

## INSTRUCTIONS FOR INSTALLATION AND MAINTENANCE OF CHTSBAS-SP, CHTSBA-SP, CHTSBBS-SP, CHTSBB-SP, CHTSBT-SP, CHTSBTB-SP SERIES PANELS

### WARNING:

- Please pay the utmost attention: all the proposed ranges are provided with a double power supply: one relating to the photovoltaic system and one relating to the electricity grid.
- The panels for photovoltaic applications have been developed for use in normal environmental conditions, both indoors and outdoors, with the exception of any places where there following risks are present: corrosive chemicals, risks of impact higher than IK08 or unspecified, risk of explosion.
- Please respect the specific rules of injury prevention for electrical installations and maintenance.
- Access to the switchboard by any common persons is strictly prohibited.
- Please do not lose this document.
- It is not allowed to modify the photovoltaic panel.

The purpose of this management and maintenance manual is to provide general technical information, in addition to the minimum information which is necessary to allow experienced technicians to operate safely on the photovoltaic system. All the operators assigned to the management and maintenance of photovoltaic systems must be trained and authorized to operate on electrical systems. In addition, before operating on the system, operators shall carefully read the executive project and all the documentation and technical manuals concerning the basic components of the system and their guarantee. This documentation must be delivered to the operators by the Plant Manager.

### Operators

The photovoltaic panels have been constructed by respecting the rules as provided in the CEI EN 61439-1 and CEI EN 61439-2 standards.

The operator assigned to the installation and maintenance of photovoltaic panels must be an expert person who therefore meets all the requirements as per the Law Decree 81/2008 and must comply with the CEI standards that can be applied in the aforementioned activities, as well as the use of adequate personal protective equipment (PPE).

The common person is only allowed to operate the switches and disconnectors to bring them back ON or OFF, as well as check the status of any surge arresters by checking the identifiable signals on the displays situated on the SPD devices.

### Preliminary operations

Before installation, please perform the following preliminary inspections and tests on the photovoltaic panel:

- Check the integrity of the plastic switchboard;
- Check the mechanical operation of the switch levers, by testing them both in the ON and OFF positions;
- Check the tightness of all screws, bolts, clamps, etc.;
- Check the tightness of the cable glands and MC4 panel connectors.

### Installation

Please install the photovoltaic panel following the instructions which were previously provided on the place of installation.

Fix the panel to the wall appropriately, using the suitable tools and equipment.

Before connecting the electrical panel for photovoltaics, please make sure you have interrupted the power supply by turning the line switch to the OFF position, and check that all devices on board the photovoltaic panel are in the OFF position. This procedure

ensures the safety of trained operators. On the DC side, the MC4 connectors of the solar cable must always be connected in an open circuit.

### Starting up

After installing the panel on the wall, in compliance with the instructions provided in the system layout according to Ministerial Decree n. 37/08, please perform the following inspections and tests for connecting the photovoltaic panel:

- Respect the connections indicated on the diagrams of the AC side electrical network;
- Respect the connections indicated on the diagrams of the AC Inverter side line;
- Make sure the connectors are of the same brand and type as the connectors on the photovoltaic panel; \*
- Connect the strings while respecting the connections of the strings coming from the PV field;
- Connect the lines of the strings coming out from the photovoltaic panel to the respective MPPT inputs of the inverter;
- Check the connection to the ground system;
- Do not make connections between the two AC and DC sections;
- Turn the disconnector on the DC side to the ON position;
- Turn the automatic switch on the AC side to the ON position;
- Verify the correct start of the inverter;
- Check the operation of the differential automatic switch that protects the photovoltaic system line

(\* ) Please note: Chint Italia Investment S.r.l. does not provide any guarantee in case of missed application of the above instructions.

### Ordinary/extraordinary maintenance

The ordinary maintenance of photovoltaic panels must be carried out by expert staff, as indicated in Legislative Decree n. 81/2008, and must comply with the CEI standards that can be applied in the aforementioned activities, as well as the use of adequate personal protective equipment (PPE). The activities are mainly related to safety and involve periodical inspections. The frequency of ordinary maintenance must be determined according to the level of environmental pollution and the service conditions of the place where the switchboard is installed. In case of any particular conditions of the plant or the surrounding environment, a higher level of verification may be required. In this case, depending on external stresses, the maintenance service might decide to adopt a more intense verification program.

The ordinary inspections and tests are as follows:

- Tripping test of the differential automatic switch that protects the photovoltaic system line: Every month
- Visual inspection of the switchboard and checking the presence of any breakages in the switchboard and/or detection of any abnormal factors: Every six months
- Check the status of the DC and AC arresters (SPD) on the switchboard by means of the respective visual indicators: Every six months
- Check the tightness of all nuts and bolts, both switches and terminals: Every year
- Operation check of the protection/isolation devices: Every year
- Visual inspection of the condition of the conductors on both the AC and DC sides: Every year
- Check the status of the separating partition between the AC side and the DC side: Every year
- Check the state of the equipment (oxidation, corrosion, etc.): Every year
- Instrumental verification of circuits insulation: Every five years
- Instrumental check of the continuity of the conductors and earth protection connections: Every five years
- Check for the presence of the identification plate and wiring diagram with any updates: Every three years

Extraordinary maintenance, instead, is connected to restoring the operations after a mostly accidental event in which activities must be carried out, again by expert staff, which are necessary for restoring the ordinary operation of the photovoltaic panel.

In any case, the operational responsibilities and procedures for disconnecting the voltage, the earthing of the parts of the plant concerned and the subsequent restarting must be defined. Maintenance interventions must be carried out after making the switchgear safe.

## Responsibility

Chint Italia Investment S.r.l. declines any responsibility for damage resulting from tampering or improper use of the photovoltaic panel, removal of safety separators, removal of safety/danger signals, or resulting from incorrect or untimely maneuvers performed by untrained and/or unauthorized staff. If, during normal operation, the protection devices intervene, the cause must be verified before restoring them, to exclude or remove any possible system failures.

Chint Italia Investment S.r.l. holds no responsibility for products that are kept in operation in an unsuitable environment or without a regular predetermined regime of inspections, tests and maintenance, to guarantee both the equipment performance and people and things safety. For the correct use of the electrical panel, the following checks and/or periodical checks must be carried out and, at the same time, the results shall be recorded in an appropriate registry.



Disposal: pursuant to Legislative Decree Nr. 49 of 14 March 2014, these end-of-life products are WEEE (special waste) and it is mandatory to carry out their separate collection with subsequent start-up for treatment, recovery and recycling, in order to reduce risks to the environment and human health. Abandonment, uncontrolled storage or incorrect or abusive disposal of WEEE involves the application of the penalties provided for by law. To find out about the operational methods for WEEE collection, please contact Chint Italia Investment S.r.l.

UT-DC2108-CHTSBDA-SP

CHINT ITALIA INVESTMENT SRL

### CE Dichiarazione di conformità

*EC Declaration of Conformity*

La presente dichiarazione di conformità è rilasciata dalla società  
*This declaration of conformity is issued by the company*

CHINT ITALIA INVESTMENT S.R.L.  
Via A. Pacinotti, 28 30033 Noale (VE) P.Iva 04553860273

Oggetto della dichiarazione/*Object of declaration*

Quadro elettrico lato AC e DC per Impianti Fotovoltaici  
*Panels for inverter protection on the alternating and direct current side of PV System*

Tipo/*Type*:  
"CHTSBAS-SP, CHTSBA-SP, CHTSBBS-SP, CHTSBB-SP, CHTSBT-SP, CHTSBTB-SP"

L'oggetto della dichiarazione di cui sopra è conforme alla pertinente normativa comunitaria di armonizzazione  
*The object of the declaration described above complies with the relevant European Union harmonization legislation*

2014/35/UE: Direttiva Bassa Tensione / *Low voltage directive*

e sono stati applicati le norme o altri documenti normativi indicati di seguito  
*and the following harmonized standards or other normative regulations have been applied*

- EN 61439-1
- EN 61439-2

Anno in cui è stata affissa la marcatura/*Year of CE marking*:

2021

Luogo e Data/*Place and Date*: Venezia 08/2021      Amministratore/*Company Representative*

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