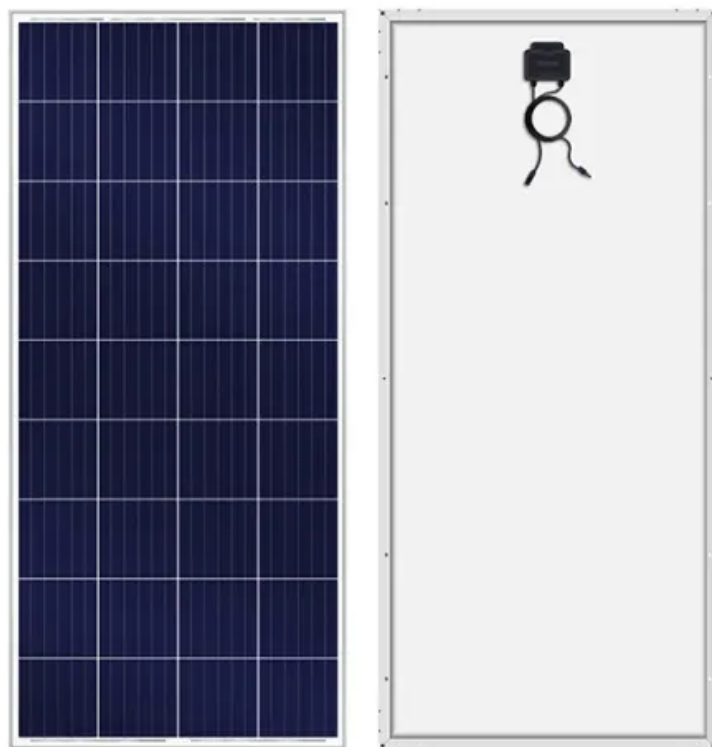


# **Communication base station inverter lightning protection self-check**





## Overview

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How should a lightning protection System (RBS) be formed?

The earthing network of an RBS should be formed by a ring loop surrounding the tower, equipment room and fence, at a minimum. The mean radius  $r_e$  of this ring loop should be not less than  $l_1$ , as indicated in Figure 1 and this value depends on the lightning protection system (LPS) class and on the soil resistivity.

What is a lightning protection system (LPS)?

3.2.3 lightning protection system (LPS): Complete system used to reduce physical damage due to lightning flashes to a structure. NOTE – An LPS consists of both external and internal lightning protection system.

How to install a navigation light control box (NLCB)?

The PDB should be connected to the indoor earthing bar by using a bonding conductor shorter than 1 m. An AC SPD should be integrated in the PDB in the case where the protection of the AC power port is required by the network operator. It is recommended to install the navigation light control box (NLCB) directly on the wall.

How to protect the navigation light system in the equipment room?

Figure 12 shows protection of the navigation light system in the equipment room. If the NL has internal control circuits or it is based on LED technology, then an SPD is required on the top of the tower to protect the lamp. This SPD can be integrated into the lamp box.

Can a navigation light monitoring unit be installed in a PDB?

Refer to [IEC 61643-12] for the relevant information. If the NL is directly powered by PDB in the equipment room, an SPD should be integrated into the PDB. The bonding conductor of the PDB is recommended to be shorter than 1 m. The protection module of the navigation light monitoring unit can be



installed in the NLCB or in the PDB.

How do you measure earthing resistance in a wireless base station?

In the earthing system for a single wireless base station, the earthing network, down-conductors and metal conductors make a test loop. By using a clamp meter, the earthing resistance of the entire loop can be measured, but not the earthing resistance of the earthing network.



## Communication base station inverter lightning protection self-check



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This is why the standard DIN EN 62305 (IEC 62305) mandates a type 1 lightning current arrester at the boundary between lightning protection zone 0 B and 1. In mobile ...

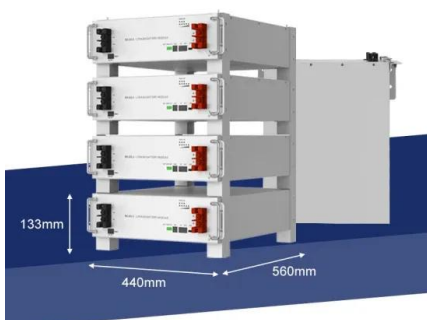
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Install lightning rods, grounding, surge protectors, shielding, and follow standards for effective communication station protection.

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The purpose of this Recommendation is to give detailed guidance on protection procedures, so that an engineer who is not a lightning protection expert can accomplish the design of the ...

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Direct lightning strikes to substations causes physical damage and poses hazards for people. Because substations should operate reliably and because they are ...

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Let us continue with more detailed review of our offered solution Computations of lightning protection of a modular inverter installation (MII) for ...

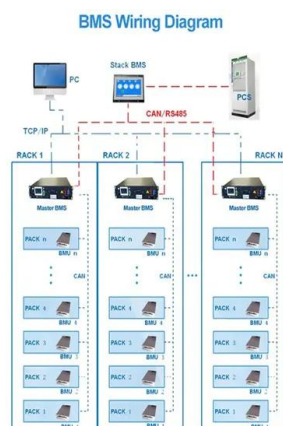
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Wireless network base stations need protection from overvoltage and overcurrents. These conditions are due to lightning strikes, power line accidents, and other disturbances. Most ...

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As climate change increases lightning density by 12% per decade (NOAA 2024 data), the industry must adopt adaptive protection systems. The next-generation communication base station ...

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## Overvoltage Protection

The internal lightning protection provides equipotential bonding between metal installations and cables within the system. Metal and conductive system parts, e.g. water pipes, are connected ...

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