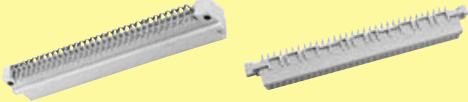
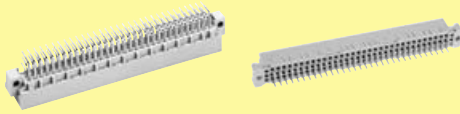
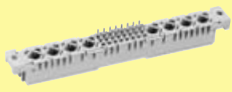
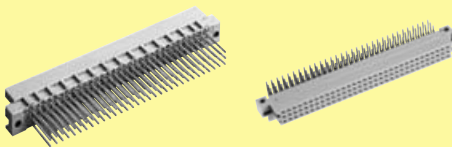
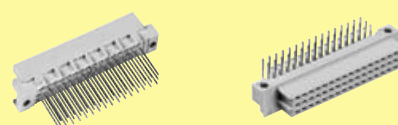
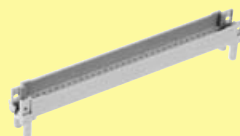


Types B, 2B, C, 2C, 3C, M, Q, 2Q, R, R (HE 11), 2R

Page

Technical characteristics		01.10
Type B connectors		01.11
Type 2B connectors		01.16
Type C connectors		01.18
Type 2C connectors		01.24
Type 3C connectors		01.26
Type M-flat connectors		01.27
Type M connectors		01.28
Special contacts type M		01.30
Type R connectors		01.32
Type R (HE 11) connectors		01.34
Type Q, 2Q and 2R connectors		01.36
Pin shroud		01.40
Application examples		01.42
Coding systems		01.44

Number of contacts	16-96
Contact spacing (mm)	2.54
Working current see current carrying capacity chart	2 A max. 1 A with insulation displacement 40 A max. type M
Clearance	≥ 1.2 mm
Creepage	≥ 1.2 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 kV
Contact resistance	≤ 15 mΩ for wire wrap connection ≤ 20 mΩ including crimp connection
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 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 wrap posts 0.6 x 0.6 mm diagonal 0.79-0.86 mm
Female connector	wrap posts 0.6 x 0.6 mm diagonal 0.79-0.86 mm Solder pins for pcb connections Ø 1.0 ± 0.1 mm according to IEC 60 326-3 Crimp terminal 0.09-0.5 mm ² Insulation displacement connection AWG 28/7
Insertion and withdrawal force	16way ≤ 15 N 30way ≤ 30 N 32way ≤ 30 N 48way ≤ 45 N 64way ≤ 60 N 96way ≤ 90 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⁾

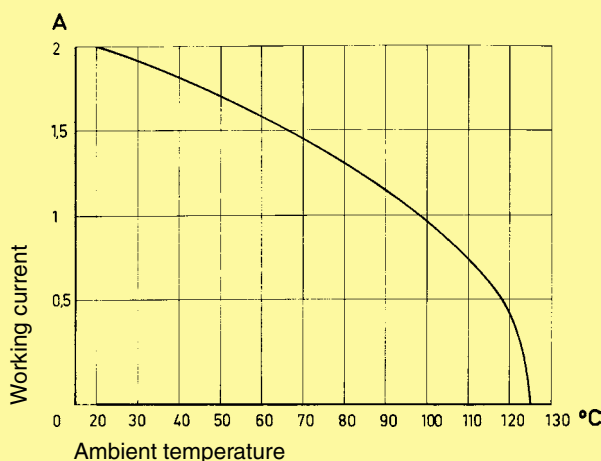
¹⁾ Explanation performance levels see chapter 00

Mating conditions 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



Pin shroud for female connectors with 0.6 x 0.6 mm pins

A secure interfacing system for signals from the rear of 19" racks to connectors with wrap posts 0.6 x 0.6 mm is possible with the use of a pin shroud.

The pin shroud protects the wrap posts on the rear side of the rack and can be screwed to the printed circuit board.

After assembly the rear ends of the wire wrap posts become the mating areas of the type C resp. type 2C male connector.

This system can now accept:

- female connectors type C
- female connectors type 2C
- female connectors type R
- female connectors type 2R

The locking levers provide security for the mated connectors. Fast and simple disconnection is possible (see application examples, pages 01.42 and 01.43).

Fitting and removing crimp contacts

see technical characteristics chapter 02

Number of contacts

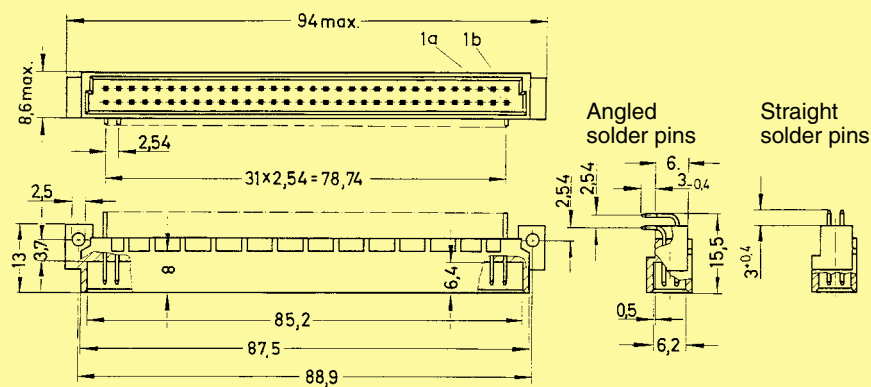
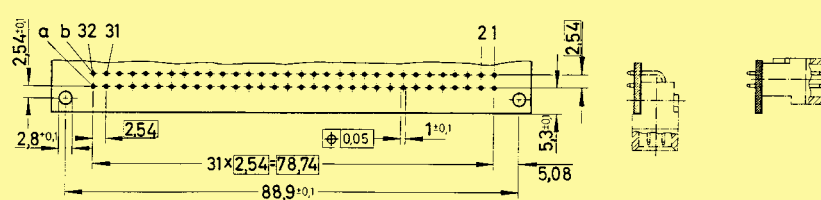
64, 32



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	64		09 02 164 7921	09 02 164 6921 09 02 364 6921 ^{b)} 09 02 664 6921 ^{c)}	09 02 164 2921
	32		09 02 132 7921	09 02 132 6921 09 02 632 6921 ^{c)}	09 02 132 2921
	32		09 02 132 7931	09 02 132 6931 09 02 332 6931 ^{b)}	09 02 132 2931
	62 + 2 [▲]			09 02 164 6951	
Male connector with straight solder pins	64		09 02 164 7922	09 02 164 6922	09 02 164 2922
	32		09 02 132 7922	09 02 132 6922	
	32			09 02 132 6932	
	62 + 2 [▲]			09 02 164 6952	09 02 164 2952

Dimensions

Board drillings
Mounting side

Dimensions in mm

▲ Male connectors with 2 leading contacts [(0.8 mm) pos. a1 and a32]. Lagging pins row b on request.

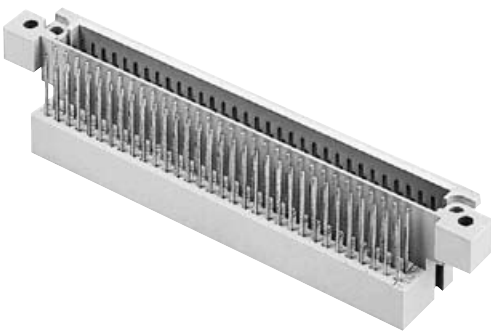
Other contact arrangements on request

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

^{c)} Connectors with coding see page 01.44

Number of contacts

64



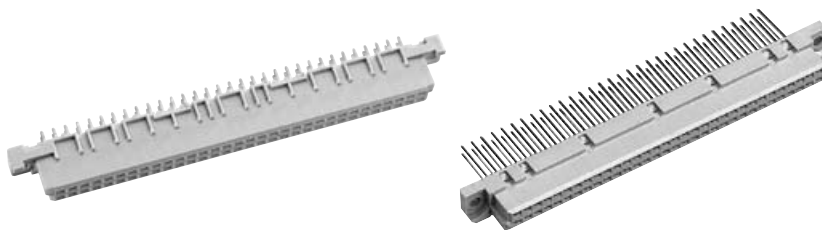
Interface connector U

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Interface connector U with wrap posts 0.6 x 0.6 mm	64	Performance level 1 acc. to IEC 60 603-2 09 02 064 2981		
Locking screw		09 02 000 9923 ¹⁾		M 2.5 x 22 DIN EN ISO 1207
Mounting example				M 2.5 x 22 DIN EN ISO 1207 M 2.5 x 12 DIN EN ISO 1207

¹⁾ Order 2 pieces for one interface connector U

Number of contacts

64



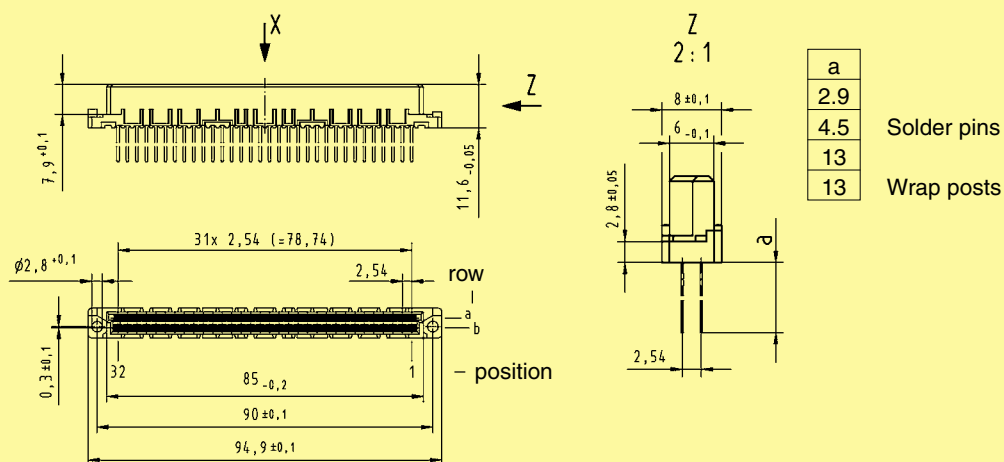
Female connectors

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	64		Performance level 3 on request	09 02 264 6824 09 02 464 6824 ^{b)} 09 02 764 6824 ^{c)}	Performance level 1 on request
Female connector with solder pins 4.5 mm	64			09 02 264 6825	
Female connector with solder pins 13 mm	64			09 02 264 6421	
Female connector with wrap posts ¹⁾ 13 mm	64			09 02 264 6821	

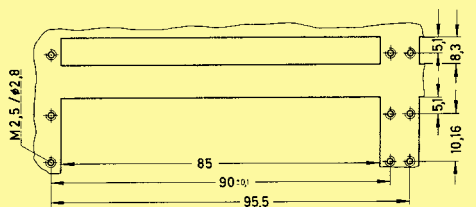
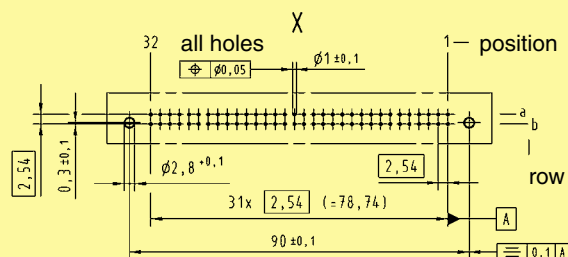
Female connector with press-in pins

Part Nos. and variants
see chapter 04

Dimensions



Panel cut out

Board drillings
Mounting side

Identification strips for female connectors with wrap posts 09 02 000 9939

Dimensions in mm

Wrap posts selectively gold plated on request
Other contact arrangements on request

b) Connectors with snap-in clips see chapter 00

c) Connectors with coding see page 01.44

1) To be used only for wire wrap termination

64



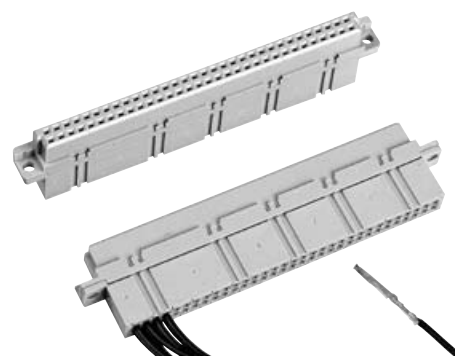
**DIN Signal
to 2 A**

01
14

¹⁾ acc. to IEC 60 603-2

Number of contacts

max. 64



Female connectors

DIN Signal
to 2 A

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Female connector for crimp contacts Order contacts separately	64	09 02 064 3214	Contact arrangement View from termination side Shell housing 09 02 064 0501 / 09 02 064 0502 see chapter 20	

Identification	Part No.	Performance levels according to IEC 60603-2. Explanation chapter 00
	2	1
Female crimp contacts BC Bandoliered contacts (approx. 5,000 pieces) Bandoliered contacts (approx. 500 pieces) Individual contacts ¹⁾	09 02 000 6484 09 02 000 8434 09 02 000 8484	09 02 000 6474 09 02 000 8444 09 02 000 8474
	Wire gauge mm ² 0.09 - 0.5 AWG 28 - 20 Insulation ø mm 0.7 - 1.5	 Bandoliered contacts Individual contacts
	3.5 + 0.5 mm of insulation is stripped Insertion, removal and crimping tools see chapter 30	

¹⁾ Packaging unit 1,000 pieces

32, 16



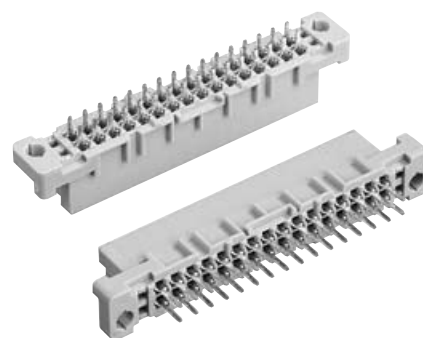
**DIN Signal
to 2 A**

Dimensions in mm

b) Connectors with snap-in clips see chapter 00

Number of contacts

32



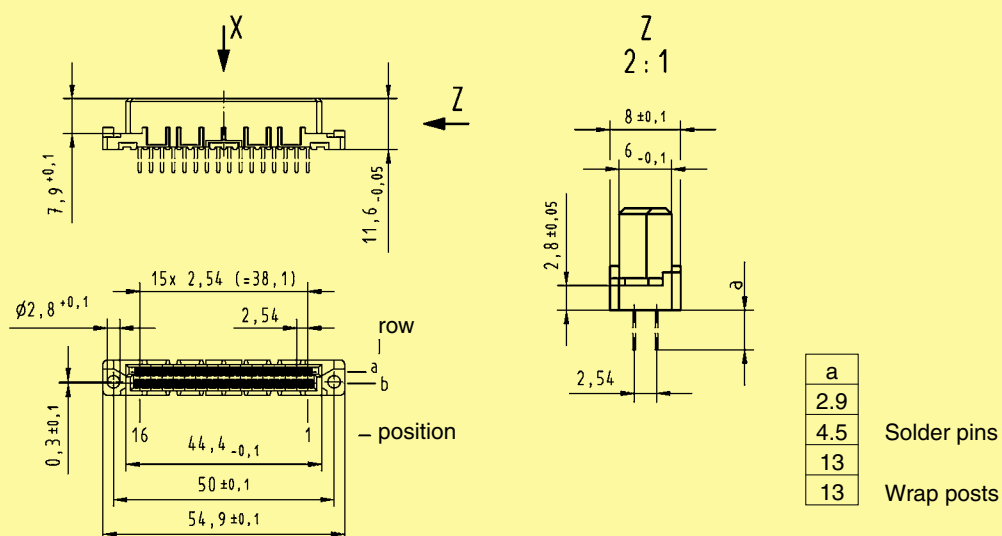
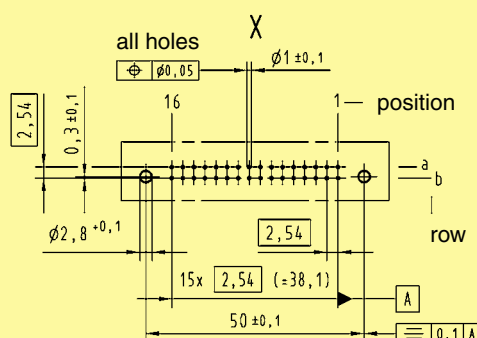
Female connectors

Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60603-2. Explanation chapter 00	
			3	2	1
Female connector with solder pins 2.9 mm	32		Performance level 3 on request	09 22 232 6824 09 22 432 6824 ^{b)}	Performance level 1 on request
Female connector with solder pins 4.5 mm	32			09 22 232 6825 09 22 432 6825 ^{b)}	
Female connector with solder pins 13 mm	32			09 22 232 6421	
Female connector with wrap posts ¹⁾ 13 mm	32			09 22 232 6821	

Female connector with press-in pins

Part Nos. and variants
see chapter 04

Dimensions

Board drillings
Mounting side

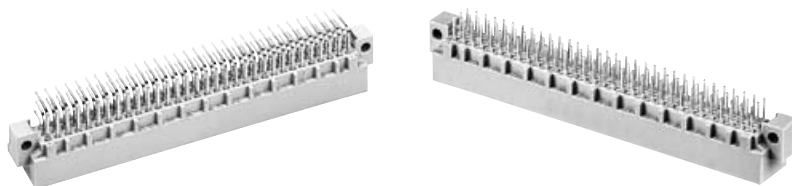
Dimensions in mm

Other contact arrangements on request

^{b)} Connectors with snap-in clips see chapter 00¹⁾ To be used only for wire wrap termination

Number of contacts

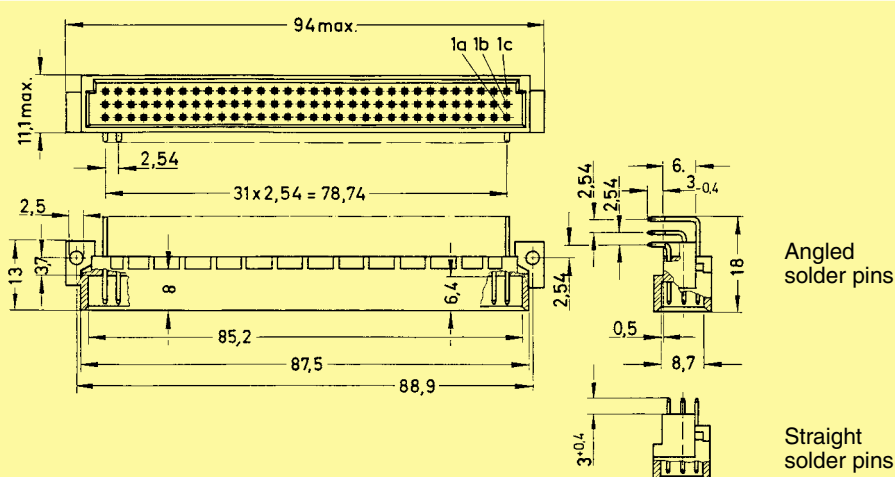
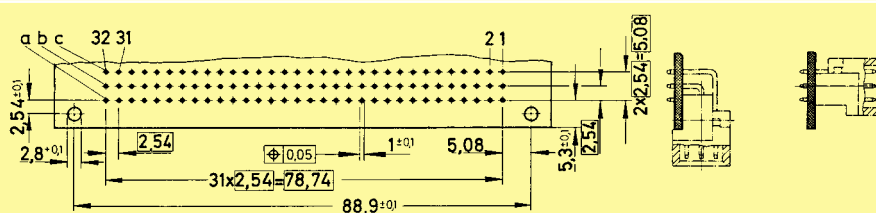
96, 64, 32



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	96		09 03 196 7921 09 03 396 7921 ^{b)}	09 03 196 6921 09 03 396 6921 ^{b)} 09 03 696 6921 ^{c)}	09 03 196 2921 09 03 396 2921 ^{b)} 09 03 696 2921 ^{c)}	
	64		09 03 164 7921 09 03 364 7921 ^{b)}	09 03 164 6921 09 03 364 6921 ^{b)} 09 03 664 6921 ^{c)}	09 03 164 2921 09 03 364 2921 ^{b)} 09 03 664 2921 ^{c)}	
	32		09 03 132 7921 09 03 332 7921 ^{b)}	09 03 132 6921 09 03 332 6921 ^{b)}	09 03 132 2921 09 03 332 2921 ^{b)}	
	94 + 2 [▲]		09 03 196 7951	09 03 196 6951 09 03 396 6951 ^{b)}	09 03 196 2951	
	62 + 2 [▲]		09 03 164 7951	09 03 164 6951	09 03 164 2951	
Male connector with straight solder pins	96		09 03 196 7922	09 03 196 6922	09 03 196 2922	
	64		09 03 164 7922	09 03 164 6922	09 03 164 2922	

Dimensions

Board drillings
Mounting side

Dimensions in mm

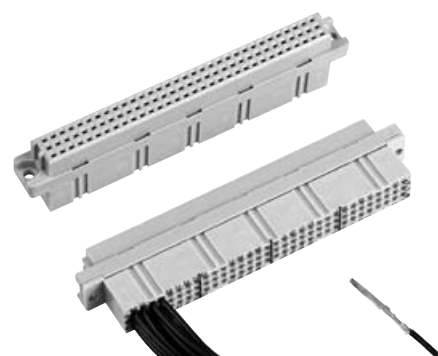
▲ Male connectors with 2 leading contacts [(0.8 mm) pos. a1 and a32]. Lagging pins row b on request.

High temperature connectors see chapter 05

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

^{c)} Connectors with coding see page 01.44

max. 96



DIN Signal to 2 A

Contact arrangement

View from termination side

The diagram shows a rectangular contact array with 32 contacts arranged in 4 rows and 8 columns. The contacts are numbered 1 to 32 from right to left, starting with 1 on the far right and ending with 32 on the far left. The numbering is as follows:

Row	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Top	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Second	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Third	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Bottom	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

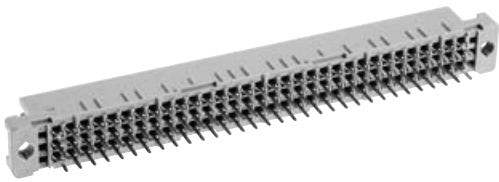
On the left side, there is a circular symbol with a crosshair. On the right side, there is a circular symbol with a crosshair. The entire array is enclosed in a rectangular frame.

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

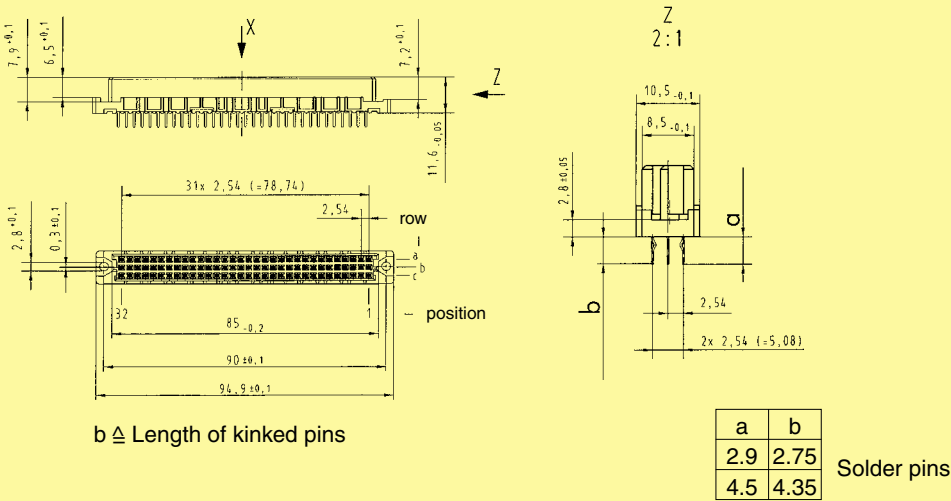
96, 64, 32



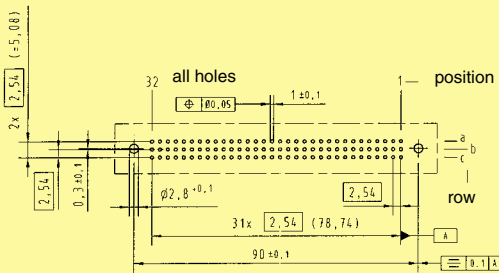
Female connectors

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 kinked solder pins ¹⁾ 2.9 mm	96		09 03 296 7855		09 03 296 6855	09 03 296 2855
	64		09 03 264 7855		09 03 264 6855	09 03 264 2855
	32		09 03 232 7855		09 03 232 6855	09 03 232 2855
Female connector with kinked solder pins ¹⁾ 4.5 mm	96		09 03 296 7845		09 03 296 6845	09 03 296 2845
	64		09 03 264 7845		09 03 264 6845	09 03 264 2845
	32		09 03 232 7845		09 03 232 6845	09 03 232 2845

Dimensions



Board drillings
Mounting side

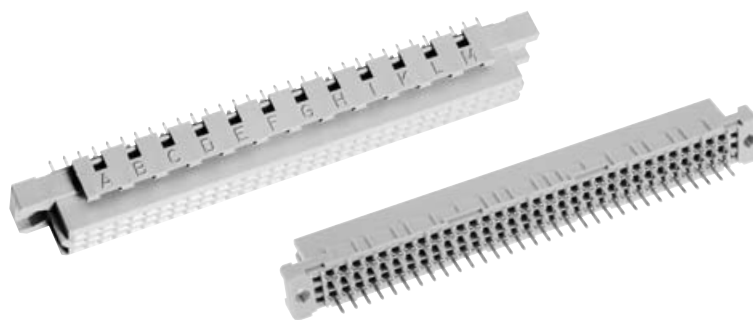


Dimensions in mm

¹⁾ Kinked pins for fixing the connector onto the pcb see chapter 00

Number of contacts

96, 64, 32



Female connectors

DIN Signal
to 2 A

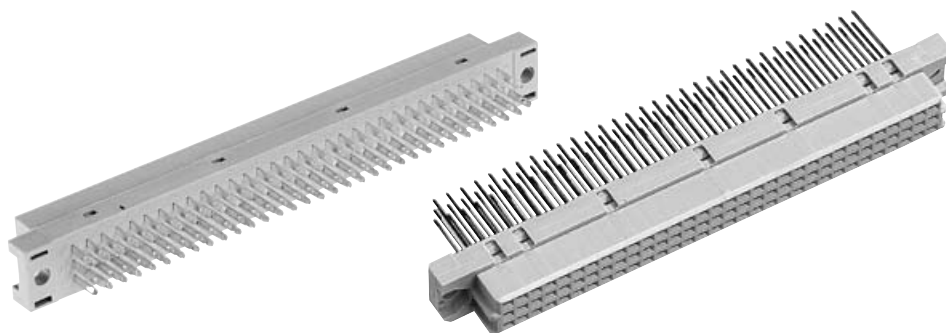
Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60 603-2. Explanation chapter 00		
			3	2	1	
Female connector with solder pins 2.9 mm	96		09 03 296 7824	09 03 296 6824 09 03 496 6824 ^{b)} 09 03 796 6824 ^{c)}	09 03 296 2824 09 03 496 2824 ^{b)}	
	64		09 03 264 7824	09 03 264 6824 09 03 464 6824 ^{b)} 09 03 764 6824 ^{c)}	09 03 264 2824 09 03 464 2824 ^{b)}	
	32		09 03 232 7824	09 03 232 6824	09 03 232 2824	
Female connector with solder pins 4.5 mm	96		09 03 296 7825 09 03 496 7825 ^{b)}	09 03 296 6825 09 03 496 6825 ^{b)} 09 03 796 6825 ^{c)}	09 03 296 2825	
	64		09 03 264 7825 09 03 464 7825 ^{b)}	09 03 264 6825 09 03 464 6825 ^{b)} 09 03 764 6825 ^{c)}	09 03 264 2825	
	32		09 03 232 7825	09 03 232 6825	09 03 232 2825	
Female connector with solder pins 13 mm	96			09 03 296 6421 09 03 796 6421 ^{c)}		
	64			09 03 264 6421 09 03 764 6421 ^{c)}		
	32			09 03 232 6421 09 03 732 6421 ^{c)}		
Dimensions						
Board drillings						
Mounting side						

Dimensions in mm

^{b)} Connectors with snap-in clips see chapter 00^{c)} Connectors with coding see page 01.44

Number of contacts

96, 64



Female connectors

Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60 603-2. Explanation chapter 00					
			3	2	1				
Female connector with wrap posts ²⁾ 13 mm	96		Performance level 3 on request	09 03 296 6821 09 03 796 6821 ^{c)} 09 03 296 6878 ¹⁾	Performance level 1 on request				
	64			09 03 264 6821 09 03 264 6878 ¹⁾					
Female connector with solder lugs a + c 5.2 mm b 7.7 mm	96			09 03 296 6823					
	64			09 03 264 6823					
Female connector with press-in pins	Part Nos. and variants see chapter 04								
Dimensions	wrap posts solder lugs								
Panel cut out	Identification strips for female connectors with wrap posts 09 03 000 9939 Dimensions in mm								

¹⁾ Wrap posts for interfacing, selectively gold-plated (performance level 3)²⁾ To be used only for wire wrap termination. Solder versions see page 01.21^{c)} Connectors with coding see page 01.44

Number of contacts

64



Female connectors

DIN Signal
to 2 A

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Female connector for insulation displacement	64	Performance level 2 ¹⁾ 09 03 264 6828 09 03 764 6828 ^{c)} Performance level 3 ¹⁾ 09 03 264 7828	Cable 1 to contact 1 c Contact arrangement View from termination side	
Strain relief		09 03 000 9940		
Panel cut out			Mateable with 3 row male connector type C, no female contacts in the middle row	
Flat cable AWG 28/7 grey 50.00 m grey 150.00 m colour coded 30.48 m twisted pair ²⁾ 30.48 m	64	09 18 064 7001 09 18 064 7004 09 18 064 7005 09 18 064 7006	2) Termination area spacing = 508 mm Important: always store reels vertically Wire (tinned) Cu Gauge AWG 28/7 0.089 mm² Insulation material as per UL style PVC	
Round flat cable ³⁾ with screening 30 m screening 150 m without screening 30 m screening 150 m	64	09 18 064 7007 09 18 064 7010 09 18 064 7008 09 18 064 7011	3) Termination area spacing = 100 mm	
Bench press		09 99 000 0114		
Base plate		09 99 000 0150		
Cable cutter		09 99 000 0116		
Spare parts				
Blade		09 99 000 0179		
Cutting plate		09 99 000 0180		



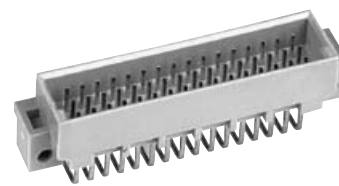
Further components and accessories for insulation displacement see interface catalogue, chapter 40

^{c)} Connectors with coding see page 01.44

¹⁾ acc. to IEC 60 603-2

Number of contacts

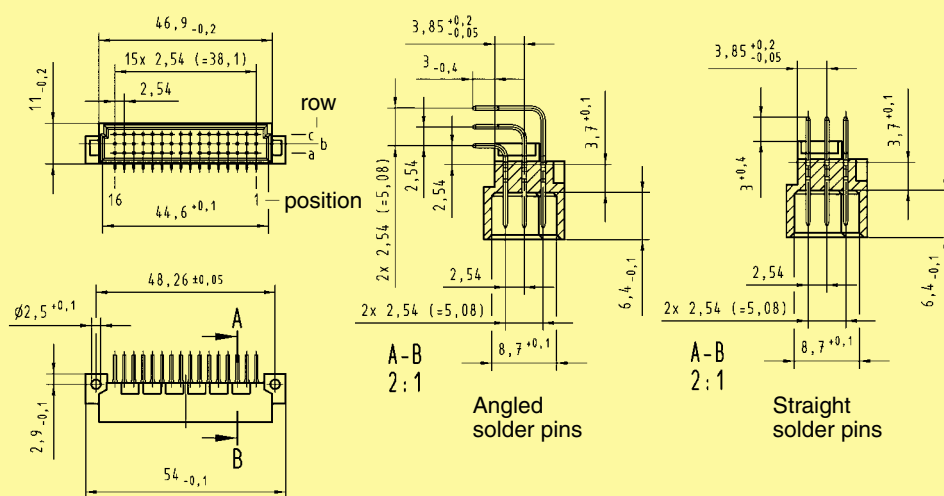
48, 32, 16



Male connectors

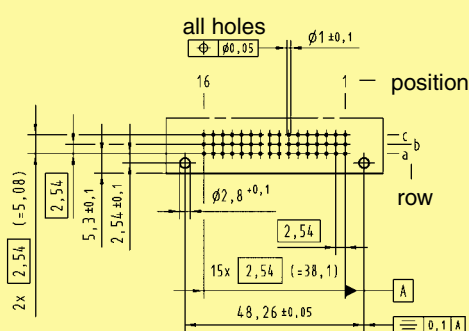
Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60 603-2. Explanation chapter 00		
			3	2	1	
Male connector with angled solder pins	48		09 23 148 7921 09 23 348 7921 ^{b)}	09 23 148 6921 09 23 348 6921 ^{b)}	09 23 148 2921	
	32		09 23 132 7921 09 23 332 7921 ^{b)}	09 23 132 6921 09 23 332 6921 ^{b)}	09 23 132 2921	
	16				09 23 116 2921	
	16		09 23 116 7931	09 23 116 6931 09 23 316 6931 ^{b)}	09 23 116 2931	
	46 + 2 [▲]		09 23 148 7951	09 23 148 6951 09 23 348 6951 ^{b)}	09 23 148 2951	
Male connector with straight solder pins	48		09 23 148 7922	09 23 148 6922	09 23 148 2922	
	32		09 23 132 7922	09 23 132 6922	09 23 132 2922	

Dimensions



Board drillings

Mounting side



Dimensions in mm

[▲] Male connectors with 2 leading contacts [(0.8 mm) pos. a1 and a16]. Lagging pins row b on request.

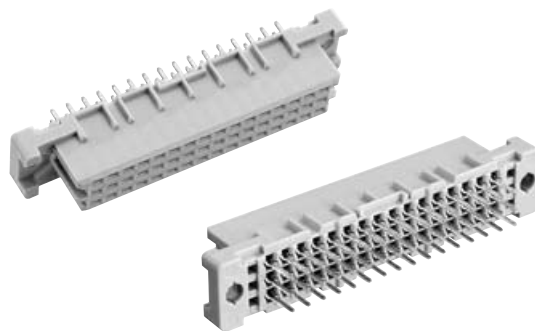
Other contact arrangements on request

High temperature connector see chapter 05

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

Number of contacts

48



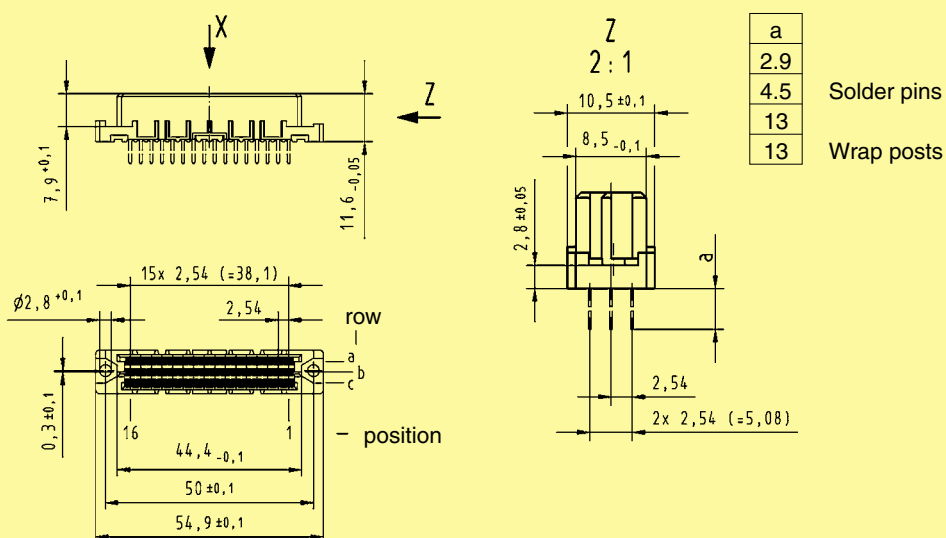
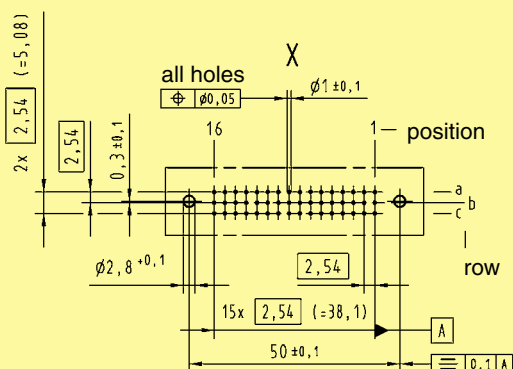
Female connectors

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		Performance level 3 on request	09 23 248 6824 09 23 448 6824 ^{b)}	Performance level 1 on request
Female connector with solder pins 4.5 mm	48			09 23 248 6825 09 23 448 6825 ^{b)}	
Female connector with solder pins 13 mm	48			09 23 248 6421	
Female connector with wrap posts ¹⁾ 13 mm	48			09 23 248 6821	

Female connector with press-in pins

Part Nos. and variants
see chapter 04

Dimensions

Board drillings
Mounting side

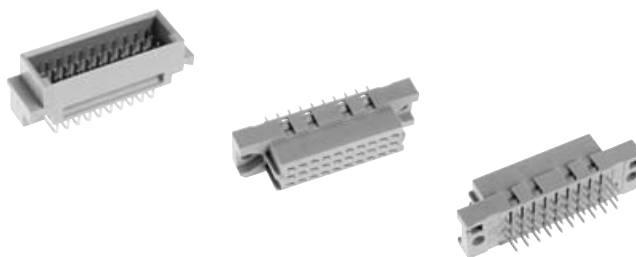
Dimensions in mm

Other contact arrangements on request

^{b)} Connectors with snap-in clips see chapter 00¹⁾ To be used only for wire wrap termination

Number of contacts

30



Male and female 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	30		Performance level 3 on request	09 25 130 6921	Performance level 1 on request
Female connector with solder pins 2.9 mm	30			09 25 230 6824	
Female connector with solder pins 4.5 mm	30			09 25 230 6825	

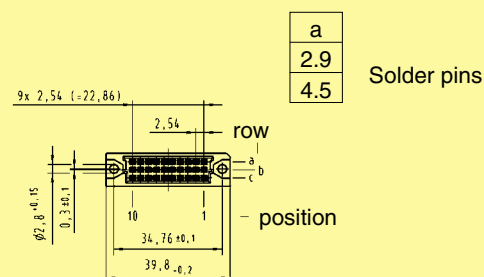
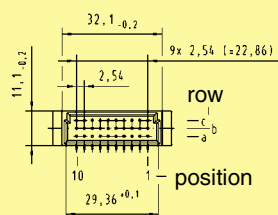
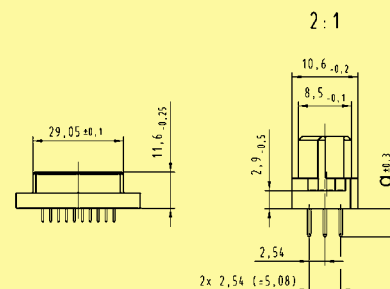
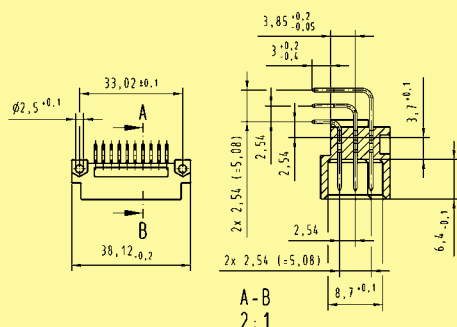
Female connector with press-in pins

Part Nos. and variants see chapter 04

Dimensions

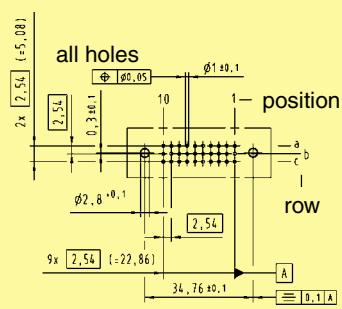
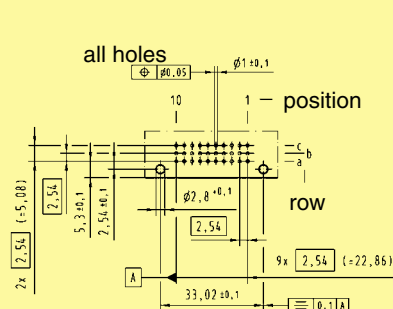
Male connectors

Female connectors



Board drillings

Mounting side



Dimensions in mm

Other contact arrangements on request

Number of contacts

78+2, 60+4, 42+6, 24+8



Female connectors

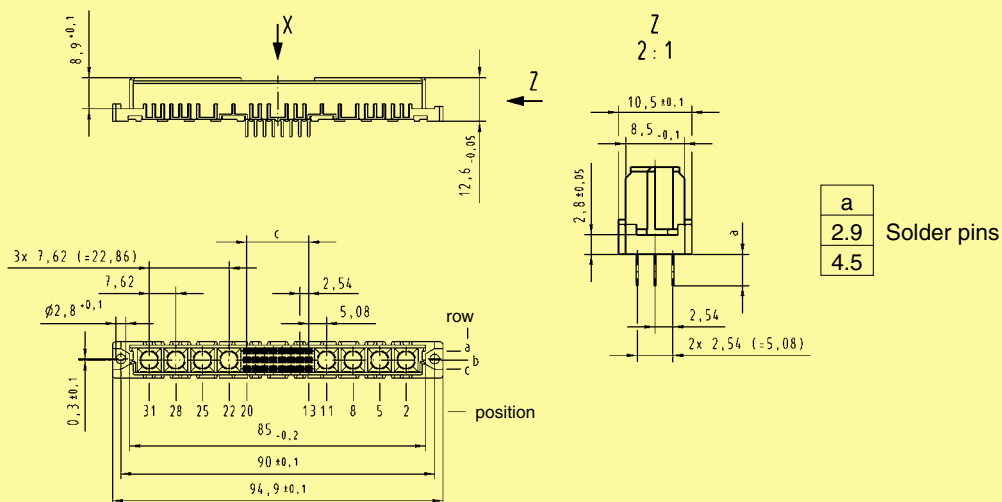
DIN Signal
to 2 A

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 2.9 mm (without special contacts)*	78 + 2 60 + 4 42 + 6 24 + 8		Performance level 3 on request	09 03 278 6864 09 03 260 6864 09 03 242 6864 09 03 224 6864	Performance level 1 on request
Female connector with solder pins 4.5 mm (without special contacts)*	78 + 2 60 + 4 42 + 6 24 + 8			09 03 278 6865 09 03 260 6865 09 03 242 6865 09 03 224 6865	

Female connector with press-in pins

Part Nos. and variants
see chapter 04

Dimensions

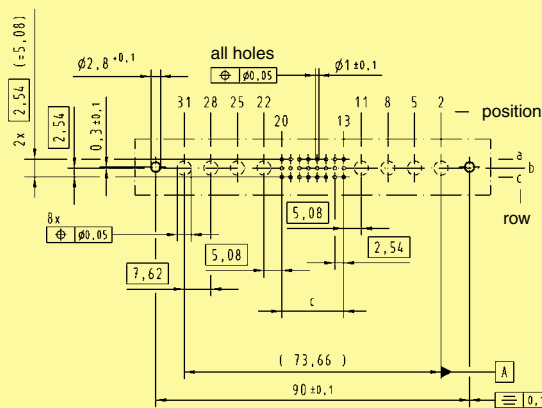


Order high current, high voltage, coaxial and fibre optic contacts separately, see pages 01.30 and 01.31

Board drillings

Mounting side

Board drillings depend on type and special contact loading

Dimensions
in mm

* Pre-loaded with special contacts on request

Number of contacts

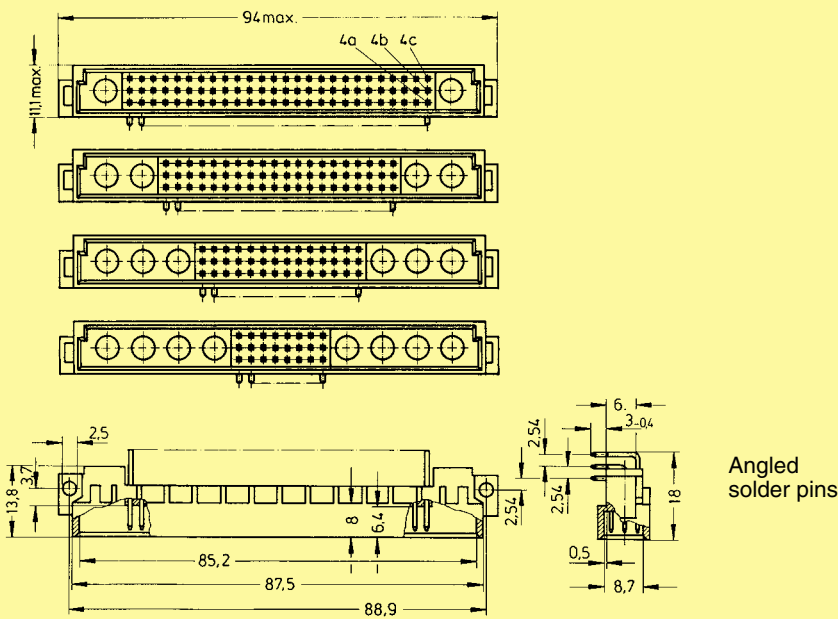
78+2, 60+4,
42+6, 24+8



Male connectors

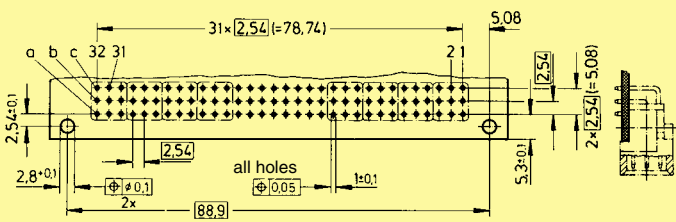
Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60 603-2. Explanation chapter 00	
			3	2	1
Male connector with angled solder pins (without special contacts)*	78 + 2		09 03 178 7901	09 03 178 6901	09 03 178 2901 09 03 378 2901 ^{b)}
	60 + 4		09 03 160 7901	09 03 160 6901	09 03 160 2901
	42 + 6		09 03 142 7901	09 03 142 6901	09 03 142 2901
	24 + 8		09 03 124 7901	09 03 124 6901	09 03 124 2901

Dimensions



Order high current, high voltage, coaxial and fibre optic contacts separately, see pages 01.30 and 01.31

Board drillings
Mounting side



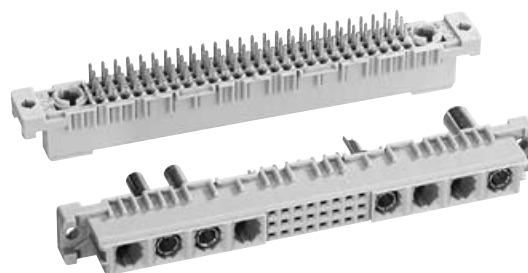
Board drillings depend on type and special contact loading

Dimensions in mm

* Pre-loaded with special contacts on request
b) Connectors with snap-in clips see chapter 00

Number of contacts

78+2, 60+4, 42+6, 24+8



Female connectors

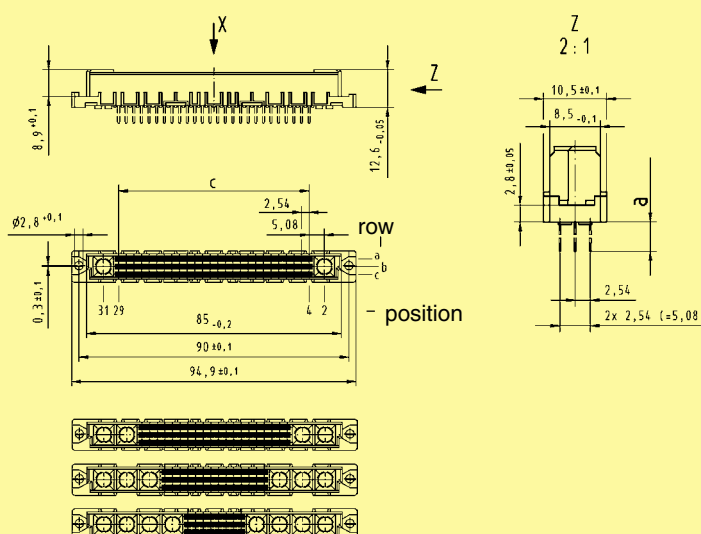
DIN Signal
to 2 A

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 (without special contacts)	78 + 2 60 + 4 42 + 6 24 + 8		Performance level 3 on request	09 03 278 6804 09 03 260 6804 09 03 242 6804 09 03 224 6804	Performance level 1 on request
Female connector with solder pins 4.5 mm (without special contacts)	78 + 2 60 + 4 42 + 6 24 + 8			09 03 278 6805 09 03 260 6805 09 03 242 6805 09 03 224 6805	

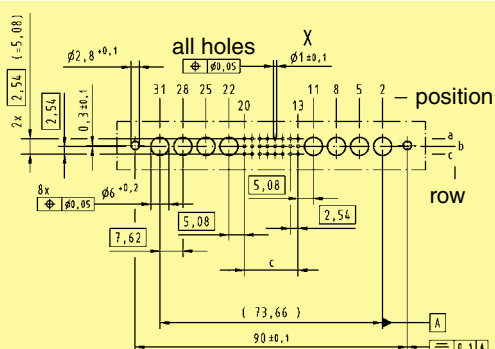
Female connector with press-in pins

Part Nos. and variants
see chapter 04

Dimensions



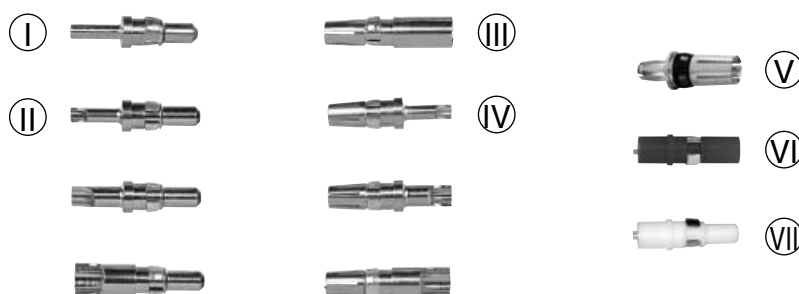
Order high current, high voltage, coaxial and fibre optic contacts separately, see pages 01.30 and 01.31

Board drillings
Mounting sideBoard drillings depend on type
and special contact loading

Type	c
78 + 2	25 x 2.54 = 63.5
60 + 4	19 x 2.54 = 48.26
42 + 6	13 x 2.54 = 33.02
24 + 8	7 x 2.54 = 17.78

Dimensions in mm

Other contact arrangements on request

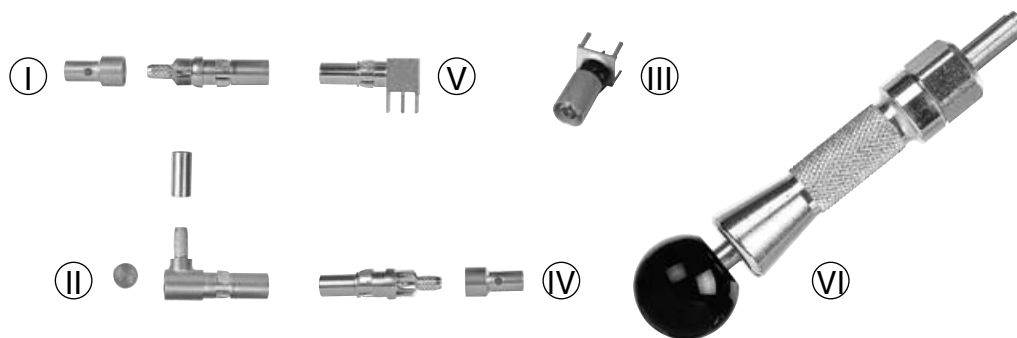


High current contacts High voltage contacts

Identification	Part No. Performance level 2	Drawing	Dimensions in mm																				
High current male contacts for male connectors¹⁾																							
I for straight crimp termination 10 A 20 A 40 A	09 03 000 6113 09 03 000 6114 09 03 000 6115		<table> <tr> <th></th><th>ø A</th><th>ø B</th><th>wire gauge [mm²]</th><th>AWG</th></tr> <tr> <td>10 A</td><td>1.85</td><td>2.55</td><td>1.5</td><td>16</td></tr> <tr> <td>20 A</td><td>2.85</td><td>3.70</td><td>4</td><td>12</td></tr> <tr> <td>40 A</td><td>4.40</td><td>5.60</td><td>10</td><td>8</td></tr> </table>		ø A	ø B	wire gauge [mm ²]	AWG	10 A	1.85	2.55	1.5	16	20 A	2.85	3.70	4	12	40 A	4.40	5.60	10	8
	ø A	ø B	wire gauge [mm ²]	AWG																			
10 A	1.85	2.55	1.5	16																			
20 A	2.85	3.70	4	12																			
40 A	4.40	5.60	10	8																			
II for straight solder termination 10 A 20 A 40 A Leading contact 10 A 20 A 40 A	09 03 000 6101 09 03 000 6102 09 03 000 6103 09 03 000 6111 09 03 000 6122 09 03 000 6133		<table> <tr> <th></th><th>ø</th></tr> <tr> <td>10 A</td><td>1.7</td></tr> <tr> <td>20 A</td><td>2.8</td></tr> <tr> <td>40 A</td><td>4.8</td></tr> </table>		ø	10 A	1.7	20 A	2.8	40 A	4.8												
	ø																						
10 A	1.7																						
20 A	2.8																						
40 A	4.8																						
for angled pcb termination max. 40 A* Leading contact max. 40 A* * depending on the pcb design	09 03 000 6104 09 03 000 6134		<table> <tr> <th></th><th>x</th><th>y</th></tr> <tr> <td>... 6104</td><td>17.7</td><td>6.4</td></tr> <tr> <td>... 6134</td><td>18.4</td><td>7.0</td></tr> </table>		x	y	... 6104	17.7	6.4	... 6134	18.4	7.0											
	x	y																					
... 6104	17.7	6.4																					
... 6134	18.4	7.0																					
High current female contacts for female connectors¹⁾																							
III for straight crimp termination 10 A 20 A 40 A	09 03 000 6213 09 03 000 6214 09 03 000 6215		<table> <tr> <th></th><th>ø A</th><th>ø B</th><th>wire gauge [mm²]</th><th>AWG</th></tr> <tr> <td>10 A</td><td>1.85</td><td>2.55</td><td>1.5</td><td>16</td></tr> <tr> <td>20 A</td><td>2.80</td><td>3.70</td><td>4</td><td>12</td></tr> <tr> <td>40 A</td><td>4.40</td><td>5.60</td><td>10</td><td>8</td></tr> </table>		ø A	ø B	wire gauge [mm ²]	AWG	10 A	1.85	2.55	1.5	16	20 A	2.80	3.70	4	12	40 A	4.40	5.60	10	8
	ø A	ø B	wire gauge [mm ²]	AWG																			
10 A	1.85	2.55	1.5	16																			
20 A	2.80	3.70	4	12																			
40 A	4.40	5.60	10	8																			
IV for straight solder termination 10 A 20 A 40 A	09 03 000 6201 09 03 000 6202 09 03 000 6203		<table> <tr> <th></th><th>ø</th></tr> <tr> <td>10 A</td><td>1.7</td></tr> <tr> <td>20 A</td><td>2.8</td></tr> <tr> <td>40 A</td><td>4.8</td></tr> </table>		ø	10 A	1.7	20 A	2.8	40 A	4.8												
	ø																						
10 A	1.7																						
20 A	2.8																						
40 A	4.8																						
V for type M-flat for press-in termination 40 A for solder termination 40 A	09 03 000 6250 09 03 000 6225		<table> <tr> <th></th><th>ø</th></tr> <tr> <td>10 A</td><td>1.7</td></tr> <tr> <td>20 A</td><td>2.8</td></tr> <tr> <td>40 A</td><td>4.8</td></tr> </table>		ø	10 A	1.7	20 A	2.8	40 A	4.8												
	ø																						
10 A	1.7																						
20 A	2.8																						
40 A	4.8																						
High voltage male contact for male connectors²⁾																							
VI for straight solder termination 2.8 kV	09 03 000 6140																						
High voltage female contact for female connectors²⁾																							
VII for straight solder termination 2.8 kV	09 03 000 6240																						
Crimping tool for high current contacts	09 99 000 0196																						

¹⁾ Contact resistance max. 1.5 mΩ

²⁾ Contact resistance internal wire max. 3 mΩ



Coaxial contacts

DIN Signal
to 2 A

Identification	Part No. Performance level 2	Drawing	Dimensions in mm
Male coaxial contacts for female connectors I for straight solder and/or crimp termination II for angled solder and/or crimp termination III for straight pcb termination for type M-flat	09 03 000 6160 09 03 000 6181 ¹⁾ 09 03 000 6161 09 03 000 6182		Assembly instruction for contacts I and IV
Female coaxial contacts for male connectors IV for straight solder and/or crimp termination V angled for pcb termination	09 03 000 6260 09 03 000 6281 ¹⁾ 09 03 000 6274 ²⁾ 09 03 000 6262 09 03 000 6269 ¹⁾ 09 03 000 6263 ²⁾		for contacts II
Crimping tool for coaxial contacts	09 99 000 0194		
Removal tool incl. removal jacket VI for contact replacement	09 99 000 0174		
Replacement removal jacket	09 99 000 0243		

Electrical characteristics of 50 Ω coaxial contacts and wires

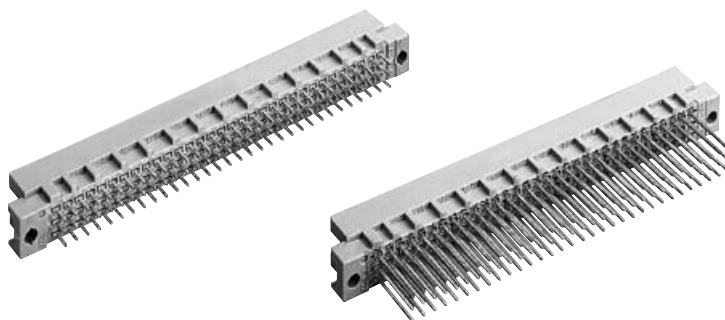
Impedance	50 Ω
Max. working frequency	2 up to 10 GHz
VSWR-value	1.07 + 0.02 f [GHz]
Proof voltage	750 V / 50 Hz
Working voltage	250 V / 50 Hz
Insulation resistance	≥ 1 GΩ
Contact resistance – Center contact – Outer contact	10 mΩ 3 mΩ
Contact current max.	1.5 A
Admissible power (depends on: frequency, application, VSWR, environmental characteristics)	Data on request
75 Ohm versions	Data on request

Cable group 2 flexible wires	Shell ø	Screening ø	Dielectric ø	Internal wire ø	Hexagonal crimp Spanner width
RG 174 A/U	2.5	2.0	1.5	0.48	3.25
RG 188 A/U	2.6	2.0	1.5	0.54	3.25
RG 316 U	2.5	2.0	1.5	0.54	3.25

¹⁾ Coaxial contact 75 Ω

²⁾ With knurled area for permanent fixing, not removable
Fibre optic contacts on request

96, 64



**DIN Signal
to 2 A**

**DIN Signal
to 2 A**

Part Nos. and variants
see chapter 04

a	b
2.5	ø 0.7
4	
13	□ 0.6

Solder pins

a	b
13	□ 0.6

Wrap posts

[illegible]

Dimensions in mm

Number of contacts

96, 64, 32

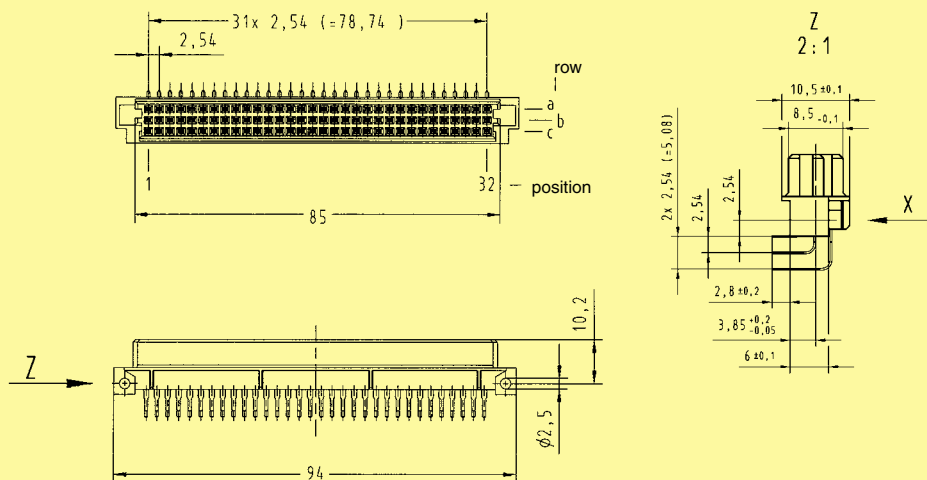


Female connectors

DIN Signal
to 2 A

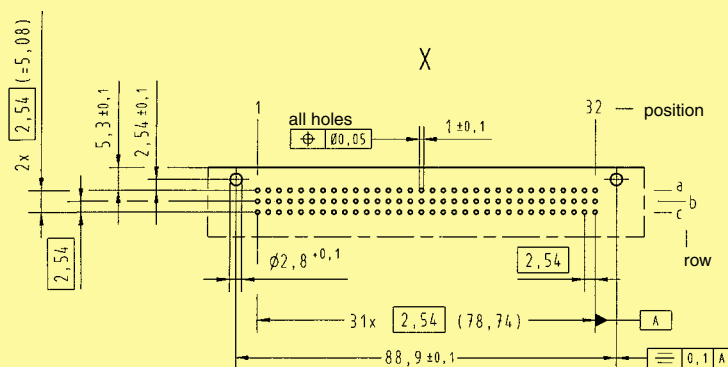
Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60603-2. Explanation chapter 00	
			3	2	1
Female connector with angled solder pins	96		09 73 296 7801 09 73 496 7801 ^{b)}	09 73 296 6801 09 73 496 6801 ^{b)}	09 73 296 2801
	64		09 73 264 7801 09 73 464 7801 ^{b)}	09 73 264 6801 09 73 464 6801 ^{b)}	09 73 264 2801
	32		09 73 232 7801	09 73 232 6801	09 73 232 2801
	32		09 73 232 7811	09 73 232 6811	09 73 232 2811

Dimensions



Board drillings

Mounting side

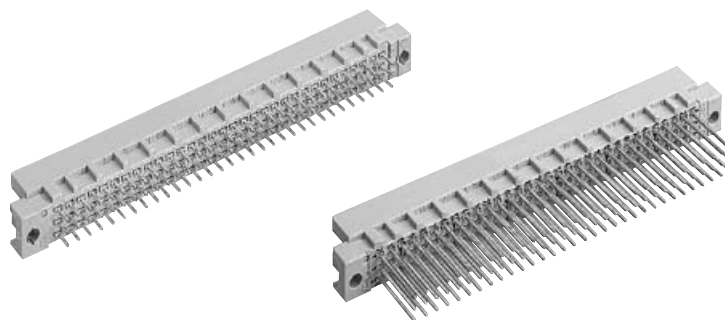


Dimensions in mm

Other contact arrangements on request
 High temperature connectors see chapter 05
^{b)} Connectors with snap-in clips see chapter 00

Number of contacts

96, 64



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 solder pins
2.5 mm

96



09 79 196 6902

Male connector
with solder pins
4.0 mm

96

Performance level 3
on request09 79 196 6903
09 79 396 6903^{b)}

64

09 79 164 6903
09 79 364 6903^{b)}Performance level 1
on requestMale connector
with wrap posts¹⁾
13 mm

96



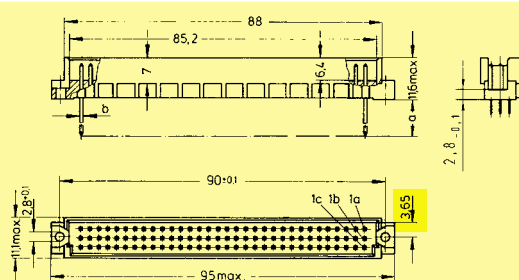
09 79 196 6907

64



09 79 164 6907

Dimensions



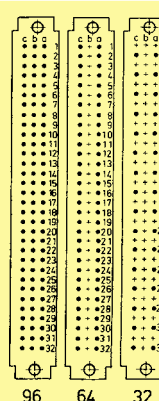
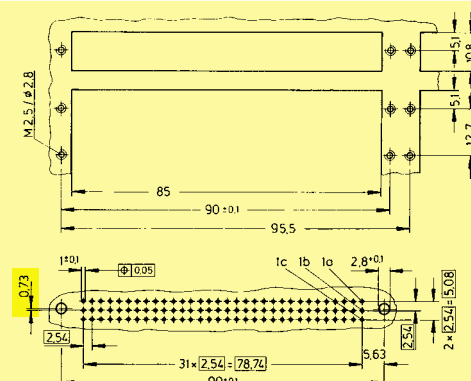
a	b
2.5	0.7
4	

Solder pins

a	b
13	0.6

Wrap posts

Panel cut out

Contact arrangement
View from termination sideBoard drillings
Mounting side

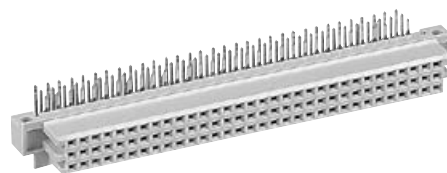
Dimensions in mm

Other contact arrangements on request

= deviating dimensions from standard male connectors (see page 01.32)

^{b)} Connectors with snap-in clips see chapter 00¹⁾ To be used only for wire wrap termination

96, 64



DIN Signal to 2 A

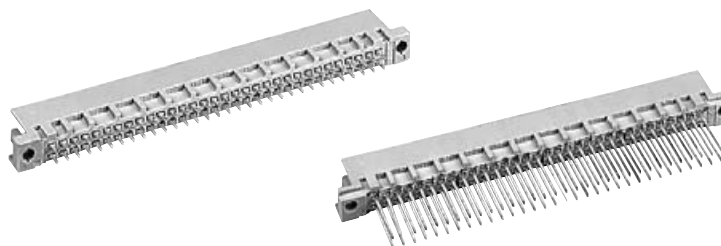
Board drillings
Mounting side

Technical drawing of the mounting side of a PCB showing board drillings. The drawing includes dimensions for hole positions and sizes. Key dimensions include: 2x 2,54 (±5,08) for the top edge; 5,3 ±0,1 and 2,54 ±0,1 for vertical spacing; 2,54 for horizontal spacing; 1 ±0,1 for a small hole; 1 ±0,1 for a larger hole; 31x 2,54 (78,74) for the main hole array; 88,9 ±0,1 for the total width; 2,54 for the bottom edge; and 0,1 A for the bottom edge. The drawing also shows a grid of holes with a pitch of 2,54 and a diameter of 2,8 ±0,1. The drawing is labeled "all holes" and "position".

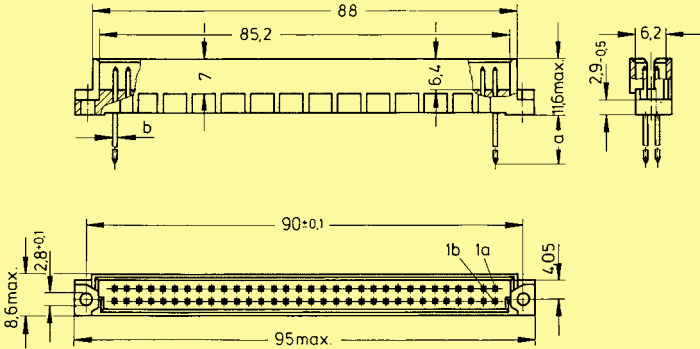
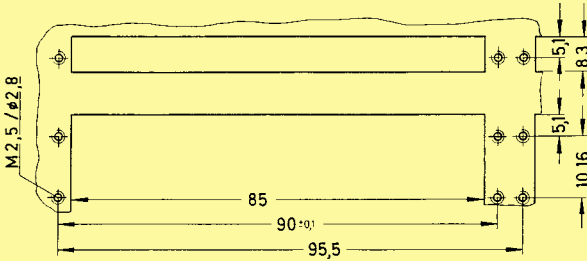
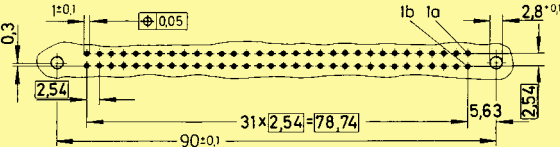
b) Connectors with snap-in clips see chapter 00

Number of contacts

64



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 solder pins 2.5 mm	64		09 72 164 7902	09 72 164 6902 b) 09 72 364 6902 ^{b)}	Performance level 1 on request													
Male connector with solder pins 4.0 mm	64		09 72 164 7903	09 72 164 6903														
Male connector with solder pins 13 mm	64			09 72 164 6577														
Male connector with wrap posts ¹⁾ 13 mm	64		09 72 164 7907	09 72 164 6907														
Male connector with wrap posts ¹⁾ 17 mm	64			09 72 164 6909														
Male connector with press-in pins	Part Nos. and variants see chapter 04																	
Dimensions	<table><tr><th>a</th><th>b</th></tr><tr><td>2.5</td><td rowspan="2">ø 0.7</td></tr><tr><td>4</td></tr><tr><td>13</td><td>□ 0.6</td></tr></table>Solder pins<table><tr><th>a</th><th>b</th></tr><tr><td>13</td><td>□ 0.6</td></tr><tr><td>17</td><td>□ 0.6</td></tr></table>Wrap posts					a	b	2.5	ø 0.7	4	13	□ 0.6	a	b	13	□ 0.6	17	□ 0.6
a	b																	
2.5	ø 0.7																	
4																		
13	□ 0.6																	
a	b																	
13	□ 0.6																	
17	□ 0.6																	
Panel cut out																		
Board drillings Mounting side																		

Dimensions in mm

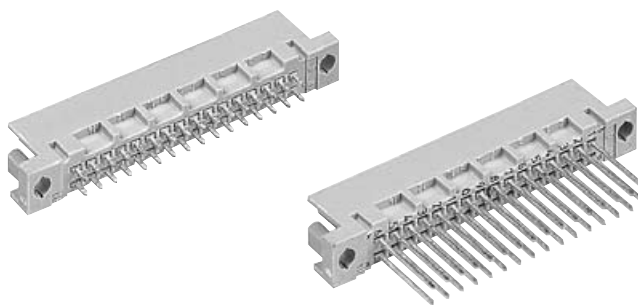
Dimensions in mm

Other contact arrangements as well with lagging/leading pins on request

^{b)} Connectors with snap-in clips see chapter 00¹⁾ To be used only for wire wrap termination

Number of contacts

32



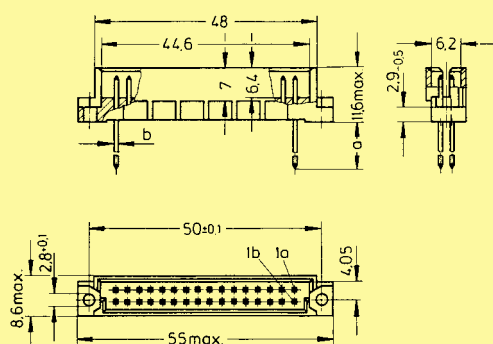
Male connectors

Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60603-2. Explanation chapter 00	
			3	2	1
Male connector with solder pins 2.5 mm	32		09 27 132 7902	09 27 132 6902	Performance level 1 on request
Male connector with solder pins 4.0 mm	32		09 27 132 7903	09 27 132 6903	
Male connector with solder pins 13 mm	32			09 27 132 6577	
Male connector with wrap posts ¹⁾ 13 mm	32		09 27 132 7907	09 27 132 6907	

Male connector with press-in pins

Part Nos. and variants see chapter 04

Dimensions



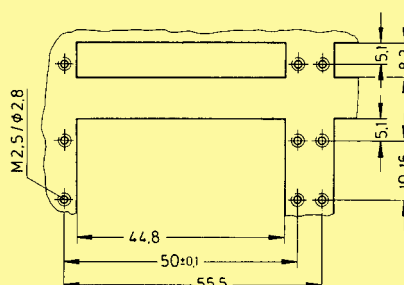
a	b
2.5	ø 0.7
4	
13	□ 0.6

Solder pins

a	b
13	□ 0.6

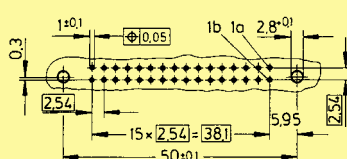
Wrap posts

Panel cut out



Board drillings

Mounting side

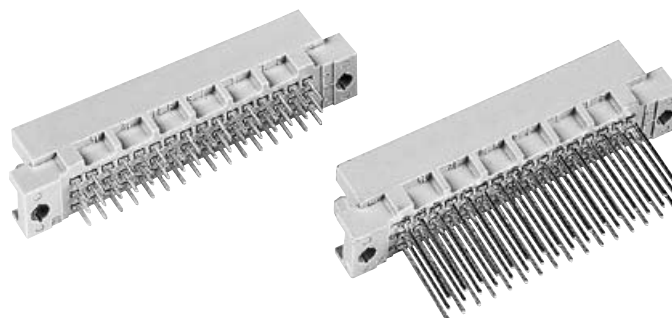


Dimensions in mm

Other contact arrangements as well with lagging/leading pins on request

¹⁾ To be used only for wire wrap termination

48, 32



DIN Signal to 2 A

DIN Signal to 2 A

Part Nos. and variants
see chapter 04

[illegible]

Solder pins

Wrap posts

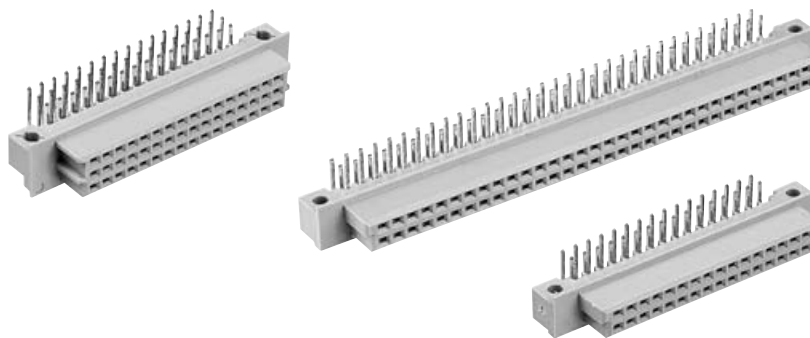
View from termination side



Mounting side

Number of contacts

64, 48, 32



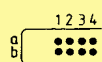
Female connectors

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

Female connector with angled solder pins

Type Q

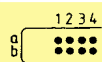
64



09 72 264 6801
09 72 464 6801^{b)}

Type 2Q

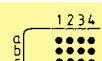
32



09 27 232 6801
09 27 432 6801^{b)}

Type 2R

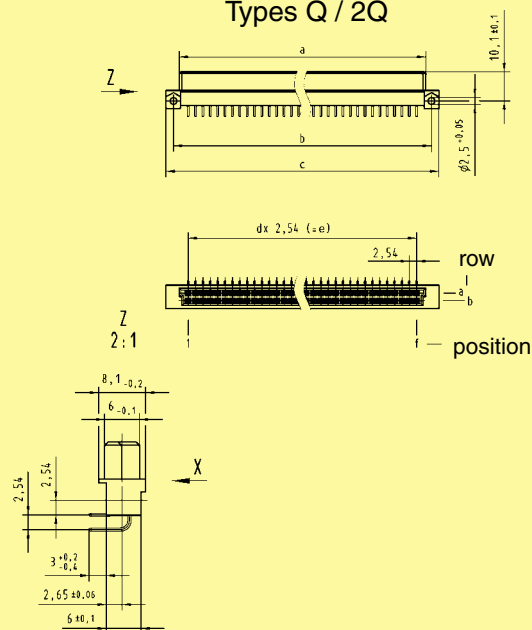
48



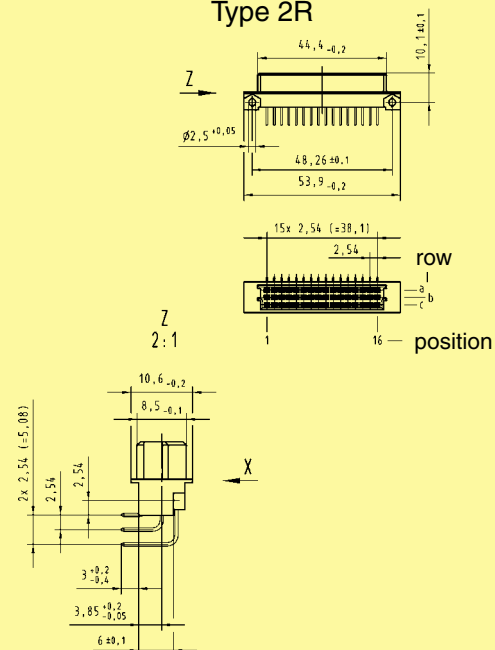
09 28 248 6801
09 28 448 6801^{b)}

Dimensions

Types Q / 2Q



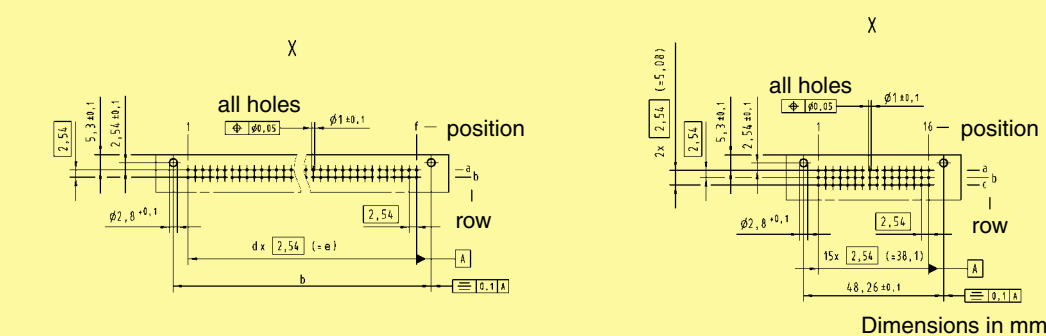
Type 2R



Type	a	b	c	d	e	f
Q	85.0 ^{-0.2}	88.90 ^{±0.1}	94.0 ^{-0.2}	31	78.74	32
2Q	44.4 ^{-0.2}	48.26 ^{±0.1}	53.9 ^{-0.2}	15	38.10	16

Board drillings

Mounting side



Dimensions in mm

Other contact arrangements on request

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

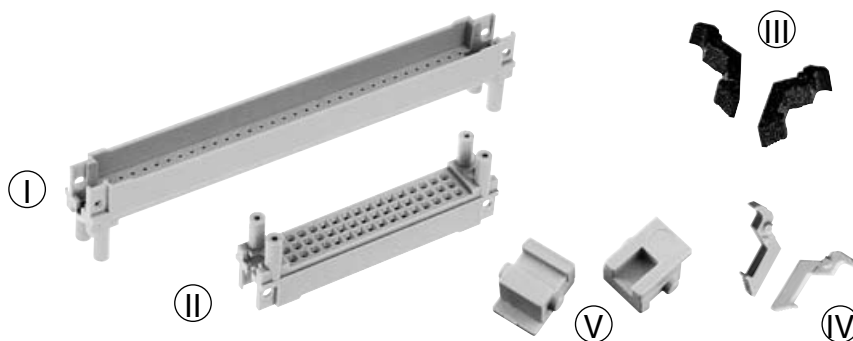
DIN Signal
to 2 A

Pin shroud



Number of contacts

96, 48



Pin shrouds
for types C, 2C, R, 2R

Identification	Termination length ± 0.3	pcb-thick- ness ± 0.4	Dimension a ± 0.1	Part No. – Pin shrouds with	
				press-in fixing ¹⁾	screw fixing
Pin shrouds for female connectors type C, R I	13.0/ 13.2	1.6	6.7	09 03 000 9956	09 03 000 9966
		2.4	5.9	09 03 000 9957	09 03 000 9967
		3.2	5.1	09 03 000 9958	09 03 000 9968
		4.0	4.3	09 03 000 9959	09 03 000 9969
	17.0	1.6	9.9	09 03 000 9952	09 03 000 9962
		2.4	9.1	09 03 000 9953	09 03 000 9963
		3.2	8.3	09 03 000 9954	09 03 000 9964
		4.0	7.5	09 03 000 9955	09 03 000 9965
		4.8	6.7	09 03 000 9956	09 03 000 9966
		5.6	5.9	09 03 000 9957	09 03 000 9967
		6.4	5.1	09 03 000 9958	09 03 000 9968
	20.0	3.2	11.5	09 03 000 9950	09 03 000 9960
		4.0	10.7	09 03 000 9951	09 03 000 9961
		4.8	9.9	09 03 000 9952	09 03 000 9962
		5.6	9.1	09 03 000 9953	09 03 000 9963
		6.4	8.3	09 03 000 9954	09 03 000 9964
		7.2	7.5	09 03 000 9955	09 03 000 9965
Pin shrouds for female connectors type 2C, 2R II	13.0/ 13.2	1.6	6.7	09 23 000 9956	09 23 000 9966
		2.4	5.9	09 23 000 9957	09 23 000 9967
		3.2	5.1	09 23 000 9958	09 23 000 9968
		4.0	4.3	09 23 000 9959	09 23 000 9969
	17.0	1.6	9.9	09 23 000 9952	09 23 000 9962
		2.4	9.1	09 23 000 9953	09 23 000 9963
		3.2	8.3	09 23 000 9954	09 23 000 9964
		4.0	7.5	09 23 000 9955	09 23 000 9965
		4.8	6.7	09 23 000 9956	09 23 000 9966
		5.6	5.9	09 23 000 9957	09 23 000 9967
		6.4	5.1	09 23 000 9958	09 23 000 9968
	20.0	3.2	11.5	09 23 000 9950	09 23 000 9960
		4.0	10.7	09 23 000 9951	09 23 000 9961
		4.8	9.9	09 23 000 9952	09 23 000 9962
		5.6	9.1	09 23 000 9953	09 23 000 9963
		6.4	8.3	09 23 000 9954	09 23 000 9964
		7.2	7.5	09 23 000 9955	09 23 000 9965

Identification	Part No.
Locking lever for female connectors type C, 2C* III	09 03 000 9914
Locking lever for female connectors type R, 2R* IV	09 03 000 9913
Fixing bracket for shell housing C* V	09 03 000 9921

* order 2 pieces per connector

¹⁾ Tooling see chapter 30

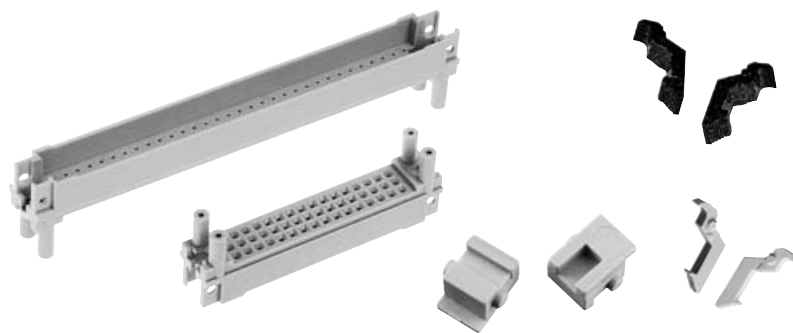
Pin shroud



Number of contacts

96, 48

Pin shrouds
for types C, 2C, R, 2R



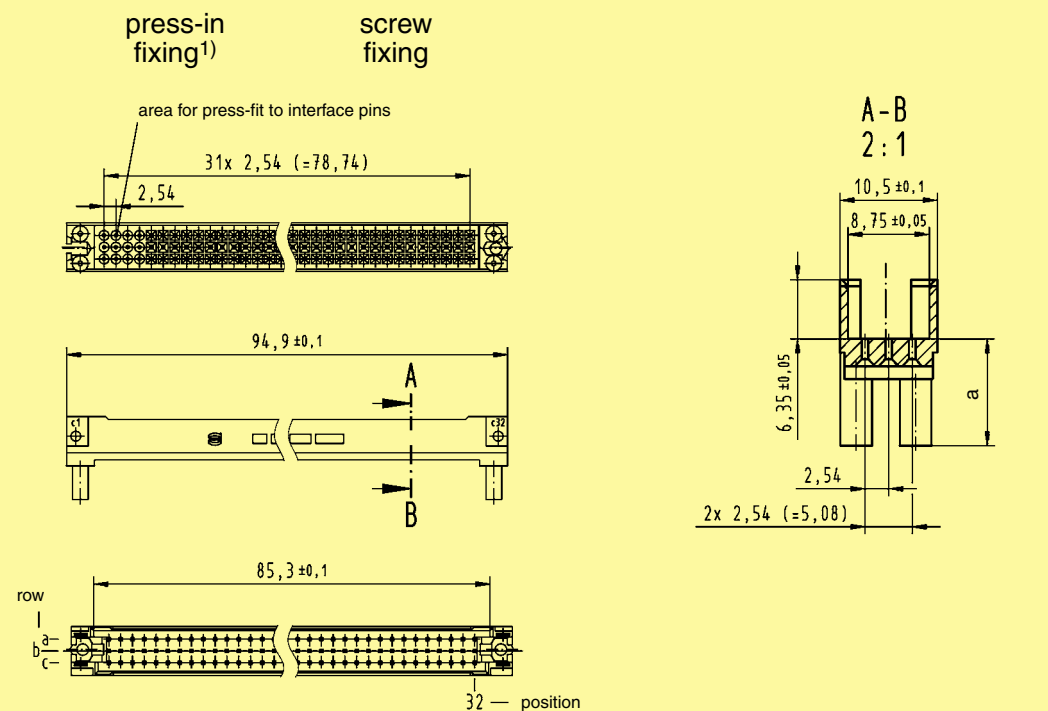
DIN Signal
to 2 A

Identification

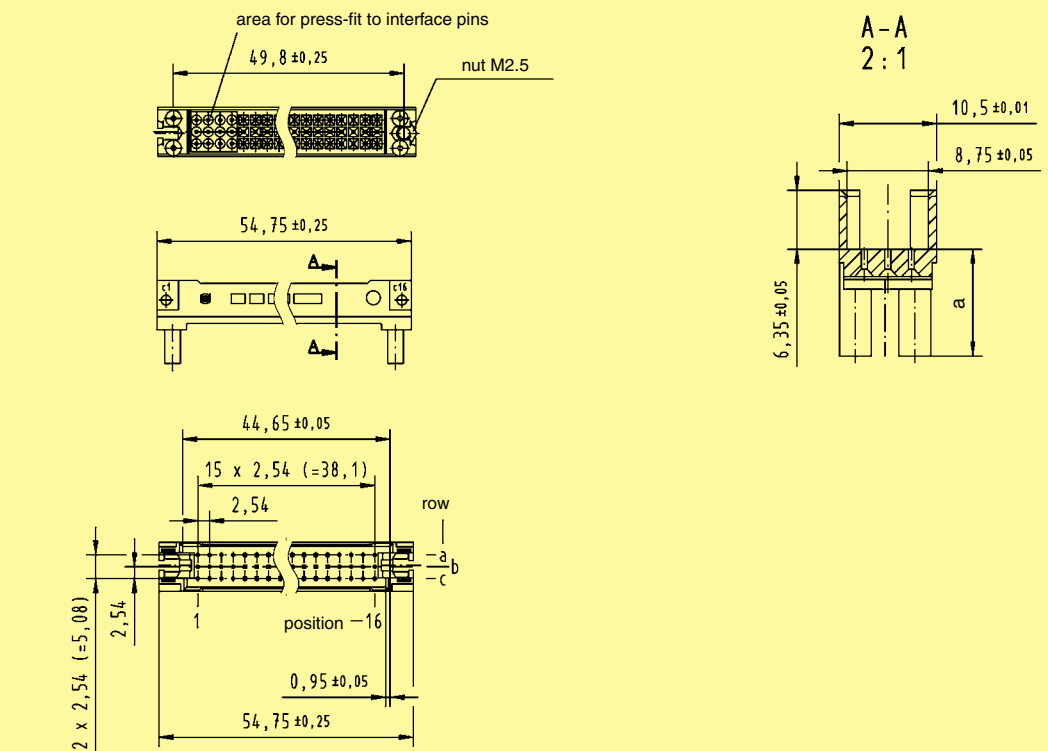
Drawing

Dimensions in mm

Pin shrouds
for female connectors
type C, R



Pin shrouds
for female connectors
type 2C, 2R



¹⁾ Tooling see chapter 30

Application 1

Female connector
09 03 296 6861

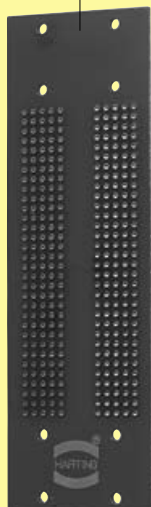
Backplane

Pin shroud
09 03 000 9957

Locking lever
09 03 000 9914

Female connector
09 03 264 6828

Female connector
09 03 096 3214



Application 2

Female connector
09 03 296 6862

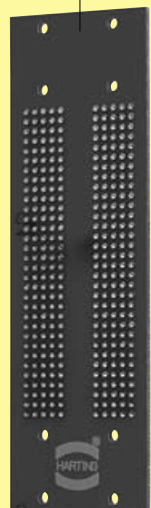
Backplane

Pin shroud
09 03 000 9953

Locking lever
09 03 000 9913

Female connector
09 73 296 6801

Daughtercard



Application 3

Female connector
09 03 296 6861

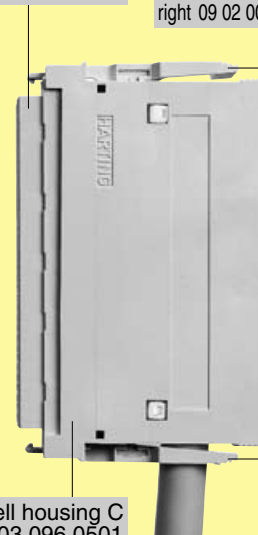
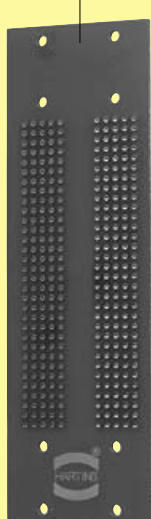
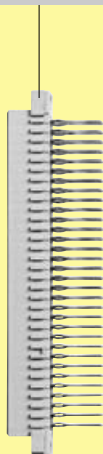
Backplane

Pin shroud
09 03 000 9957

Fixing brackets
09 03 000 9921

Female connector
09 03 096 3214

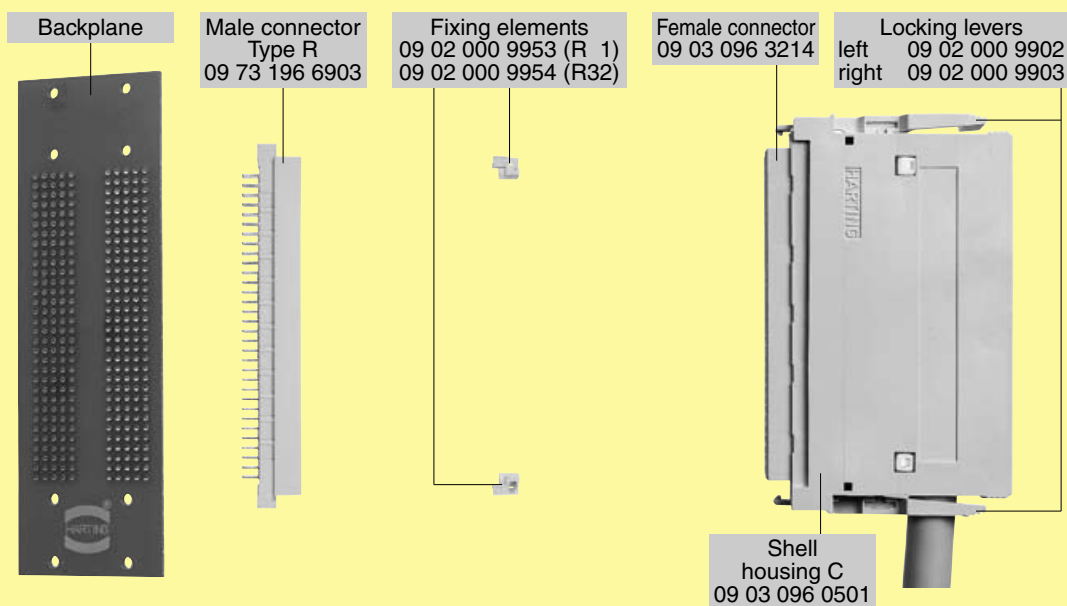
Locking levers
left 09 02 000 9902
right 09 02 000 9903



Shell housing C
09 03 096 0501

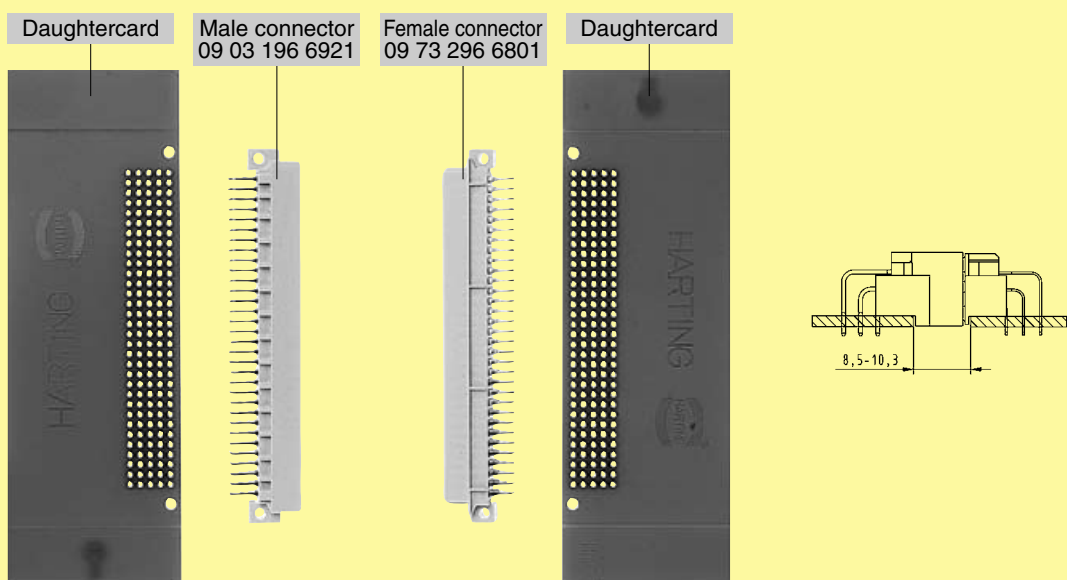


Application 4

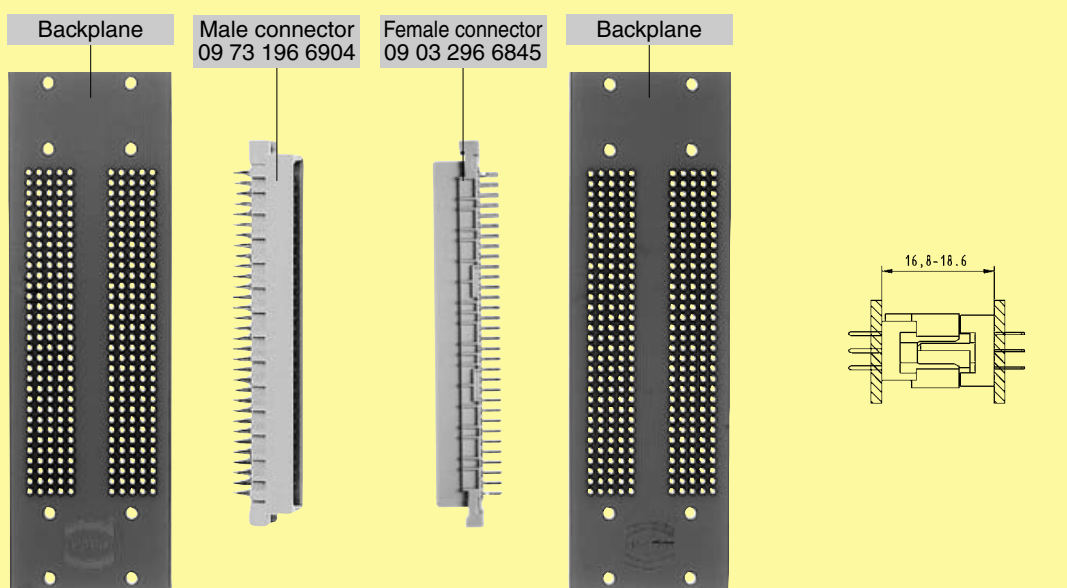


DIN Signal
to 2 A

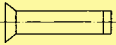
Application 5*



Application 6*



* Position marking turned: a1 contacts a32, a2 contacts a31, ...

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		
Coding system <u>with</u> contact loss	Code pin for types B, 2B, C, 2C, 3C, M, M-flat, Q, 2Q, R, R (HE 11), 2R, har-bus 64 09 02 000 9901 Removal tool for male contacts 09 99 000 0133	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	