CABLING CALCULATION: "Cerignola"

MODULE DATA SHEET		
MODULE TYPE	REC Solar / RECS4PE BLK	
Peak Power (Pm)	(Wp)	575.00
Open Circuit Voltage (Voc)	(V)	53.20
Optimum Operating Voltage (Vmp)	(V)	44.67
Corrente (Imp)	(A)	12.88
Temperature Co-efficients Voltage (β)	-0.280 V/%/°C	
Temperature Co-efficients Current(α)	0.048 A%/°C	
CHARACTERISTICS FOR ONE STRING		
Modules for each 1	N°	26.00
Voltage	Vmpp	1161.42
Current	A	12.88
Peak Power (Pm)	kWp	14.95
FINAL DATA		
String to the	N°	327
Power of all Strings	(Peak)	4888.65 kWp
Total Modules	N°	8502

*QPS = Smart String Box

QP - Inverter Electrical Characteristics			
Characteristics at STC	Ui OUT	1161.42 V	
	Vo OUT	1383.20 V	
	Ir	128.80 A	

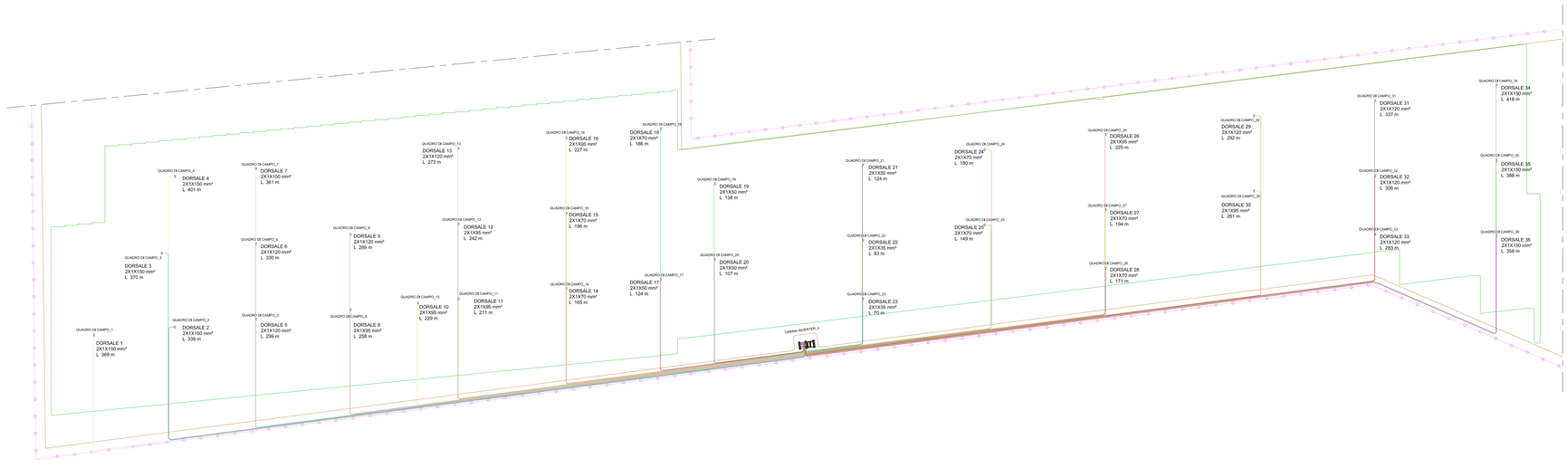
Voltage drop from Strings to QPS	
Modules for each strings	26.00
Line per QP	10
Strings per QP	10.00
Medium Lenght	≤ 45 m
Medium Resistance	0.1719 Ω
Section Line	10 mmq
Voltage Drop at STC	**0.19 %**
Voltage Drop at 65°C	**0.17 %**
Voltage Drop at -10°C	**0.17 %**

VALUES VERIFICATION FOR ONE QPS TO INVERTER		SMA - Sunny Central +200-EV	
Estimation of the minimum voltage Vmpp. For a temperature of the modules that are 65°C	1291.50V	MIN MPPT VOLTAGE	849 V
Estimation of the maximum current Impp. For a temperature of the modules that are 65°C	131.27 A		
Estimation of the maximum mppt voltage Voc. For a temperature of the modules that are STC	1161.42V	MAX MPPT VOLTAGE	1325 Vdc
Estimation of the minimum current Impp. For a temperature of the modules that are -10°C	126.64 A		
Estimation of the maximum voltage Voc. For a temperature of the modules that are -10°C	1247.65V	MAXIMUM VOLTAGE	1500 Vdc

CALCULATION OF THE VOLTAGE DROP ON THE CABLES STC

CODE	N° OF STRINGS TO QPS	AREAS	MAXIMUM LENGHT	LINE SECTION	VOLTAGE DROP FROM QP TO INVERTER	TOTAL VOLTAGE DROP	NUMBER OF AREAS IN THE PV PLANT
			m	mm²	%	%	
SC.01	9	A.01	369.00	150	0.87	1.10	1
SC.02	9	A.02	339.00	120	1.00	1.20	2
SC.03	9	A.03	370.00	150	0.88	1.10	3
SC.04	9	A.04	401.00	150	0.95	1.10	4
SC.05	9	A.05	299.00	120	0.88	1.10	5
SC.06	9	A.06	330.00	120	0.98	1.20	6
SC.07	9	A.07	361.00	150	0.85	1.00	7
SC.08	9	A.08	289.00	120	0.86	1.10	8
SC.09	9	A.09	289.00	120	0.86	1.10	9
SC.10	9	A.10	229.00	95	0.86	1.10	10
SC.11	9	A.11	211.00	95	0.79	1.00	11
SC.12	9	A.12	242.00	95	0.90	1.10	12
SC.13	9	A.13	273.00	120	0.81	1.00	13
SC.14	9	A.14	165.00	70	0.84	1.00	14
SC.15	9	A.15	196.00	70	0.99	1.20	15
SC.16	9	A.16	227.00	95	0.85	1.00	16
SC.17	9	A.17	124.00	50	0.88	1.10	17
SC.18	9	A.18	186.00	70	0.94	1.10	18
SC.19	9	A.19	138.00	50	0.98	1.20	19
SC.20	9	A.20	107.00	50	0.76	1.00	20
SC.21	9	A.21	124.00	50	0.88	1.10	21
SC.22	9	A.22	93.00	35	0.94	1.10	22
SC.23	10	A.23	70.00	35	0.79	1.00	23
SC.24	9	A.24	180.00	70	0.91	1.10	24
SC.25	9	A.25	149.00	70	0.76	1.00	24
SC.26	9	A.26	225.00	95	0.84	1.00	24
SC.27	9	A.27	194.00	70	0.98	1.20	24
SC.28	10	A.28	171.00	70	0.96	1.20	25
SC.29	9	A.29	292.00	120	0.88	1.10	26
SC.30	9	A.30	261.00	95	0.95	1.20	27
SC.31	9	A.31	337.00	150	0.86	1.10	28
SC.32	9	A.32	306.00	120	0.91	1.10	29
SC.33	10	A.33	283.00	120	0.93	1.10	30
SC.34	9	A.34	418.00	150	0.99	1.20	31
SC.35	9	A.35	388.00	150	0.92	1.10	32
SC.36	9	A.36	358.00	150	0.85	1.00	33

MEDIUM VALOR	**1.960 %**
MINIMUM VALOR	**1.000 %**
MAXIMUM VALOR	**1.200 %**



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EN.IT KNOW HOW, KNOW ENERGY

CERIGNOLA	REGIONE PUGLIA	PROVINCIA DI FOGGIA

IMPIANTO AGRIVOLTAICO E RELATIVE OPERE ED INFRASTRUTTURE CONNESSE DELLA POTENZA ELETTRICA DI 140,66 MW (ex 120MW) SITO NEL COMUNE DI CERIGNOLA

PROGETTO DEFINITIVO

Layout Campo "B"- Sottocampo 4
Dimensionamento delle dorsali-Tabella calcolo dorsali

Proponente:

CERIGNOLA SOLAR 2 S.R.L.
Via Antonio Locatelli n.1
37122 Verona
P.IVA 04741630232
cerignolasolar2@pec.it

Progettazione:

WH Group s.r.l.
Via A. Locatelli n. 1 - 37122 Verona (VR)
P.IVA 12336131003
ingegneria@enitgroup.eu

Spazio riservato agli Enti:

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	Rev.	Data	Descrizione	Redatto	Approvato
4.2.9_4.29	00	08/03/2022	V.I.A. Ministeriale	A. Tartaglia	S.M. Caputo