SMART - Power Conditioning Units

2KVA to 10KVA

Power Conditioning Unit is designed to provide energy converted from Solar Panel as the first priority and capable to produce energy from the Utility when energy from the solar source is lower than the set value. Apart from the PCU functionality, PCU2020 comes with inbuilt Solar Monitoring System.

An ISO 9001-2008 Certified Company

Digilog Micro Solutions (P) Ltd

www.digilogmicro.com

Features

- DSP based design - guarantees high reliability
- Built in MPPT Solar Charge Controller
- Pure Sine wave output
- High efficiency & Reliability
- Overload protection & auto recovery
- Auto fan run option to save Power based on system Temperature
- Short circuit protection
- Auto Power Saving Mode – Sleep Mode on No Load
- Inbuilt Liquid crystal display for inverter & MPPT measurement and status display
- Built in Output Isolation Transformer
- Very High Efficiency
- Solar as well as Utility Charging (Hybrid mode)
- Designed for Industrial Environment

Standards Followed

- IEC 61683 – 1999 – Output Efficiency Measurements with Resistive and Reactive Loads
- IEC 60068 – 2 – 1
- IEC 60068 – 2 – 2
- IEC 60068 – 2 – 14
- IEC 60068 – 2 – 30

Specifications

Mains Input

Nominal AC Input	230V AC, 50 Hz
Input Voltage Lower Cut Off	160V to 180V
Input Voltage Higher Cut Off	Above 250V
Input Power Input Connection	3 Way Terminal Block

Output

	3KVA	5KVA	10KVA
Output Voltage	220 VAC +/-1%		
Output Power	3000 VA	5000VA	10000VA
Surge load - Resistive	1.5 Times the Rated Output Power		
Power Factor	0.8 lag to unity		
Output frequency	49.5 Hz to 50.5 Hz		
Output Voltage Waveform	Pure Sine wave		
Efficiency at Rated Load	Greater than 88 %		

Others

Transfer time	Less than 10 milli seconds
LCD Display	Battery Low
	Over Load
	Mode Changeover
	Battery Level
	Battery Voltage
	Inverter Voltage Current, Power and KWh
	Utility Voltage Current, Power and KWh
	Panel Voltage Current, Power and KWh
Noise Level	Less than 50dB

Battery

	3KVA	5KVA	10KVA
System voltage	48VDC	96VDC	240VDC
Recommended Battery Capacity	300Ah	200Ah	200Ah
Low Battery Alarm	44.8V	89.6V	224.0V
Low Battery Cutoff	42.0V	84.0V	210.0V
High Voltage Battery Cutoff	60.0V	120.0V	300.0V
Mains Reconnect	46.0V	96.0V	240.0V
Utility Charging	Constant Current Boost & Trickle Charge		

Solar Charger

Battery Charging Current	40A		
Max. Solar Input Power	3000Wp	5000Wp	10000Wp
Peak Charger Efficiency	98%		
Max Solar Open Circuit Voltage	96.0V	198.0V	480.0V
Operating Panel Voltage	50.0V to 80.0V	100.0 to 160.0V	250.0V to 400.0V
Charging	MMPT Algorithm		

PCU

Priority	Solar - Battery – Grid
	Solar - Grid – Battery
Protections	Over Load
	Short Circuit
	Over Temperature
	Low Battery
	High Battery
	Low Utility Input
	High Utility Input
	Reverse Protection
Communication	RS232 Interface for Remote Monitoring

Remote Monitoring

Solar Monitoring is embedded in PCU2020 series where accountability on the solar generation, Usage of Utility power and the Inverter delivery is monitored and stored. The device has an RS232 Port where energy profiles can be downloaded through a PC. The following parameters are monitored

1. PV generated Voltage, Current, Power and KWh
2. Utility Consumed Voltage, Current, Power and KWh
3. Inverter delivered Voltage, Current, Power and KWh.
4. Battery Voltage

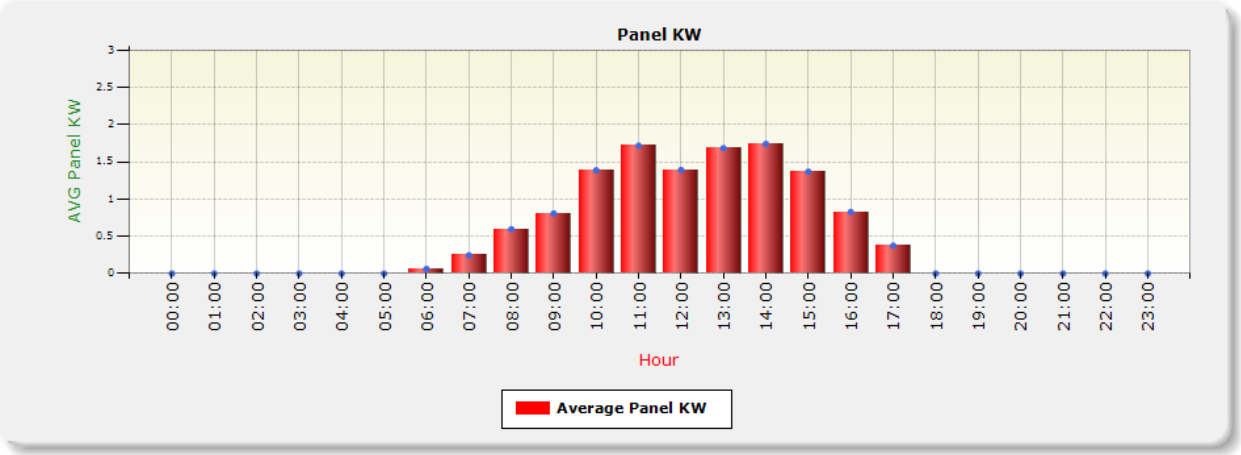
All these information's are displayed on an LCD Display.

Apart from the Instantaneous values Average Voltage, Current Power and KWh are logged into the Memory with an integration period of 30 Minutes for the last 15 days. Daily Consumed, generated and Consumed KWh are logged for the last 90 days.

On connecting a GPRS Gateway the Consumption and Utilization can be viewed with Web application.

Instant Page

Solar Power Generation



Daily Utilized and Generated Energies

Serial No	Date	Consumed Energy(Kwh)		
		Pannel	Utility	Inverter
1	01/05/2014	00013.56000	00021.26500	00018.51700
2	02/05/2014	00012.77900	00029.65400	00037.29800
3	03/05/2014	00011.45500	00019.27900	00017.16900
4	04/05/2014	00005.37400	00007.76800	00002.08300
5	05/05/2014	00012.23500	00027.96300	00035.31900
6	06/05/2014	00014.07400	00013.38800	00014.27600
7	07/05/2014	00006.24100	00004.50600	00000.76800
8	08/05/2014	00005.72600	00002.60000	00000.81100
9	09/05/2014	00005.63800	00002.41900	00000.80400
10	10/05/2014	00005.01800	00002.44000	00001.45900
11	11/05/2014	00005.03900	00002.51100	00001.64800
12	12/05/2014	00017.87100	00022.78400	00038.15600
13	13/05/2014	00016.65500	00016.65700	00018.96600
14	14/05/2014	00005.26600	00004.06200	00000.68400
15	15/05/2014	00005.18700	00003.80400	00000.47400
16	16/05/2014	-----	-----	-----

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