



Inverter Charger

Tyrann

10kW / 15kW

Two AC inputs & Two AC outputs
 ESS Functionality
 Parallel and three-phase capability (10kW-135kW)
 Compatible with majority of generators
 Power Assist & Power Control

Tyrann is an inverter charger similar to Kinergie Pro, yet it features two independent AC inputs for connecting the grid and a generator, or two generators. It can automatically select the active source or the user-preset prioritized AC source based on the system demand. When peak power is required for a limited period, Tyrann will discharge the battery immediately to compensate the insufficient part of the limited AC source, safeguarding an uninterruptible power supply for loads to the maximum extent.

Worth to mention, that Tyrann boasts ESS functionality, supporting energy feeding back into the grid. Its single-machine maximum power is up to 15kW, featuring a stronger surge capacity to carry inductive loads with high initial current. In addition, it works well with TBB latest SP600-120 solar charge controller which supports higher open circuit voltage. They are the perfect couple in composing a DC Coupled PV system with higher efficiency.

- Two AC inputs for grid and generator (or for two generators)
- Two AC outputs: one usual uninterruptible output, one programmable output for load management
- Support feeding energy back into the grid
- Support ESS functionality via E4 LCD Monitor
- Support AC Coupled PV system, DC Coupled PV system or the combination of both
- Compatible with SP600-120 to achieve a higher efficiency DC Coupled PV system
- Transformer based, easily withstand the initial surge current from various inductive loads
- Parallel and three phase operation up to 9 units (135kW)
- 0ms UPS class transfer time to protect mission-critical loads
- Support system wake-up when AC source or PV is regained, to effectively prevent the system from becoming deadlock due to low battery voltage/SoC, to realize unattended function
- Support two independent CAN Buses for flexible system communication, one for parallel connection, the other for monitoring communication
- Power Assist and Power Control to maximize the use of limited AC power and prevent overload on the AC source
- Minimize the impact of loads on batteries when the grid is available
- Built-in three programmable relays, supporting automatic generator start and stop (AGS)
- More flexible in system application
- Remote monitoring and control via NOVA APP or Web

Model No.	Tyrann 10.0S	Tyrann 15.0S
Product topology	Transformer based	
Power Assist	Yes	
Feedback into Grid	Yes	
AC input range	175~265VAC / 45Hz~55Hz@50Hz (normal), 55Hz~65Hz@60Hz (normal)	
AC input Current (transfer switch) (A)	2x100	

Inverter

Nominal battery voltage / Input voltage (VDC)	48 / 42~68	
AC output voltage(VAC) / Frequency(Hz)	220/230/240VAC± 2%, 50/60Hz ± 0.1%	
Harmonic distortion	<2%	
Load Power factor	1.0	
Cont. output power at 25°C (VA)	10000	15000
Peak power (30min) (W)	10000	15000
Cont. output power at 25°C (W)	8000	13000
Cont. output power at 40°C (W)	6500	11000
Cont. output power at 65°C (W)	4500	7200
Peak power(W)	30000	45000
Surge	300%	
Maximum efficiency	96%	
Zero load power (W)	40	60

Charger

Charge voltage 'absorption' (V) / 'float' (V)	57.6 / 55.2	
Battery types	AGM / GEL / OPzV / Lead-Carbon / Flooded / Traction / Lithium	
Max AC charge current (A)	140	200
Temperature compensation	Yes	

General data

Main Output (AC Out1) Current (A)	100	100
Auxiliary Output (AC Out2) Current (A)	50	50
Transfer time	0ms (<15ms in Weak AC source Mode)	
Remote on-off	Yes	
Programmable relay	3x	
Protection	a) output short circuit; b) overload; c) battery voltage too high; d) battery voltage too low; e) temperature too high; f) input voltage out of range; g) input voltage ripple too high; h) Fan block	
ComSync communication port	For parallel and three phase operation	
ComMON communication port	For remote monitoring and system integration	
Operating temperature range	-40°C~+65°C	
Relative humidity in operation	95% without condensation	
Altitude (m)	3500m	

Mechanical Data

Battery connection	Bolts M8*2*2	
AC connection	Bolts M6	
Dimension (mm) (max)	670*498*292	
Net Weight (kg)	60	80
Cooling	Forced fan	
Protection Category	IP21	

Standards

Safety	EN-IEC 62477-1, EN-IEC 62109-1, EN-IEC 62109-2, EN-IEC 62040-1	
EMC	EN-IEC 61000-6-1, EN-IEC 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61000-3-11, EN 61000-3-12	
Grid Regulation	NRS 097-2-1:2017*, AS/NZS 4777.2:2020*, VDE-AR-N 4105 *, NTS 2.1 (A)*, RD 1699*	

* Coming soon

Applications

Two AC Inputs and AGS function ensure uninterruptible power supply to the maximum extent

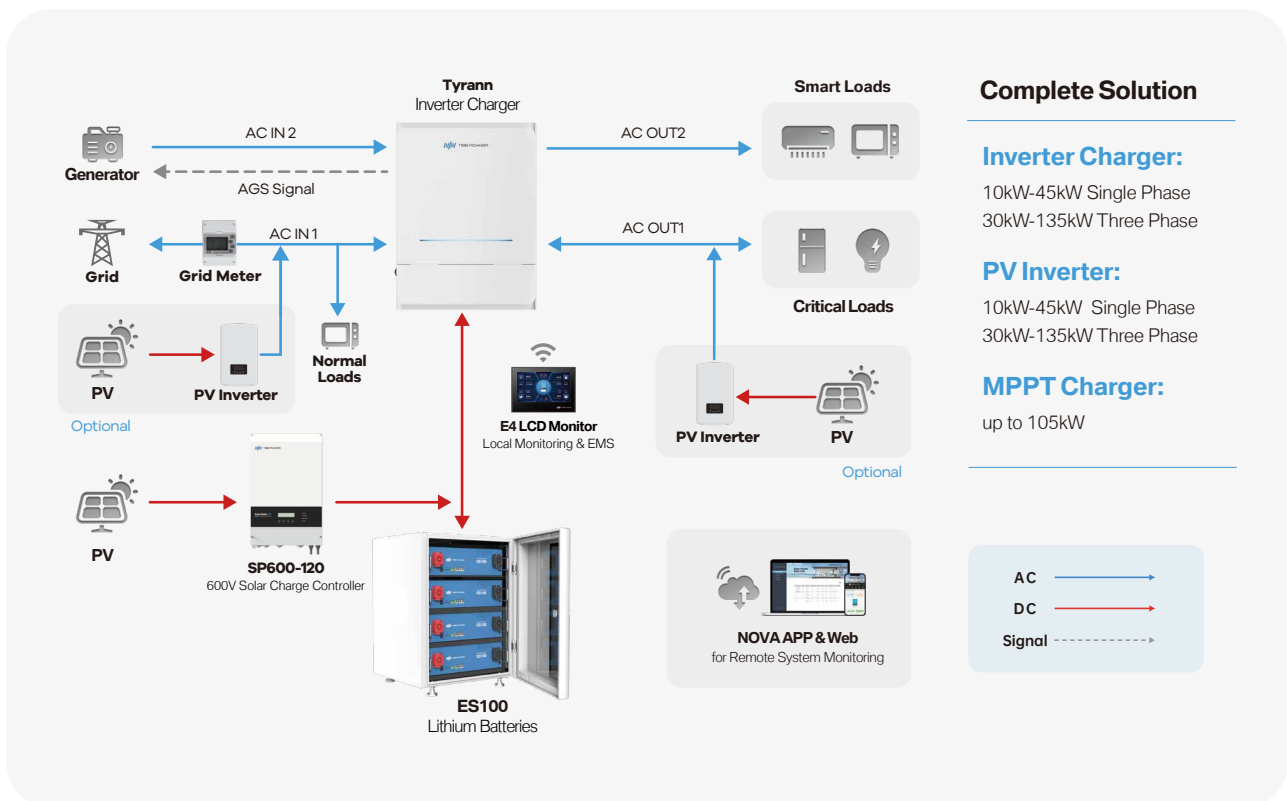
With two AC inputs, Tyrann can connect to the grid and generator simultaneously. When the grid fails and the battery is also under low voltage, Tyrann will automatically start the generator to power loads and charge batteries. Once the preset condition for generator stop is reached, Tyrann will automatically disconnect the generator input, working with generator in a more cost-effective way.

AC+DC Coupled PV System

with ESS Functionality

10kW-135kW

For Residential & Commercial



Complete Solution

Inverter Charger:

10kW-45kW Single Phase
30kW-135kW Three Phase

PV Inverter:

10kW-45kW Single Phase
30kW-135kW Three Phase

MPPT Charger:

up to 105kW

For on-grid and off-grid systems combined with PV

TBB Tyrann is capable of working with TBB SP600-120 to achieve a higher efficiency DC Coupled PV system for applications with more power consumption at night, and with TBB PV inverter to compose an AC Coupled PV system, achieving higher PV capacity for applications demanding more power consumption in the daytime. For the applications requiring high power consumption during the day and backup power at night, the combination of both is their optimal choice. The solar energy in the AC Coupled PV system is firstly used to power loads, then to charge the battery. Once the reserved SoC setting value is reached, the charging current will be reduced and the excess energy will be fed back into the grid. If the grid is not available, Tyrann will regulate the output power of the PV inverter to prevent overcharging the batteries.

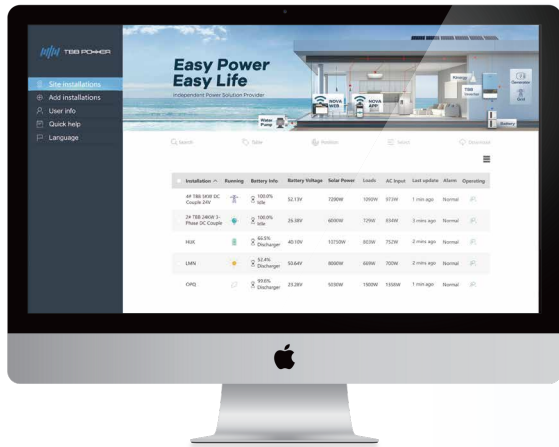
Boasting two AC outputs, Tyrann can manage loads in a smart way

The AC out1 is for connecting critical loads which require uninterruptible power at any time. Once the grid power fails or the generator is disconnected, the Tyrann will take over the supply to the critical loads by discharging the battery in 0ms, ensuring the continuous operation of computers and other critical loads. The AC out2 is for connecting normal loads that do not have to keep running all the time and it can be programmed to turn on only when the system is powered by the grid. Its on/off can also be controlled based on the time period setting or battery voltage/ SoC.

TBB NOVA APP & Web

Monitor and Control Your Solar System Anywhere Anytime

NOVA App and NOVA Web are FREE energy management and monitoring system designed by TBB Renewable, displaying real-time data of all system components and history records, providing easy access to controlling the power generation and power consumption. According to historical data, users can actively adjust and optimize power consumption habits.



Devices for remote monitoring communication



Ether-Link



**Kinergy II-BLE/WiFi
Wireless Data Logger**



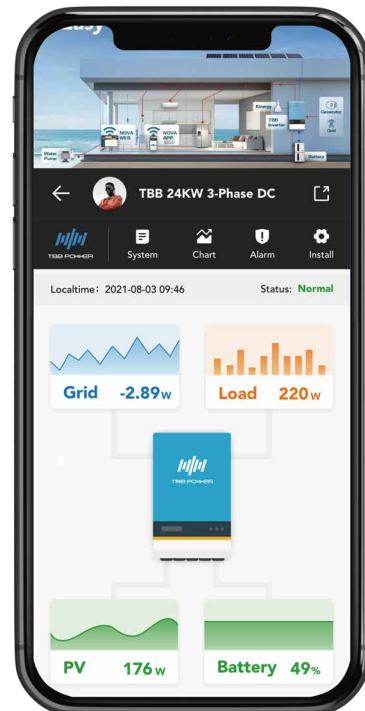
E4 LCD Monitor

Comprehensive Monitoring

- Live data and status overview and system analysis
- System configuration and parameter setting
- Customizable alarm setting
- Detailed report for power harvest, storage and consumption in visual chart and graph
- WEB compatible for Windows and Mac PC
- APP available for Android and iOS phone

Intelligent Management for Dealers / Installers

- Comprehensive management for multiple installations
- Catch potential issues early with alarm setting to prevent system failure
- Optimize the energy harvest and usage with history graphs and detailed analytical reports
- Proactive maintenance services to keep good relationship with customers
- Customizable banner to show dealers information and slogan



Android



iOS

nova.tbbpower.com

