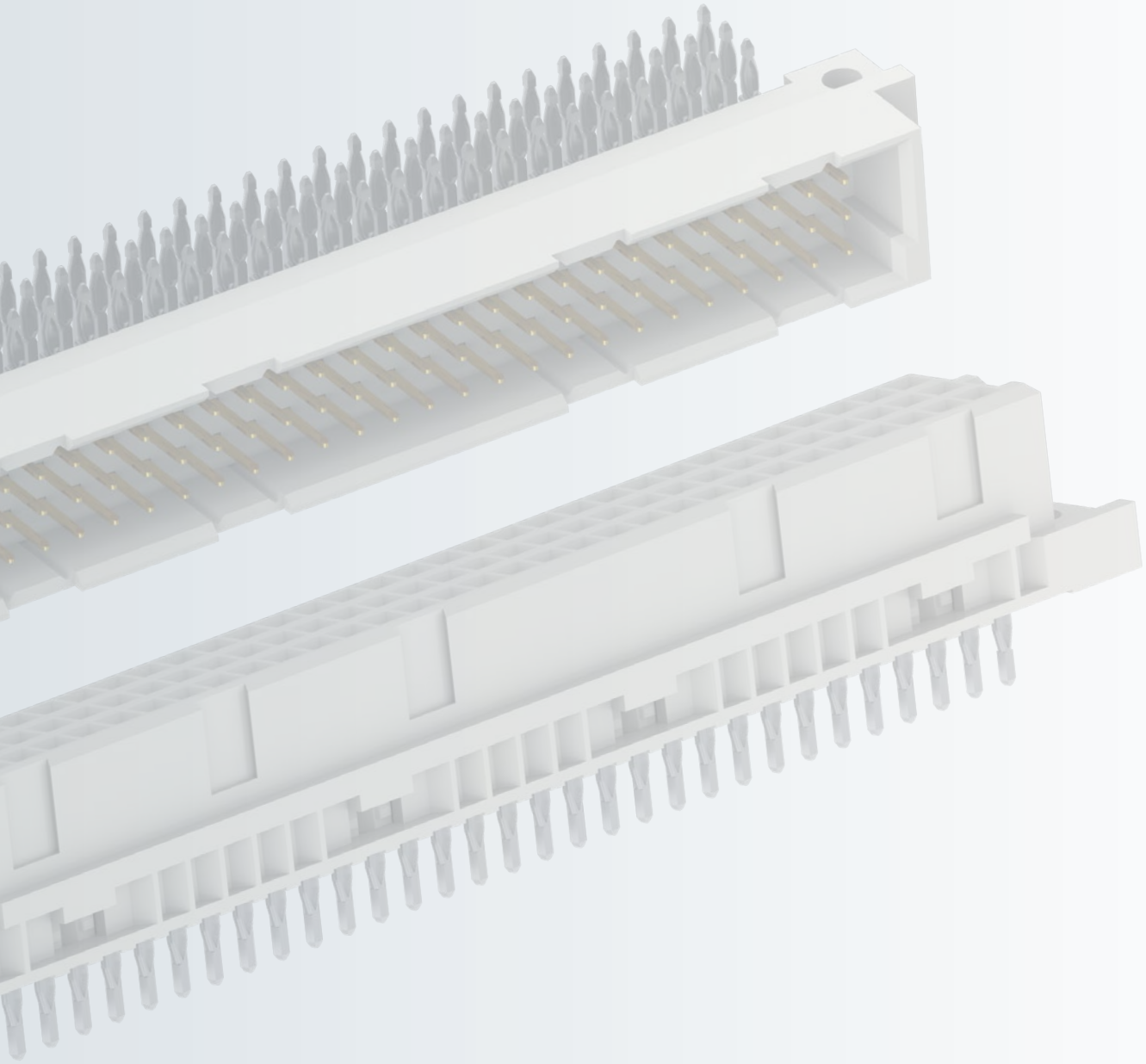
High Variety - Tried and Proven

DIN 41612



Connectors according to DIN 41612/IEC 60603-2



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Connectors according to DIN 41612 / IEC 60603-2

High variety and well proven

The DIN 41612/IEC 60603-2 product series consists of 12 basic types and other supplementary versions with a 2.54 mm or 5.08 mm pitch. The choices range from signal connectors with a current rating of up to 2.6 A to power connectors that can handle up to 5.6 A or even 15 A. The wealth of variants makes it possible to use this family of connectors for a very wide range of applications. Standardization ensures that the connectors are compatible with products from different manufacturers.

DIN 41612 connectors from ept are available in a range of termination technologies. Pre- and late mating contacts, pre-centering, board locks, and codes provide developers and users with additional safety and a wide range of possible applications.

Key Features:

- a tried and proven connection system
- we also offer to perform special assembly for small batches
- supports pre-mating and late-mating contacts
- available in a variety of termination lengths
- a range of accessories, such as shrouds, board locks and coding keys
- switching connector for daisy chaining

Applications:

- Backplane - Daughtercard, 19-inch Technology (VME)
- Board-to-Board, horizontal or parallel
- high current

Terminations


Press-fit


Through-Hole


THTR


IDC

Mating Configuration


Perpendicular


Horizontal


Parallel

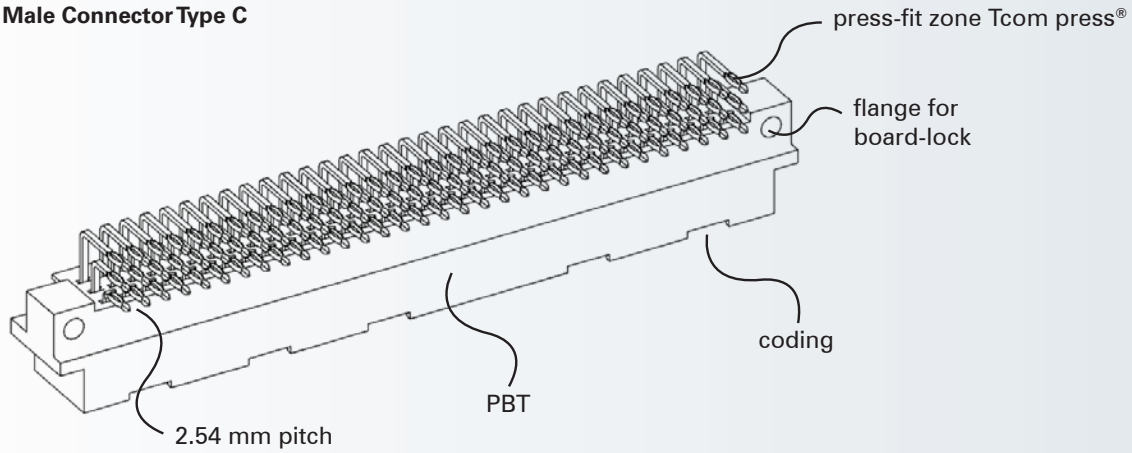
Application



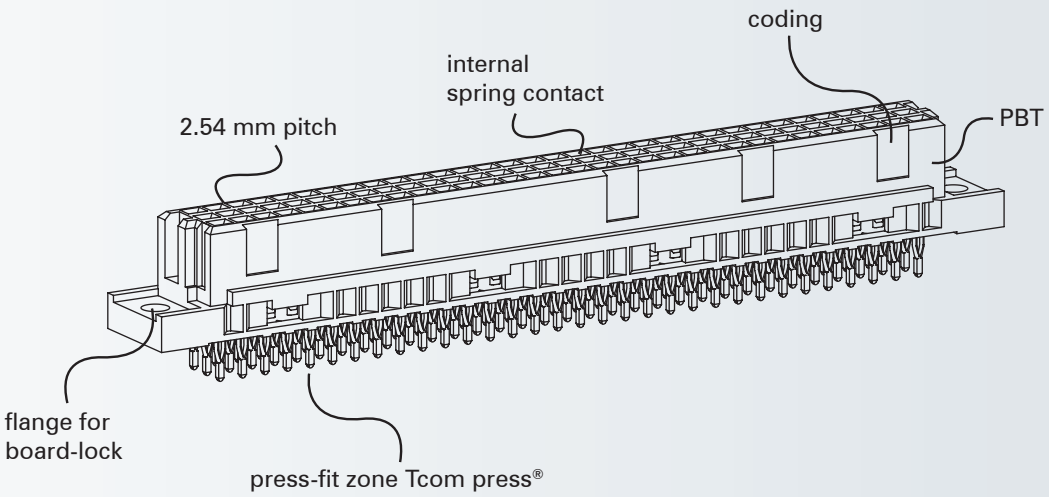
Power

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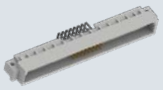
Male Connector Type C



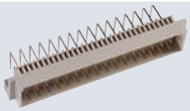
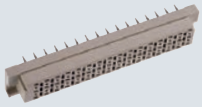
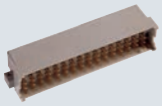
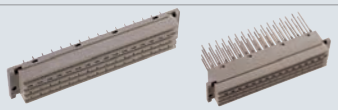
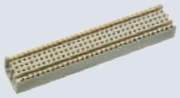
Female Connector Type C



Overview

Type			Pitch (mm)	max. no. of contacts	Signal or power	Termination	Mating connector	Page reference
B		B, B/2, B/3 Male	2.54	64 / 32 / 20	Signal 2.6 A	Press-fit, solder, THTR	B, B/2, B/3 Q, Q/2 Female	start on p. 16
		B, B/2, B/3 Female	2.54	64 / 32 / 20	Signal 2.6 A	Press-fit, solder, THTR	B, B/2, B/3 Q, Q/2 Male	
C		C, C/2, C/3 Male	2.54	96 / 48 / 30	Signal 2.6 A	Press-fit, solder, THTR	C, C/2, C/3 R, R/2, R/3 Female	start on p. 28
		C, C/2, C/3 Female	2.54	96 / 48 / 30	Signal 2.6 A	Press-fit, solder, THTR	C, C/2, C/3 R, R/2, R/3 Male	
Q		Q, Q/2 Male	2.54	64 / 32	Signal 2.6 A	solder	Q, Q/2 B, B/2 Female	start on p. 40
R		R, R/2, R/3 Male	2.54	96 / 48 / 30	Signal 2.6 A	Press-fit, solder, THTR	R, R/2, R/3 C, C/2, C/3 Female	start on p. 44
		R, R/2, R/3 Female	2.54	96 / 48 / 30	Signal 2.6 A	Press-fit, solder, THTR	R, R/2, R/3 C, C/2, C/3 Male	
M		M Male	2.54	78	Signal 4.8 A	solder	M Female	start on p. 56
		M, M/2, M/3 Female	2.54	78 / 30 / 12	Signal 4.8 A	Press-fit, solder	M Male	
D		D Male	5.08	32	Power 5.6 A	solder	D Female	start on p. 64
		D Female	5.08	32	Power 5.6 A	Press-fit, solder	D Male	

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Type			Pitch (mm)	max. no. of contacts	Signal or Power	Termination	Mating connector	Page reference
E		E Male	5.08	48	Power 5.6 A	solder	E Female	start on p. 68
		E Female	5.08	48	Power 5.6 A	Press-fit, solder	E Male	
F		F Male	5.08 x 3.81	48	Power 5.6 A	solder, THTR	F Female	start on p. 72
		F, F low profile Female	5.08 x 3.81	48	Power 5.6 A	Press-fit, solder	F Male	
G		G Male	5.08 x 3.81	64	Power 5.6 A	solder	G Female	start on p. 78
		G, G low profile Female	5.08 x 3.81	64	Power 5.6 A	Press-fit, solder	G Male	
H		H11 Male	7.62	11	Power 15 A	solder	H11 Female	start on p. 84
		H11, H11 low profile Female	7.62	11	Power 15 A	Faston, solder	H11 Male	
		H15 Male	5.08 x 6	15	Power 15 A	solder	H15 Female	start on p. 88
		H15, H15 low profile Female	5.08 x 6	15	Power 15 A	Faston, solder	H15 Male	
		H7/F24 Male	5.08 x 3.81	7+24	Power 15 A	solder	H7/F24 Female	start on p. 92
VMEx		VME64x Female	2.54	160	Signal 2.6 A	Press-fit	-	start on p. 94
Schalter		Switching connector	2.54	96	Signal 2.6 A	Press-fit	C Male	start on p. 98

The Standard 41612 / IEC 60603-2

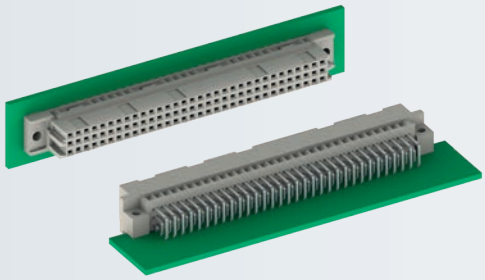
DIN 41612, which was replaced by the European IEC 60603-2 standard in 1999, defines 13 different types of connectors. DIN 41612/IEC 60603-2 connectors are used to establish a connection between the plug-in card and backplane (for 19-inch racks, etc.). DIN 41612 connectors are also commonly known as VG connectors.

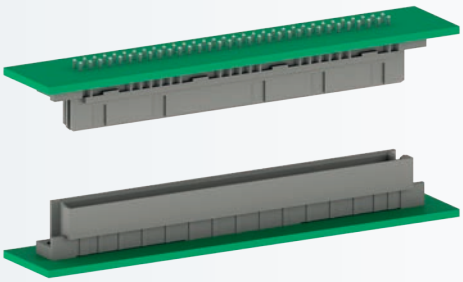
The wide variety of different types combined with the high level of reliability enable flexible use of the DIN 41612 connectors, for example, for connections:

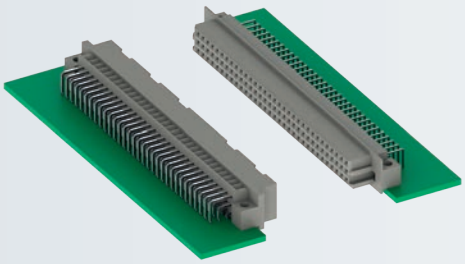
- between plug-in card and backplane
- between vertically-stacked circuit boards
- between horizontally-stacked circuit boards
- over long distances using ribbon cable
- for signal transmission up to 2.6 A
- for power transmission up to 5.6 A or 15 A

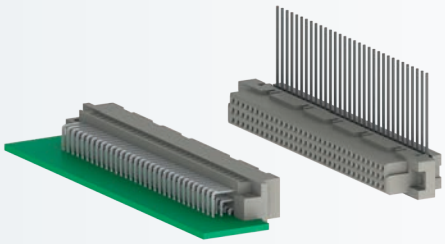
Different connector configurations, such as pre- and late-mating contacts, make it possible to support the special functions of an assembly. The connecting contacts can be implemented as press-fit connection, as a soldering connection for wave soldering or reflow technology (THTR or Pin-in-Paste).

You can prevent from mismating types by coding special types. DIN 41612 connectors in soldering technology are also offered with mounting clips known as board locks. Board locks make it possible to efficiently mount the connectors on the circuit board in order to enable safe soldering and significantly improve strain relief of the connector during the mating/unmating process.



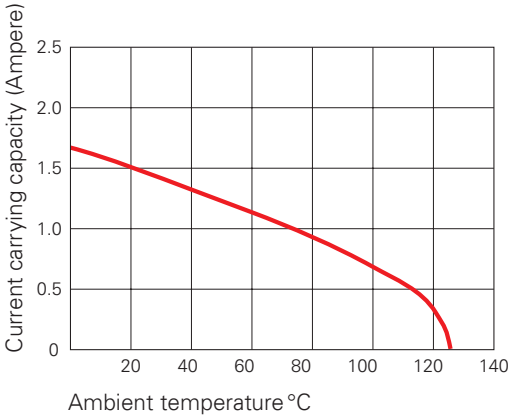






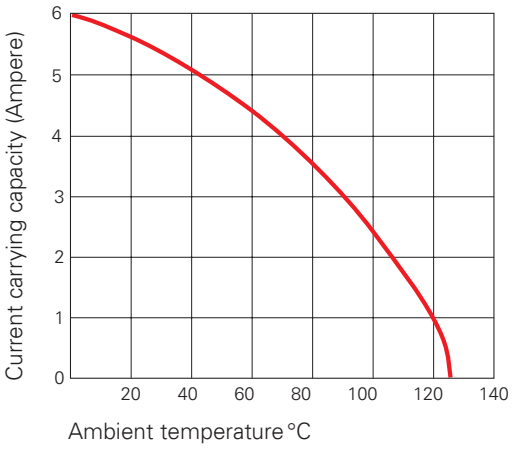
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Derating Diagrams



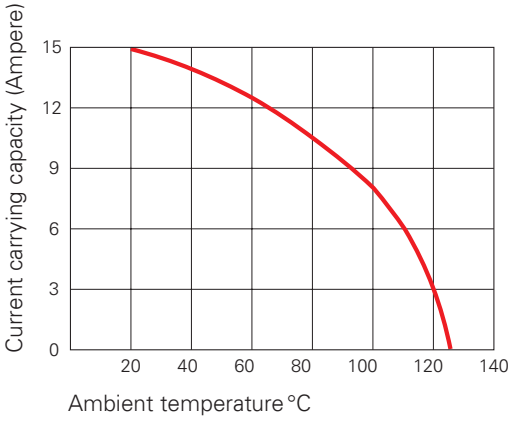
Type B, Q, C, R

20 °C	2.6 A
70 °C	1.1 A
100 °C	0.7 A



Type D, E, F, G

20 °C	5.6 A
70 °C	4.0 A
100 °C	2.5 A



Type H

20 °C	15 A
70 °C	11 A
100 °C	8 A

THTR-Connectors from ept

As manufacturers move to one step solder process using reflow techniques, normal through hole components don´t meet the temperature demands required.

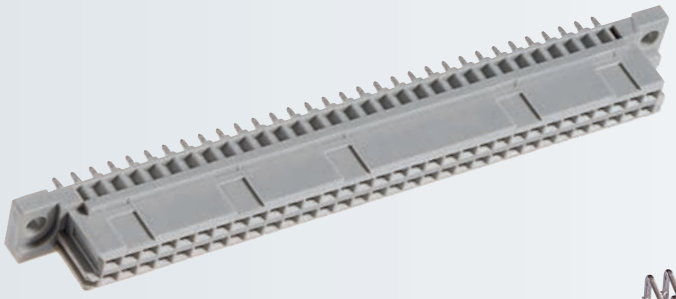
ept is pleased to announce the introduction of our high temp DIN 41612 connector series, THTR. The connectors are designed to withstand reflow temperatures and be soldered in the same production batch as other surface mount components on the PCB. This eliminates the need for additional solder operations like wave solder or press-fit.

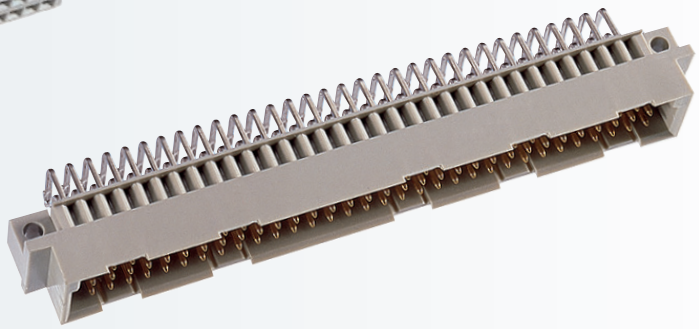
In the past, the SMD components had to be assembled and reflow soldered, before in an additional process step the connector had been pressed into the PCB. Now the male or female connectors are soldered fully automated with the other components in the standard SMT process.

ept connectors in THTR are made from a high temperature resistant plastic, which fulfils the requirements of J-STD-020D (Moisture/Reflow Sensitivity Classification for Nonhermetic Solid State Surface-Mount Devices).

In accordance with RoHS compliance specifications, ept´s THTR connectors are suitable for any lead free reflow solder process and are rated to a temperature peak up to 260°C.

DIN connectors are widely used in many manufacturing environments with various termination methods to the PCB. ept also offers additional DIN 41612 connectors for electronic applications, including press-fit technology.



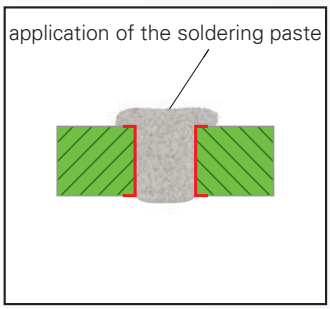


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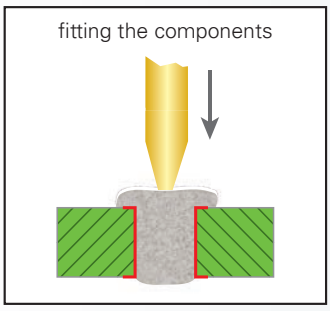
High Temp Connectors allow One Step Reflow Solder Process

THTR-Connectors from ept for easy and cost efficient manufacturing of PC boards.

THTR (Through Hole Technology Reflow) involves the following manufacturing steps:

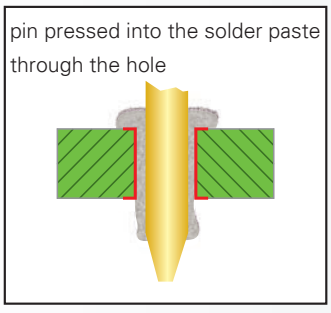


First, the solder paste is applied to the PCB. This is done either with a silk print process, a dispenser, or a solder preform.



The SMD components are then placed onto the PCB. Finally, the connectors are placed into the holes, which are filled with solder paste.

In order to insure a quality reflow solder process, a uniform heat distribution is necessary to all solder locations.



Although the connectors have a higher volume and mass as other SMD components, a longer solder time is not required. ept´s high temp THTR connectors are as completely reliable as conventional wave solder connections. Additionally, all visual inspection requirements of the international standards are met.

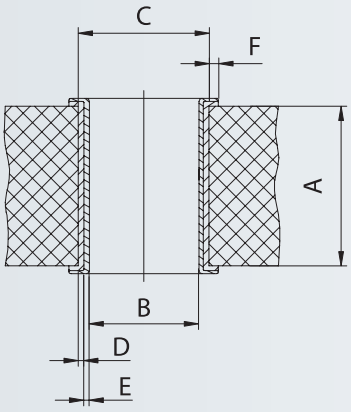
Technical Specifications

Technical Specifications	DIN 41612 Signal Connectors 2.6 A				4.8 A
	B, B/2, B/3	C, C/2, C/3	VME 64x		M, M/2, M/3
Inverted Type	Q, Q/2	R, R/2, R/3			
Basics					
Standard	IEC 60603-2				
Number of contacts	64/32/20	96/48/30	160		78/30/12
Contact row designation of male and female connectors	a b	a b c	z a b c d		a b c
			a b c	z d	
Termination	Press-fit, solder, THTR		Press-fit		Press-fit, solder
Operating temperature range	-55°C to +125°C				
Material					
Insulator material	PBT glass filled PA glass filled				
Mechanical					
Engaging and separating force for the complete, fully equipped connector	64 pol. < 60 N 32 pol. < 30 N 20 pol. < 18 N	96 pol. < 90 N 48 pol. < 45 N 30 pol. < 28 N	160 N		
Separating force per contact (test measuring device)	> 0.15 N				
Durability according to DIN EN 60603-2 Performance level I Performance level II Performance level III	500 Mating cycles 400 Mating cycles 50 Mating cycles		500 Mating cycles 250 Mating cycles -		500 Mating cycles 400 Mating cycles 50 Mating cycles
Electrical					
max. operational current	2.6 A @ +20°C (Type M: 4.8 A @ +20°C)				
Contact resistance	< 20 mΩ		< 20 mΩ	< 30 mΩ	< 20 mΩ
Clearance	1.2 mm		1.2	1.0	1.2 mm
Creepage	1.2 mm		1.2	1.0	1.2 mm
Insulation resistance	> 10^6 MΩ		> 10^4 MΩ		> 10^6 MΩ
Test voltage 50 Hz, 1 min contact/contact contact/ground	1000 V 1550 V				-
Processing					
Soldering temperature	up to 260°C (depending on the way of soldering)				
Approval / Compliance					
Flammability	UL (file: E130314)				
Environment	RoHS compliant				

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Technical Specifications

Technical Specifications	DIN 41612 Power Connectors 5.6 A				15 A	
	D	E	F	G	H	
Basics						
Standard	IEC 60603-2					
Number of contacts	32	48	48	64	11	15
Contact row designation of male and female connectors	a c	a c e	z b d	z b d f	b	z d
Termination	Press-fit, solder				solder, Faston	
Operating temperature range	-55°C to+125°C				-65°C to +125°C	
Material						
Insulator material	PBT glass filled PC glass filled, not combustible					
Mechanical						
Engaging and separating force for the complete, fully equipped connector	< 40 N	< 60 N	< 75 N	< 100 N	< 80 N	< 90 N
Separating force per contact (test measuring device)	> 0.15 N		> 0.2 N	> 0.2 N	> 0.2 N	> 0.2 N
Durability according to DIN EN 60603-2	Performance level I = 500 mating cycles Performance level II = 400 mating cycles Performance level III = 50 mating cycles					
Electrical						
max. operational current	5.6 A @ +20°C				15 A @ +20°C	
Contact resistance	< 15 mΩ				< 8mΩ	
Clearance	3.0 mm			1.6 mm	4.5 mm	4.5 mm
Creepage	3.0 mm		1.6 mm	3.0 mm	8.0 mm	8.0 mm
Insulation resistance	> 10^6 MΩ					
Test voltage 50 Hz, 1 min contact/contact contact/ground	 1550 V 1550 V		 1550 V 2500 V	 1550 V 2500 V	 3100 V 3100 V	
Processing						
Soldering temperature	up to 260°C (depending on the way of soldering)					
Approval / Compliance						
Flammability	UL (file: E130314)					
Environment	RoHS compliant					



Hole Specifications Press-fit Technology

Plated through-hole according to IEC 60352-5

ept offers adapted press-fit zones for various new board surfaces.

		B/C/D/R/M/F low profile/ G low profile/VME64x	D/E/F/G
	Nominal hole	**Ø 1.0 mm**	**Ø 1.6 mm**
	imm. Sn printed circuit boards		
A	PCB thickness	min. 1.6 mm	min. 1.6 mm
B	Plated hole	Ø 1 + 0.09/- 0.06 mm	Ø 1.6 + 0.09/- 0.06 mm
C	Drill hole	1.15 ± 0.025 mm	1.75 ± 0.025 mm
D	Cu plating	min. 25 µm	min. 25 µm
E	imm. Sn plating	max. 1.5 µm	max. 1.5 µm
F	Annular ring	min. 0.1 mm	min. 0.1 mm
	Ni, Au printed circuit boards		
A	PCB thickness	min. 1.6 mm	min. 1.6 mm
B	Plated hole	Ø 1 + 0.09/- 0.06 mm	Ø 1.6 + 0.09/- 0.06 mm
C	Drill hole	1.15 ± 0.025 mm	1.75 ± 0.025 mm
D	Cu plating	min. 25 µm	min. 25 µm
E	Ni, Au plating	0.05 – 0.2 µm Au more than 2.5 – 5 µm Ni	0.05 – 0.2 µm Au more than 2.5 – 5µm Ni
F	Annular ring	min. 0.1 mm	min. 0.1 mm
	pure Cu printed circuit boards		
A	PCB thickness	min. 1.6 mm	min. 1.6 mm
B	Plated hole	Ø 1 + 0.09/- 0.06 mm	Ø 1.6 + 0.09/- 0.06 mm
C	Drill hole	1.15 ± 0.025 mm	1.75 ± 0.025 mm
D	Cu plating	min. 25 µm	min. 25 µm
E	OSP*	e. g. GLICOAT-SMD (F2) with 0.12 – 0.15 µm	e. g. GLICOAT-SMD (F2) with 0.12 – 0.15 µm
F	Annular ring	min. 0.1 mm	min. 0.1 mm
	HAL Sn printed circuit boards		
A	PCB thickness	min. 1.6 mm	min. 1.6 mm
B	Plated hole	Ø 1 + 0.09/- 0.06 mm	Ø 1.6 + 0.09/- 0.06 mm
C	Drill hole	1.15 ± 0.025 mm	1.75 ± 0.025 mm
D	Cu plating	min. 25 µm	min. 25 µm
E	HAL Sn	5 – 15 µm	5 – 15 µm
F	Annular ring	min. 0.1 mm	min. 0.1 mm

* OSP = Organic Solderabiltity Preservatives

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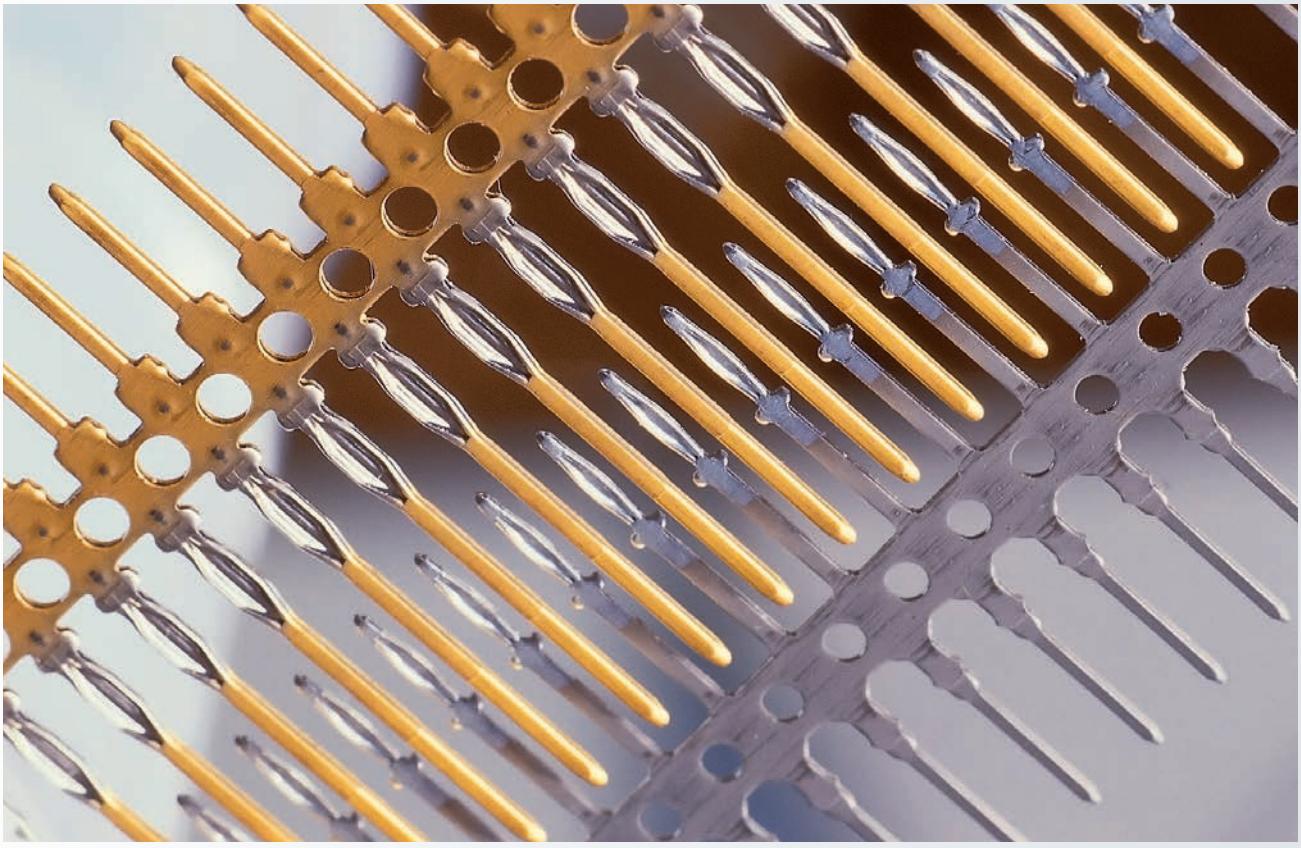
Technical Information to Press-fit Technology

PCB thickness

For connectors according to DIN 41612 / IEC 60603-2 (DIN connectors), ept offers three Tcom press® press-fit zone variants for different printed circuit board thicknesses. Therefore the functionality of the Press-fit connection is optimally given for every application.

Part numbers key

Type	PCB thickness 1.5 to 2.0 mm	PCB thickness 2.0 to 2.8 mm	PCB thickness > 2.8 mm
B, B/2, B/3 (female connectors)	102-xxxxx-01	102-xxxxx-02	102-xxxxx-03
C, C/2, C/3 (female connectors)	104-xxxxx-01	104-xxxxx-02	104-xxxxx-03



Tcom press® Press-fit Technology

DIN 41612

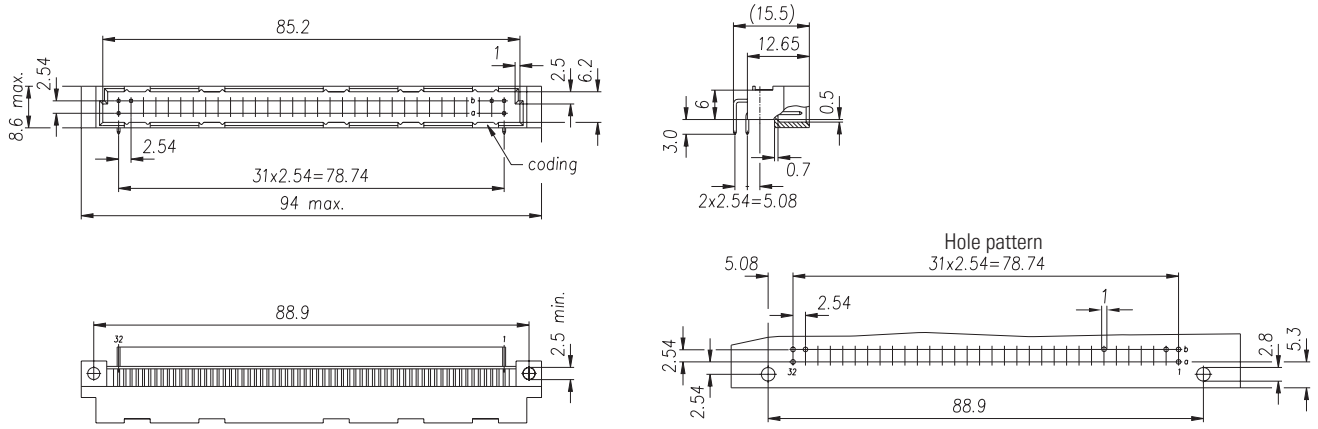
Type B Male Connector



Type:	Male connector 90° with 2 rows
Termination:	Press-fit, solder, THTR
Number of contacts:	32, 64
Pitch:	2.54 mm
Operational current:	2.6 A
Packaging:	Tube
Standard:	IEC 60603-2

Technical Specifications on page 12

Dimensions in mm



For detailed drawings visit www.ept.de

Accessories

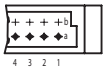
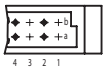
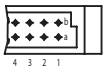
- Coding p. 104

Mating connector / Application:

Type B Female connector (p. 18)

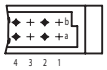
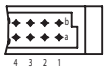
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Press-fit - Performance level II

No. of contacts	Contact arrangement	Termination length L 3.4 mm Part number	PU (Tube)
32		101-60004	32/512
32		101-60014	
64		101-60064	

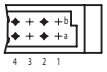
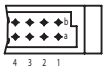
On request
- performance level I + III or customized
- special contact length
- contact arrangement

Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L 3.0 mm angled Part number	3.0 mm straight Part number	PU (Tube)	13 mm angled Part number	PU (Tube)
32		101-40024	101-40025	32/512	101-40044	18/180
64		101-40064	101-40065		101-40074	

On request
- performance level I + III or customized
- special contact length
- Board-Lock p. 103
- contact arrangement

THTR - Performance level II

No. of contacts	Contact arrangement	Termination length L 3.0 mm angled Part number	PU (Tube)
32		101-40024TH	32/512
64		101-40064TH	

On request
- performance level I + III or customized
- special contact length
- other termination lengths in THTR
- Board-Lock p. 103
- contact arrangement

DIN 41612

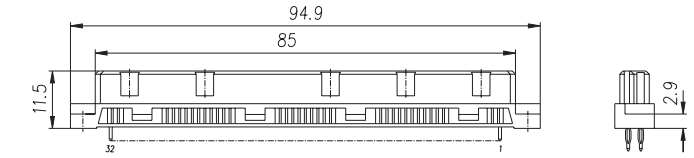
Type B Female Connector

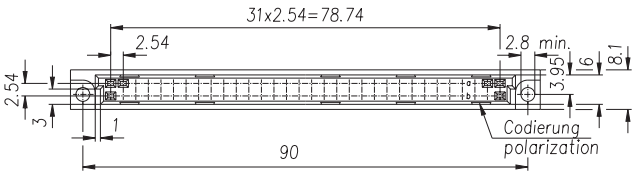


Type:	Female connector straight with 2 rows
Termination:	Press-fit, solder, THTR
Number of contacts:	32, 64
Pitch:	2.54 mm
Operational current:	2.6 A
Packaging:	Tube
Standard:	IEC 60603-2

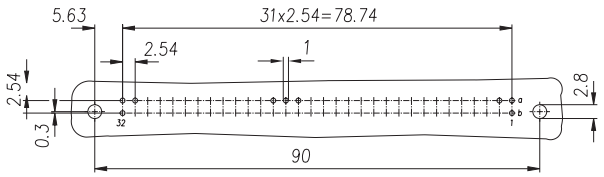
Technical Specifications on page 12

Dimensions in mm





Hole pattern



For detailed drawings visit www.ept.de

Accessories

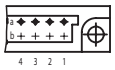
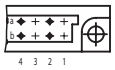
- Coding p. 104

Mating connector / Application:

- Type B Male connector (p. 16)
- Type Q Male connector (p. 40)

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Press-fit - Performance level II

No. of contacts	Contact arrangement	PCB thickness	Termination length L				PU (Tube)
			3.2 mm	4.6 mm	13 mm	17 mm	
			Part number				
32		> 1.5 mm	-	302-63014-02	302-65015-03	302-65016-04	33/396
32		1.5 - 2.0 mm	102-63024-01	-	102-65025-01	102-65026-01	
		2.0 - 2.8 mm	-	102-63024-02	102-65025-02	102-65026-02	
		> 2.8 mm	-	102-63024-03	102-65025-03	102-65026-03	
64		> 1.5 mm	-	302-63064-02	302-65065-03	302-65066-04	

On request

- performance level I + III or customized
- special contact length
- alternative contact surface Sn e. g. for WireWrap
- without flange
- contact arrangement

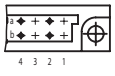
Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L					PU (Tube)
		2.5 mm	3.4 mm	4.6 mm	13 mm	5.5 mm manual soldering with solder lug	
		Part number					
32		102-40024	–	–	102-40026	102-40044	33/396
64		302-40064-05	302-40064-01	302-40064-02	302-40065-03	102-40074	

On request

- performance level I + III or customized
- special contact length
- Board-Lock p. 103
- contact arrangement

THTR - Performance level II

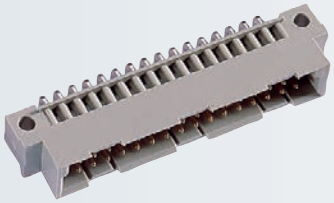
No. of contacts	Contact arrangement	Termination length L			PU (Tube)
		2.5 mm	3.4 mm	4.6 mm	
		Part number			
32		102-40024TH	–	–	33/396
64		302-40064-05TH	302-40064-01TH	302-40064-02TH	

On request

- performance level I + III or customized
- special contact length
- other termination lengths in THTR
- Board-Lock p. 103
- contact arrangement

DIN 41612

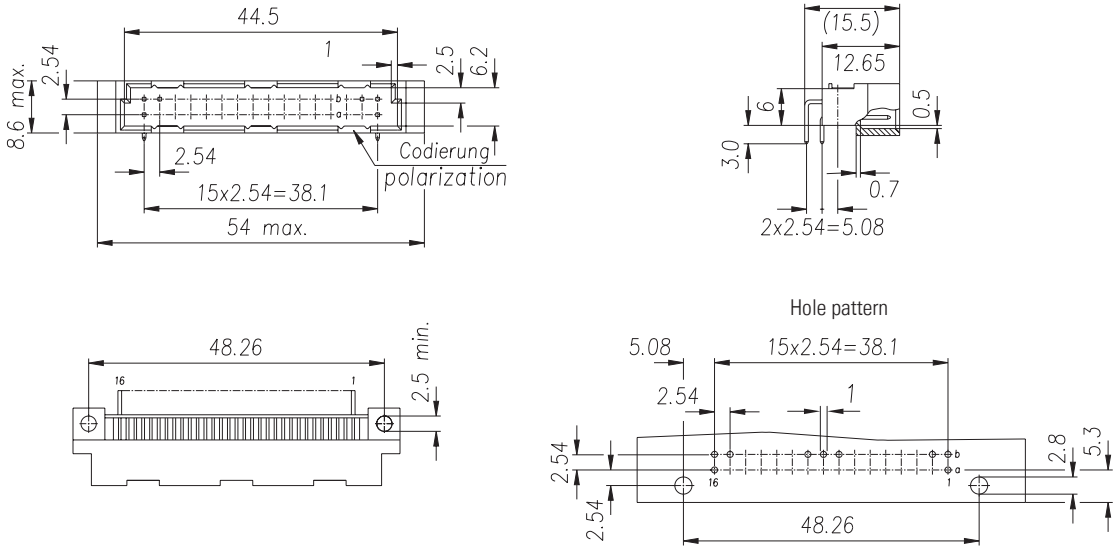
Type B/2 Male Connector



Type:	Male connector 90° with 2 rows
Termination:	Press-fit, solder, THTR
Number of contacts:	16, 32
Pitch:	2.54 mm
Operational current:	2.6 A
Packaging:	Tray
Standard:	IEC 60603-2

Technical Specifications on page 12

Dimensions in mm



For detailed drawings visit www.ept.de

Accessories

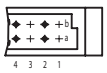
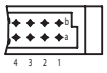
- Coding p. 104

Mating connector / Application:

Type B/2 Female connector (p. 22)

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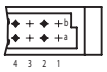
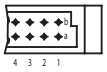
Press-fit - Performance level II

No. of contacts	Contact arrangement	Termination length L	
		3.4 mm	
		Part number	PU (Tray)
16		101-69004	54/540
32		101-69014	

On request

- performance level I + III or customized
- special contact length
- contact arrangement

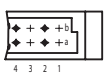
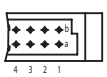
Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L				
		3.0 mm angled	3.0 mm straight	PU (Tray)	13 mm angled	PU (Tray)
		Part number			Part number	
16		101-90004	101-90115	54/540	101-90006	27/270
32		101-90014	101-90105		101-90016	

On request

- performance level I + III or customized
- special contact length
- Board-Lock p. 103
- contact arrangement

THTR - Performance level II

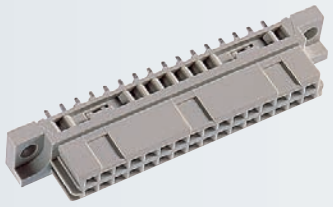
No. of contacts	Contact arrangement	Termination length L	
		3.0 mm angled	
		Part number	PU (Tray)
16		101-90004TH	54/540
32		101-90014TH	

On request

- performance level I + III or customized
- special contact length
- other termination lengths in THTR
- Board-Lock p. 103
- contact arrangement

DIN 41612

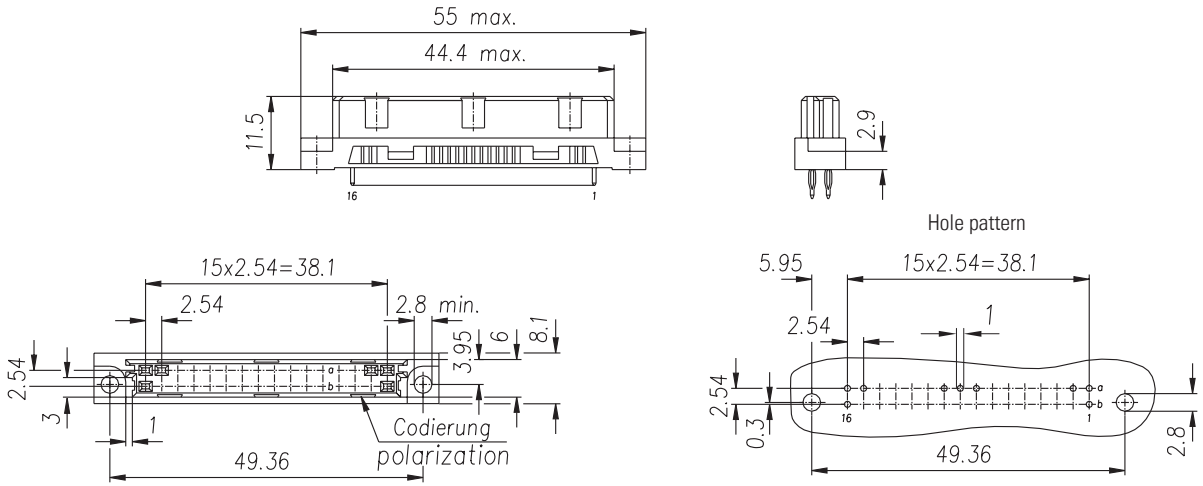
Type B/2 Female Connector



Type:	Female connector straight with 2 rows
Termination:	Press-fit, solder, THTR
Number of contacts:	16, 32
Pitch:	2.54 mm
Operational current:	2.6 A
Packaging:	Tray
Standard:	IEC 60603-2

Technical Specifications on page 12

Dimensions in mm



For detailed drawings visit www.ept.de

Accessories

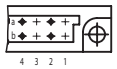
- Coding p. 104

Mating connector / Application:

- Type B/2 Male connector (p. 20)
- Type Q/2 Male connector (p. 42)

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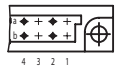
Press-fit - Performance level II

No. of contacts	Contact arrangement	PCB thickness	Termination length L		PU (Tray)	Termination length L		PU (Tray)
			3.2 mm	4.6 mm		13 mm	17 mm	
			Part number			Part number		
16		1.5 - 2.0 mm	102-69004-01	-	45/765	102-79006-01	102-79106-01	21/357
		2.0 - 2.8 mm	-	102-69004-02		102-79006-02	102-79106-02	
		> 2.8 mm	-	102-69004-03		102-79006-03	102-79106-03	
32		1.5 - 2.0 mm	102-69064-01	-		102-79066-01	102-79166-01	
		2.0 - 2.8 mm	-	102-69064-02		102-79066-02	102-79166-02	
		> 2.8 mm	-	102-69064-03		102-79066-03	102-79166-03	

On request

- performance level I + III or customized
- special contact length
- alternative contact surface Sn e. g. for WireWrap
- without flange
- contact arrangement

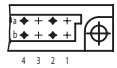
Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L		PU (Tray)	Termination length L		PU (Tray)
		2.5 mm	4 mm		13 mm	5.5 mm Manual soldering with solder lug	
		Part number			Part number		
16		102-90004	102-90005	45/765	102-90006	102-90025	21/357
32		102-90064	102-90065		102-90066	102-90075	

On request

- performance level I + III or customized
- Board-Lock p. 103
- contact arrangement

THTR - Performance level II

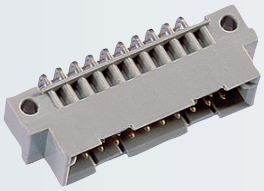
No. of contacts	Contact arrangement	Termination length L		PU (Tray)
		2.5 mm	4 mm	
		Part number		
16		102-90004TH	102-90005TH	45/765
32		102-90064TH	102-90065TH	

On request

- performance level I + III or customized
- other termination lengths in THTR
- Board-Lock p. 103
- contact arrangement

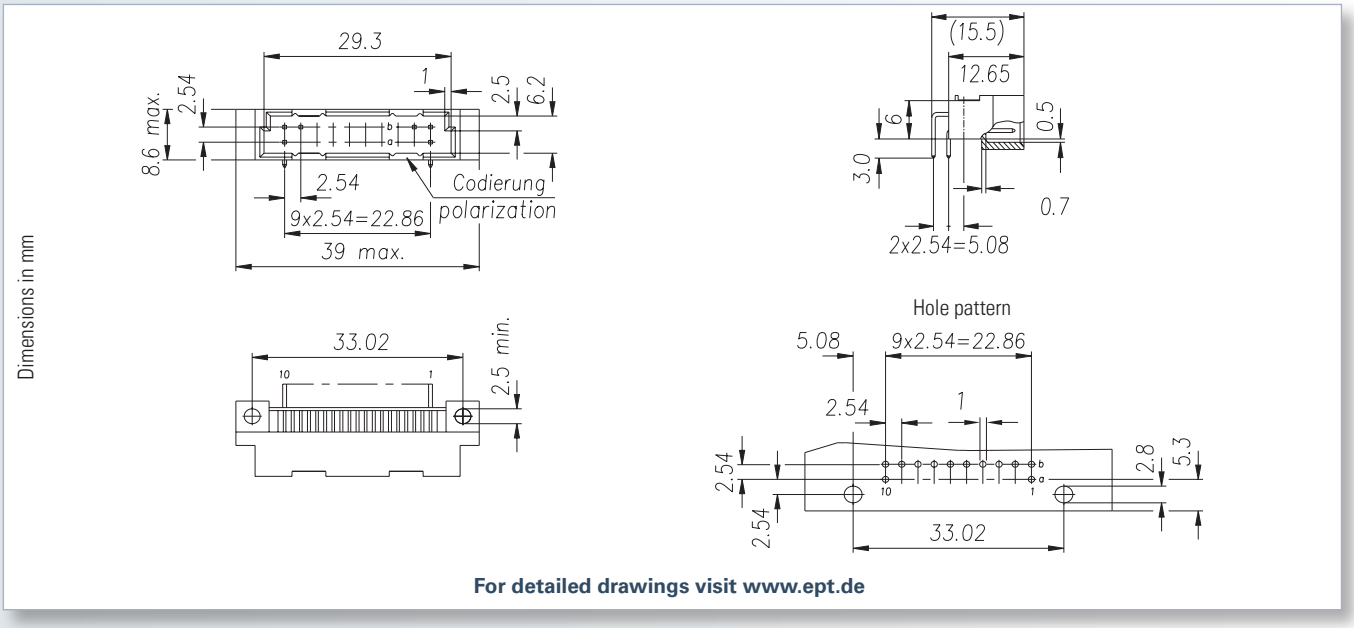
DIN 41612

Type B/3 Male Connector



Type:	Male connector 90° with 2 rows
Termination:	Press-fit, solder, THTR
Number of contacts:	10, 20
Pitch:	2.54 mm
Operational current:	2.6 A
Packaging:	Tray
Standard:	IEC 60603-2

Technical Specifications on page 12



For detailed drawings visit www.ept.de

Accessories

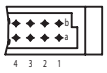
- Coding p. 104

Mating connector / Application:

Type B/3 Female connector (p. 26)

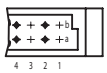
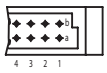
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Press-fit - Performance level II

No. of contacts	Contact arrangement	Termination length L	
		3.4 mm	
		Part number	PU (Tray)
20		101-68014	54/540

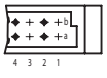
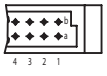
On request
- performance level I + III or customized
- special contact length
- contact arrangement

Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L				
		3.0 mm angled	3.0 mm straight	PU (Tray)	13 mm angled	PU (Tray)
		Part number			Part number	
10		101-80004	101-80105	54/540	101-80006	27/270
20		101-80014	101-80115		101-80016	

On request
- performance level I + III or customized
- special contact length
- Board-Lock p. 103
- contact arrangement

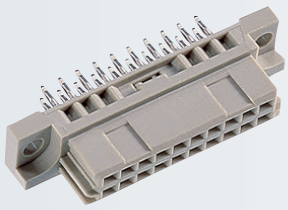
THTR - Performance level II

No. of contacts	Contact arrangement	Termination length L	
		3.0 mm angled	
		Part number	PU (Tray)
10		101-80004TH	54/540
20		101-80014TH	

On request
- performance level I + III or customized
- special contact length
- other termination lengths in THTR
- Board-Lock p. 103
- contact arrangement

DIN 41612

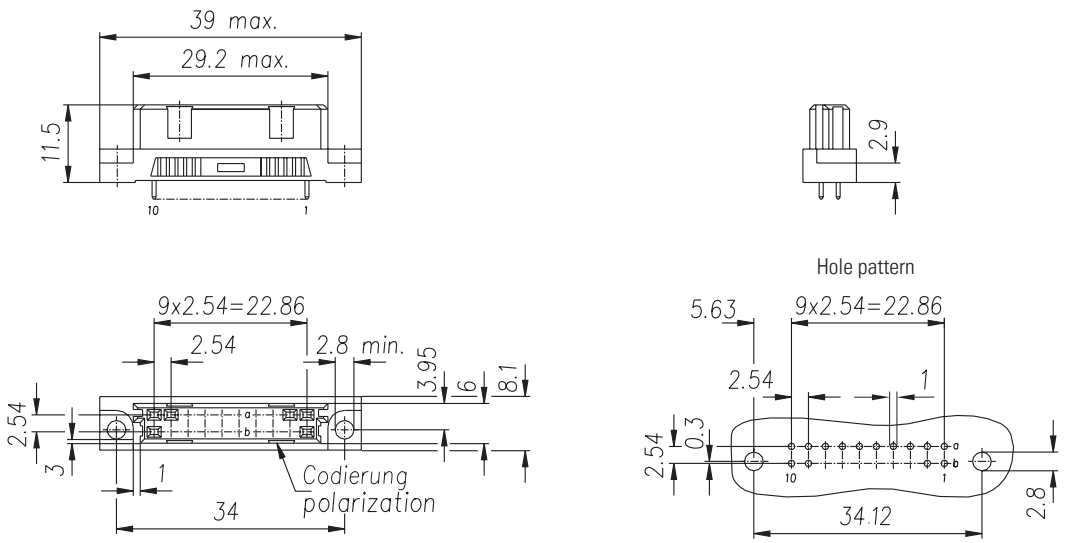
Type B/3 Female Connector



Type:	Female connector straight with 2 rows
Termination:	Press-fit, solder, THTR
Number of contacts:	10, 20
Pitch:	2.54 mm
Operational current:	2.6 A
Packaging:	Tray
Standard:	IEC 60603-2

Technical Specifications on page 12

Dimensions in mm



For detailed drawings visit www.ept.de

Accessories

- Coding p. 104

Mating connector / Application:

Type B/3 Male connector (p. 24)

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Press-fit - Performance level II

No. of contacts	Contact arrangement	PCB thickness	Termination length L					
			3.2 mm	4.6 mm	PU (Tray)	13 mm	17 mm	PU (Tray)
			Part number			Part number		
20		1.5 - 2.0 mm	102-68014-01	-	45/765	102-78016-01	102-78116-01	21/357
		2.0 - 2.8 mm	-	102-68014-02		102-78016-02	102-78116-02	
		> 2.8 mm	-	102-68014-03		102-78016-03	102-78116-03	

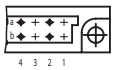
On request
- performance level I + III or customized
- special contact length
- alternative contact surface Sn e. g. for WireWrap
- without flange
- contact arrangement

Solder - Perfomance level II

No. of contacts	Contact arrangement	Termination length L					
		2.5 mm	4 mm	PU (Tray)	13 mm	5.5 mm Manual soldering with solder lug	PU (Tray)
		Part number			Part number		
10		102-80004	102-80005	45/765	102-80006	102-80025	21/357
20		102-80064	102-80065		102-80066	102-80075	

On request
- performance level I + III or customized
- special contact length
- Board-Lock p. 103
- contact arrangement

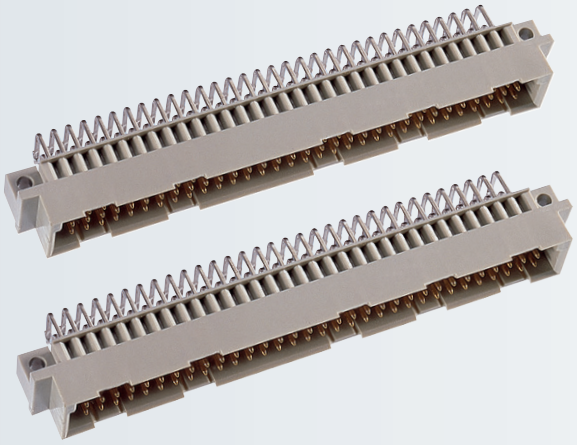
THTR - Performance level II

No. of contacts	Contact arrangement	Termination length L		PU (Tray)
		2.5 mm	4 mm	
		Part number		
10		102-80004TH	102-80005TH	45/765
20		102-80064TH	102-80065TH	

On request
- performance level I + III or customized
- special contact length
- other termination lengths in THTR
- Board-Lock p. 103
- contact arrangement

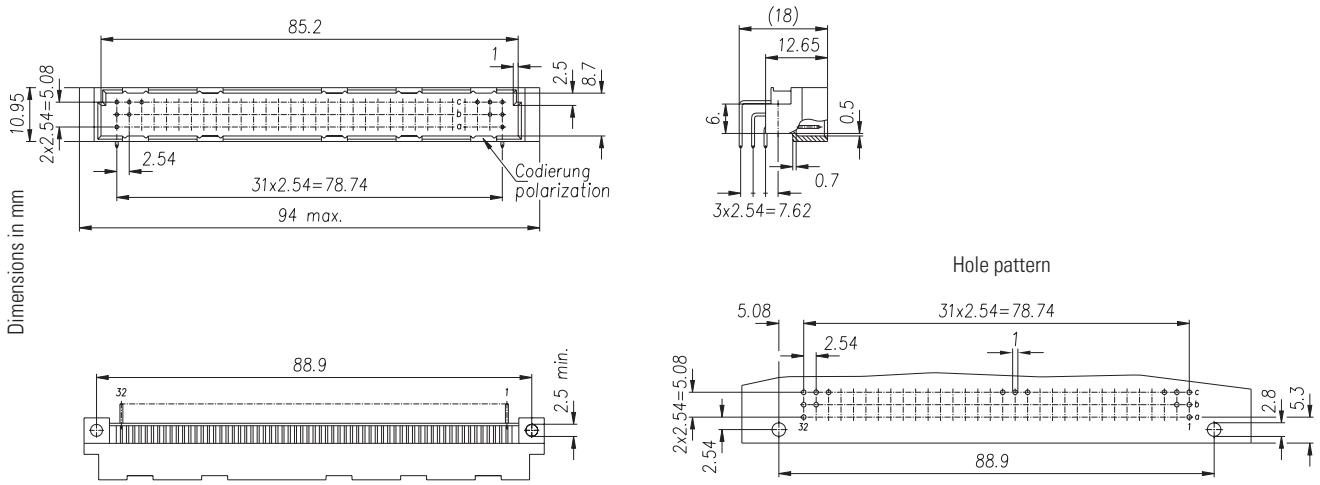
DIN 41612

Type C Male Connector



Type:	Male connector 90° with 3 rows
Termination:	Press-fit, solder, THTR
Number of contacts:	32, 48, 64, 96
Pitch:	2.54 mm
Operational current:	2.6 A
Packaging:	Tube
Standard:	IEC 60603-2

Technical Specifications on page 12



For detailed drawings visit www.ept.de

Accessories

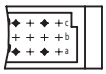
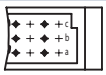
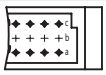
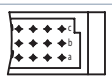
- Coding p. 104

Mating connector / Application:

- Type C Female connector (p. 30)
- Type R Female connector (p. 46)

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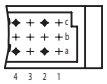
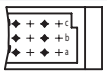
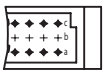
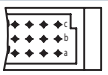
Press-fit - Performance level II

No. of contacts	Contact arrangement	Termination length L	
		3.4 mm	
		Part number	PU (Tube)
32		103-60014	25/400
48		103-60044	
64		103-60054	
96		103-60064	

On request

- performance level I + III or customized
- special contact length
- contact arrangement

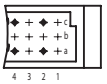
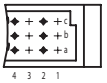
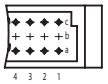
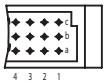
THTR - Performance level II

No. of contacts	Contact arrangement	Termination length L	
		3.0 mm angled	
		Part number	PU (Tube)
32		103-40014TH	25/400
48		103-40024TH	
64		103-40034TH	
96		103-40064TH	

On request

- performance level I + III or customized
- special contact length
- other termination lengths in THTR
- Board-Lock p. 103
- contact arrangement

Solder - Performance level II

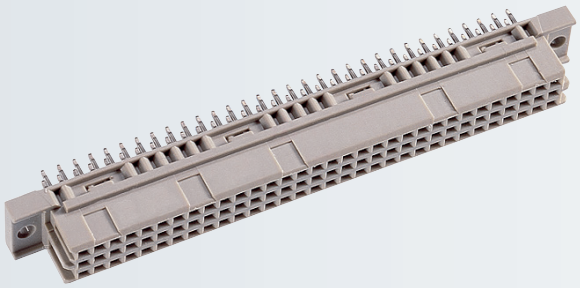
No. of contacts	Contact arrangement	L Termination length L				
		3.0 mm angled	3.0 mm straight	PU (Tube)	13 mm angled	PU (Tube)
		Part number			Part number	
32		103-40014	103-40015	25/400	103-40194	18/180
48		103-40024	103-40025		103-40144	
64		103-40034	103-40035		103-40154	
96		103-40064	103-40065		103-40174	

On request

- performance level I + III or customized
- special contact length
- Board-Lock p. 103
- contact arrangement

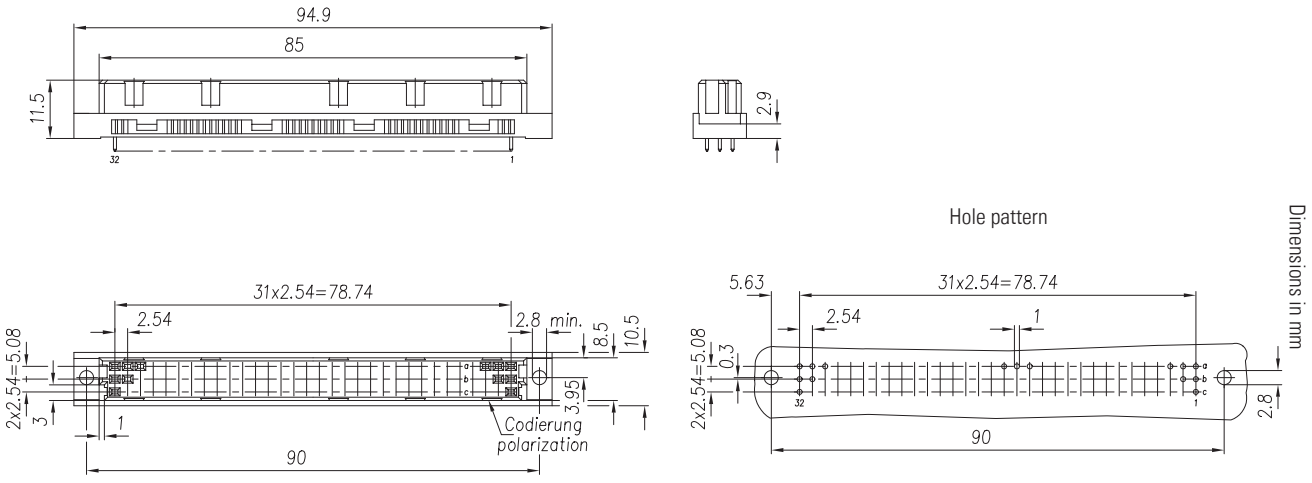
DIN 41612

Type C Female Connector



Type:	Female connector straight with 3 rows
Termination:	Press-fit, solder, THTR
Number of contacts:	32, 48, 64, 96
Pitch:	2.54 mm
Operational current:	2.6 A
Packaging:	Tube
Standard:	IEC 60603-2

Technical Specifications on page 12



For detailed drawings visit www.ept.de

Accessories

- Coding p. 104
- Shroud p. 97

Similar products

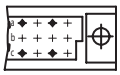
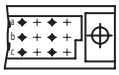
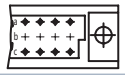
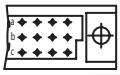
- Type C with switching function see on p. 98
- VMEx see on p. 94

Mating connector / Application:

- Type C Male connector (p. 28)
- Type R Male connector (p. 44)

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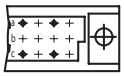
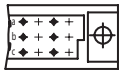
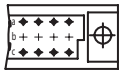
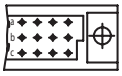
Press-fit - Performance level II

No. of contacts	Contact arrangement	PCB thickness	Termination length L				PU (Tube)
			3.2 mm	4.6 mm	13 mm	17 mm	
			Part number				
32		1.5 - 2.0 mm	104-60014-01	-	104-65015-01	104-65016-01	25/300
		2.0 - 2.8 mm	-	104-60014-02	104-65015-02	104-65016-02	
		> 2.8 mm	-	104-60014-03	104-65015-03	104-65016-03	
48		1.5 - 2.0 mm	104-60044-01	-	104-65045-01	104-65046-01	
		2.0 - 2.8 mm	-	104-60044-02	104-65045-02	104-65046-02	
		> 2.8 mm	-	104-60044-03	104-65045-03	104-65046-03	
64		> 1.5 mm	-	304-60054-02	304-65055-03	304-65056-04	
96		> 1.5 mm	-	304-60064-02	304-65065-03	304-65066-04	

On request

- contact arrangement
- without flange
- performance level I + III or customized
- special contact length
- alternative contact surface Sn e. g. for WireWrap

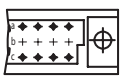
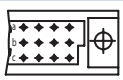
Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L					PU (Tube)
		2.5 mm	3.4 mm	4.6 mm	13 mm	Solder lug	
		Part number					
32		104-40014	–	–	104-40016	–	25/300
48		104-40044	–	–	104-40046	–	
64		304-40054-05	304-40054-01	304-40054-02	304-40055-03	104-40115	
96		304-40064-05	304-40064-01	304-40064-02	304-40065-03	104-40075	

On request

- contact arrangement
- Board-Lock p. 103
- performance level I + III or customized
- special contact length

THTR - Performance level II

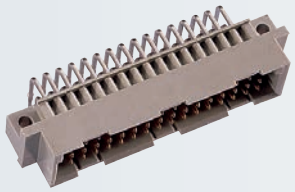
No. of contacts	Contact arrangement	Termination length L			PU (Tube)
		2.5 mm	3.4 mm	4.6 mm	
		Part number			
64		304-40054-05TH	304-40054-01TH	304-40054-02TH	25/300
96		304-40064-05TH	304-40064-01TH	304-40064-02TH	

On request

- performance level I + III or customized
- special contact length
- other termination lengths in THTR
- Board-Lock p. 103
- contact arrangement

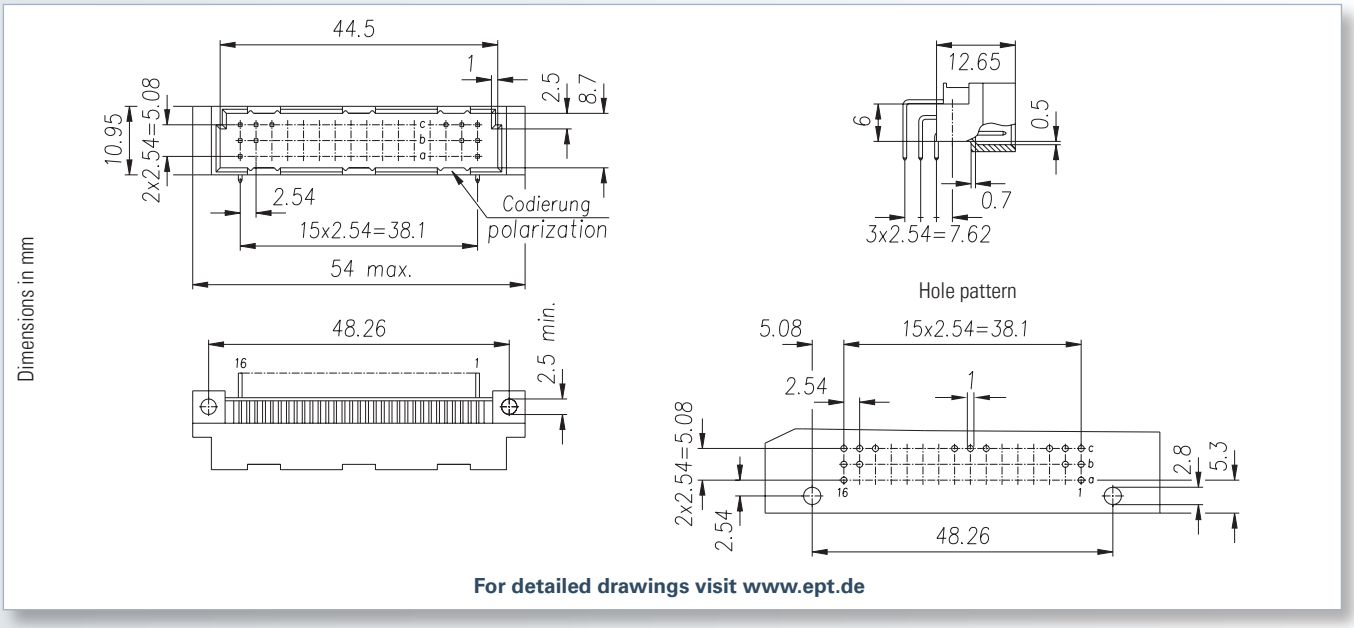
DIN 41612

Type C/2 Male Connector



Type:	Male connector 90° with 3 rows
Termination:	Press-fit, solder, THTR
Number of contacts:	16, 32, 48
Pitch:	2.54 mm
Operational current:	2.6 A
Packaging:	Tray
Standard:	IEC 60603-2

Technical Specifications on page 12



For detailed drawings visit www.ept.de

Accessories

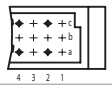
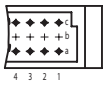
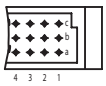
- Coding p. 104

Mating connector / Application:

- Type C/2 Female connector (p. 34)
- Type R/2 Female connector (p. 50)

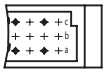
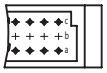
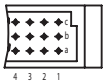
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Press-fit - Performance level II

No. of contacts	Contact arrangement	Termination length L 3.4 mm Part number	PU (Tray)
16		103-69004	54/540
32		103-69014	
48		103-69064	

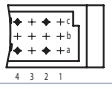
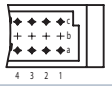
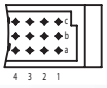
On request
- performance level I + III or customized
- special contact length
- contact arrangement

Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L: 3.0 mm angled Part number	3.0 mm straight Part number	PU (Tray)	13 mm angled Part number	PU (Tray)
16		103-90004	103-90105	54/540	103-90006	27/270
32		103-90014	103-90115		103-90016	
48		103-90064	103-90165		103-90066	

On request
- performance level I + III or customized
- special contact length
- Board-Lock p. 103
- contact arrangement

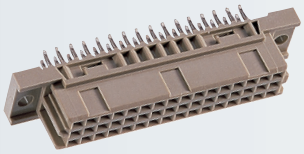
THTR - Performance level II

No. of contacts	Contact arrangement	Termination length L 3.0 mm angled Part number	PU (Tray)
16		103-90004TH	54/540
32		103-90014TH	
48		103-90064TH	

On request
- performance level I + III or customized
- special contact length
- other termination lengths in THTR
- Board-Lock p. 103
- contact arrangement

DIN 41612

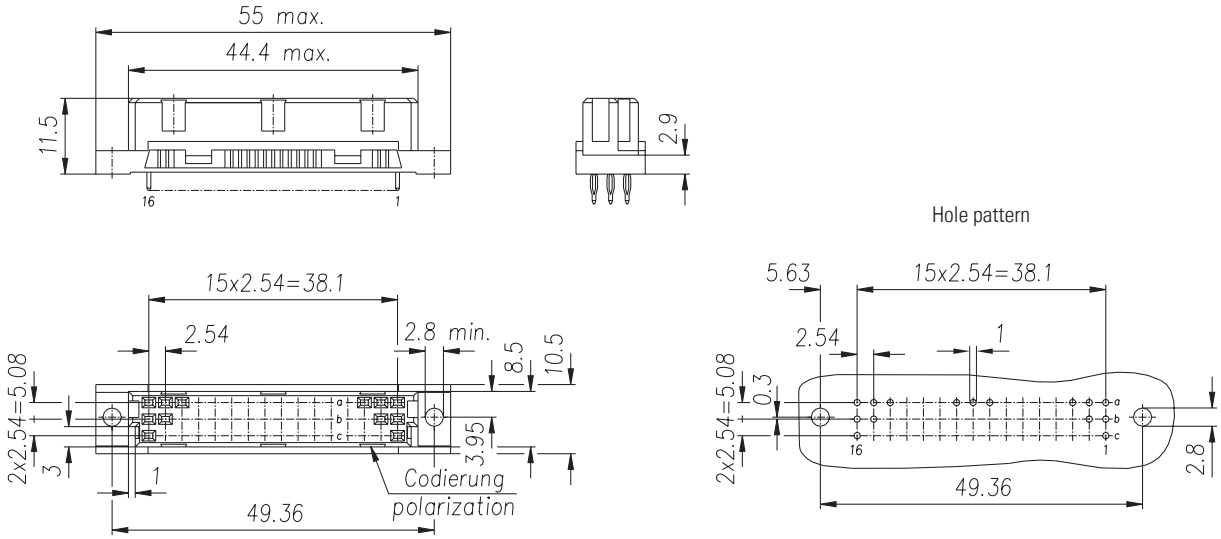
Type C/2 Female Connector



Type:	Female connector straight with 3 rows
Termination:	Press-fit, solder, THTR
Number of contacts:	16, 32, 48
Pitch:	2.54 mm
Operational current:	2.6 A
Packaging:	Tray
Standard:	IEC 60603-2

Technical Specifications on page 12

Dimensions in mm



For detailed drawings visit www.ept.de

Accessories

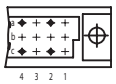
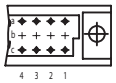
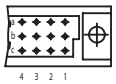
- Coding p. 104

Mating connector / Application:

- Type C/2 Male connector (p. 32)
- Type R/2 Male connector (p. 48)

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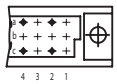
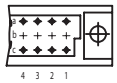
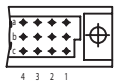
Press-fit - Performance level II

No. of contacts	Contact arrangement	PCB thickness	Termination length L		PU (Tray)			PU (Tray)
			3.2 mm	4.6 mm		13 mm	17 mm	
			Part number			Part number		
16		1.5 - 2.0 mm	104-69004-01	-	45/765	104-79006-01	104-79106-01	21/357
		2.0 - 2.8 mm	-	104-69004-02		104-79006-02	104-79106-02	
		> 2.8 mm	-	104-69004-03		104-79006-03	104-79106-03	
32		> 1.5 mm	-	304-69014-02		304-79016-03	304-79116-04	
48		> 1.5 mm	-	304-69064-02		304-79066-03	304-79166-04	

On request

- performance level I + III or customized
- special contact length
- alternative contact surface Sn e. g. for WireWrap
- without flange
- contact arrangement

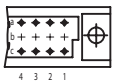
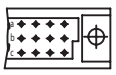
Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L			PU (Tray)			PU (Tray)
		2.5 mm	3.4 mm	4.6 mm		13 mm	5.5 mm Manual soldering with solder lug	
		Part number				Part number		
16		104-90004	–	–	45/765	104-90006	104-90025	21/357
32		304-90014-05	304-90014-01	304-90014-02		304-90016-03	104-90035	
48		304-90064-05	304-90064-01	304-90064-02		304-90066-03	104-90075	

On request

- performance level I + III or customized
- special contact length
- Board-Lock p. 103
- contact arrangement

THTR - Performance level II

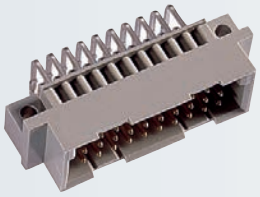
No. of contacts	Contact arrangement	Termination length L			PU (Tray)
		2.5 mm	3.4 mm	4.6 mm	
		Part number			
32		304-90014-05TH	304-90014-01TH	304-90014-02TH	45/765
48		304-90064-05TH	304-90064-01TH	304-90064-02TH	

On request

- performance level I + III or customized
- special contact length
- other termination lengths in THTR
- Board-Lock p. 103
- contact arrangement

DIN 41612

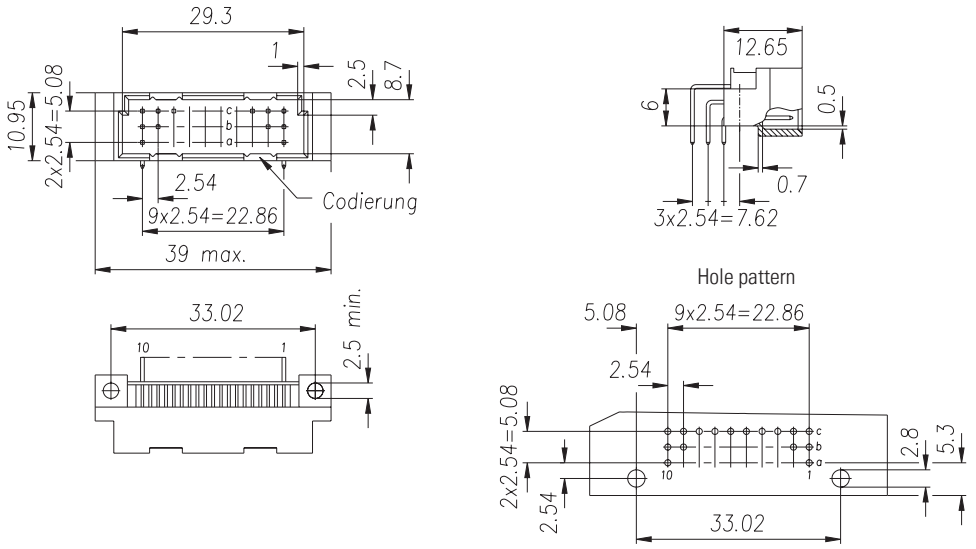
Type C/3 Male Connector



Type:	Male connector 90° with 3 rows
Termination:	Press-fit, solder, THTR
Number of contacts:	20, 30
Pitch:	2.54 mm
Operational current:	2.6 A
Packaging:	Tray
Standard:	IEC 60603-2

Technical Specifications on page 12

Dimensions in mm



For detailed drawings visit www.ept.de

Accessories

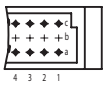
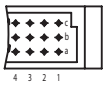
- Coding p. 104

Mating connector / Application:

- Type C/3 Female connector (p. 38)
- Type R/3 Female connector (p. 54)

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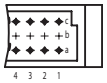
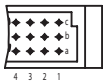
Press-fit - Performance level II

No. of contacts	Contact arrangement	Termination length L 3.4 mm		
		Part number	PU (Tray)	
20		103-68004	54/540	
30		103-68014		

On request

- performance level I + III or customized
- special contact length
- without flange
- contact arrangement

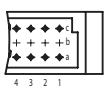
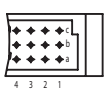
Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L				
		3.0 mm gewinkelt	3.0 mm gerade	PU (Tray)	13 mm gewinkelt	PU (Tray)
		Part number			Part number	
20		103-80014	103-80255	54/540	103-80016	27/270
30		103-80004	103-80265		103-80006	

On request

- performance level I + III or customized
- special contact length
- Board-Lock p. 103
- contact arrangement

THTR - Performance level II

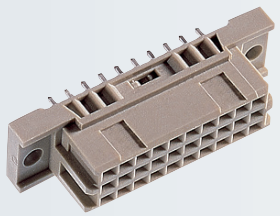
No. of contacts	Contact arrangement	Termination length L 3.0 mm gewinkelt		
		Part number	PU (Tray)	
20		103-80014TH	54/540	
30		103-80004TH		

On request

- performance level I + III or customized
- special contact length
- other termination lengths in THTR
- Board-Lock p. 103
- contact arrangement

DIN 41612

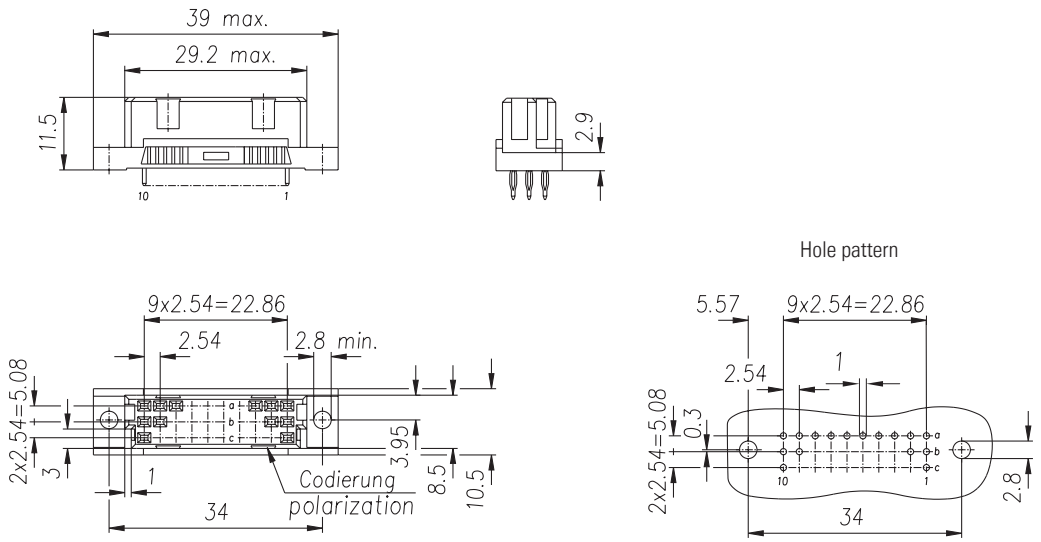
Type C/3 Female Connector



Type:	Female connector straight with 3 rows
Termination:	Press-fit, solder, THTR
Number of contacts:	20, 30
Pitch:	2.54 mm
Operational current:	2.6 A
Packaging:	Tray
Standard:	IEC 60603-2

Technical Specifications on page 12

Dimensions in mm



For detailed drawings visit www.ept.de

Accessories

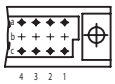
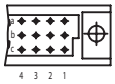
- Coding p. 104

Mating connector / Application:

- Type C/3 Male connector (p. 36)
- Type R/3 Male connector (p. 52)

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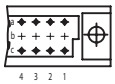
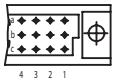
Press-fit - Performance level II

No. of contacts	Contact arrangement	Termination length L				
		4.6 mm	PU (Tray)	13 mm	17 mm	PU (Tray)
		Part number		Part number		
20		304-68004-02	45/765	304-78006-03	304-78106-04	21/357
30		304-68014-02		304-78016-03	304-78116-04	

On request

- performance level I + III or customized
- special contact length
- alternative contact surface Sn e. g. for WireWrap
- without flange
- contact arrangement

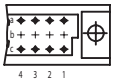
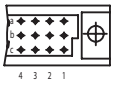
Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L						
		2.5 mm	3.4 mm	4.6 mm	PU (Tray)	13 mm	5.5 mm Manual soldering with solder lug	PU (Tray)
		Part number				Part number		
20		304-80014-05	304-80014-01	304-80014-02	45/765	304-80016-03	104-80035	21/357
30		304-80064-05	304-80064-01	304-80064-02		304-80066-03	104-80075	

On request

- performance level I + III or customized
- special contact length
- Board-Lock p. 103
- contact arrangement

THTR - Performance level II

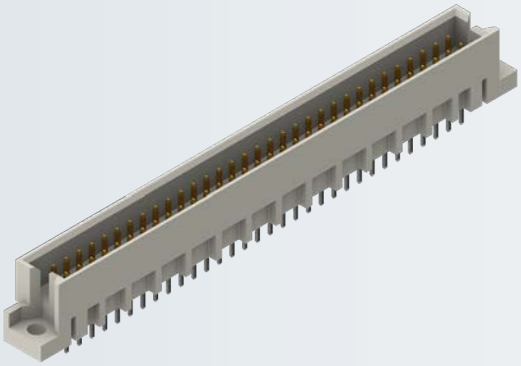
No. of contacts	Contact arrangement	Termination length L			
		2.5 mm	3.4 mm	4.6 mm	PU (Tray)
		Part number			
20		304-80014-05TH	304-80014-01TH	304-80014-02TH	45/765
30		304-80064-05TH	304-80064-01TH	304-80064-02TH	

On request

- performance level I + III or customized
- special contact length
- other termination lengths in THTR
- Board-Lock p. 103
- contact arrangement

DIN 41612

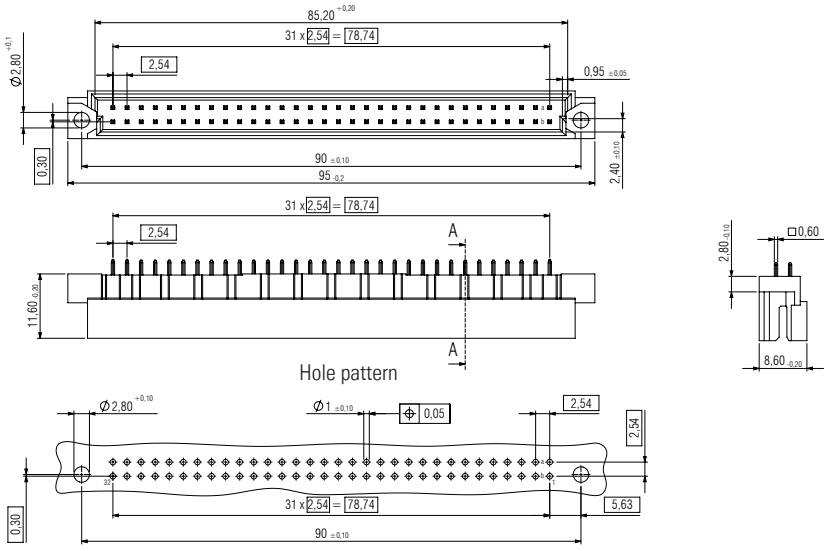
Type Q Male Connector



Type: Male connector straight with 2 rows
Termination: Solder
Number of contacts: 64
Pitch: 2.54 mm
Operational current: 2.6 A
Packaging: Box
Standard: IEC 60603-2

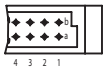
Technical Specifications on page 12

Dimensions in mm



For detailed drawings visit www.ept.de

Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L		VPE (Karton)
		2.5 mm	4.0 mm	
		Part number		
64		119-40065	119-40074	34/476

On request

- performance level I + III or customized
- Board-Lock p. 103

Mating connector / Application:

Type B Female connector (p. 18)

Type Q Female connector (p. 41)

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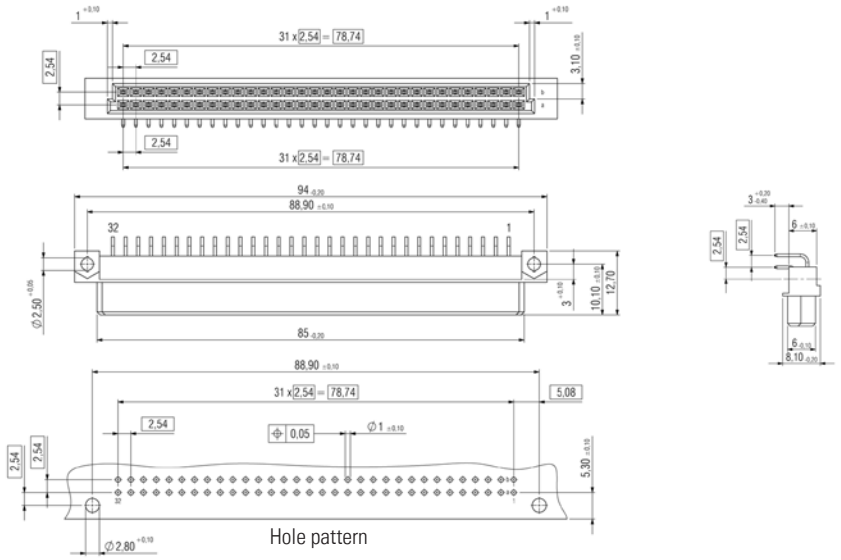


Type: Female connector 90° with 2 rows
Termination: Solder
Number of contacts: 32
Pitch: 2.54 mm
Operational current: 2.6 A
Packaging: Box
Standard: IEC 60603-2

c UL us RoHS COMPLIANT

Technical Specifications on page 12

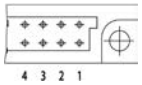
Dimensions in mm



Hole pattern

For detailed drawings visit www.ept.de

Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L: 3.0 mm Part number
64		120-40074

On request

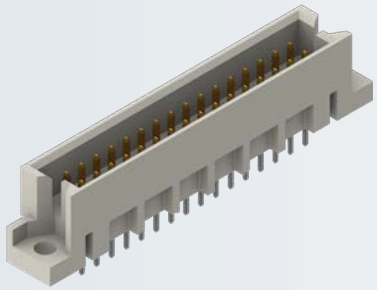
- performance level I + III or customized
- Board-Lock p. 103

Mating connector / Application:

- Type B Male connector (p. 16)
- Type Q Male connector (p. 40)

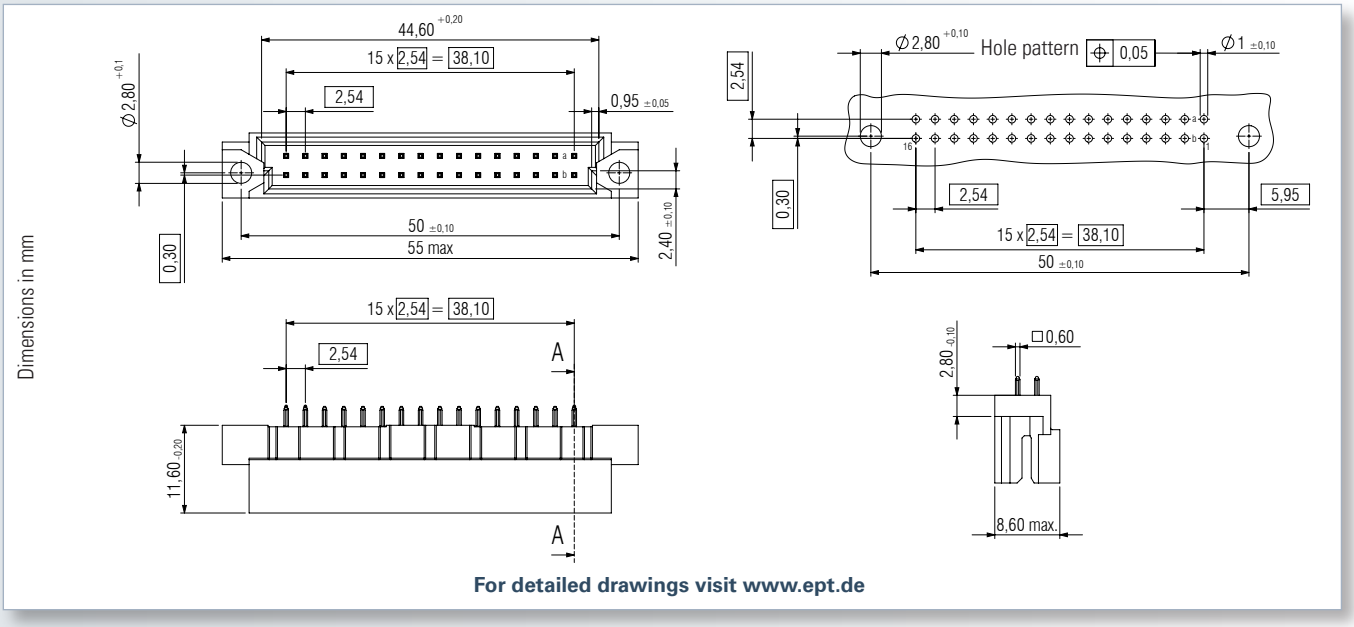
DIN 41612

Type Q/2 Male connector



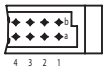
Type: Male connector straight with 2 rows
Termination: Solder
Number of contacts: 32
Pitch: 2.54 mm
Operational current: 2.6 A
Packaging: Box
Standard: IEC 60603-2

Technical Specifications on page 12



For detailed drawings visit www.ept.de

Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L	
		2.5 mm	4.0 mm
		Part number	
32		119-90064	119-90065

On request

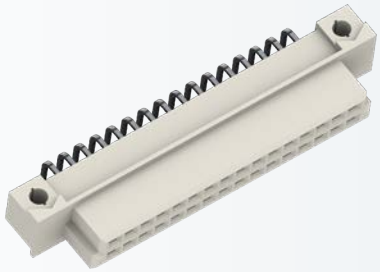
- performance level I + III or customized
- Board-Lock p. 103

Mating connector / Application:

- Type B/2 Female connector (p. 22)
- Type Q/2 Female connector (p. 43)

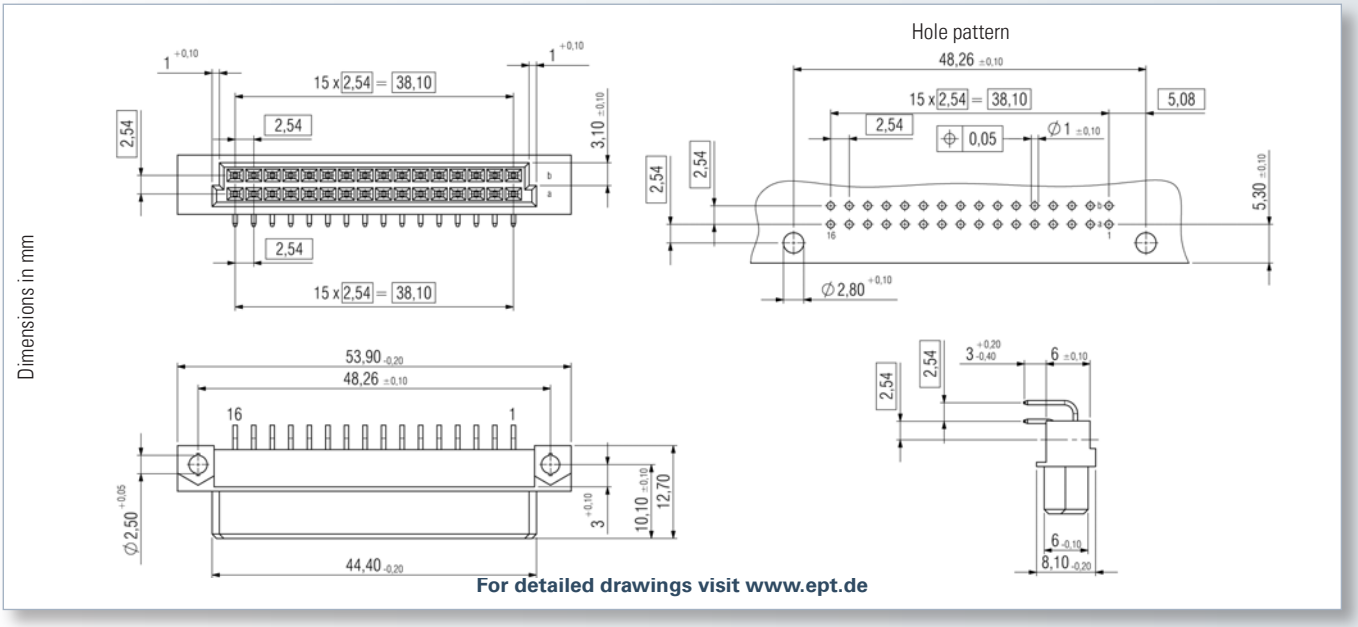
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Type Q/2 Female connector



Type: Female connector 90° with 2 rows
Termination: Solder
Number of contacts: 32
Pitch: 2.54 mm
Operational current: 2.6 A
Packaging: Box
Standard: IEC 60603-2

Technical Specifications on page 12



Löttechnik - Gütestufe II

No. of contacts	Contact arrangement	Termination length L 3.0 mm Part number
32	4 3 2 1	120-90064

On request

- performance level I + III or customized
- Board-Lock p. 103

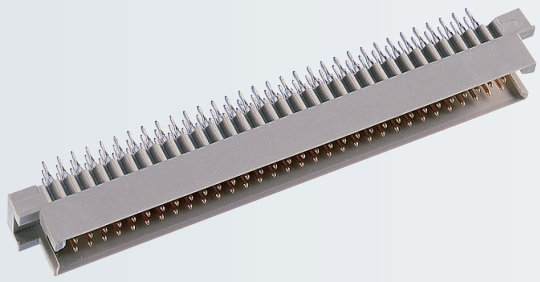
Mating connector / Application:

Type B/2 Male connector (p. 20)

Type Q/2 Male connector (p. 42)

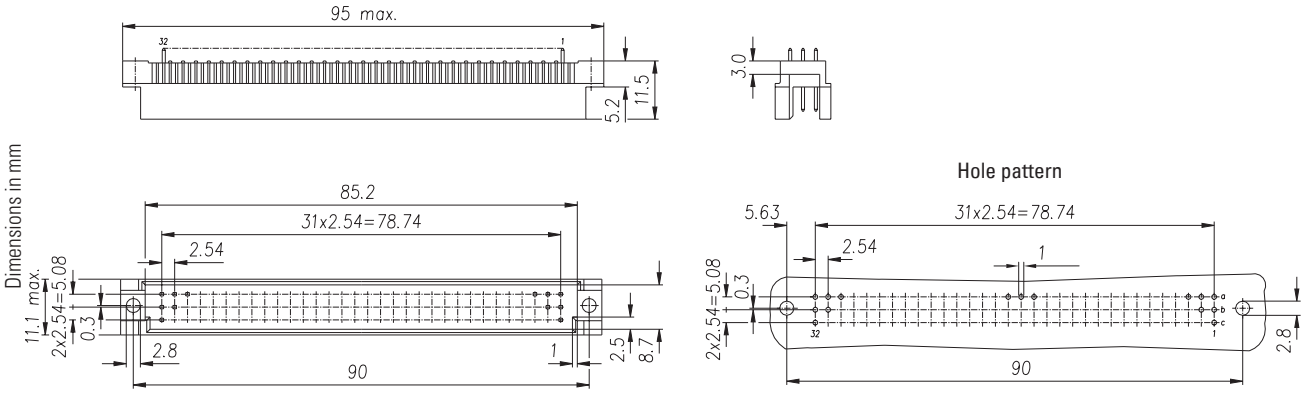
DIN 41612

Type R Male Connector



Type:	Male connector straight with 3 rows
Termination:	Press-fit, solder, THTR
Number of contacts:	32, 48, 64, 96
Pitch:	2.54 mm
Operational current:	2.6 A
Packaging:	Tube
Standard:	IEC 60603-2

Technical Specifications on page 12



For detailed drawings visit www.ept.de

Accessories

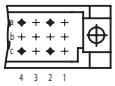
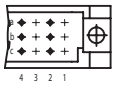
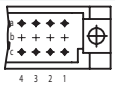
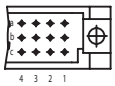
- Shroud p. 97

Mating connector / Application:

- Type R Female connector (p. 46)
- Type C Female connector (p. 30)

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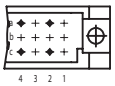
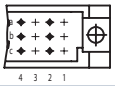
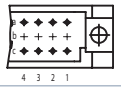
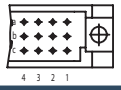
Press-fit - Performance level II

No. of contacts	Contact arrangement	Termination length L			PU (Tube)
		4.6 mm	13 mm	17 mm	
		Part number			
32		115-60014	115-65015	115-65016	25/300
48		115-60044	115-65045	115-65046	
64		115-60054	115-65055	115-65056	
96		115-60064	115-65065	115-65066	

On request

- performance level I + III or customized
- special contact length
- alternative contact surface Sn e. g. for WireWrap
- contact arrangement

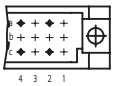
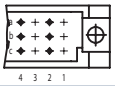
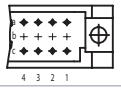
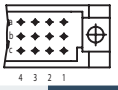
Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L			PU (Tube)
		2.5 mm	4 mm	5.5 mm Handlöt mit Lötöse	
		Part number			
32		115-40015	115-40046	–	25/300
48		115-40026	115-40025	–	
64		115-40035	115-40054	115-40036	
96		115-40065	115-40074	115-40066	

On request

- performance level I + III or customized
- special contact length
- Board-Lock p. 103
- contact arrangement

THTR - Performance level II

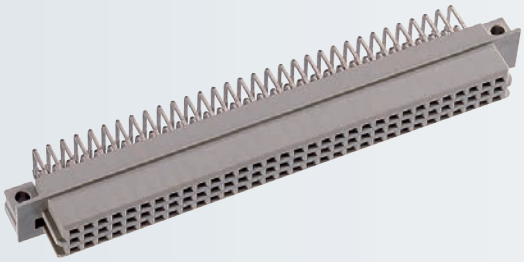
No. of contacts	Contact arrangement	Termination length L		PU (Tube)
		2.5 mm	4 mm	
		Part number		
32		115-40015TH	115-40046TH	25/300
48		115-40026TH	115-40025TH	
64		115-40035TH	115-40054TH	
96		115-40065TH	115-40074TH	

On request

- performance level I + III or customized
- special contact length
- other termination lengths in THTR
- Board-Lock p. 103
- contact arrangement

DIN 41612

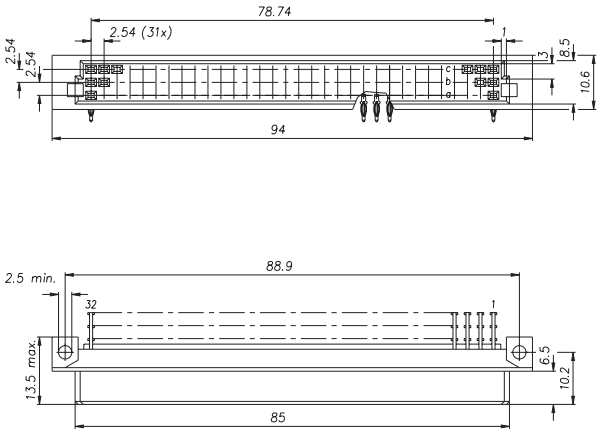
Type R Female Connector

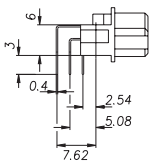


Type:	Female connector 90° with 3 rows
Termination:	Press-fit, solder, THTR
Number of contacts:	32, 48, 64, 96
Pitch:	2.54 mm
Operational current:	2.6 A
Packaging:	Tube
Standard:	IEC 60603-2

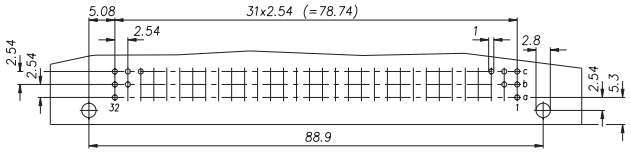
Technical Specifications on page 12

Dimensions in mm





Hole pattern



For detailed drawings visit www.ept.de

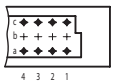
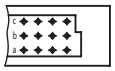
Mating connector / Application:

Type R Male connector (p. 44)

Type C Male connector (p. 28)

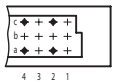
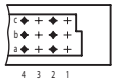
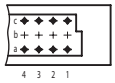
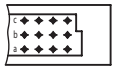
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Press-fit - Performance level II

No. of contacts	Contact arrangement	Termination length L 3.0 mm Part number	PU (Tube)
64		116-60054	27/432
96		116-60074	

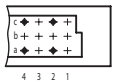
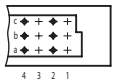
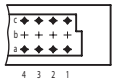
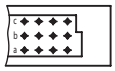
On request
- performance level I + III or customized
- special contact length
- without flange
- contact arrangement

Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L 3.0 mm Part number	PU (Tube)
32		116-40034	27/432
48		116-40044	
64		116-40054	
96		116-40074	

On request
- performance level I + III or customized
- special contact length
- Board-Lock p. 103
- contact arrangement

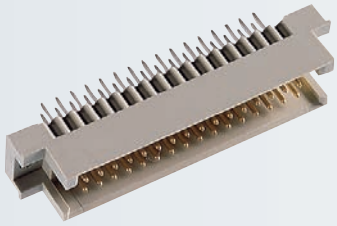
THTR - Performance level II

No. of contacts	Contact arrangement	Termination length L 3.0 mm Part number	PU (Tube)
32		116-40034TH	27/432
48		116-40044TH	
64		116-40054TH	
96		116-40074TH	

On request
- performance level I + III or customized
- special contact length
- other termination lengths in THTR
- Board-Lock p. 103
- contact arrangement

DIN 41612

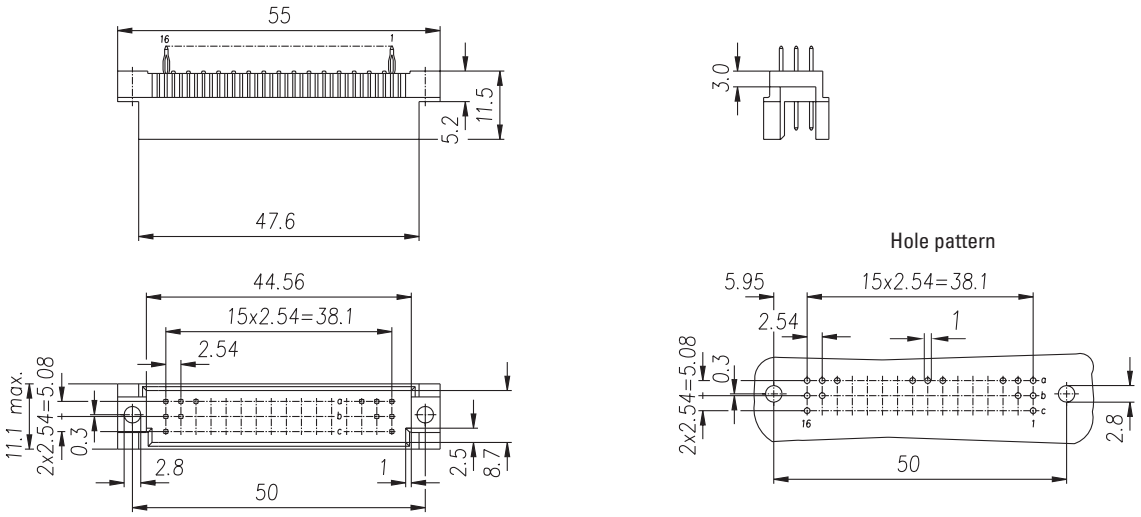
Type R/2 Male Connector



Type:	Male connector straight with 3 rows
Termination:	Press-fit, solder, THTR
Number of contacts:	32, 48
Pitch:	2.54 mm
Operational current:	2.6 A
Packaging:	Box
Standard:	IEC 60603-2

Technical Specifications on page 12

Dimensions in mm



For detailed drawings visit www.ept.de

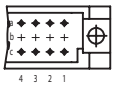
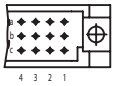
Mating connector / Application:

Type R/2 Female connector (p. 50)

Type C/2 Female connector (p. 34)

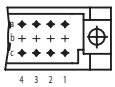
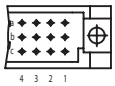
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Press-fit - Performance level II

No. of contacts	Contact arrangement	Termination length L			PU (Box)
		4.6 mm	13 mm	17 mm	
		Part number			
32		115-69054	115-79055	115-79056	26/468
48		115-69064	115-79065	115-79066	

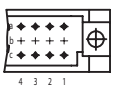
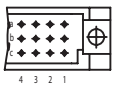
On request
- performance level I + III or customized
- special contact length
- alternative contact surface Sn e. g. for WireWrap
- contact arrangement

Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L		PU (Box)
		2.5 mm	4.0 mm	
		Part number		
32		115-90014	115-90015	26/468
48		115-90064	115-90065	

On request
- performance level I + III or customized
- special contact length
- Board-Lock p. 103
- contact arrangement

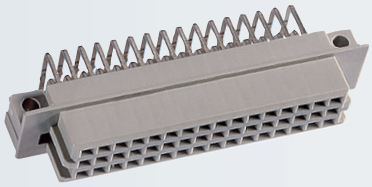
THTR - Performance level II

No. of contacts	Contact arrangement	Termination length L		PU (Box)
		2.5 mm	4.0 mm	
		Part number		
32		115-90014TH	115-90015TH	26/468
48		115-90064TH	115-90065TH	

On request
- performance level I + III or customized
- special contact length
- other termination lengths in THTR
- Board-Lock p. 103
- contact arrangement

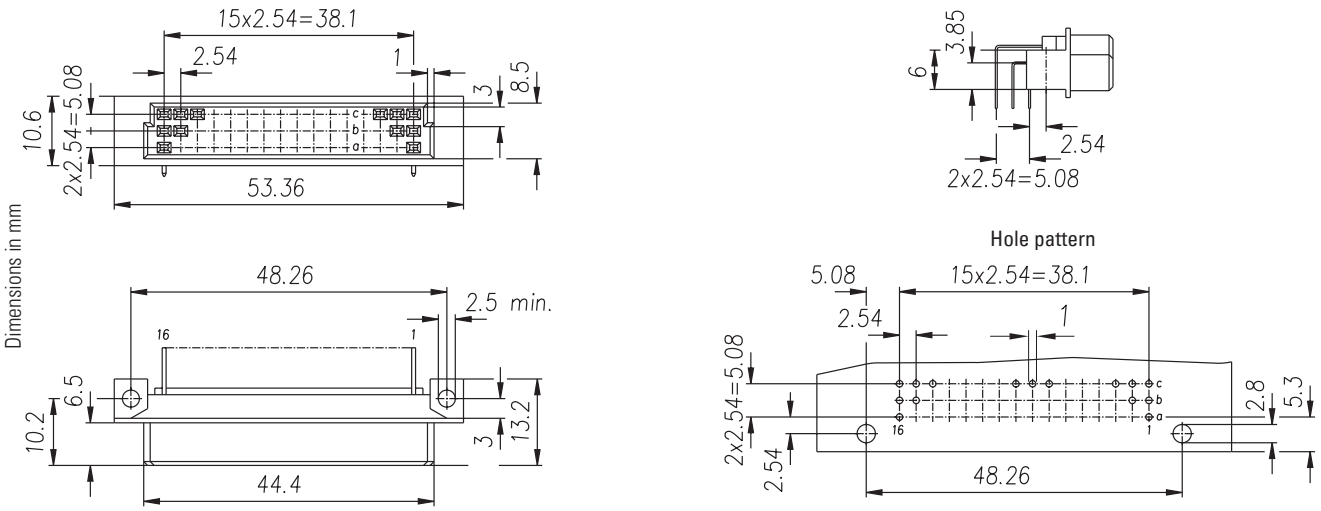
DIN 41612

Type R/2 Female Connector



Type:	Female connector 90° with 3 rows
Termination:	Press-fit, solder, THTR
Number of contacts:	32, 48
Pitch:	2.54 mm
Operational current:	2.6 A
Packaging:	Tray
Standard:	IEC 60603-2

Technical Specifications on page 12



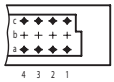
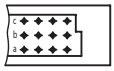
For detailed drawings visit www.ept.de

Mating connector / Application:

Type R/2 Male connector (p. 48)

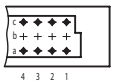
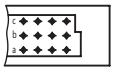
Type C/2 Male connector (p. 32)

Press-fit - Performance level II

No. of contacts	Contact arrangement	Termination length L 3.0 mm		
		Part number	PU (Tray)	
32		116-69054	54/540	
48		116-69064		

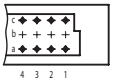
On request
- performance level I + III or customized
- special contact length
- without flange
- contact arrangement

Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L 3.0 mm		
		Part number	PU (Tray)	
32		116-90054	54/540	
48		116-90064		

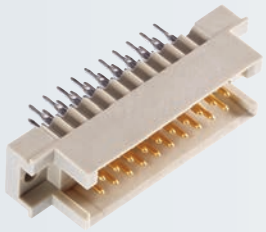
On request
- performance level I + III or customized
- special contact length
- Board-Lock p. 103
- contact arrangement

THTR - Performance level II

No. of contacts	Contact arrangement	Termination length L 3.0 mm		
		Part number	PU (Tray)	
32		116-90054TH	54/540	
48		116-90064TH		

On request
- performance level I + III or customized
- special contact length
- other termination lengths in THTR
- Board-Lock p. 103
- contact arrangement

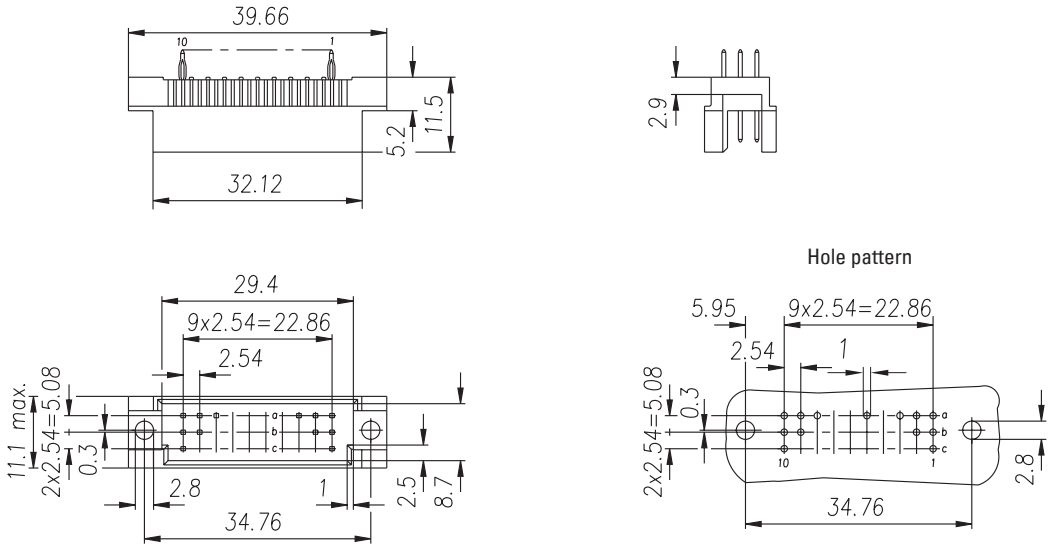
Type R/3 Male Connector



Type:	Male connector straight with 3 rows
Termination:	Press-fit, solder, THTR
Number of contacts:	30
Pitch:	2.54 mm
Operational current:	2.6 A
Packaging:	Box
Standard:	IEC 60603-2

Technical Specifications on page 12

Dimensions in mm



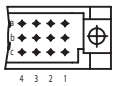
For detailed drawings visit www.ept.de

Mating connector / Application:

- Type R/3 Female connector (p. 54)
- Type C/3 Female connector (p. 38)

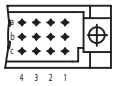
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Press-fit - Performance level II

No. of contacts	Contact arrangement	Termination length L				
		4.6 mm	PU (Box)	13 mm	17 mm	PU (Box)
		Part number		Part number		
30		115-68014	150/1050	115-78015	115-78016	100/700

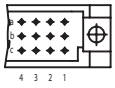
On request
- performance level I + III or customized
- special contact length
- alternative contact surface Sn e. g. for WireWrap
- contact arrangement

Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L			
		2.5 mm		4.0 mm	
		Part number	PU (Box)	Part number	PU (Box)
30		115-80064	200/1400	115-80065	150/1050

On request
- performance level I + III or customized
- special contact length
- Board-Lock p. 103
- contact arrangement

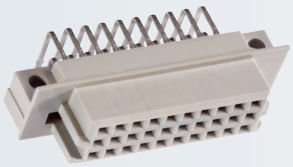
THTR - Performance level II

No. of contacts	Contact arrangement	Termination length L			
		2.5 mm		4.0 mm	
		Part number	PU (Box)	Part number	PU (Box)
30		115-80064TH	200/1400	115-80065TH	150/1050

On request
- performance level I + III or customized
- special contact length
- other termination lengths in THTR
- Board-Lock p. 103
- contact arrangement

DIN 41612

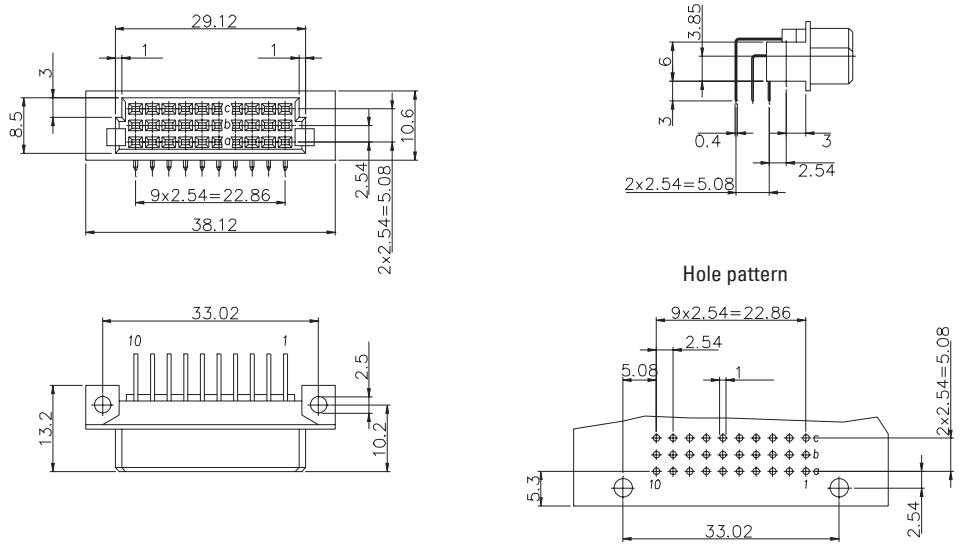
Type R/3 Female Connector



Type: Female connector 90° with 3 rows
Termination: Press-fit, solder, THTR
Number of contacts: 30
Pitch: 2.54 mm
Operational current: 2.6 A
Packaging: Tray
Standard: IEC 60603-2

Technical Specifications on page 12

Dimensions in mm



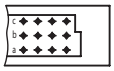
For detailed drawings visit www.ept.de

Mating connector / Application:

Type R/3 Male connector (p. 52)
Type C/3 Male connector (p. 36)

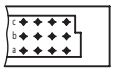
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Press-fit - Performance level II

No. of contacts	Contact arrangement	Termination length L 3.0 mm	
		Part number	PU (Tray)
30		116-68064	54/540

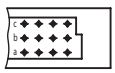
On request
- performance level I + III or customized
- special contact length
- without flange
- contact arrangement

Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L 3.0 mm	
		Part number	PU (Tray)
30		116-80064	54/540

On request
- performance level I + III or customized
- special contact length
- Board-Lock p. 103
- contact arrangement

THTR - Performance level II

No. of contacts	Contact arrangement	Termination length L 3.0 mm	
		Part number	PU (Tray)
30		116-80064TH	54/540

On request
- performance level I + III or customized
- special contact length
- other termination lengths in THTR
- Board-Lock p. 103
- contact arrangement

DIN 41612

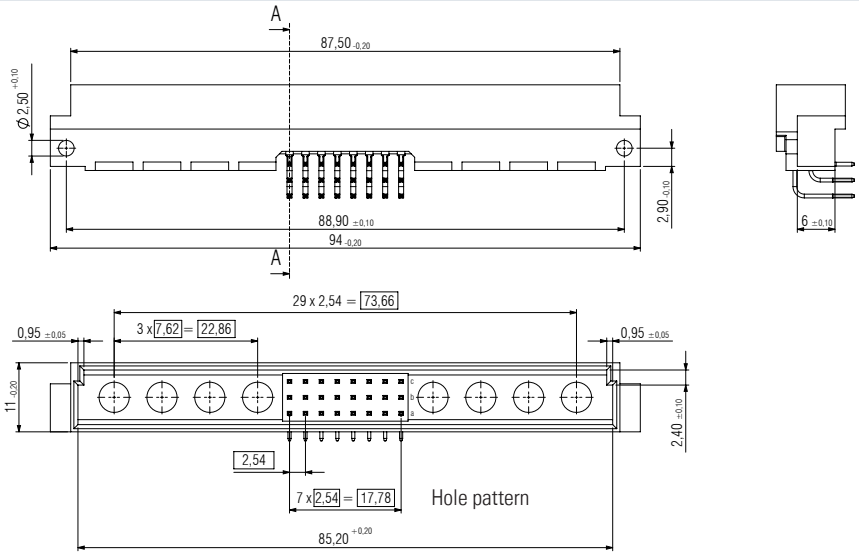
Type M Male Connector



Type:	Male connector 90° with 3 rows
Termination:	Solder
Number of contacts:	78+2, 60+4, 42+6, 24+8
Pitch:	2.54 mm
Operational current:	4.8 A
Packaging:	Box
Standard:	IEC 60603-2

Technical Specifications on page 12

Dimensions in mm



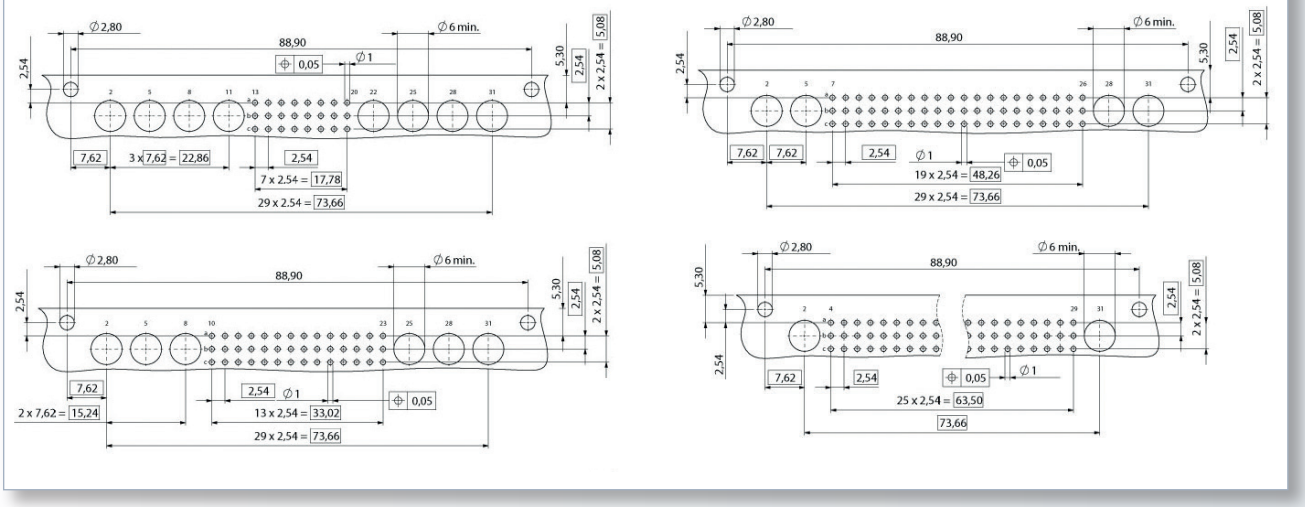
For detailed drawings visit www.ept.de

Mating connector / Application:

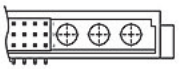
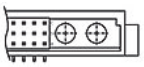
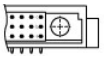
Type M Female connector (p. 58)

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Hole pattern



Solder - Performance level II

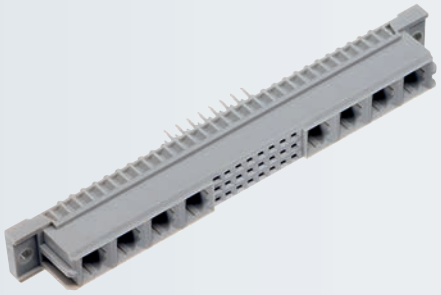
No. of contacts	Contact arrangement	Termination length L 3.0 mm	
		Part number	PU (Box)
24/8		123-40181-00	25/400
42/6		123-40161-00	
60/4		123-40141-00	
78/2		123-40121-00	

On request

- performance level I + III or customized

DIN 41612

Type M Female Connector



Type: Female connector straight with 3 rows

Termination: Press-fit, solder

Number of contacts: 6+10, 78+2, 60+4, 42+6, 24+8

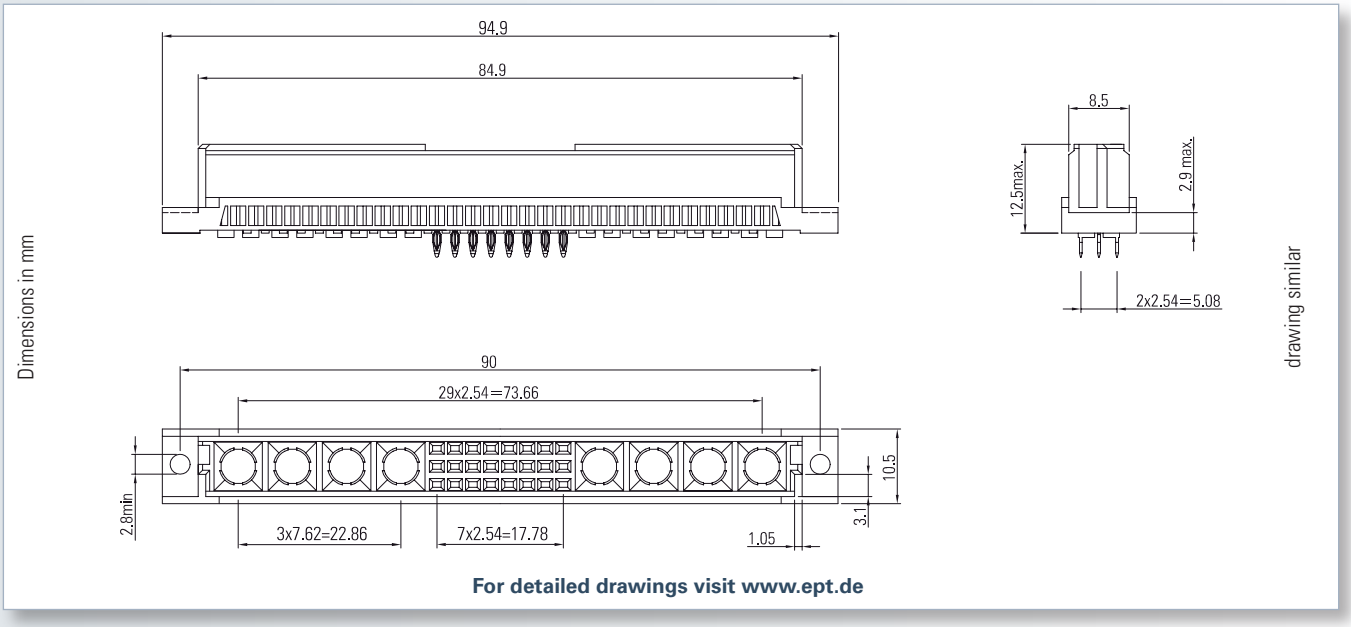
Pitch: 2.54 mm

Operational current: 4.8 A

Packaging: Tube

Standard: IEC 60603-2

Technical Specifications on page 12



For detailed drawings visit www.ept.de

Note

Female connectors must be screwed or riveted onto the printed circuit at the flange.

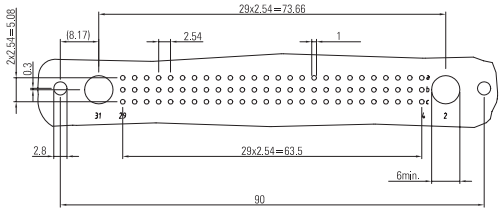
Mating connector / Application:

Type M Male connector (p. 40)

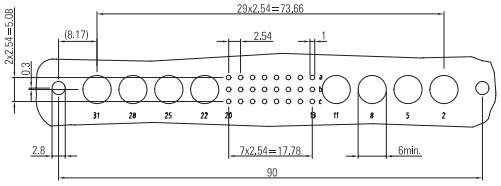
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Hole pattern

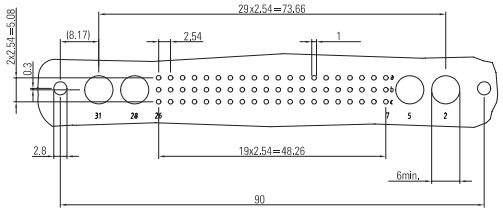
78/2



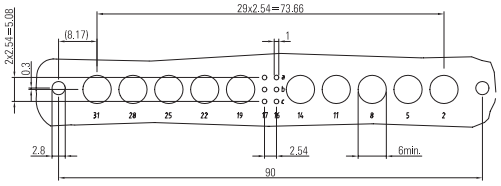
24/8



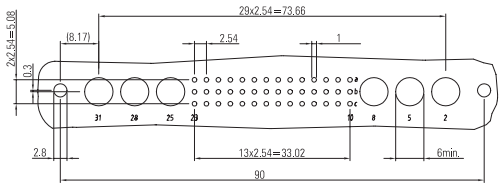
60/4



6/10



42/6



Press-fit - Performance level II

No. of contacts	Contact arrangement	Termination length L 4.6 mm	
		Part number	PU (Tube)
6/10		124-60112-00	25/300
24/8		124-60182-00	
42/6		124-60162-00	
60/4		124-60142-00	
78/2		124-60122-00	

Solder - Performance level II

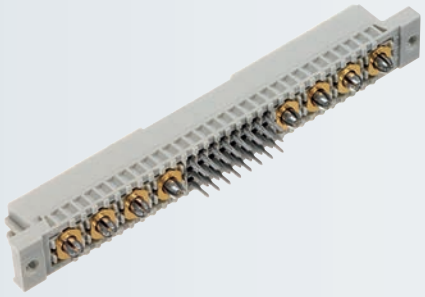
No. of contacts	Contact arrangement	Termination length L 4.6 mm	
		Part number	PU (Tube)
6/10		124-40112-00	25/300
24/8		124-40182-00	
42/6		124-40162-00	
60/4		124-40142-00	
78/2		124-40122-00	

On request

- performance level I + III or customized
- special contact length
- processing tools

DIN 41612

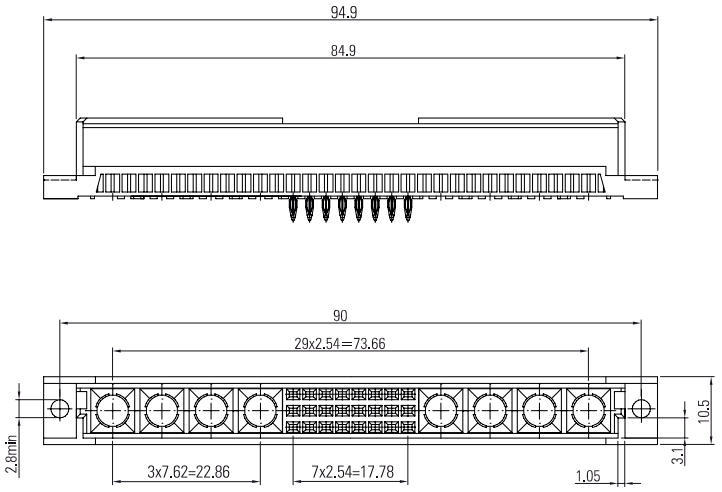
Type M Female Connector for special Contacts in Press-fit

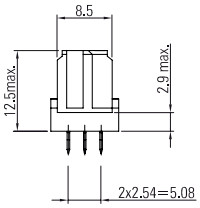


Type:	Female connector straight with 3 rows
Terminaton:	Press-fit
Number of contacts:	6+10, 78+2, 60+4, 42+6, 24+8
Pitch:	2.54 mm
Operational current:	4.8 A
Packaging:	Tube
Standard:	IEC 60603-2

Technical Specifications on page 12

Dimensions in mm





drawing similar

For detailed drawings visit www.ept.de

Accessories

- High-current contact (Part number 916-61002)

Note

Female connectors must be screwed or riveted onto the printed circuit at the flange.

Mating connector / Application:

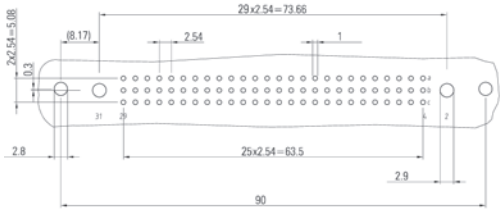
Type M Male connector (p. 56)

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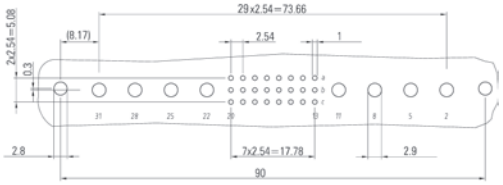
Type M Female Connector for special Contacts in Press-fit

Hole pattern

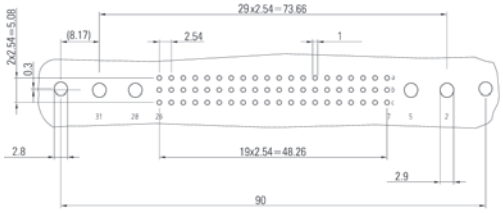
78/2



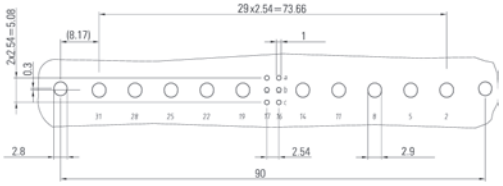
24/8



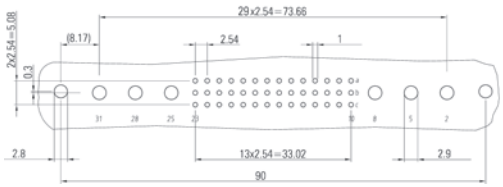
60/4

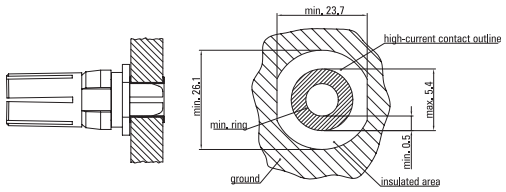


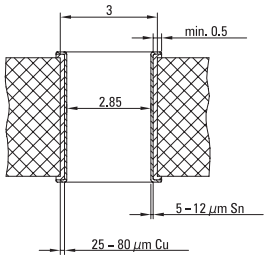
6/10



42/6







Press-fit - Performance level II

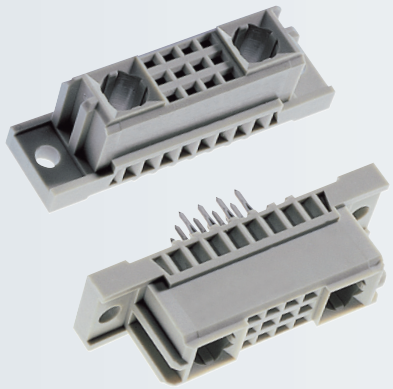
No. of contacts	Contact arrangement	Termination length L		PU (Tube)
		Special contact is not pre-loaded 4.6 mm	Special contact is pre-loaded 4.6 mm	
		Part number		
6/10		124-60012-00	124-60012-02	25/300
24/8		124-60082-00	124-60082-02	
42/6		124-60062-00	124-60062-02	
60/4		124-60042-00	124-60042-02	
78/2		124-60022-00	124-60022-02	

On request

- performance level I + III or customized
- special contact length
- processing tools
- contact arrangement

DIN 41612

Type M/2, M/3 Female Connector



Type: Female connector straight with 3 rows

Termination: Press-fit, solder

Number of contacts: 30+2, 12+2

Pitch: 2.54 mm

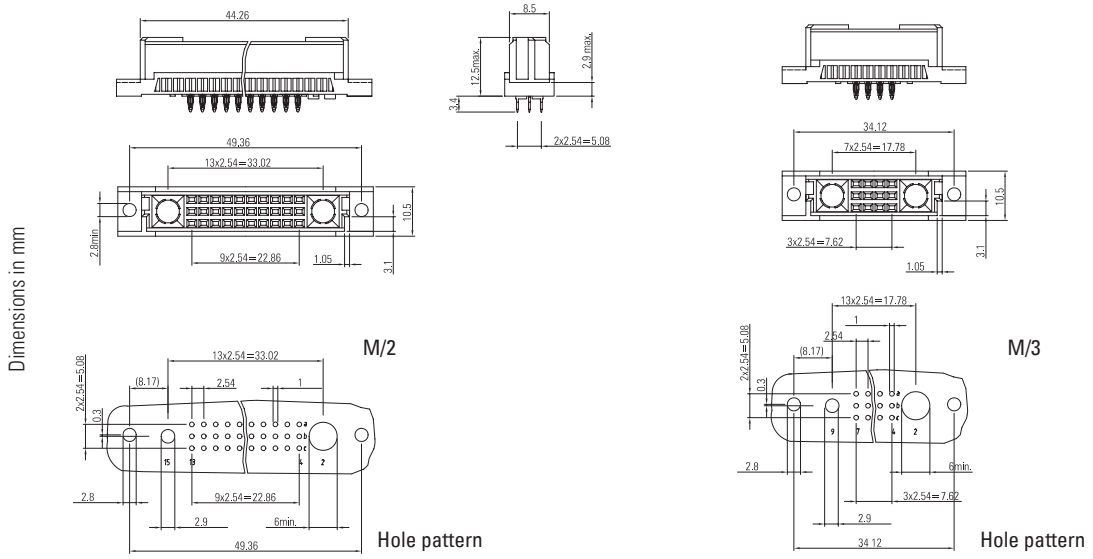
Operational current: 4.8 A

Packaging: Tray

Standard: IEC 60603-2

Technical Specifications on page 12

Dimensions in mm



For detailed drawings visit www.ept.de

Note

Female connectors must be screwed or riveted onto the printed circuit at the flange.

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Press-fit - Performance level II

No. of contacts	Contact arrangement	Termination length L	PU (Tray)
		4.6 mm	
		Part number	
M/2 30/2		124-69122-00	45/765
M/3 12/2		124-68122-00	

On request
- performance level I + III or customized
- special contact length
- processing tools

Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L	PU (Tray)
		4.6 mm	
		Part number	
M/2 30/2		124-99122-00	45/765
M/3 12/2		124-88122-00	

On request
- performance level I + III or customized
- special contact length
- processing tools

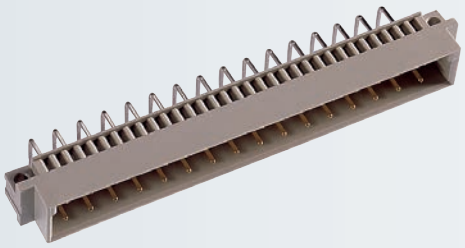
Press-fit with special contact - Performance level II

No. of contacts	Contact arrangement	Termination length L		PU (Tray)
		4.6 mm Special contact is not pre-loaded	4.6 mm Special contact is pre-loaded	
		Part number		
M/2 30/2		124-69022-00	124-69022-02	45/765
M/3 12/2		124-68022-00	124-68022-02	

On request
- performance level I + III or customized
- special contact length
- processing tools
- contact arrangement

DIN 41612

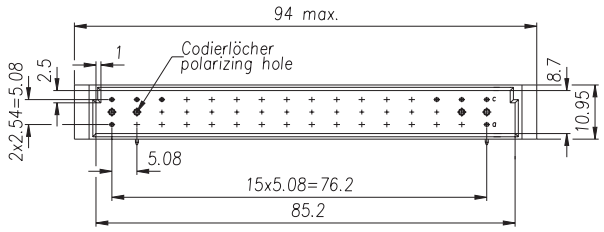
Type D Male Connector

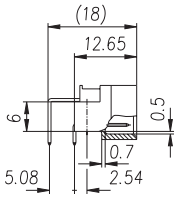


Type:	Male connector 90° with 2 rows
Termination:	Solder
Number of contacts:	16, 32
Pitch:	5.08 mm
Operational current:	5.6 A
Packaging:	Tube
Standard:	IEC 60603-2

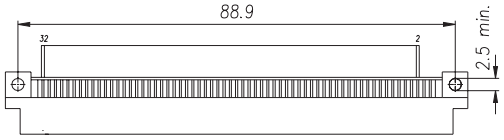
Technical Specifications on page 12

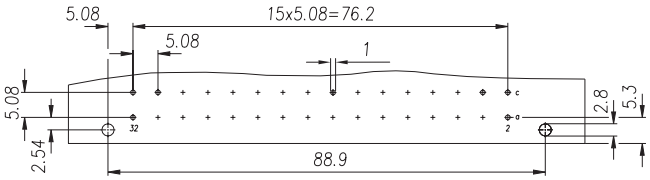
Dimensions in mm





Hole pattern





For detailed drawings visit www.ept.de

Accessories

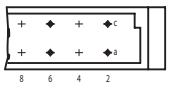
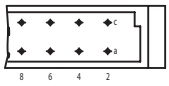
- Coding p. 104

Mating connector / Application:

Type D Female connector (p. 66)

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Solder - Performance level II

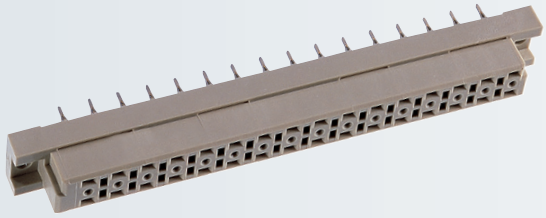
No. of contacts	Contact arrangement	Termination length L		PU (Tube)
		3.0 mm angled	3.7 mm straight	
		Part number		
16		105-40014	105-40016	25/400
32		105-40064	105-40066	

On request

- performance level I + III or customized
- special contact length
- also in THTR
- Board-Lock p. 103
- contact arrangement

DIN 41612

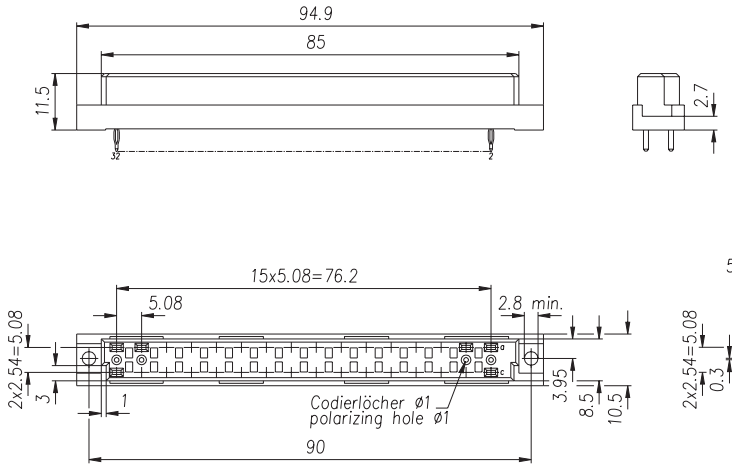
Type D Female Connector



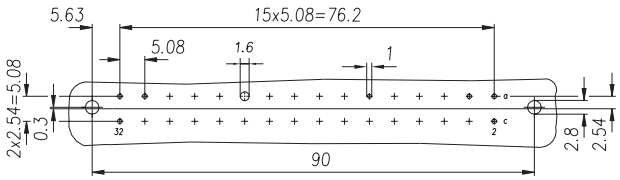
Type:	Female connector straight with 2 rows
Termination:	Press-fit, solder
Number of contacts:	32
Pitch:	5.08 mm
Operational current:	5.6 A
Packaging:	Tube
Standard:	IEC 60603-2

Technical Specifications on page 12

Dimensions in mm



Hole pattern



For detailed drawings visit www.ept.de

Accessories

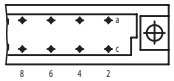
- Coding p. 104

Mating connector / Application:

Type D Male connector (p. 64)

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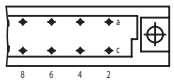
Press-fit - Performance level II

No. of contacts	Contact arrangement	Termination length L	PU (Tube)
		4.6 mm	
		Part number	
32		106-60084 hole diameter 1.0 mm	25/300

On request

- performance level I + III or customized
- special contact length
- without flange
- contact arrangement

Solder - Performance level II

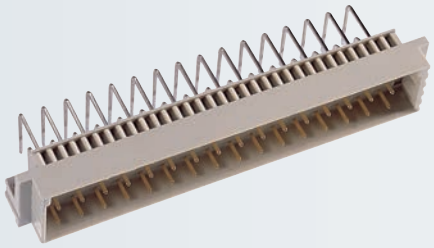
No. of contacts	Contact arrangement	Termination length L					PU (Tube)
		4.0 mm	20 mm	2.5 mm	4.6 mm	5.5 mm Manual soldering with solder lug	
		Part number					
32		106-40064	106-40065	106-40084	106-40075	106-40066	25/300

On request

- performance level I + III or customized
- special contact length
- also in THTR
- Board-Lock p. 103
- contact arrangement

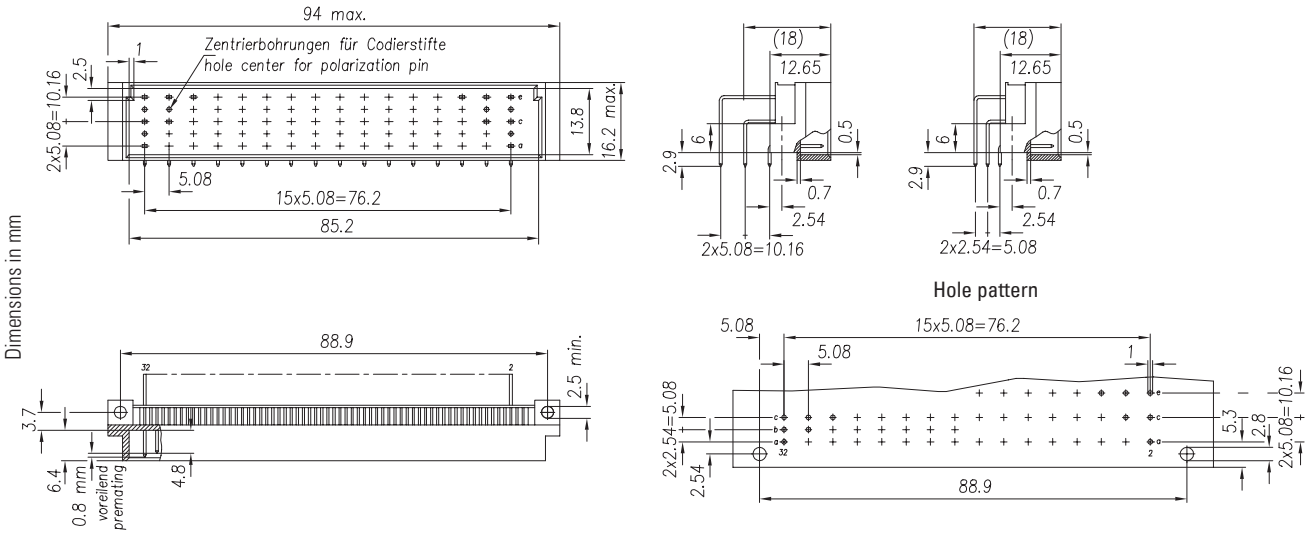
DIN 41612

Type E Male Connector



Type:	Male connector 90° with 3 rows
Termination:	Solder
Number of contacts:	32, 48
Pitch:	5.08 mm
Operational current:	5.6 A
Packaging:	Tube
Standard:	IEC 60603-2

Technical Specifications on page 12



For detailed drawings visit www.ept.de

Accessories

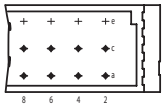
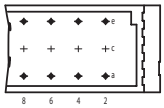
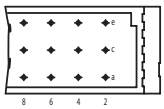
- Coding p. 104

Mating connector / Application:

Type E Female connector (p. 70)

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Solder - Performance level II

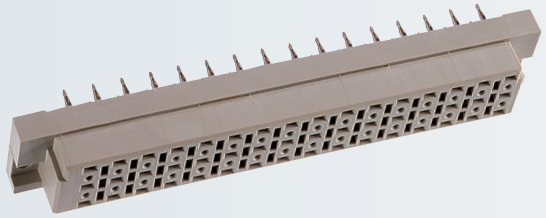
No. of contacts	Contact arrangement	Termination length L			PU (Tube)
		2.9 mm Pitch 5.08 mm	2.9 mm Pitch 2.54 mm	3.7 mm	
		Part number			
32		107-40024	107-40025	107-40026	17/272
32		107-40014	107-40015	107-40016	
48		107-40064	107-40065	107-40066	

On request

- performance level I + III or customized
- special contact length
- also in THTR
- Board-Lock p. 103
- contact arrangement

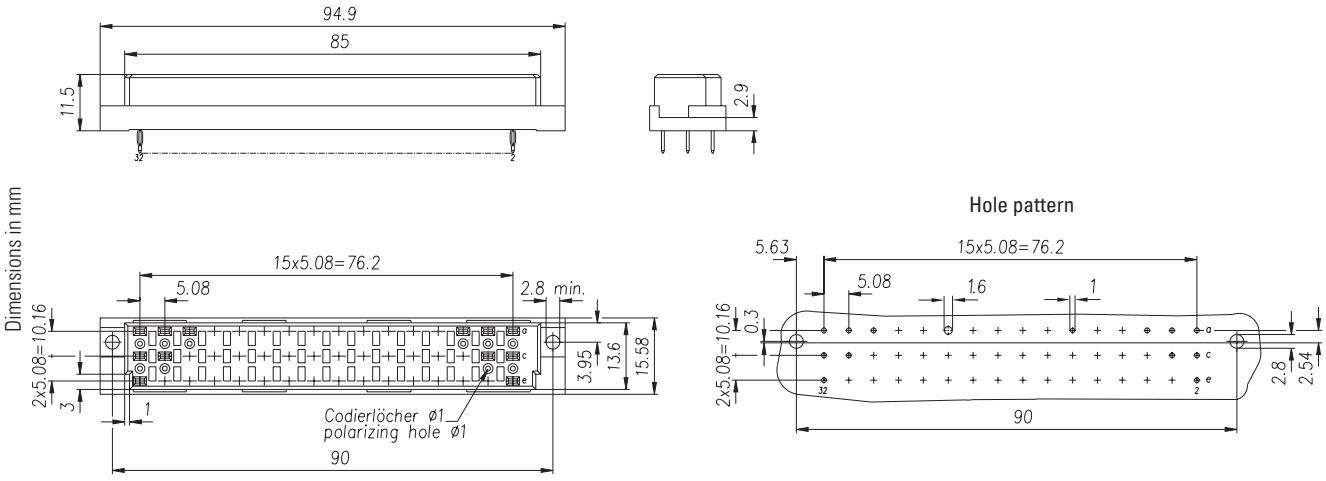
DIN 41612

Type E Female Connector



Type:	Female connector straight with 3 rows
Termination:	Press-fit, solder
Number of contacts:	32, 48
Pitch:	5.08 mm
Operational current:	5.6 A
Packaging:	Tube
Standard:	IEC 60603-2

Technical Specifications on page 12



For detailed drawings visit www.ept.de

Accessories

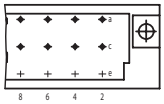
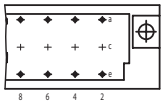
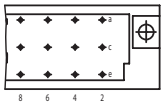
- Coding p. 104

Mating connector / Application:

Type E Male connector (p. 68)

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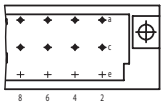
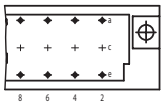
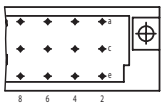
Press-fit - Performance level II

No. of contacts	Contact arrangement	Termination length L	PU (Tube)
		4.6 mm	
		Part number	
32		108-60054 Lochdurchmesser 1.0 mm	17/204
32		108-60044 Lochdurchmesser 1.0 mm	
48		108-60084 Lochdurchmesser 1.0 mm	

On request

- performance level I + III or customized
- special contact length
- without flange
- contact arrangement

Solder - Performance level II

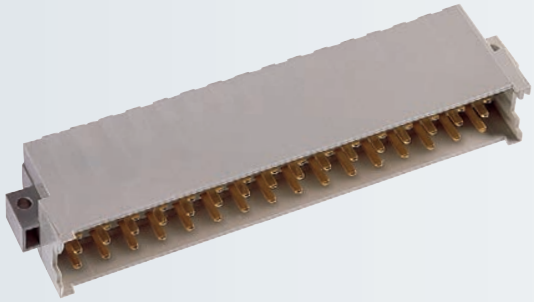
No. of contacts	Contact arrangement	Termination length L					PU (Tube)
		4.0 mm	20 mm	2.5 mm	4.6 mm	5.5 mm Manual soldering with solder lug	
		Part number					
32		108-40014	108-40015	–	108-40044	108-40046	17/204
32		108-40024	108-40025	–	108-40034	108-40036	
48		108-40064	108-40065	108-40084	108-40074	108-40076	

On request

- performance level I + III or customized
- special contact length
- also in THTR
- Board-Lock p. 103
- contact arrangement

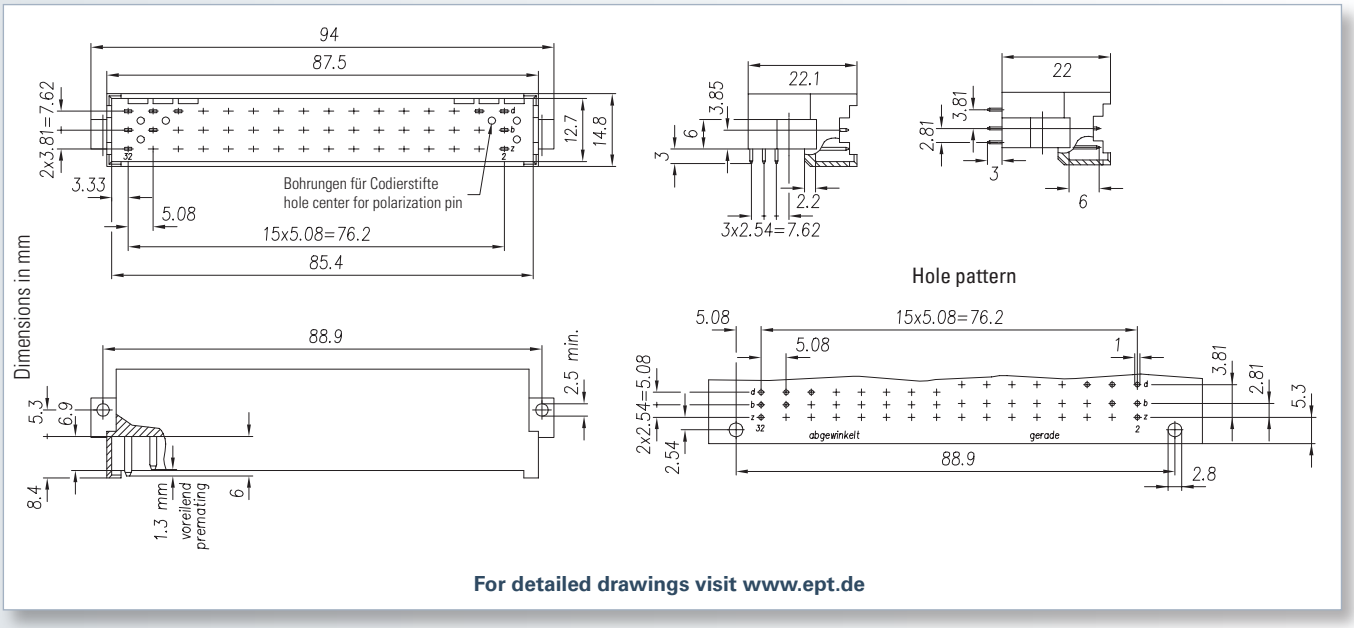
DIN 41612

Type F Male Connector



Type:	Male connector 90° with 3 rows
Termination:	Solder, THTR
Number of contacts:	32, 48
Pitch:	5.08 mm x 3.81 mm
Operational current:	5.6 A
Packaging:	Box
Standard:	IEC 60603-2

Technical Specifications on page 12



For detailed drawings visit www.ept.de

Accessories

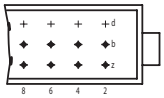
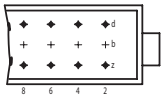
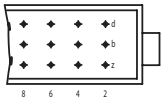
- Coding p. 104

Mating connector / Application:

- Type F Female connector (p. 74)
- Type F low profile Female connector (p. 76)

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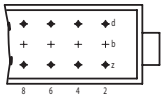
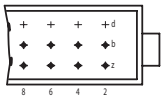
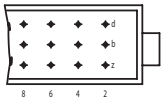
Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L 3 mm 3 rows below	L 3 mm 3 rows sideways	L 3 mm 2 rows below	PU (Box)
		Part number			
32		–	109-40025	109-40024	19/266
32		109-40014	109-40015	–	
48		109-40064	109-40065	–	

On request

- performance level I + III or customized
- special contact length
- Board-Lock p. 103
- contact arrangement

THTR - Performance level II

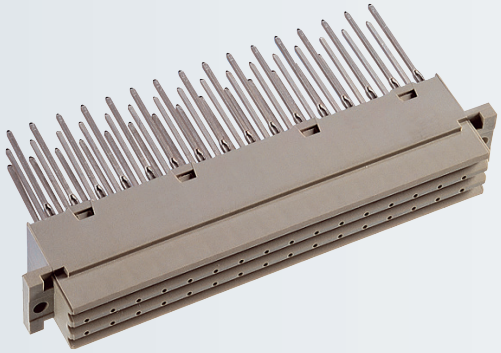
No. of contacts	Contact arrangement	Termination length L 3 mm 3 rows angled	L 3 mm 2 rows straight	PU (Box)
		Part number		
32		109-40014TH	-	19/266
32		-	109-40024TH	
48		109-40064TH	-	

On request

- performance level I + III or customized
- special contact length
- other termination lengths in THTR
- Board-Lock p. 103
- contact arrangement

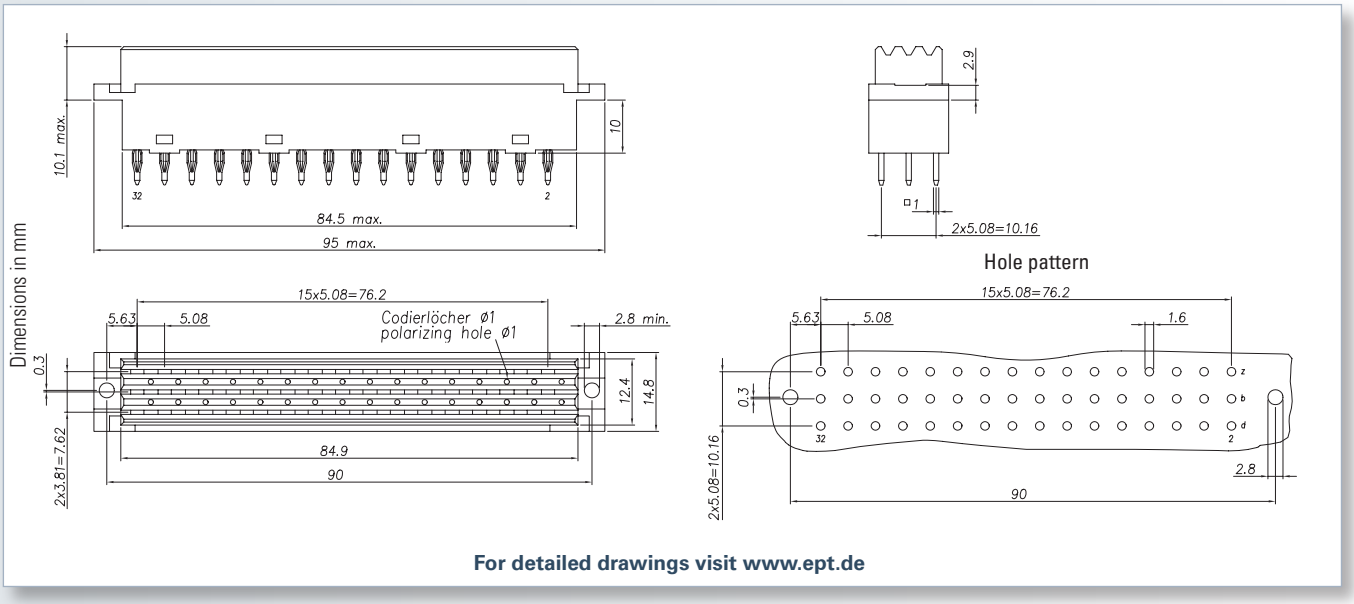
DIN 41612

Type F Female Connector



Type:	Female connector straight with 3 rows
Termination:	Solder
Number of contacts:	32, 48
Pitch:	5.08 mm x 3.81 mm
Operational current:	5.6 A
Packaging:	Box
Standard:	IEC 60603-2

Technical Specifications on page 12



For detailed drawings visit www.ept.de

Accessories

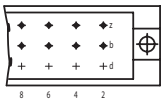
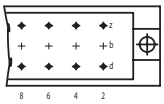
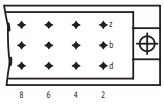
- Coding p. 104

Mating connector / Application:

Type F Male connector (p. 72)

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Solder - Performance level II

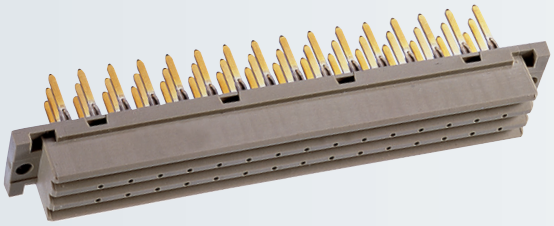
No. of contacts	Contact arrangement	Termination length L				PU (Box)
		4.5 mm Ø 1 mm	22 mm	4.5 mm Ø 0.7 mm	5.5 / 10.9 mm Manual soldering with solder lug	
		Part number				
32		110-40025	110-40024	110-40005	110-40046	19/190
32		110-40015	110-40014	110-40004	110-40036	
48		110-40065	110-40064	110-40084	110-40076	

On request

- performance level I + III or customized
- special contact length
- also in THTR
- contact arrangement

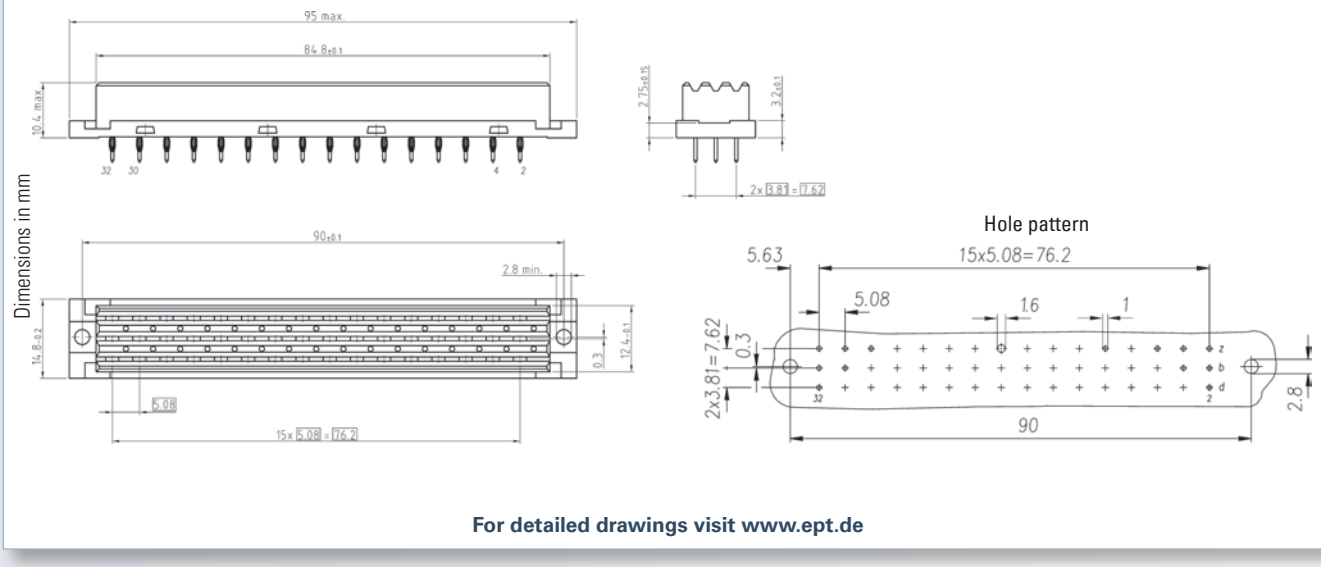
DIN 41612

Type F low Profile Female Connector



Type:	Female connector straight with 3 rows
Termination:	Press-fit, solder
Number of contacts:	32, 48
Pitch:	5.08 mm x 3.81 mm
Operational current:	5.6 A
Packaging:	Box, Tube
Standard:	IEC 60603-2

Technical Specifications on page 12



For detailed drawings visit www.ept.de

Accessories

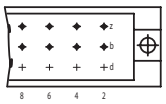
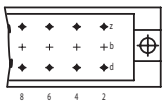
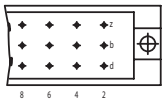
- Coding p. 104

Mating connector / Application:

Type F Male connector (p. 72)

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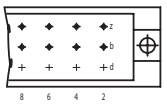
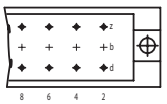
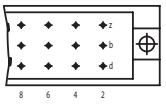
Press-fit - Performance level II

No. of contacts	Contact arrangement	Termination length L		PU (Tube)
		4.6 mm	12.2 mm	
		Part number		
32		110-61005 Hole diameter 1.0 mm	110-66025 Hole diameter 1.6 mm	18/216
32		110-61004 Hole diameter 1.0 mm	110-66015 Hole diameter 1.6 mm	
48		110-61084 Hole diameter 1.0 mm	110-66065 Hole diameter 1.6 mm	

On request

- performance level I + III or customized
- special contact length
- without flange
- contact arrangement

Solder - Performance level II

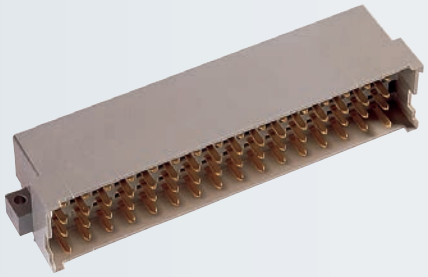
No. of contacts	Contact arrangement	Termination length L	PU (Box)
		4.6 mm	
		Part number	
32		110-40505	19/190
32		110-40504	
48		110-40584	

On request

- performance level I + III or customized
- special contact length
- also in THTR
- Board-Lock p. 103
- contact arrangement

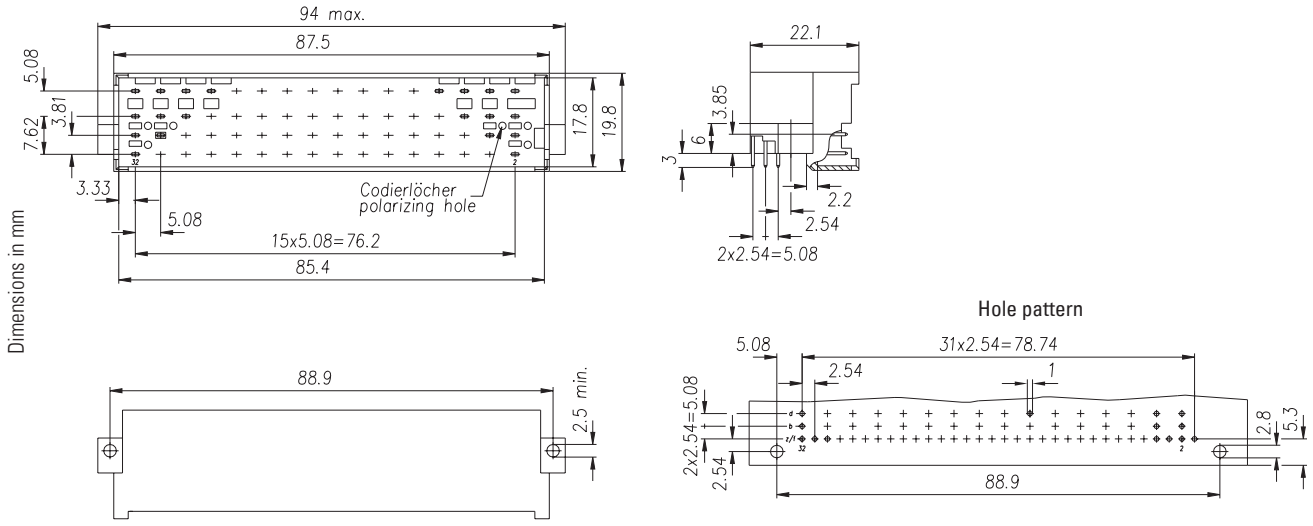
DIN 41612

Type G Male Connector



Type:	Male connector 90° with 4 rows
Termination:	Solder
Number of contacts:	64
Pitch:	5.08 mm x 3.81 mm
Operational current:	5.6 A
Packaging:	Box
Standard:	IEC 60603-2

Technical Specifications on page 12



For detailed drawings visit www.ept.de

Accessories

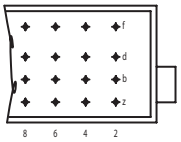
- Coding p. 104

Mating connector / Application:

- Type G Female connector (p. 80)
- Type G low profile Female connector (p. 82)

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Solder - Performance level II

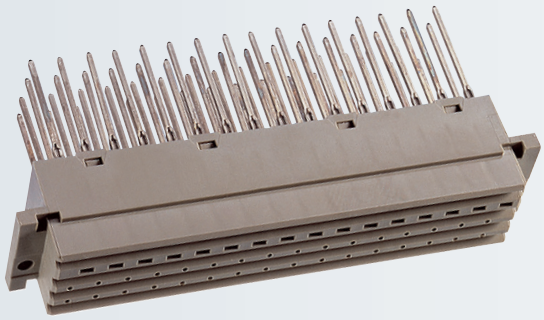
No. of contacts	Pre-mating contact at position	Contact arrangement	Termination length L 3.0 mm	
			Part number	PU (Box)
64	without		111-40064	14/196
64	Z 2		111-40164	
64	Z 2 and Z 32		111-40264	

On request

- performance level I + III or customized
- Board-Lock p. 103
- contact arrangement

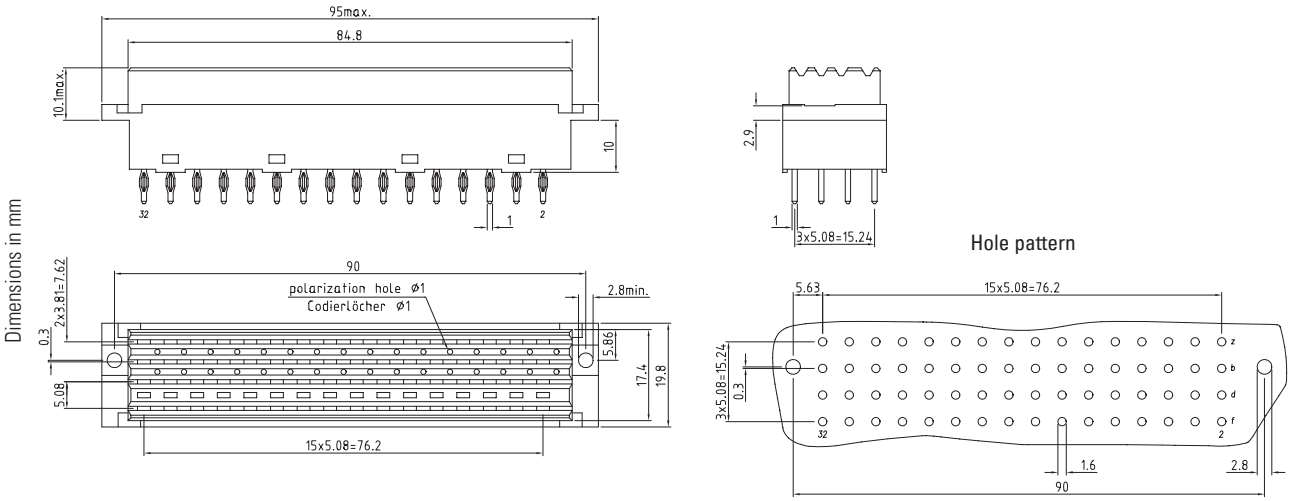
DIN 41612

Type G Female Connector



Type:	Female connector straight with 4 rows
Termination:	Solder
Number of contacts:	64
Pitch:	5.08 mm x 3.81 mm
Operational current:	5.6 A
Packaging:	Box
Standard:	IEC 60603-2

Technical Specifications on page 12



For detailed drawings visit www.ept.de

Accessories

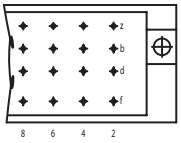
- Coding p. 104

Mating connector / Application:

Type G Male connector (p. 78)

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Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L				PU (Box)
		4.5 mm Ø 1 mm	22 mm	4.5 mm Ø 0.7 mm	5.5 / 10.9 mm Manual soldering with solder lug	
		Part number				
64		112-40064	112-40065	112-40084	112-40066	14/140

On request

- performance level I + III or customized
- special contact length
- also in THTR
- Board-Lock p. 103
- contact arrangement

DIN 41612

Type G low Profile Female Connector



Type: Female connector straight with 4 rows

Termination: Press-fit, solder

Number of contacts: 64

Pitch: 5.08 mm x 3.81 mm

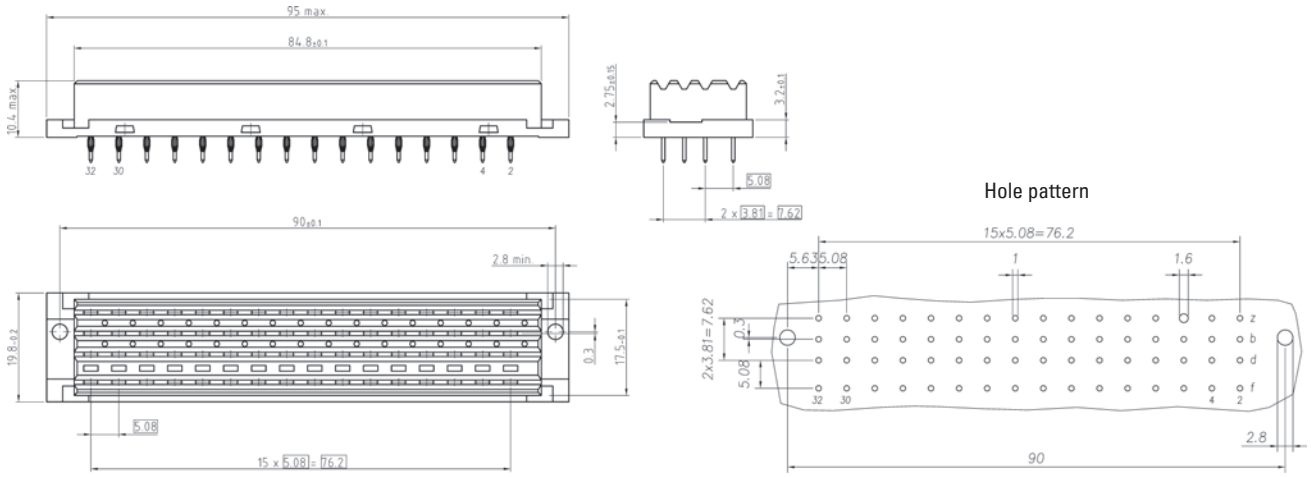
Operational current: 5.6 A

Packaging: Box, Tube

Standard: IEC 60603-2

Technical Specifications on page 12

Dimensions in mm



For detailed drawings visit www.ept.de

Accessories

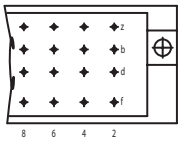
- Coding p. 104

Mating connector / Application:

Type G Male connector (p. 78)

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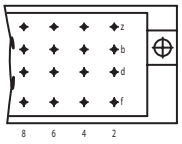
Press-fit - Performance level II

No. of contacts	Contact arrangement	Termination length L		PU (Tube)
		4.6 mm	12.2 mm	
		Part number		
64		112-61084 Hole diameter 1.0 mm	112-66065 Hole diameter 1.6 mm	13/156

On request

- performance level I + III or customized
- special contact length
- without flange
- contact arrangement

Solder - Performance level II

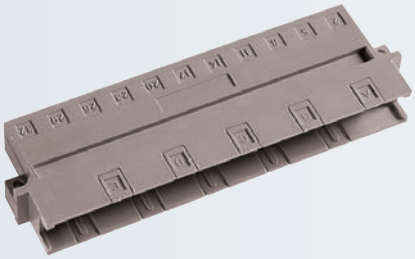
No. of contacts	Contact arrangement	Termination length L	
		4.6 mm	
		Part number	PU (Tube)
64		112-40584	13/156

On request

- performance level I + III or customized
- special contact length
- also in THTR
- Board-Lock p. 103
- contact arrangement

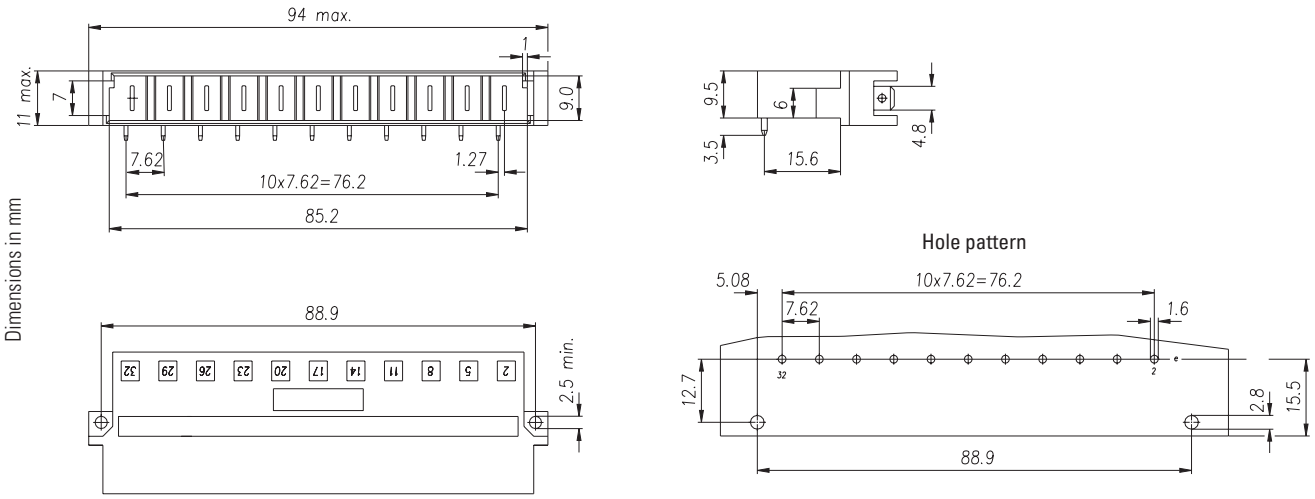
DIN 41612

Type H11 Male Connector



Type:	Male connector 90° with 1 row
Termination:	Solder
Number of contacts:	11
Pitch:	7.62 mm
Operational current:	15 A
Packaging:	Box
Standard:	IEC 60603-2

Technical Specifications on page 12



For detailed drawings visit www.ept.de

Note

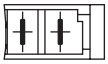
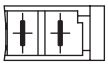
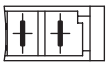
Coding possible, see on p. 104

Mating connector / Application:

Type H11 Female connector (p. 86)

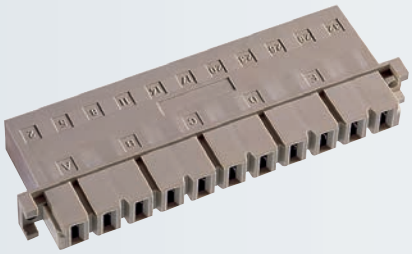
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Solder - Performance level II

No. of contacts	Pre-mating contact at position	Contact arrangement	Termination length L	
			3.5 mm	
			Part number	PU (Box)
11	without		113-40010	25/350
10+1	32		113-40015	
9+2	2; 32		113-40020	

DIN 41612

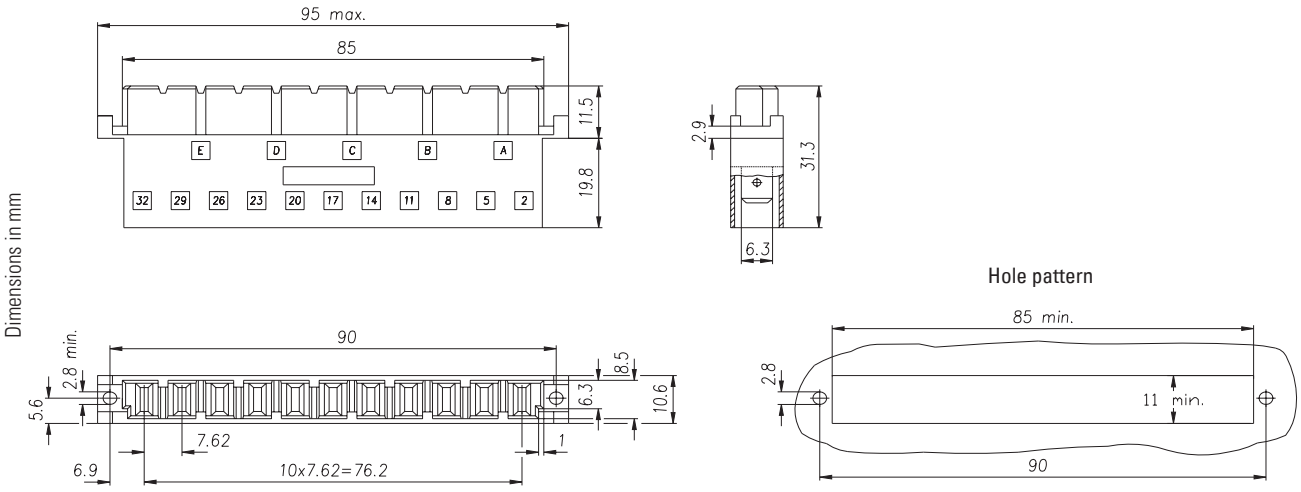
Type H11 Female Connector



Type: Female connector straight with 1 row
Termination: Faston
Number of contacts: 11
Pitch: 7.62 mm
Operational current: 15 A
Packaging: Box
Standard: IEC 60603-2

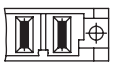
RoHS COMPLIANT

Technical Specifications on page 12



For detailed drawings visit www.ept.de

Faston - Performance level II

No. of contacts	Contact arrangement	Faston contact L 6.3 mm	
		Part number	PU (Box)
11		114-40040	26/260

Accessories

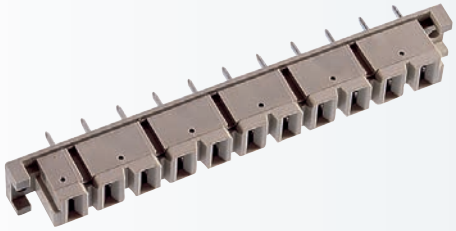
- Coding p. 104

Mating connector / Application:

Type H11 Male connector (p. 84)

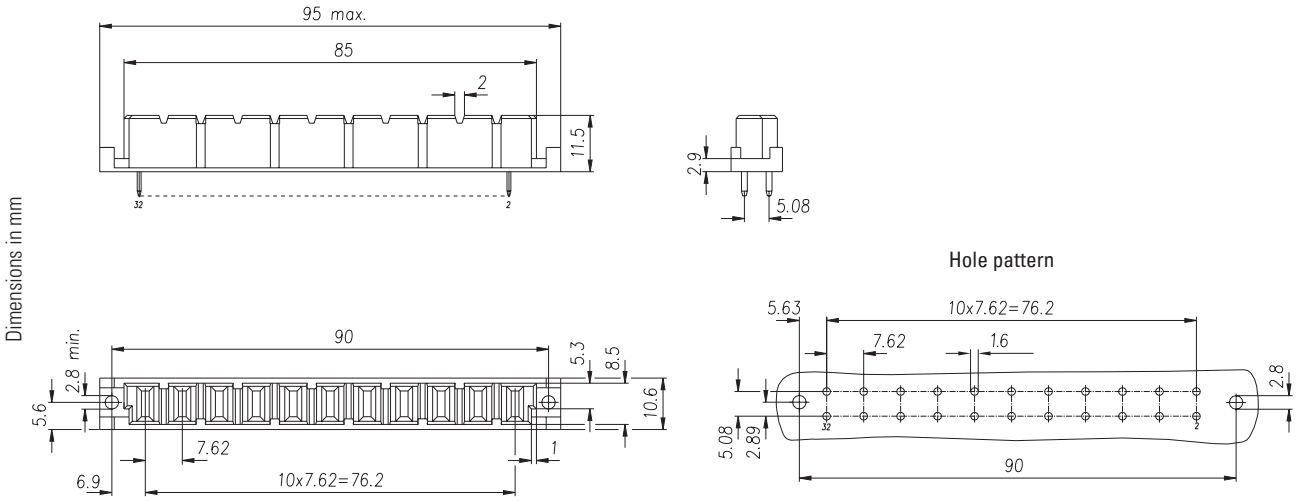
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Type H11 low Profile Female Connector



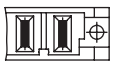
Type: Female connector straight with 1 row
Termination: Solder
Number of contacts: 11
Pitch: 7.62 mm
Operational current: 15 A
Packaging: Box
Standard: IEC 60603-2

Technical Specifications on page 12



For detailed drawings visit www.ept.de

Solder - Performance level II

No. of contacts	Contact arrangement	Termination length L	
		5.0 mm	
		Part number	PU (Box)
11		114-40050	26/260

Accessories

- Coding p. 104

Mating connector / Application:

Type H11 Male connector (p. 84)

DIN 41612

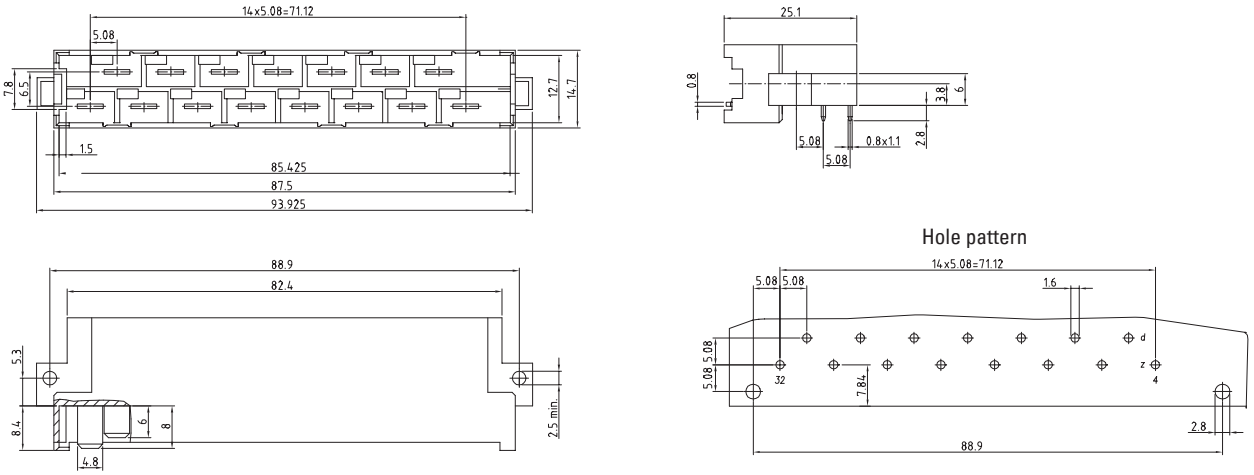
Type H15 Male Connector



Type:	Male connector 90° with 2 rows
Termination:	Solder
Number of contacts:	15
Pitch:	5.08 mm x 6.0 mm
Operational current:	15 A
Packaging:	Box
Standard:	IEC 60603-2

Technical Specifications on page 12

Dimensions in mm



For detailed drawings visit www.ept.de

Note

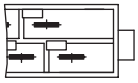
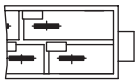
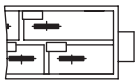
Coding possible, see on p. 104

Mating connector / Application:

Type H15 Female connector (p. 90)

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Solder - Performance level II

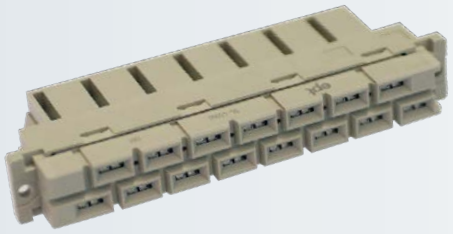
No. of contacts	Pre-mating contact at position	Contact arrangement	Termination length L 2.8 mm	
			Part number	PU (Box)
15	Z 32		113-40060	19/266
15	Z 4 and Z 32		113-40160	
15	–		113-40061	

On request

- Board-Lock p. 103
- contact arrangement

DIN 41612

Type H15 Female Connector

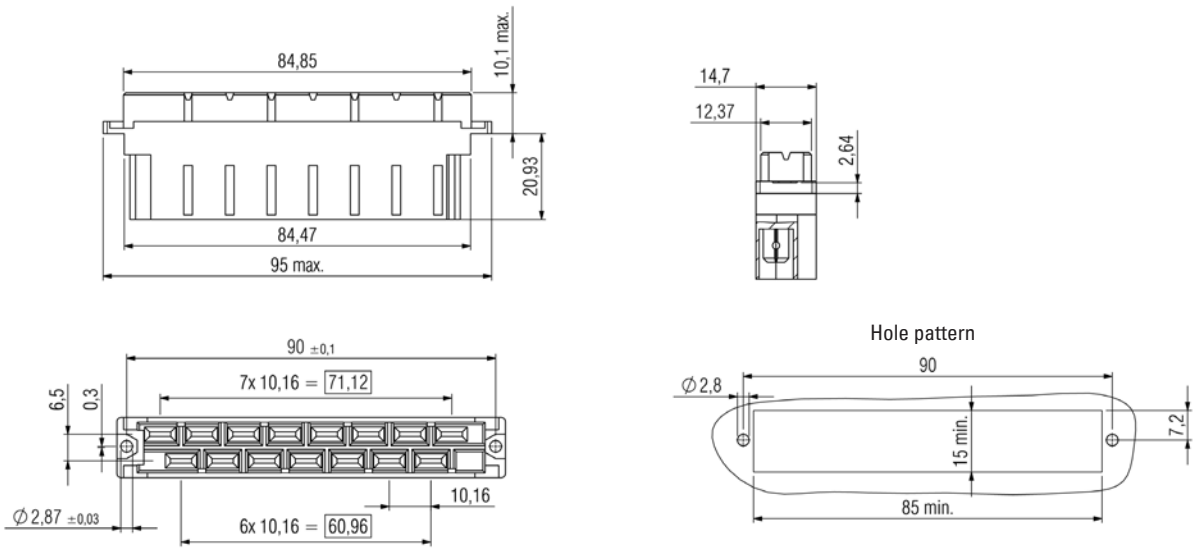


Type: Female connector straight with 2 rows
Termination: Faston
Number of contacts: 15
Pitch: 5.08 mm x 6.0 mm
Operational current: 15 A
Packaging: Box
Standard: IEC 60603-2

RoHS COMPLIANT

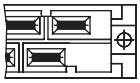
Technical Specifications on page 12

Dimensions in mm



For detailed drawings visit www.ept.de

Faston - Performance level I

No. of contacts	Contact arrangement	Faston length L	
		0.8 mm x 6.3 mm	
		Part number	PU (Box)
15		114-40060	20/160

On request

- Board-Lock p. 103

Accessories

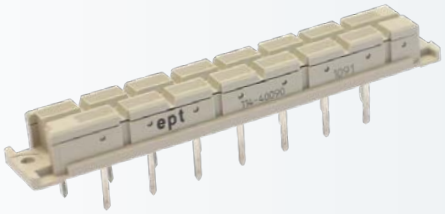
- Coding p. 104

Mating connector / Application:

Type H15 Male connector (p. 88)

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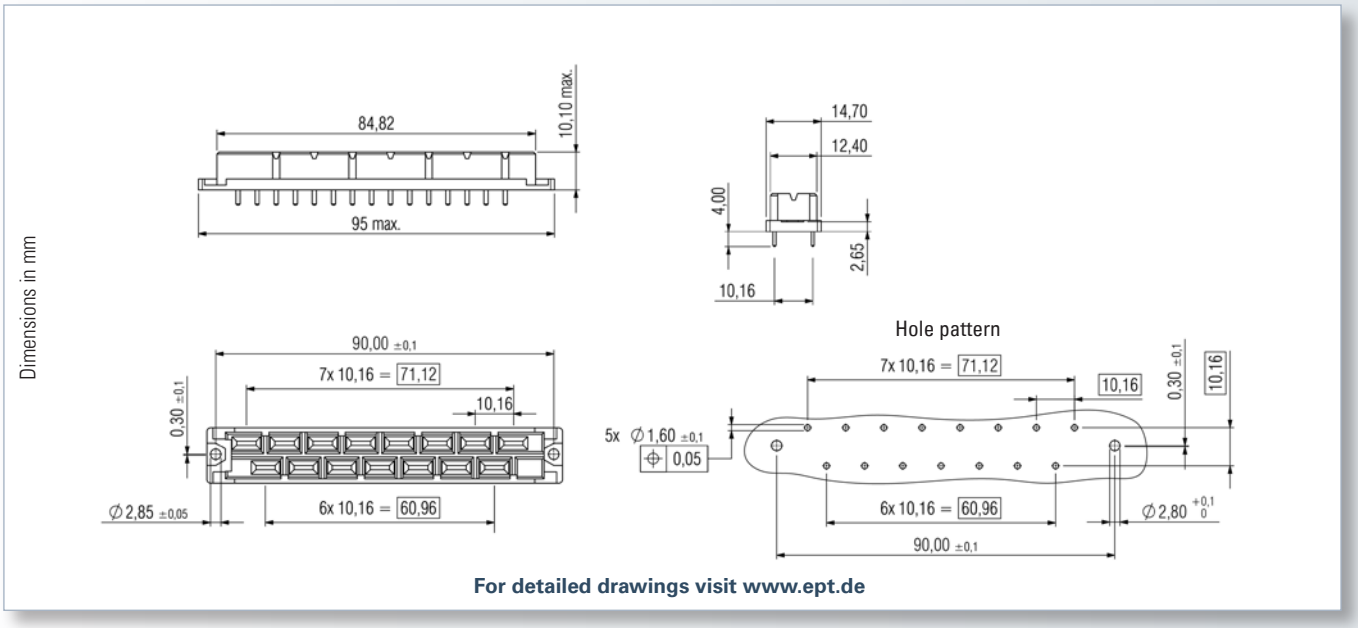
Type H15 low Profile Female Connector



Type: Female connector straight with 2 rows
Termination: Solder
Number of contacts: 15
Pitch: 5.08 mm x 6.0 mm
Operational current: 15 A
Packaging: Box
Standard: IEC 60603-2

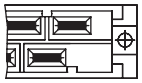
RoHS COMPLIANT

Technical Specifications on page 12



For detailed drawings visit www.ept.de

Solder - Performance level I

No. of contacts	Contact arrangement	Termination length L		PU (Box)
		4.0 mm	13 mm	
		Part number		
15		114-40080	114-40090	20/160

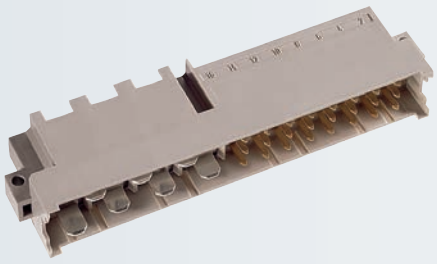
On request
- Board-Lock p. 103

Accessories
- Coding p. 104

Mating connector / Application:
Type H15 Male connector (p. 88)

DIN 41612

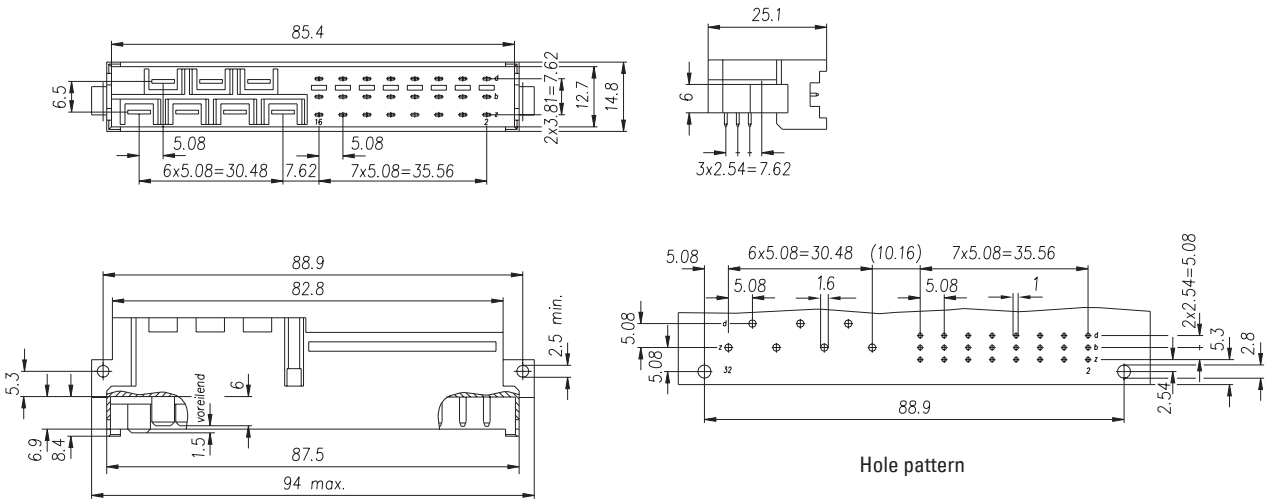
Type H7/F24 Male Connector



Type:	Male connector 90°
Termination:	Solder
Number of contacts:	7+24
Pitch:	5.08 mm x 3.81 mm
Operational current:	5.6 A, 15 A
Packaging:	Box
Standard:	IEC 60603-2

Technical Specifications on page 12

Dimensions in mm



Hole pattern

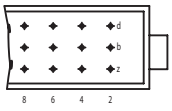
For detailed drawings visit www.ept.de

Note

What is a pre-mating contact? See on p. 104

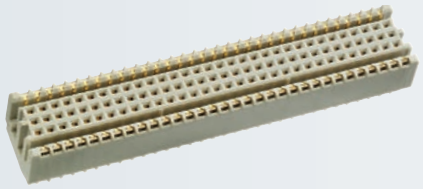
You couldn´t find something suitable or have questions? We will be pleased to help you! Call us: +49 8861 / 25010.

Solder - Performance level II

No. of contacts	Pre-mating contact at position	Contact arrangement	Termination length L	
			3.1 mm	
			Part number	PU (Box)
7+24	Z 32		117-40164	20/200

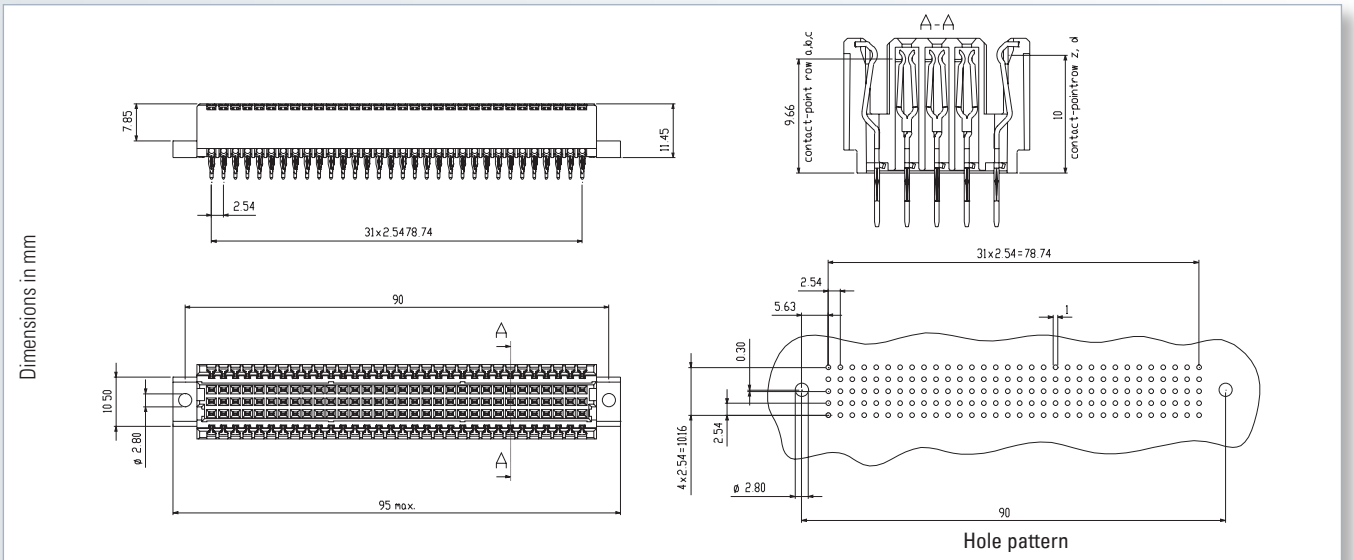
On request

- Board-Lock p. 103



Type:	Female connector straight with 5 rows
Termination:	Press-fit
Number of contacts:	160
Pitch:	2.54 mm
Operational current:	2.6 A
Packaging:	Tube
Standard:	IEC 60603-2

Technical Specifications on page 12



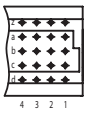
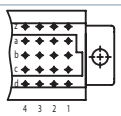
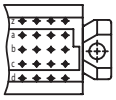
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Accessories

- Shroud p. 97

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Press fit - Performance level I

No. of contacts	Contact arrangement	Termination length L 4.6 mm		Termination length L 17 mm	
		Part number	PU (Tube)	Part number	PU (Tube)
160		306-61067-12	30/360	306-66069-14	14/168
160		306-60067-12	17/204	306-65069-14	17/204
160		306-62067-12		306-67069-14	

On request

- performance level II + III or customized
- special contact length

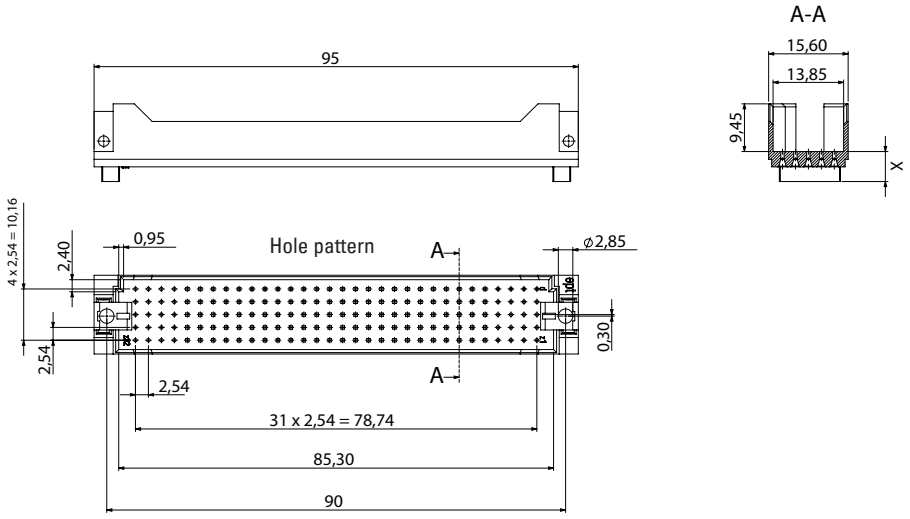


Type: Shroud with 5 rows
Pitch: 2.54 mm
Packaging: Bulk
Standard: IEC 60603-2

RoHS COMPLIANT

Technical Specifications on page 12

Dimensions in mm



For detailed drawings visit www.ept.de

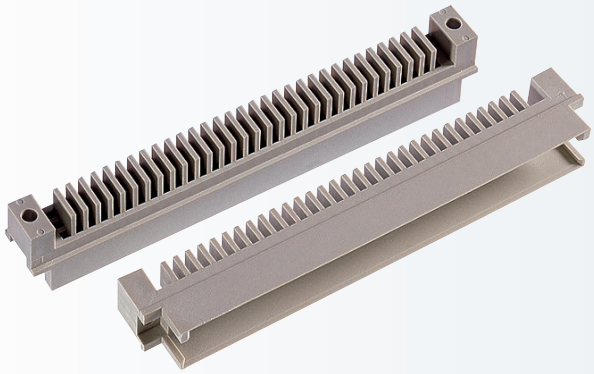
PCB thickness	X	Post length	Part number VME 64	PU (Bulk)
3.4 mm	6.0 mm	17 mm	315-15401	350
4.6 mm	4.8 mm	17 mm	315-15402	

On request

- different designs and special types

Application:
Type VME64x Female connector (p. 94)

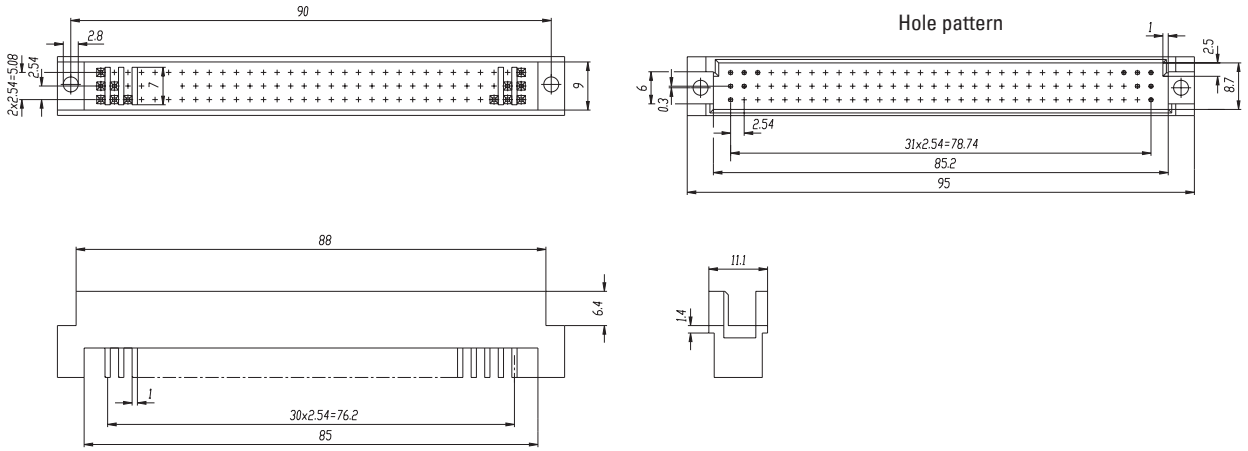
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Type: Shroud with 3 rows
Pitch: 2.54 mm
Packaging: Bulk
Standard: IEC 60603-2

Technical Specifications on page 12

Dimensions in mm



For detailed drawings visit www.ept.de

PCB thickness	Post length	Part number				
		C/R with nut	C/R	C/R self-retaining	C/R self-retaining without flange	PU (Bulk)
2.4	13 mm	–	115-15401	–	–	500
2.4	17 mm	–	115-15301	–	–	
3.2	13 mm	115-15701	115-15402	115-15405	115-15408	
3.2	17 mm	115-15702	115-15302	–	–	

On request

- different designs and special types

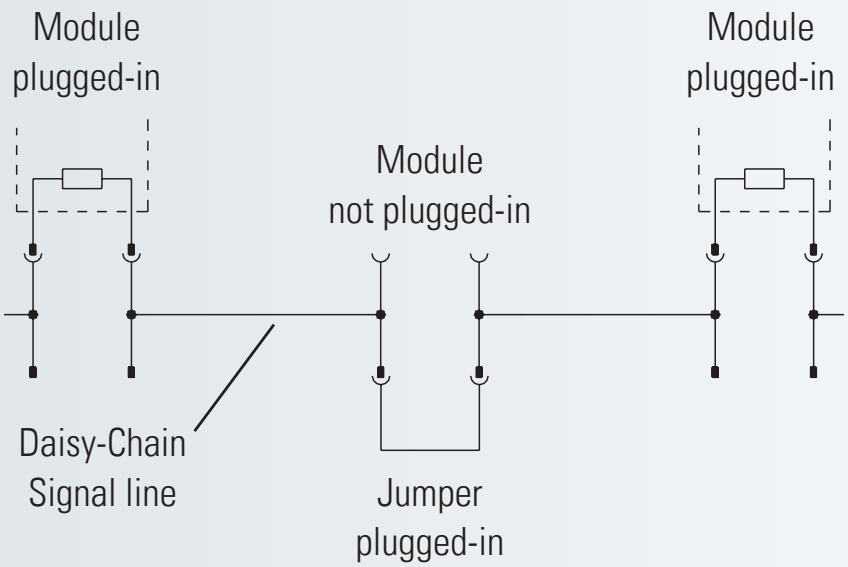
Application:

Type C (p. 28)

Type R (p. 44)

Switching Connector - Female Connector with integrated Switches

Problem
A principle often used for different bus systems is the looping-through of signal lines via module boards, the so-called "daisy chaining". This daisy chaining, however, leads to a new problem, which becomes obvious when one of the modules is pulled from the system: The daisy chain signal connection is broken and must be re-established using jumpers. This is not easy as the modules are located close to each other in the rack. More often a large part of the housing must be taken apart or the whole endeavour of placing the jumper on the correct pins results in "nerve-wracking fumbling". Mistakes and therefore mispositionings can happen.



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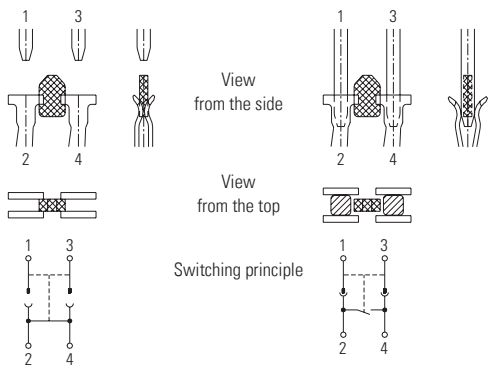
Female Connector with integrated Switches

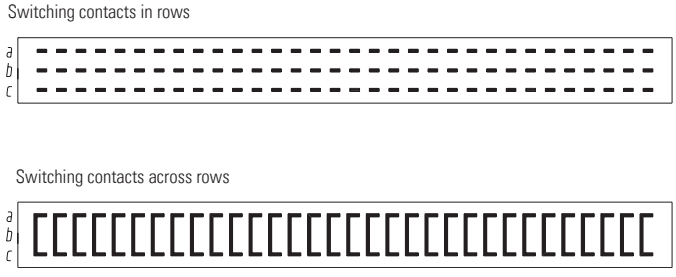
A possible solution
The integration of switches into a standard connector according to IEC 60603-2, e. g. into a female connector type C, is a simple and elegant solution for the problem described. The contact springs of this C female connector were extended by wing-like contact tabs. A gold-plated metal disk is located between the contact springs. In rest position, with the male connector not plugged-in, the adjacent contact springs are short-circuited through placing of the contact tabs on the metal disk. With the male connector plugged-in, the contact springs are separated from each other through the contact pins of the male connector. The contact tabs of the spring are lifted off the metal disk. This interrupts the connection between the two springs. Due to the switching behavior of the C female connector, the daisy chain connection is automatically closed when the module board is pulled out. Function-wise the closed switching contact between two contact springs corresponds to a jumper automatically being plugged in when the male connector is pulled out.

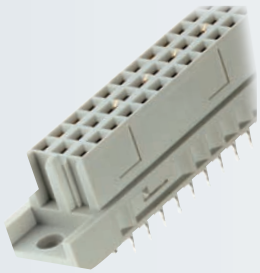
Application in the VME bus
The daisy chaining principle is used for the IACK and BG 0...3 signal lines in the VME bus. By integrating a switching function at the positions of the respective signal lines in the connector, the jumpers used so far are no longer required.

Further applications
The integrated switching function is not restricted to the positions in the C female connector stated above. A switch can be integrated between any positions in the a, b and c rows of a C female connector IEC 60603-2 and/or between the a and c rows of a C female connector IEC 60603-2. A further application for ept switching connectors are e. g. network concentrators (hubs). In this application, too, the daisy chaining is carried out fully automatically via customer-specific switching connectors.

Functional principle of the switching connectors

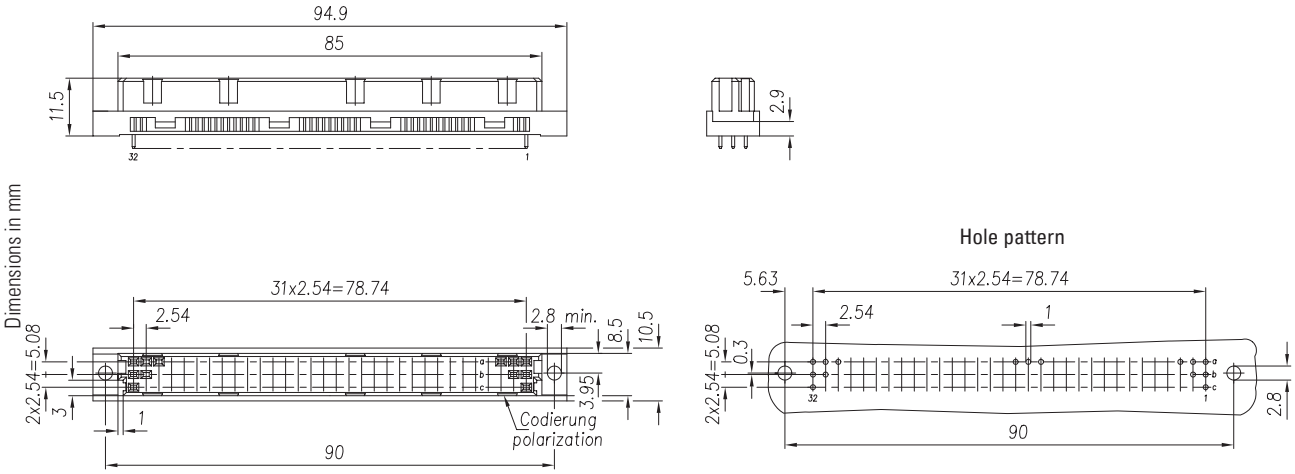






Type: Female connector straight with 3 rows
Termination: Press-fit
Number of contacts: 96
Pitch: 2.54 mm
Operational current: 2.6 A
Packaging: Tube
Standard: IEC 60603-2

Technical Specifications on page 12



For detailed drawings visit www.ept.de

Accessories

- Coding p. 104

Mating connector / Application:

Type C Male connector (p. 28)

Type R Male connector (p. 44)

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Press-fit - Performance level II

No. of contacts	Switching contacts at position	PCB thickness	Termination length L				PU (Tube)
			3.2 mm	4.6 mm	13 mm	17 mm	
			Part number				
96	a21 – a22, b4 – b5, b6 – b7, b8 – b9, b10 – b11 for VME	1.5 - 2.0 mm	104-60464-01	-	104-65465-01	104-65466-01	25/300
		2.0 - 2.8 mm	-	104-60464-02	104-65465-02	104-65466-02	
		> 2.8 mm	-	104-60464-03	104-65465-03	104-65466-03	
96	a – c 1, 2, 3, 4, …, 32	1.5 - 2.0 mm	104-60565-01	-	104-65565-01	104-65566-01	
		2.0 - 2.8 mm	-	104-60565-02	104-65565-02	104-65566-02	
		> 2.8 mm	-	104-60565-03	104-65565-03	104-65566-03	

On request

- performance level I + III or customized
- special contact length
- without flange
- contact arrangement
- customer-specific switching bridge positions

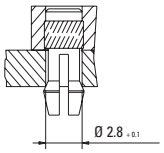
Additional Information

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Board-Lock

As an alternative to the rivet and/ or screw fastening of the male and/ or female connectors to the PCBs, connectors can also be mounted and held onto PCBs using board lock's. The connector with the board lock is pressed onto the PCB to be equipped. The board locks either lock into place or are under tension. The connections are strong enough to hold the connector onto the PCB during the soldering process. Using plated mounting holes, soldering the board locks also essentially improves the strain relief of the connector during insertion and/or withdrawal.

Suitable for connectors with type B, C, D, E, F low profile, G low profile female connectors and R Male connectors



Type of insertion / Forces	F_m	not soldered F_h	soldered F_h
Locked	< 20 N	> 10 N	> 25 N
Under tension	< 20 N	> 5 N	> 25 N

F_m: max. mounting force per Board-Lock
F_h: min. retention force per Board-Lock

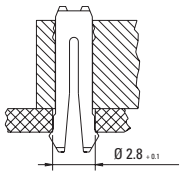
Suitable for connectors with type B, C, D, E, F low profile, G low profile Female connectors and R Male connectors



Part number	PCB thickness
xxx-xxxxxC1	1.6 mm
xxx-xxxxxC2	2.4 mm
xxx-xxxxxC3	3.6 mm

Ordering example: C-FL/LP 1.6 mm, part number 104-40014C1

Suitable for connectors with type B, C, D, E, F, G Male connectors and R Female connectors



Type of insertion / Forces	F_m	not soldered F_h	soldered F_h
Locked	< 30 N	> 10 N	> 20 N
Under tension	< 30 N	> 7.5 N	> 20 N

F_m: max. mounting force per Board-Lock
F_h: min. retention force per Board-Lock

Suitable for connectors with type B, C, D, E, F, G Male connectors and R Female connectors



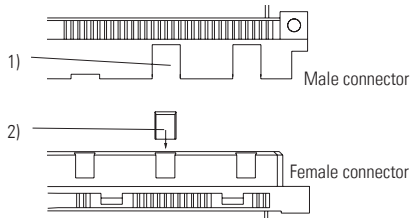
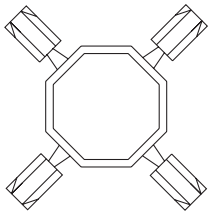
Part number	PCB thickness
xxx-xxxxxC1	1.6 mm
xxx-xxxxxC2	2.4 mm
xxx-xxxxxC3	3.6 mm

Ordering example: C-ML/LP 1.6 mm, part number 103-40014C1

Coding without loosing Contacts

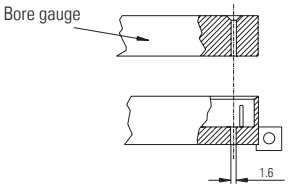
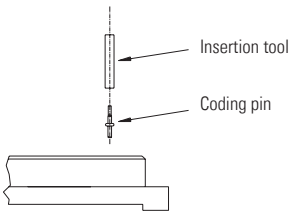
Type B and C

The integrated coding of the connectors with type B and C prevents that the wrong modules are plugged in. For coding, coding wedges are inserted into the female connector and matching parts are broken out of the insulator material of the male connector with coding pliers.

Coding	Coding star (4 coding wedges)		Coding pliers
			
	Part number	Packaging unit	Part number
1) Break-out coding 2) Insert coding wedge into the female connector	104-19003	25 Stars	894-301

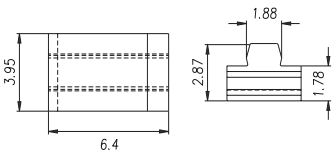
Type D, E, F and G

With connectors with type D, E, F and G holes can be drilled into the male connector and pins can be inserted into the female connector in matching positions.

Male connectors	Female connectors		
Drill coding hole with gauge.	Insert coding pin into the coding hole using the insertion tool.		
		Part number - coding pin	Packaging unit
		106-10001	100 items
		Part number - insertion tool	
		894-302	

Type H11 and H15

Keying plug

Coding	Part number
	114-30000

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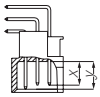
Pre-mating and late-mating Contacts

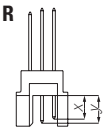
Pre- and late-mating contacts are used for safety reasons or hot swap functionality. In this case defined contacts are mating earlier or unmate later during the mating process of the connector. The connection is made and broken using these contacts in the first or final step.

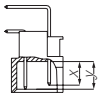
For DIN type B, C, R, D, E, F, G
The pre-mating contact can - as special contact arrangement - be inserted into any desired position.

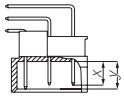
Type

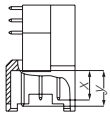
B 

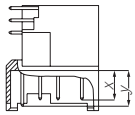
C 

R 

D 

E 

F 

G 

Type	Standard (X)	Pre-mating (Y)			Late-mating (Y)	
		+ 0.8 mm	+ 1.0 mm	+ 1.3 mm	– 0.4 mm	– 0.8 mm
B, B/2, B/3, C, C/2, C/3	4.9	–	5.9	–	–	4.1
R, R/2,R/3 Mating side	4.9	5.7	5.9	–	4.5	4.1
R, R/2,R/3 Termination side	13.0	13.8	–	–	12.6	12.2
D	4.9	5.7	–	–	–	–
E (Pitch 2.54 mm)	4.9	5.7 Rows a, c, e	–	–	–	–
E (Pitch 5.08 mm)	4.9	5.7 Row a	–	–	–	–
F, G	6.1	–	–	7.4	–	–

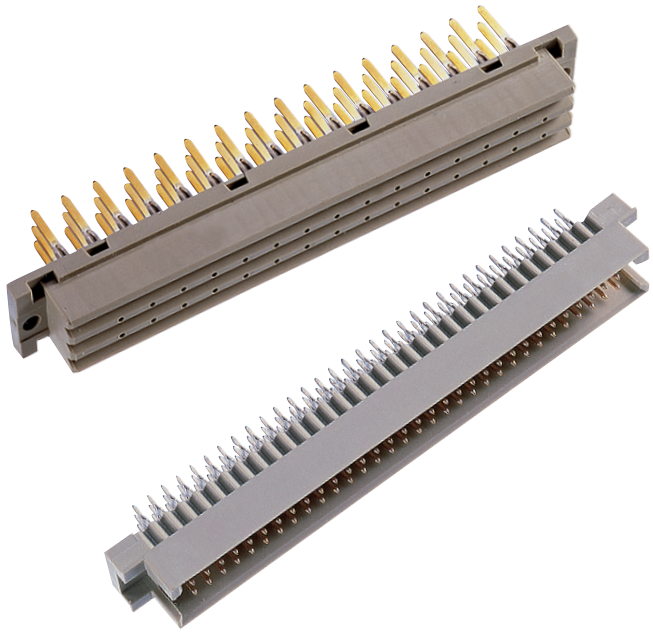
On request

- other lengths possible for pre-mating and late-mating

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