

BTM

Solar Maximiser

Apollo Series



BTM's Solar Maximiser enables households and business to be solar powered with minimal hardware investment. The device enables you to use existing infrastructure such as inverters, batteries, while purchasing just solar panels and cables. The Solar Maximiser is sleek and wall mountable. Unlike traditional solar hybrid inverters, the intelligence built in to this device enables you to maximize use of solar power generated. With the included **Battery Sensor**, the user can now selected a desired battery reserve that needs to be maintained depending on the usage pattern

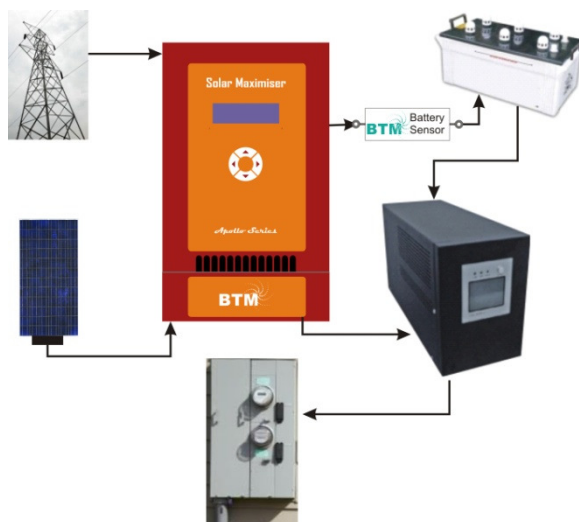
Use all of solar power you generate

With intelligent power source selection algorithm, all the solar power generated is used to either provide for your load or store them in batteries for future use. Helps reduce your electricity bill and your return on investment is faster.

Power through longer power cuts

Unlike traditional solar hybrid inverters, the BTM Solar Maximiser with its user selectable battery reserve selection, keep your batteries are charged using solar / grid power when available to ensure that you have power during load shedding.

System Architecture



Best in class solar management at the lowest cost

The intelligence built into the Solar Maximiser, you can power your existing inverters using solar thereby eliminating the need to purchase new solar inverters. This reduces your initial investment to go solar.

Fully featured

The Solar Maximiser provides best in class features not found in other competitive products:

- Compatible with any make / model UPS or Inverter
- Fully automatic operation, just set the battery reserve you need
- With included **Battery Sensor** measure and display Battery Voltage, Battery State of charge, Charging and discharging current
- Mains Over-voltage protection to protect your valuable appliances,
- Spark free changeover improves reliability of the product
- Monitors all electrical parameters – Mains Voltage, PV Voltage, and current source of power to your load
- Works with 12-240 V DC systems
- Future expandable design - works with any battery capacity providing the ability to size up your system at any time with no additional investment
- Powers up to a load rating of 15 KVA

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Comparison to traditional Solar Hybrid Inverters

Feature	BTM – Solar Maximiser	Solar Hybrid Inverters
Mounting	Sleek, wall mountable	Large Form Factor
Priority Settings	User Selectable Battery Reserve with intelligence to maximize use of solar AND provide reserve capacity in battery	Either manage battery reserve where solar energy is left unused, or use solar power but battery is left discharged
Display Options	LCD displays Mains (V); Battery (V); Solar (V); Charging (I); Discharging (I); State of Charge (%), and source of charge	Small systems do not have any monitoring; only simple LED indicators, large systems do not have SoC measurement
Expansion of solar capacity	Expandable in the future	No expansion possible without entirely new hardware
Expansion of battery capacity	In case of shared battery bank can connect multiple inverters/UPS	Only 1 inverter/UPS per system

Technical Specifications

AC Input Voltage Range - 100 V – 270 V , 50 Hz

Over-Voltage cut-off – 270V

Under-voltage cut-off – 100V

Source Priority –

1. Solar
2. Solar + battery
3. Battery Reserve
4. Mains

DC System Voltage – 12 - 240 V

Battery Limitation – No limit

Maximum AC Load Rating – 15 KVA

Display Parameters –

- PV Voltage
- Mains Voltage (AC RMS)
- Battery Voltage
- Charging Current (Effective modulus value)
- Discharging Current (Effective modulus value)
- Battery State of Charge
- Current Source of Power
- Over Voltage Cut-off
- System Voltage
- Current Reserve Limit
- Active Source
- Warning: Over-Voltage Cut-off

Harvest / Conversion Efficiency - > 99%

Self-power consumption –

- Operating Mains – 2.7 W

Model Information

Model Number	PV Current (A)	System Voltage (Volts)							
		12	24	36	48	96	120	192	240
Max PV System	10	1210	2410	3610	4810	9610	12010	19210	24010
	15	1215	2415	3615	4815	9615	12015	19215	24015
	20	1220	2420	3620	4820	9620	12020	19220	24020
	30	1230	2430	3630	4830	9630	12030	19230	24030
Max PV System		500 W _p	1000 W _p	2000 W _p	3000 W _p	5000 W _p	6000 W _p	11 kW _p	13 kW _p

For DC voltages less than 240 V not listed above, please contact us for special models

Description of Intelligent Source Selection

Scenario	If Battery is greater than reserve	If Battery is less than reserve
Minimal Usage During the day (keeping battery reserve as low as possible)	Solar provides power to load and charges battery to 100% with remaining. MAINS Not Used	Solar charges battery. MAINS used for load
Maximum usage during the day (keeping battery reserve at 50%)	Solar and battery provides power to load simultaneously. MAINS Not Used	Solar charges battery. MAINS used for load
Severe Load Shedding During the day (keeping battery reserve high)	Solar provides power to load and charges battery with remaining.	Solar Charges Battery and Battery provides power to LOAD
Night time (keeping battery reserve at 50%)	Battery provides power to load. MAINS Not Used	MAINS Provides power to load and charges battery
Severe Load Shedding During the night (keeping battery reserve at 90%)	Battery provides power to load	Battery provides power to load

	Solar or battery only used
	A mix of solar and MAINS used
	Only MAINS Used