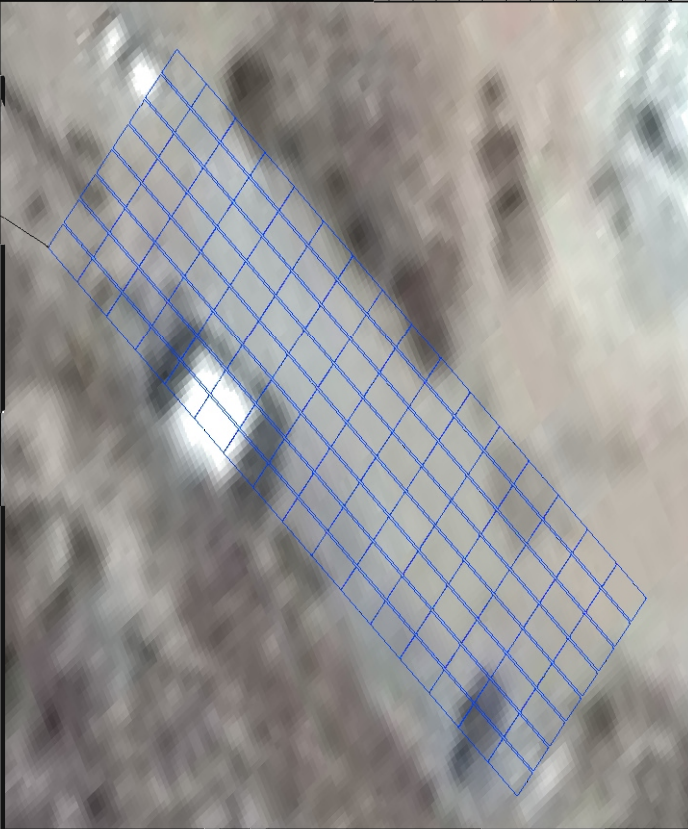


GENERAL SPECIFICATIONS			
PV Generator	Total PV Capacity at STC (Wp)	240,000 Wp	
	Inclination	15° Carport structure	
	Type of module	Crystalline 72 cells	
	Orientation	160°	
	Standards	IEC 61215 edition 2, IEC 61730, IEC 62716, IEC 61701	
Grid-Tied Inverter	Location	Outdoor	
	Type	Three phase transformerless	
	Rated power	≥ 35,000 W	
	Number of MPP tracker	≥ 1	
	Protection Class	≥ IP65	
	Biggest voltage MPP range	150 V - 800 V	
	Maximum DC voltage	1000 V	
	Output AC voltage	3 / N / PE 230, 400 V (adjustable)	
	Output AC frequency	50 Hz (adjustable)	
	Phi cosine	1	
PV plant controller & data logger	THD	≤ 3%	
	Consumption at night	≤ 3 W	
	Maximum efficiency	≥ 98 %	
	Euroefficiency	≥ 97 %	
	Standards	Harmonic Current (IEC 61000-3-2 and / or IEC61000-3-4), IEC 62109-1/2	
	Anti-islanding protection	Yes/ VDE 0126-1-1 or similar	
	Communication	RS485, ethernet, RS232	
	Additional requirements	Dynamic compensation of reactive power, inverter automatic reconnection conditions, linear output power control from a third device (read and write capabilities), utility-interactive photovoltaic inverter system.	
	Permissible grid characteristics (inverter not to be disconnected)	Vp-n = 230 V ±20% Vp-p=400 V ± 20% Fq = 50 ± 5 Hz Fuel reduction device	
	Type	RS485, Ethernet and/or RS232 (compatible with Grid-dependent inverter, existing Genset control Unit, environment sensors and electrical meters)	
Diesel Generator	Communication		
	Inputs	Meters, sensors, inverters, Genset Control Unit, Grid (consumption)	
	Outputs	Inverters, Grid (back-feeding)	
	Data logger	2 years data logging capacity, monthly evaluation report, calculation of indicators and remote monitoring	
	Rated power	45 kVA (1500 RPM)	
	Rated frequency	50 Hz	
	Power factor	0.8	
	Type of cooling	Liquid cooled	
	Engine type	Diesel 4 strokes-cycle. Equipped with an ECU, SCU and AVR	

SERVICE SPECIFICATIONS		
Output performance	Specific Yield	1,530 kWh/kWp
	Daily final average production (kWh/day)	164 kWh/day
Facility characteristics	Reference annual consumption (kWh/year)	67,000 kWh/year
	Estimated solar fraction	Approx. 91%

MODE		MODE OF OPERATION	
MODE	POWER SOURCE	GRID CONNECTED	INVERTER OPERATION
Grid Mode	Grid	Load feeding (normal operation)	Injection to the grid if any surplus
Fuel Reduction	Genset	Load feeding according to fuel reduction mode	



Carport PV system:

- PV capacity: 40 kWp
- Inclination: 10 - 15 degrees
- Orientation: 160 degrees clockwise from north
- Minimum elevation of nearest point to ground: 2.5 meters
- Three connection points: one for each school building

DRAWING: SYSTEM LAYOUT AND ARCHITECTURE
PROJECT: TEBNINE PUBLIC SCHOOL
BENEFICIARY: TEBNINE MUNICIPALITY
PM.B 2.2.1