

Tek-CARE150 TekTip: NC150N/NC200N Wiring

The correct usage of protective shielding for the NC150N/NC200N systems is very important. We specify that the wiring for these systems either needs to be in metal conduit or that shielded cable is to be used. This is to protect the conductors within from external noise interference.

In the case of metal conduit, the installer needs to be concerned with only a few important requirements. First, the conduit should be connected to a unified building ground or a good earth ground (cold water pipe). Second, the installer should ensure that no noise generating cables (110 VAC, computer phone lines, etc.) share the same metal conduit with the system wiring. Finally, if metal conduit is used, it is important that it be used throughout the entire system. If conduit cannot be used continuously through all sections, the installer should use shielded cable for the entire system.

The usage of shielded cable creates several important requirements for the installer. First, the drain wire of the shielded cable becomes the new "C" conductor. The drain wires of all shielded cables must be connected directly to the "C" terminal on the master station. If the system has more than one master, a specific master should be selected as the primary master. The drain wire of the shielded cables that run between masters should be connected only to primary master's "C" terminal. The ends of the drain wires (at the secondary masters) should be left unconnected and taped back. The final connection should be a number 18 gauge wire, only connecting the "C" terminal of the secondary masters to the "C" terminal of the primary master. This method provides a common point for all "C" connections, which helps to prevent ground loops.

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