

PV GRID-CONNECTED INVERTER

THE POWER OF ASTROENERGY



ASTROENERGY

A **CHNT** COMPANY

Contents

With world-class components suppliers

Astronergy chooses world-class suppliers to ensure the high quality of its products. With top-class partners Astronergy provides inverters with high quality and efficiency to the whole world.

Mos IGBT



IC



Fuse



Current Transducer



Diode



MCU

Certification



VDE0126 G59 G83 VDE-AR-N4105

CEI 0-21 RD1663 IEC62109 EN50438

1. Single phase inverter

CHPI 1.5KTL/2KTL/3KTL/4KTL/4.4KTL/5KTL

CHPI 1.5KTL-AS/2KTL-AS/3KTL-AS/4.6KTL-AS/5KTL-AS

CHPI 3.6KTL-M2/4.2KTL-M2/5KTL-M2

2. Single phase inverter-US

CHPI 3KTL-US/4KTL-US/5KTL-US/6KTL-US

3. Three phase inverter

CHPI 10KTL/12KTL/18KTL/20KTL

4. Three phase inverter-US

CHPI 14KTL-US/CHPI 20KTL-US

5. Monitoring system

6. Astronergy Vision

7. Astronergy WebBox

8. Astronergy Net

Single phase inverter

CHPI 1.5KTL/2KTL/3KTL

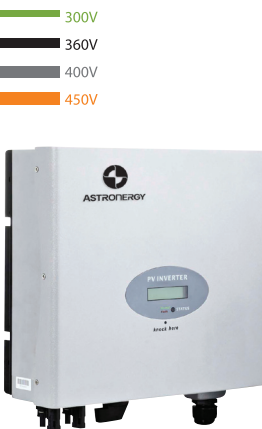
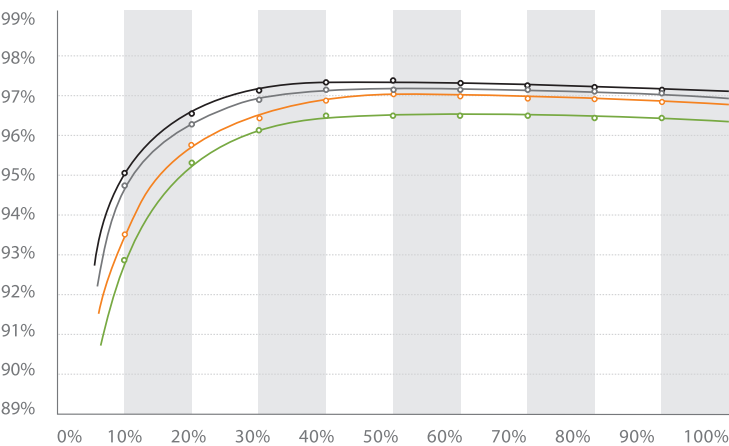
Leading - edge Technology

- Maximum efficiency of 97.3% and wide input voltage range
- Internal DC switch
- Transformerless GT topology
- Compact design
- MTL - String
- Bluetooth / RF technology / Wi-Fi
- Sound control
- Easy installation
- Comprehensive Astronergy warranty program

Europe ENS

- Simple national setting of line supply monitoring(ENS)
- Easy country configuration
- Multi - language display
- Currently available for Germany, France, Switzerland, UK and Spain etc.

3k efficiency



Technical Data

	CHPI 1.5KTL	CHPI 2KTL	CHPI 3KTL
Input Data			
Max. DC power	1800W	2300W	3200W
Max. DC voltage	450V	500V	500V
Start voltage	150V	150V	150V
PV voltage range	100V - 450V	100V - 500V	100V - 500V
MPPT work voltage range/nominal voltage	120V-450V/360V	120V-500V/360V	120V-500V/360V
Full load dc voltage range	175V - 450V	195V-450V	250V - 450V
Number of MPP trackers /strings per MPP tracker	1 / 1	1 / 2	1 / 2
Max. input current /per string	10A/10A	12A/12A	15A/15A

	CHPI 1.5KTL	CHPI 2KTL	CHPI 3KTL
Output (AC)			
Rated AC output power	1600W	2000W	2850W
Max. AC power	1650W	2200W	3000W
Max. output current	8A	11A	15A
AC nominal voltage; range	220V/230V/240V; 180Vac-280Vac		
AC grid frequency ;range	50Hz, 60Hz; ±5Hz		
Power factor	1	1	1
THDI	<3%	<3%	<3%
AC Connection	Single phase	Single phase	Single phase
Efficiency			
Max. Efficiency	97%	97.3%	97.3%
Euro-eta	96.5%	96.5%	96.5%
MPPT efficiency	99.5%	99.5%	99.5%
Protection Devices			
DC reverse polarity protection	yes	yes	yes
DC switch rating for each MPPT	yes	yes	yes
Output over current protection	yes	yes	yes
Output overvoltage protection-varistor	yes	yes	yes
Ground fault monitoring	yes	yes	yes
Grid monitoring	yes	yes	yes
Integrated all-pole sensitive leakage current monitoring unit	yes	yes	yes
General Data			
Dimensions (W / H / D) in mm	360/329/132	360/329/132	360/329/132
Weight	11.5KG	11.7KG	12.2KG
Operating temperature range	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C
Noise emission (typical)	≤25 dB(A)	≤25 dB(A)	≤25 dB(A)
Self-Consumption night	< 0.5 W	< 0.5 W	Transformerless
Topology	Transformerless	Transformerless	Transformerless
Cooling concept	Natural	Natural	Natural
Environmental Protection Rating	IP 65	IP 65	IP 65
Altitude	2000m without derating	2000m without derating	2000m without derating
Relative Humidity	0~95%	0~95%	0~95%
Features			
DC connection	H4/MC4(opt)	H4/MC4(opt)	H4/MC4(opt)
AC connection	Screw terminal	Screw terminal	Screw terminal
Display	LCD	LCD	LCD
Interfaces: RS232/RS485/ Bluetooth/RF/Wi-Fi	yes / yes / opt / opt / opt	yes / yes / opt / opt / opt	yes / yes / opt / opt / opt
Warranty: 5 years / 10 years	yes / opt	yes / opt	yes / opt
Certificates and Approvals			
Certificates and Approvals	CE, G83/2, G59/2, VDE0126-1-1, VDE-AR-N4105, RD1669, IEC62109-1, IEC62109-2, EN50438		

Single phase inverter

CHPI 4KTL/4.4KTL/5KTL

Leading - edge Technology

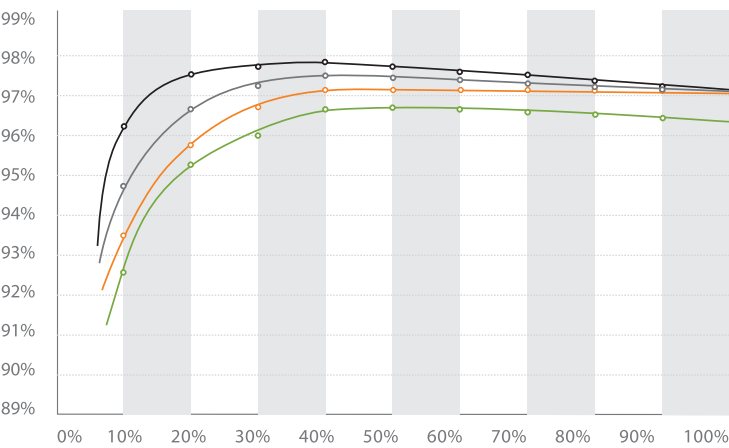
- Maximum efficiency of 97.8% and wide input voltage range
- Internal DC switch
- Transformerless GT topology
- Compact design
- MTL - String
- Bluetooth / RF technology / Wi-Fi
- Sound control
- Easy installation
- Comprehensive Astronrgy warranty program

Europe ENS

- Simple national setting of line supply monitoring(ENS)
- Easy country configuration
- Multi - language display
- Currently available for France, Switzerland, UK and Spain etc.



5k efficiency



250V
360V
450V
500V



Technical Data

	CHPI 4KTL	CHPI 4.4KTL	CHPI 5KTL
Input Data			
Max. DC power	4200W	4600W	5000W/5200W *
Max. DC voltage	580V	580V	580V
Start voltage	150V	150V	150V
PV voltage range	100V - 580V	100V - 580V	100V - 580V
MPPT work voltage range/ nominal voltage	120V-580V/360V	120V-580V/360V	120V-580V/360V
Full load dc voltage range	250V - 500V	250V - 500V	250V - 500V
Number of MPP trackers /strings per MPP tracker	1 / 3	1 / 3	1 / 3
Max. input current /per string	20A/20A	20A/20A	20A/20A

	CHPI 4KTL	CHPI 4.4KTL	CHPI 5KTL
Output (AC)			
Rated AC output power	3680W	4200W	4600W
Max. AC power	4000W	4400W	4600W/5000W
Max. output current	16A	21A	22.7A
AC nominal voltage; range	220V/230V/240V; 180Vac-280Vac		
AC grid frequency ;range	50Hz, 60Hz; ±5Hz		
Power factor	1	1	1
THDI	<3%	<3%	<3%
AC Connection	Single phase	Single phase	Single phase
Efficiency			
Max. Efficiency	97.8%	97.8%	97.8%
Euro-eta	97.4%	97.4%	97.4%
MPPT efficiency	99.5%	99.5%	99.5%
Protection Devices			
DC reverse polarity protection	yes	yes	yes
DC switch rating for each MPPT	yes	yes	yes
Output over current protection	yes	yes	yes
Output overvoltage protection-varistor	yes	yes	yes
Ground fault monitoring	yes	yes	yes
Grid monitoring	yes	yes	yes
Integrated all-pole sensitive leakage current monitoring unit	yes	yes	yes
General Data			
Dimensions (W / H / D) in mm	406/406/192	406/406/192	406/406/192
Weight	21KG	21KG	21KG
Operating temperature range	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C
Noise emission (typical)	≤25 dB(A)	≤25 dB(A)	≤25 dB(A)
Self-Consumption night	< 0.5 W	< 0.5 W	< 0.5 W
Topology	Transformerless	Transformerless	Transformerless
Cooling concept	Natural	Natural	Natural
Environmental Protection Rating	IP 65	IP 65	IP 65
Altitude	2000m without derating	2000m without derating	2000m without derating
Relative Humidity	0~95%	0~95%	0~95%
Features			
DC connection	H4/MC4(opt)	H4/MC4(opt)	H4/MC4(opt)
AC connection	Screw terminal	Screw terminal	Screw terminal
Display	LCD	LCD	LCD
Interfaces: RS232/RS485/ Bluetooth/RF/Wi-Fi	yes / yes / opt / opt / opt	yes / yes / opt / opt / opt	yes / yes / opt / opt / opt
Warranty: 5 years / 10 years	yes / opt	yes / opt	yes / opt
Certificates and Approvals			
Certificates and Approvals	CE, G83/2, G59/2, VDE0126-1-1, VDE-AR-N4105, RD1669, IEC62109-1, IEC62109-2, EN50438		

Single phase inverter

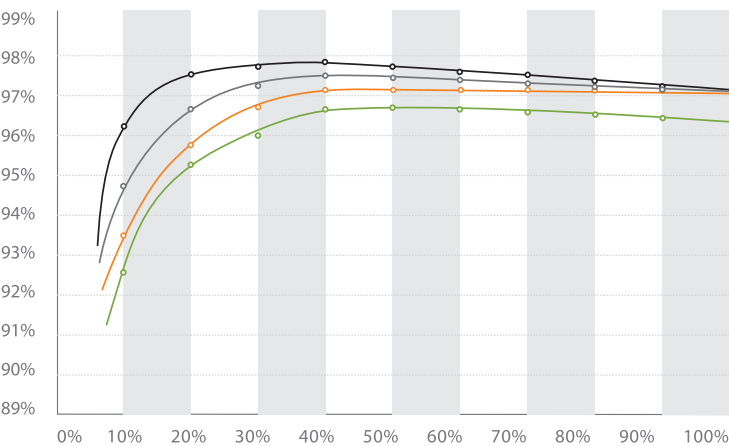
CHPI 1.5KTL-AS/2KTL-AS/3KTL-AS/4.6KTL-AS/5KTL-AS

Leading - edge Technology

- Maximum efficiency of 97.8% and wide input voltage range
- Transformerless GT topology
- Compact design
- MTL - String
- Bluetooth / RF technology / Wi-Fi
- Sound control
- Easy installation
- Comprehensive Astronergy warranty program



5k efficiency



Technical Data

	CHPI 1.5KTL-AS	CHPI 2KTL-AS	CHPI 3KTL-AS	CHPI 4.6KTL-AS	CHPI 5KTL-AS
Input Data					
Max. DC power	1800W	2300W	3200W	4800W	5200W
Max. DC voltage	450V	500V	500V	580V	580V
Start voltage	150V	150V	150V	150V	150V
PV voltage range	100V - 450V	100V - 500V	100V - 500V	100V - 580V	100V - 580V
MPPT work voltage range/ nominal voltage	120V-450V/ 360V	120V-500V/ 360V	120V-500V/ 360V	120V-580V/360V	120V-580V/360V
Full load dc voltage range	175V - 450V	195V - 450V	250V - 450V	250V - 500V	250V - 500V
Number of MPP trackers /strings per MPP tracker	1 / 1	1 / 2	1 / 2	1 / 3	1 / 3
Max. input current /per string	10A/10A	12A/12A	15A/15A	20A/20A	20A/20A

	CHPI 1.5KTL-AS	CHPI 2KTL-AS	CHPI 3KTL-AS	CHPI 4.6KTL-AS	CHPI 5KTL-AS
Output (AC)					
Rated AC output power	1650W	2000W	2850W	4600W	5000W
Max. AC power	1650W	2200W	3000W	4600W	5000W
Max. output current	8A	11A	15A	23A	25A
AC nominal voltage; range	230V; 207Vac~263Vac				
AC grid frequency ;range	50Hz, 60Hz; ±5Hz				
Power factor	1	1	1	1	1
THDI	<3%	<3%	<3%	<3%	<3%
AC Connection	Single phase	Single phase	Single phase	Single phase	Single phase
Efficiency					
Max. Efficiency	97%	97.3%	97.3%	97.8%	97.8%
Euro-eta	96.5%	96.5%	96.5%	97.4%	97.4%
MPPT efficiency	99.5%	99.5%	99.5%	99.5%	99.5%
Protection Devices					
DC reverse polarity protection	yes	yes	yes	yes	yes
DC switch rating for each MPPT	yes	yes	yes	yes	yes
Output over current protection	yes	yes	yes	yes	yes
Output overvoltage protection-varistor	yes	yes	yes	yes	yes
Ground fault monitoring	yes	yes	yes	yes	yes
Grid monitoring	yes	yes	yes	yes	yes
Integrated all-pole sensitive leakage current monitoring unit	yes	yes	yes	yes	yes
General Data					
Dimensions (W / H / D) in mm	360/329/132	360/329/132	360/329/132	406/406/192	406/406/192
Weight	11.5KG	11.7KG	12.2KG	21KG	21KG
Operating temperature range	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C
Noise emission (typical)	≤25 dB(A)	≤25 dB(A)	≤25 dB(A)	≤25 dB(A)	≤25 dB(A)
Self-Consumption night	< 0.5 W	< 0.5 W	< 0.5 W	< 0.5 W	< 0.5 W
Topology	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless
Cooling concept	Natural	Natural	Natural	Natural	Natural
Environmental Protection Rating	IP 65	IP 65	IP 65	IP 65	IP 65
Altitude	2000m without derating				
Relative Humidity	0~95%	0~95%	0~95%	0~95%	0~95%
Features					
DC connection	H4/MC4(opt)	H4/MC4(opt)	H4/MC4(opt)	H4/MC4(opt)	H4/MC4(opt)
AC connection	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
Display	LCD	LCD	LCD	LCD	LCD
Interfaces: RS232/RS485/ Bluetooth/RF/Wi-Fi	yes / yes / opt / opt / opt	yes / yes / opt / opt / opt	yes / yes / opt / opt / opt	yes / yes / opt / opt / opt	yes / yes / opt / opt / opt
Warranty: 5 years / 10 years	yes / opt	yes / opt	yes / opt	yes / opt	yes / opt
Certificates and Approvals					
Certificates and Approvals	AS4777, AS/NZS 3100				

Single phase inverter

CHPI 3.6KTL-M2/4.2KTL-M2/5KTL-M2

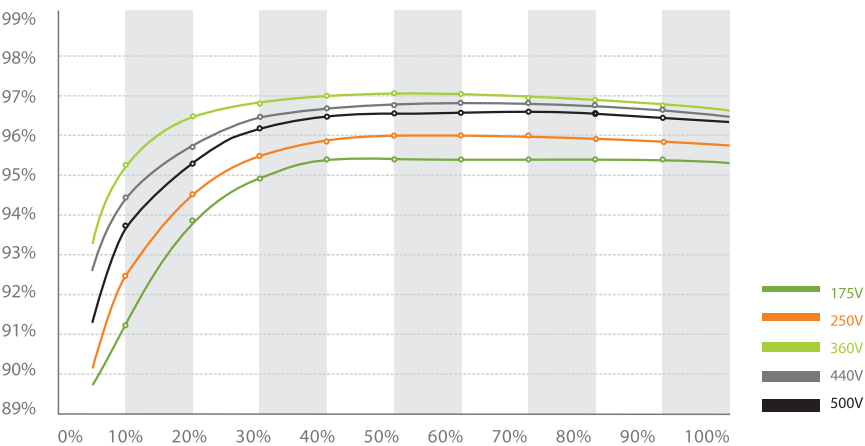
Leading - edge Technology

- maximum efficiency of 97.1% and wide input voltage range
- internal DC switch
- transformerless GT topology
- compact design
- Multi MPP controller
- MTL-string
- Bluetooth / RF technology / Wi-Fi
- Sound control
- Easy installation
- Internal wireless communication module (option)
- Complete DSP control
- Reactive power control

Europe / Australia ENS

- Simple national setting of line supply monitoring(ENS)
- Easy country configuration
- Multi - language display
- Currently available for Germany, France, UK, Switzerland, Italy and Spain etc.

5k efficiency



Technical Data

	CHPI 3.6KTL-M2	CHPI 4.2KTL-M2	CHPI 5KTL-M2
Input Data			
Max. DC power	3800W	4400W	5000W
Max. DC voltage	600V	600V	600V
Start voltage	150V	150V	150V
DC nominal voltage	360V	360V	360V
PV voltage range	100V-600V	100V-600V	100V-600V
MPPT work voltage range/ nominal voltage	175V-550V /360V	175V-550V /360V	175V-550V /360V
Number of MPP trackers /strings per MPP tracker	2/2	2/2	2/2
Max. input current of tracker A/tracker B	10A / 10A	15A / 15A	15A / 15A
Max. input current per string of tracker A/tracker B	10A / 10A	15A / 15A	15A / 15A

	CHPI 4KTL	CHPI 4.4KTL	CHPI 5KTL
Output (AC)			
Rated AC output power	3600W	4200W	4600W
Max. AC power	3600W	4200W	4600W
Max. output current	18A	21A	23A
AC nominal voltage; range	220V/230V/240V; 180V - 280V		
AC grid frequency ;range	50Hz, 60Hz; ±5Hz		
Power factor	1	1	1
Displacement power factor, configurable	0.9leading...0.9lagging	0.9leading...0.9lagging	0.9leading...0.9lagging
THDI	<3%	<3%	<3%
AC Connection	Single phase	Single phase	Single phase
Efficiency			
Max. Efficiency	97.1%	97.1%	97.1%
Euro-eta	96.5%	96.5%	96.5%
MPPT efficiency	99.5%	99.5%	99.5%
Protection Devices			
DC reverse polarity protection	yes	yes	yes
DC switch rating for each MPPT	yes	yes	yes
Output over current protection	yes	yes	yes
Output overvoltage protection-varistor	yes	yes	yes
Ground fault monitoring	yes	yes	yes
Grid monitoring	yes	yes	yes
Integrated all-pole sensitive leakage current monitoring unit	yes	yes	yes
General Data			
Dimensions (W / H / D) in mm	360/510/188	360/510/188	360/510/188
Weight	24KG	24KG	24KG
Operating temperature range	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C
Noise emission (typical)	≤25 dB(A)	≤25 dB(A)	≤25 dB(A)
Self-Consumption night	< 5W / < 0.5 W	< 5W / < 0.5 W	< 5W / < 0.5 W
Topology	Transformerless	Transformerless	Transformerless
Cooling concept	Natural	Natural	Natural
Environmental Protection Rating	IP 65	IP 65	IP 65
Altitude	2000m without derating	2000m without derating	2000m without derating
Relative Humidity	0~95%	0~95%	0~95%
Features			
DC connection	H4/MC4(opt)	H4/MC4(opt)	H4/MC4(opt)
AC connection	Screw terminal	Screw terminal	Screw terminal
Display	LCD	LCD	LCD
Interfaces: RS232/RS485/ Bluetooth/RF/Wi-Fi	yes / yes / opt / opt / opt	yes / yes / opt / opt / opt	yes / yes / opt / opt / opt
Warranty: 5 years / 10 years	yes / opt	yes / opt	yes / opt
Certificates and Approvals			
Certificates and Approvals	CE, G83/2, G59/2, VDE0126-1-1, VDE-AR-N4105, RD1669, IEC62109-1, IEC62109-2, EN50438		

* 0.95leading...0.95lagging with VDE-AR-N 4105/0.95leading...0.95lagging with CEI 0-21 (System power less than 6KW)
/0.9leading...0.9lagging with CEI 0-21 (System power larger than 6KW)

Single phase inverter-US

CHPI 3KTL-US/4KTL-US/5KTL-US/6KTL-US

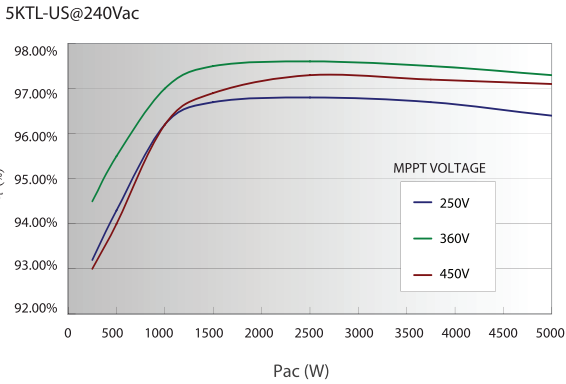
Astronergy introduces new design 3/4/5/6kW single phase inverters for North America residential application. The new inverters are with high performance, more field application flexibility and more cost effectiveness.

97.5% maximum efficiency and 97% CEC efficiency guarantees high yield, two MPPT can run independent or combined into one, with automatic recognizing configuration of PV connection, 1.3 DC to AC power ratio allows more panel configurations, optional embedded Arc Fault Detector provides more safety, natural convection cooling (no internal fan) works for longer life, and, double skin front surface design allows direct sunlight.



CHPI 3KTL-US
CHPI 4KTL-US

Efficiency Curve



Broad Adaptability

- Dual-MPPT for 5/6kW model
- Wide MPPT range enables flexible stringing
- Outdoor ready NEMA3R
- Small and light-weight for easy install
- Lead-free, RoHS complied
- Integrated DC and AC disconnect
- Internal DC and AC fuse
- Standard RS485, optional Zigbee and Ethernet
- FCC Class B

High Reliability

- Standard warranty: 10 years
- Fan less design
- GFCI embedded
- ARC fault detection (optional)
- BEW Engineering audit available

High Efficiency

- Max. efficiency of 97.5%, CEC efficiency of 97.0%
- High speed and precise MPPT algorithm



Technical Data

Model Name	CHPI 3KTL-US	CHPI 4KTL-US	CHPI 5KTL-US	CHPI 6KTL-US
DC Input				
Max. PV Power	4kW	5.2kW	6.5kW	7.8kW
Nominal DC Input Power	3.2kW	4.2kW	5.2kW	6.4kW
Max. DC Input Voltage	550Vdc	550Vdc	550Vdc	550Vdc
Operating DC Input Voltage Range	150-550Vdc			

Model Name	CHPI 3KTL-US	CHPI 4KTL-US	CHPI 5KTL-US	CHPI 6KTL-US
DC Input				
Start-up DC Input Voltage	200Vdc			
Nominal DC Input Voltage	360Vdc			
Number of MPP Trackers	1	1	2	2
Number of DC Input Pairs	4	4	2x2	2x2
MPPT Voltage Range	200-470Vdc			
Max. Input Current	16A	21A	13Ax2	16Ax2
Max. Input Current per String	13A	13A	13A	16A
DC Disconnection Type	Switch			
AC Output				
Nominal AC Power @ 208Vac	3kW	4kW	4.6kW	5.5kW
Nominal AC Power @ 240Vac	3kW	4kW	5kW	6kW
Max. AC Power @ 208Vac	3.2kW	4.2kW	4.6kW	5.7kW
Max. AC Power @ 240Vac	3.2kW	4.2kW	5.2kW	6.2kW
Rated Output Voltage	208V / 240V			
Output Voltage Range @ 208Vac	183-228Vac			
Output Voltage Range @ 240Vac	211-264Vac			
Grid Connection Type	Single phase 3 wires			
Nominal AC Current @ 208Vac	14.4A	19A	20.8A	26.5A
Nominal AC Current @ 240Vac	12.5A	16.7A	20.8A	25.0A
Max. AC Current @ 208Vac System	15A	19A	22A	27.5A
Max. AC Current @ 240Vac System	15A	19A	22A	27.5A
Rated Output Frequency	60Hz	60Hz	60Hz	60Hz
Output Frequency Range	59.3-60.5Hz (adjustable)			
Power Factor	Nom 1, adjustable 0.95 lead to 0.95 lag			
Current THD	<3%			
AC Disconnection Type	Switch			
System				
Topology	Transformerless			
Max. Efficiency	97.5%	97.5%	97.5%	97.5%
CEC Efficiency	97%	97%	97%	97%
Stand-by / Night Consumption	<8W / <1W	<8W / <1W	<8W / <1W	<8W / <1W
Environment				
Protection Degree	NEMA 3R			
Cooling	Natural convection)			
Operating Temperature Range	-13°F to +140°F / -25°C to +60°C (Derating from +113°F / +45°C)			
Operating Humidity	0-95%, non-condensing			
Operating Altitude	6262ft / 2000m without derating			
Display and Communication				
Display	LCD + LED			
Communication	RS485, Ethernet (optional)			
Mechanical Data				
Dimensions (WxHxD)	15.7x26x8.8in / 398x659x224mm		17x28.7x8.8in / 436x728x224mm	
Weight	77lbs / 35kg		84lbs / 38kg	
Safety				
Safety and EMC Standard	UL1741: 2010, CSA C22.2 No.107.1-01, FCC PART15 Class B			
Grid Standard	IEEE1547: 2003, IEEE1547.1: 2005			

Three phase inverter

CHPI 10KTL/12KTL/18KTL/20KTL

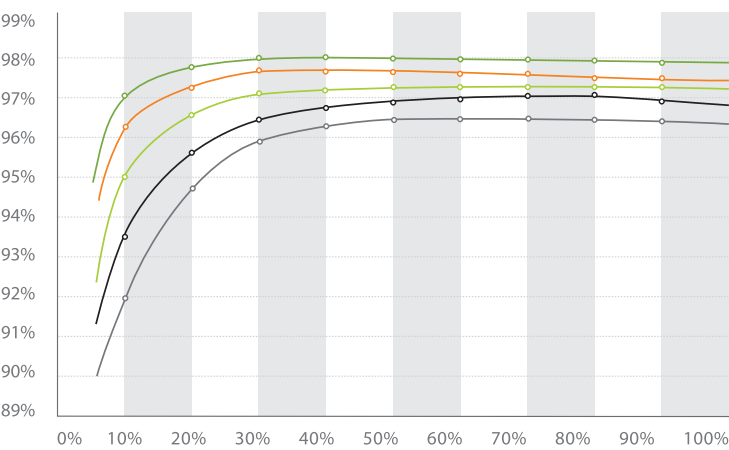
Leading - edge Technology

- DC input voltage up to 1000V
- Maximum efficiency of 98%
- Internal DC switch
- Transformerless
- Compact design
- Multi MPP controller
- MTL - String
- Bluetooth / RF technology / Wi-Fi
- Sound control
- Easy installation
- Comprehensive Astronergy warranty program

Europe ENS

- Simple national setting of line supply monitoring(ENS)
- Easy country configuration
- Multi - language display
- Currently available for Germany, France, UK, Switzerland and Spain etc.

10 k efficiency



Technical Data

	CHPI 10KTL	CHPI 12KTL	CHPI 18KTL	CHPI 20KTL
Input Data				
Max. DC power	10500W	12500W	18700W	20800W
Max. DC voltage	1000V	1000V	1000V	1000V
Start voltage	350V	350V	350V	350V
PV voltage range	180V - 1000V	180V - 1000V	180V - 1000V	180V - 1000V
MPP voltage range / DC nominal voltage	300V - 1000V / 600V			
Full load dc voltage range	400V - 800V	400V - 800V	400V - 800V	400V - 800V
Number of MPP trackers /strings per MPP tracker	2 / 2	2 / 2	2 / 3	2 / 3
Max. input current	15A / 15A	17A / 17A	23A / 23A	26A / 26A
Max. input current per string	20A	20A	20A	20A

	CHPI 10KTL	CHPI 12KTL	CHPI 18KTL	CHPI 20KTL
Output (AC)				
Rated AC output power	10KW	12KW	18KW	20KW
Max. AC power	10KVA	12KVA	18KVA	20KVA
Max. output current	16A	19A	28.6A	32A
AC nominal voltage; range	3/N/PE, 230V/400V ; 184 - 275V			
AC grid frequency ;range	50/60Hz; 44-55Hz/54-65Hz			
Adjustable displacement power factor	0.8 leading -0.8laging			
THDI	<3%	<3%	<3%	<3%
AC Connection	Three phase	Three phase	Three phase	Three phase
Efficiency				
Max. Efficiency	98%	98%	98%	98%
Euro-eta	97.5%	97.5%	97.5%	97.5%
MPPT efficiency	99.5%	99.5%	99.5%	99.5%
Protection Devices				
DC reverse polarity protection	yes	yes	yes	yes
DC switch rating for each MPPT	yes	yes	yes	yes
Output over current protection	yes	yes	yes	yes
Output overvoltage protection-varistor	yes	yes	yes	yes
Ground fault monitoring	yes	yes	yes	yes
Grid monitoring	yes	yes	yes	yes
Integrated all-pole sensitive leakage current monitoring unit	yes	yes	yes	yes
General Data				
Dimensions (W / H / D) in mm	740/440/235	740/440/235	740/440/235	740/440/235
Weight	41KG	41KG	60KG	60KG
Operating temperature range	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C
Noise emission (typical)	≤ 55 dB(A)	≤ 55 dB(A)	≤ 55 dB(A)	≤ 55 dB(A)
Self-Consumption night	< 0.5 W	< 0.5 W	< 0.5 W	< 0.5 W
Topology	Transformerless	Transformerless	Transformerless	Transformerless
Cooling concept	Smart cooling	Smart cooling	Smart cooling	Smart cooling
Environmental Protection Rating	IP 65	IP 65	IP 65	IP 65
Altitude	2000m without derating			
Relative Humidity	0~95%	0~95%	0~95%	0~95%
Features				
DC connection	H4/MC4(opt)	H4/MC4(opt)	H4/MC4(opt)	H4/MC4(opt)
AC connection	Screw terminal	Screw terminal	Screw terminal	Screw terminal
Display	LCD	LCD	LCD	LCD
Interfaces: RS232/RS485/Bluetooth/RF/Wi-Fi	yes / yes / opt / opt / opt	yes / yes / opt / opt / opt	yes / yes / opt / opt / opt	yes / yes / opt / opt / opt
Warranty: 5 years / 10 years	yes / opt	yes / opt	yes / opt	yes / opt
Certificates and Approvals				
Certificates and Approvals	CE, G59/2, VDE-AR-N4105, RD1669, IEC62109-1, IEC62109-2, EN50438			

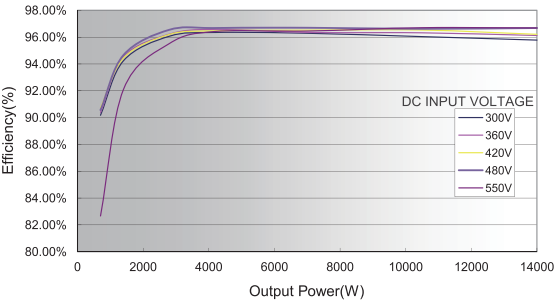
Three phase inverter-US

CHPI 14KTL-US

The CHPI 14KTL-US, 208Vac inverter is ideal for commercial applications common in the USA – finally, a high power and cost effective three phase string solution is available – a complement to Chint's industry leading, Photon A rated 20kW platform. With dual MPPT and wide operating DC voltage windows, users are assured maximum energy harvest, cash-flows and application flexibility. The inverters enable BoS cost savings via integrated string combining and DC and AC fusing and disconnects



Efficiency Curve



High Reliability

- Standard warranty: 5 years, extension up to 20 years
- Enhanced digital processing ability
- Advanced thermal design, with variable speed fans
- Ground-fault detection and interruption circuit
- Redundant controller for grid fault protection
- ARC-fault detection and interruption option



Broad Adaptability

- NEMA 3R (IP65), outdoor application
- Integrated wiring box (eliminates array combiner box) and “Easy swap-out for service”, quick installation and easy maintenance
- Integrated DC, AC fuses and disconnects
- Wide MPPT range for flexible string sizing
- Wide operating DC input range for more energy harvest
- 57Hz frequency setting flexibility
- Standard RS485, optional Zigbee and Ethernet
- Light weight, compact design for commercial rooftops

High Efficiency

- Max. efficiency of 96.7%, CEC efficiency of 96%
- Photon Labs “A” rated platform
- High speed and precise MPPT algorithm
- 2 MPPTs to achieve higher system efficiency
- Transformerless design

Technical Data

Model Name	CHPI 14KTL-US
DC Input	
Max. PV Power	17.5kW
Nominal DC Input Power	14.5kW
Max. DC Input Voltage	600Vdc
Operating DC Input Voltage Range	180-580Vdc
Start-up DC Input Voltage / Power	300V / 200W
Nominal DC Input Voltage	360Vdc
Number of MPP Trackers	2
MPPT Voltage Range	260-550Vdc
Max. Input Current	60A
Number of DC Inputs and Fuses	8 fused inputs, 4 per MPPT
DC Disconnection Type	Load rated DC switch
AC Output	
Rated AC Output Power	14kW
Max. AC Output Power	14kW
Rated Output Voltage	208Vac
Output Voltage Range	183-228Vac
Grid Connection Type	3Φ/ N / PE
Rated Output Frequency	39A
Max AC Output Current	60Hz
Output Frequency Range	57-63Hz
Power Factor	>0.99 (±0.9 adjustable)
Current THD	<3%
AC Disconnection Type	Load rated AC switch
System	
Topology	Transformerless
Max. Efficiency	96.7%
CEC Efficiency	96.0%
Stand-by / Night Consumption	<20W / <2W
Environment	
Protection Degree	NEMA 3R
Cooling	Variable speed cooling fans
Operating Temperature Range	-13°F to +140°F / - 25°C to +60°C (derating from +122°F / +50°C)
Operating Humidity	0-95%, non-condensing
Operating Altitude	6562ft / 2000m (derating from 4921ft / 1500m)
Audible Noise	<50db
Display and Communication	
Display	LCD + LED
Communication	RS485; Ethernet, Zigbee (optional)
Mechanical Data	
W X H X D(mm)	21.4x41.6x8.5in / 544x1058x215mm
Weight(kg)	132lbs / 63kg
Safety	
Safety and EMC Standard	UL1741:2010, CSA-C22.2 NO.107.1-01, IEEE1547; FCC PART15
Grid Standard	IEEE1547: 2003, IEEE1547.1: 2005

Three phase inverter-US

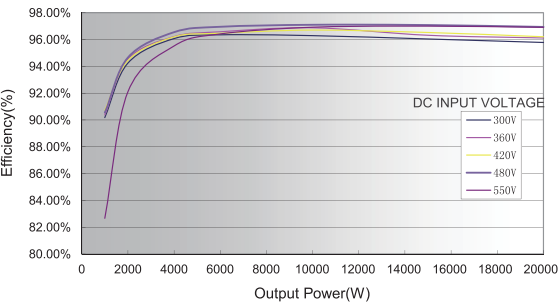
CHPI 20KTL-US

The CHPI 20KTL-US grid-tied PV inverter is a tranformerless, three phase product designed for the North America market in compliance with UL and CSA standards. Patented 3-level control algorithm and thermal design provide 97.3% maximum efficiency.

CHPI 20KTL-US features small size, light weight and high power density. Multi flexible mounting modes make installation and maintenance easy and quick. The enclosure of the inverter is rated NEMA 3R (IP65) for general purpose outdoor applications. Enhanced DSP control, comprehensive protection functions and advanced thermal design enable a high reliability product with optional warranties up to 20 years.



Efficiency Curve



High Efficiency

- Maximum efficiency of 97.3%, CEC efficiency of 96.5%
- 3-level technology and enhanced control mechanism to achieve high efficiency over wide load range
- High speed and precise MPPT algorithm
- 2 MPP trackers to achieve higher system efficiency
- Transformerless design



Broad Adaptability

- NEMA 3R (IP65), outdoor application
- Multi mounting modes, quick installation and easy maintenance
- High altitude application
- Integrated DC (+, -) and AC disconnect
- Wide MPPT range enables flexible stringing
- Light weight, compact design for commercial rooftops

High Reliability

- Standard warranty: 5 years, extention up to 20 years
- Design for reliability
- Comprehensive protection functions
- Enhanced DSP system
- Advanced thermal design, with variable speed fans
- Anti-Islanding protection
- Ground-fault detection and interruption circuit
- Redundant controller for system protection

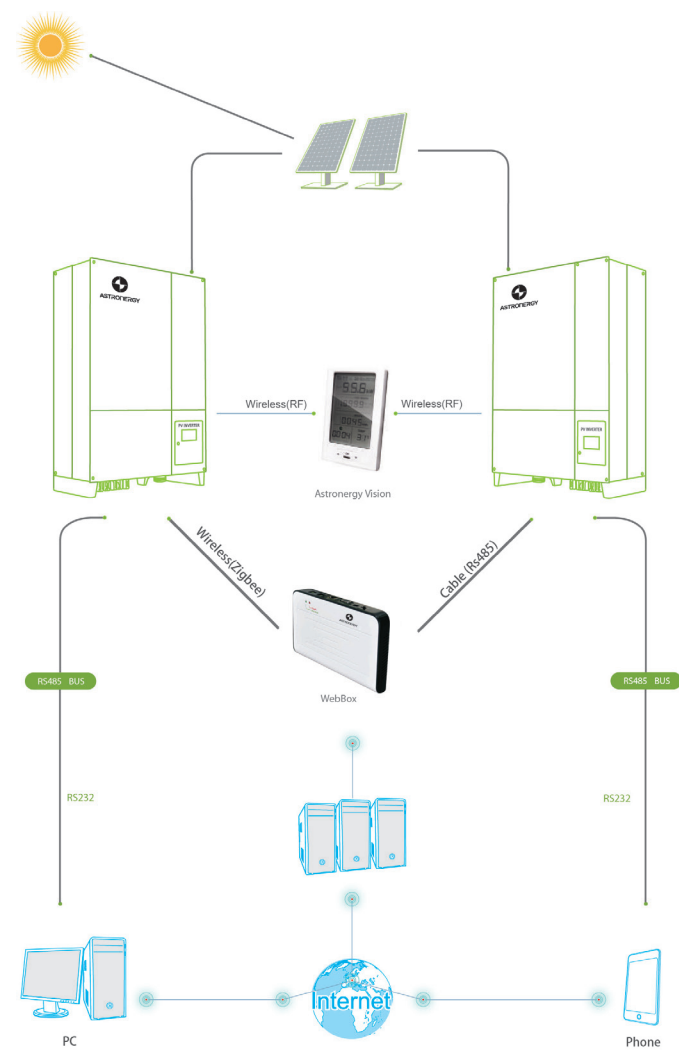
Technical Data

Model Name	CHPI 14KTL-US
DC Input	
Max. PV Power	27kW
Nominal DC Input Power	21kW
Max. DC Input Voltage	600Vdc
Operating DC Input Voltage Range	260-580Vdc
Start-up DC Input Voltage / Power	300V / 200W
Nominal DC Input Voltage	500Vdc
Number of MPP Trackers	2
MPPT Voltage Range	300-550Vdc
Max. Input Current	35Ax2
Number of DC Inputs and Fuses	4 conductors with fuse per each of two MPPT inputs
DC Disconnection Type	Switch
AC Output	
Rated AC Output Power	20kW
Max. AC Output Power	20kW
Rated Output Voltage	480Vac
Output Voltage Range	422-528Vac
Grid Connection Type	3Φ/ N / PE
Rated Output Frequency	27.3A
Max AC Output Current	60Hz
Output Frequency Range	59.3-60.5Hz
Power Factor	>0.99
Current THD	<3%
AC Disconnection Type	Switch
System	
Topology	Transformerless
Max. Efficiency	97.3%
CEC Efficiency	96.5%
Stand-by / Night Consumption	<20W / <2W
Environment	
Protection Degree	NEMA 3R
Cooling	Variable speed cooling fans
Operating Temperature Range	-13°F to +140°F / - 25°C to +60°C (derating from +55°C / +131°F)
Operating Humidity	0-95%, non-condensing
Operating Altitude	6562ft / 2000m (derating from 4921ft / 1500m)
Display and Communication	
Display	LCD + LED
Communication	RS485
Mechanical Data	
W X H X D(mm)	21.4x41.6x8.5in / 544x1058x215mm
Weight(kg)	132lbs / 63kg
Safety	
Safety and EMC Standard	UL1741:2010, CSA-C22.2 NO.107.1-01, IEEE1547; FCC PART15
Grid Standard	IEEE1547: 2003, IEEE1547.1: 2005

Monitoring system

Astronergy monitor system is diversified and highly intelligent. AstronergyVision and WebBox provide PV plant owners and operators a web-enabled platform for real-time alerting,fault reporting, billing and facility managing to maximize system energy output while minimizing the costs.

Through the powerful back-ups from our hardware and software, various communication protocols and interfaces, our customers can simply manage the portfolios of different systems-- from residential to commercial roof to utility scale--from any location of the world.



Astronergy Vision

The all-in-one wireless monitoring package for home

Informative, cute, and easy to operate, the ShineVision with Radio Frequency not only has sexy design, but also provides an innovative monitoring solution. Key data is visible on its display, including daily, monthly, total power yield and income, DC and AC voltage, energy yield in Euros, US dollars and Pounds, temperature, time, as well as insolation levels, which can be accessed just like a mobile phone. It can update and store the latest data permanently. ShineVision also can be set up to emit an audio signal to tell operators of system errors automatically

Features

- RF communication for wireless operation.
- Automatic monitoring of up to six inverters simultaneously, applicable for small home system.
- Simple installation. It can be placed anywhere indoor with signal coverage.
- Easy-to-understand data display by simple key operation: real-time power, three-phase AC voltage, PV voltage, daily, monthly and total power yield and income, temperature, light intensity, the date and time.
- Data archiving automatically and permanently with high security.
- Audio alarm in the event of errors.
- Low power consumption, powered by adaptor or battery.



Technical Data

Communication	
Inverter communication	Wireless radio frequency
Number of inverters	Max.6 units
Communication range	
Partition communication	Max.30m
Power supply	
Power supply	Input : 100-240V, 50/60Hz AC Output: 5V/0.1A AC
Type of battery	Number 5 AA alkaline battery
Environmental conditions for operation	
Emitter temperature	-10 °C ~ 60 °C
Monitor temperature	-10 °C ~ 50 °C
Humidity range	≤80%
Protection rating	IP20

General Data	
Dimensions (W / H / D) in mm	217/150/72mm
Weight	0.82kg
Installation site	Indoor
Deployment options	Desktop device
Language versions	English
Features	
Display	LCD display
Operation	key-press
Warranty	13 months
Information displayed	
General Information	Time, date, temperature
System Data	AC voltage, PV voltage, daily yield, monthly yield, total yield, etc.

Astronergy WebBox

It is a cost-effective and compact monitoring device, specially designed for solar power plant. Using stable Linux operating system with high-speed CPU, smartly record your system features. Provide local storage, easy wireless and TCP/IP configuration, and present plant data over Internet.



Features

- A multi-functional and high-performance communication data logger;
- Keep user informed of the system's status at any time,
- Massive storage with flexible parameters setting, system information management, error prompt and record .
- Collects data and uploads information over the internet in near real-time to Server platform.

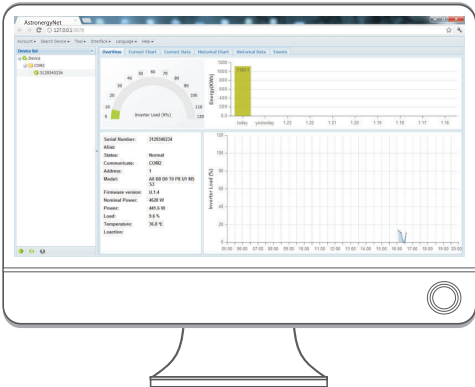
Technical Data

Communication	
Communication with Inverters	RS 485 (Wire connection) ZigBee (Wireless connection)
Communication with PC	10/100 Mbit Ethernet
Communication range	RS 485: 1200m ZigBee: 300m (without obstacle) Ethernet: 100m
Electrical Data	
Power adapter	Input: 100, 240V,50/60Hz AC Output: 5V,2A DC
Power consumption	2.5W
Environmental Conditions	
Ambient temperature	0 - 45 °C
Relative air humidity	5%-95%

General Data	
Dimensions (W / H / D) in mm	185/125/30
Net weight	0.42kg
Mounting location	Indoor
Mounting type	Wall mounting , tabletop device
Status indicator	LED
Language	English
Data update frequency	5 minutes

Astronergy Net

AstronergyNet provides an optimum solution to the system monitoring for residential customers. The free software is adapted to monitor the inverters from Astronergy via RS232 or Bluetooth module. With the special designed function and friendly compact UI, it offers users a top-level intuitive graphical view of the plants under management and brings unprecedented user experience.



Features

- Monitor and record current data of inverters
Record historical data
- Monitor and record event information of inverter
- Connect computer and inverter via RS232 and RS485 port
(wire connection) or Bluetooth module (wireless connection)
- Remote access available for local area network

Technical Data

Languages	
Available languages	English, German, Chinese
System requirements	
Supported operating systems	Windows XP(SP2), Windows Vista(32-bit and 64-bit), Windows 7(32-bit and 64-bit)
Communication	
Inverter communication	Bluetooth/RS232
Max.number of devices	Bluetooth: 7 / RS232:1
Protocol	Modbus RTU
Hardware (minimum requirement)	
Processor	P3 800MHz(XP), P4 1GHz(vista, windows7)
Main memory	512MB(XP), 1GB(vista, windows7)
Free hard drive space	102MB (87MB JRE/15MB application)
Resolution	1024x768 pixels

Plant information	
Plant overview	Quick overview of all inverter status, generated power, inverter load and other important data
Current plant data	Displayed by intuitive chart or detailed list
Historical plant data	Displayed by intuitive chart or detailed list
Events	Rapid warning of event with pop-up dialog box, direct viewing of recorded events with highlight
Device information	
Device overview	Easily get access to all inverter information
Device setting	Simple configuration for power management
Device data	Detailed information of specified inverter including historical and current data
Events	Rapid warning of event with pop-up dialog box, direct viewing of recorded events with highlight



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