

New Hermetic Fiber Optic Bulkhead Feedthru for Souriau 38999 ELIO® Connectors

Ultra Lightweight, Option Now Available for a Variety of Applications

Wenatchee, WA – July 22, 2009 – Engineers designing electronic components that must operate reliably in harsh environments can now leverage the increased performance of fiber optic technology, following the release of PA&E's [new hermetic fiber optic bulkhead feedthru](#) for the Souriau ELIO 38999 fiber optic connector line. This new, lightweight interconnect solution allows engineers to take advantage of fiber optics in applications where that technology was once unworkable due to hermetic requirements. And, it delivers truly hermetic performance at a significant (up to 60%) weight savings when compared to stainless steel alternatives.

This new feedthru is well suited for defense, aerospace or any other applications where weight, electromagnetic interference (EMI) and performance are key considerations. It features an insertion loss ≤ 0.3 dB per interface, a return loss ≤ 20 dB per interface and can be manufactured to support multi-mode 50, 62.5 /125 or 100/140 μm fiber types (PC shaped ferrule). The hermetic feedthru is available in either jam nut or laser weldable configurations. It is compatible with aluminium, titanium and stainless steel and is designed to mate with aluminium or composite ELIO contacts. It has an operating temperature range of -55°C to $+125^{\circ}\text{C}$ and is available in one- or four-way configurations. The feedthru is also compatible with the Airbus A380 Spec and the ARINC 801 Standard.

Glass is the traditional sealing material for many hermetic interconnect solutions, but in fiber optic applications, a glass sealing process is impractical because the temperatures required to create a glass seal are high enough to destroy optical fiber. This innovative new interconnect solution uses PA&E's Kryoflex® polycrystalline ceramic-to-metal sealing technology. Seals are created at much lower temperatures so fiber optics remain

intact while this new feedthru achieves a leak rate $\leq 1 \times 10^{-9}$ cc/sec He at one atmospheric differential pressure. [Kryoflex](#) seals provide a direct ceramic-to-metal bond, by means of oxygen-pinned valence bonding. This unchanging chemical and mechanical bond is enhanced by Kryoflex's randomly organized crystalline structure, which allows this unique material to relieve stresses from within itself.

For more information on the new hermetic 38999 ELIO fiber optic feedthru or to learn more about the company's other interconnect products, EMI filters and integrated electronic packaging capabilities, contact PA&E at 509-664-8000 or visit us at <http://www.pacaero.com>. To learn more about the Souriau ELIO connector line, visit <http://www.souriau.com>.

PA&E, Inc., a member of the Souriau Group, is an integrated manufacturing company, specializing in technically demanding ceramic and metal components and assemblies, hermetic connectors and advanced micro-electronic hermetic packaging for global leaders in the defense, space, medical and commercial industries. PA&E is ISO 9001:2000/AS9100 Rev B certified and NADCAP compliant.

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