

# Lightning Arrester Installation Guide



Since 2000

Pittsburgh, PA

This guide provides an overview of proper installation and grounding techniques for Proxicast's gas discharge tube (GDT) coaxial lightning arresters. This is not a substitute for local building, fire, or electrical codes. Installation should be performed by a qualified professional in accordance with all applicable standards.



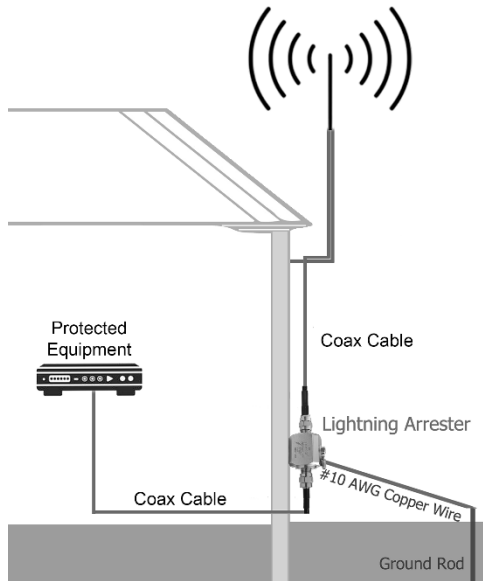
## Important Safety Precautions

- Disconnect all power to the devices before beginning the installation.
- Do not install during an electrical storm.
- The arrester and ground wire may carry a high-energy electrical pulse during a lightning strike. Ensure all connections are secure and the ground path is clear.



## Installation & Grounding

1. **Placement:** Install the arrester in-line with the coaxial cable feed. The ideal location is outdoors at the building's cable entry point, as close as possible to the equipment to be protected and grounding point.
2. **Connection:** Connect the arrester between the outdoor antenna cable and the indoor equipment cable. The arrester is bi-directional, so either end can face the antenna or the equipment.
3. **Grounding:** A solid, low-impedance ( $< 4 \text{ Ohm}$ ) ground is essential for the arrester to function correctly. Attach a minimum 10 AWG copper ground wire to the arrester's ground lug.
4. **Ground Path:** The ground wire should be as short and straight as possible. Avoid sharp bends, kinks, and loops, as these can increase impedance and reduce the arrester's effectiveness.
5. **Grounding Connection:** Secure the other end of the ground wire to a reliable earth ground. Some suitable options include a dedicated ground rod driven into the earth, a building's metallic support structure, or the ground bar within a main electrical panel. Ensure the connection point is clean and free of paint or rust for optimal conductivity.
6. **Weatherproofing:** To protect against moisture ingress and ensure a long-lasting connection, weatherproof all outdoor connections with a high-quality sealing tape such as Proxicast's Silicone Coax Sealing Tape (Part # ANT-900-002).



Typical Lightning Arrester Installation



## Maintenance

- Periodically inspect the arrester, especially after a direct lightning strike.
- The internal gas discharge tube (GDT) degrades over time. For continued protection, replace the GDT every 3 to 5 years, or more frequently if your area experiences high lightning activity.



**Troubleshooting** - If you experience signal issues after installation, verify the following:

- **Connector Fit:** Hand-made coax connectors often have inconsistent pin diameters and lengths, which can cause poor contact or a difficult fit. Use premade cables with factory-attached connectors for a more reliable connection.
- **Connections:** Ensure all coaxial cable connections are tight.
- **Ground Wire:** Confirm that the ground wire is firmly attached to both the arrester and the earth ground point.
- **Damage:** Inspect the arrester for any signs of physical damage. You cannot test the GDT without specialized equipment.
- **Testing:** Disconnect the arrester and connect the cables directly. If the signal returns, the arrester may be faulty and should be replaced.