**Technical requirements for a solar power plant**

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|  | **Standards:** | |
|  | The design and type testing of PV modules shall comply with the requirements of the standard: | IEC 61215 a) |
|  | The electrical and mechanical safety requirements for PV modules shall comply with the standard: | IEC 61730 a) |
|  | The manufacturer’s quality management system must be assessed by a certificate: | ISO 9001 b |
|  | The manufacturer’s environmental management system must be assessed by a certificate: | ISO 14001 b) |
|  | The product must have undergone conformity assessment procedures to ensure that the manufactured product complies with the essential requirements of European standards and directives | CE marking and declaration of conformity a) |
|  | **Photovoltaic modules:** | |
|  | Operating temperature, °C | -40/+85 a) |
|  | Maximum wind load, Pa | ≥ 2400 a) |
|  | Maximum snow and ice load, Pa | ≥ 5400 a) |
|  | Cell type | Monocrystalline or polycrystalline silicon a) |
|  | Number of cells per module | 60 a) |
|  | Arrangement of cells in the module | 6 x 10 a) |
|  | Module power (STC) 1), W | ≥ 250 a) |
|  | Module efficiency (STC) 2),% | ≥ 15 a) |
|  | Power tolerance (STC) 3), W | -0/+≥0 a) |
|  | Number of diodes installed in the module design to limit the hot-spot effect | 3 a) |
|  | Fire-resistance class | A a) |
|  | The reduction in maximum output power due to degradation of the cells after 10 years of operation shall not exceed, % | 10 a) |
|  | The reduction in maximum output power due to degradation of the cells after 25 years of operation shall not exceed, % | 20 a) |
|  | IP class of module junction box | ≥ IP67 a) |
|  | **Inverter:** | |
|  | Inverter operating mode | 1. Parallel to the 0,4 kV network |
|  | Inverter efficiency, % | ≥ 96 a) |
|  | Output voltage, VAC | 400 a) |
|  | Number of output phases | 3 a) |
|  | Output frequency, Hz | 50 a) |
|  | DC automatic switch | Integrated a) |
|  | Protection against unauthorised changes to parameter settings | Password-protected user identifier a) |
|  | The inverter integrates a metering and monitoring system for electricity generation and software for remote connection | For monitoring and data analysis using a WEB browser a) |
| **Notes:**  **The manufacturer may use standards and certificates equivalent to the IEC standards and ISO certificates referred to in these requirements.**  1) STC - standard test conditions according to IEC 61215;  2) 15% efficiency corresponds to an installed power per unit area of 150 W/m2;  3) Only positive power tolerance is allowed.  **Documentation provided by the contractor to justify compliance with the required parameter:**  a) Manufacturers declaration of conformity, official manufacturers quotation document (summary of technical parameters) for exact object (procurement), operating documentation, factory drawing or publicly available document describing technical data of equipment (brochure, catalog).  b) Copy of the certificate. | | |