

Number of contacts	20-30
Contact spacing (mm)	2.54
Working current	2 A max. see current carrying capacity chart
Clearance	≥ 1.2 mm
Creepage	≥ 1.2 mm
Working voltage	according to the safety regulations of the equipment 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	≤ 15 mΩ
Insulation resistance	≥ 10 <sup>12</sup> Ω
Temperature range	- 55 °C ... + 125 °C The higher temperature limit includes the local ambient and heating effects of the contacts under load - 40 °C ... + 105 °C for press-in connectors
During reflow soldering	max. + 240 °C for 15 s for SMC connectors
Electrical termination	Male and female connectors Solder pins for PCB connections Ø 1.0 ± 0.1 mm according to IEC 60326-3 Compliant press-in terminations Diameter of PCB plated through holes see table on the right PCB thickness ≥ 1.6 mm Recommended PCB holes for press-in process in acc. to EN 60352-5
Insertion and withdrawal force	20way ≤ 20 N 30way ≤ 30 N 32way ≤ 30 N 48way ≤ 45 N 64way ≤ 60 N 96way ≤ 90 N
Materials	Mouldings Poly Cyclohexylene Terephthalate (PCT), UL 94-V0 Contacts Copper alloy
Contact surface	Contact zone Selectively plated according to performance level

### 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 60512

Ambient temperature (°C)	Working current (A)
20	2.0
30	1.8
40	1.6
50	1.4
60	1.2
70	1.0
80	0.8
90	0.6
100	0.4
110	0.2
120	0.1
130	0.0

### Recommended configuration of plated through holes

In addition to the hot-air-level (HAL) other PCB surfaces are getting more important. Due to their different properties, such as mechanical strength and coefficient of friction we recommend the following configuration of PCB through holes.

<i>Tin-lead plated PCB (HAL) acc. EN 60352-5</i>	Hole-Ø	1.15±0.025 mm
	Cu	min. 25 µm
	Sn	max. 15 µm
	Plated hole-Ø	0.94-1.09 mm
<i>Chemical tin-plated PCB</i>	Hole-Ø	1.15±0.025 mm
	Cu	min. 25 µm
	Sn	min. 0.8 µm
	Plated hole-Ø	1.00-1.10 mm
<i>Au / Ni plated PCB</i>	Hole-Ø	1.15±0.025 mm
	Cu	min. 25 µm
	Ni	3-7 µm
	Au	0.05-0.12 µm
	Plated hole-Ø	1.00-1.10 mm
<i>Silver plated PCB</i>	Hole-Ø	1.15±0.025 mm
	Cu	min. 25 µm
	Ag	0.1-0.3 µm
	Plated hole-Ø	1.00-1.10 mm
<i>OSP copper plated PCB</i>	Hole-Ø	1.15±0.025 mm
	Cu	min. 25 µm
	Plated hole-Ø	1.00-1.10 mm

PCB board thickness: ≥ 1.6 mm

Number of contacts

20

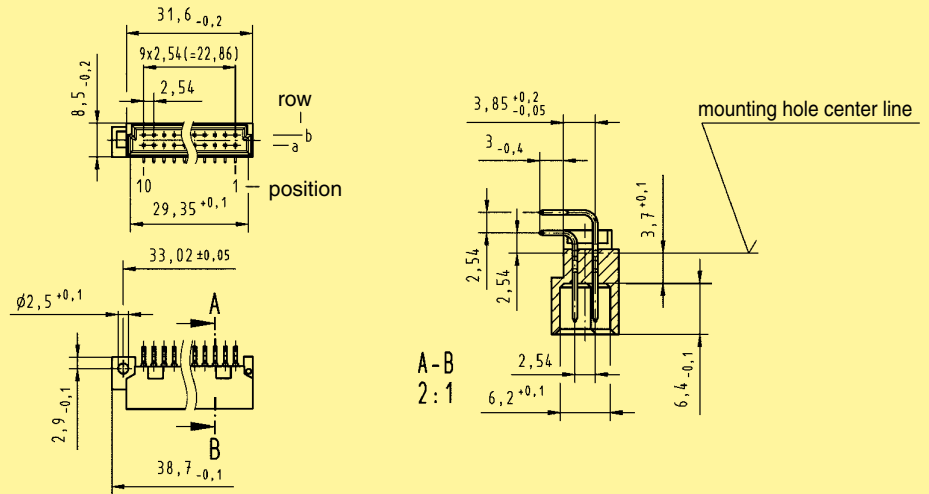


Male connectors

Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60603-2.		
				3	2	1
Male connector with angled solder pins						
with fixing flange	20		Performance level 3 on request	09 24 120 6921	09 24 120 6919	Performance level 1 on request
with fixing flange, SMC	20					
without fixing flange	20					
without fixing flange, SMC	20					

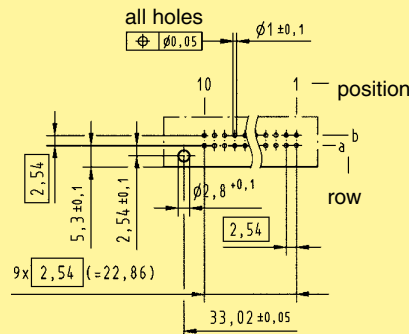
Dimensions

with fixing flange    without fixing flange

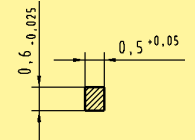


Board drillings

Mounting side



Cross section of solder terminations



Cross area (A) of contacts row a, b: A = 0.29 - 0.33 mm<sup>2</sup>

Number of contacts

20



Female connectors

Identification	Number of contacts	Contact arrangement	Part No.	Performance levels according to IEC 60603-2.	
			3	2	1
Female connector with solder pins 2.9 mm with fixing flange	20		Performance level 3 on request	09 24 220 6824	Performance level 1 on request
with fixing flange, SMC	20			09 24 220 6841	
without fixing flange, SMC	20			09 24 220 6414	
Female connector with solder pins 4.5 mm with fixing flange	20			09 24 220 6825	
Female connector with press-in pins 4.5 mm with fixing flange	20			09 24 220 6850	
without fixing flange	20			09 24 220 6870	

Number of contacts

20



Female connectors

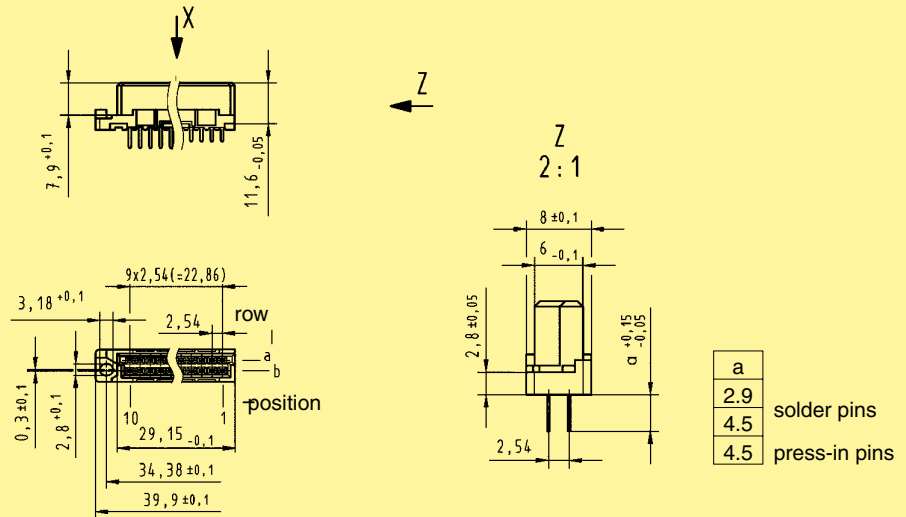
Identification

Drawing

Dimensions in mm

Dimensions

with fixing flange    without fixing flange

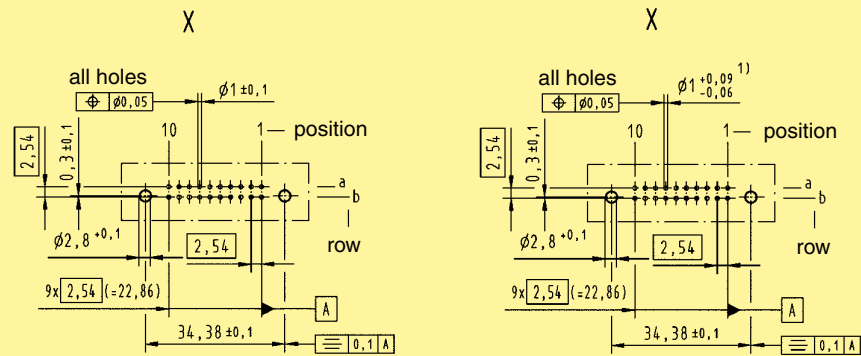


Board drillings

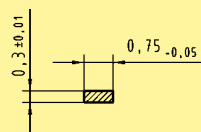
Mounting side

solder pins

press-in pins



Cross section of solder terminations



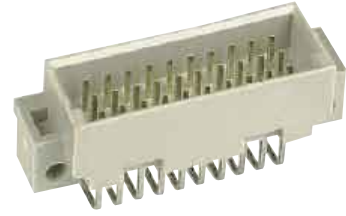
Cross area (A) of contacts row a, b: A = 0.20 - 0.23 mm<sup>2</sup>

<sup>1)</sup> for press-in connection acc. to IEC 60 352-2



Number of contacts

**30, 20**



Male connectors

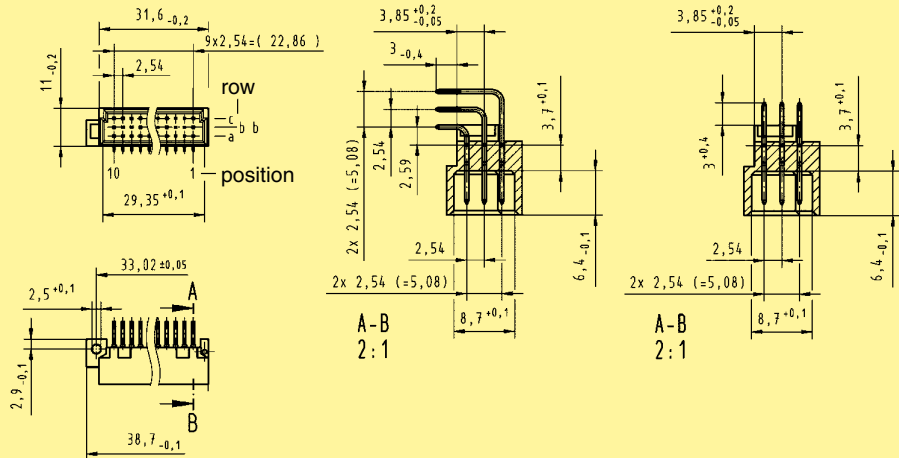
Identification

Drawing

Dimensions in mm

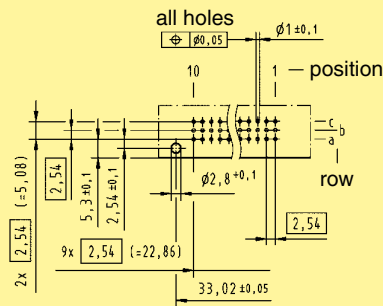
Dimensions

with fixing flange    without fixing flange    angled solder pins    straight solder pins

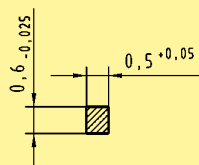


Board drillings

Mounting side



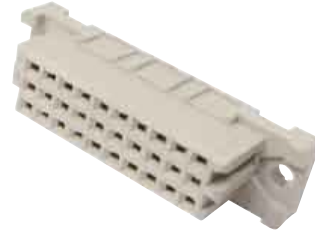
Cross section of solder terminations



Cross area (A) of contacts row a, b, c: A = 0.29 - 0.33 mm<sup>2</sup>

Number of contacts

**30, 20**

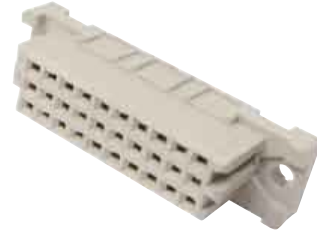


Female connectors

Identification	Number of contacts	Contact arrangement	Part No.	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	09 25 230 6824	Performance level 1 on request
	20			09 25 220 6824	
	30			09 25 230 6841	
	30			09 25 230 6414	
Female connector with solder pins 4.5 mm with fixing flange	30			09 25 230 6825	
	20			09 25 220 6825	
Female connector with press-in pins 4.5 mm with fixing flange	30			09 25 230 6850	
	30			09 25 230 6870	

Number of contacts

**30, 20**



Female connectors

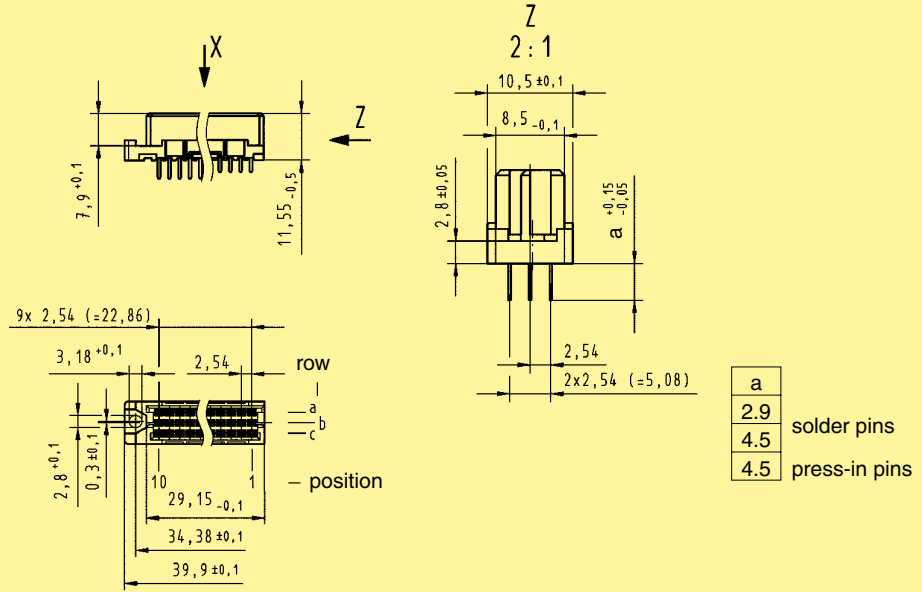
Identification

Drawing

Dimensions in mm

Dimensions

with fixing flange    without fixing flange



Board drillings

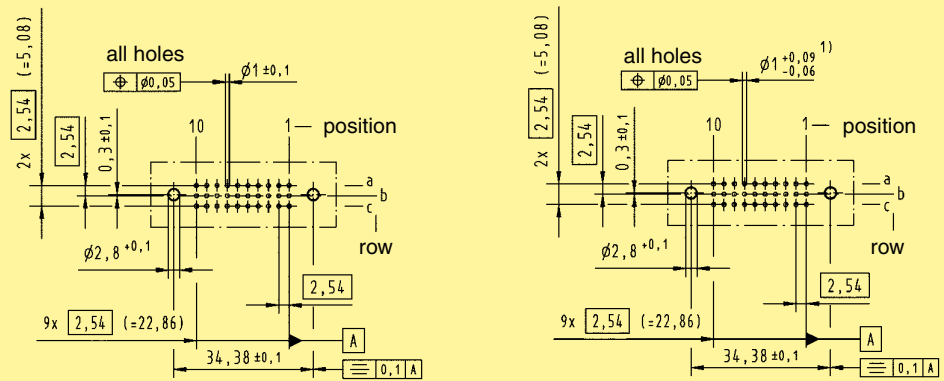
Mounting side

solder pins

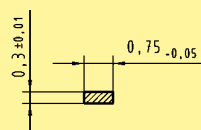
press-in pins

X

X



Cross section of solder terminations



Cross area (A) of contacts row a, b, c: A = 0.20 - 0.23 mm<sup>2</sup>

<sup>1)</sup> for press-in connection acc. to IEC 60 352-2