Next Generation Cylindrical Connectors: The Lighter and Smaller Series 80 "Mighty Mouse" Connector

Next Generation Connectors

Military standard connectors meet a broad range of customer requirements. The D38999 connector, for example, is currently the most commonly specified multi-pin cylindrical interconnect in both fiber and copper conductor aerospace applications. But as electronic systems and devices grow in number and complexity in aerospace applications and elsewhere, new requirements have arisen for other types and kinds of high-reliability connectors.

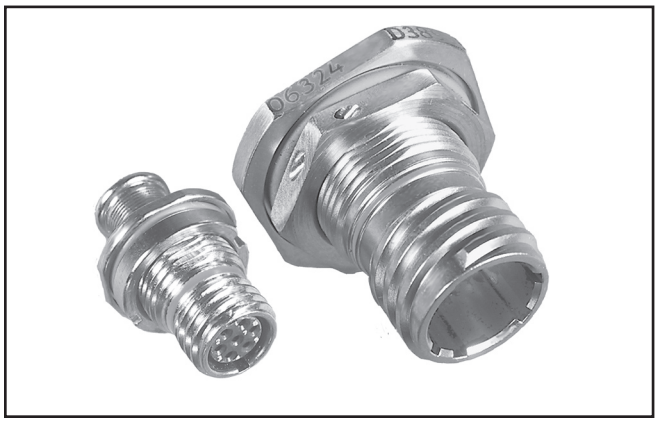
In satellite systems,for example, electronic subsystems have multiplied and evolved to fill every available inch of payload space: image processing systems, global positioning systems, thermal control systems, transponders, stabilizers, gyroscopes, telescopes, solar arrays, scatterometers, radiometers, microwave sounding units, radiation sensors, and dozens of other specialized instruments and devices. And as is the case with all electronic equipment and "black-box" technologies of this caliber, electrical interconnects play an important role in their manufacture, assembly, installation and maintenance. But the size, weight and performance of standard mil-spec connectors have not always kept pace with the interconnect packaging requirements of such platforms. The same holds true in military aircraft, armored vehicles, missiles and other sophisticated interconnect applications.

For this reason, a host of new ultra-miniature connectors—as robust as the D38999, but much smaller in size—have been developed and deployed in sea, space, air and ground applications. These next generation connectors are designed to provide the same environmental, mechanical and electrical performance as their big brothers, but at a fraction of the weight and size. On the rectangular side of the equation, the MIL-DTL-83513 Micro-d connector and the even smaller Nanominiature-D are widely applied in inside-the-box applications where environmental protection is not a requirement. In exposed environmental settings, new ultra-miniaturized circular designs are increasingly applied.

Glenair's Series 800 "Mighty Mouse" Connectors are designed to provide reliable, envrionmentally-sealed electrical connections in a wide variety of applications such as missile systems, satellites, man-portable battlefield gear, light armored vehicles, and geophysical exploration. The connectors operate in a temperature range of -55°C to +200°C.

The "Mighty Mouse" is offered in a choice of aluminum alloy or stainless steel constructions, with up to 85 contacts. Contact spacing is .076", the connector can accommodate #22 through #26 AWG wire, and the contact retention tines are rugged stainless steel. Other features include threaded, bayonet or push-pull coupling nuts, and an integral platform for banding EMI/RFI/EMP shield terminations.

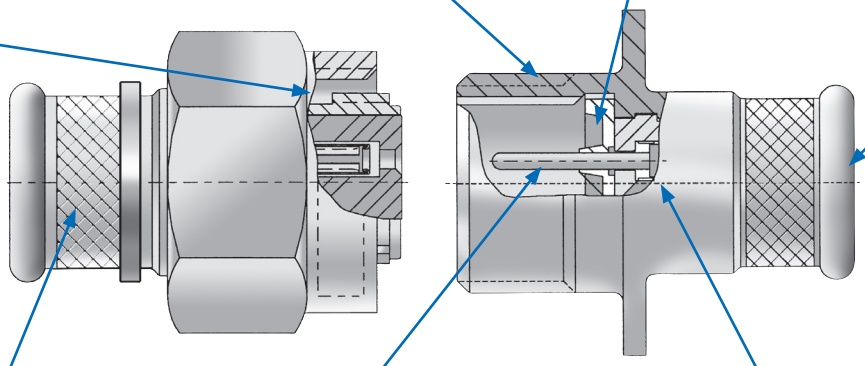
Superior resistance to vibration and shock, better resistance to mechanical and environmental damage, optimized EMI shielding, broader operating temperature ranges and outstanding electrical performance make the Series 80 "Mighty Mouse" the ideal interconnect for safety-critical applications where size and weight reduction is a critical requirement.



The 7-pin Glenair Series 80 "Mighty Mouse" Connector (left) serves reliably in missile systems, satellites, geophysical exploration and on the battlefield. The equivalent D38999 Connector (right) is nearly twice the size and weight.

The Glenair Series 80 “Mighty Mouse Connector: Mil-Spec Performance, Ultra-Miniature Packaging

Glenair developed the “Mighty Mouse” to fill the need for a miniaturized circular connector with performance comparable to the MIL-DTL-38999 and other high-reliability aerospace connectors. The connector is intended for use in high-performance applications such as missile systems, satellites, man-portable battlefield gear, light armored vehicles, and geophysical exploration. The rear-release crimp contact connector can operate in a temperature range of -65°C to +200°C, and can withstand extremes of environmental stress such as engine-induced vibration, exposure to jet-fuel, sand, dust and fluid immersion. Coupling styles include standard threaded, double-start stub ACME, bayonet and push-pull.



Glenair’s “Mighty Mouse” connector is available in aluminium and stainless steel designs. The 304 Series stainless material is ideal for corrosive and/or thermal shock environments.

Environmental seals provide immersion protection in accordance with MIL-STD-810 Method 512.4

Plugs may be specified with an optional self-locking feature for high-vibration environments. Other coupling styles include bayonet and push-pull

Five shell sizes are available with from 4 to 85 contacts. Contact spacing is on .076 inch centers.

All versions offer integral shield banding platforms or threaded back-ends for accessory fittings.

Heavy gold plated pins provide mating durability and low contact resistance. Socket contacts feature bifurcated tines and stainless steel hoods per MIL-C-39029.

The rugged stainless steel contact retention clip out-performs comparable copper alloy versions

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