

INTELLO PRO +

DG SYNCHRONIZATION & ZERO EXPORT MANUAL

Intello Pro+ is an Industry leading, micro-controller, based GSM/ 4G/ Ethernet device that synchronizes Solar with Grid and DG in conjunction.

- ❖ Calculates **Deemed Energy Loss** of Solar Generation - when in function.
- ❖ Equipped with a Built-in Power Supply for **fail-safe operation**
- ❖ Real time Monitoring of **Active Power from Solar, DG Set and Load** on Intello Monitor.

Intello Pro+ with DG Sync.

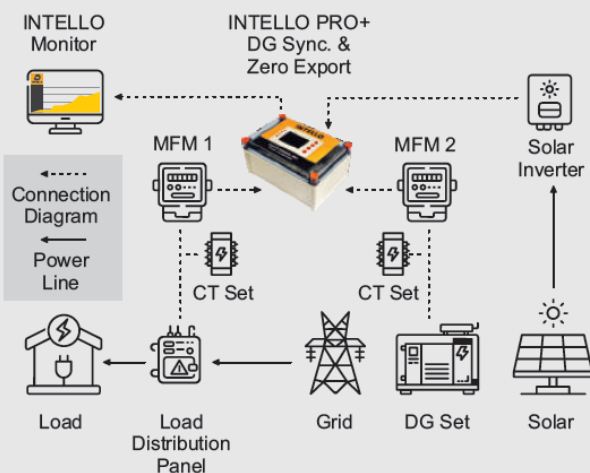
For synchronizing PV plant (Solar) with DG- Intello Pro+ is set at a Minimum Spinning load of 30% of the rated DG capacity.
 Min. Spinning Load of 30% rated capacity is achieved to prevent the DG Set from engine exhaust slobber, which is also known as exhaust manifold slobber or wet stacking. Running at high idle with little or no load reduces the heat in the cylinder, allowing unburned fuel and oil deposits to leak through the exhaust slip joints.

Intello Pro+ with Load for Zero Export?

Prevent the export of Solar Power to Grid in absence of Net Metering. Solar only takes the reference voltage from the grid and prevents power export.
 For synchronizing PV plant (Solar) with load to prevent Grid Export, Intello Pro+ ensures real time power control, that reduces the solar production as per the active load. Intello Pro+ ensures that the inverter doesn't trip and no reverse feed-in is sent back to the grid.

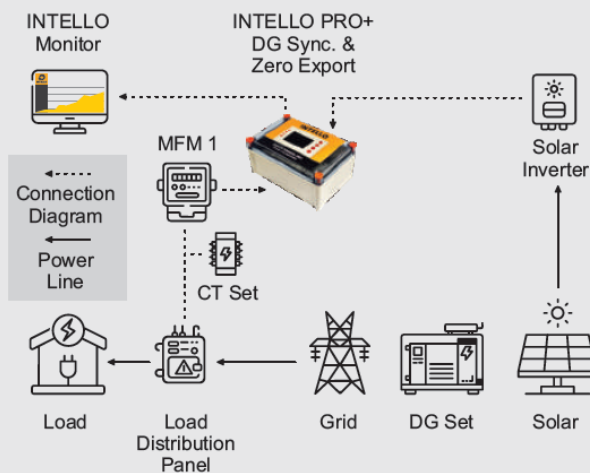
Solar-DG Synchronization Procedure:

- Step 1** : Installation of an Energy Meter with CT set at the coupling point of DG and Load. This procedure helps measure the power drawn from DG.
- Step 2** : Connect the Energy Meter with Intello Pro+ through RS485 Communication cable.
- Step 3** : Connect the Solar Inverter with Intello Pro+ through RS485 Communication cable.
- Step 4** : To Monitor all System parameters of PV plant, insert GSM SIM.



Solar-Zero Export Installation Procedure:

- Step 1** : Installation of an Energy Meter with CT set at the coupling point of Load. This procedure helps measure the Active power.
- Step 2** : Connect the Energy Meter with Intello Pro+ through RS485 Communication cable.
- Step 3** : Connect the Solar Inverter with Intello Pro+ through RS485 Communication cable.
- Step 4** : To Monitor all System parameters of PV plant, insert GSM SIM.



Operational Logic of Intello Pro+ DG Sync.

When Intello Pro+ fetches 'No Response' from Grid and single/multiple DG's are activated (with/without PLC), the Intello Pro+ starts throttling the power of each Inverter as per the Load requirement on real time basis. It manages the power distribution for the site load in such way that the DG runs at its minimum load and solar power fulfills the maximum part of site load.

Operational Logic of Intello Pro+ Zero Export

Restricts power export to the Grid in locations where Net Metering is either prohibited or is not installed. The Intello Pro+ Controller fetches the site load requirement on real time basis and throttles the power of single or multiple inverter's, equivalent to the present site load. Hence, restricting the power export to grid.

Intello Pro+ Micro-Controller ensures the Solar output to throttle up/down on real time basis after detecting the load requirements.

Establishes cloud connectivity to Intello monitor through GSM (M2M/4G) and LAN Connectivity.

Easy Installation with no complexity.

Product Warranty: One (1) Year
 Box dimensions: 245 X 164 X 140 (L x W x H)
 Ingress Protection: IP65
 Flammability Test: UP94

Intello Monitor (Portal) Snapshots:

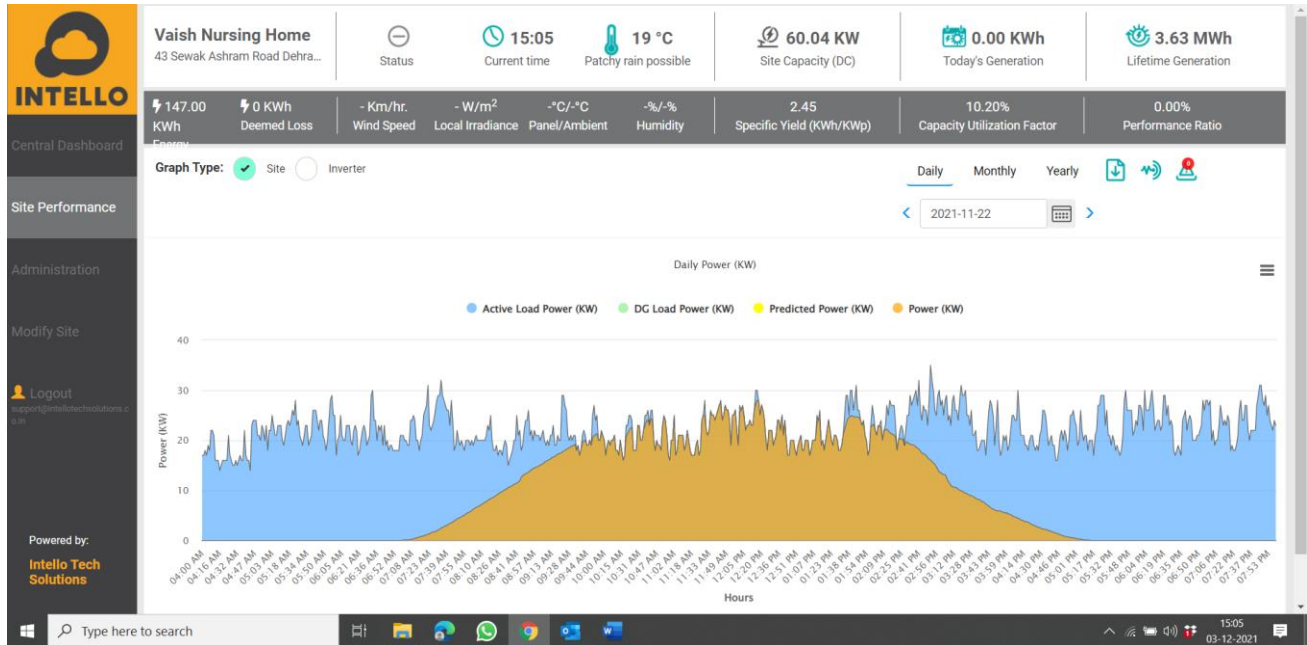
Intello - DG Synchronizing Dashboard

- Site Active Load/DG Load viz a viz Predicted & Actual Solar Power at Site.
- Advanced analytics calculates Deemed Energy Loss if any.



Intello – Zero Export Dashboard

- Commands Solar Inverter to increase/decrease power according to site Active Load.
- Easy representation on Deemed Energy Loss.



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