

Types B, 2B, 3B, C, 2C, 3C, M, M invers, Q, 2Q, 3Q, R, 2R, 3R Page

Technical characteristics		01.10
Type B connectors		01.11
Type 2B connectors		01.16
Type 3B connectors		01.18
Type C connectors		01.20
Type 2C connectors		01.29
Type 3C connectors		01.34
Special contacts type M		01.38
Type M connectors		01.43
Type M-flat connectors		01.46
Type M invers connectors		01.48
Type Q, 2Q and 3Q connectors		01.52
Type R, RM, R (HE 11), 2R and 3R connectors		01.59
Pin shroud, adapter		01.72
Application examples		01.76

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 ¹² Ω for standard articles ≥ 10 ¹¹ 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 THR connectors

Degree of protection for crimp terminal IP20 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 ² 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
--------------------------------	--

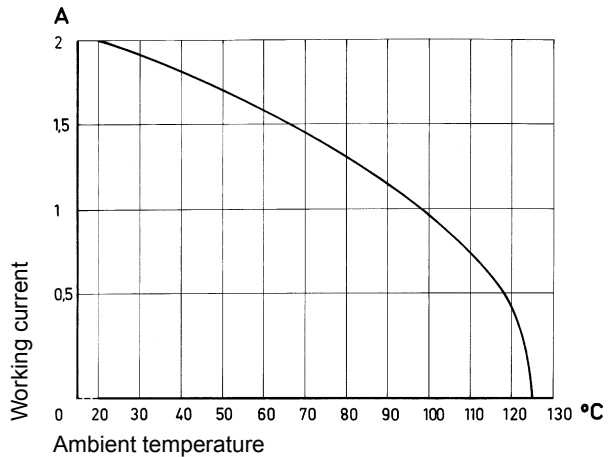
Materials	
Mouldings	Thermoplastic resin, glass-fibre filled, UL 94-V0
Contacts	Copper alloy
Contact surface	
Contact zone	Selectively plated according to performance level ¹⁾

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 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

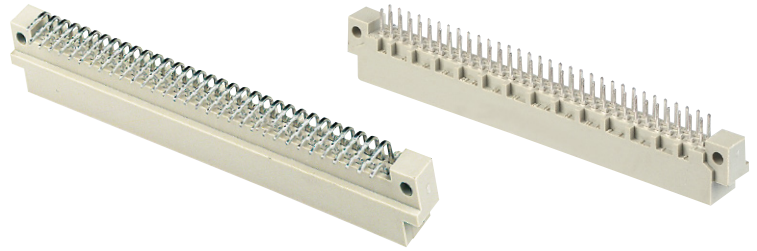
The locking levers provide security for the mated connectors. Fast and simple disconnection is possible (see application examples, pages 01.76 ff).

Fitting and removing crimp contacts

see technical characteristics chapter 03

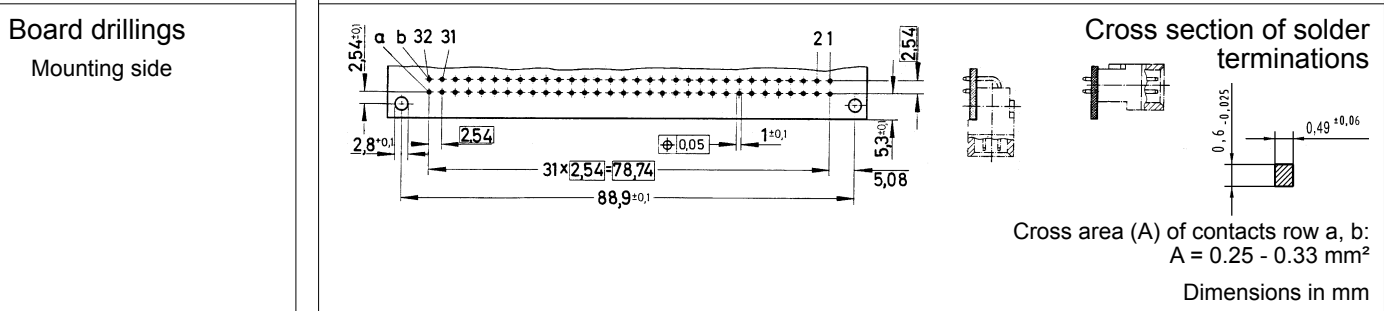
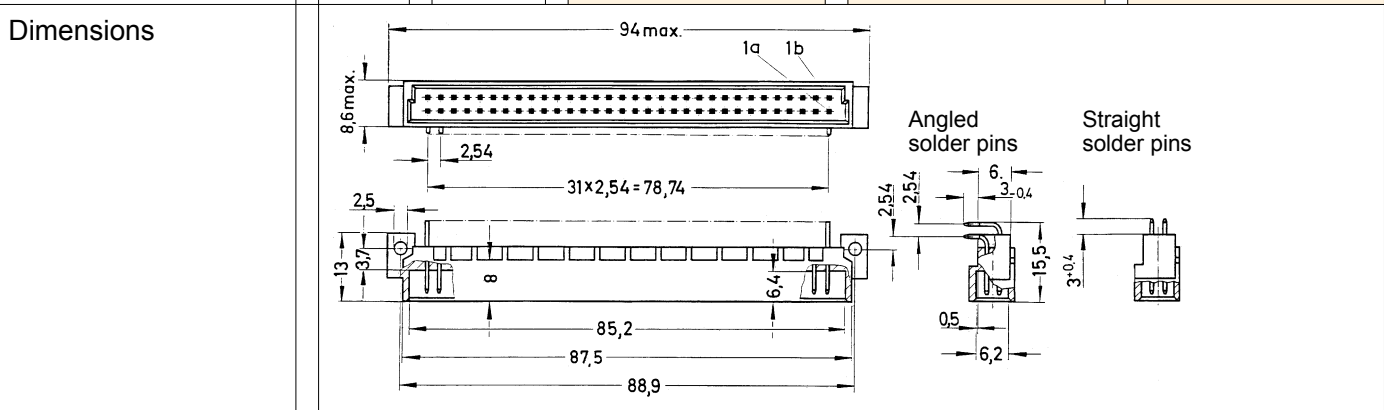
Number of contacts

64, 32



Male connectors

Identification	No. of contacts	Contact arrangement	Performance levels according to IEC 60603-2. Explanation chapter 00		
			3	2	1
Male connector with angled solder pins	64		09 02 164 7921	09 02 164 6921 09 02 164 6921 222 ^{f)} 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	09 02 164 2951
	THR	64		09 02 164 7919 ^{d)}	09 02 164 6919 ^{d)}
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
	THR	64			09 02 164 6920 ^{d)}

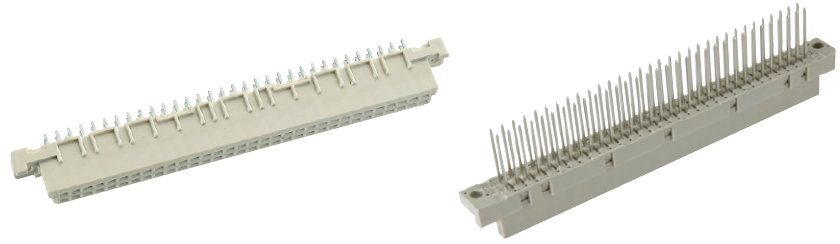


▲ Male connectors with 2 leading contacts [(0.8 mm) pos. a1 and a32]. Lagging pins on request.
Other contact arrangements on request
b) Connectors with snap-in clips see chapter 00

c) Connectors with coding see chapter 00
d) CTI > 400
f) Railway classification NFF 16-101, Smoke index: F1, Flammability class: I2

Number of contacts

64



Female connectors

DIN Signal
up to 2 A

Identification	No. of contacts	Contact arrangement	Part number 3	Performance levels according to IEC 60603-2. Explanation chapter 00	
				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)}	09 02 264 2824
	64			09 02 264 6841 ^{d)}	
Female connector with solder pins 4.5 mm	64			09 02 264 6825 09 02 264 6825 222 ^{f)} 09 02 464 6825 ^{b)} 09 02 764 6825 ^{c)}	09 02 264 2825
	64			09 02 264 6829 ^{d)}	
Female connector with solder pins 13 mm	64			09 02 264 6421	
Female connector with press-in pins 4.5 mm	64			09 02 264 6850 09 02 264 6850 222 ^{f)}	09 02 264 2850
Female connector with press-in pins 13 mm	64			09 02 264 6861 ^{a)}	
Female connector with wrap posts ¹⁾ 13 mm	64			09 02 264 6821	
Female connector with solder lugs 5.5 mm	64		09 02 264 6823		

01
12

1) To be used only for wire wrap termination

a) Contacts for rear interfacing selectively gold plated (performance level 3)

b) Connectors with snap-in clips see chapter 00

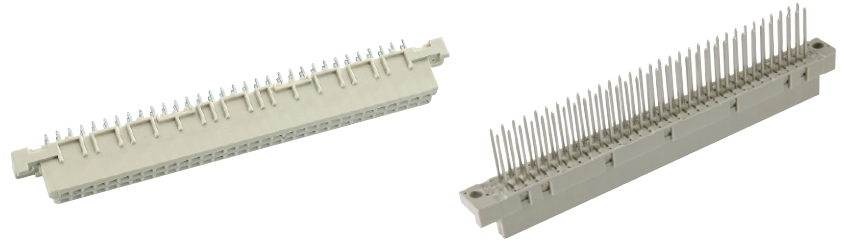
c) Connectors with coding see chapter 00

d) CTI > 400

f) Railway classification NFF 16-101, Smoke index: F1, Flammability class: I2
Other contact arrangements on request

Number of contacts

64



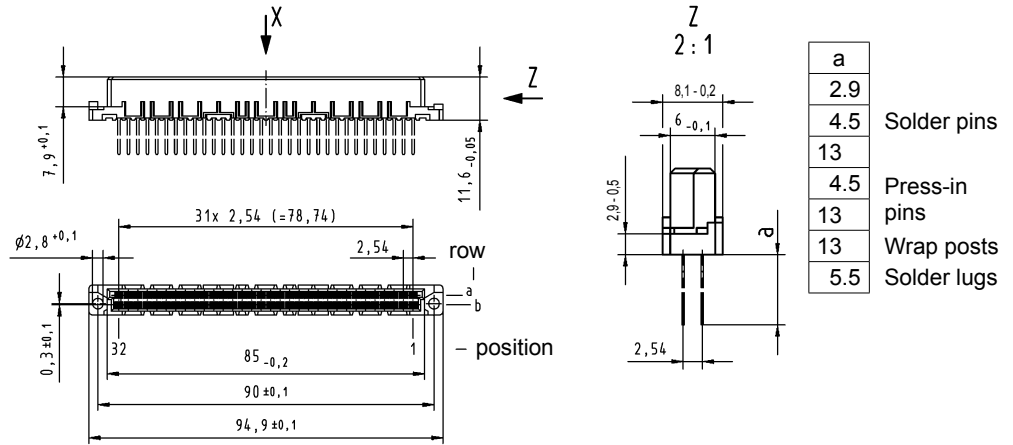
Female connectors

Identification

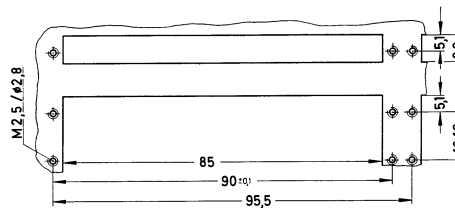
Drawing

Dimensions in mm

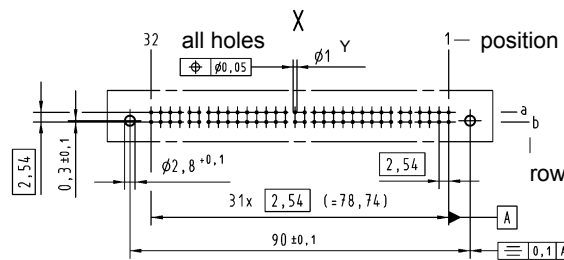
Dimensions



Panel cut out



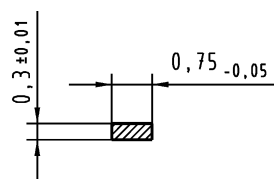
Board drillings
Mounting side



	Y
Solder	1 ± 0.1
Press-in	see recommendation page 00.25

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

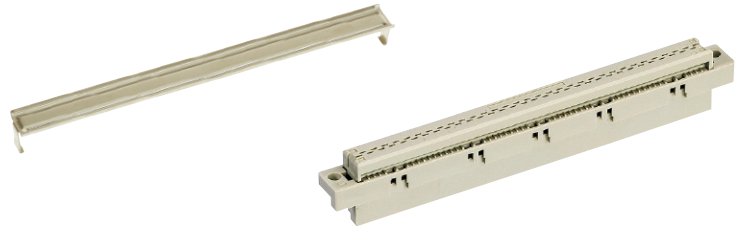
Cross section of solder terminations



Cross area (A) of contacts
row a, b: A = 0.20 - 0.23 mm²

Number of contacts

64



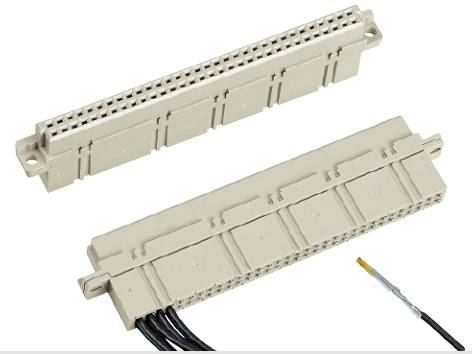
Female connectors

DIN Signal up to 2 A

Identification	No. of contacts	Part number	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	<p>Cable 1 to contact 1 b Contact arrangement View from termination side</p>	
Strain relief (metal)		09 03 000 9940		
Panel cut out				
Flat cable AWG 28/7			<p>Wire (tinned) Gauge AWG 28/7 Insulation material as per UL style PVC</p>	<p>²⁾ Termination area spacing = 508 mm</p> <p>Important: always store reels vertically</p>
Round flat cable ³⁾				<p>³⁾ Termination area spacing = 100 mm</p>
Bench press Base plate		09 99 000 0114 09 99 000 0150		
Cable cutter		09 99 000 0116		
Spare parts Blade Cutting plate		09 99 000 0179 09 99 000 0180		

Number of contacts

max. 64



Female connectors

DIN Signal up to 2 A

Identification	No. of contacts	Part number	Drawing	Dimensions in mm
Female connector for crimp contacts Order contacts separately	64	09 02 064 3214 ¹⁾	<p> 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 </p>	
Shell housing 09 02 064 0501 / 09 02 064 0502 see chapter 20				

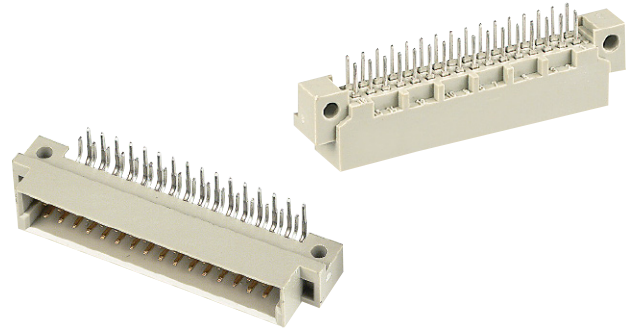
Identification	Part number	Performance levels according to IEC 60603-2. Explanation chapter 00	
		2	1
Female crimp contacts BC			
Bandoliered contacts (approx. 5,000 pieces)	09 02 000 6484		09 02 000 6474
Bandoliered contacts (approx. 500 pieces)	09 02 000 8434		09 02 000 8444
Individual contacts ¹⁾	09 02 000 8484		09 02 000 8474

Wire gauge mm ² AWG Insulation ø mm 0.09 - 0.5 28 - 20 0.7 - 1.5	<p>Bandoliered contacts</p>
3.5 + 0.5 mm of insulation is stripped from the wires to be crimped For the fabrication in line with the specification please use exclusively crimp tools approved by HARTING (see DIN EN 60352-2) Insertion, removal and crimping tools see chapter 30	<p>Individual contacts</p>

¹⁾ Packaging unit 1,000 pieces
²⁾ Railway classification NFF 16-101, Smoke index: F1, Flammability class: I2

Number of contacts

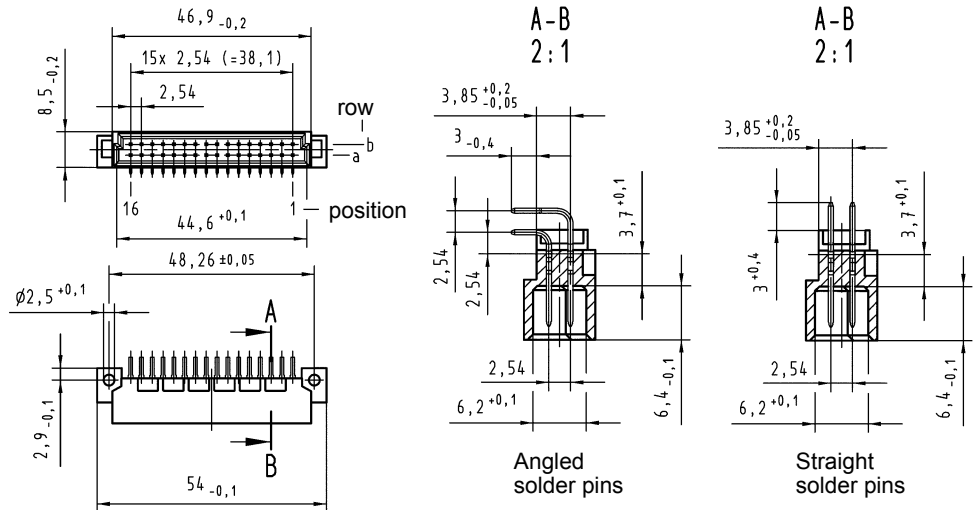
32, 16



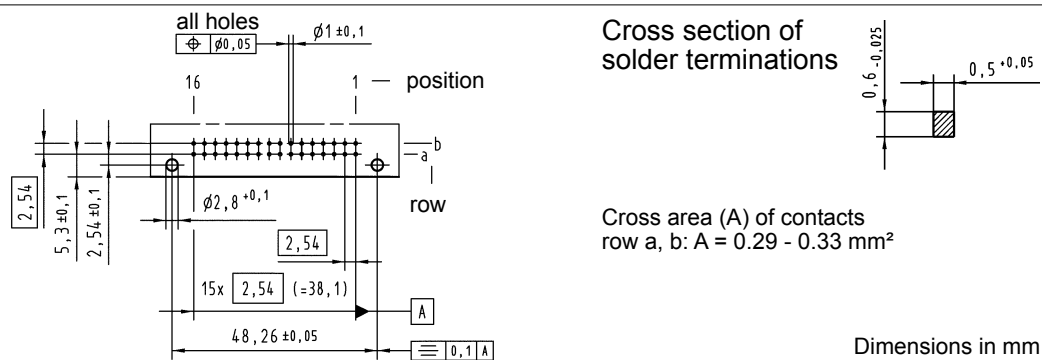
Male connectors

Identification	No. of contacts	Contact arrangement	Part number	Performance levels according to IEC 60603-2. Explanation chapter 00		
				3	2	1
Male connector with angled solder pins	32		09 22 132 7921	09 22 132 6921 09 22 132 6921 222 ^{f)} 09 22 332 6921 ^{b)}	09 22 132 2921	
	16		09 22 132 7922	09 22 132 6922	09 22 132 2922	
30 + 2 [▲]			09 22 132 6951			
Male connector with straight solder pins	32		09 22 132 6922	09 22 132 6922	09 22 132 2922	
	30 + 2 [▲]			09 22 132 6918 ^{d)}		

Dimensions



Board drillings
Mounting side



Cross section of solder terminations

Cross area (A) of contacts
row a, b: A = 0.29 - 0.33 mm²

Dimensions in mm

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

b) Connectors with snap-in clips see chapter 00

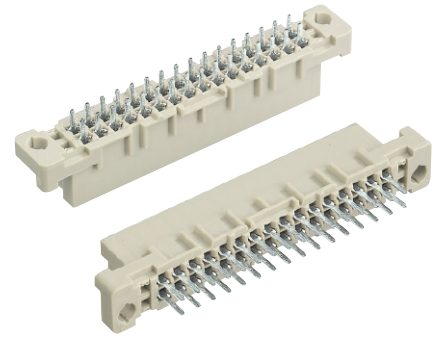
d) CTI > 400

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

Other contact arrangements on request

Number of contacts

32

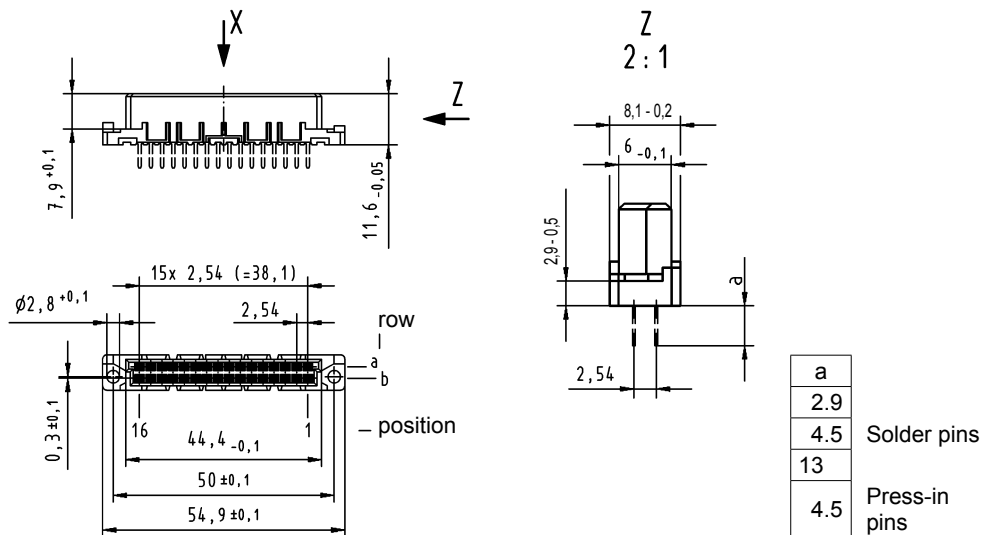


Female connectors

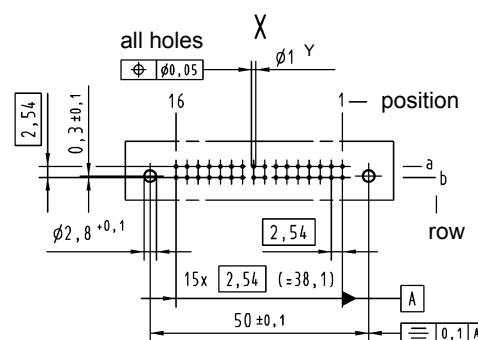
Identification	No. of contacts	Contact arrangement	Part number	Performance levels according to IEC 60603-2. Explanation chapter 00		
				3	2	1
Female connector with solder pins 2.9 mm THR	32		Performance level 3 on request	09 22 232 6824 09 22 232 6824 222 ^{f)} 09 22 432 6824 ^{b)} 09 22 232 6841 ^{d)}	Performance level 1 on request	
	32					
	4.5 mm THR	32				
13 mm THR	32					09 22 232 6421
Female connector with press-in pins 4.5 mm	32					09 22 232 6850

DIN Signal up to 2 A

Dimensions



Board drillings
Mounting side



	Y
Solder	1 ± 0.1
Press-in	see recommendation page 00.25

Cross section of solder terminations
see page 01.13

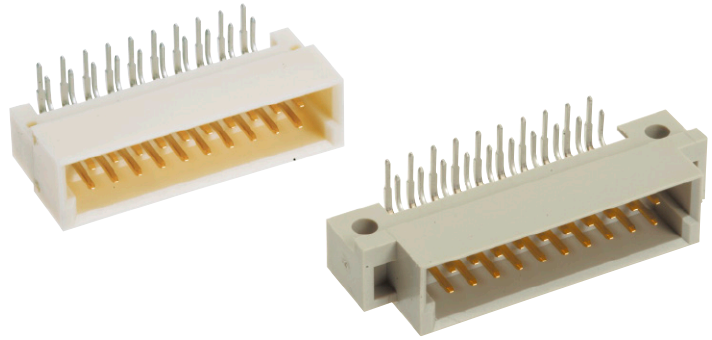
Dimensions in mm

^{b)} Connectors with snap-in clips see chapter 00
^{d)} CTI > 400

^{f)} Railway classification NFF 16-101, Smoke index: F1,
Flammability class: I2
Other contact arrangements on request

Number of contacts

20

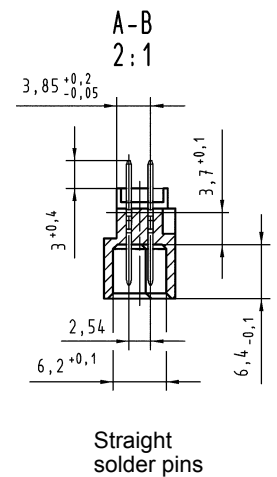
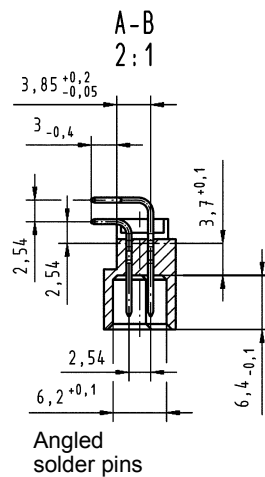
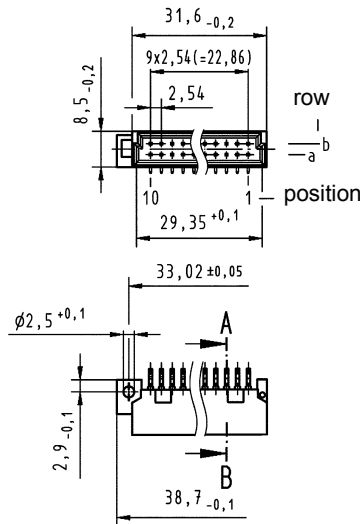


Male connectors

Identification	No. of contacts	Contact arrangement	Part number	Performance levels according to IEC 60 603-2.	
			3	2	1
Male connector with angled solder pins with fixing flange	20		Performance level 3 on request	09 24 120 6921 09 24 320 6921 ^{b)}	Performance level 1 on request
with fixing flange, THR	20			09 24 120 6919 ^{d)}	
without fixing flange	20			09 24 120 6571	
without fixing flange, THR	20			09 24 120 6579 ^{d)}	
Male connector with straight solder pins with fixing flange	20			09 24 120 6922	

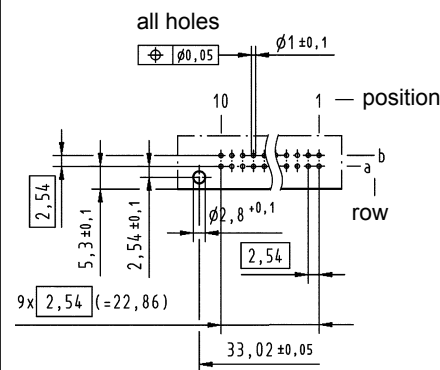
Dimensions

with fixing flange without fixing flange

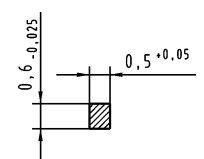


Board drillings

Mounting side



Cross section of solder terminations



Cross area (A) of contacts
row a, b: A = 0.29 - 0.33 mm²

Dimensions in mm

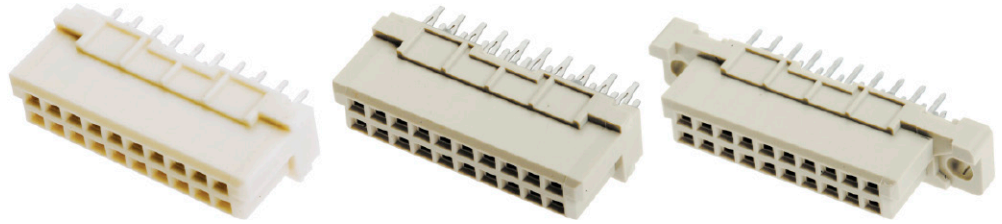
Other contact arrangements as well with lagging/leading pins on request

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

^{d)} CTI > 400

Number of contacts

20



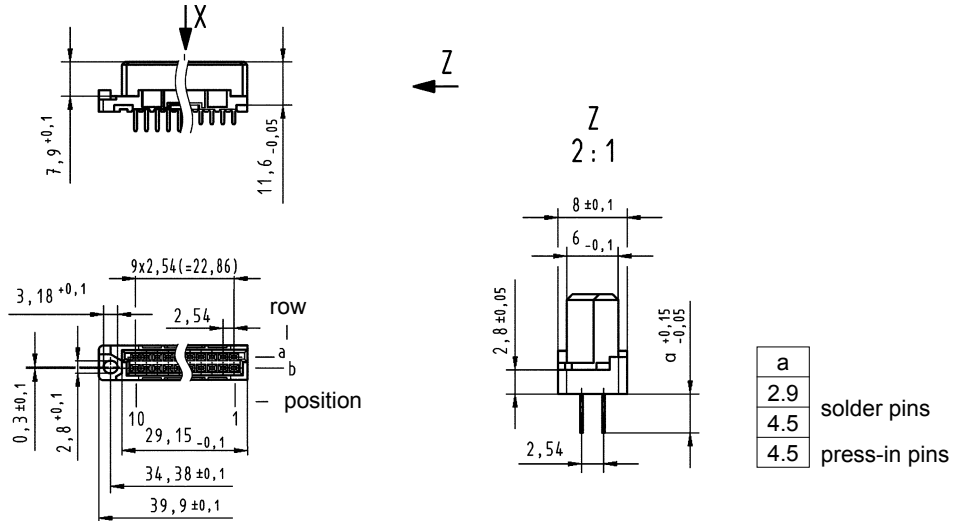
Female connectors

Identification	No. of contacts	Contact arrangement	Part number 3	Performance levels according to IEC 60 603-2. 2	1
Female connector with solder pins 2.9 mm	20		Performance level 3 on request	09 24 220 6824	Performance level 1 on request
with fixing flange	20			09 24 220 6841 ^{d)}	
with fixing flange, THR	20			09 24 220 6414 ^{d)}	
Female connector with solder pins 4.5 mm	20		Performance level 3 on request	09 24 220 6825	Performance level 1 on request
with fixing flange	20			09 24 220 6850	
Female connector with press-in pins 4.5 mm	20			09 24 220 6870	

DIN Signal up to 2 A

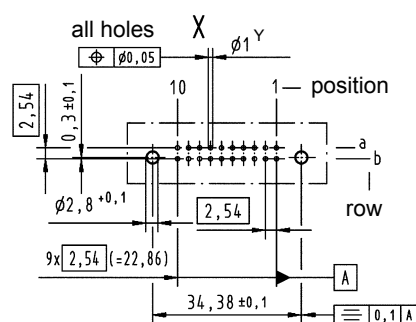
Dimensions

with fixing flange without fixing flange



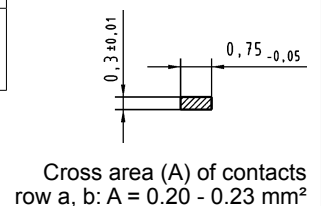
Board drillings

Mounting side



	Y
Solder	1 ± 0.1
Press-in	see recommendation page 00.25

Cross section of solder terminations

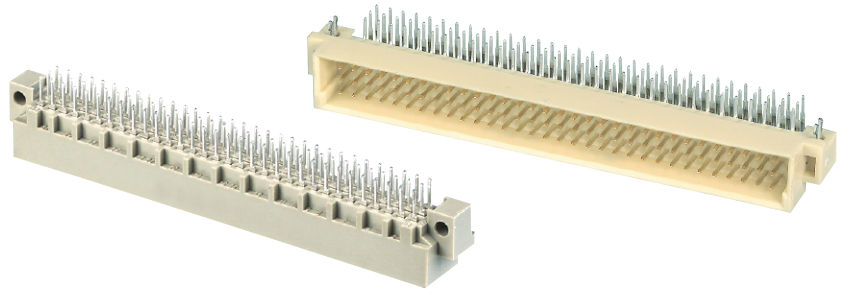


Dimensions in mm

^{d)} CTI > 400

Number of contacts

96, 64, 32



Male connectors

DIN Signal
up to 2 A

Identification	No. of contacts	Contact arrangement	Performance levels according to IEC 60603-2. Explanation chapter 00			
			3	2	1	
Male connector with angled solder pins Length 3 mm	96		09 03 196 7921	09 03 196 6921	09 03 196 2921	
			09 03 396 7921 ^{b)}	09 03 196 6921 222 ^{f)}	09 03 196 2921 222 ^{f)}	
				09 03 396 6921 ^{b)}	09 03 396 2921 ^{b)}	
	THR	96			09 03 696 6921 ^{c)}	09 03 696 2921 ^{c)}
					09 03 696 6921 222 ^{c)f)}	
					09 03 896 6921 ^{b)c)}	
	THR	96			09 03 196 6919 ^{d)}	09 03 196 2919 ^{d)}
					09 03 396 6919 ^{b)d)}	09 03 396 2919 ^{b)d)}
					09 03 696 6919 ^{c)d)}	
	THR	64		09 03 164 7921	09 03 164 6921	09 03 164 2921
09 03 364 7921 ^{b)}				09 03 164 6921 222 ^{f)}	09 03 164 2921 222 ^{f)}	
				09 03 364 6921 ^{b)}	09 03 364 2921 ^{b)}	
THR	64			09 03 664 6921 ^{c)}	09 03 664 2921 ^{c)}	
				09 03 864 6921 ^{b)c)}		
				09 03 164 6919 ^{d)}	09 03 164 2919 ^{d)}	
THR	64			09 03 364 6919 ^{b)d)}		
THR	32		09 03 132 7921	09 03 132 6921	09 03 132 2921	
			09 03 332 7921 ^{b)}	09 03 332 6921 ^{b)}	09 03 332 2921 ^{b)}	
				09 03 632 6921 ^{c)}		
THR	94 + 2 [▲]		09 03 196 7951	09 03 196 6951	09 03 196 2951	
				09 03 396 6951 ^{b)}		
				09 03 696 6951 ^{c)}		
THR	94 + 2 [▲]			09 03 396 6918 ^{b)d)}		
THR	62 + 2 [▲]		09 03 164 7951	09 03 164 6951	09 03 164 2951	
			09 03 364 7951 ^{b)}	09 03 364 6951 ^{b)}		
				09 03 664 6951 ^{c)}		
THR	62 + 2 [▲]			09 03 164 6918 ^{d)}		
Length 4.4 mm	96			09 03 196 6569		
				09 03 396 6569 ^{b)}		
Male connector with straight solder pins	96		09 03 196 7922	09 03 196 6922	09 03 196 2922	
				09 03 196 6920 ^{d)}		
THR	96					
THR	64		09 03 164 7922	09 03 164 6922	09 03 164 2922	

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

b) Connectors with snap-in clips see chapter 00

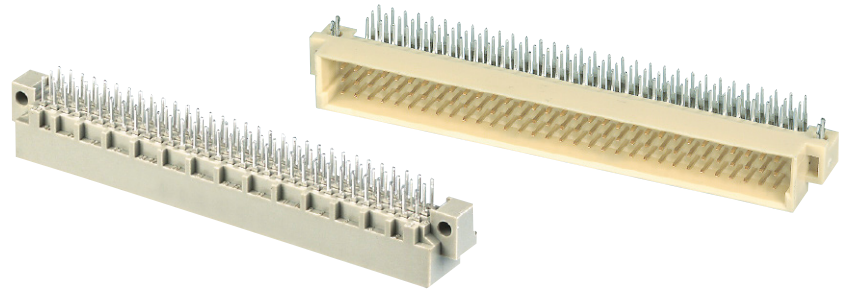
c) Connectors with coding see chapter 00

d) CTI > 400

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

Number of contacts

96, 64, 32



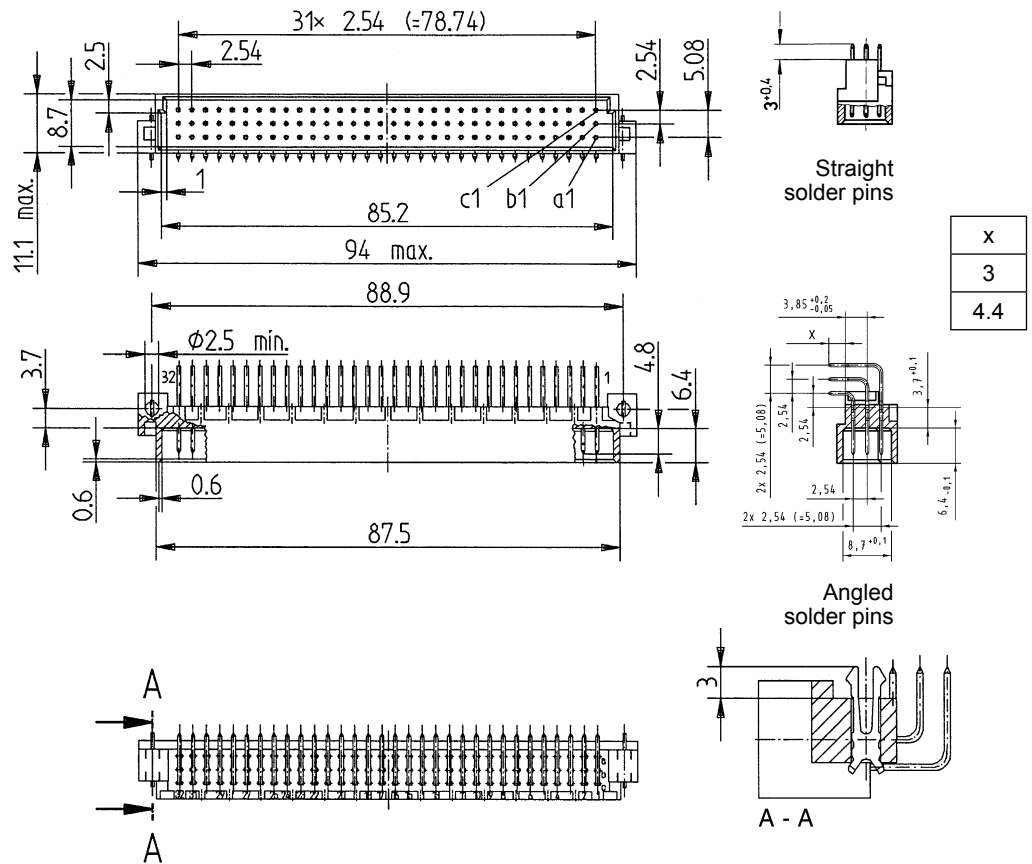
Male connectors

Identification

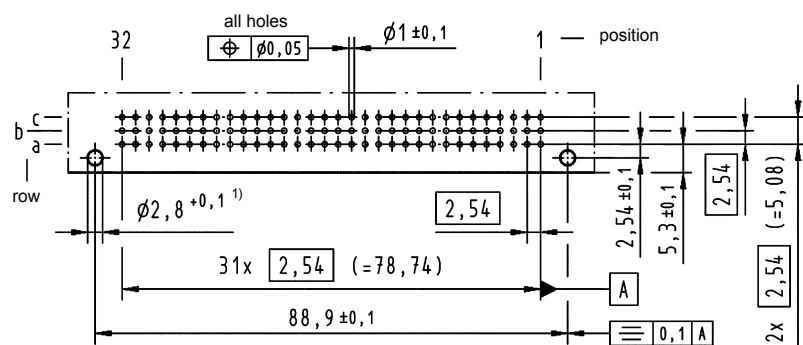
Drawing

Dimensions in mm

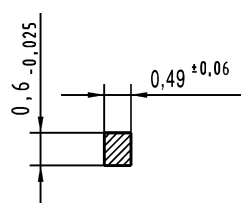
Dimensions



Board drillings
Mounting side



Cross section
of solder
terminations



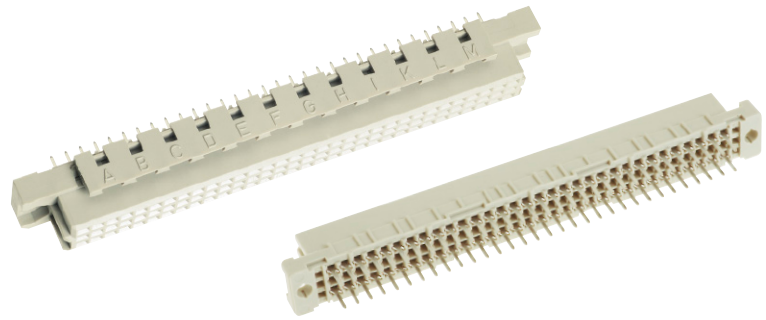
Cross area (A) of contacts row a, b, c: $A = 0.25 - 0.33 \text{ mm}^2$

Dimensions in mm

¹⁾ Recommendation for variants with clip: Drillings can be enlarged up to 3.1 mm ϕ to reduce standard mounting force

Number of contacts

96, 64, 32



Female connectors

DIN Signal up to 2 A

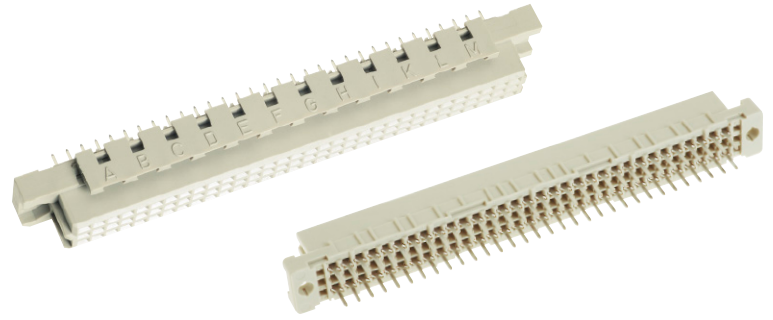
Identification	No. of contacts	Contact arrangement	Performance levels according to IEC 60603-2. Explanation chapter 00		
			3	2	1
Female connector with solder pins 2.9 mm	96		09 03 296 7824	09 03 296 6824 09 03 296 6824 222 ^{f)} 09 03 496 6824 ^{b)} 09 03 796 6824 ^{c)}	09 03 296 2824 09 03 296 2824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

¹⁾ Kinked pins for fixing the connector onto the pcb see chapter 00
^{b)} Connectors with snap-in clips see chapter 00
^{c)} Connectors with coding see chapter 00

^{d)} CTI > 400
^{f)} Railway classification NFF 16-101, Smoke index: F1, Flammability class: I2

Number of contacts

96, 64, 32



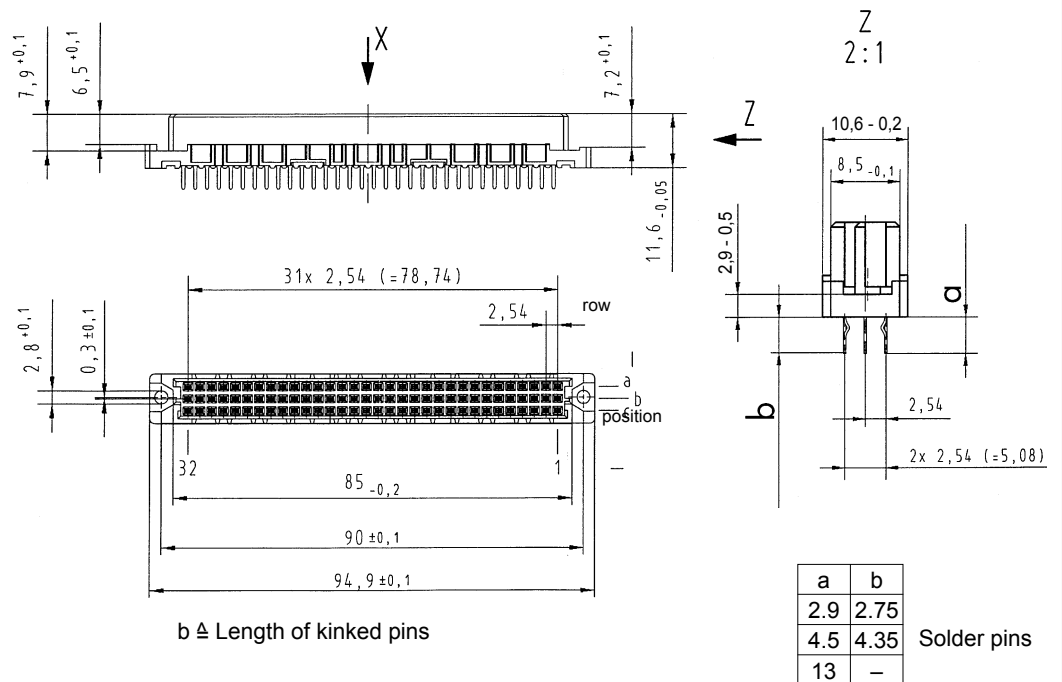
Female connectors

Identification

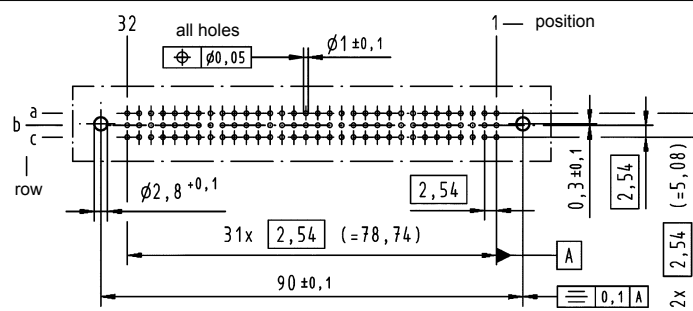
Drawing

Dimensions in mm

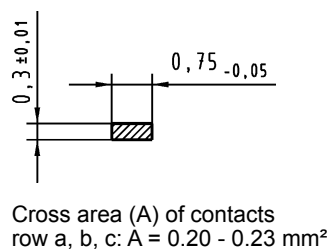
Dimensions



Board drillings
Mounting side



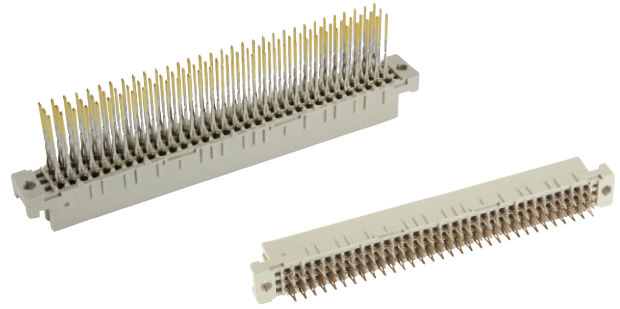
Cross section of
solder terminations



Dimensions in mm

Number of contacts

96, 64, 32



Female connectors

Identification	No. of contacts	Contact arrangement	Part number Performance levels according to IEC 60603-2. Explanation chapter 00			
			3	2	1	
Female connector Type C with press-in terminations 4.5 mm with press-in terminations for rear interfacing Usage of HARTING shroud recommended: contacts for rear interfacing selectively gold plated (performance level 3) 13 mm 16.2 mm 17 mm with press-in terminations for wire wrapping (wrap posts not for interfacing, no performance level) 13 mm 17 mm	96		09 03 296 7850	09 03 296 6850 09 03 296 6850 222 ^{f)} 09 03 796 6850 ^{c)} 09 03 796 6850 222 ^{c)f)}	09 03 296 2850 09 03 296 2850 222 ^{f)}	
	64		09 03 264 7850	09 03 264 6850 09 03 264 6850 222 ^{f)} 09 03 764 6850 ^{c)}	09 03 264 2850	
	32			09 03 232 6850	09 03 232 2850	
	96				09 03 296 6861 09 03 796 6861 ^{c)}	
	64				09 03 264 6861	
	96				09 03 296 6411 09 03 296 6416 ²⁾	
	64				09 03 264 6411	
	32				09 03 232 6411	
	96				09 03 296 6862 09 03 796 6862 ^{c)}	
	64				09 03 264 6862	
	96				09 03 296 6851 252	
	64				09 03 264 6851 252	
96					09 03 296 2852 252	

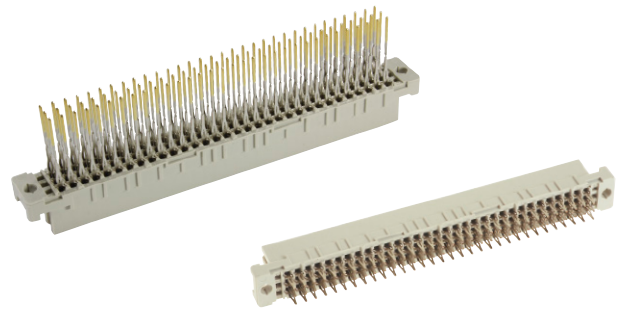
²⁾ Contacts for rear interfacing gold plated (performance level 2)

^{c)} Connectors with coding see chapter 00

^{f)} Railway classification NFF 16-101, Smoke index: F1, Flammability class: I2

Number of contacts

96, 64, 32



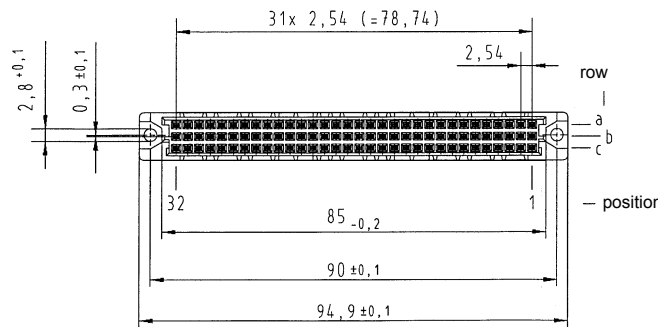
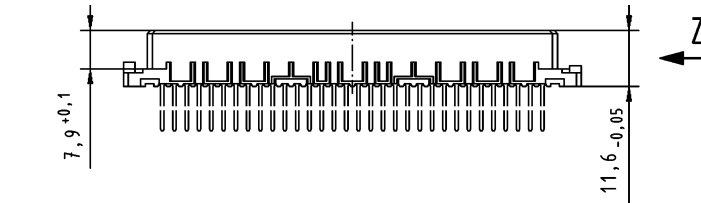
Female connectors

Identification

Drawing

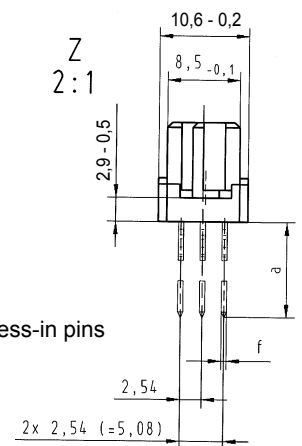
Dimensions in mm

Dimensions

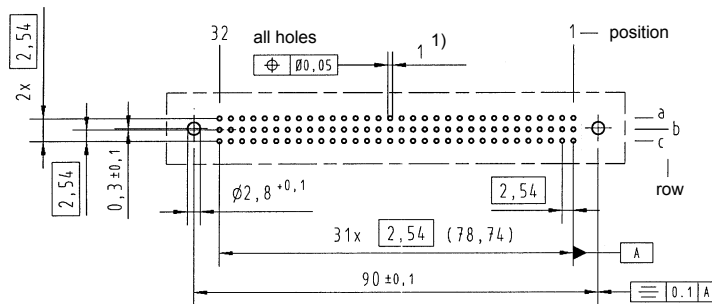


a
4.5
13
16.2
17

Press-in pins



Board drillings
Mounting side



Dimensions in mm

¹⁾ refer to recommended configuration of pcb holes, see page 00.25

Number of contacts

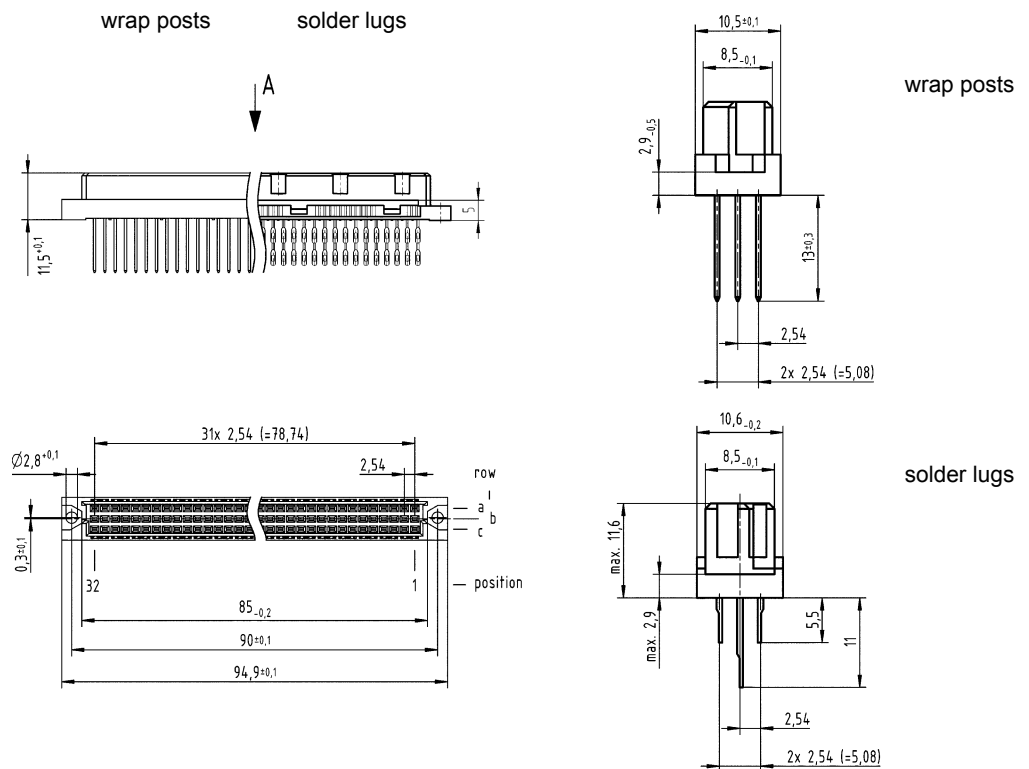
96, 64



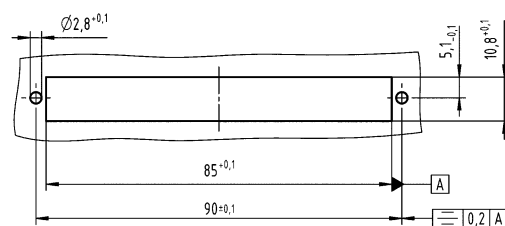
Female connectors

Identification	No. of contacts	Contact arrangement	Part number	Performance levels according to IEC 60603-2. Explanation chapter 00 2
Female connector with wrap posts ²⁾ 13 mm	96			09 03 296 6821 09 03 296 6878 ¹⁾
	64			09 03 264 6821 09 03 264 6878 ¹⁾
Female connector with solder lugs a + c 5.5 mm b 11 mm	96			09 03 296 6823
	64			09 03 264 6823

Dimensions



Panel cut out



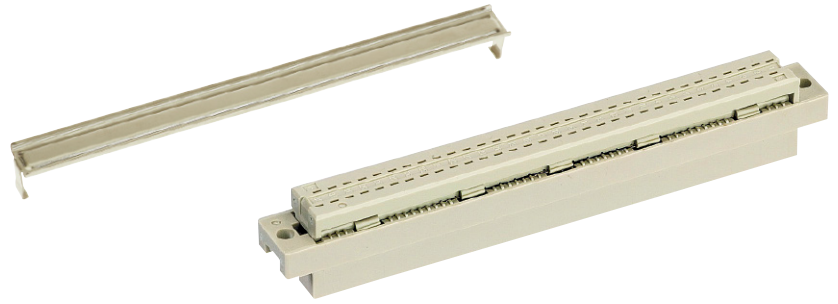
Identification strips for female connectors with wrap posts
09 03 000 9939

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 01.22

Number of contacts

64



Female connectors

DIN Signal
up to 2 A

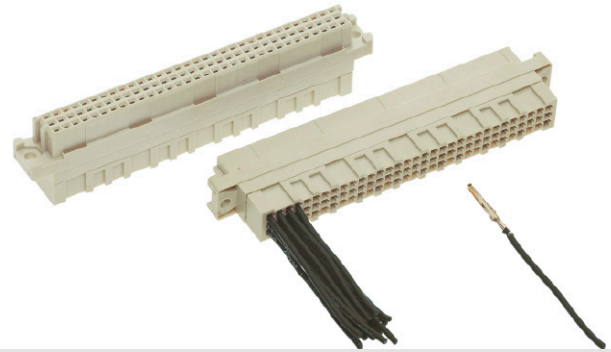
Identification	No. of contacts	Part number	Drawing	Dimensions in mm
Female connector for insulation displacement	64	Performance level 2 ¹⁾ 09 03 264 6828		
		Performance level 3 ¹⁾ 09 03 264 7828		
Strain relief (metal)		09 03 000 9940	<p>Cable 1 to contact 1 c Contact arrangement View from termination side</p>	
Panel cut out			<p>Mateable with 3 row male connector type C, no female contacts in the middle row</p>	
Flat cable AWG 28/7			<p>Wire (tinned) Gauge Insulation material as per UL style</p>	²⁾ Termination area spacing = 508 mm Important: always store reels vertically Cu AWG 28/7 0.089 mm ² PVC
Round flat cable ³⁾			<p>Edge mark on first conductor</p>	³⁾ Termination area spacing = 100 mm
Bench press Base plate		09 99 000 0114 09 99 000 0150		
Cable cutter		09 99 000 0116		
Spare parts Blade Cutting plate		09 99 000 0179 09 99 000 0180		

Further components and accessories for insulation displacement see interface catalogue, chapter 32

¹⁾ acc. to IEC 60 603-2

Number of contacts

max. 96, 48



Female connectors

DIN Signal up to 2 A

Identification	No. of contacts	Part number	Drawing	Dimensions in mm
Female connector for crimp contacts Order contacts separately				(2:1)
Type C	96	09 03 096 3214 ^{f)} 09 03 596 3214 ^{c)f)}		
Type C Position marking turned for mating type R male	96	09 03 096 3217 ^{f)}		

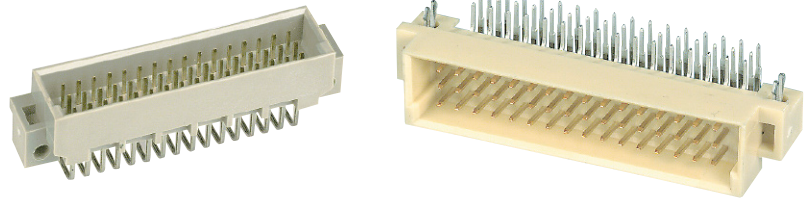
Identification	Part number	Performance levels according to IEC 60603-2.	Explanation chapter 00
		2	1
Female crimp contacts BC			
Bandoliered contacts (approx. 5,000 pieces)	09 02 000 6484		09 02 000 6474
Bandoliered contacts (approx. 500 pieces)	09 02 000 8434		09 02 000 8444
Individual contacts ¹⁾	09 02 000 8484		09 02 000 8474

Wire gauge mm ²	AWG	Insulation ø mm	<p>Bandoliered contacts</p> <p>Individual contacts</p>
0.09 - 0.5	28 - 20	0.7 - 1.5	
3.5 + 0.5 mm of insulation is stripped from the wires to be crimped For the fabrication in line with the specification please use exclusively crimp tools approved by HARTING (see DIN EN 60 352-2) Insertion, removal and crimping tools see chapter 30			

^{c)} Connectors with coding see chapter 00
¹⁾ Packaging unit 1,000 pieces
^{f)} Railway classification NFF 16-101, Smoke index: F1, Flammability class: I2

Number of contacts

48, 32, 16



Male connectors

Identification	No. of contacts	Contact arrangement	Performance levels according to IEC 60603-2. Explanation chapter 00			
			Part number 3	2	1	
Male connector with angled solder pins	48		09 23 148 7921	09 23 148 6921	09 23 148 2921	
			09 23 348 7921 ^{b)}	09 23 148 6921 222 ^{f)}	09 23 348 2921 ^{b)}	
	THR THR on a reel	48		09 23 148 7919	09 23 148 6919 ^{d)}	
					09 23 348 6919 ^{b)d)}	
	THR	32		09 23 132 7921	09 23 132 6921	09 23 132 2921
				09 23 332 7921 ^{b)}	09 23 332 6921 ^{b)}	09 23 332 2921 ^{b)}
		32			09 23 132 6919 ^{d)}	
				09 23 332 6919 ^{b)d)}		
	16			09 23 116 6931	09 23 116 2931	
				09 23 316 6931 ^{b)}		
	46 + 2 [▲]		09 23 148 7951	09 23 148 6951		
				09 23 348 6951 ^{b)}		
Male connector with straight solder pins	THR	48		09 23 148 7922	09 23 148 6922	09 23 148 2922
					09 23 148 6920 ^{d)}	
	THR	32		09 23 132 7922	09 23 132 6922	09 23 132 2922
		32			09 23 132 6920 ^{d)}	

DIN Signal up to 2 A

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

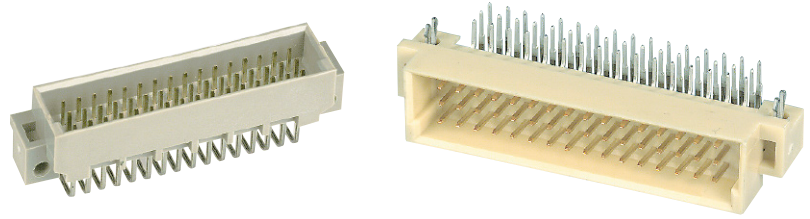
b) Connectors with snap-in clips see chapter 00

d) CTI > 400

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

Number of contacts

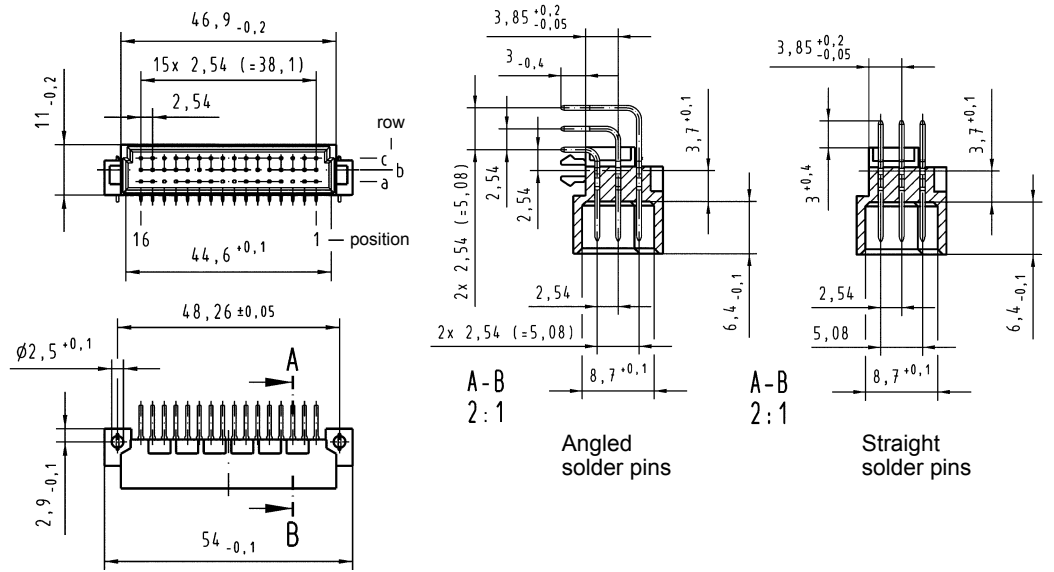
48, 32, 16



Male connectors

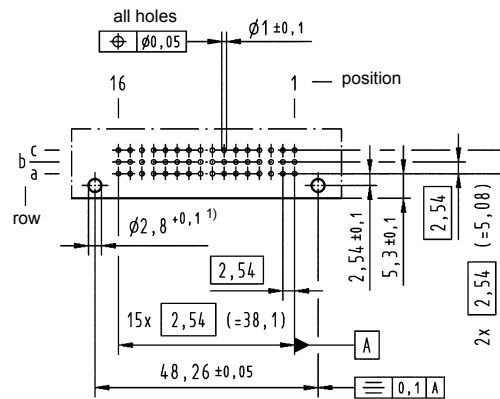
Identification Drawing Dimensions in mm

Dimensions

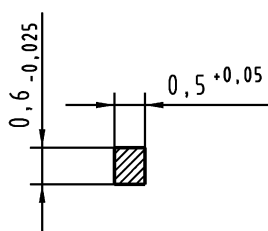


Board drillings

Mounting side



Cross section of solder terminations



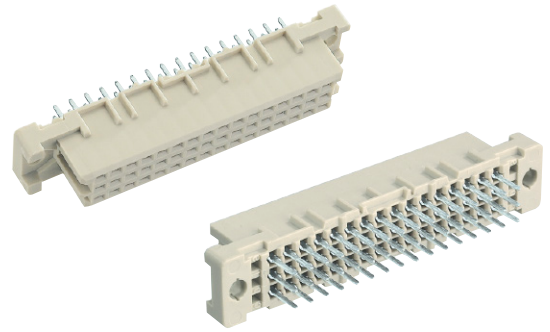
Cross area (A) of contacts row a, b, c: A = 0.29 - 0.33 mm²

DIN Signal up to 2 A

¹⁾ Recommendation for variants with clip: Drillings can be enlarged up to 3.1 mm ø to reduce standard mounting force

Number of contacts

48, 32



Female connectors

DIN Signal
up to 2 A

Identification	No. of contacts	Contact arrangement	Part number			Performance levels according to IEC 60603-2. Explanation chapter 00		
			3	2	1	3	2	1
Female connector with solder pins 2.9 mm	48				09 23 248 6824 09 23 448 6824 ^{b)}		09 23 248 2824	
			THR		09 23 248 6841 ^{d)}			
	32				09 23 232 6824 09 23 432 6824 ^{b)}			
			THR		09 23 232 6841 ^{d)}			
Female connector with solder pins 4.5 mm	48				09 23 248 6825 09 23 248 6825 222 ^{f)} 09 23 448 6825 ^{b)}		09 23 248 2825	
			THR		09 23 248 6829 ^{d)}			
	32			09 23 232 7825	09 23 232 6825			
			THR		09 23 232 6829 ^{d)}			
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 solder lugs 5.5/11 mm	48				09 23 248 6823			
	32				09 23 232 6823			

Other contact arrangements on request

¹⁾ To be used only for wire wrap termination

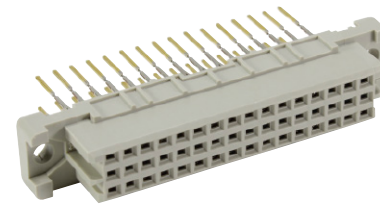
^{b)} Connectors with snap-in clips see chapter 00

^{d)} CTI > 400

^{f)} Railway classification NFF 16-101, Smoke index: F1, Flammability class: I2

Number of contacts

48, 32



Female connectors

DIN Signal up to 2 A

Identification No. of contacts Contact arrangement Part number Performance levels according to IEC 60603-2. Explanation chapter 00

Identification	No. of contacts	Contact arrangement	Part number	Performance levels according to IEC 60603-2. Explanation chapter 00
			3	2 1
Female connector with press-in pins 3.7 mm	48			09 23 248 6866
Female connector with press-in pins 4.5 mm	48			09 23 248 6850
	32			09 23 248 6850 222 ^{f)} 09 23 232 6850
Female connector with press-in pins 13 mm	48			09 23 248 6861
	32			09 23 232 6861
Female connector with press-in pins 17 mm	48			09 23 248 6862
with press-in terminations for rear interfacing Usage of HARTING shroud recommended: contacts for rear interfacing selectively gold plated (performance level 3)				

Identification No. of contacts Part number Drawing Dimensions in mm

Female connector for crimp contacts Order contacts separately see page 01.28				
Type 2C	48	09 23 048 3214 ^{f)}		
Type 2C Position marking turned for mating type 2R male	48	09 23 048 3217 ^{f)}		

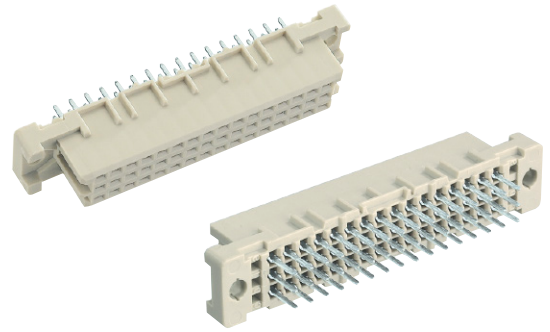
01-32

Other contact arrangements on request

^{f)} Railway classification NFF 16-101, Smoke index: F1, Flammability class: I2

Number of contacts

48, 32



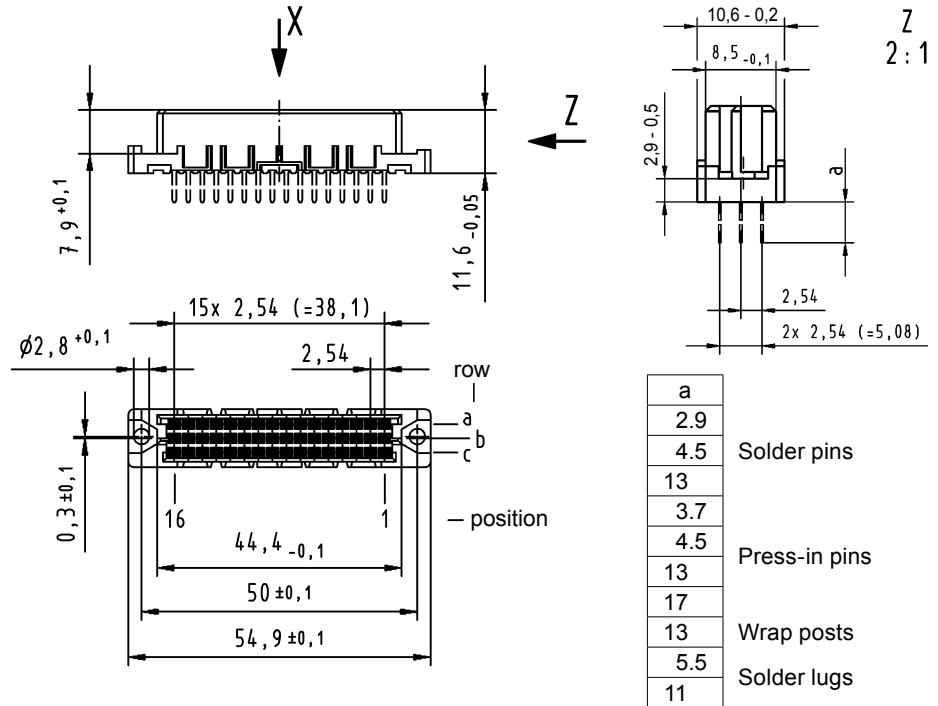
Female connectors

Identification

Drawing

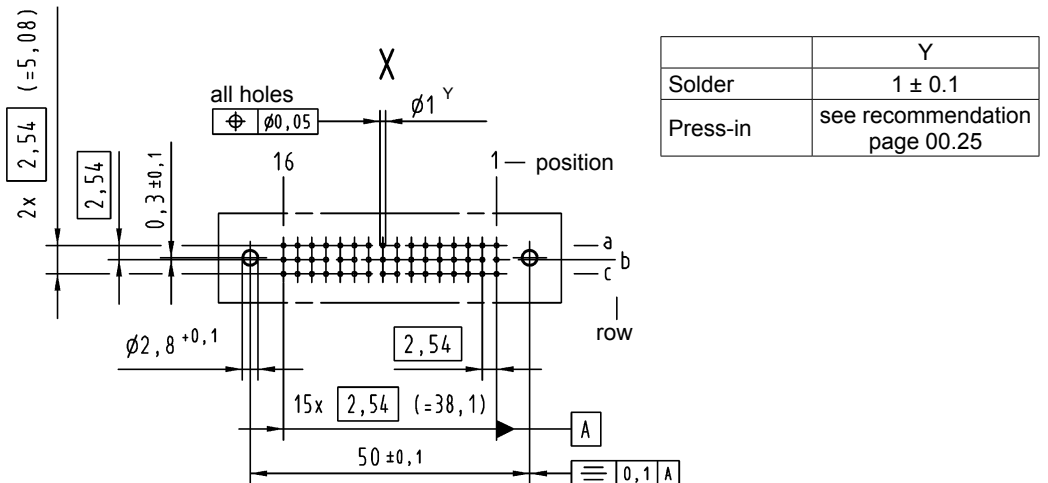
Dimensions in mm

Dimensions

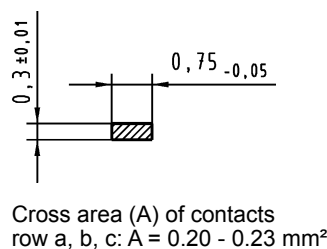


Board drillings

Mounting side



Cross section of solder terminations

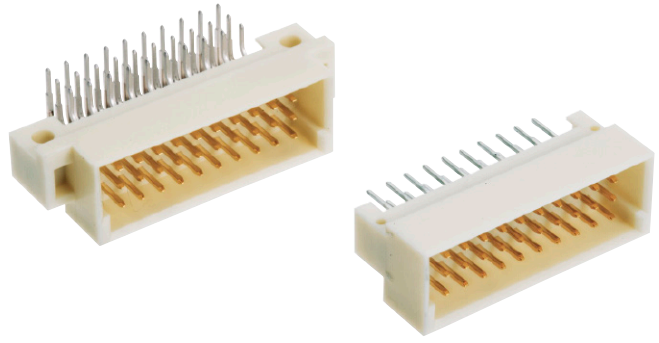


Dimensions in mm

DIN Signal
up to 2 A

Number of contacts

30, 20



Male connectors

DIN Signal
up to 2 A

Identification	No. of contacts	Contact arrangement	Performance levels according to IEC 60 603-2.		
			3	2	1
Male connector with angled solder pins with fixing flange	30		Performance level 3 on request	09 25 130 6921 09 25 330 6921 ^{b)}	Performance level 1 on request
	20			09 25 120 6921	
with fixing flange, THR	30			09 25 130 6919 ^{d)}	
without fixing flange	30			09 25 130 6571	
without fixing flange, THR	30			09 25 130 6579 ^{d)}	
Male connector with straight solder pins with fixing flange	30			09 25 130 6922	
	20			09 25 120 6922	
without fixing flange	30			09 25 130 6572	
without fixing flange, THR	30		09 25 130 6590 ^{d)}		

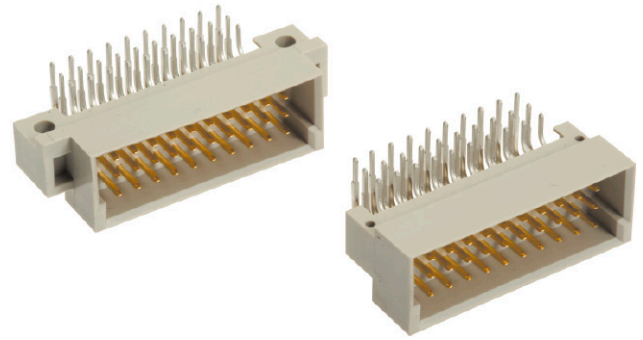
Other contact arrangements as well with lagging/leading pins on request

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

^{d)} CTI > 400

Number of contacts

30, 20



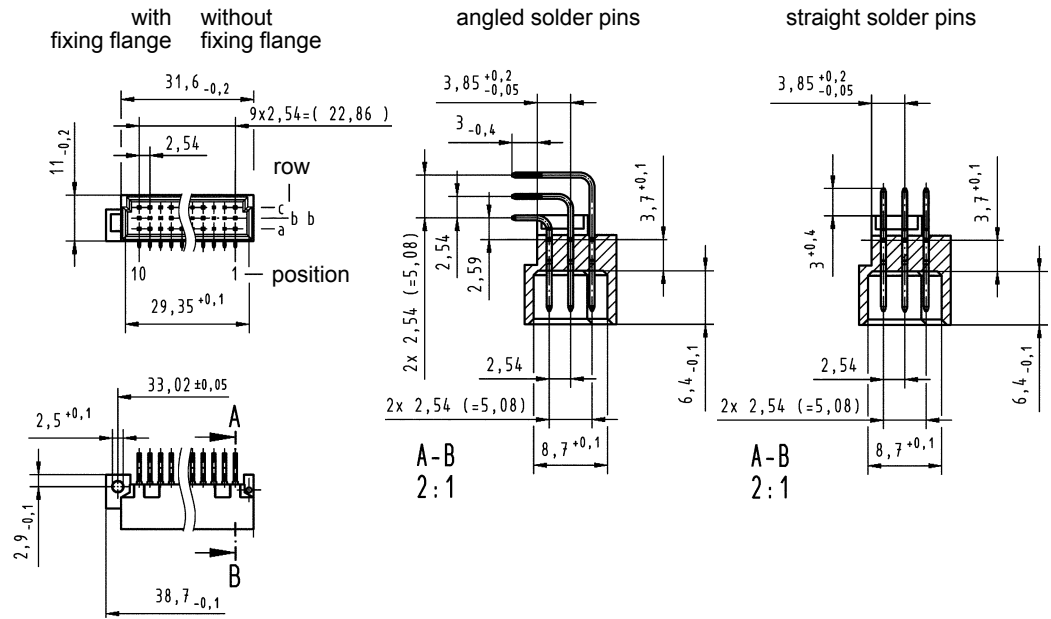
Male connectors

Identification

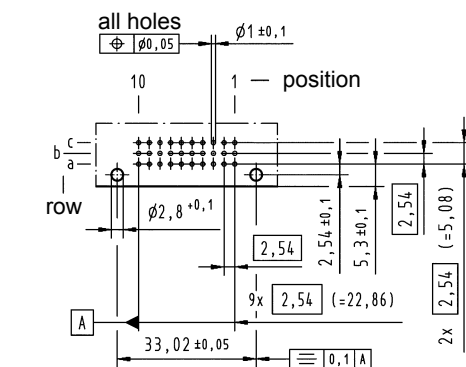
Drawing

Dimensions in mm

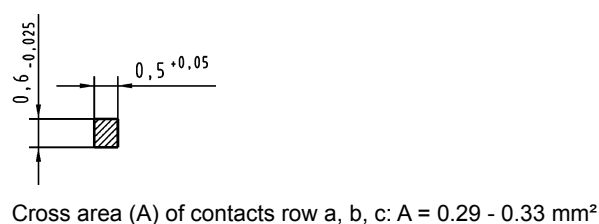
Dimensions



Board drillings
Mounting side

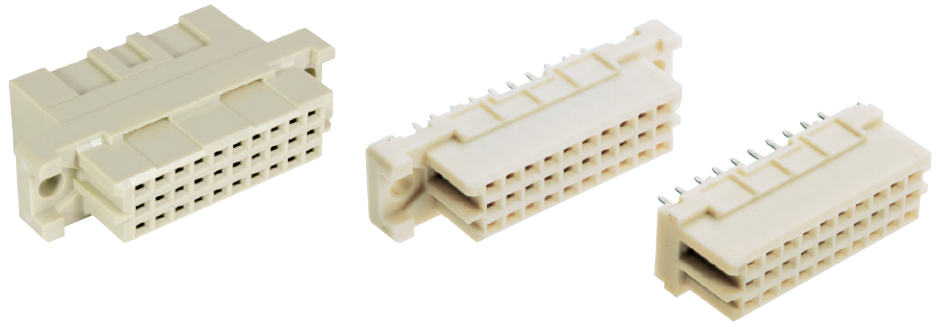


Cross section of solder terminations



Number of contacts

30, 20



Female connectors

DIN Signal up to 2 A

Identification	No. of contacts	Contact arrangement	Part number	Performance levels according to IEC 60 603-2.							
				3	2 1						
Female connector with solder pins 2.9 mm with fixing flange	30		Performance level 3 on request		Performance level 1 on request						
	20										
	30										
	30										
Female connector with solder pins 4.5 mm with fixing flange	30					Performance level 3 on request		Performance level 1 on request			
	20										
Female connector with solder pins 13 mm with fixing flange	30								Performance level 3 on request		Performance level 1 on request
Female connector with press-in pins 4.5 mm with fixing flange	30										
	30										
Female connector with press-in pins 4.5 mm without fixing flange	30		Performance level 3 on request		Performance level 1 on request						
	30										

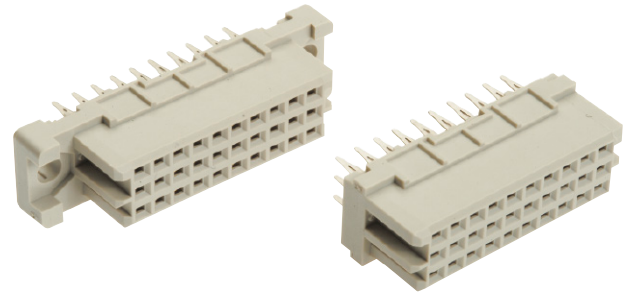
Identification	No. of contacts	Part number	Drawing	Dimensions in mm
Female connector for crimp contacts Order contacts separately see page 01.28				
	Type 3C	09 25 030 3214 ^{f)}		
	Type 3C	09 25 030 3217 ^{f)}		
Position marking turned for mating type 3R male				

^{d)} CTI > 400

^{f)} Railway classification NFF 16-101, Smoke index: F1, Flammability class: I2

Number of contacts

30, 20



Female connectors

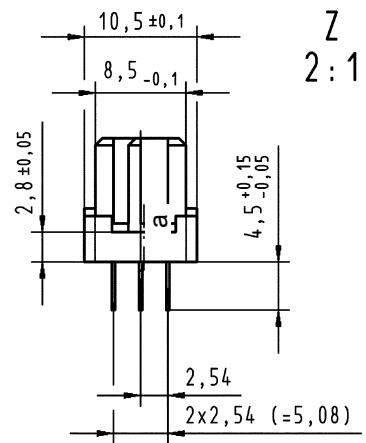
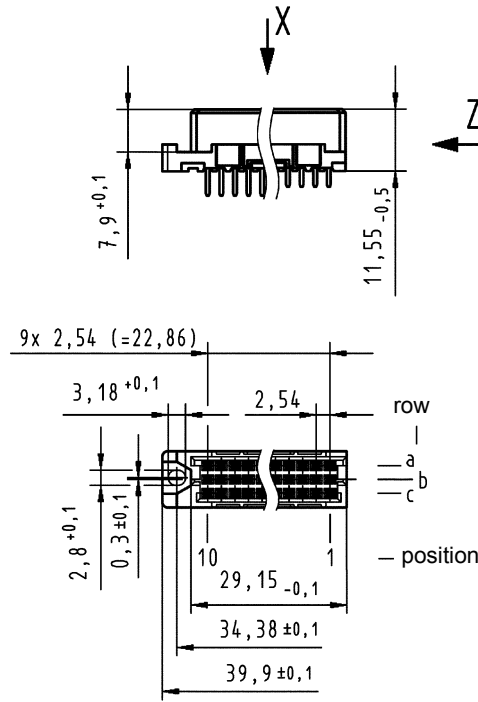
Identification

Drawing

Dimensions in mm

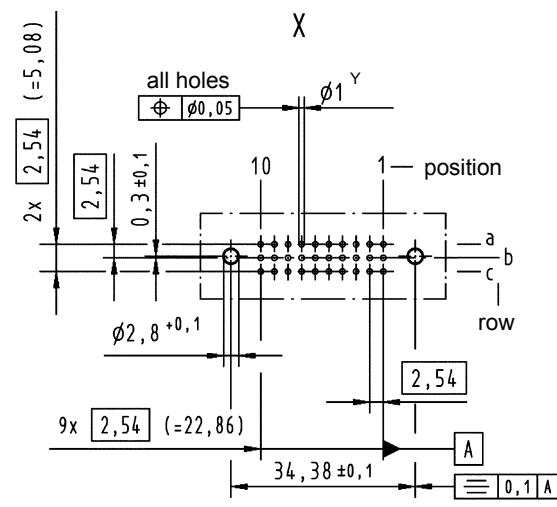
Dimensions

with fixing flange without fixing flange



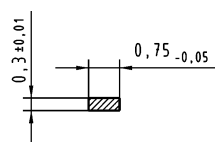
a	
2.9	
4.5	solder pins
13	
4.5	press-in pins

Board drillings
Mounting side



	Y
Solder	1 ± 0.1
Press-in	see recommendation page 00.25

Cross section of solder terminations



Cross area (A) of contacts row a, b, c: A = 0.20 - 0.23 mm²

DIN Signal up to 2 A

- Application matrix**
- Coax Contacts
 - High Voltage Contacts
 - High Power Contacts
 - FOC- Contacts

Application		Male		Female		Connector
		Part number		Part number		
		09 03 1XX X901		09 03 1XX X901		Male connector type M angled
		09 73 1XX 6902 / 6903 / 6904 / 6907 / 6974 / 6991		09 73 1XX 6902 / 6903 / 6904 / 6907 / 6974 / 6991		Male connector type M invers
		09 03 2XX 6804 / 6805 / 6850		09 03 2XX 6804 / 6805 / 6850		Female connector type M straight
		09 03 2XX 6864 / 6865 / 6830		09 03 2XX 6864 / 6865 / 6830		Female connector type M flat
		09 73 2XX 6801		09 73 2XX 6801		Female connector type M invers
		09 03 2XX 3214		09 03 2XX 3214		Female connector type M crimp
		09 06 X21 6883		09 06 X21 6883		Male connector type MH 21+5
		09 06 121 6981		09 06 121 6981		Female connector type MH 21+5
		09 29 002 3201		09 29 002 3201		Male connector type M0+2
		09 29 002 3401		09 29 002 3401		Female connector type M0+2

Board to Backplane	Mezzanine	pcb to pcb	Application		Termination	Impedance
			Part number			
1. M M			09 03 000 6160		solder/crimp	50 Ω
2. M M flat			09 03 000 6161		solder/crimp	50 Ω
3. M invers M invers			09 03 000 6165		solder	50 Ω
4. MH 21+5 MH 21+5			09 03 000 6162		solder	50 Ω
5. M0+2 M0+2			09 03 000 6182		solder	50 Ω
6. M invers M			09 03 000 6260		solder/crimp	50 Ω
7. M invers M flat			09 03 000 6261		solder/crimp	50 Ω
			09 03 000 6262		solder	50 Ω
			09 03 000 6263		solder	50 Ω
			09 03 000 6265		solder	50 Ω
			09 03 000 6274		solder/crimp	50 Ω
			09 03 000 6181		solder/crimp	75 Ω
			09 03 000 6269		solder	75 Ω
			09 03 000 6281		solder/crimp	75 Ω
			09 03 000 6140			
			09 03 000 6240			

High voltage 2.8 kV

● = can be used in ○ male connector
○ = male connector for ● contacts
* details see catalogue Industrial Connectors Han®

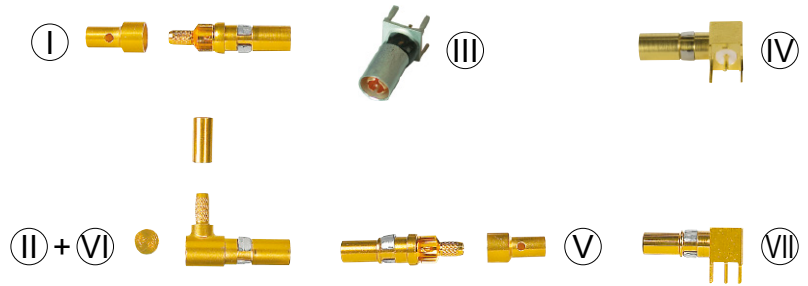
◆ = can be used in ◇ female connector
◇ = female connector for ◆ contacts

Part number	Currency	Termination		Preleading
		solder	cable	
09 03 000 6101	10 A	solder	cable	-
09 03 000 6102	20 A	solder	cable	-
09 03 000 6103	40 A	solder	cable	-
09 03 000 6104	40 A	solder	pcb	-
09 03 000 6110	40 A	solder	pcb	-
09 03 000 6113	10 A	crimp	cable	-
09 03 000 6114	20 A	crimp	cable	-
09 03 000 6115	40 A	crimp	cable	-
09 03 000 6127	40 A	solder	pcb	-
09 03 000 6128	40 A	solder	pcb	1.8
09 03 000 6133	40 A	solder	cable	0.8
09 03 000 6134	40 A	solder	pcb	0.6
09 03 000 6135	40 A	solder	pcb	-
09 03 000 6201	10 A	solder	cable	-
09 03 000 6202	20 A	solder	cable	-
09 03 000 6203	40 A	solder	cable	-
09 03 000 6207	40 A	solder	pcb	-
09 03 000 6213	10 A	crimp	cable	-
09 03 000 6214	20 A	crimp	cable	-
09 03 000 6215	40 A	crimp	cable	-
09 03 000 6220	20 A	crimp	cable	-
09 03 000 6225	40 A	solder	pcb	-
09 03 000 6245	40 A	screw	busbar	-
09 03 000 6250	40 A	press-in	pcb	-
20 10 125 4212	FOC ceramic ferrule*			
20 10 125 4222	FOC ceramic ferrule*			
20 10 230 4211	FOC for SI-fibre (HCS)*			
20 10 230 4221	FOC for SI-fibre (HCS)*			
20 10 001 4211	FOC for 1 mm (POF)*			
20 10 001 4221	FOC for 1 mm (POF)*			

DIN Signal
up to 2 A

● = can be used in ○ male connector
○ = male connector for ● contacts
* see also chapter 04

◆ = can be used in ◇ female connector
◇ = female connector for ◆ contacts

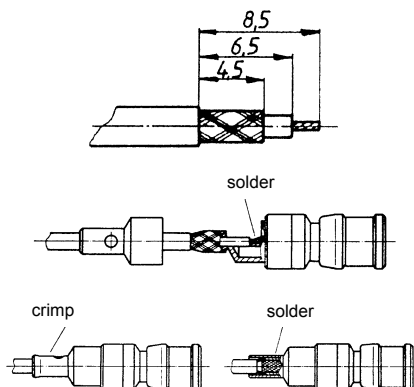


Coaxial contacts

Identification	Part number Performance level 1	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 for type M (IV) for angled pcb termination for type M invers	acc. to DIN 41626 09 03 000 6160 09 03 000 6181 ¹⁾ 09 03 000 6161 09 03 000 6182 09 03 000 6165 09 03 000 6162		<table border="1"> <thead> <tr> <th></th> <th>X</th> </tr> </thead> <tbody> <tr> <td>6165</td> <td>16.05</td> </tr> <tr> <td>6182</td> <td>14.2</td> </tr> </tbody> </table>		X	6165	16.05	6182	14.2
	X								
6165	16.05								
6182	14.2								
Female coaxial contacts for male connectors (V) for straight solder and/or crimp termination (VI) for angled solder and/or crimp termination (VII) angled for pcb termination straight for pcb termination for type M invers	09 03 000 6260 09 03 000 6281 ¹⁾ 09 03 000 6274 ²⁾ 09 03 000 6261 09 03 000 6262 09 03 000 6269 ¹⁾ 09 03 000 6263 ²⁾ 09 03 000 6265								

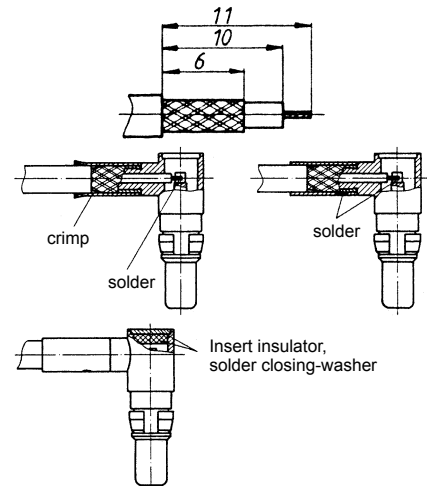
Assembly instruction for contacts

(I) and (V)



for contacts

(II) and (VI)



1) Coaxial contact 75 Ω
 2) With knurled area for permanent fixing, not removable
 Fibre optic contacts on request

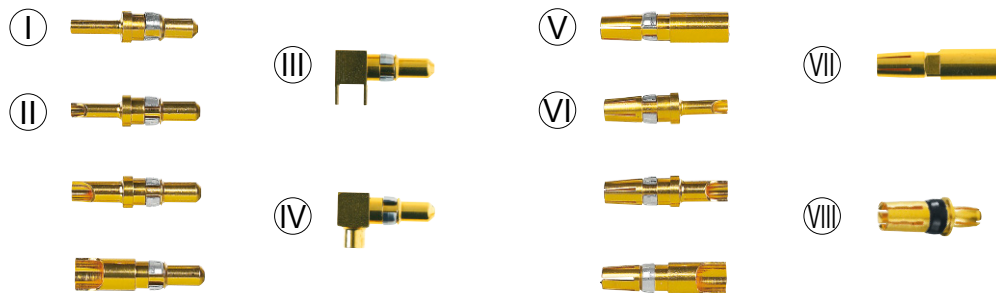


High voltage contacts

Identification	Part number Performance level 1	Drawing	Dimensions in mm
I High voltage male contact for male connectors ¹⁾ for straight solder termination 2.8 kV	acc. to DIN 41 626 09 03 000 6140		
II High voltage female contact for female connectors ¹⁾ for straight solder termination 2.8 kV	09 03 000 6240		
Crimping tool for coaxial contacts	09 99 000 0194		
Crimping tool for high current contacts	09 99 000 0196		
III Removal tool incl. removal jacket for contact replacement in male and female connectors	09 99 000 0174		
Replacement removal jacket	09 99 000 0243		
IV Removal tool for contact replacement in male connectors	09 99 000 0328		

Electrical characteristics of coaxial contacts and wires	Impedance					
	50 Ω	75 Ω				
Max. working frequency	0 up to 10 GHz	0 up to 1.5 GHz				
Return loss	≥ 20 dB up to 6 GHz	≥ 20 dB				
RF-leakage	≥ 80 dB up to 0.5 GHz ≥ 68 dB up to 1.5 GHz					
Test voltage	750 V _{rms}					
Working voltage	250 V _{max.}					
Insulation resistance	≥ 1 GΩ	≥ 200 MΩ				
Contacts resistance – Center contact	≤ 10 mΩ					
– Outer contact	≤ 3 mΩ					
Contact current max.	1.5 A					
Admissible power (depends on: frequency, application, return loss, environmental characteristics)	Data on request					
Cable group 2 flexible wires	Impedance	Shell ø	Screening ø	Dielectric ø	Internal wire ø	Hexagonal crimp Spanner width
RG 174 A/U	50 Ω	2.5	2.0	1.5	0.48	3.25
RG 188 A/U	50 Ω	2.6	2.0	1.5	0.54	3.25
RG 316 U	50 Ω	2.5	2.0	1.5	0.54	3.25
RG 179 B/U	75 Ω	2.54	2.0	1.6	0.3	3.25

¹⁾ Contact resistance internal wire max. 3 mΩ



High current contacts

DIN Signal up to 2 A

Identification	Part number	Performance level 1	Drawing	Dimensions in mm
----------------	-------------	---------------------	---------	------------------

High current male contacts for male connectors ¹⁾	
Ⓘ for straight crimp termination	10 A 20 A 40 A
Ⓙ for straight solder termination	10 A 20 A 40 A
Leading contact	40 A
Ⓚ for angled pcb termination	max. 40 A*
Leading contact	max. 40 A*
Ⓛ for straight pcb termination	max. 40 A* max. 40 A*
* depending on the pcb design	

acc. to DIN 41626	
09 03 000 6113	10 A
09 03 000 6114	20 A
09 03 000 6115	40 A
09 03 000 6101	10 A
09 03 000 6102	20 A
09 03 000 6103	40 A
09 03 000 6133	40 A
09 03 000 6104	max. 40 A*
09 03 000 6134	max. 40 A*
09 03 000 6110	max. 40 A*
09 03 000 6135	max. 40 A*

	∅ A	∅ 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

	∅
10 A	1.7
20 A	2.8
40 A	4.8

	x	y
... 6104	17.7	6.4
... 6134	18.4	7.0

High current female contacts for female connectors ¹⁾	
Ⓜ for straight crimp termination	10 A 20 A 40 A
Ⓨ for straight solder termination	10 A 20 A 40 A
Ⓩ for screw fixing on busbar	40 A
for type M invers for solder termination	40 A
Ⓢ for type M-flat for press-in termination	40 A
for solder termination	40 A

09 03 000 6213	10 A
09 03 000 6214	20 A
09 03 000 6215	40 A
09 03 000 6201	10 A
09 03 000 6202	20 A
09 03 000 6203	40 A
09 03 000 6245	40 A
09 03 000 6207	40 A
09 03 000 6250	40 A
09 03 000 6225	40 A

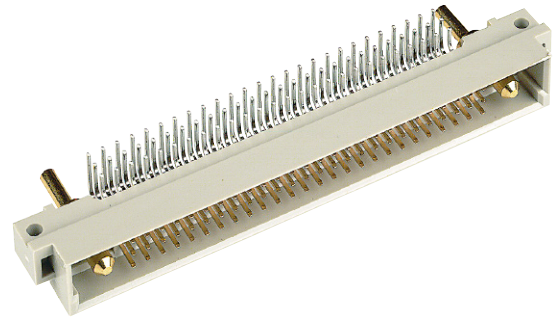
	∅ A	∅ B	wire gauge [mm ²]	AWG
10 A	1.85	2.55	1.5	16
20 A	2.80	3.70	4	12
40 A	4.40	5.60	10	8

	∅
10 A	1.7
20 A	2.8
40 A	4.8

¹⁾ Contact resistance max. 1.5 mΩ
²⁾ Contact resistance internal wire max. 3 mΩ

Number of contacts

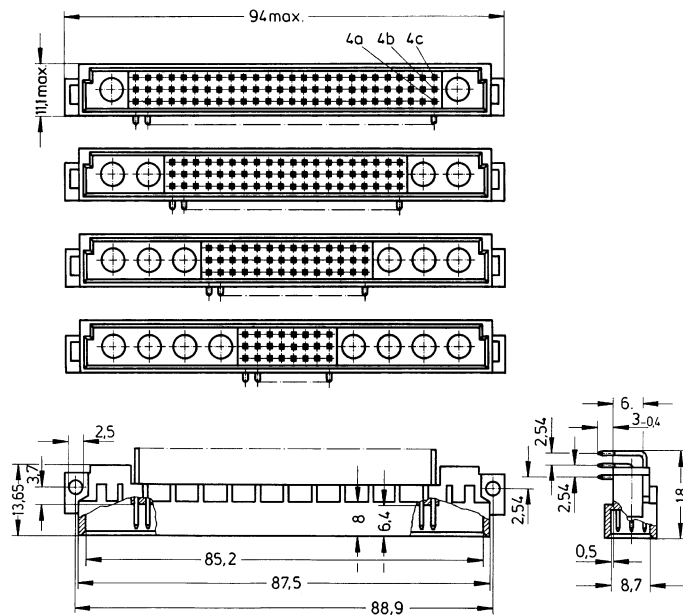
78+2, 60+4, 42+6, 24+8



Male connectors

Identification	No. of contacts	Contact arrangement	Part number	Performance levels according to IEC 60603-2. 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 03 378 6901 ^{b)}	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

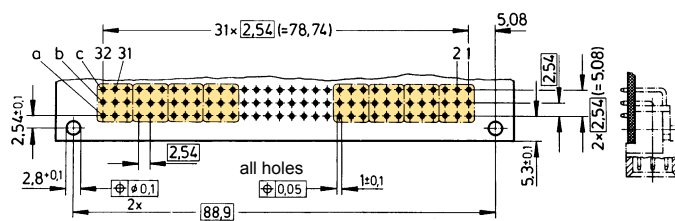


Angled solder pins

Order high current, high voltage, coaxial and fibre optic contacts separately, see pages 01.40 ff

Board drillings

Mounting side



Board drillings depend on type and special contact loading

Dimensions in mm

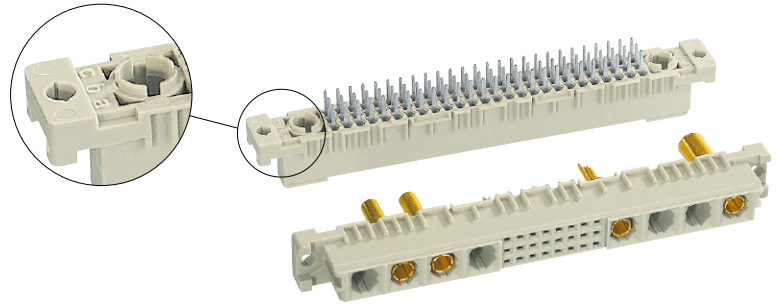
Other contact arrangements as well with lagging/leading pins on request

* 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



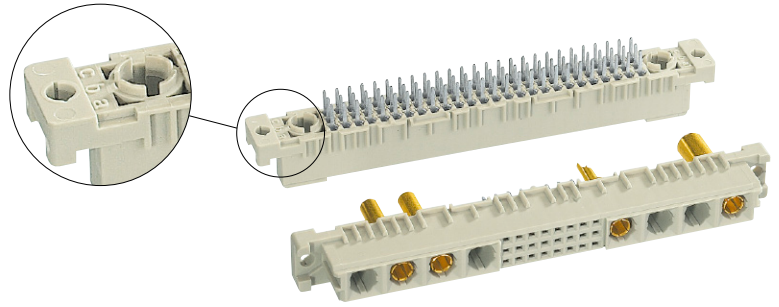
Female connectors

DIN Signal
up to 2 A

Identification	No. of contacts	Contact arrangement	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		Performance level 3 on request	09 03 278 6804		
	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			09 03 278 6805		
	60 + 4			09 03 260 6805		
	42 + 6			09 03 242 6805		
	24 + 8			09 03 224 6805		
Female connector with solder pins 13 mm (without special contacts)	78 + 2			09 03 278 6401		
	60 + 4			09 03 260 6401		
	42 + 6			09 03 242 6401		
	24 + 8			09 03 224 6401		
Female connector with press-in pins 4.5 mm (without special contacts)	78 + 2			09 03 278 6850		09 03 278 2850
	60 + 4			09 03 260 6850		
	42 + 6			09 03 242 6850		
	24 + 8			09 03 224 6850		

Number of contacts

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



Female connectors

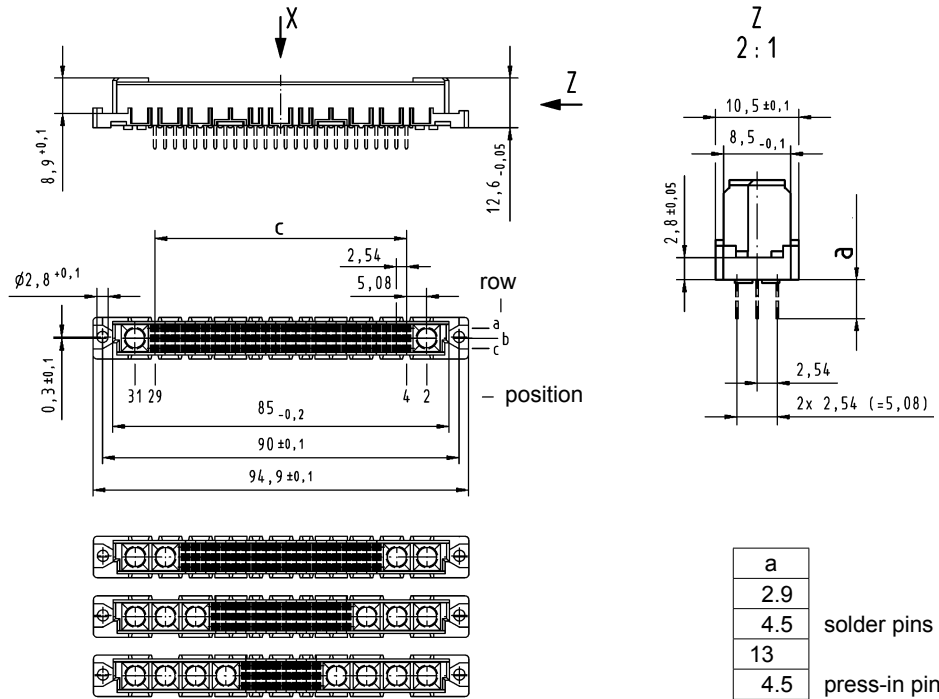
Identification

Drawing

Dimensions in mm

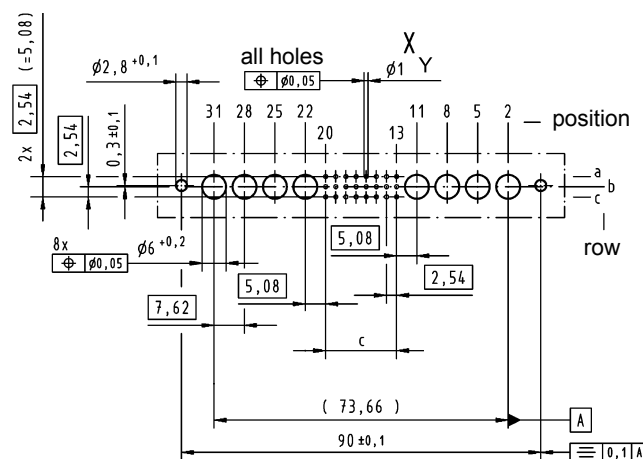
Dimensions

Order high current, high voltage, coaxial and fibre optic contacts separately, see pages 01.40 ff



Board drillings
Mounting side

Board drillings depend on type and special contact loading



	Y
Solder	1 ± 0.1
Press-in	see recommendation page 00.25

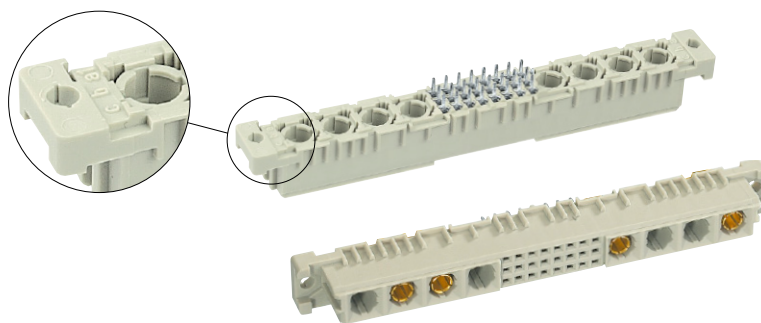
Type	c
78 + 2	25 x 2.54 = 63.5
60 + 4	19 x 2.54 = 48.26
42 + 6	13 x 2.54 = 33.02
24 + 8	7 x 2.54 = 17.78

Dimensions in mm

DIN Signal up to 2 A

Number of contacts

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



Female connectors

DIN Signal
up to 2 A

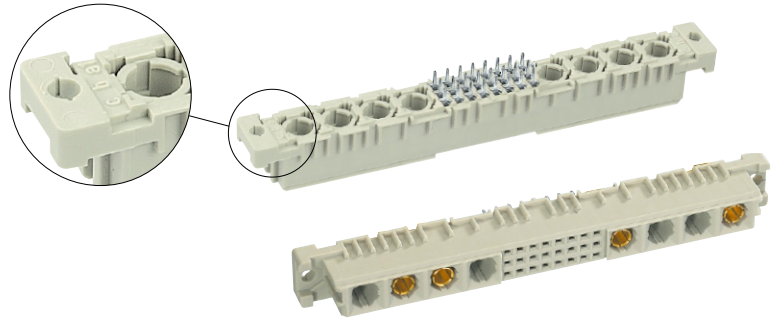
Identification	No. of contacts	Contact arrangement	Performance levels according to IEC 60 603-2. Explanation chapter 00			
			Part number 3	2	1	
Female connector with solder pins 2.9 mm (without special contacts)*	78 + 2		Performance level 3 on request	09 03 278 6864		
	60 + 4			09 03 478 6864 ^{b)}		
	42 + 6			09 03 260 6864		
	24 + 8			09 03 242 6864		
Female connector with solder pins 4.5 mm (without special contacts)*	78 + 2			09 03 278 6865		
	60 + 4			09 03 260 6865		
	42 + 6			09 03 242 6865		
	24 + 8			09 03 224 6865		
Female connector with press-in pins 4.5 mm (without special contacts)*	78 + 2			09 03 278 6830		
	60 + 4			09 03 260 6830		
	42 + 6			09 03 242 6830		
	24 + 8			09 03 224 6830		09 03 224 2830
Female connector with press-in pins 13 mm (without special contacts)* with press-in terminations for rear interfacing Usage of HARTING shroud recommended: contacts for rear interfacing selectively gold plated (performance level 3)	78 + 2			09 03 278 6840		
	60 + 4			09 03 260 6840		09 03 260 2840
	42 + 6			09 03 242 6840		
	24 + 8			09 03 224 6840		

* 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

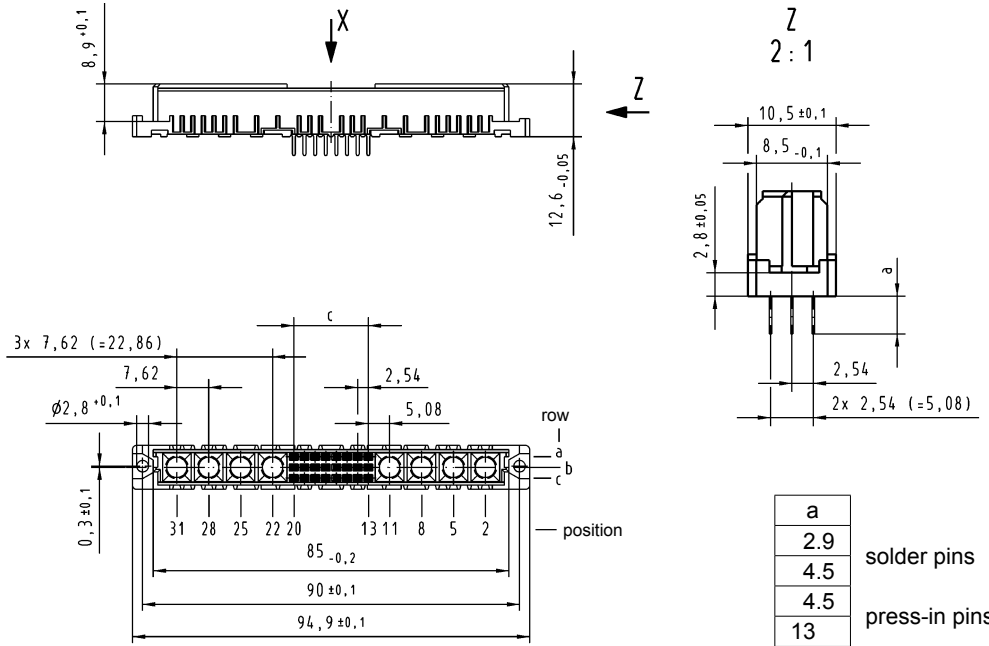
Identification

Drawing

Dimensions in mm

Dimensions

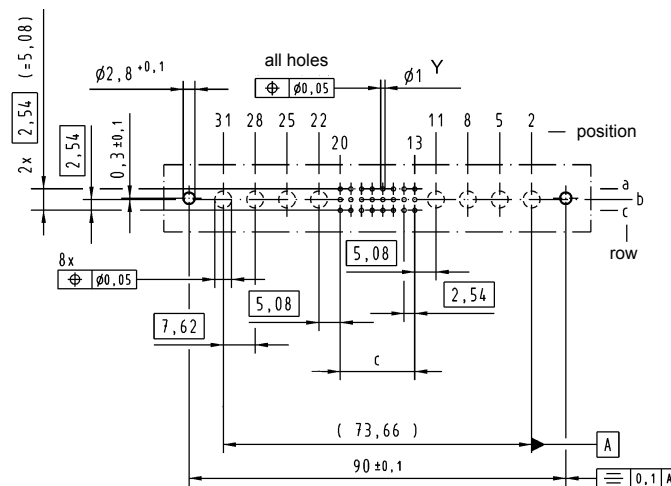
Order high current, high voltage, coaxial and fibre optic contacts separately, see pages 01.40 ff



Board drillings

Mounting side

Board drillings depend on type and special contact loading



	Y
Solder	1 ± 0.1
Press-in	see recommendation page 00.25

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

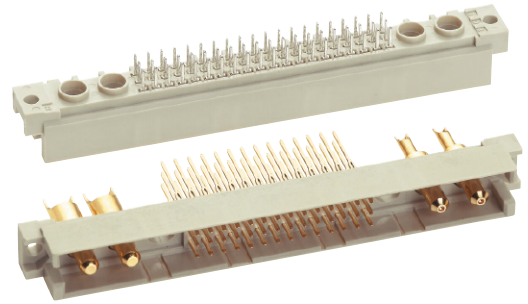
Dimensions in mm

DIN Signal
up to 2 A

01
47

Number of contacts

78+2, 60+4, 42+6,
24+8, 6+10



Male connectors

DIN Signal
up to 2 A

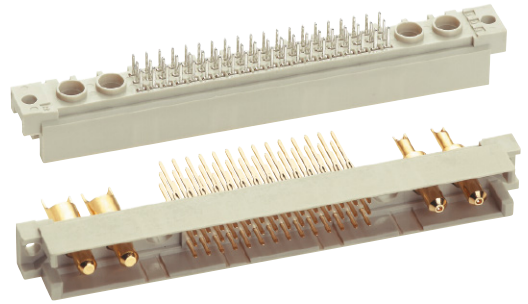
Identification	No. of contacts	Contact arrangement	Part number	Performance levels according to IEC 60603-2. Explanation chapter 00		
				3	2	1
Male connector with solder pins 2.5 mm	78 + 2		Performance level 3 on request	09 73 178 6902	Performance level 1 on request	
	60 + 4			09 73 160 6902		
	42 + 6			09 73 142 6902		
	24 + 8			09 73 124 6902		
	6 + 10			09 73 106 6902		
Male connector with solder pins 4.0 mm	78 + 2			09 73 178 6903		
	60 + 4			09 73 160 6903		
	42 + 6			09 73 142 6903		
	24 + 8			09 73 124 6903		
	6 + 10			09 73 106 6903		
Male connector with solder pins 6.0 mm	78 + 2			09 73 178 6991		
	60 + 4			09 73 160 6991		
	42 + 6			09 73 142 6991		
	24 + 8			09 73 124 6991		
	6 + 10			09 73 106 6991		
Male connector with wrap posts 13 mm	78 + 2		09 73 178 6907			
	60 + 4		09 73 160 6907			
	42 + 6		09 73 142 6907			
	24 + 8		09 73 124 6907			
	6 + 10		09 73 106 6907			
Male connector with press-in pins 13 mm (5.0 mm on request)	78 + 2		09 73 178 6974●			
	60 + 4		09 73 160 6974●			
	42 + 6		09 73 142 6974●			
	24 + 8		09 73 124 6974●			
	6 + 10		09 73 106 6974●			

Male connectors with 17 mm wrap posts on request
 ● Wrap posts for interfacing selectively gold plated (performance level 3)
 Other contact arrangements on request

Number of contacts

78+2, 60+4, 42+6,
24+8, 6+10

Male connectors

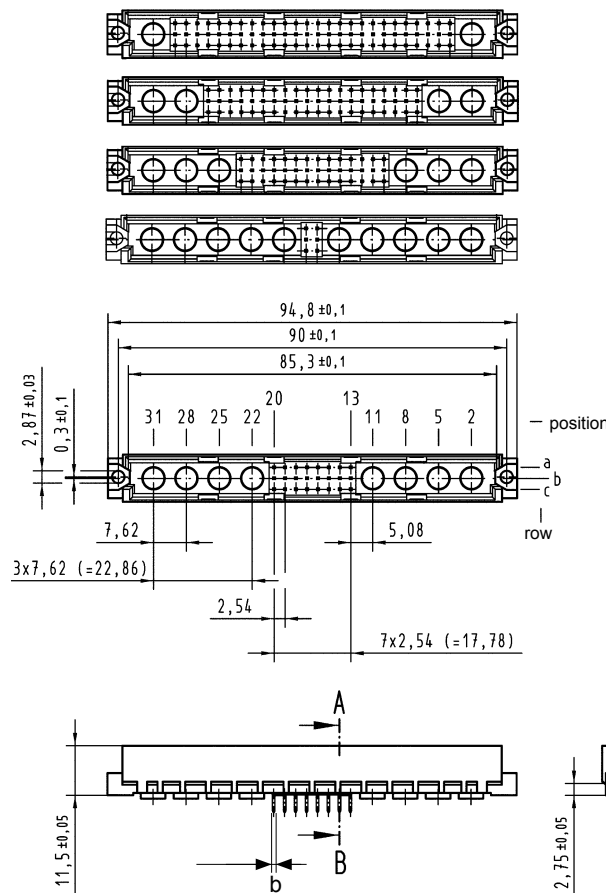


Identification

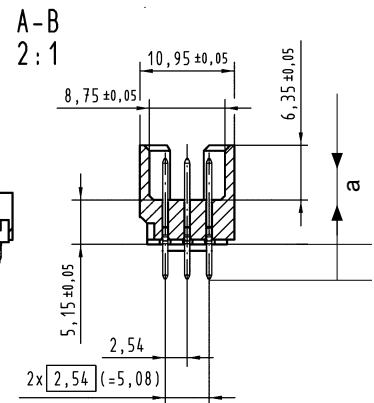
Drawing

Dimensions in mm

Dimensions



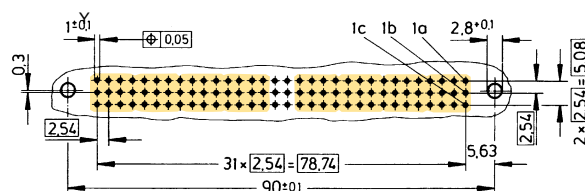
a	b	
2.5	∅ 0.7	Solder pins
4.0		
6.0		
13	□ 0.6	Wrap posts
5.0	-	Press-in pins
13	-	



Order high current, high voltage, coaxial and fibre optic contacts separately, see pages 01.40 ff

Board drillings

Mounting side

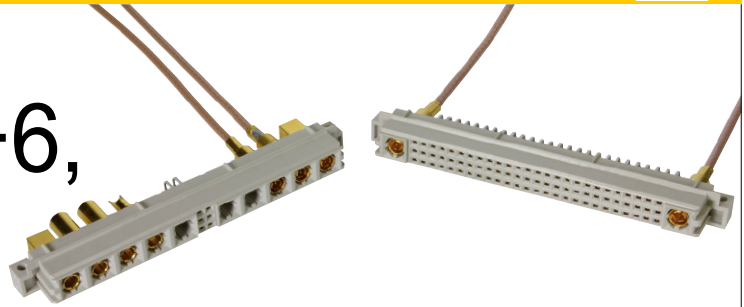


	Y
Solder	1 ± 0.1
Press-in	see recommendation page 00.25

Board drillings depend on type and special contact loading

Number of contacts

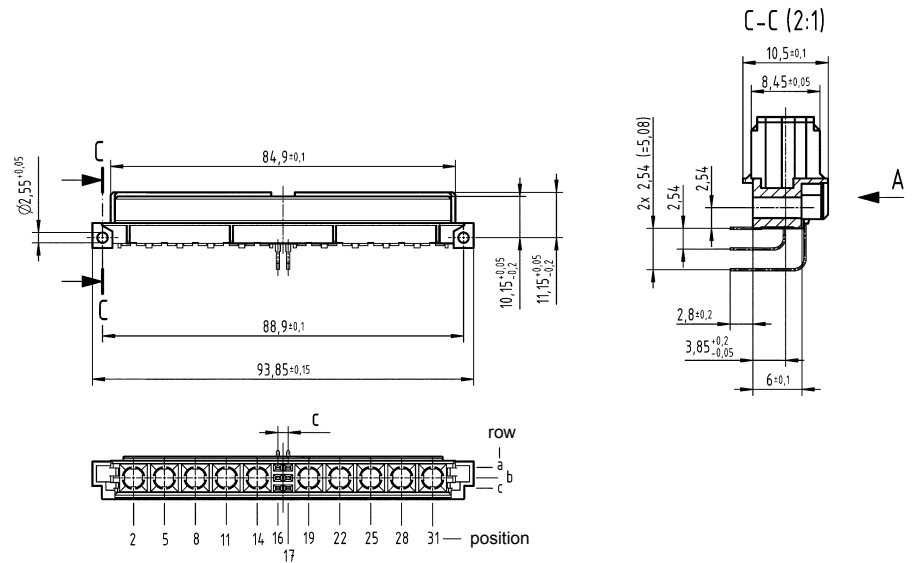
78+2, 60+4, 42+6, 24+8, 6+10



Female connectors

Identification	No. of contacts	Contact arrangement	Part number 3	Performance levels according to IEC 60 603-2. Explanation chapter 00 2	1
Female connector with angled solder pins (without special contacts)*	78 + 2		Performance level 3 on request	09 73 278 6801	Performance level 1 on request
	60 + 4			09 73 260 6801	
	42 + 6			09 73 242 6801	
	24 + 8			09 73 224 6801	
	6 + 10			09 73 206 6801	

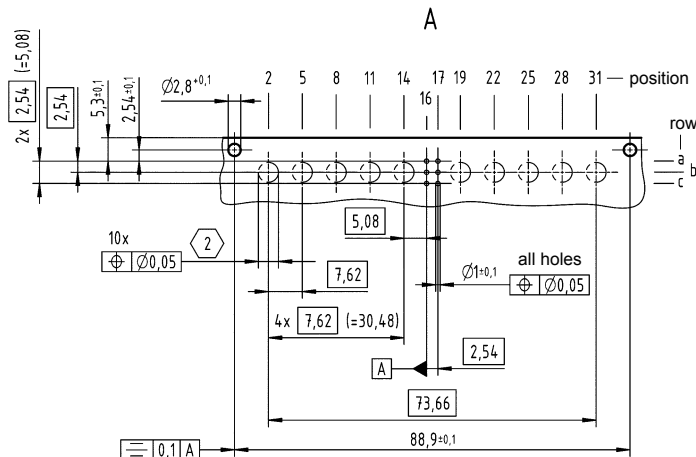
Dimensions



Order high current, high voltage, coaxial and fibre optic contacts separately

Board drillings

Mounting side

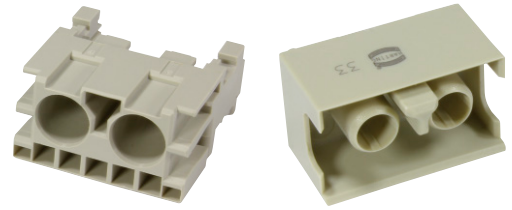


Type	c
78 + 2	25 x 2,54 = 63,5
60 + 4	19 x 2,54 = 48,26
42 + 6	13 x 2,54 = 33,02
24 + 8	7 x 2,54 = 17,78
6 + 10	1 x 2,54 = 2,54

Dimensions in mm

Number of contacts

0+2



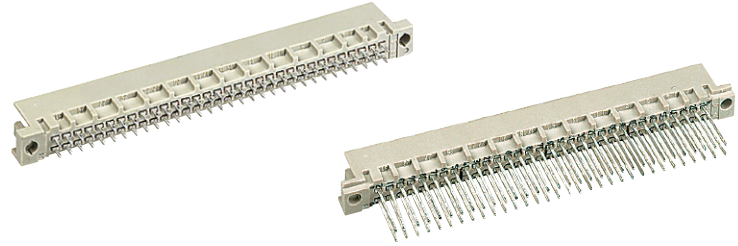
Male and female connectors

Identification	No. of contacts	Part number	Drawing	Dimensions in mm
<p>Male connector, angled (without special contacts)</p> <p>Order high current, high voltage, coaxial and fibre optic contacts separately, see pages 01.40 ff</p>	<p>0 + 2</p>	<p>09 29 002 3201</p>	<p>A-A 90°</p> <p>max 23 20</p> <p>3.75 3.5 2.5 10 18.5 13</p> <p>29.7</p> <p>4x2.5(±0)</p> <p>holes for special contacts acc. to DIN 41626</p> <p>B</p> <p>board layout for straight contacts acc. to DIN 41626</p> <p>B</p> <p>board layout for angled contacts acc. to DIN 41626</p> <p>all holes $\varnothing_{\pm 0.05}$</p> <p>2x $\varnothing_{\pm 0.05}$</p> <p>20</p> <p>$\varnothing_{2.15}^{+0.05}$</p> <p>2.5(±0.1)</p> <p>6</p> <p>9.5</p> <p>5.08</p> <p>2.54</p> <p>2.46</p> <p>5.08</p>	
<p>Female connector, straight (without special contacts)</p> <p>Order high current, high voltage, coaxial and fibre optic contacts separately, see pages 01.40 ff</p>	<p>0 + 2</p>	<p>09 29 002 3401</p>	<p>A</p> <p>24.8</p> <p>13.65</p> <p>10</p> <p>16.6</p> <p>14.85</p> <p>6.2</p> <p>2.5</p> <p>holes for special contacts acc. to DIN 41626</p> <p>A</p> <p>board drillings not metalised</p> <p>20</p> <p>10</p> <p>3.75</p> <p>10</p> <p>2x $\varnothing_{\pm 0.05}$</p> <p>$\varnothing_{6.2}^{+0.05}$</p> <p>$\varnothing_{2.15}^{+0.05}$</p> <p>2x $\varnothing_{\pm 0.05}$</p>	<p>Dimensions in mm</p>

DIN Signal up to 2 A

Number of contacts

64

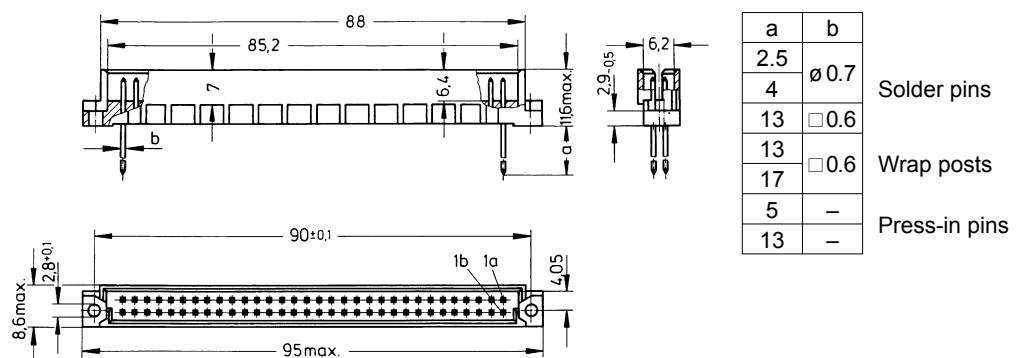


Male connectors

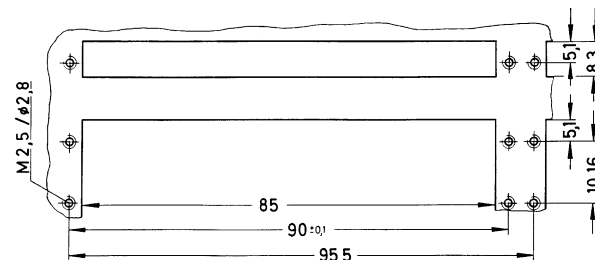
Identification	No. of contacts	Contact arrangement	Part number	Performance levels according to IEC 60603-2. Explanation chapter 00
			3	2
Male connector with solder pins 2.5 mm	64		09 72 164 7902	09 72 164 6902 09 72 364 6902 ^{b)}
	4.0 mm		09 72 164 7903	09 72 164 6903
	13 mm			09 72 164 6577
Male connector with wrap posts ¹⁾	13 mm		09 72 164 7907	09 72 164 6907
	17 mm			09 72 164 6909
Male connector with press-in pins	64			09 72 164 6904
	62 + 2 [▲]			09 72 164 6954
	64			09 72 164 6985 ^{w)} 09 72 164 6974* 09 72 164 6995 ^{w)}

Performance level 1 on request

Dimensions

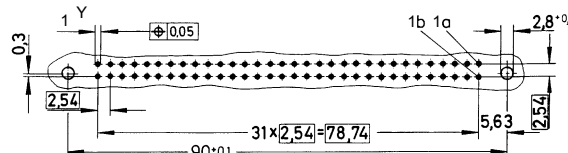


Panel cut out



Board drillings

Mounting side



	Y
Solder	1 ± 0.1
Press-in	see recommendation page 00.25

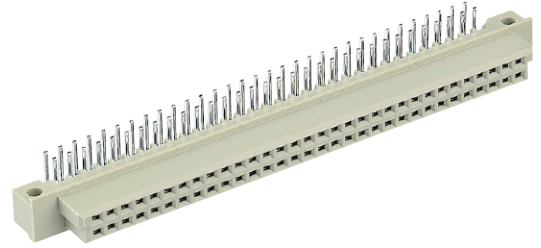
Dimensions in mm

Other contact arrangements as well with lagging/leading pins on request
[▲] Male connectors with 2 leading contacts (0.8 mm) pos. a1 and a32/a16
^{*} Wrap posts for interfacing selectively gold plated (performance level 3)

¹⁾ To be used only for wire wrap termination
^{b)} Connectors with snap-in clips see chapter 00
^{w)} Wrap posts not for interfacing, no performance level

Number of contacts

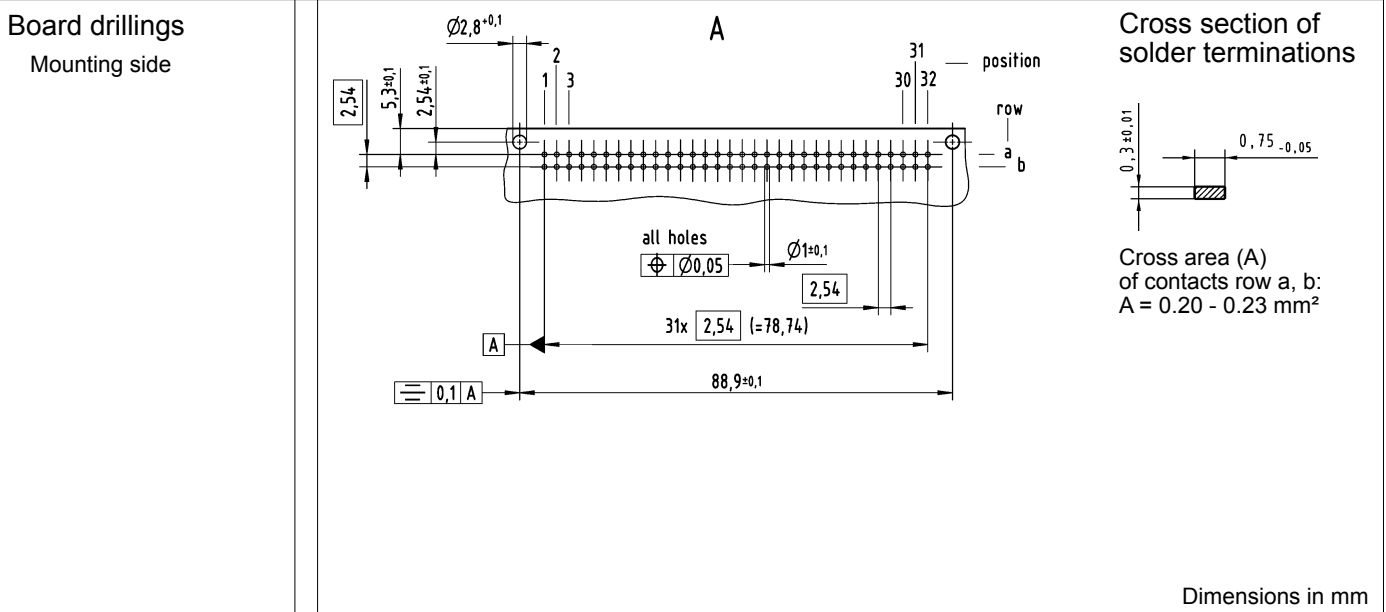
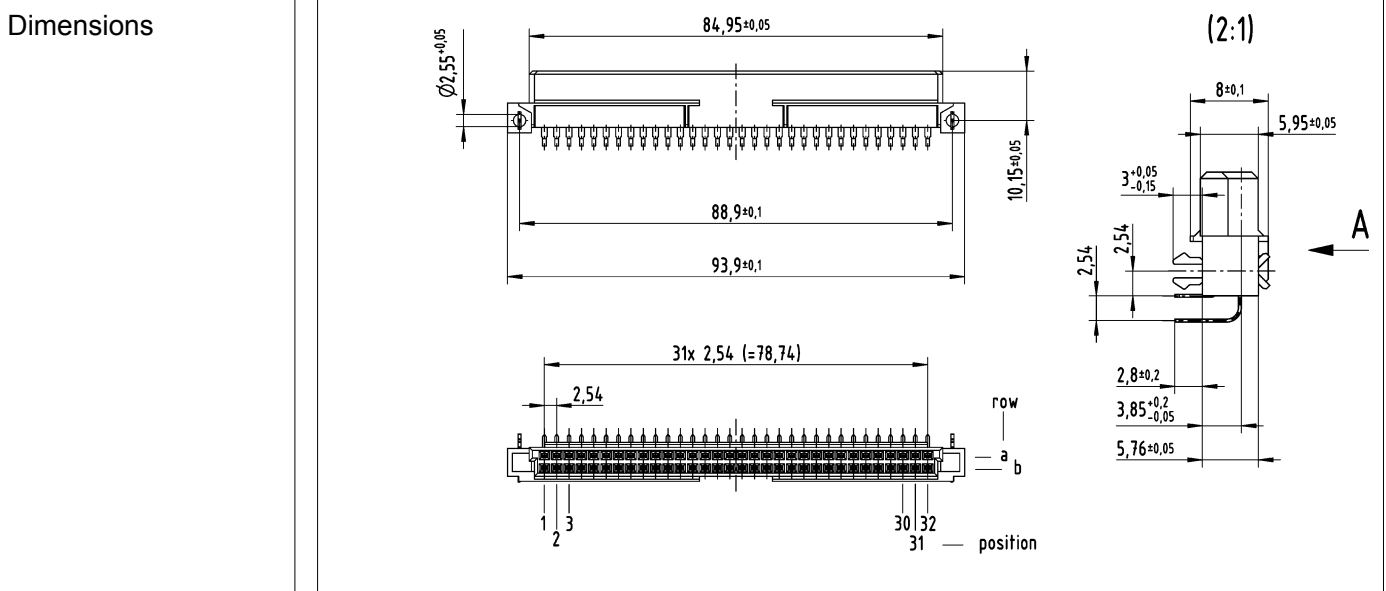
64



Female connectors

Identification	No. of contacts	Contact arrangement	Part number			Performance levels according to IEC 60603-2. Explanation chapter 00		
			3	2	1	3	2	1
Female connector with angled solder pins	64		Performance level 3 on request	09 72 264 6801	Performance level 1 on request	09 72 464 6801 ^{b)}		
	THR	64				09 72 264 6804 ^{d)}		

DIN Signal up to 2 A



Dimensions in mm

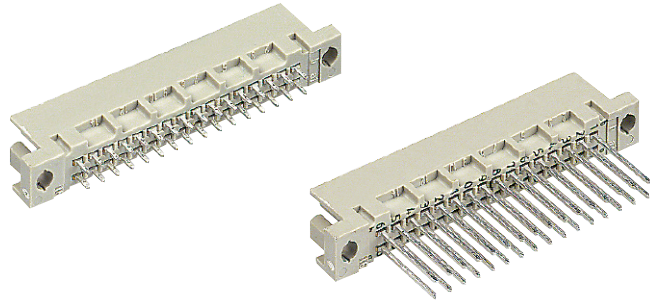
Other contact arrangements as well with lagging/leading pins on request

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

^{d)} CTI > 400

Number of contacts

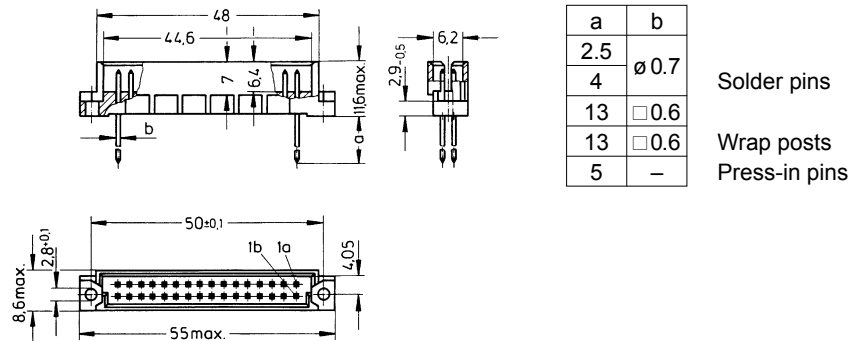
32



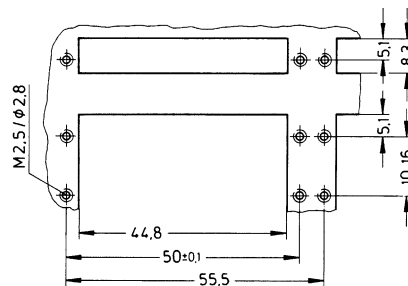
Male connectors

Identification	No. of contacts	Contact arrangement	Part number	Performance levels according to IEC 60603-2. Explanation chapter 00		
				3	2	1
Male connector with solder pins 2.5 mm 4.0 mm 13 mm	32		09 27 132 7902 09 27 332 7902	09 27 132 6902	09 27 132 2903	
	32		09 27 132 7903	09 27 132 6903		
	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 5.0 mm	32 30 + 2 [▲]			09 27 132 6904 09 27 132 6954		

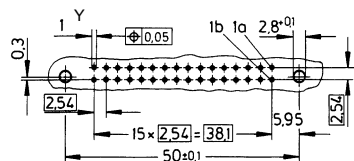
Dimensions



Panel cut out



Board drillings
Mounting side



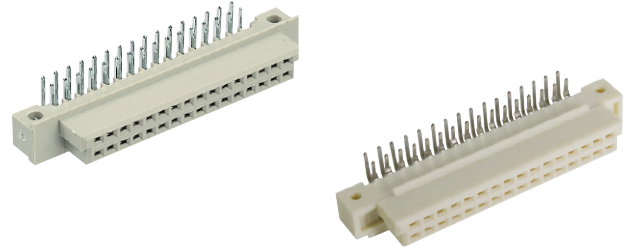
	Y
Solder	1 ± 0.1
Press-in	see recommendation page 00.25

Dimensions in mm

Other contact arrangements as well with lagging/leading pins on request
[▲] Male connectors with 2 leading contacts (0.8 mm) pos. a1 and a32/a16
¹⁾ To be used only for wire wrap termination

Number of contacts

32

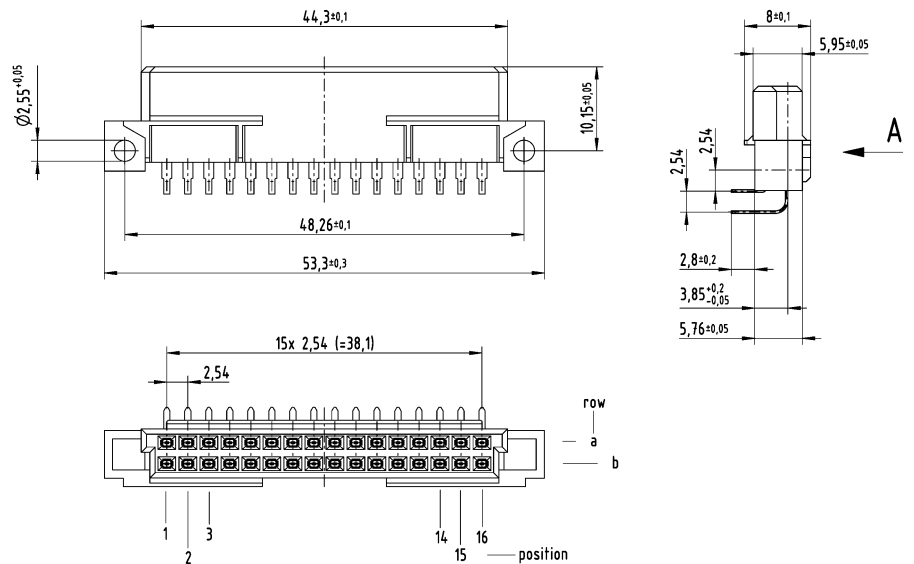


Female connectors

Identification	No. of contacts	Contact arrangement	Part number	Performance levels according to IEC 60603-2. Explanation chapter 00
			3	2 1
Female connector with angled solder pins THR THR, 150 pieces on a reel	32		Performance level 3 on request	09 27 232 6801
	32			09 27 232 6804 ^{d)} 09 27 232 6804 791 ^{d)}

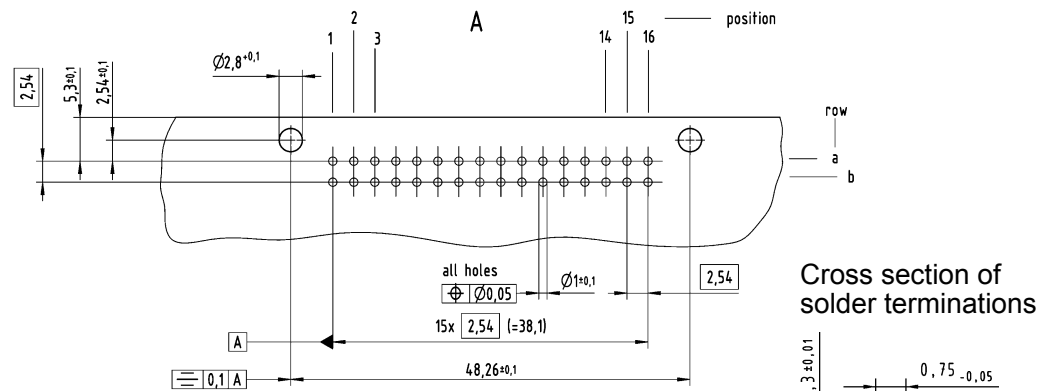
DIN Signal up to 2 A

Dimensions



Board drillings

Mounting side

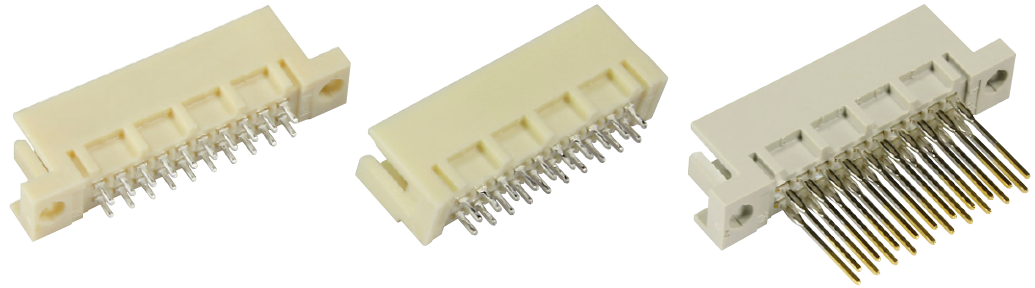


Other contact arrangements as well with lagging/leading pins on request

^{d)} CTI > 400

Number of contacts

20



Male connectors

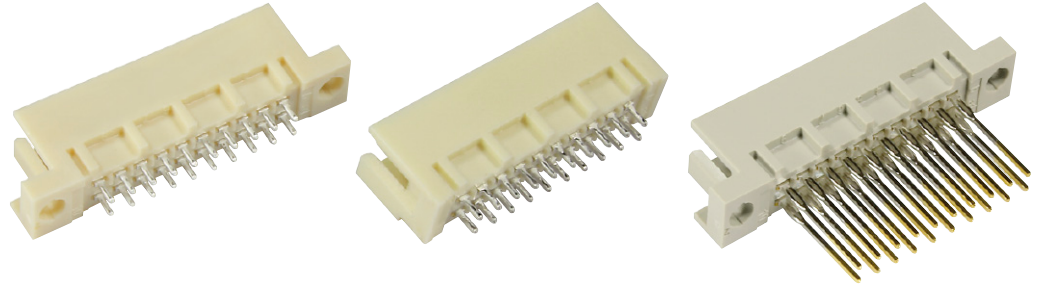
Identification	No. of contacts	Contact arrangement	Part number	Performance levels according to IEC 60603-2. Explanation chapter 00	
				3	2
Male connector with solder pins 2.5 mm with fixing flange with fixing flange, THR with fixing flange, THR, 240 pieces on a reel without fixing flange without fixing flange, THR without fixing flange, THR, 240 pieces on a reel	20		Performance level 3 on request	09 75 120 6902	Performance level 1 on request
	20			09 75 120 6519 ^{d)} 09 75 120 6519 792 ^{d)}	
	20			09 75 120 6592	
	20			09 75 120 6569 ^{d)} 09 75 120 6569 792 ^{d)}	
Male connector with solder pins 4.0 mm with fixing flange with fixing flange, THR without fixing flange without fixing flange, THR	20			09 75 120 6903	
	20			09 75 120 6520 ^{d)}	
	20			09 75 120 6593	
	20			09 75 120 6570 ^{d)}	
Male connector with solder pins 13 mm with fixing flange with fixing flange, THR	20		09 75 120 6577		
	20		09 75 120 6521 ^{d)}		
Male connector with wrap posts¹⁾ 13 mm with fixing flange	20		09 75 120 6907		
Male connector with press-in pins 5.0 mm with fixing flange without fixing flange	20		09 75 120 6904		
	20		09 75 120 6504		

¹⁾ To be used only for wire wrap termination

^{d)} CTI > 400

Number of contacts

20



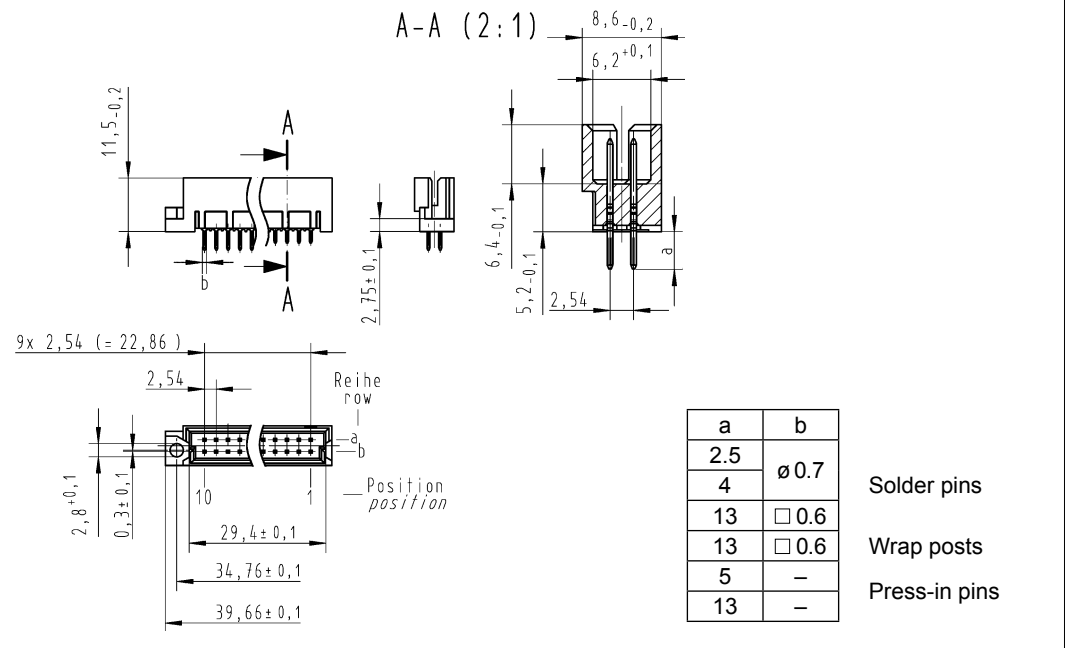
Male connectors

Identification	No. of contacts	Contact arrangement	Part number	Performance levels according to IEC 60603-2. Explanation chapter 00	
			3	2	1
Male connector with press-in pins 13 mm with fixing flange	20		Performance level 3 on request	09 75 120 6985 ^{w)} 09 75 120 6974 [*]	Performance level 1 on request
without fixing flange	20			09 75 120 6574 [*]	

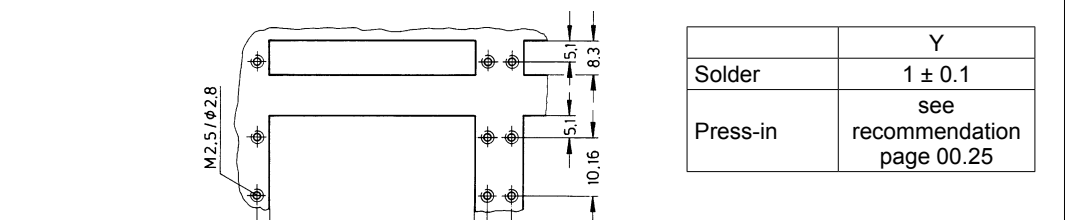
DIN Signal up to 2 A

Identification Drawing Dimensions in mm

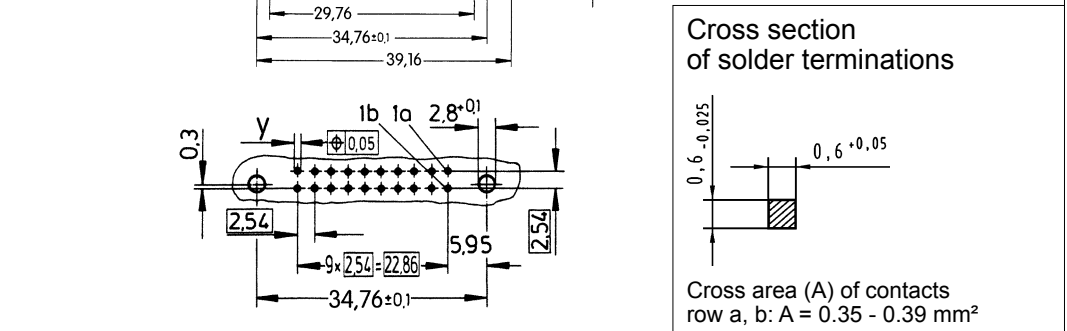
Dimensions



Panel cut out



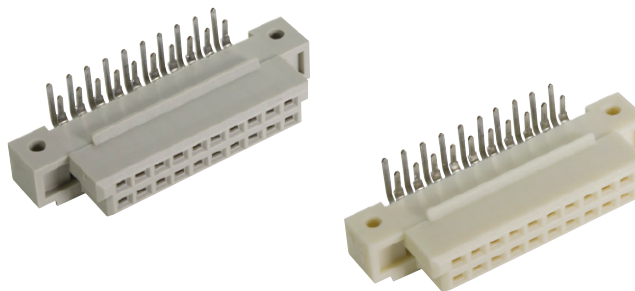
Board drillings
Mounting side



Other contact arrangements as well with lagging/leading pins on request
^{*} Wrap posts for interfacing selectively gold plated (performance level 3)
^{w)} Wrap posts not for interfacing, no performance level

Number of contacts

32

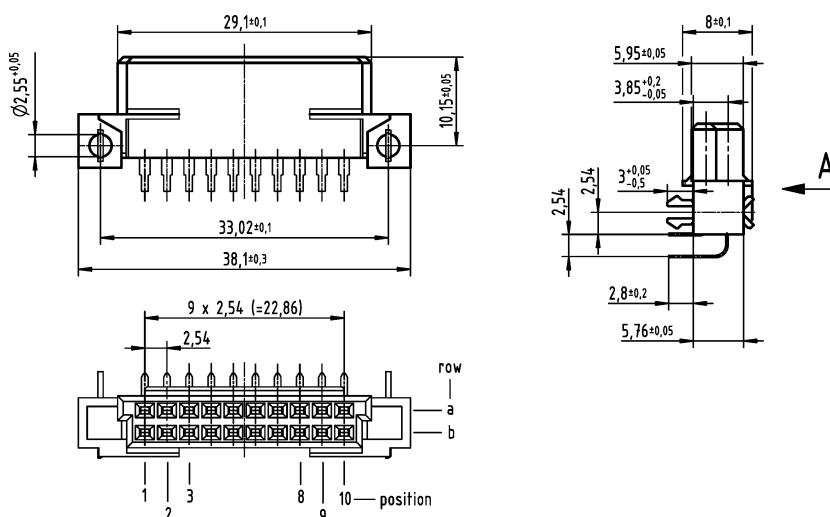


Female connectors

DIN Signal up to 2 A

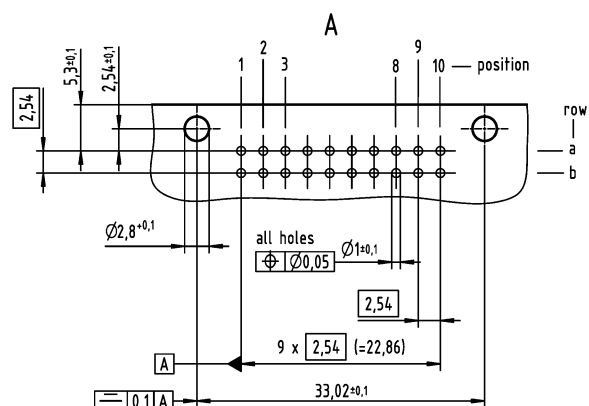
Identification	No. of contacts	Contact arrangement	Part number	Performance levels according to IEC 60603-2. Explanation chapter 00
			3	2
Female connector with angled solder pins	20		Performance level 3 on request	09 75 220 6801 09 75 420 6801 ^{b)}
THR	20			09 75 220 6804 ^{d)} 09 75 420 6804 ^{b)d)}
THR on a reel				09 75 220 6804 791 ^{d)}
				1
				Performance level 1 on request

Dimensions

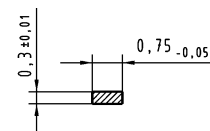


Board drillings

Mounting side



Cross section of solder terminations



Cross area (A) of contacts row a, b:
A = 0.20 - 0.23 mm²

Dimensions in mm

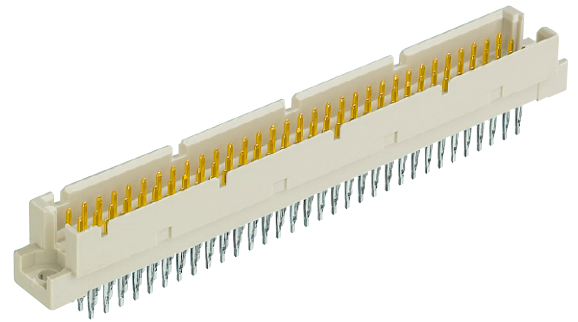
Other contact arrangements as well with lagging/leading pins on request

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

^{d)} CTI > 400

Number of contacts

96, 64

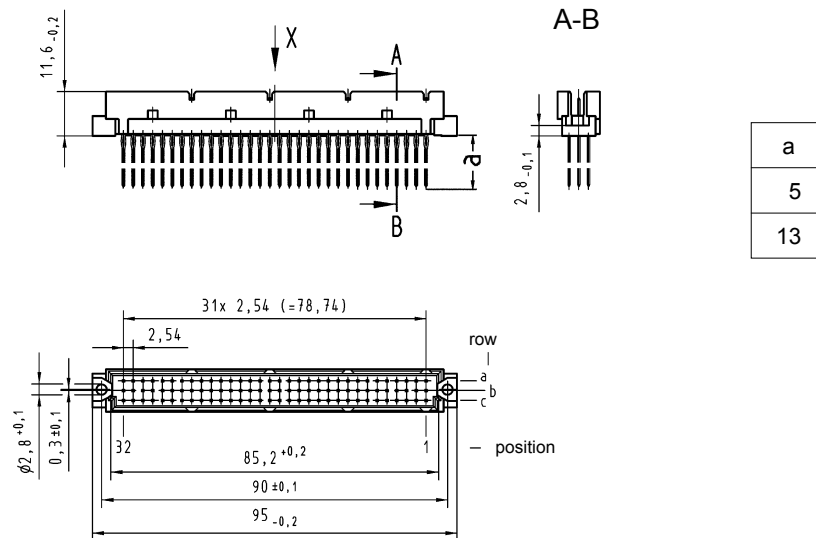


Male connectors

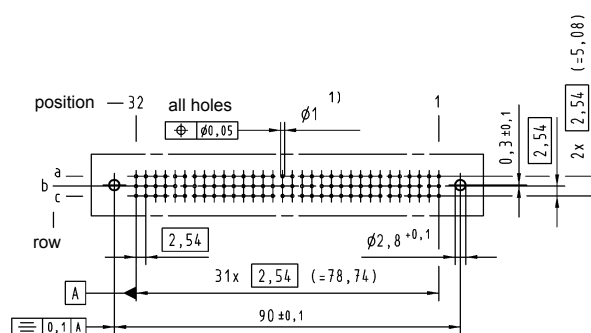
Identification	No. of contacts	Contact arrangement	Part number 3	Performance levels according to IEC 60 603-2. Explanation chapter 00 2	1
Male connector with press-in terminations	5.0 mm		Performance level 3 on request	Performance level 2 on request	09 79 196 2950
					09 79 164 2950
	13 mm				09 79 196 2961*

DIN Signal
up to 2 A

Dimensions



Board drillings
Mounting side



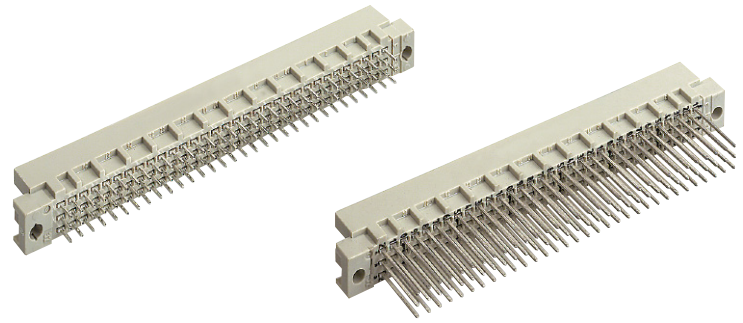
Dimensions in mm

* Wrap posts for interfacing selectively gold plated (performance level 1)
¹⁾ refer to recommended configuration of pcb holes, see page 00.25

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

Number of contacts

96, 64



Male connectors

DIN Signal
up to 2 A

Identification	No. of contacts	Contact arrangement	Performance levels according to IEC 60603-2. Explanation chapter 00		
			3	2	1
Male connector with solder pins 2.5 mm THR	96		09 73 196 7902	09 73 196 6902 09 73 396 6902 ^{b)} 09 73 696 6902 ^{c)}	09 73 196 2902
	96			09 73 196 6519 ^{d)}	
	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 THR	96		09 73 196 7903	09 73 196 6903 09 73 196 6903 222 ^{f)} 09 73 396 6903 ^{b)} 09 73 196 6953	09 73 196 2903
	94 + 2 [▲]			09 73 196 6520 ^{d)}	
	96				
	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 THR	96			09 73 196 6577	09 73 196 2577
	96			09 73 196 6521 ^{d)}	
	64			09 73 164 6577	
Male connector with wrap posts ¹⁾ 13 mm	96		09 73 196 7907	09 73 196 6907 09 73 696 6947 ^{●c)}	09 73 196 2907
	64		09 73 164 7907	09 73 164 6907 09 73 164 6947 [●] 09 73 664 6947 ^{●c)}	09 73 164 2907
Male connector with press-in pins 5.0 mm	96		09 73 196 7904	09 73 196 6904 09 73 696 6904 ^{c)} 09 73 196 6954	09 73 196 2904
	94 + 2 [▲]				
	64		09 73 164 7904	09 73 164 6904	09 73 164 2904
Male connector with press-in pins 13 mm	96		09 73 196 7974 [●]	09 73 196 6985 ^{w)} 09 73 196 6974 [●] 09 73 196 6995 ^{w)}	Performance level 1 on request
	94 + 2 [▲]				
	64			09 73 164 6985 ^{w)} 09 73 164 6974 [●]	

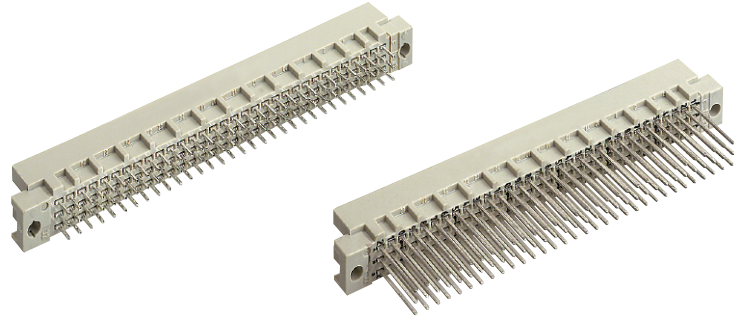
01
60

▲ Male connectors with 2 leading contacts [(0.8 mm) pos. a1 and a32]
 ● Wrap posts for interfacing selectively gold plated (performance level 3)
 ○ Railway classification NFF 16-101, Smoke index: F1, Flammability class: I2
 1) To be used only for wire wrap termination

b) Connectors with snap-in clips see chapter 00
 c) Connectors with coding see chapter 00
 d) CTI > 400
 w) Wrap posts not for interfacing, no performance level

Number of contacts

96, 64



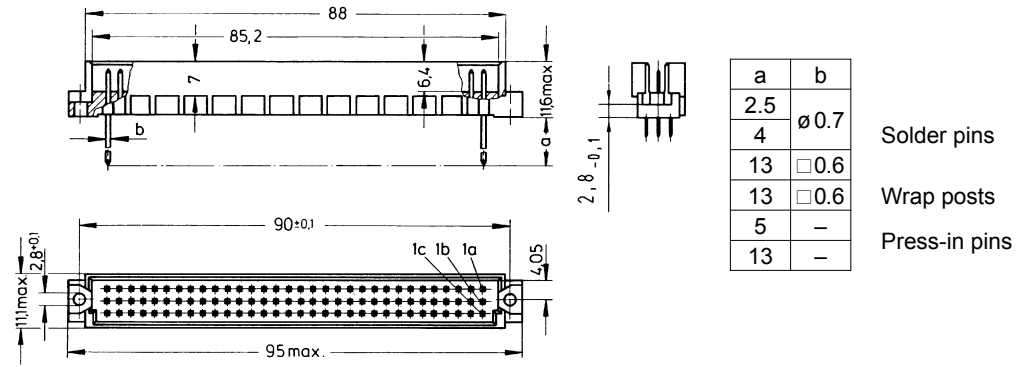
Male connectors

Identification

Drawing

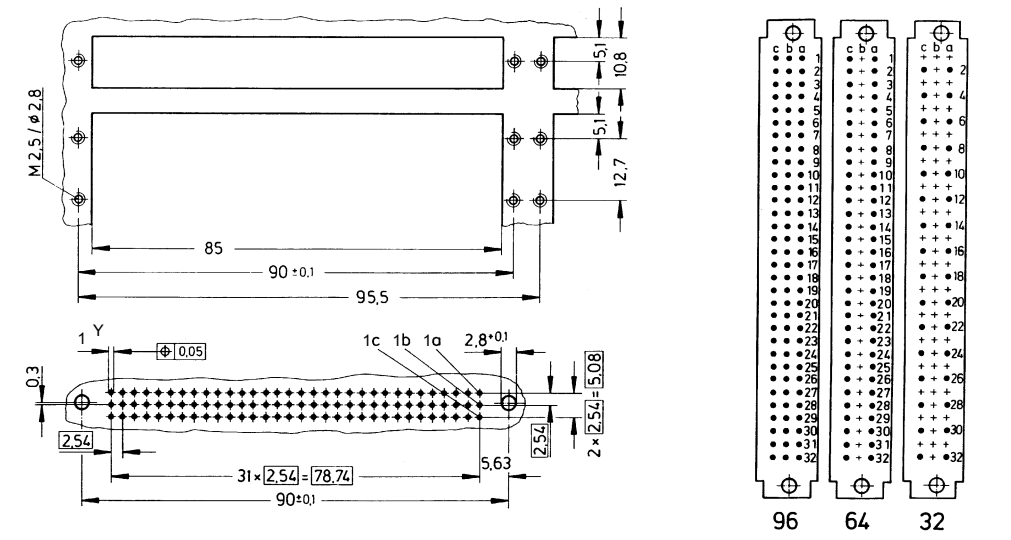
Dimensions in mm

Dimensions



Panel cut out

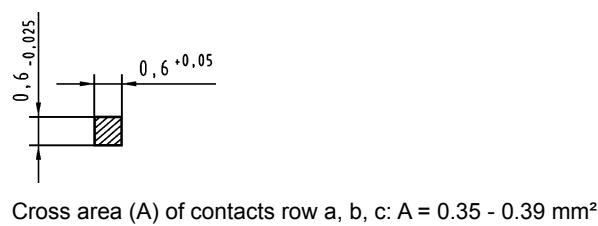
Board drillings
Mounting side



	Y
Solder	1 ± 0.1
Press-in	see recommendation page 00.25

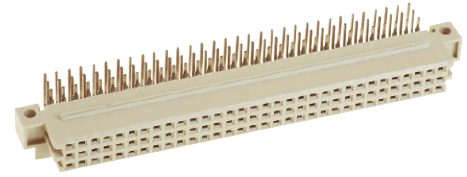
Contact arrangement
View from termination side

Cross section of solder terminations



Number of contacts

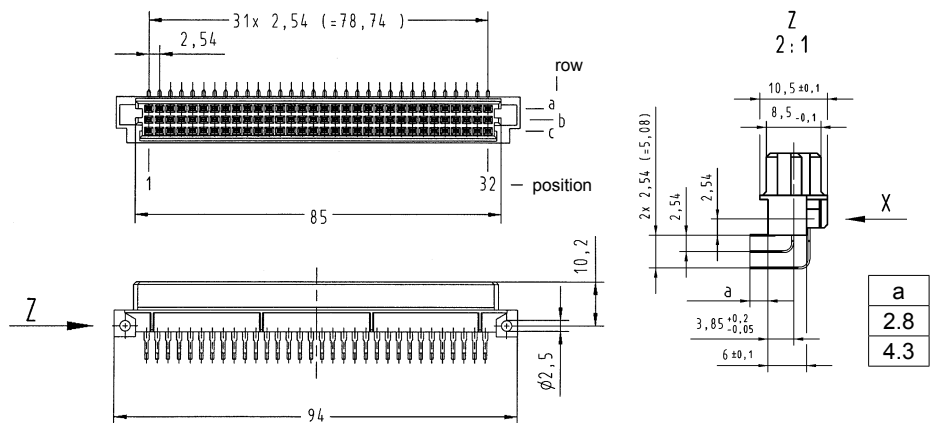
96, 64, 32



Female connectors

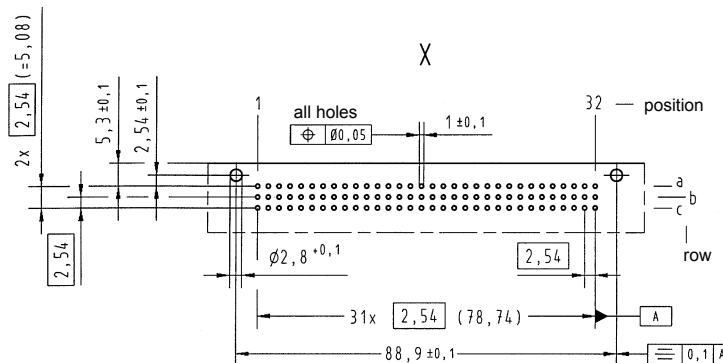
Identification	No. of contacts	Contact arrangement	Performance levels according to IEC 60603-2. Explanation chapter 00		
			Part number 3	2	1
Female connector with angled solder pins Length 2.8 mm	THR		09 73 296 7801 09 73 496 7801 ^{b)}	09 73 296 6801 09 73 496 6801 ^{b)} 09 73 796 6801 ^{c)}	09 73 296 2801
				09 73 296 6804 ^{d)} 09 73 496 6804 ^{b)d)}	09 73 496 2804 ^{b)d)}
			09 73 264 7801 09 73 464 7801 ^{b)}	09 73 264 6801 09 73 464 6801 ^{b)}	09 73 264 2801
	THR			09 73 264 6804 ^{d)} 09 73 464 6804 ^{b)d)}	09 73 264 2804 ^{d)} 09 73 464 2804 ^{b)d)}
			09 73 232 7801	09 73 232 6801	09 73 232 2801
				09 73 232 6811	
Length 4.3 mm	96			09 73 496 6855 ^{b)}	

Dimensions

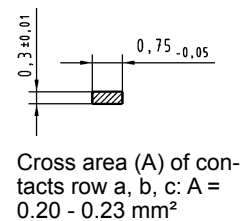


Board drillings

Mounting side



Cross section of solder terminations



Cross area (A) of contacts row a, b, c: A = 0.20 - 0.23 mm²

Dimensions in mm

Other contact arrangements on request

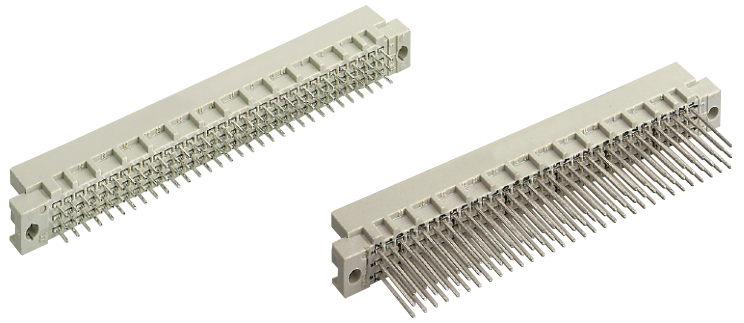
^{b)} Connectors with snap-in clips see chapter 00

^{c)} Connectors with coding see chapter 00

^{d)} CTI > 400

Number of contacts

96, 64

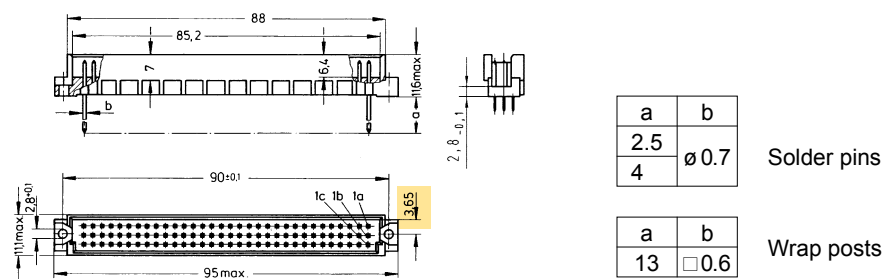


Male connectors

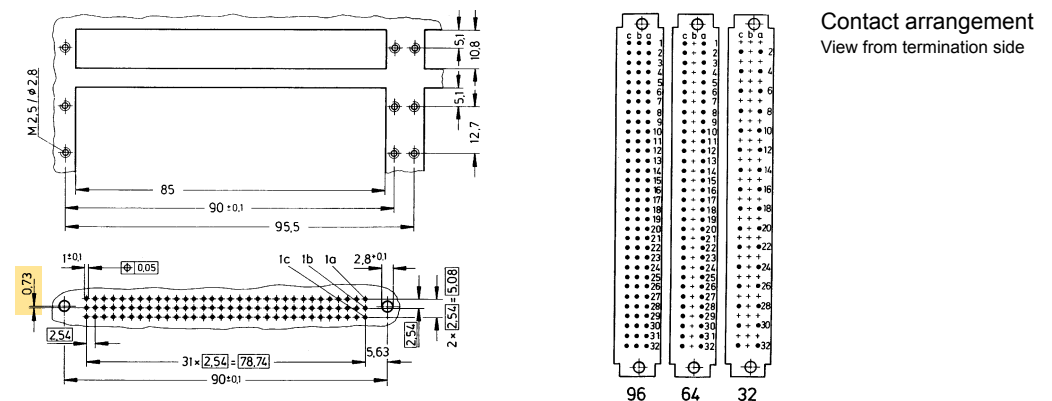
Identification	No. of contacts	Contact arrangement	Part number 3	Performance levels according to IEC 60603-2. Explanation chapter 00 2	1
Male connector with solder pins 2.5 mm	96		Performance level 3 on request	09 79 196 6902	Performance level 1 on request
Male connector with solder pins 4.0 mm	96			09 79 196 6903 09 79 396 6903 ^{b)}	
	64			09 79 164 6903 09 79 364 6903 ^{b)}	
Male connector with wrap posts ¹⁾ 13 mm	96			09 79 196 6907	
	64			09 79 164 6907	

DIN Signal up to 2 A

Dimensions



Panel cut out



Board drillings
Mounting side

Other contact arrangements on request

= deviating dimensions from standard male connectors (see page 01.60f)

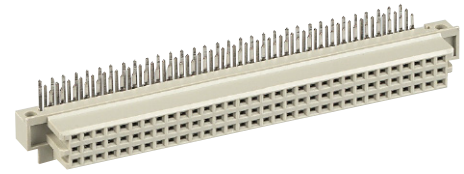
^{b)} Connectors with snap-in clips see chapter 00

¹⁾ To be used only for wire wrap termination

Dimensions in mm

Number of contacts

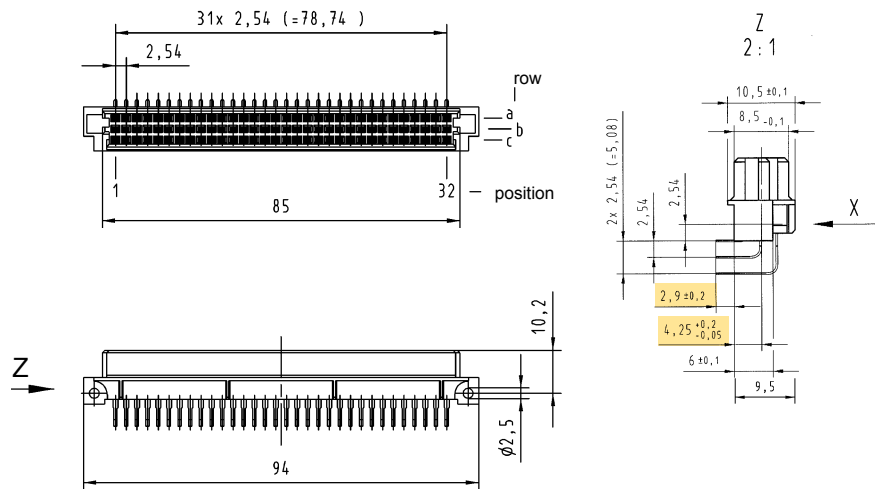
96, 64



Female connectors

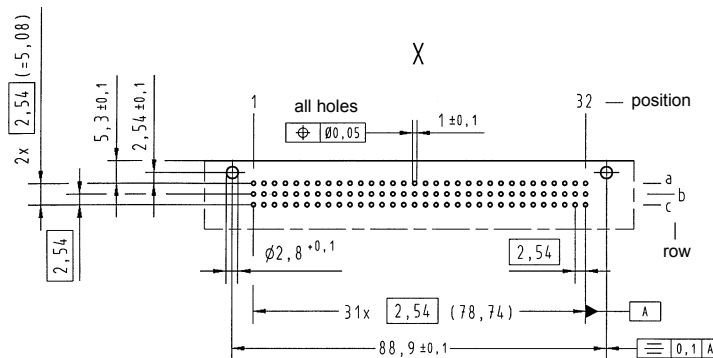
Identification	No. of contacts	Contact arrangement	Performance levels according to IEC 60603-2. Explanation chapter 00		
			Part number 3	2	1
Female connector with angled solder pins	96		09 79 296 7801	09 79 296 6801 09 79 496 6801 ^{b)}	Performance level 1 on request
	64		09 79 264 7801	09 79 264 6801 09 79 464 6801 ^{b)}	

Dimensions



Board drillings

Mounting side



Dimensions in mm

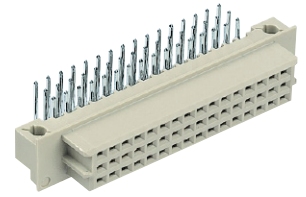
Other contact arrangements on request

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

 = deviating dimensions from standard female connectors (see page 01.62)

Number of contacts

48, 32

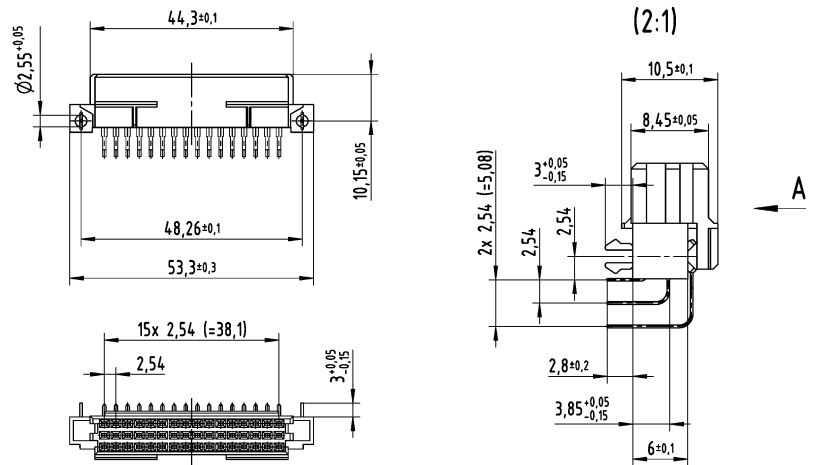


Female connectors

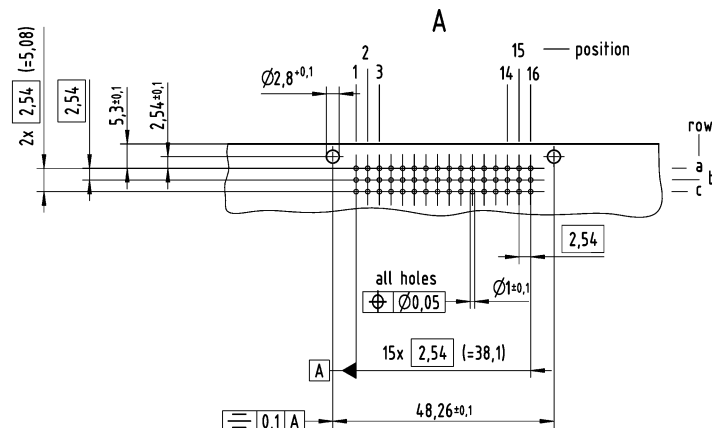
Identification	No. of contacts	Contact arrangement	Part number	Performance levels according to IEC 60603-2. Explanation chapter 00		
				3	2	1
Female connector with angled solder pins THR THR on a reel	48		Performance level 3 on request	09 28 248 6801 09 28 448 6801 ^{b)}	Performance level 1 on request	
	48			09 28 248 6804 ^{d)} 09 28 248 6804 791 ^{d)}		
	32			09 28 232 6801 09 28 432 6801 ^{b)}		

DIN Signal up to 2 A

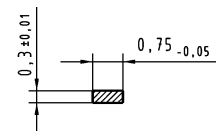
Dimensions



Board drillings
Mounting side



Cross section of solder terminations



Cross area (A) of contacts row a, b, c:
A = 0.20 - 0.23 mm²

Dimensions in mm

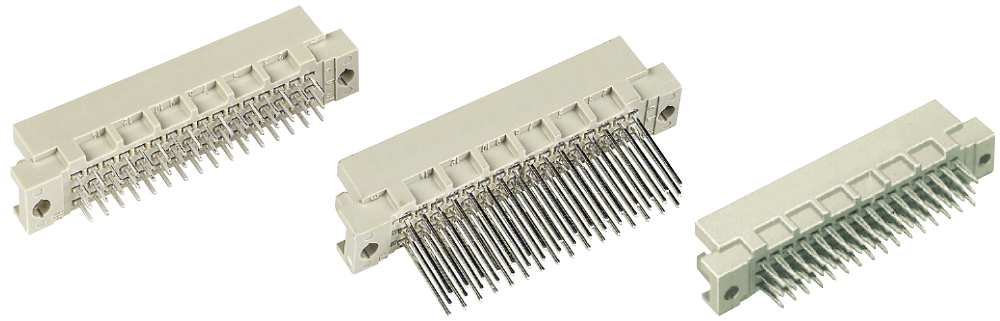
Other contact arrangements as well with lagging/leading pins on request

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

^{d)} CTI > 400

Number of contacts

48, 32



Male connectors

Identification	No. of contacts	Contact arrangement	Performance levels according to IEC 60603-2. Explanation chapter 00		
			3	2	1
Male connector with solder pins 2.5 mm	48		09 28 148 7902 09 28 348 7902 ^{b)}	09 28 148 6902 09 28 348 6902 ^{b)}	09 28 148 2902
		THR			
	32		09 28 132 7902	09 28 132 6902	09 28 132 2902
		THR			
Male connector with solder pins 4.0 mm	48		09 28 148 7903	09 28 148 6903 09 28 148 6903 222 ^{f)} 09 28 348 6903 ^{b)}	09 28 148 2903
		THR			
	32		09 28 132 7903	09 28 132 6903	09 28 132 2902
		THR			
Male connector with solder pins 13 mm	48			09 28 148 6577	
	THR	48			09 28 148 6521 ^{d)}
Male connector with wrap posts ¹⁾ 13 mm	48		09 28 148 7907	09 28 148 6907	09 28 148 2907
	32		09 28 132 7907	09 28 132 6907	09 28 132 2907
Male connector with press-in pins 5.0 mm	48		09 28 148 7904	09 28 148 6904	
	32				
Male connector with press-in pins 13 mm	48		09 28 148 7985	09 28 148 6985 ^{w)} 09 28 148 6974*	
	32				

DIN Signal up to 2 A

01
66

* Wrap posts for interfacing selectively gold plated (performance level 3)

¹⁾ To be used only for wire wrap termination

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

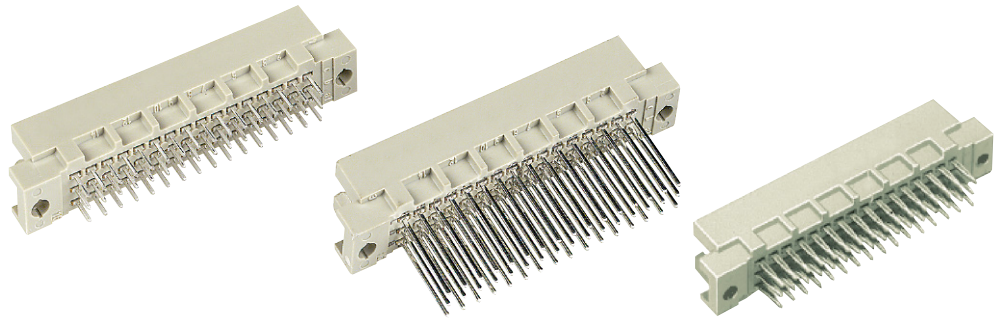
^{d)} CTI > 400

^{f)} Railway classification NFF 16-101, Smoke index: F1, Flammability class: I2

^{w)} Wrap posts not for interfacing, no performance level

Number of contacts

48, 32



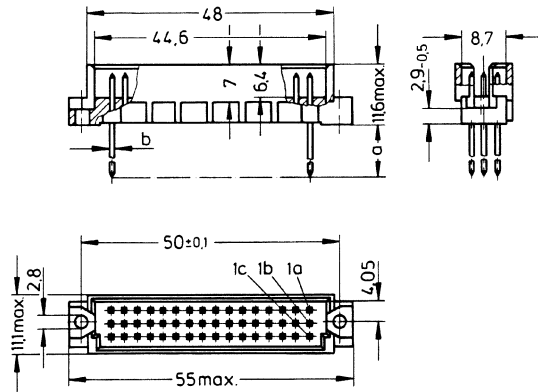
Male connectors

Identification

Drawing

Dimensions in mm

Dimensions



a	b
2.5	∅ 0.7
4	∅ 0.6
13	∅ 0.6
5	—
13	—

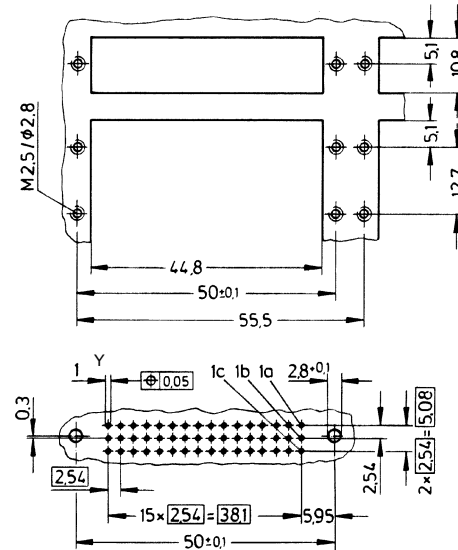
Solder pins

Wrap posts

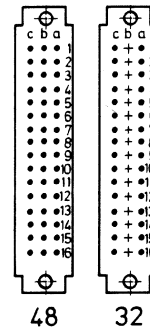
Press-in pins

Panel cut out

Board drillings
Mounting side

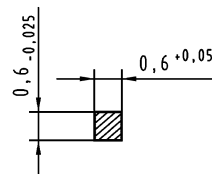


Contact arrangement
View from termination side



	Y
Solder	1 ± 0.1
Press-in	see recommendation page 00.25

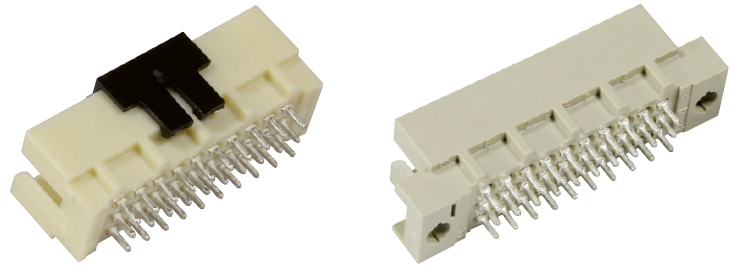
Cross section of solder terminations



Cross area (A) of contacts row a, b, c: $A = 0.35 - 0.39 \text{ mm}^2$

Number of contacts

30, 20



Male connectors

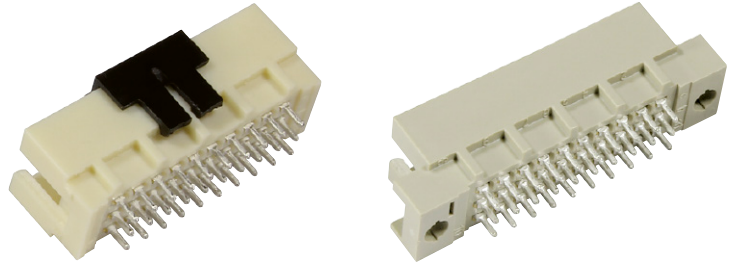
DIN Signal
up to 2 A

Identification	No. of contacts	Contact arrangement	Part number	Performance levels according to IEC 60603-2. Explanation chapter 00	
			3	2	1
Male connector with solder pins 2.5 mm	with fixing flange		Performance level 3 on request	09 29 130 6902	Performance level 1 on request
	with fixing flange, THR			09 29 120 6902	
	with fixing flange, THR, on a reel			09 29 130 6519 ^{d)}	
	without fixing flange			09 29 130 6519 792 ^{d)}	
	without fixing flange, THR			09 29 130 6592	
	without fixing flange, THR, on a reel			09 29 130 6569 ^{d)}	
Male connector with solder pins 4.0 mm	with fixing flange			09 29 130 6903	
	with fixing flange, THR			09 29 120 6903	
	without fixing flange			09 29 130 6520 ^{d)}	
	without fixing flange, THR			09 29 130 6593	
				09 29 130 6570 ^{d)}	
Male connector with solder pins 13 mm	with fixing flange		09 29 130 6577		
	with fixing flange, THR		09 29 120 6577		
			09 29 130 6521 ^{d)}		
Male connector with wrap posts ¹⁾ 13 mm	with fixing flange		09 29 130 6907		
Male connector with press-in pins 5.0 mm	with fixing flange		09 29 130 6904		
	without fixing flange		09 29 120 6904		
			09 29 130 6504		

¹⁾ To be used only for wire wrap termination
^{d)} CTI > 400

Number of contacts

30, 20



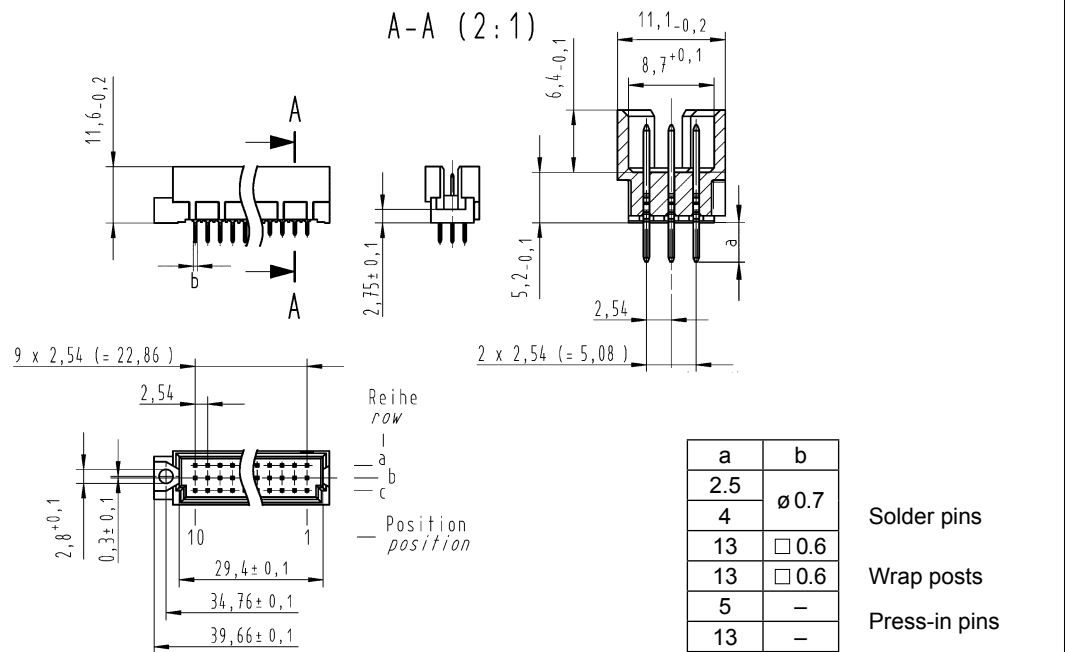
Male connectors

Identification	No. of contacts	Contact arrangement	Part number			Performance levels according to IEC 60603-2. Explanation chapter 00		
			3	2	1	3	2	1
Male connector with press-in pins 13 mm with fixing flange	30		Performance level 3 on request	09 29 130 6985 ^{w)}	Performance level 1 on request			
	20			09 29 130 6974*				
	30			09 29 120 6974*				
without fixing flange	30			09 29 130 6574*				

DIN Signal up to 2 A

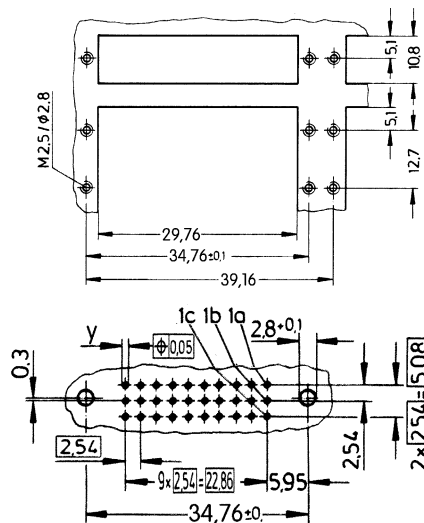
Identification Drawing Dimensions in mm

Dimensions



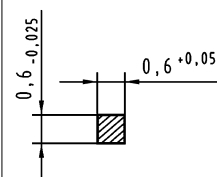
Panel cut out

Board drillings
Mounting side



	Y
Solder	1 ± 0.1
Press-in	see recommendation page 00.25

Cross section of solder terminations

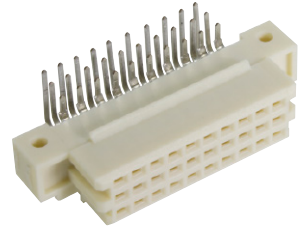


Cross area (A) of contacts row a, b, c: A = 0.35 - 0.39 mm²

Other contact arrangements as well with lagging/leading pins on request
 • Wrap posts for interfacing selectively gold plated (performance level 3)
 w) Wrap posts not for interfacing, no performance level

Number of contacts

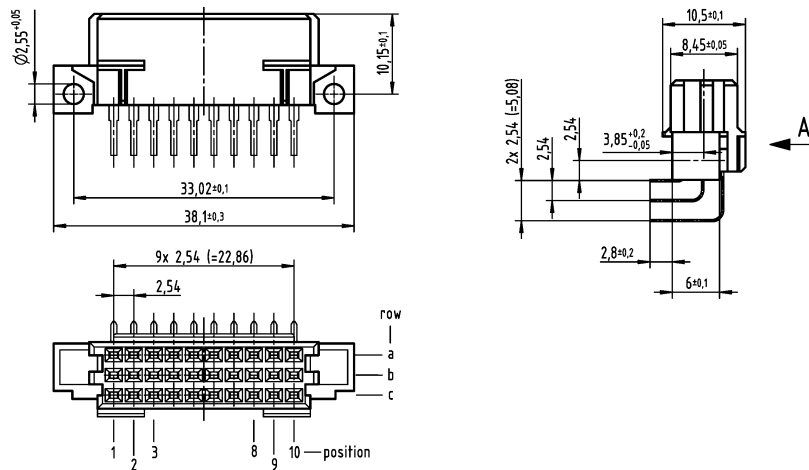
30



Female connectors

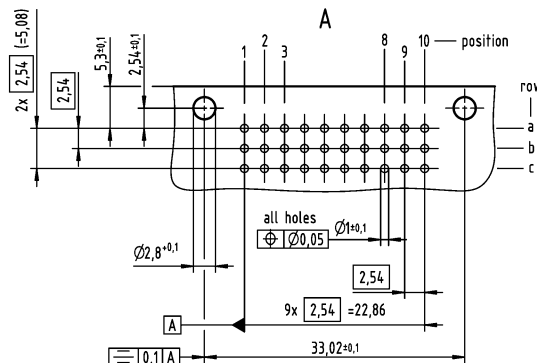
Identification	No. of contacts	Contact arrangement	Part number	Performance levels according to IEC 60603-2. Explanation chapter 00
			3	2 1
Female connector with angled solder pins	30		Performance level 3 on request	09 29 230 6801 09 29 430 6801 ^{b)}
	THR			09 29 230 6804 ^{d)} 09 29 430 6804 ^{b)d)}
THR on a reel	30			09 29 230 6804 791 ^{d)}

Dimensions

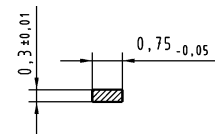


Board drillings

Mounting side



Cross section of solder terminations



Cross area (A) of contacts row a, b, c:
 $A = 0,20 - 0,23 \text{ mm}^2$

Dimensions in mm

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

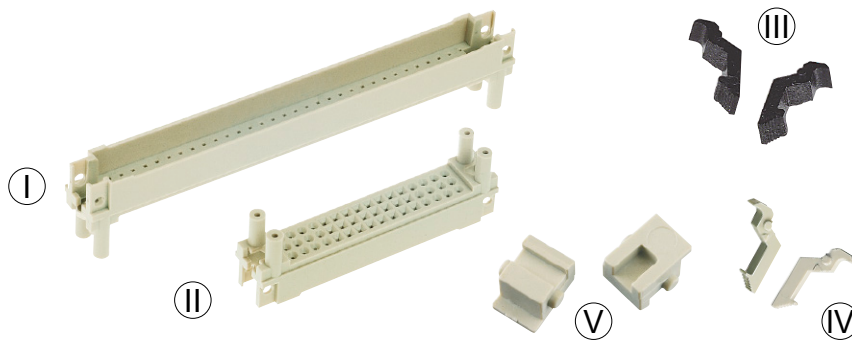
^{b)} Connectors with snap-in clips see chapter 00

^{d)} CTI > 400

Number of contacts

96, 48

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



DIN Signal
up to 2 A

Identification	Termination length ± 0.3	pcb-thickness ± 0.4	Dimension a ± 0.1	Part number – Pin shrouds with		
				press-in fixing ¹⁾	screw fixing	
Pin shrouds for female connectors type C and for male connectors type 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	10,7	09 03 000 9951	09 03 000 9961
		2,4	9,9	09 03 000 9952	09 03 000 9962	
		3,2	9,1	09 03 000 9953	09 03 000 9963	
		4,0	8,3	09 03 000 9954	09 03 000 9964	
		4,8	7,5	09 03 000 9955	09 03 000 9965	
		5,6	6,7	09 03 000 9956	09 03 000 9966	
		6,4	5,9	09 03 000 9957	09 03 000 9967	
	Pin shrouds with side coding on request	20.0	4.0	11,75	09 03 000 9950	09 03 000 9960
			4,8	10,7	09 03 000 9951	09 03 000 9961
			5,6	9,9	09 03 000 9952	09 03 000 9962
			6,4	9,1	09 03 000 9953	09 03 000 9963
			7,2	8,3	09 03 000 9954	09 03 000 9964
	Pin shrouds for female connectors type 2C and for male connectors type 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	10,7	09 23 000 9951	09 23 000 9961
		2,4	9,9	09 23 000 9952	09 23 000 9962	
		3,2	9,1	09 23 000 9953	09 23 000 9963	
		4,0	8,3	09 23 000 9954	09 23 000 9964	
		4,8	7,5	09 23 000 9955	09 23 000 9965	
		5,6	6,7	09 23 000 9956	09 23 000 9966	
		6,4	5,9	09 23 000 9957	09 23 000 9967	
20.0		4.0	11,75	09 23 000 9950	09 23 000 9960	
		4,8	10,7	09 23 000 9951	09 23 000 9961	
		5,6	9,9	09 23 000 9952	09 23 000 9962	
		6,4	9,1	09 23 000 9953	09 23 000 9963	
		7,2	8,3	09 23 000 9954	09 23 000 9964	

Identification

Part number

Locking lever for female connectors type C, 2C*



09 03 000 9914

Locking lever for female connectors type R, 2R*



09 03 000 9913

Fixing bracket for shell housing C*



09 03 000 9921

* order 2 pieces per connector

¹⁾ Processing only with press-in tools, see chapter 30

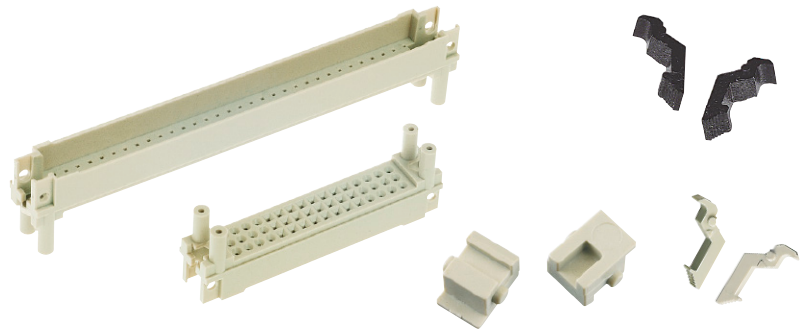
Pin shroud



Number of contacts

96, 48

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

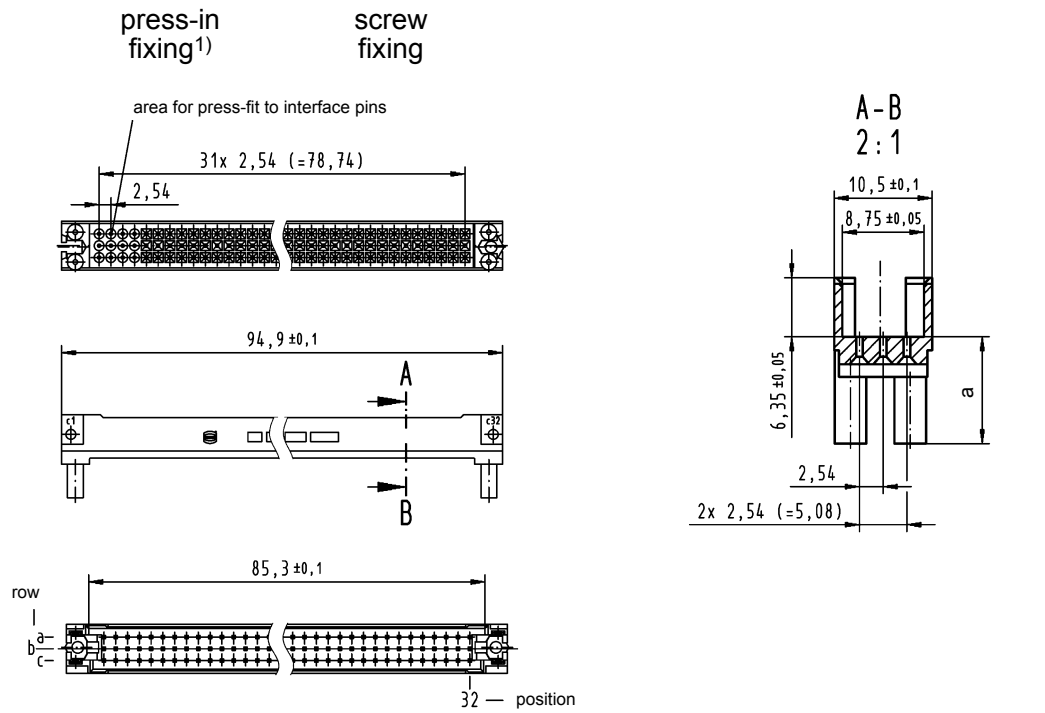


Identification

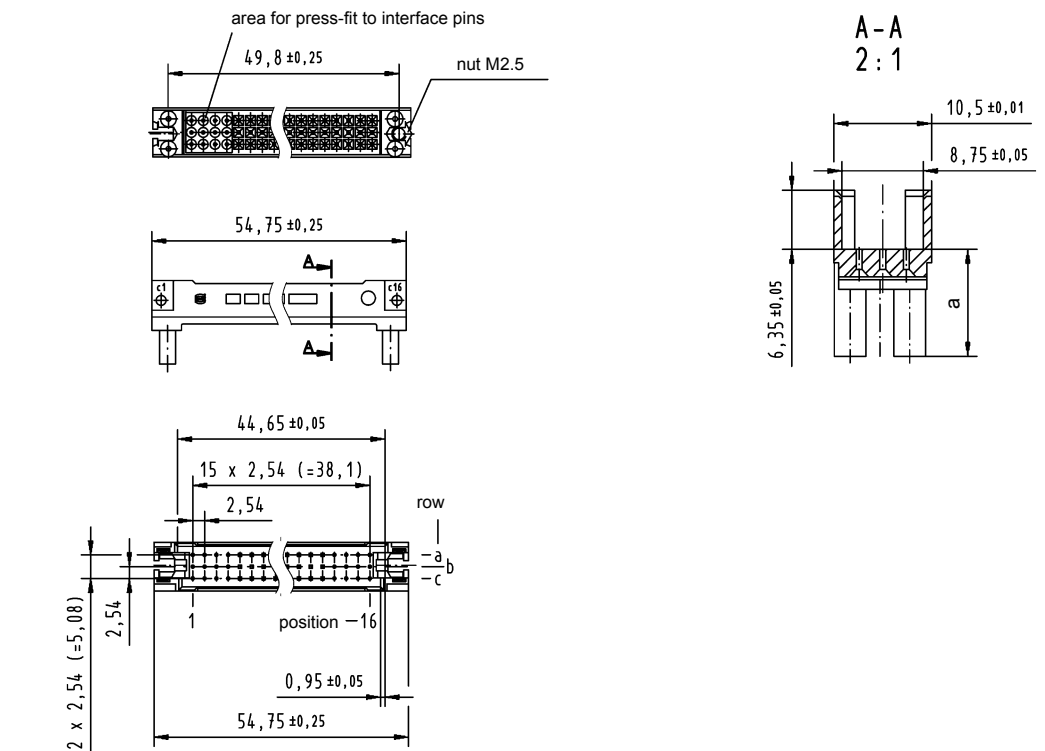
Drawing

Dimensions in mm

Pin shrouds
for female connectors
type C, R



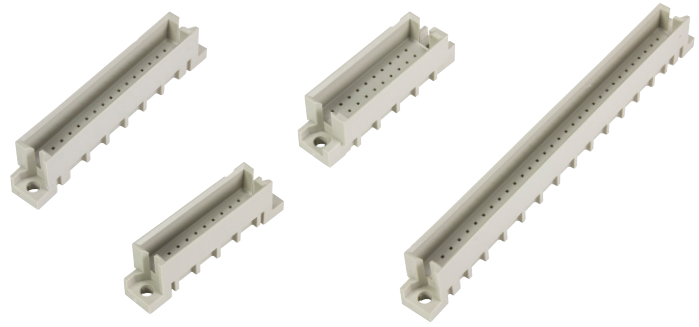
Pin shrouds
for female connectors
type 2C, 2R



¹⁾ Tooling see chapter 30

Number of contacts

64, 32, 30, 20



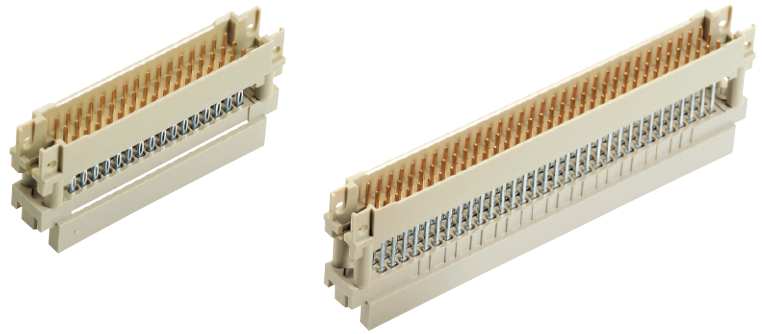
Pin shrouds
for types B, 2B, 3B, 3C, Q, 2Q, 3Q and 3R

DIN Signal
up to 2 A

Identification	No. of contacts	Part number	Drawing	Dimensions in mm																				
<p>Pin shrouds for female connectors type B for male connectors type Q</p>	64	09 72 164 3101																						
<p>Pin shrouds for female connectors type 2B for male connectors type 2Q</p>	32	09 27 132 3101																						
<p>Pin shrouds for female connectors type 3B for male connectors type 3Q</p>	20	09 75 120 3101	<p>A-A (2:1)</p> <table border="1"> <thead> <tr> <th></th> <th>a</th> <th>b</th> <th>c</th> <th>d</th> </tr> </thead> <tbody> <tr> <td>B / Q</td> <td>78.74</td> <td>85.2</td> <td>90.00</td> <td>95.00</td> </tr> <tr> <td>2B / 2Q</td> <td>38.10</td> <td>44.1</td> <td>50.00</td> <td>55.00</td> </tr> <tr> <td>3B / 3Q</td> <td>22.86</td> <td>29.4</td> <td>34.76</td> <td>39.66</td> </tr> </tbody> </table>		a	b	c	d	B / Q	78.74	85.2	90.00	95.00	2B / 2Q	38.10	44.1	50.00	55.00	3B / 3Q	22.86	29.4	34.76	39.66	
	a	b	c	d																				
B / Q	78.74	85.2	90.00	95.00																				
2B / 2Q	38.10	44.1	50.00	55.00																				
3B / 3Q	22.86	29.4	34.76	39.66																				
<p>Pin shrouds for female connectors type 3C for male connectors type 3R</p>	30	09 29 130 3101																						
<p>These pin shrouds must be pressed on the interfacing contacts.</p> <p>After the assembly the interfacing contacts should have a contact length of appr. 4.8 mm.</p>																								

Number of contacts

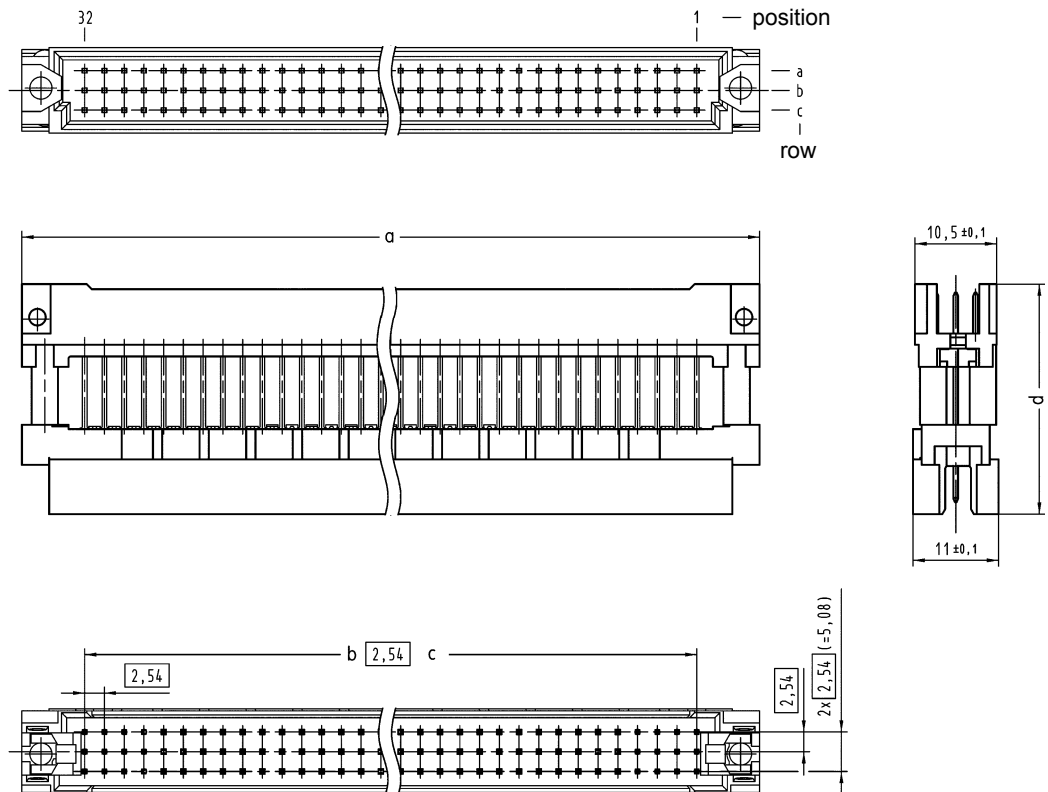
96, 48



Mezzanine Adapter

Identification	No. of contacts	Contact arrangement	Part number	Performance levels according to IEC 60 603-2.		
				3	2	1
Male connector type R with pin shroud for pcb distance 41 mm	96		Performance level 3 on request			09 73 196 5531
Male connector type 2R with pin shroud for pcb distance 41 mm 37.5 mm	48				09 28 148 6532	09 28 148 5531

Dimensions



	a	b	c	d
09 73 196 5531	94.9 ± 0.1	31	78.74	29.6 ± 0.3
09 28 148 5531	54.9 ± 0.1	15	38.1	29.6 ± 0.3
09 28 148 6532	54.9 ± 0.1	15	38.1	26.15 ± 0.3

Dimensions in mm

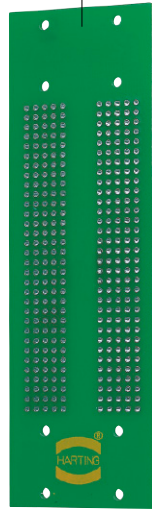
DIN Signal up to 2 A

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

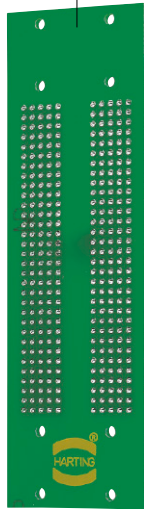


Application 2

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



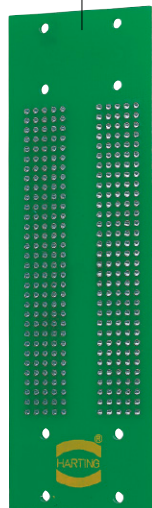
Daughtercard

Application 3

Female connector
09 03 296 6861



Backplane



Pin shroud
09 03 000 9957



Fixing brackets
09 03 000 9921



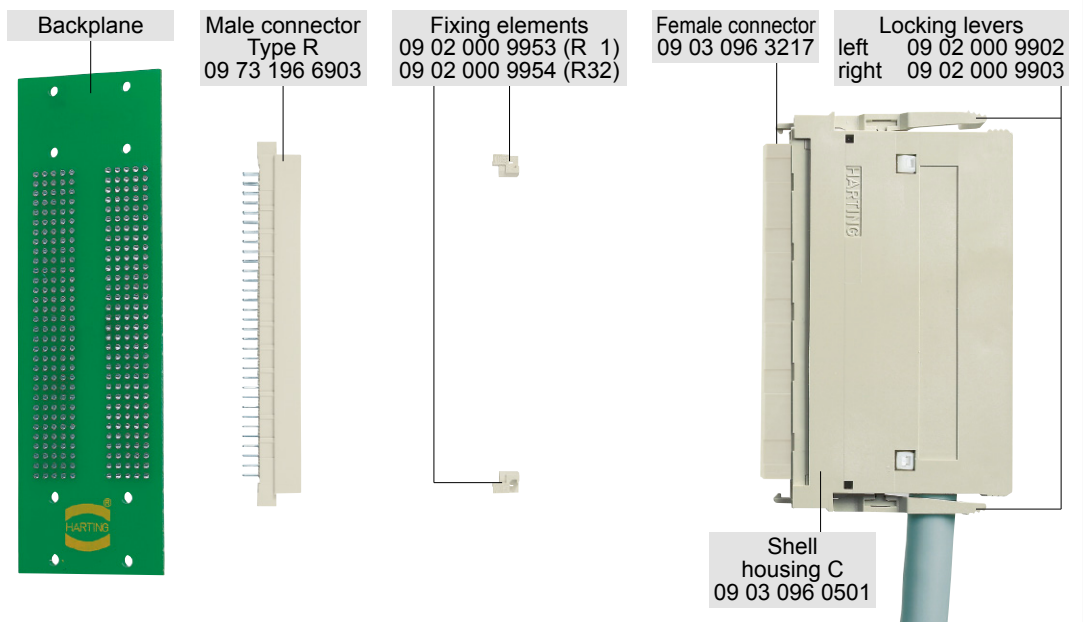
Female connector
09 03 096 3214



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

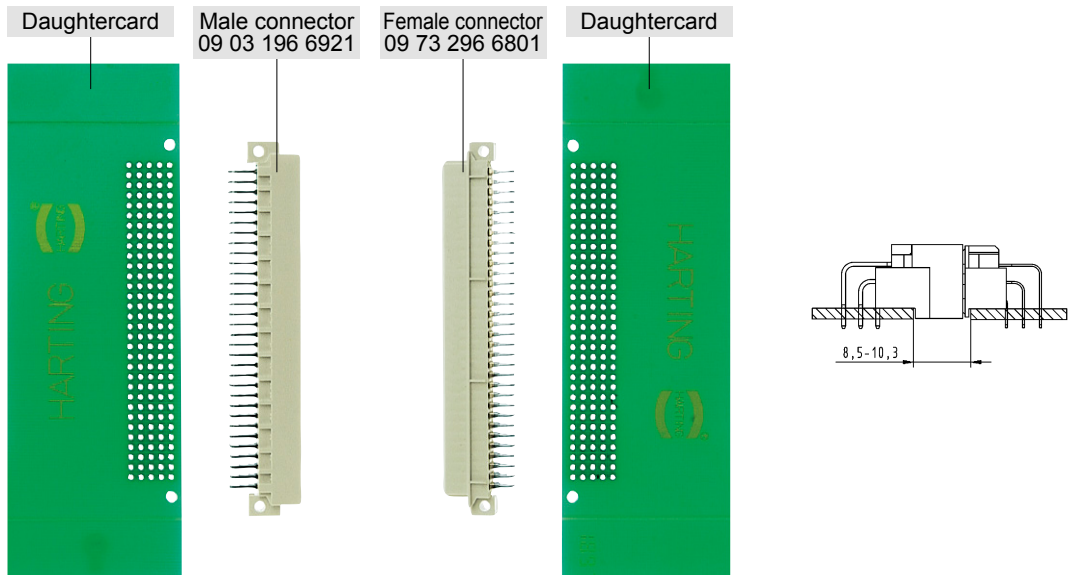
Shell housing C
09 03 096 0501

Application 4

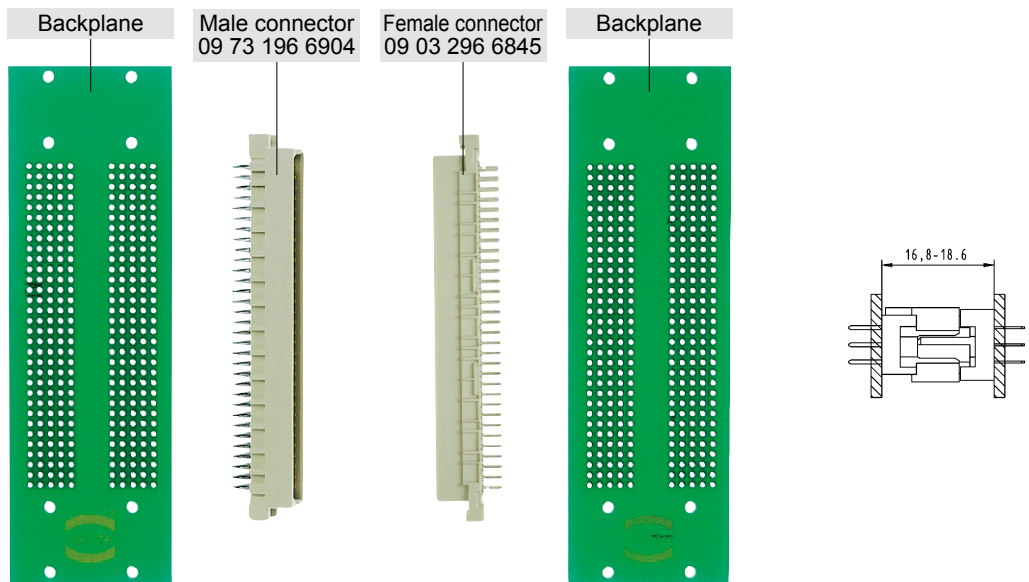


DIN Signal
up to 2 A

Application 5*

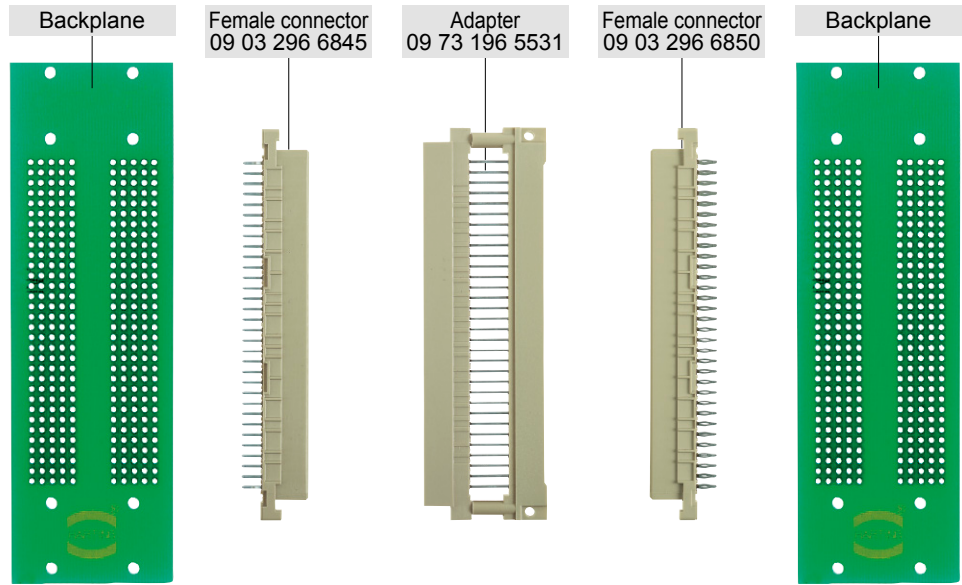
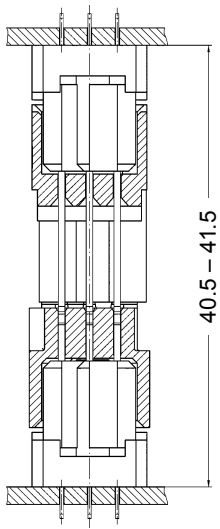


Application 6*

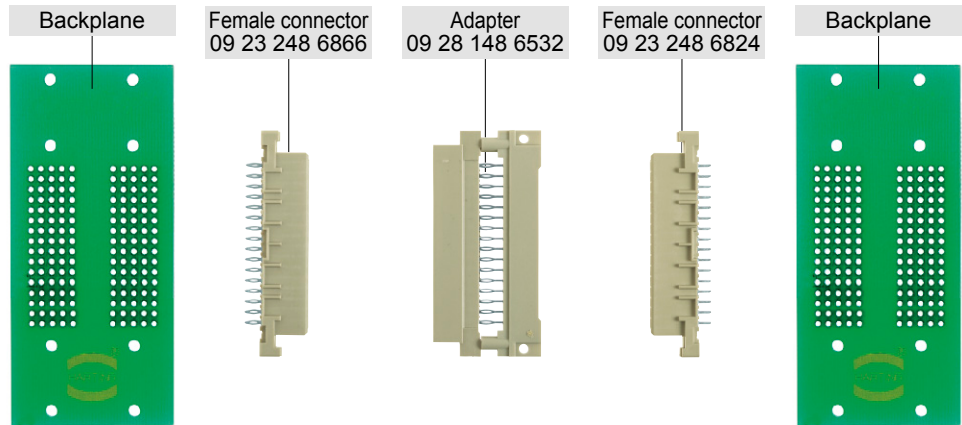
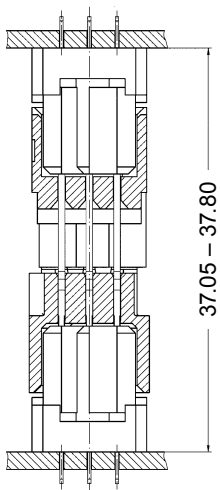


* Position marking turned: a1 contacts a32, a2 contacts a31, ...

Application 7



Application 8



Application 9

