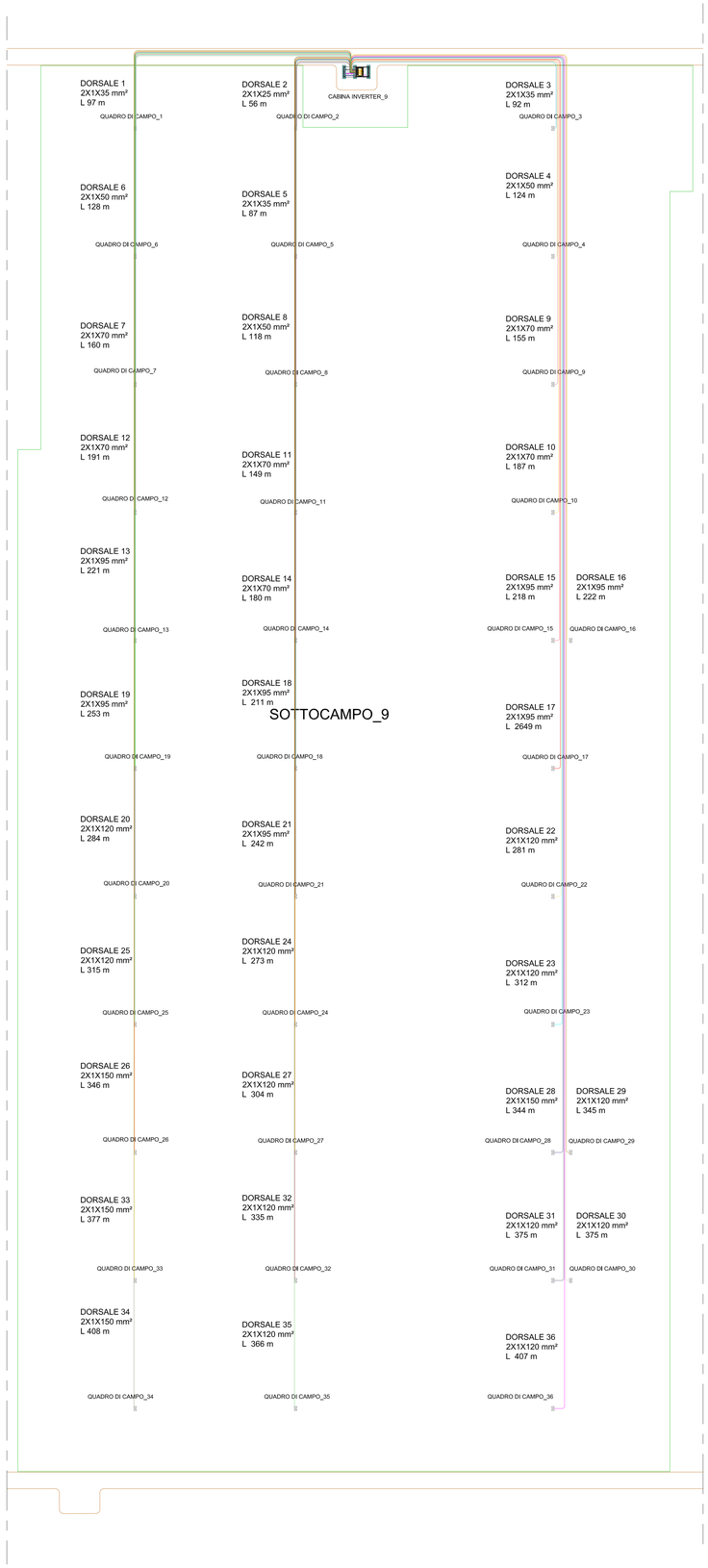


***CABLING CALCULATION: "Cerignola"***

| MODULE DATA SHEET | | |
|---|---|---|
| MODULE TYPE | REC Solar / REC430PE BLK | |
| Peak Power (Pm) | (Wp) | 575,00 |
| Open Circuit Voltage (Voc) | (V) | 53,20 |
| Optimum Operating Voltage (Vmp) | (V) | 44,07 |
| 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 Inv. | N° | 315 |
| Power of all Strings | (Peak) | 4709,25 kWp |
| Total Modules | N° | 8190 |

*QPS = Smart String Box

| QP - Inverter Electrical Characteristics | | | |
|---|---|---|---|
| | Ur OUT | 1161,42 V | |
| Characteristics at STC | Vo OUT | 1363,20 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 Resistence | 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 4000-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 | 97,00 | 35 | 0,99 | 1,20 | 1 |
| SC 02 | 9 | A.02 | 56,00 | 25 | 0,80 | 1,00 | 2 |
| SC 03 | 9 | A.03 | 92,00 | 35 | 0,94 | 1,10 | 3 |
| SC 04 | 9 | A.04 | 124,00 | 50 | 0,91 | 1,10 | 4 |
| SC 05 | 9 | A.05 | 87,00 | 35 | 0,88 | 1,10 | 5 |
| SC 06 | 9 | A.06 | 128,00 | 50 | 0,91 | 1,10 | 6 |
| SC 07 | 9 | A.07 | 160,00 | 70 | 0,81 | 1,00 | 7 |
| SC 08 | 9 | A.08 | 118,00 | 50 | 0,84 | 1,00 | 8 |
| SC 09 | 9 | A.09 | 155,00 | 70 | 0,79 | 1,00 | 9 |
| SC 10 | 9 | A.10 | 187,00 | 70 | 0,95 | 1,10 | 10 |
| SC 11 | 9 | A.11 | 149,00 | 70 | 0,76 | 1,00 | 11 |
| SC 12 | 9 | A.12 | 191,00 | 70 | 0,97 | 1,20 | 12 |
| SC 13 | 9 | A.13 | 221,00 | 95 | 0,83 | 1,00 | 13 |
| SC 14 | 9 | A.14 | 180,00 | 70 | 0,92 | 1,10 | 14 |
| SC 15 | 9 | A.15 | 218,00 | 95 | 0,82 | 1,00 | 15 |
| SC 16 | 9 | A.16 | 222,00 | 95 | 0,83 | 1,00 | 16 |
| SC 17 | 9 | A.17 | 249,00 | 95 | 0,93 | 1,10 | 17 |
| SC 18 | 9 | A.18 | 211,00 | 95 | 0,79 | 1,00 | 18 |
| SC 19 | 9 | A.19 | 253,00 | 95 | 0,95 | 1,10 | 19 |
| SC 20 | 9 | A.20 | 284,00 | 120 | 0,84 | 1,00 | 20 |
| SC 21 | 9 | A.21 | 242,00 | 95 | 0,91 | 1,10 | 21 |
| SC 22 | 9 | A.22 | 281,00 | 120 | 0,83 | 1,00 | 22 |
| SC 23 | 9 | A.23 | 312,00 | 120 | 0,93 | 1,10 | 23 |
| SC 24 | 9 | A.24 | 273,00 | 120 | 0,81 | 1,00 | 24 |
| SC 25 | 9 | A.25 | 315,00 | 120 | 0,93 | 1,10 | 24 |
| SC 26 | 9 | A.26 | 346,00 | 150 | 0,82 | 1,00 | 24 |
| SC 27 | 9 | A.27 | 304,00 | 120 | 0,90 | 1,10 | 24 |
| SC 28 | 9 | A.28 | 344,00 | 150 | 0,82 | 1,00 | 25 |
| SC 29 | 8 | A.29 | 345,00 | 120 | 0,91 | 1,10 | 26 |
| SC 30 | 7 | A.30 | 375,00 | 120 | 0,87 | 1,10 | 27 |
| SC 31 | 7 | A.31 | 375,00 | 120 | 0,87 | 1,10 | 28 |
| SC 32 | 9 | A.32 | 335,00 | 120 | 0,99 | 1,20 | 29 |
| SC 33 | 9 | A.33 | 377,00 | 150 | 0,89 | 1,10 | 30 |
| SC 34 | 8 | A.34 | 408,00 | 150 | 0,86 | 1,10 | 31 |
| SC 35 | 8 | A.35 | 366,00 | 120 | 0,97 | 1,20 | 32 |
| SC 36 | 7 | A.36 | 407,00 | 120 | 0,94 | 1,10 | 33 |

| | |
|---|---|
| MEDIUM VALOR | **1,907 %** |
| MINIMUM VALOR | **1,000 %** |
| MAXIMUM VALOR | **1,200 %** |

## 1. LEGENDA

- DORSALE QUADRO_01
- DORSALE QUADRO_02
- DORSALE QUADRO_03
- DORSALE QUADRO_04
- DORSALE QUADRO_05
- DORSALE QUADRO_06
- DORSALE QUADRO_07
- DORSALE QUADRO_08
- DORSALE QUADRO_09
- DORSALE QUADRO_10
- DORSALE QUADRO_11
- DORSALE QUADRO_12
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- DORSALE QUADRO_33
- DORSALE QUADRO_34
- DORSALE QUADRO_35
- DORSALE QUADRO_36

N

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 "A1"- Sottocampo 9 - 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)
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ingegneria@enitgroup.eu


Spazio riservato agli Enti:

File: PE17Q60_ElaboratoGrafico_4.2.9_2.64 | Cod. PE17Q60 | Scala 1:500

| Rev. | Data | Descrizione | Redatto | Approvato |
|---|---|---|---|---|
| 00 | 08/03/2022 | V.I.A. Ministeriale | A. Tartaglia | S.M. Caputo |

4.2.9_2.64