

HIGH RELIABILITY INTERCONNECT SOLUTIONS FOR AEROSPACE & DEFENCE

HIGH PERFORMANCE SOLUTIONS

FOR AEROSPACE AND DEFENCE

ABOUT US

Hypertac is a world leading provider of high performance electrical connectors and interconnect solutions for the most demanding applications. Together with IDI and Sabritec Hypertac is part of the Connectors Business Unit within the Smiths Interconnect division of Smiths Group Plc.

OFFERING VALUE ADDED CUSTOMER SOLUTIONS

Hypertac is a global leader in the design, manufacture and supply of high performance interconnect solutions. Hypertac utilises the superior Hyperboloid® contact technology which offers unrivalled performance in harsh environments encountered in military and commercial aerospace applications.



WE ADD VALUE TO OUR CUSTOMERS BY OFFERING:

- Unique, technically superior and flexible solutions that utilise the ultimate in contact performance and reliability.
- Products which are fully project managed from initial concept through to final development and test.
- Expert application knowledge ranging from custom and standard design product to system architecture.
- Collective knowledge and expertise to offer technically superior cost effective interconnect solutions that provide our customers with a competitive advantage.

QUALITY AND ENVIRONMENT

First-class material, state-of-the-art development methods, advanced know-how and exact processing are the essential ingredients of our quality. Our focus on growth is balanced by respect for the environment. We continually strive for quality and maintain our commitment to making improvements towards the environment and pollution.

Hypertac has been awarded the ISO 9001, ISO 14001 and OHSAS 18001 quality, environment and health & safety assurance certifications.

THE DIFFERENCE IS IN THE CONTACT PERFORMANCE

Hypertac Hyperboloid contact design technology satisfies the most demanding performance requirements

Hypertac Hyperboloid contact design ensures unrivalled performance in terms of:

- Multiple line contacts of low resistance maintained under high levels of shock and vibration
- Low insertion forces
- Low wear of plating surfaces for long life
- Uniform electrical and mechanical characteristics over a high number of mating operations (greater than 100,000)
- High current rating



Hypertac Hyperboloid contact provides the following commercial benefits:

- Low cost of ownership - does not need replacement during equipment life
- Reduced system costs - equipment design is less critical
- Reduced qualification costs - no re-testing due to contact failures

HyperSpring®



HyperSpring® combines the electrical performance of the hyperboloid contact technology with the mechanical features of a spring loaded contact to produce interconnections with improved signal integrity, current density and parametric stability over time.

Tortac®



Tortac® is the evolution of Hypertac hyperboloid contact design dedicated to high density connectors. Tortac® sockets have an external diameter of 0.95 mm to achieve 1.27 mm pitch, square grid, contact density allowing up to 60 ways per cm². Smaller socket diameters and pitches are available on demand.

Spring Probe



Our spring probes are designed to optimize contact performance in high reliability, multiple cycle applications. They cover pitches from 0.4 mm to over 1.27 mm, with compressed lengths starting from under 2 mm, ideal for high density, board-to-board, battery contact, and high frequency applications.

RF & High Speed/ Fibre Optics



Hypertac's ruggedized contact system is designed especially for the transmission of Ethernet high-speed signals required in harsh environment applications. The use of the Hypertac hyperboloid technology guarantees excellent integrity and high reliability. Our fibre optic contacts support wide bandwidth applications and are suitable for inclusion in a broad variety of connector styles.

High Power/ High Temperature



Hypertac range includes high power (up to 1200A) and high temperature (up to 250°C) resistant versions of the ultra reliable hyperboloid contact, ideal for mission critical interconnect systems within harsh environments.

COMMERCIAL AEROSPACE

PROVIDING A COMPETITIVE ADVANTAGE

Hypertac offers proprietary interconnect solutions, technologies and full system integration capabilities for safety critical systems.

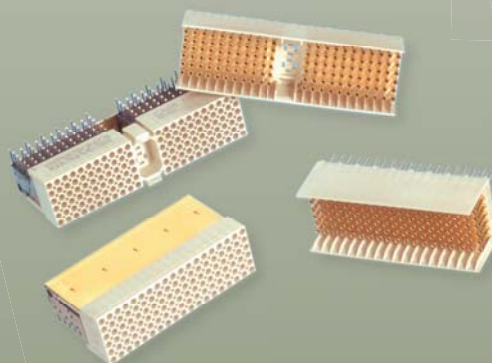


Manufacturers of passenger and cargo aircraft require highly reliable components. Reliability is a standard feature on all Hypertac products due to the leading edge technology that we utilise. Hyperboloid sockets exhibit the lowest fretting corrosion characteristics available in the industry making them the only ideal socket for use in the following applications:

- Engine Control Systems
- Radar
- Displays
- Avionics Equipment
- Power Distribution Systems
- In Flight Entertainment & Cabin Equipment
- Landing Gear Control Systems
- Wing and Engine Ice Protection
- Braking Control Systems



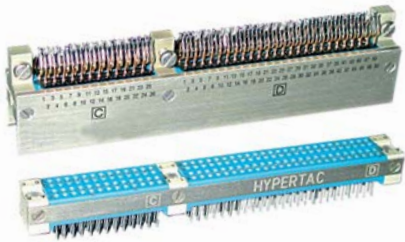
High density, metric, miniature and micro miniature PCB connectors



ARINC, rectangular and circular solutions for harsh environments

MILITARY

AEROSPACE



**UNRIVALLED PERFORMANCE
IN THE HARSHTEST ENVIRONMENTS**

Hypertac connectors are specifically designed to maintain the highest possible performance in demanding environmental conditions such as shock, vibration and extreme temperatures, which is mandatory for military and aerospace projects.

Hypertac can offer an extensive range of standard and customised solutions that meet the demanding requirements of military specifications.

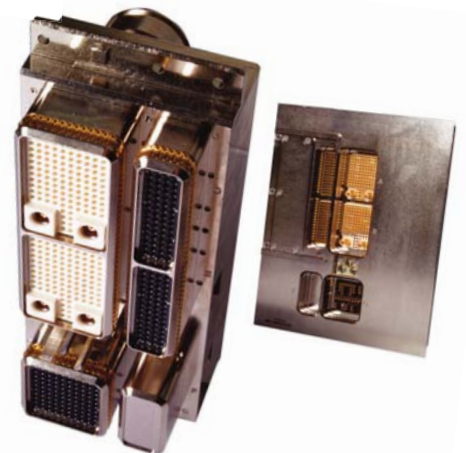
Our application solutions feature EMI/EMP protection, RF and high speed data transmission capability, high contact density and high power, all of which are to a level of performance in line with leading edge applications for our customers.



**Rack and panel ARINC
and float mount
miniature solutions
for harsh
environments.**



**High density, miniature
and micro miniature
PCB connectors**



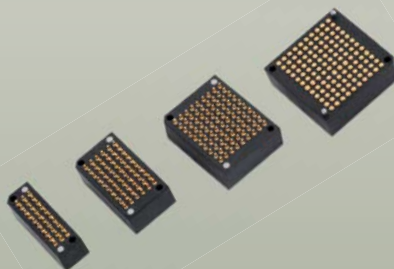
MODERN BATTLEFIELD OPERATIONS

INTERCONNECT SOLUTIONS FOR COMMUNICATION SYSTEMS

Our continually developing engineering expertise, rapid prototyping and pre-production capabilities enable Hypertac to partner with our customers to provide solutions for critical applications in defence and security operations.

Lightweight, reliable and robust, Hypertac miniature connectors offer improved functionality and performance by increasing the number of features, hardware coding options, terminations and protection measures.

Hypertac connector range includes spring loaded interconnect solutions particularly suitable for the modern battlefield applications.



Bespoke and standard solutions for the new generation of defence devices.



INTERCONNECT SOLUTIONS FOR FUTURE COMBAT SYSTEMS



To meet this increasing power demand, we have expanded our range of standard and application specific interconnect solutions. With the introduction of electric drive servo systems and vetronics into modern military vehicles, the efficient generation, distribution and storage of electrical power is crucial to achieve mission success. Our products include:



- Quick release single, double and triple pole power connectors
- High power and integrated rack and panel style connectors
- Single pole power terminals
- Custom cable to bulkhead connectors
- Miniature PCB connectors



Power connectors up to
1000A d.c.



Applications demanding
new technology include:

- Improved Explosive Device Protection
- Air Conditioning and Cleaning Systems
- Power Control Systems
- Auxiliary Power Units
- Electric Drive
- Servo Systems
- Vetronics
- Munitions Handling
- Battery Systems
- Electric Armour



NAVAL APPLICATION SOLUTIONS

PROVIDING LEADING EDGE TECHNOLOGIES

Connectors must be able to withstand the harsh environments of marine applications where heat, dust, moisture, salt corrosion and chemicals are prevalent. Our knowledge of electrical connectivity has developed from our vast experience obtained within the defence and aerospace industries. Our connector solutions provide the flexibility, performance and reliability that our marine customers demand.

Our connectors are designed to withstand the harsh environments of marine applications including heat, dust, moisture, salt corrosion and chemicals.

Applications include:

- Weapon Systems
- Submarine Control Systems
- Torpedo Guidance System
- Radar Installations



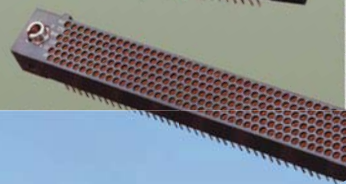
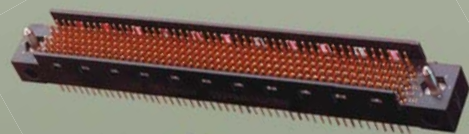
Heavy duty NATO approved modular connectors, black anodized plating.



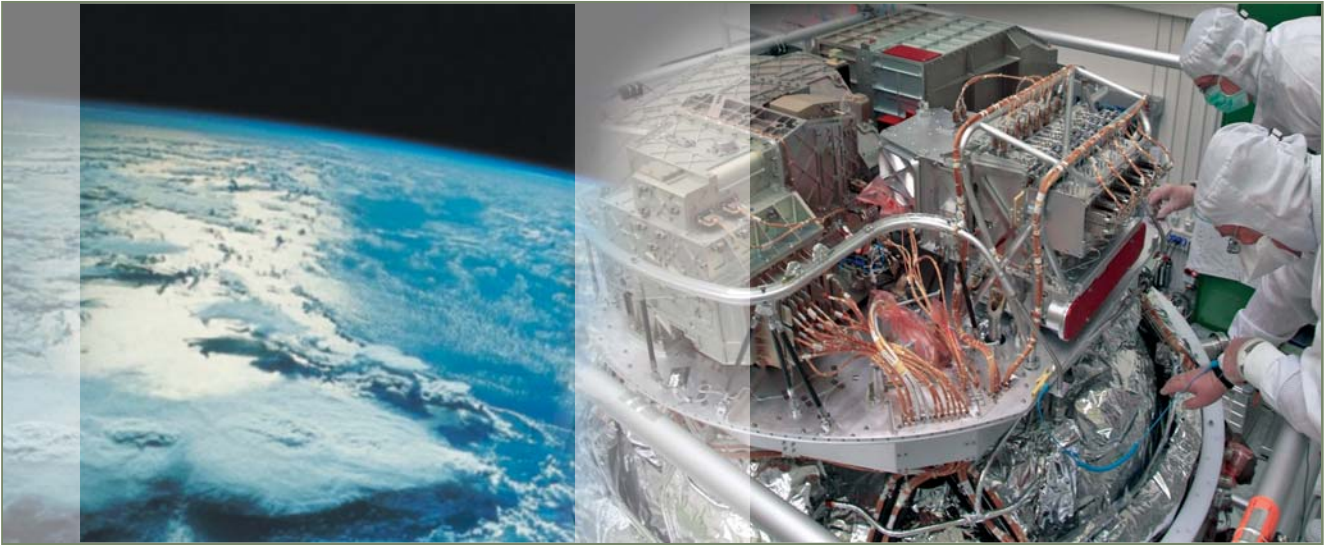
M23 stainless steel, signal and power circular connectors.



Shielded custom, circular high voltage and high density PCB interconnect solutions



SPACE GRADE INTERCONNECT SOLUTIONS



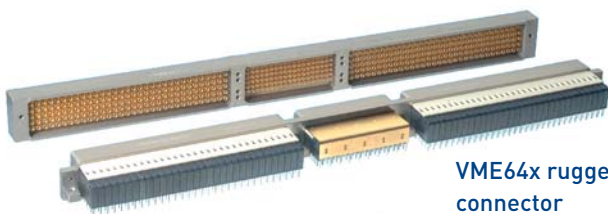
FROM SATELLITES TO ROCKETS LAUNCHERS

Rocket launchers, satellites and navigational systems require ultra-high reliability since operating conditions are extreme. Hypertac offers a range of space approved standard, off-the-shelf products as well as customised interconnect solutions specifically designed and optimised to mitigate the effects of heat, vibration and corrosion and to deliver the quality and longevity of operation required for such demanding applications.

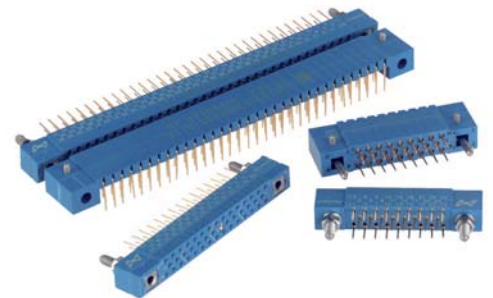


SPACE QUALITY CERTIFICATIONS

- ESA 3401/016 & 017
- ESA 3401/039
- ESA 3401/065
- ESA 3401/076



VME64x ruggedised connector



High and medium density PCB solutions



High density stacking interconnect module



Ruggedised connector compliant with PC104 specifications



VALUE ADDED SOLUTIONS

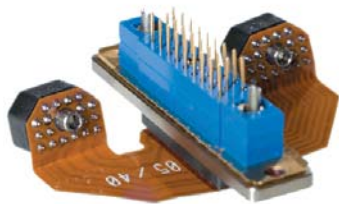
OUR OPTIMUM SOLUTIONS

Hypertac offers the benefits of a large global business while maintaining its geographic presence. The customer is supported by design and manufacturing sites in America, Europe, Africa and Asia and by a global network of agents and distributors. This structure ensures that customers are able to interact with engineers and sales colleagues who speak their own language, have a comprehensive knowledge of the range of products available throughout the group and can draw on experience from working in particular application environments.

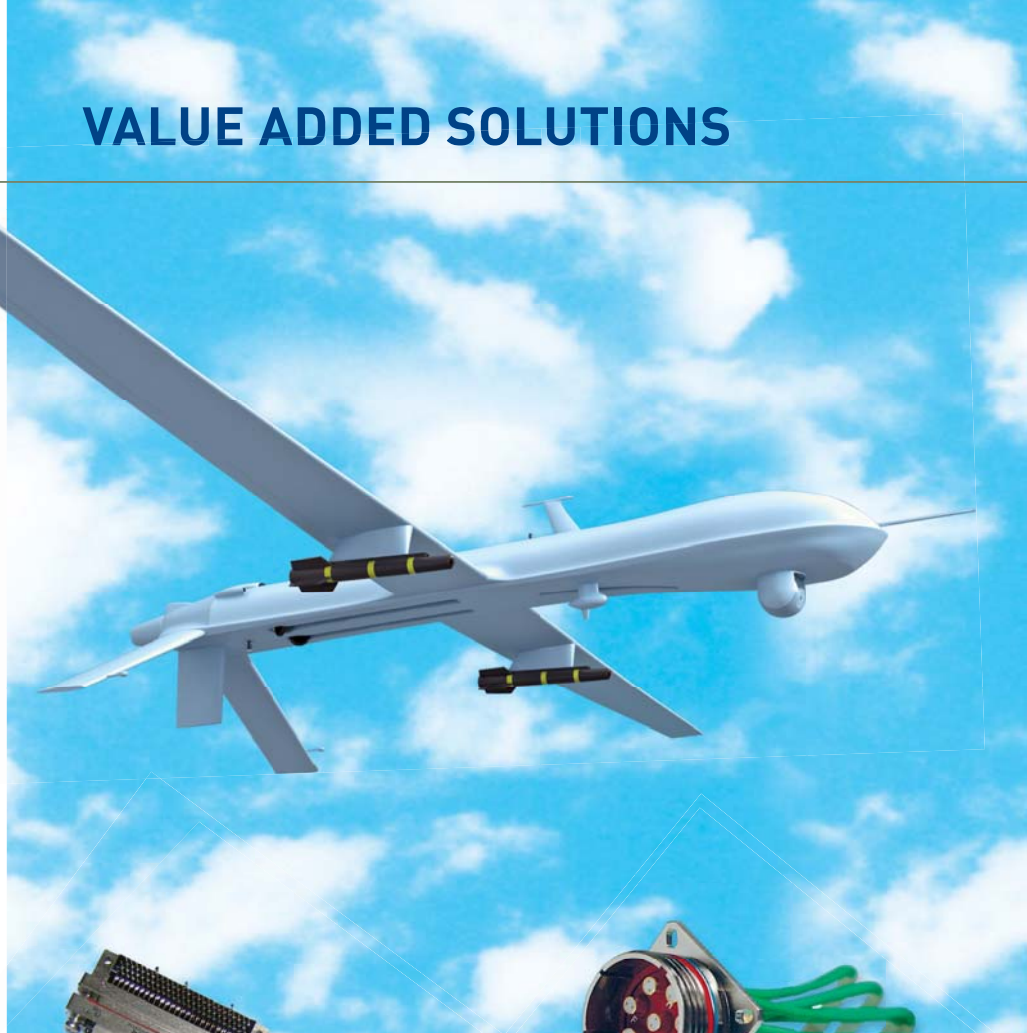


As the Defence industry has evolved, so has Hypertac development of connectors within this market.

Hypertac relies not only on the development of connectors, but even more on "added value" solutions. A specialized engineering team from the fields of plastics and process engineering offers the development of innovative interconnect solutions. From a mechanical connector construction up to over-moulding, complete electronic system and qualification capabilities, Hypertac offers all the benefits of a one-stop-shop for customized interconnections.



Custom interconnect solution with flex circuit.



Integrated interconnect systems

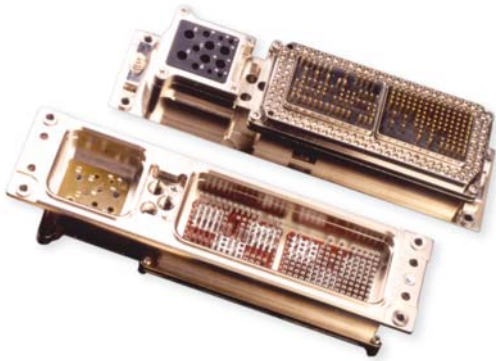


FILTER & TRANSIENT SUPPRESSION - RF & HIGH SPEED

OUR EMI FILTER KNOWLEDGE ENABLES US TO:

- Specify/recommend optimum filter style (e.g. C, LC, Pi) and value (up to 1microFarad) on receipt of signal type and data rate.
- Provide insertion loss simulations/prediction that account for actual source and load impedances.
- Verify insertion loss performance across entire frequency range.
- Combine EMI Filter and Transient Protection within a wide variety of connectors.
- Provide Transient Protection in accordance with RTCA D 160F waveform and level specifications.
- Adopt the most appropriate filtering technology for the application.

Higher customers expectations and severe application requirements have helped drive new levels of integrated product solutions between Hypertac and the sister organisation Polyphaser/Transtector.



OUR RF & HIGH SPEED KNOWLEDGE ENABLES US TO:

- Design and manufacture contacts operating at frequencies up to 40 GHz and above 5 Gbps.
- Optimise contact design for specific cable characteristics.
- Provide insertion loss, VSWR and Eye Pattern and S Parameter simulations.
- Verify high frequency and data transmission performance across entire frequency range.

The fibre optics contact technology has become in the last few years a viable alternative for data transmission in most defence and civil aerospace applications. Its main advantages over the copper technology are that it avoids sensitivity to electric perturbations and it increases the speed of transmitted information. Hypertac has therefore developed a range of modular connectors with fibre optic contacts that can be mixed with signal, power and coax/twinax/triax/quadrax. Hypertac connectors allow a flexible mix of cable styles for signal, power and optical terminations. Within a single connector it is possible to have:

- Coax, Triax, Quadrax contacts alongside signal and power contacts.
- Transient protection and EMI filtering.
- All cable shields grounded directly to connector shell.



Fibre optic contacts and connectors

GLOBAL SALES OFFICES

Europe

Hypertac S.A.

31 rue Isidore Maille,
76410 St. Aubin Lès Elbeuf, France
t: +33 (0) 2 3296 9176
f: +33 (0) 2 3296 9170
e: info@hypertac.fr

Hypertac GmbH

Ulrichsberger Straße 17,
94469 Deggendorf, Germany
t: +49 (0) 991 250 120
f: +49 (0) 991 250 1244
e: info@hypertac.de

Hypertac SpA

Via P.D. Da Bissone 7A,
16153 Genova-Sestri P., Italy
t: +39 0 10 60361
f: +39 0 10 6505 748
e: info@hypertac.it

Hypertac Limited

36, Waterloo Road,
London NW2 7UH, UK
t: +44 (0) 20 8450 8033
f: +44 (0) 20 8208 4114
e: info@hypertac.co.uk

Interconnect Devices Inc.

5101 Richland Avenue
Kansas City, KS 66106 USA
t: +1 913 342 5544
f: +1 913 342 7034
e: info@idinet.com

Interconnect Devices Inc.

818 Kifer Road
Sunnyvale, CA 94086
t: +1 408-834-1400
f: +1 408-834-1401
e: info@idinet.com

Interconnect Devices Inc.

1030 North Colorado
Suite 101 Gilbert, AZ 85233 USA
t: +1 480 682 6200
f: +1 480 892 0041
e: info@idinet.com

Asia

Interconnect Devices Inc.

No. 255, SuHong Middle Road
Suzhou Industrial Park
Suzhou 215021 China
t: +86 612 6273 1106
f: +86 512 6273 1199
e: info@idinet.com

Hypertac China

Unit F1, 7th Floor,
East Ocean Center Phase II,
No. 618, Yan'An Road East,
Shanghai, China, 200001
t: +86 21 3318 4650
f: +86 21 5385 4506
e: info@hypertac.fr

Hypertac India

No.105/B, Harini Towers, 2-3 floor,
3rd cross, 3rd main, Off outer ring rd,
Peenya Industrial area
Bangalore 560 022, India
t: +91 80 4241 0500
f: +91 80 4241 0514
e: info@hypertac.fr

America

Hypertronics Corporation

16 Brent Drive, Hudson,
MA 01749-2978, USA
t: +1 978 568 0451
f: +1 978 568 0680
e: info@hypertronics.com

Sabritec

17550 Gillette Ave,
Irvine, CA 92614, USA
t: +1 949 250 1244
f: +1 949 250 1009
e: customerservice@sabritec.com

FOR FURTHER INFORMATION VISIT www.hypertac.com