

# KWH Premium Pro Series



## 3 Phase Hybrid Solar PCU 5 kVA - 150 kVA



### SALIENT PRODUCT FEATURES

- MNRE-approved, MPPT-based system
- Tested as per IEC 61683, IEC 61727, EN 50530 and IEC 62116 / IS 16169, IEC 60068 (1, 2, 14, 30)
- Active front-end charger
- Low input current distortion
- Remote device monitoring available
- Live device monitoring on RS-232
- Over 5 MW of systems successfully supplied
- > 93% system efficiency
- Compatible with all types of batteries
- Can be configured as an Off-Grid system
- Peak demand management
- Wi-Fi enabled data through mobile application
- Insensitive to Input Grid phase sequence

### STRENGTHS OF POWTECH

- 36 years of excellence in industrial electronics
- ISO 9001 and ISO 14001 certified company
- Nationwide sales and service
- In-house R & D
- Products designed for and extensively tested in Indian conditions

### APPLICATIONS

- Rural Electrification
- Remote Sites
- Farmhouses, Schools, Offices
- Rural Health Schemes
- Telecom, Oil & Gas pipelines
- Defence
- Industrial applications
- Hospitals, Cold stores
- Mini grid

# KWH Premium Series Datasheet

INVERTER RATING (KVA)	10KVA	10KVA	12.5KVA	12.5KVA	15KVA	15KVA	20KVA	20KVA	25KVA	30KVA	40KVA	50KVA	60KVA	80KVA	100KVA	100KVA	120KVA	150KVA	
<b>A. SOLAR CHARGE CONTROLLER (CCC)</b>																			
1. Charge Type & Topology	Buck Type MPPT																		
2. PV Total Nominal Capacity (KW)	10KW	10KW	12.5KW	12.5KW	15KW	15KW	20KW	20KW	25KW	30KW	40KW	50KW	60KW	80KW	100KW	100KW	120KW	150KW	
3. No. of MPPT Channels	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	3	3	3	
4. Per Channel PV Capacity (w/Nominal Peak)	10KW/110KW	10KW/110KW	12.5KW/13.8KW	12.5KW/13.8KW	15KW/16.5KW	15KW/16.5KW	20KW/22KW	20KW/22KW	25KW/27.5KW	30KW/33KW	40KW/44KW	50KW/55KW	60KW/66KW	80KW/88KW	100KW/110KW	100KW/110KW	120KW/132KW	150KW/165KW	
5. Max. open Circuit PV Volts (Voc)	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	
6. MPPT Voltage Range (Volts)	175-320	350-550	175-320	350-550	175-320	350-550	175-320	240-660	240-660	240-660	240-660	240-660	240-660	360-900	360-900	360-900	360-900	360-900	
7. PV Minimum Voltage (Volts)	140	280	140	280	140	280	140	240	240	240	240	240	240	360	360	360	360	360	
8. Max. I/P Amps per channel (Amps)	60	30	75	35	90	45	120	60	75	90	70	75	70	83	110	110	92.5	80	
9. Max. Battery Amps during PV Charging (Amps)	80	40	100	50	120	60	155	80	100	125	135	135	135	170	170	170	170	170	
10. Max. SCC O/P (Amps)	80	40	100	50	120	60	155	80	100	125	135	135	135	170	170	170	170	170	
11. Battery type Supported	VRLA / LIMA / Li-Ion / LifePo4 (User Settable)																		
12. Min. Battery AH (Suggested)	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	
13. Peak charging Efficiency (%)	>93																		
<b>B. SOLAR INVERTER</b>																			
1. No. of Phases/Connection Type	3-Phased/4 wire																		
2. Nominal Battery Voltage (Volts)	120	240	120	240	120	240	120	240	240	240	240	240	240	360	360	360	360	360	
3. Nominal Output Voltage/Frequency (V/Hz/%)	415/50																		
4. Nominal kW Capacity (kW) [Total Per Phase]*4	8.0/2.7	8.0/2.7	10.0/3.3	10.0/3.3	12.0/4.0	12.0/4.0	16.0/5.3	16.0/5.3	20.0/6.7	24.0/8.0	32.0/11.7	40.0/13.3	48.0/15.9	64.0/21.3	80.0/26.7	80.0/26.7	96.0/32.0	120.0/40.0	
5. Output Amps per Phase (*4)	11.6	11.4	14.5	14.5	17.4	17.4	23.1	23.1	29.3	34.8	46.4	57.9	57.9	89.5	89.5	89.5	109.1	131.9	
6. Voltage Regulation (in standalone mode)	<±2%																		
7. Freq. Regulation (in Standalone mode)	±0.5 Hz																		
8. THD	<±2%																		
9. Load Power Factor	0.8 lag to unity																		
10. Efficiency (%) Peak/100% Load/25% Load	>92 / >91 / >90	>92 / >91 / >90	>92 / >91 / >90	>92 / >91 / >90	>92 / >91 / >90	>92 / >91 / >90	>92 / >91 / >90	>92 / >91 / >90	>92 / >91 / >90	>92 / >91 / >90	>92 / >91 / >90	>92 / >91 / >90	>92 / >91 / >90	>92 / >91 / >90	>92 / >91 / >90	>92 / >91 / >90	>92 / >91 / >90	>92 / >91 / >90	
11. Over Loads :	105-120% - 60 sec 110-120% - 30 sec 115-150% - 5 sec																		
12. Max Allowed Phase Imbalance (%)	N/A																		
13. Auto Bypass Feature	Provided																		
14. Parallel Operation with Grid(DG)	Provided																		
15. Power Export to Grid Facility Enable / Disable	Enable / Disable (User Settable)																		
16. Anti-Islanding from Grid	Provided																		
<b>C. GRID CHARGER</b>																			
1. Grid Voltage Range (Voltage Sync. Range)	160V-280V (Phase to Neutral)																		
2. Grid Frequency Range (Freq. Sync. Range)	50 Hz ±5%																		
3. Max Grid Import Power (KW)	8KW	8KW	10KW	10KW	12KW	12KW	16KW	16KW	20KW	24KW	32KW	40KW	48KW	64KW	80KW	80KW	96KW	120KW	
4. Max Battery Amps During Grid Charging (Amps)	55	27	70	35	90	40	108	54	70	81	108	136	136	169	212	212	254	305	
5. Peak charging Efficiency (%)	>87																		
NOTE: (1)Overload Protection at load end is applicable only in standalone mode (% of at utility power factor)																			
<b>INVERTER (KW)</b>																			
1. PV Side	Reverse Polarity, Surge Protection																		
2. Battery Side	Reverse Polarity, Over/Under Voltage, Current Limit																		
3. Grid Side	Over/Under Voltage, Over/Under Frequency, Anti-Islanding, Surge Protection																		
4. Load Side	Overloads, Short circuit																		
5. System Protection	Over Temperature, Trip, Breakers at all inputs, Emergency stop																		
<b>9. USER INTERFACE</b>																			
Graphical Display with MMC Diagram																			
<b>2. DISPLAYED PARAMETERS</b>																			
1. Battery Parameters	Voltage, Charging Current, Discharging Current, AH-in, AH-out, Cumulative AH-in, Cumulative AH-out, charging state-charging/Discharging.																		
2. PV Parameters	Voltage, Current, Power, Cumulative, Today Generation, Irradiance, Ambient Temperature.																		
3. Grid Parameters	Phase Voltage, Current, Frequency, Export Power, Import Power, Export Cumulative Energy, Import Cumulative Energy, Power Factor																		
4. Load Parameters	Voltage, Current, Frequency, Power, Cumulative, Power Factor																		
5. Data Logging	90 Days PV Generation, Export Energy, Import Energy, Load Energy.																		
6. System Level	Faults and warnings																		
<b>3. INDICATORS/AUXILIARY</b>																			
1. LED Indicators:	Power ON, PV Available, PV Charging, Inverter ON, Grid Import Mode, Grid Export Mode, Fault, HYBRID /OFF GRID Mode																		
2. User Keypad for Settings Change	Keypad for Settings Input																		
3. Breakers at all inputs/Space Heater/Emergency stop Button	Provided																		
<b>DESIGNED AND MANUFACTURED THE PRODUCT AS PER IEC STANDARD</b>																			
4. Remote monitoring: Optional*	* Inverter efficiency test - as per IEC 61683* photovoltaic systems-Power conditioners-Procedure for measuring efficiency.* * Islanding test - as per IEC 61683 / IEC 62116* Test procedure of islanding prevention measures for utility-interconnected photovoltaic inverters* * Grid parallel operation test as per IEC 61727 *Photovoltaic (PV) system-characteristics of the utility interface* * Performance and functioning of charge controller - IEC 62509 * MPPT test as per EMS0530 * Environmental test as per IEC 60068-2 (1,2,14,30)																		
<b>MISCELLANEOUS</b>																			
1. Degree of Protection	IP21																		
2. Cooling Method	Temp. Controlled Force Cooling																		
3. Operating Temperature	0-55°C ambient operation																		
4. Humidity (Non-condensing)	Max. 95% Non-Condensing																		
5. Altitude (above sea level)	3000m above sea level																		
6. Housing	Sheet Metal, Floor Standing, Front/Rear Door																		
7. Colour Shade	RAL-7035, RAL-7035 (Other Colours also available on request)																		
8. Cable Entry	Bottom																		
9. Cable Termination Type	Bus Bar Type with ring type lugs																		
10. Terminal Sizes(P/Battery/Grid/Load)	35-50MM/35-50MM/25MM/25MM SCREW TYPE																		
11. Dimensions in mm (HxW xD)	715x850x750	715x850x750	715x850x750	715x850x750	715x850x750	715x850x750	1100x950x750	1100x950x750	1300x950x750	1300x950x750	1500x1000x750	1635x1000x750	1635x1000x750	1800x1000x750	2300x1100x750	2300x1100x800	2300x1100x800	2560x1200x800	3165x1500x750
12. Approx. Weight (kg)	245	248	256	260	262	260	350	350	384	413	436	436	550	550	650	750	900	900	950

Note : The specification are subject to change due to continuous improvements. Higher rating systems are available on request.