

# 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 |           |           |           |