

# KWH Basic Series

**KWH**  
S O L A R

## Single Phase Off Grid Solar PCU 2 kVA - 50 kVA



### SALIENT PRODUCT FEATURES

- MNRE-approved, MPPT-based system
- Tested as per IEC 61683, IEC 61727, EN 50530 and IEC 60068 (1, 2, 14, 30)
- Active front-end charger
- Low input current distortion
- Remote device monitoring available
- Local device monitoring on RS-232
- Over 5 MW of systems successfully supplied
- > 90% system efficiency
- **Can be upgraded to grid export Hybrid PCU at any time**
- Compatible with all types of batteries

### 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

# KWH Basic Series Datasheet

INVERTER RATING (KVA)	1KVA	2KVA	3KVA	5KVA	5KVA	7.5KVA	10KVA	15KVA	20KVA	25KVA	30KVA	40KVA	50KVA	
<b>A. SOLAR CHARGE CONTROLLER (SCC)</b>														
1 Charger Type & Topology	Buck Type MPPT													
2 PV Total Nominal Capacity (KVA)	1KW	2KW	3KW	5KW	5KW	7.5KW	10KW	15KW	20KW	25KW	30KW	40KW	50KW	
3 No. of MPPT Channels	1	1	1	1	1	1	1	1	1	1	1	1	1	
4 Per Channel PV Capacity (w)/Nominal Peak	1KW/1.1KW	2KW/2.2KW	3KW/3.3KW	5KW/5.5KW	5KW/5.5KW	7.5KW/8.2KW	10KW/11KW	15KW/16.5KW	20KW/22KW	25KW/27.5KW	30KW/33KW	40KW/44KW	50KW/55KW	
5 Max. open Circuit PV Volts (Voc)	240	240	240	240	300	300	400	700	700	700	700	700	700	
6 MPPT Voltage Range (Volts)	70-240	70-240	70-240	70-240	96-300	96-300	140-400	240 - 700	240 - 700	240 - 700	240 - 700	240 - 700	240 - 700	
7 PV Minimum Voltage (Volts)	48	48	48	48	96	96	120	240	240	240	240	240	240	
8 Max. I/P Amps per channel (Amps)	15	30	45	75	35	55	60	45	60	75	80	105	132	
9 Max. Battery Amps during PV Charging(Amps)	20	40	60	100	50	73	78	60	78	80	97	129	161	
10 Max. SCC O/P (Amps)	20	40	60	100	50	73	78	60	78	80	97	129	161	
11 Battery type Supported	VRLA / LMLA/Li-Ion/Li-Ph (User Settable)													
12 Min. Battery AH (Suggested)	150	150	150	150	150	150	150	300	300	300	300	300	300	
13 Peak charging Efficiency (%)	>93													
<b>B. SOLAR INVERTER</b>														
1 No. of Phases/Connection Type	1-Phased/2 wire													
2 Nominal Battery Voltage (Volts)	48	48	48	48	96	96	120	240	240	240	240	240	240	
3 Battery Ripple	5% for VRLA & LMLA/ 1% for Li-Ion & Li- Ph Battery													
4 Nominal Output Voltage/Frequency (Volts/Hz)	230/50													
5 Nominal KVA Capacity (KVA)	1KVA	2KVA	3KVA	5KVA	5KVA	7.5KVA	10KVA	15KVA	20KVA	25KVA	30KVA	40KVA	50KVA	
6 Output Amps	3.47	6.96	10.43	17.39	17.39	26.09	34.78	52.17	69.57	86.96	104.3	139.1	173.9	
7 Voltage Regulation (in standalone Mode)	± 2%													
8 Freq. Regulation (in Standalone mode)	± 0.5 Hz													
9 THD	< 3%													
10 Load Power Factor	0.8 lag to unity													
11 Efficiency (%): Peak/ 100% Load/25% Load	>89/ >88/ >86	>89/ >88/ >86	>89/ >88/ >86	>90/ >87/ >86	>90/ >87/ >86	>90/ >87/ >86	>89/ >89/ >86	>89/ >89/ >86	>89/ >89/ >86	>89/ >89/ >86	>91/ >89/ >86	>91/ >89/ >86	>91/ >89/ >86	
12	100-110% - 60 sec													
13 Over Loads :	110-125% - 30 sec													
14	125-150% - 5 sec													
15 Max Allowed Phase Imbalance (%)	N/A													
16 Auto Bypass Feature	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 (KVA)	1KVA	2KVA	3KVA	5KVA	5KVA	7.5KVA	10KVA	15KVA	20KVA	25KVA	30KVA	40KVA	50KVA	
4 Max Battery Amps During Grid Charging (Amps)	13	27	40	68	34	51	54	40	54	68	72.5	96.6	120.8	
5 Peak charging Efficiency (%)	>87													
INVERTER (KW)	0.8	1.6	2.4	4.0	4.0	6.0	8.0	12.0	16.0	20.0	24.0	32.0	40.0	
1 PV Side	Reverse Polarity , Surg Protection													
2 Battery Side	Reverse Polarity, Over/Under Voltage , Current Limit													
3 Grid Side	Over/Under Voltage , Over/Under Frequency ,Anti-Islanding,Surg Protection													
4 Load Side	Overloads, Short circuit													
5 System Protection	Over Temperature.Trip.Breakers at all Inputs,Emergency stop													
<b>D. USER INTERFACE</b>														
1. DISPLAY INTERFACE	LCD NUMERICAL DISPLAY													
2. DISPLAYED PARAMETERS	Voltage, Charging Current, Discharging Current,AH-in,AH-out,Cumulative AH-in,Cumulative AH-out,charging stale-charging/Discharging.													
1 Battery Parameters	Voltage, Current, Power, Cumulative,Today Generation													
2 PV Parameters	Voltage, Current, Frequency, Import Power, Import Cumulative Energy,Power Factor													
3 Grid Parameters	Voltage, Current, Frequency, Power,Cumulative,Power Factor													
4 Load Parameters	90 Days PV Generation, Import Energy, Load Energy.													
5 Data Logging	Faults and warnings													
6 System Level														
3. INDICATIONS/PROTECTION	Power ON, PV Available, PV Charging, Inverter ON, Grid Import Mode, Fault, HYBRID /OFF GRID Mode													
1 LED Indications:	Keypad for Settings Input													
2 User Keypad for Settings Change	Provided													
3 Breakers at all inputs/Space Heater/Emergency stop Button	Provided													
4 Over shoot due to misbehaviour of BHMS	Data monitoring through GPRS (Optional)													
5 Remote monitoring: Optional	Tested as per IEC 61683, IEC 61727, EN 50530 and IEC 60068 (1, 2, 14, 30).													
<b>Designed and Manufactured the product as for IEC</b>														
<b>MISCELLANEOUS</b>	IP31													
1 Degree of Protection	Temp. Controlled Force Cooling													
2 Cooling Method	0-55°C ambient operation													
3 Operating Temperature	Max. 95% Non-Condensing													
4 Humidity (Non-condensing)	1000m above sea level													
5 Altitude (above sea level)	Sheet Metal.Floor Standing						RAL-7035/RAL-7016						Floor Standing,Front/Rear Door	
6 Housing	Rear Bottom						Bus Bar Type with ring type lugs						Front Bottom	
7 Colour Shade	TERMINAL SCREW TYPE													
8 Cable Entry	35-50MM/35-50MM/25MM/25MM													
9 Cable Termination Type	715x850x750													
10 Terminal Sizes(PV/Battery/Grid/Load)	715X1000X750													
11 Dimensions in mm (H X W X D)	360X280X530	360X280X560	360X280X665	360X280X665	478X375X675	528X375X775	528X375X775	715x850x750	215	245	260	300	350	
12 Approx. Weight (kg)	30	35	60	80	80	130	140	160	215	245	260	300	350	

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