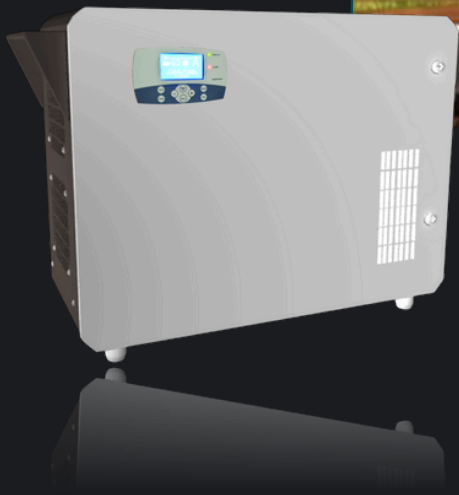




## HBD SERIES



**1- 10KVA/48V**

**1 PHASE**

**5-7.5 KVA/96V**

**1 PHASE**

**8-15 KVA/120V**

**1 PHASE**

**15-5-KVA/240V**

**1 PHASE**

**40-50KVA/360V**

**1 PHASE**

### SINGLE PHASE HYBRID MPPT PCU (1-50 KVA)\*

Genuine 'Hybrid'-Not just 'Off- Grid"

Our HBD series offers hybrid solar inverters of 1-250KVA to residential/commercial/ industrial customers. This series is built to resolve the two challenges posed by unreliable grids and power cuts- intermittent electricity and high electricity costs. Energiaa's HBD series inverters are essentially grid-tie inverters with storage. They also work as standalone systems in case of no grid. They not only store electricity in the attached batteries but also export unconsumed solar power to the grid, or store and mix with the grid as programmed in its unique 'behind-the-meter' use.

\*Other customised ratings available on request

### UNIQUE FEATURES

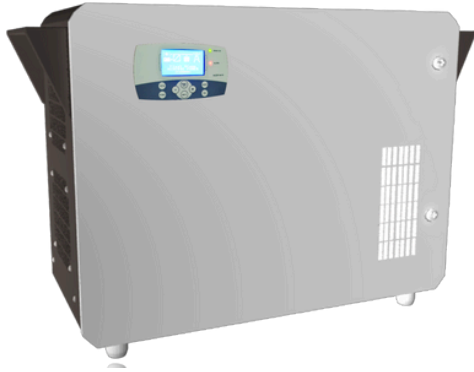
<b>BI-DIRECTIONAL</b>	Seamless switching to and from grid (both import and export) and battery supply, high-efficiency MPPT technology
<b>GRID-INTERACTIVE</b>	Blends solar and grid- power for optimisation
<b>ENERGIAA'S BENCHMARK SOLAR TECHNOLOGY</b>	We use the latest DSP-based ' <b>Active Front End</b> ' technology with IoT to achieve 'flexible' or 'smart' energy
<b>IEC CERTIFIED</b>	IEC certifications available
<b>BEHIND-THE-METER</b>	Latest global tech enabled wherein the absence of Net- Meter policy, we can store solar energy into battery and then blend it with Grid during high-tariff times or with DG-set for DG set optimisation
<b>EASY-TO-MONITOR</b>	Optional GPRS-based remote monitoring and controlling
<b>3-PRIORITY WORKING MODES</b>	HBD with export/ HBD without export/ Off-Grid
<b>PURE SINE WAVE TECHNOLOGY</b>	Recommended for longer life of Industrial/Commercial equipment
<b>INTELLIGENT BATTERY CHARGING</b>	3-Stage charging (Float, Bulk & Absorption) for more battery life (for Lead Acid batteries). Communication-based charging for Lithium chemistries available
<b>COMPATIBLE CHARGER</b>	Supports wide range of batteries-Flooded Lead Acid Tubular/GEL/VRLA. On request product for Li+

### KEY BENEFITS

<b>CUSTOMISABLE ENERGY SHIFT</b>	Store power and use later
<b>RUNS AC AT HOME</b>	Can sustain jerk loads like Air Conditioner
<b>PROTECTION</b>	Protects against grid fluctuations, overload, short circuit, array reverse, battery reverse and thermal fluctuations
<b>GALVANIC ISOLATION</b>	Uses galvanic isolation at output-Ideal for Rural/Microgrid applications
<b>LONG LIFE</b>	Lifespan of 15+ years
<b>ALMOST ZERO-SERVICING</b>	Our robust HBD series inverters are IoT-based and require zero to negligible servicing and maintenance
<b>LARGEST-IN-CLASS DISPLAY</b>	Beautiful display units showing all inverter + solar + battery data

**TOLL-FREE SERVICING SUPPORT: 1800-891-3319**

## 1-P LOW VOLTAGE (48V) 1-10 KVA HYBRID MPPT PCU



RATINGS	1KVA/48V	2KVA/48V	3KVA/48V	4KVA/48V	5KVA/48V	6KVA/48V	8KVA/48V	10KVA/48V
Model No.	ECO-HBD-048-01K-1P	ECO-HBD-048-2K-1P	ECO-HBD-048-03K-1P	ECO-HBD-048-04K-1P	ECO-HBD-048-05K-1P	ECO-HBD-048-06K-1P	ECO-HBD-048-08K-1P	ECO-HBD-048-10K-1P
<b>A.MPPT CHARGER</b>								
Type (Buck)	MPPT							
PV Nominal Capacity (Total KWp)	1	2	3	4	5	6	8	10
Max PV String in Parallel	1	2	3	4	5	6	8	10
No of MPPT Channel/No of Input	1/1							
Max. Open Circuit PV Volts (Voc)*	190							
MPPT Voltage Range (Vmp)*	75-160							
Max Output Current (A)	20	40	60	80	100	120	160	200
Peak Charging Efficiency	92%				94%			
<b>B. SOLAR INVERTER</b>								
Nominal Capacity	1KVA	2KVA	3KVA	4KVA	5KVA	6KVA	8KVA	10KVA
Output Current(A)	3.5	7	10	14	17	21	28	35
Battery Voltage(V)	48							
Output Voltage/Freq/Phase	230V(± 2%) / 50Hz/1P+N							
Load Power Factor	0.8-Unity							
Peak Efficiency	>86%				>88%			
Over Loads: 60sec/ 30sec/ 5sec	101-110%/111-125%/126-150%							
Auto Bypass Feature	Provided							
Anti Islanding/Power Export to Grid	Provided (As per IEC 62116 & IEC 61727)							
<b>C. GRID CHARGER</b>								
Grid Voltage Range (V)	230V (+10% & -20%)							
Grid Freq Range(Hz)	50Hz (+5% & -5%)							
Max Grid Import Power	1.5KVA	3KVA	4.5KVA	6KVA	7.5KVA	9KVA	12KVA	15KVA
<b>D. PROTECTIONS &amp; DISPLAY PARAMETERS</b>								
	<b>PROTECTIONS</b>				<b>DISPLAY PARAMETERS</b>			
PV Side Battery Side Grid Side Load Side System Protection	<ul style="list-style-type: none"> <li>Reverse Polarity, PV Power Limit, Surge Protection (MOV)</li> <li>Reverse Polarity, O/U Voltage, Current Limit</li> <li>O/U Voltage, O/U frequency, Surge Protection (MOV)</li> <li>Overloads, Short Circuit, Surge Protection (MOV)</li> <li>Over Temperature</li> </ul>				<ul style="list-style-type: none"> <li>Voltage, Charger O/P Amps, Power, Cumulative Energy</li> <li>Voltage, Current, Battery State</li> <li>Phase Voltage, Frequency, Power, Power Factor</li> <li>Voltage &amp; Current, Frequency, Power, Export KWh</li> <li>Mode of Operation, Active Faults, Status Mimic</li> </ul>			
<b>E. MISCELLANEOUS</b>								
Switchgear Protection	MCB/MCCB provided on PV, Battery, Load & Grid path.							
LED Indications	Mains On, Alarm, Buzzer Mute							
Data Port (RS 485/ RS 232)	Optional (Available on Request)							
Remote Monitoring	Optional through GPRS based Modem							
Ingress Protection	IP-20 (Indoor Type)							
Cooling Method	Forced Cooled (Temp. Controlled)							
Operating Temperature	0-50 degree(Without Derating)							
Humidity	Max. 95% Non-Condensing							
Altitude	1000m above sea level							
Color shade	RAL7035/DA GREY HE 15005							
Dimensions(H×W×D)	343X300X430			523X625X310			648.25X400X676.20	

# 1-P HIGH VOLTAGE (96/120/240V) 5-15 KVA HYBRID MPPT PCU



Petrol Pumps



Office Building



Process Industries



Bank ATM



Minigrids



Farmhouse



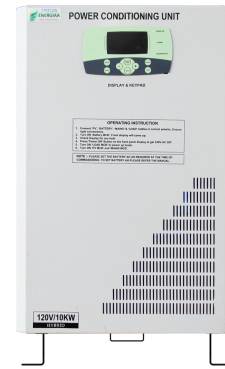
Rural Microgrids



Cold Storage



Hospital

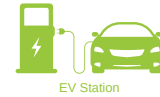


RATINGS	5KVA/96V	6KVA/96V	7.5KVA/96V	8KVA/120V	10KVA/120V	15KVA/120V	15KVA/240V
Model No.	ECO-HBD-096-05K-1P	ECO-HBD-096-06K-1P	ECO-HBD-096-07K5-1P	ECO-HBD-120-08K-1P	ECO-HBD-120-10K-1P	ECO-HBD-120-15K-1P	ECO-HBD-240-15K-1P
<b>A.MPPT CHARGER</b>							
Type (Buck)	MPPT						
PV Nominal Capacity (Total KWp)	5	6	7.5	8	10	15	15
Max PV String in Parallel	3	4	5	5	6	9	5
No of MPPT Channel/No of Input	1/1						
Max. Open Circuit PV Volts (Voc)*	320			320			650
MPPT Voltage Range (Vmp)*	165-280			165-280			330-570
Max Output Current (A)	50	60	75	65	80	120	60
Peak Charging Efficiency	94%						
<b>B. SOLAR INVERTER</b>							
Nominal Capacity	5KVA	6KVA	7.5KVA	8KVA	10KVA	15KVA	15KVA
Output Current(A)	17	21	28	28	35	52	52
Battery Voltage(V)	96			120			
Output Voltage/Freq/Phase	230V(± 2%) / 50Hz/1P+N						
Load Power Factor	0.8-Unity						
Peak Efficiency	>88%					>90%	
Over Loads: 60sec/ 30sec/ 5sec	101-110%/111-125%/126-150%						
Auto Bypass Feature	Provided						
Anti Islanding/Power Export to Grid	Provided (As per IEC 62116 & IEC 61727)						
<b>C. GRID CHARGER</b>							
Grid Voltage Range (V)	230V (+10% & -20%)						
Grid Freq Range(Hz)	50Hz (+5% & -5%)						
Max Grid Import Power	7.5KVA	9KVA	11.25KVA	12KVA	15KVA	22.5KVA	22.5KVA
<b>D. PROTECTIONS &amp; DISPLAY PARAMETERS</b>							
	<b>PROTECTIONS</b>				<b>DISPLAY PARAMETERS</b>		
PV Side	• Reverse Polarity, PV Power Limit, Surge Protection (MOV)				• Voltage, Charger O/P Amps, Power, Cumulative Energy		
Battery Side	• Reverse Polarity, O/U Voltage, Current Limit				• Voltage, Current, Battery State		
Grid Side	• O/U Voltage, O/U frequency, Surge Protection (MOV)				• Phase Voltage, Frequency, Power, Power Factor		
Load Side	• Overloads, Short Circuit, Surge Protection (MOV)				• Voltage & Current, Frequency, Power, Export KW/h		
System Protection	• Over Temperature				• Mode of Operation, Active Faults, Status Mimic		
<b>E. MISCELLANEOUS</b>							
Switchgear Protection	MCB/MCCB provided on PV, Battery, Load & Grid path.						
LED Indications	Mains On, Alarm, Buzzer Mute						
Data Port (RS 485/ RS 232)	Optional (Available on Request)						
Remote Monitoring	Optional through GPRS based Modem						
Ingress Protection	IP-20 (Indoor Type)						
Cooling Method	Forced Cooled (Temp. Controlled)						
Operating Temperature	0-50 degree(Without Derating)						
Humidity	Max. 95% Non-Condensing						
Altitude	1000m above sea level						
Color shade	RAL7035/DA GREY HE 15005						
Dimensions(H×W×D)	523X625X310			648.25X400X676.20		800X550X845	

\*\* The above models are compatible with Lead-Acid batteries only. Lithium compatibility requires extra hardware/ software (at extra cost), which is factory-fitted only. Statcon Energiaa Pvt. Ltd. reserves the right to modify or withdraw any of the ratings or technical specifications.

\* Revised Voc & Vmp are effective from 21-09-2023

## 1-P HIGH VOLTAGE (240/360V) 20-50KVA HYBRID MPPT PCU



RATINGS	20KVA/240V	25KVA/240V	30KVA/240V	40KVA/240V	50KVA/240V	40KVA/360V	50KVA/360V
Model No.	ECO-HBD-240-20K-1P	ECO-HBD-240-25K-1P	ECO-HBD-240-30K-1P	ECO-HBD-240-40K-1P	ECO-HBD-240-50K-1P	ECO-HBD-360-40K-1P	ECO-HBD-360-50K-1P
<b>A.MPPT CHARGER</b>							
Type (Buck)	MPPT						
PV Nominal Capacity (Total KWp)	20	25	30	40	50	40	50
Max PV String in Parallel	6	8	9	12	15	8	10
No of MPPT Channel/No of Input	1/1						
Max. Open Circuit PV Volts (Voc)*	650					820	
MPPT Voltage Range (Vmp)*	330-570					495-681	
Max Output Current (A)	80	100	120	160	200	108	135
Peak Charging Efficiency	95%						
<b>B. SOLAR INVERTER</b>							
Nominal Capacity	20KVA	25KVA	30KVA	40KVA	50KVA	40KVA	50KVA
Output Current(A)	70	87	104	139	174	139	174
Battery Voltage(V)	240					360	
Output Voltage/Freq/Phase	230V(± 2%) / 50Hz/ 1P+N						
Load Power Factor	0.8 - Unity						
Peak Efficiency	>91%						
Over Loads: 60sec/ 30sec/ 5sec	101-110%/111-125%/126-150%						
Auto Bypass Feature	Provided						
Anti Islanding/Power Export to Grid	Provided (As per IEC 62116 & IEC 61727)						
<b>C. GRID CHARGER</b>							
Grid Voltage Range (V)	230V (+10% & -20%)						
Grid Freq Range(Hz)	50Hz (+5% & -5%)						
Max Grid Import Power	30KVA	37.5KVA	45KVA	60KVA	75KVA	60KVA	75KVA
<b>D. PROTECTIONS &amp; DISPLAY PARAMETERS</b>							
	<b>PROTECTIONS</b>				<b>DISPLAY PARAMETERS</b>		
PV Side	• Reverse Polarity, PV Power Limit, Surge Protection (MOV)				• Voltage, Charger O/P Amps, Power, Cumulative Energy		
Battery Side	• Reverse Polarity, O/U Voltage, Current Limit				• Voltage, Current, Battery State		
Grid Side	• O/U Voltage, O/U frequency, Surge Protection (MOV)				• Phase Voltage, Frequency, Power, Power Factor		
Load Side	• Overloads, Short Circuit, Surge Protection (MOV)				• Voltage & Current, Frequency, Power, Export KWh		
System Protection	• Over Temperature				• Mode of Operation, Active Faults, Status Mimic		
<b>E. MISCELLANEOUS</b>							
Switchgear Protection	MCB/MCCB provided on PV, Battery, Load & Grid path.						
LED Indications	Mains On, Alarm, Buzzer Mute						
Data Port (RS 485/ RS 232)	Optional (Available on Request)						
Remote Monitoring	Optional through GPRS based Modem						
Ingress Protection	IP-20 (Indoor Type)						
Cooling Method	Forced Cooled (Temp. Controlled)						
Operating Temperature	0-50 degree(Without Derating)						
Humidity	Max. 95% Non-Condensing						
Altitude	1000m above sea level						
Color shade	RAL7035/DA GREY HE 15005						
Dimensions(H×W×D)	800X550X845				900X650X965		

\*\* The above models are compatible with Lead-Acid batteries only. Lithium compatibility requires extra hardware/ software (at extra cost), which is factory-fitted only. Statcon Energiaa Pvt. Ltd. reserves the right to modify or withdraw any of the ratings or technical specifications.

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