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Qwik Tech Tips

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Proper Installation of Sealed Crimp Connectors

When wiring repairs need to be performed, sealed crimp connectors are the most popular repair method. We will review the proper way to install this type of termination.

How to Determine the Wire Gauge by Stripping the Wire:

First, the wire gauge size will need to be determined to ensure that the correct connector is used with the appropriate wire size. If the wire gauge is not printed on the wire insulation, it can be determined by stripping the wire.

To determine wire gauge size, open the crimp/wire stripping tool and insert the wire into the slot that best fits the wire. Close the tool. This should cut the wire insulation without cutting the copper wire strands. If the slot you chose did not cut the wire insulation, repeat this step moving the wire up or down the slots until you are able to cut through the wire insulation only.

How to Install a Sealed Crimp Butt Connector:

1. If you are replacing an existing butt connector, remove the old connector by cutting the wire 1/4" from each end of the connector.
2. Strip 5/16" of the insulation on each of the wire ends. (The proper strip length for most crimp style connectors that are assembled in the USA is 5/16"). Examine the wire carefully. If there is any sign of corrosion present, green wire strands, chalky white powder, etc., cut off an additional 1" of wire. Again, strip 5/16" of the insulation from the wire end. If there is still corrosion present, continue to cut back the wires until clean copper wires are present. If you are unable to find clean wire, the wire will need to be replaced completely. Otherwise, proceed to step three.
3. Choose the proper size butt connector based on the gauge of your wire – Red 22-18 AWG; Blue 16-14 AWG; or Yellow 12-10 AWG.
4. Insert one of the wires into the barrel on one side of the connector. Make sure it is pushed all the way into the connector.
5. Locate the proper crimp nest on your crimp tool for the size wire and connector that you are installing. Most crimp tools have the wire gauge and industry color coding on the crimp nest to ensure that the installer uses the proper crimp nest. **CAREFUL**, some crimp tools have crimp nests that are designed for insulated and non-insulated terminals. If the installer uses the non-insulated crimp nest on an insulated terminal, it will pierce the insulation … destroying its insulation properties.
6. Open the jaws of the tool. Place the side of the connector into which you inserted the wire into the proper nest of the tool. While making sure that the wire is still pushed all the way in, crimp the connector by closing the jaws of the tool. Crimp firmly. Once finished, you should be able to tug on the wire without pulling it out of the connector.
7. Repeat steps four, five, and six for the other side of the connector.
8. Finally, use a heat tool to apply heat evenly around all sides of the connector and tubing. Start from the center of the connector and move out toward the ends of the tubing until the heat shrink tubing is fully recovered and the adhesive flows out of the ends of the tubing.
9. Let the connector cool. You have now made a sealed crimp termination.

TIPS

- It is important to determine the wire gauge before beginning to ensure that the correct connector is used.
- Be sure there are no signs of corrosion in the copper wiring before proceeding.

FEATURED PRODUCT

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