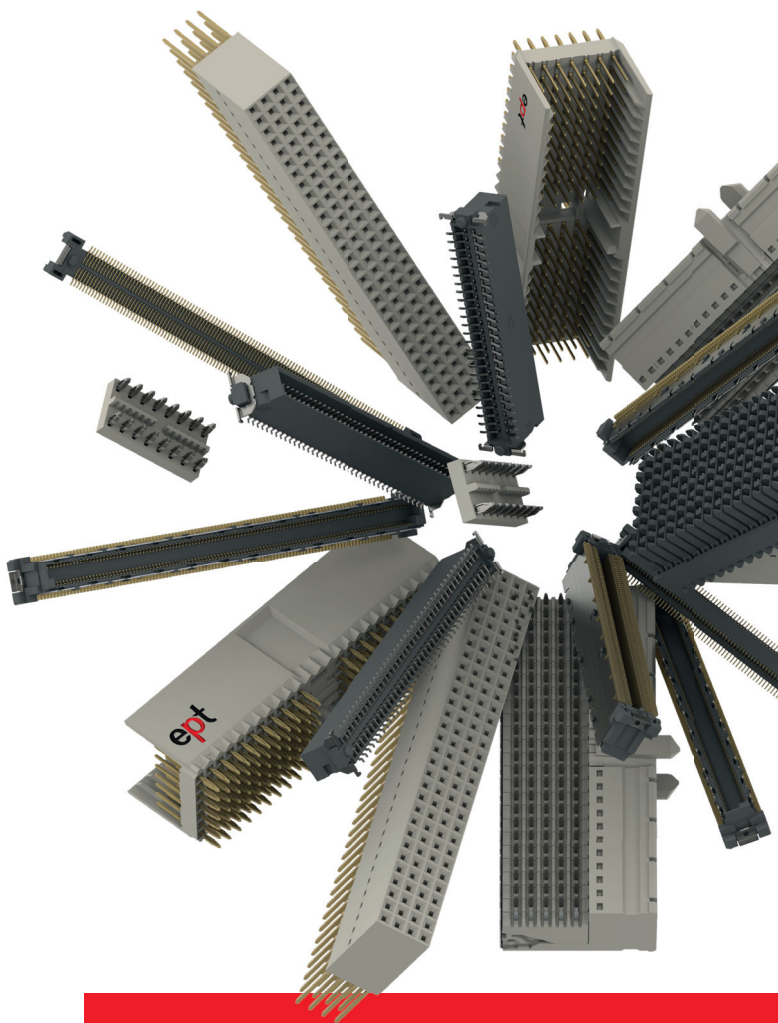


...ept *connectors*



Connectors product overview

Editorial



Good connections bear a name: ept



Thomas
Guglhör

Bernhard
Guglhör

Claus
Guglhör

ept designs, produces and distributes electronic connectors for highquality applications. Founded by Bernhard Guglhör over 40 years ago, we are proud to remain an independent and family owned company. Today, we employ over 750 people at six locations worldwide.

Over decades we have built trusting and successful partnerships with our customers, who are the primary focus of all. 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

Contents



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Symbols



Definitions

Mating Configuration



Parallel



Perpendicular



Horizontal



Card Edge



Cable-to-Board

Type of Termination



SMT



Press-fit



Through-Hole

Application



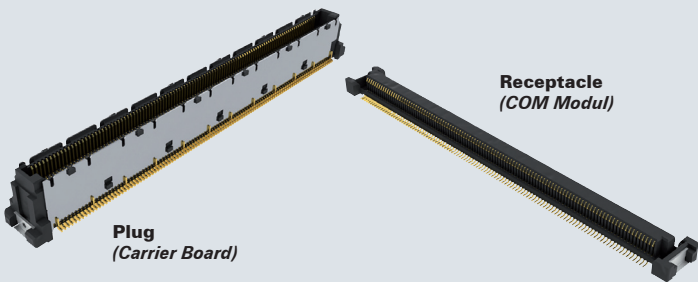
High Density



Power



High Speed



Connectors for COM Express®

Key Features

	Types	Receptacle (COM Modul)
		Plug 8 mm } (Carrier Board)
		Plug 5 mm }
Number of contacts		220 or 440
Pitch		0.5 mm
Termination technology		SMT
Data transfer rate		5 Gbit/s
Approvals		UL, RoHS compliant

Applications

COM Express® for 5 mm & 8 mm distance

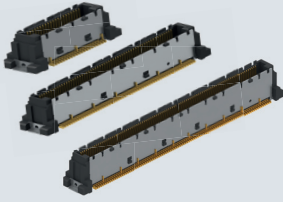
Core Express®

COM Express®

Characteristics

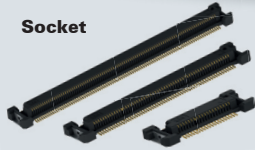
- Intermatability with other manufacturers
- Applications up to 8 Gbit/s possible
- Robust connector design
- Packed in tape & reel or blister

Terminal



coming soon

Socket



Flexibility for High-Speed Board-to-Board

Key Features

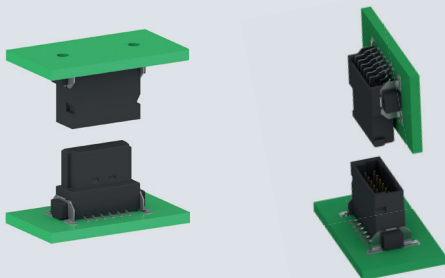
Types	Receptacle Plug 5 mm Plug 8 mm
Number of contacts	40, 80, 120, 160, 200, 220
Pitch	0.5 mm
Termination technology	SMT
Data transfer rate	5 Gbit/s
Approvals	UL, RoHS compliant

Applications

High-speed board-to-board
5 mm & 8 mm board-to-board distance
Computer on Module (COM)

Characteristics

- Applications up to 8 Gbit/s
- Individual number of contacts possible
- Robust connector design
- Packed in tape & reel or blister



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. 1.1 A at 20°C
Approvals	UL, RoHS compliant

Applications

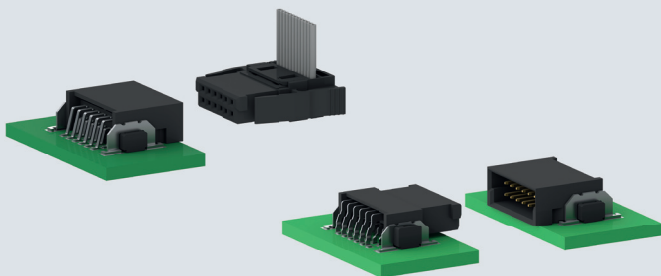
Board-to-board from 8 mm up to 13.8 mm

Parallel and perpendicular connection





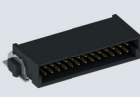


IDC link with ribbon cable

Characteristics

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

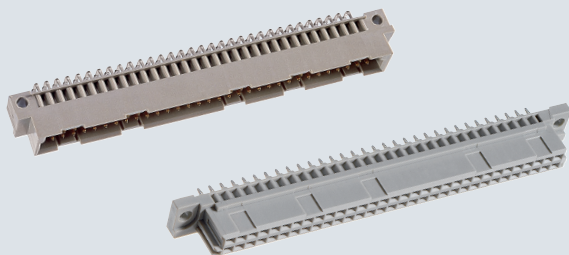


Overview One27

Type		Height	Number of contacts	Mating configuration
	One27 male straight mid-profile	3.25 mm	12 / 16 / 20 / 26 / 32 / 40 / 50 / 68 / 80	Parallel 9.5 -13.8 mm Perpendicular Cable
	One27 female straight mid-profile	9.05 mm	12 / 16 / 20 / 26 / 32 / 40 / 50 / 68 / 80	Parallel 10.8 -13.8 mm Perpendicular
	One27 male straight low-profile	1.75 mm	12 / 16 / 20 / 26 / 32 / 40 / 50 / 68 / 80	Parallel 8.0 -12.3 mm Perpendicular Cable
	One27 female straight low-profile	6.25 mm	12 / 16 / 20 / 26 / 32 / 40 / 50 / 68 / 80	Parallel 8.0 -11.0 mm Perpendicular
	One27 male 90°		12 / 16 / 20 / 26 / 32 / 40 / 50 / 68 / 80	Parallel Perpendicular Cable
	One27 female 90°		12 / 16 / 20 / 26 / 32 / 40 / 50 / 68 / 80	Parallel Perpendicular
	One27 female IDC		12 / 16 / 20 / 26 / 32 / 40 / 50 / 68 / 80	Cable

Black: Samples available

Grey: Samples available on request



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, THTR

Applications

Backplane - daughtercards, 19-inch technology (VME)

Board-to-board or horizontal

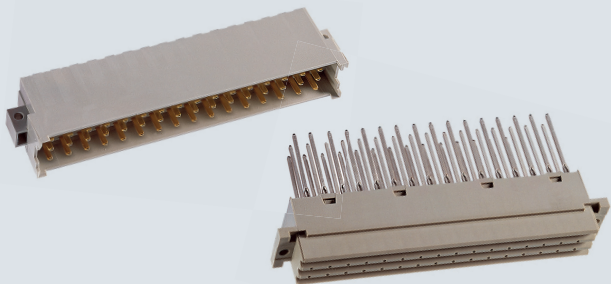
High current

Railway technology (NFF)



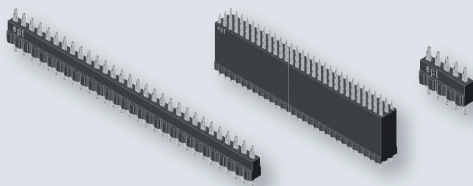
Characteristics

- 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
- Available for railway technology according to NFF



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, THTR
C, C/2, C/3	2.54	96 / 48 / 30	press-fit, solder, THTR
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, THTR
M, M/2, M/3	2.54	78 / 30 / 12	press-fit, solder
D	5.08	32	press-fit, solder
E	5.08	48	press-fit, solder
F, F low	5.08	48	press-fit, solder
G, G low	5.08	64	press-fit, solder
H11, H11 low	5.08	11	solder, faston
H15, H15 low	5.08	15	solder, faston
H7/F24, H7/F24 flach	5.08	31 / 16 / 24	solder
VME 64x	2.54	160	press-fit



flexilink_{board-to-board}

Solid and Permanent Connection in Press-fit

Key Features

Types	Straight non-matable 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

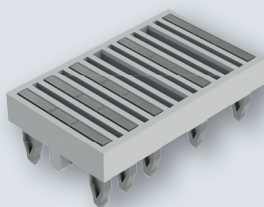
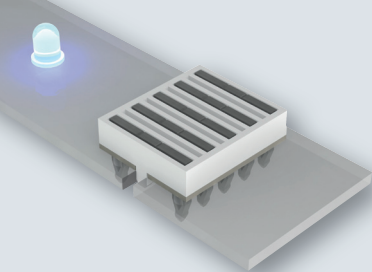
Board-to-board from 5 up to 25 mm distance

Withstands high mechanical stress, shock and vibration

No soldering required

Characteristics

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



flexilink_{jumper}

Reliable, Small and Easy for LED and more

Key Features

	Types	Non-matable bridge
Number of contacts	bridges	2 - 15
	Pitch	2 mm or 4 mm
Termination technology		Press-fit
Operational current		10 A at 20°C (5 Kontaktbrücken)
Approvals		UL, RoHS compliant

Applications

LED

PCB chaining

Characteristics

- Small footprint design, height 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

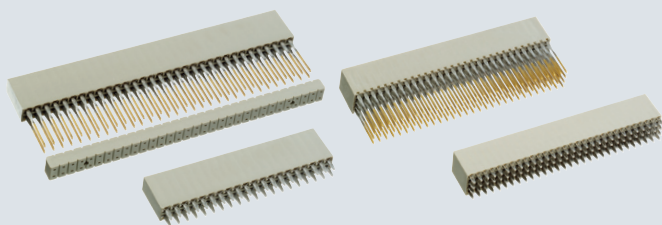
Types pin header	Straight & angled, 1 and 2 rows
Types socket connector	Straight, 1 and 2 rows
Number of contacts	2 - 108
Pitch	2.54 mm and 2 mm
Termination technology	Press-fit and solder
Termination lengths	3.4 mm - 25 mm
Approvals	UL, RoHS compliant

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

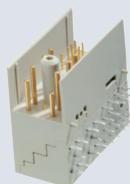
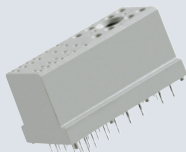
PC/104 and PC/104 Plus

Board-to-board distances 15.24 and 22 mm



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



AdvancedTCA®

High-speed 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

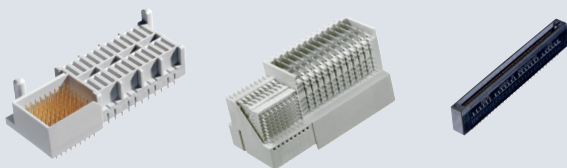
AdvancedTCA, power supplies

Mezzanine high-speed



Characteristics

- Meets the requirements of PICMG
- con:card+ as quality seal, see concardplus.de
- Stamped press-fit zone with Tcom press®
- Cost optimized design



Micro TCA[®]

High-speed Signal and Power Connectors

Key Features

Types Power	Angled power module and straight backplane connector 24 power and 72 signal contacts 12 A operational current
Types Signal	AMC edge card connector 170 contacts, pitch 0.75 mm 12.5 Gbit/s
Termination technology	Press-fit
Approvals	UL, RoHS compliant

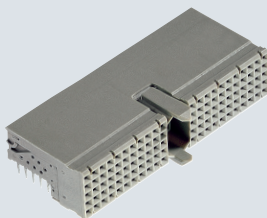
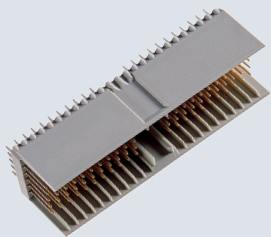
Applications

MicroTCA, power supplies
Board-to-board high-speed

μTCA[®]

Characteristics

- Meets the requirements of PICMG
- con:card+ as quality seal, see concardplus.de
- Guide spring for secure positioning of AMC board
- AMC direct connector available with or without Peg



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

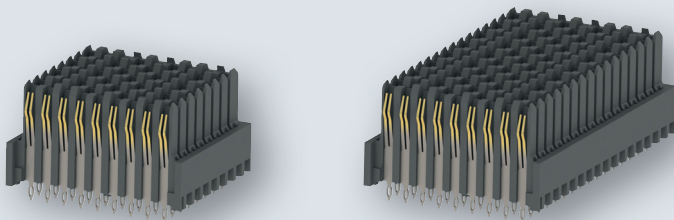
CompactPCI (19-inch technology)

Backplane - daughtercard

CompactPCI®

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 Gbit/s
Approvals	UL, RoHS compliant

Applications

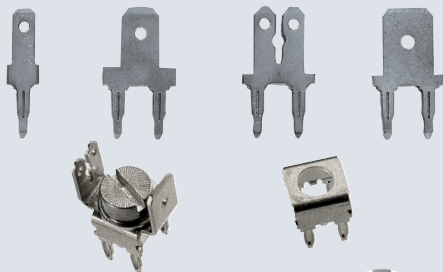
VPX (VITA46)

Backplane high-speed



Characteristics

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



Power Supplies

Power Terminals and Blade Connectors in Press-fit

Key Features

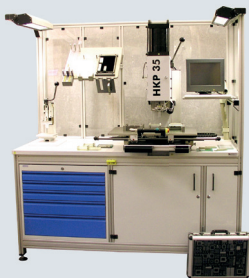
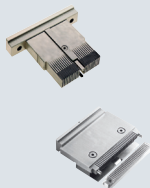
Types power terminals	With screw or faston connection, 2 rows
Types blade connectors	Straight, 1 row for faston contact
Pitch	5.08 mm
Termination technology	Press-fit
Operational current	15 A to 45 A at 20°C
Approvals	RoHS compliant

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

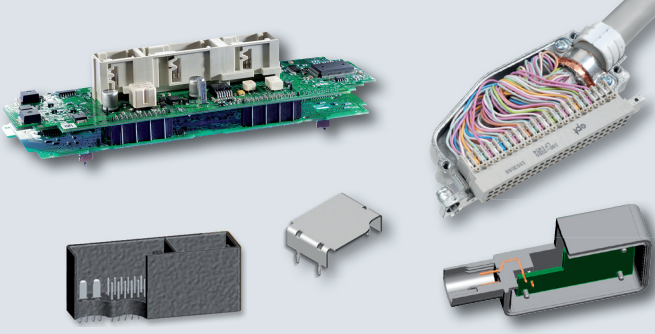
Applications

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, THTR and SMT technology
- Stamped blade & spring contacts, shieldings
- Overmolded and sealed (potted) connectors
- Cable connectors

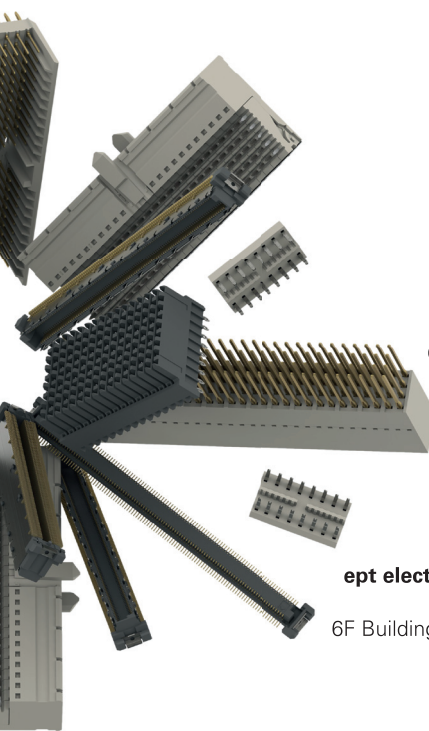
We offer

- 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 40 years of experience
- Own tool shop
- Fully vertical integration in manufacturing
- Exceptional flexibility
- Quick responsiveness
- Cost efficient product and process design
- Highest quality

connectors



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