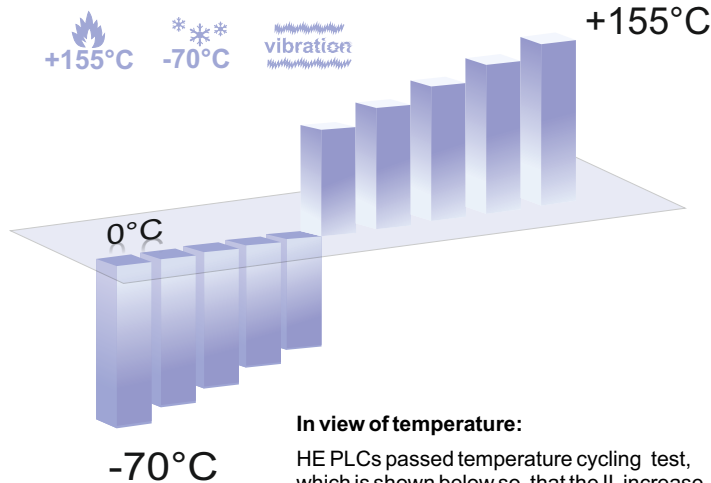


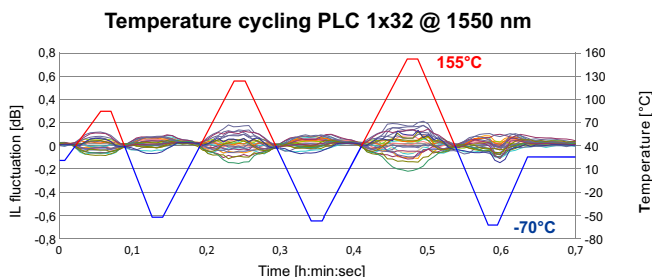


Harsh Environment PLCs (HE PLCs)

built and tested for extreme temperatures and vibrations in stand alone and avionic grade modules



In view of temperature:
 HE PLCs passed temperature cycling test, which is shown below so, that the IL increase for temperature extremes (-70°C and 155°C) did not exceed 1dB (=0,008dB/°C). Typically, this value is around 0,5dB (=0,004dB/°C).



Survived 100x cycles of temperature shocks between -70°C and 155°C.

Survived more than 2000 hours of damp/heat (85%RH/85°C) test. This long term test is still running and 5000 hours mark is quickly approaching.

Definition of Harsh Environment PLCs:

As there's not as yet standard for harsh environment optical components we use a combination of two standards (Arinc for optical fibers, and RTCA for vibration) in order to define in a broader sense a base for build up of optical specifications for harsh environment PLCs.

HE PLC development and configuration

Our HE PLCs up to the splitting ratio 1x32* (2x32) are based on Telcordia specifications and their extension into HE region was achieved by continuous improvements in our over a decade fine-tuned manufacturing processes as well as by implementation of new materials. Following configurations apply*:

* Higher splitting ratios available upon request

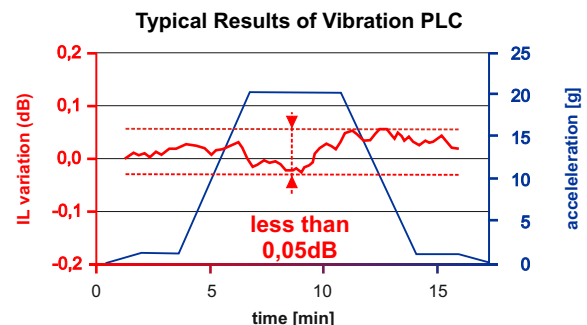
PLC Splitters 1xN, 2xN

Optical specification 1xN:	Housing dimension	Housing material
1x2, 1x3, 1x4, 1x6, 1x12	44x4x4	nickel plated brass
1x16, 1x24, 1x32	53x7x4	nickel plated brass

Draka's high temperature acrylate fiber (9/125BBXS)

In view of vibration:

Vibration tested not only at room temperature (as per RTCA standard) but also at -55°C and +85°C with minimum effect on IL fluctuation (less than 0,1dB over the course of the test).

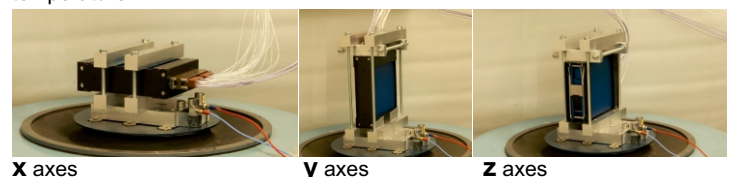


Vibration testing based on RTCA

- Not only at room temperature but also at -55°C and 85°C :
- 5 to 14Hz peak to peak at 2.54mm (app from 0 to 1g)
- 14 to 24Hz at decreasing amplitude (keeping it at 1g)
- 24 to 112Hz peak to peak at 0.91mm (transition from 1g to 20g)
- 112 to 2000Hz at decreasing amplitude (keeping at 20g)

HE PLC tested within RM modules

Vibration tested HE PLCs within avionic grade remote module at room temperature



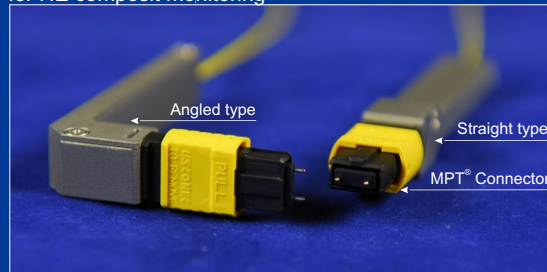
Customer solutions

RM for passive optical networks on the aircraft



MTP® - PLC module

for HE composit monitoring



HE PLC splitter

