

INSTALLATION ADVICE

Saw Cut / Paveover Style 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 with out 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)
8. Non-metallic conduit is required for housing the lead wires from the loop to the control box. However, building codes call for metallic conduit to protect wires that are installed on the outside of walls or in areas where the wires may risk damage. If a long run of metal conduit is required (over six feet), it is recommended that a junction box be placed as close to the loop as possible and IMSA Spec No. 50-2-84 lead-in wire be used from that point to the control box. The metal conduit and shield from the lead wires must be securely grounded.
9. Choose a sealant carefully. It must be suitable for the application and the pavement. LIS can supply sealant specifically designed to match the various temperatures and surface materials encountered when installing loops.
10. For industrial applications, It is advisable to clearly mark the area where the loop is installed. This will enable the drivers to avoid traveling over the loop when they do not require the door to open. Marking may be accomplished with a good grade epoxy paint or black dye mixed with the loop sealant before the loop is sealed.
11. When installing a preformed paveover loop, the same careful attention to proper electrical installation techniques described above apply. The Paveover style loop is recommended for new construction in concrete, asphalt or gravel.