

# Inductive Loop Installation Advice

## Preformed Saw Cut & Paveover Inductive Loops

In order to have an inductive loop system operate as a reliable system, it is necessary to pay careful attention to the loop installation. The use of proper installation techniques can reduce unnecessary problems, while increasing reliability. The following guidelines should be observed.

1. The saw slots must be the proper depth, clean, and without any sharp corners which could damage the wire insulation during installation.
2. If a splice is required between the loop and the control box, it is recommended that a shielded, twisted pair of equal gauge be used from the splice to the control box. The IMSA Spec No. 50-2-84 lead-in wire meets these requirements. The shield must be floated (left unconnected and insulated) at the splice end and shall be grounded to earth ground at the cabinet end only. Any other grounding arrangement can lead to erratic system operation.
3. All splices must be soldered, even when initially done with crimp type splices. Wire nuts are not allowed. Each splice point must be protected with a moisture proof seal. Failure to observe these precautions is the most common cause of future problems in the system.

**CAUTION:** When soldering, use only enough localized heat to adequately flow the solder through the connection without burning the surrounding insulation. Soldering should be done with a copper tip iron. Do not use direct flame.

4. It is very important that the loop connections be accessible for maintenance and repair.
5. The correct separation of loops on separate adjacent systems is important to prevent crosstalk. The minimum distance is equal to the longest short side of the loops in question or 3.0' whichever is greater. Example: One loop is 2.5' X 6.0', the other 6.0' X 10.0'. The longest short side is 6.0'. This equals the separation required.
6. When making the final connections in the control box, crimp type connectors should be soldered for additional security and the screws on the terminal strip securely tightened. Adding lock washers is a further deterrent to the screws loosening due to vibration over time.
7. When two loops are used on the same detector, they should be connected in series. The direction in which the current flows in each loop is important for proper door operation. (See Loop Phasing).