

# PIC Wire & Cable

A Division of the Angelus Corporation

Ph (262)-246-0500 Fax (262) 246-0450 www.picwire.com  
PO Box 330 Sussex, WI 53089

## Termination Instructions

T-110973

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### Termination Instructions for PIC P/N 110973, RJ45 Cat 6a Shielded Plug (568A configuration Only)

(for E50824, E6A0824, E6A2824, E6A3824, E6A5824, E6A5826, E6A6824, E74824 & E74826 Ethernet Cables)

Required Tooling : X-acto Knife, Sharp Razor, Wire Cutters  
PIC 110701 Soft Jaw Clamping Pliers  
(Note : Similar Pliers are acceptable)  
Heat Gun, Small Screwdriver, Digital Calipers (recommended)



Dimensions in Inches (NOT to Scale)

- 1) Install ATUM 16/4 × 1.5" dual wall shrink tube, clamp nut w/ plastic collet as shown (Fig. 1). Make Cut A @ .800" from end of cable, scoring the jacket. Do not nick or cut into braids. Remove jacket (Fig. 1).
- 2) Make Cut B @ 1.800" from end of cable, scoring the jacket (Fig. 1). Do not nick or cut into braids. Remove jacket at Cut B (Fig. 2). Without disturbing braids, install ATUM 8/2 × .650" and shrink onto the braids, starting up against the end of the jacket (Fig. 2).
- 3) Partially comb out wire braids, until they can be folded tightly over the edge of ATUM shrink, and pulled back to lay flat over the ATUM & cable (Fig. 3). Trim off braid ends at inner end of ATUM shrink (Fig. 3).
- 4) Install second ATUM 8/2 × .650" over braids until located at .275" from folded braid edge (Fig. 4). Keep existing braids flat, and braid weave intact while installing and shrinking ATUM at this location. Avoid pulling shrink backwards towards cable end, which may affect braid position.
- 5) Trim the foil/s just past the folded braids, and remove foil/s (Fig. 4). Do Not nick or cut into wire insulation. Remove exposed teflon tape layer, if applicable (Fig. 4). Do not nick or cut into wire insulation. Inspect to verify insulation integrity on all wires.
- 6) Fold out the wire pairs and trim off center spline (if applicable) between pairs as short as possible (Fig 5). Do Not nick or cut into wire insulation. Inspect to verify insulation on all wires.
- 7) Separate and straighten pairs for installation into the wire carrier, while maintaining pairs' twist near their exit from the cable (Fig. 6a). Maintain at least 1 twist in each pair between cable exit and wire carrier (Fig. 6a). Fit the pairs into the wire carrier per the color code depicted, installing the wires as shown (Fig. 6a). Pull wires through the wire carrier firmly, to achieve .250" Max distance between braids and wire carrier (Fig. 6a).
- 8) Adjust soft jaw clamping pliers height to crimp squarely on the wire carriers (Fig 6b). Keeping wire pairs firmly in the wire carrier, crimp the wire carriers onto the circuit board until seated flat on the circuit board (Fig. 6b).
- 9) Trim off wire ends flush with the end of the wire carrier (Fig. 7). Remove the black protective cover from the circuit board (Fig. 7).
- 10) Install the circuit board / wire carriers / cable into the RJ45 connector body, until fully seated (Figs. 8a & 8b). The wire carrier is keyed to align correctly into the connector body. A small flat blade screwdriver can be used to fully seat the circuit board / wire carriers, if using caution to not bear upon or damage wire insulation. Verify full insertion of wire carrier (not circuit board) @ .050" nominal depth from the connector shell outer edge (see Fig. 8b).
- 11) With circuit board / wire carriers / cable fully seated into the shell, push cable forward (with slight twist) until braids are aligned with rear edge of main shell (Fig. 8a). Inspect for stray braids or debris, clean as needed. Close top & bottom shell halves together squarely (Fig. 9). Fit the collet up over the ATUM shrink and locate into slot between shell halves until seated (Fig. 9). Start clamp nut onto threads, while ensuring shell halves - and threads - are squarely aligned. Verify clamp nut is not cross-threaded before tightening further (Fig. 9). Tighten clamp nut by hand until firmly snug, do not over-tighten. (Note : collet and clamp nut fit on E6A0824 cable snug due to larger cable size).
- 12) Position the ATUM 16/4 shrink tube over the connector body and cable, and shrink onto the cable & connector as shown (Fig. 10). Remove the RJ45 Plug cover as as needed (reference Fig. 10) to test or install the cable assembly.

Note : Connector length added to cable : 0.25"

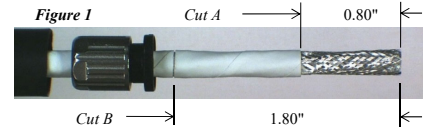


Figure 1



Figure 2



Figure 3

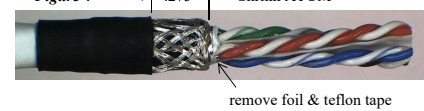


Figure 4

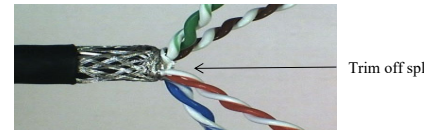
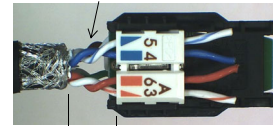


Figure 5

Figure 6a (maintain 1 twist min)



.250" max

Figure 6b



Figure 7

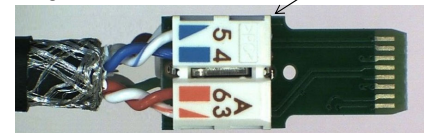
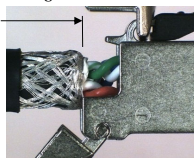


Figure 8a



Braids even w/shell edge

Figure 8b

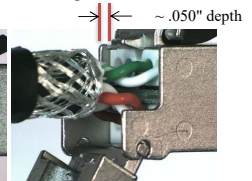


Figure 9



Figure 10



RJ45 cover