Reliable Source and Solutions India LLP
"Committed to Quality"

Solar Synchronization Solutions

Zero Export Device & DG-Solar Synchronization

RSS India has a solution where we have a field proven, time tested product, which manages and prevents.

- Back injection of solar power to diesel generator,
- Maintains diesel generators at minimum 30%,
- Grid net metering is not possible,
- Export not allowed by the clients or state electricity boards,
- Grid export is allowed but only certain time of the day or limited in KWh/MWh.

These products are successfully working more than 700+Sites in Pan India & Overseas. These products are Tested Up to 150 inverters or 12 MW at Single site with many of leading solar EPC using it.

The condition for use of Solar Manager/Preventer is created, when load drops to less than Power Produced by Solar Power Plant like weekends and holiday. This could even happen any time of the day when load is less than power produced by solar power plant, during lunch hours or shift changeover or a sudden load trip

The usual reasons where Self-Consumption application is required by utility or energy distributor:

- The Solar Power Plant Owner does not have a Power Purchase Agreement (PPA) or Net Excess Feed-In Tariff (FiT is also called Net Metering) from Energy Distributor
- The Solar Power Plant Owner is not allowed to export excess PV energy to the grid because the Energy Retailer is not obliged by law to provide revenue to the Asset Owner for the unused PV energy.
- Grid Voltage is too high due to saturated grid tied solar systems in the area PV Inverter increases AC Output Voltage in order to export solar energy. Due to large solar penetration in the network and the fact most Grid Connected PV Inverters are transformer less, it will cause the grid voltage to increase along the distribution line resulting in large voltage fluctuations.
- High Penetration of Solar Energy which introduces Reverse Power flow that could disrupt Distribution Network Assets This could lead to increased short circuit currents, fault level, affecting protection coordination and sensitivity, and introduction of harmonics and transients.
- Local site's existing LV/MV Transformer has reached its capacity When PV System is connected to Shared LV Circuit or Dedicated LV Circuit that utilized Shared Transformer with other Load, the capacity of Transformer may be reached and hence Export Limiting Control may be required to avoid upgrading Local Existing Transformer
- Energy Distributor only allows a certain amount of Energy to be fed into its distribution system to ensure grid stability or allows a discrete (or full) amount of energy feed in at certain times of day or week or month.
- In absence of Grid Power supply is made on site, local backup power units like turbines and or diesel generators which do not allow reverse power flow.
- One wants to reduce the expenses of Local Power Backup solutions like running expenses of Diesel Generating sets.
- One wants to contribute to the environment by utilizing Solar Power to the maximum

Problem Faced by Solar EPC's

- Can Solar be Installed Grid where net metering is not possible?
- Can Solar be Installed Grid export is not needed by end client?
- Can Solar be Installed Grid export is disallowed by Discoms?
- Can Solar be Installed Grid export is allowed, but only during certain Time of Day?
- Can Solar be Installed Grid export is allowed but limited to fixed MWHr per day?

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Technical Specifications

	Solar Preventer Manual	Solar Preventer Auto	Solar Manager
Main Features			
Type	Auto – CutOFF, Manual Switch ON	Automatic Switch ON/OFF with (Client's Motorized MCCB's/ ACB) or ICOR	Fully Automatic
Reverse Power Protection	Monitors & prevents it from going into Grid / DG / Both		
Solar Production Lost	100% 10 minutes		Equal to Reverse Power
Action ON	Cuts OFF ACDB	Motorized MCCB's / ICOR	Solar Inverter- Ramp Up/Ramp down
T.O.D - Compliant	No		Yes
Pros & CONs			
Auto / Manual Operation	Auto OFF -Manual ON	Auto ON - Auto OFF	Permanently Synchronized
Solar Generation Loss	High	Medium	Low
RMS	Available as an AddOn Option		Available*
Data Logging of Curtailed Power	Not Available		Available*
Inverter By Inverter CutOFF Option	Not Available	Available*	Yes
Failure Alarm	Available as an AddOn Option		Yes
Power Factor Correction	Not Available		Available*

Available* = Feature sold at extra cost

- Proportionally Controls or prevents solar export from PV inverters, when needed,
- Accuracy of +/- 5%,
- Can be used for multiple Inverters simultaneously.
- Electrically Isolated Communication connection to PV Inverters.
- Data Logging, with Cloud, is available as an optional feature.
- Surge Protection is given for Communication Bus in Solar Manager
- Works with for most of the reputed Solar Inverters Manufacturers like, Sungrow, Delta, Schneider, Chint, ABB/Fimer, Growatt, Solaredge, Kaco, Hitachi, Polycab, Jakson, Fronius, SMA etc.
- IP54/IP65 Polycarbonate/CRCA Enclosures
- Wall Mounted
- Power Consumption Max. 100 W
- HMI Option Available*
- Environmental conditions 0°C to 45& 5% to 95% R.H

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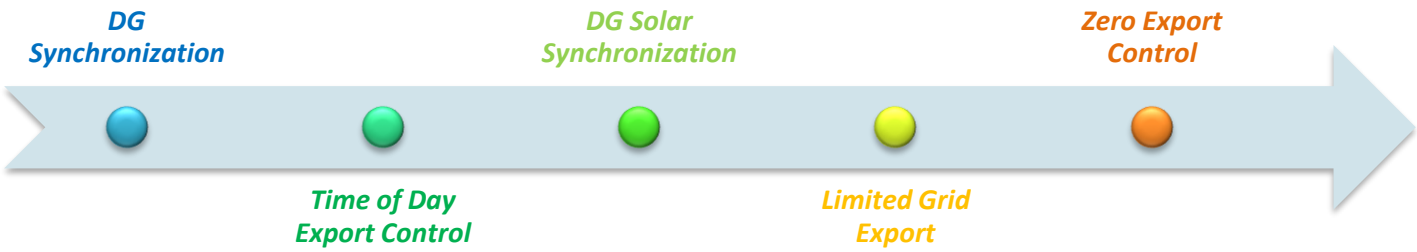
Applications



Single Line Diagram:

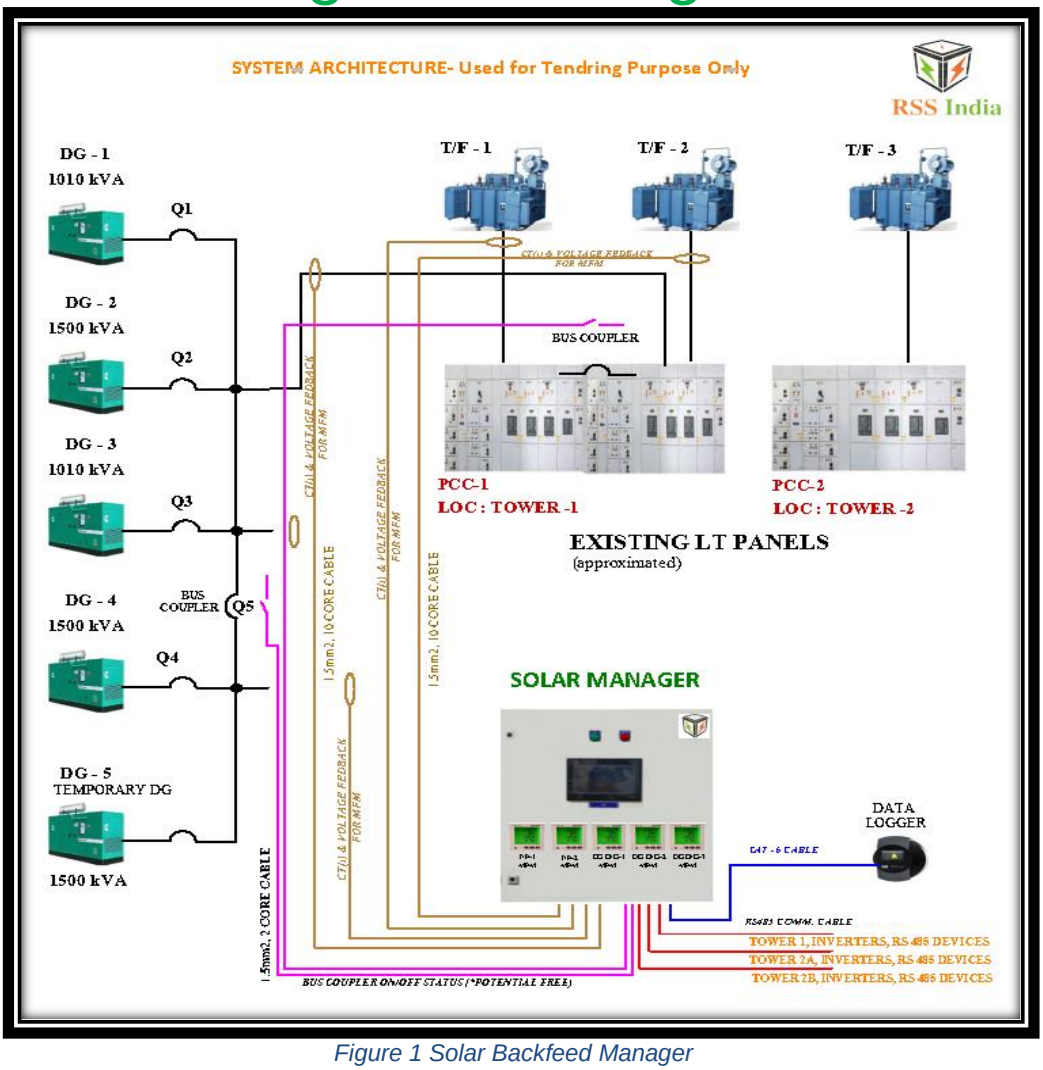


Figure 1 Solar Backfeed Manager

Contact Us:

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