

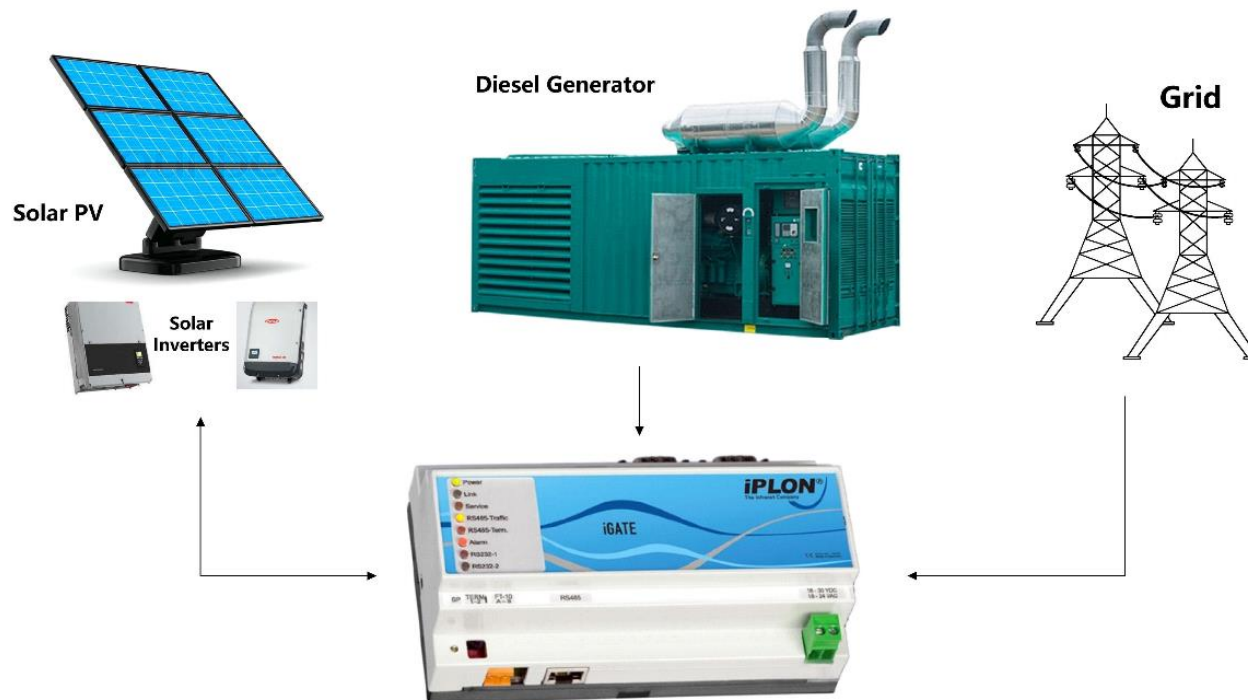
# Case Study & PV-DG Live Demo



Sreenath C  
iPLON India Pvt Ltd  
#26/80, Luz Avenue, 5<sup>th</sup> Street, Mylapore,  
Chennai, Tamil Nadu, India 600 004



# PV-DG Fuel Saver Controller



**Data Acquisition & Monitoring**

## Control Logic

If DG OFF: No Inverter Control

If DG ON,

- DG PAC > Set Threshold: No Inverter Control
- DG PAC ≤ Set Threshold: Start Dynamic Inverter Control

# PV-DG Controller does

- Inverter output control
- Protection against reverse power current
- Maintains the DG in the safe operating efficiency
- Fully automated system operation





# **PV-DG Controller Installed Sites**

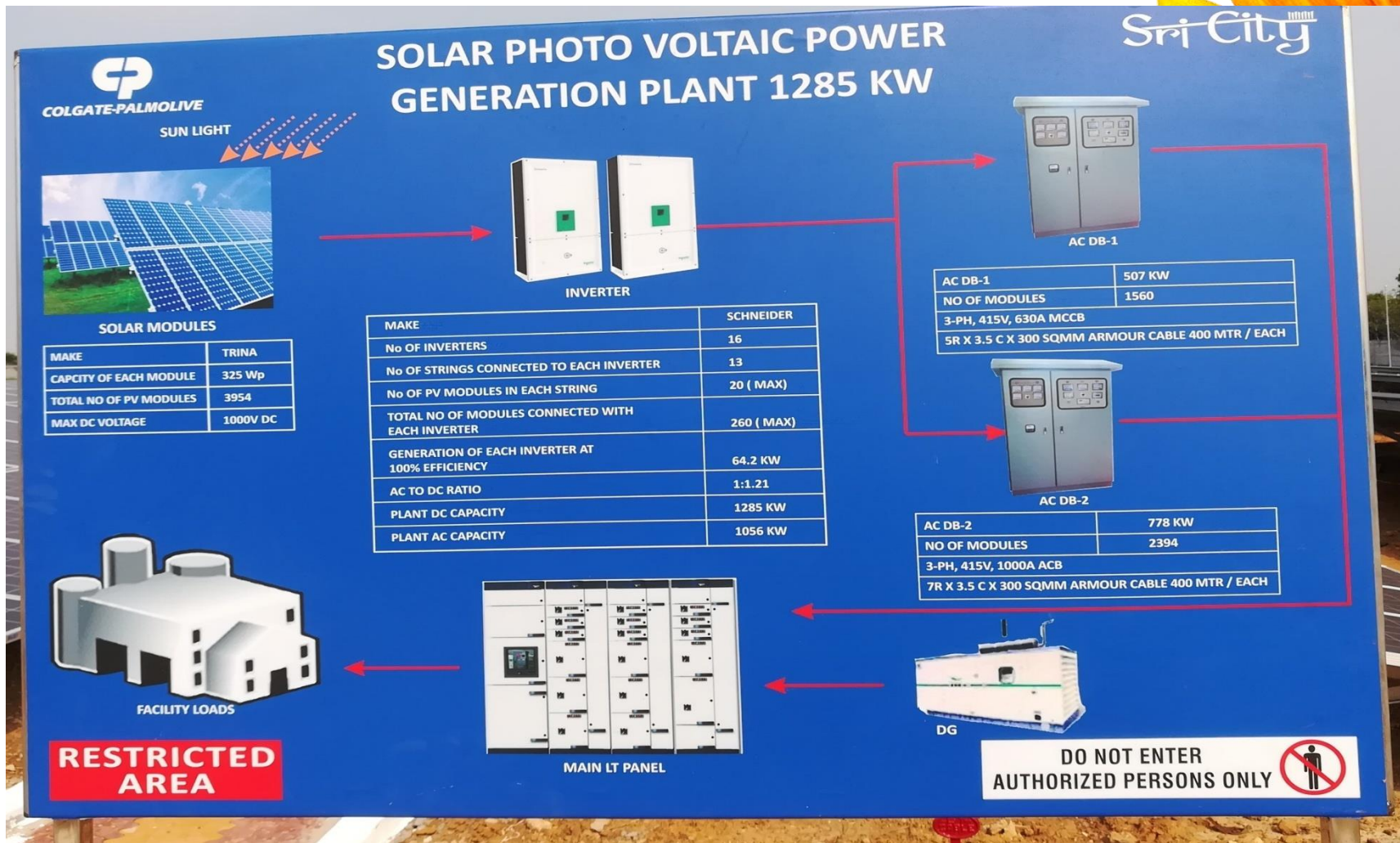


# Colgate plant Sricity, Plant Layout.





# Colgate Plant Description.







# Inverter's @ site





# 2 \* 2000 kVA DG





# 500 kVA DG

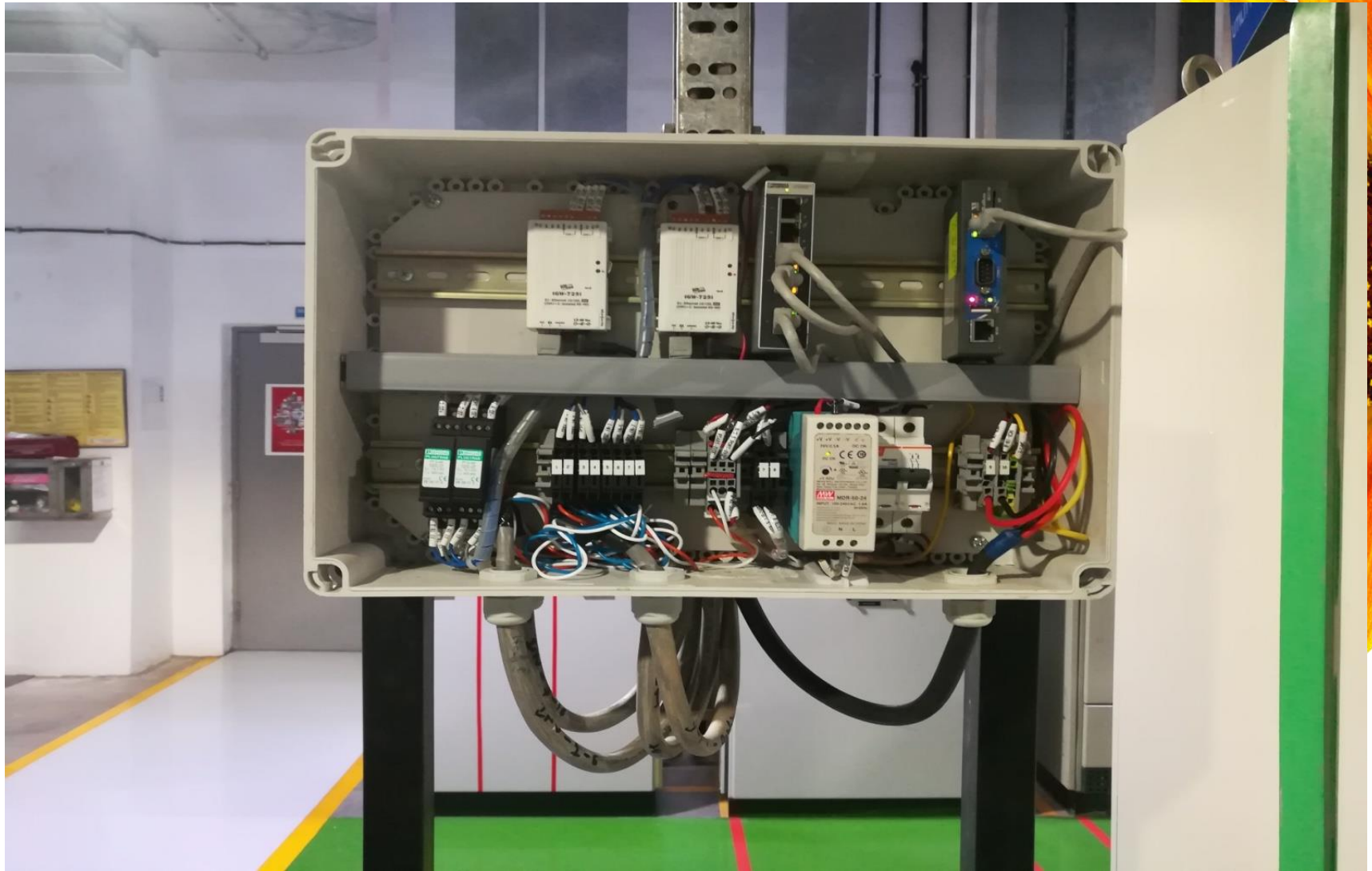




# DG Multifunction meter



# PV-DG controller installing





# PV-DG Controller @ site



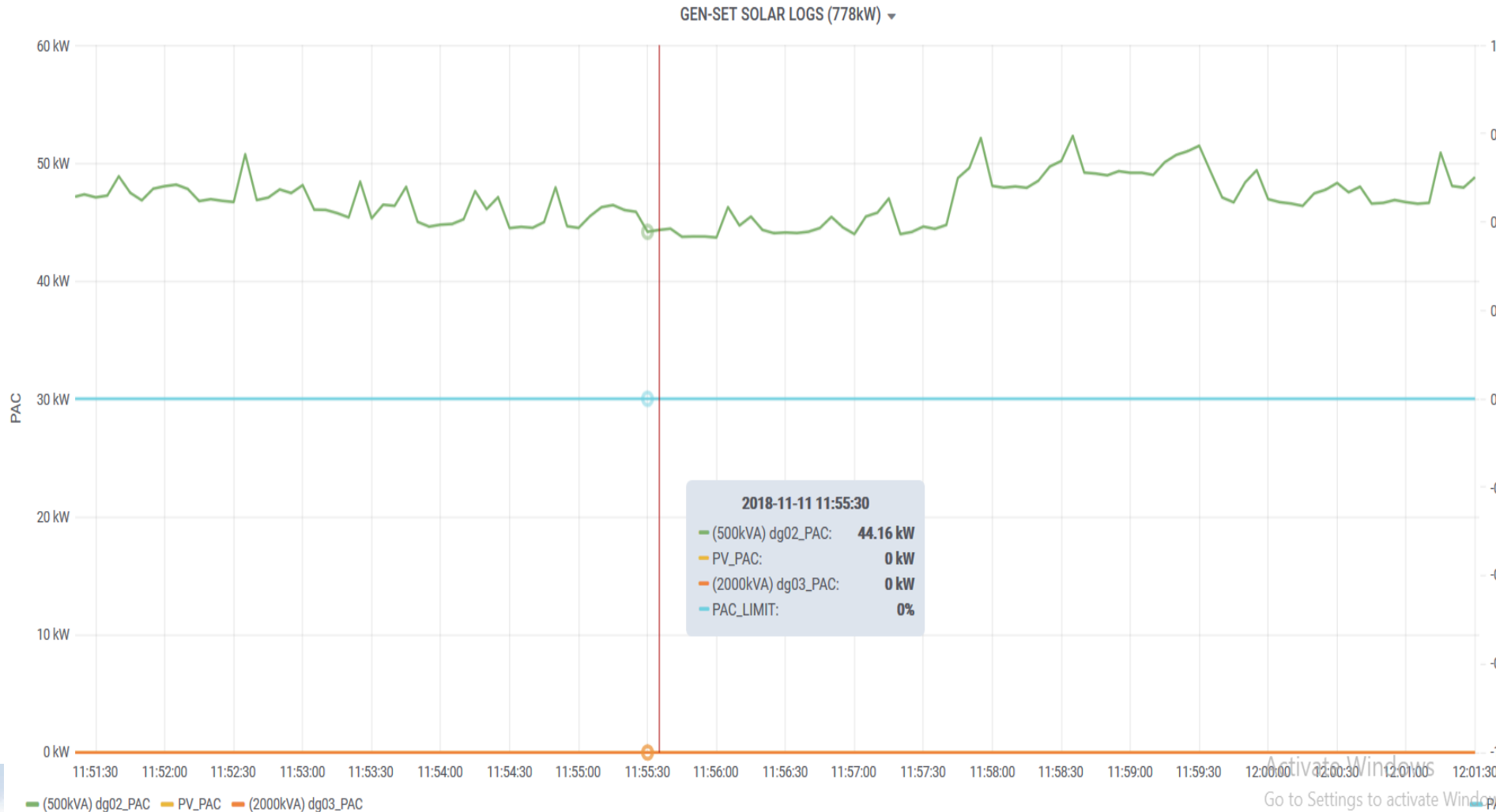
# Monitoring @ Colgate





# 500kVA- DG Active power < DG Critical load (10%), Inverters at 0 kW

Energy Meter Energy Meter Frame Inverter Inverter Frame Plant Overview Trends Weather Station Inverter String Details Plant Performance System view Documentation Plant En



Activate Windows  
Go to Settings to activate Windows

# 500kVA - Dynamic Inverter control maintaining DG @set point

Plant Energy Flow

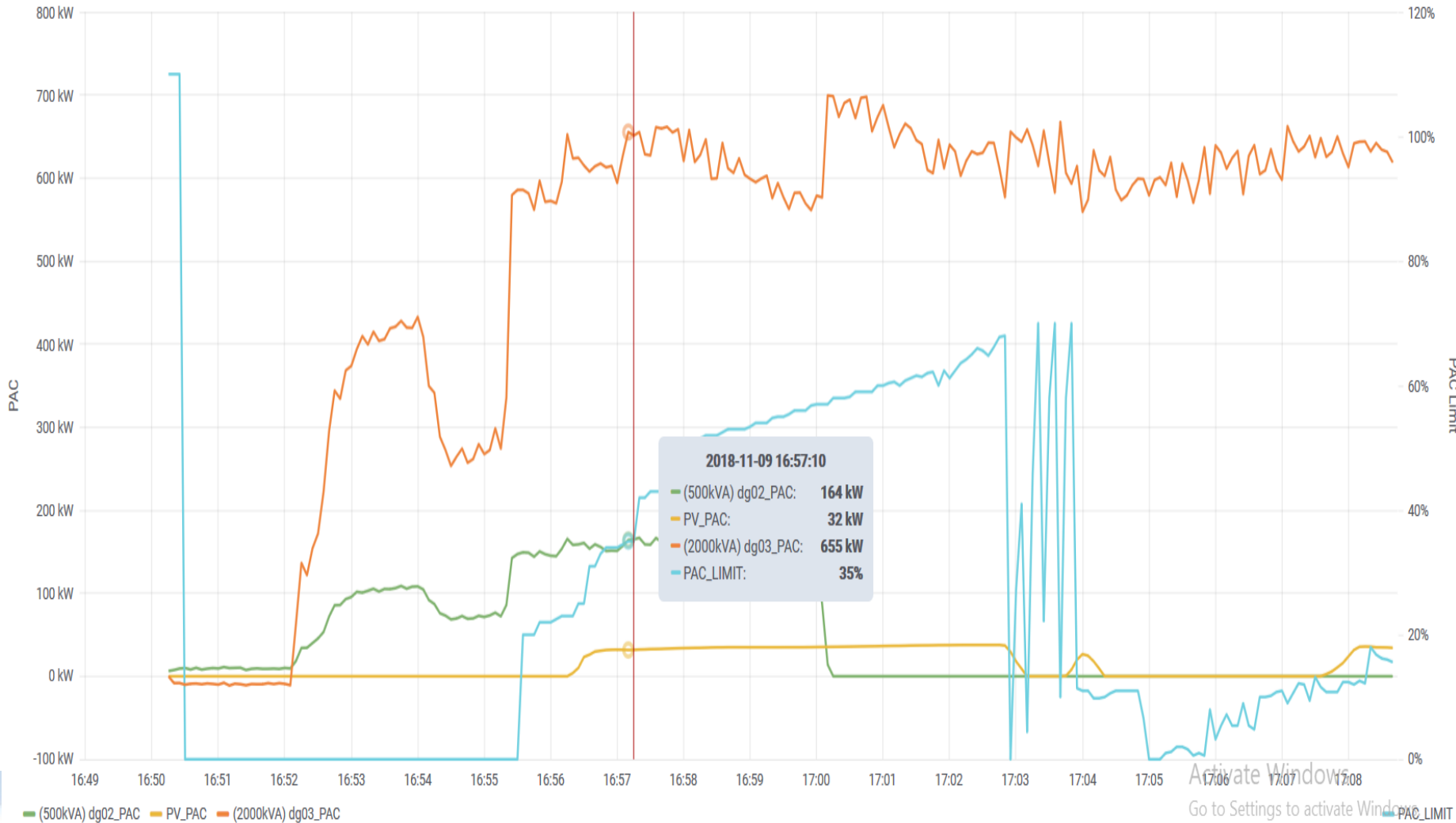
GEN-SET SOLAR LOGS (778kW)





# 500kVA & 2000kVA - Dynamic Inverter control maintaining DG's @set point

GEN-SET SOLAR LOGS (778kW) ▾



# Colgate Live Demo





# **Amplus – iPLON Partnership**

**Localized (de-central) supply-demand  
management – Need for smart PV design**

Sreenath C  
iPLON India Pvt Ltd  
#26/80, Luz Avenue, 5<sup>th</sup> Street, Mylapore,  
Chennai, Tamil Nadu, India 600 004



YOUR PARTNER FOR A  
GREENER WORLD





## AN OVERVIEW

Amplus Solar is India's leading owner and operator of distributed/rooftop solar assets for Commercial and Industrial Customers.

**600+ MW**

Operational and  
Under-development Capacity

**275+**

Projects

**150+**

C&I Customers

**250+**

Dedicated  
Professionals

**150+**






Sales Network  
Across Asia



3.



## PIONEERS

-  First developer in India to be awarded rooftop debt financing by World Bank & ADB
-  175 MWp: India's Largest Open-Access Solar Park at Gadag, Karnataka; supplying power to 30+ customers
-  India's first tracker based Airport Solar Project at HAL Airport, Bengaluru
-  One-of-a-kind Battery Integrated Solar Plant with Energy Management System at a Toll Plaza
-  India's largest Rooftop Plant (OPEX with net metering) of 6.2 MW for Yamaha, Noida in 2016

## GROWTH STORY

-  2000% growth in capacity in 3 years
-  Customer base tripled from 2017 to 2019
-  Three-fold growth in Sales and Service network in two years





## AMPLUS OPEN-ACCESS (OFF-SITE) SOLAR PLANTS



**Market Leader in Open Access Solar**  
Segment in India



**220+ MW Operational capacity;**  
**Additional 200+ MW in advance**  
stages of development



## BATTERY STORAGE PLUS SOLAR PLANTS



**First mover in India** to establish battery energy solar solutions for C&I customers under OPEX model



**3 operational pilot projects** of 0.2 MW



Monitoring of plants remotely



Siwaya Toll Plaza, Meerut





## WELL-DIVERSIFIED TIER 1 CUSTOMER BASE

High Quality, Long-term Portfolio With Multinational Clients And Strong Government Institutions

**150+** CUSTOMERS  
ACROSS VERTICALS

- ❖ Automotive and Locomotives
- ❖ Defence
- ❖ FMCG and Consumer Durables
- ❖ Retail
- ❖ Manufacturing
- ❖ Government and Private Institutions
- ❖ Pharma, Hospitals and Healthcare
- ❖ Real Estate and Housing Societies
- ❖ Educational Institutions
- ❖ IT and Technology
- ❖ Others



# iPLON PV DG Versions

- Single DG PV
- Two DG PV without synchronization
- Multiple DG's PV with synchronization
- Multiple DG's without synchronization
- Multiple DG's with ZE





# PRODUCT FEATURES- Commercial

- Extended to Multiple DG sets
- Compatible with all leading inverter OEM
- iPLON Cloud services – Remote monitoring of plant
- Scalable system (kW to MW scale installations)
- Fuel savings by maximizing solar output without compromising DG efficiency
- Site specific customization
- Best fit – commercial & future needs



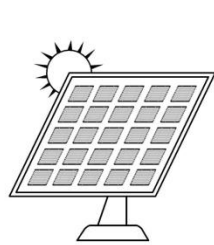
# Product Line\_iPLON

Features	Economy	Standard	Premium
PV DG license	✓	✓	✓
PV DG EM monitoring	✓	✓	✓
Remote support	✓	✓	✓
git PV Monitoring	✗	✓	✓
WMS monitoring	✗	✓	✓
String/SMU monitoring	✗	✗	✓
IO monitoring	✗	✗	✓
Onsite support	✗	✗	✓
Customization	✗	✗	✓
Multi INV protocol support	✗	✗	✓
Plant Capacity	< 150 kW	>150kW, < 400kW	> 400kW
RS485 ports	2	4	> 4
Number of inverters	3	6	> 6
Number of EM	2	2	> 2
Number of DG	1	2	> 2
Data points/device	10	20	all
Box size	300 X 300	300 X 600	Customized

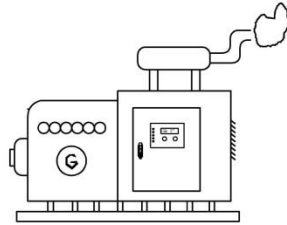




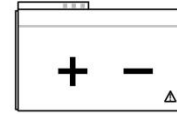
# iPLON Micro Grid Solutions\_iMGS



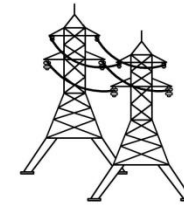
Solar PV



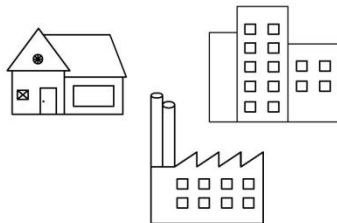
Diesel Generator



Energy Storage Systems



Grid



Loads (Commercial / Industrial)



Data Acquisition & Monitoring

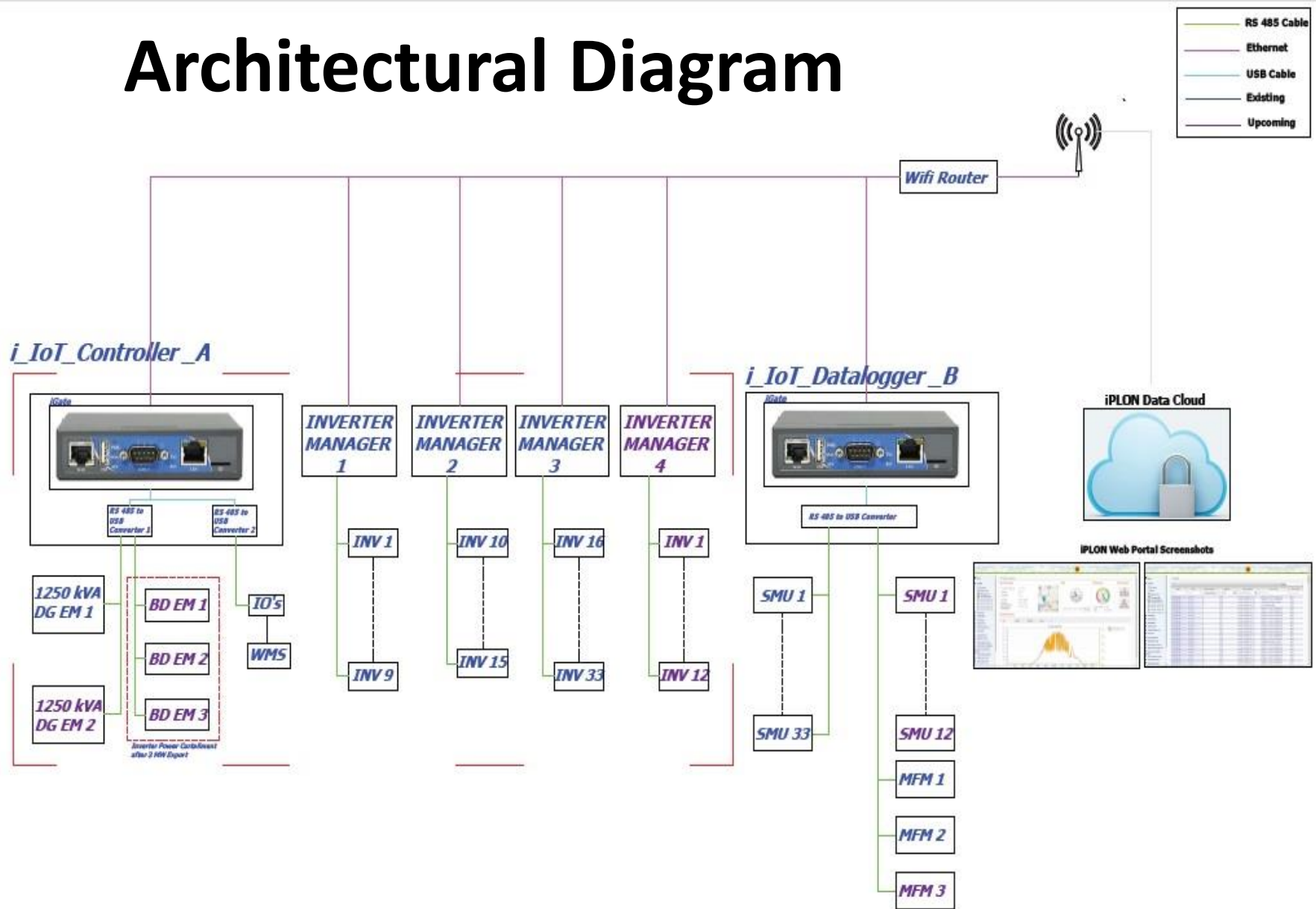


# IEMML – Expo Centre



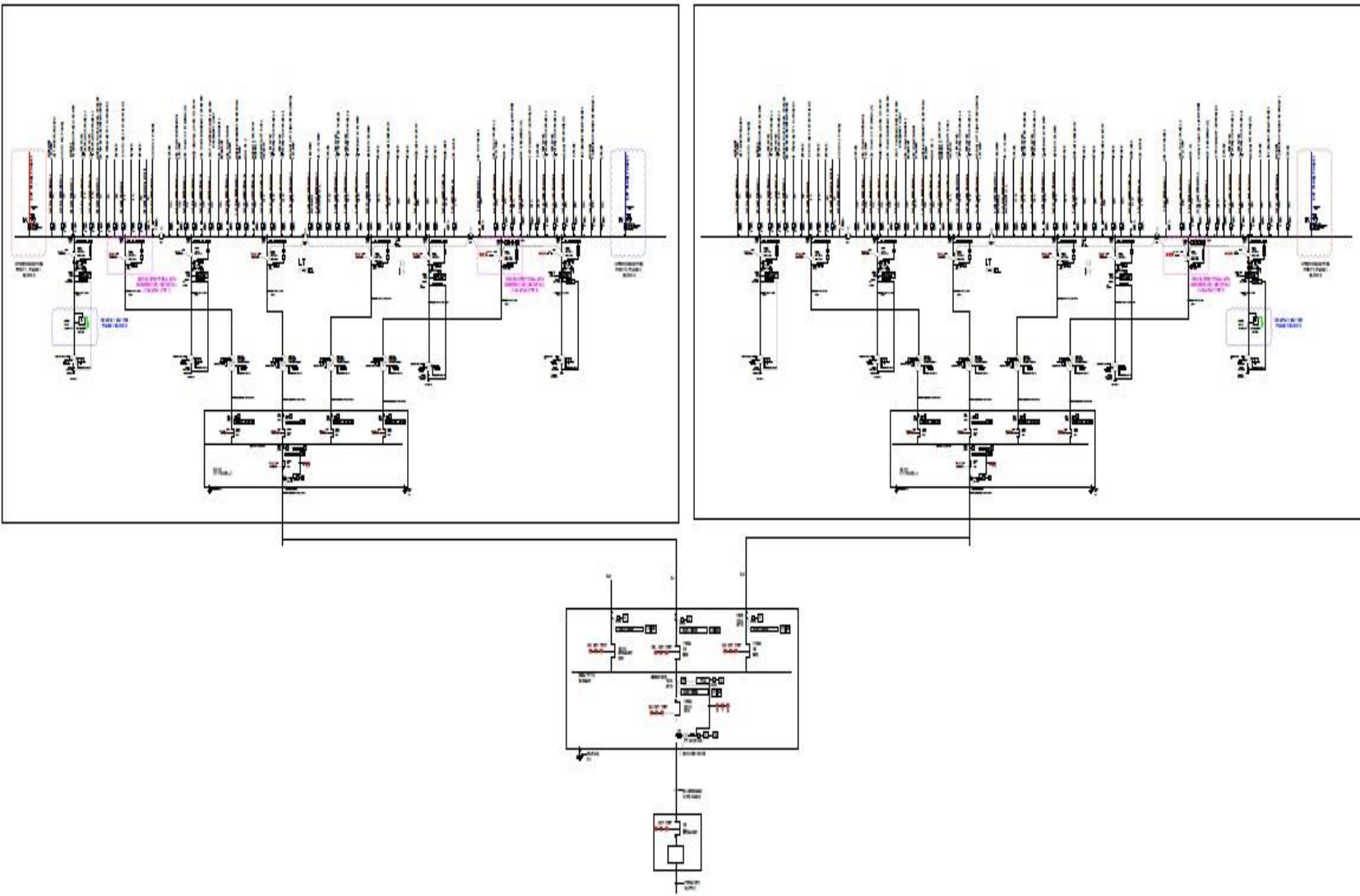


# Architectural Diagram

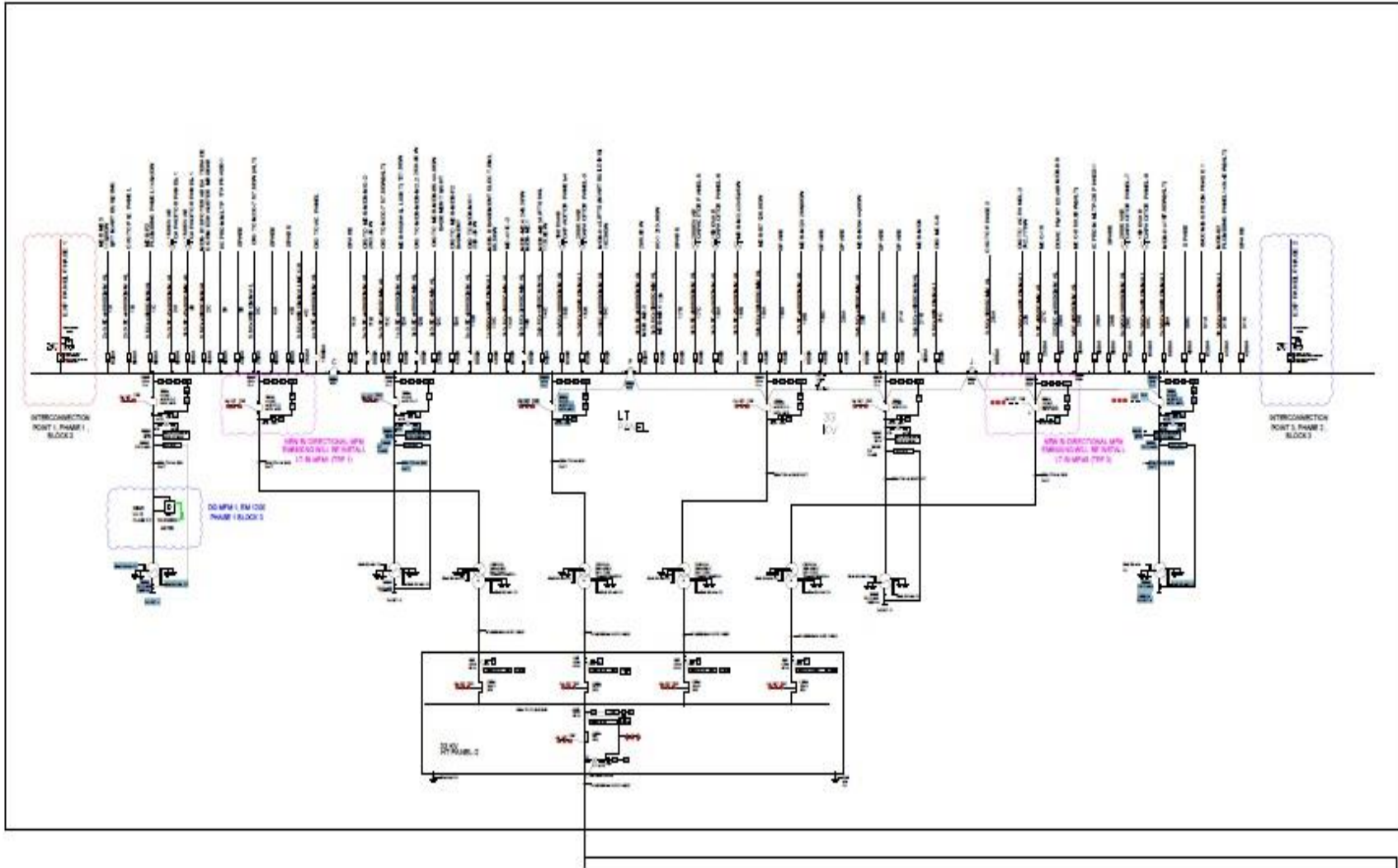


SUBSTATION 1, CLIENT SIDE LT ROOM  
HALL 1,2,3,4

SUBSTATION 2/ CLIENT SIDE LT ROOM  
HALL 5,6,7,8

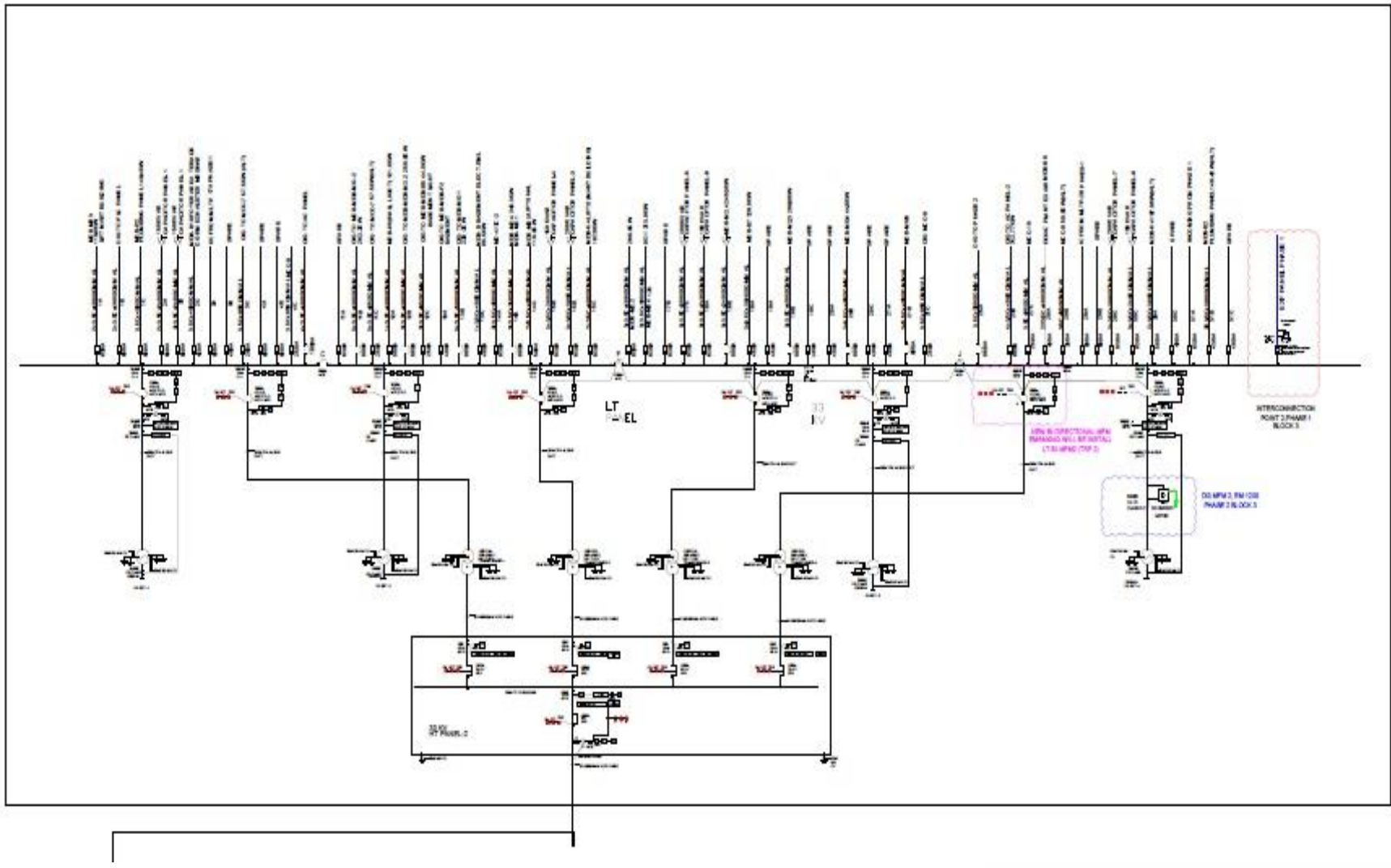






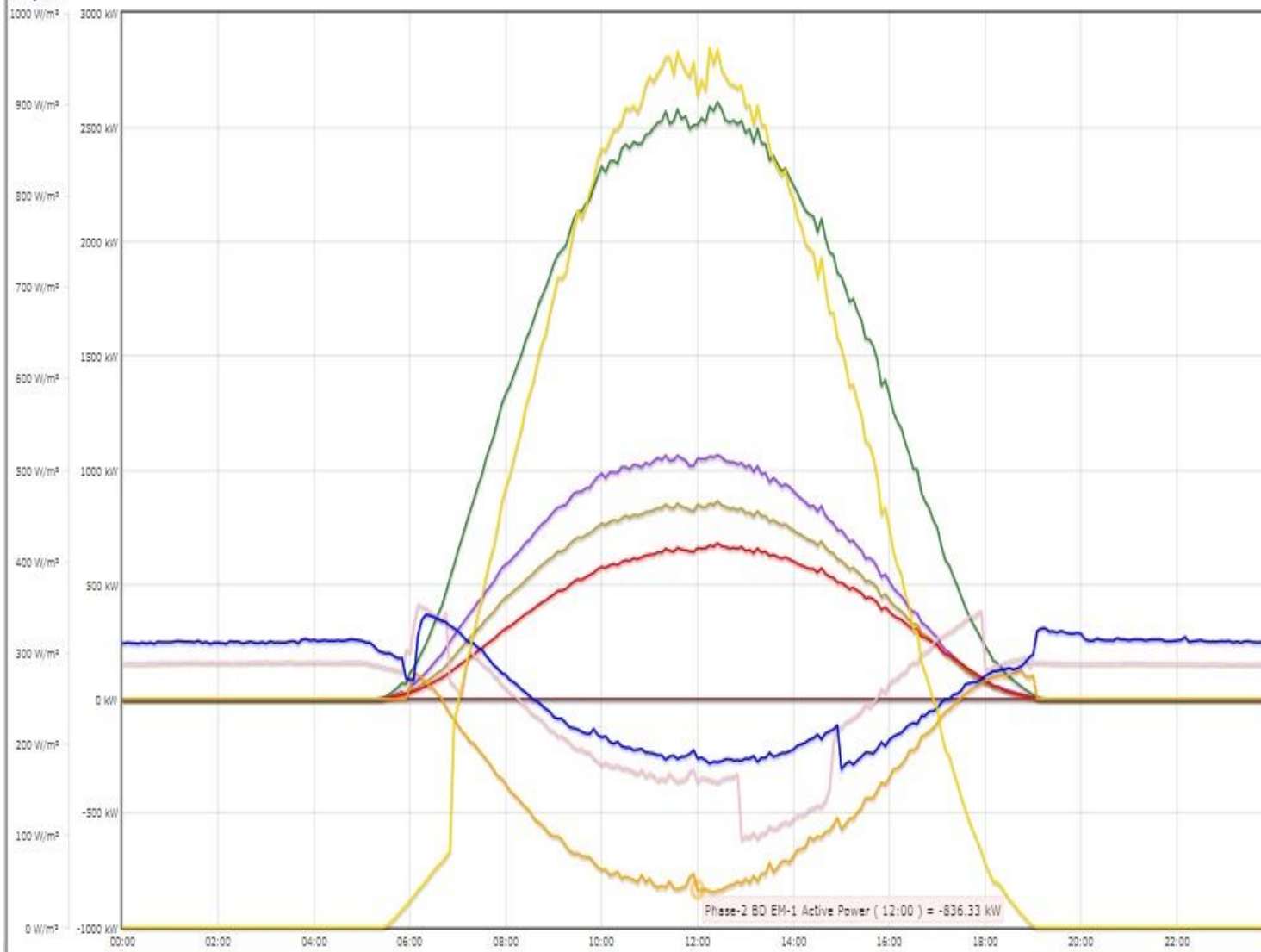
# SUBSTATION 2/ CLIENT SIDE LT ROOM

## HALL 5,6,7,8





**Graph-1**



- ☒ EM1 Active Power (kW)
- ☒ EM2 Active Power (kW)
- ☒ Total Active Power (kW)
- ☒ Phase-2 EM Active Power (kW)
- ☒ DG1(1150kVA) EM Active Power (kW)
- ☒ DG2(1150kVA) EM Active Power (kW)
- ☒ Phase-2 BD EM-1 Active Power (kW)
- ☒ Phase-2 BD EM-2 Active Power (kW)
- ☒ Phase-2 BD EM-3 Active Power (kW)
- ☒ Irradiation(15.8) (W/m<sup>2</sup>)

Current Generation  
0.00 kW

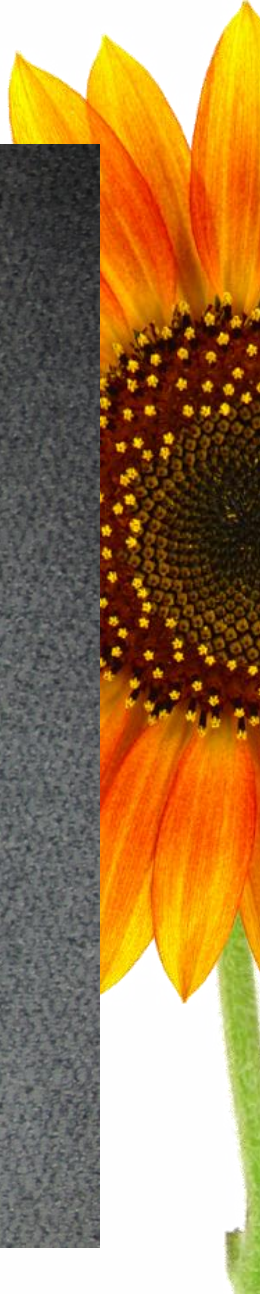
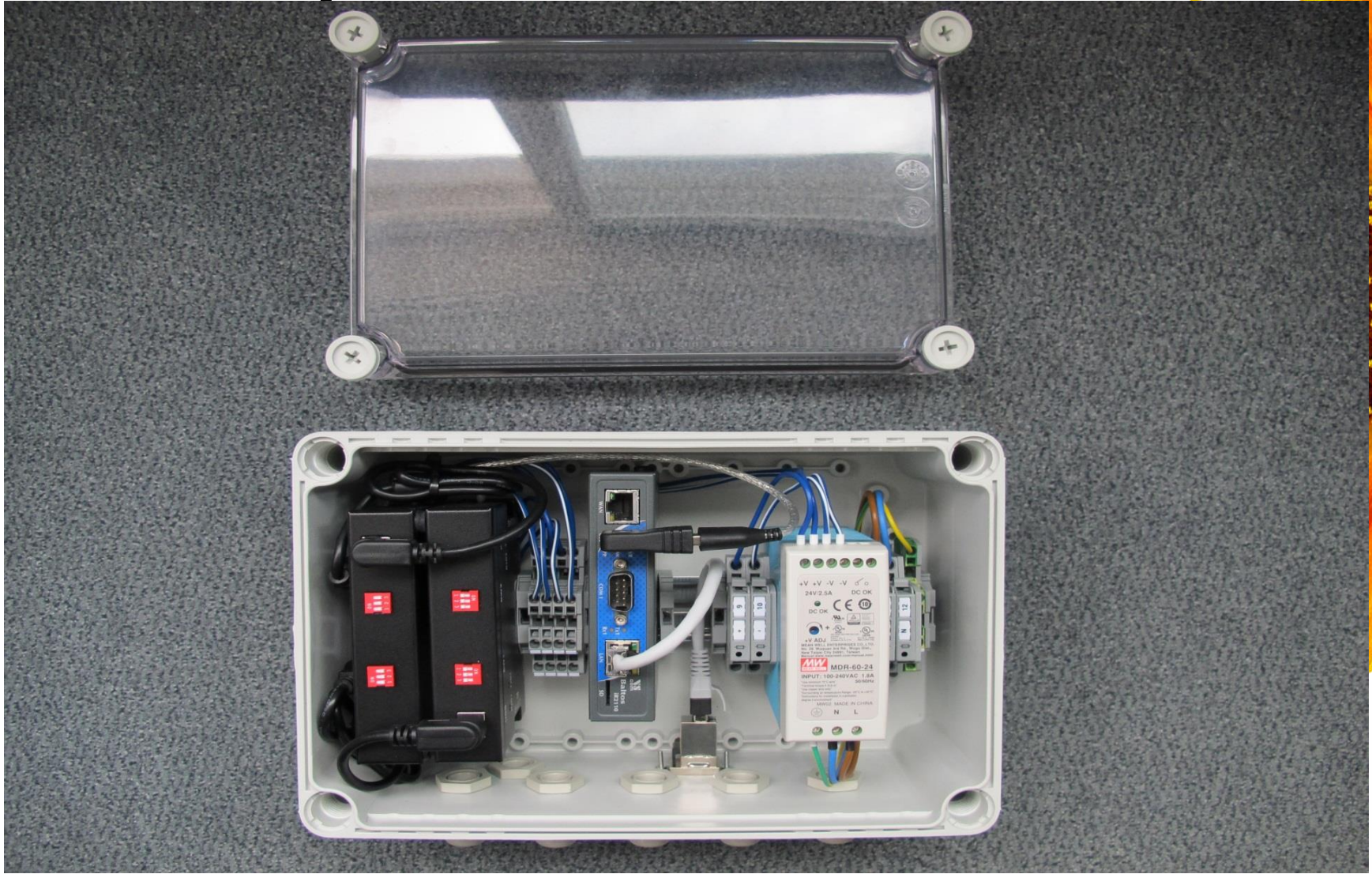


# 13 + Walmart India





# PV-DG Systems for Walmart





# PV-DG Hybrid Projects

## (Specified from list above)

Customer <i>Amplus</i>	Location	Capacity (MW)
	Meerut 1; 2 DG	
	Raipur; 2 DG	
	Agra 1; 2 DG	
	Agra 2; 2 DG	
	Kota; 2 DG	
	Guntur; 2 DG	
	Amristar; 2 DG	
	Bhantinda; 2 DG	
	Bhopal; 2 DG	
	Indore; 2 DG	
	Jalandar; 2 DG	
	Ludhiana; 2 DG	
	Zirakpur; 2 DG	
	Gurgaon; 1 DG	
	Haryana; 1 DG	
	Meerut 2; 1 DG	
	Roorkee; 5 DG	
	Noida; 2 DG + ZE	
	<b>Cumulative</b>	<b>16.2</b>





# THANK YOU...

