Remora Electrical

Things to know
Cord End Crimping Tools

Technical Breakdown

A dedicated cord end crimping tool, often just called a ferrule crimper, is more than just a set of pliers it's a non-negotiable link to safety, a precision instrument. Its entire job is to apply exactly the right amount of pressure across the entire surface of the metal ferrule barrel, compressing it around the copper strands. When done correctly, this action forces the metal of the ferrule and the copper strands to form what we call a "cold weld," or a gas-tight electrical bond. This bond is permanent and ensures maximum conductivity, which keeps resistance and heat generation low.

Standard crimpers don't cut it. Ferrule crimpers typically come in three main types: the square crimper, which forms four equally compressed sides, the hexagonal crimper, which forms six sides and indent crimper. The square or hex crimp is generally preferred because it gives a more uniform, 360-degree squeeze, which minimizes deformation and maximizes the surface contact area inside the terminal block.

These tools are almost always ratchet-controlled, meaning the tool won't release until the crimping cycle is fully completed and the correct compression has been reached—a critical safety feature that eliminates operator error.

How to Choose - The main consideration is the crimping profile. While the square crimp is perfectly fine for basic use, try to opt for a hexagonal crimper if budget allows, especially for higher current applications, as it provides a superior seal. Next, ensure the tool handles the range of wire gauges you typically work with (e.g., 0.5mm² up to 10mm²). Most importantly, the tool must be ratchet-controlled.

If you can override the ratchet, it's a poor tool. The ratchet mechanism is the only guarantee that every single crimp you make applies the precise pressure required for that gas-tight bond. A final pointer: look for a tool with a comfortable, ergonomic grip, because you'll be making hundreds of these terminations over time.

Best Practices - First, use the right crimping nest (the hole on the jaw) for the specific size of ferrule you are working with. Don't eyeball it; the tool should have the gauge marked clearly. Second, always fully load the ferrule into the crimp nest before you insert the wire. This ensures the ferrule is perfectly aligned for the compression cycle. Push the wire in until the insulation touches the ferrule's plastic collar, then squeeze the tool shut until the ratchet releases. Always listen for that characteristic click.

Finally, never attempt to double-crimp a ferrule, one complete, quality compression cycle is all that's necessary. An over-crimped ferrule can weaken the metal.

Q Can I just use my standard wire strippers or pliers to pinch the ferrule onto the wire?

A No, that is a shortcut that risks major failure. Pliers only deform the ferrule in two spots, leaving gaps and air pockets inside. This traps heat, introduces resistance, and guarantees a loose, unreliable connection that will eventually fail the pull test. You must use a dedicated crimper that compresses the ferrule uniformly for that safe, gas-tight bond.

Q What is the main difference between a crimper for insulated terminals and one for ferrules?

A They have completely different jaw profiles. Crimpers for insulated terminals have dies that perform two separate crimps simultaneously: one on the copper barrel and a lighter crimp on the plastic collar for strain relief. Ferrule crimpers only have one uniform die to fully compress the entire metal barrel onto the wire strands. You can't safely interchange the two tools.