



Solar Plant Supervisory System

**Complete monitoring and management system
for small to large scale PV plants**

Solar Plant Supervisory System - SPSS

Benefits of SPSS for EPC companies and investors
in the design, commissioning, operation and maintenance
of a PV plant:

- 1) system optimization
- 2) fast and cost effective start-up
- 3) assuring maximum yield
- 4) effective maintenance throughout the plant lifecycle



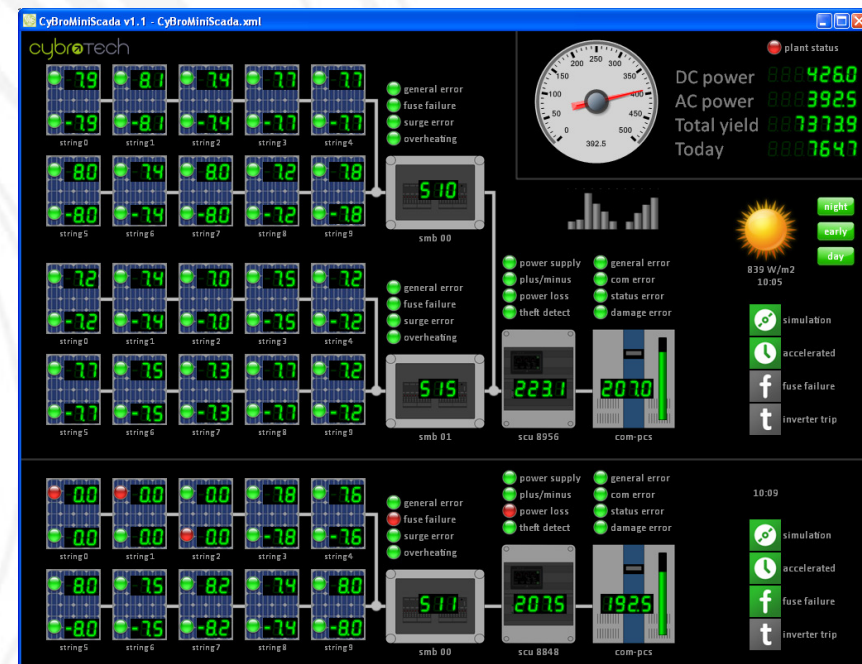
1. Reduce start-up time and costs

- Detailed on-line information from one central location
- Fast and easy location of faults
- Helps the project manager to systematically manage start-up activities

Solar Mini

your tool for fast and effective start-up of a large PV plant

- *Highly simple & compact installation*
- *Versatile design options*
- *Simple configuration*
- *Web-box object*
- *Unicode support*
- *Touch screen support*
- *Low resources usage*



2. Run your PV plant efficiently

- Know exactly how the plant is performing
- Get on-line detailed information on PV production
- Control centrally all elements of the PV system

SPSS - Reliable and efficient monitoring and management system:

- *integrated view on all relevant parameters of the PV plant*
- *on line U/I measurements (high accuracy 0,5%)*
- *on line statuses on the string level*
- *get data from any inverter*
- *PV panels defects or pollution detection*
- *temperature monitoring - inside and outside (string monitor boxes, inverter room)*
- *SQL database for evaluation*
- *vendor independent solution provider*



3. Support for efficient maintenance

- Get on-line detailed information on PV production
- Lower your maintenance costs with IT support
- Track the response times of maintenance service



SPSS - reliable and efficient monitoring and management system:

- *central and remote control*
- *Active messaging and alarming*
- *Log of alarms and statuses*
- *Minimize on-site effort and resources*
- *Get valuable information on working conditions for the equipment – claims management!*
- *vendor independent solution*

Error status

	general error	fuse error	surge error	power supply	over heating	pos/neg different	power loss	theft detection
enable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SMB 100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SMB 101	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SMB 102	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SMB 103	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SMB 104	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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SMB 106	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SMB 107	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SMB 108	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SMB 109	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Prinet plant - Alarms and events

Alarms and events

1 / 3 | alarms and events | all

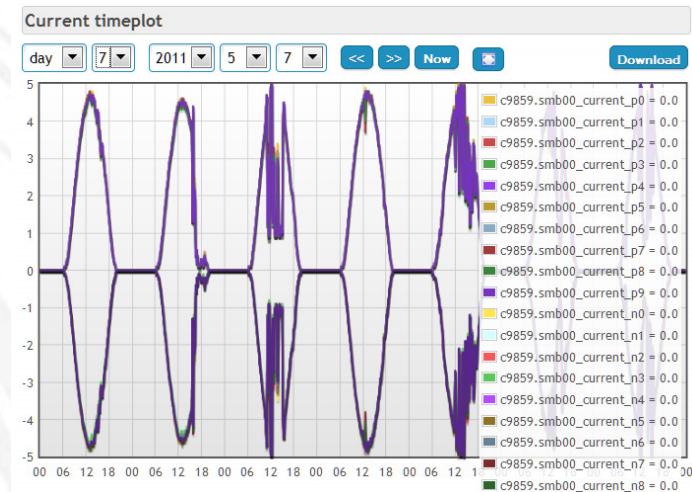
Rated	Gone	Tag	Message	Status	Ack
2010-12-13 10:00:00	2010-12-13 10:01:00	c9859 pcs_combined_error	Inverter combined error	gone	2011-01-23 01:11:14
2010-11-23 09:33:02	2010-11-23 09:34:00	c9859 smb_power_supply_error[2]24V	power supply too low	gone	2011-01-23 01:11:14
2010-11-23 07:05:00	2010-11-23 07:07:00	c9859 smb_power_supply_error[3]24V	power supply too low	gone	2011-01-23 01:11:14
2010-11-17 09:55:00	2010-11-17 09:56:01	c9859 smb_power_supply_error[2]24V	power supply too low	gone	2010-11-18 19:13:11
2010-11-17 09:55:00	2010-11-17 09:56:01	c9859 smb_power_supply_error[2]24V	power supply too low	gone	2010-11-18 19:13:10

4. Advanced algorithms for optimization

- Manage the operation of PV plant on the level of PV strings
- Assure the highest possible yield
- Improve the life-time asset management
- Guarantee the ROI for the investor

SPSS - reliable and efficient monitoring system:

- *Configurable positive-negative current difference with on-line monitoring*
- *String performance comparisons*
- *Earth leakage currents detection*
- *Cable deterioration monitoring*
- *Performance indicators*
-



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