Number of contacts

Type D	32
Type E	48

Contact spacing (mm)

Type D	5,08
Type E	male connector 5.08 x 5.08 male connector 2.54 x 5.08 female connector 5.08 x 5.08

Working current

6 A max.

see current carrying capacity chart

Clearance

Types D und E	≥ 3.0 mm
Type E male connector row separation 2.54 mm	≥ 1.6 mm

Creepage

≥ 3.0 mm

Working voltage

The working voltage also depends on the clearance and creepage dimensions of the pcb itself and the associated wiring

according to the safety regulations of the equipment
Explanations see chapter 00

Test voltage $U_{r.m.s.}$

1.55 kV

Contact resistance

≤ 15 mΩ for wire wrap and solder connections

≤ 20 mΩ including crimp connections

Insulation resistance

≥ 10^{12} Ω

Temperature range

The higher temperature limit includes the local ambient and heating effects of the contacts under load

– 55 °C … + 125 °C

Degree of protection for crimp terminal

according to DIN 40 050

IP 20

Electrical termination

Male connector	Solder pins for pcb connections Ø 1.0 ± 0.1 mm according to IEC 60 326-3
Female connector	Wrap posts 1 x 1 mm diagonal 1.34-1.45 mm Solder pins for pcb connections Ø 1.0 ± 0.1 mm according to IEC 60 326-3 Angled solder pins 1 x 1 mm for pcb connections Ø 1.6 ± 0.1 mm Solder lugs Crimp terminal 0.09-1.5 mm²

Insertion and withdrawal force

32 way ≤ 40 N
48 way ≤ 75 N

Materials

Mouldings	Thermoplastic resin, glass-fibre filled, UL 94-V0
Contacts	Copper alloy

Contact surface

Contact zone: selectively gold plated according to performance level[1)]
Termination zone: tinned

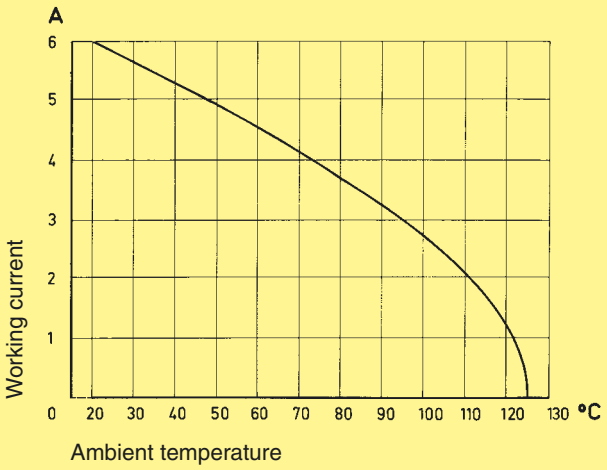
[1)] Explanation of performance levels see chapter 00

Mating conditions	see chapter 00
Coding systems	see page 02.36
Mounting clips	see chapter 00

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity curve is valid for continuous, non interrupted current loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512

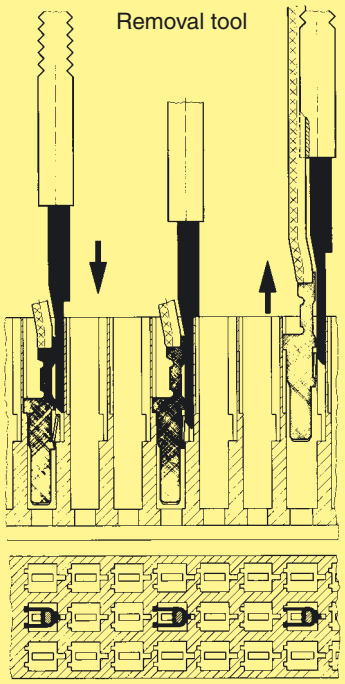


Fitting the crimp contacts

After crimping the wires onto the contacts with the help of a crimping tool or an automatic crimping machine the contacts should be correctly oriented and inserted into the cavities of the connector moulding in the required configuration. They snap into position and are firmly held in place. A light pull on the wire assures the correct tensile strength of the contact. When using stranded wires with a gauge below 0.37 mm² an insertion tool is necessary.

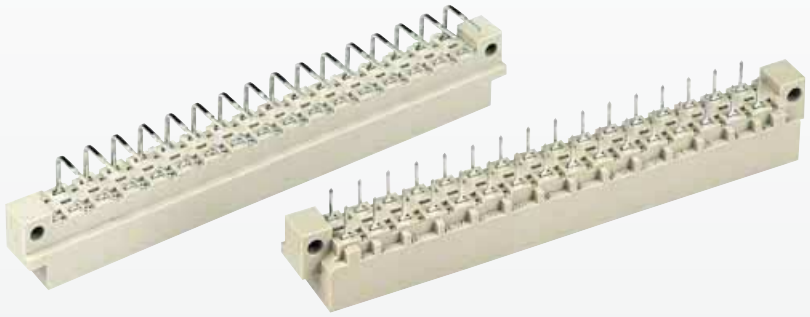
Removing the crimp contacts

The removal tool is inserted into a slot on the side of the respective crimp cavity. This action compresses the contact retaining spring therefore the contact can then be easily withdrawn using a light pull on the wire. This action will cause no damage to the contact/wire which can be repositioned/refitted as necessary. The drawing demonstrates the crimp removal procedure (max. 5x).

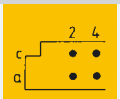
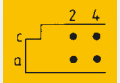
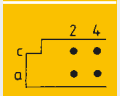
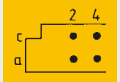


Number of contacts

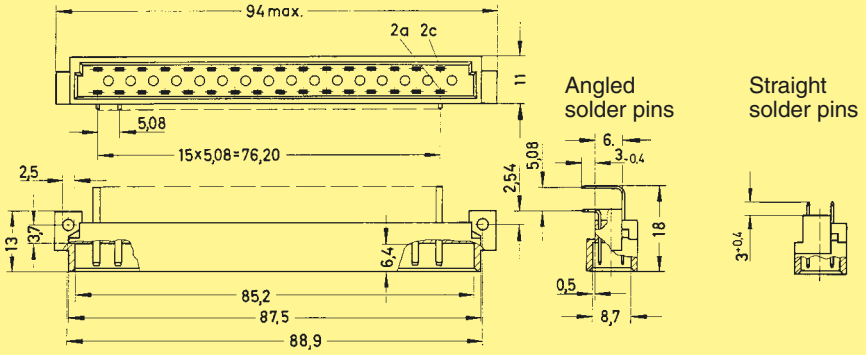
32



Male connectors

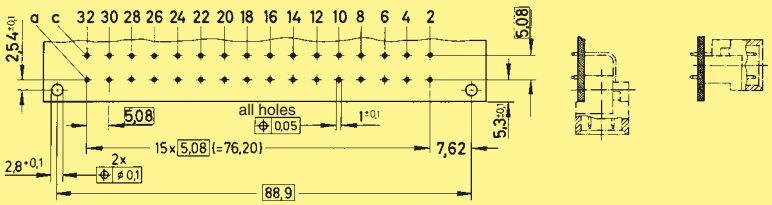
Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to DIN 41 612. Explanation chapter 00		
			3	2	1
Male connector with angled solder pins	32		09 04 132 7921	09 04 132 6921	09 04 132 2921
	30 + 2[s]		09 04 132 7951	09 04 132 6951	
Male connector with straight solder pins	32		09 04 132 7922	09 04 132 6922	
	30 + 2[s]		09 04 132 7952	09 04 132 6952	

Dimensions



Board drillings

Mounting side

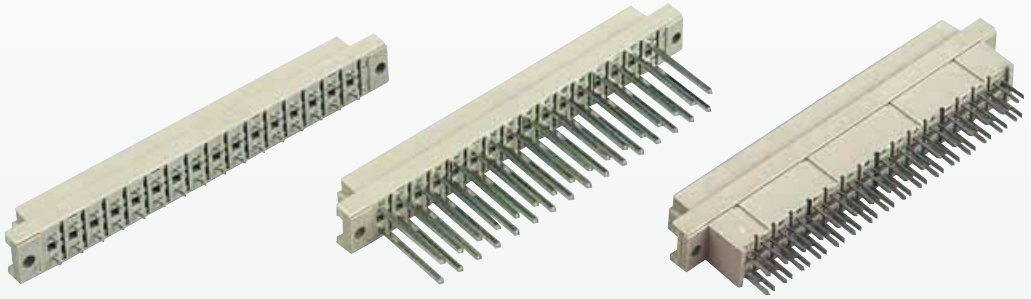


Dimensions in mm

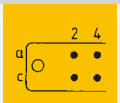
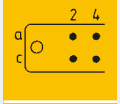
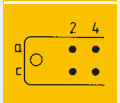
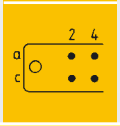
[s] Male connectors with 2 leading contacts [(0.8 mm) pos. a2 and a32]
Other contact arrangements on request

Number of contacts

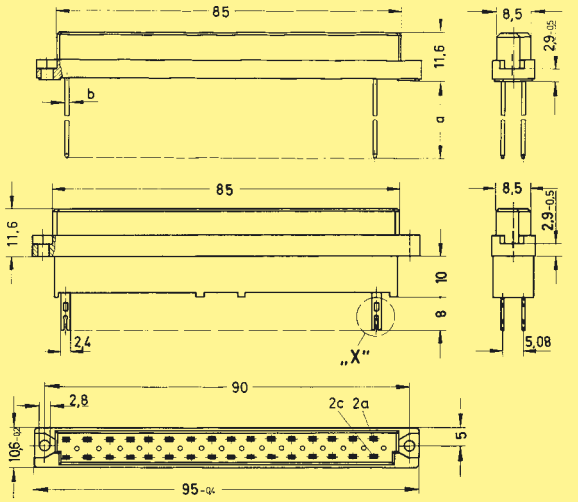
32



Female connectors

Identification	Number of contacts	Contact arrangement	Part No. 3	Performance levels according to DIN 41 612. Explanation chapter 00 2	1
Female connector with solder pins 2.5 mm	32		09 04 232 7832	09 04 232 6832	09 04 232 2832
Female connector with solder pins 4.0 mm	32		09 04 232 7831	09 04 232 6831	09 04 232 2831
Female connector with wrap posts 20 mm	32		09 04 232 7821	09 04 232 6821	09 04 232 2821
Female connector with solder lugs	32		09 04 232 7823	09 04 232 6823	09 04 232 2823

Dimensions



a	b
2.5	ø 0.7
4	

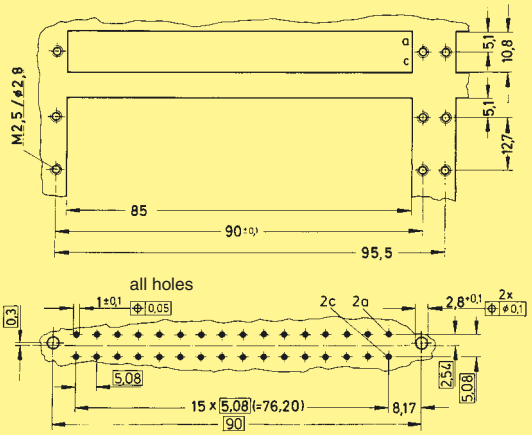
Solder pins

a	b
20	1

Wrap posts

Solder lugs

Panel cut out

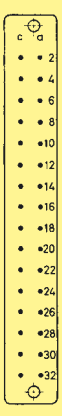


Board drillings

Mounting side

Contact arrangement

View from termination side



32

Dimensions in mm

Number of contacts

Type F	48, 32
Type FM	45
Type 2F	max. 24
Type F9	max. 9

Contact spacing (mm)
5.08

Working current
6 A max.

see current carrying capacity chart

Clearance
≥ 1.6 mm

Creepage
≥ 3.0 mm

Working voltage

The working voltage also depends on the clearance and creepage dimensions on the pcb itself and the associated wiring	according to the safety regulations of the equipment Explanations see chapter 00

Test voltage $U_{r.m.s.}$
1.55 kV (contact-contact)
2.5 kV (contact-ground)

Contact resistance
≤ 15 mΩ for wire wrap and solder connections
≤ 20 mΩ including crimp connections

Insulation resistance
≥ 10^{12} Ω

Temperature range
– 55 °C … + 125 °C

The higher temperature limit includes the local ambient and heating effects of the contacts under load

Degree of protection for crimp terminal
IP 20

according to DIN 40 050

Electrical termination

Male connector	Solder pins for pcb connections Ø 1 ± 0.1 mm according to IEC 60 326-3 Wrap posts 1 x 1 mm diagonal 1.34-1.45 mm Crimp terminal 0.09-1.5 mm²
Female connector	Wrap posts 1 x 1 mm diagonal 1.34-1.45 mm Solder pins for pcb connections Ø 1 ± 0.1 mm according to IEC 60 326-3 Angled solder pins 1 x 1 mm for pcb connections Ø 1.6 ± 0.1 mm Solder lugs Crimp terminal 0.09-1.5 mm²
Distributor	Crimp terminal 0.09-1.5 mm²

Insertion and withdrawal force
48 way ≤ 75 N
45 way ≤ 70 N
32 way ≤ 50 N
24 way ≤ 37 N

Materials

Mouldings	Thermoplastic resin, glass-fibre filled, UL 94-V0
Contacts	Copper alloy

Contact surface
Contact zone: selectively gold-plated according to performance level[1)]
Termination zone: tinned

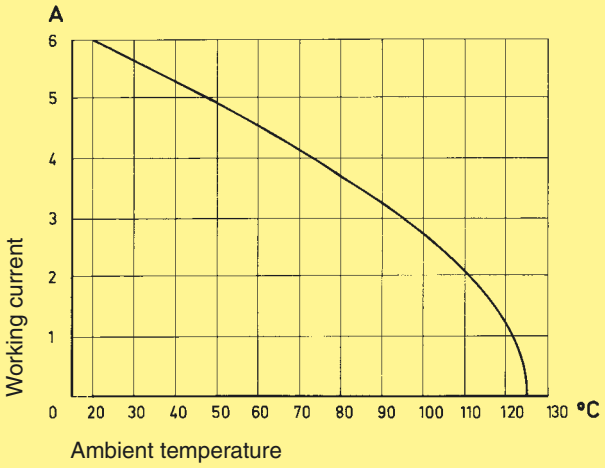
[1)] Explanation of performance levels see chapter 00

Mating conditions see chapter 00
Coding systems see page 02.36
Mounting clips see chapter 00

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity curve is valid for continuous, non interrupted current loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512

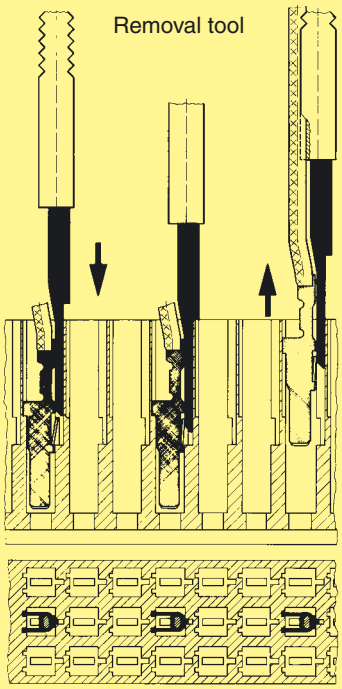


Fitting the crimp contacts

After crimping the wires onto the contacts with the help of a crimping tool or an automatic crimping machine the contacts should be correctly oriented and inserted into the cavities of the connector moulding in the required configuration. They snap into position and are firmly held in place. A light pull on the wire assures the correct tensile strength of the contact. When using stranded wires with a gauge below 0.37 mm² an insertion tool is necessary.

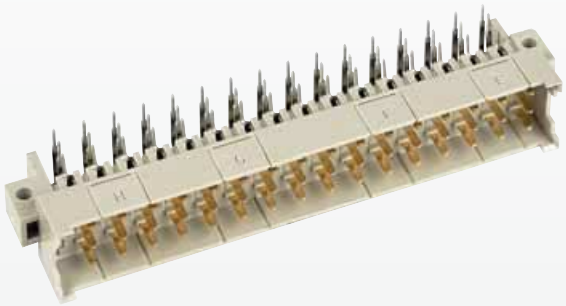
Removing the crimp contacts

The removal tool is inserted into a slot on the side of the respective crimp cavity. This action compresses the contact retaining spring therefore the contact can then be easily withdrawn using a light pull on the wire. This action will cause no damage to the contact/wire which can be repositioned/refitted as necessary. The drawing demonstrates the crimp removal procedure (max. 5x).

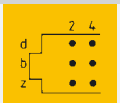
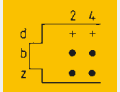
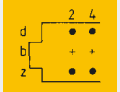
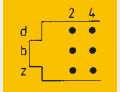
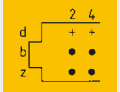
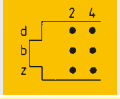


Number of contacts

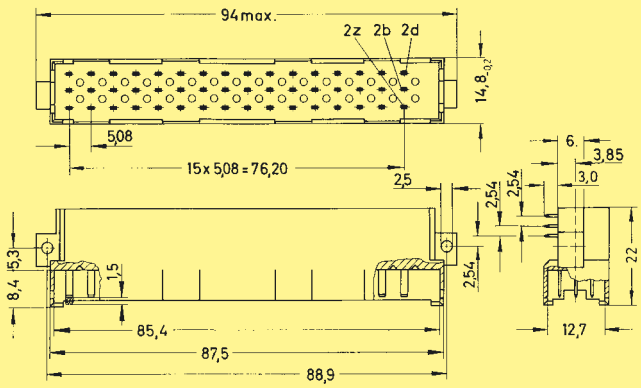
48, 32



Male connectors

Identification	Number of contacts	Contact arrangement	Part No. 3	Performance levels according to DIN 41 612. Explanation chapter 00 2	1
Male connector with angled solder pins	48		09 06 148 7901	09 06 148 6901	09 06 148 2901
	32		09 06 132 7901	09 06 132 6901	09 06 132 2901
	32		09 06 132 7931	09 06 132 6931	09 06 132 2931
1 leading contact (position z 32)	47 + 1		09 06 148 7921	09 06 148 6921	09 06 148 2921
	31 + 1		09 06 132 7921	09 06 132 6921	09 06 132 2921
2 leading contacts (positions b 2 + b 32)	46 + 2			09 06 148 6925	09 06 148 2925

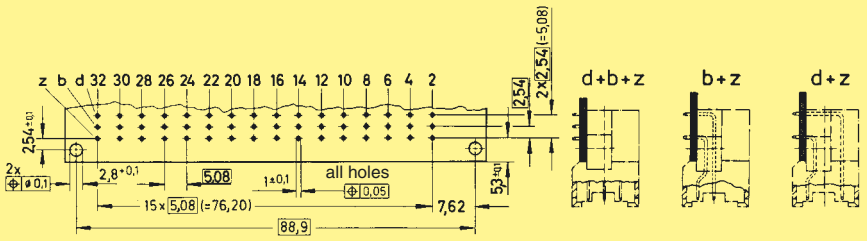
Dimensions



Angled solder pins

Board drillings

Mounting side



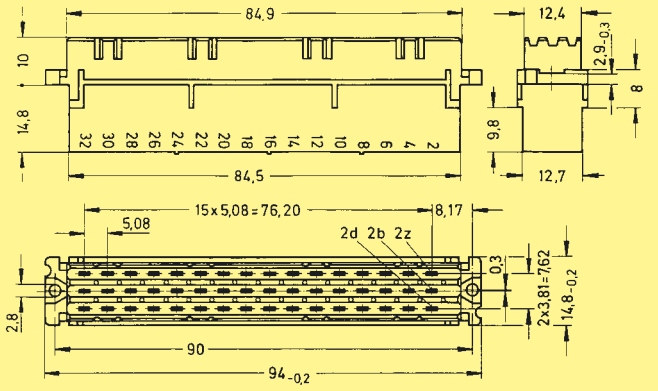
Dimensions in mm

Number of contacts

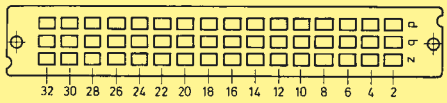
max. 48

Female connectors

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Female connector for crimp contacts Order contacts separately	48	09 06 248 3201		



Contact arrangement View from termination side

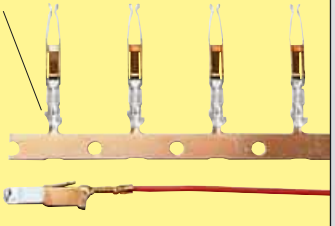


Shell housing see chapter 20

Identification	Identification Wire gauge	Part No. Performance levels according to DIN 41 612. Explanation chapter 00 2	1
Female crimp FC contacts			
Bandoliered contacts (approx. 2 ,500 pieces)	1	09 06 000 6484	09 06 000 6474
	2	09 06 000 6481	09 06 000 6471
	3	09 06 000 6482	09 06 000 6472
Bandoliered contacts (approx. 250 pieces)	1	09 06 000 7484	09 06 000 7474
	2	09 06 000 7481	09 06 000 7471
	3	09 06 000 7482	09 06 000 7472
Individual contacts (1,000 pieces)	1	09 06 000 8484	09 06 000 8474
	2	09 06 000 8481	09 06 000 8471
	3	09 06 000 8482	09 06 000 8472

		Wire gauge mm²	AWG	Insulation ø mm
FC 1	1	0.09 - 0.25	28 - 24	0.7 - 1.5
FC 2	2	0.14 - 0.56	26 - 20	0.8 - 2.0
FC 3	3	0.5 - 1.5	20 - 16	1.6 - 2.8

Identification



Bandoliered contacts

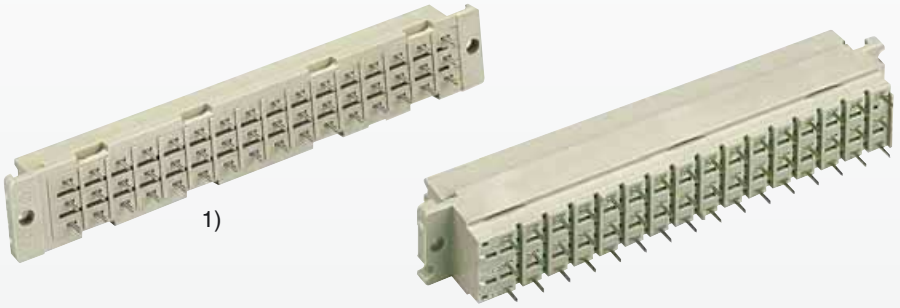
Individual contacts

3.5 + 0.5 mm of insulation is stripped from the wires to be crimped

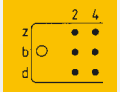
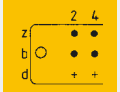
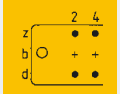
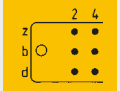
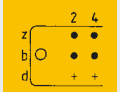
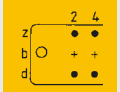
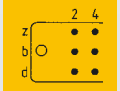
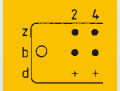
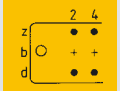
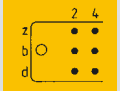
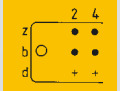
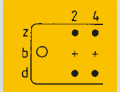
Insertion, removal and crimping tools see chapter 30

Number of contacts

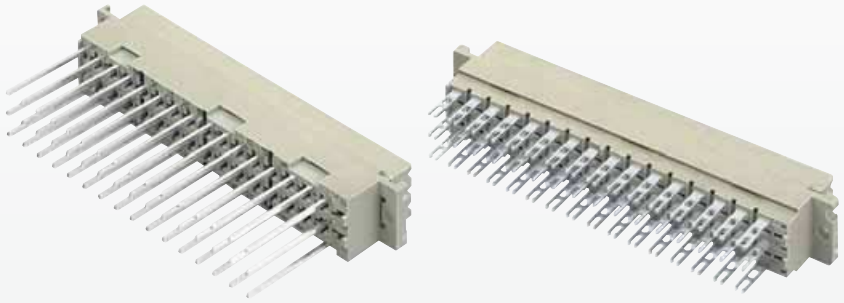
48, 32



Female connectors

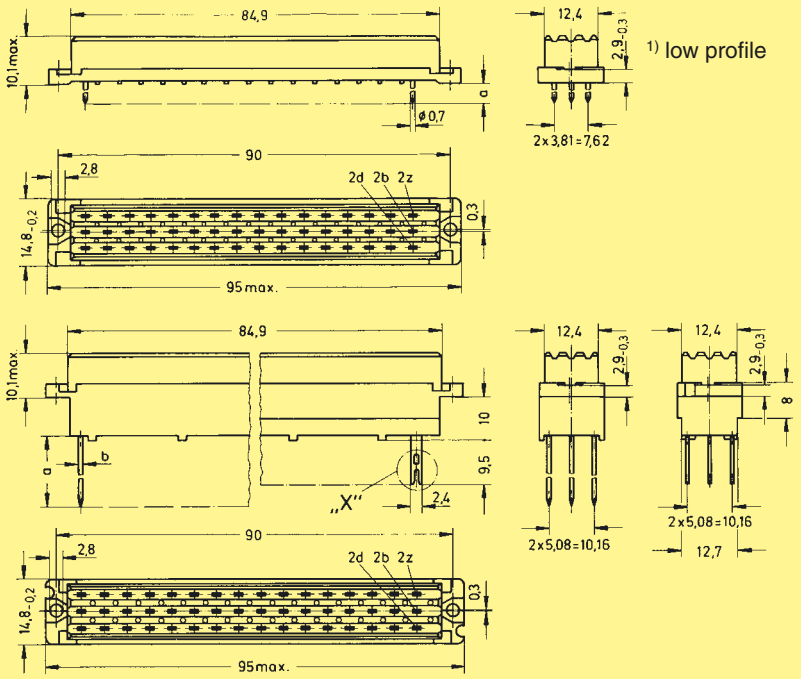
Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to DIN 41 612. Explanation chapter 00	
			3	2	1
Female connector with solder pins 3.2 mm	48		09 06 248 7848 09 06 248 7833[1)]	09 06 248 6848 09 06 248 6833[1)]	09 06 248 2848 09 06 248 2833[1)]
	32		09 06 232 7848 09 06 232 7833[1)]	09 06 232 6848 09 06 232 6833[1)]	09 06 232 2848 09 06 232 2833[1)]
	32		09 06 232 7858 09 06 232 7893[1)]	09 06 232 6858 09 06 232 6893[1)]	09 06 232 2858 09 06 232 2893[1)]
Female connector with solder pins 4.5 mm	48		09 06 248 7835 09 06 248 7834[1)]	09 06 248 6835 09 06 248 6834[1)]	09 06 248 2835 09 06 248 2834[1)]
	32		09 06 232 7835 09 06 232 7834[1)]	09 06 232 6835 09 06 232 6834[1)]	09 06 232 2835 09 06 232 2834[1)]
	32		09 06 232 7845 09 06 232 7894[1)]	09 06 232 6845 09 06 232 6894[1)]	09 06 232 2845 09 06 232 2894[1)]
Female connector with wrap posts 22 mm	48		09 06 248 7821	09 06 248 6821	09 06 248 2821
	32		09 06 232 7821	09 06 232 6821	09 06 232 2821
	32		09 06 232 7831	09 06 232 6831	09 06 232 2831
Female connector with solder lugs open solder lug 	48		09 06 248 7823	09 06 248 6823	09 06 248 2823
	32		09 06 232 7823	09 06 232 6823	09 06 232 2823
	32		09 06 232 7843	09 06 232 6843	09 06 232 2843
Female connector with press-in pins	Part Nos. and variants see chapter 04				

[1)] Low profile female connectors



Identification	Drawing	Dimensions in mm

Female connectors type F DIN 41 612

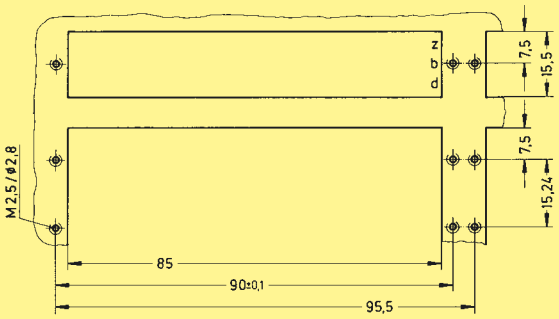


a	b	
3.2	0.6	Solder pins
4.5		

a	b	
22	1	Wrap posts

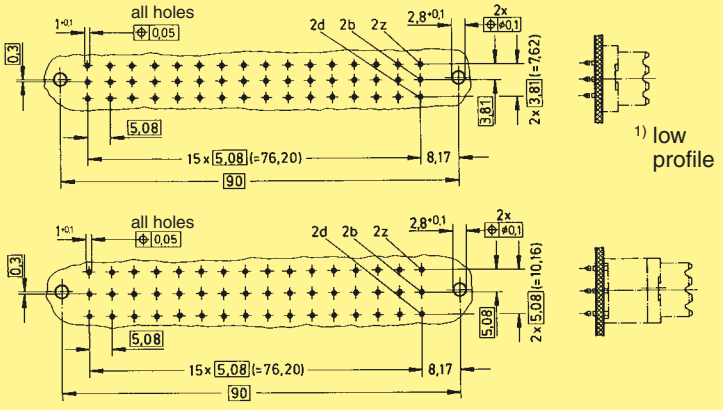
Solder lugs

Panel cut out



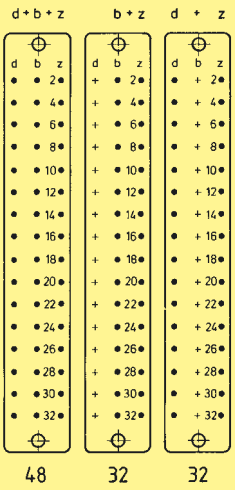
Board drillings

Mounting side



Contact arrangement

View from termination side



Identification strips see chapter 40