High Reliability Systems for In-field Solar Performance Measurement

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solarSCADA

BACKGROUND:

As Solar Plants have grown, their SCADA systems have grown with them. This has resulted in large scale “monoblock” systems requiring substantial custom engineering per site, and complex infrastructure not suitable for a rapidly commoditizing market. SolarSCADA realizes increased efficiencies by implementing “Blocks” consisting of sensors required by IEC 61724-1 and equipment common to each skid/inverter/pad/PCC.
Thus, a 1-5MW site would have 1 block, but a 20MW site may have 4 or 5 identical blocks.

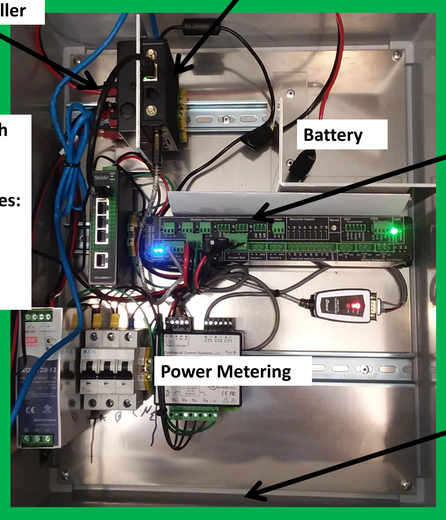
METHODS:

1. SolarSCADA system uses a block approach.
2. Each block includes all sensors required to meet IEC 61724, required metering/protection, and standalone power supplies to test SCADA prior to block AC energization.
3. Systems can be fully commissioned, block by block, as the system is constructed, rather than after construction is complete.
4. SolarSCADA’s software platform merges these “blocks” into the full site as they come available.

Integrated simple SCADA is superior to more complex SCADA Systems

All Components Shown meet IEC 61724-1 requirements

Located wherever needed in field



One Integrated Block of SolarSCADA

Each Block is a full SCADA system on its own, bonded to a common site via modern web technologies running locally on each Block Controller.

Then . . . Repeat for each block of your site. Each block functions fully alone if other blocks fail.

RESULTS:

- Higher Reliability through fault isolation. An outage in any one SCADA block only effects that block, rather than the whole site.
- All blocks have common configurations resulting in lower O&M spares costs and rapid swap of damaged components.
- Local Solar-powered UPS means non-generation equipment can be online, validated, and logging prior to system AC energization.
- Cloud does not mean “Impossible to meet NERC/CIP”. The “cloud” server can exist on site, in a data center, or wherever, and access the whole system via appropriate, vetted IT tunnels.
- Copy’n’Paste capability of configuration data and integration of hardware means significant savings over custom-designed monoblock systems

ADDITIONAL INFORMATION/ RESOURCES:

- www.solarscada.com