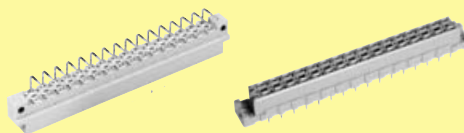


Types D, E, F, FM, 2F, F9, interface connectors I/U

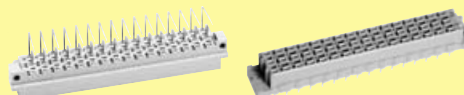
Page

Technical characteristics types D and E ..... **02.10**

Type D connectors ..... **02.11**

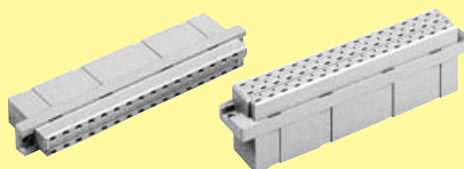


Type E connectors ..... **02.15**



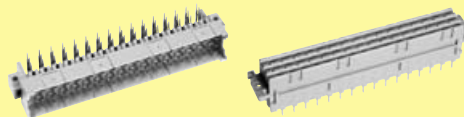
Technical characteristics piggyback connectors ..... **02.20**

Piggyback connectors ..... **02.21**



Technical characteristics types F, F9, FM and 2F ..... **02.24**

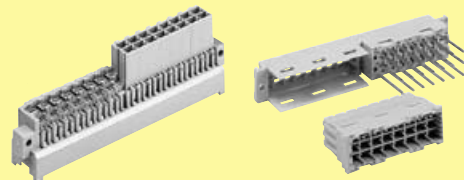
Type F connectors ..... **02.25**



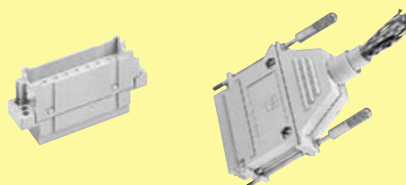
Type F9 connectors ..... **02.35**



Type FM connectors ..... **02.36**



Type 2F connectors ..... **02.38**



Coding systems ..... **02.41**

DIN Power  
to 6 A

<b>Number of contacts</b>	
Type D	32
Type E	48
<b>Contact spacing (mm)</b>	
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
<b>Working current</b>	6 A max. see current carrying capacity chart
<b>Clearance</b>	
Types D und E	≥ 3.0 mm
Type E male connector row separation 2.54 mm	≥ 1.6 mm
<b>Creepage</b>	≥ 3.0 mm
<b>Working voltage</b>	
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
<b>Test voltage <math>U_{r.m.s.}</math></b>	1.55 kV
<b>Contact resistance</b>	≤ 15 mΩ for wire wrap and solder connections ≤ 20 mΩ including crimp connections
<b>Insulation resistance</b>	≥ 10 <sup>12</sup> Ω
<b>Temperature range</b>	- 55 °C ... + 125 °C
The higher temperature limit includes the local ambient and heating effects of the contacts under load	
<b>Degree of protection for crimp terminal</b>	IP 20 according to DIN 40 050
<b>Electrical termination</b>	
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 mm <sup>2</sup>
<b>Insertion and withdrawal force</b>	32 way ≤ 40 N 48 way ≤ 75 N
<b>Materials</b>	
Mouldings	Thermoplastic resin, glass-fibre filled, UL 94-V0
Contacts	Copper alloy
<b>Contact surface</b>	
Contact zone	Selectively gold plated according to performance level <sup>1)</sup>

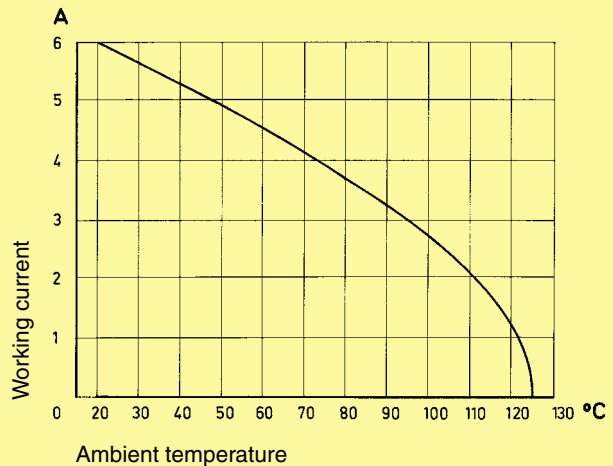
<sup>1)</sup> Explanation of performance levels see chapter 00

Mating conditions see chapter 00  
Coding systems see pages 02.41 and 02.42  
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

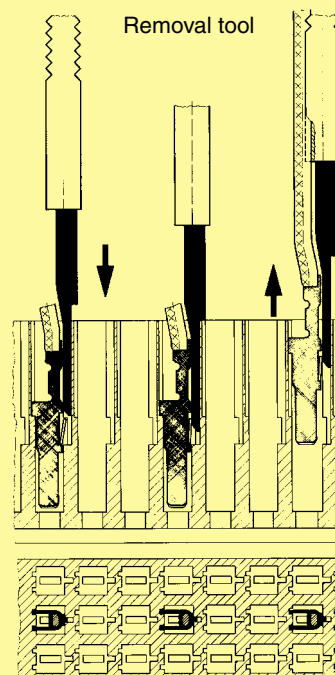


## Fitting the crimp contacts

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 mm<sup>2</sup> an insertion tool is necessary.

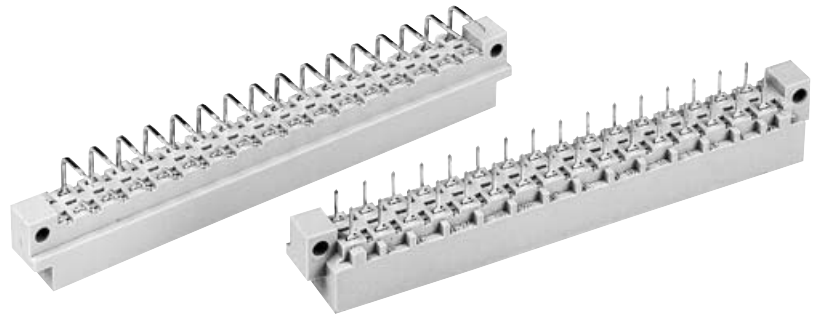
## Removing the crimp contacts

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

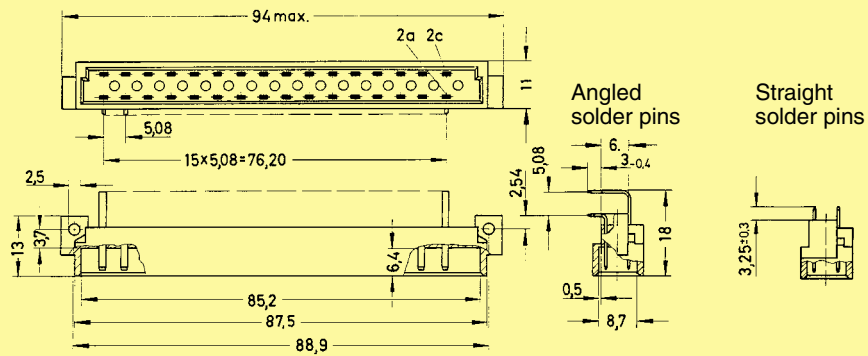


Male connectors

Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60603-2. Explanation chapter 00	
			3	2	1
Male connector with angled solder pins	32		09 04 132 7921	09 04 132 6921 09 04 332 6921 <sup>b)</sup> 09 04 632 6921 <sup>c)</sup>	09 04 132 2921
	30 + 2 <sup>▲</sup>			09 04 132 6951 09 04 632 6951 <sup>c)</sup>	09 04 632 2951 <sup>c)</sup>
Male connector with straight solder pins	32			09 04 132 6922	
	30 + 2 <sup>▲</sup>			09 04 132 6952	

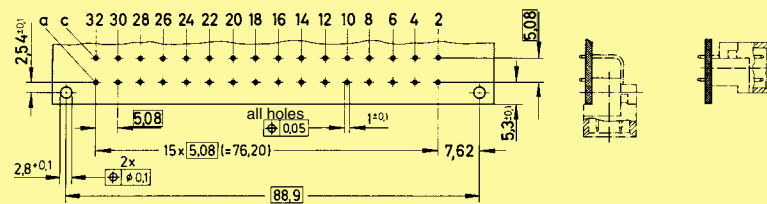
DIN Power  
to 6 A

Dimensions



Board drillings

Mounting side

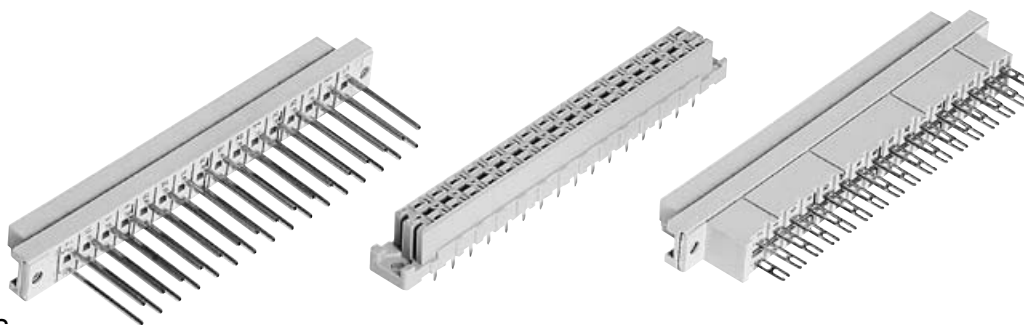


Dimensions in mm

▲ Male connectors with 2 leading contacts [(0.8 mm) pos. a2 and a32]  
 Other contact arrangements on request  
 b) Connectors with snap-in clips see chapter 00  
 c) Connectors with coding see page 02.42

Number of contacts

# 32

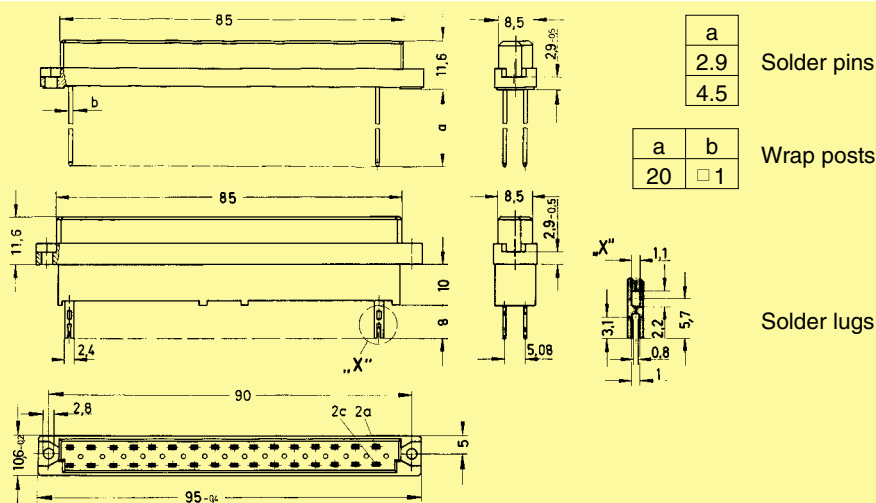


## Female connectors

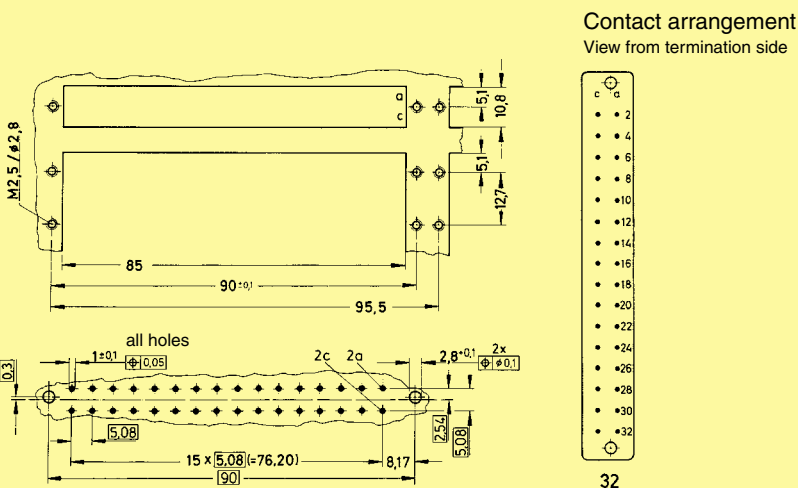
DIN Power  
to 6 A

Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60 603-2. Explanation chapter 00		
				3	2	1
Female connector with solder pins 2.9 mm	32		09 04 232 7832	09 04 232 6832 09 04 732 6832 <sup>c)</sup>	09 04 232 2832	
Female connector with solder pins 4.5 mm	32		09 04 232 7831	09 04 232 6831 09 04 332 6831 <sup>b)</sup> 09 04 732 6831 <sup>c)</sup>	09 04 232 2831	
Female connector with wrap posts 20 mm	32		09 04 232 7821	09 04 232 6821 09 04 732 6821 <sup>c)</sup>	09 04 232 2821	
Female connector with solder lugs	32		09 04 232 7823	09 04 232 6823	09 04 232 2823	

## Dimensions



## Panel cut out



## Board drillings

Mounting side

Dimensions in mm

<sup>b)</sup> Connectors with snap-in clips see chapter 00  
<sup>c)</sup> Connectors with coding see page 02.42

Number of contacts

32



Female connectors

Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60603-2. Explanation chapter 00	
			3	2	1

Female connector with angled solder pins 1 x 1 mm

32

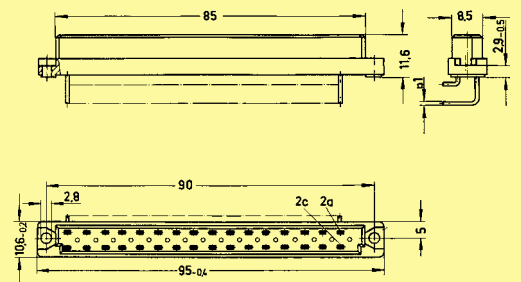


09 04 232 7826

09 04 232 6826

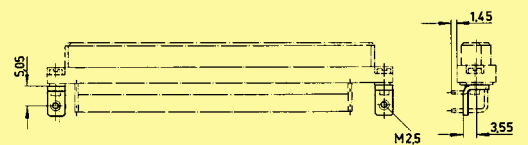
09 04 232 2826

Dimensions



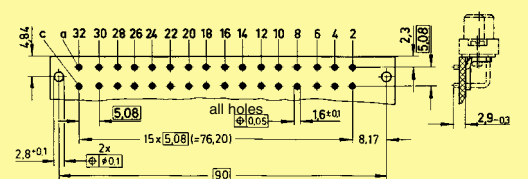
Fixing bracket Metal

09 06 000 9912<sup>1)</sup>



<sup>1)</sup> order 2 pieces for one connector

Board drillings  
Mounting side

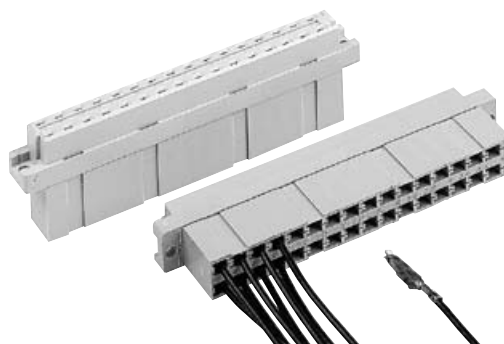


Dimensions in mm

DIN Power  
10 6 A

Number of contacts

**max. 32**



Female connectors

DIN Power  
10 6 A

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Female connector for crimp contacts Order contacts separately	32	09 04 032 3213	<p>85, 84, 11.5, 14.8, 8.5, 2.9±0.08, 10, 2.8+0.1, 90±0.1, 2c, 2a, 5.08, 5, 51, 10.6±0.1, 15 x 5.08 = 76.20, 8.17, 95-0.4</p> <p>Contact arrangement View from termination side</p>	<p>85, 84, 11.5, 14.8, 8.5, 2.9±0.08, 10, 2.8+0.1, 90±0.1, 2c, 2a, 5.08, 5, 51, 10.6±0.1, 15 x 5.08 = 76.20, 8.17, 95-0.4</p>

Shell housing 09 03 096 0501 see chapter 20

Identification	Identification Wire gauge	Part No.	Performance levels according to IEC 60603-2. 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 <sup>1)</sup>	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
Female contacts with solder lugs <sup>2)</sup> (lockable)			09 06 000 6420

Identification	Wire gauge mm <sup>2</sup>	AWG	Insulation ø mm	Identification
FC 1	0.09 - 0.25	28 - 24	0.7 - 1.5	<p>Bandoliered contacts</p> <p>Individual contacts</p>
FC 2	0.14 - 0.56	26 - 20	0.8 - 2.0	
FC 3	0.5 - 1.5	20 - 16	1.6 - 2.8	

3.5 + 0.5 mm of insulation is stripped from the wires to be crimped  
Insertion, removal and crimping tools see chapter 30

<sup>1)</sup> Packaging unit 1,000 pieces  
<sup>2)</sup> Solder contacts must not be used together with shell housing A. Special contact surface: 2 µm gold.

Number of contacts

# 48

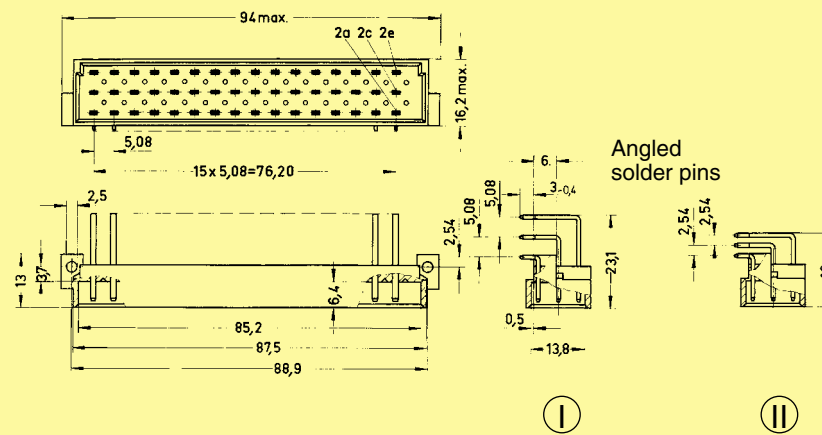


Male connectors

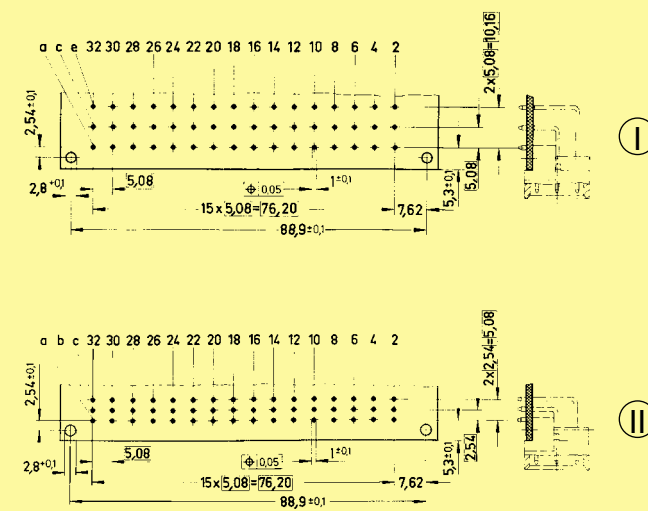
Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60603-2. Explanation chapter 00
			3	2 1
<b>Male connector with angled solder pins</b>  Row separation termination side 5.08 mm (I)	48		09 05 148 7921	09 05 148 6921 09 05 348 6921 <sup>b)</sup> 09 05 648 6921 <sup>c)</sup>
	46 + 2 <sup>▲</sup>			09 05 148 6951
	48		09 05 148 7931	09 05 148 6931
	46 + 2 <sup>▲</sup>			09 05 148 6961

DIN Power 10 6 A

Dimensions



Board drillings  
Mounting side

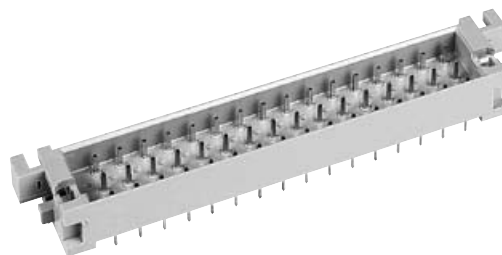


Dimensions in mm

▲ Male connectors with 2 leading contacts [(0.8 mm) pos. a2 and a32]  
 Other contact arrangements on request  
 b) Connectors with snap-in clips see chapter 00  
 c) Connectors with coding see page 02.42

Number of contacts

# 48



Interface connector I

DIN Power  
to 6 A

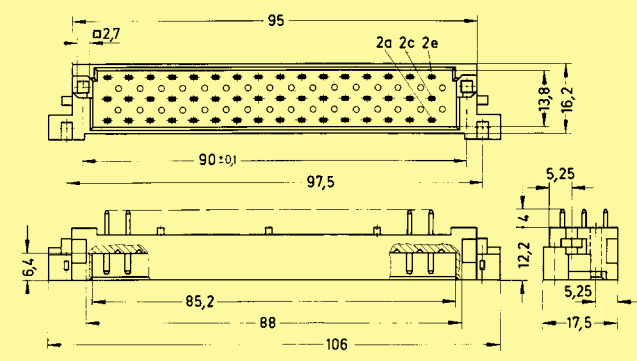
Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
----------------	--------------------	----------	---------	------------------

Interface connector I  
with solder pins  
0.6 x 0.6 mm

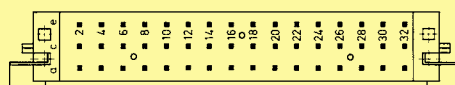
48

Performance level 2  
acc. to IEC 60 603-2

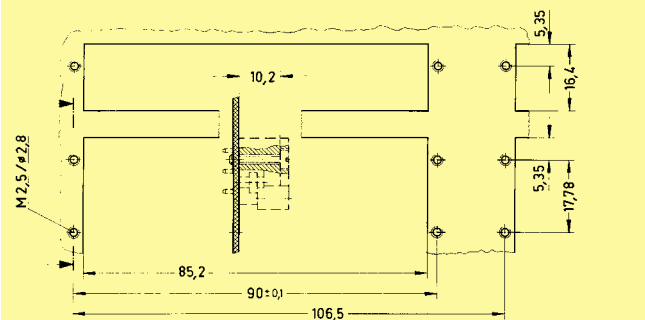
09 05 048 6924



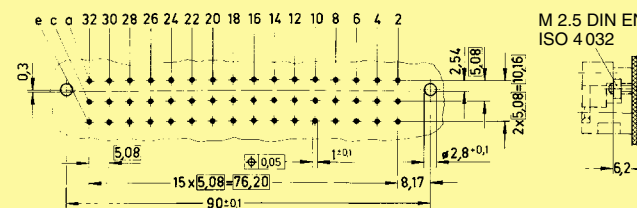
Contact arrangement View from termination side



Panel cut out



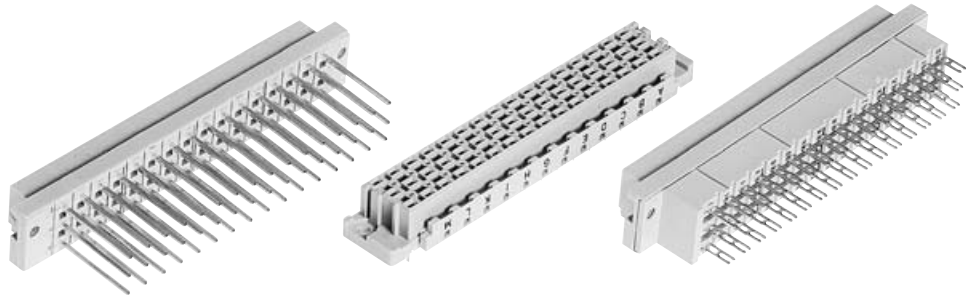
Board drillings  
Mounting side





Number of contacts

# 48



## Female connectors

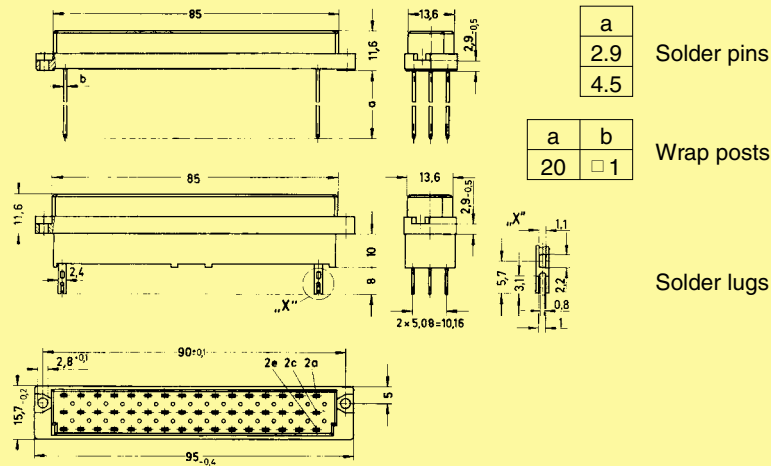
Identification	Number of contacts	Contact arrangement	Part No. Performance levels according to IEC 60603-2. Explanation chapter 00		
			3	2	1
Female connector with solder pins 2.9 mm	48		09 05 248 7832	09 05 248 6832	09 05 248 2832
Female connector with solder pins 4.5 mm	48		09 05 248 7831	09 05 248 6831 09 05 348 6831 <sup>b)</sup> 09 05 748 6831 <sup>c)</sup>	09 05 248 2831 09 05 748 2831 <sup>c)</sup>
Female connector with wrap posts 20 mm	48		09 05 248 7821	09 05 248 6821	09 05 248 2821
Female connector with solder lugs	48		09 05 248 7823	09 05 248 6823	09 05 248 2823

DIN Power 10 6 A

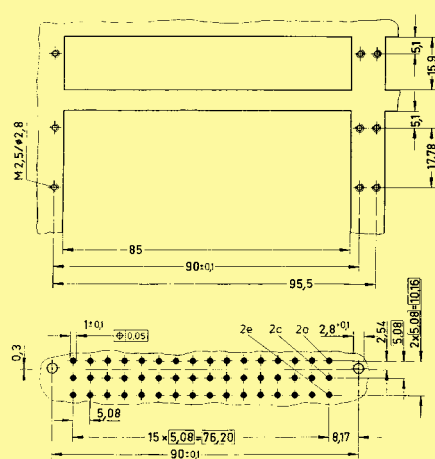
Female connector with press-in pins

Part Nos. and variants see chapter 04

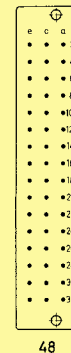
Dimensions



Panel cut out



Contact arrangement  
View from termination side



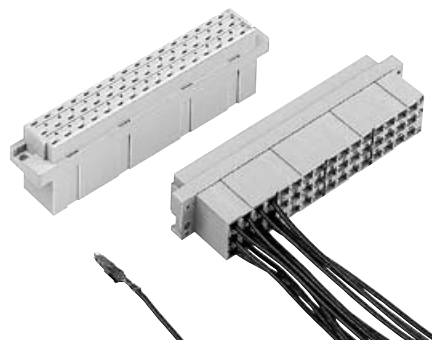
Board drillings  
Mounting side

Dimensions in mm

<sup>b)</sup> Connectors with snap-in clips see chapter 00  
<sup>c)</sup> Connectors with coding see page 02.42

Number of contacts

**max. 48**



Female connectors

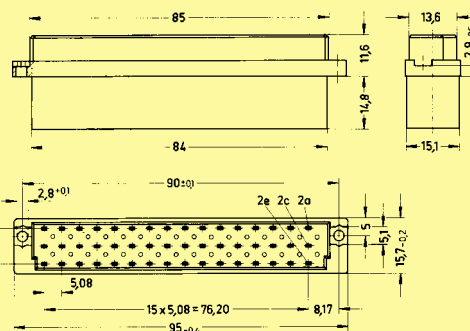
DIN Power  
10 6 A

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
----------------	--------------------	----------	---------	------------------

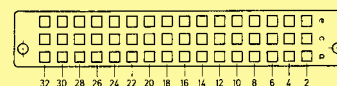
Female connector for crimp contacts  
Order contacts separately

48

09 05 048 3202  
09 05 548 3202<sup>c)</sup>



Contact arrangement View from termination side



Shell housing 09 05 048 0501 see chapter 20

Identification	Identification Wire gauge	Part No.	Performance levels according to IEC 60603-2. Explanation chapter 00
----------------	---------------------------	----------	---

Female crimp FC contacts

Bandoliered contacts (approx. 2,500 pieces)

1  
2  
3

09 06 000 6484  
09 06 000 6481  
09 06 000 6482

09 06 000 6474  
09 06 000 6471  
09 06 000 6472

Bandoliered contacts (approx. 250 pieces)

1  
2  
3

09 06 000 7484  
09 06 000 7481  
09 06 000 7482

09 06 000 7474  
09 06 000 7471  
09 06 000 7472

Individual contacts<sup>1)</sup>

1  
2  
3

09 06 000 8484  
09 06 000 8481  
09 06 000 8482

09 06 000 8474  
09 06 000 8471  
09 06 000 8472

Female contacts with solder lugs<sup>2)</sup> (lockable)

09 06 000 6420

FC 1  
FC 2  
FC 3

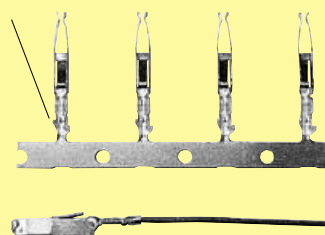
1  
2  
3

Wire gauge mm <sup>2</sup>	AWG	Insulation ø mm
0.09 - 0.25	28 - 24	0.7 - 1.5
0.14 - 0.56	26 - 20	0.8 - 2.0
0.5 - 1.5	20 - 16	1.6 - 2.8

Identification

Bandoliered contacts

Individual contacts



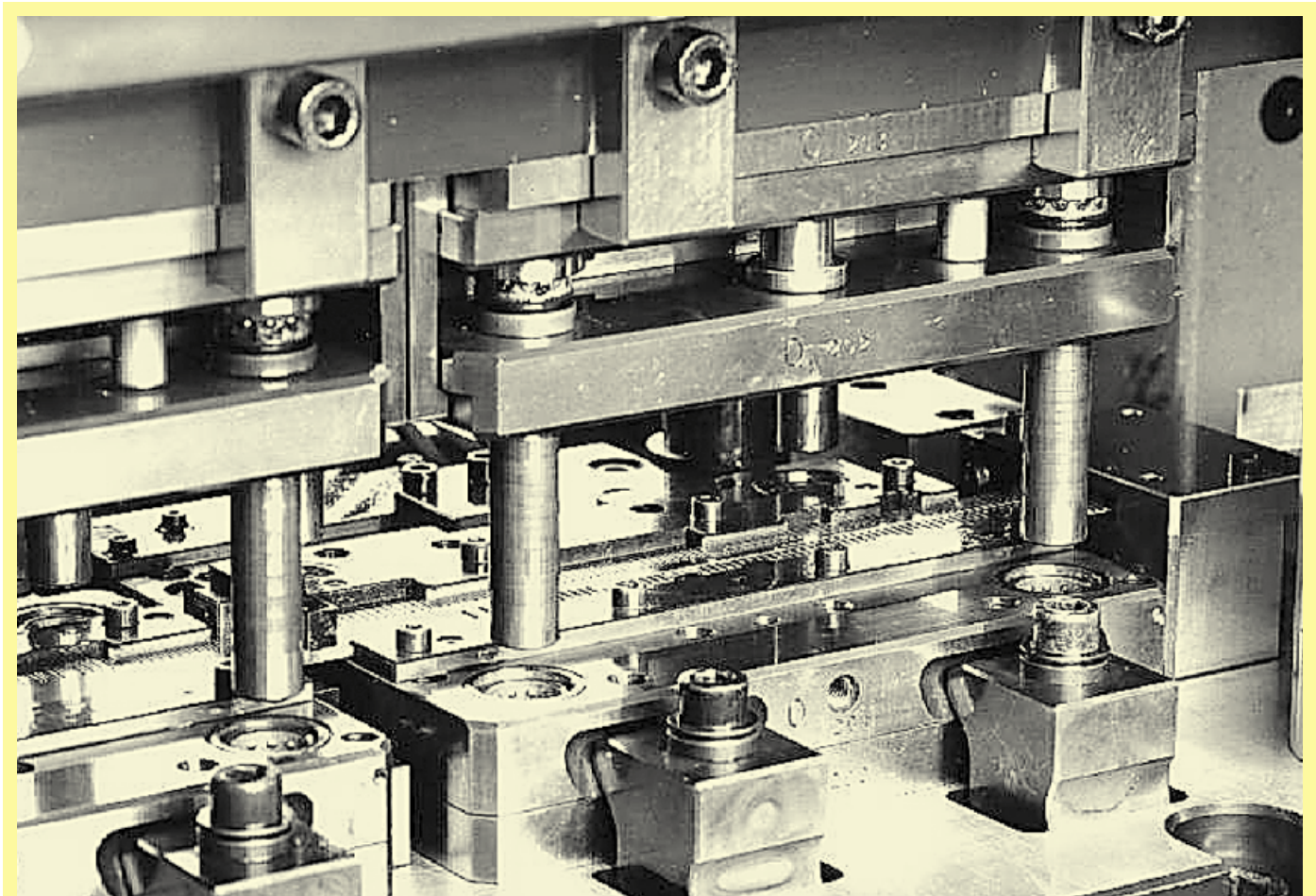
3.5 + 0.5 mm of insulation is stripped from the wires to be crimped

Insertion, removal and crimping tools see chapter 30

<sup>c)</sup> Connectors with coding see page 02.42

<sup>1)</sup> Packaging unit 1,000 pieces

<sup>2)</sup> Solder contacts must not be used together with shell housing A. Special contact surface: 2 µm gold.



DIN Power  
10 6 A



Our claim is quality.

Simultaneous and fully automated high-speed stamping of several contacts with small tolerances.

Number of contacts	16, 32, 48
Working current	6 A max. see current carrying capacity chart
Clearance	16 ways $\geq 1.6$ mm 32, 48 ways $\geq 1.6$ mm
Creepage	16 ways $\geq 1.6$ mm 32, 48 ways $\geq 3.0$ mm
Working voltage	The working voltage also depends according to the safety regulations of the equipment. Explanations see chapter 00 on the clearance and creepage dimensions of the pcb itself and the associated wiring
Contact resistance	$\leq 20$ m $\Omega$
Insulation resistance	$\geq 10^{12}$ $\Omega$
Termination	Crimp terminal 0.09-1.5 mm <sup>2</sup>
Materials	Mouldings and hoods: Thermoplastic resin, glass-fibre filled Contacts: Copper alloy

## Piggyback connectors for interfacing with female connectors with wrap posts 1 x 1 mm

The problem of interfacing systems designed for the distribution or collection of electronic signals can be overcome by the use of piggyback connectors. Designed to be mounted on the rear of DIN 41 612 type wire wrap female connectors (1 x 1 mm posts) these piggyback elements can be used to terminate input and output cables.

Distance fixing brackets are fitted to provide either a latching or screw fixing facility over the two level wire wrap plane.

The female crimp contacts used in these versions are designed for 1 x 1 mm posts.

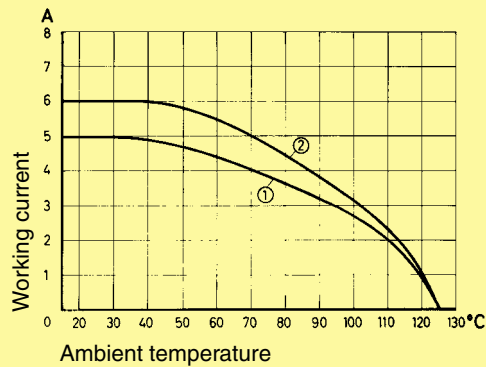
After crimping they can be easily inserted into the chambers of the connector body with the aid of an insertion tool. Insertion errors can be simply rectified with the use of a removal tool.

2 and 3 row piggyback connectors can be mounted in shell housings C and open hood G. Security is provided by either latches or screws to the distance fixing brackets.

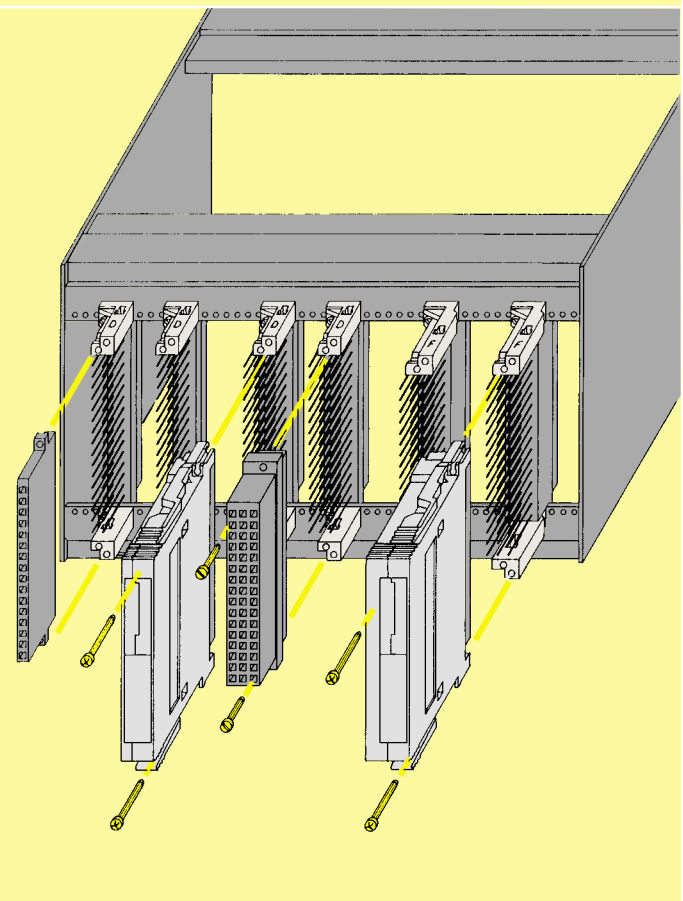
## Current carrying capacity

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



① with shell housing    ② without shell housing



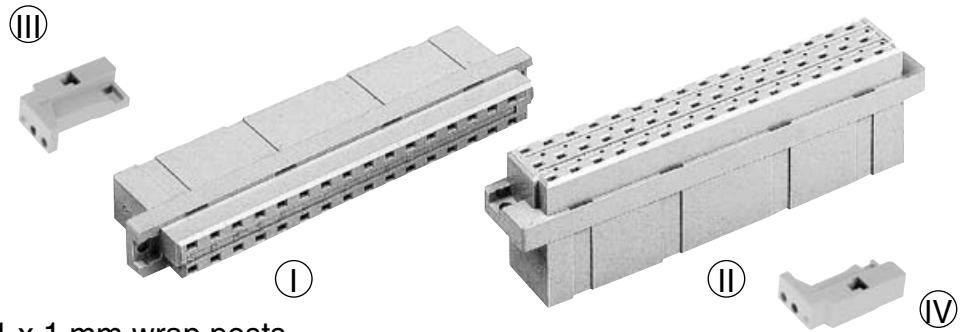
DIN Power  
10 6 A

# Piggyback connectors



Number of contacts

# max. 48



Piggyback connectors for 1 x 1 mm wrap posts

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm																
Piggyback connector for crimp contacts Order contacts separately																				
		16	09 04 016 3201																	
	I	32	09 04 032 3215																	
II	48	09 05 048 3204																		
Female FC crimp contacts FC1 individual contacts <sup>1)</sup> FC2 FC3 Bandoliered contacts FC1 (approx. 2,500 pcs.) FC2 FC3		09 06 000 6464 09 06 000 6461 09 06 000 6462 09 06 000 6454 09 06 000 6451 09 06 000 6452	<table border="1"> <thead> <tr> <th>Identification</th> <th>Wire gauge mm<sup>2</sup></th> <th>AWG</th> <th>Insulations ø mm</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.09-0.25</td> <td>28-24</td> <td>0.7-1.5</td> </tr> <tr> <td>2</td> <td>0.14-0.56</td> <td>26-20</td> <td>0.8-2.0</td> </tr> <tr> <td>3</td> <td>0.50-1.50</td> <td>20-16</td> <td>1.6-2.8</td> </tr> </tbody> </table>	Identification	Wire gauge mm <sup>2</sup>	AWG	Insulations ø mm	1	0.09-0.25	28-24	0.7-1.5	2	0.14-0.56	26-20	0.8-2.0	3	0.50-1.50	20-16	1.6-2.8	
Identification	Wire gauge mm <sup>2</sup>	AWG	Insulations ø mm																	
1	0.09-0.25	28-24	0.7-1.5																	
2	0.14-0.56	26-20	0.8-2.0																	
3	0.50-1.50	20-16	1.6-2.8																	
Mateable with 1 x 1 mm wrap posts			3.5 + 0.5 mm of insulation is stripped from the wires to be crimped. Crimping tools see chapter 30																	
Distance fixing brackets for female connectors Type D Type E		top (pos. 2) 09 04 000 9907  bottom (pos. 32) 09 04 000 9906																		
	Type F	top (pos. 2) 09 06 000 9936  bottom (pos. 32) 09 06 000 9937																		

DIN Power 10 6 A

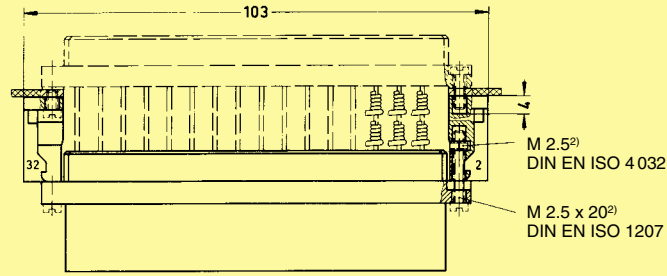
<sup>1)</sup> Packaging unit 1,000 pieces

Identification

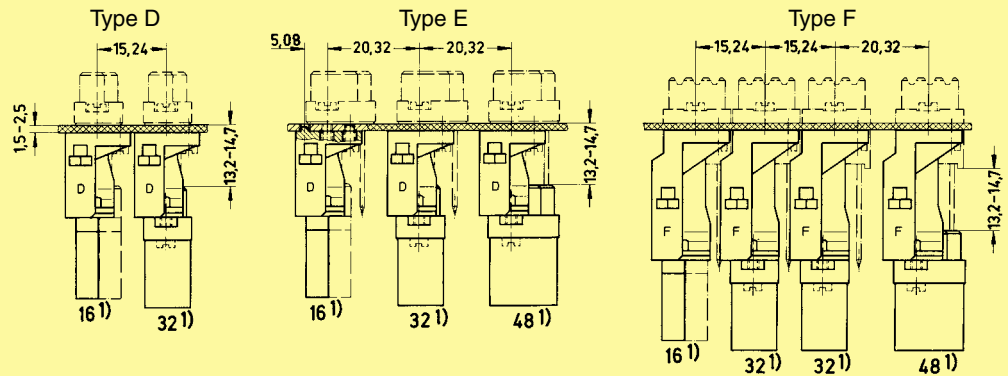
Drawing

Dimensions in mm

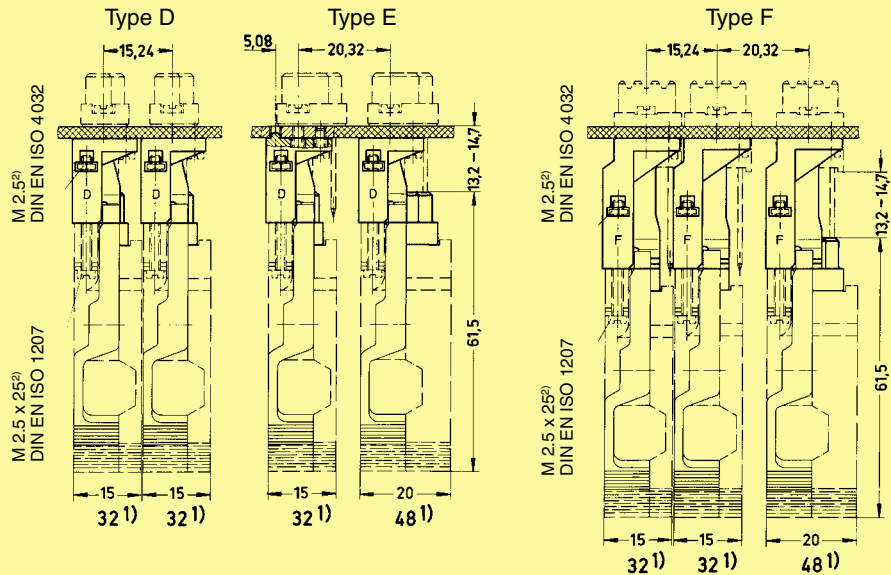
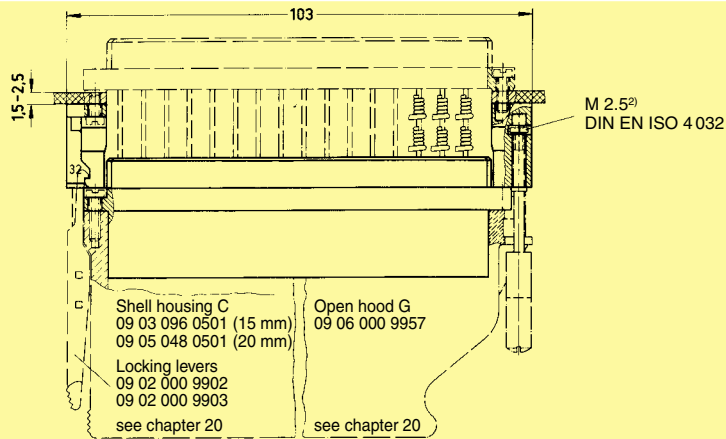
Mounting examples  
of piggyback  
connectors



without housings



with housings



DIN Power  
to 6 A

1) Number of contacts piggyback connector  
2) Doesn't belong to the scope of supply



DIN Power  
10 6 A

## 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  $\geq 1.6$  mm

Creepage  $\geq 3.0$  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  $\leq 15$  m $\Omega$  for wire wrap and solder connections  
 $\leq 20$  m $\Omega$  including crimp connections

Insulation resistance  $\geq 10^{12}$   $\Omega$

Temperature range  $-55$  °C ...  $+125$  °C

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

## Electrical termination

Male connector	Solder pins for pcb connections $\varnothing 1 \pm 0.1$ 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 mm <sup>2</sup>
Female connector	Wrap posts 1 x 1 mm diagonal 1.34-1.45 mm Solder pins for pcb connections $\varnothing 1 \pm 0.1$ mm according to IEC 60 326-3 Angled solder pins 1 x 1 mm for pcb connections $\varnothing 1.6 \pm 0.1$ mm Solder lugs Crimp terminal 0.09-1.5 mm <sup>2</sup>
Distributor	Crimp terminal 0.09-1.5 mm <sup>2</sup>

Insertion and withdrawal force  
48 way  $\leq 75$  N  
45 way  $\leq 70$  N  
32 way  $\leq 50$  N  
24 way  $\leq 37$  N

## Materials

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

## Contact surface

Contact zone Selectively plated according to performance level<sup>1)</sup>

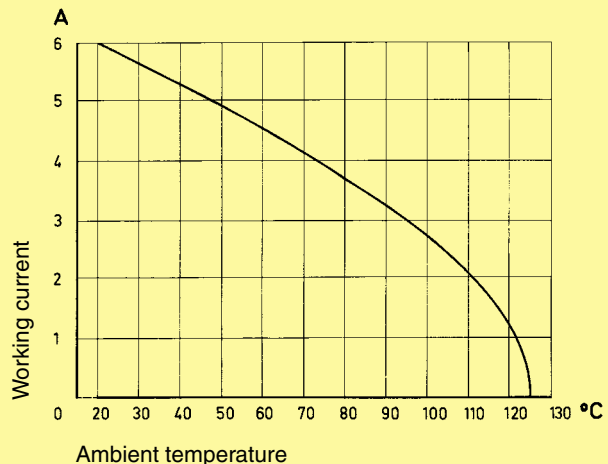
<sup>1)</sup> Explanation of performance levels see chapter 00

Mating conditions see chapter 00  
Coding systems see pages 02.41 and 02.42  
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

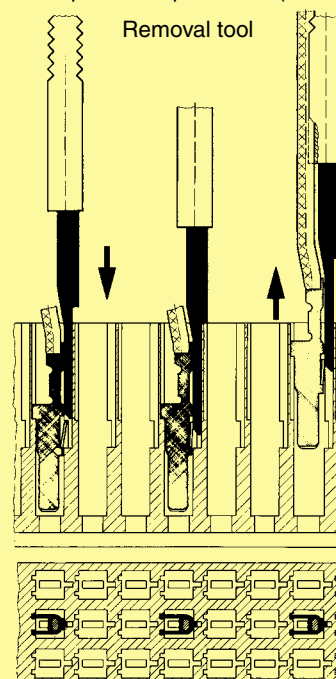


## Fitting the crimp contacts

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 mm<sup>2</sup> an insertion tool is necessary.

## Removing the crimp contacts

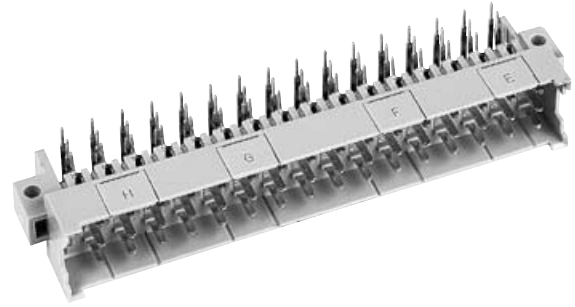
The removal tool is inserted into a slot on the side of the respective crimp cavity. This action compresses the contact retaining spring therefore the contact can then be easily withdrawn using a light pull on the wire. This action will cause no damage to the contact/wire which can be repositioned/refitted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





Number of contacts

# 48, 32

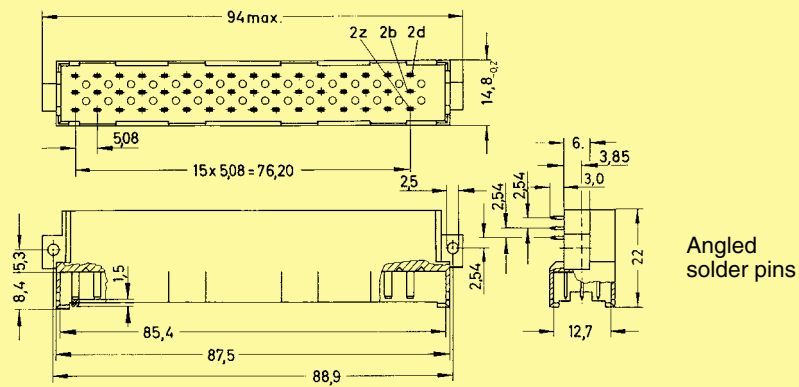


## Male connectors

Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60603-2. Explanation chapter 00		
				3	2	1
Male connector with angled solder pins <sup>1)</sup>	48		09 06 148 7901	09 06 148 6901 09 06 348 6901 <sup>b)</sup>	09 06 148 2901	
	32		09 06 132 7901 09 06 332 7901 <sup>b)</sup>	09 06 132 6901	09 06 132 2901	
	32		09 06 132 7931	09 06 132 6931 09 06 332 6931 <sup>b)</sup>	09 06 132 2931	
	47 + 1			09 06 148 6921 09 06 348 6921 <sup>b)</sup>	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	

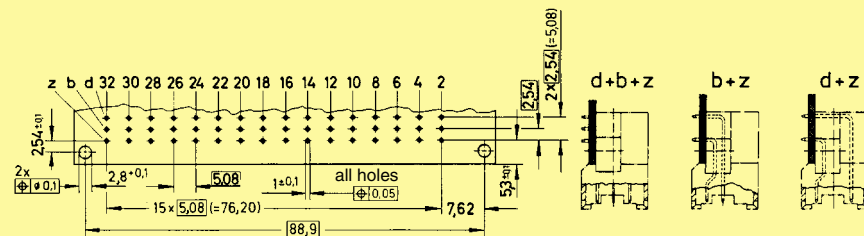
DIN Power 10 6 A

## Dimensions



## Board drillings

Mounting side



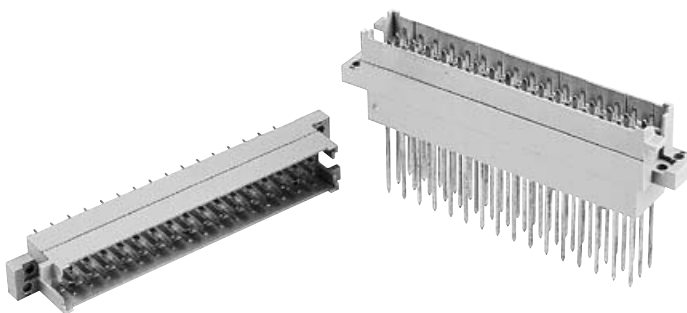
Dimensions in mm

<sup>1)</sup> With shroud coding, see also page 02.41

<sup>b)</sup> Connectors with snap-in clips see chapter 00

Number of contacts

48, 32



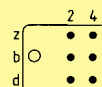
Interface connectors I

DIN Power  
to 6 A

Identification	Number of contacts	Contact arrangement	Part No.	Drawing	Dimensions in mm
----------------	--------------------	---------------------	----------	---------	------------------

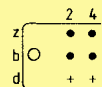
Interface connector I with solder pins<sup>1)</sup>  
0.6 x 0.6 mm

48



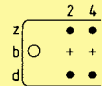
09 06 048 2905

32



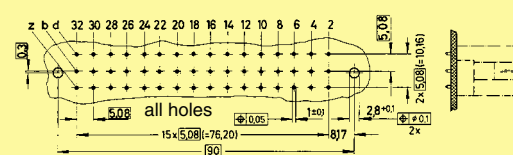
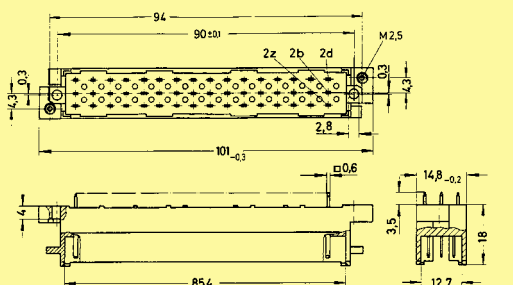
09 06 032 2905

32



09 06 032 2941

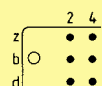
Board drillings  
Mounting side



Interface connector I with wrap posts<sup>1)</sup>  
1 x 1 mm

without nut

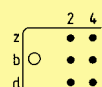
48



09 06 048 2903

with nut

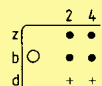
48



09 06 048 2963

without nut

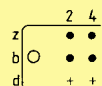
32



09 06 032 2903

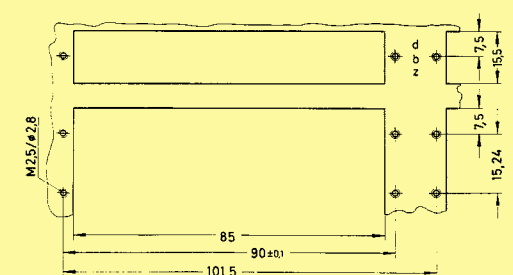
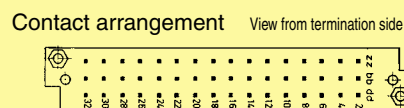
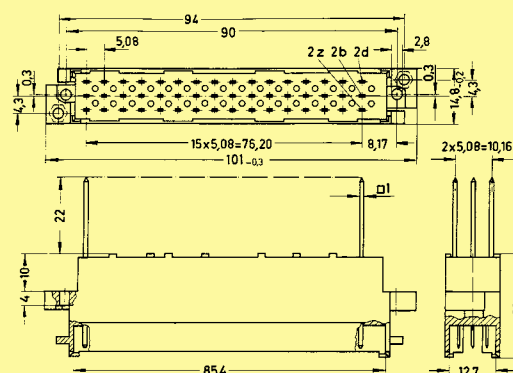
with nut

32



09 06 032 2963

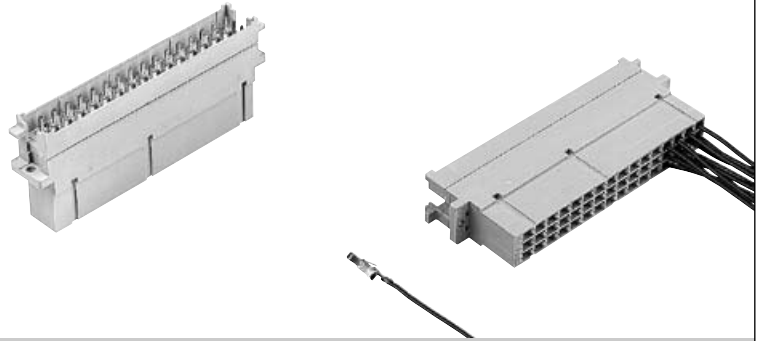
Panel cut out



\* Acc. to IEC 60 603-2, performance level 2 on request  
1) With shroud coding, see also page 02.41

Number of contacts

**48**



Interface connector I

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
----------------	--------------------	----------	---------	------------------

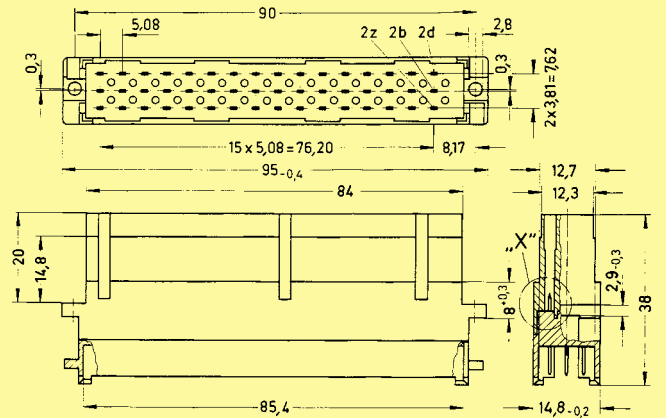
Interface connector I utilising female crimp contacts<sup>1)</sup>

Order crimp contacts separately see page 02.29

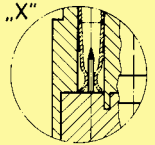
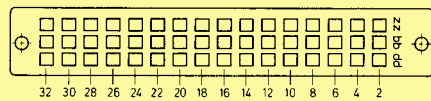
48

Performance level 1 acc. to IEC 60 603-2

09 06 048 2906

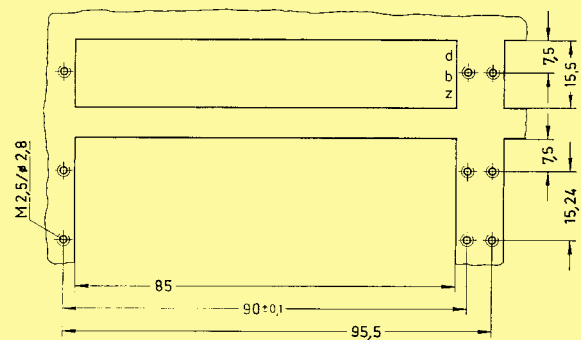


Contact arrangement View from termination side

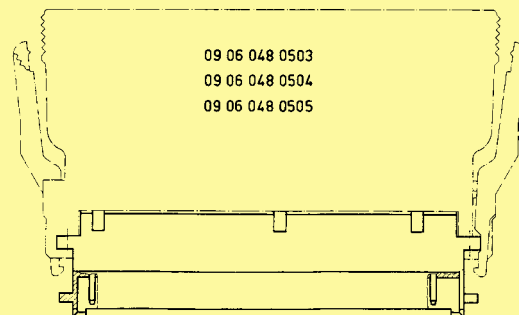


Shell housing see chapter 20

Panel cut out



Mounted in shell housing B



DIN Power 10 6 A

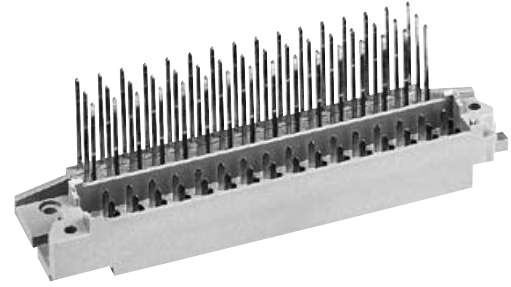
<sup>1)</sup> With shroud coding, see also page 02.41

# DIN 41 612 · complementary to type F



Number of contacts

48



Interface connector U

Identification

Number of contacts

Part No.

Drawing

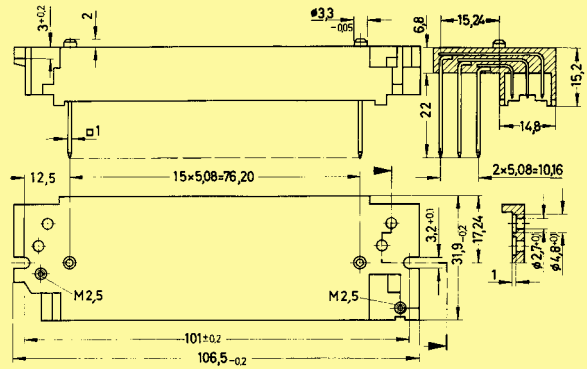
Dimensions in mm

Interface connector U with wrap posts 1 x 1 mm

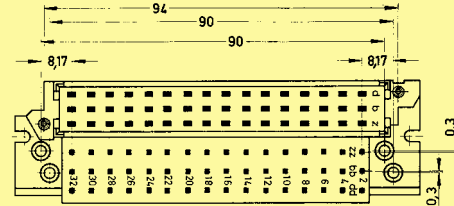
48

Performance level 1 acc. to IEC 60 603-2

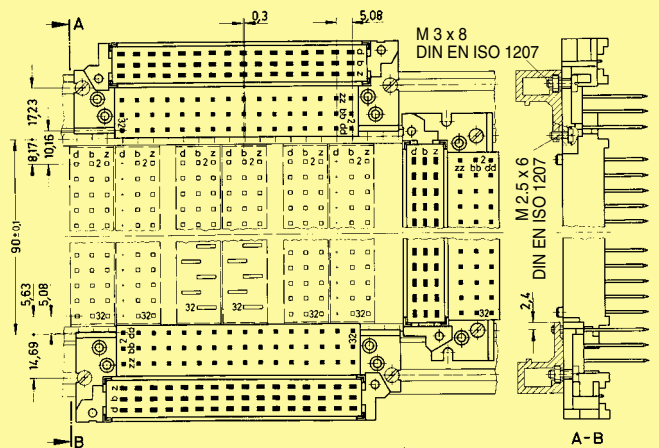
09 06 048 2981



Contact arrangement View from termination side



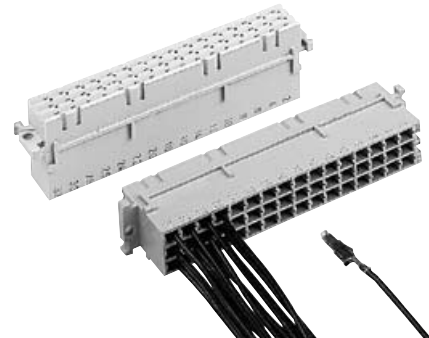
Mounting example



DIN Power  
to 6 A

Number of contacts

**max. 48**



Female connectors

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Female connector for crimp contacts <sup>1)</sup> Order contacts separately	48	09 06 248 3201	<p>84,9 10 14 32 28 26 22 20 18 16 14 12 10 8 6 4 2 84,5 12,4 12,7 8 2,9<sub>-0,3</sub> 8 9,8 15x5,08=76,20 5,08 2d 2b 2z 8,17 0,3 2x3,81=7,62 90 94<sub>-0,2</sub> 14,8<sub>0,2</sub></p> <p>Contact arrangement View from termination side</p> <p>Shell housing see chapter 20</p>	

DIN Power 10 6 A

Identification	Identification Wire gauge	Part No.	Performance levels according to IEC 60 603-2. 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 <sup>2)</sup>	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
Female contacts with solder lugs <sup>3)</sup> (lockable)			09 06 000 6420

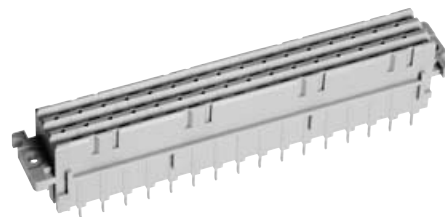
	Wire gauge mm <sup>2</sup>	AWG	Insulation ø mm	Identification
FC 1	0.09 - 0.25	28 - 24	0.7 - 1.5	<p>Bandoliered contacts</p> <p>Individual contacts</p>
FC 2	0.14 - 0.56	26 - 20	0.8 - 2.0	
FC 3	0.5 - 1.5	20 - 16	1.6 - 2.8	

3.5 + 0.5 mm of insulation is stripped from the wires to be crimped  
 Insertion, removal and crimping tools see chapter 30

<sup>1)</sup> With shroud coding, see also page 02.41  
<sup>2)</sup> Packaging unit 1,000 pieces  
<sup>3)</sup> Solder contacts must not be used together with shell housing A. Special contact surface: 2 µm gold.

Number of contacts

# 48, 32

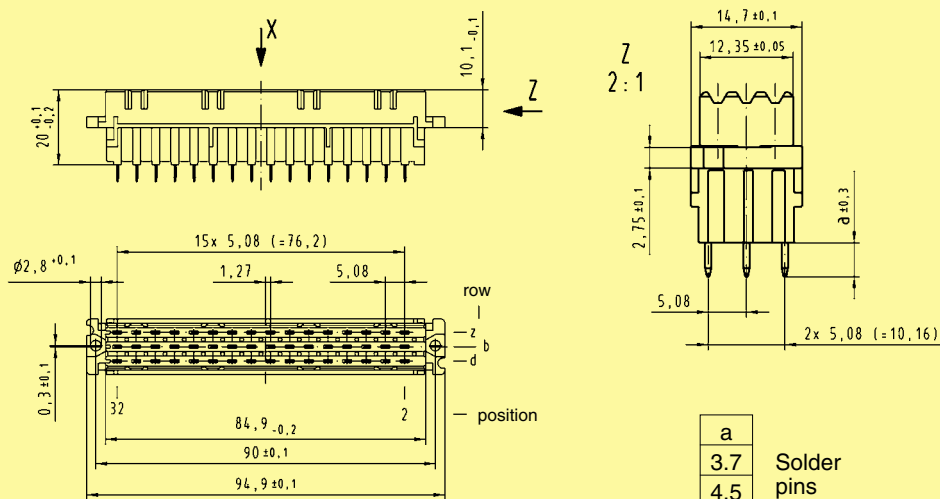


## Female connectors

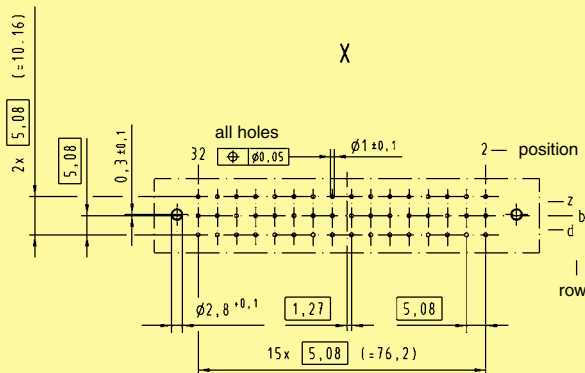
DIN Power  
to 6 A

Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60 603-2. Explanation chapter 00		
			3	2	1	
Female connector with solder pins 3.7 mm <sup>1)</sup>	48		09 06 248 7848	09 06 248 6848	09 06 248 2848	
	32			09 06 232 6848	09 06 232 2848	
	32			09 06 232 6858	09 06 232 2858	
Female connector with solder pins 4.5 mm <sup>1)</sup>	48		09 06 248 7835	09 06 248 6835	09 06 248 2835	
	32			09 06 232 6835	09 06 232 2835	
	32			09 06 232 6845	09 06 232 2845	

## Dimensions



## Board drillings Mounting side

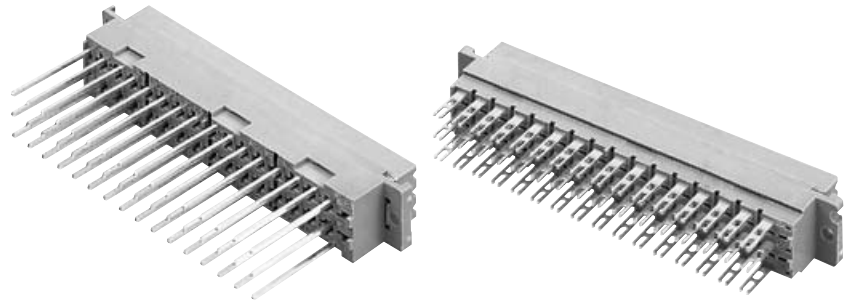


Dimensions in mm

<sup>1)</sup> With shroud coding, see also page 02.41

Number of contacts

# 48, 32

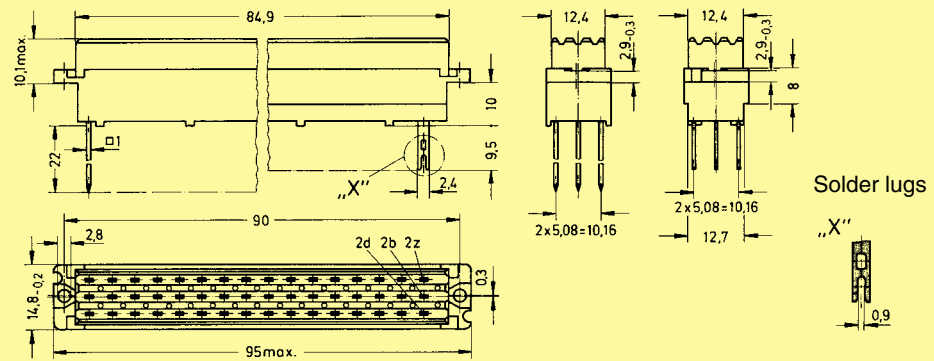


Female connectors

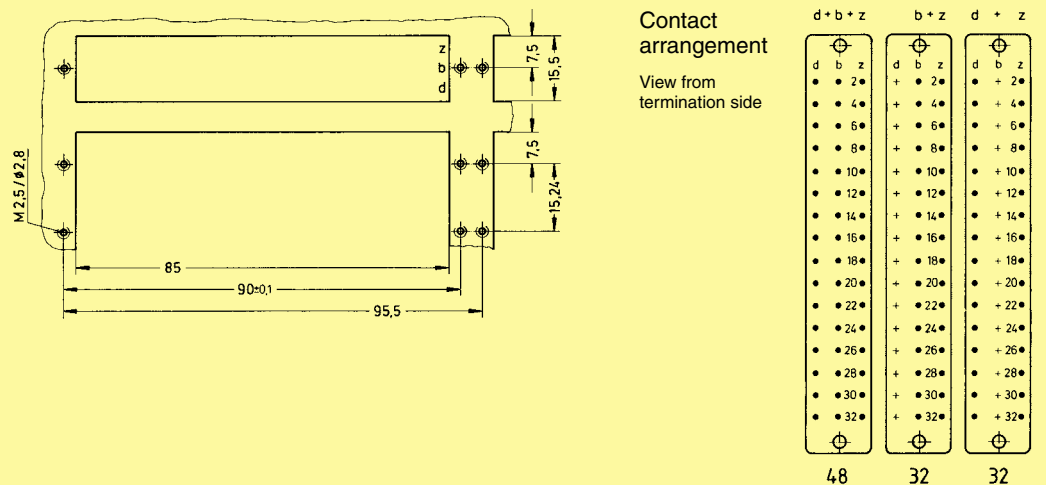
Identification	Number of contacts	Contact arrangement	Part No. Performance levels according to IEC 60 603-2. Explanation chapter 00		
			3	2	1
Female connector with wrap posts 22 mm	48		09 06 248 7821	09 06 248 6821	09 06 248 2821
	32		09 06 232 7821	09 06 232 6821	09 06 232 2821
	32		09 06 232 7831	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

DIN Power 10 6 A

Dimensions



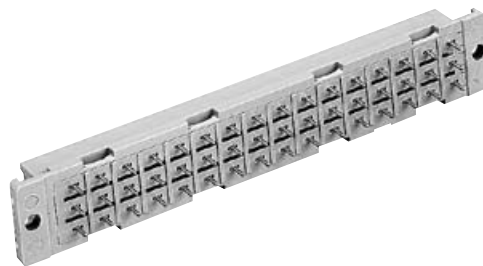
Panel cut out



Dimensions in mm

Number of contacts

# 48, 32



## Female connectors

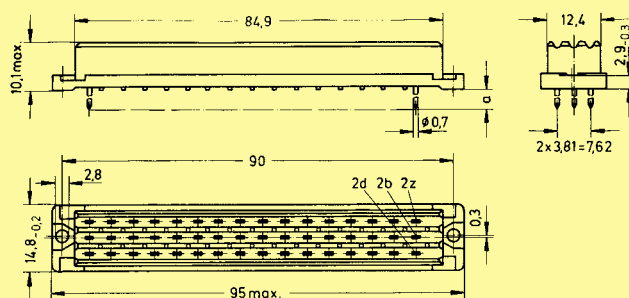
DIN Power  
to 6 A

Identification	Number of contacts	Contact arrangement	Part No. Performance levels according to IEC 60 603-2. Explanation chapter 00		
			3	2	1
Female connector "low profile" with solder pins 3.2 mm	48		09 06 248 7833	09 06 248 6833	09 06 248 2833
	32			09 06 232 6833	
	32			09 06 232 6893	
Female connector "low profile" with solder pins 4.5 mm	48		09 06 248 7834	09 06 248 6834	09 06 248 2834
	32			09 06 232 6834	
	32		09 06 232 7894	09 06 232 6894	09 06 232 2894

Female connector with press-in pins

Part Nos. and variants see chapter 04

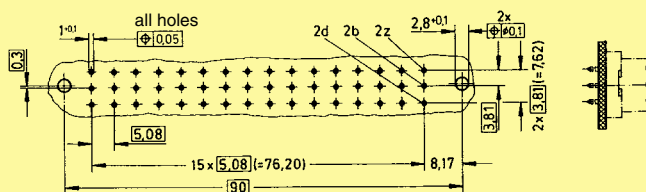
## Dimensions



a	Solder pins
3.2	
4.5	

## Board drillings

Mounting side

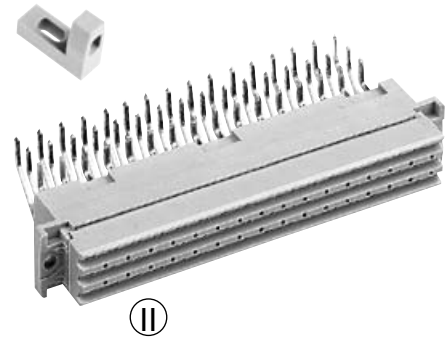
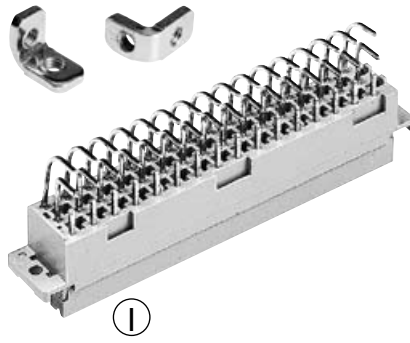


Dimensions in mm



Number of contacts

48, 32

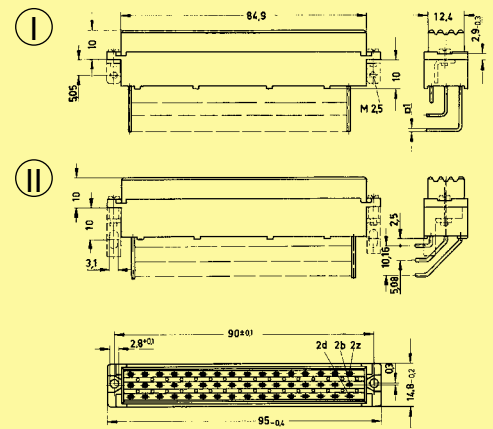


Female connectors

Identification      Number of contacts      Contact arrangement      Part No.      Performance levels according to IEC 60 603-2. Explanation chapter 00

Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60 603-2. Explanation chapter 00	
			3	2      1	
Female connector with angled solder pins 1 x 1 mm	48		performance level 3 or special gold plating on request	09 06 248 6826	performance level 1 or special gold plating on request
	32			09 06 232 6826	
	48			09 06 248 6836	
	32			09 06 232 6846	
	32			09 06 232 6836	

Dimensions



Fixing bracket

<sup>1)</sup> Order 2 pieces for one connector

Metal

09 06 000 9912<sup>1)</sup>

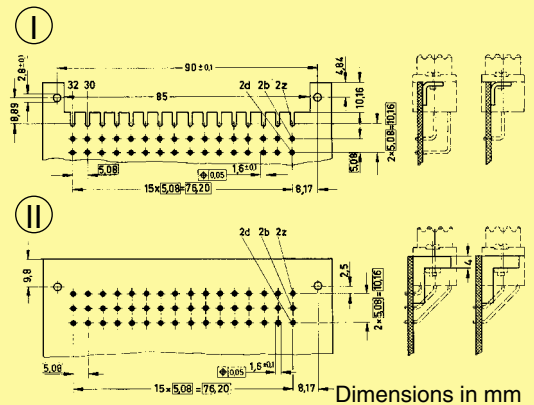
for version

Plastic

09 06 000 9975<sup>1)</sup>

for version

Board drillings  
Mounting side

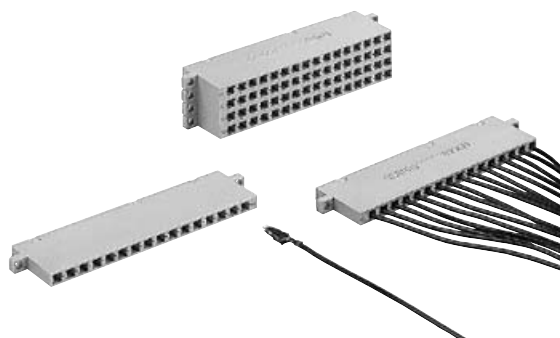


Dimensions in mm

DIN Power 10 6 A

Number of contacts

# 64, 16



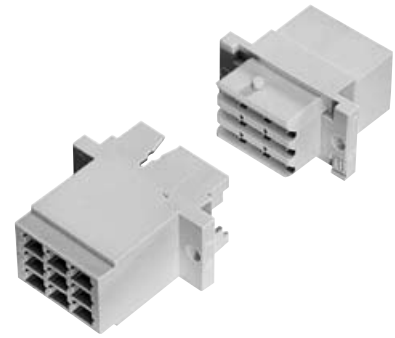
## Universal adaptors

DIN Power  
10 6 A

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Universal adaptor utilising crimp contacts crimp contacts see page 02.29	4 x 4	09 06 016 3301		
	16 x 1	09 06 016 3302		
	16 x 4	09 06 064 3302		
Panel cut out				

Number of contacts

**max. 9**



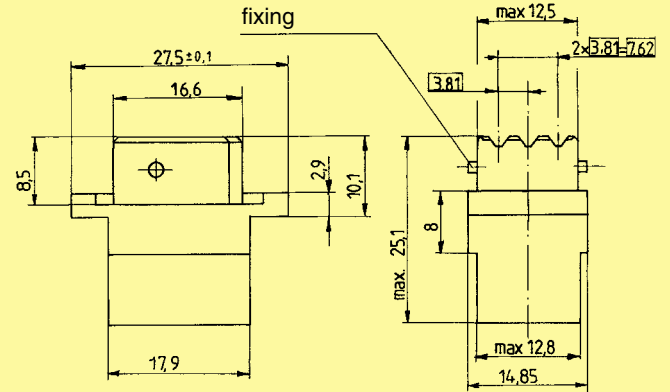
Female and male connectors

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
----------------	--------------------	----------	---------	------------------

Female connector for crimp contacts  
Order contacts separately

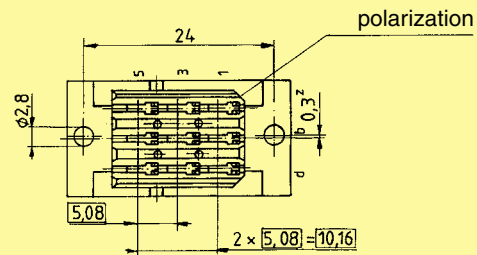
9

09 06 209 3201



Female crimp contacts

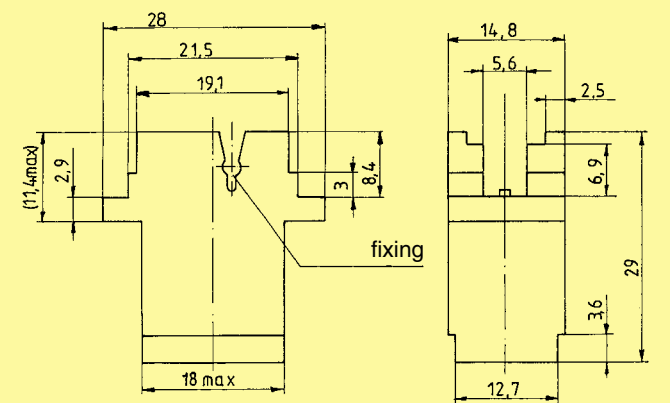
see page 02.29



Male connector for crimp contacts  
Order contacts separately

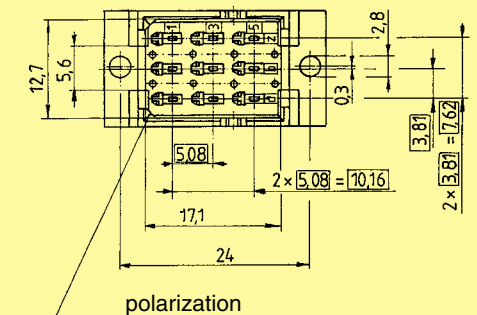
9

09 06 109 3401



Male crimp contacts

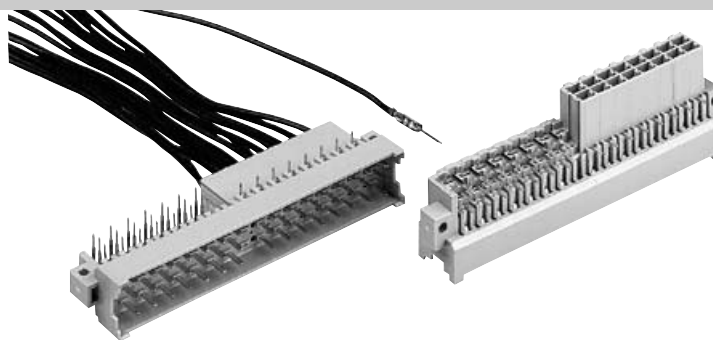
see page 02.38



DIN Power  
10 6 A

Number of contacts

# 45



## Male connectors

DIN Power  
to 6 A

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
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**Male connector**

29 angled solder pins

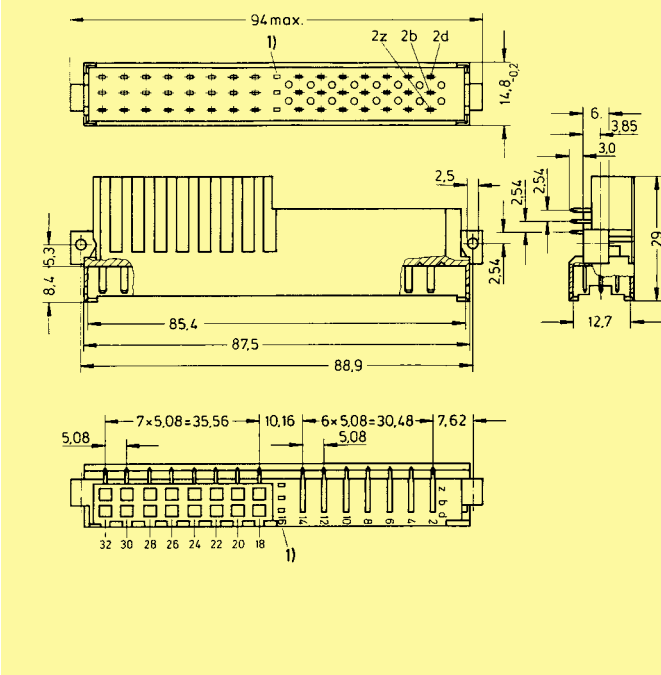
16 cavities for male crimp contacts

crimp contacts see page 02.38

45

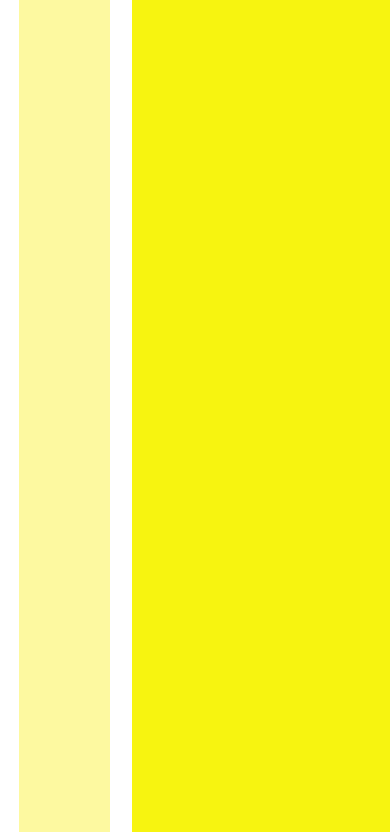
Performance level 1  
acc. to IEC 60 603-2

09 06 145 2971



**Board drillings**

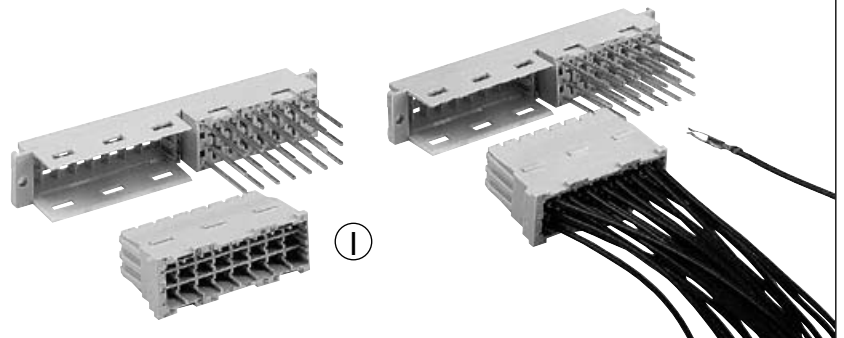
Mounting side



1) A special 48 way version with 3 extra angled solder contacts at position 16 (rows d, b, z) can be supplied

Number of contacts

# 45



Female connectors

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
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Female connector

Female moulding  
with 21 wrap posts  
22 mm

45

Performance level 1  
acc. to IEC 60 603-2

09 06 045 2871

with 21 solder pins  
4.5 mm

45

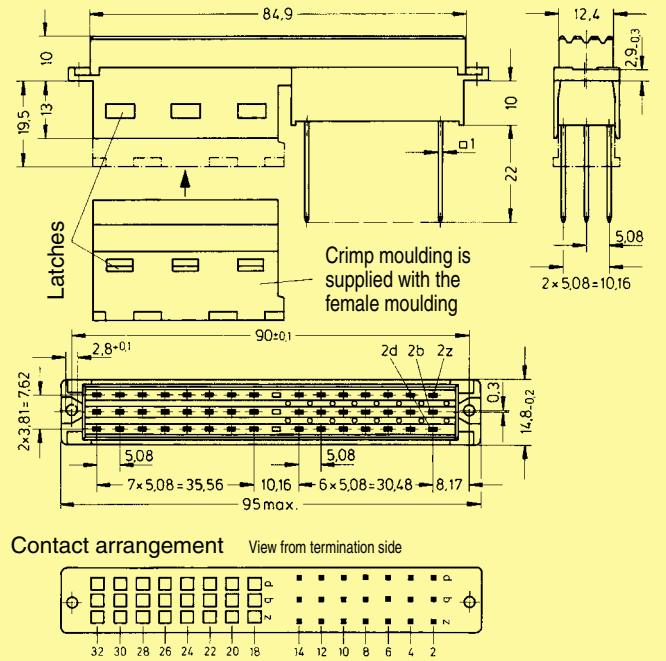
09 06 045 2875

Crimp moulding  
for 24 female  
crimp contacts

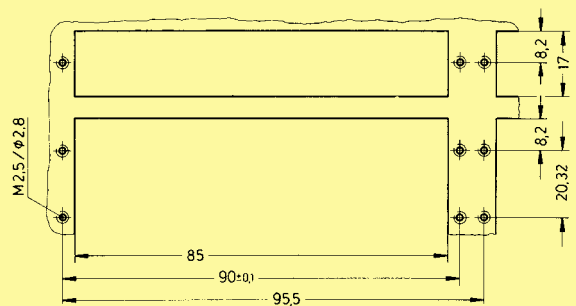


09 06 024 3202

crimp contacts  
see page 02.29

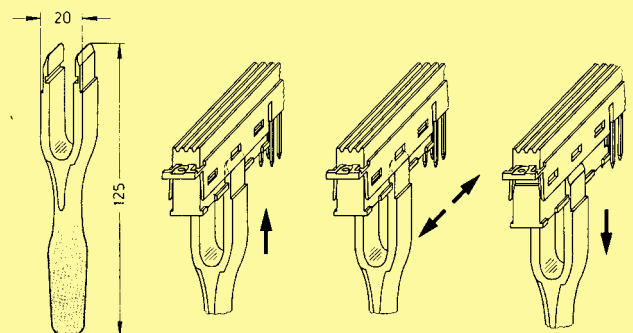


Panel cut out



Removal tool  
for the crimp  
moulding

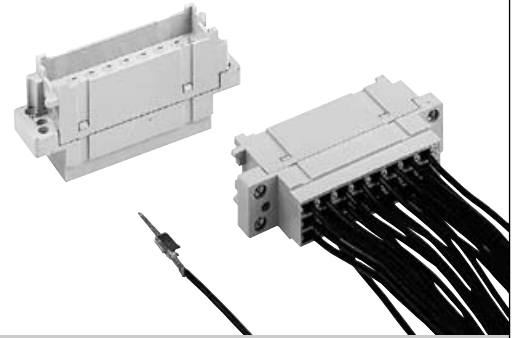
09 99 000 0172



The crimp moulding can be extracted with the help of the removal tool.

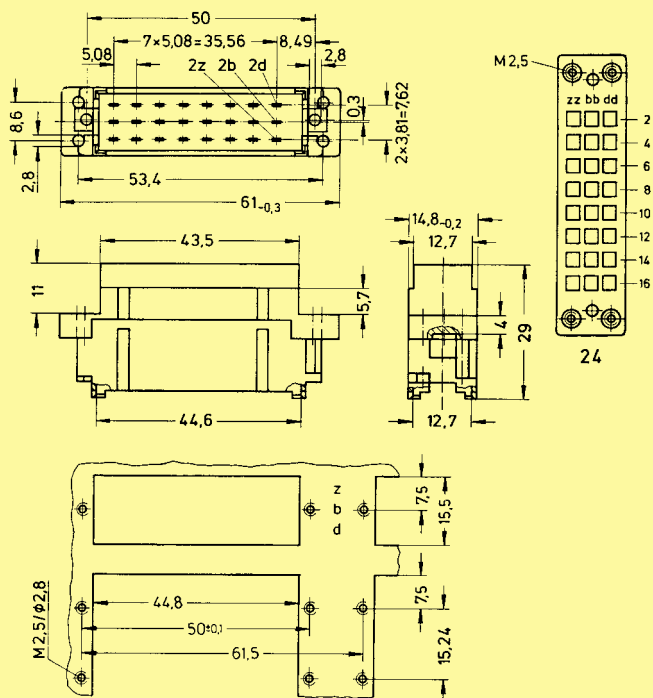
Number of contacts

**max. 24**

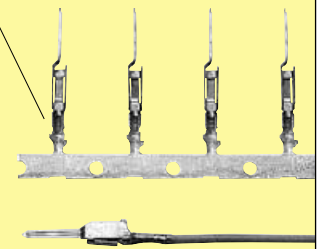


Interface connector I

DIN Power  
to 6 A

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Interface connector I for male crimp contacts Order contacts separately	24	09 26 024 3411		

Identification	Identification Wire gauge	Part No.	Performance levels according to IEC 60603-2. Explanation chapter 00
			2 1
<b>Male crimp FC contacts</b>			
Bandoliered contacts (approx. 2,500 pieces)	1 2 3	09 06 000 9564 09 06 000 9561 09 06 000 9562	09 06 000 9544 09 06 000 9541 09 06 000 9542
Bandoliered contacts (approx. 250 pieces)	2 3		09 06 000 5541 09 06 000 5542
Individual contacts <sup>1)</sup>	1 2 3	09 06 000 9574 09 06 000 9571 09 06 000 9572	09 06 000 9554 09 06 000 9551 09 06 000 9552

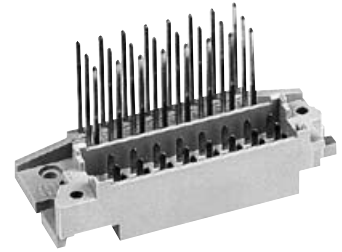
	Wire gauge mm <sup>2</sup>	AWG	Insulation ø mm	Identification
FC 1	0.09 - 0.25	28 - 24	0.7 - 1.5	
FC 2	0.14 - 0.56	26 - 20	0.8 - 2.0	
FC 3	0.5 - 1.5	20 - 16	1.6 - 2.8	

3.5 + 0.5 mm of insulation is stripped from the wires to be crimped  
Insertion, removal and crimping tools see chapter 30

<sup>1)</sup> Packaging unit 1,000 pieces

Number of contacts

max. 24



Interface connector U

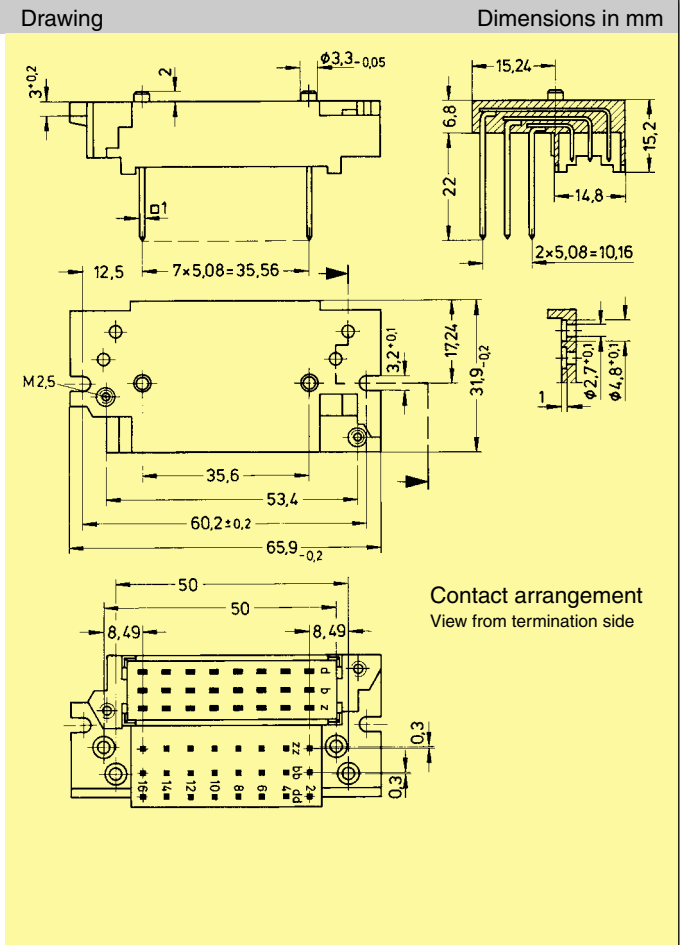
Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
----------------	--------------------	----------	---------	------------------

Interface connector U  
with wrap posts  
1 x 1 mm

24

Performance level 1  
acc. to IEC 60 603-2

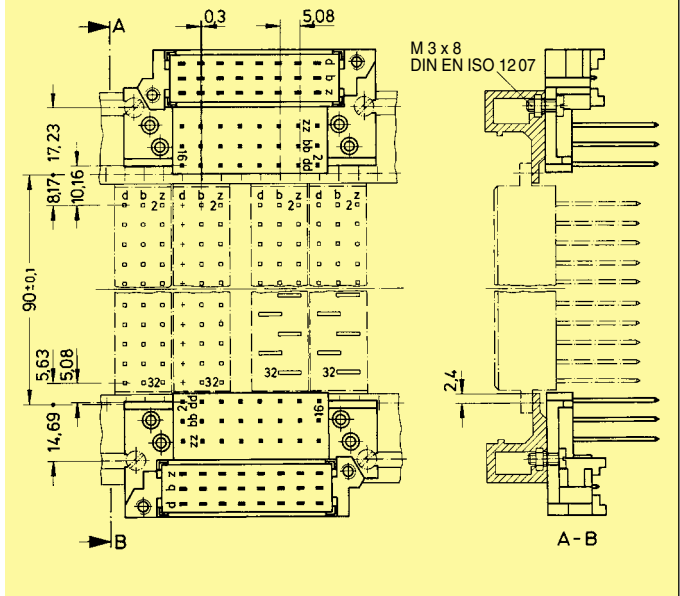
09 26 024 2981



Mounting example

Mounting example showing dimensions:

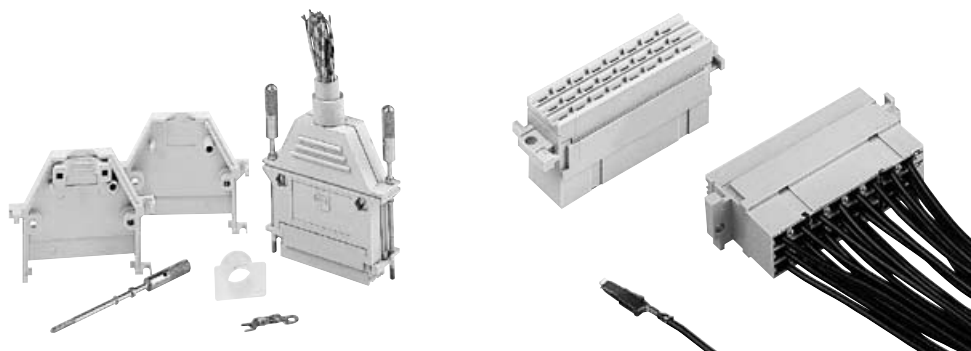
- 1817, 17,23, 10,16, 90 $\pm 0,1$ , 5,63, 508, 14,69, 2,4, 0,3, 508, M 3 x 8 DIN EN ISO 1207, A-B.



DIN Power  
10 6 A

Number of contacts

**max. 24**

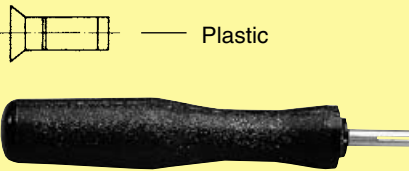
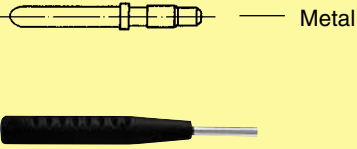
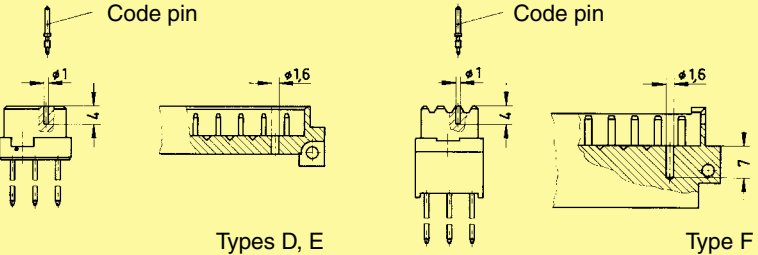
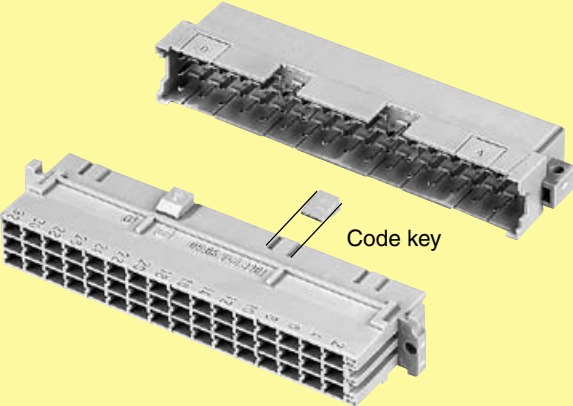



Female connectors

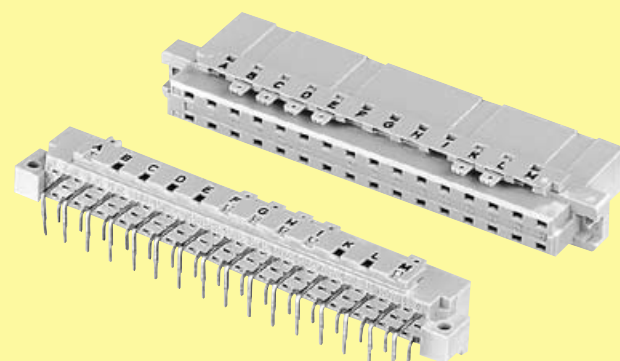
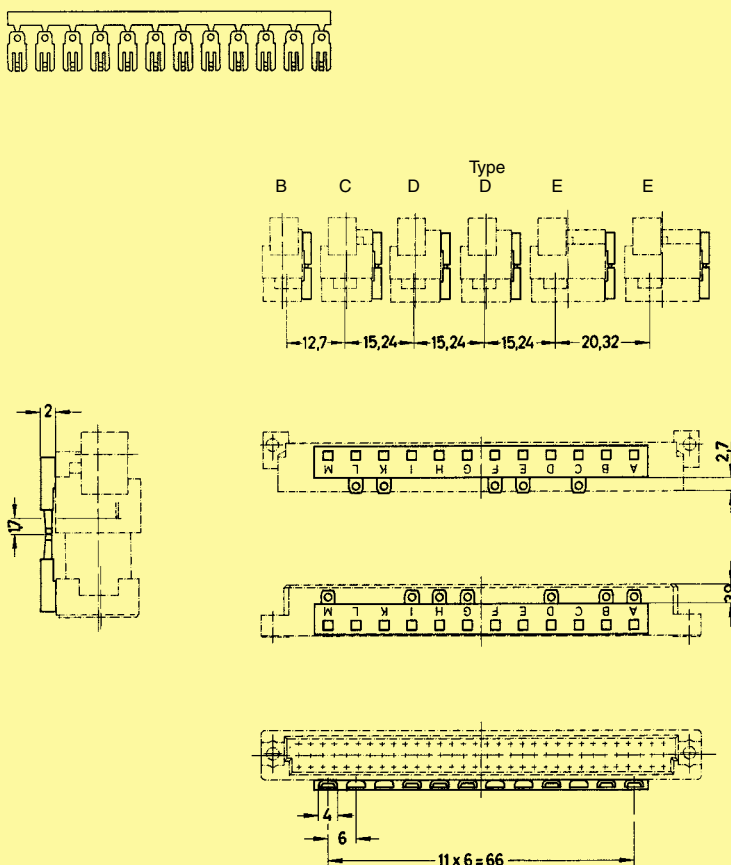
DIN Power  
10 6 A

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
<p>Female connector for crimp contacts</p> <p>Order contacts separately see page 02.29</p>	24	09 26 024 3201		
<p>Shell housing A with integrated fixing screws</p> <p>Supplied with:                      Shell 2x                      Locking screw 2x                      Screw M3x10 2x                      Nut M3 2x                      Screw BZ 2.9x9.5 2x                      Cable clamp 1x                      Tension relief 1x</p>		09 26 024 0401		
<p>Open hood</p> <p>Supplied with:                      Open hood 1x                      Locking screw 2x                      Screw BZ 2.2x9.5 2x                      Cable tie 1x</p>		09 26 000 9901		



Identification	Part No.	Drawing	Dimensions in mm
<p><b>Coding system <u>with</u> contact loss</b></p>	<p>Code pin for types D, E, F, FM, 2F 09 04 000 9908</p> <p>Removal tool for male contacts 09 99 000 0038</p>	<p>To avoid accidental and incorrect mating of adjacent connectors a coding system is required. The coding is achieved by means of a code pin which is inserted into the selected chamber of the female connector (the contact cavity must be filled with a female contact!). The opposite male contact must be removed with the help of the specially designed tool.</p> 	
<p><b>Coding system <u>without</u> contact loss</b></p> <p>with code pin</p>	<p>Code pin 09 06 000 9950</p> <p>Insertion tool 09 99 000 0103</p>	<p>With the aid of the marked indents between the contact rows of the male connector a hole has to be drilled at the desired position (also see drawing). The code pin can then be inserted into the corresponding cavity of the female connector by means of the insertion tool. This coding system is available only for the types D, E, F and interface connectors I</p>  <p>Mounting example</p> 	
<p>shroud coding</p> <p>Type F</p>	<p>Code key 09 06 001 9919</p>	<p>Insert the code key into one of the keyways of the female connector as shown in the drawing. Break out the corresponding area of the male shroud. Connectors coded this way can only be applied in a minimum rack spacing of 20.32 mm.</p> 	
<p>Tool for breaking out the coding area of the male shroud</p>	<p>09 99 000 0242</p>		

DIN Power  
to 6 A

Identification	Part No.	Drawing	Dimensions in mm
<p>Coding system <u>without</u> contact loss</p>	<p>Male and female connectors</p> <p>Types B, C, D and E</p> <p>see product pages or on request</p>	<p>To avoid accidental and incorrect mating of adjacent connectors a coding system is required. This coding system is an integral part of both male and female connectors. A comb with 12 coding pins, which is supplied under a single part number, allows over 900 coding variations. The pins are to be locked into the male and female connectors.</p> <p>The connectors with the integrated coding facility are supplied for types B, C, D and E and are available for all variants.</p> <p>Please contact us.</p> 	
<p>Coding pins</p> <p>Mounting example</p>	<p>12 pins on a comb</p> <p>09 02 000 9928</p>	 <p>Technical drawing showing the coding pins and their mounting in connector types B, C, D, and E. The drawing includes a top view of the 12 pins, a side view of the comb, and cross-sectional views of the pins in different connector types with dimensions.</p> <p>Dimensions shown in the drawing:</p> <ul style="list-style-type: none"> <li>Pin pitch: 2.54 mm</li> <li>Pin diameter: 2 mm</li> <li>Pin length: 11 x 6 = 66 mm</li> <li>Mounting hole diameter: 4 mm</li> <li>Mounting hole offset: 6 mm</li> <li>Connector type B: 12.7 mm</li> <li>Connector type C: 15.24 mm</li> <li>Connector type D: 15.24 mm</li> <li>Connector type E: 15.24 mm</li> <li>Connector type E (longer): 20.32 mm</li> <li>Comb height: 27 mm</li> <li>Comb width: 39 mm</li> </ul>	

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