

Splicing Single-mode to Multimode Fiber

Introduction

The single-mode to multimode fusion splice is required for Fiber SenSys products that utilize an insensitive lead-in cable. This document aims to address the common questions and concerns received by Fiber Technicians as a result of the telecom industry prohibiting such a splice.

Fusion Splicing

Telecom applications prohibit single-mode to multimode fusion splicing primarily because of data loss. However, Fiber SenSys Fiber Defender® products process data in an alternative manner that makes a single-mode to multimode splice necessary for operation.

Most modern fusion splicers recognize the fiber type and will splice single-mode to multimode fiber automatically (without any adjustments to the machine). Older fusion splicers may need to be set to multimode to fabricate the single-mode to multimode fusion splice.

Product Functionality

The single-mode to multimode fusion splice allows the system to have an insensitive lead-in (single-mode fiber) and sensitive zone cable (multimode fiber). The insensitive single-mode fiber allows for remote Alarm Processing Unit (APU) deployment without receiving vibration feedback and the multimode sensing cable remains sensitive to vibrations.

