

## Woven's Tough Little Fanout, "TLF"

As fiber optics usage is growing, the density of fibers in switchgear, mass storage units, etc. is growing rapidly. The popularity of the fanout demonstrates this growth in density quite well. A typical assembly illustrates the emerging problem. If we have four MTP connectors, each having 12 fibers terminating somewhere on the board, we have 48 fibers converging on a single exit point from the board. What often results is a rat's nest of fiber, all trying to exit the board.

Damaging fibers at these crowded exit points is a harsh fact-of-life for the intrepid designer. Most commonly, fibers are bent to the point of damage as they exit from the MTP connector. The typical fanout found in the industry addresses the problem with a wrapping of tape that is intended to act as a strain relief. A typical industry construction is shown below.

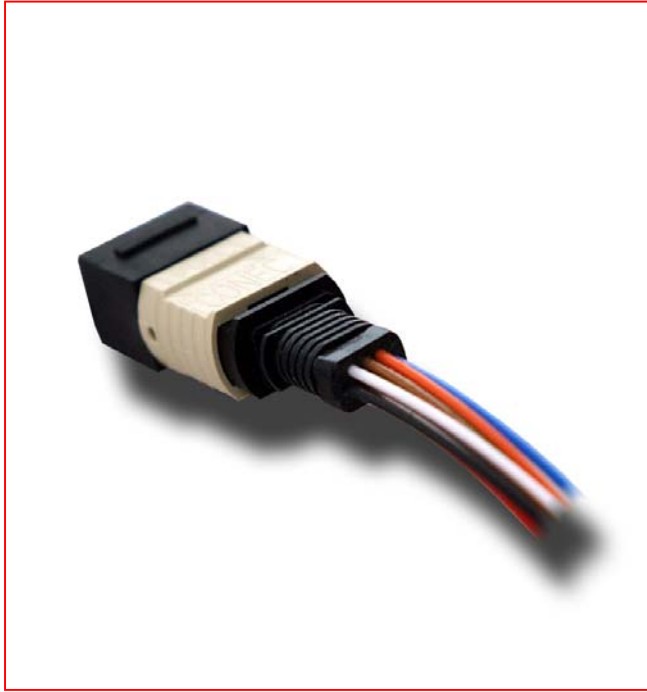


The problem with this construction is that the fibers are not supported as they exit the ferrule in the MTP connector. Any bending or pulling on the fibers beyond the connectors will often result in a damaged, or broken fiber.

This usually necessitates the replacement of the entire fanout. Fanout cost ranges from about \$100 to \$250 each.

Woven's "Tough Little Fanout", or TLF, is a robustly built fanout designed to survive in the nightmare of crowded wiring cabinets. The name came from a customer in Atlanta. Upon comparing the prototype to the samples presented by competitors, their Engineering Manager stated, "Now that's what I wanted- a tough little fanout!!"

The TLF, shown below, features a 'manifold' added to the standard MTP connector. This 'manifold' provides a robust transition from the ferrule to the fusion tubing. The fusion tubing is bonded to the manifold prior to final assembly. Thus, the fibers are supported continually from the ferrule into the fusion tubing. (Important note- the bonding work is done in a separate production operation so no epoxy is allowed to bond to the fiber. To allow this would be to create a stress concentration point for physical damage.)



The Woven TLF is available in 4, 8, and 12 fiber fanouts as standard. Other configurations are available. The fanout can be configured with a host of connectors on the single fibers, including duplex connectors. Identification tubing is available in a host of formats and all components have a UL94-0 fire rating.

The TLF can be readily incorporated into more complex configurations to meet specific customer needs.

All-in-all, it's a tough little fanout intended to save the customer money by reducing damaged fiber, improving reliability, and lowering field support costs.

**Target Applications:** Optical switch manufactures, Mass storage manufactures, Telecom equipment in central office locations...

**Key Design Features:** Robust construction  
Multiple custom options available  
Priced competitively with less robust designs  
All commonly available single fiber connections supported  
Reduce scrap in installation and field support

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