

Hybrid solar inverter · single phase

Boxer wall-mounted hybrid solar inverter

Single-phase hybrid solar inverter with grid export and storage.

1–5 kVA · 48 V

BIS approved R-93031208

Designed and built in India



1–5 kVA

single-phase models

48 v

battery voltage

Up to 6 kWp

PV array per inverter

≥94 %

peak charging efficiency (3–5 kVA)

Overview

Why pay for off-grid when hybrid costs the same?

Boxer brings every benefit of a hybrid inverter to Indian homes in a sleek, efficient wall-mounted unit. Galvanic isolation protects it from grid variations, and lithium compatibility delivers the high power and longer backup homes are asking for.

- ✓ Seamless changeover
- ✓ Exports power to the grid at light loads
- ✓ Lithium-ion compatible, with brand selection
- ✓ Battery-less operation on demand
- ✓ 20% overloading on the PV side
- ✓ Runs heavy loads, including a 1.5-ton air conditioner

Eligible for PM Surya Ghar subsidy

Hybrid solar inverter systems with lithium-ion, lead-acid or any other battery qualify for subsidy under the PM Surya Ghar Muft Bijli Yojana.

Approvals and standards

BIS approved, R-93031208

Anti-islanding: IEC 62116

Grid interface: IEC 61727



Block diagram of installation. Boxer connects solar panels, battery, grid and home loads.

	1 kVA / 48 V	2 kVA / 48 V	3 kVA / 48 V	4 kVA / 48 V	5 kVA / 48 V
Model number	BOX-048-01K-1P	BOX-048-2K-1P	BOX-048-03K-1P	BOX-048-04K-1P	BOX-048-05K-1P
A. MPPT charger					
Type (buck)			MPPT		
PV nominal capacity (kWp)	1.2	2.4	3.6	4.8	6
Max. PV strings in parallel	1	2	3	4	5
No. of MPPT channels / inputs			1/1		
Max. open-circuit voltage (Voc)			190 V		
MPPT tracking range (Vmp)			75–160 V		
Max. output current (A)	23	46	71	94	118
Peak charging efficiency	≥92%		≥94%		
B. Solar inverter					
Nominal capacity	1 kVA	2 kVA	3 kVA	4 kVA	5 kVA
Output current (A)	4.3	8.7	13	17.4	21.7
Battery voltage (V)			48		
Output voltage / frequency / phase	230 V (±2%) / 50 Hz / 1P+N				
Load power factor	0.8 to unity				
Peak efficiency	>88%				
Overloads: 60 s / 30 s / 5 s	101–105% / 106–110% / 111–115%; >115% immediate trip				
Auto bypass	Provided				
Anti-islanding / power export to grid	Provided (as per IEC 62116 and IEC 61727)				
C. Grid charger					
Grid voltage range	230 V (+10% / –20%)				
Grid frequency range	50 Hz (+5% / –5%)				
Max. grid import power	1.5 kVA	3 kVA	4.5 kVA	6 kVA	7.5 kVA

— D. Protections and display parameters

Protections		Display parameters
PV side	Reverse polarity, PV power limit, surge protection (MOV), output voltage	Voltage, charger output amps, power, cumulative energy
Battery side	Reverse polarity, over/under voltage, current limit	Voltage, current, battery state
Grid side	Over/under voltage, over/under frequency, grid over-current, surge protection (MOV)	Phase voltage, frequency, power, power factor
Load side	Overloads, short circuit, surge protection (MOV)	Voltage and current, frequency, power, export kWh
System	Over-temperature	Mode of operation, active faults

E. Miscellaneous			
Switchgear protection	MCB/MCCB provided on PV, battery, load and grid path	LED indications	Inverter on, solar present, grid present / system trip / fault
Data port (RS-485 / RS-232)	Optional (available on request)	Remote monitoring	Optional, through GPRS-based modem / Wi-Fi
Ingress protection	IP20 (indoor type)	Cooling method	Forced cooling (temperature controlled)
Operating temperature	0–50 °C (without derating)	Humidity	Max. 95%, non-condensing
Altitude	1000 m above sea level		

Other customised ratings available on request.