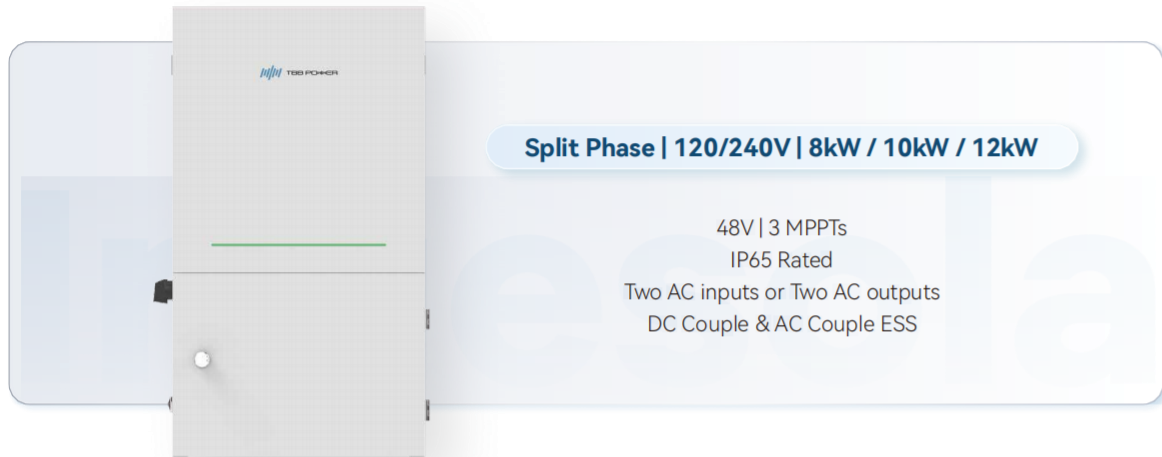


# Ingesola

## - Hybrid Inverter -



TBB Ingesola P8/P10/P12 series are split-phase hybrid inverters for residential hybrid ESS, to cut electricity cost and reliance on the grid. Suitable for low voltage battery (48V) systems, it features 3 MPPT trackers, and supports both off-grid and grid-tie operations.

It offers a smart port for configurations like secondary AC output, AC Coupling for retrofitting, generator input for backup power, and EV charging with EV and V2G chargers. Ideal for optimizing self-consumption, the Ingesola series also includes an EMS for peak shaving with eight configurable time periods for charging and discharging, and has an IP65-rated design for durability in harsh environments.

### Enhanced Flexibility

- Supports both off-grid and grid-tie operations
- For Hybrid ESS, AC Coupling Retrofitting, Backup Power and EV Charging applications
- Two AC inputs or two AC outputs
- Smart port for GEN input, AC Coupling with PV inverter, EV charging, or 2nd AC output
- Support battery heterogeneity across different types or same-type with varying capacities
- Scalable up to 3 units in parallel
- Built-in 3 MPPT trackers for flexible system design and higher yields
- Built-in EMS with 8 time periods for battery charging & discharging

### Superior Reliability

- Max. charging/discharging current of 210A
- Dust-and water-proof IP65 rated enclosure
- 0-10ms UPS ability
- Intelligent control

### ESS Capabilities

- Maximize self-consumption
- Lower electricity bills via peak shaving & time-of-use
- Grid feed-in for utility credits
- AC Coupling retrofitting existing grid-tie systems

### Easy O&M

- Support CAN and RS485
- Local monitoring via E4 LCD Monitor
- Remote monitoring and control via Nova Web & APP

Model	Ingesola P8	Ingesola P10	Ingesola P12
Grid input			
Grid feedback	Yes		
Nominal AC input voltage (VAC)	Split phase 120/240, 2/3 phase 208		
AC Input Voltage Range (VAC)	-25%~+15%,Split phase : 180~280@240 (L1-L2); 90-138@120V ( L1/2-N) 2/3 phase: L1-L2 156~240@208 (L1-L2); 90-138@120V ( L1/2-N)		
AC Input Frequency Range (Hz)	50: +/-5; 60: +/-5		
AC Input Current (transfer switch) (A)	200	200	200
AC Input Current Limit Function & Surge Protection	Yes		
Generator input			
Nominal AC Input Voltage (VAC)	Split phase 120/240 ; 2/3 phase 208		
AC Input Range (VAC)	-25%~+15%, Split phase : 180~280@240 (L1-L2); 90-138@120V ( L1/2-N)2/3 phase: L1-L2 156~240@208 (L1-L2); 90-138@120V ( L1/2-N)		
AC Input Frequency Range (Hz)	40-70		
AC Input Current (transfer switch) (A)	200	200	200
AC Input Current Limit Function	Yes		
Inverter			
Nominal AC output voltage (VAC)	Split phase 120/240, 2/3 phase 208		
Nominal AC output frequency (Hz)	50/60 +/-0.1%		
Harmonic distortion	Linear load<2%, Non-linear load <5%		
Nominal Output Power (VA)*	8000	10000	12000
Max. AC output power (VA)	8800	11000	13200
Peak power (off grid)	2 Times of Rated Power, 10s		
Nominal / Max. AC Output Current (A)	25 / 37.5	33.3 / 50	41.6 / 50
DC			
DC Voltage Range (V)	40-60	40-60	40-60
Battery types	Lead acid battery, Lithium battery		
Charging strategy for Li-Ion battery	Self adaption to BMS		
Max. Charging/ Discharging Current (A)	125/125	167/167	210/210
Solar			
Max. DC input power (W)	9000	12000	15000
Max. PV Input Voltage (V)	500		
MPPT Voltage Range /Start-up Voltage (V)	125-430 / 160		
Max. PV Input Current / Max.Short Current (A)	20+20 / 22+22	20+20+20 / 22+22+22	
MPPT Number / No. Strings Per MPPT Tracker	2 / 1+1	3 / 1+1+1	
General			
Backup	UPS	UPS	UPS
Max.AC Pass-through Current (A)	200	200	200
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		
CAN Bus communication port	For parallel operation		
General purpose com. Port	RS485, CAN (BMS)		
Display	LED		
Operating temperature range & relative humidity	-25℃~60℃>45℃de-rating; 95% without condensation		
Altitude (m)	3000		
IP Protection	IP65 (Outdoor)		
Grid Regulation	IEEE 1547, IEEE 1547.1, UL 1741SA, CA Rule 21, Hawaiian Rule14H, PRC-024-1		
Safety & EMC	UL 1741, CSA C22.2 No. 107.1, FCC Part 15		
Warranty	5 Year Product Warranty, 10 Year Performance Warranty		

\* When PV energy is sufficient