

smiths connectors



INTERCONNECT SOLUTIONS FOR

INDUSTRIAL

MACHINERY | AUTOMATION | TEST



SMITHS CONNECTORS

Smiths Connectors is a leading supplier of application-specific, high-reliability electrical interconnect solutions from highly integrated assemblies to micro-miniature connectors and spring probe contacts.

Smiths Connectors is comprised of Hypertac, IDI and Sabritec brands, which are synonymous of exceptional performance when critical applications require a technologically advanced, high quality, multi-pin electrical connection to ensure reliability and safety.

Alongside Smiths Microwave and Smiths Power, Smiths Connectors is part of the Smiths Interconnect division of Smiths Group, a global leader in applying advanced technologies for markets in threat and contraband detection, energy, medical devices, communications and engineered components. Smiths Group employs around 23,000 people in more than 50 countries.

By uniting the competencies and capabilities of three world leading interconnect brands, Smiths Connectors offers:

- ▶ Broad Range of Advanced Interconnect Technologies
- ▶ Vast Knowledge of Served Markets & Applications
- ▶ High Volume Product Platforms
- ▶ Complete Tailored Solutions
- ▶ Unmatched Reliability & Durability
- ▶ Global Reach with Local Support



ENGINEERING SUPERIOR SOLUTIONS



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GROUP CAPABILITIES

Smiths Connectors' in-house capabilities encompass design, development, manufacturing and testing. Providing operational excellence tailored to volume manufacturing requirements, global sourcing, world class engineering talent, and rapid prototyping enable Smiths Connectors to respond quickly and accurately to customer's needs, and to provide the most reliable interconnect solutions.

We are a global provider of interconnect solutions that create value for our customers by providing them with a competitive advantage. We leverage our application specific and engineering expertise to design and manufacture superior connectors, contacts and systems that ensure optimal performance, reliability, durability and safety in critical applications.

We meet the customer's need, whether it is a single contact, a wide portfolio of standard products, custom interconnect, cable harness or a complete pre-tested sub-system. Our success does not rely solely on our technology alone, but also on data management, manufacturing systems, forward planning tools, quality control and the ability to supply functional prototypes.

QUALITY

First-class materials, state-of-the-art development methods, advanced know-how and exact processing are the essential ingredients of our quality expertise. Industrial applications demand consistent quality and reliability as downtime is costly and impacts manufacturing. Our diverse product offering, from off-the-shelf products to customized solutions, provides unrivaled performance under the most stringent elements. This, combined with ISO certified facilities and quality assurance makes Smiths Connectors the leading provider of interconnect solutions for the industrial market.

The Essential in Industrial Technologies

Reliability is the essential attribute in the leading edge technologies that we utilize. With performance such as exceptional tolerance to shock and vibration, low insertion forces, high current ratings, high mating cycles and low contact resistance, our products deliver a competitive advantage and value to our customers' offerings.

Compliant with International Industrial Standards

- ▶ DIN IEC 61984 (VDE0627)
- ▶ DIN IEC 61076-2-101
- ▶ DIN IEC 60512
- ▶ RoHS

ENGINEERING DESIGN & DEVELOPMENT

- ▶ CAD/CAM and Solid Modeling
- ▶ Electromagnetic and Molding Simulation
- ▶ Finite Element Analysis

PROTOTYPING

- ▶ CNC Turning and Milling Centers
- ▶ Cabling/prototype Assembly
- ▶ 3-D Printing

TESTING / QUALIFICATION

- ▶ Electrical, Metallurgical & Mechanical Testing
- ▶ Environmental Testing

MANUFACTURING

- ▶ Extensive Machine Shops
- ▶ Contact Assembly
- ▶ Connector & Cable Assembly
- ▶ System Integration
- ▶ Validation Tests

CERTIFICATIONS

- | | |
|--------------------|--|
| ISO 9001 | ▶ General International Standard for Quality Management System |
| ISO 14001 | ▶ International Standard for Environmental System Management |
| OHSAS 18001 | ▶ International Standard for Occupational Health and Safety Management Systems |

INTERCONNECT SOLUTIONS FOR INDUSTRIAL MACHINERY | AUTOMATION | TEST

TECHNOLOGIES



Hyperboloid

Hypertac® is the original superior performing hyperboloid contact technology designed for use in harsh and demanding environments where high reliability and safety are critical. The inherent electrical and mechanical characteristics of the Hypertac hyperboloid contact ensures unrivaled performance in terms of reliability, number of mating cycles, low contact force and minimal contact resistance.



Spring Probe

Spring probes are compliant contacts which makes them ideal for high reliability, blind mate applications as they self-correct for x, y, z, rotational and angular misalignment of the target. Offered in compressed heights less than 2 mm and utilized on pitches as tight as 0.4 mm, they are well-suited for high density, board-to-board, battery contact, and high frequency applications.



EMI/EMP Filter

EMI filter connectors use multi-layer ceramic capacitor arrays together with inductive materials to realize robust, high performance low pass filter networks. Where required, protection can be provided against high energy transients from direct lightning strikes, standard EMP, high altitude EMP (HEMP), non-nuclear EMP (NNEMP) and electromagnetic interferences (EMI).



Fiber Optics

Fiber optic contacts support wide bandwidth applications and are suitable for inclusion in a broad variety of connector styles. All fiber optic connectors and contacts are offered fully terminated and tested ensuring signal integrity for rugged application environments.



High Speed Copper

Quadrax and twinax contacts are designed for transmission of Ethernet high speed signal in harsh environments where integrity and reliability are essential. Consisting of an outer shield and either two (twinax) or four (quadrax) inner contacts, the high speed copper contacts can be setup in a number of formats including MIL-DTL-38999, ARINC 600, MIL-DTL-83527 and D-subminiature.



RF Coax/Triax

Coax and triax contacts provide superior electrical performance plus shielding to eliminate interference from outside electrical sources in a connector. Triaxial contacts are designed for low-loss concentric 50, 75 and 95 Ω cable types.



INDUSTRIAL PRODUCT PLATFORMS



Circular

M12, M23, M40 & M58 Series

- ▶ Signal and power options
- ▶ Metal and plastic housings
- ▶ Ground connection for power connectors
- ▶ 360° EMI shielding
- ▶ Machined and stamped contacts
- ▶ Stainless steel versions



Modular

L, H & N Series

- ▶ Mixed signal, power and coaxial modules
- ▶ Provides up to 300 A power
- ▶ Cable to chassis, cable to cable, and rack and panel
- ▶ Metal and plastic backshell with adjustable cable clamp and half turn quick disconnect jackscrew



Rectangular

REP Series

- ▶ 2, 6 and 12 way standard insulators
- ▶ PCB receptacle with straight or bent termination
- ▶ Voltage rating up to 400V
- ▶ Extended crimp contact capability
- ▶ Allows wire sections from 0.5 mm² to 2.5 mm²



Spring Probe

Customizable Solutions

- ▶ Custom connector designs
- ▶ Mixed signals and functionality designed into a single connector
- ▶ Surface mount, thru-hole and solder cup terminations
- ▶ Million cycle mechanical life



High Power

HBB Series

- ▶ Metal and plastic housings
- ▶ 300 A and 500 A current ratings
- ▶ Push lock to mate connector, quick release latch to unmate
- ▶ Cable and panel mount variants
- ▶ Gender reversible
- ▶ Polarized 360° EMI/RFI shielding option



Wiring Systems

Individual Cablings

- ▶ Wire, cable and harness interconnects
- ▶ Custom interconnect assemblies
- ▶ Pre-wired encoding connectors and adapters
- ▶ 100% testing
- ▶ Small to large volume capacity
- ▶ Overmolding capabilities

RELIABILITY IS KEY

APPLICATIONS

- Industrial Robots
- Factory Automation
- Chemical & Pharmaceutical Processing Equipment
- Manufacturing Machine Tools
- Conveyor Systems
- Production Test Equipment
- Laser and Welding Equipment
- Bespoke OEM Production Equipment

Production environments are becoming increasingly automated and utilizing higher levels of integration in the pursuit of efficiency improvements. The drive for continuous improvement is creating a requirement for high reliability interconnects, as network failures can result in expensive line down situations. Smiths Connectors' interconnect products contain leading contact technologies which offer unrivaled performance through superior design and performance.

With our global business footprint and extensive engineering expertise we offer customers local design and engineering service to develop the optimum solution for any given application.

Smiths Connectors' products and performance characteristics provide real commercial benefit in terms of total cost of ownership.

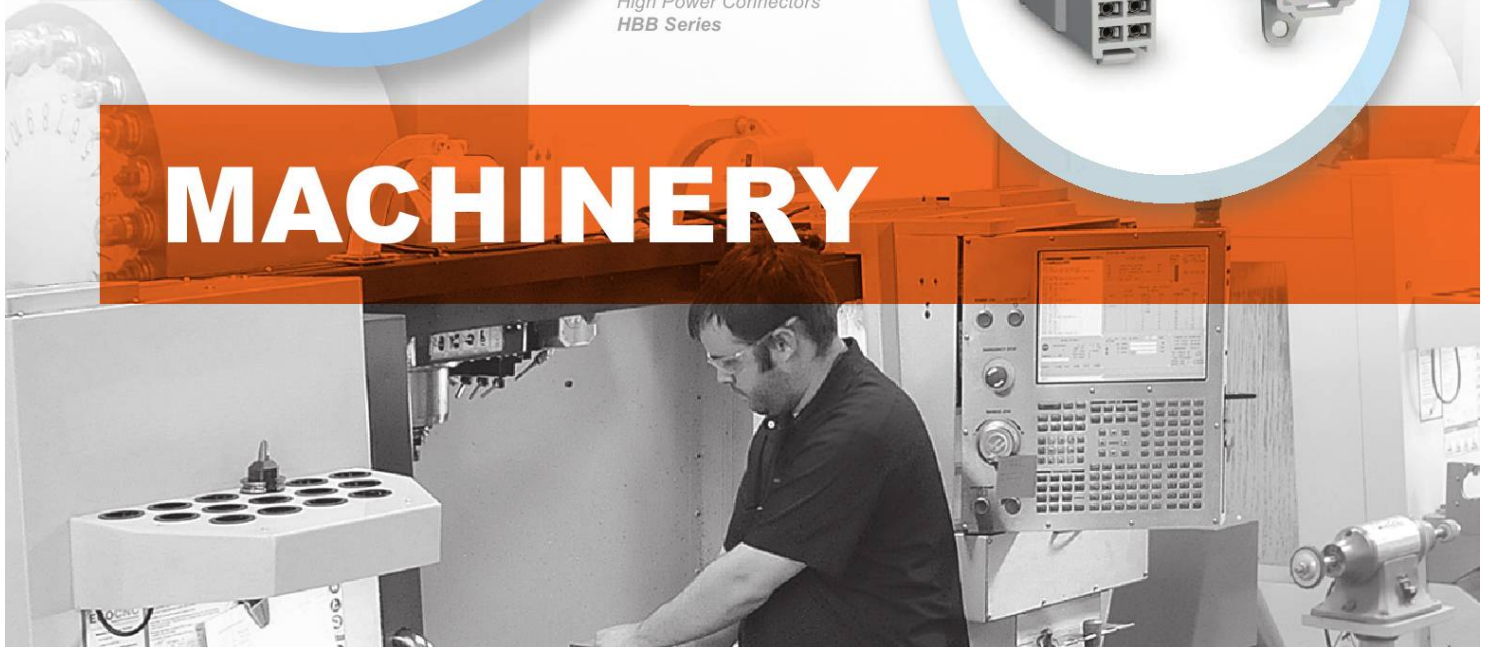


Quick Release High Power Connectors HBB Series

Rectangular Plastic Connectors REP Series



MACHINERY

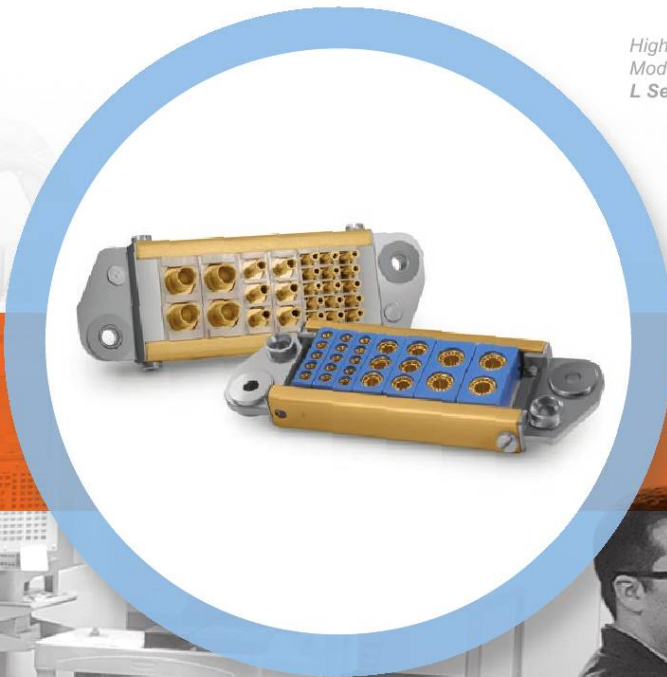




High Power
Circular Connectors
P Series



Heavy Duty Modular Connectors
Signal, Power, Fiber Optics, High
Speed and Coax Contacts
HyperMod Series



High Reliability
Modular Connectors
L Series



DELIVERING OPTIMUM CONNECTIVITY

APPLICATIONS

- Control Equipment
- Network Components
- Sensors and Actuators
- Servomotors and Drives
- Inverters
- Vision Systems

Smiths Connectors offers a high quality range of both standard and custom interconnects to meet the exact needs of the industrial market today. With robust, easy to terminate designs containing leading edge technologies, these products offer unrivaled performance. Our connectors ensure the optimum balance between cost and performance, making them the ideal choice for industrial applications operating in demanding environments where there is a high cost of failure.

Smiths Connectors' range of industrial interconnect products offers an ideal solution for applications where a connection is required to control, drive, monitor or test a device within a manufacturing environment.



*Compact Design
M12 Connectors
W Series*



*High Reliability
Mini-Modular Connectors
N/H Series*

AUTOMATION



*Wiring Systems
for Automation*



*360° EMC Shielding
M23 Connectors
S/L Series*



*Micro
Twinax/Quadax
Connectors*



ENSURING SAFETY

APPLICATIONS

- Hardware-in-the-Loop (HIL) Test
- Sensor Head Adjustment and Processor Unit Analysis
- Interfaces Direct Probe Contacting
- In-circuit Board Test Systems
- Board and Power Testers
- Test Bench
- Encoders
- Simulators
- Probers

The reliability of production test equipment is mainly dependent on the integrity of the active interfacing connectors used. At Smiths Connectors our products contain superior contact technologies which provide unrivaled performance in terms of longevity, low mating forces and electrical stability, making them ideal for these applications.

Smiths Connectors employs a number of contact technologies including high performance spring probes for testing printed circuit boards. These probes have been specifically developed for applications requiring very low contact resistance over a high number of mating cycles.



Push-button Circular Connectors, D Series



Bare and Loaded Board Test Spring Contact Probes



Multi-Cycle Sealed Spring Probe Connectors



TEST EQUIPMENT

*Custom
Coding Connectors
HNG Series*

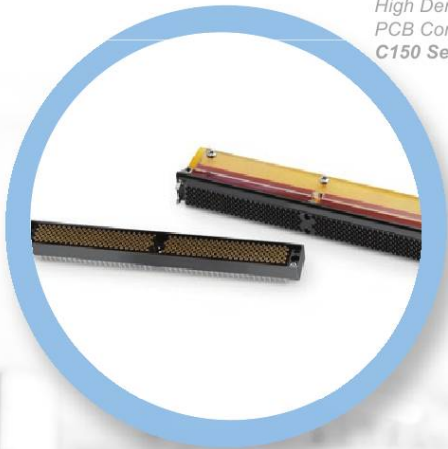


*Rectangular
ZIF Connectors
HDL Series*

*Rectangular
Signal Connectors
HLC Series*



*High Density
PCB Connectors
C150 Series*



SMITHS CONNECTORS GLOBAL SUPPORT

AMERICAS

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Hudson, MA
Kansas City, KS

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