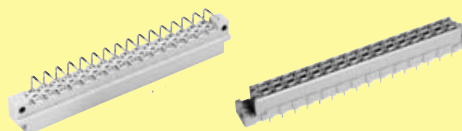


Types D, E, F, FM, 2F, F9, interface connectors I/U

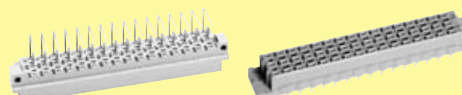
Page

Technical characteristics types D and E **02.10**

Type D connectors **02.11**

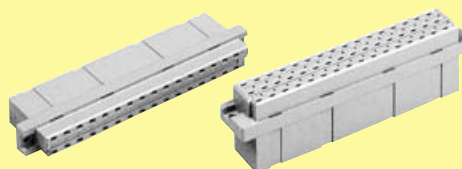


Type E connectors **02.15**



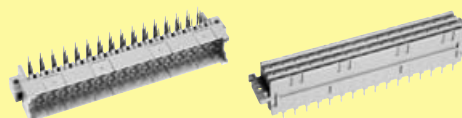
Technical characteristics piggyback connectors **02.20**

Piggyback connectors **02.21**



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

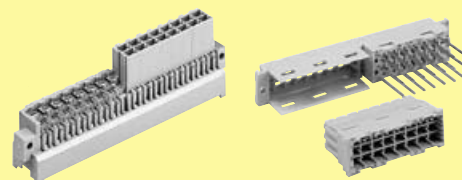
Type F connectors **02.25**



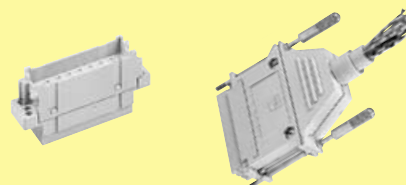
Type F9 connectors **02.35**



Type FM connectors **02.36**



Type 2F connectors **02.38**



Coding systems **02.41**

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	≥ 1.6 mm

row separation 2.54 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

≥ 10¹² 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 ± 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 ²

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⁾
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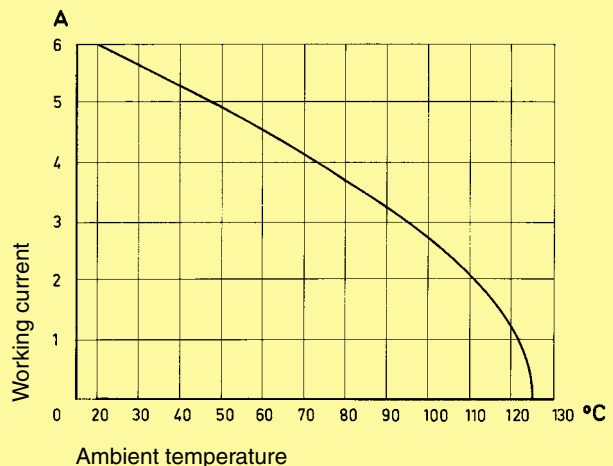
¹⁾ Explanation of performance levels see chapter 00

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

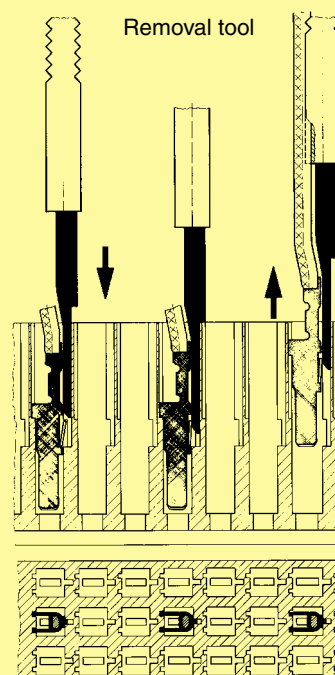


Fitting the crimp contacts

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 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 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 ^{b)} 09 04 632 6921 ^{c)}	09 04 132 2921	DIN Power to 6 A
	30 + 2▲			09 04 132 6951 09 04 632 6951 ^{c)}	09 04 632 2951 ^{c)}	
Male connector with straight solder pins	32			09 04 132 6922		
	30 + 2▲			09 04 132 6952		
Dimensions						
Board drillings Mounting side						

Dimensions in mm

Dimensions in mm

▲ Male connectors with 2 leading contacts [(0.8 mm) pos. a2 and a32]

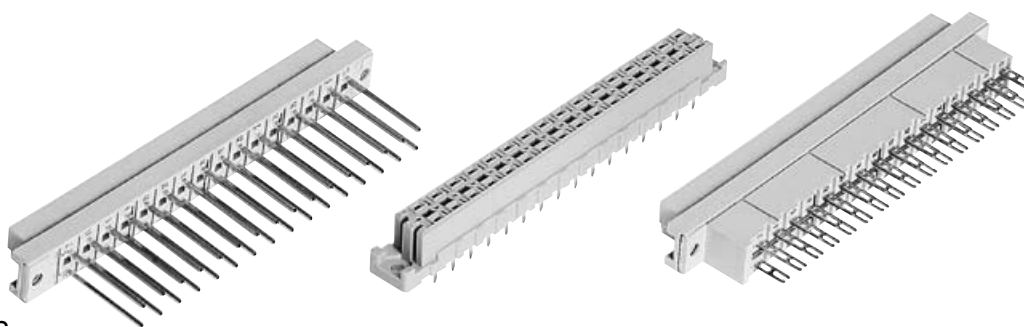
Other contact arrangements on request

^{b)} Connectors with snap-in clips see chapter 00

^{c)} Connectors with coding see page 02.42

Number of contacts

32



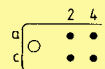
Female connectors

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



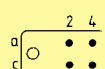
09 04 232 7832

09 04 232 6832
09 04 732 6832^{c)}

09 04 232 2832

Female connector
with solder pins
4.5 mm

32



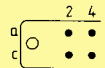
09 04 232 7831

09 04 232 6831
09 04 332 6831^{b)}
09 04 732 6831^{c)}

09 04 232 2831

Female connector
with wrap posts
20 mm

32



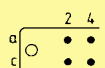
09 04 232 7821

09 04 232 6821
09 04 732 6821^{c)}

09 04 232 2821

Female connector
with solder lugs

32

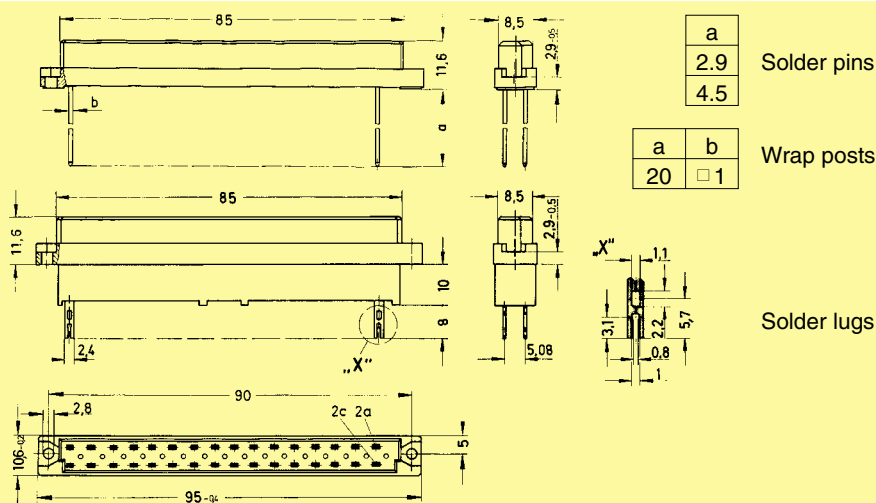


09 04 232 7823

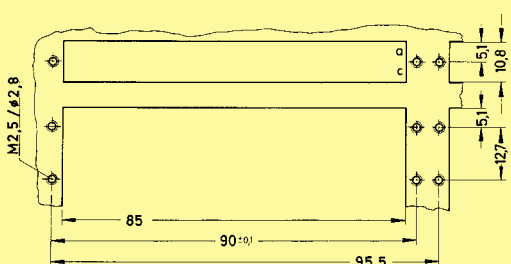
09 04 232 6823

09 04 232 2823

Dimensions

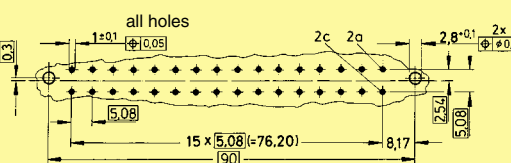


Panel cut out

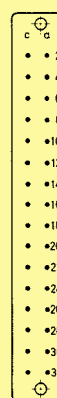


Board drillings

Mounting side



Contact arrangement
View from termination side



32

Dimensions in mm

^{b)} Connectors with snap-in clips see chapter 00

^{c)} Connectors with coding see page 02.42

32



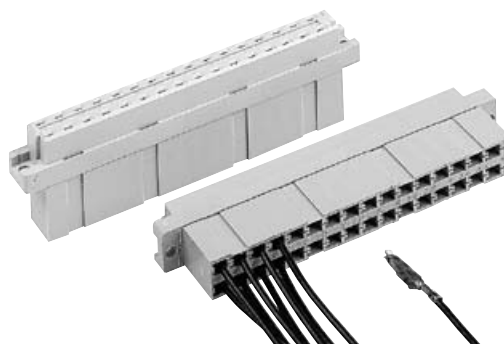
Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60 603-2. Explanation chapter 00		
			3	2	1	
Female connector with angled solder pins 1 x 1 mm	32		09 04 232 7826	09 04 232 6826	09 04 232 2826	
Dimensions						
Fixing bracket Metal			09 06 000 9912 ¹⁾			
				¹⁾ order 2 pieces for one connector		
Board drillings Mounting side						

Dimensions in mm

**DIN Power
to 6 A**

Dimensions in mm

max. 32



Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Female connector for crimp contacts Order contacts separately	32	09 04 032 3213	Side view dimensions: 85, 84, 11.6, 14.9, 10. Cross-section dimensions: 8.5, 2.9, 10. Top view dimensions: 90±0.1, 2.8±0.1, 5.08, 15 x 5.08 = 76.20, 95-0.4, 8.17, 5.1, 5, 10.5±0.2, 2c, 2a. Contact arrangement: 32, 30, 28, 26, 24, 22, 20, 18, 16, 14, 12, 10, 8, 6, 4, 2 (two rows). View from termination side	Shell housing 09 03 096 0501 see chapter 20

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 ¹⁾	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 ²⁾ (lockable)				09 06 000 6420

		Wire gauge mm ²	AWG	Insulation ø mm	Identification
FC 1	1	0.09 - 0.25	28 - 24	0.7 - 1.5	 Bandoliered contacts
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	

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

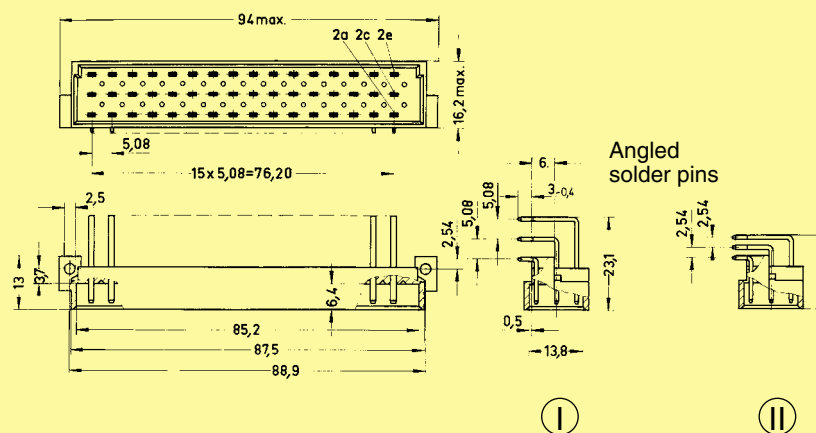


Male connectors

Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60 603-2. Explanation chapter 00	
			3	2	1
Male connector with angled solder pins					
Row separation termination side 5.08 mm ①	48		09 05 148 7921	09 05 148 6921 09 05 348 6921 ^{b)} 09 05 648 6921 ^{c)}	09 05 148 2921 09 05 648 2921 ^{c)}
	46 + 2 [▲]			09 05 148 6951	
Row separation termination side 2.54 mm ②	48		09 05 148 7931	09 05 148 6931	09 05 148 2931
	46 + 2 [▲]			09 05 148 6961	

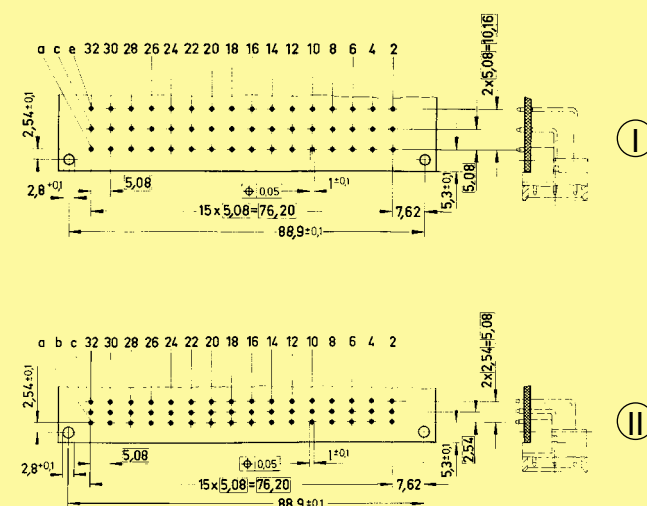
DIN Power
to 6 A

Dimensions



Board drillings

Mounting side



Dimensions in mm

▲ Male connectors with 2 leading contacts [(0.8 mm) pos. a2 and a32]

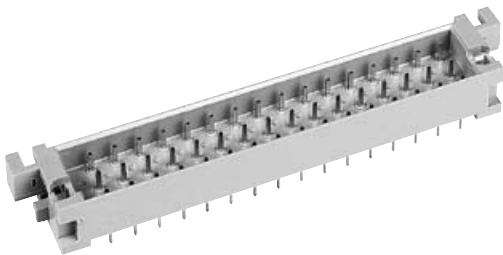
Other contact arrangements on request

^{b)} Connectors with snap-in clips see chapter 00

^{c)} Connectors with coding see page 02.42

Number of contacts

48



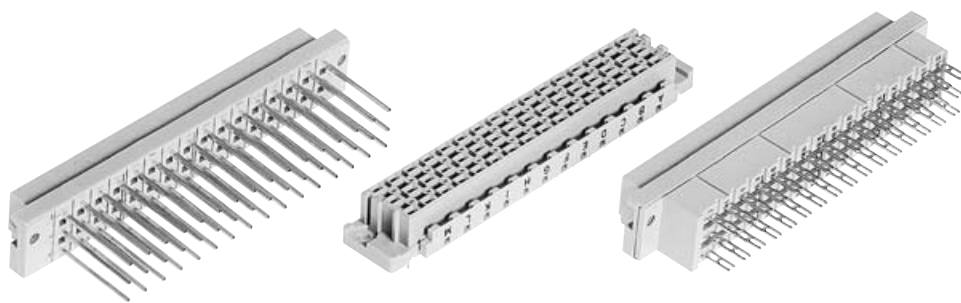
Interface connector I

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				

DIN Power to 6 A

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 ^{b)} 09 05 748 6831 ^{c)}	09 05 248 2831 09 05 748 2831 ^{c)}							
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							
Female connector with press-in pins	Part Nos. and variants see chapter 04											
Dimensions	<table><tr><td>a</td></tr><tr><td>2.9</td></tr><tr><td>4.5</td></tr></table>Solder pins<table><tr><td>a</td><td>b</td></tr><tr><td>20</td><td>1</td></tr></table>Wrap posts Solder lugs					a	2.9	4.5	a	b	20	1
a												
2.9												
4.5												
a	b											
20	1											
Panel cut out	Contact arrangement View from termination side 48											
Board drillings Mounting side												

Dimensions in mm

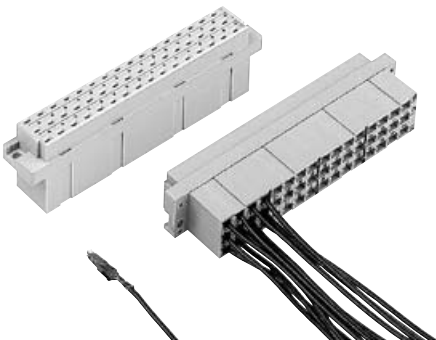
DIN Power
to 6 A

Dimensions in mm

^{b)} Connectors with snap-in clips see chapter 00
^{c)} Connectors with coding see page 02.42

Number of contacts

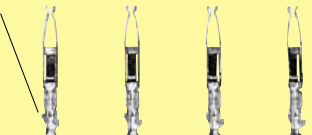
max. 48



Female connectors

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Female connector for crimp contacts Order contacts separately	48	09 05 048 3202 09 05 548 3202 ^{c)}	View from termination side	
Shell housing 09 05 048 0501 see chapter 20				

Identification	Identification Wire gauge	Part No.	Performance levels according to IEC 60 603-2. Explanation chapter 00
Female crimp FC contacts		2	1
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⁾	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 ²⁾ (lockable)			09 06 000 6420

		Wire gauge mm ²	AWG	Insulation ø mm	Identification
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	

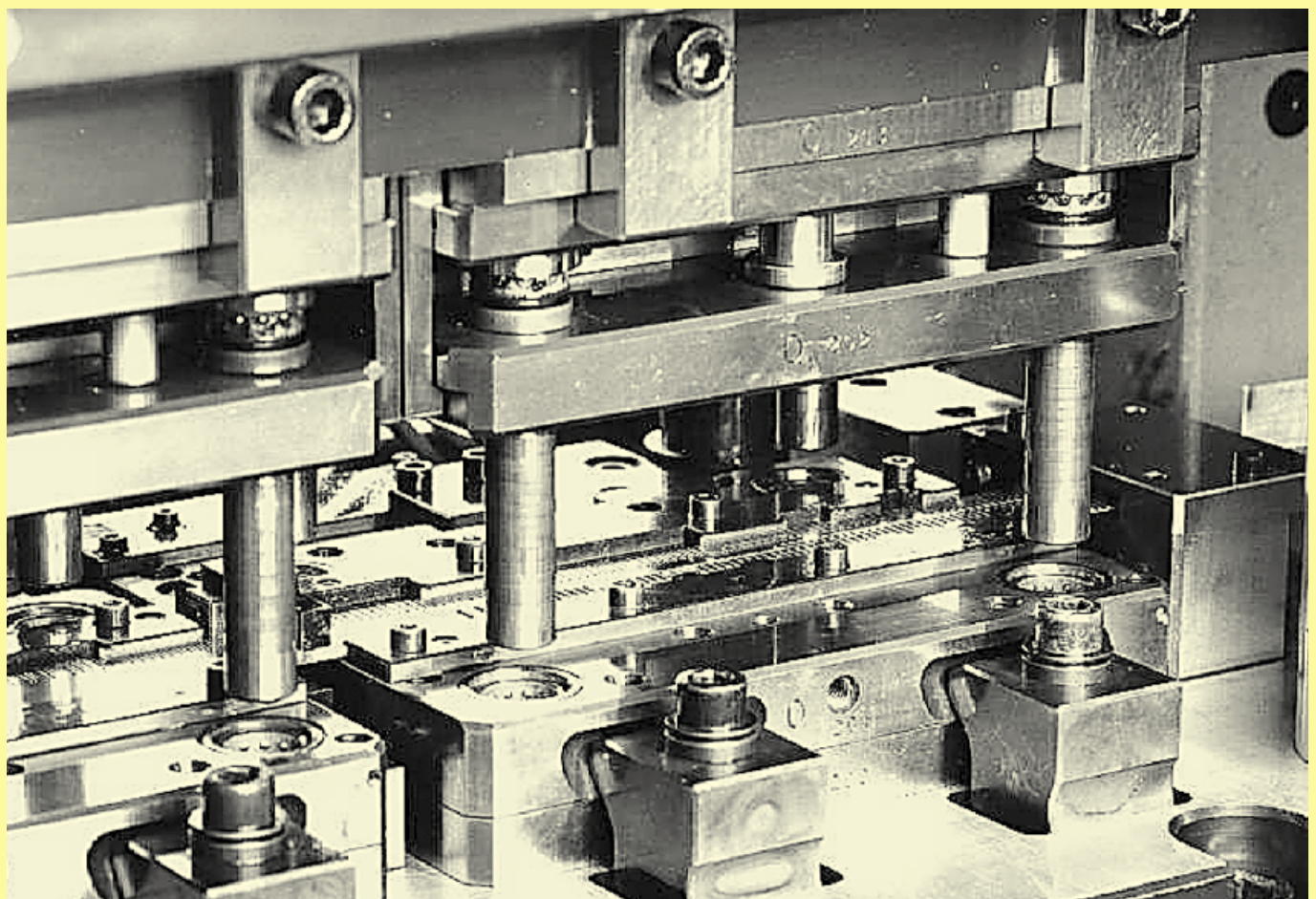
Bandoliered contacts

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

^{c)} Connectors with coding see page 02.42
¹⁾ Packaging unit 1,000 pieces
²⁾ Solder contacts must not be used together with shell housing A. Special contact surface: 2 µm gold.



DIN Power
to 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 ≥ 1.6 mm
32, 48 ways ≥ 1.6 mm

Creepage

16 ways ≥ 1.6 mm
32, 48 ways ≥ 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

Contact resistance ≤ 20 m Ω

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

Termination Crimp terminal
0.09-1.5 mm²

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.

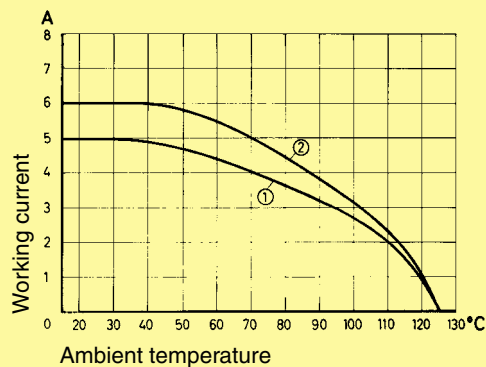
After crimping they can be easily inserted into the chambers of the connector body with the aid of an insertion tool. Insertion errors can be simply rectified with the use of a removal tool.

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.

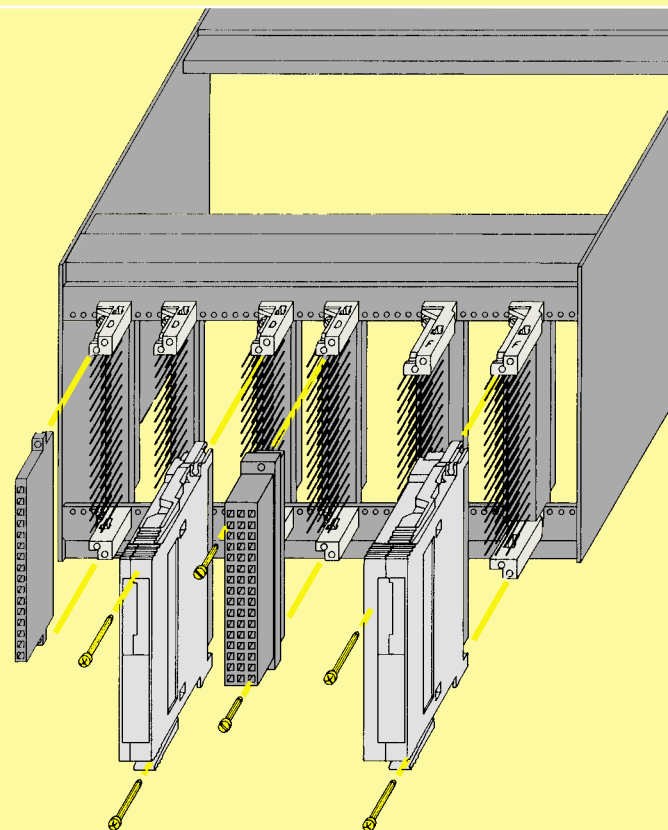
Current carrying capacity

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.

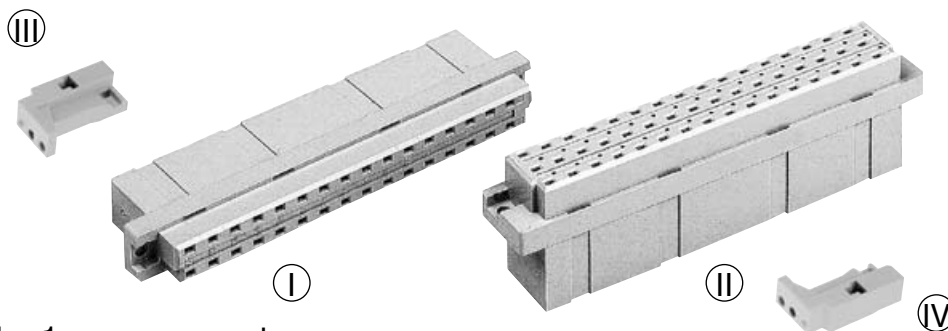
Control and test procedures according to DIN IEC 60 512



① with shell housing ② without shell housing



max. 48



Identification	Number of contacts	Part No.	Drawing	Dimensions in mm																
Piggyback connector for crimp contacts Order contacts separately	16	09 04 016 3201																		
①	32	09 04 032 3215																		
②	48	09 05 048 3204																		
Female FC crimp contacts individual contacts ¹⁾ FC1 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 mm²</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> 1 2 3 1 2 3 0.09-0.25 0.14-0.56 0.50-1.50 28-34 26-20 20-16 0.7-1.5 0.8-2.0 1.6-2.8	Identification	Wire gauge mm²	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 mm²	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	③	top (pos. 2) 09 06 000 9936																		
④		bottom (pos. 32) 09 06 000 9937																		

**DIN Power
to 6 A**

02
21

1) Packaging unit 1,000 pieces

Identification

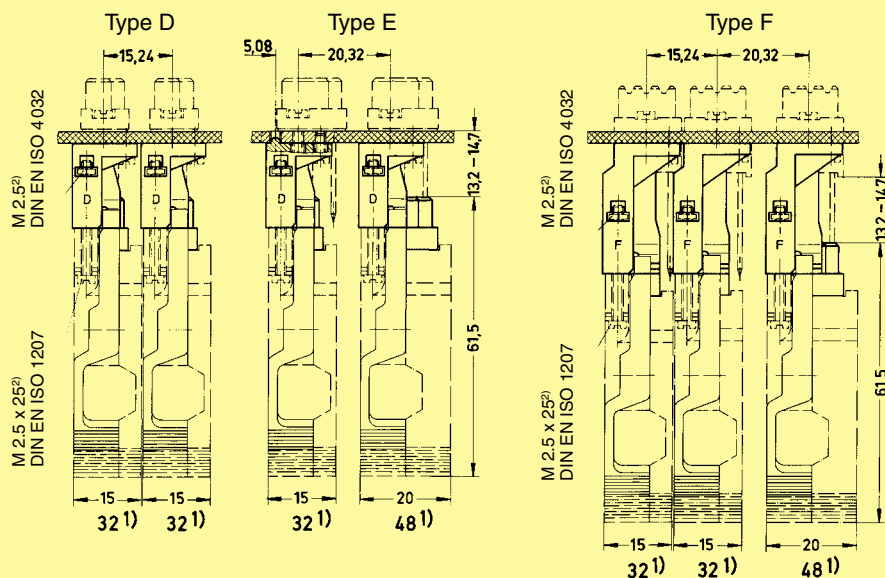
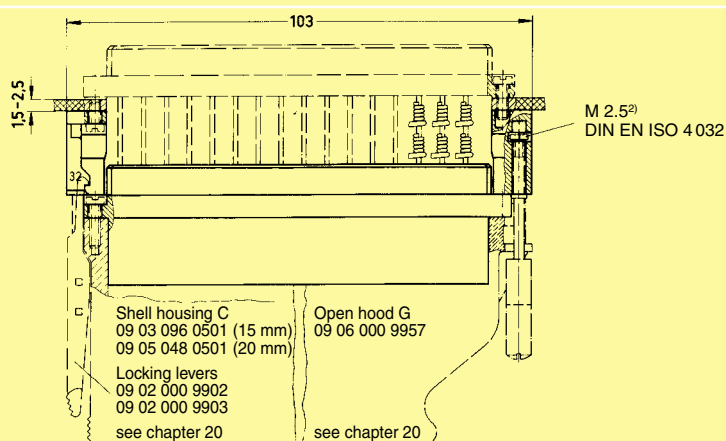
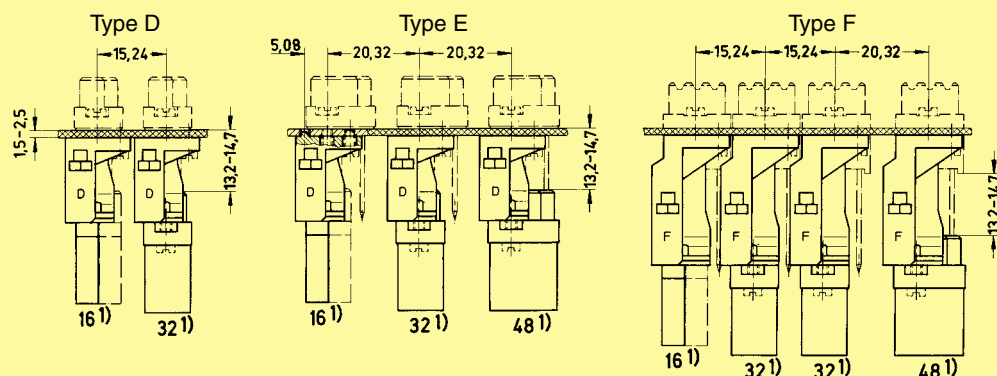
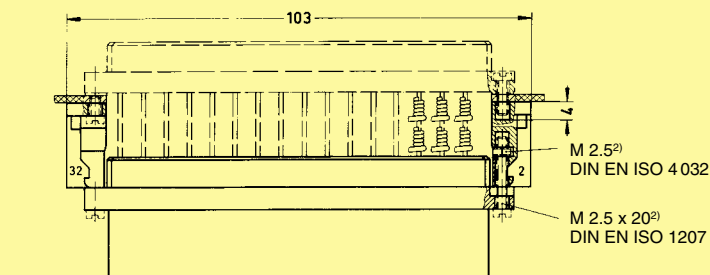
Drawing

Dimensions in mm

Mounting examples
of piggyback
connectors

without housings

with housings



¹⁾ Number of contacts piggyback connector

²⁾ Doesn't belong to the scope of supply



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

≥ 10¹² Ω

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 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
Copper alloy

Contacts

Contact surface

Contact zone

Selectively plated according to performance level¹⁾

¹⁾ Explanation of performance levels see chapter 00

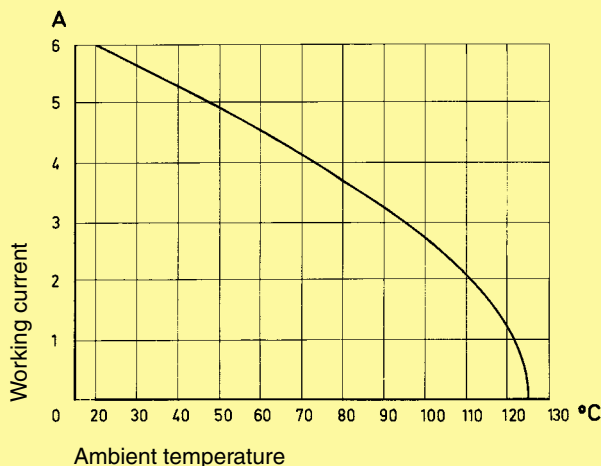
Mating conditions
Coding systems
Mounting clips

see chapter 00
see pages 02.41 and 02.42
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

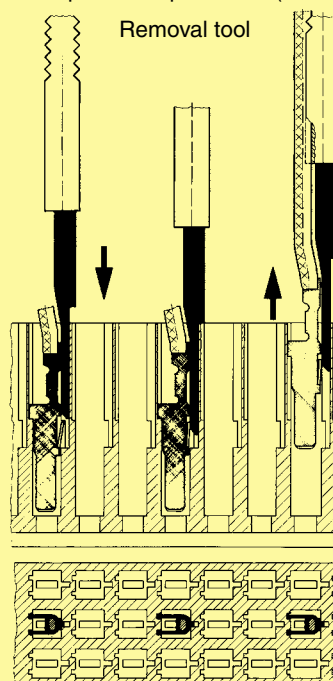


Fitting the crimp contacts

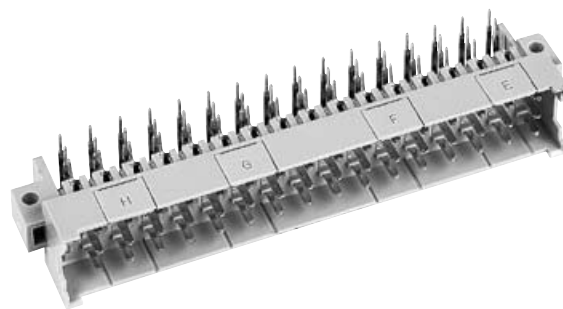
After crimping the wires onto the contacts with the help of a crimping tool or an automatic crimping machine the contacts should be correctly oriented and inserted into the cavities of the connector moulding in the required configuration. They snap into position and are firmly held in place. A light 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).



48, 32



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 ¹⁾	48		09 06 148 7901	09 06 148 6901 09 06 348 6901 ^{b)}	09 06 148 2901	
	32		09 06 132 7901 09 06 332 7901 ^{b)}	09 06 132 6901	09 06 132 2901	
	32		09 06 132 7931	09 06 132 6931 09 06 332 6931 ^{b)}	09 06 132 2931	
1 leading contact (position z 32)	47 + 1			09 06 148 6921 09 06 348 6921 ^{b)}	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	

Technical drawing of a 15x508 PCB showing top, side, and detail views with dimensions in mm.

Top View Dimensions:

- Overall length: 94 max.
- Overall width: 14,8 ±0,2
- Internal width: 15 x 5,08 = 76,20
- Distance from edge to first hole: 5,08
- Hole diameter: 2,5
- Distance between holes: 2z, 2b, 2d

Side View Dimensions:

- Overall height: 8,4 ±0,3
- Internal height: 1,5
- Distance from edge to first hole: 85,4
- Overall length: 87,5
- Overall length: 88,9

Detail View Dimensions (Angled solder pins):

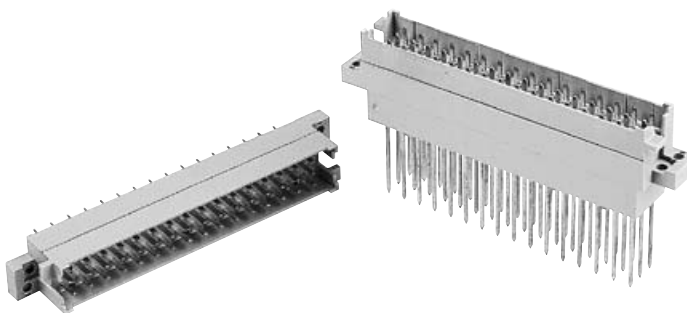
- Pin height: 6
- Pin width: 3,85
- Pin thickness: 3,0
- Pin angle: 2,54
- Pin length: 2,54
- Pin width: 12,7
- Pin height: 22

Angled solder pins

[illegible]

Number of contacts

48, 32



Interface connectors I

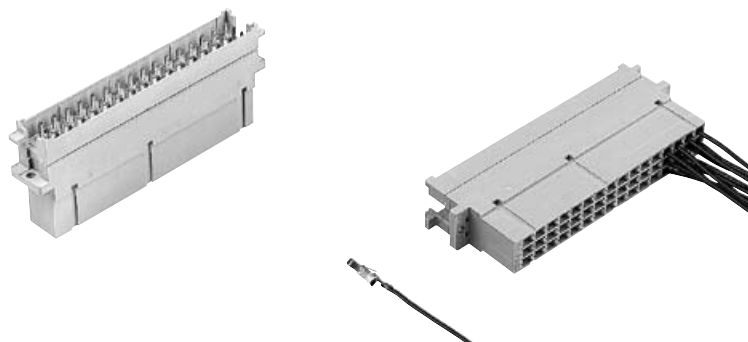
Identification	Number of contacts	Contact arrangement	Part No.	Drawing	Dimensions in mm
Interface connector I with solder pins ¹⁾ 0.6 x 0.6 mm			Performance level 1*		
	48		09 06 048 2905		
	32		09 06 032 2905		
	32		09 06 032 2941		
Board drillings Mounting side					
Interface connector I with wrap posts ¹⁾ 1 x 1 mm			Performance level 1*		
	without nut		09 06 048 2903		
	with nut		09 06 048 2963		
	without nut		09 06 032 2903		
	with nut		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

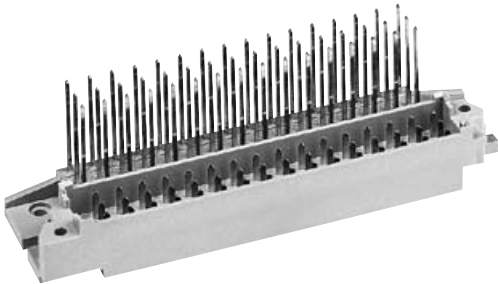
Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Interface connector I utilising female crimp contacts¹⁾ Order crimp contacts separately see page 02.29	48	Performance level 1 acc. to IEC 60 603-2 09 06 048 2906	Drawing Top view dimensions: 90, 5,08, 2z, 2b, 2d, 2,8, 0,3, 15 x 5,08 = 76,20, 8,17, 95 -0,4, 84, 12,7, 12,3, 2,9 -0,3, 38, 14,8 -0,2, 85,4, 20, 14,8, 8 -0,3, "X" Side view dimensions: 15 x 5,08 = 76,20, 8,17, 95 -0,4, 84, 12,7, 12,3, 2,9 -0,3, 38, 14,8 -0,2, 85,4, 20, 14,8, 8 -0,3, "X" Cross-section view: "X" Contact arrangement View from termination side Shell housing see chapter 20	Panel cut out dimensions: 85, 90 ± 0,1, 95,5, 7,5, 15,5, 7,5, 15,24, M 2,5 / 2,8 Mounted in shell housing B 09 06 048 0503 09 06 048 0504 09 06 048 0505

DIN Power
to 6 A

¹⁾ With shroud coding, see also page 02.41

Number of contacts

48

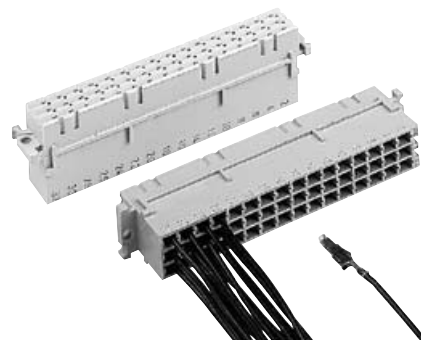


Interface connector U

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	Technical drawing of the connector showing side and top views with dimensions. The side view includes dimensions: 3+0.2, 2, 12.5, 15x5.08=76.20, 101+0.2, 106.5-0.2, 15.24, 6.8, 22, 14.8, 15.2, 2x5.08=10.16, 3.2+0.1, 31.9+0.3, 17.24, 1, 1. The top view shows contact arrangement with dimensions: 94, 90, 90, 8.17, 8.17, 0.3, 0.3.	
Mounting example			Technical drawing of the connector showing mounting example with dimensions. The drawing includes dimensions: 0.3, 5.08, M 3 x 8 DIN EN ISO 1207, 8.17, 17.23, 10.16, 90+0.1, 5.63, 5.08, 14.69, 2.4, M 2.5 x 6 DIN EN ISO 1207, A-B.	

Number of contacts

max. 48



Female connectors

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Female connector for crimp contacts¹⁾ Order contacts separately	48	09 06 248 3201	 Contact arrangement View from termination side Shell housing see chapter 20	

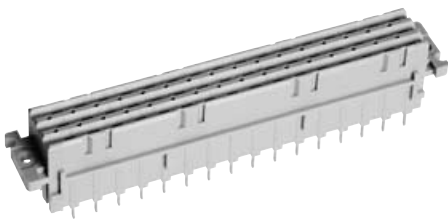
DIN Power
to 6 A

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 ²⁾	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 lugs³⁾ (lockable)			09 06 000 6420
		Wire gauge mm ²	AWG
FC 1	1	0.09 - 0.25	28 - 24
FC 2	2	0.14 - 0.56	26 - 20
FC 3	3	0.5 - 1.5	20 - 16
		Insulation ø mm	
		0.7 - 1.5	
		0.8 - 2.0	
		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	

¹⁾ With shroud coding, see also page 02.41²⁾ Packaging unit 1,000 pieces³⁾ Solder contacts must not be used together with shell housing A. Special contact surface: 2 µm gold.

Number of contacts

48, 32

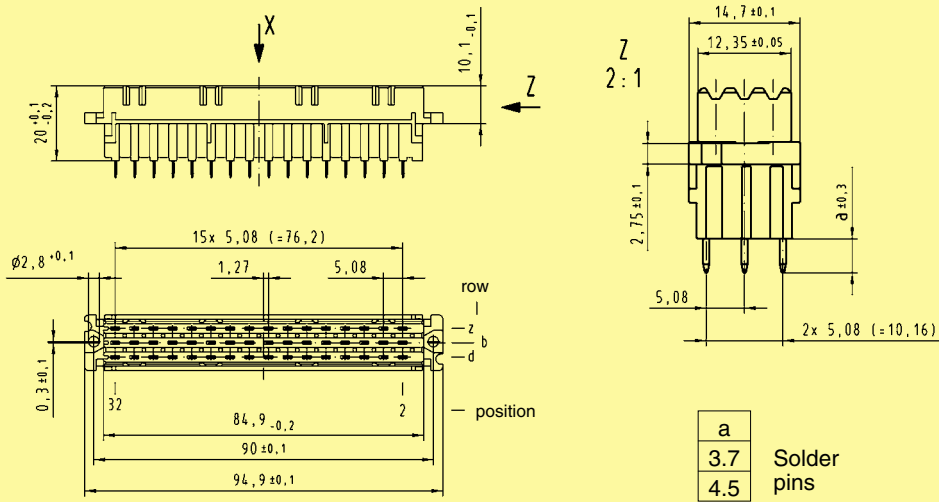


Female connectors

DIN Power
to 6 A

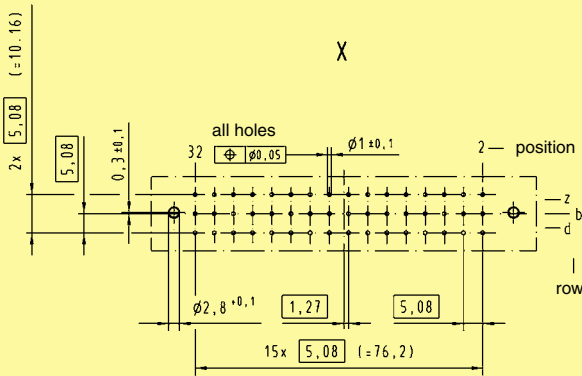
Identification	Number of contacts	Contact arrangement	Part No. 3	Performance levels according to IEC 60 603-2. Explanation chapter 00	
				2	1
Female connector with solder pins 3.7 mm ¹⁾	48		09 06 248 7848	09 06 248 6848	09 06 248 2848
	32			09 06 232 6848	09 06 232 2848
	32			09 06 232 6858	09 06 232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

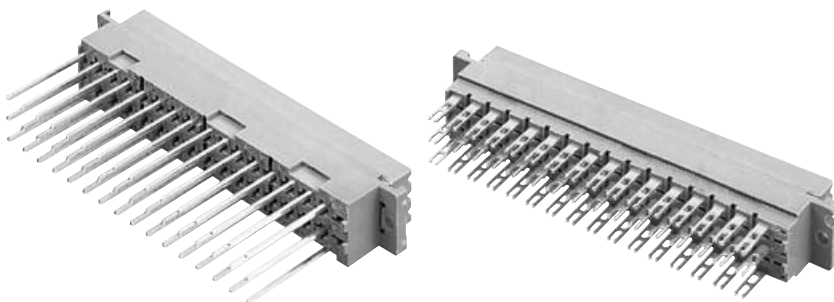


Dimensions in mm

¹⁾ With shroud coding, see also page 02.41

Number of contacts

48, 32

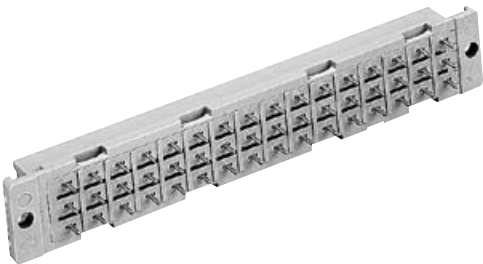


Female connectors

Identification		Number of contacts	Contact arrangement	Part No. 3	Performance levels according to IEC 60 603-2. 2	Explanation chapter 00 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									
Dimensions															
Panel cut out		Contact arrangement View from termination side <table><tr><th>d + b + z</th><th>b + z</th><th>d + z</th></tr><tr><td></td><td></td><td></td></tr><tr><td>48</td><td>32</td><td>32</td></tr></table> Dimensions in mm					d + b + z	b + z	d + z				48	32	32
d + b + z	b + z	d + z													
48	32	32													

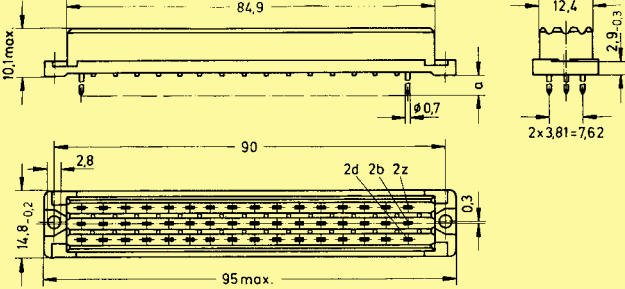
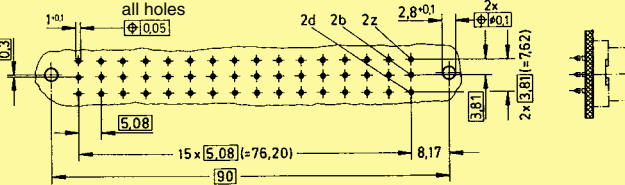
Number of contacts

48, 32



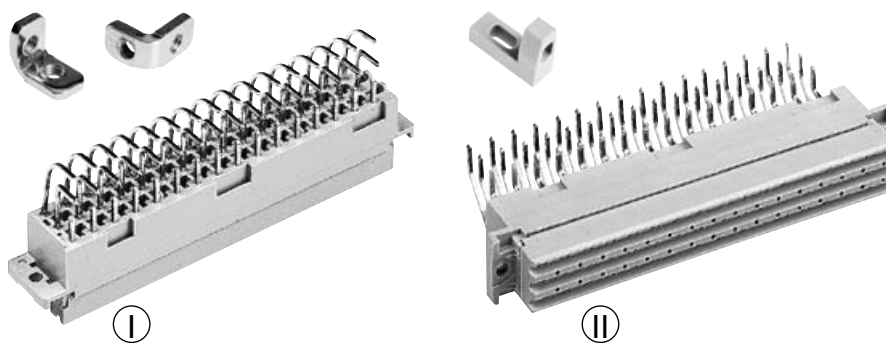
Female connectors

DIN Power
to 6 A

Identification	Number of contacts	Contact arrangement	Part No. 3	Performance levels according to IEC 60 603-2. 2	Explanation chapter 00 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					
Board drillings Mounting side					

Dimensions in mm

48, 32

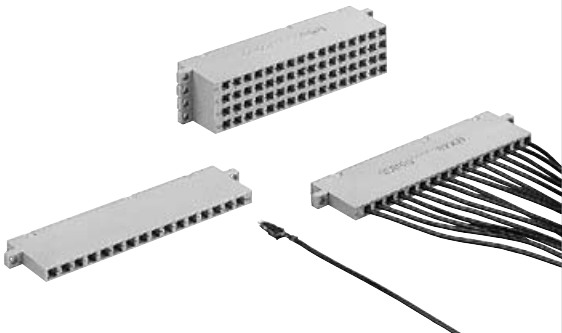


Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60 603-2. Explanation chapter 00	
			3	2	1
Female connector with angled solder pins 1 x 1 mm	48	I 	performance level 3 or special gold plating on request	09 06 248 6826	performance level 1 or special gold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

DIN Power to 6 A

Number of contacts

64, 16



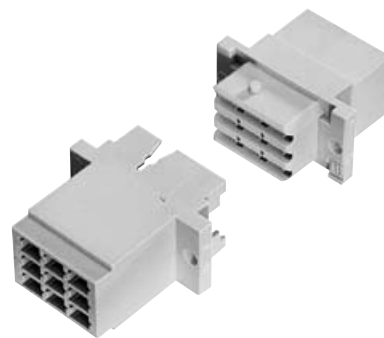
Universal adaptors

DIN Power
to 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

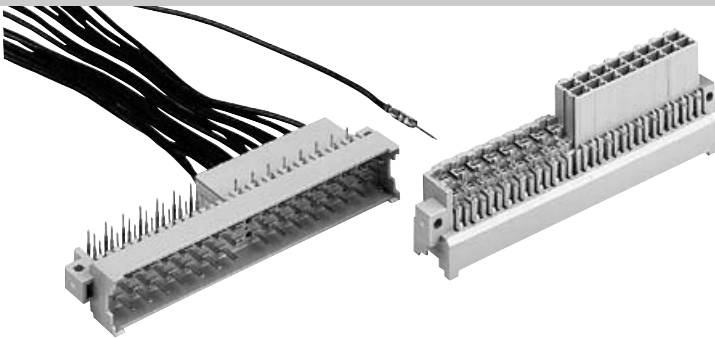


Female and male connectors

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Female connector for crimp contacts Order contacts separately	9	09 06 209 3201		max 12,5 $2 \times 3,81 = 7,62$ 3,81 max 12,8 14,85 25,1 8 10,1 2,9 16,6 27,5±0,1 8,5 17,9
Female crimp contacts		see page 02.29		24 5 3 1 0,3 5,08 $2 \times 5,08 = 10,16$ 10,1 17,9 2,9 10,1 25,1 8 14,85 max 12,8 max 12,5 $2 \times 3,81 = 7,62$ 3,81
Male connector for crimp contacts Order contacts separately	9	09 06 109 3401		28 21,5 19,1 18 max 2,9 11,4 max 3 8,4 14,8 5,6 2,5 6,9 29 3,6 12,7 3,81 $2 \times 3,81 = 7,62$ 3,81
Male crimp contacts		see page 02.38		24 5,6 12,7 5,08 $2 \times 5,08 = 10,16$ 17,1 2,8 11 0,3 3,81 $2 \times 3,81 = 7,62$ 3,81

Number of contacts

45



Male connectors

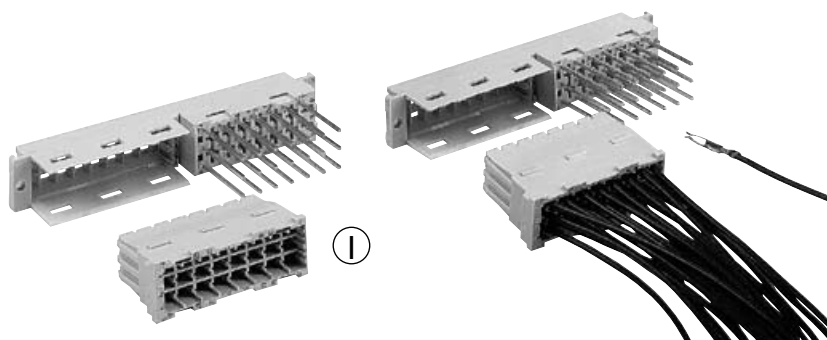
DIN Power
to 6 A

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
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

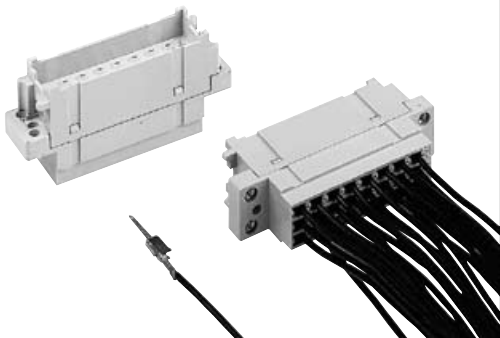
Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Female connector				
Female moulding with 21 wrap posts 22 mm	45	Performance level 1 acc. to IEC 60 603-2 09 06 045 2871		
with 21 solder pins 4.5 mm	45	09 06 045 2875		
Crimp moulding for 24 female crimp contacts crimp contacts see page 02.29		09 06 024 3202		
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

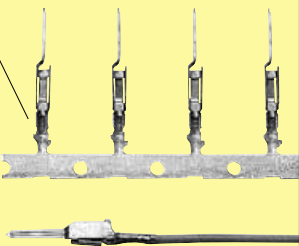
Interface connector I



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		

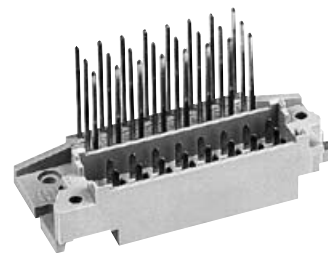
Identification	Identification Wire gauge	Part No.	Performance levels according to IEC 60 603-2. Explanation chapter 00	
			2	1
Male crimp FC contacts				
Bandoliered contacts (approx. 2,500 pieces)	1	09 06 000 9564		09 06 000 9544
	2	09 06 000 9561		09 06 000 9541
	3	09 06 000 9562		09 06 000 9542
Bandoliered contacts (approx. 2 50 pieces)	2			09 06 000 5541
	3			09 06 000 5542
Individual contacts ¹⁾	1	09 06 000 9574		09 06 000 9554
	2	09 06 000 9571		09 06 000 9551
	3	09 06 000 9572		09 06 000 9552
FC 1	1	Wire gauge mm ²	AWG	Insulation ø mm
FC 2	2	0.09 - 0.25	28 - 24	0.7 - 1.5
FC 3	3	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



¹⁾ Packaging unit 1,000 pieces

Number of contacts

max. 24



Interface connector U

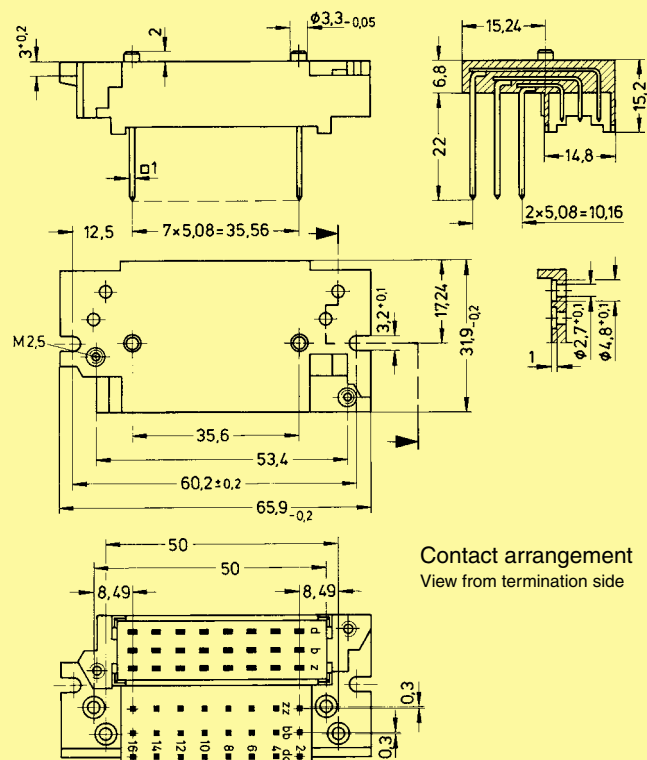
Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
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Interface connector U
with wrap posts
1 x 1 mm

24

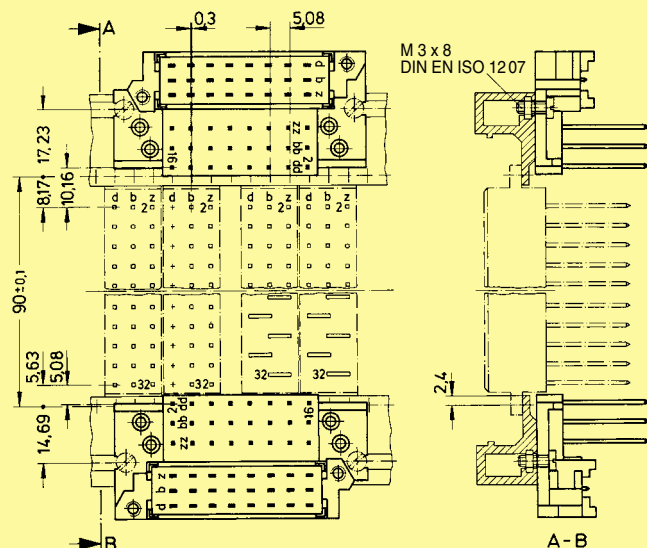
Performance level 1
acc. to IEC 60 603-2

09 26 024 2981



Contact arrangement
View from termination side

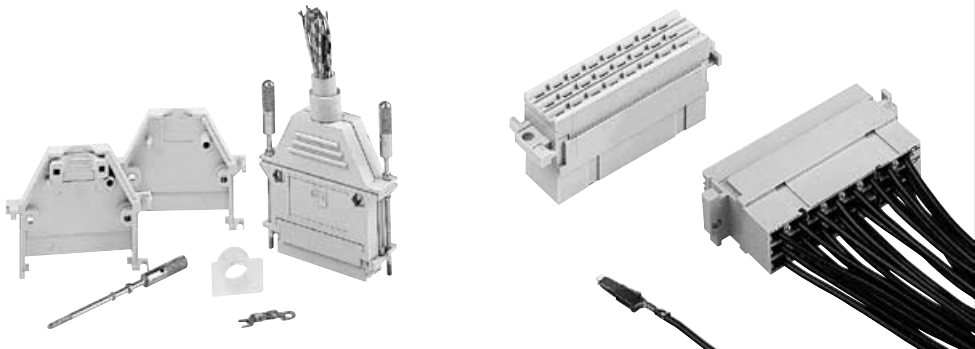
Mounting example



DIN Power
to 6 A

Number of contacts

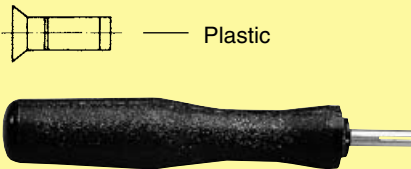
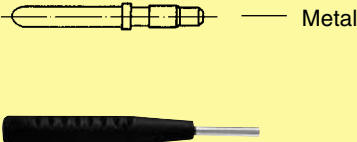
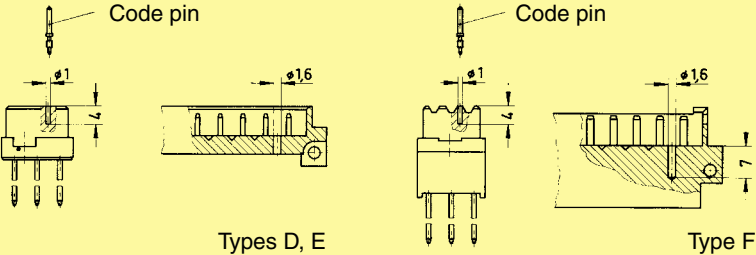
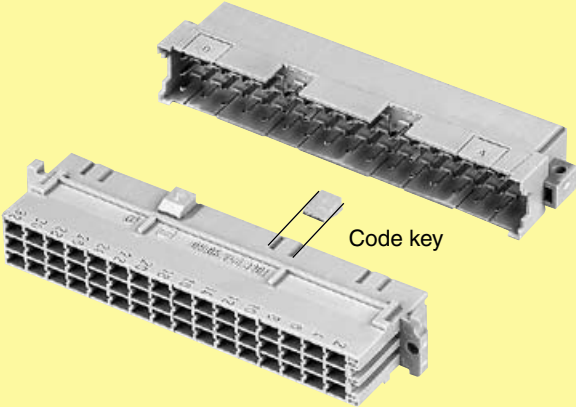
max. 24

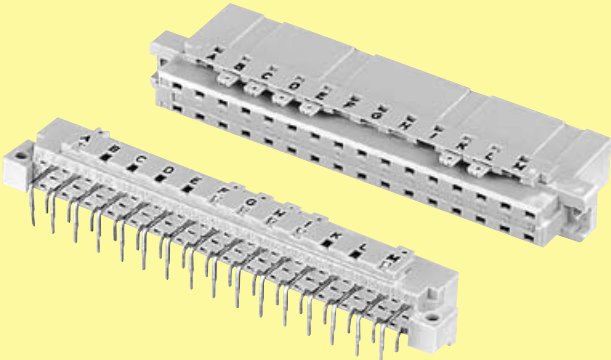


Female connectors

DIN Power
to 6 A

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

Identification	Part No.	Drawing	Dimensions in mm
Coding system <u>with</u> contact loss	Code pin for types D, E, F, FM, 2F 09 04 000 9908 Removal tool for male contacts 09 99 000 0038	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. 	
Coding system <u>without</u> contact loss with code pin	Code pin 09 06 000 9950 Insertion tool 09 99 000 0103	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  Mounting example 	
shroud coding Type F	Code key 09 06 001 9919	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. 	
Tool for breaking out the coding area of the male shroud	09 99 000 0242		

Identification	Part No.	Drawing	Dimensions in mm
Coding system <u>without</u> contact loss	Male and female connectors Types B, C, D and E see product pages or on request	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. The connectors with the integrated coding facility are supplied for types B, C, D and E and are available for all variants. Please contact us. 	
Coding pins Mounting example	12 pins on a comb 09 02 000 9928	 Technical drawings of connector types B, C, D, and E showing the coding pin arrangement. The drawings include dimensions for pin spacing and overall connector width. Dimensions shown in drawings: - Pin spacing: 12,7, 15,24, 15,24, 15,24, 20,32 - Overall width: 11 x 6 = 66 - Pin height: 2 - Pin diameter: 2 - Pin pitch: 4 - Pin offset: 6 - Pin length: 27 - Pin width: 39	

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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