

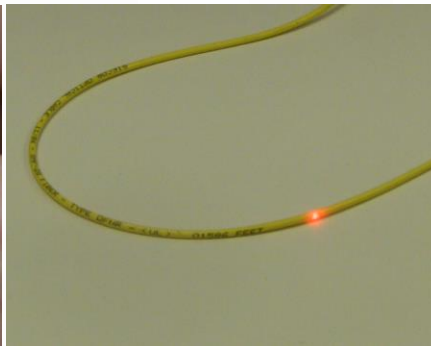
## Application Note

### Safe Visual Fault Locating

The Tempo Communications 180XL Visual Fault Locator (VFL) is a 1mW (0dBm) power output device that is used to visually identify damaged or cut fiber optic cables, contaminated or damaged fiber optic connectors and Macro bends on a fiber optic cable.



**Macrobend**



**Fiber Break**

The 180XL VFL can also be used to perform visual continuity of a fiber optic cable.

The 180XL is approved by the FDA as a CLASS 2 device as defined by **IEC60825**. A CLASS 2 device is deemed to be safe as the users “blink reflex” will protect the user from eye damage. **VFL’s with higher output power have the potential of causing permanent eye damage.**

Do not buy or use a VFL that does not have a decal at or near the bulkhead showing Class 2 compliance. If there is no decal, there is a high probability that the VFL is not compliant to the IEC and FDA requirements and is likely to be a risk to the user.



If the technician is using a microscope or other device that focuses the light while using a Class 2M VFL, the blink reflex will not be sufficient to prevent eye damage. This means that a Class 2M VFL is deemed to be unsafe.

As part of FDA compliance, the applicant is required to provide statements of how the design includes various fail-safe circuitry, safety notifications and safety interlocks. Once there is FDA approval the applicant receives an ACCESSION NUMBER. Many times, customers ask for the ACCESSION NUMBER as it proves that the VFL does provide a high level of safety.

**Tempo 180XL ACCESSION NUMBER: 2032328-000**

**Tempo OPM210 & OPM220 ACCESSION NUMBER: 2020014-000**

Reputable manufacturers and distributors will only consider selling a VFL that has an ACCESSION NUMBER as it gives assurance to the end user that the VFL is safe.

Visual Fault Locators that are sourced from offshore suppliers almost always do not have an ACCESSION NUMBER from the FDA or an IEC classification. These VFL's should never be used.

Some VFL suppliers and manufacturers will provide product that is up to 40mW output power to perform continuity confirmation. These should never be used as they will cause permanent eye damage. An optical power meter with a laser source should be used to perform continuity measurements where the technician can quantify the actual loss.