

PRODUCTS & SOLUTIONS











ABOUT ERNI —

ERNI Electronics has been contributing to electrification of the globe for more than 70 years. From power management to lighting systems, from relays to still photography and television, ERNI has long created and perfected a variety of solutions for the modern world. By the mid-1960's, our team developed the first back plane assembly and introduced it to the world during the 1968 Electronica Fair. These connectors received DIN 41612 standardization in 1971 and we haven't stopped engineering and refining miniaturized, robust, electronic connector solutions since. ERNI specializes in designing and manufacturing robust yet miniaturized connector solutions that perform in a variety of industries.

Today ERNI supplies high quality connector solutions, cable assemblies, cable enclosures and more to nearly every industry. One will find ERNI connectors in communications, automation, medical, aerospace, instrumentation, transportation, and more. Our teams of highly experienced Sales Engineers around the world partner with leading distributors to enable us to be closer to our customers, providing the ideal solutions to each and every need. As a customer focused organization, we aren't afraid of a problem but rise to the occasion and create customized solutions as needed to meet our customers' needs.

What sets us apart? We take the time to understand our customers and their needs, enabling us to identify the right solution for each application. At ERNI, we know that when we work together, we do achieve more.

Quality Management Certifications:

- IATF 16949: 2016
- ISO 9001: 2008
- ISO 14001: 2015
- UL Underwriter Laboratories Inc., file No. E335534, E335340, E258941, E332028

Environment Management Certifications:

 DIN ISO 14001:2004 TÜV DE: Registration No. 01 104 0102245

Product Certifications:

- USCAR & LV214 for several connectors
- Bellcore certification for several connectors
- UL Underwriter Laboratories Inc., file No. E472031, E145613, E84703, E325697, E478662

CONFIGURATION KEY



CONNECTORS —

MicroStac



HIGH CURRENT CARRYING CAPACITY AT SMALL PACKING DENSITY.

- space-saving design
- efficient and economical
- dual-side board loading
- identical plug and counter plug
- low inventory costs
- relatively high contact force
- reliable connections
- high mating reliability
- single and double row versions
- various board-to-board heights

Pitch	0.8 mm
No. of Pins	6, 9, 10, 12, 14, 50, 54
Termination	SMT
Current rating (A)	up to 2.7 A per contact at 20 °C
Temperature range	-55 °C to 125 °C
Data transmission rate	up to 3 Gbit/s
Mated Stacking Height	3 and 5 mm

Configurations









- 1. Automation (PLC, DCS, Remote I/O, Drives)
- 2. Instrumentation
- 3. Medical



CONNECTORS —

MicroCon



FITS ANYWHERE, ANYTIME: FOR LOTS OF CONTACTS EVEN WHEN SPACE IS SHORT.

- miniaturized, compact design
- straight and angled connectors
- many pincounts available
- variable PCB spacings possible
- cable connectors with insulation displacement terminations
- a high degree of reliability
- dual beam spring contact design
- shock-, vibration-, heat-resistant
- high holding force on printed circuit boards

Pitch	0.8 mm
No. of Pins	12, 16, 20, 26, 32, 40, 50, 68, 80, 100
Termination	SMT, IDC
Current rating (A)	up to 2.3 A per contact at 20 °C
Data transmission rate	up to 3 Gbit/s
Temperature range	-55 °C to 125 °C
Mated Stacking Height	5 to 10 mm

Configurations











- 1. Automation (PLC, DCS, Remote I/O, Drives)
- 2. Instrumentation
- 3. Medical

CONNECTORS —

MicroSpeed High-Speed



COMES COMPLETE WITH ITS OWN BODYGUARD: NO CHANCE FOR ELECTROMAGNETIC INTERFERENCE.

- high signal integrity
- EMC improved shielding (high interferenceresistance / excellent EMC)
- reliable connections
- blind-mate variants available
- automatic process capable
- stack heights from 5 to 20 mm
- data rates up to 25+ Gbit/s
- pronounced pre-alignment
- reliable retention force on the PCB

Pitch	1.0 mm
No. of Pins	50, 91, 133
Termination	SMT, SMT/THR
Current rating (A)	approx. 1 A per contact at 20 °C
Data transmission rate	25+ Gbit/s
Temperature range	-55 °C to 125 °C
Board-to-Board Height	5 - 20 mm

Configurations









- 1. Automation (PLC, DCS, Remote I/O, Drives)
- 2. Instrumentation
- 3. Medical
- 4. Aerospace and Military

Products & Solutions

CONNECTORS —

MicroSpeed Power Module



POWER IS ITS ELEMENT. SMALL ON SPACE, BIG ON SAFETY.

- high current density
- current rating up to 18A
- reliable connections
- blind-mate variants available
- stack heights from 5 to 20 mm
- pronounced pre-alignment
- automatic process capable
- reliable retention force on the PCB

Pitch	2.0 mm
No. of Pins	5
Termination	SMT, SMT/THR, THR
Current rating (A)	up to 18 A per contact at 20 °C
Temperature range	-55 °C to 125 °C
Board-to-Board Height	5 - 20 mm

Configurations

MAJOR INDUSTRIES







- 1. Automation (PLC, DCS, Remote I/O, Drives)
- 2. Instrumentation
- 3. Medical

CONNECTORS —

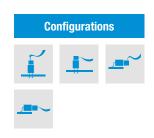
MicroBridge



FOR PEAK PERFORMANCE AT PEAK POWER: EXCEPTIONAL RELIABILITY MEETS MINIATURE DESIGN.

- compact cable connector system for Automotive applications
- optionally available electrical CPA (Connector Position Assurance)
- double arranged insulation displacement termination with integrated strain relief
- Koshiri-Security
- male connector with SMT termination
- female connectors with 90° and 180° cable outlet
- double-sided interlocking latches

Pitch	1.27 mm
No. of Pins	2 - 20 pins (single row) possible
Termination	SMT, IDC
Current rating (A)	up to 9.0 A per contact at 20 °C (2 pin version)
Temperature range	-40 °C to 150 °C
Automotive Standard	Developed based on VW75174 and USCAR-2
Wire cross section	IDC single wire 0.35 mm ²
Operating voltage	70 V *



MAJOR INDUSTRIES



1. Automotive (BMS, Headlight)

^{*} DIN VDE 0110/ IEC 60664-1, pollution degree 2.



CONNECTORS —

MiniBridge | MiniBridge Koshiri



THE CONNECTION TO COUNT ON: KEEPS MISALIGNMENT TO A MINIMUM.

- compact cable mating system for dense connector requirements
- straight and angled male terminal strips
- female terminal strips with 90° and 180° cable outlet
- variable wire diameters
- Koshiri reliability
- top-sided housing latch
- compliance to LV 214 specifications
- integrated retention clips

Pitch	1.27 mm
No. of Pins	2, 3, 4, 6, 8, 10, 12
Termination	SMT, IDC
Current rating (A)	up to 8.7 A per contact at 20 °C
Temperature range	-55 °C to 150 °C
Automotive Standard	LV214
Wire cross section	AWG 22 \triangleq 0.35 mm ² , AWG 24 \triangleq 0.22 mm ² , AWG 26 \triangleq 0.14 mm ²



MAJOR INDUSTRIES





- 1. Automotive (Headlight, BMS and power electronics)
- Medical

CONNECTORS -

MaxiBridge



BACKUP INCLUDED: DOUBLE LATCHES FOR HIGH-VIBRATION ENVIRONMENTS.

- crimp contact for versatile uses
- single and dual row versions
- accommodates various cable cross sections
- reliable and secure mating
- high retention force of the housing latching
- double locking of spring contacts in the housing
- shock and vibration resistant
- based on WW75174 and USCAR-2 requirements
- high temperature resistance
- reliable retention force on the PCB

Pitch	2.54 mm
No. of Pins	2, 3, 4, 5, 6, 8, 10, 2x5, 2x10
Termination	SMT, Crimp
Current rating (A)	up to 12 A per contact at 20 °C
Temperature range	-55 °C to 150 °C
Automotive Standard	Developed based on VW75174 and USCAR-2
Wire cross section	AWG 18, 20, 22, 24, 26 & metric 0.35 mm ² , 0.5 mm ² , 0.75 mm ²

Configurations





MAJOR INDUSTRIES







- 1. Automotive (BMS, Headlight)
- 2. Automation (PLC, DCS, Remote I/O, Drives)
 - Medical



CONNECTORS —

SMC



COPES WITH EVERYTHING: DEPENDABLE OPERATION IN HIGH-DEMAND ENVIRONMENTS.

- comprehensive portfolio
- robust and industry-capable
- vibration and shock resistant
- completely automatically processable
- gold-plated contacts
- dual beam female contacts
- large operating temperature range
- data rates up to 3 Gbit/s
- high current rating
- stackable up to 24 per board without degradation

Pitch	1.27 mm
No. of Pins	12, 16, 20, 26, 32, 40, 50, 68, 80
Termination	SMT, Pressfit, IDC
Current rating (A)	up to 1.7 A per contact at 20 °C
Data transmission rate	up to 3 Gbit/s
Temperature range	-55 °C to 125 °C
Wire cross section	AWG 30 \triangleq 0.06 mm ²

Configurations

MAJOR INDUSTRIES









- 1. Automation (PLC, DCS, Remote I/O, Drives)
- 2. Automotive (BMS and power electronics)
- Transport
- 4. Medical

CONNECTORS —

iBridge Ultra



SAFETY FIRST: CUSTOM DESIGN FOR DEMANDING APPLICATIONS.

- up to 8 A current rating per contact
- secondary locking of the crimp contacts in the housing (TPA)
- polarity reversal protection design
- double-sided interlocking

Pitch	2.0 mm
No. of Pins	2, 3, 4, 5, 6, 8, 10, 12
Termination	male: SMT, Solder; female: Crimp
Current rating (A)	up to 8 A per contact at 20 °C
Temperature range	-40 °C to 100 °C
Automotive Standard	Specifications are tested according to requirements of USCAR-2 and USCAR-21
Wire cross section	AWG 22 ≙ 0.35 mm², AWG 24 ≙ 0.22 mm²

Configurations





MAJOR INDUSTRIES







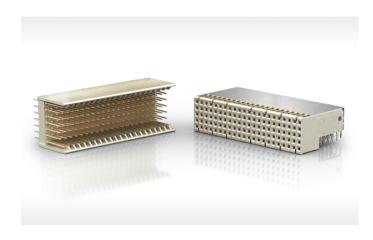


- 1. Automotive (Headlight)
- Z. Tele- und Datacommunication
- 3. Medical
- 4. Instrumentation

Products & Solutions

CONNECTORS —

ERmet 2mm Hard Metric



FLEXIBLE ERMET 2.0 MM HM CONNECTORS FOR UNPARALLELED PERFORMANCE.

- pressfit technology
- no soldering processes
- industry standard connector system
- for back plane applications
- for hot-swap applications
- shielded and unshielded versions
- optional pin sizes and placement
- diverse accessories
- coding key
- pre-alignment modules

Pitch	2.0 mm
No. of Pins	3 - 220, 5x2, 8x2
Termination	Pressfit
Current rating (A)	up to 1.5 A per contact at 20 °C
Temperature range	-55 °C to 125 °C
Data transmission rate	up to 2 Gbit/s
Standard/Spezification	IEC 61076-4-101, PCI, PXI, cPCI

Configurations







MAJOR INDUSTRIES









- 1. Tele- und Datacommunication
- 2. Instrumentation
- 3. Aerospace and Military
- 4. Transport

CONNECTORS —

ERmet Power Module



OPTIMUM SUPPLEMENT FOR BACKPLANE DESIGNS WITH HIGH PERFORMANCE.

- pressfit technology
- no soldering processes
- for back plane applications
- for hot-swap applications
- supplement to ERmet 2.0 HM
- compatible with DIN 41612 connectors

Pitch	2.0 mm
No. of Pins	3, 5, 6, 7
Termination	Pressfit
Current rating (A)	up to 12.6 A per contact at 20 °C
Temperature range	-55 °C to 125 °C
Compatibility	ERmet 2.0 HM, ERmet ZD, DIN 41612
Features	different contact lengths

Configurations



MAJOR INDUSTRIES









- 1. Tele- und Datacommunication
- 2. Instrumentation
- 3. Aerospace and Military
- 4. Transport

Products & Solutions

CONNECTORS —

ERmet ZD High-Speed



ERMET ZD CONNECTORS FOR HIGH DATA TRANSMISSION RATES.

- pressfit technology
- diverse accessories
- data rates of over 25 Gbit/s
- excellent signal integrity
- suitable for hot-swap applications
- any pin placement possible
- vibration and heat resistant
- guide features for reliable mating
- dual sided female contacts
- versions: ERmet ZD, ZDplus, ZDpro

Pitch	2.5 mm
No. of Pins	20, 30, 40, 48, 60 contact pairs
Termination	Pressfit
Data transmission rate	up to 25 Gbit/s
Temperature range	-55 °C to 125 °C
Current rating (A)	up to 0.9 A per contact at 20°C
Specification	ATCA, PCI, cPCI Express

Configurations

MAJOR INDUSTRIES









- 1. Tele- und Datacommunication
- 2. Instrumentation
- 3. Aerospace and Military
- Transport

CONNECTORS —

Pre-Alignment Modules



FOR SECURE PLUGGING IN NUMEROUS APPLICATIONS.

- matched to ERmet 2.0 and ZD
- secure plugging
- prevents damage
- no PCB stresses
- prevents incorrect plugging
- enables quick assembly
- coding options
- electrical contact possible

PCB thickness	1.6 to 6 mm
Coding	ERmet 2.0 coding pieces
Termination	Screw type
Current rating (A)	up to 40 A per contact at 20 °C
Temperature range	-55 °C to 125 °C
Compatibility	ERmet 2.0 HM, ERmet ZD
Thread	M4, M5

Configurations











- 1. Tele- und Datacommunication
- 2. Instrumentation
- 3. Aerospace and Military
- 4. Transport

Products & Solutions

CONNECTORS —

DIN 41612 / IEC 60603-2 Signal and Power



VARIOUS SIZES - ENABLING DIVERSE APPLICATION RANGES FROM THE PIONEER OF DIN

- conformance to standards
- RoHS compliant
- broad range of accessories
- secure mating is guaranteed
- dual beam female contacts
- various connection technologies
- partial assembly possible
- tested mating system
- robust contacts
- up to 160 contacts

Pitch	Signal: 2.54 mm; Power: 5.08 mm bzw. 7.62 mm
No. of Pins	Signal: 20 - 160; Power: 11 - 48
Termination	Pressfit, Crimp, THR, Dip solder, Hand solder, Faston
Current rating (A)	Signal: up to 2 A; Power: up to 5.5 or 15 A p. contact (20 $^{\circ}\text{C})$
Temperature range	-55 °C to 125 °C
Standard	IEC 60603-2
Wire cross section	AWG 20 - 26, AWG 24 - 28

Configurations

MAJOR INDUSTRIES









- 1. Instrumentation
- 2. Transport
- 3. Aerospace and Military
- 4. Telecommunication

CONNECTORS —

IDC Terminals



FOR EXTREMELY MINIATURIZED APPLICATIONS.

- extremely small connector outline on pcb
- reliable cable connection
- processed completely automatic
- simple handling
- no stripping necessary
- press-in without special tool
- industrial-suited
- reliable retention force on the PCB
- for different cable diameters
- various color variants

Pitch	-
No. of Pins	-
Termination	SMT/ IDC
Current rating (A)	up to 17.5 A per contact at 20 °C
Temperature range	-55 °C to 150 °C
Standard	-
Wire cross section	AWG 22/7, AWG 24/7, AWG 26/7, AWG 24/1

Configurations



MAJOR INDUSTRIES







- 1. Automotive (interior LED technology)
- 2. Medical
- 3. Automation (Drives technology, sensors)

Products & Solutions

CONNECTORS —

Power Taps



DEVELOPED ESPECIALLY FOR THE POWER SUPPLY ON THE PCB AND BACKPLANE.

- reliable and affordable power connection
- high flexibility
- various cable connections
- for commercially available cable lugs
- 90° and 45° angled connections
- various thread sizes
- english and metric threads
- Faston terminal possible
- flexible wire layouts
- assembly via pressfit or soldering

Pitch (Termination pins)	2.54 mm
No. of Pins	1
Termination	Pressfit, Dip solder
Current rating (A)	up to 40 A per contact at 20 °C
Temperature range	-55 °C to 125 °C
Termination pins	6, 10
Cable connection	M3, M4, 6-32 UNC, 8-32 UNC, Faston

Configurations



MAJOR INDUSTRIES





- 1. Automotive (BMS and power electronics)
- 2. Instrumentation

CONNECTORS —

High Current- / Coax-Contacts



FOR NUMEROUS CONNECTOR SHAPES.

- flexible usage possibilities
- high-current contacts up to 40 A
- angled and straight variants
- high-frequency coax transmission

Pitch (Housing)	ERmet 2.0 HM: 7.5 mm DIN 41612: 7.62 mm
Impedance	50 / 75 Ohm
Termination	Hand solder, Solder, Crimp, Pressfit
Current rating (A)	up to 40 A per contact at 20 °C
Temperature range	-55 °C to 125 °C
Standard	DIN 41626
Frequency range	max. 3 GHz

Configurations



MAJOR INDUSTRIES









- 1. Tele- und Datacommunication
- 2. Instrumentation
- 3. Aerospace and Military
- 4. Transport

Products & Solutions

CONNECTORS —

PowerElements



BURSTING WITH ENERGY: OUR HIGH-POWERED ELEMENTS SET THE TEMPO.

- current carrying capacity up to 500 A
- solidly resilient
- fail-safe connections
- no undesired short circuits due to anti-twist and touch protection
- with and without alignment peg
- fully automatic assembly possible
- available in pressfit or SMT solder technology
- shock- and vibration-proof

Pitch	2.54 mm
No. of Pins (Pressfit)	6, 8, 9, 10, 12, 16, 20, 25, 36
Termination	Pressfit, SMT
Current rating (A)	up to 360 A at 20 °C
Temperature range	-40 °C to 135 °C
Standard	IEC 60352-5 (retention forces)
Thread	M3, M4, M5, M6, M8, M10, M12

Configurations



MAJOR INDUSTRIES







- 1. Automotive (BMS and power electronics)
- 2. Automation (PLC, DCS, Remote I/O, Drives)
- 3. Medical

CONNECTORS -

Modular Jacks



HIGH PERFORMANCE CONNECTORS FOR TELECOMMUNICATION APPLICATIONS.

- compact shape
- compliance with Ethernet standards
- data rates in the Gigabit range
- integrated filter components
- shielding for high signal quality
- angled and straight versions
- integrated LED displays
- RJ11 and RJ45 sizes
- THT, THR, SMT termination
- Power over Ethernet (PoE)

Pitch	Single-Port- and Multi-Port versions
Positions/ Contacts	6P-6C, 8P-8C, 6P-2C, 6P-4C, 8P-10C
Termination	SMT, THT, THR
Data transmission rate	Cat 3/4, 5, 5e
Temperature range	-40 °C to 70 °C (extended partially up to 85 °C)
Standard	IEC 60603-7
Configuration	RJ11, RJ45

Configurations



MAJOR INDUSTRIES









- 1. Automation (PLC, DCS, Remote I/O, Drives)
- 2. Tele- und Datacommunication
- 3. Instrumentation
- 4. Medical

Products & Solutions

CONNECTORS —

M8 / M12 Circular Connectors



MODULAR M8 / M12 CIRCULAR CONNECTORS FOR MAXIMUM FLEXIBILITY.

- SMT connection technology & more
- various pin counts
- various coding
- shielded variants
- gold-plated contacts
- protection from dust and water
- individual solutions
- automated processing
- large selection of accessories
- castable variants
- excellent for sensors

Pitch	-
No. of Pins (Pressfit)	3, 4, 5, 6, 8, 12, 17
Termination	IDC, SMT, THR, SMT/THR
Data transmission rate	D-cod. to 100 Mbit/s (Cat5), X-cod. to 10 Gbit/s (Cat6 _A)
Temperature range	-55 °C to 125 °C
Standard	IEC 61076-2-101, -104, -109
Interfaces	I/O, Field Bus, Ethernet, Power supply

Configurations



MAJOR INDUSTRIES







- 1. Automation (PLC, DCS, Remote I/O, Drives)
- 2. Transport
- 3. Instrumentation

CONNECTORS —

ERbic Field Bus Interface



ERbic CONNECTORS FOR CAN BUS, PROFIBUS AND SAFETYBUS SYSTEMS.

- optional diagnostic interface
- metal housing available
- high interference resistance
- compact size
- as per fieldbus specification
- variable connection technology
- high strain relief
- brand labeling possible

Pitch	2.54 mm
No. of Pins (Pressfit)	9 pin D-Sub
Termination	screw terminal, spring clamp terminal, IDC
Data transmission rate	1 Mbit/s, 12 Mbit/s
Temperature range	-20 °C to 70 °C
Standard	Profibus, CANbus
Bus-Termination	Node, Termination, external switch

Configurations



MAJOR INDUSTRIES





- 1. Automation (PLC, DCS, Remote I/O, Drives)
- Other applications (robotics)

4.

Products & Solutions

HOUSINGS —



D-Sub and DIN Cable Housings



ROBUST CABLE HOUSINGS FOR RELIABLE I/O CONNECTIONS.

- compact design
- protection of plug and cable
- touch and dust protection
- captive individual parts
- numerous assembling accessories
- flexible cable outputs
- assembly-friendly
- simple to handle
- no special tool required
- robust, stable and vibration resistant

NUMEROUS APPLICATION POSSIBILITIES FOR ERNI CABLE HOUSINGS.

The cable plug housings from ERNI can be used for I/O connections of D-Sub and DIN 41612 / IEC 60603-2 connectors. Depending on the application and cable plug type used, they are available in various series. The sizes of the housings can vary depending on the pin count and number of contact rows of the connector families. Integrated shielding plates and metalized plastic designs are partly used to prevent electromagnetic interferences.

The two-shell plastic housings provide the right solutions regarding wiring in control cabinets, machines or electrical devices. The housings offer good protection of the plug and connectors from outer influences and have proven themselves in the field. Various latches, fastening options, codings and cable outlet options expand their area of use. In industrial automation they are used, for example, for bus connections or connections between I/O assemblies and the main board.

MAJOR INDUSTRIES









- 1. Transport
- 2. Automation (PLC, DCS, Remote I/O, Drives technology)
- 3. Instrumentation
- 4. Aerospace and Military

HOUSINGS



Housings/ Enclosures



ENCLOSURES FOR RELIABLE PROTECTION OF ALL ELECTRONICS.

- flexible assembly widths
- compact design
- optimum space utilization
- mounting-friendly structure
- non-touch protection
- robust and stable
- for DIN mounting rails
- fastening using latching clip
- also for wall mounting

A WIDE VARIETY OF APPLICATION POSSIBILITIES IN INDUSTRY.

Enclosures from ERNI are designed for fastening on DIN mounting rails (top-hat rails) and are available in different variants. The compact plastic housings are available in the IDG-A, IDG-B, LDG-A and LDG-S series in different geometries and sizes for numerous areas of application. Wall mounting of the electronics housing is also partially possible. Depending on the respective application, closed housings or those with ventilation slots can be used.

The enclosures can be used everywhere that electronics and other construction elements must be installed securely and protected in a housing. Since they are suitable for mounting on top-hat rails, they can be installed quickly and problem-free in control cabinets or systems and machines. Typical application areas are machine and system construction and industrial automation. You will find them used in robust industrial housing for example in machine controls or in robotics.

MAJOR INDUSTRIES





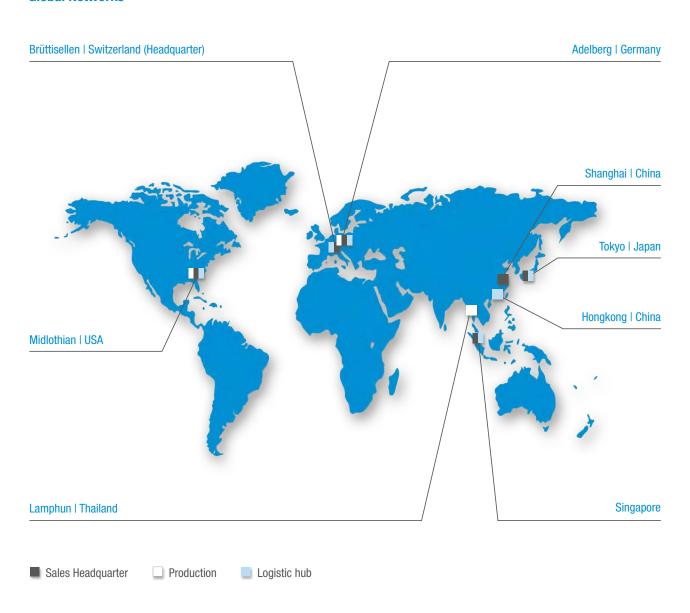
1. Industrial Automation

Other applications (Robotics, building automation, Mechanical and plant engineering, conveyor technology)



ERNI GROUP —

Global Networks





ABOUT ERNI

With global headquarters in Switzerland and locations in over 40 countries, privately held ERNI Electronics Inc. is a leading global manufacturer of high-quality electronic connectors and cable assemblies for a variety of industries including automotive, industrial, medical, communications, and more. ERNI is a trusted partner to organizations large and small and our connectors are well known for having miniaturized and rugged design, the ability to stack multiple connectors without signal loss, plus built in ease of alignment and latching.

Regionally, ERNI Americas' headquarters are in Midlothian, VA, a suburb of Richmond, from which the group provides customer support, administration and fulfillment services for local and global customers. ERNI has sales offices throughout the country and sells products directly and through a network of approved distributors. Should an application need a customized solution, ERNI has an inhouse staff of design engineers both locally and across the globe.

What sets us apart – ERNI Electronics has been making high quality, robust, electronic solutions for more than 70 years. We introduced the first high density back plane connector at Electronica in 1968 that received DIN 41612 certification in 1971 and we haven't stopped engineering and refining miniaturized, robust, electronic connector solutions since. By taking the time to understand our customers and their needs, we are able to identify the right solution for each application.

At ERNI, we know that when we work together, we do achieve more.

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