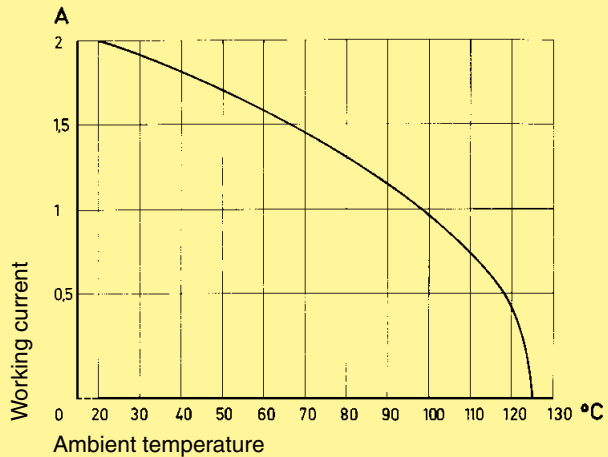


Number of contacts	16-96
Contact spacing (mm)	2.54
Working current see current carrying capacity chart	2 A max. 1 A with insulation displacement 40 A max. type M
Clearance	≥ 1.2 mm
Creepage	≥ 1.2 mm
Working voltage	according to the safety regulations of the equipment Explanations see chapter 00
The working voltage also depends on the clearance and creepage dimensions of the pcb itself, and the associated wiring	
Test voltage $U_{r.m.s.}$	1 kV
Contact resistance	≤ 20 mΩ
Insulation resistance	≥ 10 <sup>12</sup> Ω for standard articles ≥ 10 <sup>11</sup> Ω for special NFF articles (with part-no. ending 222)
Temperature range	- 55 °C ... + 125 °C - 40 °C ... + 105 °C for press-in connector
The higher temperature limit includes the local ambient and heating effects of the contacts under load	
During reflow soldering	max. + 240 °C for 15 s for SMC connectors
Degree of protection for crimp terminal	IP 20 according to DIN 40 050
Electrical termination	
Male and female 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 Crimp terminal 0.09-0.5 mm <sup>2</sup> Insulation displacement connection AWG 28/7
Compliant press-in terminations	
PCB thickness	≥ 1.6 mm
Recommended PCB holes for press-in technology	See recommendation page 00.25 in acc. to EN 60 352-5
Insertion and withdrawal force	16way ≤ 15 N 20way ≤ 20 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 <sup>1)</sup>
<sup>1)</sup> 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 male and 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 (screw fixing) or can be pressed onto the pins (press-in fixing).

After assembly the rear ends of the wire wrap posts become the mating areas of a 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

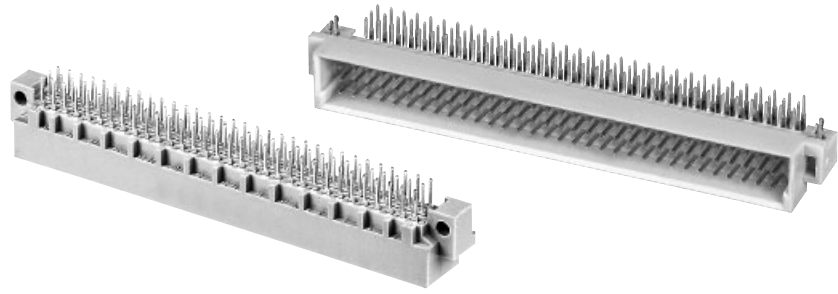
The locking levers provide security for the mated connectors. Fast and simple disconnection is possible (see application examples, pages 01.64 ff).

## Fitting and removing crimp contacts

see technical characteristics chapter 03

Number of contacts

96, 64, 32



Male connectors

DIN Signal  
up to 2 A

Identification	Number of contacts	Contact arrangement	Part No. Performance levels according to IEC 60603-2. Explanation chapter 00			
			3	2	1	
Male connector with angled solder pins	96		09 03 196 7921	09 03 196 6921	09 03 196 2921	
			09 03 396 7921 <sup>b)</sup>	09 03 196 6921 222 <sup>f)</sup> 09 03 396 6921 <sup>b)</sup> 09 03 696 6921 <sup>c)</sup> 09 03 696 6921 222 <sup>c)f)</sup> 09 03 896 6921 <sup>b)c)</sup>	09 03 196 2921 222 <sup>f)</sup> 09 03 396 2921 <sup>b)</sup> 09 03 696 2921 <sup>c)</sup>	
	SMC	96			09 03 196 6919 <sup>d)</sup> 09 03 396 6919 <sup>b)d)</sup> 09 03 696 6919 <sup>c)d)</sup>	09 03 196 2919 <sup>d)</sup> 09 03 396 2919 <sup>b)d)</sup>
				64		09 03 164 7921
	09 03 364 7921 <sup>b)</sup>	09 03 164 6921 222 <sup>f)</sup> 09 03 364 6921 <sup>b)</sup> 09 03 664 6921 <sup>c)</sup> 09 03 864 6921 <sup>b)c)</sup>	09 03 164 2921 222 <sup>f)</sup> 09 03 364 2921 <sup>b)</sup> 09 03 664 2921 <sup>c)</sup>			
	SMC	64			09 03 164 6919 <sup>d)</sup> 09 03 364 6919 <sup>b)d)</sup>	09 03 164 2919 <sup>d)</sup>
				32		09 03 132 7921
	09 03 332 7921 <sup>b)</sup>	09 03 332 6921 <sup>b)</sup> 09 03 632 6921 <sup>c)</sup>	09 03 332 2921 <sup>b)</sup>			
	SMC	94 + 2 <sup>▲</sup>		09 03 196 7951	09 03 196 6951 09 03 396 6951 <sup>b)</sup> 09 03 696 6951 <sup>c)</sup>	09 03 196 2951
		94 + 2 <sup>▲</sup>			09 03 396 6918 <sup>b)d)</sup>	
62 + 2 <sup>▲</sup>			09 03 164 7951 09 03 364 7951 <sup>b)</sup>	09 03 164 6951 09 03 364 6951 <sup>b)</sup> 09 03 664 6951 <sup>c)</sup>	09 03 164 2951	
62 + 2 <sup>▲</sup>				09 03 164 6918 <sup>d)</sup>		
Male connector with straight solder pins	96		09 03 196 7922	09 03 196 6922	09 03 196 2922	
	SMC	96		09 03 196 6920 <sup>d)</sup>		
		64		09 03 164 7922	09 03 164 6922	09 03 164 2922

<sup>▲</sup> Male connectors with 2 leading contacts [(0.8 mm) pos. a1 and a32]. Lagging pins on request.

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

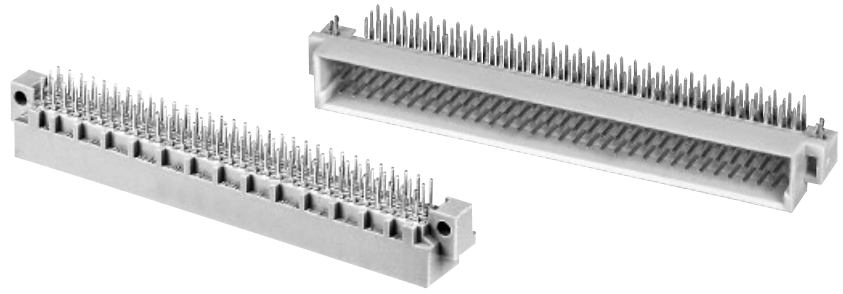
<sup>c)</sup> Connectors with coding see chapter 00

<sup>d)</sup> CTI > 400

<sup>f)</sup> Railway classification NFF 16-101, Smoke index: F1, Flammability class: I2

Number of contacts

96, 64, 32



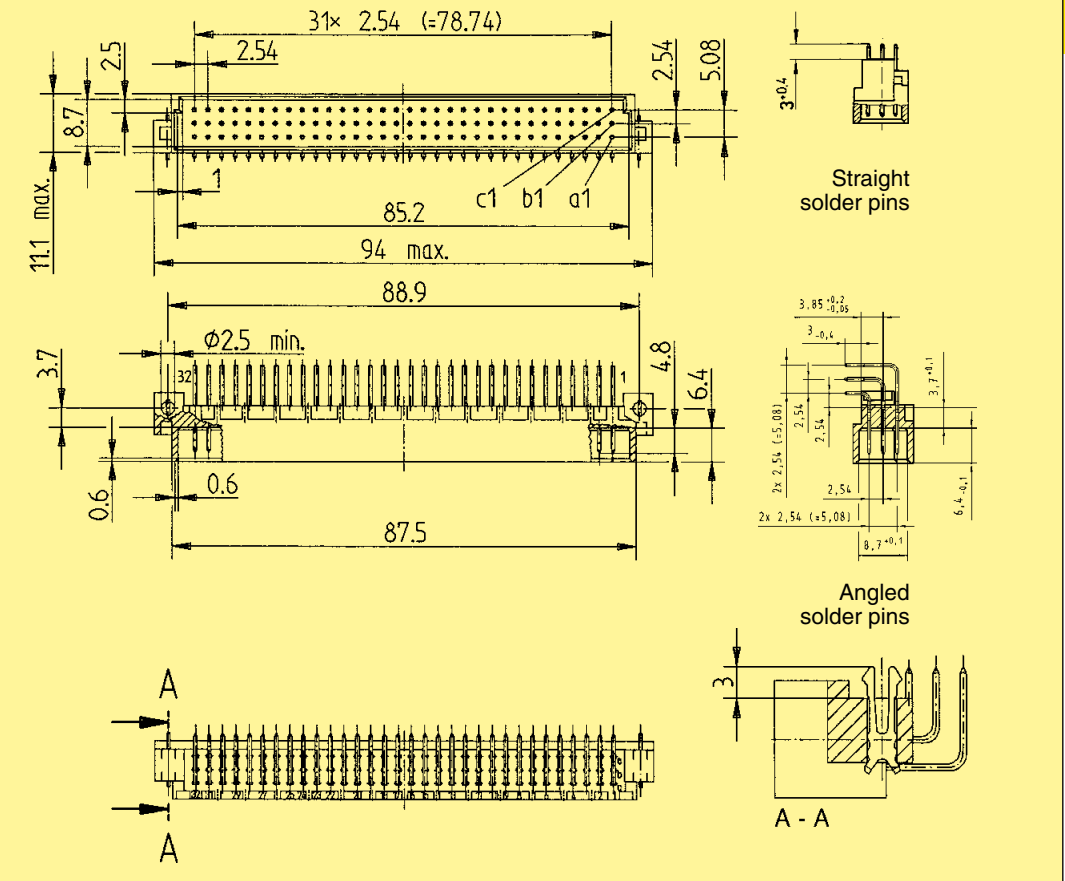
Male connectors

Identification

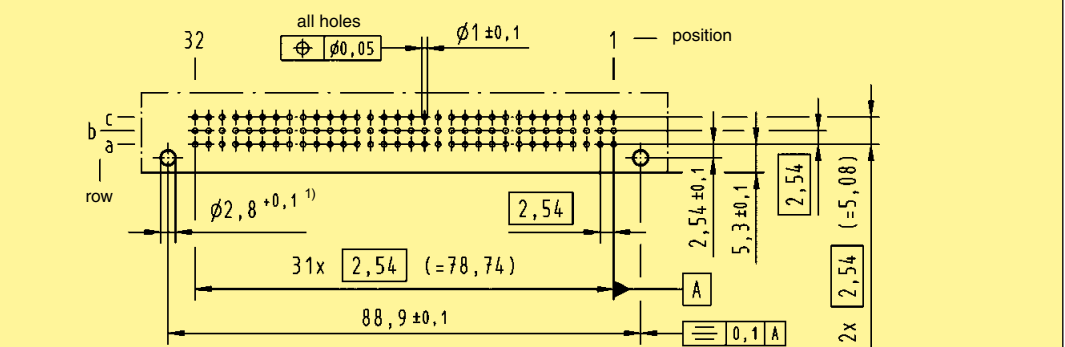
Drawing

Dimensions in mm

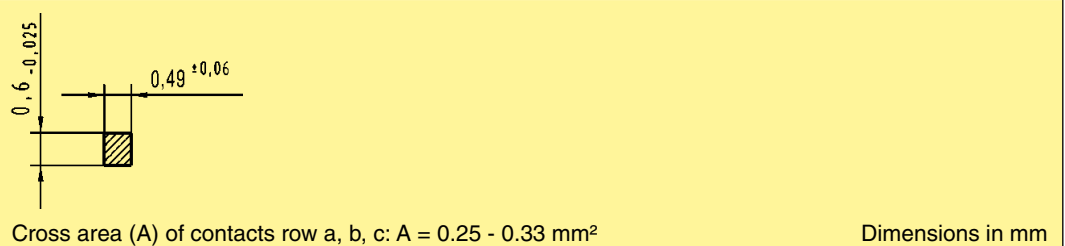
Dimensions



Board drillings  
Mounting side



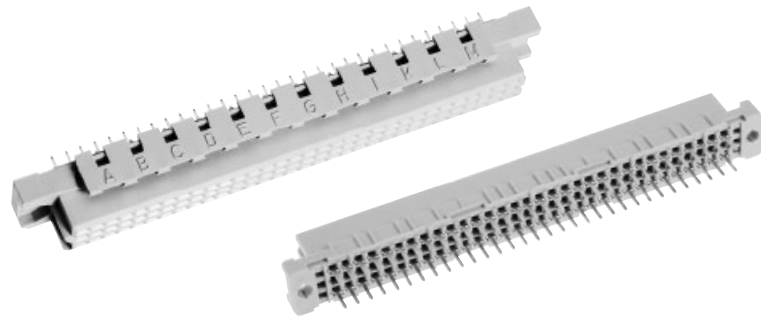
Cross section of solder terminations



<sup>1)</sup> Recommendation for variants with clip: Drillings can be enlarged up to 3.1 mm  $\phi$  to reduce standard mounting force

Number of contacts

96, 64, 32



Female connectors

DIN Signal up to 2 A

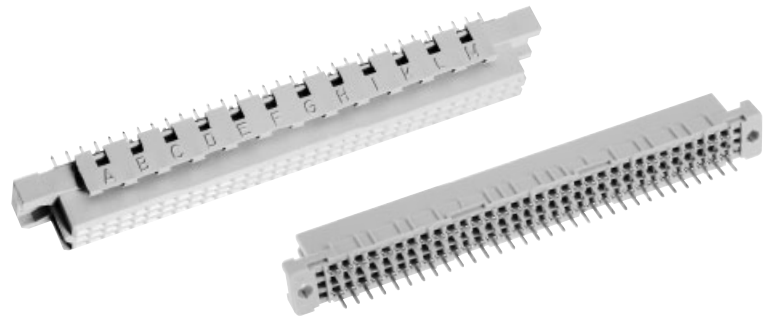
Identification	Number of contacts	Contact arrangement	Part No. Performance levels according to IEC 60603-2. Explanation chapter 00		
			3	2	1
Female connector with solder pins 2.9 mm	96		09 03 296 7824	09 03 296 6824 09 03 296 6824 222 <sup>f)</sup> 09 03 496 6824 <sup>b)</sup> 09 03 796 6824 <sup>c)</sup>	09 03 296 2824 09 03 296 2824 222 <sup>f)</sup> 09 03 496 2824 <sup>b)</sup>
				09 03 296 6841 <sup>d)</sup>	
	64		09 03 264 7824 09 03 464 7824 <sup>b)</sup>	09 03 264 6824 09 03 264 6824 222 <sup>f)</sup> 09 03 464 6824 <sup>b)</sup> 09 03 764 6824 <sup>c)</sup>	09 03 264 2824 09 03 264 2824 222 <sup>f)</sup> 09 03 464 2824 <sup>b)</sup>
				09 03 264 6841 <sup>d)</sup>	
32		09 03 232 7824	09 03 232 6824 09 03 432 6824 <sup>b)</sup>	09 03 232 2824 09 03 432 2824 <sup>b)</sup>	
Female connector with kinked solder pins <sup>1)</sup> 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	
	32		09 03 232 7855	09 03 232 6855	09 03 232 2855
Female connector with solder pins 4.5 mm	96		09 03 296 7825 09 03 496 7825 <sup>b)</sup>	09 03 296 6825 09 03 296 6825 222 <sup>f)</sup> 09 03 496 6825 <sup>b)</sup> 09 03 796 6825 <sup>c)</sup> 09 03 796 6825 222 <sup>c)f)</sup>	09 03 296 2825 09 03 296 2825 222 <sup>f)</sup> 09 03 496 2825 <sup>b)</sup> 09 03 496 2825 222 <sup>b)f)</sup> 09 03 796 2825 <sup>c)</sup>
				09 03 296 6829 <sup>d)</sup>	
	64		09 03 264 7825 09 03 464 7825 <sup>b)</sup>	09 03 264 6825 09 03 464 6825 <sup>b)</sup> 09 03 764 6825 <sup>c)</sup>	09 03 264 2825 09 03 464 2825 <sup>b)</sup> 09 03 764 2825 <sup>c)</sup>
				09 03 264 6829 <sup>d)</sup>	
	32		09 03 232 7825	09 03 232 6825 09 03 432 6825 <sup>b)</sup>	09 03 232 2825
Female connector with kinked solder pins <sup>1)</sup> 4.5 mm	96		09 03 296 7845	09 03 296 6845 09 03 296 6845 222 <sup>f)</sup>	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
Female connector with solder pins 13 mm	96			09 03 296 6421 09 03 796 6421 <sup>c)</sup>	
	64			09 03 264 6421 09 03 764 6421 <sup>c)</sup>	
	32			09 03 232 6421 09 03 732 6421 <sup>c)</sup>	

<sup>1)</sup> Kinked pins for fixing the connector onto the pcb see chapter 00  
<sup>b)</sup> Connectors with snap-in clips see chapter 00  
<sup>c)</sup> Connectors with coding see chapter 00

<sup>d)</sup> CTI > 400  
<sup>f)</sup> Railway classification NFF 16-101, Smoke index: F1, Flammability class: I2

Number of contacts

96, 64, 32



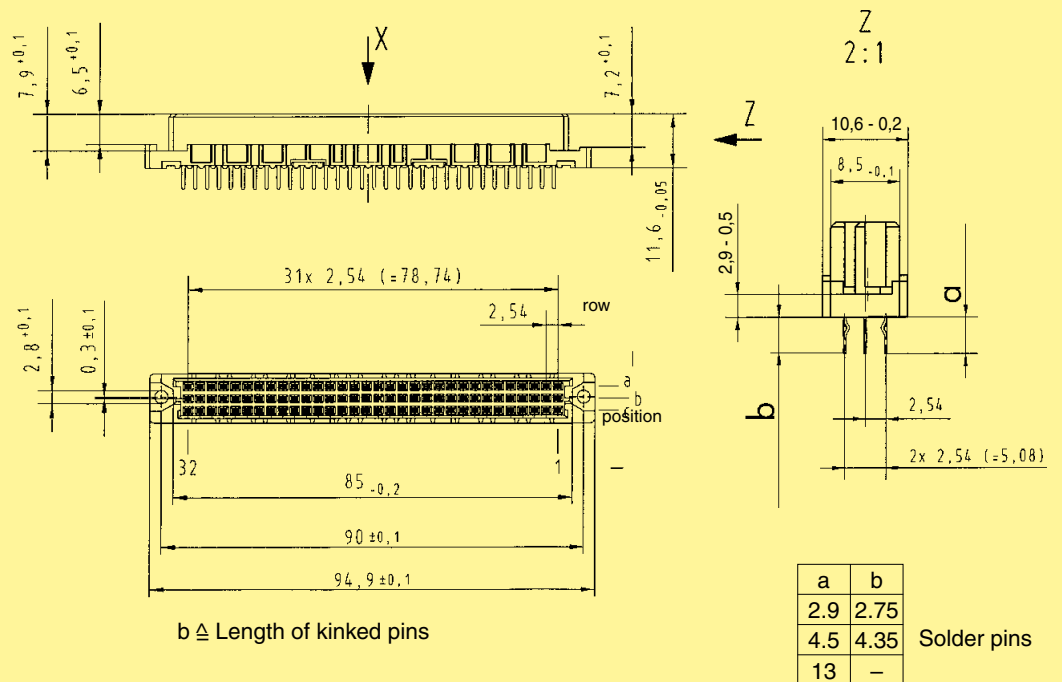
Female connectors

Identification

Drawing

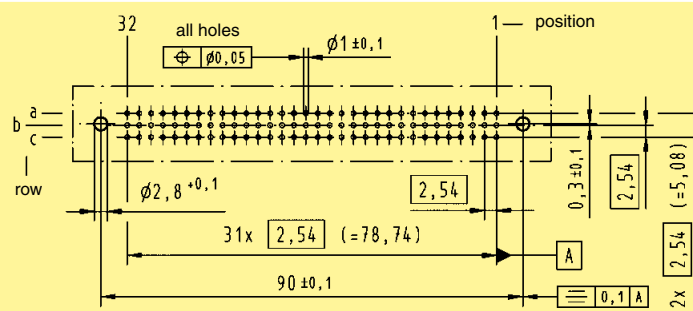
Dimensions in mm

Dimensions

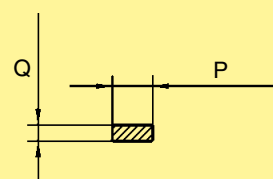


Board drillings

Mounting side



Cross section of solder terminations



Cross area (A) of contacts

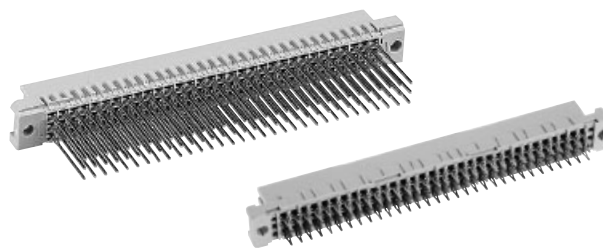
a	P	Q	A
2.9	0.75 <sub>-0.05</sub>	0.30 <sub>±0.01</sub>	0.20 - 0.23 mm <sup>2</sup>
4.5	0.75 <sub>-0.05</sub>	0.30 <sub>±0.01</sub>	0.20 - 0.23 mm <sup>2</sup>
13	0.60 <sub>-0.02</sub>	0.60 <sub>-0.02</sub>	0.33 - 0.38 mm <sup>2</sup>

Dimensions in mm

DIN Signal  
up to 2 A

Number of contacts

# 96, 64, 32

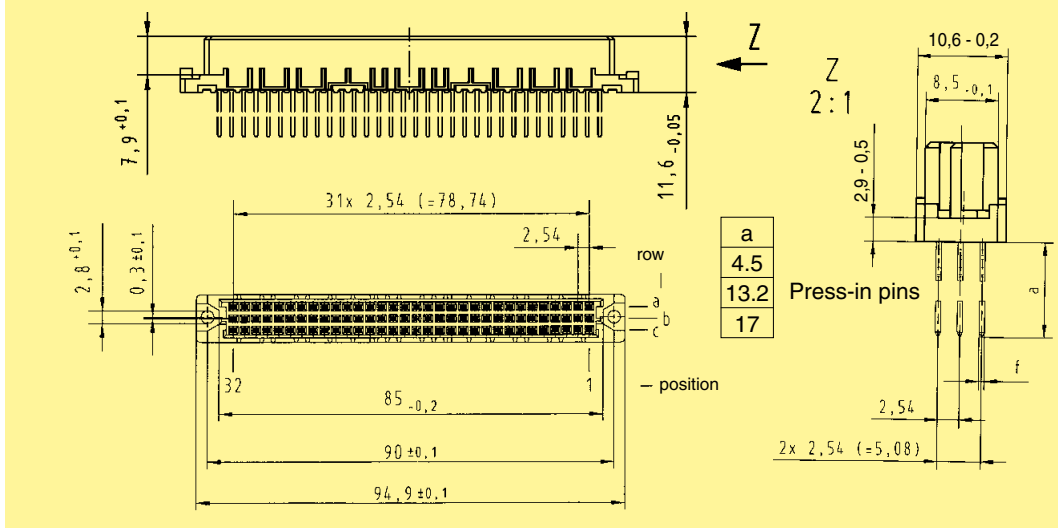


Female connectors

DIN Signal up to 2 A

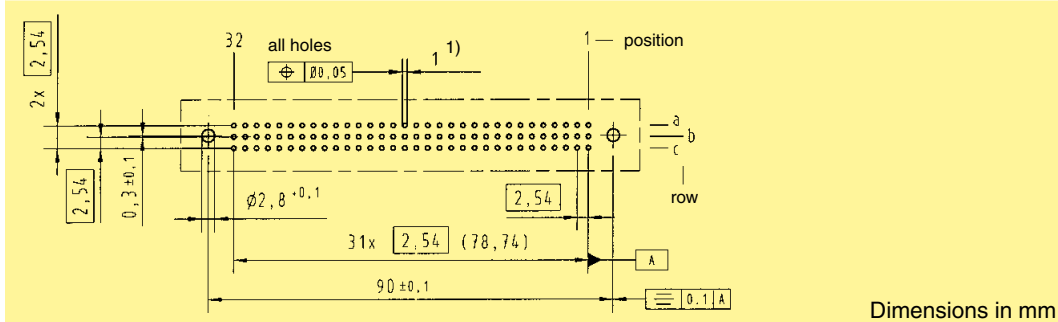
Identification	Number of contacts	Contact arrangement	Part No. Performance levels according to IEC 60 603-2. Explanation chapter 00		
			3	2	1
Female connector Type C with press-in terminations	4.5 mm		09 03 296 7850	09 03 296 6850 09 03 296 6850 222 <sup>f)</sup> 09 03 796 6850 <sup>c)</sup> 09 03 796 6850 222 <sup>c)f)</sup>	09 03 296 2850 09 03 296 2850 222 <sup>f)</sup>
			09 03 264 7850	09 03 264 6850 09 03 264 6850 222 <sup>f)</sup> 09 03 764 6850 <sup>c)</sup>	09 03 264 2850
				09 03 232 6850	09 03 232 2850
	13.2 mm			09 03 296 6851 <sup>w)</sup> 09 03 296 6861* 09 03 796 6861 <sup>c)</sup>	09 03 296 2861*
				09 03 264 6851 <sup>w)</sup> 09 03 264 6861*	
	17 mm			09 03 296 6852 <sup>w)</sup> 09 03 296 6862* 09 03 796 6862 <sup>c)</sup>	09 03 296 2852
				09 03 264 6852 09 03 264 6862*	

### Dimensions



### Board drillings

Mounting side



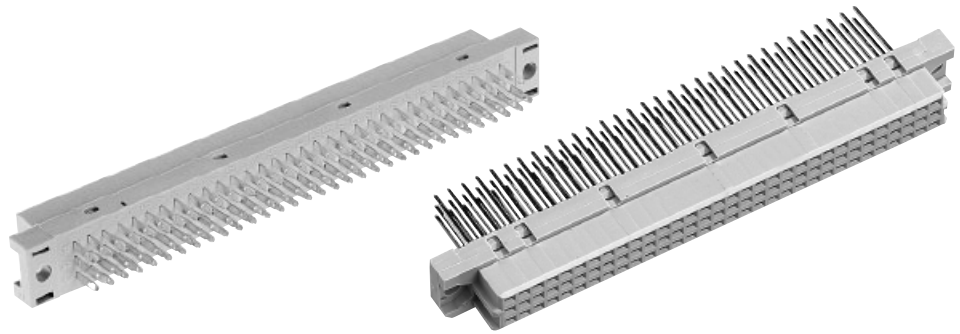
Dimensions in mm

\* Wrap posts for interfacing selectively gold plated (performance level 3)  
<sup>1)</sup> refer to recommended configuration of pcb holes, see page 00.25  
<sup>c)</sup> Connectors with coding see chapter 00

<sup>f)</sup> Railway classification NFF 16-101, Smoke index: F1, Flammability class: I2  
<sup>w)</sup> Wrap posts not for interfacing, no performance level

Number of contacts

# 96, 64

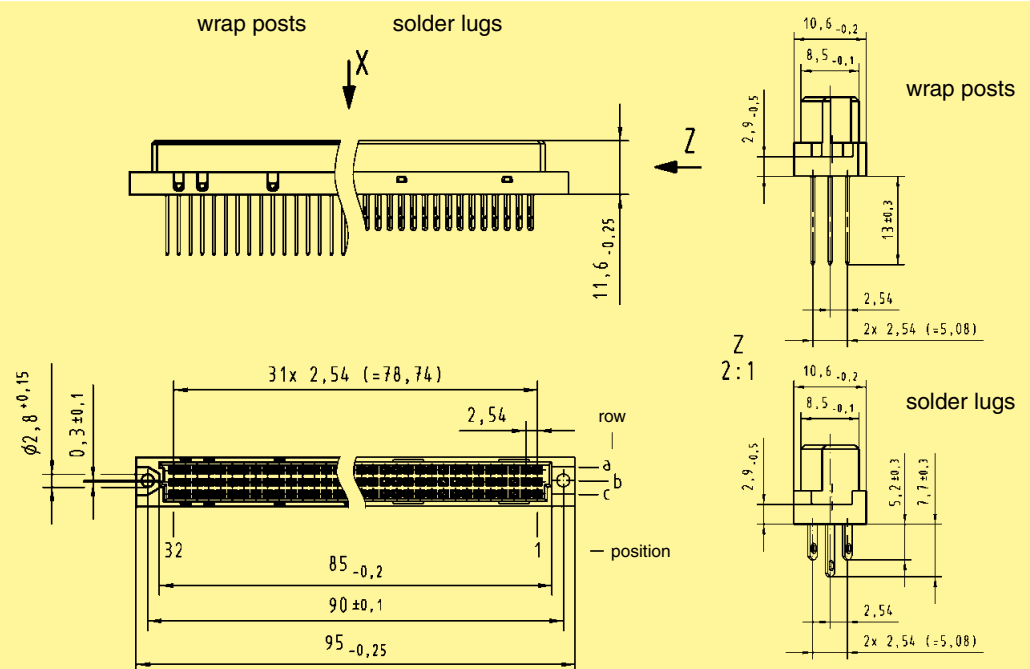


Female connectors

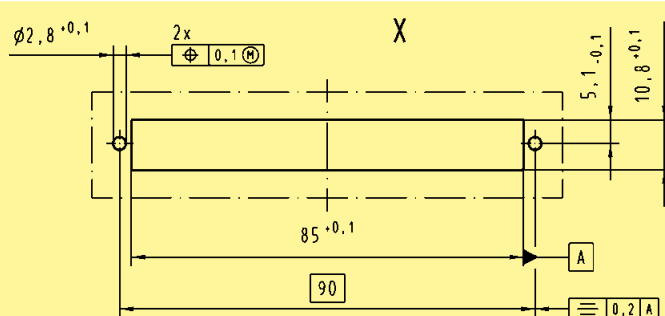
Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60603-2. Explanation chapter 00 2
Female connector with wrap posts <sup>2)</sup> 13 mm	96			09 03 296 6821 09 03 796 6821 <sup>c)</sup> 09 03 296 6878 <sup>1)</sup>
	64			09 03 264 6821 09 03 764 6821 <sup>c)</sup> 09 03 264 6878 <sup>1)</sup>
Female connector with solder lugs a + c 5.2 mm b 7.7 mm	96			09 03 296 6823 09 03 796 6823 <sup>c)</sup>
	64			09 03 264 6823 09 03 764 6823 <sup>c)</sup>

DIN Signal up to 2 A

## Dimensions



## Panel cut out



Identification strips for female connectors with wrap posts  
09 03 000 9939

Dimensions in mm

<sup>1)</sup> Wrap posts for interfacing, selectively gold-plated (performance level 3)  
<sup>2)</sup> To be used only for wire wrap termination. Solder versions see page 01.22  
<sup>c)</sup> Connectors with coding see chapter 00

Number of contacts

# 64



Female connectors

DIN Signal up to 2 A

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Female connector for insulation displacement	64	Performance level 2 <sup>1)</sup> 09 03 264 6828 09 03 764 6828 <sup>c)</sup>  Performance level 3 <sup>1)</sup> 09 03 264 7828		
Strain relief (metal)		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				<sup>2)</sup> Termination area spacing = 508 mm  <b>Important: always store reels vertically</b>  Wire (tinned) Cu Gauge AWG 28/7 0.089 mm <sup>2</sup> Insulation material as per UL style PVC
Round flat cable <sup>3)</sup>				<sup>3)</sup> 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		