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

Page

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 see current carrying capacity chart	6 A max.
Clearance	
Types D und E	≥ 3.0 mm
Type E male connector row separation 2.54 mm	≥ 1.6 mm
Creepage	≥ 3.0 mm
Working voltage The working voltage also depends on the clearance and creepage dimensions of the pcb itself and the associated wiring	according to the safety regulations of the equipment Explanations see chapter 00
Test voltage $U_{r.m.s.}$	1.55 kV
Contact resistance	≤ 15 mΩ for wire wrap and solder connections ≤ 20 mΩ including crimp connections
Insulation resistance	≥ 10^{12} Ω
Temperature range The higher temperature limit includes the local ambient and heating effects of the contacts under load	– 55 °C … + 125 °C
Degree of protection for crimp terminal according to DIN 40 050	IP 20
Electrical termination	
Male connector	Solder pins for pcb connections Ø 1.0 ± 0.1 mm according to IEC 60 326-3
Female connector	Wrap posts 1 x 1 mm diagonal 1.34-1.45 mm Solder pins for pcb connections Ø 1.0 ± 0.1 mm according to IEC 60 326-3 Angled solder pins 1 x 1 mm for pcb connections Ø 1.6 ± 0.1 mm Solder lugs Crimp terminal 0.09-1.5 mm²
Insertion and withdrawal force	32 way ≤ 40 N 48 way ≤ 75 N
Materials	
Mouldings	Thermoplastic resin, glass-fibre filled, UL 94-V0
Contacts	Copper alloy
Contact surface	
Contact zone	Selectively gold plated according to performance level[1]

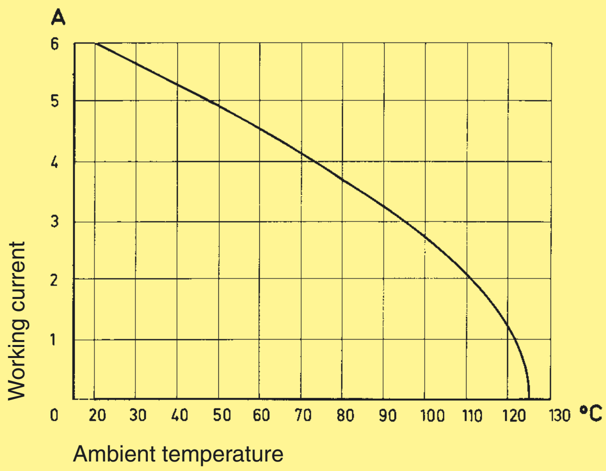
[1] Explanation of performance levels see chapter 00

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

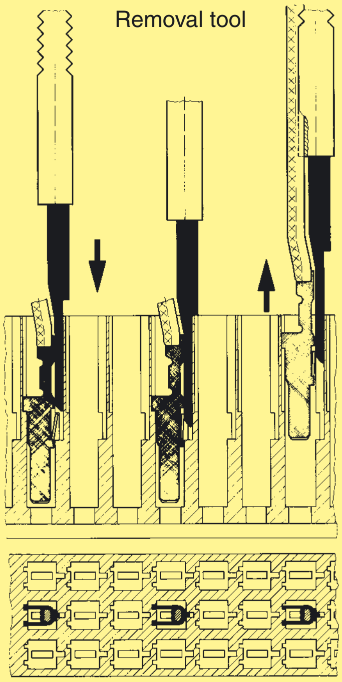


Fitting the crimp contacts

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

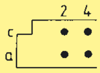
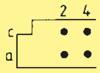
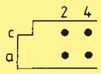
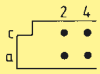
The removal tool is inserted into a slot on the side of the respective crimp cavity. This action compresses the contact retaining spring therefore the contact can then be easily withdrawn using a light pull on the wire. This action will cause no damage to the contact/wire which can be repositioned/refitted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



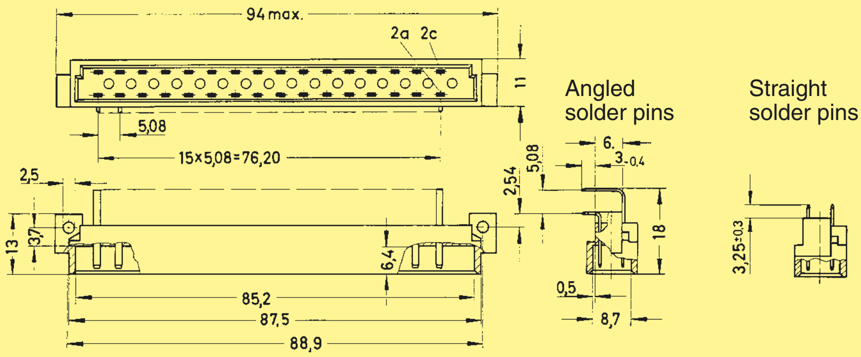
Number of contacts

32

Male connectors

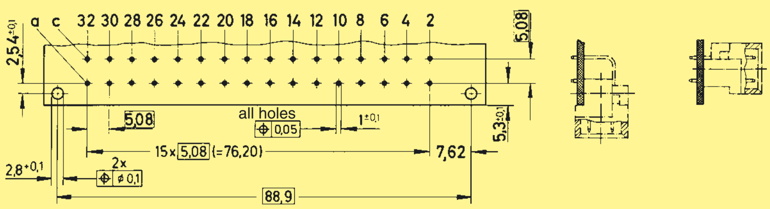
Identification	Number of contacts	Contact arrangement	Part No. Performance levels according to IEC 60 603-2. Explanation chapter 00: 3	2	1
Male connector with angled solder pins	32		09 04 132 7921	09 04 132 6921 09 04 332 6921 b) 09 04 632 6921 c)	09 04 132 2921
	30 + 2▲		09 04 132 7951	09 04 132 6951 09 04 632 6951 c)	
Male connector with straight solder pins	32		09 04 132 7922	09 04 132 6922	
	30 + 2▲		09 04 132 7952	09 04 132 6952	

Dimensions



Board drillings

Mounting side

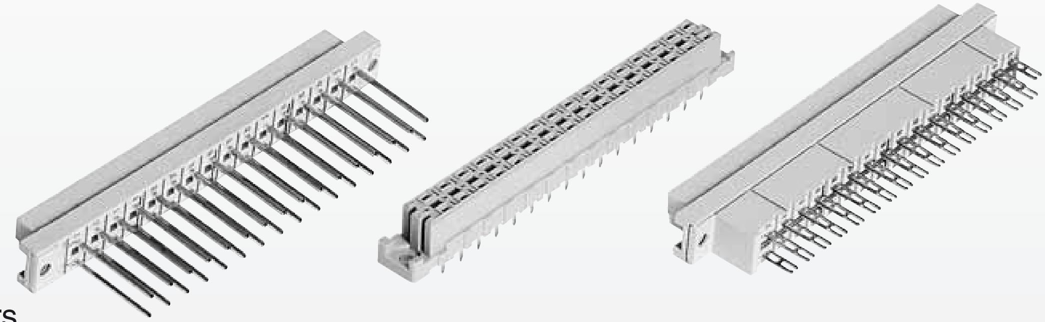


Dimensions in mm

▲ 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

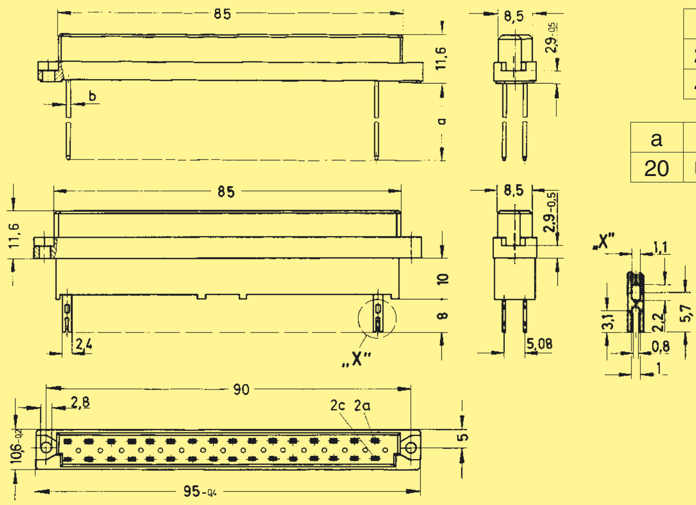
32



Female connectors

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 04 232 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 04 232 2821
Female connector with solder lugs	32		09 04 232 7823	09 04 232 6823	09 04 232 2823

Dimensions



Solder pins

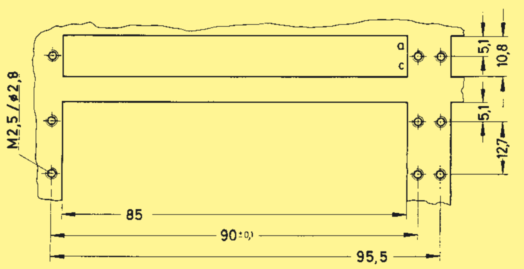
a
2.9
4.5

Wrap posts

a	b
20	□1

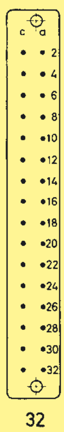
Solder lugs

Panel cut out



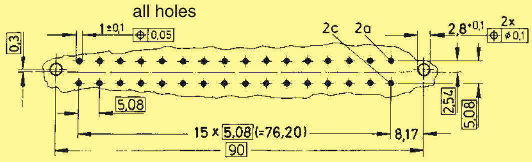
Contact arrangement

View from termination side



Board drillings

Mounting side



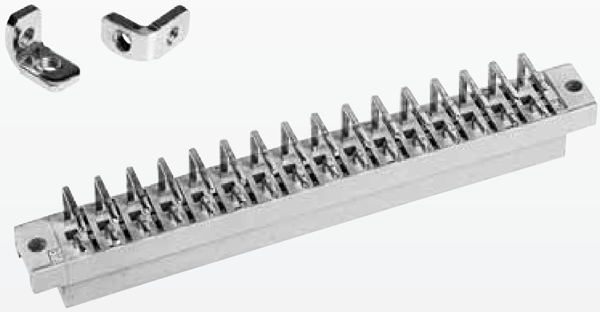
Dimensions in mm

[b] Connectors with snap-in clips see chapter 00

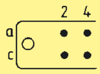
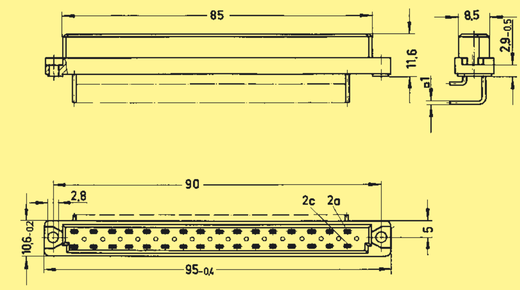
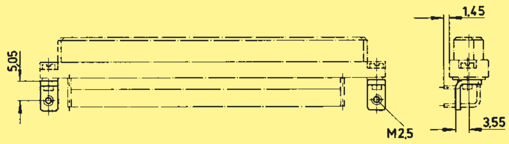
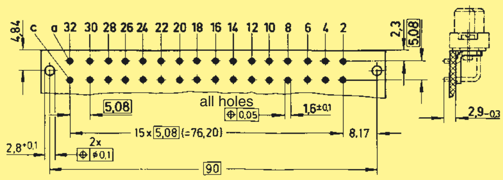
[c] Connectors with coding see page 02.42

Number of contacts

32



Female connectors

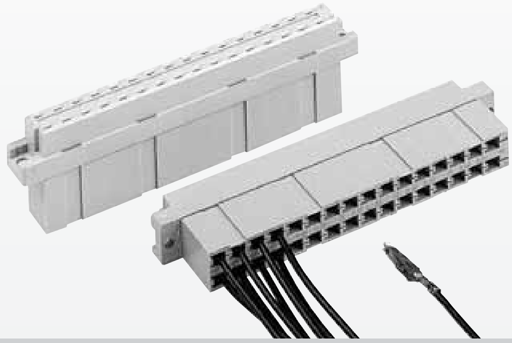
Identification	Number of contacts	Contact arrangement	Part No. Performance levels according to IEC 60 603-2. Explanation chapter 00: 3	2	1
Female connector with angled solder pins 1 x 1 mm	32		09 04 232 7826	09 04 232 6826	09 04 232 2826
Dimensions					
Fixing bracket Metal 1) order 2 pieces for one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

Dimensions in mm

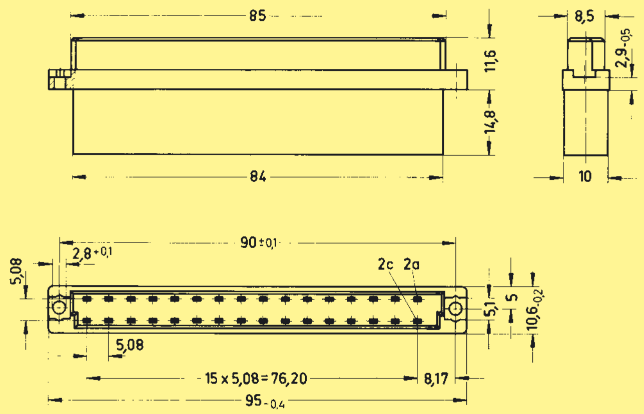
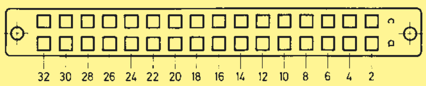
DIN Power to 6 A

Number of contacts

max. 32



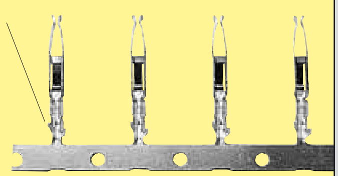
Female connectors

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Female connector for crimp contacts Order contacts separately	32	09 04 032 3213	 Contact arrangement 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

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

Identification



Bandoliered contacts

Individual contacts

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

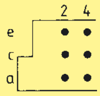
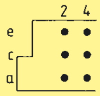
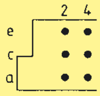
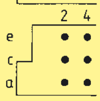
Insertion, removal and crimping tools see chapter 30

1) Packaging unit 1,000 pieces

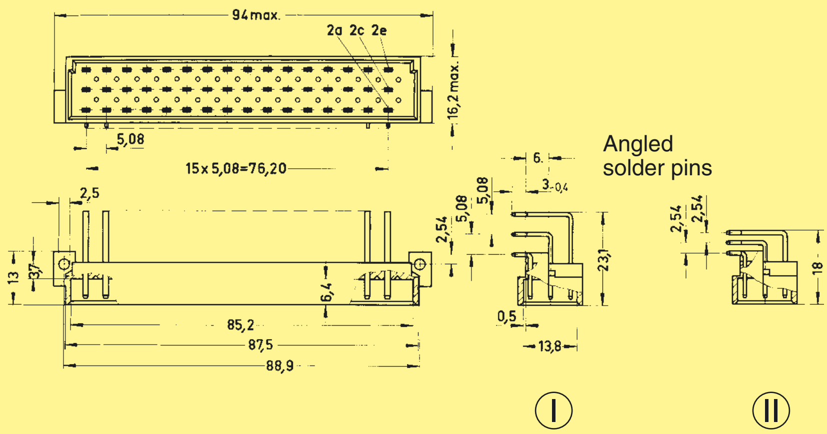
Number of contacts

48

Male connectors

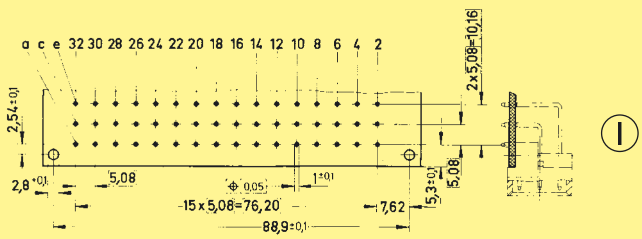
Identification	Number of contacts	Contact arrangement	Part No. Performance levels according to IEC 60 603-2. Explanation chapter 00: 3	2	1
Male connector with angled solder pins					
Row separation termination side 5.08 mm (I)	48		09 05 148 7921	09 05 148 6921 09 05 348 6921 b) 09 05 648 6921 c)	09 05 148 2921 09 05 648 2921 c)
	46 + 2▲		09 05 148 7951	09 05 148 6951	
Row separation termination side 2.54 mm (II)	48		09 05 148 7931	09 05 148 6931	09 05 148 2931
	46 + 2▲		09 05 148 7961	09 05 148 6961	

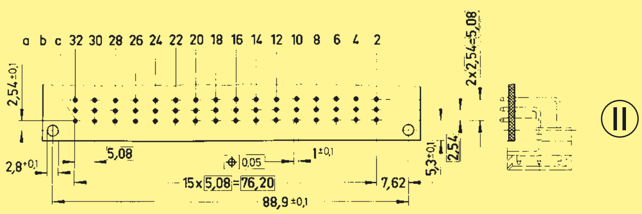
Dimensions



Board drillings

Mounting side





Dimensions in mm

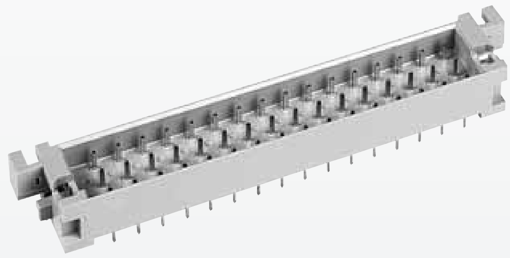
▲ Male connectors with 2 leading contacts [(0.8 mm) pos. a2 and a32]
Other contact arrangements on request

b) Connectors with snap-in clips see chapter 00

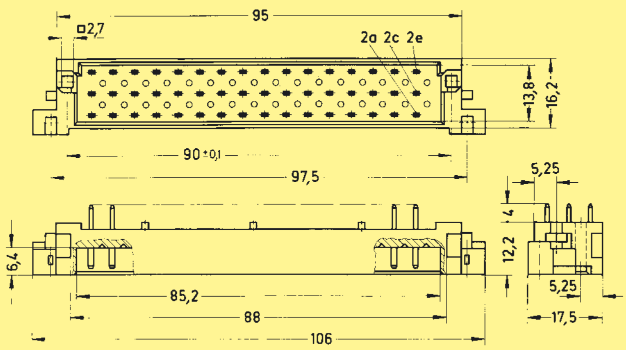
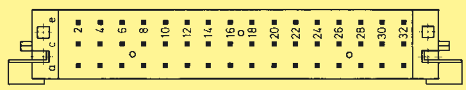
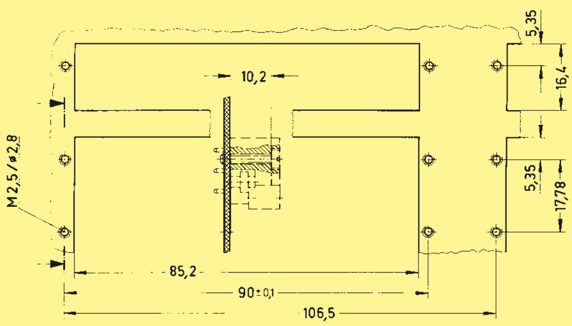
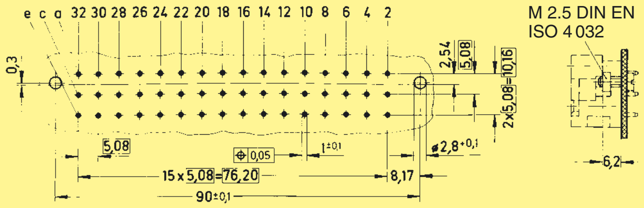
c) Connectors with coding see page 02.42

Number of contacts

48

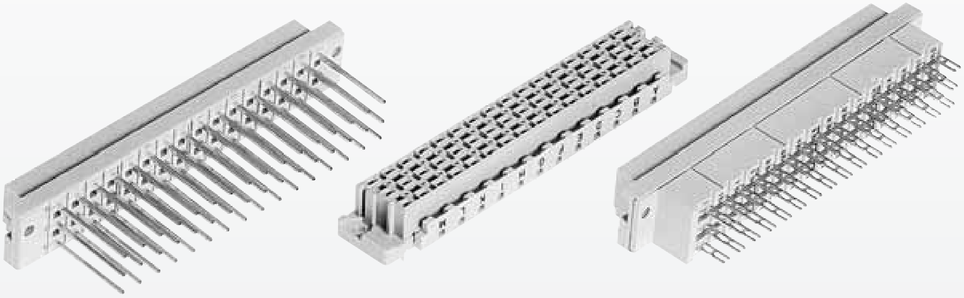


Interface connector I

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			

Number of contacts

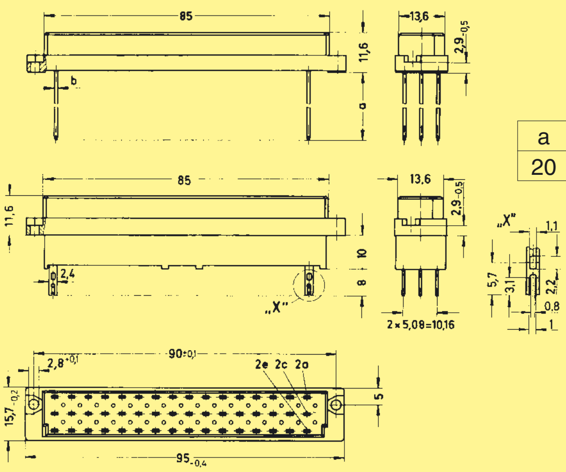
48



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	48	2 4 a c e	09 05 248 7832	09 05 248 6832	09 05 248 2832
Female connector with solder pins 4.5 mm	48	2 4 a c e	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	2 4 a c e	09 05 248 7821	09 05 248 6821	09 05 248 2821
Female connector with solder lugs	48	2 4 a c e	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

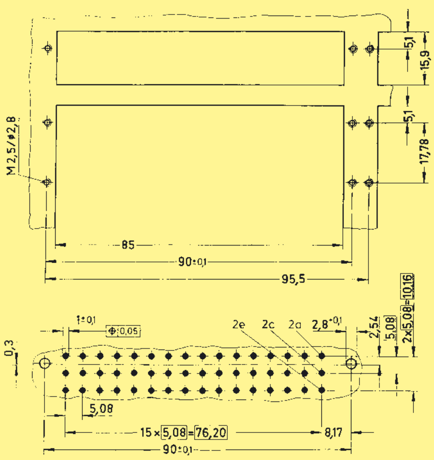


a	
2.9	Solder pins
4.5	

a	b	
20	□ 1	Wrap posts

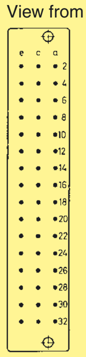
Solder lugs

Panel cut out



Contact arrangement

View from termination side



48

Board drillings

Mounting side

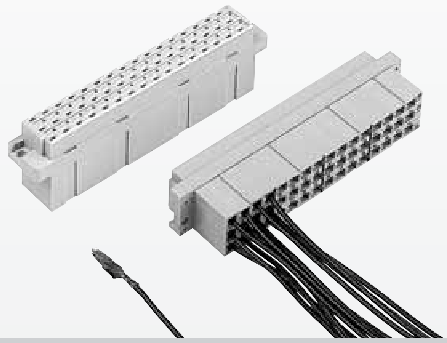
Dimensions in mm

b) Connectors with snap-in clips see chapter 00

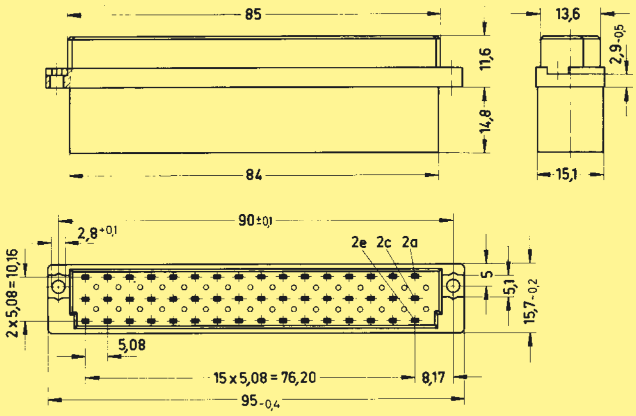
c) Connectors with coding see page 02.42

Number of contacts

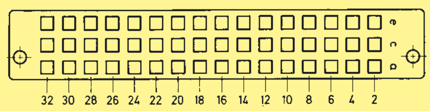
max. 48



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)]		

Contact arrangement View from termination side

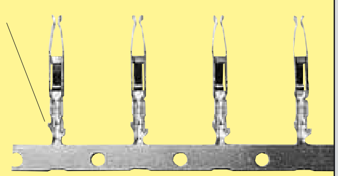


Shell housing 09 05 048 0501 see chapter 20

Identification	Identification Wire gauge	Part No. Performance levels according to IEC 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

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

Identification



Bandoliered contacts

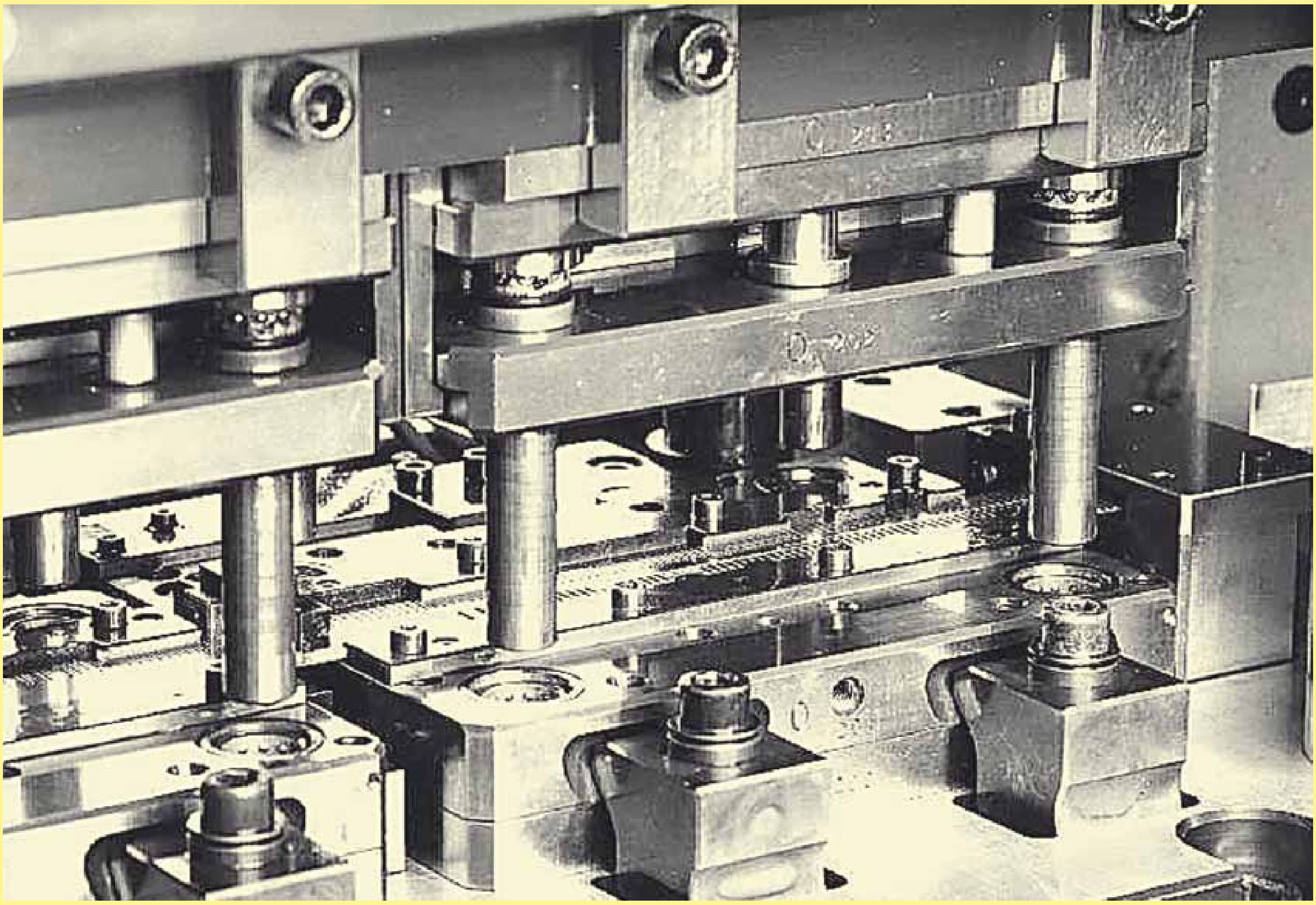
Individual contacts

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

Insertion, removal and crimping tools see chapter 30

[c)] Connectors with coding see page 02.42

[1)] Packaging unit 1,000 pieces



Our claim is quality.

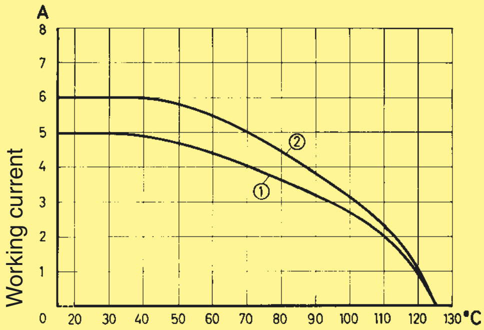
Simultaneous and fully automated high-speed stamping of several contacts with small tolerances.

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 mΩ
Insulation resistance	≥ 10^{12} Ω
Termination	Crimp terminal 0.09-1.5 mm²
Materials	
Mouldings and hoods	Thermoplastic resin, glass-fibre filled
Contacts	Copper alloy

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

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

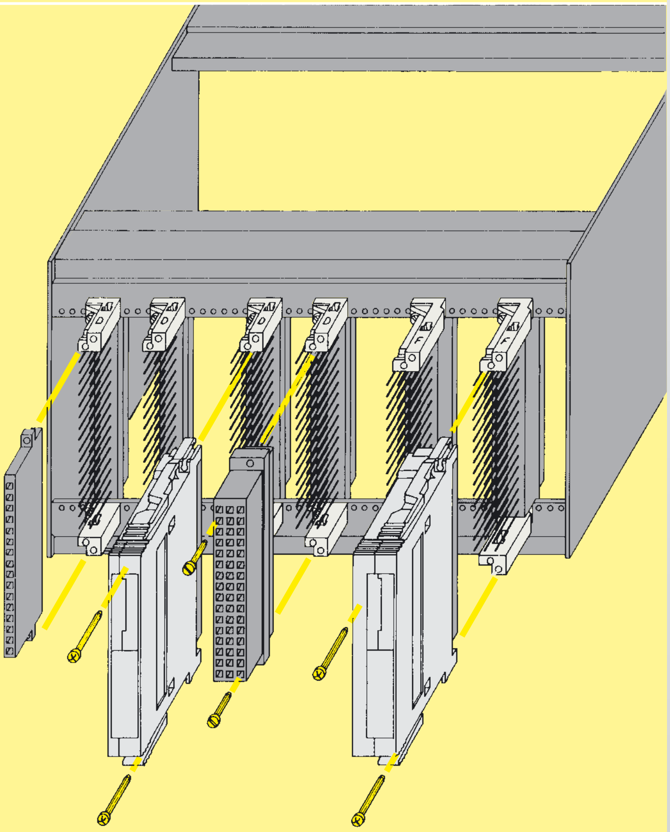
The problem of interfacing systems designed for the distribution or collection of electronic signals can be overcome by the use of piggyback connectors. Designed to be mounted on the rear of DIN 41 612 type wire wrap female connectors (1 x 1 mm posts) these piggyback elements can be used to terminate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

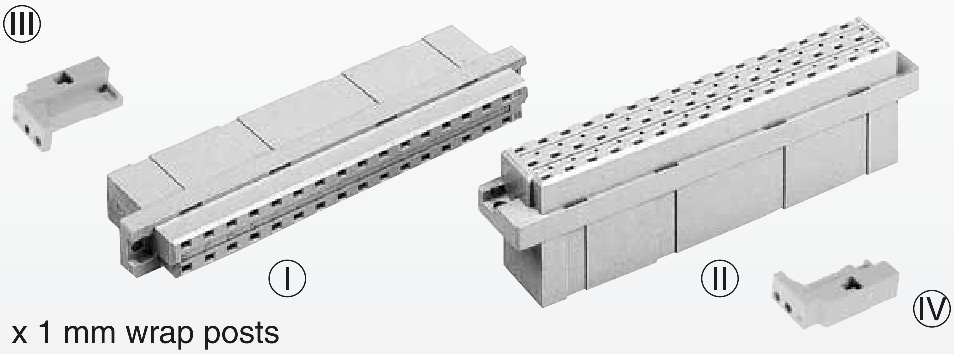
After crimping they can be easily inserted into the chambers of the connector body with the aid of an insertion tool. Insertion errors can be simply rectified with the use of a removal tool.

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.

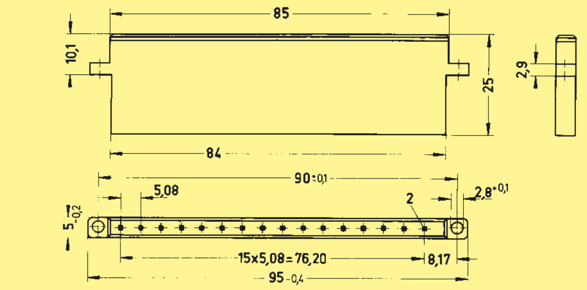
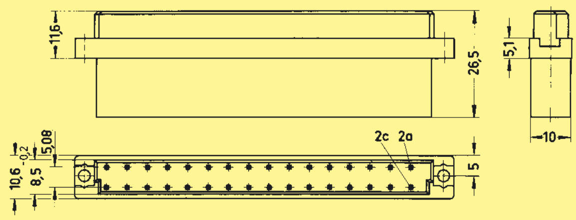
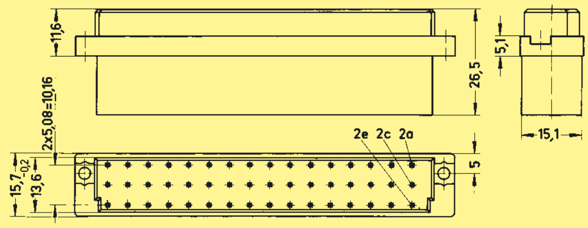


Number of contacts

max. 48



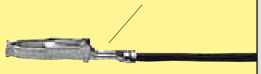
Piggyback connectors for 1 x 1 mm wrap posts

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	

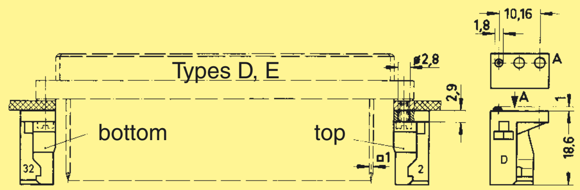
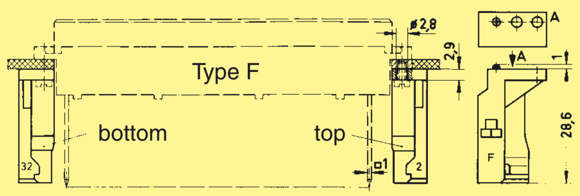
Identification		Part No.	Identification	Wire gauge mm²	AWG	Insulations ø mm
Female FC crimp contacts						
individual contacts[1]	FC1	09 06 000 6464	1	0.09-0.25	28-24	0.7-1.5
	FC2	09 06 000 6461	2	0.14-0.56	26-20	0.8-2.0
	FC3	09 06 000 6462	3	0.50-1.50	20-16	1.6-2.8
Bandoliered contacts (approx. 2,500 pcs.)	FC1	09 06 000 6454	1	0.09-0.25	28-34	0.7-1.5
	FC2	09 06 000 6451	2	0.14-0.56	26-20	0.8-2.0
	FC3	09 06 000 6452	3	0.50-1.50	20-16	1.6-2.8

Mateable with 1 x 1 mm wrap posts

Identification



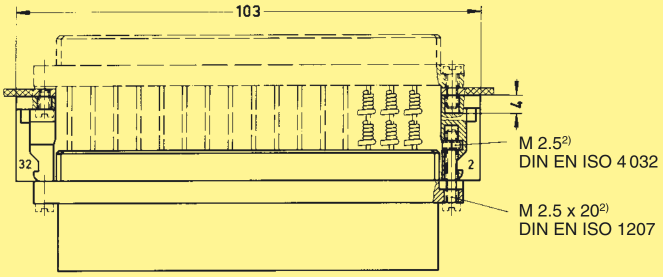
3.5 + 0.5 mm of insulation is stripped from the wires to be crimped.
Crimping tools see chapter 30

Identification	Part No.	Drawing
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 III IV	top (pos. 2) 09 06 000 9936 bottom (pos. 32) 09 06 000 9937	

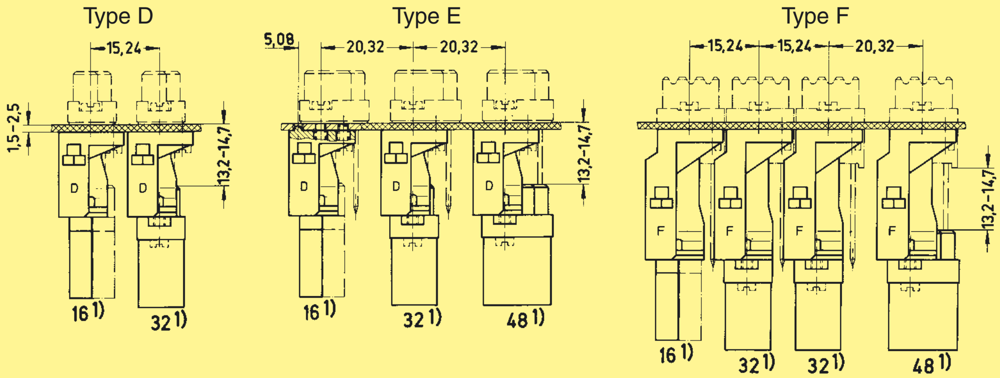
[1] Packaging unit 1,000 pieces

Identification	Drawing	Dimensions in mm

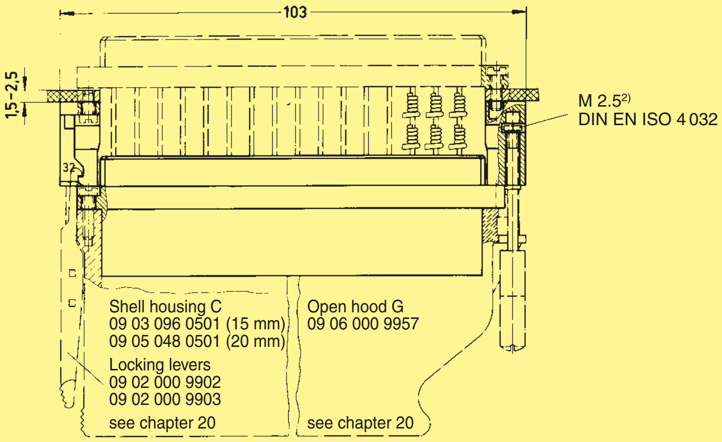
Mounting examples of piggyback connectors

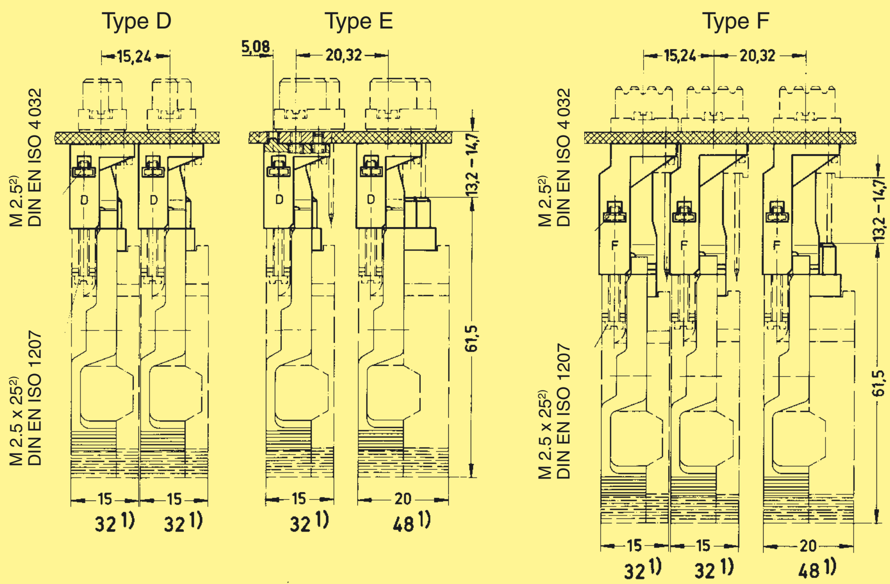


without housings



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
≥ 10^{12} Ω

Temperature range
– 55 °C ... + 125 °C

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

Electrical termination

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

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

Materials

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

Contact surface

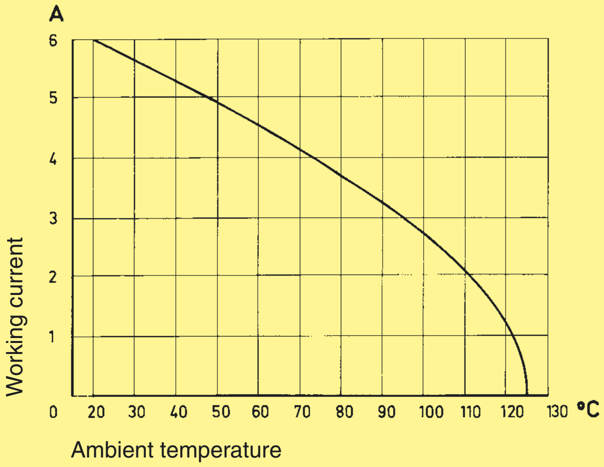
Contact zone	Selectively plated according to performance level[1]

[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

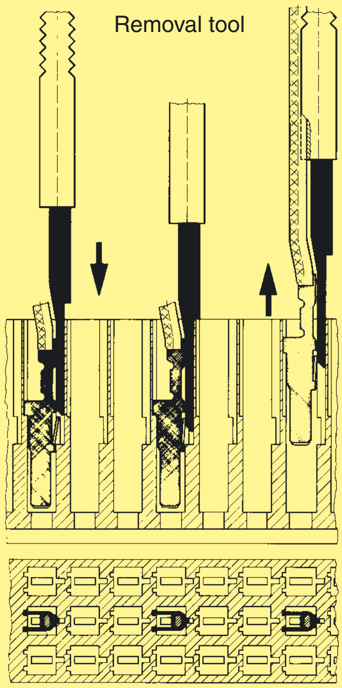
Current carrying capacity
The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity curve is valid for continuous, non interrupted current loaded contacts of connectors when simultaneous power on all contacts is given,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

Control and test procedures according to DIN IEC 60 512



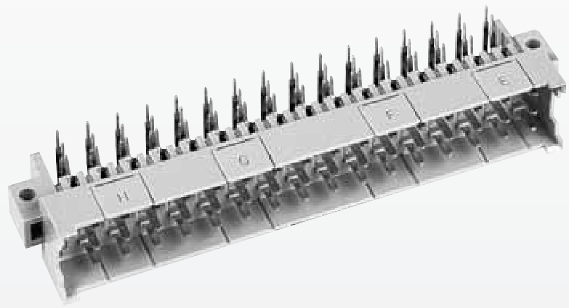
Fitting the crimp contacts
After crimping the wires onto the contacts with the help of a crimping tool or an automatic crimping machine the contacts should be correctly oriented and inserted into the cavities of the connector moulding in the required configuration. They snap into position and are firmly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

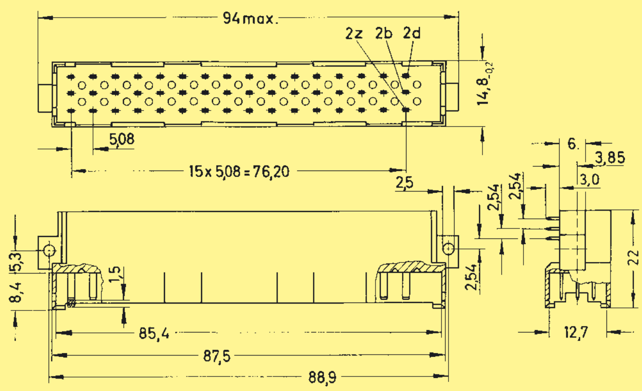
48, 32



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[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 06 132 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 7921	09 06 148 6921	09 06 148 2921
	31 + 1		09 06 132 7921	09 06 132 6921	09 06 132 2921
2 leading contacts (positions b 2 + b 32)	46 + 2			09 06 148 6925	09 06 148 2925

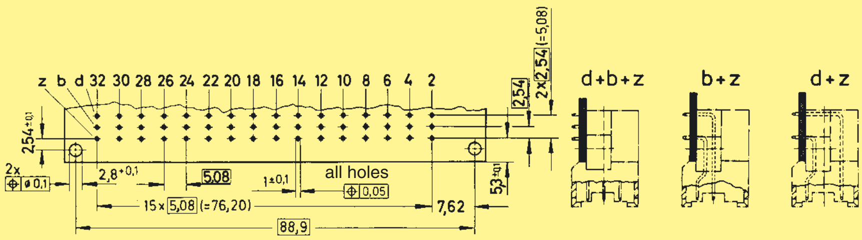
Dimensions



Angled solder pins

Board drillings

Mounting side

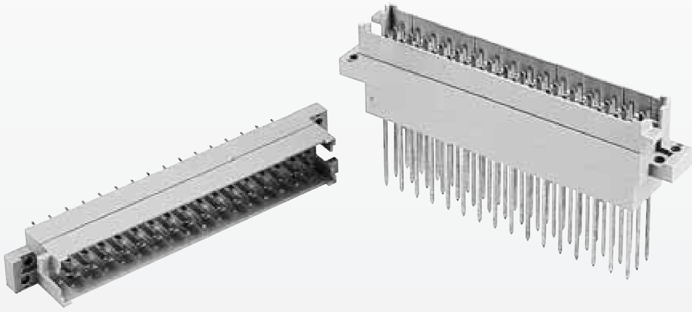


Dimensions in mm

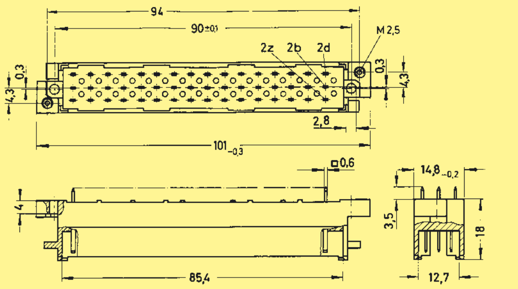
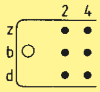
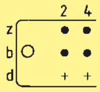
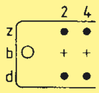
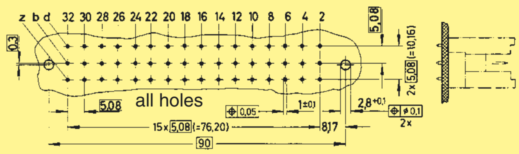
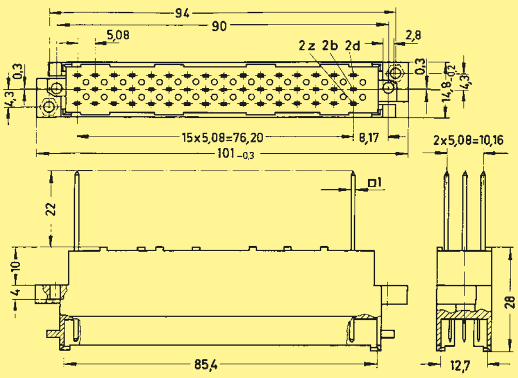
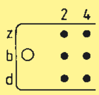
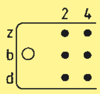
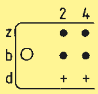
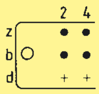
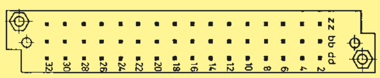
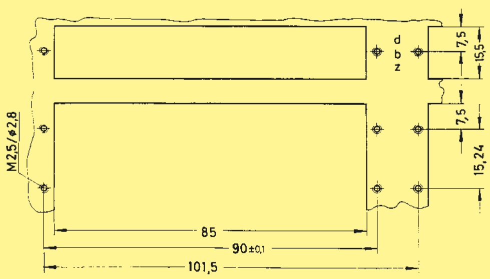
[1] With shroud coding, see also page 02.41
[b] Connectors with snap-in clips see chapter 00

Number of contacts

48, 32



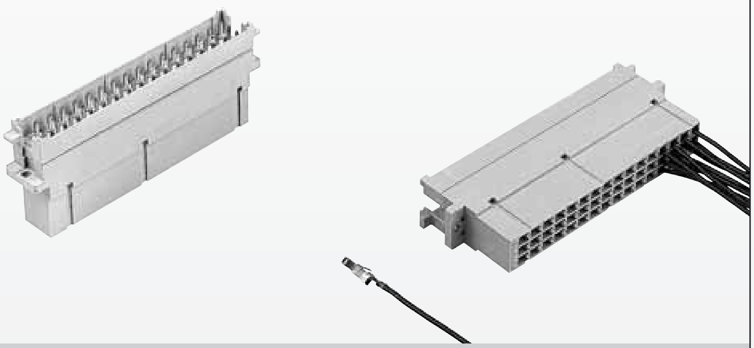
Interface connectors I

Identification	Number of contacts	Contact arrangement	Part No.	Drawing / Dimensions in mm
Interface connector I with solder pins1) 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 posts1) 1 x 1 mm			Performance level 1*	
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	Contact arrangement View from termination side 
Panel cut out				

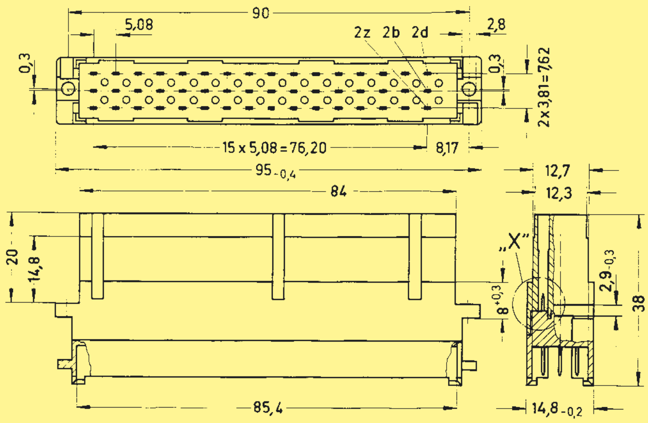
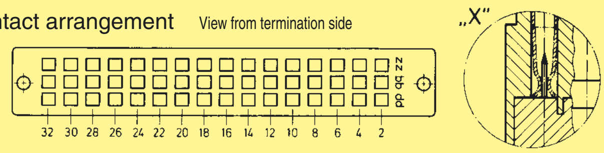
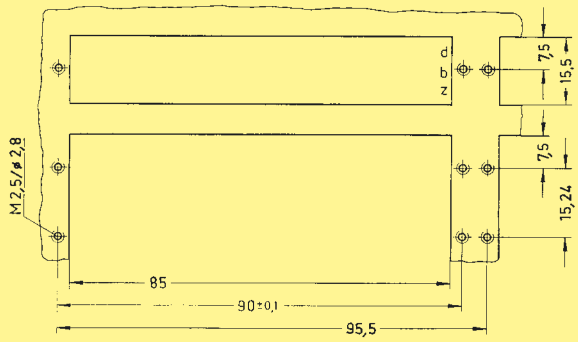
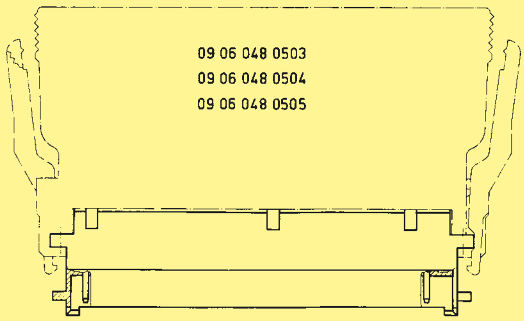
* Acc. to IEC 60 603-2, performance level 2 on request
1) With shroud coding, see also page 02.41

Number of contacts

48



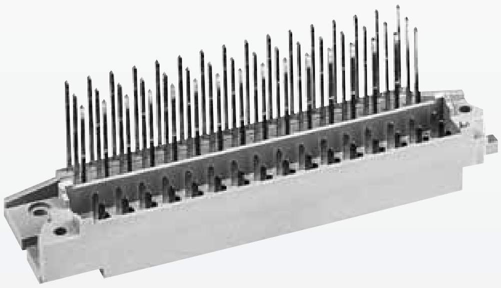
Interface connector I

Identification	Number of contacts	Part No.	Drawing / Dimensions in mm
Interface connector I utilising female crimp contacts[1)] 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			

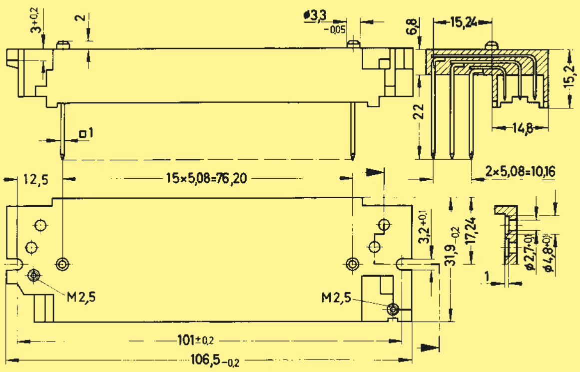
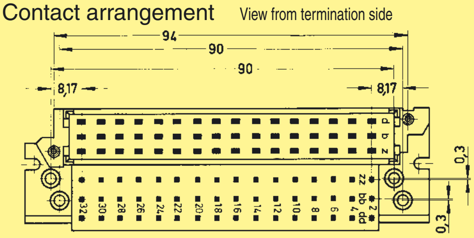
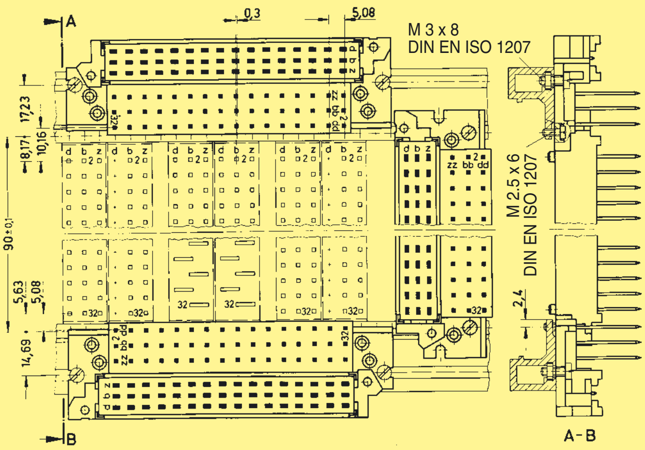
[1)] With shroud coding, see also page 02.41

Number of contacts

48

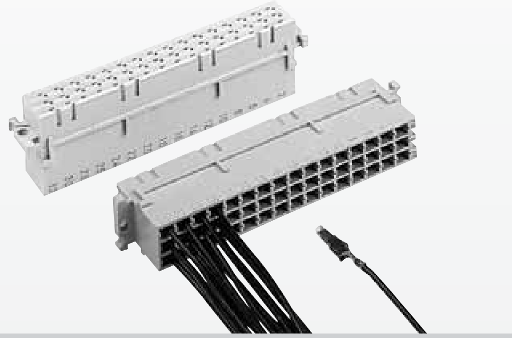


Interface connector U

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	 Contact arrangement View from termination side 
Mounting example			

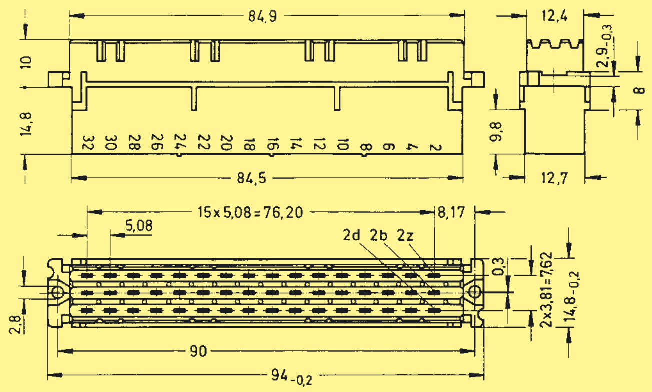
Number of contacts

max. 48

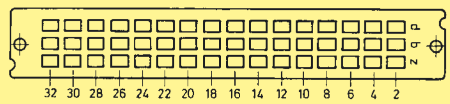


Female connectors

Identification	Number of contacts	Part No.	Drawing (Dimensions in mm)
Female connector for crimp contacts[1)] Order contacts separately	48	09 06 248 3201	see drawing



Contact arrangement View from termination side

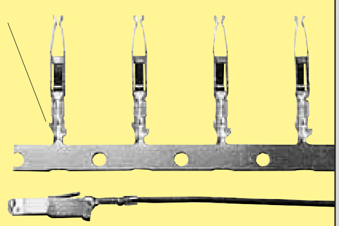


Shell housing see chapter 20

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[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

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

Identification



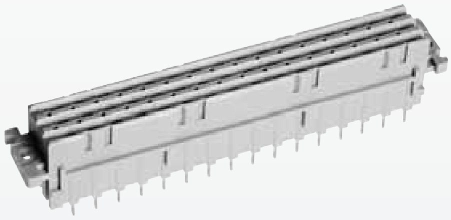
3.5 + 0.5 mm of insulation is stripped from the wires to be crimped
Insertion, removal and crimping tools see chapter 30

[1)] With shroud coding, see also page 02.41
[2)] Packaging unit 1,000 pieces

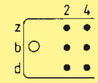
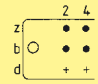
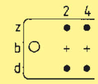
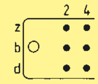
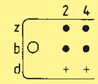
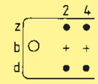
DIN Power to 6 A

Number of contacts

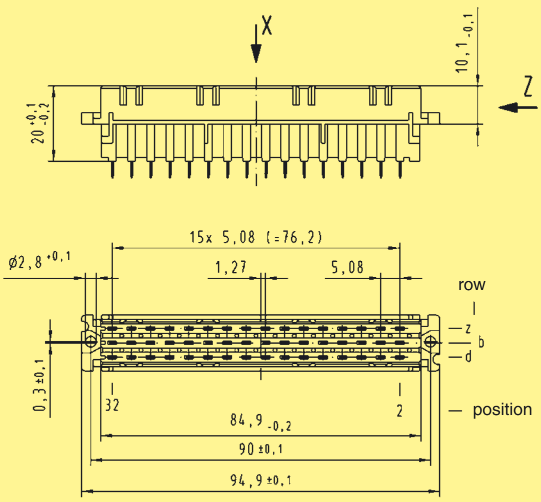
48, 32

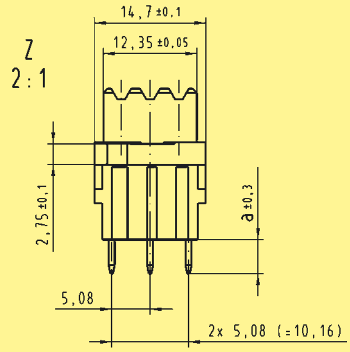


Female connectors

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 solder pins 3.7 mm[1]	48		09 06 248 7848	09 06 248 6848	09 06 248 2848
	32		09 06 232 7848	09 06 232 6848	09 06 232 2848
	32		09 06 232 7858	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 7835	09 06 232 6835	09 06 232 2835
	32		09 06 232 7845	09 06 232 6845	09 06 232 2845

Dimensions

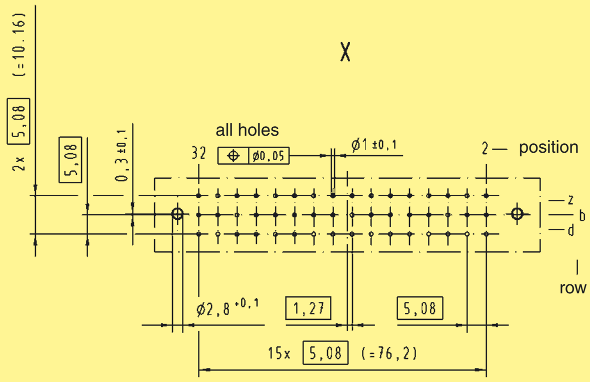




a	
3.7	Solder pins
4.5	

Board drillings

Mounting side

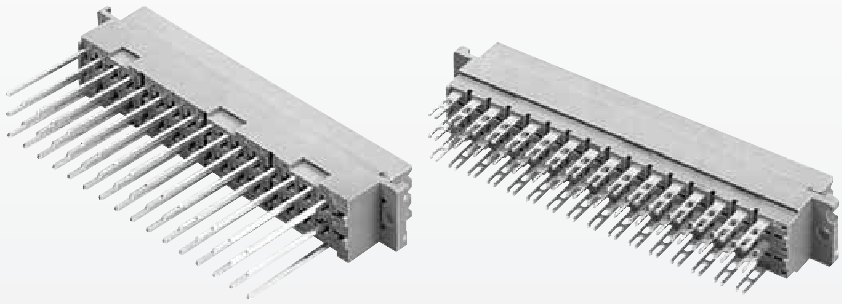


Dimensions in mm

[1] With shroud coding, see also page 02.41

Number of contacts

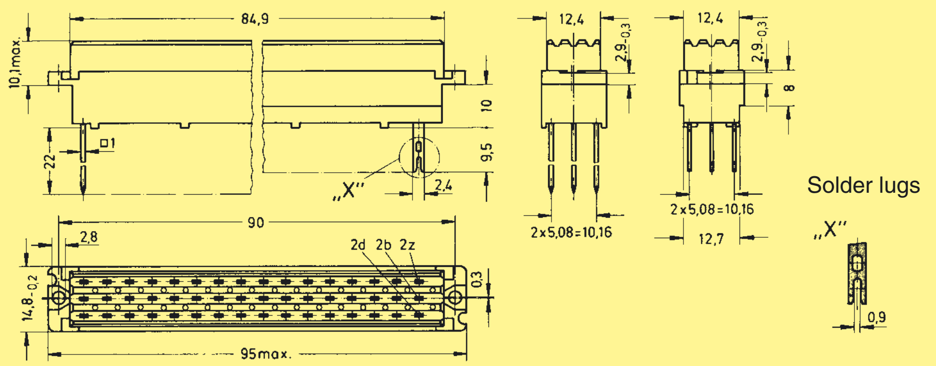
48, 32



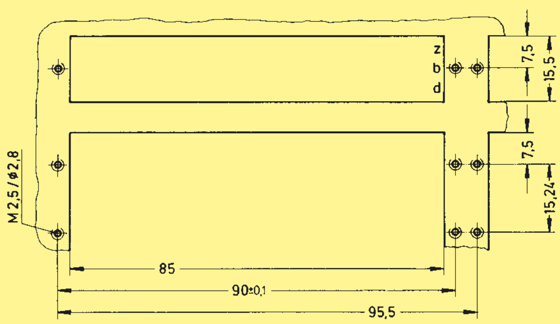
Female connectors

Identification	Number of contacts	Contact arrangement	Part No. Performance level 3	Performance level 2	Performance level 1
			Performance levels according to IEC 60 603-2. Explanation chapter 00		
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	48		09 06 248 7823	09 06 248 6823	09 06 248 2823
open solder lug	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

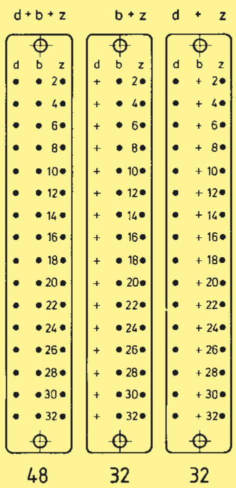


Panel cut out



Contact arrangement

View from termination side

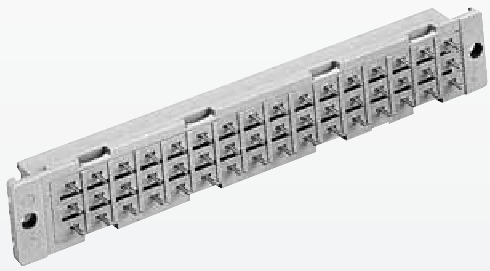


Dimensions in mm

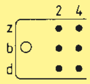
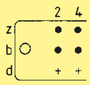
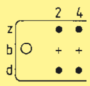
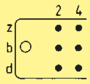
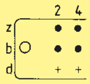
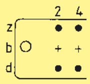
Identification strips for female connectors with wrap posts 09 06 000 9939

Number of contacts

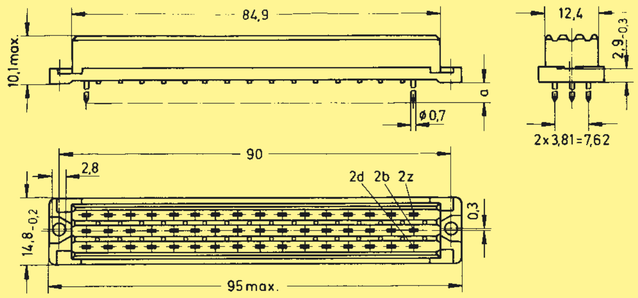
48, 32



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 “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 7833	09 06 232 6833	09 06 232 2833
	32		09 06 232 7893	09 06 232 6893	09 06 232 2893
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 7834	09 06 232 6834	09 06 232 2834
	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				

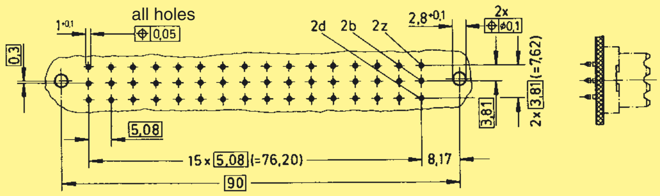
Dimensions



a	
3.2	Solder pins
4.5	

Board drillings

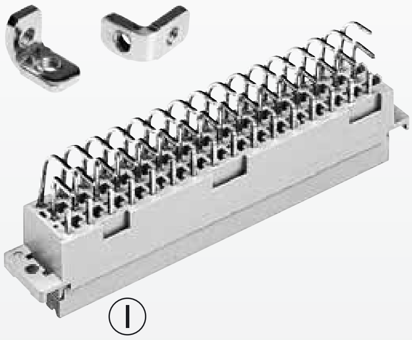
Mounting side

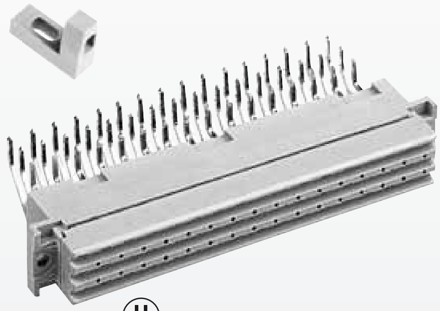


Dimensions in mm

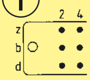
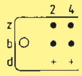
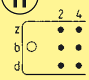
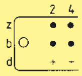
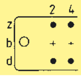
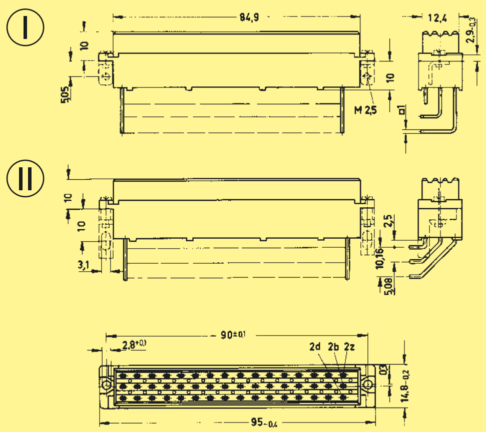
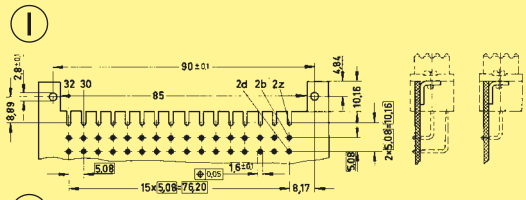
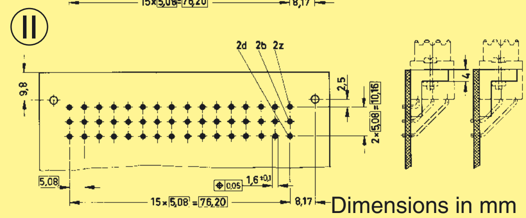
Number of contacts

48, 32





Female connectors

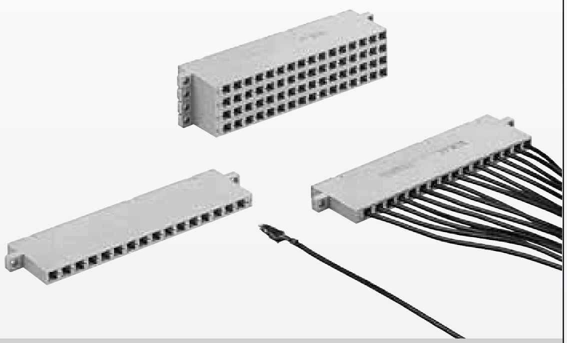
Identification	Number of contacts	Contact arrangement	Part No. Performance levels according to IEC 60 603-2. Explanation chapter 00 3	2	1
Female connector with angled solder pins 1 x 1 mm	48	I 	09 06 248 7826	09 06 248 6826	
	32		09 06 232 7826	09 06 232 6826	
	48	II 	09 06 248 7836	09 06 248 6836	
	32		09 06 232 7846	09 06 232 6846	
	32		09 06 232 7836	09 06 232 6836	
Dimensions					
Fixing bracket		Metal	09 06 000 9912[1)]	for version I	
[1)] Order 2 pieces for one connector		Plastic	09 06 000 9975[1)]	for version II	
Board drillings Mounting side				 	

Dimensions in mm

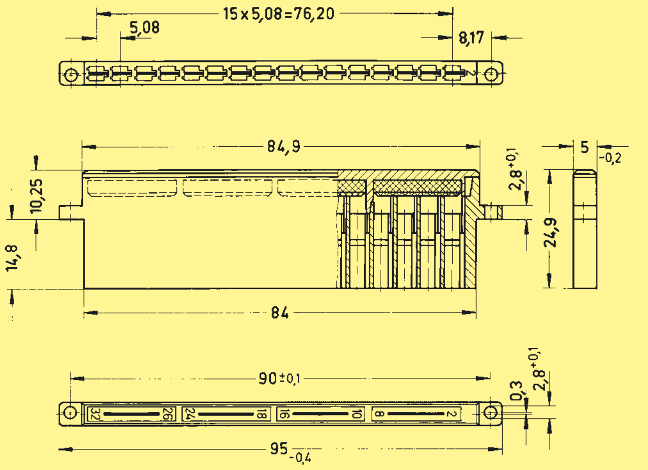
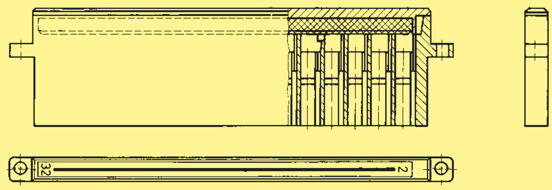
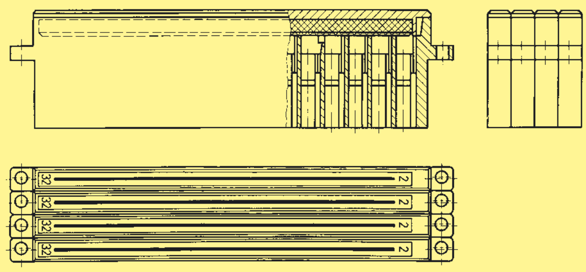
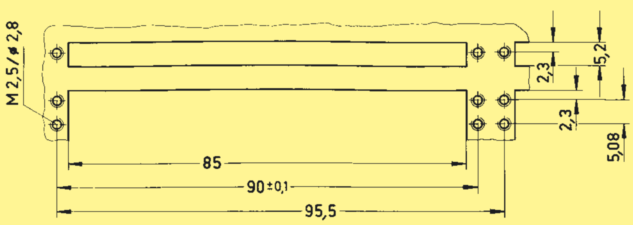
DIN Power to 6 A

Number of contacts

16, 64

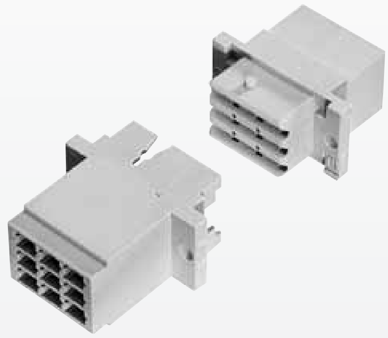


Universal adaptors

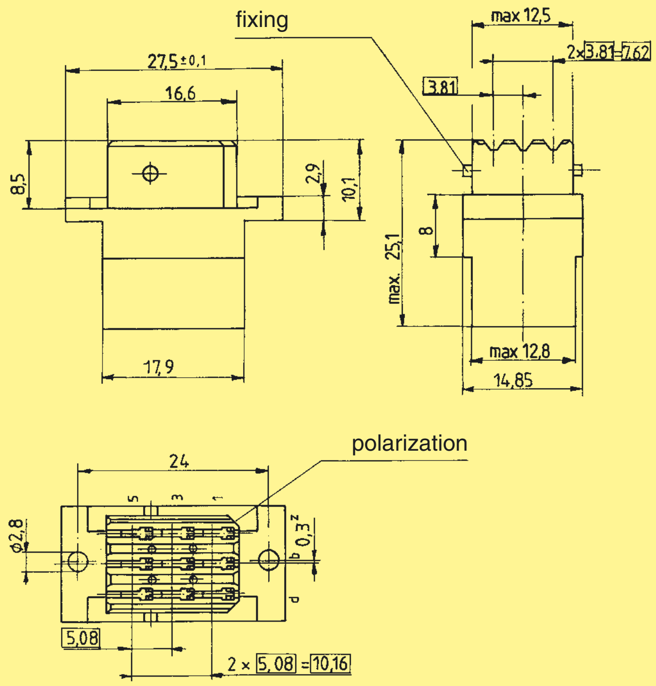
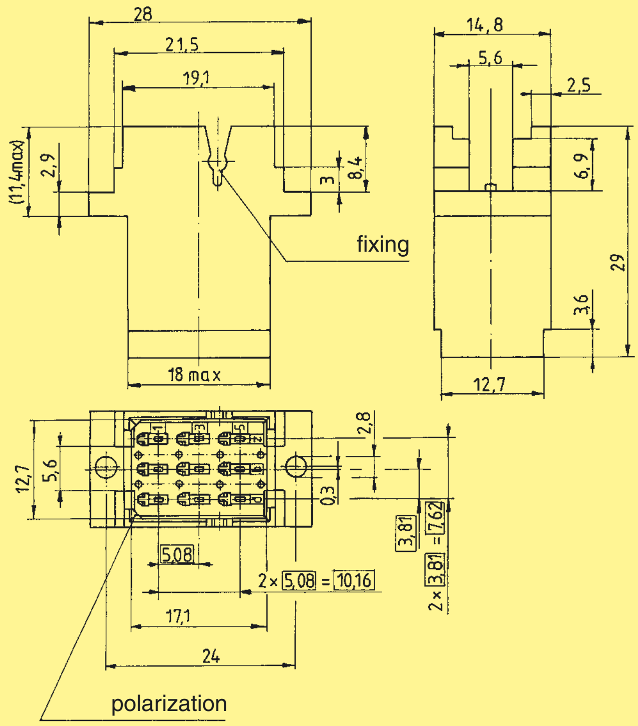
Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Universal adaptor utilising crimp contacts crimp contacts see page 02.29	4 x 4	09 06 016 3301		
	16 x 1	09 06 016 3302		
	16 x 4	09 06 064 3302		
Panel cut out				

Number of contacts

max. 9



Female and male connectors

Identification	Number of contacts	Part No.	Drawing
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	

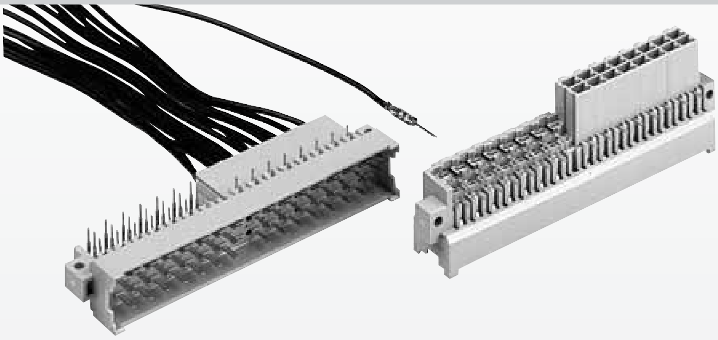
Dimensions in mm

Female connector drawing:

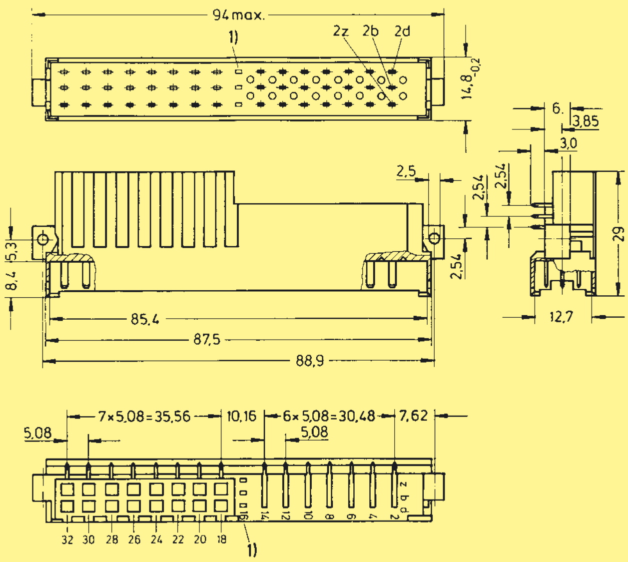
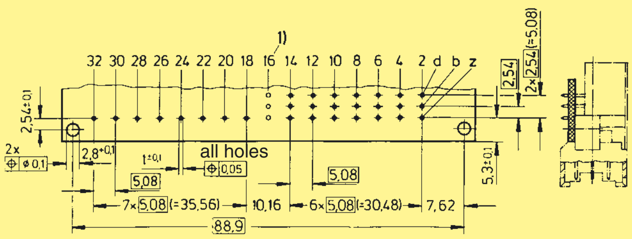
Male connector drawing:

Number of contacts

45



Male connectors

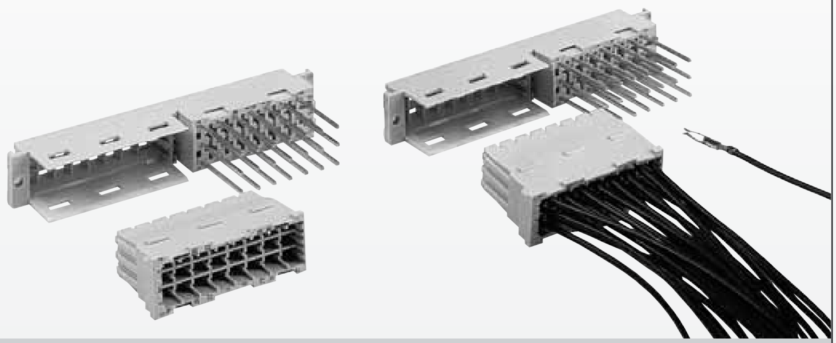
Identification	Number of contacts	Part No.	Drawing
Male connector 29 angled solder pins 16 cavities for male crimp contacts crimp contacts see page 02.38	45	Performance level 1 acc. to IEC 60 603-2 09 06 145 2971	
Board drillings Mounting side			

Dimensions in mm

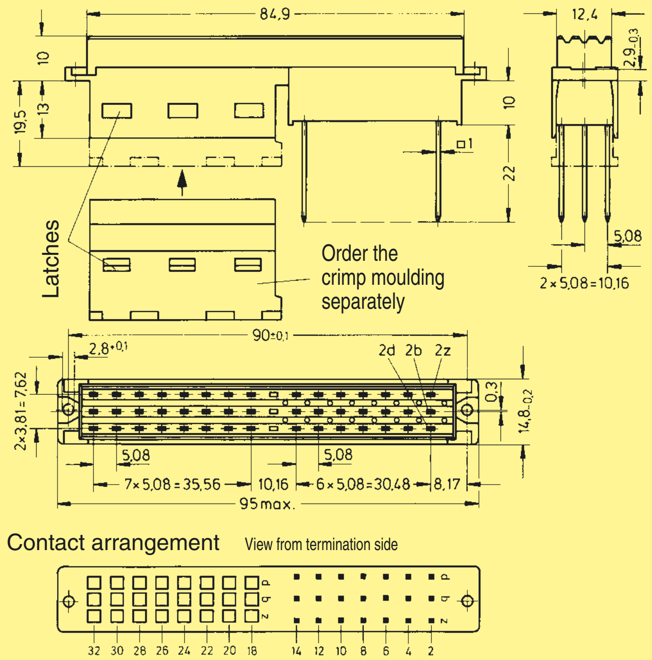
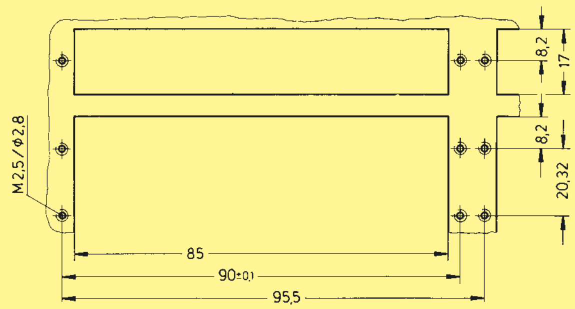
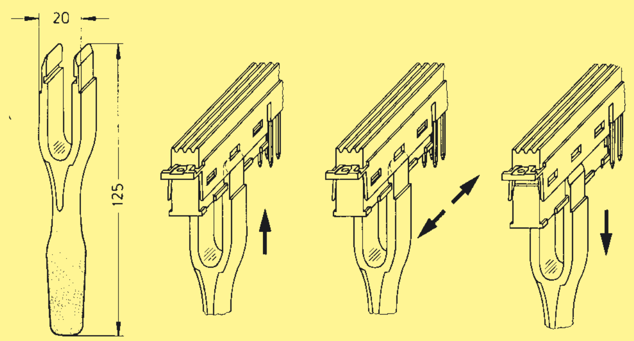
1) A special 48 way version with 3 extra angled solder contacts at position 16 (rows d, b, z) can be supplied

Number of contacts

45

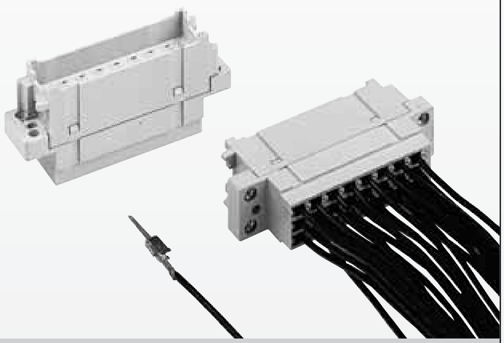


Female connectors

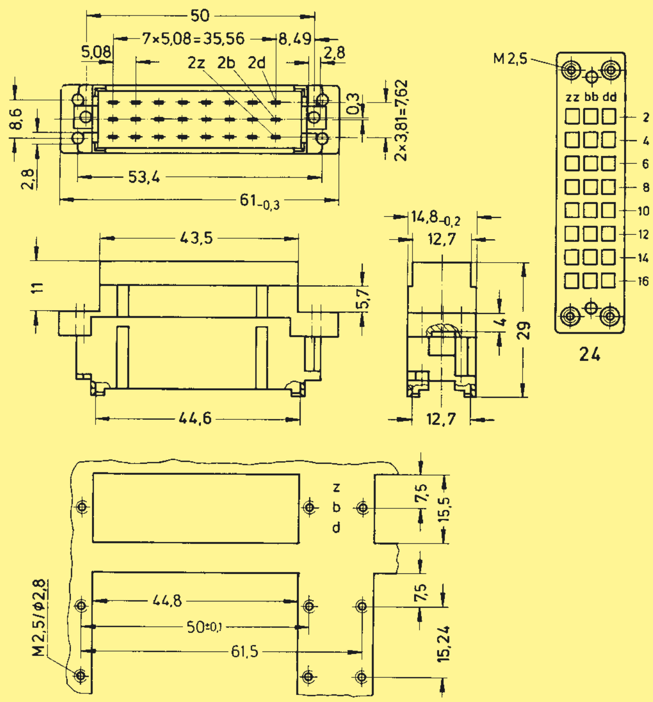
Identification	Number of contacts	Part No.	Drawing / Dimensions in mm
Female connector		Performance level 1 acc. to IEC 60 603-2	
Female moulding with 21 wrap posts 22 mm	45	09 06 045 2872	
with 21 solder pins 4.5 mm	45	09 06 045 2875	
Crimp moulding for 24 female crimp contacts		09 06 024 3202	
crimp 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

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		

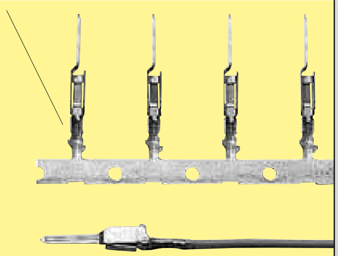
Identification	Identification Wire gauge	Part No. Performance levels according to IEC 60 603-2. Explanation chapter 00 2	1
Male crimp FC contacts			
Bandoliered contacts (approx. 2 ,500 pieces)	1	09 06 000 9564	09 06 000 9544
	2	09 06 000 9561	09 06 000 9541
	3	09 06 000 9562	09 06 000 9542
Bandoliered 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

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

Identification

Bandoliered contacts

Individual contacts



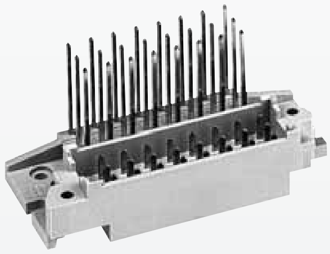
3.5 + 0.5 mm of insulation is stripped from the wires to be crimped

Insertion, removal and crimping tools see chapter 30

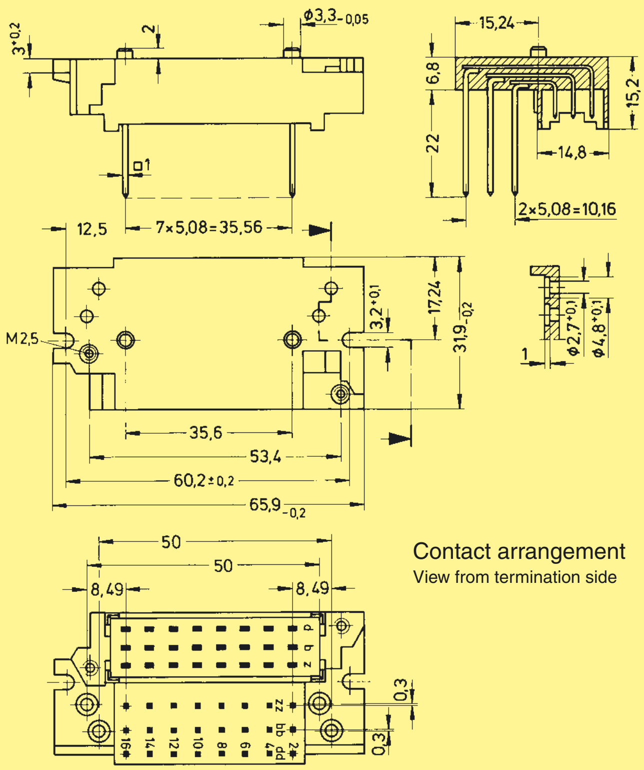
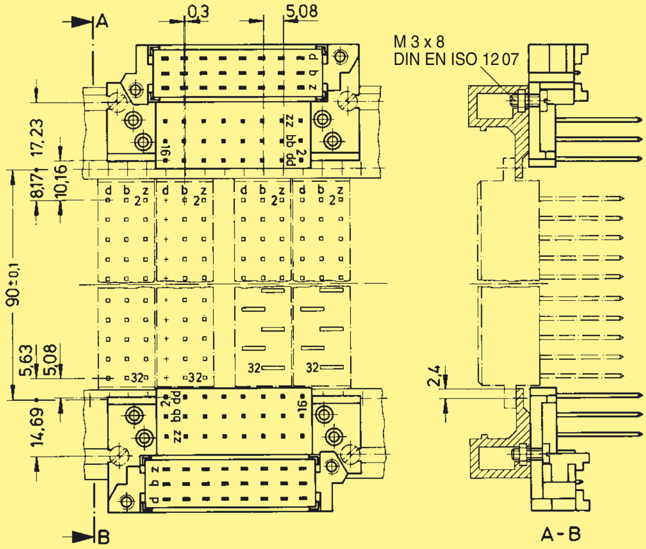
[1)] Packaging unit 1,000 pieces

Number of contacts

max. 24



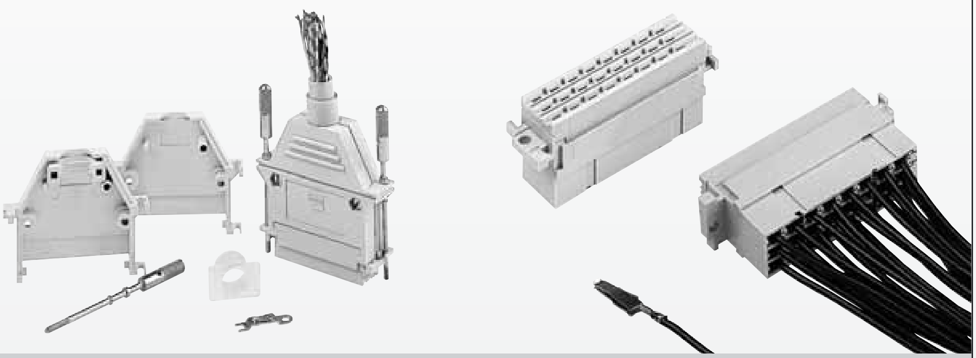
Interface connector U

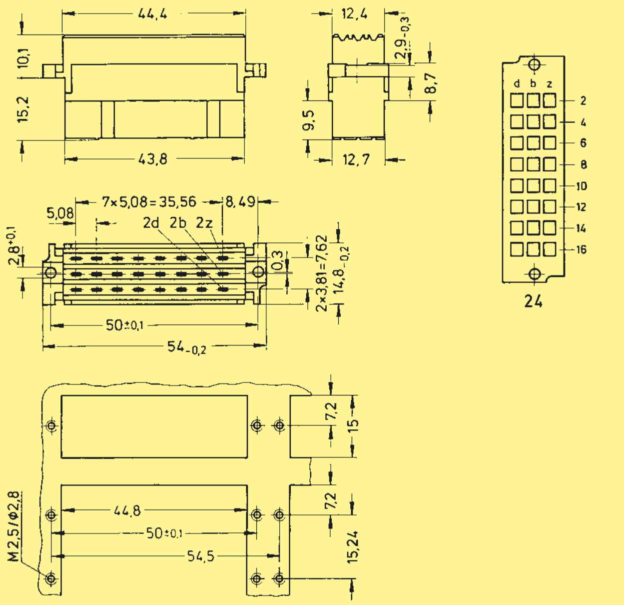
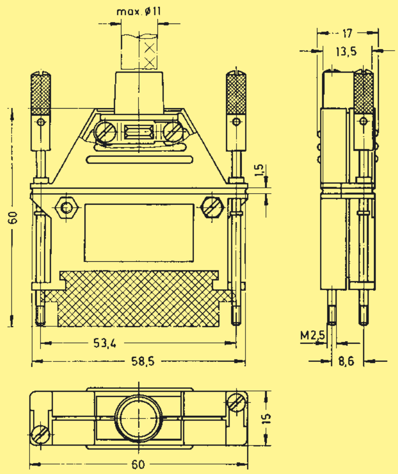
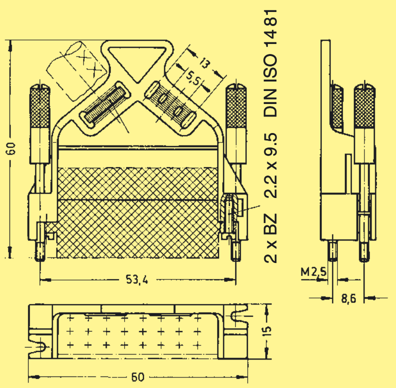
Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Interface connector U with wrap posts 1 x 1 mm	24	Performance level 1 acc. to IEC 60 603-2 09 26 024 2981		
Mounting example				

Number of contacts

max. 24

Female connectors



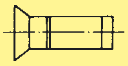
Identification	Number of contacts	Part No.	Drawing (Dimensions in mm)
Female connector for crimp contacts Order contacts separately see page 02.29	24	09 26 024 3201	
Shell housing A with integrated fixing screws Supplied with: Shell 2x Locking screw 2x Screw M3x10 2x Nut M3 2x Screw BZ 2.9x9.5 2x Cable 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

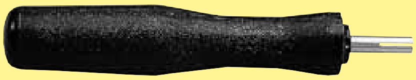
Coding system with contact loss

Code pin for types D, E, F, FM, 2F
09 04 000 9908

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.


Plastic

Removal tool for male contacts
09 99 000 0038

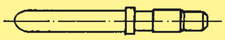


Coding system without contact loss

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

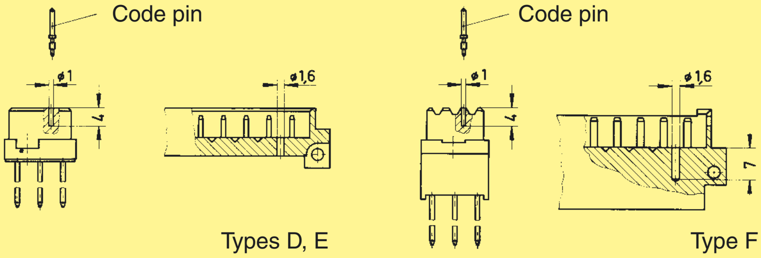
with code pin

Code pin
09 06 000 9950


Metal

Insertion tool
09 99 000 0103

Mounting example

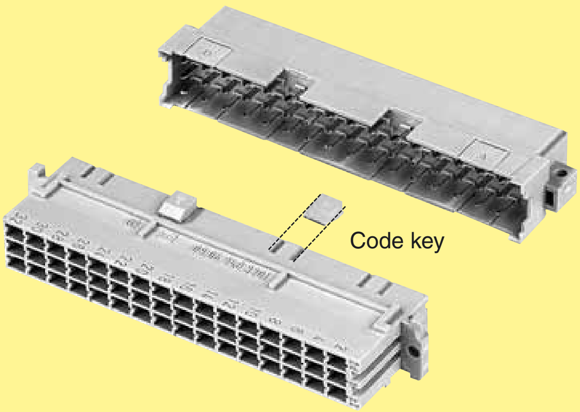


shroud coding

Type F

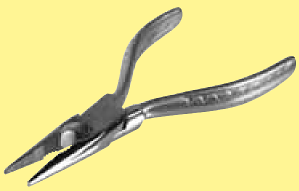
Code key
09 06 001 9919

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.

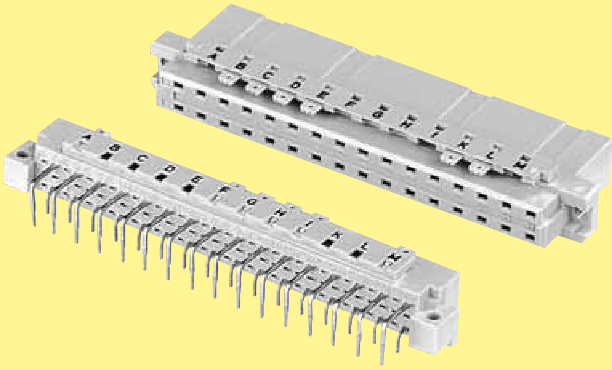
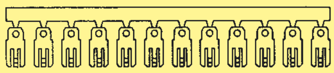


Tool for breaking out the coding area of the male shroud

09 99 000 0242



DIN Power to 6 A

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	12 pins on a comb 09 02 000 9928	
Mounting example