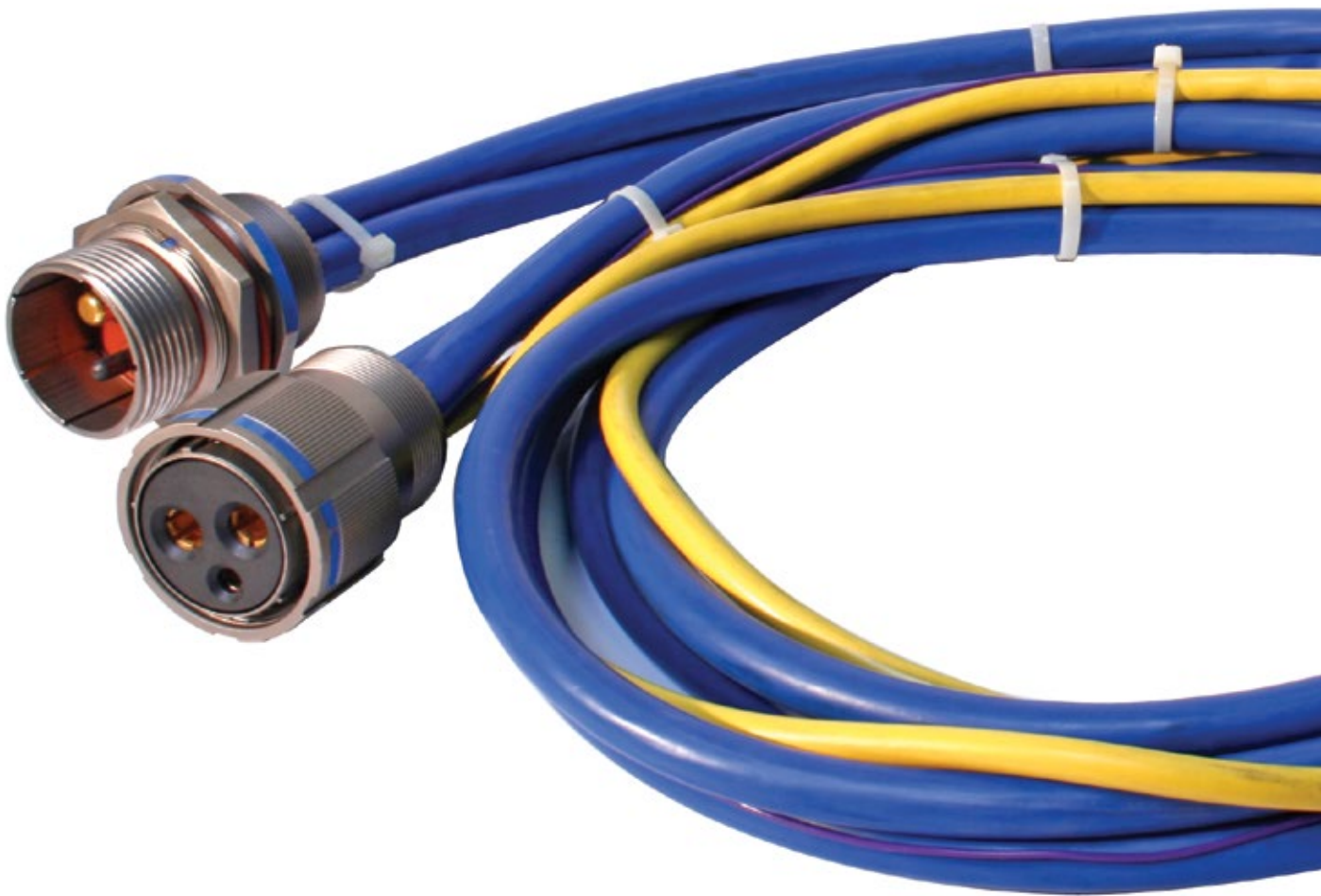


Military, aerospace, and subsea connectors, cables and non-explosive actuators



Powering Business Worldwide

Over 45 years of high-reliability-connectivity innovations

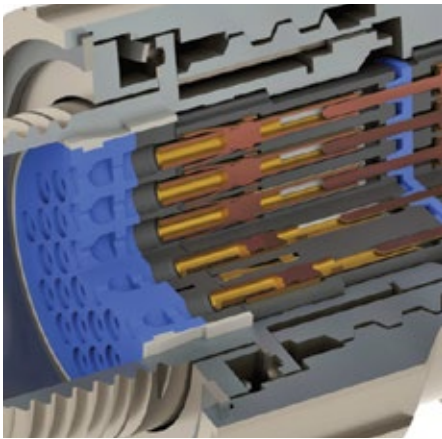
Heritage proven standard products and custom-solution capabilities position Eaton as a primary source for harsh-environment interconnect for all physical domains: air, space, sea, and terrestrial

For over 45 years, Eaton's G&H Technology™ and Burton™ connectivity solutions have provided uncompromised performance in your most-challenging environments.

An unprecedented breadth of mission successes includes hundreds of thousands of connectivity solutions installed in harsh-environment applications extending from the depths of the Marianas Trench to the reaches of deep space.

This extensive program heritage provides the proven design platforms and technologies needed to develop innovative, high-reliability standard products and custom solutions.

Connectors, cables, and non-explosive actuators are available in form factors ranging from legacy to latest-generation miniaturized for a wide range of aerospace, aviation ground power, military, oilfield, and subsea applications.



3D modeling software is integrated with CAM resources to accelerate tooling and test fixture development and concurrently manufacture parts in prototype and production quantities. Dedicated tooling and prototype shops, and an extensive array of in-house environmental test equipment, also accelerate prototype development.

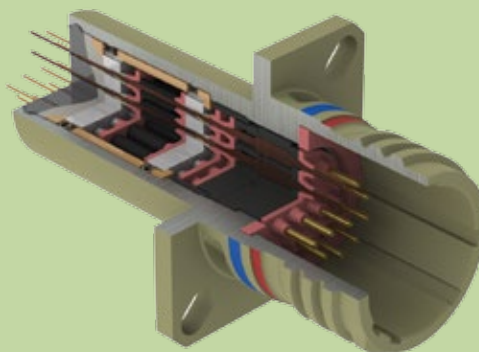
Mission critical engineering resources

Technology portfolio

An extensive portfolio of field-proven products and technologies satisfies a significant number of customer requirements with only minor modifications.

Modeling and simulation

Our design teams utilize SolidWorks to simulate a complete array of harsh-environment mechanical and thermal stresses.











Extensive experience

Eaton has an in-depth understanding of the materials, mechanisms, and electronic design required for harsh environment, mission-critical applications.

Defined toll-gate process

New product development is controlled through a defined toll-gate process to ensure consistent, predictable, and successful results.

Military, aerospace and subsea solutions

	C4ISR / Tactical Communications	Page 4		Non-Explosive Actuators	Page 6
	Micro-Military Connectors	Page 5		Commercial and Military Aviation	Page 7
	MIL-DTL-38999 Series III & IV	Page 5		Subsea and Shore Power	Page 7
	Custom Space, Launch, and Weapons Systems	Page 6		Oil and Gas Penetrators	Page 7

Custom cables and wiring harnesses

Eaton can provide custom cables and wiring harnesses for turnkey design, collaborative co-development, or build-to-print programs.

End-to-end connectivity capabilities include:

- Application-specific solutions for high currents and voltages, Ethernet, and RF and acoustic-signal applications
- Single and multiple-layer foil and braided EMI/RFI shielding
- Extreme temperatures, shock/vibration, radiation, corrosive media, vacuum and pressures up to 20,000 PSI
- Integrated mechanical tow, fluid delivery, and cable separation and release capabilities
- NAVSEA S9320-AM-PRO-020 certified overmolding
- Water blocked and pressure balanced oil filled subsea cables
- Harnesses with up to 2,800 wires, over 20-feet long, and string tied as per NASA-STD-8739.4



From subsea to space; custom cable heritage includes submarine weapons control (top) and space-rated (left) applications.

C4ISR / tactical communications

QPL style and specialized solutions include:

- MIL-DTL-10544
- MIL-DTL-12520
- MIL-DTL-26482
- MIL-DTL-55116
- MIL-DTL-55181
- BB-590/U battery
- Hotshoe connectors
- Miniaturized data and in-line power solutions
- SINCGARS GPS
- SINCGARS power tray



MIL-DTL-55116 plugs are available in QPL, NSA, right angle and lightweight configurations.



MIL-DTL-55181 options include RoHS compliant finishes.



SINCGARS heritage, power-tray connectors are available with integral EMI/RFI filtering.



Hotshoe Connectors

- High contact densities
- Accordion-style contacts provide reliable connections even after moisture exposure
- 360° EMI/RFI shielding



Mini-Data Connectors

- 10 contact receptacles and plug / cable assemblies
- Supports data rates up to 10 gigabits / second
- Up to 1.4A per contact



MIL-DTL-55116 Extended Body Receptacles

- 2¼ inch additional length facilitates bulkhead mounting
- Doubled-ended feedthrough configurations



MIL-DTL-55116 Style with 19 and 27 Contacts

- High-contact-density panel mount and in-line solutions
- Rugged J-slot coupling mechanisms



MIL-DTL-55181 Straight Backshell

- Suitable for panel mount and in-line applications
- Plug and receptacle, pin or socket configurations



MIL-DTL-55181 Dual Receptacle Splitters

- Splits power and data from a single cable to two sets of receptacle contacts



MIL-DTL-55181 Stacking Connectors

- The front (left) is plugged into a power source. A QPL connector is "piggybacked" on the rear (right) to split power to a second cable



MIL-DTL-55181 Plug Splits Power to Two Cables

- Plug bodies are available with pins or sockets
- Lower-cost solution than traditional Y-cables



MIL-DTL-55181 Plug Splits Power to a Receptacle and a Cable

- Low profile is ideal for height constrained applications
- Available with multiple cable and receptacle orientations

Micro-military connectors



Dual-Start Threads

- 1.5 turns full mate
- Shell sizes 6, 7, 9, & 10
- 1 to 26 contacts
- 55 dB EMI shielding



Triple-Start Threads

- 1 turn full mate
- Shell sizes 8, 9, 11, & 12
- 4 to 26 contacts
- 85 dB EMI shielding



Custom Capabilities

- Cables assemblies and wiring harnesses
- Space-rated solutions
- Custom contact arrangements
- Ethernet and MIL-DTL-1553

Features include:

- Significantly reduced size and weight compared to MIL-DTL-38999 solutions
- Mating compatibility with miniaturized connectors from other manufacturers
- Coupling mechanisms stay engaged in high shock and vibration environments
- Threaded and banding platform backshell attachment options

MIL-DTL-38999 Series III & IV



Lanyard-Release Plugs

- QPL D38999/29, / 30 and / 31
- Series III 22° off-axis-pull outperforms D38999 requirements
- Series IV 15° off-axis-pull with as low as 90 pounds force



Filtered Receptacles

- Meets D38999 shock/vibration without any deratings
- C, L, T and Pi filter configurations
- Custom solutions available for any voltage, frequency, and filtering requirements



Hermetic Receptacles

- Helium leakage less than 1 E-7 CC / S per EIA-364-02
- -65°C to 200°C operating temperatures
- Hardware and weld/solder mount configurations

QPL style and specialized solutions include:

- Class K 2000° firewall
- Filtered receptacles
- General purpose plugs and receptacles
- Hermetic receptacles
- MIL-STD 1553 high speed data
- MIL-STD-1760 lanyard release
- Power-Breech™ solutions rated up to 900A
- Space rated including NATC
- Wing-Lok™ plugs



Wing-Lok™ Plugs

- Reduces effort needed for rapid and repetitive engagements
- Ergonomic designs are especially beneficial when wearing bulky military and space-grade gloves



Space Rated

- Series III NATC meets NASA SSQ 21635
- Series IV designs are space flight approved by NASA GSFC
- Ergonomic Wing-Lok™ plugs are ideal EVA & IVA solutions



Up to 900 Amps

- Shell sizes 33 – 57
- Rugged, Series IV derived breech-lock-coupling mechanisms
- Peacekeeper ICBM qualified
- 2800 VRMS service ratings



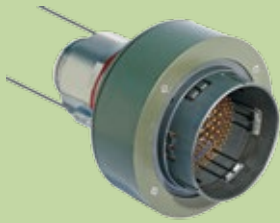
Custom Connectors and Cables

- Application specific contact arrangements
- Extreme operating environments and corrosive-media compatibility
- Custom cables and wiring harnesses including overmolded, flat ribbon, coax, high-current power and Ethernet

Custom space, launch, and weapons systems

Heritage-proven technologies and design platforms can be leveraged to quickly provide a wide range of custom, harsh-environment solutions for interconnect applications ranging from shoulder-fired missile launchers to deep space probes:

- Actuator-released interconnects
- Cryogenic connectors
- Deadfaced in-flight disconnects
- EVA and IVA quick disconnects
- Flight termination systems
- High voltage quick disconnects
- In-flight disconnects
- Integrated gas and fluid fittings
- Interstage-raceway connectors
- Low-impacted-shock connectors
- NATC space-rated connectors
- Positive mate monitoring
- Umbilical connectors and cable assemblies
- Vertical launch disconnects
- Zero-separation-force connectors



Disconnect capabilities include redundant mechanical and electrical releases.



Vertical launch solutions heritage includes terrestrial and naval applications.

Features include:

- Safe handling and deployment
- Program heritage includes over 12,000 actuations
- Fragment and debris free operation
- Low power consumption
- Rapid releases across wide temperature ranges
- Low imparted shock
- Field refurb and reset capabilities reduce costs for multiple test sequences

Non-explosive actuators



Separation Nuts

- Standard products rated up to 9500 pounds load capacity
- Heritage proven in over 4,000 releases



Pin Pullers

- Solutions range from standalone devices to integrated systems
- Compression release solutions are also available



Cable Releases

- Available with single or multiple cable-release points
- Heritage proven load ratings up to 267 pounds per cable



Customs and Cables

- Valves and bottle piercers
- Actuator-released interconnects
- Form, fit, and function pyrotechnic actuator replacements
- Cable assemblies and wiring harnesses



Tension Releases

- Standard products rated up to 1300 lbs. load capacity
- Miniaturized solutions release 250 lbs. in form factors less than 1/3 cubic inch



Tension Links

- Standard products rated up to 2000 pounds load capacity
- Ideal solutions for Marman clamp (V-band) restraint and release applications



Electrical Switches

- Event-based switching such as bypassing failed battery or solar-power cells
- Significantly higher reliability than electrical relays

Commercial and military aviation



Cabin Lighting Connectors

- Shells utilize integral tracks to facilitate reliable blind mating
- Available with 8 to 24 contacts
- Extensive commercial aircraft flight heritage



Ground Power Receptacles

- 400Hz, 28VDC and 270VDC
- Airframe and ground equipment solutions
- Commercial and military flight heritage



Ground Power Plugs and Cables

- 400Hz, 28VDC and 270VDC
- Field-replaceable contact assemblies
- Six-around-one cables
- AS7974 banded cables

Solutions include:

- AS7974 cable assemblies
- B1B cable assemblies
- Extension cables
- Jumper cables
- Metallic and non-metallic banded cables
- Safety-service systems
- Single-point-refueling cables
- Six-around-one cables
- Y-adaptor cables

Subsea, shore power and oil and gas penetrators



Custom Naval Connectors & Cables

- Water blocked and NAVSEA PRO-20 certified overmolded cables
- Mechanical tow, fluid delivery, and separation and release cable capabilities



Dry-Mate Burton™ Connectors

- Shell sizes 9 to 48
- 29 to 39 contacts
- Cable options include Ethernet, overmolded and PBOF



Ultra-Compact Shell Sizes 9 & 12

- Shell size 9: up to 8 contacts
- Shell size 12: up to 14 contacts
- Cable options include Ethernet, overmolded and PBOF



Wet-Mate Burton™ Connectors

- Shell sizes A, B, and C
- 2 to 16 contacts
- Bulkhead, in-line, overmolded, and PBOF solutions



Underwater-Mate

- In-line, bulkhead and miniaturized form factors
- 1 to 8 contacts
- Rated up to 440V and 175A



Subsea Penetrators

- 2 to 12 conductors ranging from 1/0AWG to 18AWG
- Straight and right-angle bodies
- Custom penetrators, wiring harnesses and cable assemblies



Shore Power

- MIL-C-24368 plugs and receptacles
- OPNAVINST 11310.3B single-pole connectors
- Overmolded cable assemblies



Oil and Gas Penetrators

- Penetrators to fit standard and non-standard wellheads
- Surface and downhole connectors and packer penetrators

For additional information, please visit
www.eaton.com/interconnect or call
805.484.0543

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