Afore

PV String Inverter & PV Storage Inverter

Afore

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About Us

Afore is a leading PV string inverter provider from China, with more than ten years dedicated experience in PV string inverter R&D and manufacturing, Afore inverters have been installed in Europe, Australia, China, Indian, Japan, North America and South America, satisfying hundreds of thousand users globally.

We provide single and three-phase high-efficiency PV string inverters for a capacity of 1kW to 60kW, storage inverters and all-in-one storage products. All of our inverters are integrated with smart monitoring system.

We offer not just good products, but also high-efficient local support to our partners and users throughout the inverter life span. Make sure the customers receive reliable returns by choosing Afore!

2010
Afore New Energy Technology (Shanghai) Co. Ltd. was established.

2011
Afore inverter was installed in China's first residential solar PV system.

2012
Afore inverter showed up in Secrets of PV War, one episode of a large studio TV program Dialogue on CCTV-2.

2013
Afore was identified as high-tech enterprise by Shanghai government and becomes a member of Shanghai Solar Energy Society.

2014
Sales amount got continuous growth in Europe, Asia, Australia and other regions.

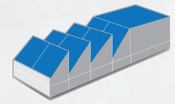
2015
The first light-weighted design three-phase PV string inverter (10 - 30kW) .

Contents

Single-phase String PV Inverter

Residential System

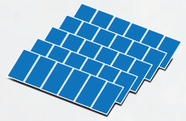
HNS1000TL-1, HNS1500TL-1, HNS2000TL-1, HNS2500TL-1, HNS3000TL-1, HNS3600TL-1,
HNS3000TL, HNS3600TL, HNS4000TL, HNS5000TL, HNS6000TL, HNS7000TL, HNS8000TL



Three-phase String PV Inverter

Residential & Small Commercial System

BNT003KTL, BNT004KTL, BNT005KTL, BNT006KTL, BNT008KTL, BNT010KTL, BNT012KTL, BNT015KTL, BNT017KTL, BNT020KTL



Three-phase String PV Inverter

Commercial System and Power Plants

BNT025KTL, BNT030KTL, BNT036KTL, BNT040KTL, BNT050KTL, BNT060KTL

Hybrid Storage Inverter

Residential Storage System

HNS3000HS, HNS3600HS, HNS4000HS, HNS4600HS, HNS5000HS, HNS5500HS, HNS6000HS, Battery Bank, All-in-one Solution

Monitoring Module

Monitoring Module, Monitoring Serivces, Monitoring Interface

55kW Fukuoka ,Japan

15kW Perth, Australia

1.5MW Jiangsu,China

42kW Hiroshima, Japan

15kW Perth, Australia

55kW Fukuoka ,Japan

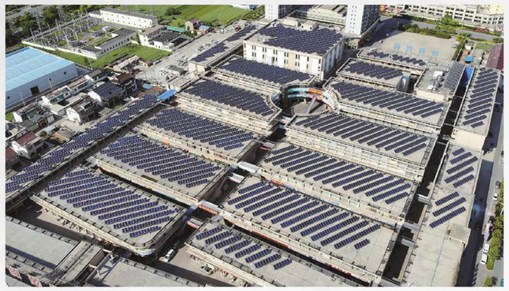
4.0kW Cambridge, UK

800kW Dongtai, China

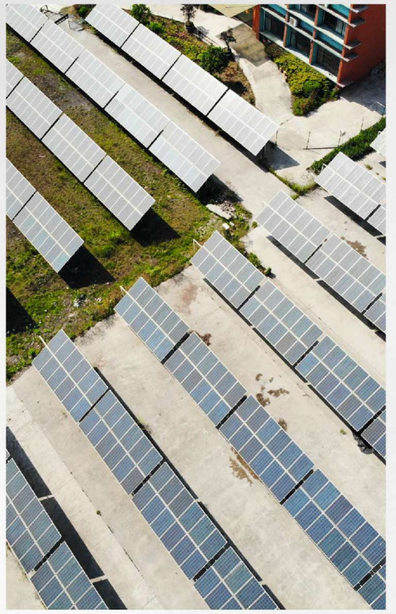
2.0kW Dorchester, UK

1.3MW Dongtai, China

1.5MW Jiangsu,China



2.0MW Jiangsu,China



0.8WM Dongtai, China

50kW Poland

2016

Successful launched 6.0~8.0kW single-phase PV inverters, continues to expand market share.

2017

Three phase 50-60kw inverters are launched, which have the highest water-proofing level IP68 fan in the industry.

2018

The 5th Generation Inverters and Hybrid Inverter (3-5kW) launched.

2019

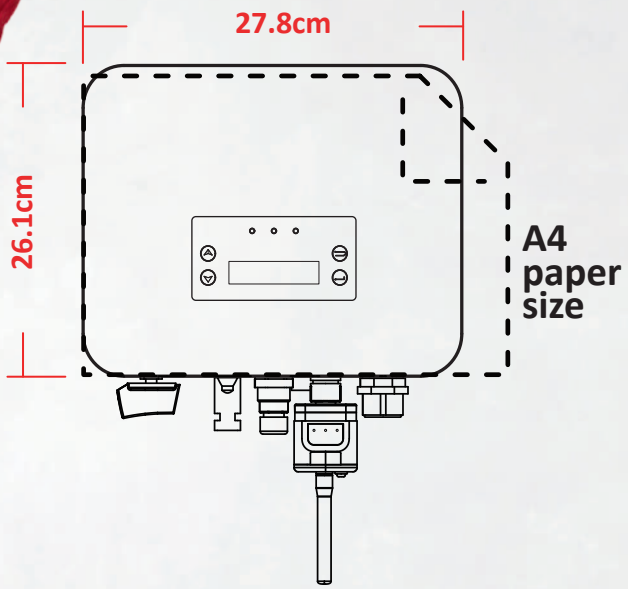
Storage All-in-one solution launched.

Distributor

Residential HNS series

HNS-TL1

1-3.6 kW



The Afore HNS Series Single-phase inverters are designed for residential PV system applications, rating from 1kW to 3kW. All models have unibody housings with aluminum structure which is anodized, increasing durability and effectively prevents corrosion. Equipped with external inductors, the unibody housing can ensure efficient heat dissipation, which significantly improves the reliability and extends the life of the inverters.

The inverter menu is activated by sensor touch buttons. Communication implements are via the Wi-Fi module (can be changed to Ethernet / GPRS). Check the system status anytime and anywhere via online portal or APP.

ANTI-FLOW
Anti-Feed-in Function

PV OVERSIZE
Max. 1.5 time
PV Oversize Capacity

PROTECTION
Multiple intelligent
Protections

UNIBODY
One-piece
Aluminum Housing

Wi-Fi
Wi-Fi Standard
Ethernet/GPRS Optional

CONFIGURATION
Quick & Easy
Config. via Wi-Fi

MODBUS
MODBUS
Communication Ready

- MPPT efficiency > 99.9%
- Compact and light body design
- Active and reactive power compensation, adjust power factor
- No fans design
- Quick and easy installation
- AC output 1.1x continuous operation

PV Input Data	HNS1000TL-1	HNS1500TL-1	HNS2000TL-1	HNS2500TL-1	HNS3000TL-1	HNS3600TL-1
Max. DC Power (W)	1500	2250	3000	3750	4200	4200
Max. DC Voltage (V)	500	500	500	500	500	500
MPPT Voltage Range (V)	50-500	50-500	50-500	50-500	50-500	50-500
MPPT Full Power Voltage Range (V)	70-500	110-500	145-500	180-500	220-500	260-500
Rated Input Voltage (V)	360	360	360	360	360	360
Start-up Voltage (V)	50	50	50	50	50	50
Max. Input Current (A)	14	14	14	14	14	22
Max. Short Current (A)	18	18	18	18	18	27.5
No. of MPP Tracker / No. of PV String	1/1	1/1	1/1	1/1	1/1	2/1
Input Connector Type	MC 4	MC4	MC4	MC4	MC4	MC4
AC Output Data	**HNS1000TL-1**	**HNS1500TL-1**	**HNS2000TL-1**	**HNS2500TL-1**	**HNS3000TL-1**	**HNS3600TL-1**
Max. Output Power (W)	1100	1650	2200	2750	3300	3960
Nominal Output Power (W)	1000	1500	2000	2500	3000	3600
Max. Output Current (A)	6	9	12	13	15	18
Nominal Output Voltage (V)	L/N/PE, 220Vac, 230Vac, 240Vac					
Grid Voltage Range	180Vac-276Vac (According to local standard)					
Nominal Output Frequency (Hz)	50/60					
Grid Frequency Range	45~55Hz/54~66Hz (According to local standard)					
Output Power Factor	1 default (adjustable from 0.8 leading to 0.8 lagging)					
Output Current THD	<3%					
Efficiency	**HNS1000TL-1**	**HNS1500TL-1**	**HNS2000TL-1**	**HNS2500TL-1**	**HNS3000TL-1**	**HNS3600TL-1**
Max. Efficiency	97.50%	97.80%	98.10%	98.10%	98.13%	98.20%
Euro Efficiency	96.60%	96.70%	96.80%	97.23%	97.56%	97.80%
Protection	**HNS1000TL-1**	**HNS1500TL-1**	**HNS2000TL-1**	**HNS2500TL-1**	**HNS3000TL-1**	**HNS3600TL-1**
PV Reverse Polarity Protection	YES	YES	YES	YES	YES	YES
PV Insulation Resistance Detection	YES	YES	YES	YES	YES	YES
AC Short Circuit Protection	YES	YES	YES	YES	YES	YES
AC Over Current Protection	YES	YES	YES	YES	YES	YES
AC Over Voltage Protection	YES	YES	YES	YES	YES	YES
Anti-Islanding Protection	YES	YES	YES	YES	YES	YES
Residual Current Detection	YES	YES	YES	YES	YES	YES
Over Temperature Protection	YES	YES	YES	YES	YES	YES
Integrated DC switch	YES	YES	YES	YES	YES	YES
Surge Protection (DC & AC)	Integrated (Type III)					
General Data	**HNS1000TL-1**	**HNS1500TL-1**	**HNS2000TL-1**	**HNS2500TL-1**	**HNS3000TL-1**	**HNS3600TL-1**
Dimensions (W x H x D, mm)	278 x 261 x 118					395 x 345 x 170
Weight (kg)	5.1			5.3		12
Protection Degree	IP65					
Enclosure Material	Aluminum					
Ambient Temperature Range (°C)	-25~+60					
Humidity Range	0-100%					
Topology	Transformerless					
Communication Interface	RS485 / WiFi / Wire Ethernet / GPRS (optional)					
Cooling Concept	Convection					
Noise Emission (db)	<21					<28
Night Power Consumption (W)	<0.2		<1			
Max. Operation Altitude (m)	4000					
Certifications and Standards	**HNS1000TL-1**	**HNS1500TL-1**	**HNS2000TL-1**	**HNS2500TL-1**	**HNS3000TL-1**	**HNS3600TL-1**
EMC Standard	EN/IEC 61000-6-2, EN/IEC 61000-6-3, EN61000-3-2, EN61000-3-3, EN61000-3-11, EN61000-3-12					
Safety Standard	EN/IEC 62109-1/-2 ,UL1547, IEC 60068-2					
Grid-connection	EN50549-1, EN50438, RD 1699,UNE 217001, RD 413, IEC61727, IEC62116, IEC61683, VDE4105, UL1741 VDE0126 AS4777.2 NB/T 32004-2013, UNT C 15-712-1, ABNT NBR 16149, ABNT NBR 16150					

Residential HNS series

HNS-TL

3-8 kW

The Afore HNS Series Single-phase inverters are designed for residential PV system applications, rating from 3kW to 8kW. All models have unibody housings with aluminum structure which is anodized, increasing durability and effectively prevents corrosion. Equipped with external inductors, the unibody housings can ensure efficient heat dissipation, which significantly improves the reliability and extends the life of the inverters.

The inverter menu is activated by sensor touch buttons. Communication implements are via the Wi-Fi module (can be changed to Ethernet / GPRS). Check the system status anytime and anywhere via online portal or APP.

ANTI-FLOW
Anti-Feed-in Function

PV OVERSIZE
Max. 1.5 time
PV Oversize Capacity

PROTECTION
Multiple intelligent
Protections

UNIBODY
One-piece
Aluminum Housing

Wi-Fi
Wi-Fi Standard
Ethernet/GPRS Optional

CONFIGURATION
Quick & Easy
Config. via Wi-Fi

MODBUS
MODBUS
Communication Ready

- MPPT efficiency > 99.9%
- Two MPPT design
- Active and reactive power compensation, adjust power factor
- No fans design
- Quick and easy installation
- High-quality power output and low THDI

PV Input Data	HNS3000TL	HNS3600TL	HNS4000TL	HNS5000TL	HNS6000TL	HNS7000TL	HNS8000TL
Max. DC Power (W)	4500	5400	6000	7000	8400	9800	11200
Max. DC Voltage (V)	600	600	600	600	600	600	600
MPPT Voltage Range (V)	70-550	70-550	70-550	70-550	70-550	70-550	70-550
MPPT Full Power Voltage Range (V)	110-550	130-550	145-550	180-550	220-550	180-550	200-550
Rated Input Voltage (V)	360	360	360	360	360	360	360
Start-up Voltage (V)	70	70	70	70	70	70	70
Max. Input Current (A)	14 x 2	14 x 2	14 x 2	14 x 2	14 x 2	28+14	28+14
Max. Short Current (A)	18 x 2	18 x 2	18 x 2	18 x 2	18 x 2	35+18	35+18
No. of MPP Tracker / No. of PV String	2/2	2/2	2/2	2/2	2/2	2/2	2/2
Input Connector Type	MC4	MC4	MC4	MC4	MC4	MC4	MC4

AC Output Data	HNS3000TL	HNS3600TL	HNS4000TL	HNS5000TL	HNS6000TL	HNS7000TL	HNS8000TL
Max. Output Power (W)	3300	3960	4400	5500	6600	7700	8800
Nominal Output Power (W)	3000	3600	4000	5000	6000	7000	8000
Max. Output Current (A)	15	16	20	23	27	32	35.5
Nominal Output Voltage (V)	L/N/PE, 220Vac, 230Vac, 240Vac						
Grid Voltage Range	180Vac-276Vac (According to local standard)						
Nominal Output Frequency (Hz)	50/60						
Grid Frequency Range	45~55Hz/54~66Hz (According to local standard)						
Output Power Factor	1 default (adjustable from 0.8 leading to 0.8 lagging)						
Output Current THD	<3%						

Efficiency	HNS3000TL	HNS3600TL	HNS4000TL	HNS5000TL	HNS6000TL	HNS7000TL	HNS8000TL
Max. Efficiency	98.20%	98.20%	98.20%	98.20%	98.20%	98.20%	98.20%
Euro Efficiency	97.80%	97.82%	97.85%	97.90%	97.92%	97.95%	98.00%

Protection	HNS3000TL	HNS3600TL	HNS4000TL	HNS5000TL	HNS6000TL	HNS7000TL	HNS8000TL
PV Reverse Polarity Protection	YES	YES	YES	YES	YES	YES	YES
PV Insulation Resistance Detection	YES	YES	YES	YES	YES	YES	YES
AC Short Circuit Protection	YES	YES	YES	YES	YES	YES	YES
AC Over Current Protection	YES	YES	YES	YES	YES	YES	YES
AC Over Voltage Protection	YES	YES	YES	YES	YES	YES	YES
Anti-Islanding Protection	YES	YES	YES	YES	YES	YES	YES
Residual Current Detection	YES	YES	YES	YES	YES	YES	YES
Over Temperature Protection	YES	YES	YES	YES	YES	YES	YES
Integrated DC switch	YES	YES	YES	YES	YES	YES	YES
Surge Protection (DC & AC)	Integrated (Type III)						

General Data	HNS3000TL	HNS3600TL	HNS4000TL	HNS5000TL	HNS6000TL	HNS7000TL	HNS8000TL
Dimensions (W x H x D, mm)	395 x 345 x 170				460 x 345 x 170		
Weight (kg)	12				17		
Protection Degree	IP65						
Enclosure Material	Aluminum						
Ambient Temperature Range (°C)	-25~+60						
Humidity Range	0-100%						
Topology	Transformerless						
Communication Interface	RS485 / WiFi / Wire Ethernet / GPRS (optional)						
Cooling Concept	Convection						
Noise Emission (db)	<28				<40		
Night Power Consumption (W)	<1						
Max. Operation Altitude (m)	4000			4000			

Certifications and Standards	HNS3000TL	HNS3600TL	HNS4000TL	HNS5000TL	HNS6000TL	HNS7000TL	HNS8000TL
EMC Standard	EN/IEC 61000-6-2, EN/IEC 61000-6-3, EN61000-3-2, EN61000-3-3, EN61000-3-11, EN61000-3-12						
Safety Standard	EN/IEC 62109-1/-2 ,UL1547, IEC 60068-2						
Grid-connection	EN50549-1, EN50438, RD 1699,UNE 217001, RD 413, IEC61727, IEC62116, IEC61683, VDE4105, UL1741 VDE0126 AS4777.2 NB/T 32004-2013, UNT C 15-712-1, ABNT NBR 16149, ABNT NBR 16150						

Commercial & Power Plants BNT series

BNT

3-10 kW

The Afore BNT Series Three-phase string inverters are designed for residential and small commercial PV system applications, rating from 3kW to 10kW. All models have unibody housings with aluminum structure which is anodized, increasing durability and effectively prevents corrosion. Equipped with external inductors, the unibody housings can ensure efficient heat dissipation, which significantly improves the reliability and extends the life of the inverters.

The inverter menu is activated by sensor touch buttons. Communication implements are via the Wi-Fi module (can be changed to Ethernet / GPRS). Check the system status anytime and anywhere via online portal or APP.

ANTI-FLOW
Anti-Feed-in Function

PV OVERSIZE
Max. 1.5 time
PV Oversize Capacity

PROTECTION
Multiple intelligent
Protections

UNIBODY
One-piece
Aluminum Housing

Wi-Fi
Wi-Fi Standard
Ethernet/GPRS Optional

CONFIGURATION
Quick & Easy
Config. via Wi-Fi

MODBUS
MODBUS
Communication Ready

- MPPT efficiency > 99.9%
- Two MPPT design
- Active and reactive power compensation, adjust power factor
- No fans design
- Quick and easy installation
- High-quality power output and low THDI

PV Input Data	BNT003KTL	BNT004KTL	BNT005KTL	BNT006KTL	BNT008KTL	BNT010KTL
Max. DC Power (W)	5100	6000	7500	9000	12000	14000
Max. DC Voltage (V)	1000	1000	1000	1000	1000	1000
MPPT Voltage Range (V)	150 - 850	150-850	150-850	150-850	150-850	150-850
MPPT Full Power Voltage Range (V)	200 - 850	200-850	200-850	250-850	300-850	500-850
Rated Input Voltage (V)	620	620	620	620	620	620
Start-up Voltage (V)	150	150	150	150	150	150
Max. Input Current (A)	15 x 2	15 x2	15 x 2	15 x 2	15 x 2	15 x 2
Max. Short Current (A)	24 x2	24x2	24 x 2	24 x 2	24 x 2	24 x 2
No. of MPP Tracker / No. of PV String	2/2	2/2	2/2	2/2	2/2	2/2
Input Connector Type	MC 4	MC4	MC4	MC4	MC4	MC4

AC Output Data	BNT003KTL	BNT004KTL	BNT005KTL	BNT006KTL	BNT008KTL	BNT010KTL
Max. Output Power (W)	3300	4400	5500	6600	8800	11000
Nominal Output Power (W)	3000	4000	5000	6000	8000	10000
Max. Output Current (A)	5.3	7	8.5	10.5	13.5	17
Nominal Output Voltage (V)	3P+N+PE /3P+PE 230/400					
Grid Voltage Range	260-519 (according to local standard)					
Nominal Output Frequency (Hz)	50/60					
Grid Frequency Range	45-55/55-65(according to local standard)					
Output Power Factor	1 default (adjustable from 0.8 leading to 0.8 lagging)					
Output Current THD	<3%					

Efficiency	BNT003KTL	BNT004KTL	BNT005KTL	BNT006KTL	BNT008KTL	BNT010KTL
Max. Efficiency	98.30%	98.30%	98.30%	98.30%	98.30%	98.30%
Euro Efficiency	97.61%	97.65%	97.85%	98.00%	98.03%	98.10%

Protection	BNT003KTL	BNT004KTL	BNT005KTL	BNT006KTL	BNT008KTL	BNT010KTL
PV Reverse Polarity Protection	YES	YES	YES	YES	YES	YES
PV Insulation Resistance Detection	YES	YES	YES	YES	YES	YES
AC Short Circuit Protection	YES	YES	YES	YES	YES	YES
AC Over Current Protection	YES	YES	YES	YES	YES	YES
AC Over Voltage Protection	YES	YES	YES	YES	YES	YES
Anti-Islanding Protection	YES	YES	YES	YES	YES	YES
Residual Current Detection	YES	YES	YES	YES	YES	YES
Over Temperature Protection	YES	YES	YES	YES	YES	YES
Integrated DC switch	YES	YES	YES	YES	YES	YES
Surge Protection (DC & AC)	Integrated (Type III)					

General Data	BNT003KTL	BNT004KTL	BNT005KTL	BNT006KTL	BNT008KTL	BNT010KTL
Dimensions (W x H x D, mm)	400 x 345 x 170				460 x 345 x 170	
Weight (kg)	15				17	
Protection Degree	IP65					
Enclosure Material	Aluminum					
Ambient Temperature Range (°C)	-25~+60					
Humidity Range	0-100%					
Topology	Transformerless					
Communication Interface	RS485 / WiFi / Wire Ethernet / GPRS (optional)					
Cooling Concept	Convection					
Noise Emission (db)	<30					
Night Power Consumption (W)	<1					
Max. Operation Altitude (m)	4000					

Certifications and Standards	BNT003KTL	BNT004KTL	BNT005KTL	BNT006KTL	BNT008KTL	BNT010KTL
EMC Standard	EN/IEC 61000-6-2,EN/IEC 61000-6-3, EN61000-3-2,EN61000-3-3,EN61000-3-11,EN61000-3-12					
Safety Standard	EN/IEC 62109-1/-2 ,UL1547,IEC 60068-2					
Grid-connection	EN50549-1, EN50438, RD 1699, UNE 217001, RD 413, IEC61727, IEC62116, IEC61683, VDE4105, UL1741 VDE0126 AS4777.2 NB/T 32004-2013					

Commercial & Power Plants BNT series

BNT

12-20 kW

The Afore BNT Series Three-phase string inverters are designed for residential and small commercial PV system applications, rating from 12kW to 20kW. All models have unibody housings with aluminum structure which is anodized, increasing durability and effectively prevents corrosion. Equipped with external inductors, the unibody housings can ensure efficient heat dissipation, which significantly improves the reliability and extends the life of the inverters.

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ANTI-FLOW
Anti-Feed-in Function

PV OVERSIZE
Max. 1.5 time
PV Oversize Capacity

PROTECTION
Multiple intelligent
Protections

UNIBODY
One-piece
Aluminum Housing

Wi-Fi
Wi-Fi Standard
Ethernet/GPRS Optional

CONFIGURATION
Quick & Easy
Config. via Wi-Fi

MODBUS
MODBUS
Communication Ready

- MPPT efficiency > 99.9%
- Two MPPT design
- Active and reactive power compensation, adjust power factor
- IP 68 Cooling Fan
- Quick and easy installation
- High-quality power output and low THDI

PV Input Data	BNT012KTL	BNT015KTL	BNT017KTL	BNT020KTL
Max. DC Power (W)	18000	21000	25500	28000
Max. DC Voltage (V)	1000	1000	1000	1000
MPPT Voltage Range (V)	200-850	200-850	200-950	200-950
MPPT Full Power Voltage Range (V)	500-850	500-850	500-850	500-850
Rated Input Voltage (V)	620	620	620	620
Start-up Voltage (V)	200	200	200	200
Max. Input Current (A)	22 + 11	22 + 11	21 x 2	22 x 2
Max. Short Current (A)	25 + 15	25 + 15	27 x 2	28 x 2
No. of MPP Tracker / No. of PV String	2/3	2/3	2/4	2/4
Input Connector Type	MC4	MC4	MC4	MC4

AC Output Data	BNT012KTL	BNT015KTL	BNT017KTL	BNT020KTL
Max. Output Power (W)	13200	16500	18700	22000
Nominal Output Power (W)	12000	15000	17000	20000
Max. Output Current (A)	21.5	27	30	32
Nominal Output Voltage (V)	3P+N+PE /3P+PE 230/400			
Grid Voltage Range	260-519 (according to local standard)			
Nominal Output Frequency (Hz)	50/60			
Grid Frequency Range	45-55/55-65(according to local standard)			
Output Power Factor	1 default (adjustable from 0.8 leading to 0.8 lagging)			
Output Current THD	<3%			

Efficiency	BNT012KTL	BNT015KTL	BNT017KTL	BNT020KTL
Max. Efficiency	98.50%	98.50%	98.50%	98.50%
Euro Efficiency	98.00%	98.00%	98.10%	98.10%

Protection	BNT012KTL	BNT015KTL	BNT017KTL	BNT020KTL
PV Reverse Polarity Protection	YES	YES	YES	YES
PV Insulation Resistance Detection	YES	YES	YES	YES
AC Short Circuit Protection	YES	YES	YES	YES
AC Over Current Protection	YES	YES	YES	YES
AC Over Voltage Protection	YES	YES	YES	YES
Anti-Islanding Protection	YES	YES	YES	YES
Residual Current Detection	YES	YES	YES	YES
Over Temperature Protection	YES	YES	YES	YES
Integrated DC switch	YES	YES	YES	YES
Surge Protection (DC & AC)	Integrated (Type III)			

General Data	BNT012KTL	BNT015KTL	BNT017KTL	BNT020KTL
Dimensions (W x H x D, mm)	680 x 345 x 170			
Weight (kg)	22		23	
Protection Degree	IP65			
Enclosure Material	Aluminum			
Ambient Temperature Range (°C)	-25~+60			
Humidity Range	0-100%			
Topology	Transformerless			
Communication Interface	RS485 / WiFi / Wire Ethernet / GPRS (optional)			
Cooling Concept	Convection		Intelligent fan cooling	
Noise Emission (db)	<40			
Night Power Consumption (W)	<1			
Max. Operation Altitude (m)	4000			

Certifications and Standards	BNT012KTL	BNT015KTL	BNT017KTL	BNT020KTL
EMC Standard	EN/IEC 61000-6-2,EN/IEC 61000-6-3, EN61000-3-2,EN61000-3-3,EN61000-3-11,EN61000-3-12			
Safety Standard	EN/IEC 62109-1/-2 ,UL1547,IEC 60068-2			
Grid-connection	EN50549-1, EN50438, RD 1699, UNE 217001, RD 413, IEC61727, IEC62116, IEC61683, VDE4105, UL1741 VDE0126 AS4777.2 NB/T 32004-2013			

Commercial & Power Plants BNT series

BNT

25-40 kW

The Afore BNT Series Three-phase string inverters are designed for commercial and power plant PV system applications, rating from 25kW to 40kW. All models with aluminum housings which is anodized, increasing durability and effectively prevents corrosion. Equipped with external inductors, ensure efficient heat dissipation, which significantly improves the reliability and extends the life of the inverters.

The inverter menu is activated by sensor touch buttons. Communication implements are via the Wi-Fi module (can be changed to Ethernet / GPRS). Check the system status anytime and anywhere via online portal or APP.

ANTI-FLOW
Anti-Feed-in Function

PV OVERSIZE
Max. 1.5 time
PV Oversize Input Capacity

PROTECTION
Multiple Intelligent Protections

AL BODY
Aluminum Housing

Wi-Fi
Wi-Fi Standard, Ethernet/GPRS Optional

CONFIGURATION
Quick & Easy Config. via Wi-Fi

MODBUS
MODBUS Communication Ready

- MPPT efficiency > 99.9%
- Intelligent Temperature Control System
- Active and reactive power compensation, adjust power factor
- IP 68 Cooling Fan
- Type II DC & AC lightning protection
- AC output 1.1x continuous operation

PV Input Data	BNT025KTL	BNT030KTL	BNT036KTL	BNT040KTL
Max. DC Power (W)	37500	42000	54000	56000
Max. DC Voltage (V)	1000	1000	1000	1000
MPPT Voltage Range (V)	200 -950	200-950	200-950	200-950
MPPT Full Power Voltage Range (V)	500 -850	500-850	500-850	500-850
Rated Input Voltage (V)	620	620	620	620
Start-up Voltage (V)	200	200	200	200
Max. Input Current (A)	22 x 3	22 x3	36 x 2	40 x 2
Max. Short Current (A)	28 x3	28x3	45 x 2	50 x 2
No. of MPP Tracker / No. of PV String	3/6	3/6	2/8	2/8
Input Connector Type	MC4	MC4	MC4	MC4

AC Output Data	BNT025KTL	BNT030KTL	BNT036KTL	BNT040KTL
Max. Output Power (W)	27500	33000	39600	44000
Nominal Output Power (W)	25000	30000	36000	40000
Max. Output Current (A)	40	48	56	61
Nominal Output Voltage (V)	3P+N+PE /3P+PE 230/400			
Grid Voltage Range	260-519 (according to local standard)			
Nominal Output Frequency (Hz)	50/60			
Grid Frequency Range	45-55/55-65(according to local standard)			
Output Power Factor	1 default (adjustable from 0.8 leading to 0.8 lagging)			
Output Current THD	<3%			

Efficiency	BNT025KTL	BNT030KTL	BNT036KTL	BNT040KTL
Max. Efficiency	98.50%	98.50%	98.65%	98.65%
Euro Efficiency	98.10%	98.10%	98.20%	98.25%

Protection	BNT025KTL	BNT030KTL	BNT036KTL	BNT040KTL
PV Reverse Polarity Protection	YES	YES	YES	YES
PV Insulation Resistance Detection	YES	YES	YES	YES
AC Short Circuit Protection	YES	YES	YES	YES
AC Over Current Protection	YES	YES	YES	YES
AC Over Voltage Protection	YES	YES	YES	YES
Anti-Islanding Protection	YES	YES	YES	YES
Residual Current Detection	YES	YES	YES	YES
Over Temperature Protection	YES	YES	YES	YES
Integrated DC switch	YES	YES	YES	YES
Surge Protection (DC & AC)	Integrated (Type III)			

General Data	BNT025KTL	BNT030KTL	BNT036KTL	BNT040KTL
Dimensions (W x H x D, mm)	630 x 450 x 222		750 x 465 x 222	
Weight (kg)	32		46	
Protection Degree	IP65			
Enclosure Material	Aluminum			
Ambient Temperature Range (°C)	-25~+60			
Humidity Range	0-100%			
Topology	Transformerless			
Communication Interface	RS485 / WiFi / Wire Ethernet / GPRS (optional)			
Cooling Concept	Intelligent Fan Cooling			
Noise Emission (db)	<51			
Night Power Consumption (W)	<1			
Max. Operation Altitude (m)	4000			

Certifications and Standards	BNT025KTL	BNT030KTL	BNT036KTL	BNT040KTL
EMC Standard	EN/IEC 61000-6-2,EN/IEC 61000-6-3, EN61000-3-2,EN61000-3-3,EN61000-3-11,EN61000-3-12			
Safety Standard	EN/IEC 62109-1/-2 ,UL1547,IEC 60068-2			
Grid-connection	EN50549-1,EN50438 ,RD 1699,UNE 217001,RD 413 ,IEC61727,IEC62116,IEC61683,VDE4105, UL1741 VDE0126 AS4777.2 NB/T 32004-2013			

Commercial & Power Plants BNT series

BNT

50-60 kW

The Afore BNT Series Three-phase string inverters are designed for commercial and power plant PV system applications, rating from 50kW to 60kW. All models with aluminum housings which is anodized, increasing durability and effectively prevents corrosion. Equipped with external inductors, ensure efficient heat dissipation, which significantly improves the reliability and extends the life of the inverters.

The inverter menu is activated by sensor touch buttons. Communication implements are via the Wi-Fi module (can be changed to Ethernet / GPRS). Check the system status anytime and anywhere via online portal or APP.

ANTI-FLOW
Anti-Feed-in Function

PV OVERSIZE
Max. 1.5 time
PV Oversize Input Capacity

PROTECTION
Multiple Intelligent Protections

AL BODY
Aluminum Housing

Wi-Fi
Wi-Fi Standard,
Ethernet/GPRS Optional

CONFIGURATION
Quick & Easy
Config. via Wi-Fi

MODBUS
MODBUS
Communication Ready

- MPPT efficiency > 99.9%
- Intelligent Temperature Control System
- Active and reactive power compensation, adjust power factor
- IP 68 Cooling Fan
- Type II DC & AC lightning protection
- AC output 1.1x continuous operation

PV Input Data	BNT050KTL	BNT060KTL
Max. DC Power (W)	75000	84000
Max. DC Voltage (V)	1000	1000
MPPT Voltage Range (V)	200-950	200-950
MPPT Full Power Voltage Range (V)	500-950	500-950
Rated Input Voltage (V)	620	620
Start-up Voltage (V)	200	200
Max. Input Current (A)	36 x3	40 x 3
Max. Short Current (A)	45x3	50 x 3
No. of MPP Tracker / No. of PV String	3 /12	3 /12
Input Connector Type	MC4	MC4

AC Output Data	BNT050KTL	BNT060KTL
Max. Output Power (W)	55000	66000
Nominal Output Power (W)	50000	60000
Max. Output Current (A)	75	90
Nominal Output Voltage (V)	3P+N+PE /3P+PE 230/400	
Grid Voltage Range	260-519 (according to local standard)	
Nominal Output Frequency (Hz)	50/60	
Grid Frequency Range	45-55/55-65(according to local standard)	
Output Power Factor	1 default (adjustable from 0.8 leading to 0.8 lagging)	
Output Current THD	<3%	

Efficiency	BNT050KTL	BNT060KTL
Max. Efficiency	98.80%	99.00%
Euro Efficiency	98.45%	98.50%

Protection	BNT050KTL	BNT060KTL
PV Reverse Polarity Protection	YES	YES
PV Insulation Resistance Detection	YES	YES
AC Short Circuit Protection	YES	YES
AC Over Current Protection	YES	YES
AC Over Voltage Protection	YES	YES
Anti-Islanding Protection	YES	YES
Residual Current Detection	YES	YES
Over Temperature Protection	YES	YES
Integrated DC switch	YES	YES
Surge Protection (DC & AC)	Integrated (Type II)	

General Data	BNT050KTL	BNT060KTL
Dimensions (W x H x D, mm)	630 x 850 x 306	
Weight (kg)	66	
Protection Degree	IP65	
Enclosure Material	Aluminum	
Ambient Temperature Range (°C)	-25~+60	
Humidity Range	0-100%	
Topology	Transformerless	
Communication Interface	RS485 / WiFi / Wire Ethernet / GPRS (optional)	
Cooling Concept	Intelligent Fan Cooling	
Noise Emission (db)	55	
Night Power Consumption (W)	<1	
Max. Operation Altitude (m)	4000	

Certifications and Standards	BNT050KTL	BNT060KTL
EMC Standard	EN/IEC 61000-6-2,EN/IEC 61000-6-3, EN61000-3-2,EN61000-3-3,EN61000-3-11,EN61000-3-12	
Safety Standard	EN/IEC 62109-1/-2 ,UL1547,IEC 60068-2	
Grid-connection	EN50549-1,EN50438 ,RD 1699,UNE 217001,RD 413 ,IEC61727,IEC62116,IEC61683,VDE4105, UL1741 VDE0126 AS4777.2 NB/T 32004-2013	

Hybrid Storage Inverter
3-6 kW

The Afore HNS Storage Series bi-directional energy storage inverter can be used for both on-grid and off-grid PV systems.

The storage inverter increases energy independence for homeowners. To optimize self-consumption, the battery automatically charged and discharged on the basis of customized setting. Significantly reduce the amount of energy purchased from public grid.

Communication implements via the Wi-Fi module (Ethernet / GPRS). Check the system status anytime and anywhere via online portal or APP, no additional software required.

ANTI-FLOW
Anti-Feed-in Function

UPS FUNCTION
Switch Time < 10ms

3-STAGES
Smart Charging

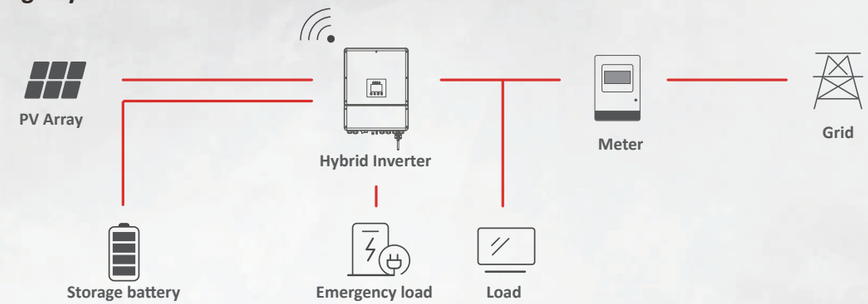
PROTECTION
Multiple Intelligent Protections

CONFIGURATION
Quick & Easy Config. via Wi-Fi

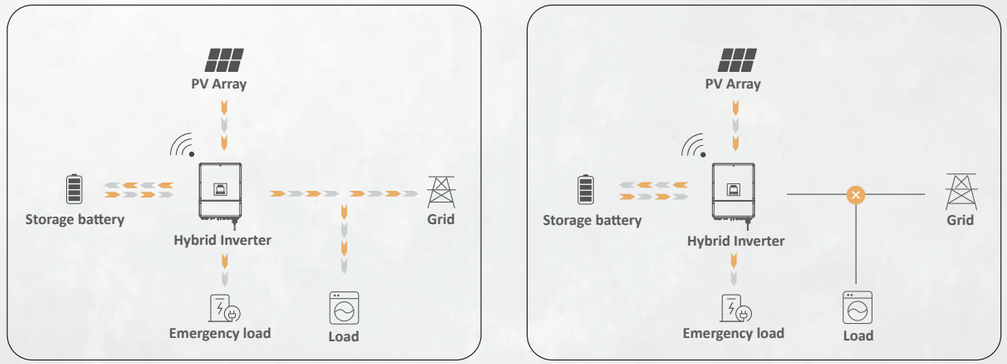
IP 65
IP 65 Water-resistant & Dustproof

- Plug & Play, Easy Maintenance
- Compact Size & Easy installation
- No Fan Design
- Time base Charging & Discharging Setting

For New Storage System:

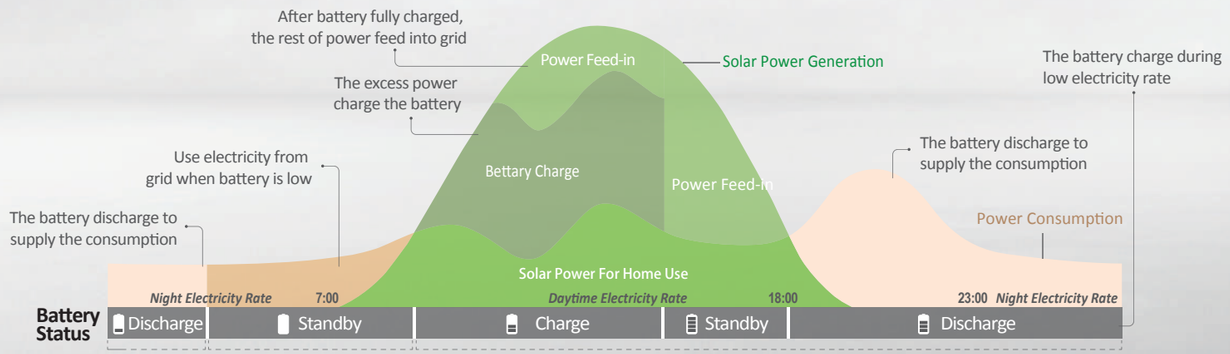


Optimizing Self-Consumption (on-grid) + Emergency Power Supply(off-grid)



Optimizing Self-Consumption Mode

With home energy storage installed, home owners may also be able to change from a flat rate electricity tariff to a time-of-use tariff. For the areas and regions, where peak shaving can be applied.



Solar Input	HNS3000HS	HNS3600HS	HNS4000HS	HNS4600HS	HNS5000HS	HNS5500HS	HNS6000HS
Max. DC Input Power (W)	6600	8000	8000	10000	10000	10000	10000
Rated DC Input Voltage (V)	360						
DC Input Voltage Range (V)	60-580						
MPPT Voltage Range (V)	50-550						
Start-up Voltage (V)	60						
Max. DC Input Current (A)	20 x 2						
Nr. of MPPT Tracker	2						
Storage Battery	**HNS3000HS**	**HNS3600HS**	**HNS4000HS**	**HNS4600HS**	**HNS5000HS**	**HNS5500HS**	**HNS6000HS**
Battery Nominal Voltage (V)	48						
Battery Voltage Range (V)	40-60						
Max. Charge/Discharge Current (A)	66						
Max. Charge/Discharge Power (W)	3600						
Charging Curve	3 Stages						
Compatible Battery Type	Lithium-ion,Lead-Acid etc.						
Emergency Power Supply(EPS Mode)	**HNS3000HS**	**HNS3600HS**	**HNS4000HS**	**HNS4600HS**	**HNS5000HS**	**HNS5500HS**	**HNS6000HS**
EPS Nominal Output Power (W)	3000						
EPS Nominal Output Voltage (V)	230						
EPS Nominal Output Frequency (Hz)	50/60						
EPS Nominal Output Current (A)	13						
Peak Output Power	3600w,30s						
THD(Voltage)	<5%						
Switching Time (s)	<0.01						
AC Output	**HNS3000HS**	**HNS3600HS**	**HNS4000HS**	**HNS4600HS**	**HNS5000HS**	**HNS5500HS**	**HNS6000HS**
Nominal AC Output Power (VA)	3000	3600	4000	4600	5000	5500	6000
Nominal AC Output Current (A)	13	16	17.5	20	22	24	26
Max. AC Output Current (A)	15	18.5	20	25	25	27.5	30
Nominal AC Voltage (V)	230						
Nominal AC Frenquency (Hz)	50 / 60						
Power Factor	Adjustable 0.9 overexcited to 0.9 underexcited						
THD(Current)	<3%						
Efficiency	**HNS3000HS**	**HNS3600HS**	**HNS4000HS**	**HNS4600HS**	**HNS5000HS**	**HNS5500HS**	**HNS6000HS**
Europe Efficiency	97.5%						
Max. Efficiency	97.9%						
Battery Charge/Discharge Efficiency	94.6%						
Protection	**HNS3000HS**	**HNS3600HS**	**HNS4000HS**	**HNS4600HS**	**HNS5000HS**	**HNS5500HS**	**HNS6000HS**
Reverse Polarity Protection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Over Current/Voltage Protection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Anti-islanding Protection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AC Short-ciruit Protection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Leakage Current Detection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ground Fault Monitoring	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Grid Monitoring	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Enclosure Protect Level	IP65 / NEMA4X						
General Data	**HNS3000HS**	**HNS3600HS**	**HNS4000HS**	**HNS4600HS**	**HNS5000HS**	**HNS5500HS**	**HNS6000HS**
Dimensions [W/H/D] (mm)	450 / 597 / 176						
Weight (kg)	23						
Topology	Tranformerless(solar), HF(Battery)						
Cooling Concept	Natural Convection						
Relatively Humidity	0-100%						
Operating Temperature Range (°C)	-25~60						
Operating Altitude (m)	< 2000						
Noise Emission (dB)	< 25						
Standby Consumption (W)	< 5						
Display & Communication Interfaces	LCD, LED, RS485, Wi-Fi, CAN						
Certification & Approvals	AS 4777, VDE-AR-N4105, VDE0126, G83, G59, IEC62109-1-2, IEC62040, EN61000-6-2, EN61000-6-2, EN61000-6-3						

Solar Input	HNS3000HS-HV	HNS3600HS-HV	HNS4000HS-HV	HNS4600HS-HV	HNS5000HS-HV	HNS5500HS-HV	HNS6000HS-HV
Max. DC Input Power (W)	6600	8000	8000	10000	10000	10000	10000
Rated DC Input Voltage (V)	360						
DC Input Voltage Range (V)	60-580						
MPPT Voltage Range (V)	50-550						
Start-up Voltage (V)	60						
Max. DC Input Current (A)	20 x 2						
Nr. of MPPT Tracker	2						
Storage Battery	**HNS3000HS-HV**	**HNS3600HS-HV**	**HNS4000HS-HV**	**HNS4600HS-HV**	**HNS5000HS-HV**	**HNS5500HS-HV**	**HNS6000HS-HV**
Battery Nominal Voltage (V)	300						
Battery Voltage Range (V)	85-400						
Max. Charge/Discharge Current (A)	30						
Max. Charge/Discharge Power (W)	3600	4250	4600	5300	5800	6300	6900
Charging Curve	3 Stages						
Compatible Battery Type	Lithium-ion,Lead-Acid etc.						
Emergency Power Supply(EPS Mode)	**HNS3000HS-HV**	**HNS3600HS-HV**	**HNS4000HS-HV**	**HNS4600HS-HV**	**HNS5000HS-HV**	**HNS5500HS-HV**	**HNS6000HS-HV**
EPS Nominal Output Power (W)	3000	3600	4000	4600	5000	5500	6000
EPS Nominal Output Voltage (V)	230						
EPS Nominal Output Frequency (Hz)	50/60						
EPS Nominal Output Current (A)	13	16	17.5	20	22	24	26
Peak Output Power	3600w,30s	4250w,30s	4600w,30s	5300w,30s	5800w,30s	6300w,30s	6900w,30s
THD(Voltage)	<5%						
Switching Time (s)	<0.01						
AC Output	**HNS3000HS-HV**	**HNS3600HS-HV**	**HNS4000HS-HV**	**HNS4600HS-HV**	**HNS5000HS-HV**	**HNS5500HS-HV**	**HNS6000HS-HV**
Nominal AC Output Power (VA)	3000	3600	4000	4600	5000	5500	6000
Nominal AC Output Current (A)	13	16	17.5	20	22	24	26
Max. AC Output Current (A)	15	18.5	20	23	25.5	27.5	30
Nominal AC Voltage (V)	230						
Nominal AC Frenquency (Hz)	50 / 60						
Power Factor	Adjustable 0.9 overexcited to 0.9 underexcited						
THD(Current)	<3%						
Efficiency	**HNS3000HS-HV**	**HNS3600HS-HV**	**HNS4000HS-HV**	**HNS4600HS-HV**	**HNS5000HS-HV**	**HNS5500HS-HV**	**HNS6000HS-HV**
Europe Efficiency	97.5%						
Max. Efficiency	97.9%						
Battery Charge/Discharge Efficiency	98.6%						
Protection	**HNS3000HS-HV**	**HNS3600HS-HV**	**HNS4000HS-HV**	**HNS4600HS-HV**	**HNS5000HS-HV**	**HNS5500HS-HV**	**HNS6000HS-HV**
Reverse Polarity Protection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Over Current/Voltage Protection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Anti-islanding Protection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AC Short-ciruit Protection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Leakage Current Detection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ground Fault Monitoring	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Grid Monitoring	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Enclosure Protect Level	IP65 / NEMA4X						
General Data	**HNS3000HS-HV**	**HNS3600HS-HV**	**HNS4000HS-HV**	**HNS4600HS-HV**	**HNS5000HS-HV**	**HNS5500HS-HV**	**HNS6000HS-HV**
Dimensions [W/H/D] (mm)	450 / 597 / 176						
Weight (kg)	22.5						
Topology	Tranformerless(solar)						
Cooling Concept	Natural Convection						
Relatively Humidity	0-100%						
Operating Temperature Range (°C)	-25~60						
Operating Altitude (m)	< 2000						
Noise Emission (dB)	< 25						
Standby Consumption (W)	< 5						
Display & Communication Interfaces	LCD, LED, RS485, Wi-Fi, CAN						
Certification & Approvals	AS 4777, VDE-AR-N4105, VDE0126, G83, G59, IEC62109-1-2, IEC62040, EN61000-6-2, EN61000-6-2, EN61000-6-3						

Battery Bank
& All-in-one Solution

10 Years Warranty

BMS Build-in

Modular Expansion

LiFePO4

	Battery Bank
Capacity Energy (kWh)	2.8
Capacity (Ah)	55
Suggested SOC	10% - 95%
Usable Capacity (kWh)	2.4
Nominal Voltage (V)	51.2
Operation Voltage (V)	46.4 - 57.6
Maximum Charging/ Discharging Current (A)	70 / 70
Installation	Indoor and Outdoor
Life Cycling (0.5C 25℃)	5000 cycles
Operation Temperature (℃)	0 ~ 45
Storage Temperature (℃)	-20 ~ 45
Weight (Kg)	28
Dimensions (mm)	420 x 420 x 207
Communication	RS485, Bluetooth optional
Certifications	MSDS, UN38.3, RoHS, IEC62619, UL

Monitoring
Device & Solution

Failure Info Notice

System Detailed Info Display

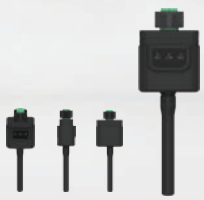
On-line Systems O&M

Cloud Data Synchronization

PC Browser Andriod & IOS

System Data Report & Analysis

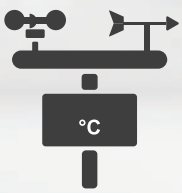
System Income Calculation



Wi-Fi / Ethernet / GPRS Data Sticker

Power Plant Data Logger

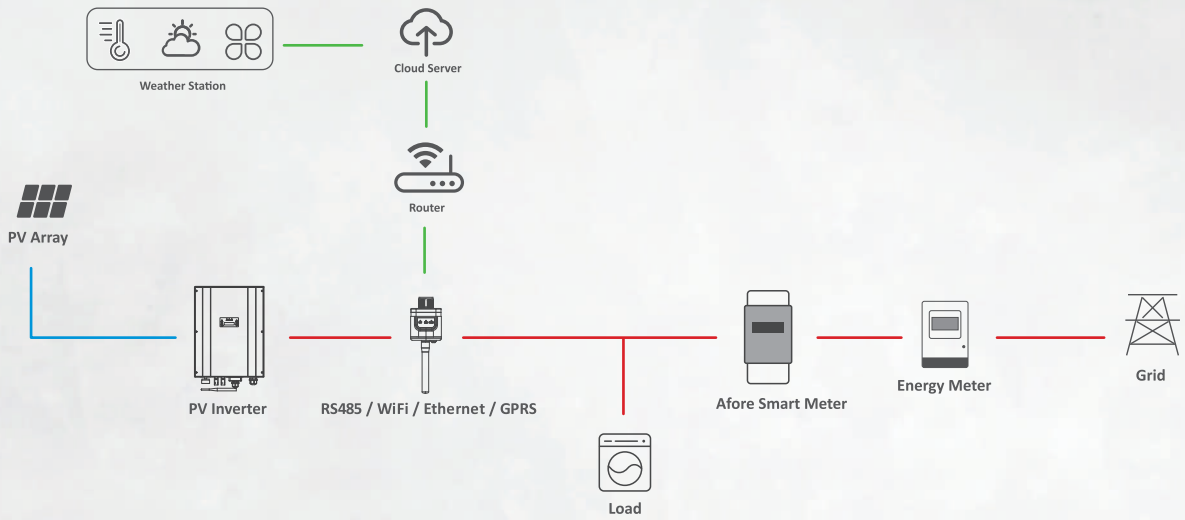
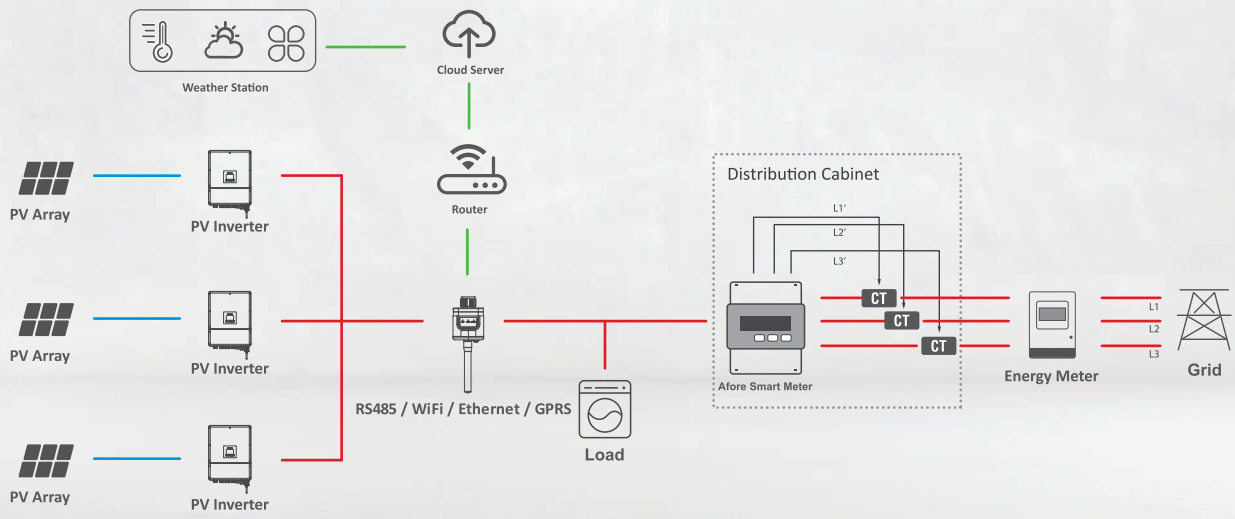
Smart Meter / Anti Feed-in Meter



Weather Station

PV System Monitoring Solution

Single Inverter Monitoring Solution



Multiply Inverters Monitoring Solution