

Circuit Description	Sizing of Cables - AC Grid							u.m.
	From PV Station 1 to General Switchgear	From PV Station 2 to General Switchgear	From PV Station 3 to General Switchgear	From PV Station 4 to General Switchgear	From General Switchgear to 30/36kV Transformer	From 30/36kV Transformer to General Switchgear in UT Cabinet	From General Switchgear in UT Cabinet to TSO HV Station	
Number of Circuits	1	1	1	1	1	1	1	n°
Cable Type	Cables - RG7H1R	Cables - RG7H1R	Cables - RG7H1R	Cables - RG7H1R	Cables - RG7H1R	Cables - RG7H1R	Cables - RG7H1R	n°
Number of Cables	3	3	3	3	3	3	3	n°
Max Cable Size	70	70	70	70	240	240	240	mmq
Cable Power Factor	1	1	1	1	1	1	1	-
Cable k Circuit	1	1	1	1	1	1	1	-
Cable Installation Factor	0,62	0,62	0,62	0,62	0,62	0,62	0,62	-
Lenght Cables	300	510	650	120	0,03	0,05	12260	m
Resistance	0,268	0,268	0,268	0,268	0,268	0,0754	0,0754	Ω/km
Reactance	0,15	0,15	0,15	0,15	0,15	0,12	0,12	Ω/km
Ampaceity	255	255	255	255	510	510	510	A
Real Ampacity	158,1	158,1	158,1	158,1	316,2	316,2	316,2	A
Sizing I Load	82,75	82,75	40,41	82,75	288,68	240,56	240,56	A
Max System Voltage	30000	30000	30000	30000	30000	36000	36000	V
Max System Power	4300	4300	2100	4300	150000	15000	15000	kWp

Circuit Description		Load				AC Distribution System														
From	To	Lenght Cables km	Pn kW	Vn kV	In A	cos(phi)n rit	Poles	Cable Section	Iz A	R_20 Ω/km	X Ω/km	Iz real A	R Ω	X Ω	R <sup>2</sup> S <sup>2</sup> A <sup>2</sup> s	ΔV kV	%	ΔP kW	%	ΔQ kVAr
PV Station 1	General Switchgear in Parallel Cabinet	0,3	4300	30	82,75	0,995	3	70	255	0,268	0,15	158,1	0,0804	0,045	1,00E+08	12,10	0,04%	1,65	0,011%	3,08
PV Station 2	General Switchgear in Parallel Cabinet	0,51	4300	30	82,75	0,995	3	70	255	0,268	0,15	158,1	0,0765	0,077	1,00E+08	20,56	0,07%	1,56	0,010%	1,58
PV Station 3	General Switchgear in Parallel Cabinet	0,65	2100	30	40,41	0,995	3	70	255	0,268	0,15	158,1	0,1742	0,098	1,00E+08	12,80	0,04%	0,85	0,006%	0,48
PV Station 4	General Switchgear in Parallel Cabinet	0,12	4300	30	82,75	0,995	3	70	255	0,268	0,15	158,1	0,03216	0,018	1,00E+08	4,84	0,02%	0,66	0,004%	0,37
General Switchgear in Parallel Cabinet	30/36kV Trasformer	0,03	15000	30	288,68	0,995	3	240	510	0,075	0,12	316	0,00225	0,004	1,18E+09	1,30	0,004%	0,56	0,004%	1,00
30/36kV Trasformer	General Switchgear in UT Cabinet	0,05	15000	36	240,56	0,995	3	240	510	0,075	0,12	316	0,00375	0,006	1,18E+09	1,80	0,01%	0,65	0,004%	1,04
General Switchgear in UT Cabinet	TSO HV Station	11,26	15000	36	240,56	0,995	3	240	510	0,0754	0,12	316,2	0,8490	1,351	1,18E+09	407,80	1,13%	146,66	0,978%	234,58

Circuit Description		Load				AC Distribution System													
From	To	Lenght Cables km	Sn kVA	Vn kV	In A	cos(phi)n rit	Formazione	Check											
								I <sub>Bmax</sub> < I <sub>ZReal</sub>	ΔV <sub>tratta</sub> % < ΔV <sub>max</sub> %	I <sup>2</sup> t ≤ K <sup>2</sup> S <sup>2</sup>	ΔP <sub>tratta</sub> % < ΔP <sub>max</sub> %								
PV Station 1	General Switchgear in Parallel Cabinet	0,3	4300	30	82,75	0,995	3x1x70	82,75	158,1	VERO	0,04%	2%	VERO	2,82E+03	1,00E+08	VERO	0,011%	3,00%	VERO
PV Station 2	General Switchgear in Parallel Cabinet	0,51	4300	30	82,75	0,995	3x1x70	82,75	158,1	VERO	0,07%	2%	VERO	2,82E+03	1,00E+08	VERO	0,010%	3,00%	VERO
PV Station 3	General Switchgear in Parallel Cabinet	0,65	2100	30	40,41	0,995	3x1x70	40,41	158,1	VERO	0,04%	2%	VERO	2,82E+03	1,00E+08	VERO	0,006%	3,00%	VERO
PV Station 4	General Switchgear in Parallel Cabinet	0,12	4300	30	82,75	0,995	3x1x70	82,75	158,1	VERO	0,02%	2%	VERO	2,82E+03	1,00E+08	VERO	0,004%	3,00%	VERO
General Switchgear in Parallel Cabinet	30/36kV Trasformer	0,03	15000	30	288,68	0,995	3x1x240	288,68	316	VERO	0,004%	2%	VERO	1,13E+04	1,18E+09	VERO	0,004%	3,00%	VERO
30/36kV Trasformer	General Switchgear in UT Cabinet	0,05	15000	30	240,56	0,955	3x1x240	240,56	316	VERO	0,01%	2%	VERO	-	1,18E+09	VERO	0,004%	3,00%	VERO
General Switchgear in UT Cabinet	TSO HV Station	11,26	15000	36	240,56	0,955	3x1x240	240,56	316,2	VERO	1,13%	2%	VERO	1,13E+04	1,18E+09	VERO	0,978%	3,00%	VERO

F-CHORI - SCHEMA TAVOLE

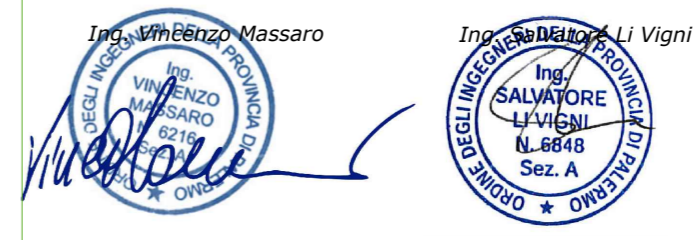
Tav.135.1 (1/3)	Schema Sinottico
Tav.135.2 (2/3)	Schema Elettrico Unifilare Generale
Tav.135.3 (3/3)	PV Station e Combiner Boxes

Regione: Sicilia  
 Provincia: Siracusa  
 Comune: Lentini  
 Localita': Pezza Grande  
**Impianto Agrivoltaico F-CHORI**  
 Progetto definitivo  
 Titolo: **SCHEMA ELETTRICO UNIFILARE**

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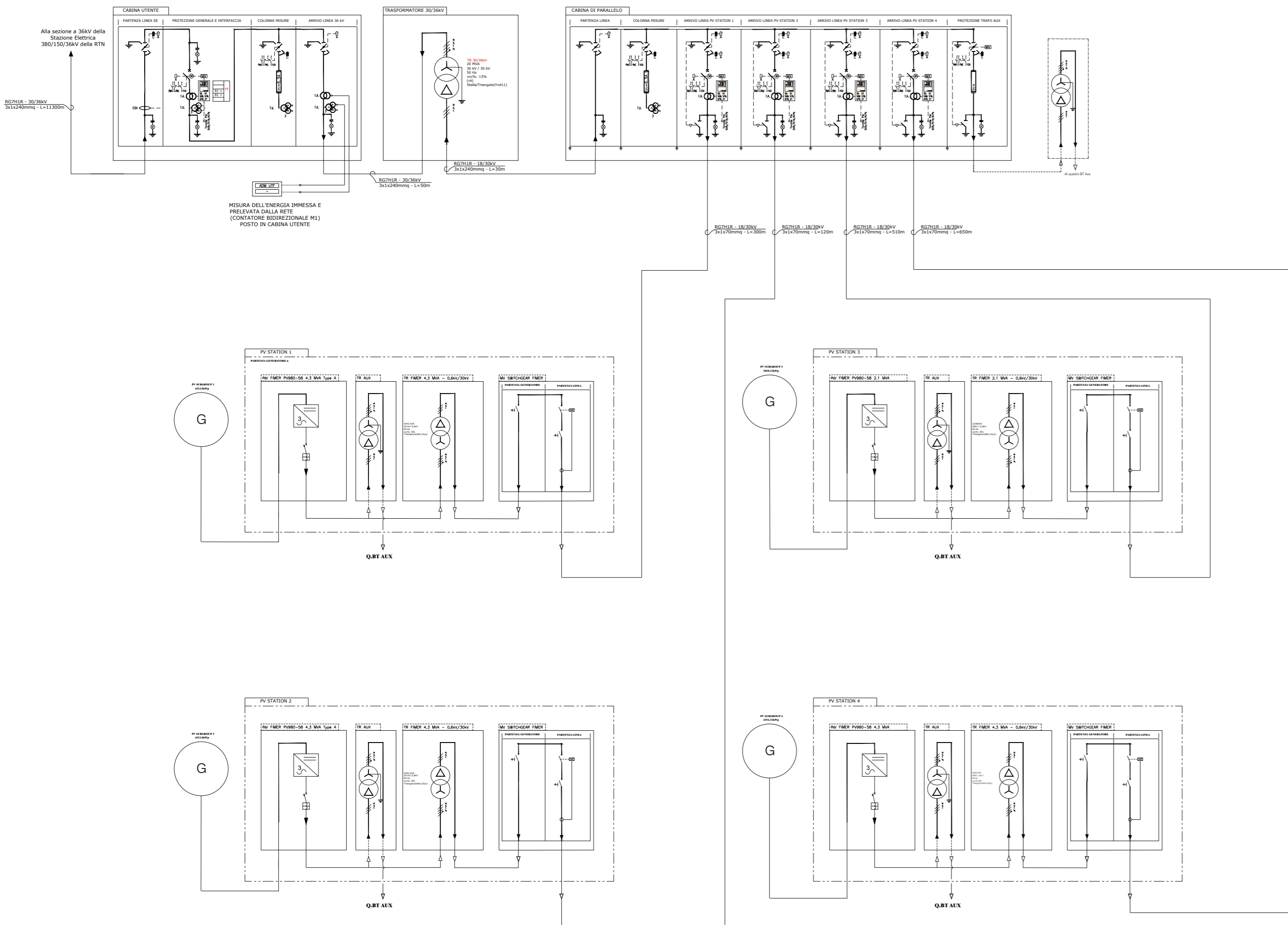
Visti / Timbri:



Note:

REVISIONI					
Data	Rev.	Descrizione revisioni	Elaborato:	Controllato:	Approvato:
17/01/2023	a	Prima emissione	Capital Engineering	Chorisia Solis	Coolbine

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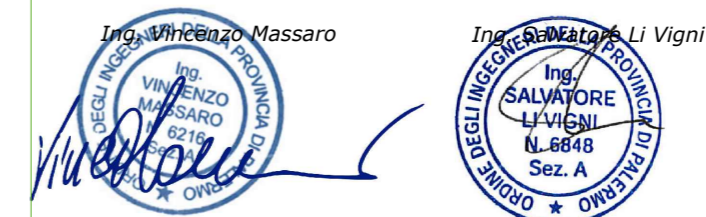
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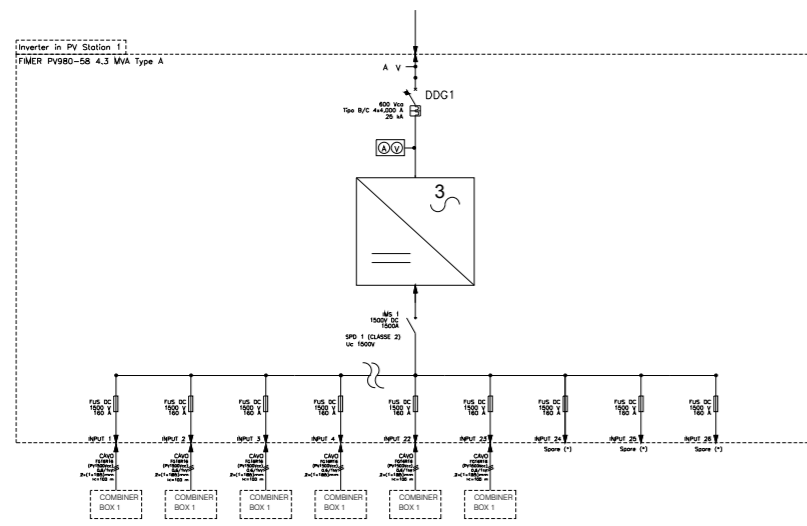


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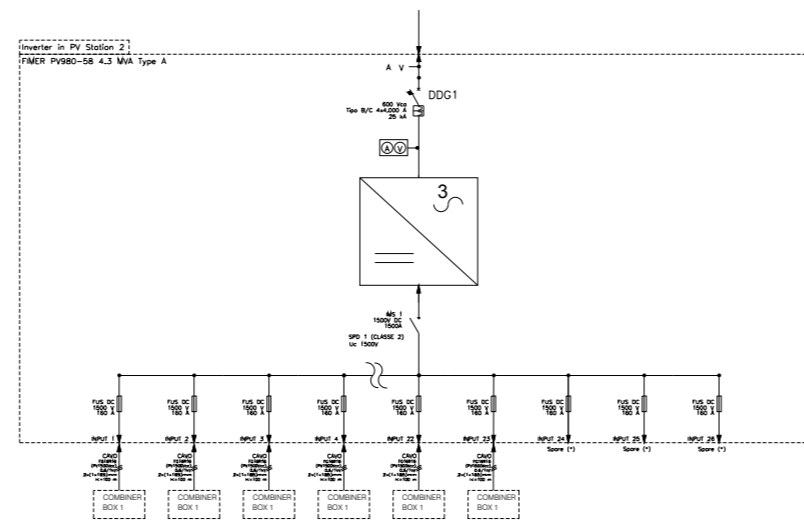


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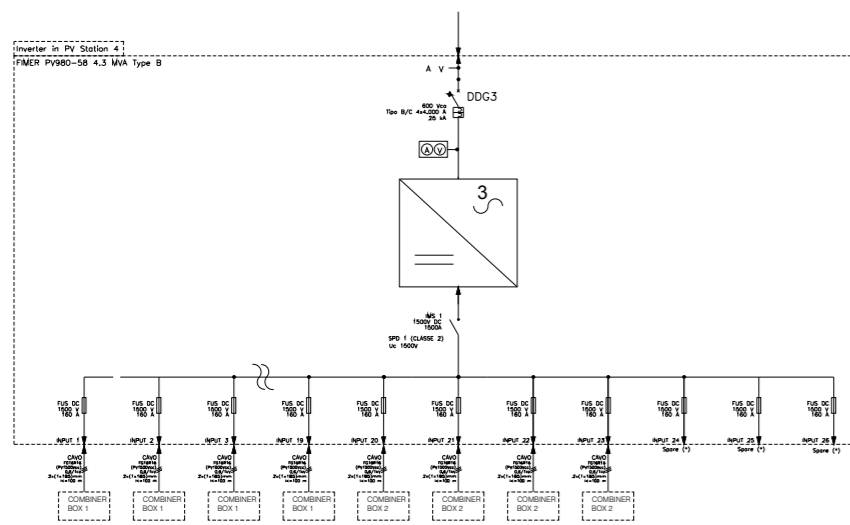
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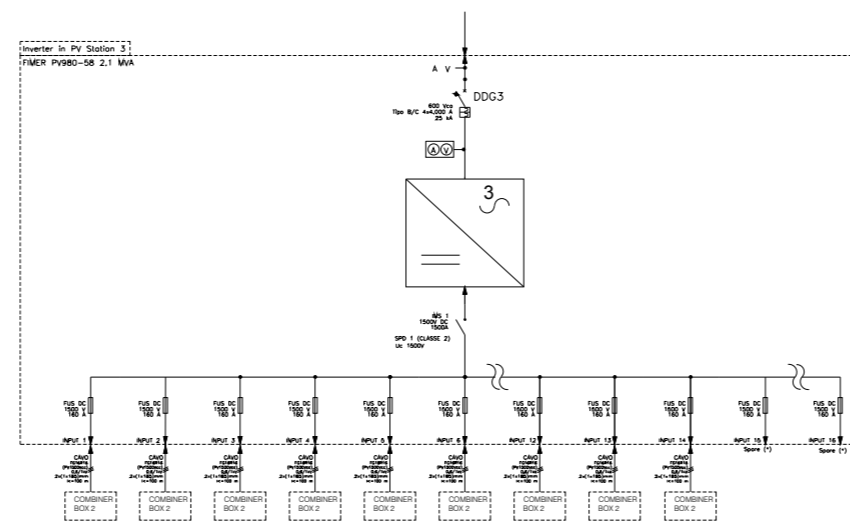
PV Station 1 INVERTER FIMER - PVS-CS 4.3 MW TYPE A			
	Combiner Box 1	Combiner Box 2	Tot
N° Elements	23	0	23
N° Strings	230	0	230
N° Modules	6440	0	6440
DC Power [kWp]	4314,8	0	4314,8
Imp [A]	4036,5	0	4036,5
Isc Sizing [A]	5353,25	0	5353,25



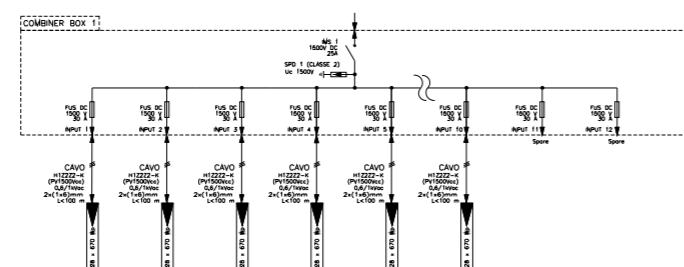
PV Station 2 INVERTER FIMER - PVS-CS 4.3 MW TYPE A			
	Combiner Box 1	Combiner Box 2	Tot
N° Elements	23	0	23
N° Strings	230	0	230
N° Modules	6440	0	6440
DC Power [kWp]	4314,8	0	4314,8
Imp [A]	4036,5	0	4036,5
Isc Sizing [A]	5353,25	0	5353,25



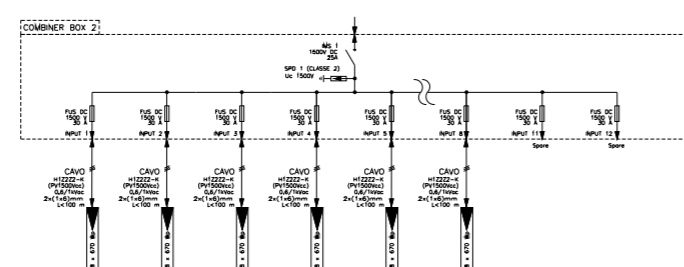
PV Station 4 INVERTER FIMER - PVS-CS 4.3 MW TIPO B			
	Combiner Box 1	Combiner Box 2	Tot
N°	20	4	24
N° Stringhe	200	32	232
N° Moduli	5600	896	6496
Potenza [kWp]	3752	600,32	4352,32
Imp [A]	4655	744,8	5399,8
Isc Sizing [A]	3510	561,6	4071,6



PV Station 3 INVERTER FIMER - PVS-CS 2.1 MW			
	Combiner Box 1	Combiner Box 2	Tot
N° Elements	0	14	14
N° Strings	0	112	112
N° Modules	0	3136	3136
DC Power [kWp]	0	2101,12	2101,12
Imp [A]	0	2606,8	2606,8
Isc Sizing [A]	0	1965,6	1965,6



Item	Strings	Modules	kWp	Isc sizing	Imp
Combiner Box 1	10	280	187,6	232,75	186,2



Item	Strings	Modules	kWp	Isc sizing	Imp
Combiner Box 2	8	224	150,08	186,2	148,96

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