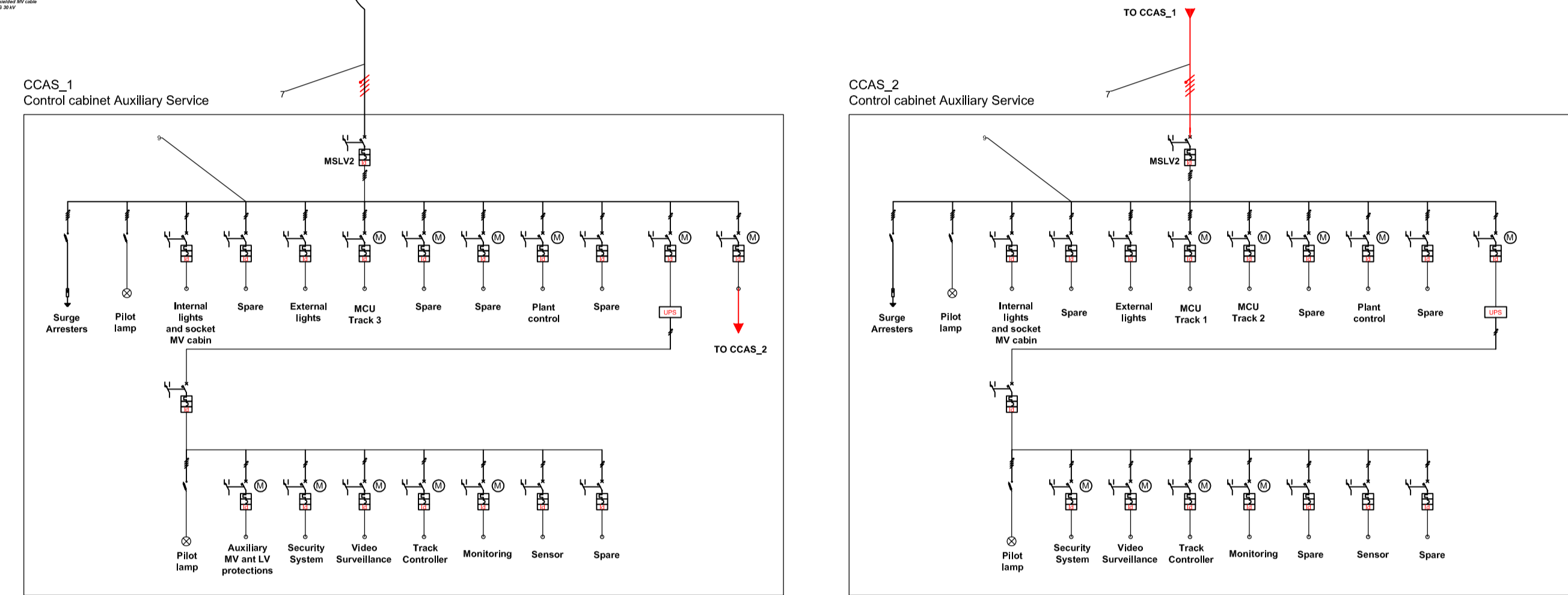


The power protection and the interface protection are powered by UPS able to guarantee the power supply for three hours

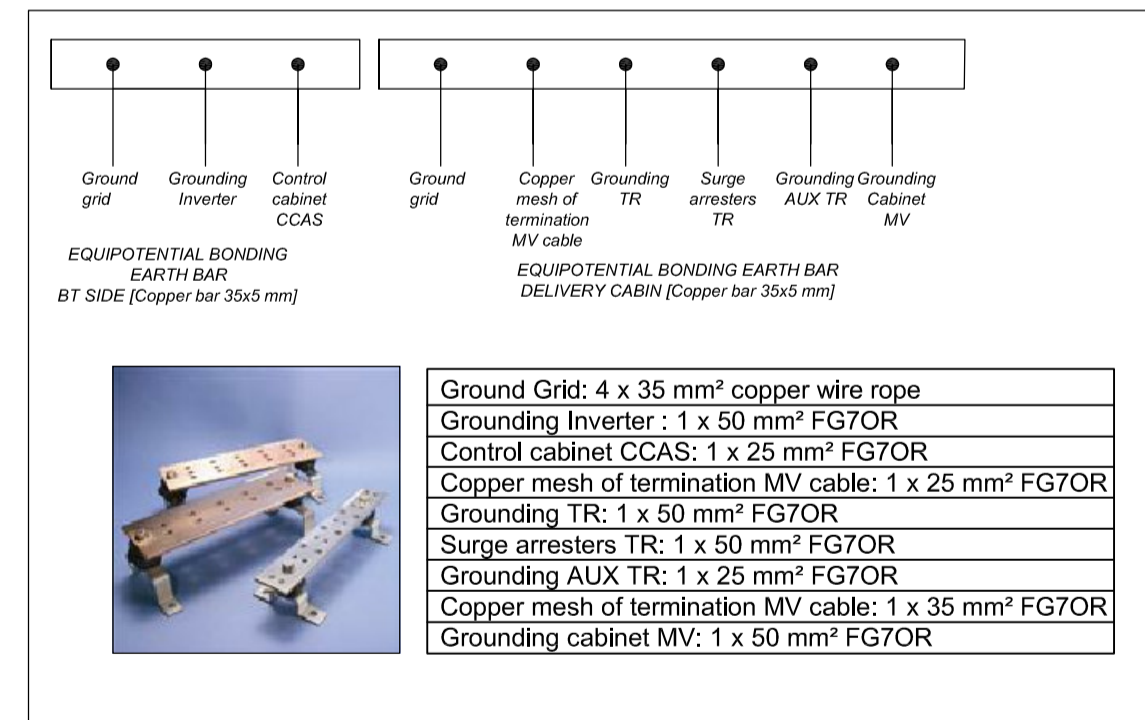
WARNING SAFETY PLATE:
Presence of two power supplies (network utility company and photovoltaic plant) disconnect the plant before accessing the electrical panel



- CABLE LIST**
- 1 String cables: 1x10 mm² FG21M21 (AL A1ZZZ2) 1800 VCC or similar
 - 2 Box string cables: 2x1x400 mm² ARG7OR 1500 VCC (AI) or FG21M21 1800 VCC
 - 3 Data transmission: EIA RS-485 2x2x24 AWG
 - 4 Connections Inverter to Transformer: BUS BAR
 - 5 Connection transformer MV/LV to AUX TR: BUS BAR
 - 6 Connection transformer AUX TR to CCAS: 4x1x95 mm²
 - 7 Connection transformer MV/LV to MT Cabinet: 3x1x300 mm² ARE4H5Z or 3 x 300 mm² AL XLPE
 - 8 The low voltage cable are FG7OR if they are installed in trunking and NO7VK if installed in cabinets

SEZIONE	BOX	Potenza strings [W]	N° str.	L Positivo [m]	L Negativo [m]	LP+N [m]	Voc [V]	Vn [V]	In [A]	Tipologia Conduttore	Sezione conduttore mm ²	Resistività	ΔV [V]	VF	PF	ΔV%	ΔP%
1	1	145800	12	150	150	300	1392	1107	131,76	AI	400	0,0287	2,84	1104	145465	0,26%	0,22%
1	2	291600	24	90	90	180	1392	1107	263,52	AI	400	0,0287	3,40	1104	290820	0,31%	0,27%
1	3	291600	24	70	70	140	1392	1107	263,52	AI	400	0,0287	2,65	1104	291019	0,24%	0,20%
1	4	291600	24	50	50	100	1392	1107	263,52	AI	400	0,0287	1,89	1105	291218	0,17%	0,13%
1	5	291600	24	35	35	70	1392	1107	263,52	AI	400	0,0287	1,32	1106	291368	0,12%	0,08%
1	6	291600	24	40	40	80	1392	1107	263,52	AI	400	0,0287	1,51	1105	291318	0,14%	0,10%
1	7	291600	24	45	45	90	1392	1107	263,52	AI	400	0,0287	1,70	1105	291268	0,15%	0,11%
1	8	291600	24	65	65	130	1392	1107	263,52	AI	400	0,0287	2,46	1105	291069	0,22%	0,18%
1	9	291600	24	55	55	110	1392	1107	263,52	AI	400	0,0287	2,08	1105	291169	0,19%	0,15%
1	10	291600	24	35	35	70	1392	1107	263,52	AI	400	0,0287	1,32	1106	291368	0,12%	0,08%
1	11	291600	24	25	25	50	1392	1107	263,52	AI	400	0,0287	0,95	1106	291468	0,09%	0,06%
1	12	291600	24	45	45	90	1392	1107	263,52	AI	400	0,0287	1,70	1105	291268	0,15%	0,11%
1	13	291600	24	55	55	110	1392	1107	263,52	AI	400	0,0287	2,08	1105	291169	0,19%	0,15%
1	14	243200	20	70	70	140	1392	1107	219,6	AI	400	0,0287	2,21	1105	242913	0,20%	0,16%
2	1	291600	24	65	65	130	1392	1107	263,52	AI	400	0,0287	2,46	1105	291069	0,22%	0,18%
2	2	291600	24	55	55	110	1392	1107	263,52	AI	400	0,0287	2,08	1105	291169	0,19%	0,15%
2	3	291600	24	35	35	70	1392	1107	263,52	AI	400	0,0287	1,32	1106	291368	0,12%	0,08%
2	4	291600	24	20	20	40	1392	1107	263,52	AI	400	0,0287	0,76	1106	291517	0,07%	0,05%
2	5	291600	24	45	45	90	1392	1107	263,52	AI	400	0,0287	1,70	1105	291268	0,15%	0,11%
2	6	291600	24	40	40	80	1392	1107	263,52	AI	400	0,0287	1,51	1105	291318	0,14%	0,10%
2	7	291600	24	70	70	140	1392	1107	263,52	AI	400	0,0287	2,46	1105	291069	0,22%	0,18%
2	8	291600	24	95	95	190	1392	1107	263,52	AI	400	0,0287	3,19	1103	290770	0,32%	0,28%
2	9	291600	24	75	75	150	1392	1107	263,52	AI	400	0,0287	2,84	1104	290919	0,26%	0,22%
2	10	291600	24	30	30	60	1392	1107	263,52	AI	400	0,0287	1,13	1106	291418	0,10%	0,06%
2	11	291600	24	30	30	60	1392	1107	263,52	AI	400	0,0287	1,13	1106	291418	0,10%	0,06%
2	12	291600	24	40	40	80	1392	1107	263,52	AI	400	0,0287	1,51	1105	291318	0,14%	0,10%
2	13	291600	24	60	60	120	1392	1107	263,52	AI	400	0,0287	2,27	1105	291119	0,20%	0,17%
2	14	291600	24	90	90	180	1392	1107	263,52	AI	400	0,0287	3,40	1104	290820	0,31%	0,27%
3	1	291600	24	45	45	90	1392	1107	263,52	AI	400	0,0287	1,70	1105	291268	0,15%	0,11%
3	2	291600	24	80	80	160	1392	1107	263,52	AI	400	0,0287	3,03	1104	290919	0,27%	0,23%
3	3	291600	24	30	30	60	1392	1107	263,52	AI	400	0,0287	1,13	1106	291418	0,10%	0,06%
3	4	291600	24	70	70	140	1392	1107	263,52	AI	400	0,0287	2,46	1104	291019	0,24%	0,20%
3	5	145800	12	95	95	190	1392	1107	131,76	AI	400	0,0287	1,80	1105	145622	0,16%	0,12%
3	6	243200	20	190	190	380	1392	1107	219,6	AI	400	0,0287	5,99	1101	241782	0,54%	0,50%
3	7	291600	24	180	180	360	1392	1107	263,52	AI	400	0,0287	6,48	1100	289913	0,61%	0,58%
3	8	291600	24	195	195	390	1392	1107	263,52	AI	400	0,0287	7,37	1100	289773	0,67%	0,63%
3	9	291600	24	230	230	460	1392	1107	263,52	AI	400	0,0287	8,70	1098	289425	0,79%	0,75%
3	10	291600	24	250	250	500	1392	1107	263,52	AI	400	0,0287	9,45	1098	289275	0,85%	0,81%
3	11	291600	24	285	285	570	1392	1107	263,52	AI	400	0,0287	10,78	1095	288977	0,97%	0,93%
3	12	291600	24	310	310	620	1392	1107	263,52	AI	400	0,0287	11,72	1095	288677	1,06%	1,02%
3	13	291600	24	350	350	700	1392	1107	263,52	AI	400	0,0287	13,24	1094	288279	1,20%	1,16%
3	14	291600	24	390	390	780	1392	1107	263,52	AI	400	0,0287	14,75	1092	1162913,73	1,33%	1,29%
TOTAL		11664000	960	4280	4280	8560											

- Characteristics of photovoltaic plant**
Power plant: 11.664 kWp
N° of photovoltaic modules: 25.920
N° of photovoltaic modules in series: 27
N° of string: 960
- Characteristics of photovoltaic module**
Power peak: 450 Wp [0/+5 W]
Vmp: 41 V
Voc: 49.6 V
Imp: 10.98 A
Isc: 11.53 A
Efficiency: 20.6 %
Dimensions (W/H): 2102 x 1040 x 35 mm
Weight: 24.0 kg
- Characteristics of Inverter**
MV Power Station 4200
Max. Input Voltage: 1500 V
Max. Input Current: 4750 A
European Efficiency: 98.6 %P
Dimensions (W/H/D) and Weight:
12.192/2.896/2.438 mm < 26 t
Electronics degree of protection: Control rooms IP23D, inverter electronics IP65
- Characteristics of delivery cabinet**
Auxiliary Power: 250 kVA
Primary voltage transformer MV/LV: 0.400 kV
Secondary voltage transformer MV/LV: 30.0 kV
Vcc transformer MV/LV: 6%Pn³ TV double secondary
Revalco tipo RVCB R.T. 30:0.1 kV protection
n° 2 TV phase phase Revalco tipo RVCB R.T. 20:0.1 kV measure
n° 4 TA TF70 R.T. 300/1A protection - n° 2 TO 40/1 protection
MV Breaker: In=630A, Icc=16kA
Interface device and Power device is MV BREAKER
Protection PRO NA 11: 74CT, 50, 51, 50N, 51N Power protection
Protection PRO NVA 100: 59, 59 UO, 27, 67, 67N, 81O, 81N
- Characteristics of String monitor**
Number of string: 24
Max. DC Voltage: 1500 V
Rated current: 315 A
Electronics degree of protection: IP54



- Ground Grid: 4 x 35 mm² copper wire rope
Grounding Inverter: 1 x 50 mm² FG7OR
Control cabinet CCAS: 1 x 25 mm² FG7OR
Copper mesh of termination MV cable: 1 x 25 mm² FG7OR
Grounding TR: 1 x 50 mm² FG7OR
Surge arresters TR: 1 x 50 mm² FG7OR
Grounding AUX TR: 1 x 25 mm² FG7OR
Copper mesh of termination MV cable: 1 x 35 mm² FG7OR
Grounding cabinet MV: 1 x 50 mm² FG7OR

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Progetto Impianto Agrivoltaiico
P.c.c.=11.664 kWp
Pn_a.c.= 11.184 kVA

Progetto Definitivo Wiring Diagram

ASP VIGLIONE S.R.L.
Sede Legale: Via Padre Pio, 8
70020 Cassano delle Murge (BARI) - Italia
Partita IVA e C.F. 02086670724

Progetto Definitivo