, 4, 5 and 6, the battery will charge from the grid under certain conditions. Please refer to the manual.
2. The inverter may feed into or draw from the grid within a tolerance of ±200W.
3. Remote Control mode is for charging and discharging the battery on demand. Please refer to the manual.

CI5500DC SERIES

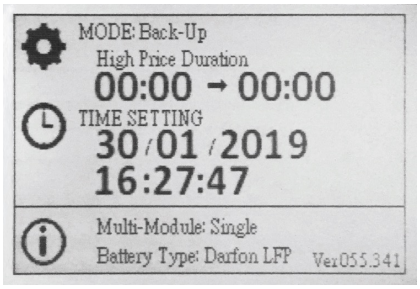
ELECTRICAL SPECIFICATION

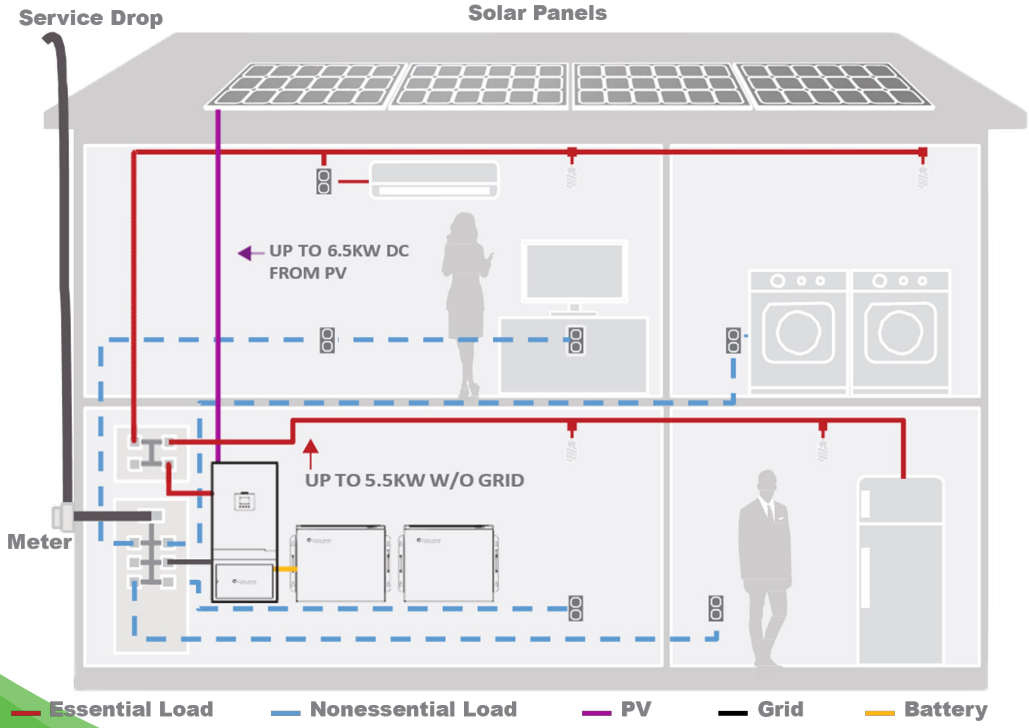
BUNDLED SYSTEMS		CH311	CH312	CH313	CH321	CH322	CH323
Battery Model		CB09LF	CB09LF	CB09LF	CB12LF	CB12LF	CB12LF
Battery Quantity		2	2	3	1	2	3
Capacity @ 25°C		9.6kWh	19.2kWh	28.8kWh	12kWh	24kWh	36kWh
AC Output Power from Battery	Min. Cont.	5.5kW	5.5kW	5.5kW	5.5kW	5.5kW	5.5kW
	Max. Cont.	5.5kW	5.5kW	5.5kW	5.5kW	5.5kW	5.5kW

LCD DISPLAY - POWER FLOWS PAGE



LCD DISPLAY - SYSTEM SETTING PAGE





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CI5500DC SERIES

BATTERY SPECIFICATIONS FOR BUNDLED SYSTEMS

	CB09LF	CB12LF
Capacity@ 25°C	9.6kWh (200Ah)	12kWh (250Ah)
Battery Chemistry	LFP	
Nominal Voltage	48V	48V
Cont. Charge Power	5kW	5kW / 9.6kW
Peak Discharge Power	5.7kW	15kW
Cont. Charge/Discharge Current	100A/200A	100A/200A
Depth of Discharge (DOD)	100%	
Cycle Life [80%DOD, @25°C]	6000 cycles	
Communication Interface	RS485 Standard MODBUS protocol	
Battery Management System	OVP/UVP/OTP/UTP/OCP/SCP	
Scalable	Up to 2 units	Up to 2 units
Product Weight	125kg (275.6 lbs)	220kg (485.0 lbs)
Product Dimensions (W*H*D)	570x1150x285mm (22.4x45.3x11.2in)	600x1100x600mm (23.6x43.3x23.6in)
Installation Method	Wall-Mounted or Floor-Standing	Free-Standing
Protection Rating	NEMA 4 / IP55	NEMA 1 / IP20
Operating Temperature	-10 to 45°C (14 to 113°F)	-20 to 60°C (-4 to 140°F)
Min. Cold Charge Temperature	-10°C (14°F)	0°C (32°F)
Storage Temperature	-20 to 40°C (-4 to 104°F)	-40 to 60°C (-40 to 140°F)
Compliance	UL1642, UN38.3, IEC62619, UL1973	EN 61000 [ch 4.2, 4.3, 4.5, 4.6] EN55022, EMC (CE), UL1642, UN38.3

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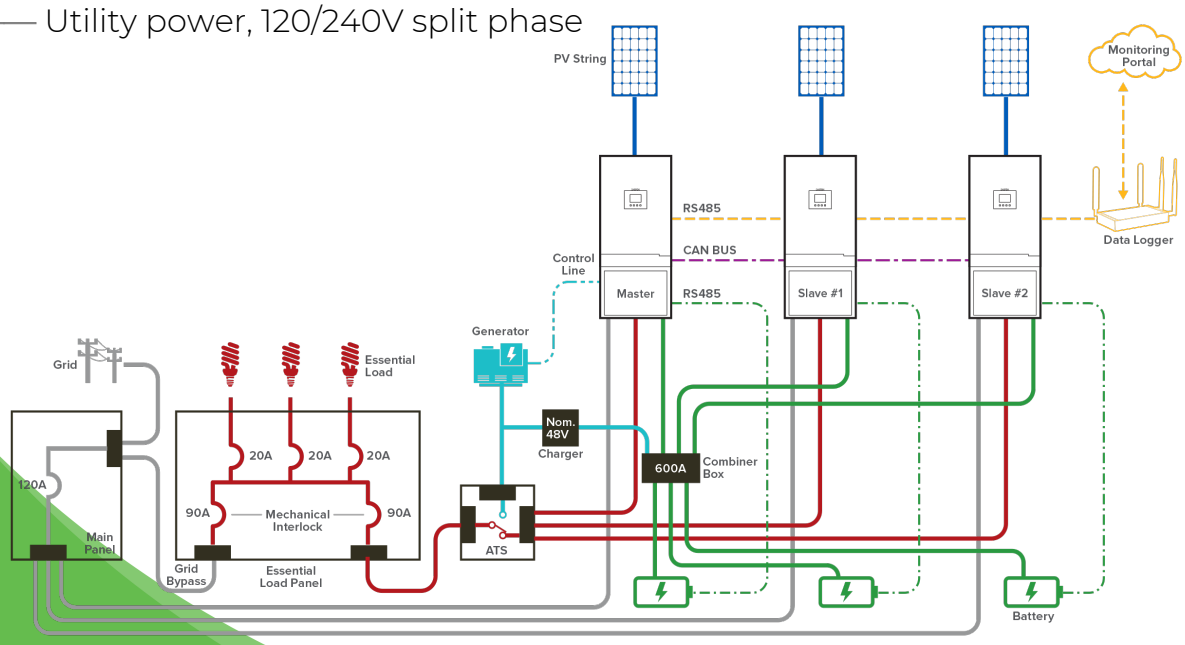
CI5500DC SERIES

CI55STKDC STACKABLE HYBRID INVERTER

The CoolWatts CI55STKDC hybrid inverters feature a stacking ability so you can configure your system to fit your site-specific demands. Stacking two hybrid inverters for up to 14kW to essential load with grid present and 8.8kW without. If that is not enough, you can stack a third hybrid inverter for up to 21kW to essential load with grid present and 13.2kW without.

SINGLE LINE DRAWING OF STACKING WITH THREE CI55STKDC

- Up to 19.5kW of PV power
- Up to 21kW to essential load with grid present and up to 13.2kW with grid absent
- Up to 22kW of discharge power
- Bidirectional communication for remote control
- Auto-assigns master and slave
- External inverter charger is needed to charge the batteries from the generator
- Utility power, 120/240V split phase



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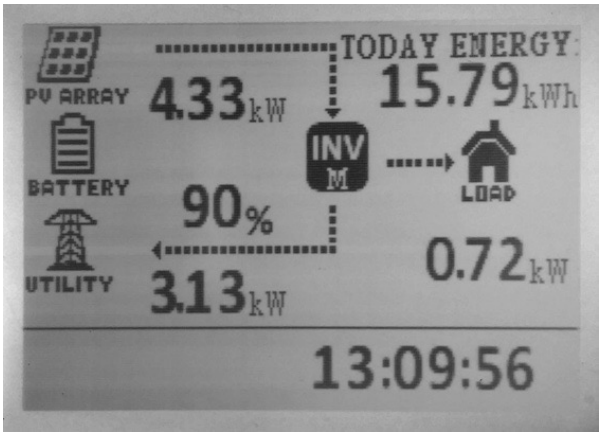
ELECTRICAL SPECIFICATION

BATTERY CAPACITY

Stacking not only increases the amount of power, it also increases the energy storage capacity. Each hybrid inverter has its own charging capability and can be controlled to work together. So you can incrementally add power and storage in parallel at the same time. This makes designing and configuring sites with larger demands easier. Below are a few possible system configurations.

Storage Capacity	38.4kWh	48kWh	57.6kWh	72kWh
Battery Model	CB09LF	CB12LF	CB09LF	CB12LF
Total No. of Inverters	2	2	3	3
Max No. of Batteries	4	4	6	6
Max PV Power	13kW	13kW	19.5kW	19.5kW
Max AC Load On-Grid	14kW	14kW	21kW	21kW
Max AC Load Off-Grid	8.8kW	8.8kW	13.2kW	13.2kW



ELECTRICAL SPECIFICATION

	TWO CI55STKDC		THREE CI55STKDC	
SOLAR DC INPUT				
Maximum Power	13kW (6.5kW per inverter)		19.5kW (6.5kW per inverter)	
Operation/MPPT Voltage Range	120 to 500VDC / 250 to 430VDC		120 to 500VDC / 250 to 430VDC	
Minimum Start Voltage	150VDC		150VDC	
Maximum Input Current	13A / 13A (two string inputs per inverter)		13A / 13A (two string inputs per inverter)	
AC OUTPUT TO LOAD	WITH GRID ABSENT	WITH GRID PRESENT	WITH GRID ABSENT	WITH GRID PRESENT
Output Power (Continuous) @25°C	8.8kW	14kW	13.2kW	21kW
Rated Output Current (RMS)	36A (@120V and 240V)	58A (@120V and 240V)	55A (@120V and 240V)	87A (@120V and 240V)
Output Frequency (Auto Sensing)	50/60 Hz		50/60 Hz	
Output Voltage and Accuracy	L-N: 120V ± 3%; L-L: 240V ± 3%		L-N: 120V ± 3%; L-L: 240V ± 3%	
Output Voltage Limits	L-L: 180 to 280V (240V Nominal)		L-L: 180 to 280V (240V Nominal)	
Total Harmonic Distortion (THD)	< 5% at rated power		< 5% at rated power	
Power Factor	> 99%		> 99%	
AC INPUT FROM GRID				
Automatic Transfer Power Rating / Typical Transfer Time	14kW / 20ms		21kW / 20ms	
Input Voltage Range	L-L: 180 to 280V (240V Nominal)		L-L: 180 to 280V (240V Nominal)	
Input Frequency Range	45 to 54.9Hz / 55 to 65Hz		45 to 54.9Hz / 55 to 65Hz	
AC OUTPUT TO GRID (GRID SUPPORT)				
Output Power (Continuous) @25°C	10kW		15kW	
Grid Feed-In Current Range	0 to 48A (@240V)		0 to 72A (@240V)	
Grid Feed-In Voltage Range	L-L: 211 to 264V ± 3.0V		L-L: 211 to 264V ± 3.0V	
Grid Feed-In Frequency Range	49.3 to 50.5Hz / 59.3 to 60.5Hz		49.3 to 50.5Hz / 59.3 to 60.5Hz	

ELECTRICAL SPECIFICATION

EFFICIENCY	TWO CI55STKDC	THREE CI55STKDC
Peak/CEC Weighted (PV to Grid)	96%/95.5%	96%/95.5%
System Standby Power	40W	60W
System Idle Power	< 16W	< 24W
DC BATTERY CHARGER		
Max Charge/Discharge Current	120A/300A (60A/150A per inverter)	180A/450A (60A/150A per inverter)
Output Voltage Range	44 to 58V (48V Nominal)	44 to 58V (48V Nominal)
Compatible Battery Types	AGM, Gel, Li-ion, LiFePO4, Custom	AGM, Gel, Li-ion, LiFePO4, Custom
GENERAL SPECIFICATIONS PER INVERTER		
Weight	39.4kg (86.8 lb)	39.4kg (86.8 lb)
Dimensions (HxWxD)	990x448x150mm (39x17.6x5.9in)	990x448x150mm (39x17.6x5.9in)
Protection Rating	NEMA 1 Indoor / IP20	NEMA 1 Indoor / IP20
Operating Temperature	-20 to 50°C (-4 to 122°F)	-20 to 50°C (-4 to 122°F)
Minimum Startup Temperature	0°C (32°F)	0°C (32°F)
Storage Temperature	-25 to 70°C (-13 to 158°F)	-25 to 70°C (-13 to 158°F)
Compliances	UL 1741 SA, CSA C22.2, IEEE 1547A, IEEE 1547.1, FCC Class B, HECO Compliant	UL 1741 SA, CSA C22.2, IEEE 1547A, IEEE 1547.1, FCC Class B, HECO Compliant

CI5500DC SERIES

CLOUD-BASED MONITORING SYSTEM

Monitoring for a PV system is a must, whether you are a homeowner, installer or utility. It is the most efficient and inexpensive way to troubleshoot and maintain a PV system. It only makes sense that our monitoring system should be cloud-based for ease of access from anywhere in the world, through a web portal, an Android or iOS mobile app.

With CoolWatts monitoring system, the inverter's past and current performance is tracked, so it can be used to pinpoint performance issues and provide guidance for maintenance, ensuring the system is at its optimal performance over the lifetime of the installation.

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TurnOnGreen designs and manufactures full custom, value added and standard comprehensive power solutions for the most demanding applications in the defense, healthcare, telecom, and industrial markets.

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