

# PVBOX 1MVA Inverter Cabin

## 1. CABIN CONSTRUCTIVE DATA

Cabin		
1	Metallic frame from welded steel sheet. It is covered with epoxy primer chromed with zinc, one layer, min 40 microns; Epoxy paint against corrosion V341 type, one layer, min 30 microns; Polyurethane paint 477 series, one layer, min 30 microns	According to the construction
2	Thermal insulated walls, 80 mm thick, made from sandwich metallic panels, REI wall type - with big density (35-40kg/m <sup>3</sup> ) insulation made of mineral wool fire resistant class EI60 conf. EN 13501-2 / 200;	According to the construction
3	Thermal insulated roof, 80 mm thick, made from sandwich metallic panels, REI wall type - with big density (35-40kg/m <sup>3</sup> ) insulation made of mineral wool fire resistant class EI60 conf. EN 13501-2 / 200;	According to the construction
4	Technological floor made of 4 mm steel plates	1 pc.
5	Simple access door for inverter compartment, made of aluminium profile and metallic sandwich panels 50mm thick TECNOwall-polyurethane insulation with big density 35-40 kg/m <sup>3</sup> , fire resistant class EI15, foreseen with panic handle on the inside.	1 pc.
6	Double access door for power transformer compartment, made of aluminium and ventilation grilles, G4 filter and against insects screen.	1 pc.
7	Simple access door for MV compartment, made of aluminium profile and metallic sandwich panels TECNOwall type polyurethane insulation with big density 35-40 kg/m <sup>3</sup> , fire resistant class EI15, foreseen with panic handle on the inside.	1 pc.
8	Air input grille in the basement with aluminium Chevron type grilles, G4 filter and against insects screen;	2 pcs.
9	Inverter ventilation grille with aluminium Chevron type grilles, G2 filter and against insects screen;	4 pcs.
10	Protection cover against rain for the inverters exhaust grilles;	6 pcs.
11	The connection inlet air tube from the basement is installed in the inverter room	2 pcs.
12	The air exhaust - the connection between inverter air grill and the air grill mounted on the wall of the inverter room;	2 pcs.
Main equipments		
1	Xantrex XC540 – Schneider manufactured inverter	2 pcs.
2	DC BOX for 2 inverters	1 pc.
2	Monitoring RTU device type PVI AEC EVO	1 pc.
1	Power transformer hermetic in oil Minera, fabrication Schneider Electric, reduced losses CoCk type for photovoltaic plants, 1000kVA, 2 x 0,300/20kV IP00, DyN 11, idle loss 800 W, in load loss 8800 W, equipped with DGPT2 relay, manoeuvre wheels, filling and emptying cover, lifting rings ;	1 pc.
2	RMU type MV switchgears, Schneider manufacture, RM6 IDI composed of disconnecter in/out line, grounding fork, motorisation 220 Vca auxiliary circuits, voltage presence indicator and transformer protection MV switchgear with fix CB in SF6, grounding fork, CTs,	1 pc.

	protection relay type VIP400LL;	
3	Auxilliary services transformer 20KVA ; 0,300 / 0,400 kV , dry with air insulation TNC 3UI type – fabrication NECOM SRL	1 pc.
4	UPS 2,2 kVA, autonomy 2H, type Riello VSD 2200, fabrication Banattika	1 pc.
<b>Accessories</b>		
1	Internal grounding belt;	1 pc.
2	External earthing junction box with insulation metering of the ground insulation resistance;	1 pc.
3	2 x 36 w neon lamp for internal lighting;	1 pc.
4	8w battery emergency lighting lamp OVA37071E(Schneider) type, installed on the top of the door;	2 pcs.
5	8W battery safety lighting OVA 37068E type 3h operating autonomy;	5 pcs.
6	150 W external lighting lamp ,IP54, installed on the top of the access door	2 pcs.
7	Shucko socket 230 V ac;	3 pcs.
8	Auxilliary contact smoke detector	3 pcs.
9	Door Microswitcher;	3 pcs.
10	Keybox for mechanical interlockingthe transformer door with the LV circuit breaker and the switchgear D from the MV switchboard;	1 pc.
11	Lighting circuit breaker;	3 pcs.
12	Thermostat with contact min./max. temperature surveylance inside the cabin;	1 pc.
13	2000W – Noirot heating convector;	1 pc.
14	Warning signs mounted on the entrance cabin door;	1 pc.
15	ID Plate;	1 pc.
16	Rubber carpet with insulating properties on the access lane to the equipments;	4 pcs.
17	Lifting rings;	6 pcs.
18	5kg powder fire extinguisher	1 pc.
19	Cable trunks under the false floor	1 pc.
<b>Main cabling</b>		
1	CA cable, LV, from each inverter to the DCBOX type C2XY (1x185)mmpx4 cables/pol	2 set
2	CA cable, LV from each inverter to the power transformer type C2XY (1x300)mmpx2 cables/phase	2 set
3	CA cable MV, foreseen with terminal bushes from the power transformer to the RM6 unit, A2XSY type (1x150)/25x1cable /phase	1 set

## 1. BASEMENT CONSTRUCTIVE DATA

Concrete basement		
1	B350 vibrated concrete on the metallic reinforcement foreseen with 3 compartments, for inverters, for power transformer, for MV switchgear; The transformer compartment is painted with a special coat which doesn't allow the oil leakings to go into the ground. The oil capacity of the basement is for the whole quantity of oil from the transformer;	According to the construction
Basement accessories		
1	Handling devices	4 pcs.
2	Rail support for installing the transformer into the it's compartment	1 pc.
3	Metallic cable trunks installed on the basement for cables trespassing	6 pcs.
4	CC cables cable access cable glangds, HSI type, from outside to the inverters, Hauf technick fabrication	1 set
5	MV CA cable gland from the MV switchboard to the grid cabin, HSI 150-D3/58 type , Hauf technick fabrication	1 pc.
6	Auxilliary and secondary circuits cable access, PC communication and the other inverter cabin HSI 90-D3/32 type, Hauf technick fabrication	1 set

## 2. TECHNICAL CHARACTERISTICS

Nr.	Characteristic	Value
1	Total length;	6.800 mm
2	Height with roof and basement	3.095 mm
3	Total depth;	3.000 mm
4	Basement height	600 mm
5	Total weight without power transformer	26 to
6	Inverter compartments protection degree	IP 54
7	Power transformer compartment protection degree	IP 33
8	MV switchboard compartment protection degree	IP 33
9	Combustibility class	B
10	Smoke emissions degree in the equipments compartment	S 1
11	Melted or burning aorticles in the equipment compartment	d 0
12	Fire protection degree according to IEC 13501-2;	EI 15,EI 60
13	Water permeability	Class C
14	Thermic transfer type	10K

### 3. OPERATING CONDITIONS

Nr.	Characteristic	Value
1	Montage;	Exterior
2	Operating conditions;	N3
3	Min/Max Temperature;	- 25 °C / + 45 °C
4	Heighest average temperature;	+35 °C
5	Relative average humidity;	90%
6	Maximal altitude	1000 m

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10

A

A

B

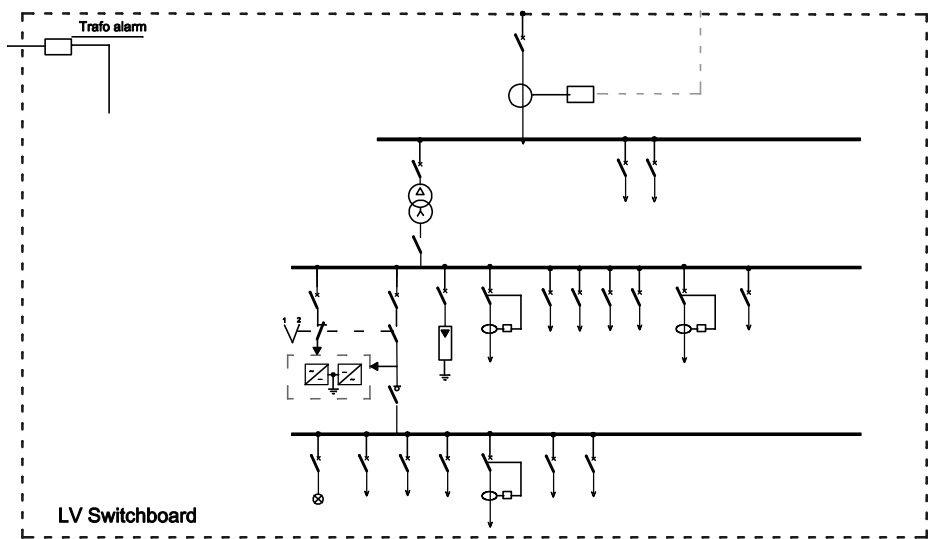
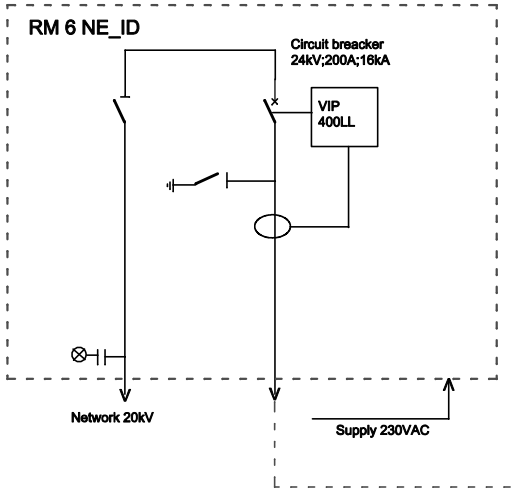
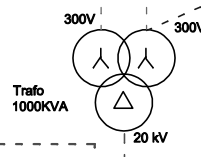
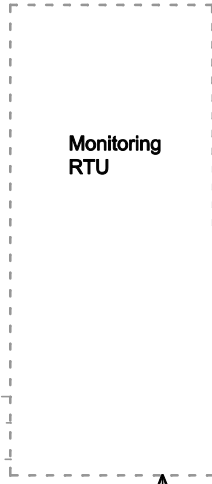
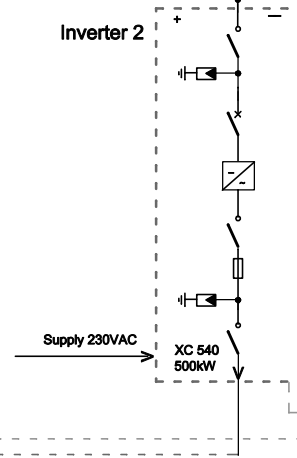
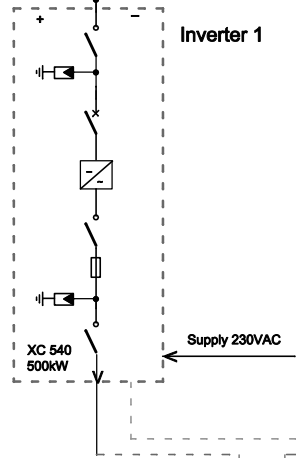
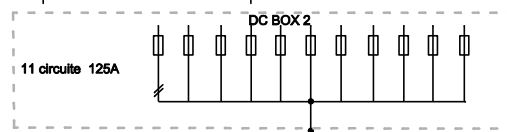
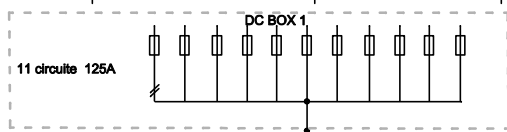
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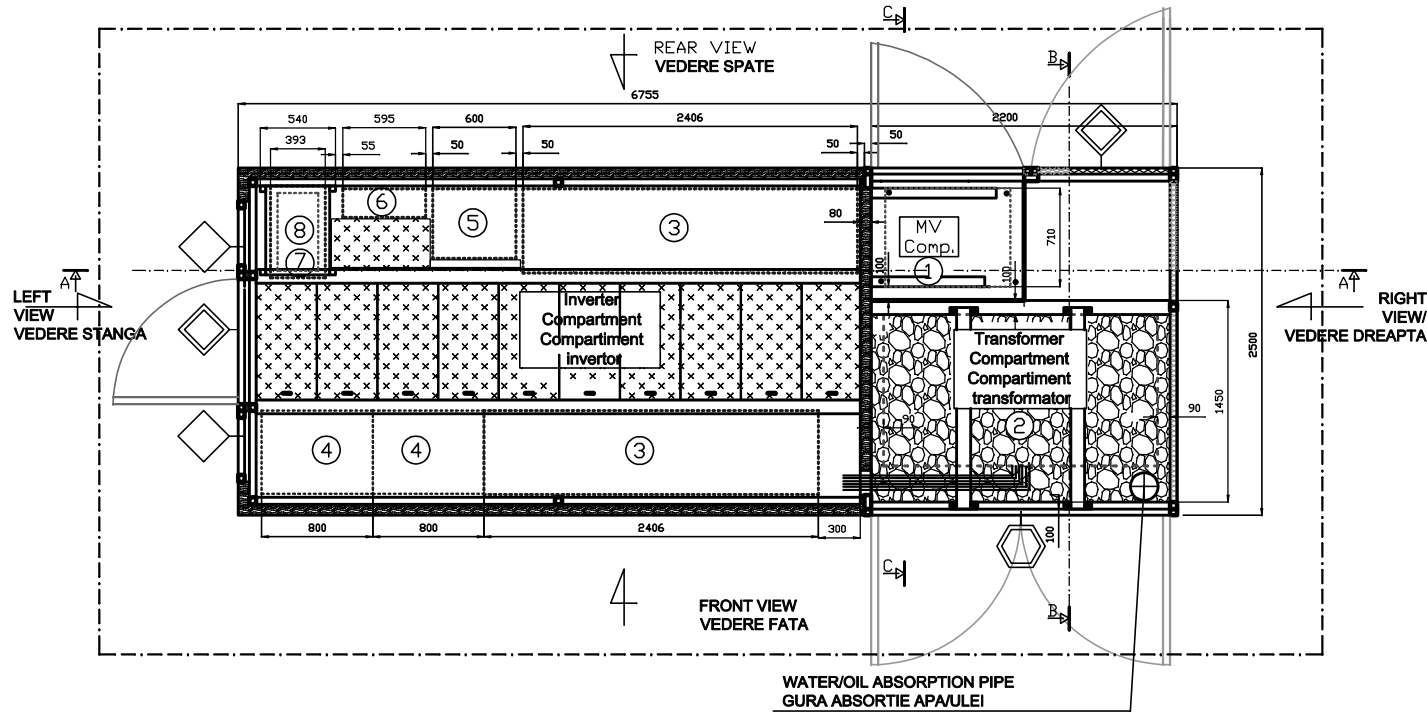
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D

D



KIOSK FLOOR PLAN  
PLAN  
Scale 1:45 / Scara 1:45



NO	EQUIPAMENT	QTY	HEIGHT mm	WIDTH mm	DEPTH mm	WEIGHT kg
1	RM6-ID 24 kv	1	1442	900	710	300
2	TRANSFORMER 1000kVA20kv	1	x	x	x	x
3	INVERTER XCS40	2	2002	2404	605	1900
4	DC BOX	2	2100	800	600	200
5	MONITORING CABINET	1	2000	600	500	150
6	LV box	1	1830	600	205	100
7	UPS ...kVA+batteries	1	500	500	600	170
8	Auxillary transfor. 20kVA	1	520	500	460	70
9						
10						

Legend / Legenda

- Walls Sandwich Panel Color RAL 9002 / Pereti panou sandwich culoare RAL 9002
- AL door with ventilation grilles Color RAL 9016 / Usa ventilatie din tamplarie de aluminiu culoare RAL9016
- AL frame with ventilation grilles Color RAL 9016 / Rama ventilatie din tamplarie de aluminiu culoare RAL 9016
- AL door with sheet expand metal Color RAL 9016 / Usa dintamplarie de aluminiu si fata de tabla expandata culoare RAL9016
- Ventilation grilles Color RAL 9016 / Grila ventilatie culoare RAL9016
- Pavament Peripheral / Paviment perimetral