

## SolarTech Power Solutions

# Deep burial depth of lightning protection flat iron for communication base station batteries



## Overview

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What is NFPA 780 (lightning protection) & grounding system plan?

Grounding and Lightning protection as per NFPA 780 & 70. The main objective of this post is to creating both Lightning Protection plan & grounding system plan with a good knowledge of standard references. NFPA 780 (Lightning Protection) BRIEF. A) Air terminals height 0.6 m along edge (within 0.6 m from roof edge) with 7.6 m maximum spacing.

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  $1l$ , as indicated in Figure 1 and this value depends on the lightning protection system (LPS) class and on the soil resistivity.

Where can I find information about lightning protection?

For lightning protection best resources are Polyphasers book the ARRL Handbook along with the book "Grounding and Bonding for the Radio Amateur". The ARRL Handbook contains good electrical safety information for the amateur radio operator. Links on the next few pages to references and info. Links are also available at:

How deep should a ring loop be buried?

The ring loop shall be in contact with the earth for at least 80% of its total length. The earthing electrode should preferably be buried at a depth of at least 0.7 m and at a distance of about 1 m from the external walls of the equipment room. The top of the vertical rods shall be connected to the four corners of the ring loop (see Figure 2).

How deep should a ground rod be buried?

The ground rods have to be a full 8 feet long and driven completely into the

ground, so that their tops are 4 to 8 inches below the top of the ground or ground cover. The bonding wire may be clamped onto the ground rods with bronze clamps. The bonding wires have to be buried at least 18 inches below the ground cover.

How does Lightning affect a grounding plate?

Lightning caused currents will flow from a piece of equipment to the grounded point and then to ground. Industrial and commercial users spend a lot of money on grounding plates. One such plate is made of solid  $\frac{1}{4}$  inch copper, about 5 inches tall, and 20 inches long.

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