

Three Phase PV String Inverter

36-60 kW



The Afore BNT Series Three-phase string inverters are designed for commercial and power plant PV system applications, rating from 36kW to 60kW. All models with aluminum housing 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 (which can be changed to Ethernet / GPRS). Check the system status anytime and anywhere via online portal or APP.

Max.
20A

MAX. 20Adc
String Current Up To 20A

Max.
1.5

PV OVERSIZE
Max. 1.5 Time
PV Oversize Input

PROTECTION
Multiple Intelligent
Protections

ANTI-FLOW
Anti-Feed-in Function

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

■ Technical Data	BNT036KTL	BNT040KTL	BNT050KTL	BNT060KTL
PV Input Data				
Max. DC Power (W)	54000	60000	75000	90000
Max. DC Voltage (V)	1100			
MPPT Voltage Range (V)	200 -1000			
MPPT Full Power Voltage Range (V)	500 - 850			
Rated Input Voltage (V)	620			
Start-up Voltage (V)	200			
Max. Input Current (A)	38 x 3	40 x 3	38 x 4	
Max. Short Current (A)	48 x 3	48 x 3	48 x 4	
No. of MPP Tracker / No. of PV String	3/6	3/7	4/8	
Input Connector Type	MC4			
AC Output Data				
Max. Output Power (VA)	36000	40000	50000	60000
Nominal Output Power (W)	36000	40000	50000	60000
Max. Output Current (A)	60	65	80	96
Nominal Output Voltage (V)	3P+N+PE /3P+PE 230/400			
Grid Voltage Range	260Vac-519Vac (according to local standard)			
Nominal Output Frequency (Hz)	50/60			
Grid Frequency Range	45-55Hz/55-65Hz (according to local standard)			
Output Power Factor	1 default (adjustable from 0.8 leading to 0.8 lagging)			
Output Current THD	<3%			
Efficiency				
Max. Efficiency	98.65%	98.65%	98.80%	99.00%
Euro Efficiency	98.20%	98.25%	98.45%	98.50%
Protection				
PV Reverse Polarity Protection	YES			
PV Insulation Resistance Detection	YES			
AC Short Circuit Protection	YES			
AC Over Current Protection	YES			
AC Over Voltage Protection	YES			
Anti-Islanding Protection	YES			
Residual Current Detection	YES			
Over Temperature Protection	YES			
Integrated DC switch	YES			
Surge Protection	Integrated (Type II)			
Smart IV Curve Scanning	YES			
Quick Arc Fault Circuit Interruption	Optional			
General Data				
Dimensions (W x H x D, mm)	710 x 470 x 236			
Weight (kg)	44		51	
Protection Degree	IP66			
Enclosure Material	Aluminum			
Ambient Temperature Range (°C)	-25 to 60			
Humidity Range	0-100%			
Topology	Transformerless			
Communication Interface	RS485 / WiFi / Wire Ethernet / GPRS (optional)			
Cooling Concept	Intelligent Fan Cooling			
Noise Emission (db)	<51		<55	
Night Power Consumption (W)	<1			
Max. Operation Altitude (m)	≤4000			
Certifications and Standards				
EMC Standard	EN/IEC 61000-6-2, EN/IEC 61000-6-3, EN61000-3-11, EN61000-3-12			
Safety Standard	IEC 60068, UL1741, EN62109			
Grid-connection	IEEE1547, CSA C22, EN50549, VDE4105, VDE0126, RD1699, ABNT NBR16149 & 16150, AS4777.2, NB/T32004, G99, IEC61727			

Certificate of Conformity

Certificate Number: CN-PV-230667

On the basis of the tests undertaken, the sample<s> of the below product have been found to comply with the requirements of the referenced specification<s>/standard<s> at the time the tests were carried out. It does not imply that Intertek has performed any surveillance or control of the manufacture(s). The manufacturer(s) shall ensure that the manufacturing process assures compliance of the production units with the examined products mentioned in this certificate.

Applicant:	Afore New Energy Technology (Shanghai) Co., Ltd. Building 7, No.333 Wanfang Rd, Minhang District, Shanghai. China.201112
Product:	Grid-connected PV inverter
Ratings & Principle Characteristics:	See appendix of Certificate of Conformity
Model:	BNT030KTL, BNT036KTL, BNT040KTL, BNT050KTL, BNT060KTL
Brand Name<s>:	Afore
Product Complies with:	IEC 61727:2004 IEC 62116:2014
Certificate Issuing Office Name & Address:	Intertek Testing Services Ltd. Shanghai West Area, 2 nd Floor, No. 707, Zhangyang Road China (Shanghai) Pilot Free Trade Zone, Shanghai, P. R. China Accredited by ACCREDIA in accordance with ISO/IEC 17065:2012
Test Report No.<s>:	230900418SHA-001

Additional information in Appendix.



Signature

Certification Manager: Qiao Qiao
Date: 24 November 2023



PRD N° 306B

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APPENDIX: Certificate of Conformity

This is an Appendix to Certificate of Conformity Number: CN-PV-230667

Ratings & Principle Characteristics:

Specifications table					
Model	BNT030KTL	BNT036KTL	BNT040KTL	BNT050KTL	BNT060KTL
PV input					
P pv Max(kW)	45	54	60	75	90
Vmax PV (Vdc) (absolute Max.)	1100	1100	1100	1100	1100
Isc PV (absolute Max.) (A)	48 x 2	48 x 3	48 x 3	48 x 3	48 x 4
Max. PV input current / strings (A)	38 x 2	38 x 3	38 x 3	40 x 3	38 x 4
Number MPP trackers	2	3	3	3	4
Number input strings	2/3	2/2/2	2/2/2	2/2/3	2/2/2/2
MPPT voltage range (Vdc)	200-1000	200-1000	200-1000	200-1000	200-1000
Vdc range @ full power (Vdc)	500-850	500-850	500-850	500-850	500-850
AC Grid (output)					
Normal AC Voltage (V _{AC})	3P+N+PE/3P+PE 230/400				
Frequency (Hz)	50				
Normal AC Current (A)	43.5	52.2	58	72.5	87
Max. cont. output current (A)	48	60	65	80	96
Normal Power (kW)	30	36	40	50	60
Rated Apparent Power (kVA)	30	36	40	50	60
Max. cont. Power (kW)	30	36	40	50	60
Max. cont. Apparent Power (kVA)	30	36	40	50	60
Power factor(adjustable)	1.0(-0.8~ +0.8)				
Others					
Protective class	Class I				
Ingress protection (IP)	IP65				
Temperature (°C)	-25°C to +60°C				
Inverter Isolation	Non-isolated				
Overvoltage category	OVC III (AC Main), OVC II (PV)				

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