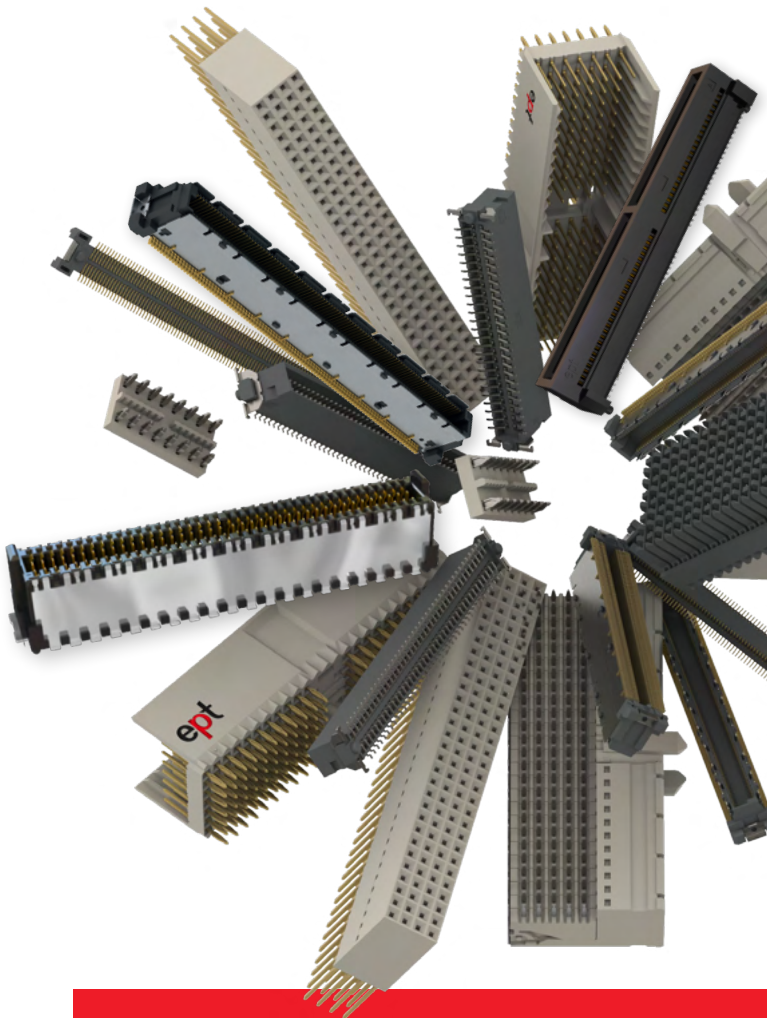


# • • • ept connectors



## Connectors product overview



# Editorial



**Good connections have a name: ept**



Claus  
Guglhör

Bernhard  
Guglhör

Thomas  
Guglhör

ept designs, produces and distributes electronic connectors for high quality applications. Founded by Bernhard Guglhör over 45 years ago, we are proud to remain an independent and family owned company. Today, we employ about 1,200 people at six locations worldwide.

Over decades we have built trusting and successful partnerships with our customers, who are our primary focus. Our products and core competencies are used in high-level applications.

With our motto "Precision with Passion" ept stands for the highest quality and reliability under the personal and individual touch of dedicated employees.

**We are looking forward to working with you.**  
**Your ept-Team**

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# Symbols



## Definitions

### Mating Configurations



Parallel



Perpendicular



Horizontal



Edge Card



Cable-to-Board

### Type of Termination



SMT



Press-fit



Through-Hole



Wire Wrap

### Application



High Density



Power



HighSpeed



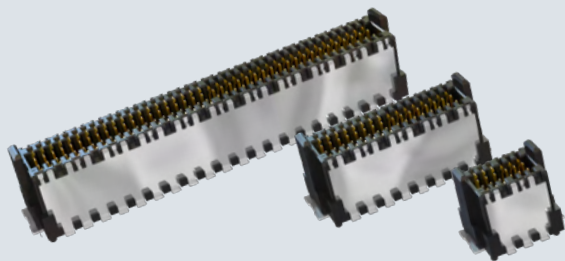
EMC



Rugged



Variability



## Zero8

### 0.8 mm SMT for Board-to-Board Applications

#### Key Features

Types	see overview
Pitch	0.8 mm
Termination technology	SMT
Data transfer rate	up to 16 Gbps
Durability	500 mating cycles
Operational current	max. 1.7 A at 20°C (52 pins)
Approvals	UL, RoHS compliant

#### Applications

Board-to-Board (mezzanine) from 6 mm up to 21 mm

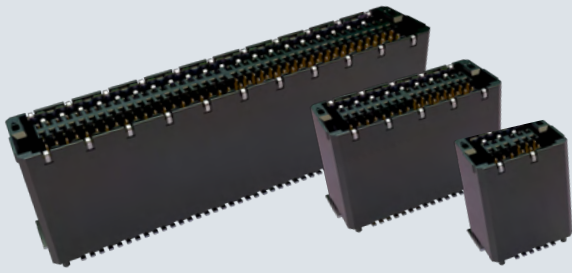
Parallel and perpendicular connection

Shielded and unshielded versions

Scale 

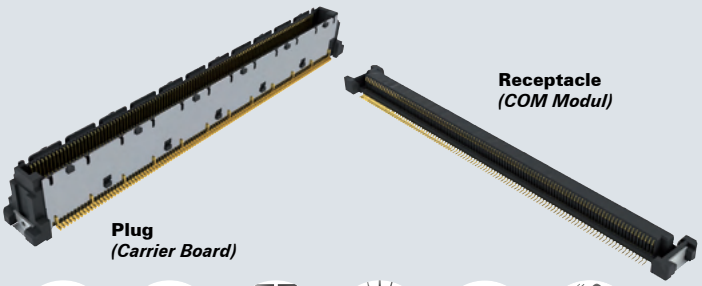
#### Characteristics

- Versatile through different types, contact numbers and board-to-board distances
- Small through dense pitch
- Shielding for better EMC properties
- HighSpeed up to 16 Gbps



## Overview Zero8

Type		Height	Number of pins	Mating configuration
	Plug Socket low-profile	shielded 1.15 mm 4.85 mm	12 ... 80	Parallel Perpendicular
	Plug Socket mid-profile	shielded 2.65 mm 7.85 mm	12 ... 80	Parallel Perpendicular
	Plug Socket (coming soon) high-profile	shielded 7.15 mm 10.85 mm	12 ... 80	Parallel Perpendicular
	Plug x-high	shielded 8.65 mm	12 ... 80	Parallel Perpendicular
	Plug Socket angled	shielded	12 ... 80	Horizontal Perpendicular
	Plug Socket low-profile	unshielded 1.15 mm 4.85 mm	12 ... 80	Parallel Perpendicular
	Plug Socket mid-profile	unshielded 2.65 mm 7.85 mm	12 ... 80	Parallel Perpendicular
	Plug Socket (coming soon) high-profile	unshielded 7.15 mm 10.85 mm	12 ... 80	Parallel Perpendicular
	Plug x-high	unshielded 8.65 mm	12 ... 80	Parallel Perpendicular
	Plug Socket angled	unshielded	12 ... 80	Horizontal Perpendicular



## HighSpeed Connectors for COM Express®

### Key Features

Types	Receptacle (COM Module) Plug 8 mm } Plug 5 mm } (Carrier Board)
Number of contacts	220 or 440
Pitch	0.5 mm
Termination technology	SMT
Data transfer rate	10 Gbps & 16 Gbps
Approvals	UL, RoHS compliant

### Applications

COM Express® for 5 mm & 8 mm distance  
Core Express®

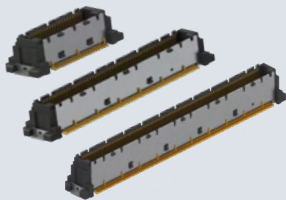
## COM Express®

### Characteristics

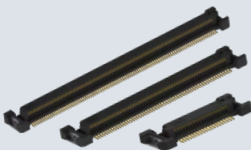
- Intermatability with other manufacturers
- Applications up to 16 Gbps and more possible
- Robust connector design
- Packed in tape & reel or tray



## Plug



## Receptacle



## Flexibility for HighSpeed Board-to-Board

### Key Features

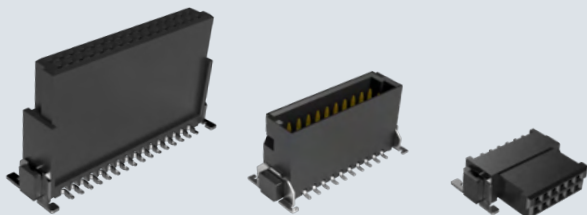
Types	Receptacle Plug 5 mm Plug 8 mm
Number of contacts	40, 80, 120, 160
Pitch	0.5 mm
Termination technology	SMT
Data transfer rate	10 Gbps
Approvals	UL, RoHS compliant

### Applications

HighSpeed board-to-board  
5 mm & 8 mm board-to-board distance  
Computer on Module (COM)  
16 Gbps optional

### Characteristics

- Applications up to 16 Gbps and more
- Individual number of contacts possible
- Robust connector design
- Packed in tape & reel or tray



## One27®

### 1.27 mm SMT for Board-to-Board

#### Key Features

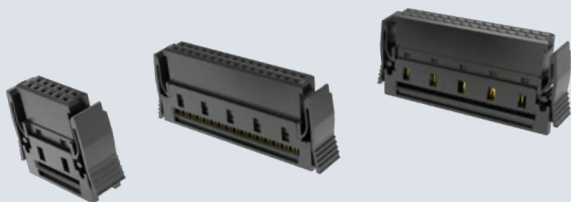
Types	see overview
Pitch	1.27 mm
Termination technology	SMT
Durability	500 mating cycles
Operational current	max. 1.4 A at 20°C (50 pins)
Approvals	UL, RoHS compliant

#### Applications

Board-to-board from 8 mm up to 13.8 mm  
Parallel and perpendicular connection  
IDC link with ribbon cable

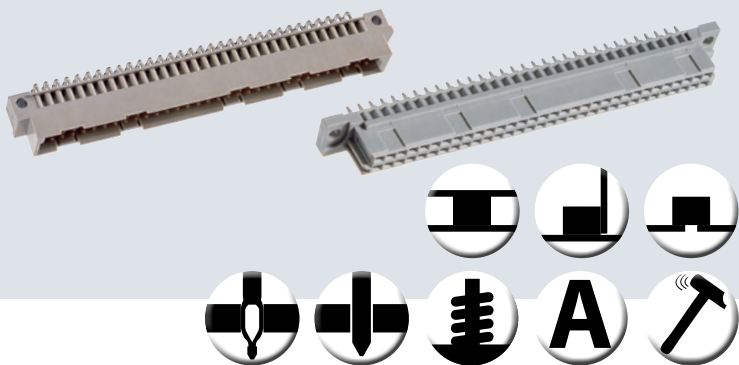
#### Characteristics

- Versatile through different types and contact numbers
- Small through dense pitch
- Robust through high quality contact design, SMT-fixing, anti-twist protection, insertion chamfers



## Overview One27

Type	Height	Number of pins	Mating configuration
	1.75 mm	12 ... 80	Parallel Perpendicular Cable
	3.25 mm	12 ... 80	Parallel Perpendicular Cable
		12 ... 80	Horizontal Perpendicular Cable
	6.25 mm	12 ... 80	Parallel Perpendicular
	9.05 mm	12 ... 80	Parallel Perpendicular
		12 ... 80	Horizontal Perpendicular
		12 ... 80	Cable
		12 ... 80	Cable



## DIN 41612

High Variety - Reliable - Well-proven

### Key Features

Types	See overview
Durability	500, 400 or 50 mating cycles
Operational current	1.5 A to 15 A at 20°C
Approvals	UL, RoHS compliant, NFF
Termination technology	Press-fit, solder, THR

### Applications

Backplane - daughtercards, 19-inch technology (VME)

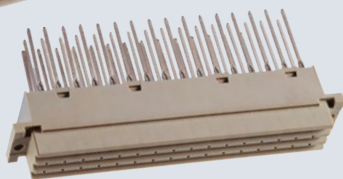
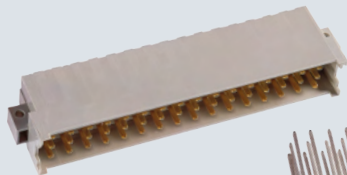
Board-to-board or horizontal

High current



### Characteristics

- Reliable and proven connector system
- Special contact arrangements possible, even for low quantities
- Pre-mating and late-mating contacts possible
- Different contact lengths available
- Accessories: Shroud, Board Lock, Coding Keys
- Switching connector for daisy-chaining



## Overview of ept's DIN 41612

Type	Pitch (mm)	max. Number of Contacts	Termination Technology
B, B/2, B/3	2.54	64 / 32 / 20	press-fit, solder, THR, Wire Wrap
C, C/2, C/3	2.54	96 / 48 / 30	press-fit, solder, THR, Wire Wrap
IDC (B/C)	2.54	64 / 96	IDC
Q, Q/2	2.54	64 / 32	solder
R, R/2, R/3	2.54	96 / 48 / 30	press-fit, solder, THR, Wire Wrap
M, M/2, M/3	2.54	78 / 30 / 12	press-fit, solder
D	5.08	32	press-fit, solder, Wire Wrap
E	5.08	48	press-fit, solder, Wire Wrap
F, F low	5.08	48	press-fit, solder, THR, Wire Wrap
G, G low	5.08	64	press-fit, solder, Wire Wrap
H11, H11 low	5.08	11	solder, faston
H15, H15 low	5.08	15	solder, faston
H7/F24	5.08	7+24	solder
VME 64x	2.54	160	press-fit



## EC.8

### 0.8 mm SMT - Edge Card Connector

#### Key Features

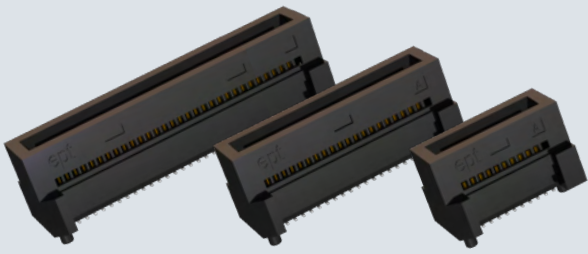
Types	see overview
Pitch	0.8 mm
Termination technology	SMT
Data transfer rate	up to 28 Gbps
Durability	500 mating cycles
Operational current	3,2A @ 20°C (8 of 140 pins) 1,35A @ 20°C (140 pins)
Approvals	UL, RoHS compliant

#### Applications



HighSpeed Edge Card Connection

#### Characteristics

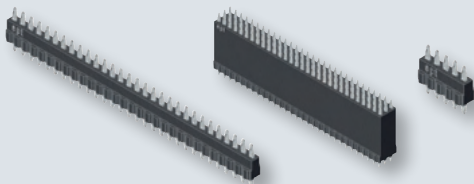
- Versatile pin count variations
- Compact pitch design
- Anti-twist safeguard for pin counts 60 to 200
- HighSpeed transfer rates up to 28 Gbps



## Overview EC.8

Type	Height	Number of pins	Mating configuration
 Direct Connector (without key)	2.05 mm	20 ... 60	Perpendicular Edgecard
 Direct Connector (with key)	2.05 mm	60 ... 200	Perpendicular Edgecard





## **flexilink** board-to-board Solid and Permanent Connection in Press-fit

### Key Features

Types	Straight, permanent connection with 1 to 3 rows
Stack height	5 - 25 mm
Number of contacts	2 - 90
Pitch	2.54 mm
Termination technology	Press-fit
Approvals	UL, RoHS compliant

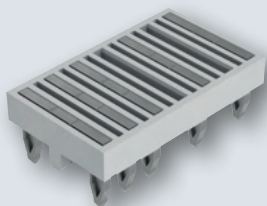
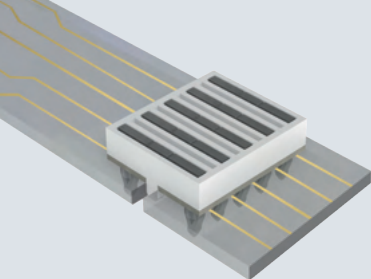
### Applications

Machine tools, agricultural engineering, automotive, intralogistics, crane technology, propulsion technology

### Characteristics

- Reliable mechanical and electrical connection
- Space & cost saving, replaces spacer
- Single-component connection
- Individual board-to-board distances possible
- 11A operational current per pin
- Press-fit zone with Tcom press®





## flexilink<sub>jumper</sub>

Reliable, Small and Easy for LED and more

### Key Features

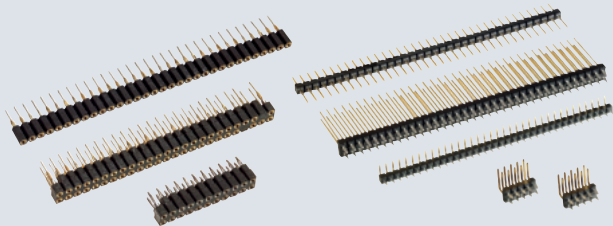
Types	Permanent
Number of contacts bridges	2 - 15
Pitch	2 mm or 4 mm
Termination technology	Press-fit
Operational current	11 A at 20°C (5 contact bridges) per pin
Approvals	UL, RoHS compliant

### Applications

Horizontal PCB connection  
LED  
PCB chaining

### Characteristics

- Small footprint design, height of only 2 mm
- Solid mechanical and electrical connection
- Cost saving through single-component connection
- Easy processing without soldering
- Individual pin configuration possible



## VarPol

### High-quality Pin Headers and Socket Strips

#### Key Features

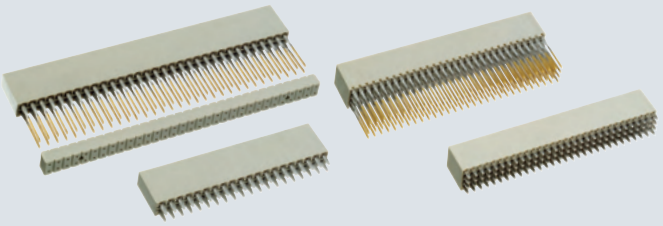
Types pin header	Straight & angled, 1 and 2 rows
Types socket connector	Straight, 1 and 2 rows
Number of contacts	2 - 108
Pitch	2.54 mm and 2 mm
Termination technology	Press-fit and solder
Termination lengths	3.4 mm - 25 mm
Approvals	UL, RoHS compliant

#### Applications

Board-to-board from 11.45 mm to 35.45 mm distance  
No soldering required

#### Characteristics

- Wide range of termination lengths available
- Different performance levels:  
50 and 200 mating cycles
- Gapless arrangement in a continuous row
- Easy and cost saving processing
- Press-fit zone with Tcom press®



## PC/104, PC/104-Plus

Highest Quality for Established Form Factor

### Key Features

Types	Female connector straight, 2 and 4 rows
Number of contacts	40, 60, 64, 120
Pitch	2.54 mm and 2 mm
Termination technology	Press-fit and solder
Approvals	UL, RoHS compliant

### Applications

PC/104 and PC/104 Plus

Board-to-board distances 15.24 and 22 mm

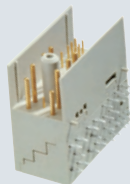


## PC/104

Embedded PC Modules

### Characteristics

- Combination with VarPol pin headers for board-to-board applications from 11.45 mm thru 35.45 mm
- Different performance levels: 50 and 200 mating cycles
- Individual contact number possible
- Shrouds as accessory available



## Advanced TCA®

### HighSpeed Signal and Power Connectors

#### Key Features

Types Power	Angled Male and straight Female connector, 8 power and 22 / 26 signal contacts, 16 A operational current
Types Signal	AMC B+ edge card connector 170 contacts, pitch 0.75 mm, 12.5 Gbit/s
Termination technology	Press-fit
Approvals	UL, RoHS compliant

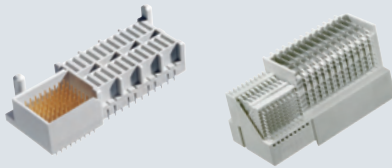
#### Applications

AdvancedTCA, power supplies  
Mezzanine high-speed



#### Characteristics

- Meets the requirements of PICMG
- con:card+ quality seal
- Stamped press-fit zone with Tcom press®
- Cost optimized design



## Micro TCA<sup>®</sup>

### Power Connectors

#### Key Features

Types Power	Angled power module & straight backplane connector, 24 power and 72 signal contacts, 12 A operational current
Termination technology	Press-fit
Approvals	UL, RoHS compliant

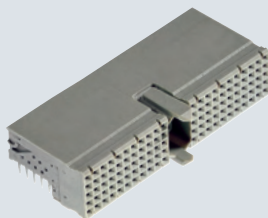
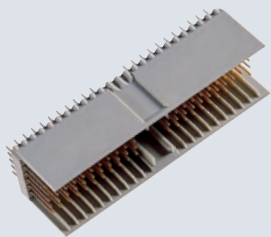
#### Applications

MicroTCA, power supplies

**$\mu$ TCA<sup>®</sup>**

#### Characteristics

- Meets the requirements of PICMG



## hm2.0

### Hardmetric 2 mm for Backplane Systems

#### Key Features

Types	Male connector straight, Female connector angled, each with 5 and 8 rows
Types acc to standard	A, B25, B22, B19, AB25, AB22, AB19, C, D, E, DE, F, L, M, N
Number of contacts	55 - 250
Pitch	2 mm
Termination technology	Press-fit
Data transfer rate	Up to 3 Gbit/s
Approvals	UL, RoHS compliant

#### Applications

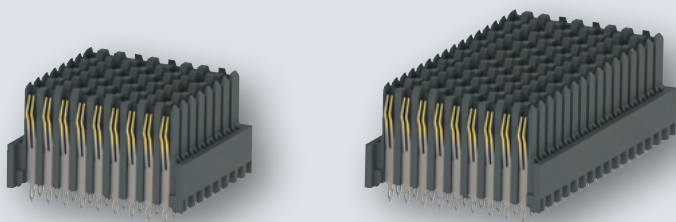
CompactPCI (19-inch technology)

Backplane - daughtercard

## ***CompactPCI***<sup>®</sup>

#### Characteristics

- Broad variety
- Available with or without shielding
- Accessories: Shrouds, coloured Coding Keys
- Special contact arrangements possible, even for low quantities
- Tested acc to IEC 61076-4-101



## **Velox®**

### **High-Speed Backplane Connectors for VPX**

#### **Key Features**

Types	Female connector straight
Types acc to standard	8-left, center, 16-right, 16-left
Number of contacts	72 and 144
Pitch	1.8 mm
Termination technology	Press-fit
Data transfer rate	10 Gbps
Approvals	UL, RoHS compliant

#### **Applications**

VPX (VITA46)

Backplane high-speed



#### **Characteristics**

- Tested acc. to VITA 46, and for intermatability with other manufacturers
- Special contact arrangements possible, even for low quantities
- Reliable dual beam contacts
- Accessories: Guidings



# Power Supplies

## Power Terminals in Press-fit

### Key Features

Types power terminals	With screw or faston connection, 2 rows
Pitch	5.08 mm
Termination technology	Press-fit
Operational current	15 A to 45 A at 20°C
Approvals	RoHS compliant

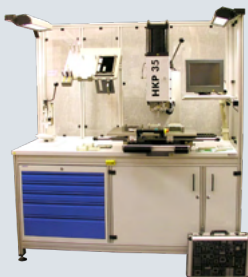
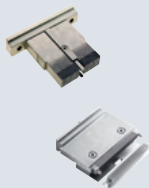
### Applications

Power supply through screw connection or faston contact

### Characteristics

- Easy connection of power supply lines
- Individual variation possible, such as angled or cranked terminations
- Easy processing through press-fit
- Accessories: Screws with thread M4 or M5





# Assembly Machines & Tools

## Precise and Individual Processing for Press-fit

### Press-fit Machines

- Machine types: HKP16, HKP20, HKP35
- Press-in force from 16 kN to 35 kN
- With or without insertion force monitoring
- Individual configuration possible:  
pneumatic power disconnection, free moving XY-table, PC control unit, work table adjustable in height

### Press-fit tools

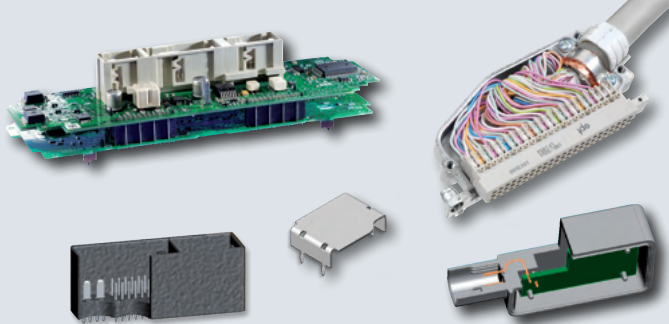
- Upper tools for press-in
- Support tools for stabilizing the PCB
- Tool change boards for efficient workflow

### Applications

Press-fit process in mass production  
Samples and trial runs, repair

### Characteristics

- Press-fit connectors, machines and tools from one source
- Experienced support from the very beginning through mass production
- Individual solutions: ergonomic, efficient
- Fully automated machines for high volume applications
- In-house production of machines and tools



# Customer Specific Connectors

Individually Designed and Produced from One Source

## Products

- Male & female connectors in press-fit, solder, THR and SMT technology
- Stamped blade & spring contacts, shieldings
- Overmolded and sealed (potted) connectors
- Cable connectors

## We offer

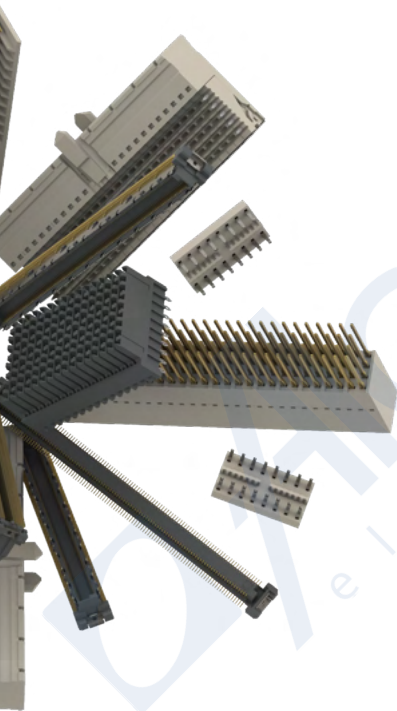
- Experienced support in product development
- Production of functional prototypes
- Testing and qualification equipment
- Experienced tool design in-house
- In-house production of all manufacturing steps: stamping, reel-to-reel plating, molding, assembling

## Your advantages with ept

- „One-Stop-Supplier“ with over 45 years of experience
- Own tool shop
- Fully vertical integration in manufacturing
- Exceptional flexibility
- Quick responsiveness
- Cost efficient product and process design
- Highest quality



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connectors



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