

SPECIFICATIONS FOR INSTALLATION OF GROUNDING RODS FOR LIGHTNING PROTECTION OF ELECTRONIC SCALE SYSTEMS

The junction box (J-Box) and equipment connected to the scale (grain bins, and platforms) must be grounded per the following instructions.

1. Ground Rod Specifications

The grounding rod shall not be less than 8 feet in length and must be free of nonconductive coatings, such as paint or enamel. The ground rods may be made from the following materials:

- A. 3/4" diameter or larger galvanized pipe.
- B. 1/2" diameter or larger copper clad or solid copper rod.

2. Ground Rod Installation

Ground rods must be embedded below permanent moisture level in the soil. The ground rod must be installed so that at least 8 feet of its length is in contact with the soil. If ground rod cannot be driven in 5 feet because of bedrock, call Digi-Star for additional grounding instructions. Ground rods shall be located as close as possible to the equipment to be protected. Where more than one ground rod is used, each rod shall not be less than 6 feet from any other rod. Ground rods shall be driven in as near as possible to vertical and flush with the ground. Examples: grain bins — ground all legs using two or more ground rods per bin (see Figure 1); and platform scales — ground scale frame with at least one ground rod.

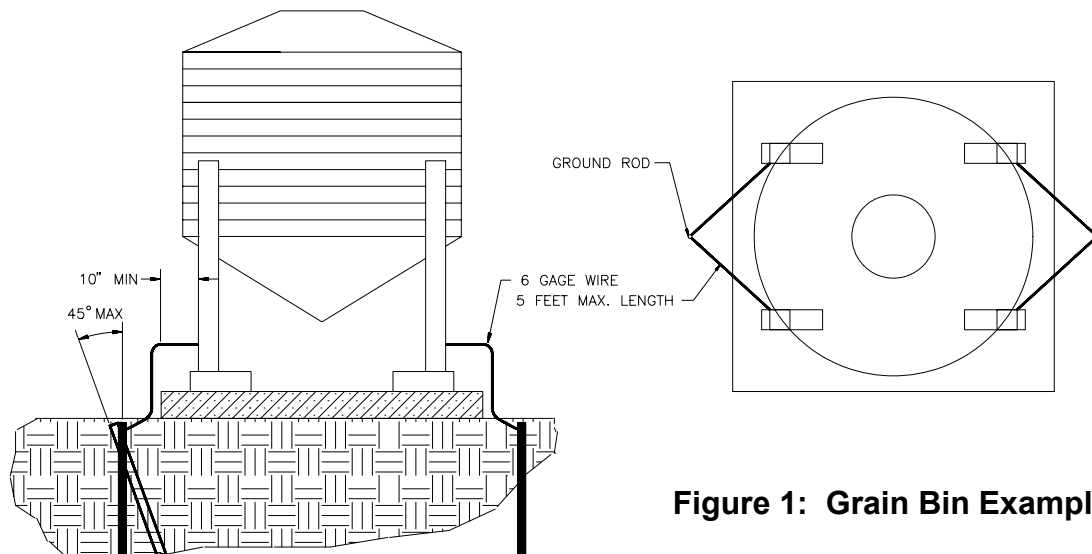


Figure 1: Grain Bin Example

3. Ground Wire Specifications

A copper no. 6 gage, solid or stranded wire, shall be used as the bonding jumper or grounding rod conductor. The wire may be insulated, covered or bare, and shall be installed in one continuous length without a splice or joint. The wire is to be kept as short as possible, (best if under five feet) and have smooth, gradual bends not sharp corners. To avoid reducing scale accuracy, the wire shall have a horizontal run and shall not pull on the scale structure. The wire shall be connected to the rod, and the metal structure, with cast bronze or brass clamps listed for direct soil burial.

4. J-Box Installation and Cable Coiling

The J-Box shall be mounted as close to the equipment as possible and grounded to one of the equipment ground rods. Examples: for grain bins — mount J-Box on leg next to ground rod; and for platforms — mount J-Box next to, or on, the platform and near platform scale ground rod. The excess J-Box cable and load cell cables shall be noninductively coiled as in Figure 2. The cables shall be held with cable clips and wire ties for a clean professional look. The indicator power cord shall be cut to the correct length and shall not be coiled.

Coil cable as shown to stow all excess cable to the bin structure with cable ties. Note that when coiled in this manner there will be an equal number of right-hand and left-hand coils

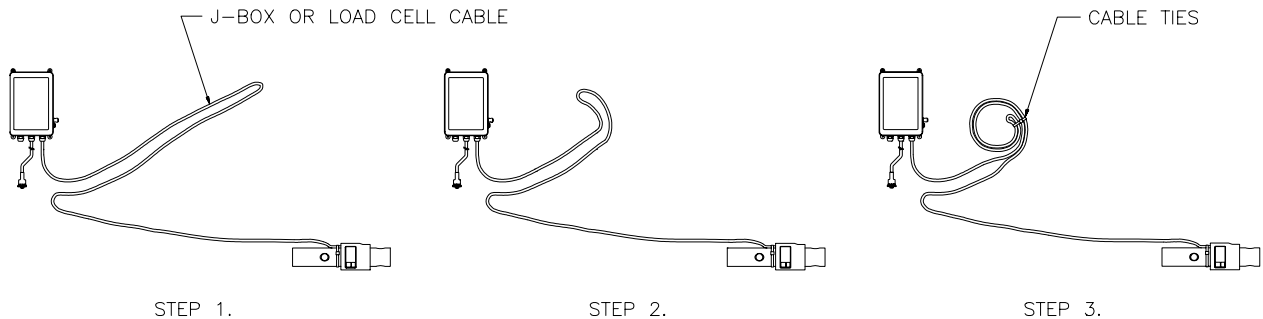


Figure 2: Example of Non inductive Cable Coiling Technique Bin Example

5. National Electric Code

The buildings and structures around the scale shall be wired to comply with the National Electric Code. The electric service shall be grounded at the service entrance and breaker circuit loads shall be correctly sized.