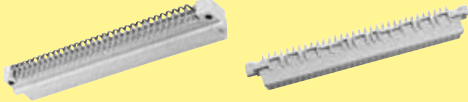
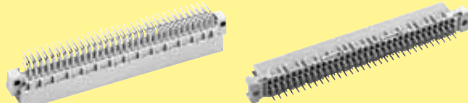
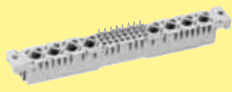
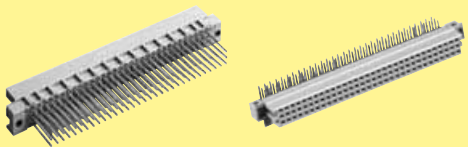
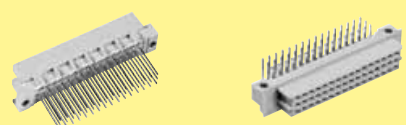


Types B, 2B, C, 2C, 3C, M, Q, 2Q, R, R (HE 11), 2R

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⁾

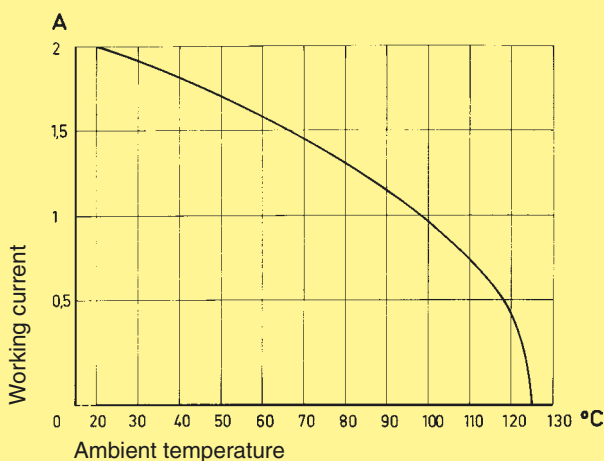
¹⁾ Explanation performance levels see chapter 00

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

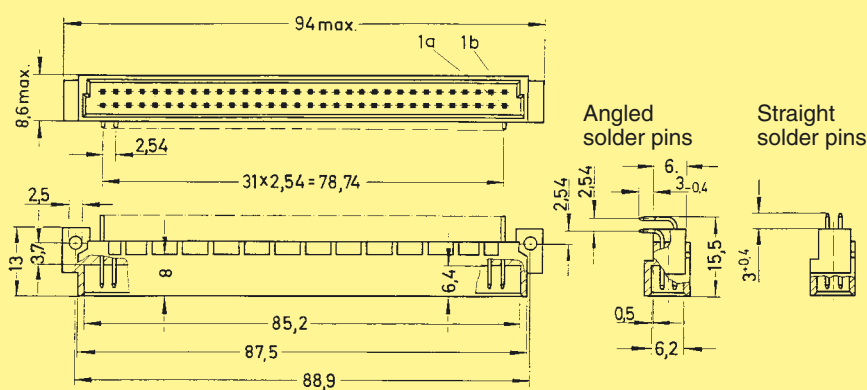
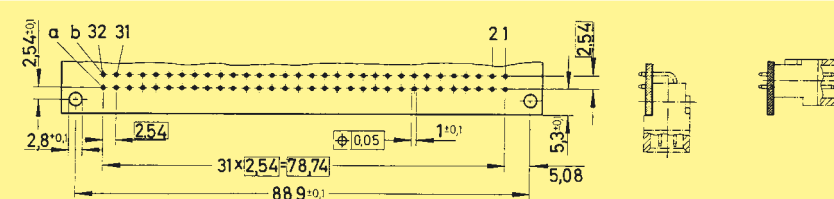
64, 32



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.

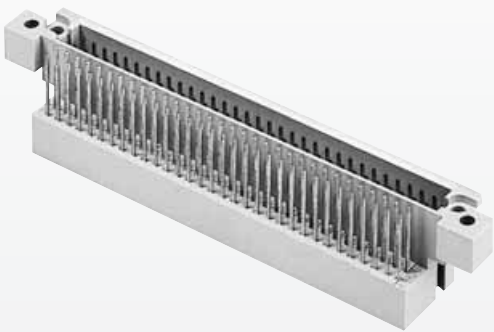
Other contact arrangements on request

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

^{c)} Connectors with coding see page 01.44

Number of contacts

64

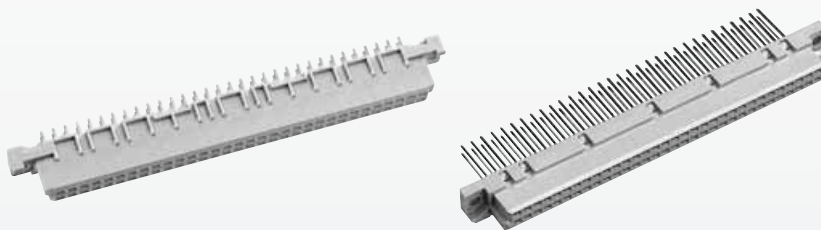


Interface connector U

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

64

DIN Signal
to 2 A

1

Part Nos. and variants
see chapter 04

Technical drawings of the PCB assembly showing top, side, and detail views with dimensions and a table for solder pins and wrap posts.

Top View Dimensions:

- Overall width: $7,9 \pm 0,1$
- Overall length: $11,6 \pm 0,05$
- Pin pitch: $2,54$
- Pin length: $31 \times 2,54 (=78,74)$
- Pin diameter: $\phi 2,8 \pm 0,1$
- Pin spacing: $0,3 \pm 0,1$
- Pin length: 32
- Pin length: $85 \pm 0,2$
- Pin length: $90 \pm 0,1$
- Pin length: $94,9 \pm 0,1$
- Pin length: $2,54$
- Pin length: 1
- Pin length: row
- Pin length: a
- Pin length: b
- Pin length: $- position$

Side View Dimensions:

- Overall height: $8 \pm 0,1$
- Pin height: $6 \pm 0,1$
- Pin height: $2,8 \pm 0,05$
- Pin height: $2,54$

Detail View Dimensions:

- Overall height: $8 \pm 0,1$
- Pin height: $6 \pm 0,1$
- Pin height: $2,8 \pm 0,05$
- Pin height: $2,54$

Table:

a
2.9
4.5
13
13

Legend:

- Solder pins
- Wrap posts

Technical drawing of a mechanical part showing two views: a front view (top) and a side view (bottom).

Front View (Top):

- Overall width: 95.5
- Overall height: 10.16
- Internal width: 90
- Internal height: 5.1 (split into two 5.1 segments)
- Central slot width: 85
- Top hole: M2.5/ø2.8

Side View (Bottom):

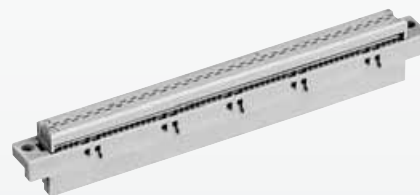
- Overall length: 90 ± 0.1
- Overall width: 10.1
- Internal length: 78.74 (calculated as 31 × 2.54)
- Internal width: 2.54
- Central hole: ø1 ± 0.1
- Top hole: ø2.8 ± 0.1
- Bottom hole: ø0.05
- Dimensions: 32, 1, 0.3 ± 0.1, 2.54, 2.54, 31 × 2.54 (= 78.74), 10.1
- Labels: all holes, position, row

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

Number of contacts

64



Female connectors

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Female connector for insulation displacement	64	Performance level 2 ¹⁾ 09 02 264 6828 Performance level 3 ¹⁾ 09 02 264 7828	Cable 1 to contact 1 b Contact arrangement View from termination side	
Panel cut out				
Flat cable AWG 28/7 grey 50.00 m grey 150.00 m colour coded 30.48 m twisted pair ¹⁾ 30.48 m	64	09 18 064 7001 09 18 064 7004 09 18 064 7005 09 18 064 7006	1) 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 ²⁾ with screening 30 m 150 m without screening 30 m 150 m	64	09 18 064 7007 09 18 064 7010 09 18 064 7008 09 18 064 7011	2) 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

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	Side view dimensions: 85, 84, 11.6, 11, 6, 2.9^{+0.5}, 7.5 Front view dimensions: 2.54, 2.8^{+0.1}, 90^{±0.1}, 1b, 1a, 2.55, 5, 8.1^{+0.2}, 31x2.54=78.74, 95^{-0.4} Contact arrangement View from termination side 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1	
Shell housing 09 02 064 0501 / 09 02 064 0502 see chapter 20				

Identification		Part No.	Performance levels according to IEC 60 603-2. Explanation chapter 00	
		2	1	
Female crimp contacts BC				
	Bandoliered contacts (approx. 5,000 pieces)		09 02 000 6484	09 02 000 6474
	Bandoliered contacts (approx. 500 pieces)		09 02 000 8434	09 02 000 8444
	Individual contacts ¹⁾		09 02 000 8484	09 02 000 8474
		Wire gauge mm ² 0.09 - 0.5	AWG 28 - 20	Insulation ø mm 0.7 - 1.5
				
				
		3.5 + 0.5 mm of insulation is stripped Insertion, removal and crimping tools see chapter 30		

¹⁾ Packaging unit 1,000 pieces

Number of contacts

32, 16

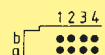


Male connectors

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

32

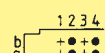


09 22 132 7921

09 22 132 6921
09 22 332 6921^{b)}

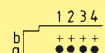
09 22 132 2921

16



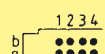
09 22 116 6921

16



09 22 116 7931

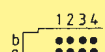
09 22 116 6931

30 + 2[▲]

09 22 132 6951

Male connector with straight solder pins

32

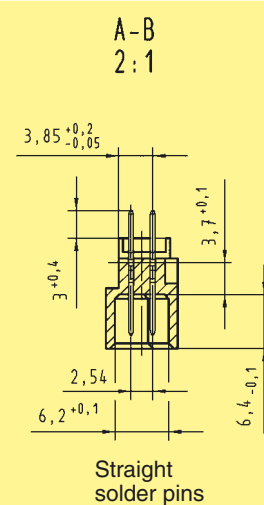
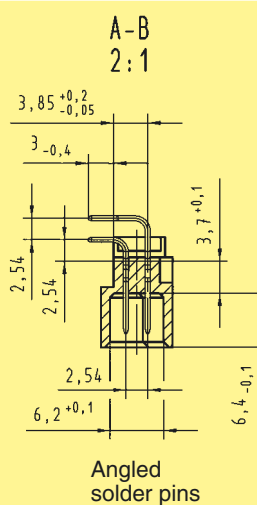
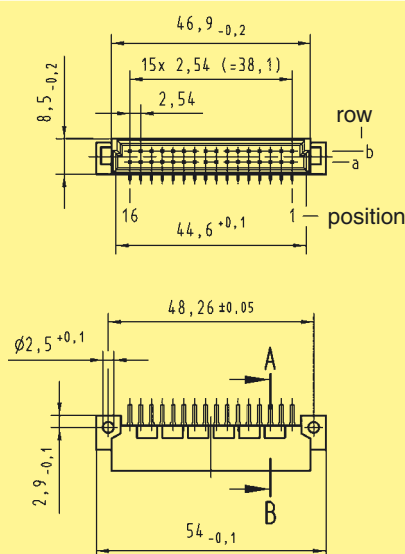


09 22 132 7922

09 22 132 6922

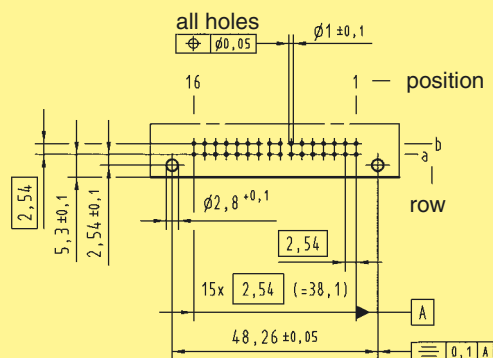
09 22 132 2922

Dimensions



Board drillings

Mounting side



Dimensions in mm

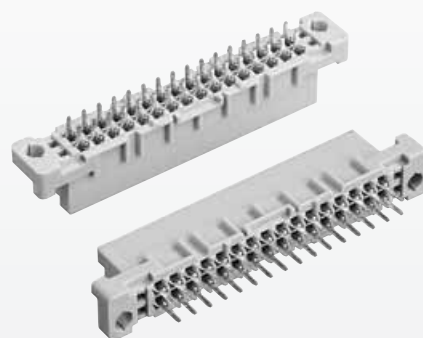
[▲] Male connectors with 2 leading contacts [(0.8 mm) pos. a1 and a16]. Lagging pins row b on request.

Other contact arrangements on request

^{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 60 603-2. 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 13 mm	32			09 22 232 6821						
Female connector with press-in pins	Part Nos. and variants see chapter 04									
Dimensions	<table><tr><th>a</th></tr><tr><td>2.9</td></tr><tr><td>4.5</td></tr><tr><td>13</td></tr><tr><td>13</td></tr></table> Solder pins Wrap posts					a	2.9	4.5	13	13
a										
2.9										
4.5										
13										
13										
Board drillings Mounting side										

Dimensions in mm

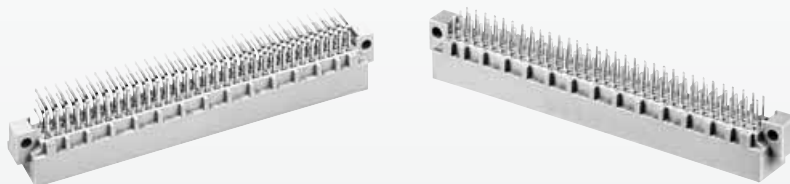
Dimensions in mm

Other contact arrangements on request

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

Number of contacts

96, 64, 32



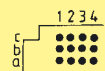
Male connectors

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

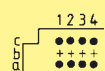


09 03 196 7921
09 03 396 7921^{b)}

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

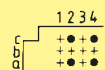


09 03 164 7921
09 03 364 7921^{b)}

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)}

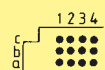
32



09 03 132 7921
09 03 332 7921^{b)}

09 03 132 6921
09 03 332 6921^{b)}

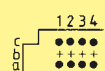
09 03 132 2921
09 03 332 2921^{b)}

94 + 2[▲]

09 03 196 7951

09 03 196 6951
09 03 396 6951^{b)}

09 03 196 2951

62 + 2[▲]

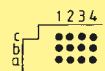
09 03 164 7951

09 03 164 6951

09 03 164 2951

Male connector with straight solder pins

96

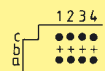


09 03 196 7922

09 03 196 6922

09 03 196 2922

64

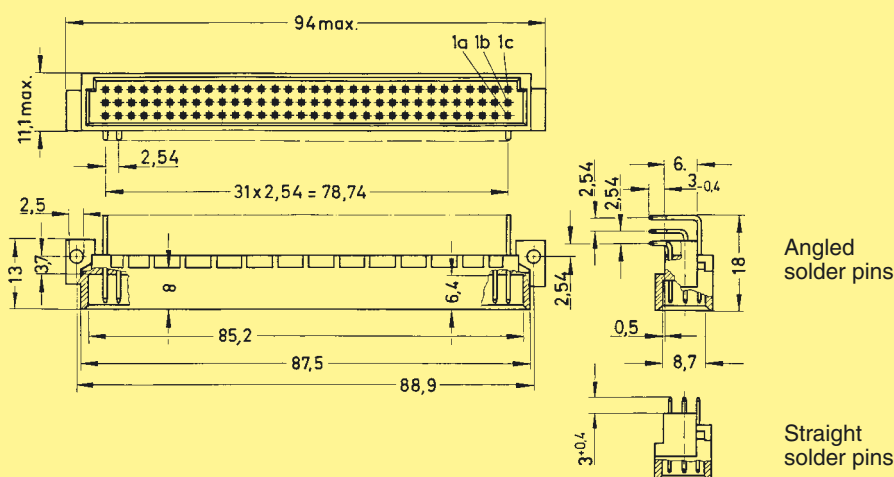
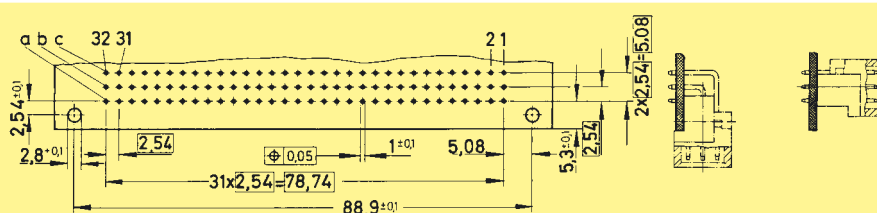


09 03 164 7922

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

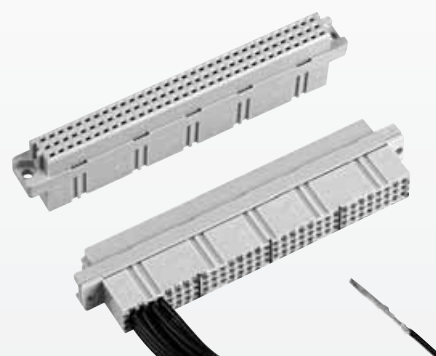
^{b)} Connectors with snap-in clips see chapter 00

^{c)} Connectors with coding see page 01.44

Number of contacts

max. 96

Female connectors

DIN Signal
to 2 A

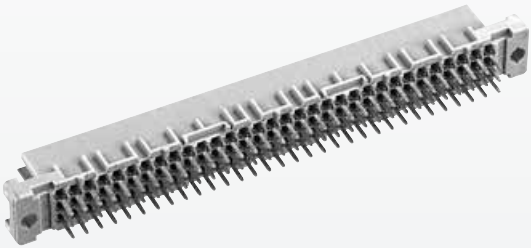
Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Female connector for crimp contacts Order contacts separately	96	09 03 096 3214 09 03 596 3214 ^{c)}	Contact arrangement View from termination side Shell housing 09 03 096 0501 see chapter 20	

Identification	Part No.	Performance levels according to IEC 60 603-2. Explanation chapter 00
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 from the wires to be crimped Insertion, removal and crimping tools see chapter 30

^{c)} Connectors with coding see page 01.44¹⁾ Packaging unit 1,000 pieces

Number of contacts

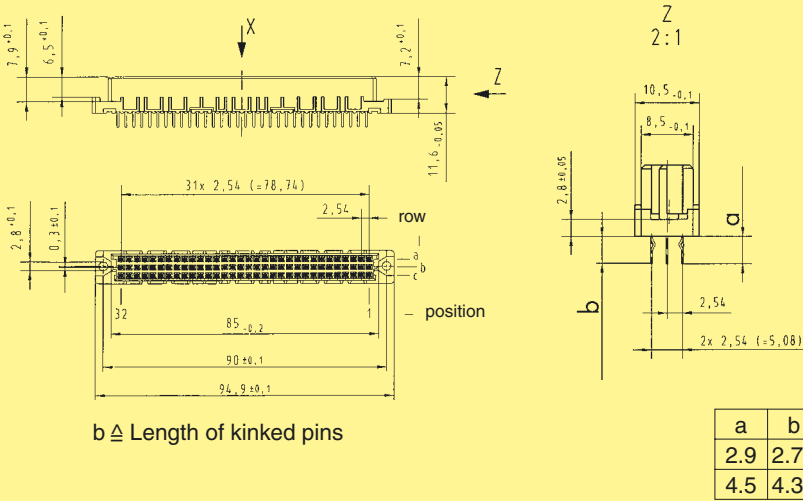
96, 64, 32



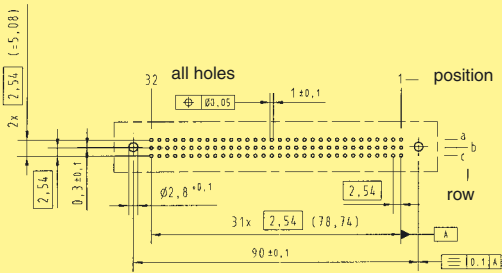
Female connectors

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

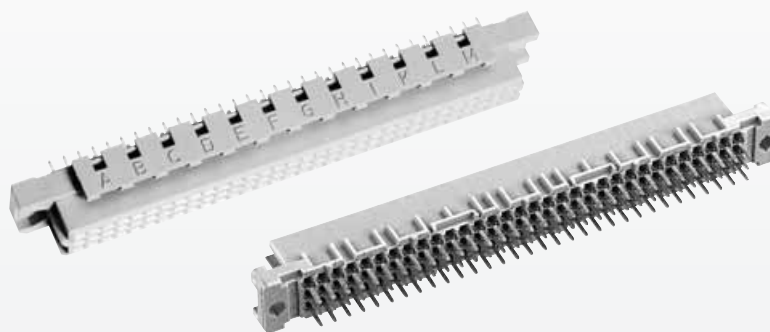


Dimensions in mm

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

Number of contacts

96, 64, 32



Female connectors

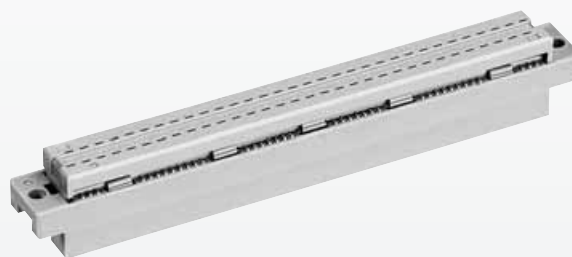
DIN Signal
to 2 A

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

64

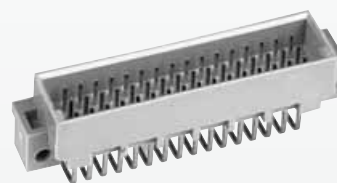


DIN Signal to 2 A

01
23

1) acc. to IEC 60 603-2

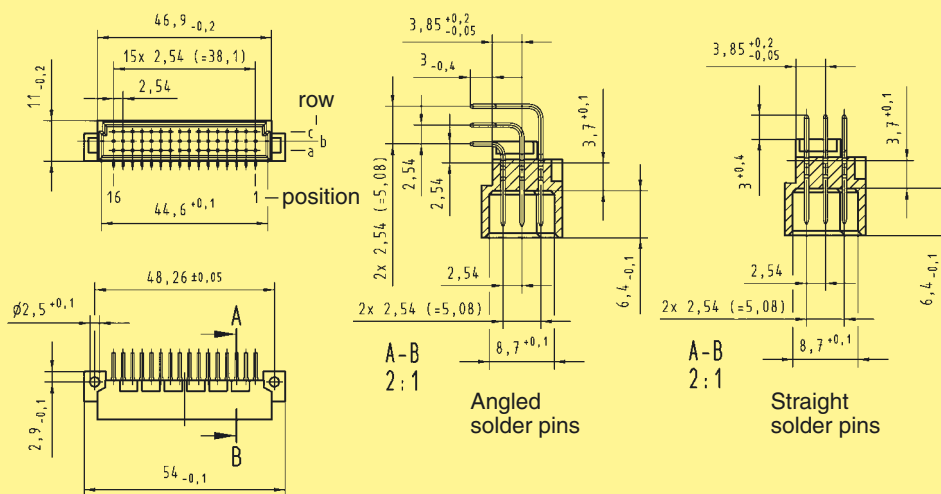
48, 32, 16



**DIN Signal
to 2 A**

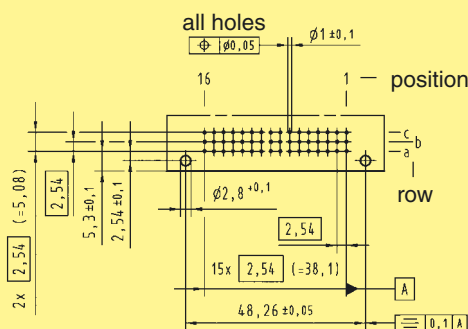
**DIN Signal
to 2 A**

**DIN Signal
to 2 A**



**DIN Signal
to 2 A**

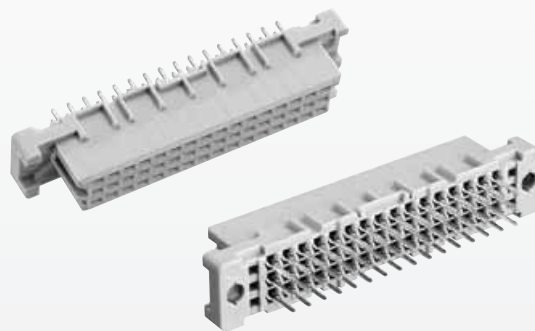
**DIN Signal
to 2 A**



**DIN Signal
to 2 A**

Number of contacts

48



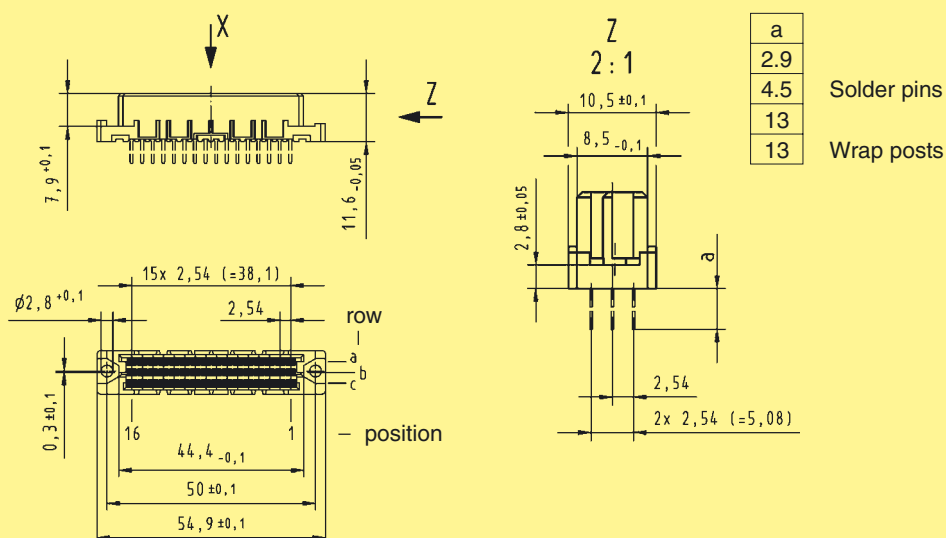
Female connectors

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		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 13 mm	48			09 23 248 6821	

Female connector with press-in pins

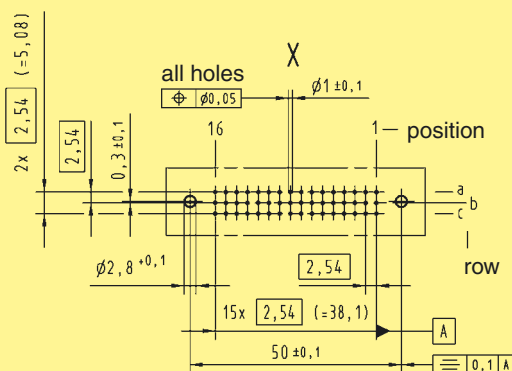
Part Nos. and variants see chapter 04

Dimensions



Board drillings

Mounting side

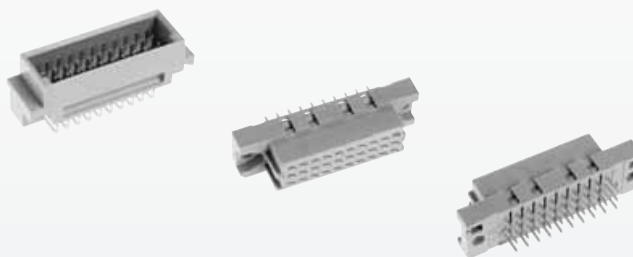


Dimensions in mm

Other contact arrangements on request

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

30



**DIN Signal
to 2 A**

[illegible]

Board drillings

Mounting side

all holes

position

row

2x 2,54 (=5,08)

5,3 ±0,1

2,54 ±0,1

10

1

φ0,25

φ1 ±0,1

φ2,8 ±0,1

2,54

9x 2,54 (=22,86)

33,02 ±0,1

10,1

all holes

position

row

2x 2,54 (=5,08)

0,3 ±0,1

10

1

φ0,25

φ1 ±0,1

φ2,8 ±0,1

2,54

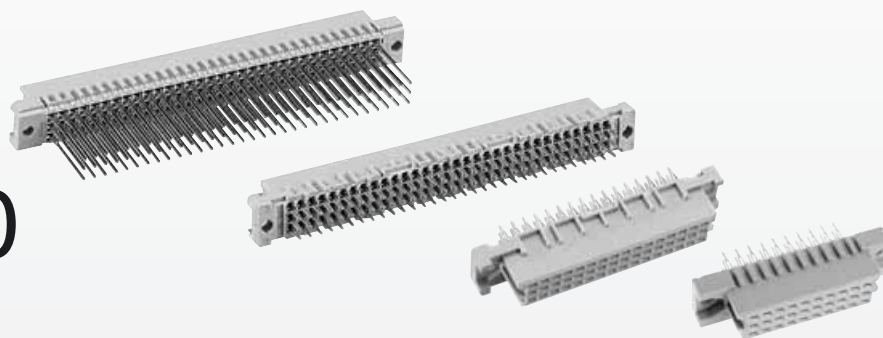
9x 2,54 (=22,86)

34,76 ±0,1

10,1

Dimensions in mm

96, 64,
48, 32, 30



Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60 603-2.		Explanation chapter 00
			3	2		1
Female connector Type C	96		09 03 296 7850	09 03 296 6850 09 03 796 6850 ^{c)}		09 03 296 2850
with press-in terminations 4.5 mm	64		09 03 264 7850	09 03 264 6850		09 03 264 2850
	32		09 03 232 7850	09 03 232 6850		09 03 232 2850
13.2 mm	96			09 03 296 6851 09 03 296 6861 [•]		
	64			09 03 264 6851 09 03 264 6861 [•]		
17 mm	96			09 03 296 6852 09 03 296 6862 [•]		
Female connector Type 2C	48			09 23 248 6850		
with press-in terminations 4.5 mm						
Female connector Type 3C	30			09 25 230 6850		
with press-in terminations 5.3 mm						

[illegible]

Technical drawing of a rectangular plate with two rows of holes. The drawing shows dimensions for hole diameter ($\varnothing 8,0 \pm 0,1$), hole spacing (2,54), and overall plate dimensions (2x 2,54, 0,3 $\pm$ 0,1). It also includes a detail of a hole with a diameter of $\varnothing 0,05$ and a position tolerance of 1. The drawing is labeled "all holes" and "position".

Dimensions in mm

Number of contacts

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



Female connectors

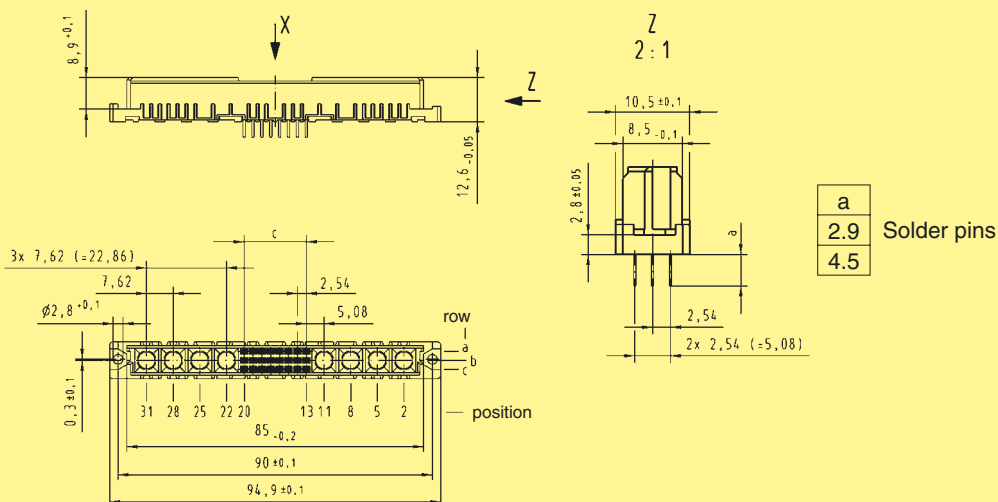
DIN Signal
to 2 A

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

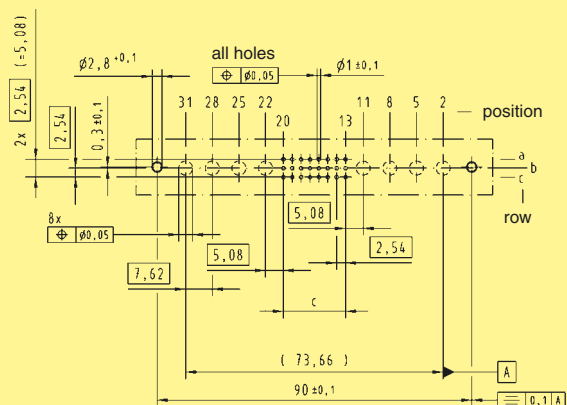
Dimensions



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

Board drillings

Mounting side



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

* Pre-loaded with special contacts on request

Number of contacts

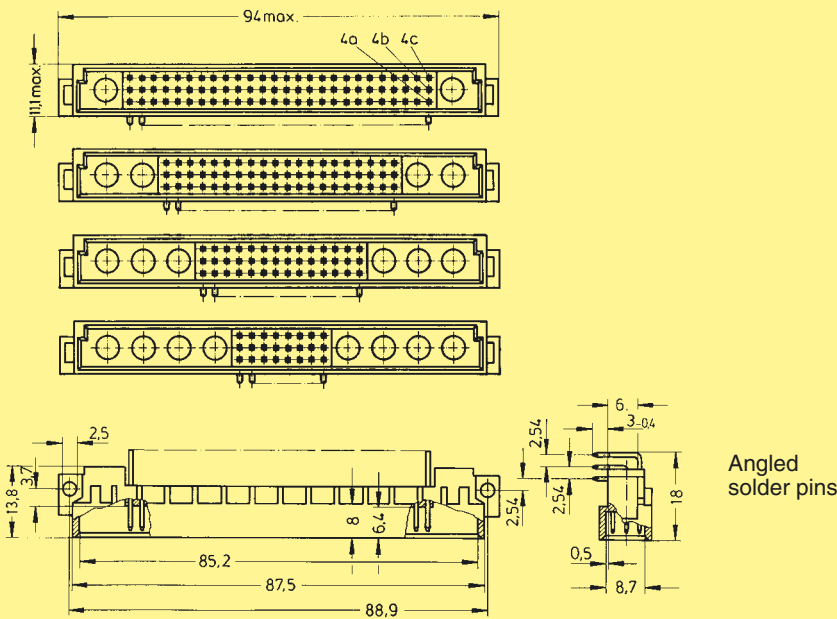
78+2, 60+4,
42+6, 24+8



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

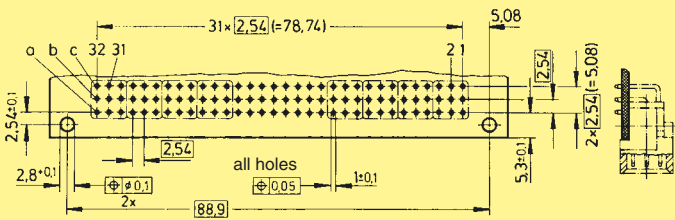
Dimensions



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

Board drillings

Mounting side



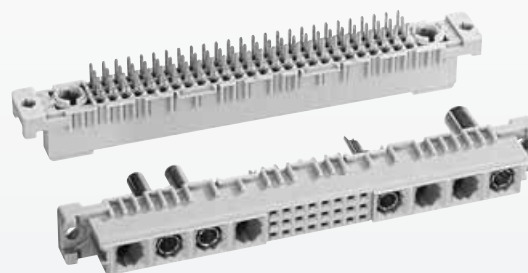
△ Board drillings depend on type and special contact loading

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

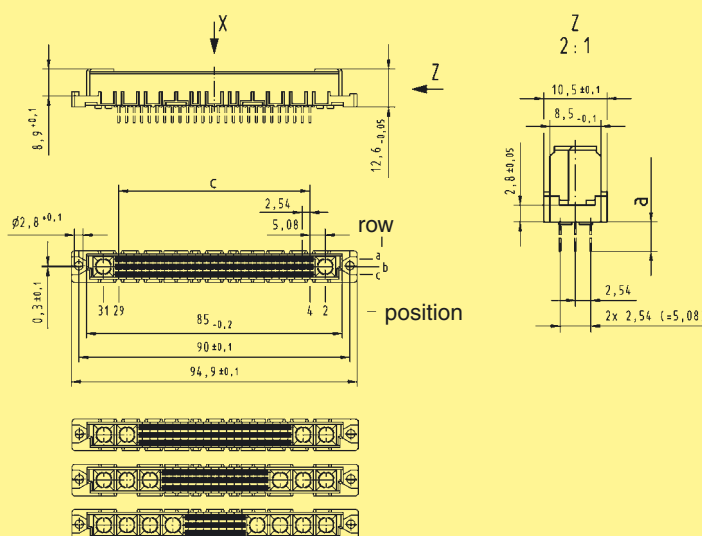
DIN Signal
to 2 A

Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60 603-2. Explanation chapter 00	
			3	2	1
Female connector with solder pins 2.9 mm (without special contacts)	78 + 2		Performance level 3 on request	09 03 278 6804	Performance level 1 on request
	60 + 4			09 03 260 6804	
	42 + 6			09 03 242 6804	
	24 + 8			09 03 224 6804	
Female connector with solder pins 4.5 mm (without special contacts)	78 + 2		Performance level 3 on request	09 03 278 6805	Performance level 1 on request
	60 + 4			09 03 260 6805	
	42 + 6			09 03 242 6805	
	24 + 8			09 03 224 6805	

Female connector with press-in pins

Part Nos. and variants
see chapter 04

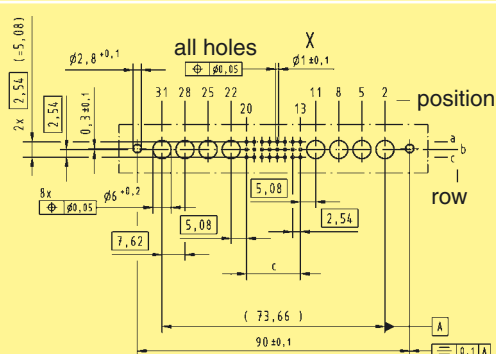
Dimensions



a
2.9
4.5

Solder pins

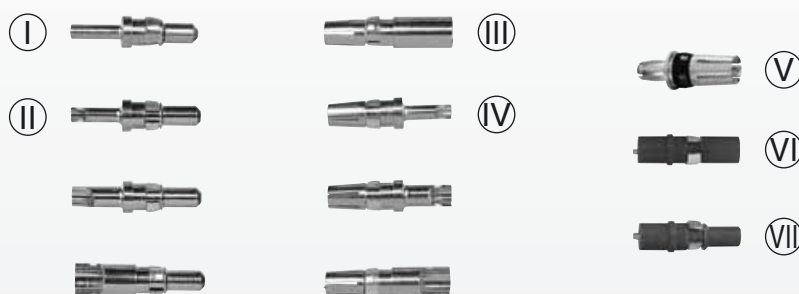
Order high current, high voltage, coaxial and fibre optic contacts separately, see pages 01.30 and 01.31

Board drillings
Mounting side

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

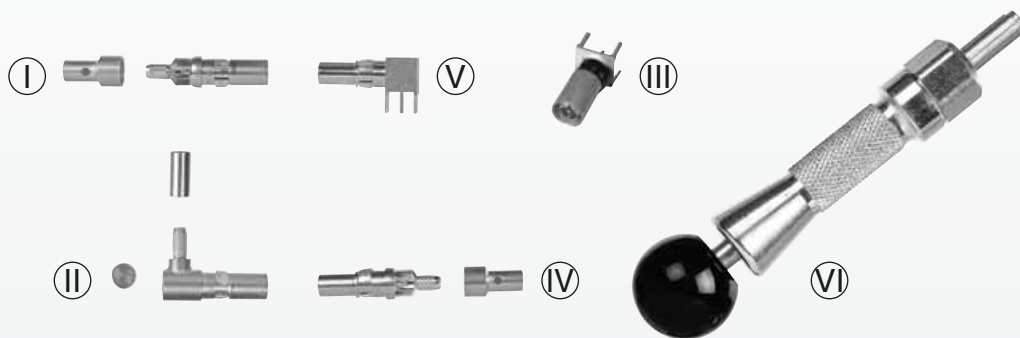


High current contacts
High voltage contacts

Identification		Part No.	Drawing	Dimensions in mm																				
Performance level 2																								
High current male contacts for male connectors ¹⁾																								
I for straight crimp termination	10 A	09 03 000 6113		<table><tr><td></td><td>ø A</td><td>ø B</td><td>wire gauge [mm²]</td><td>AWG</td></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 [mm²]	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 [mm²]	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																				
20 A	09 03 000 6114																							
40 A	09 03 000 6115																							
II for straight solder termination	10 A	09 03 000 6101		<table><tr><td></td><td>ø</td></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																						
	20 A	09 03 000 6102																						
40 A	09 03 000 6103																							
Leading contact	10 A	09 03 000 6111																						
20 A	09 03 000 6122																							
40 A	09 03 000 6133																							
for angled pcb termination	max. 40 A*	09 03 000 6104		<table><tr><td></td><td>X</td></tr><tr><td>... 6104</td><td>17.7</td></tr><tr><td>... 6134</td><td>18.4</td></tr></table>		X	... 6104	17.7	... 6134	18.4														
	X																							
... 6104	17.7																							
... 6134	18.4																							
Leading contact	max. 40 A*	09 03 000 6134	1) Solder pins for hole ø 1 ± 0.1 mm																					
* depending on the pcb design																								
High current female contacts for female connectors ²⁾																								
III for straight crimp termination	10 A	09 03 000 6213		<table><tr><td></td><td>ø A</td><td>ø B</td><td>wire gauge [mm²]</td><td>AWG</td></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 [mm²]	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 [mm²]	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																				
20 A	09 03 000 6214																							
40 A	09 03 000 6215																							
IV for straight solder termination	10 A	09 03 000 6201		<table><tr><td></td><td>ø</td></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																							
20 A	09 03 000 6202																							
40 A	09 03 000 6203																							
V for type M-flat for press-in termination	40 A	09 03 000 6250																						
	for solder termination	40 A			09 03 000 6225																			
High voltage male contact for male connectors ³⁾																								
VI for straight solder termination	2.8 kV	09 03 000 6140		Wire gauge max. 0.5 mm²																				
High voltage female contact for female connectors ³⁾																								
VII for straight solder termination	2.8 kV	09 03 000 6240		Wire gauge max. 0.5 mm²																				
Crimping tool for high current contacts																								
		09 99 000 0196																						

²⁾ Contact resistance max. 1.5 mΩ

³⁾ Contact resistance internal wire max. 3 mΩ



Coaxial contacts

DIN Signal
to 2 A

Identification	Part No. Performance level 2	Drawing	Dimensions in mm
----------------	---------------------------------	---------	------------------

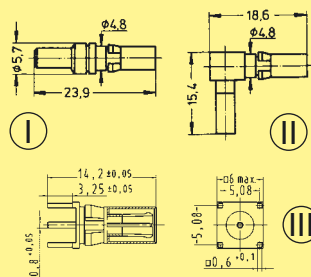
Male coaxial contacts for female connectors

- ① for straight solder and/or crimp termination
- ② for angled solder and/or crimp termination
- ③ for straight pcb termination for type M-flat

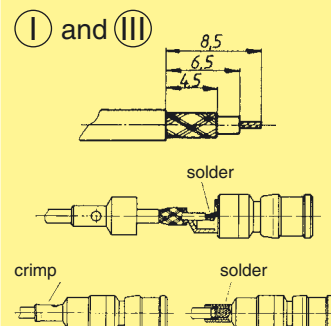
09 03 000 6160
09 03 000 6181*

09 03 000 6161

09 03 000 6182



Assembly instruction for contacts ① and ③



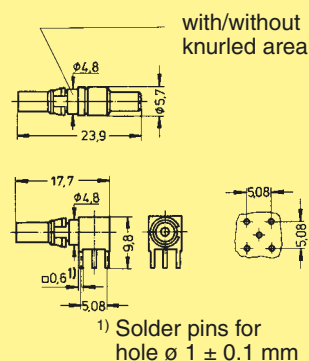
Female coaxial contacts for male connectors

- ④ for straight solder and/or crimp termination
- ⑤ angled for pcb termination

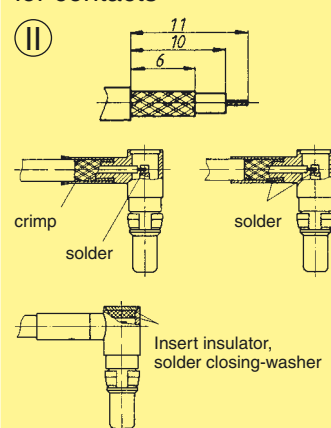
without knurled area
09 03 000 6260
09 03 000 6281*

with knurled area
09 03 000 6274

09 03 000 6262
09 03 000 6269*



for contacts ②



Crimping tool

for coaxial contacts

09 99 000 0194

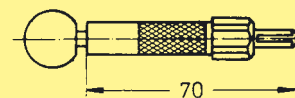
Removal tool incl. removal jacket

⑥ for contact replacement

09 99 000 0174

Replacement removal jacket

09 99 000 0243



Electrical characteristics of 50 Ω coaxial contacts and wires

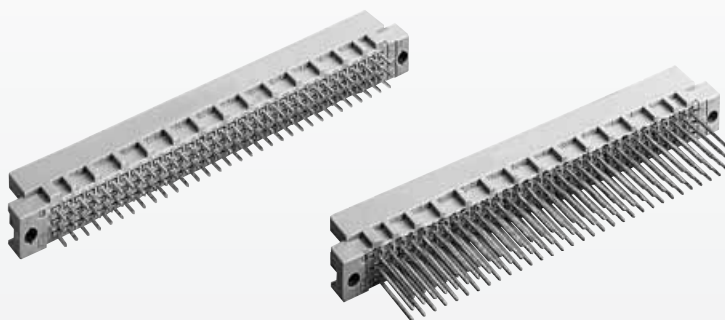
Impedance	50 Ω
Max. working frequency	2 up to 10 GHz
VSWR-value	$1.07 + 0.02 f$ [GHz]
Proof voltage	750 V / 50 Hz
Working voltage	250 V / 50 Hz
Insulation resistance	≥ 1 G Ω
Contact resistance	– Center contact – Outer contact
	10 m Ω 3 m Ω
Contact current max.	1.5 A
Admissible power (depends on: frequency,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

Cable group 2 flexible wires	Shell $\varnothing$	Screening $\varnothing$	Dielectric $\varnothing$	Internal wire $\varnothing$	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

* Coaxial contact 75 Ω
Fibre optic contacts on request

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 73 196 7902

09 73 196 6902
09 73 396 6902^{b)}

09 73 196 2902

64



09 73 164 7902

09 73 164 6902
09 73 364 6902^{b)}09 73 164 2902
09 73 364 2902^{b)}

Male connector with solder pins 4.0 mm

96



09 73 196 7903

09 73 196 6903
09 73 396 6903^{b)}
09 73 196 6953

09 73 196 2903

94 + 2[▲]

64



09 73 164 7903

09 73 164 6903
09 73 364 6903^{b)}

09 73 164 2903

Male connector with solder pins 13 mm

96



09 73 196 6577

09 73 196 2577

64



09 73 164 6577

Male connector with wrap posts 13 mm

96



09 73 196 7907

09 73 196 6907

09 73 196 2907

64



09 73 164 7907

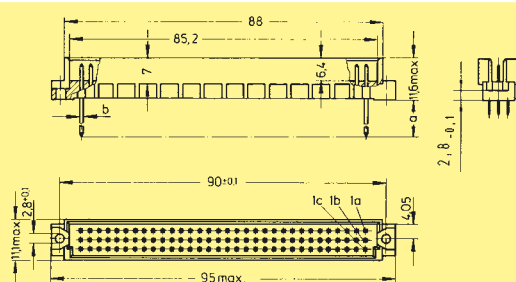
09 73 164 6907

09 73 164 2907

Male connector with press-in pins

Part Nos. and variants
see chapter 04

Dimensions



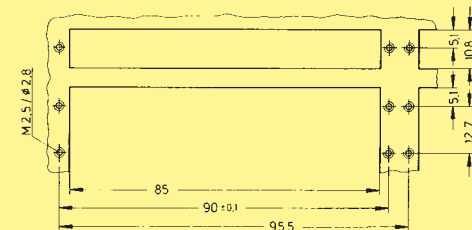
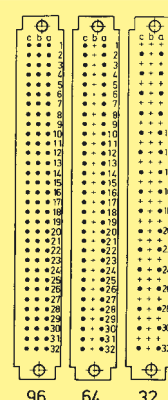
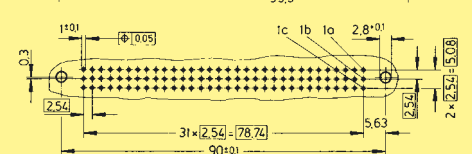
a	b
2.5	0.7
4	0.6
13	0.6

Solder pins

a	b
13	0.6

Wrap posts

Panel cut out

Board drillings
Mounting sideContact arrangement
View from termination side

Dimensions in mm

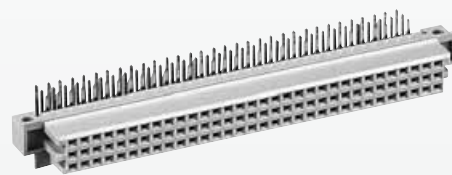
[▲] Male connectors with 2 leading contacts [(0.8 mm) pos. a1 and a32]

Other contact arrangements as well with lagging pins on request

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

Number of contacts

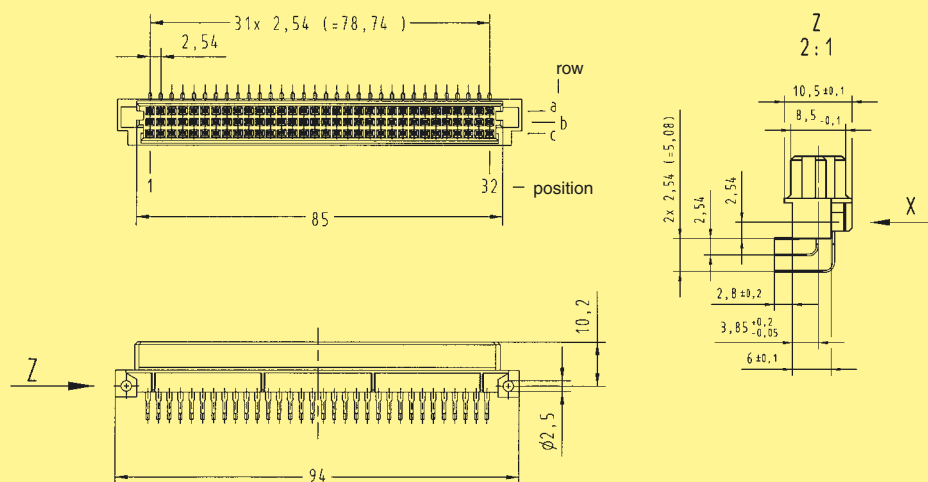
96, 64, 32



Female connectors

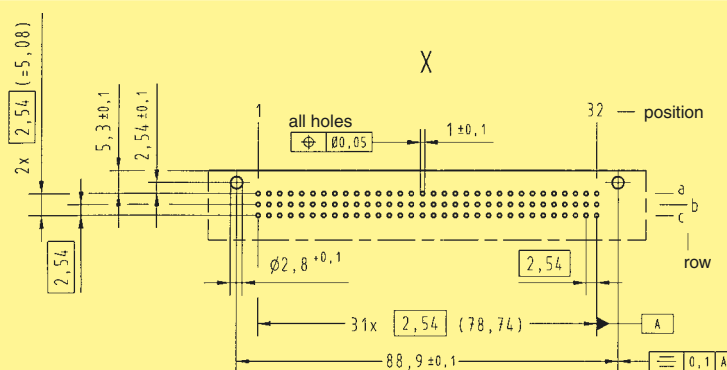
Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60 603-2. Explanation chapter 00	
			3	2	1
Female connector with angled solder pins	96		09 73 296 7801 09 73 496 7801 ^{b)}	09 73 296 6801 09 73 496 6801 ^{b)}	09 73 296 2801
	64		09 73 264 7801 09 73 464 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

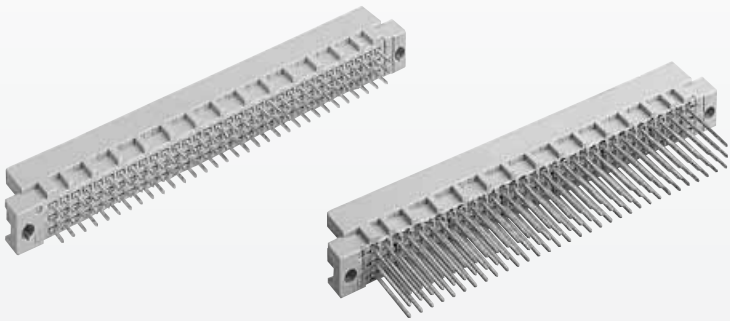
Mounting side



Dimensions in mm

Number of contacts

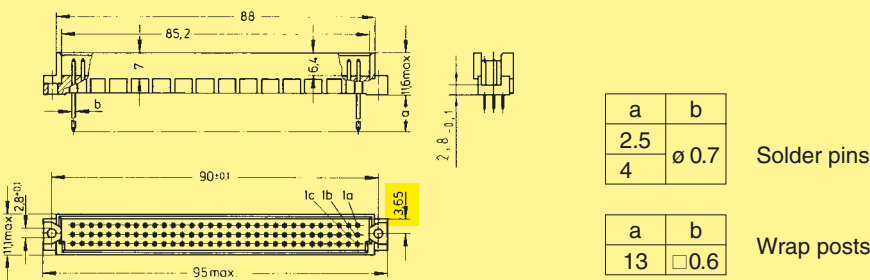
96, 64



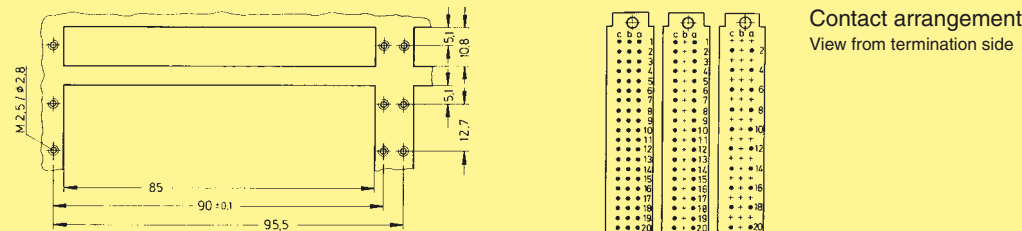
Male connectors

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		Performance level 3 on request	09 79 196 6902	Performance level 1 on request
Male connector with solder pins 4.0 mm	96			09 79 196 6903 09 79 396 6903 ^{b)}	
	64			09 79 164 6903 09 79 364 6903 ^{b)}	
Male connector with wrap posts 13 mm	96		Performance level 3 on request	09 79 196 6907	Performance level 1 on request
	64			09 79 164 6907	

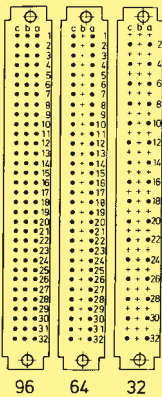
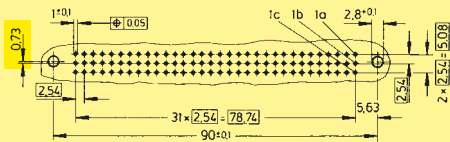
Dimensions



Panel cut out



Board drillings
Mounting side



Contact arrangement
View from termination side

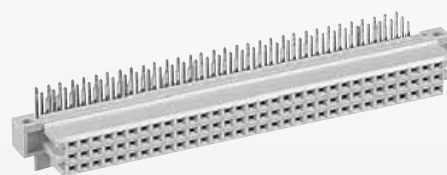
Dimensions in mm

Other contact arrangements on request

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

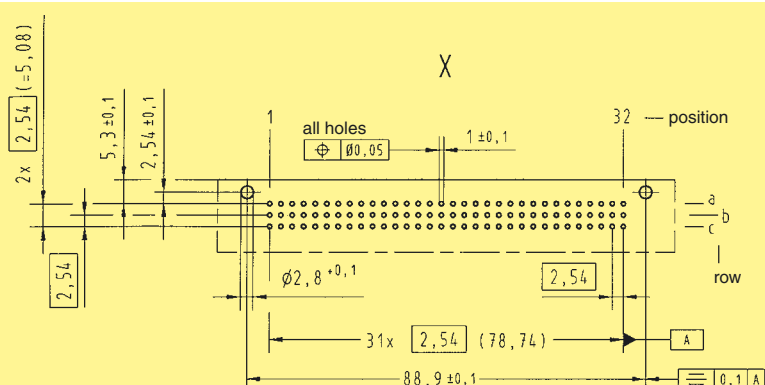
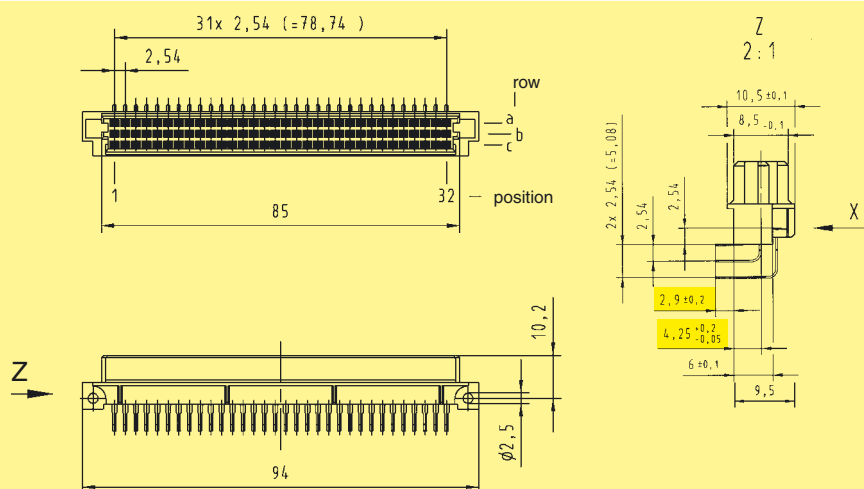
^{b)} Connectors with snap-in clips see chapter 00

96, 64



**DIN Signal
to 2 A**

1

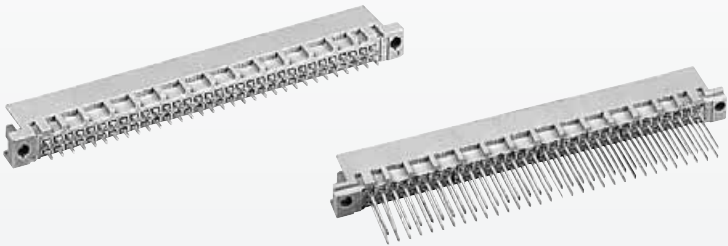
01
35

10

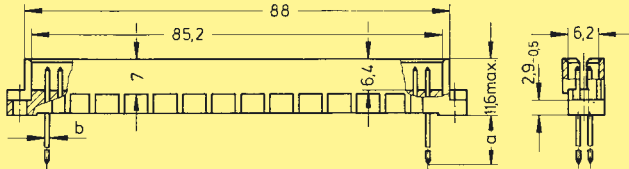
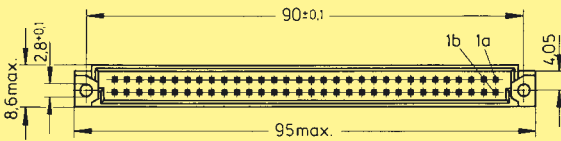
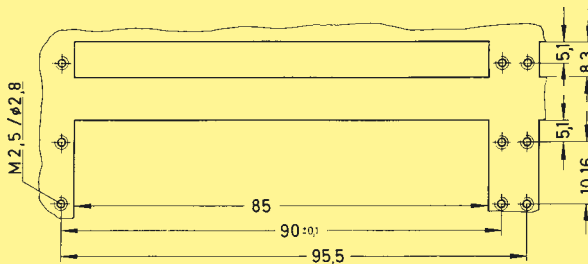
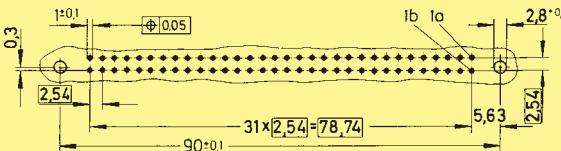
b) Connectors with snap-in clips see chapter 00

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 13 mm	64		09 72 164 7907	09 72 164 6907														
Male connector with wrap posts 17 mm	64			09 72 164 6909														
Male connector with press-in pins	Part Nos. and variants see chapter 04																	
Dimensions	<table><tr><td>a</td><td>b</td></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> <table><tr><td>a</td><td>b</td></tr><tr><td>13</td><td>□ 0.6</td></tr><tr><td>17</td><td>ø 0.7</td></tr></table>					a	b	2.5	ø 0.7	4	13	□ 0.6	a	b	13	□ 0.6	17	ø 0.7
a	b																	
2.5	ø 0.7																	
4																		
13	□ 0.6																	
a	b																	
13	□ 0.6																	
17	ø 0.7																	
Panel cut out																		
Board drillings Mounting side																		

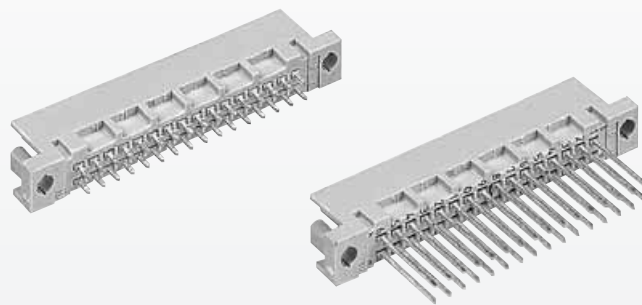
Dimensions in mm

Dimensions in mm

Other contact arrangements as well with lagging/leading pins on request
^{b)} Connectors with snap-in clips see chapter 00

Number of contacts

32



Male connectors

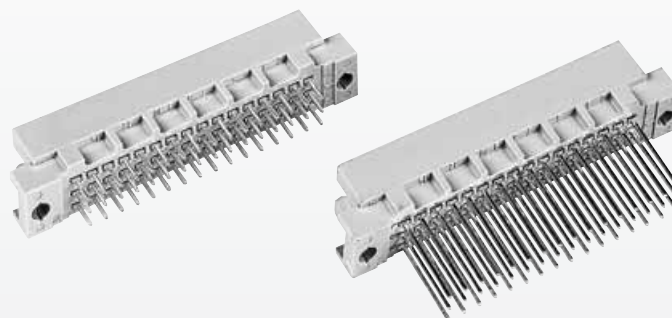
Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60 603-2. Explanation chapter 00												
			3	2	1											
Male connector with solder pins 2.5 mm	32		09 27 132 7902	09 27 132 6902	Performance level 1 on request											
Male connector with solder 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 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	<table><tr><td>a</td><td>b</td></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><td>a</td><td>b</td></tr><tr><td>13</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
a	b															
2.5	ø 0.7															
4																
13	□ 0.6															
a	b															
13	□ 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

48, 32



**DIN Signal
to 2 A**

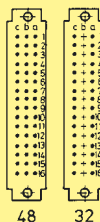
**DIN Signal
to 2 A**

Part Nos. and variants
see chapter 04

Solder pins

Wrap posts

Contact arrangement
View from termination side



Technical drawing of a mechanical part with dimensions and tolerances:

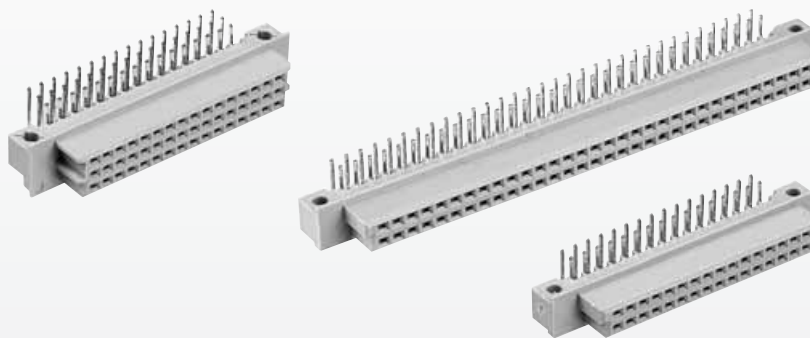
- Overall length: 50 ± 0.1
- Overall width: 28 ± 0.1
- Top surface width: 1 ± 0.1
- Top surface width (inner): $\phi 0.05$
- Top surface width (inner): $1c$, $1b$, $1a$
- Top surface width (inner): 2.54
- Top surface width (inner): $15 \times 2.54 = 38.1$
- Top surface width (inner): 5.95
- Top surface width (inner): 2.54
- Top surface width (inner): $2 \times 2.54 = 5.08$
- Top surface width (inner): 0.3

01
38

b) Connectors with snap-in clips see chapter 00

Number of contacts

64, 48, 32



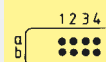
Female connectors

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

Female connector with angled solder pins

Type Q

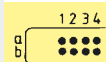
64



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

Type 2Q

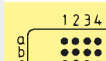
32



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

Type 2R

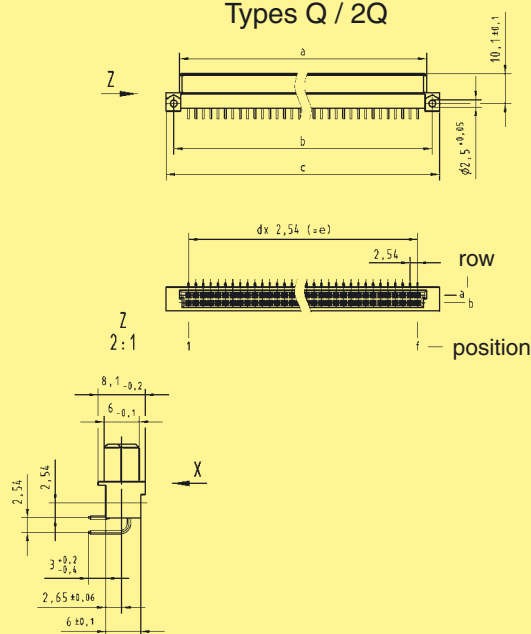
48



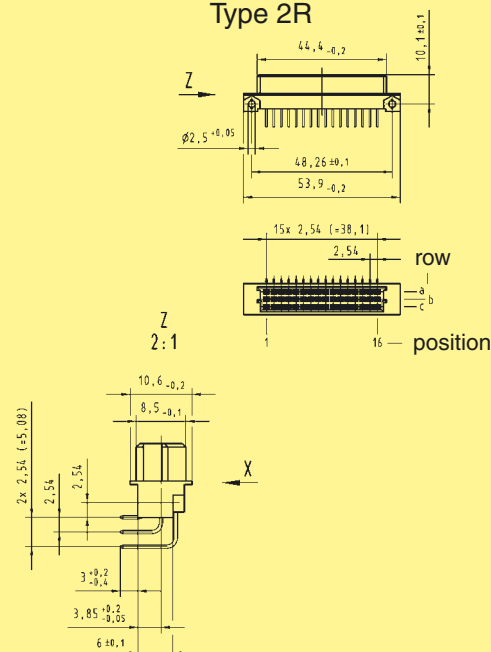
09 28 248 6801
09 28 448 6801^{c)}

Dimensions

Types Q / 2Q



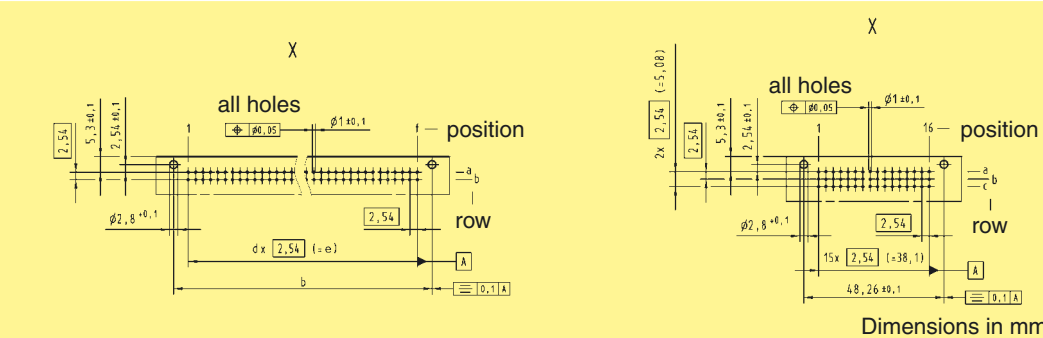
Type 2R



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



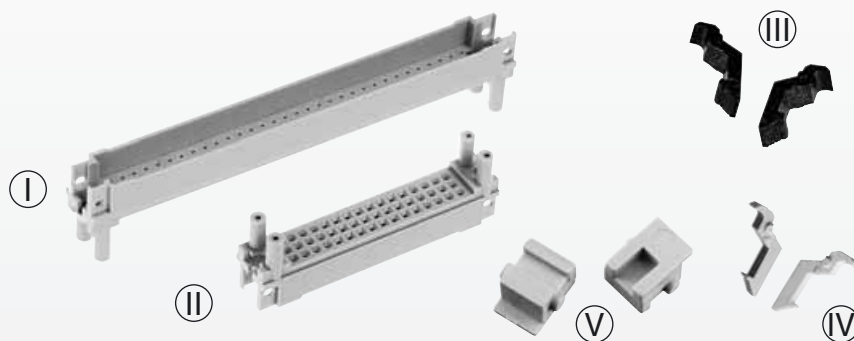
Dimensions in mm

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	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

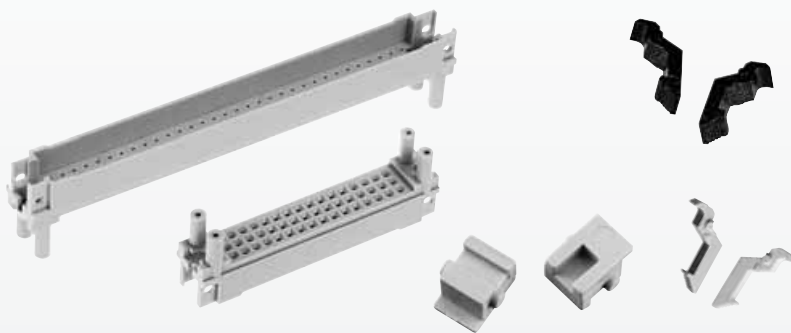
Pin shroud



Number of contacts

96, 48

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



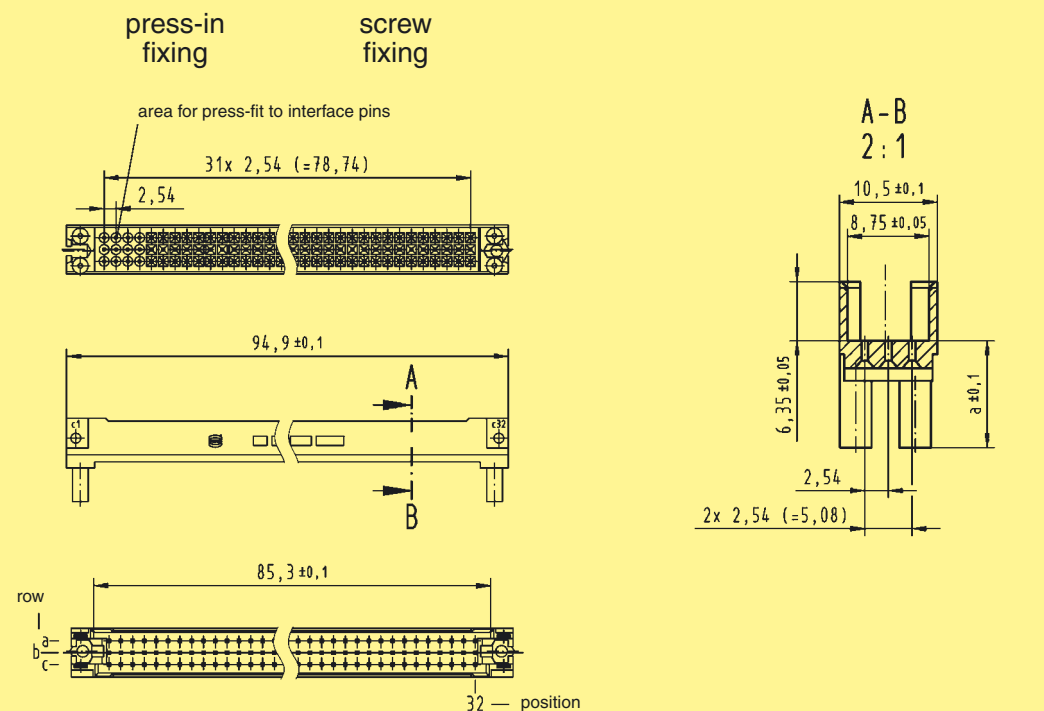
DIN Signal
to 2 A

Identification

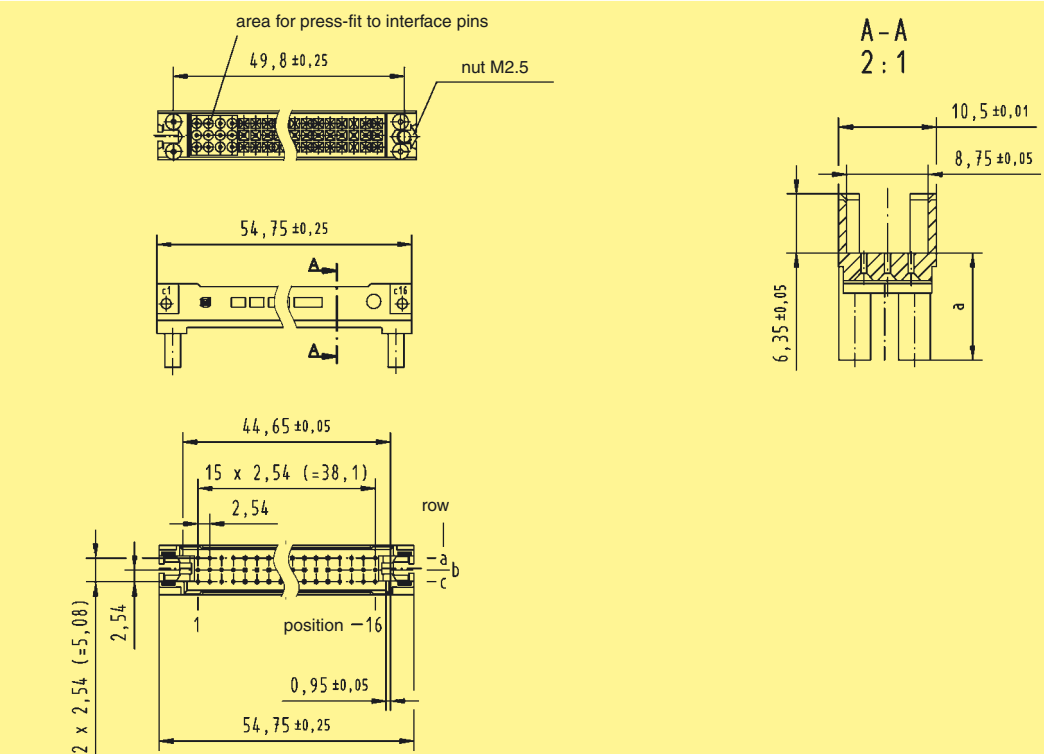
Drawing

Dimensions in mm

Pin shrouds
for female connectors
type C, R



Pin shrouds
for female connectors
type 2C, 2R



Application 1

Female connector
09 03 296 6861

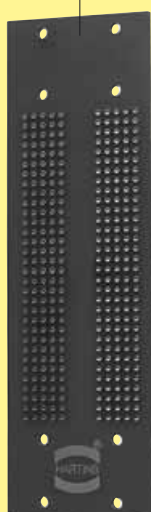
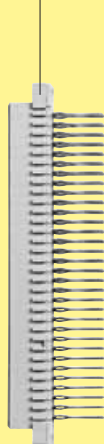
Backplane

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

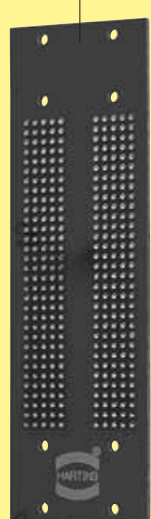
Backplane

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

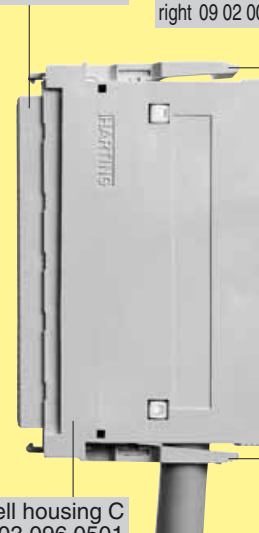
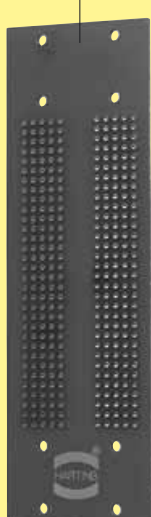
Backplane

Pin shroud
09 03 000 9957

Fixing brackets
09 03 000 9921

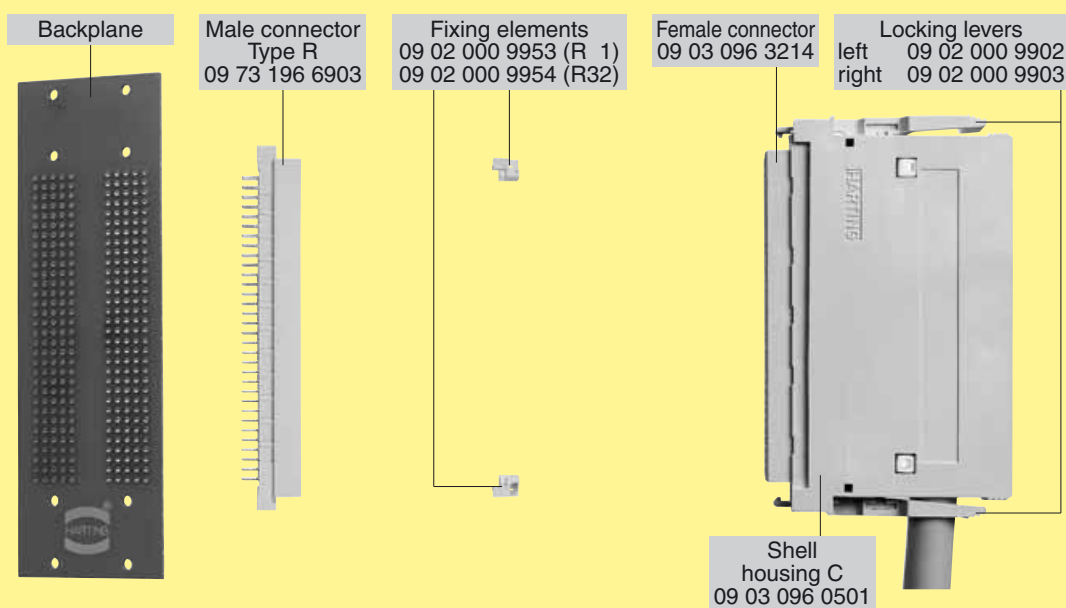
Female connector
09 03 096 3214

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



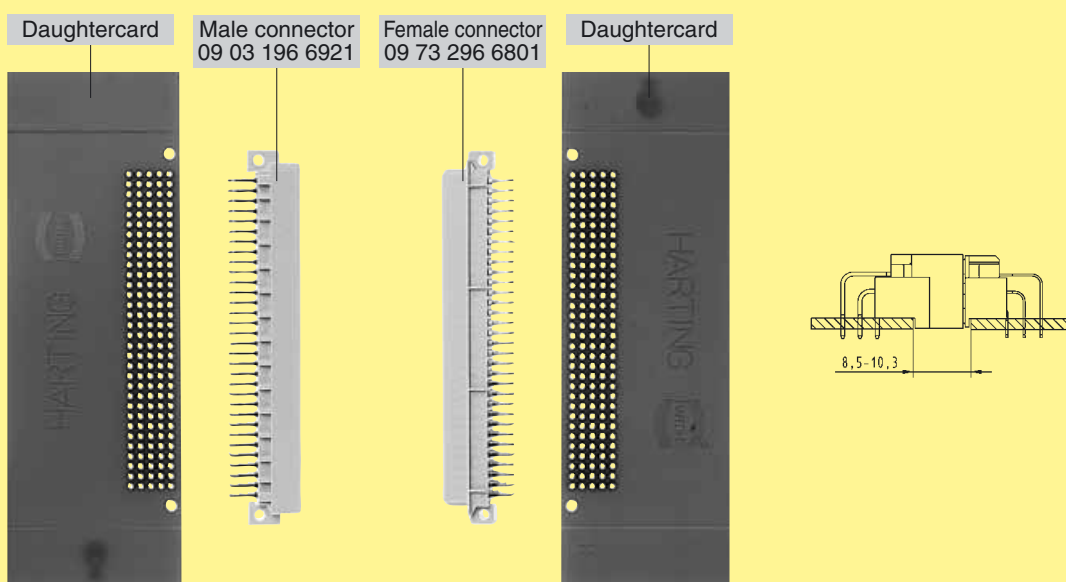
Shell housing C
09 03 096 0501

Application 4

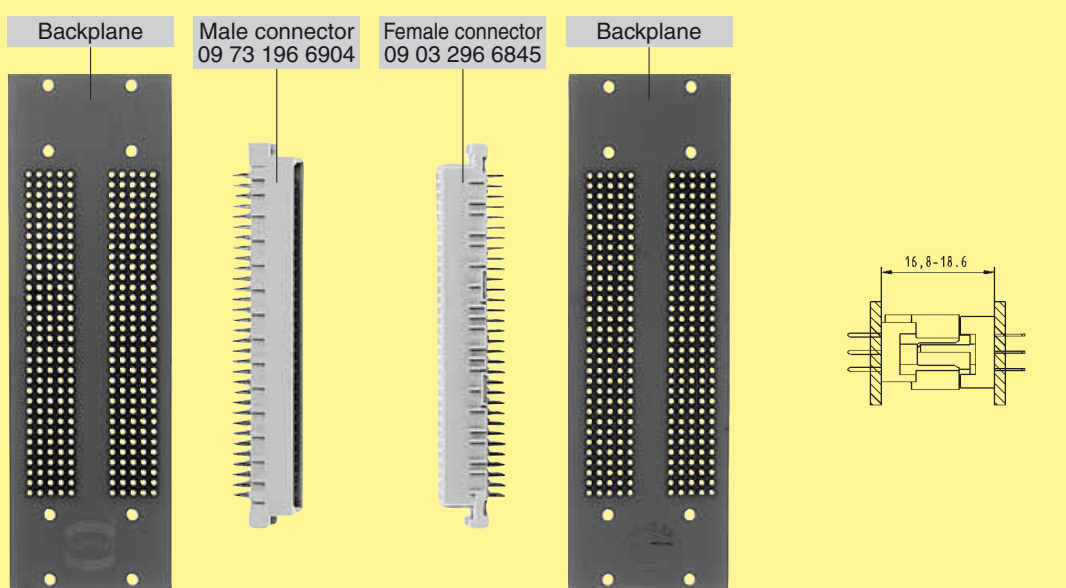


DIN Signal
to 2 A

Application 5*



Application 6*



* Position marking turned: a1 <=> a32, a2 <=> a31, ...

Identification	Part No.	Drawing	Dimensions in mm
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Coding system
without contact loss

Male and
female
connectors

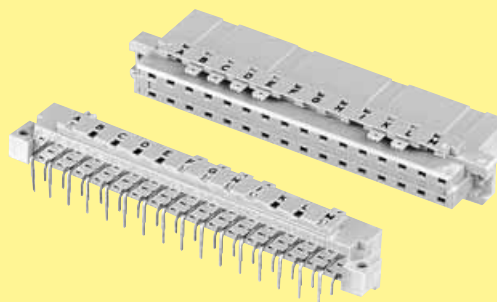
Types
B, C, D and E

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.

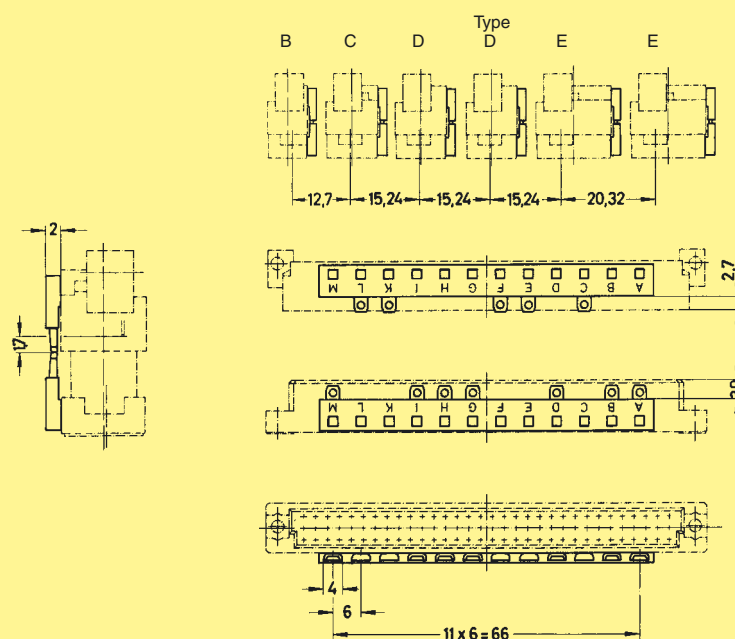


Coding pins

12 pins
on a comb

09 02 000 9928

Mounting example



Coding system
with 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.

