

**EUROPEAN  
PRODUCT  
GUIDE**



WORLDWIDE SITES

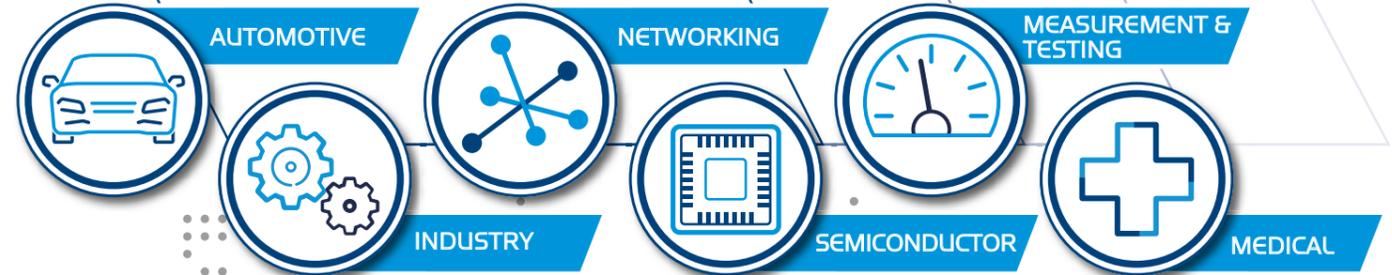


**ASIA** HQ Tokyo Japan, founded 1956  
(Listed in the first section of the Tokyo Stock Exchange)  
 Design Center: 1  
 Sales Office: 11  
 Manufacturing Site: 8 **20**

**EMEA** HQ Munich Germany, founded 1986  
 Design Center: 2  
 Sales Office: 5  
 Manufacturing Site: 1 **8**

**AMERICAS** HQ San Jose CA. USA, founded 1983  
 Design Center: 1  
 Sales Office: 1  
 Manufacturing Site: 1 **3**

MARKETS



WORLDWIDE EMPLOYEES



**GROUP** 2,309 in production  
 325 in engineering **3,280**

**EMEA** 130 in production  
 110 in engineering **385**

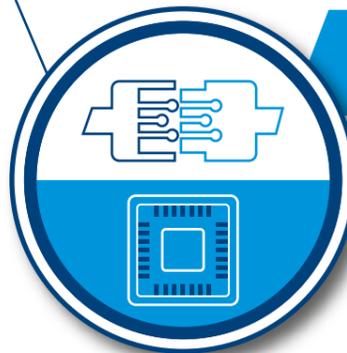
ANNUAL SALES



**GROUP** 333 Mio. Euro

**EUROPE** 104.8 Mio. Euro

DIVISIONS



**CONNECTOR SOLUTIONS**  
 Standard & customised connectors, cable assemblies

**TEST SOLUTIONS**  
 Test & burn-in sockets, test contactors, module test adapters, PCB design

DESIGN CENTER



- Complex 3D CAD Construction
- Design FMEA
- Analysis using FEM
  - Structural Mechanics
  - Moldflow for Plastics
  - Thermal Simulation (Flow & Static)
  - Signal Integrity
- PCB Design
- Circuit Simulation
- High Resolution 3D Prototyping
  - Plastics (Photo Polymeric)
  - Metal (LMF Laser Metal Fusion)
- In-house Sample Construction

TEST LABORATORY



- High Voltage & High Current Testing
- High Frequency Measurements
- Soldering
- SEM (Scanning Electron Microscope)
- EDX (X-Ray spectroscopy)
- Computer Tomography / X-Ray
- X-Ray Fluorescence Spectrometer
- De-Rating

ENVIRONMENT

- Climatic & Temperature Chambers
- Mixed Gas (4 Gases) Testing
- Shock and Vibration Chamber
- Corrosion Tester
- IP Testing
- Bending-Rotation Tester

MANUFACTURING



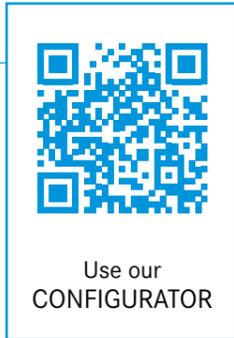
In our production facility in Frankfurt (Oder) Germany, we manufacture connectors and cable assemblies as well as test contactors on 5,148 m<sup>2</sup>.





## Y-CIRC P - SERIES

With the Y-Circ P series Yamaichi Electronics offers an improved Push-Pull circular connector series. The push-pull series is designed, qualified and produced in Germany, which means fast reaction to the needs of our European customers. The high grade of vertical range of manufacturing ensures highest quality and short delivery times. The product portfolio includes also various matching accessories for the Y-Circ P circular connector series as well as cable assemblies.

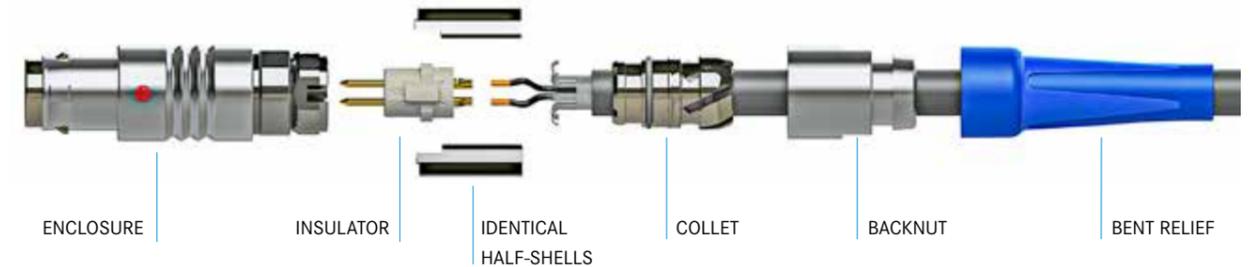


Use our CONFIGURATOR



### YOUR ADVANTAGES

- Different connector sizes in IP50 and IP68
- Connectors are shorter than comparable connectors on the market
- The patented half-shell design enables simple and error-free assembly
- Customised pin layouts and in layouts for high data rates like Cat6a
- 100% Made in Germany



## IP50: B-SERIES

- Mechanical coding via the housing
- Different coding options
- 5,000 mating cycles guaranteed

## IP50: S-SERIES

- Mechanical encoding via hermaphrodite insulators
- 5,000 mating cycles guaranteed



## IP68: T-SERIES

- Mechanical coding via the housing
- Different coding options
- 5,000 mating cycles guaranteed
- Waterproof
- Patented one-piece collet



Y-CIRC P   
HIGH-SPEED  
SPE



MORE INFORMATION ON PAGE 13



## CABLE CONNECTORS: PLUGS

			
<b>PB</b>	<b>PR</b>	<b>AB</b>	<b>AR</b>
Standard Backnut	Backnut for Bend Relief	Angled; Variable Cable Exit Direction Standard Backnut	Angled; Variable Cable Exit Direction Backnut for Bend Relief
<b>B S T</b> 09 12 15 18	<b>B S T</b> 09 12 15 18	<b>B S T</b> 09 12 15 18	<b>B S T</b> 09 12 15 18

## WALL MOUNTED CABLE CONNECTORS

			
<b>WB</b>	<b>WR</b>	<b>WK</b>	<b>WJ</b>
Standard Back Nut, Front and Backward Mounting	Back Nut for Bend Relief, Front and Backward Mounting	Standard Back Nut, Backward Mounting	Back Nut for Bend Relief, Backward Mounting
<b>B S T</b> 09 12 15 18	<b>B S T</b> 09 12 15 18	<b>B S T</b> 09 12 15 18	<b>B S T</b> 09 12 15 18

## WATER TIGHT WALL MOUNTED CONNECTORS

	
<b>IA</b>	<b>ID</b>
Front Mounting	Backward Mounting
<b>B S T</b> 09 12 15 18	<b>B S T</b> 09 12 15 18

Series Serien	Sizes Größen
<b>B</b> IP50	<b>09</b> Ø 09mm
<b>S</b> IP50 Hermaphrodit	<b>12</b> Ø 12mm
<b>T</b> IP68	<b>15</b> Ø 15mm
	<b>18</b> Ø 18mm
<span style="color: #0070C0;">■</span> <span style="color: #008000;">■</span> Available	
<span style="color: #808080;">■</span> Not Available	



## CABLE CONNECTORS: SOCKETS

		 Use our CONFIGURATOR
<b>SB</b>	<b>SR</b>	
Standard Backnut	Backnut for Bend Relief	
<b>B S T</b> 09 12 15 18	<b>B S T</b> 09 12 15 18	

## WALL MOUNTED CONNECTORS

		
<b>WA</b>	<b>WC</b>	<b>WD</b>
Front Mounting	Front and Backward Mounting	Backward Mounting
<b>B S T</b> 09 12 15 18	<b>B S T</b> 09 12 15 18	<b>B S T</b> 09 12 15 18

## PCB MOUNTED CONNECTORS

			
<b>WG</b>	<b>WH</b>	<b>WE</b>	<b>WI</b>
Thread and Front Nut	Without Thread	Angled, Thread and Front Nut	Angled, without Thread
<b>B S T</b> 09 12 15 18			



## M12 CIRCULAR CONNECTORS Y-CIRC M

The Y-Circ M series is a circular connector with thread or Push-Pull locking mechanism according to M12 specifications. The product portfolio includes the standardised variations from A-coded to High-Speed X-coded CAT6<sub>A</sub>. All variations are available as a cable assembly in different lengths and cable types.



Use our CONFIGURATOR



### YOUR ADVANTAGES

- Designed and manufactured in Germany
- Protection Class IP65 / IP67
- Push-Pull and screw locking available
- A, B, D, X and L codings available



## M12 CIRCULAR CONNECTORS Y-CIRC M

- A, B, D coding according to IEC 61076-2-101
- Optional high class EMI protection with 360° shielding
- X coding acc. to IEC 61076-2-109
- L-Coding for power transmission according to IEC 61076-2-111
- Vibration proof locking
- Optional with screw locking or Push-Pull Locking acc. IEC 61076-2-012



## PUSH-PULL LOCKING ACC. TO IEC 61076-2-012

- Space & time saving
- Backward compatible  
The Push-Pull device socket fits both M12 push-pull plugs and conventional plugs with M12 screw thread.
- Robust & safe  
Long locking hooks lock deep inside the socket for maximum robustness even with torsional stress. Correct locking is confirmed by haptic and acoustic feedback. Locks reliably also in hard-to-reach situations and with limited space.
- IP65 / 67 protected
- Codings A, B, D, X, L for reliable signal, data and power transmission.
- According to IEC 61076-2-012



*In addition to easy unlocking in a tight space, the release extension also offers the option of color coding.*

WATCH THE VIDEO



## M12 FIELD ASSEMBLY CONNECTOR 8X & 4D

- Quick & easy assembly – tool-free
- Modular system to tailor connector to customer requirements

WATCH THE VIDEO



### 4D

- Industrial Ethernet
- Profinet
- Ethernet/IP
- EtherCat
- Max. 100 Mbit



### 8X

- CAT6<sub>A</sub> High-Speed data transmission (up to 10 Gbit/s)



### INDUSTRIAL RJ45 SERIES Y-CON

The IP protected, ruggedised Y-Con system includes RJ45 connectors & cable assemblies. A unique feature of this series is the optional integration of 2 additional power contacts into the RJ45 mating face for transmission of up to 3.1 A. The system enables data rates up to CAT6<sub>A</sub>.



#### YOUR ADVANTAGES

- RJ45 plus optional power transmission up to 3.1 A
- Best in class products concerning protection against vibration, EMI and mechanical forces
- Up to 1,500 mating cycles
- Applicable for a wide temperature range from -40°C up to 120°C
- Selectable number of contacts for plugs 4, 6, 8, 10

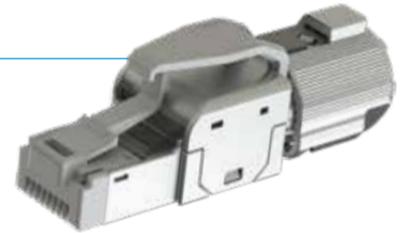


### Y-CON IP20

- IP20 Lock vibration protection for RJ45 connections
- Improved EMI protection due to product features
- Optional power contacts

### Y-CON PROFIX CAT6<sub>A</sub> CONNECTOR

- Tool-free assembly
- Optional additional power contacts up to 3,1 A @ 70°C
- Transmission rates up to 10Gbit



### Y-CON IP67/68/69K

- Push-Pull locking mechanism
- Metal cover for high mechanical stability
- Special locking system for vibration protection for RJ45 connections
- Improved EMI protection due to product features
- IP Code IP67/68/69K
- Optional power contacts



### PLUGS AND JACKS

- Optional additional power contacts up to 3,1 A @ 70°C
- Optional magnetics
- Optional light pipes for reflow soldering
- Transmission rates up to 10Gbit
- Number of contacts can be chosen according to application



### CONTROL CABINET COUPLER RJ45 IP20 TO M12 IP67

With the new switch cabinet coupler, you can easily switch from an internal RJ45 switch cabinet cabling to an external M12 cabling. Different coding variants (A8, D4 and X coding) ensure adaptation to the required transmission performance and, with the A8, offer the option of transmitting additional power.





## Y-SPE – INDUSTRIAL SINGLE PAIR ETHERNET

Single Pair Ethernet (SPE) is a future oriented communication platform of electrical or electronical components and machinery and in industrial the key for an efficient and cost saving data transmission from sensor to the cloud. The use of two instead of four or eight wires as usual reduces cost, saves space, weight and time during the assembly.

The mating faces are according to IEC standards which are already released or in preparation.

Connectors according to IEC 63171-2

Connectors according to IEC 63171-5

Connectors according to IEC 63171-6

Connectors according to IEC 63171-7



### YOUR ADVANTAGES

- Transmission lengths of up to 1,000 m and transmission rates up to 10 GB/s
- Additional power transmission up to 50 W via Power over Data Line (PoDL) possible
- Mating faces of sub-standards IEC 63171-2 /-5 /-6 /-7 with IP20 or IP6X solutions available
- M12 based connectors with screw or Push-Pull locking mechanism (acc. IEC 61076-2-012)



## Y-HDE - SPE FOR AUTOMOTIVE

With the Y-HDE series, Yamaichi Electronics offers differential high-speed connectors that provide high-speed data transmission for the automotive sector in the smallest installation space.

With transmission rates up to 20 Gbps at 100 Ohm differential impedance and tested based on LV214/USCAR, the Y-HDE is convincing in many high-speed applications.



### YOUR ADVANTAGES

- High-Speed Data Ethernet developed and tested for automotive requirements
- Data transmission up to 15 Ghz/20 Gbps
- 100 Ohm differential impedance
- 7 different codings available
- Mechanical and colour coding
- Space and weight saving design
- Single, double and quad types



## Y-CIRC P - PUSH-PULL FOR SPE

Yamaichi offers many high-speed connectors in general, but also for the Y-Circ P product group. In our in-house laboratory we can develop and simulate pin layouts for high-speed applications. The S1 pin layout enables the transmission of Single Pair Ethernet up to 10 Gbit/s acc. IEC 802.3ch and also of automotive Ethernet signals according to Open Alliance Standard TC9.

### YOUR ADVANTAGES

- Transmission of Single Pair Ethernet up to 10 Gbps according to IEC 802.3ch
- Innovative, patent-pending isolator and contact design
- Reliable push-pull mechanism
- Min. 5,000 mating cycles





## CABLE ASSEMBLIES

Yamaichi Electronics is the only supplier that offers cable assemblies with its own produced connectors Y-Circ M (M12), Y-Circ P (Push-Pull), Y-Con RJ45 as well as USB from a single source. The bundling of connector production and cable assembly at one production site guarantees short response times and a quick realisation of inquiries.

For this a comprehensive production location is established in Frankfurt/Oder. It includes overmoulding and hot-melt machines, fully automated stripping and cutting machines as well as turning and milling capabilities.

Assemblies with bought-in components are also possible.

Y-Circ P



Y-Con



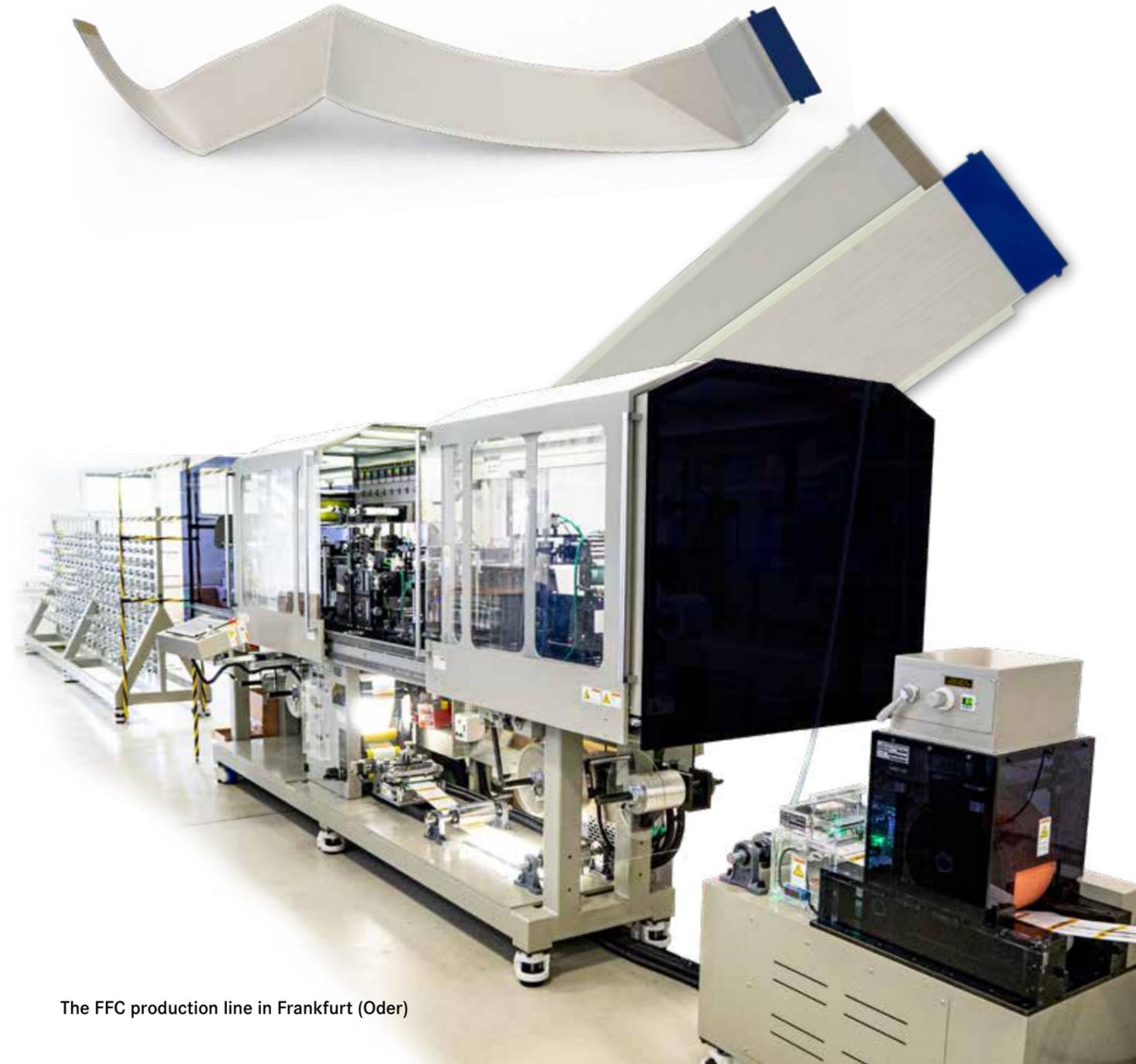
Y-Circ M



## Y-FFC - FLEXIBLE FLAT CABLES

To offer complete Board-to-Cable solutions including the connector and the FFC, Yamaichi established an own FFC production in Frankfurt (Oder) - the Y-FFC series

Yamaichi meets the most diverse requirements such as pitch, number of lines, lengths, surfaces, mating faces or folds. Special customer requests such as shielding or punching holes or slots in the FFC are also possible. An intensive and automatic optical process monitoring ensures compliance with tolerances. As a system supplier Yamaichi accompanies customised designs right from the beginning: from the design and development phase through testing and validation according its specification.



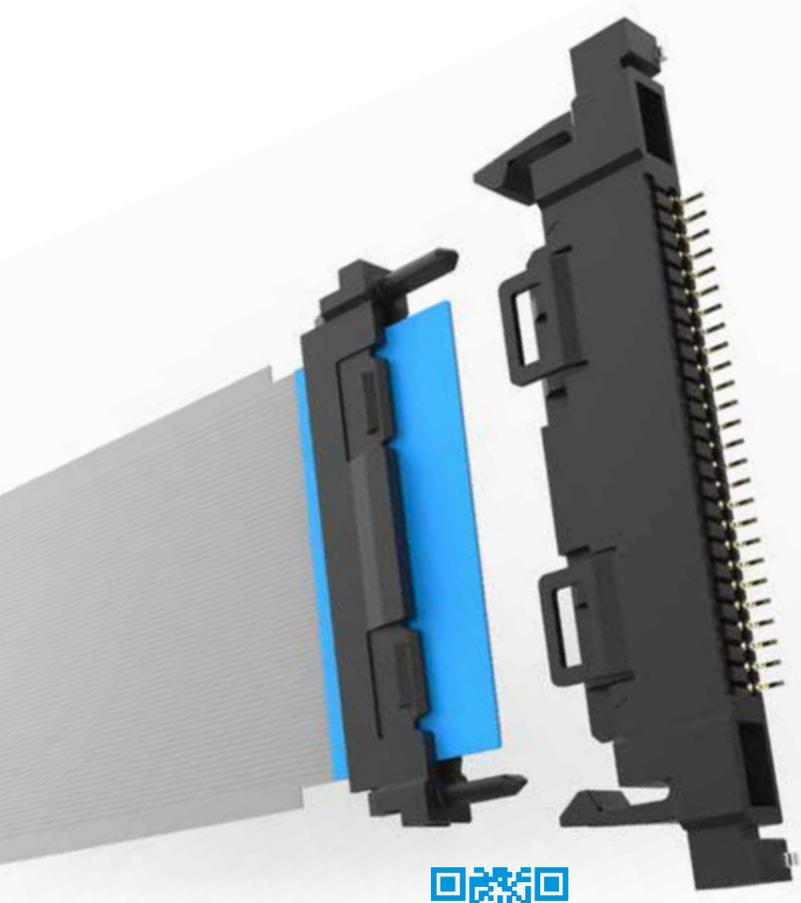
The FFC production line in Frankfurt (Oder)



## Y-LOCK PULLFORCE

The Y-Lock connector family is combining a space saving and process securing design with smart and reliable technology. The connector system is designed for applications with tough requirements. Now available in three different versions, Y-Lock is able to fulfill a large spectrum of tasks in regard to mechanical, climatic and electrical specifications.

The Y-Lock system has been qualified based on LV214 and is fully suitable for automotive use.



WATCH THE VIDEO

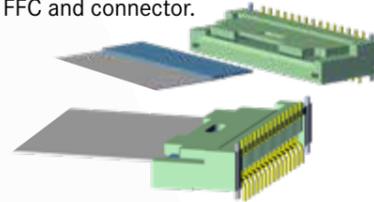


## YOUR ADVANTAGES

- Non-ZIF Board-to-Cable System
- FFC only needs to be pressed into the lock (one push lock) and can simply be pulled out again (Pullforce)
- Quick and easy assembly
- Poka-yoke system
- Different number of pin counts available
- Automatic assembly of FFC possible
- Qualified based on LV214

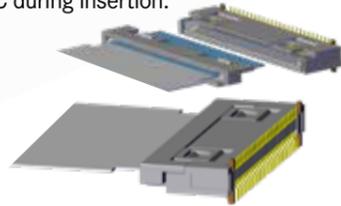
## Y-LOCK VERSION 1

Locking function between the supporting tape on the FFC and the connector. Small hooks on the inner housing of the connector insulator ensure the locking function between the FFC and connector.



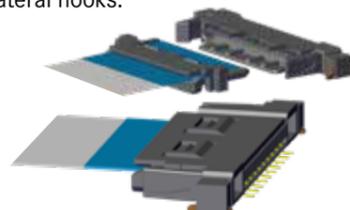
## Y-LOCK VERSION 2

Additional stiffener is assembled mechanically on the FFC. Locking function between stiffener and connector. Poka-Yoke system prevents the FFC from being inserted in the wrong direction. The use of the stiffener is guiding the FFC during insertion.



## Y-LOCK VERSION 3

Same as version 2 but with double locking function based on frontal and lateral hooks.



## SPECIAL BOARD-TO-BOARD CONNECTORS

The Board Edge Connector series BEC is following the standard for MXM1.0 and QSeven application. But the special contact shape ensures the mechanical stability at all vibration and shock conditions. This connector series is also available as High Speed version with a transfer rate of up to 5 Gbps. Yamaichi also offers a solution for the next MXM generation 3.1. This BEC series is round up by a power connector.

Furthermore this product group is including Floating Board-to-Board connectors. The series HF301 combines a floating function in X, Y and Z-direction as well as a mechanical stability and a transfer rate of 8 Gbps and additional power pins.

## YOUR ADVANTAGES

- BEC and HF301 Series has been developed and tested based on Automotive specifications
- Special contact designs ensure long live stability during shock, vibrations and environment tough conditions
- All connectors are produced in IATF16949 certified companies



## ZIF CONNECTOR SERIES

The ZIF connector Series HF601 is usable for FFC and FPC. For improved retention force function ears can optionally be used. The special cover design allows a real "click feeling". The contact design allows a transfer rate of 1 Gbps. With up to 3 Gbps, a special HDMI Version is available. The Series is available in wide range of pin counts and 90° / 180° Version. FFC's can be supplied from Yamaichi as well.

## YOUR ADVANTAGES

- HF601 series has been developed and tested based on Automotive specifications
- Special contact designs ensure long live stability during shock, vibrations and environmentally tough conditions
- All connectors are produced in IATF16949 certified companies

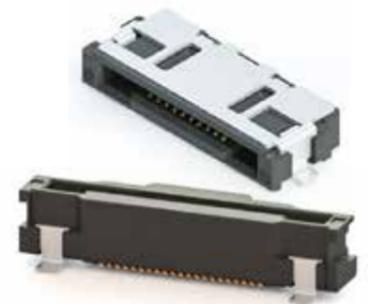


## HIGH-SPEED BOARD-TO-CABLE SERIES

Yamaichi is offering various High-Speed board connectors with the fitting High-Speed cable systems. All connector series are non-ZIF connectors which are locking with the cables directly or via an additional adapter. This ensures a proper mating and locking function. The connector series is providing different pin counts, directions and sizes. All connectors are keeping the impedance specification of 100 Ohm and can reach up to 10 Gbps with the fitting cable.

## YOUR ADVANTAGES

- HF507 Series for LVDS applications with 21, 31, 41 and 51 pins
- HF509 Series for IEEE applications with 10 pins
- HF513 Series, the smallest and fastest connector with 30, 40 and 50 pins





## YFLEX FLEXIBLE PRINTED CIRCUIT

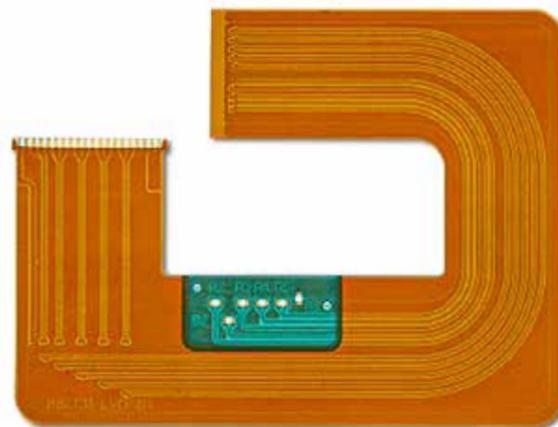
YFLEX is a special High-Speed FPC (Flexible Printed Circuit) which is able to transmit up to 112 Gbps with differential Impedance of 100 Ohm. This high performance is given by different features, like LCP as base material, the contacting of different layers done by silver bumps and the special production process.

This makes the YFLEX to the best partner for our High-Speed Connector series like HF513, HF509, HF601 and HF507. Each YFLEX will be designed based on the customer's specific requirements, so that all parameters like pinning, number of layers and routing can be done individually.



## YOUR ADVANTAGES

- Transmission rate 56Gbps-PAM4
- Mating Yamaichi non-ZIF connectors (series HFx) are available
- Lower skew when compared to coax or twinax cables
- Low loss material (up to 460mm length)
- Low cross talk design for bidirectional transmission



## BURN-IN BACKPLANE CONNECTOR

Burn-in backplane connectors are used for the connection of burn-in oven. Typical testing temperature is 150 degrees Celsius for few hours.

## YOUR ADVANTAGES

- 432pin (signal 200pin, GND200pin, power supply 32pin)
- High temperature (Operating temperature: - 40°- +180°)
- 90° orientation
- Low insertion force
- Robust design
- Supports high channel parallelism requirements

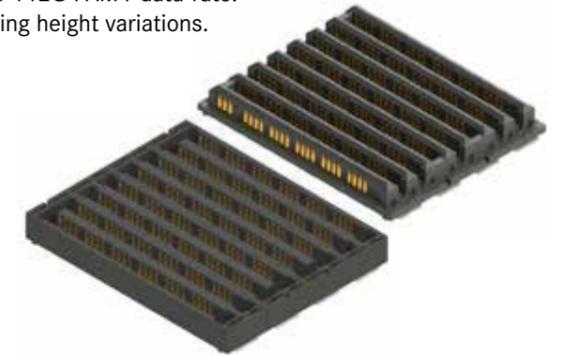


## HIGH-SPEED MEZZANINE CONNECTORS

The YTM Series combines highest density with total modularity and 112G-PAM4 data rate. The modular concept allows the widest range of pin count and stacking height variations.

## YOUR ADVANTAGES

- 112Gbps-PAM4 on all differential pairs
- Mating height with plug and socket: 5mm to 10mm in 1mm increments
- Height extension by Interposer: 11mm up to max 40mm
- Genderless design with two point contacts for a better connectivity
- Various pin counts: 192, 288, 384 up to 960 pins
- Differential signal pairs up to 240 pairs (GSSG)

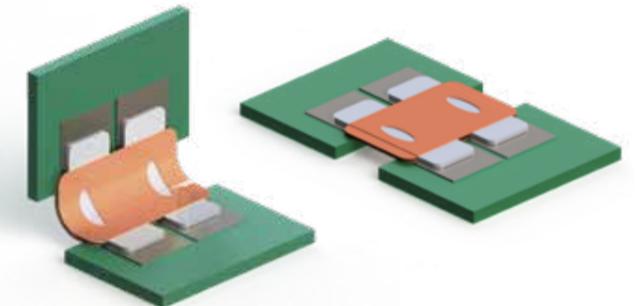


## FLEXIBLE BOARD-TO-BOARD JUMPER

The Flexible B-t-B Jumper offers the possibility of stepless bending far beyond a 90° angle. This allows the connection of Printed Circuit Boards in almost any desired angle. Thanks to the heat-resistant Kapton film, the flexible B-t-B Jumper can be easily integrated into the reflow and SMT soldering process.

## YOUR ADVANTAGES

- Customised materials, coating and pin counts
- Possibility of „dense“ assembly on the PCB
- Cost-effective to implement and an alternative to rigid-flexible PCBs
- Tape & Reel Packaging makes it possible for the flexible B-t-B Jumper to be easily integrated into the production even with a high degree of automation.





## PLUGGABLE MODULE CONNECTORS

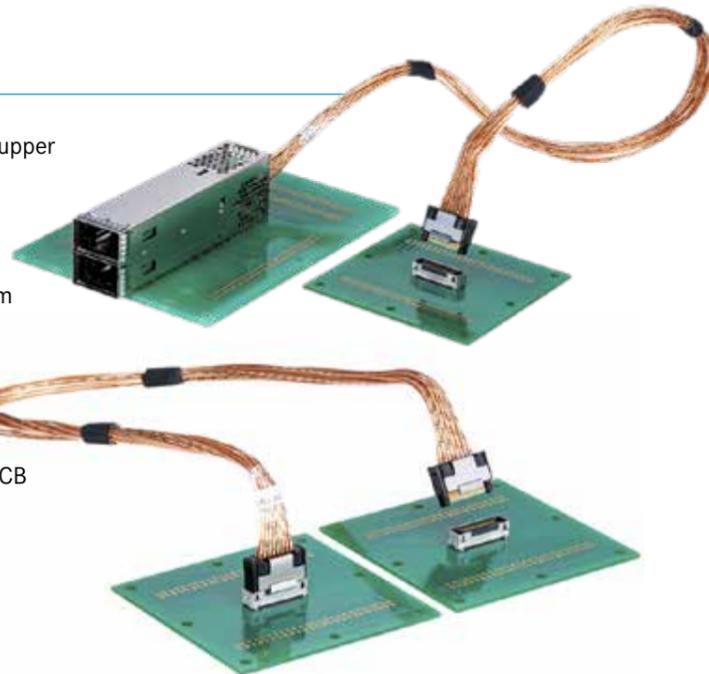
## PLUGGABLE MODULE CONNECTORS

Yamaichi Electronics is the leading company for 112G high-speed connectors. Our portfolio includes benchmark breaking signal integrity connectors up to 112G-NRZ. This for pluggable module connectors of the CFPx, (Q)SFP and OSFP family. Further, 112G Mezzanine and YFLEX – our high-end flexible PCB (FPC).

Yamaichi Electronics plays an important role in the 112G standardization and provided many leading concepts for MSAs, IEEE, OIF and PICMG.

## 112GBPS JUMPER CABLE

As requirements for data transmission speed is reaching upper limit of existing printed circuit board (PCB) technologies, it is becoming more difficult to realize constant and reliable data transmission performance. To solve this problem, we can proudly announce the development of a jumper cable interconnect solution which can perform stable data transmission at 112Gbps PAM4 signaling.



## YOUR ADVANTAGES

- Extended signal reach by low loss cable vs. high loss PCB
- Simplifies the design of high-speed PCB
- Relaxes the spec of the PCB material

## CFP X CONNECTORS

Yamaichi Electronics is the benchmark-setting CFPx company provided the leading design for CFP2, CFP4 and CFP8. We continue our legacy by market driving innovations for CFP2 112G-PAM4 with current capacity of 2.2 A and beyond. This to ensure CFPx is ready for the next generation of ACO and DCO modules.

## YOUR ADVANTAGES

- Up to 112G PAM4/64G-NRZ/56G-NRZ per differential pair
- Current Capacity up to 2.2 A for latest generation of DCO
- Connector, plug and mechanical sets available
- Custom-made cages and heat sinks with heat pipes for better heat dissipation or reduced dimension
- Supports Belly-to-Belly Mount design
- Single and Dual-Port designs



## PLUGGABLE MODULE CONNECTORS

## OSFP CONNECTORS

Yamaichi OSFP connectors support data rates up to 800 Gbps per port and 112G PAM-4 per differential pair. OSFP has an integrated heat sink improving thermal performance.

## YOUR ADVANTAGES

- OSFP MSA compliant
- 1x4, 2x1 and 2x4 cage configurations
- Up to 8 x 112G-PAM4 per diff. pair and 800GbE per slot
- Also 2x1 SMT stack type up to 112G



## QSFP | QSFP-DD CONNECTORS

Upgrade your QSFP interface to 112G-NRZ. Supporting up to 400Gbps per port. Yamaichi provides the first 56G-NRZ / 112G-PAM4 QSFP host connector to the market. Double port density while being fully backwards compatible with QSFP. Yamaichi's mass production design is 112G-PAM4 ready.

## YOUR ADVANTAGES

- For style A (SFF-8662) and style B (SFF-8672)
- Up to 56G-NRZ or 112G-PAM4 per diff. pair
- Large variety of style A & style B cages and heat sink heights
- Widely applied for 100/200/400 GbE & InfiniBand EDR/FDR/QDR/HDR
- 1x1, 1x4, 2x1 and 2x6 cage configurations
- Fin- and Pin type heat sink available
- Wafer technology outperforming the market
- Allowing significantly higher power ratings per module than MSA spec



## SFP | DSFP/NGSFP | NGSFP-DD CONNECTORS

SFP28 host connector for a data transmission rate of 56 Gbps PAM-4 modulation per one channel. DSFP MSA has chosen Yamaichi's proposal as leading design. Double data rate compared with SFP28 while being backwards compatible with SFP interfaces.

NGSFP-DD is the next Generation Small Form Factor Pluggable with Double Density. Although outer dimension is smaller than SFP-DD, NGSFP-DD can provide double data rate compared with SFP-DD.

## YOUR ADVANTAGES

- SFP: 28 Gbps-NRZ and 56 Gbps-PAM4 per differential pair
- DSFP / NGSFP: 56Gbps NRZ and 112 Gbps PAM-4 per differential pair, 2 x 112G/ch – same size as SFP but 2 channels, up to 200 GbE per slot
- NGSFP DD: : PAM4 400G (112G x 4ch), mating compatible to SFP & DSFP modules





## Y-MFC MINI-FAKRA | FAKRA | HSD

This series from Yamaichi Electronics meets the automotive industry's demand for a powerful and fast I/O interface that also offers potential for cost and weight savings.

### YOUR ADVANTAGES

- Developed and tested for automotive applications
- High-speed performance
- Space- and weight-saving design
- Different colour and mechanical codings available



## Y-HDE - HIGH-SPEED DATA ETHERNET

With the Y-HDE series, Yamaichi Electronics offers differential high-speed connectors for the automotive sector in the smallest installation space.

### YOUR ADVANTAGES

- 7 different codings of the single-type version
- Data transmission up to 20 Gbps
- Weight and space saving design
- Tested and produced for automotive applications



## Y-CMC - CAMERA MODULE CONNECTOR

Cameras have become an indispensable standard in the automotive sector. With the Y-CMC series, Yamaichi Electronics offers a solution with PCB connectors and matching mating connectors.

The Fakra mating face of the counter connector offers a standard interface, but other interfaces, such as Minifakra, are of course also possible.

### YOUR ADVANTAGES

- Space-saving design
- Tolerance compensation
- IP69K - splash water protected
- High-speed function

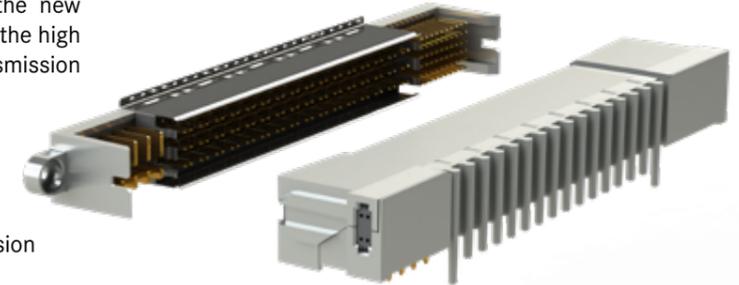


## Y-CCC CAR-COMPUTING-CONNECTOR

Yamaichi Electronics is creating the future for the connectivity of car computing systems with the new Y-CCC. This backplane connector system fulfills the high requirements of data, signal and power transmission combined with robustness and functionality.

### YOUR ADVANTAGES

- 56 Single ended contacts
- 48 Differential pairs for High-Speed transmission up to PCIe 4.0
- 8 Power pins up to 20 A
- THR soldering version
- Screwing fixation for backplane connector



## Y-QUAD CONNECTION BOXES

Y-Quad is the connector series based on Quadlock connector systems. The improved design is ensuring a space saving and easy to assemble product. Further versions like a reflow solderable type, reduced number of pins, version with/without shielding or with/without PCB are available on request.

### YOUR ADVANTAGES

- Space saving design in regards to connector size and PCB
- Other pin counts are available on request
- Wave soldering or Reflow soldering version (Pin&Paste)



## MODULAR JACKS | USB | HDMI, D-SUB & DISPLAY PORT

Yamaichi Electronics offers a comprehensive portfolio of all common I/O standard interfaces, both on the cable and connector's side. Market-known standard solutions as well as customer-specific solutions are available on request.

The I/O portfolio includes the latest products for digital sound and video transmission such as HDMI and Displayport connectors as well as the latest standards for data, signal and power transmission such as USB-C.

### YOUR ADVANTAGES

- Broad product portfolio for applications in different markets
- Connectors for all relevant standard interfaces
- Customized I/O connector solutions available
- Customized cable assemblies available





## SIM/MICRO SIM | SD/MICRO SD CARD CONNECTORS

Yamaichi Electronics offers a wide range of state-of-the-art card connectors for almost all SIM and SD cards in various formats. All product types support the current flash memory card standards.

The wide variety includes various technical features, such as locking techniques from push/push, push-lock to tray type or optionally equipped with a card presence switch. A distinctive feature is the special contact design for the SIM and SD cards, which also allows vibration and shock resistance even for applications in the automotive or industrial sector.

Connectors for compact flash card applications are also available on request.

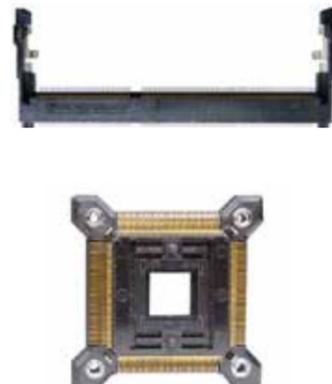


### YOUR ADVANTAGES

- Yamaichi offers the right card reader for all common card formats
- Different unlocking techniques like push/push, push/lock or tray type
- Special contact design to ensure proper function under high vibration and shock requirements

## PRODUCTION SOCKETS

Sockets are available in different grid sizes, pin counts and arrays in through-hole technology, as well as customer-specific mounting.



### YOUR ADVANTAGES

- Yamaichi offers a wide variety of sockets for the common standards such as SO-DIMM, QFP, TQFP, BQFP, PLCC, SOP, PGA, SPGA.



## CUSTOM-MADE SOLUTIONS FOR YOUR NEEDS

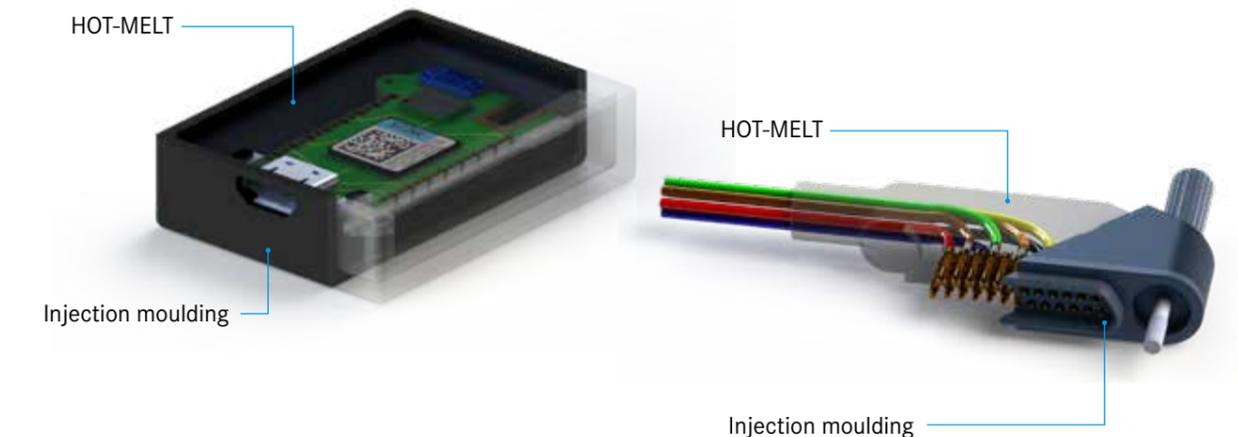
From the first idea to the development of holistic development of connector systems and carried out in our in-house in one of our worldwide The direct communication production guarantee short market.

series production of complex products - we take on the design and project management the perfect solution according to individual customer requirements. We offer solutions, such as the development of connectors, Comprehensive product qualifications are planned and laboratories. Assembly and production take place production facilities such as in Frankfurt (Oder). paths between sales, product management and response times and quick solutions for the European market.



## HOT-MELT TECHNOLOGY - Y-HMT

The low-pressure injection moulding process HOT-MELT enables the gentle coating of sensitive electronic components. Due to the resistance to high temperatures, moisture, oils or disinfectants of the used plastics, the HOT-MELT process is interesting for components which have to be protected against damaging environmental influences, e.g. in the automotive or medical technology. The HOT-MELT process is characterized by high flexibility and comparatively low tooling costs. Therefore it is attractive for small series and prototype construction.

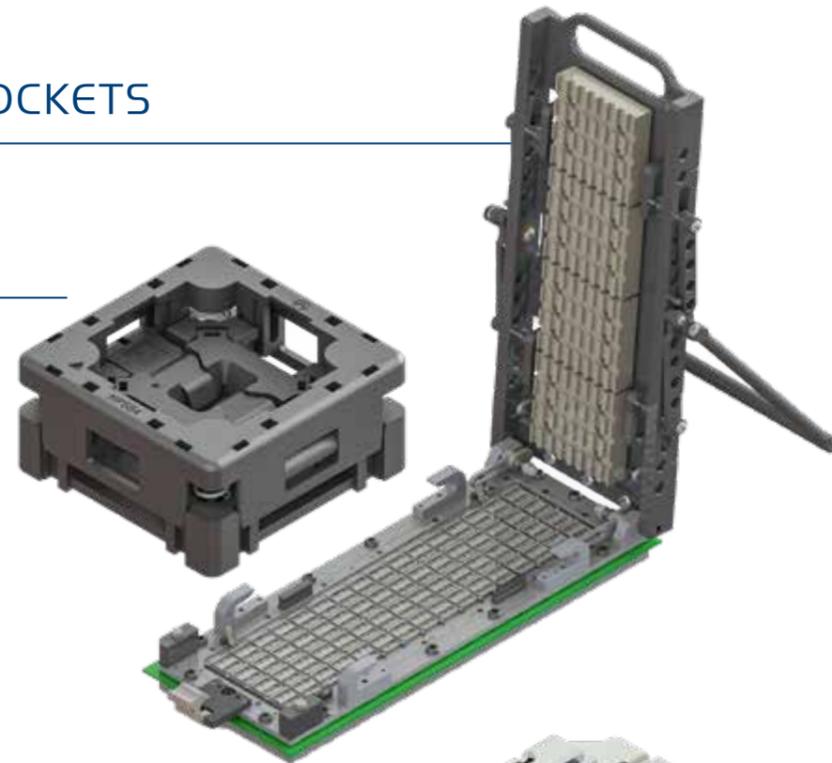


### YOUR ADVANTAGES

- Low pressure injection moulding process for sensitive electronic components
- Suitable for small series
- Ideal for prototype construction
- Low tooling costs
- High flexibility

## TEST & BURN-IN SOCKETS

Support all devices on market



Thermal controlled (active & passive)



Test Contactors



### YOUR ADVANTAGES

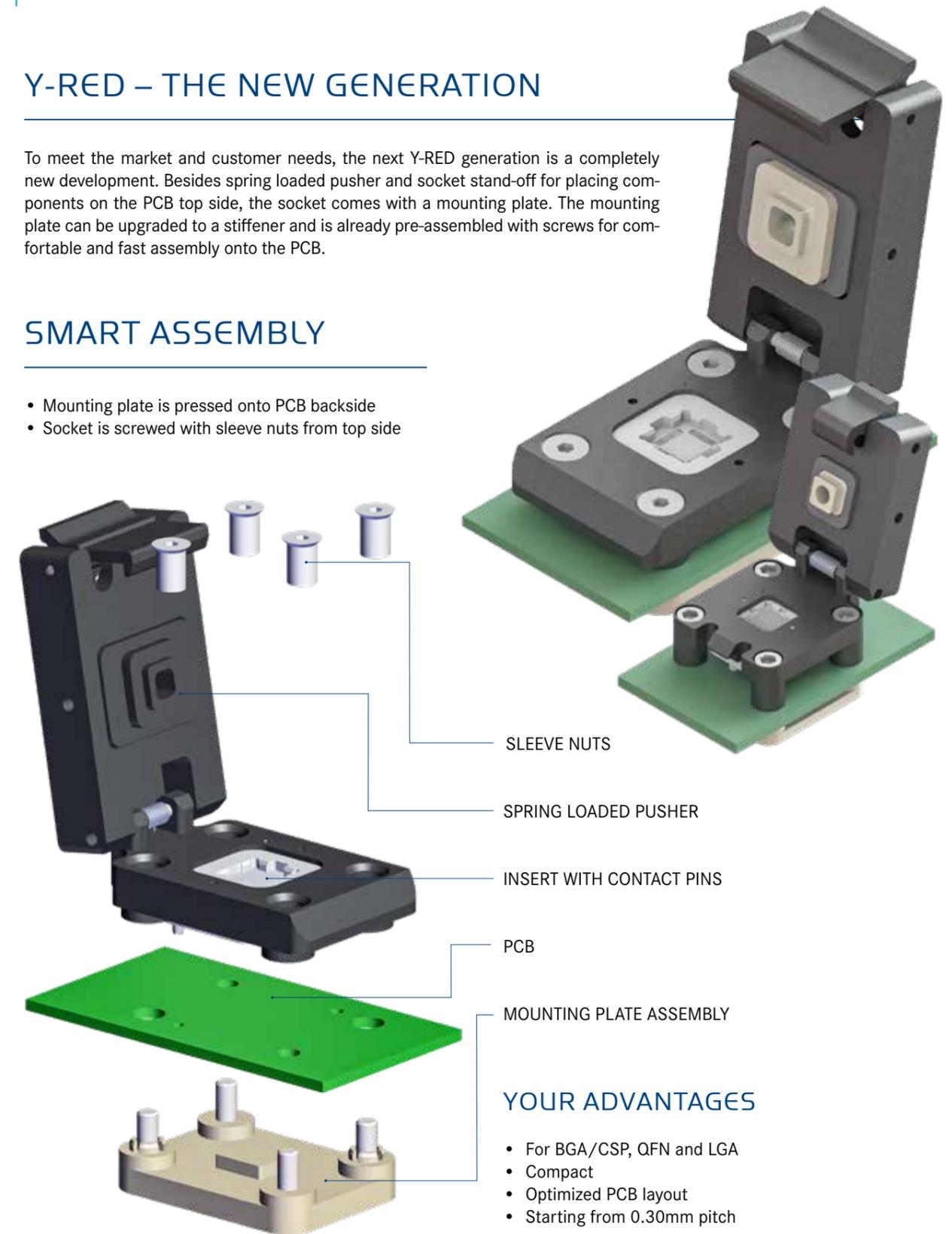
- Reliable contacting solutions
- Starting for devices with 0.25mm pitch
- Robust design for ATE, reliability test and failure analysis
- Large range of available products
- Customized design

## Y-RED – THE NEW GENERATION

To meet the market and customer needs, the next Y-RED generation is a completely new development. Besides spring loaded pusher and socket stand-off for placing components on the PCB top side, the socket comes with a mounting plate. The mounting plate can be upgraded to a stiffener and is already pre-assembled with screws for comfortable and fast assembly onto the PCB.

### SMART ASSEMBLY

- Mounting plate is pressed onto PCB backside
- Socket is screwed with sleeve nuts from top side



### YOUR ADVANTAGES

- For BGA/CSP, QFN and LGA
- Compact
- Optimized PCB layout
- Starting from 0.30mm pitch



## Y-ETI – THE NEW DIMENSION OF TESTING

The innovative Y-ETI test fixture from Yamaichi Electronics is designed for maximum flexibility in testing electronic assemblies. It enables contacting of standard applications from low signal quality and larger test pitch up to high performance embedded solutions with test pitch starting from  $\geq 0.25\text{mm}$ .



### YOUR ADVANTAGES

- **UNIVERSAL:** One test adapter for various test system configurations
- **Scalable:** For fine pitch from 0.25mm to standard test pad distances
- **optimized:** High signal quality and reliability from the device under test (DUT) to the test system
- **individual:** Test setup configuration either using cassette or test application board (TAB)

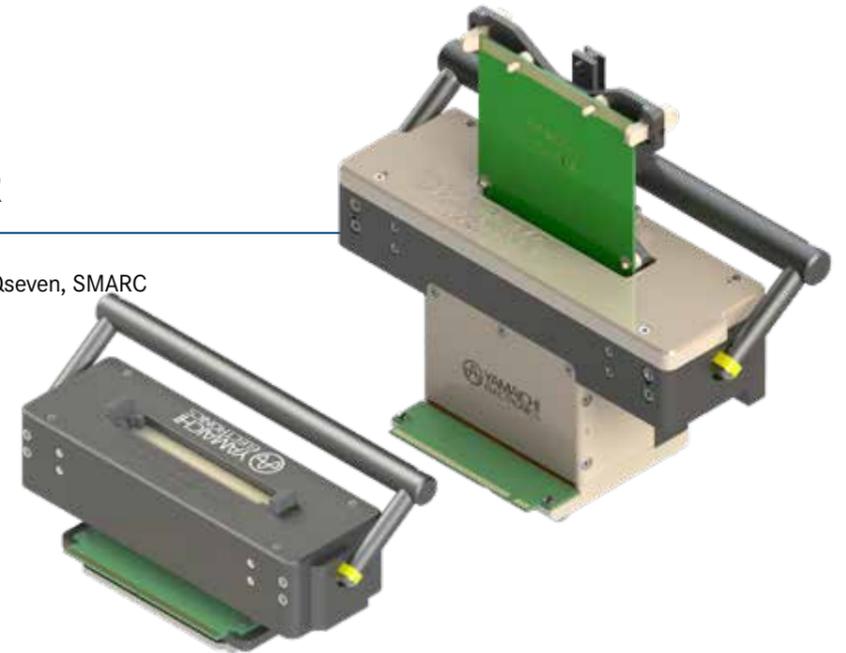
## SPRING PROBE PINS

Pins for test contactors and test fixtures start from 0.25mm pitch. To overcome the market needs in testing assembled PCBs, Yamaichi Electronics provides spring probes for in-circuit test (ICT) with pitches of 2.54mm with a large portfolio of various plunger tips.



## COM TEST ADAPTER

Industrial Test Adapter: SODIMM, DIMM, Qseven, SMARC



## AUTOMOTIVE TEST ADAPTER

Flashing System



Board Level Testing (BLT)



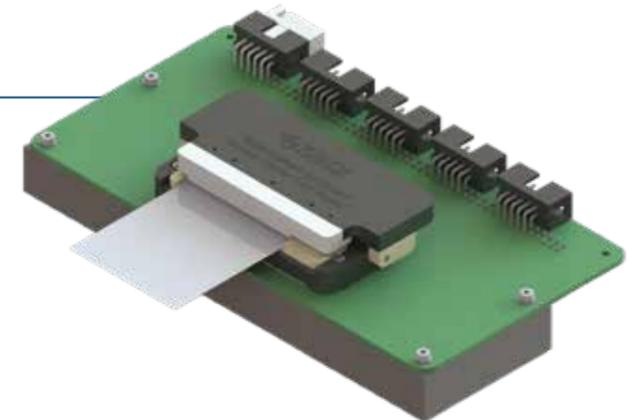
System Level Test (SLT)



## FPC / FFC TEST FIXTURE

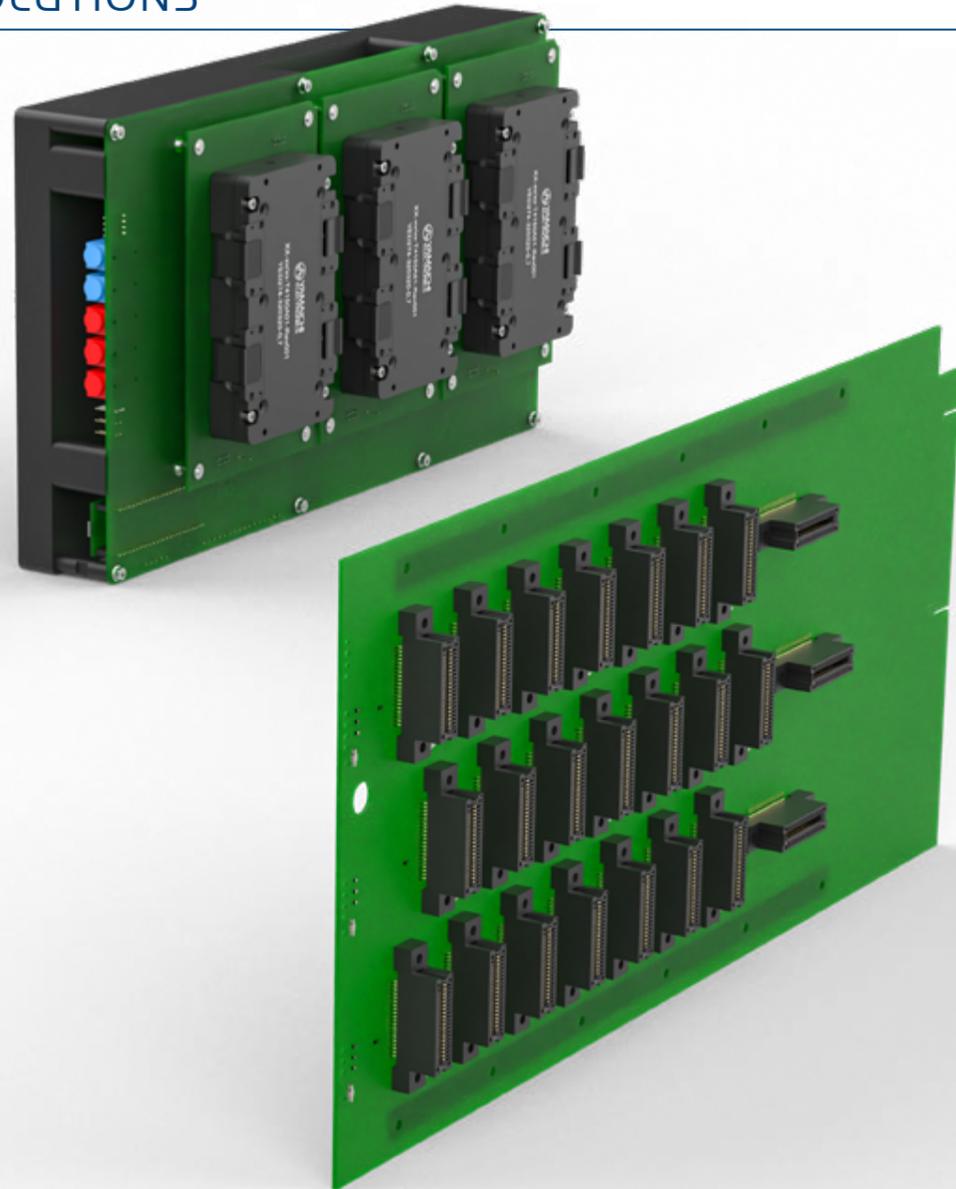
### YOUR ADVANTAGES

- Maximum yield in testing and flashing
- Reduced testing effort
- Less testing costs per module
- In-line volume test
- Impedance controlled





## PCB SOLUTIONS

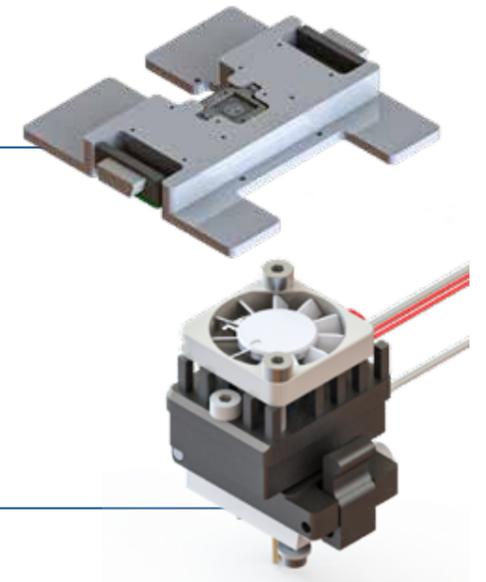


### YOUR ADVANTAGES

- Customized designs for PCB & hardware
- Inhouse electrical and thermal simulations
- Manufacturing & assembly at selected partners
- Consulting service

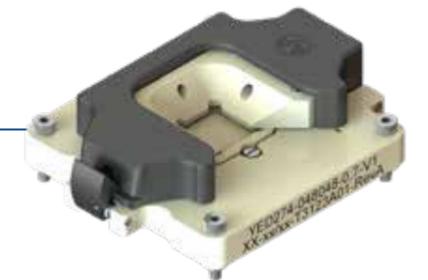


## HI-REL APPLICATIONS



## SENSING FLUIDS OF BIOSENSORS

## IMAGING SENSORS/CAMERAS



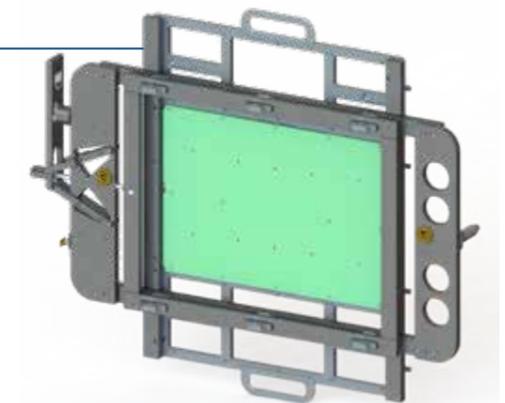
## MULTI-CAVITY SOCKET (PRESSURE SENSOR)



## DOCKINGS

### YOUR ADVANTAGES

- Fully customized to meet customers' requirements
- Selected materials and proven contact technology
- Reliable and robust design
- Precise manufacturing and high quality standard





# EUROPEAN PRODUCT GUIDE

CONNECTOR SOLUTIONS  
TEST SOLUTIONS

YED-V1-2|3

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**YAMAICHI ELECTRONICS**  
Deutschland GmbH  
Concor Park  
Bahnhofstraße 20  
85609 Aschheim-Dornach  
Germany

**Phone** +49 (0)89 45 109-0  
**Fax** +49 (0)89 45 109-110  
**E-Mail** sales@yamaichi.de  
**Web** www.yamaichi.de

**YAMAICHI ELECTRONICS**  
Italia s.r.l.  
Centro Direzionale Colleoni  
Via Colleoni, 1  
Palazzo Taurus Ing. 1  
20864 Agrate Brianza (MB)  
Italy

**Phone** +39 039 6881-185  
**Fax** +39 039 6892-150  
**E-Mail** sales@yamaichi.it  
**Web** www.yamaichi.it

**YAMAICHI ELECTRONICS**  
GB Ltd.  
6 The Clockhouse  
Stratton Park  
Micheldever  
Hampshire SO21 3DP  
Great Britain

**Phone** +44 (0)7808 493377  
**Fax** +44 (0)1962 774902  
**E-Mail** sales@yamaichi.co.uk  
**Web** www.yamaichi.co.uk

**YAMAICHI ELECTRONICS**  
Israel  
  
P.O. # 66  
Palmachim 7689000  
Israel

**Phone** +972 54 20444 23  
**Fax** +972 88 664 344  
**E-Mail** sales@yamaichi.co.il  
**Web** www.yamaichi.co.il