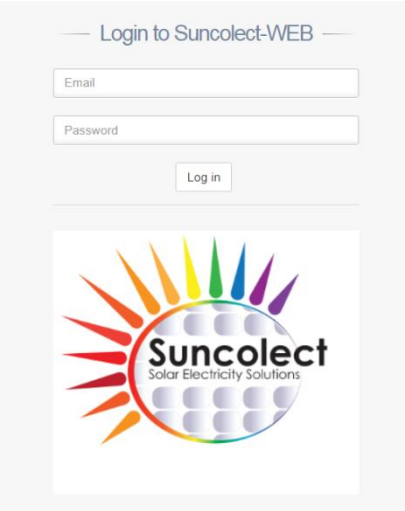
Suncolect Inverter Monitor/Data Logger Eco-log (SMDL)



The Suncolect Inverter Monitor/Data Logger (SMDL) records data every 30 seconds and reports all data parameters of every Inverter in parallel independently. Multiple inverters could be monitored via the parallel cable connections or with multiple communication cables from the SMDL for inverters not supporting monitoring via the parallel communication cables.

The SMDL is serviced by a WEB-Based reporting tool to assist the consumers, call centres and installers with vital information. This information will assist in verify the efficiency of the system installed including the performance of the inverter/s, solar panels and batteries.

All Error and Fault messages are recorded and sent to the server at the data centre as a priority.

The Suncolect on-line monitoring system is developed to ensure peace of mind for the solar generation plant owner regarding security and system performance and for the support team to deliver quality after sales service and maintenance.

The system is developed as an easy to install Plug & Play unit with its own GSM based communications modem. The unit does not require any Wi-Fi or LAN communications network from the consumer.

Suncolect is able to provide independent solar service provider companies with their own unique web portal to service their customer base independently at an additional cost.

Suncolect provides Call-Centre services to its entire customer base including for Solar Service Providers whom wishes to make use of this service. These services are not limited to South Africa alone.

1. **SMDL Basic Functionality:**

Accommodate ranges of 1 to 9 Inverters on the same site. The unit could be installed in any country with available GSM network coverage.

1.1. **Data Storage:**

1.1.1. The data captured per inverter is stored on the SMDL for 90 days (When communication is down).

1.1.2. The data stored on the SMDL is updated once the communication to the server is restored.

1.1.3. The SMDL updates the server under normal operation conditions on the hour.

1.1.4. All data collected is stored on the server indefinitely.

1.2. **Installation Configuration:**

1.2.1. The SMDL is able to facilitate monitoring system updates of configurable parameters and apply firmware upgrades automatically.

1.2.2. Connectivity:

1.2.2.1. The SMDL has a build-in watchdog to keep the SMDL functional and the network connection current to ensure reliable data uploads.

1.2.2.2. The SMDL connectivity is provided by an independent GSM internally installed modem. (The unit is not dependent on the site/consumers internet connectivity)

1.3. **Installation Procedure:**

1.3.1. Install the logger on the wall close to any one of the inverters but not less than 50mm from the inverter.

1.3.2. Connect the network cable to the most convenient inverter. (RJ45 connector)

1.3.3. Plug the logger power cord to the power socket and switch on.

1.3.4. Suncolect provides a site setup form which needs to be filled out by the installer and e-mailed to info@suncolect.com . Once Suncolect updated the central database with the site configuration, the site owner/installer will receive an email with the login and password from Suncolect in order to access the site generation information.

2. **SMDL Advance Functionality on Extended Models:**

2.1. Accommodate ranges of 1 to 32 Inverters on the same site.(Various models are available)

2.2. Security Sensors(Optional):

2.2.1. 3 Sensor inputs per SMDL. (E.g. Movement at Solar Panels, Generator Room Door-Open, Outside Perimeter.)

2.2.2. The sensor inputs accommodate any security sensors monitoring doors, windows and movement in any configuration.

2.2.3. Intrusions will trigger a local alarm or siren.

2.2.4. An e-mail message is sent to the Customer and the Suncolect Call centre once a sensor is triggered.

3. **Mode Alarms: (Optional)**

The SMDL also provides an alarm output to inform the consumer when the system switches between Utility Supply and Battery/Solar supply.

3.1. Installation Procedure – Mode Status: Bell. (The connection diagram will be provided with the unit or could be downloaded from the Suncolect website.)

3.2. Installation Procedure – Alarm Sensors: Siren. (The connection diagram will be provided with the unit or could be downloaded from the Suncolect website.)

3.3. Sensor Input 1: Used for an arming switch and is armed when in a normally closed position.

3.4. Sensor Input 2, 3 and 4: Used to connect the sensors which are in a normally closed state when not activated. The siren will also be triggered or activated if any of the sensor connecting wires are cut.

3.5. Once the alarm is activated, it will be on for 30 seconds and will send the consumer and Suncolect Call Centre an email regarding the activation at the same time.

Available Reports on the Basic System: (http://196.35.141.84/IDM/Account/Login)

(Login: demo – Password: demo)

Fault Summary (Last 20 occurences.)

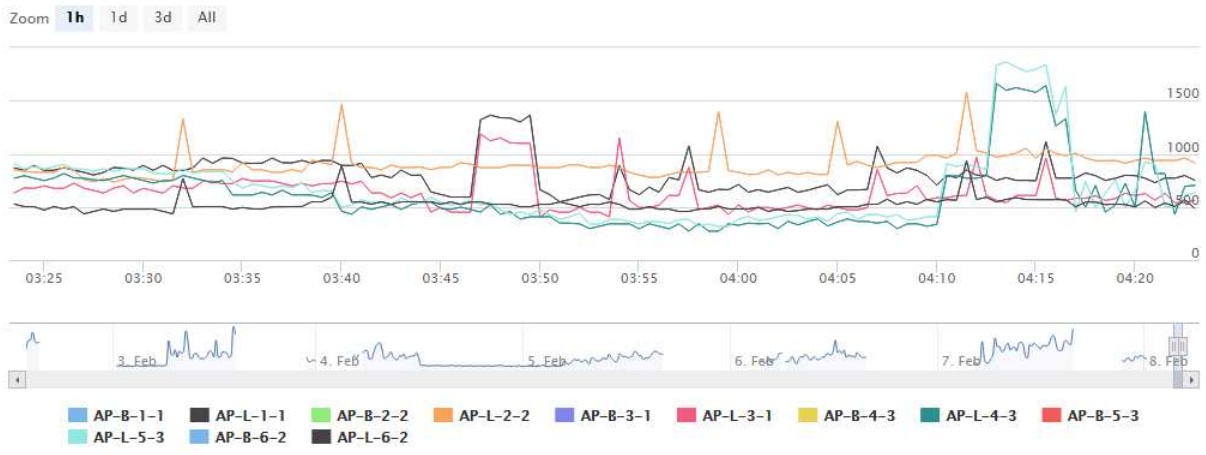
Date	Inverter	Mode	Fault Code	Inverter Status
2018-11-07 22:20:00	2	Fault Mode	02 - Over temperature	Configuration Status: Unchanged; Load Off; Line Ok; Battery Normal; SCC No Charging; AC No Charging; SCC Loss
2018-11-07 22:00:00	2	Fault Mode	02 - Over temperature	Configuration Status: Unchanged; Load Off; Line Ok; Battery Normal; SCC No Charging; AC No Charging; SCC Loss
2018-11-07 21:45:00	2	Fault Mode	02 - Over temperature	Configuration Status: Unchanged; Load Off; Line Ok; Battery Normal; SCC No Charging; AC No Charging; SCC Loss
2018-11-07 21:36:00	2	Fault Mode	02 - Over temperature	Configuration Status: Unchanged; Load Off; Line Ok; Battery Normal; SCC No Charging; AC No Charging; SCC Loss
2018-11-07 21:22:00	2	Fault Mode	02 - Over temperature	Configuration Status: Unchanged; Load Off; Line Ok; Battery Normal; SCC No Charging; AC No Charging; SCC Loss
2018-11-07 21:04:00	2	Fault Mode	02 - Over temperature	Configuration Status: Unchanged; Load Off; Line Ok; Battery Normal; SCC No Charging; AC No Charging; SCC Loss
2018-11-07 20:46:00	2	Fault Mode	02 - Over temperature	Configuration Status: Unchanged; Load Off; Line Ok; Battery Normal; SCC No Charging; AC No Charging; SCC Loss
2018-11-07 20:25:00	2	Fault Mode	02 - Over temperature	Configuration Status: Unchanged; Load Off; Line Ok; Battery Normal; SCC No Charging; AC No Charging; SCC Loss
2018-11-07 00:16:00	2	Fault Mode	02 - Over temperature	Configuration Status: Unchanged; Load Off; Line Ok; Battery Normal; SCC No Charging; AC No Charging; SCC Loss
2018-11-06 22:33:00	2	Fault Mode	02 - Over temperature	Configuration Status: Unchanged; Load Off; Line Ok; Battery Normal; SCC No Charging; AC No Charging; SCC Loss

Warning Summary (Last 20 occurences.)

Date	Inverter	Mode	Warning
2018-11-06 15:13:00	1	Battery Mode	LINE_FAIL
2018-11-06 15:13:00	2	Standby Mode	LINE_FAIL
2018-11-06 15:12:00	1	Battery Mode	LINE_FAIL
2018-11-06 15:12:00	2	Standby Mode	LINE_FAIL
2018-11-06 15:11:00	1	Battery Mode	LINE_FAIL
2018-11-06 15:11:00	2	Standby Mode	LINE_FAIL
2018-11-06 15:10:00	1	Battery Mode	LINE_FAIL
2018-11-06 15:10:00	2	Standby Mode	LINE_FAIL
2018-11-06 15:09:00	1	Battery Mode	LINE_FAIL
2018-11-06 15:09:00	2	Standby Mode	LINE_FAIL
2018-11-06 15:08:00	1	Battery Mode	LINE_FAIL
2018-11-06 15:08:00	2	Standby Mode	LINE_FAIL
2018-11-06 15:07:00	1	Battery Mode	LINE_FAIL
2018-11-06 15:07:00	2	Standby Mode	LINE_FAIL
2018-11-06 15:06:00	1	Battery Mode	LINE_FAIL
2018-11-06 15:06:00	2	Standby Mode	LINE_FAIL

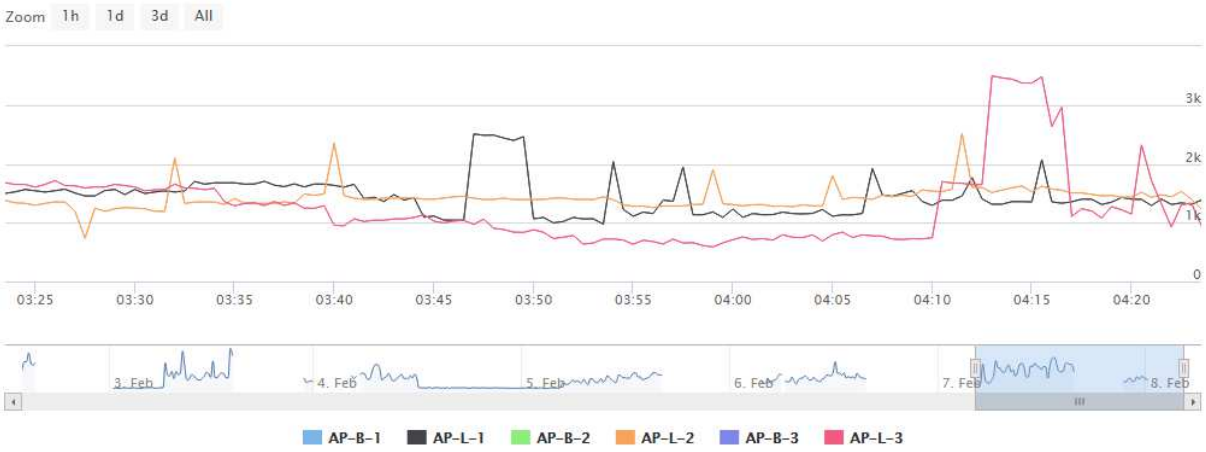
Apparent Power (Per Inverter)

02 February 2017 13:54:30 - 08 February 2017 04:24:30



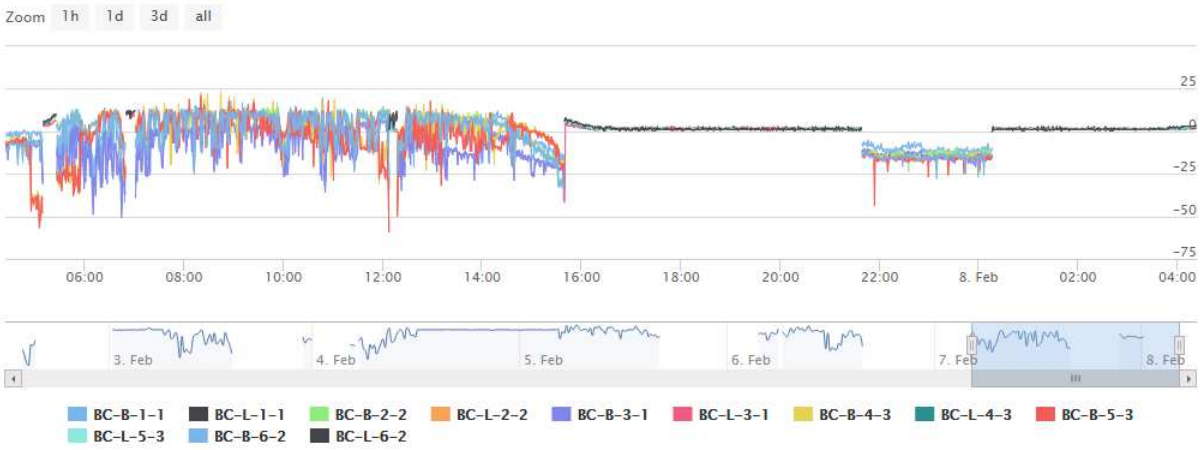
Apparent Power (Per Phase)

02 February 2017 13:54:30 - 08 February 2017 04:24:30



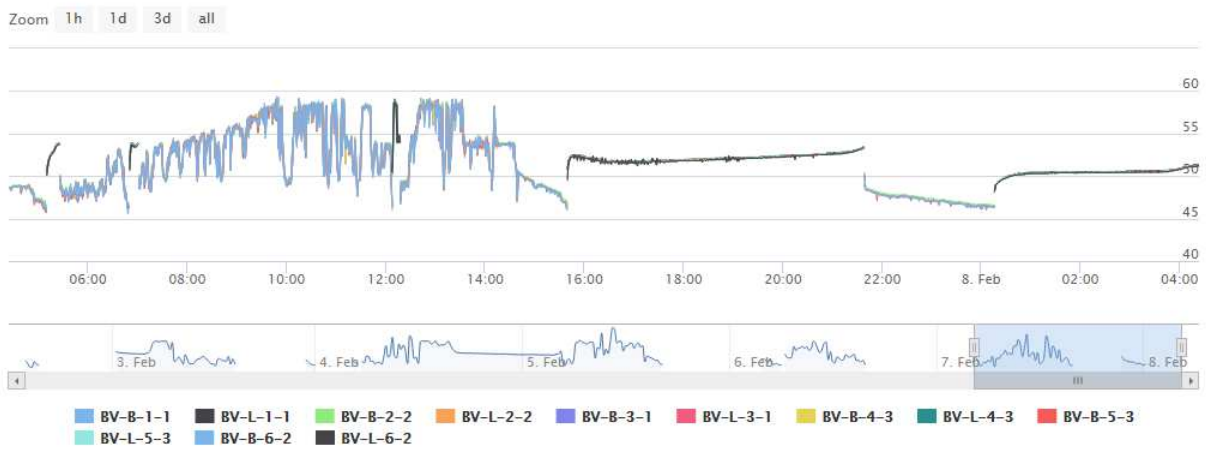
Battery Current

02 February 2017 13:54:30 - 08 February 2017 04:24:30



Battery Voltage

02 February 2017 13:54:30 - 08 February 2017 04:24:30

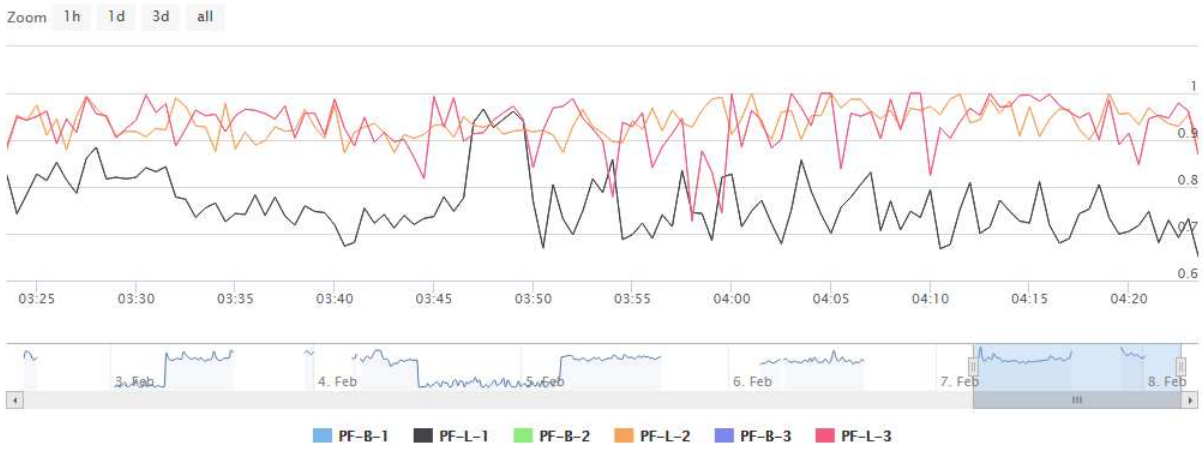


Grid vs Output Voltage

02 February 2017 13:54:30 - 08 February 2017 04:24:30

Power Factor (Per Phase)

02 February 2017 13:54:30 - 08 February 2017 04:24:30



PV Voltage

20 November 2018 17:59:30 - 27 November 2018 17:44:30

PV Current

20 November 2018 17:59:30 - 27 November 2018 17:44:30