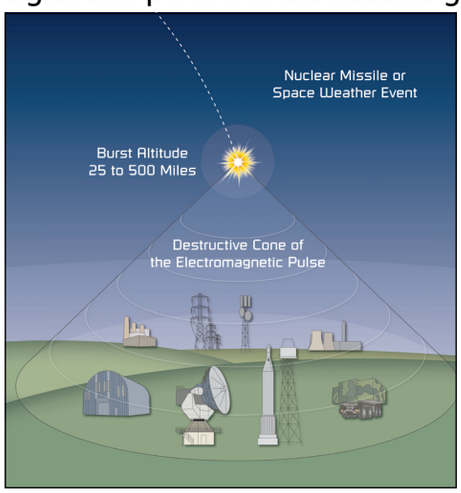
Integrated Electromagnetic Filter

separates suppressors protect equipment entry points

Both the pending US Shield Act and the February 2012 House of Commons Defence Committee Report warn that the intense high-altitude electromagnetic pulse (HEMP) from a single nuclear missile detonated miles above the Earth could disable civil and commercial infrastructures as well as defence computer and communications networks. Similarly, there is the weather phenomena of a large solar flare or geomagnetic storm, which may occur at any time. Such a HEMP event could disable or destroy a significant portion of the national grid, along with local substations, unprotected electrical equipment and electrical controls for public utilities, financial and commercial services and process industries over a wide area. To protect at a local level, MPE has designed and independently tested its HEMP filters to meet the pulse current injection (pci) requirements of MIL-STD 188-125. They incorporate metal oxide varistors as a front-end transient suppressor giving a high-speed response to arrest the incoming pulse. Secondary and tertiary suppressors are separated by inductors at later stages to protect cable entry points of AC mains power, telephone and data control lines against induced pulse currents. Tests have shown that purpose-designed HEMP filters to protect cable entry points are more effective than adapted catalogue EMI filters in terms of residual pulse performance, size and weight. The company's custom HEMP filters comply to MIL-STD and counter the effects of the pulse types defined as early-time E1 (50kV/m within 10ns) and intermediate-time E2 (100V/m between 1µs and 1s). The filters are designed for pulse performance not insertion loss. The pulse currents and voltages are tested at each stage to confirm the operating function of each component, prior to arranging testing of the whole under full load conditions.

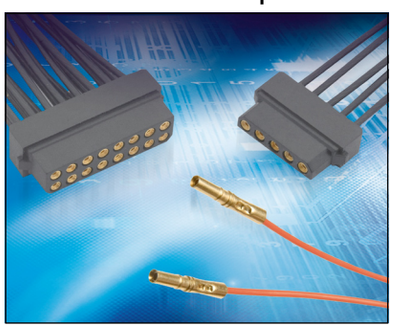


MPE
www.epn-online.com/search?search_keyword=48440

Extra-Small Bore Female Crimp Contact

can be used with 28, 30 and 32AWG wires in robotics

Harwin has added an extra-small bore female crimp contact to its Datamate family of 2mm pitch connectors. The connectors are available in sizes of 22AWG large bore and 24 to 28AWG small bore. The crimp contact is suitable for use with 28, 30 and 32AWG wire. It provides a current rating of 3.3A in isolation and 3A on all contacts simultaneously. The crimp contact is gold plated. It has a contact resistance of 25mΩ and operates at temperatures between -55 and +125°C. The crimp contact is suitable for use in robotics, commercial and military aerospace, military vehicles, rail and transportation, and oil and gas projects. The crimp contact is also suitable for unmanned aerial vehicles and medical instrumentation.



HARWIN
www.epn-online.com/search?search_keyword=48316

Single-Chip Three-Axis Gyroscope

creates attitude heading reference systems in aerospace

InvenSense has introduced the MPU-3300, a single-chip, integrated three-axis digital gyroscope. The gyroscope has a bias instability of 15°/h and is suitable for industrial applications including attitude heading reference systems used in aerospace and robotics. It is also suitable for use in navigation systems used in industrial vehicles, aircraft and ships. The gyroscope can also used in antenna stabilisation, precision robotics, inventory control systems, survey instruments, factory equipment, industrial power tools, unmanned aerial vehicles, precision agricultural machinery, guidance and steering systems and construction equipment. The gyroscope is housed in a 4x4x0.9mm QFN package and operates between -40 and +105°C. The gyroscope includes high-resolution 16bit ADCs, programmable digital filters, current consumption of 3.6mA, an embedded temperature sensor, and both SPI and I2C interfaces.

INVENSENSE
www.epn-online.com/search?search_keyword=48448