

TekTip: 3M™ Scotchlok™ Connectors

Over the years, TekTone has encountered jobsites where intermittent problems are occurring due to the use of improper connection devices. The wrong type of connectors can cause the continuity of the signal and voltage lines in a system to be intermittent, which leads to many types of problems. This can be one of the most frustrating situations, as the system will appear to be working fine (sometimes for weeks and months) and then all of a sudden a temperature or humidity change will cause a flurry of failures and problems.

3M™ Scotchlok™ IDC (Insulation Displacement Connectors) connectors are considered by many to be a top-notch connection method for system wiring. However, if users install the wrong variety, it can be detrimental to the system's operation and long-term stability. The connector variety that has caused connectivity problems in the past are the Scotchlok™ IDC Connectors for Communication Applications. The problem is that these connectors are designed to accept solid wire only. Our system specifications call for stranded wire in all applications. Over time, stranded wire will deform at the IDC piercing point—where solid wire would not—reducing the connection compression. This results in intermittency in the wiring connections that can be affected over time and by environmental conditions.

3M™ does make connectors that are rated for stranded wire. Installers should be advised to always review the specifications for the connection methods they use to ensure that the correct type of connector is used. Do not use wire nuts for wire connections. Wire connections must be made with compression-type connectors, rated for stranded wire, that use a ratcheting-type tool for installation.

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