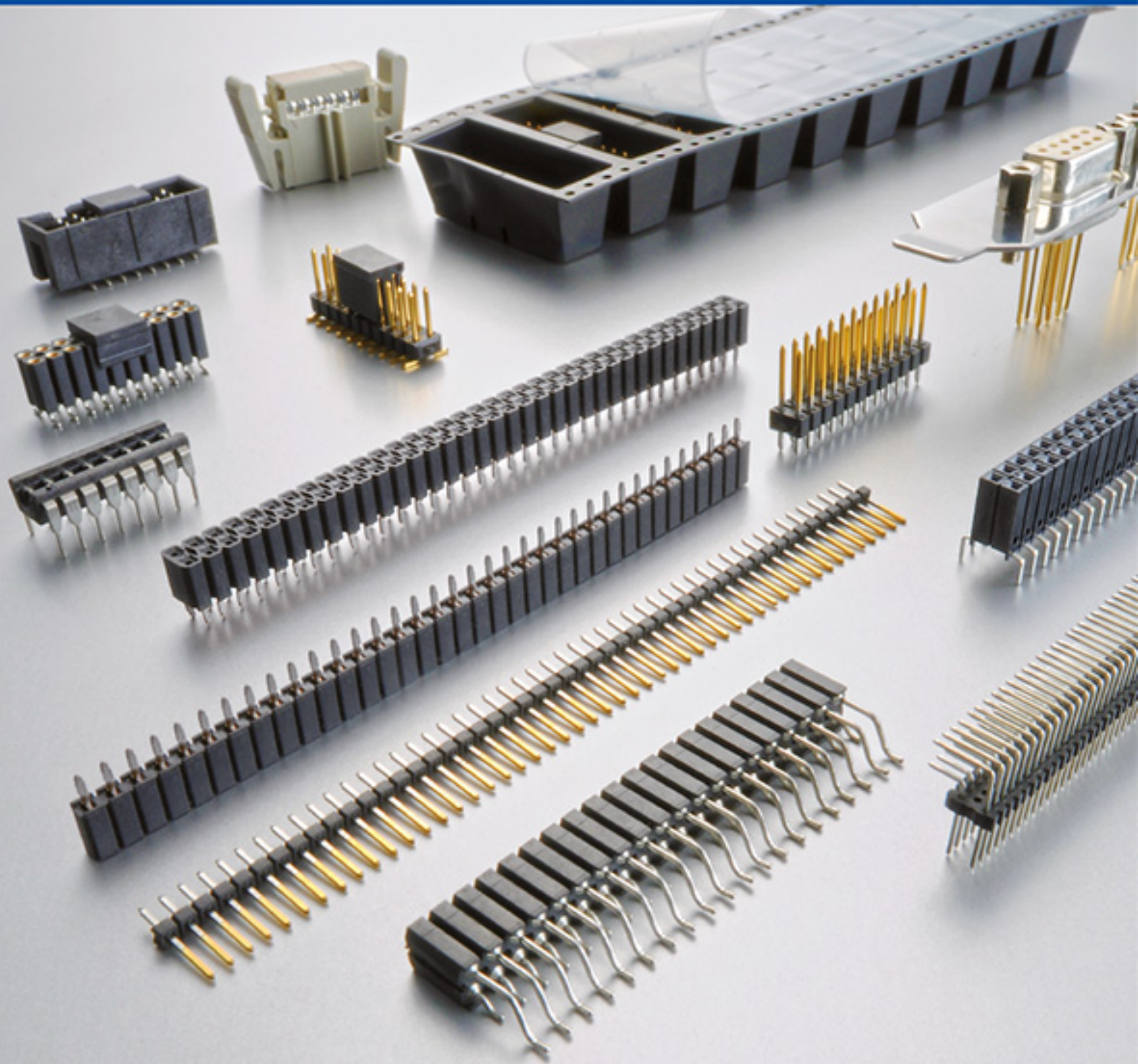


to cool to protect to connect



f.con.e 14/15

Sockets

Connectors



ISO 9001
ISO 14001
ISO 27001

Brackets

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ASL 10 SMD	H 3	BL LP 4	G 51	DB 50 LA	I 4	DIL 14 E	F 4
ASL 12 SMD	H 3	BL LP 5 SMD	G 57	DB 50 T	I 2	DIL 14 G	F 6
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ASL 20 SMD	H 3	BLM 2 SMD	G 73	DB BK 09 LP	I 12	DIL 14 O	F 2
ASL 26 SMD	H 3	BLM 3 SMD	G 73	DB BK 15	I 11	DIL 14 P	F 3
ASL 34 SMD	H 3	BLM KG 1	G 71	DB BK 15 LP	I 12	DIL 14 PEK	F 4
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ASLA 08 G	H 2	BLM LG 2	G 71	DB BK 37 LP	I 12	DB BK 37 LP	F 5
ASLA 10 G	H 2	BLP 1	G 66	DB BK 50	I 11	DIL 16 E	F 4
ASLA 12 G	H 2	BLP 2	G 66	DBM 13K3 L20	I 14	DIL 16 G	F 6
ASLA 14 G	H 2	BLR 1 025 Z	G 72	DBM 3K3 L20	I 14	DIL 16 M	F 2
ASLA 16 G	H 2	BLR 1 050 Z	G 72	DBM 7K2 L20	I 14	DIL 16 N	F 2
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ASLA 26 G	H 2	BLR 2 100 Z	G 72	DB WE 4	I 5	DIL 16 P	F 3
ASLA 34 G	H 2	BLR 3 025 Z	G 72	DB WK	I 5	DIL 16 PEK	F 4
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BL 13	G 55	DB 09 T	I 2	DH SV 25	I 19	DILS 14 PK 3	F 6
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BL 15 SMD 043	G 58	DB 15 L	I 3	DH SV 50	I 19	DILS 16 GA LO	F 7
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BL 18 141	G 56	DB 25 L	I 3	DIL 8 1 OR	F 5	DILS 18 GA LO	F 7
BL 18 219	G 56	DB 25 LA	I 4	DIL 8 2 OR	F 5	DILS 18 GB LO	F 7
BL 19 141	G 56	DB 25 SMD TR	I 15	DIL 8 E	F 4	DILS 18 GO	F 7
BL 19 219	G 56	DB 25 T	I 2	DIL 8 G	F 6	DILS 18 PK 5	F 6
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BL 21 650	G 52	DB 37 L	I 3	DIL 8 O	F 2	DILS 24 GB LO	F 7
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SL 17 SMD 109	G 24	SLR 1 025	G 42	SLV W 2 KA 054 72	G 39	VFL 14	H 5
SL 18 042	G 10	SLR 1 050	G 42	SLV W 2 SMD 048	G 40	VFL 16	H 5
SL 18 082	G 10	SLR 2 050	G 42	SLV W 2 SMD 073	G 40	VFL 20	H 5
SL 18 108	G 10	SLR 3 025	G 42	SLV W 3 SMD 048	G 41	VFL 26	H 5
SL 18 132	G 10	SLR 3 050	G 42	SLV W 3 SMD 073	G 41	VFL 34	H 5
SL 19 082	G 10	SLR 4 050	G 42	SLV W 11 055	G 38	VFL 40	H 5
SL 19 108	G 10	SLR 4 100	G 42	SLV W 11 080	G 38	VFL 50	H 5
SL 19 132	G 10	SLR 5 SMD 50 G	G 43	SLV W 11 105	G 38	VG 2	I 23
SL 20 THR 097	G 8	SLU 10 165	G 16	SLV W 22 055	G 38	WWPS 1 G	F 17
SL 20 THR 112	G 8	SLU 10 191	G 16	SLV W 22 080	G 38	ZEPV 06	H 6
SL 20 THR 124	G 8	SLU 10 241	G 16	SLV W 22 105	G 38	ZEPV 10	H 6
SL 20 THR 139	G 8	SLU 10 266	G 16	Sly 1 081	G 30	ZEPV 14	H 6
SL 20 THR 164	G 8	SLU 16 165	G 16	Sly 1 085	G 30	ZEPV 16	H 6
SL 21 THR 097	G 8	SLU 16 191	G 16	Sly 1 098	G 30	ZEPV 20	H 6
SL 21 THR 112	G 8	SLU 16 241	G 16	Sly 1 104	G 30	ZEPV 26	H 6
SL 21 THR 124	G 8	SLU 16 266	G 16	Sly 1 139	G 30	ZEPV 34	H 6
SL 21 THR 139	G 8	SLU 20 165	G 16	Sly 2 081	G 30	ZEPV 40	H 6
SL 21 THR 164	G 8	SLU 20 191	G 16	Sly 2 085	G 30	ZEPV 50	H 6
SL 22 097	G 7	SLU 20 241	G 16	Sly 2 098	G 30		
SL 22 112	G 7	SLU 20 266	G 16	Sly 2 104	G 30		
SL 22 124	G 7	SLU 26 165	G 16	Sly 2 139	G 30		
SL 22 139	G 7	SLU 26 191	G 16	Sly 2 035	G 30		
SL 22 164	G 7	SLU 26 241	G 16	Sly 3 041	G 30		
SL 22 190	G 7	SLU 26 266	G 16	Sly 3 082 ... G	G 30		
SL 22 214	G 7	SLU 40 165	G 16	Sly 3 082 ... Z	G 30		
SL 22 240	G 7	SLU 40 191	G 16	Sly 4 035	G 30		
SL 22 265	G 7	SLU 40 241	G 16	Sly 4 082 ... G	G 30		
SL 22 316	G 7	SLU 40 266	G 16	Sly 4 082 ... Z	G 30		
SLK 3 025	G 9	SLU 50 165	G 16	Sly 4 041... G	G 30		
SLK 4 025	G 9	SLU 50 191	G 16	Sly 4 041... Z	G 30		
SL KA 3 072	G 17	SLU 50 241	G 16	Sly 5 040	G 31		
SL KA 3 085	G 17	SLU 50 266	G 16	Sly 5 075	G 31		
SL KA 3 108	G 17	SLUP 31 10	G 29	Sly 5 081 ... G	G 31		
SL KG 3 113	G 17	SLUP 31 16	G 29	Sly 5 081 ... Z	G 31		
SL KG 3 126	G 17	SLUP 31 20	G 29	Sly 5 122 ... G	G 31		
SL KG 3 147	G 17	SLV N 1 055	G 37	Sly 5 122 ... Z	G 31		
SL LP 1 082	G 11	SLV N 1 080	G 37	Sly 6 040	G 31		
SL LP 1 097	G 11	SLV N 1 105	G 37	Sly 6 075	G 31		
SL LP 1 112	G 11	SLV N 1 130	G 37	Sly 6 081 ... G	G 31		
SL LP 1 139	G 11	SLV N 11 055	G 37	Sly 6 081 ... Z	G 31		
SL LP 1 164	G 11	SLV N 11 080	G 37	Sly 6 122 ... G	G 31		
SL LP 1 190	G 11	SLV N 11 105	G 37	Sly 6 122 ... Z	G 31		
SL LP 2 082	G 11	SLV W 1 055	G 38	SLY 7 SMD 036	G 33		
SL LP 2 097	G 11	SLV W 1 080	G 38	SLY 7 SMD 045	G 33		
SL LP 2 112	G 11	SLV W 1 105	G 38	SLY 7 SMD 062	G 33		
SL LP 2 139	G 11	SLV W 1 130	G 38	SLY 8 SMD 036	G 34		
SL LP 2 164	G 11	SLV W 1 KA 030	G 39	SLY 8 SMD 045	G 34		
SL LP 2 190	G 11	SLV W 1 KA 055	G 39	SLY 8 SMD 062	G 34		
SL LP 3 041	G 12	SLV W 1 KA 080	G 39	SLY 9 SMD 040	G 35		
SL LP 3 069	G 12	SLV W 1 KA 105	G 39	SLY 9 SMD 055	G 35		
SL LP 4 041 ...	G 12	SLV W 1 SMD 048	G 40	SLY 10 SMD 040	G 36		
SL LP 4 069	G 12	SLV W 1 SMD 073	G 40	SSK B 09	I 25		
SL LP 5 SMD 038	G 25	SLV W 2 055	G 38	SSK B 15	I 25		
SL LP 5 SMD 051	G 25	SLV W 2 080	G 38	SSK B 25	I 25		
SL LP 5 SMD 066	G 25	SLV W 2 105	G 38	SSK B 37	I 25		
SL LP 6 SMD 038	G 26	SLV W 2 130	G 38	SSK S 09	I 25		
SL LP 6 SMD 051	G 26	SLV W 2 KA 030 10	G 39	SSK S 15	I 25		
SL LP 6 SMD 066	G 26	SLV W 2 KA 030 14	G 39	SSK S 25	I 25		

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Technical introduction for the connector catalogue

General points

Product specified characteristics for the particular article can be found in the category "technical data"! Additional customer specified advice and solution proposals will be supported from the R&D department of company Fischer Elektronik GmbH & Co. KG.

Surface – electroplating processes

In general all contacts are coated with a nickel barrier layer (1,3-3 µm) before they get tinned or gold-plated. This will also apply for selective gold-plated contacts.

For the selective coated contacts the complete contact will be nickel-plated including the carrier strip first. After this the contact side will be gold-plated and the solder side tinned, usually in the "dipping method" or "brush method". Depending on the overall contact length the middle area is exclusively nickel-plated.

The layer thickness of the gold-plating is at least 0,2 µm Au, the layer thickness of the tinning is 4-6 µm! Other layer thicknesses are possible upon request.

The tinning is done with pure tin. The solderability is guaranteed for at least 1 year after shipment. At appropriate storage in closed packing this period can be increased significantly.

Dimensional tolerance

Generally the DIN ISO 2768m is applied to all products! Moreover following additions have to be noticed:

- the length tolerance of contact pins is +/-0,2mm
- the space allowance is +/-0,03mm, the overall space allowance over 36 pins +/-0,2mm
- the shape tolerance of the insulating body is defined by +/-0,15mm
- the separation of number of pins by means of cutting: +0,6mm/-0,3mm
- the separation of number of pins by means of sawing: +0,1mm/-0,4mm (no standard)

Quality grading in conformity with DIN 41652

Depending on the layer thickness of the gold-plating the contacts can be classified in quality classes.

A distinction is made in three quality classes:

Quality class 1: at least 500 cycles of operation, layer thickness accordingly at least 1,2µm Au

Quality class 2: at least 200 cycles of operation, layer thickness accordingly at least 0,75µm Au

Quality class 3: at least 50 cycles of operation, layer thickness accordingly at least 0,2µm Au

By tinning contacts max. 10 cycles of operation can be guaranteed by using "tin on tin".

Precision socket contacts

These contacts are two-piece parts and consist on a sleeve (turned part) and a spring element (stamped part). The spring element (Clip) is always gold-plated (depending on the article at least 0,2 µm Au or at least 0,75 µm Au). The sleeve is usually tinned, for some versions also optionally gold-plated (at least 0,2 µm Au).

Contact carrier material made of high-temperature resistant plastic

The plastics used for the male and female headers are mainly high-temperature resistant which means that they are suitable for the use in the reflow soldering technique.

This applies primarily for SMD components as well as for plug connectors which are constructed for wave soldering. In the catalogue those products are marked with a 260°C logo in the header of the particular page.



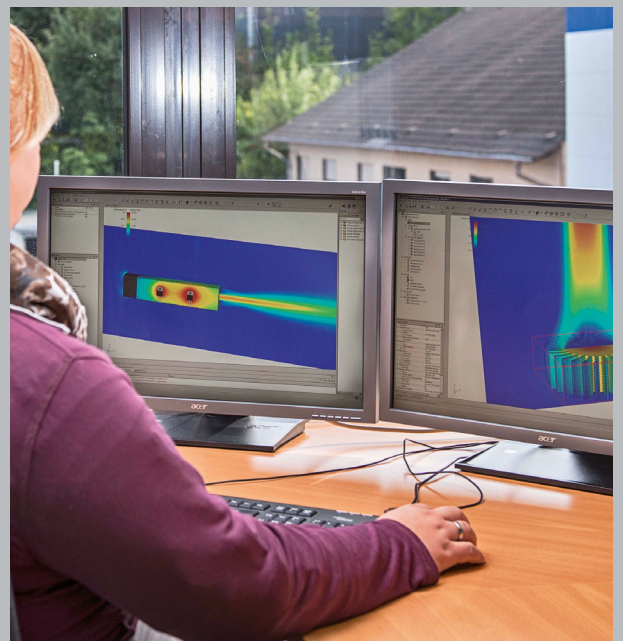
foyer of the company



motivated employees



committed field service



innovative product development

Explanations – references – printings



... plastic of the insulator is suitable for reflow-soldering up to 260 °C



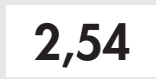
... components are suitable for soldering technique (THT)



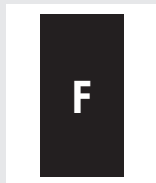
... components are suitable for SMD technique



... components are suitable for press-fit mounting



... components are suitable for the corresponding grid



... index area:
shows topics/categories

“current”



“following”



... page number

Male headers 2.00 THT	→ G 50 - 52
Male headers 2.54 THT	→ G 8 - 18
Technical data	→ G 72 - 76
Flat cable	→ H 11

... footnotes, give references to pages with combinable or similar products

G = gold-plated
Z = tin-plated
S = selective gold-plated

... option for surface finishing

Imprinting of cardholders - Your and our time is expensive

An order for imprinting must state the font, the font size and the exact position of the imprint with dimensions, taking in account of countersunk holes etc.. When placing the first order, the company logo must be supplied as a vector file. If these conditions are not complied with, the order for imprinting may have to be rejected, or additional costs will have to be charged.

Compliance with the following criteria ensures smooth handling:

Adobe Illustrator (.ai)	
CorelDraw (.cdr)	without half-tone images, fonts transformed into paths or supplied
Macromedia Free Hand (.fh)	
QuarkXPress (.qxd)	all fonts enclosed; half-tone images colour-separated (full-tone or scale colours) and with correct resolution (300 dpi colour, black / white 600 dpi), no RGB

All this takes additional time and consequently incurs extra costs.

The usability must be checked by our printing shop:

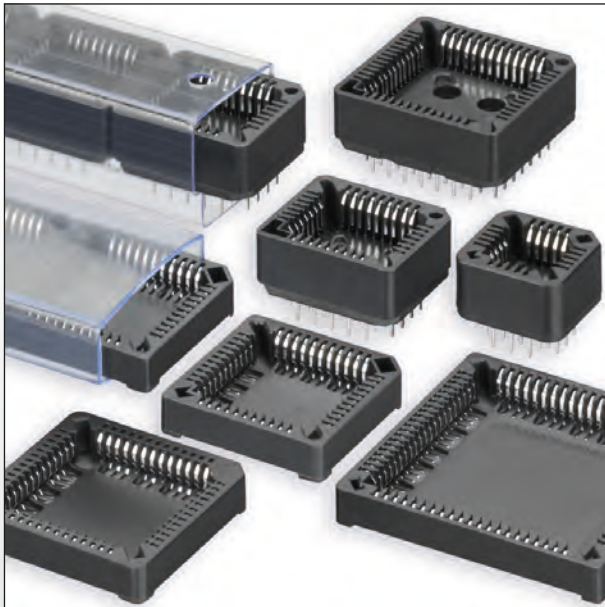
In most cases, Adobe Acrobat (.pdf); screen formats (.jpg, .gif, .png) and paper copies, stickers and similar are not suitable for preparing printer's copies!

Copies that definitely cannot be used:

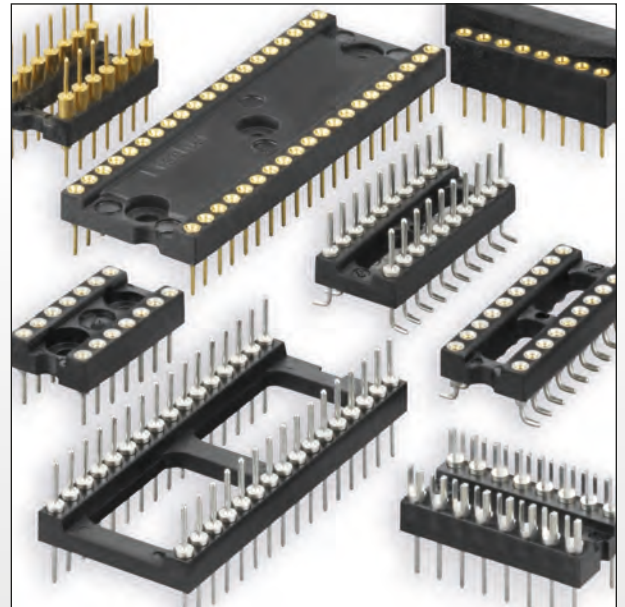
Imperfect copies such as fax copies / Microsoft Office files (.doc, .xls, .ppt) can only be used for information or for transmitting texts.

Please always add dimensional drawings (.dxf) to the parts to be imprinted!

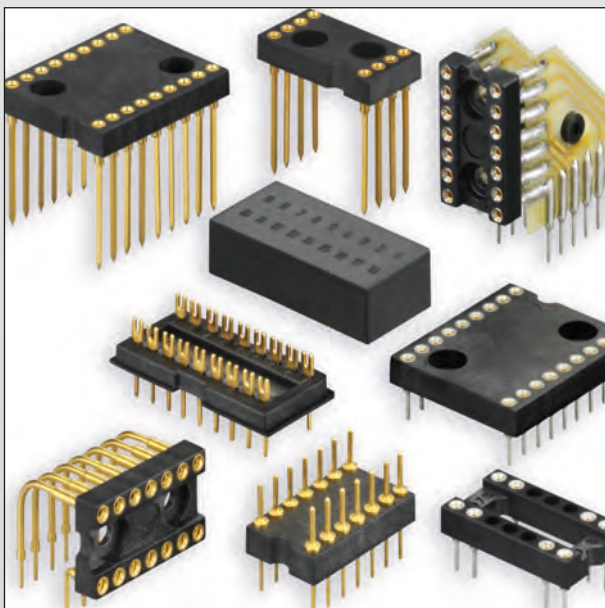
Please note as a general rule: Retouching work extending beyond the standard time will be invoiced additionally at cost price.



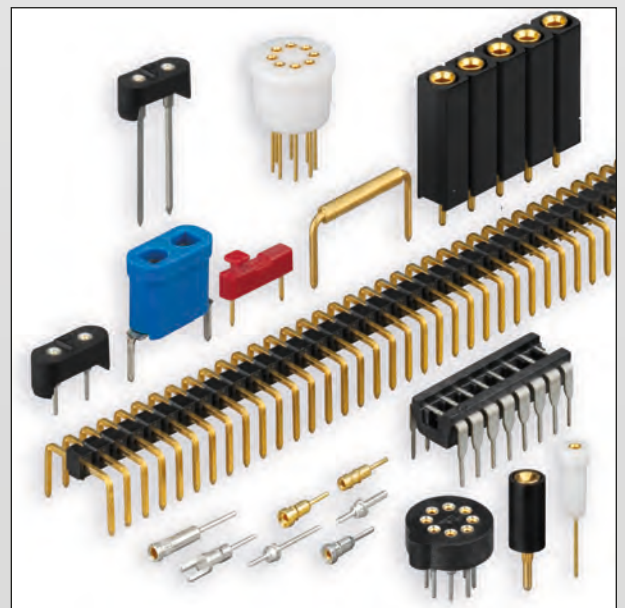
Precision sockets and plugs for ICs with high packing density
 – PLCC-socket for soldering technology (THT)
 – PLCC-socket for SMD technology – low profile
 – type of packaging: bar magazine



Precision sockets and plugs for DIL-ICs
 – precision sockets and plugs in soldering (THT) and SMD technology
 – DIL-IC sockets with extractor
 – open and closed design



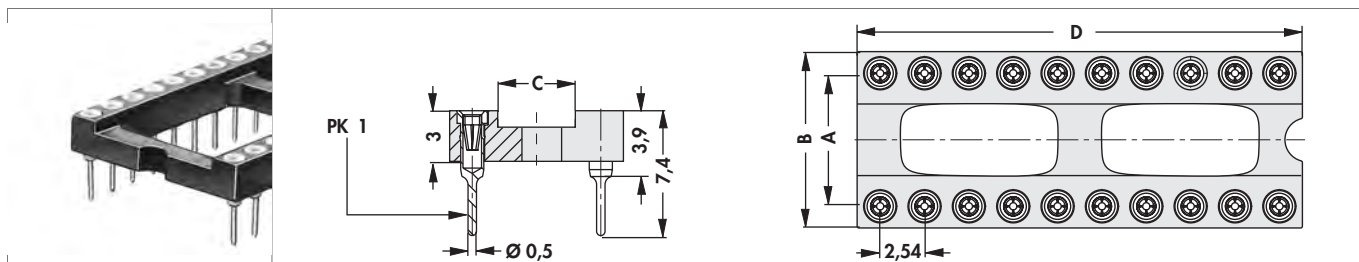
Customer specified DIL-IC sockets
 – sockets for LED displays
 – Dual-in-line plug in adapter
 – IC-sockets partially loaded with oscillators and relays



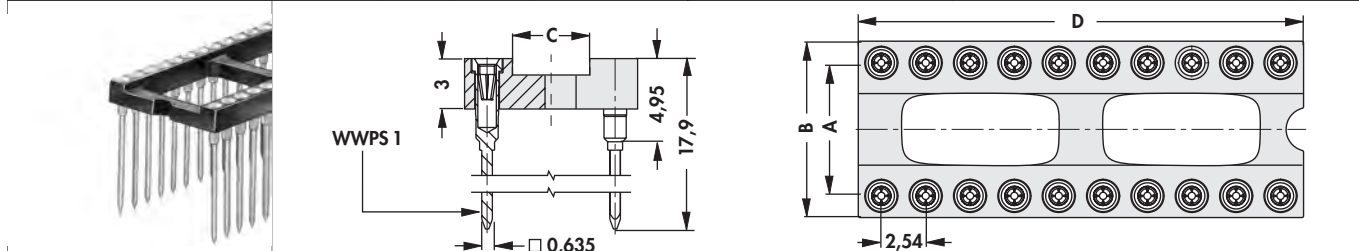
Mounting sockets for discrete components, jumper links and connectors
 – sockets for TO 5 cases
 – plug-in sockets for chrystal oscillators
 – jumper links with and without insulators
 – precision pins and bushings, bulk
 – connectors, with and without insulator

High-precision sockets and plugs for DIL-IC

– other number of contacts upon request!



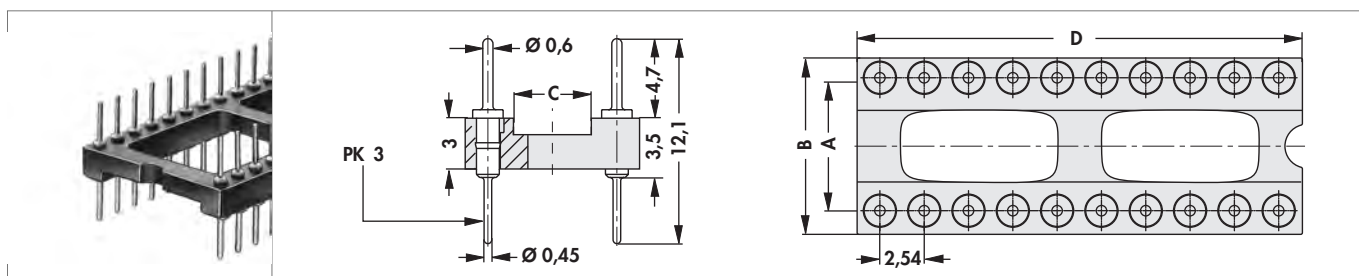
art. no.	no. of contacts	dim. [mm]				art. no.	no. of contacts	dim. [mm]			
		A	B	C	D			A	B	C	D
DIL 6 M ...	6	7.62	10.1	3.8	7.6	DIL 22 03 M Z	22	7.62	10.1	4.8	27.9
DIL 8 M ...	8	7.62	10.1	3.8	10.1	DIL 24 M ...	24	15.24	17.7	11.6	30.6
DIL 10 M ...	10	7.62	10.1	4.7	12.7	DIL 24 03 M ...	24	7.62	10.1	4.0	30.6
DIL 14 M ...	14	7.62	10.1	4.9	17.7	DIL 24 04 M G	24	10.16	12.7	7.1	30.6
DIL 16 M ...	16	7.62	10.1	3.5	20.4	DIL 28 M ...	28	15.24	17.7	11.3	35.7
DIL 18 M ...	18	7.62	10.1	4.1	23.0	DIL 28 03 M ...	28	7.62	10.1	4.0	35.7
DIL 20 M ...	20	7.62	10.1	3.4	25.5	DIL 32 M ...	32	15.24	17.7	11.2	40.6
DIL 22 M ...	22	10.16	12.7	6.6	27.9	DIL 36 M G	36	15.24	17.7	10.6	45.6



art. no.	no. of contacts	dim. [mm]				art. no.	no. of contacts	dim. [mm]			
		A	B	C	D			A	B	C	D
DIL 14 N ...	14	7.62	10.1	4.9	17.7	DIL 16 N ...	16	7.62	10.1	3.5	20.4

please indicate: ... surface of contact
G = gold-plated
Z = tin-plated

contact spring: gold-plated



art. no.	no. of contacts	dim. [mm]				art. no.	no. of contacts	dim. [mm]			
		A	B	C	D			A	B	C	D
DIL 8 O ...	8	7.62	10.1	3.8	10.1	DIL 20 O G	20	7.62	10.1	3.4	25.5
DIL 14 O ...	14	7.62	10.1	4.9	17.7	DIL 22 O ...	22	10.16	12.7	6.6	27.9
DIL 16 O ...	16	7.62	10.1	3.5	20.4						

please indicate: ... surface of contact
G = gold-plated
Z = tin-plated

SMD sockets for PLCC
Sockets for TO 5 and TO 3
Jumper links
Sockets for crystal oscillators

→ **F 9**
 → **F 10 – 11**
 → **F 14 – 15**
 → **F 13**

Single precision contacts
Teflon sockets/TO 5 & TO 18
Connector-sleeves
Technical data

→ **F 17 – 18**
 → **F 12**
 → **F 19 – 20**
 → **F 21 – 27**

F 2

High-precision sockets and plugs for DIL-IC

– other number of contacts on request!

art. no.	no. of contacts	dim. [mm]	art. no.	no. of contacts	dim. [mm]
DIL 6 P Z	6	A 7.62 B 10.1 C 3.8 D 7.6	DIL 16 P Z	16	A 7.62 B 10.1 C 3.5 D 20.4
DIL 14 P Z	14	A 7.62 B 10.1 C 4.9 D 17.7			
art. no.	no. of contacts	dim. [mm]	art. no.	no. of contacts	dim. [mm]
DIL 8 Q G	8	A 7.62 B 10.1 C 3.8 D 10.1	DIL 20 Q Z	20	A 7.62 B 10.1 C 3.4 D 25.5
DIL 16 Q Z	16	A 7.62 B 10.1 C 3.5 D 20.4			
art. no.	no. of contacts	dim. [mm]	art. no.	no. of contacts	dim. [mm]
DIL 10 U Z	10	A 7.62 B 10.1 C 4.7 D 12.7	DIL 22 U ...	22	A 10.16 B 12.7 C 6.6 D 27.9
DIL 14 U G	14	A 7.62 B 10.1 C 4.9 D 17.7	DIL 24 U ...	24	A 15.24 B 17.7 C 11.6 D 30.6
<p>please indicate: ... surface of contact G = gold-plated Z = tin-plated</p>					

Socket layout for various numbers of contacts for DIL-IC, open frame

6-16 pol.	18-32 pol.	36 pol.

F 3

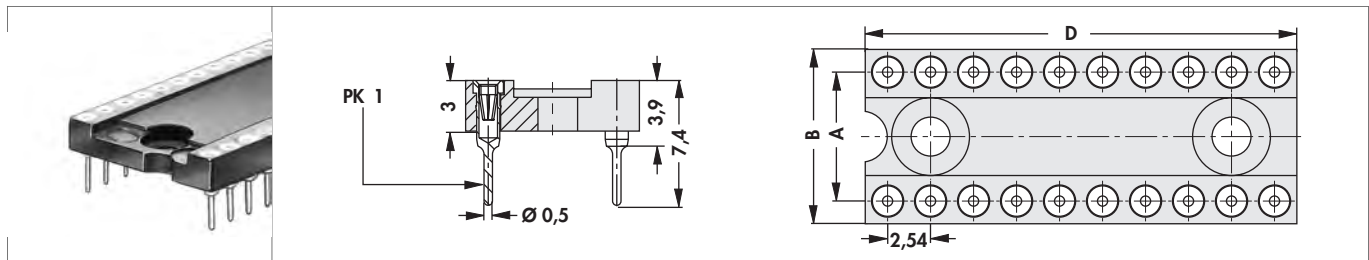
SMD sockets for PLCC
 Sockets for TO 5 and TO 3
 Jumper links
 Sockets for crystal oscillators

→ F 9
 → F 10 – 11
 → F 14 – 15
 → F 13

Single precision contacts
 Teflon sockets/TO 5 & TO 18
 Connector-sleeves
 Technical data

→ F 17 – 18
 → F 12
 → F 19 – 20
 → F 21 – 27

High-precision sockets and plugs for DIL-IC

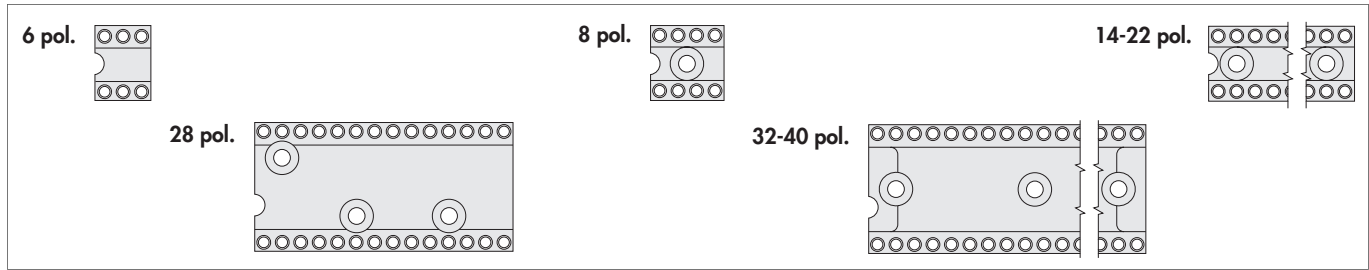


art. no.	no. of contacts	dim. [mm]			art. no.	no. of contacts	dim. [mm]		
		A	B	D			A	B	D
DIL 6 E ...	6	7.62	10.3	7.6	DIL 20 E ...	20	7.62	10.3	25.5
DIL 8 E ...	8	7.62	10.3	10.1	DIL 28 E ...	28	15.24	17.7	35.5
DIL 14 E ...	14	7.62	10.3	17.7	DIL 32 E ...	32	15.24	17.7	40.6
DIL 16 E ...	16	7.62	10.3	20.4	DIL 40 E ...	40	15.24	17.7	50.8
DIL 18 E ...	18	7.62	10.3	23.0					

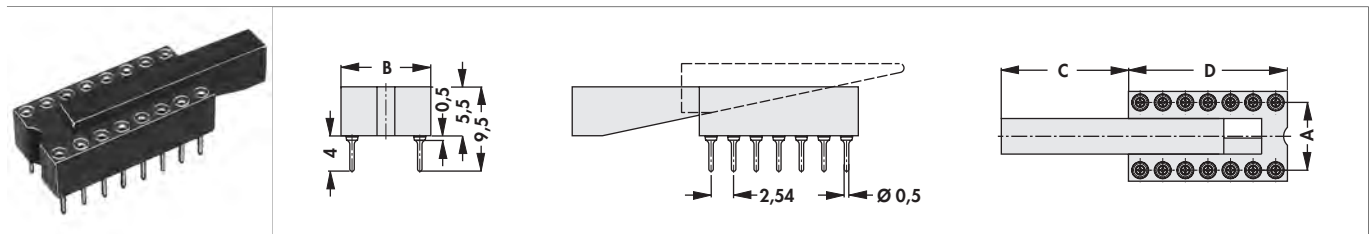
please indicate: ... surface of contact
G = gold-plated
Z = tin-plated

contact spring: gold-plated

Socket layout for various numbers of contacts for DIL-IC, closed frame



DIL-IC-sockets with extractor



art. no.	no. of contacts	dim. [mm]				art. no.	no. of contacts	dim. [mm]			
		A	B	C	D			A	B	C	D
DIL 14 PEK	14	7.62	10.1	12	17.0	DIL 16 PEK	16	7.62	10.1	12	20.3

contact spring: gold-plated

contact sleeve: gold-plated

SMD sockets for PLCC → F 9
 Programmable headers → F 15
 Sockets for TO 5 and TO 3 → F 10 - 11
 High-prec. male headers 2.54 THT → G 45 - 46

Single precision contacts → F 17 - 18
 Sockets for LED → F 5 - 6
 Connector-sleeves → F 19 - 20
 Technical data → F 21 - 27

F 4

High-precision sockets and plugs for DIL-IC

IC-sockets partially equipped, e.g. for oscillators and relays

DIL 4 OR ...	DIL 8 1 OR ...	DIL 8 2 OR ...	
art. no.	no. of contacts		
DIL 4 OR ...	4		
DIL 8 1 OR Z	8		
DIL 8 2 OR ...	8		
please indicate:	... surface of contact G = gold-plated Z = tin-plated		
contact spring:	gold-plated		

LED display sockets of 0.6" pitch

art. no.	no. of contacts	dim. [mm] A	art. no.	no. of contacts	dim. [mm] A
DIL 16 06 E Z	16	20.3	DIL 18 06 E Z	18	22.8
art. no.	no. of contacts	dim. [mm] A	art. no.	no. of contacts	dim. [mm] A
DIL 16 06 H Z	16	20.3	DIL 18 06 H Z	18	22.8
contact spring:	gold-plated				
contact sleeve:	tin-plated				

F 5

Sockets für PLCC
Connector-sleeves
Sockets for crystal oscillators
Mounting tool for DIL/PLCC

→ F 9
→ F 19 – 20
→ F 13
→ F 8

Single precision contacts
Jumper links
Teflon sockets/TO 5 & TO 18
Technical data

→ F 17 – 18
→ F 14 – 15
→ F 12
→ F 21 – 27

High-precision sockets and plugs for DIL-IC

LED display sockets in vertical construction

art. no.	no. of contacts	dim. [mm]
DIL 14 W 90	14	A: 27.7 B: 22.7
contact spring:	gold-plated	
contact sleeve:	tin-plated	

art. no.	no. of contacts	dim. [mm]	art. no.	no. of contacts	dim. [mm]
DIL 8 G Z	8	A: 10.1	DIL 16 G ...	16	A: 20.3
DIL 10 G ...	10	12.7	DIL 20 G ...	20	25.4
DIL 14 G ...	14	17.7			
please indicate:	... surface of contact G = gold-plated Z = tin-plated				
contact spring:	gold-plated				

DIL adaptor plugs

	PK 3		SK 02 (≅ PK 5)		PK 3		SK 02 (≅ PK 5)	
art. no.	no. of contacts	dim. [mm]		art. no.	no. of contacts	dim. [mm]		
DILS 04 PK 5	4	A: 5.0	B: 2.54	DILS 16 PK 3	16	A: 20.3	B: 17.78	
DILS 06 PK 3	6	7.6	5.08	DILS 16 PK 5	16	20.3	17.78	
DILS 14 PK 3	14	17.7	15.24	DILS 18 PK 5	18	23.0	20.32	
surface of contact:	gold-plated							

Sockets für PLCC
Connector-sleeves
Sockets for crystal oscillators
Mounting tool for DIL/PLCC

→ F 9
→ F 19 – 20
→ F 13
→ F 8

Single precision contacts
Jumper links
Teflon sockets/TO 5 & TO 18
Technical data

→ F 17
→ F 14 – 15
→ F 12
→ F 21 – 27

F 6

High-precision sockets and plugs for DIL-IC

	art. no. DILS 16 6 PK 3 DILS 28 6 PK 3	no. of contacts 16 28	dim. [mm] A B 20.3 17.78 35.5 33.02		art. no. DILS 40 6 PK 3	no. of contacts 40	dim. [mm] A B 50.8 48.26
surface of contact: gold-plated							

DIL platforms

– suitable for **DIL-cases** DILS ... GA LO

	art. no. DILS 08 GO DILS 14 GO DILS 16 GO DILS 18 GO	no. of contacts 8 14 16 18	dim. [mm] A B C 12.4 12.5 7.62 20.0 12.5 7.62 22.6 12.5 7.62 25.2 12.5 7.62			art. no. DILS 24 GO DILS 28 GO DILS 40 GO	no. of contacts 24 28 40	dim. [mm] A B C 32.8 20.1 15.24 37.8 20.1 15.24 53.1 20.1 15.24	
surface of contact: gold-plated									

DIL cases - grid spacing 2.54 mm

– suitable for **DIL plugs** DILS ... GO

	art. no. DILS 08 GA LO DILS 14 GA LO DILS 16 GA LO DILS 18 GA LO DILS 24 GA LO DILS 40 GA LO DILS 08 GB LO	dim. [mm] B H L 12.5 6.7 12.4 12.5 6.7 20.0 12.5 6.7 22.6 12.5 6.7 25.2 20.1 6.7 32.8 20.1 6.7 53.1 12.5 11.7 12.4			art. no. DILS 14 GB LO DILS 16 GB LO DILS 18 GB LO DILS 24 GB LO DILS 28 GB LO DILS 40 GB LO	dim. [mm] B H L 12.5 11.7 20.0 12.5 11.7 22.6 12.5 11.7 25.2 20.1 11.7 32.8 20.1 11.7 37.8 20.1 11.7 53.1	

F 7

Sockets für PLCC
 Connector-sleeves
 Sockets for crystal oscillators
 Mounting tool for DIL/PLCC

→ F 9
 → F 19 – 20
 → F 13
 → F 8

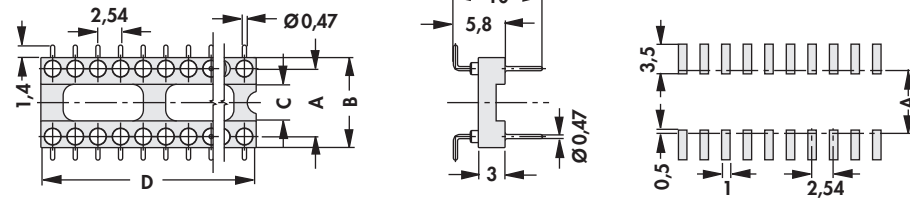
Single precision contacts
 Jumper links
 Teflon sockets/TO 5 & TO 18
 Technical data

→ F 17
 → F 14 – 15
 → F 12
 → F 21 – 27

High-precision sockets and plugs for DIL-IC

SMD-plug for DIL

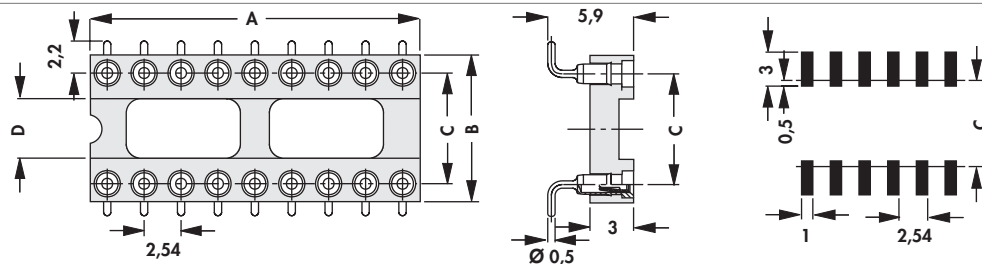
- with **SK 5**-contacts
- other number of contacts on request!



art. no.	no. of contacts	dim. [mm]				art. no.	no. of contacts	dim. [mm]			
		A	B	C	D			A	B	C	D
DIL 08 SMD SK5 Z	8	7.62	10.1	3.5	10.0	DIL 20 SMD SK5 Z	20	7.62	10.1	3.5	25.2
DIL 16 SMD SK5 Z	16	7.62	10.1	3.5	20.1						
surface of contact:		tin-plated									

SMD-socket for DIL-IC

- other number of contacts upon request!



art. no.	no. of contacts	dim. [mm]				art. no.	no. of contacts	dim. [mm]			
		A	B	C	D			A	B	C	D
DIL 16 SMD M	16	20.1	10.1	7.62	3.5	DIL 24 03 SMD M	24	30.3	10.1	7.62	3.5
DIL 20 SMD M	20	25.2	10.1	7.62	3.5	DIL 28 SMD M	28	35.4	17.6	15.24	11.2
contact spring:		gold-plated									
contact sleeve:		tin-plated									

IC-mounting tools - Design DIL



art. no.	spacing of contact rows [mm]
MIC 03	7.62
MIC 06	15.24
material:	polyacetole, non-conductive

Sockets für PLCC
 Connector-sleeves
 Sockets for crystal oscillators
 Mounting tool for DIL/PLCC

- F 9
- F 19 - 20
- F 13
- F 8

Single precision contacts
 Jumper links
 Teflon sockets/TO 5 & TO 18
 Technical data

- F 17
- F 14 - 15
- F 12
- F 21 - 27

F 8

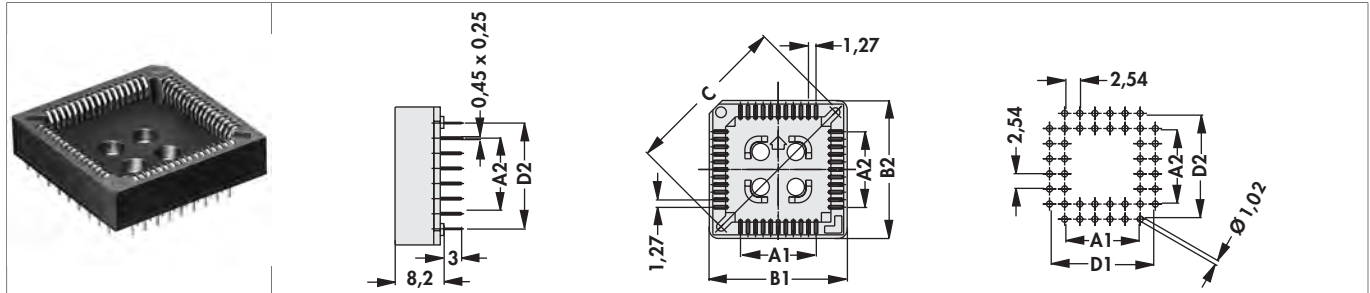
A

Sockets for IC-PLCC

B

- PLCC sockets for case design EIA/JEDEC TYPE "A"
- **VPE** = packing unit (pieces/tube)
- data sheet for pin configuration of individual PLCC sockets available upon request
- dual polarity indicators guarantee the correct alignment of the chip
- drainage holes for easier inside cleaning
- test holes are moulded next to each contact

C



D

art. no.	no. of contacts	packing unit	dim. [mm]						
			A 1	A 2	B 1	B 2	C	Ø D1	Ø D2
PLCC 20	20	39	5.08	5.08	15.55	15.55	16.7	10.16	10.16
PLCC 28	28	33	7.62	7.62	18.10	18.10	20.3	12.70	12.70
PLCC 32	32	29	7.62	10.16	18.10	20.70	22.2	12.70	15.24
PLCC 44	44	25	12.70	12.70	23.20	23.20	27.5	17.78	17.78
PLCC 52	52	23	15.24	15.24	25.70	25.70	31.0	20.32	20.32
PLCC 68	68	19	20.32	20.32	30.80	30.80	37.3	25.40	25.40
PLCC 84	84	16	25.40	25.40	36.00	36.00	44.5	30.48	30.48

E

surface of contact: tin-plated

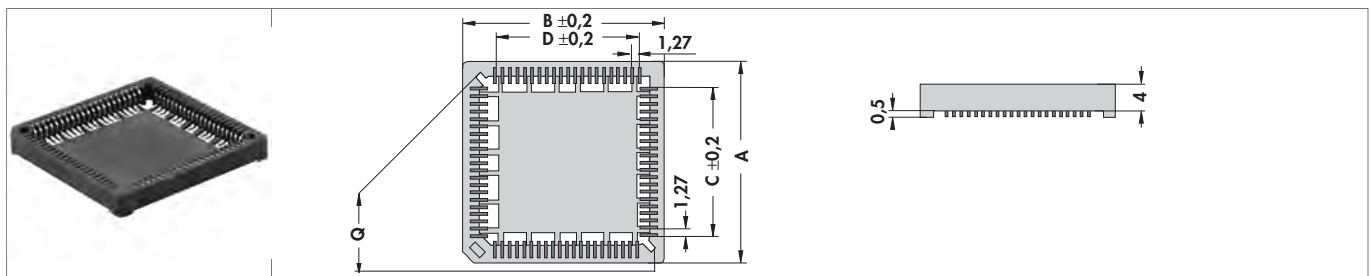
F

G

SMD sockets for PLCC - low profile housing

- these PLCC sockets conform to case designs EIA/JEDEC TYPE "A"
- **VPE** = packing unit (pieces/tube)*dimensions ±0.2 mm; tin-plated phosphorbronze socket contacts
- dual polarity indicators guarantee the correct alignment of the chip
- drainage holes for easier inside cleaning
- test holes are moulded next to each contact
- efficient heat dissipation
- **packing:** bar magazine

H



I

art. no.	no. of contacts	packing unit	dim. [mm]				
			A	B	C	D	Q
PLCC 20 SMD	20	39	15.58	15.58	5.08	5.08	16.0
PLCC 28 SMD	28	33	18.12	18.12	7.62	7.62	20.6
PLCC 32 SMD	32	29	18.12	20.66	7.62	10.16	22.5
PLCC 44 SMD	44	26	23.40	23.40	12.70	12.70	27.5
PLCC 52 SMD	52	23	25.74	25.74	15.24	15.24	31.1
PLCC 68 SMD	68	20	30.82	30.82	20.32	20.32	38.8
PLCC 84 SMD	84	17	35.90	35.90	25.40	25.40	44.8

K

surface of contact: tin-plated

L

M

N

F 9

Sockets for DIL-IC
Sockets for LED
Connector-sleeves
Single precision contacts


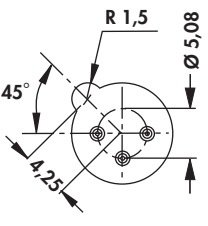
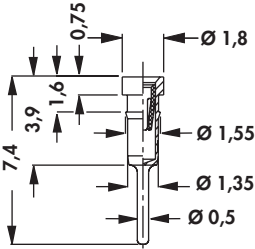
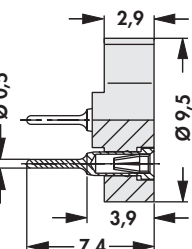

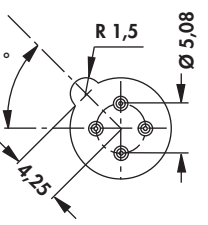
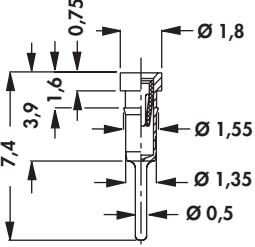
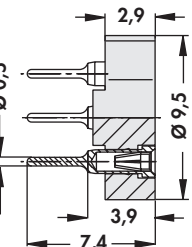

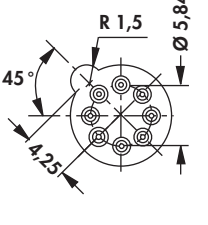
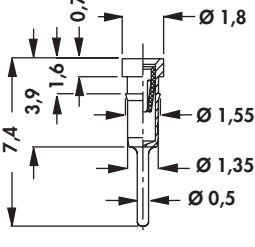
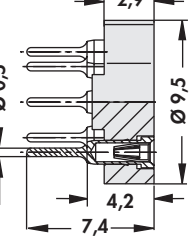

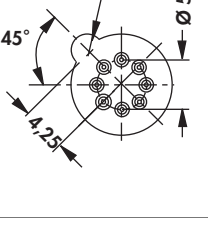
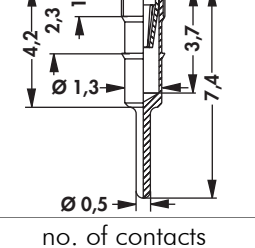
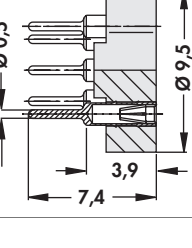
→ F 2 - 4
→ F 5 - 6
→ F 19 - 20
→ F 17 - 18

Teflon sockets/TO 5 & TO 18
Jumper links
SMD socket for DIL-IC
Technical data

→ F 12
→ F 14 - 15
→ F 8
→ F 21 - 27

Sockets for TO ... cases

Transistor sockets for TO 5

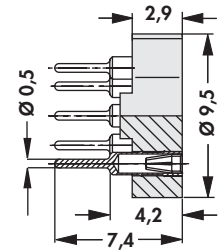
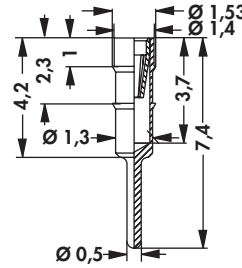
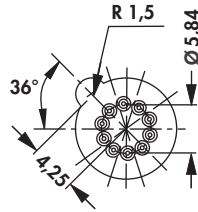
			
<p>art. no. PF 53 ...</p>	<p>no. of contacts 3</p>		
			
<p>art. no. PF 54 ...</p>	<p>no. of contacts 4</p>		
			
<p>art. no. PF 58 23 ...</p>	<p>no. of contacts 8</p>		
<p>please indicate: ... surface of contact G = gold-plated Z = tin-plated</p>			
<p>contact spring:</p>	<p>gold-plated</p>		
<p>contact sleeve:</p>	<p>gold-plated</p>		
			
<p>art. no. PF 58 2 G</p>	<p>no. of contacts 8</p>		
<p>contact spring:</p>	<p>gold-plated</p>		
<p>contact sleeve:</p>	<p>gold-plated</p>		

A
B
C
D
E
F
G
H
I
K
L
M
N

A

Sockets for TO ... cases

B

Sockets for TO 5

art. no.

no. of contacts

PF 510 G

10

contact spring:

gold-plated

contact sleeve:

gold-plated

D

E

F

G

H

I

K

L

M

N

F 11
Teflon sockets/TO 5 & TO 18
Connector-sleeves
Sockets for DIL-IC
Single precision contacts

 → F 12
 → F 19 – 20
 → F 2 – 4
 → F 17 – 18

Jumper links
Sockets for LED
SMD socket for DIL-IC
Technical data

 → F 14 – 15
 → F 5 – 6
 → F 8
 → F 21 – 27

Sockets for TO ... cases

Transistor sockets - teflon sockets for TO 5

art. no.	no. of contacts	art. no.	no. of contacts
TF 53	3	TF 54	4
art. no.	no. of contacts	art. no.	no. of contacts
TF 56	6	TF 58	8
art. no.	no. of contacts	art. no.	no. of contacts
TF 510	10	TF 512	12
contact spring:		gold-plated	
contact sleeve:		gold-plated	

Transistor sockets - teflon sockets for TO 18

art. no.	no. of contacts	art. no.	no. of contacts
TF 183	3	TF 184	4
contact spring:		gold-plated	
contact sleeve:		gold-plated	

Programmable headers
Sockets for TO 5 and TO 3
Sockets für PLCC
Single contacts metal strip

→ F 15
→ F 10 - 11
→ F 9
→ G 49

Jumper links
High-precis.male head.in SMD mount.
SMD socket for DIL-IC
Technical data

→ F 14
→ G 18
→ F 8
→ F 21 - 27

F 12


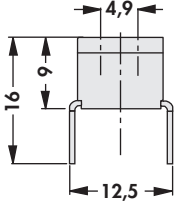
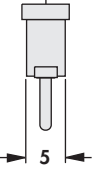
A
B
C
D
E
F
G
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I
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L
M
N

A

Sockets for crystal oscillators

B

C


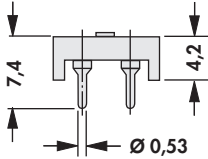
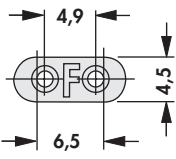
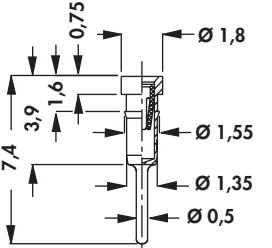

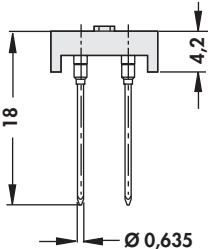
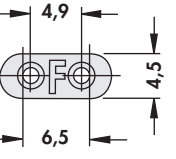
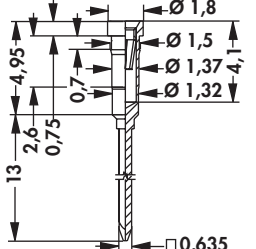
art. no.			
QS 25 GS			
surface of contact:	silver-plated		

Precision sockets for crystal oscillators in case HC 18

D

E

F

art. no.				
PQ 18 ...				
art. no.				
PQ 18 W ...				
please indicate:	... surface of contact G = gold-plated Z = tin-plated			
contact spring:	gold-plated			

G

Insulators for crystal oscillators

* = equates self retaining



H

I

K

L

M

			
art. no.	case design	dim. [mm]	
ISQ 04	HC-18/U/ HC-49/U/ HC-43/U	C	D
ISQ 05	HC-18/U/ HC-49/U/ HC-43/U	-	*
ISQ 06	HC-18/U/ HC-49/U/ HC-43/U	2.4	0.71
ISQ 07	HC-18/U/ HC-49/U/ HC-43/U	2.4	*
ISQ 08	HC-50/U/ HC-42/U/ HC-25/U	-	1.30
dielectric strength:	9 kV		
name of foil:	MYLAR		
heat resistance:	250°C		
material thickness:	0.127 mm		

N

F 13

Teflon sockets/TO 5 & TO 18
Connector-sleeves
Sockets für PLCC
Sockets for LED

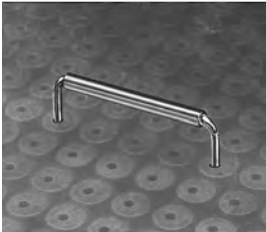
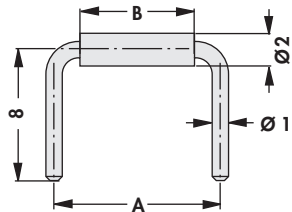

→ F 12
→ F 19 – 20
→ F 9
→ F 5 – 6


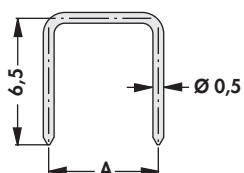

High-prec. male headers 2.54 THT
Single precision contacts
Sockets for DIL-IC
Technical data

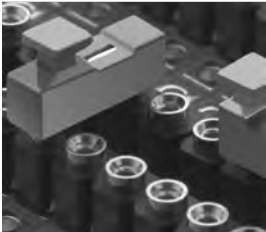
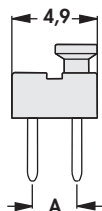
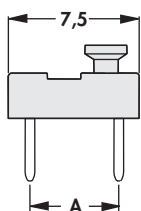
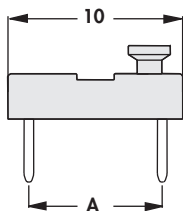
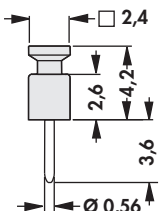
→ G 45 – 46
→ F 17 – 18
→ F 2 – 4
→ F 21 – 27

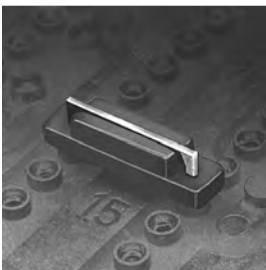
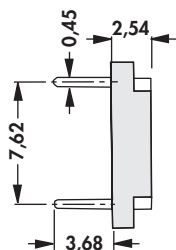
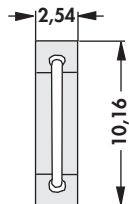
Jumper links / Separable jumpers

Jumper links

			
art. no.	dim. [mm]	art. no.	dim. [mm]
	A B		A B
LB 02 G	5.08 2.0	LB 04 G	10.16 7.0
LB 03 G	7.62 4.5	LB 06 G	15.24 12.0
surface of contact:		gold-plated	

			
art. no.	dim. [mm]	art. no.	dim. [mm]
	A		A
CB 1 ...	2.54	CB 6 ...	7.62
CB 3 ...	5.08		
please indicate:		... surface of contact	
		G = gold-plated	
		Z = tin-plated	

				
art. no.	dim. [mm]	art. no.	dim. [mm]	
	A		A	
LEB 01 G	2.54	LEB 03 G	7.62	
LEB 02 G	5.08			
surface of contact:		gold-plated		

		
art. no.		
PSB 03 G		
surface of contact:		gold-plated

Sockets for DIL-IC
Connector-sleeves
Jumper links
SMD socket for DIL-IC

→ F 2 - 4
→ F 19 - 20
→ F 14 - 15
→ F 8

Teflon sockets/TO 5 & TO 18
Single precision contacts
Sockets for LED
Technical data

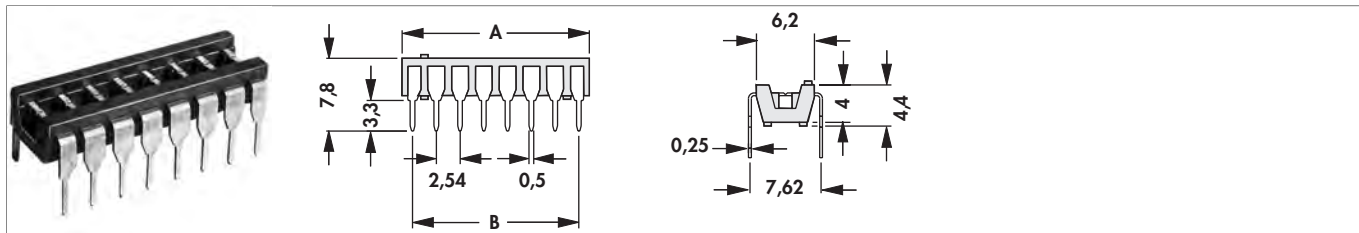
→ F 12
→ F 17 - 18
→ F 5 - 6
→ F 21 - 27

F 14

Jumper links / Separable jumpers

separable jumpers for soldering technology

– the contacts have a preformed dividing groove and can easily be separated with a screwdriver

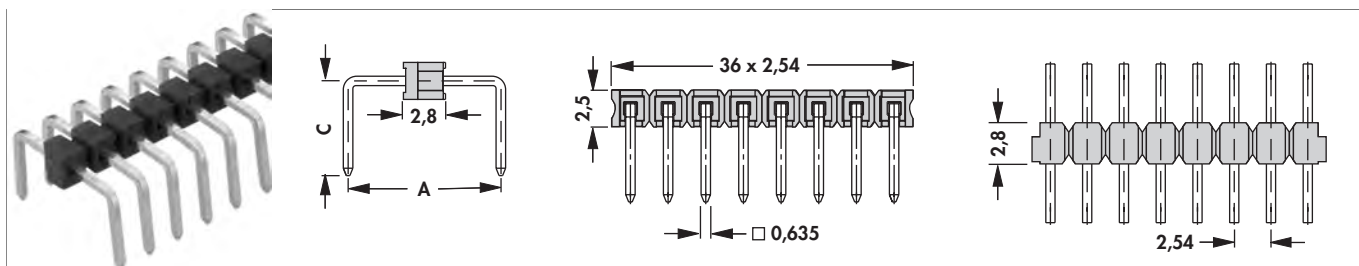


art. no.	no. of contacts	dim. [mm]		art. no.	no. of contacts	dim. [mm]	
		A	B			A	B
CAB 3 06 03 Z	6	7.30	5.08	CAB 3 14 03 Z	14	17.46	15.24
CAB 3 08 03 Z	8	9.84	7.62	CAB 3 16 03 Z	16	20.00	17.78
CAB 3 12 03 Z	12	14.92	12.70				

surface of contact: tin-plated

Jumper links, grid spacing 2.54 mm, □ 0.635 mm

– separable! any requested number of contact can be delivered

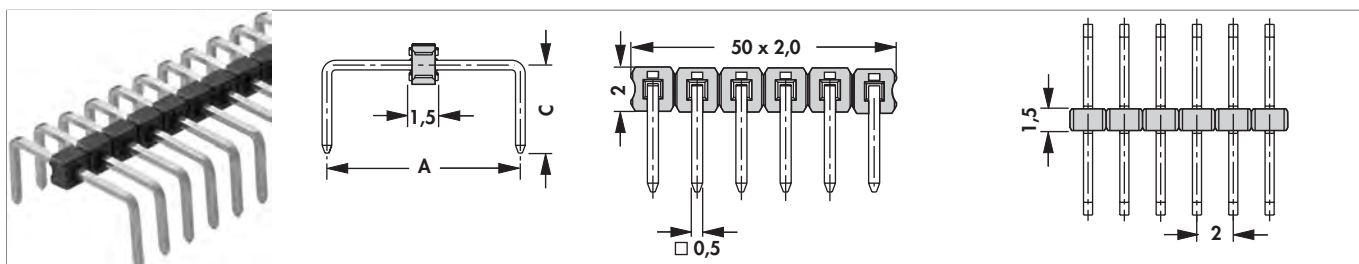


art. no.	dim. [mm]		art. no.	dim. [mm]	
	A	C		A	C
LB SL 0508 ...	5.08	6.1	LB SL 1016 ...	10.16	6.1
LB SL 0762 ...	7.62	6.1	LB SL 1524 ...	15.24	6.1

please indicate: ... no. of contacts 1 - 36 ... surface of contact
G = gold-plated
Z = tin-plated

Jumper links, grid spacing 2.00 mm, □ 0.5 mm

– separable! any requested number of contact can be delivered



art. no.	dim. [mm]	
	A	C
LB SLY 06 ...	6	4.5

please indicate: ... no. of contacts 1 - 50 ... surface of contact
G = gold-plated
Z = tin-plated

F 15

DIL platform adapters & cases
 Sockets for LED
 Sockets for DIL-IC
 Connector-sleeves

→ F 6 - 7
 → F 5 - 6
 → F 2 - 4
 → F 19 - 20

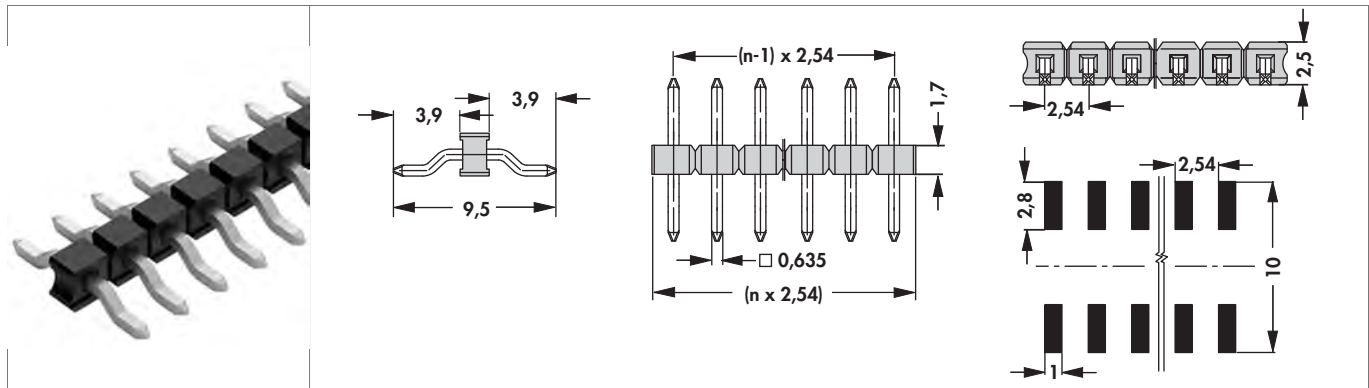
Teflon sockets/TO 5 & TO 18
 Single precision contacts
 SMD socket for DIL-IC
 Technical data

→ F 12
 → F 17 - 18
 → F 8
 → F 21 - 27

Jumper links / Separable jumpers

Jumper link for LED- and standard-PCBs

- in SMD-technology
- □ 0,635 mm
- **separable!** any requested number of contact can be delivered



art. no.

LB SL LP 039 SMD ...

please indicate:

... no. of contacts
2 - 20

... surface of contact
G = gold-plated
Z = tin-plated

DIL platform adapters & cases
Sockets for LED
Sockets for DIL-IC
Connector-sleeves

→ F 6 - 7
→ F 5 - 6
→ F 2 - 4
→ F 19 - 20

Teflon sockets/TO 5 & TO 18
Single precision contacts
SMD socket for DIL-IC
Technical data

→ F 12
→ F 17 - 18
→ F 8
→ F 21 - 27

F 16

High-precision contacts, loose

Female contacts for Ø 0.5 mm

art. no.		art. no.		art. no.	
1706 G		PEK G		PK 1 ...	
art. no.		art. no.		art. no.	
1831 Z		WWPS 1 G		SK 06 ...	
art. no.		art. no.		art. no.	
SK 13 X 2 G		TF G		SK 19 ...	
art. no.					
SIL 1 ...					

please indicate: ... surface of contact
G = gold-plated
Z = tin-plated

contact spring: gold-plated

Female contact for 0.64 mm □ and Ø 0.80 mm

art. no.		art. no.	
SKB 5 Z		SKB 9 Z	

contact spring: gold-plated
contact sleeve: tin-plated

High-precision contacts, loose

Contacts with solder head

<p>art. no.</p> <p>PK 4 Z</p>		<p>art. no.</p> <p>SK 02 ...</p>		<p>art. no.</p> <p>SK 03 ...</p>	
<p>art. no.</p> <p>SK 04 Z</p>		<p>art. no.</p> <p>SK 08 G</p>			
<p>please indicate: ... surface of contact G = gold-plated Z = tin-plated</p>					

Male contacts

<p>art. no.</p> <p>SK 05 ...</p>		<p>art. no.</p> <p>SK 14 X 2 ...</p>		<p>art. no.</p> <p>SK 40 G</p>	
<p>art. no.</p> <p>SK 41 ...</p>		<p>art. no.</p> <p>SK 42 ...</p>			
<p>please indicate: ... surface of contact G = gold-plated Z = tin-plated</p>					

Sockets for DIL-IC
 Sockets for LED
 Sockets für PLCC
 Teflon sockets/TO 5 & TO 18

→ F 2 - 4
 → F 5 - 6
 → F 9
 → F 12

Connector-sleeves
 Jumper links
 SMD socket for DIL-IC
 Technical data

→ F 19
 → F 14 - 15
 → F 8
 → F 21 - 27

F 18


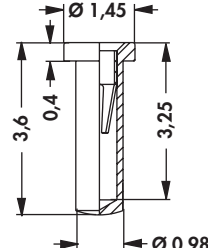


A

Connector-sleeves

B


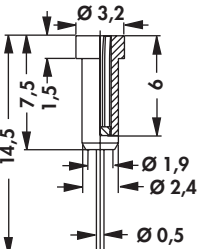
For 0.4 mm with BeCu spring 3 μm Ni, 1 μm Au

art. no.		
		
SB 1		

C

D


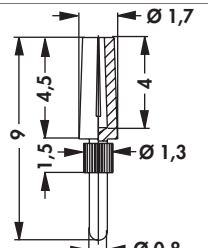
For 0.4 mm with bronze spring, teflon insulated

art. no.		
		
SB 2		

E

F


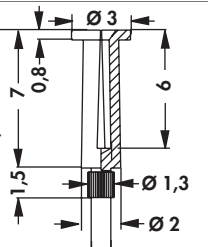
For 0.8 mm, slotted

art. no.		
		
SB 3		


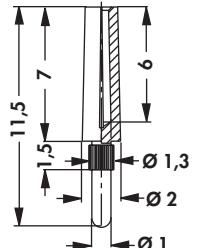
G

H


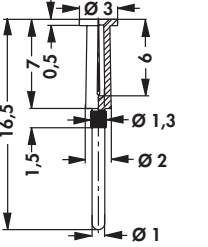
For 1 mm, slotted

art. no.		
		
SB 4		

I

art. no.		
		
SB 5		

K

art. no.		
		
SB 6		

L

M

surface of contact: gold-plated

N

F 19


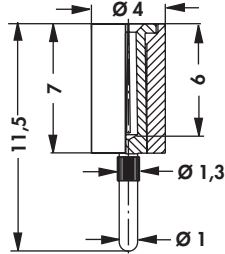
High-prec. male headers 2.54 THT → G 45 – 46
 Teflon sockets/TO 5 & TO 18 → F 12
 High-precision female headers THT → G 2 – 6
 Jumper links → F 14 – 15

Sockets für PLCC → F 9
 Sockets for LED → F 5 – 6
 Sockets for crystal oscillators → F 13
 Technical data → F 21 – 27


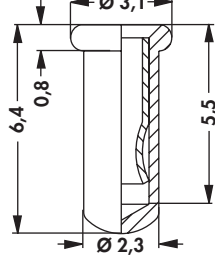
→ F 9
 → F 5 – 6
 → F 13
 → F 21 – 27

Connector-sleeves


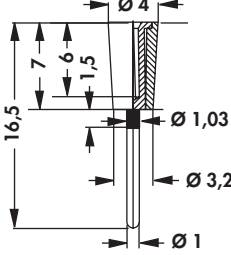
For 1 mm, slotted, plastic insulated

art. no.		
SB 9		


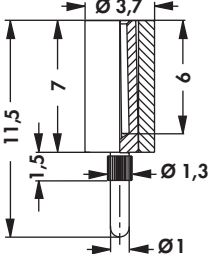
For 1 mm, with BeCu spring 3 μm Ni, 1 μm Au

art. no.		
SB 12		

For 1 mm, slotted, plastic insulated


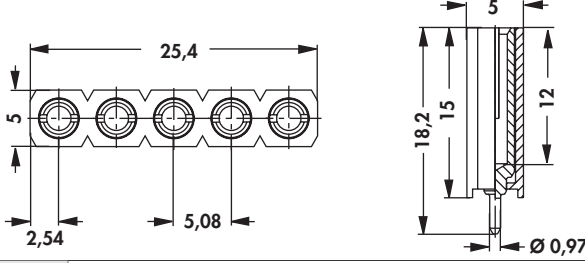
art. no.		
SB 16		

For 2 mm, slotted, plastic insulated

art. no.		
SB 13 ...		

please indicate: ... case colour
S = black
R = red
B = blue

For 2 mm, slotted, plastic insulated, separable

art. no.		
SB 15		
surface of contact:	gold-plated	

- | | | | |
|-----------------------------------|-------------|---------------------------------|-------------|
| High-prec. male headers 2.54 THT | → G 45 - 46 | Sockets für PLCC | → F 9 |
| Teflon sockets/TO 5 & TO 18 | → F 12 | Sockets for LED | → F 5 - 6 |
| High-precision female headers THT | → G 2 - 6 | Sockets for crystal oscillators | → F 13 |
| Jumper links | → F 14 - 15 | Technical data | → F 21 - 27 |

Technical data Sockets

	DIL ... E ..., DIL ... M ..., DIL ... N ..., DIL ... OR ...	DIL ... O ..., DIL ... P ..., DIL ... Q ..., DIL ... U ...	DIL ... PEK	DIL ... 06 E Z, DIL ... 06 H Z
contact material	CuZn-alloy			
surface contact / contact sleeve	Ni+ $\geq 0.2\mu\text{m Au}$ / Ni+4... $6\mu\text{m Sn}$		Ni+ $\geq 0.2\mu\text{m Au}$	Ni+4... $6\mu\text{m Sn}$
inner contact spring material	CuBe-alloy		CuBe-alloy	
inner contact spring surface	Ni+0,25 $\mu\text{m Au}$		Ni+0,75 $\mu\text{m Au}$	Ni+0,25 $\mu\text{m Au}$
plugability for circuit points	0,22x0,25mm... 0,4x0,55mm/ $\varnothing 0,4...0,56\text{mm}$		0,22x0,25mm... 0,4x0,55mm/ $\varnothing 0,4...0,56\text{mm}$	
insert depth	2.5...3.6mm		2.5...3.6mm	
insertion / drawing force	4 lamellas con- tact/ 1.8 N/1.4 N		4 lamellas contact/ 1.8 N/1.4 N	
shock resistance	50 g			
vibration resistance max.	15 g			
volume resistance	10 m Ω			
contact resistance	4 m Ω			
contact resistance after 1000 cycles	7 m Ω			
capacity between two adjacent contacts	0,4 pF			
nominal current	1.5 A			
nominal voltage	150 V DC			
test voltage	1000 V			
insulating body material	PPS, GF			
temperature range	-40°C... +200°C/ (260°C/10 s)			
class of flammibility	UL 94 V-0			
specific insulation resistance	$> 10^{12} \Omega\cdot\text{m}$			

Technical data Sockets

	DIL ... G ..., DIL 14 W 90	DILS ... PK ...	DILS ... GO	DILS ... LO
contact material	CuZn-alloy		CuSn alloy	
surface contact / contact sleeve	Ni+4...6µm Sn	Ni+≥0.2µm Au		
inner contact spring material	CuBe-alloy			
inner contact spring surface	Ni+0,75µm Au			
plugability for circuit points	0,22x0,25mm... 0,4x0,55mm/ Ø0,4...0,56mm			
insert depth	2.5...3.6mm			
insertion / drawing force	4 lamellas con- tact/ 1.8 N/1.4 N			
shock resistance	50 g			
vibration resistance max.	15 g			
volume resistance	10 mΩ			
contact resistance	4 mΩ			
contact resistance after 1000 cycles	7 mΩ			
capacity between two adjacent contacts	0,4 pF			
nominal current	1.5 A			
nominal voltage	150 V DC			
test voltage	1000 V			
insulating body material	PPS, GF			PA 4.6. GF
temperature range	-40°C... +200°C/ (260°C/10 s)			-40°C... +163°C/ (260°C/10 s)
class of flammibility	UL 94 V-0			
specific insulation resistance	> 10 ¹² Ω·m			

Technical data Sockets

	DIL ... SMD M, DIL...SMD SK5	MIC ...	PLCC ..., PLCC ... SMD	TF ...
contact material	CuZn-alloy		CuSn alloy	CuZn-alloy
surface contact / contact sleeve	Ni+ $\geq 0.2\mu\text{m}$ Au/ Ni+4... $6\mu\text{m}$ Sn		Ni+2... $4\mu\text{m}$ Sn	Ni+ $\geq 0.2\mu\text{m}$ Au
inner contact spring material	CuBe-alloy			CuBe-alloy
inner contact spring surface	Ni+0,25 μm Au			Ni+0,75 μm Au
plugability for circuit points	0,22x0,25mm... 0,4x0,55mm/ $\varnothing 0,4...0,56\text{mm}$			0,22x0,25mm... 0,4x0,55mm/ $\varnothing 0,4...0,56\text{mm}$
insert depth	2.5...3.6mm			2.5...3.6mm
insertion / drawing force	4 lamellas con- tact/ 1.8 N/1.4 N			4 lamellas con- tact/ 1.8 N/1.4 N
shock resistance	50 g			50 g
vibration resistance max.	15 g			15 g
volume resistance	10 m Ω		>30 m Ω	10 m Ω
contact resistance				4 m Ω
contact resistance after 1000 cycles				7 m Ω
capacity between two adjacent contacts	0,4 pF			
nominal current	1.5 A		1 A	1.5 A
nominal voltage	150 V DC			100 V DC
test voltage	1000 V		500 V	1000 V
insulating body material	PPS, GF	polyacetal/ non- conductive	PPS, GF	PTFE
temperature range	-40°C... +200°C/ (260°C/10 s)		-40°C... +105°C/ (260°C/10 s)	-200°C ... +260°C
class of flammibility	UL 94 V-0	UL 94 V-0 (at thickness $\geq 3\text{mm}$), UL 94 V-1	UL 94 V-0	
specific insulation resistance	>10 ¹² $\Omega\cdot\text{m}$		>10 ⁸ $\Omega\cdot\text{m}$	>10 ¹⁴ $\Omega\cdot\text{m}$

Technical data Sockets

	QS 25 GS	PF ..., PQ 18 ...	LB ... G	CB ...
contact material	CuSn alloy	CuZn-alloy		
surface contact / contact sleeve	Ni+3 μ m Ag	Ni+ \geq 0.2 μ m Au/ Ni+4...6 μ m Sn	Ni+ \geq 0.2 μ m Au	Ni+ \geq 0.2 μ m Au/ Ni+4...6 μ m Sn
inner contact spring material	CuBe-alloy			
inner contact spring surface	Ni+0,75 μ m Au			
plugability for circuit points	0,22x0,25mm... 0,4x0,55mm/ Ø0,4...0,56mm			
insert depth	2.5...3.6mm			
insertion / drawing force	4 lamellas contact/ 1.8 N/1.4 N			
shock resistance	50 g			
vibration resistance max.	15 g			
volume resistance	10 m Ω			
contact resistance	4 m Ω			
contact resistance after 1000 cycles	7 m Ω			
capacity between two adjacent contacts	0,4 pF			
nominal current	2.5 A	1.5 A		
nominal voltage	125 V DC	60 V DC		
test voltage	500 V			
insulating body material	PA, GF	PA 4.6. GF		
temperature range	-40°C ... +180°C	-40°C... +163°C/ (260°C/10 s)		
class of flammibility	UL 94 V-0			
specific insulation resistance	>10 ⁷ Ω ·m			

Technical data Sockets

	LEB ... G	PSB 03 G	CAB 3 ... 03 Z	LB SLY 06 ...
contact material	CuZn-alloy	phosphor bronze	brass	CuSn alloy
surface contact / contact sleeve	Ni+0.15µm Au	Ni+≥0.2µm Au	Ni+4...6µm Sn	Ni+4...6µm Sn/ Ni+≥0.2µm Au
volume resistance				5 mΩ
nominal current	3 A		1.5 A	3 A
nominal voltage	150 V DC	125 V AC	100 V DC	
test voltage	1000 V		1000 V	500 V
insulating body material	thermoplastic polyester	PA 6. GF	PPS, GF	PA 4.6. GF
temperature range	-55°C... +125°C		-40°C... +200°C/ (260°C/10 s)	-40°C... +163°C/ (260°C/10 s)
class of flammability	UL 94 V-0		UL 94 V-0	
specific insulation resistance			> 10 ¹² Ω·m	> 10 ⁷ Ω·m

	LB SL ..., LB SL LP ...	1706 G, PEK G, TF G, WWPS 1 G	PK 1 ..., SK 19 ...	1831 Z, SIL 1 ..., SK 06 ..., SK 13 X 2 G
contact material	CuSn alloy	CuZn-alloy		
surface contact / contact sleeve	Ni+4...6µm Sn/ Ni+≥0.2µm Au	Ni+≥0.2µm Au	Ni+≥0.2µm Au/ Ni+4...6µm Sn	
inner contact spring material	CuBe-alloy			
inner contact spring surface		Ni+0,75µm Au	Ni+0,25µm Au	Ni+0,75µm Au
insert depth	2.5...3.6mm			
insertion / drawing force	4 lamellas contact/ 1.8 N/1.4 N			
volume resistance	5 mΩ			
nominal current	3 A	1.5 A		
nominal voltage	250 V DC	60 V DC		
test voltage	2000 V	1000 V		
insulating body material	PA 4.6. GF			
temperature range	-40°C... +163°C/ (260°C/10 s)			
class of flammability	UL 94 V-0			
specific insulation resistance	> 10 ⁷ Ω·m			

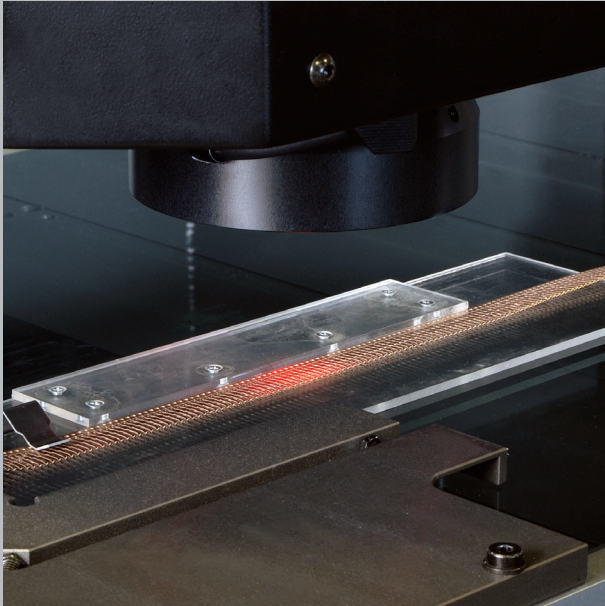
Technical data Sockets

	SKB 5 Z, SKB 9 Z	PK 4 Z, SK 02 ..., SK 03 ..., SK 04 Z, SK 05 ..., SK 08 G, SK 14 X 2 ..., SK 40 G, SK 41 ..., SK 42 ...	SB 1	SB 2
contact material	CuZn-alloy			
surface contact / contact sleeve	Ni+4...6µm Sn	Ni+≥0.2µm Au/ Ni+4...6µm Sn	Ni+0.25µm Au	Ni+≥0.2µm Au
inner contact spring material	CuBe-alloy		CuBe-alloy	
inner contact spring surface	Ni+0,75µm Au		Ni+0,5µm Au	Ni+0,75µm Au
plugability for circuit points			Ø0,35...0,5 mm	
insert depth	2.5...6mm		1.5...3mm	2.8...3.8mm
insertion / drawing force	6 lamella con- tacts/ 1.3N/0.3N			
nominal current	3 A	1.5 A		2 A
nominal current 70°C				1 A
nominal voltage	150 V DC	60 V DC		
test voltage	1000 V			
insulating body material				PTFE (teflon)
dielectric strength				≤500 V

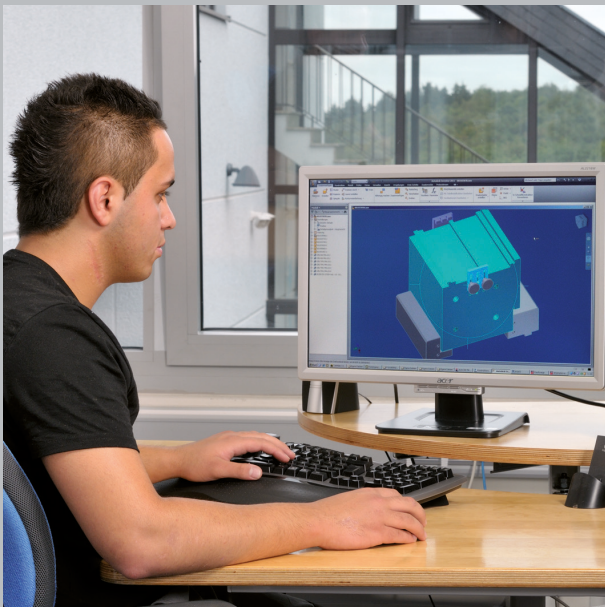
Technical data Sockets

	SB 3	SB 4, SB 5, SB 6	SB 9	SB 12
contact material	CuZn-alloy			
surface contact / contact sleeve	Ni+0.25 μ m Au			
inner contact spring material				CuBe-alloy
inner contact spring surface				Ni+1 μ m Au
plugability for circuit points	Ø0,8mm	Ø1mm		
insert depth	4mm	6mm	3.8...5.5mm	
volume resistance				>30 Ω
nominal current		3 A	4 A	
nominal current 70°C		2 A		
insulating body material			PA 6.6	
dielectric strength		\leq 500 V		

	SB 16	SB 13	SB 15
contact material	CuZn-alloy		
surface contact / contact sleeve	Ni+0.25 μ m Au		
plugability for circuit points	Ø1mm	Ø2mm	
insert depth	2...6mm	6mm	12mm
nominal current		3 A	
nominal current 70°C		2 A	
insulating body material	PBT, GF	polyolefin	PA 4.6. GF
class of flammibility	UL 94 V-0		UL 94 V-0
dielectric strength		\leq 500 V	



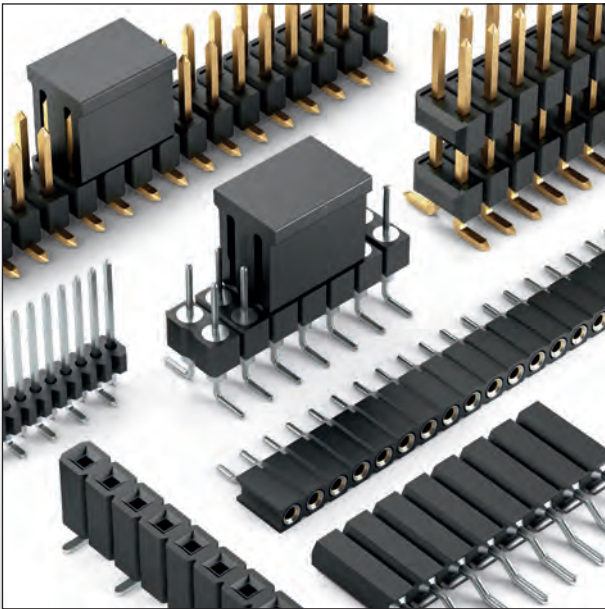
certified quality management



own tool-making department

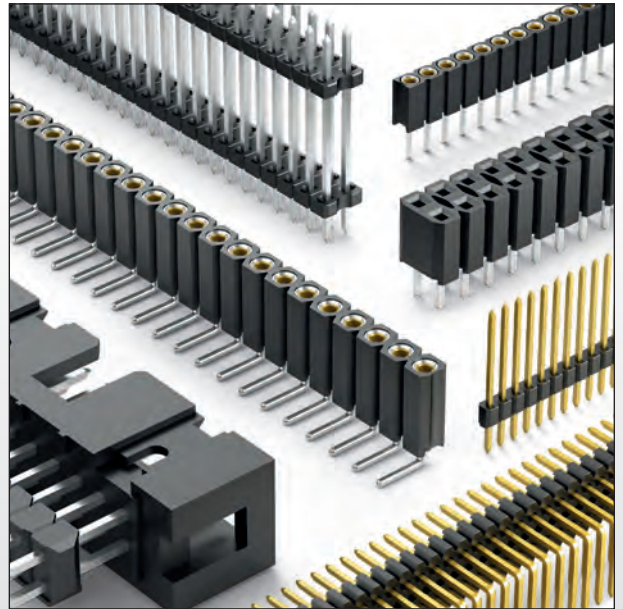


foresighted storekeeping



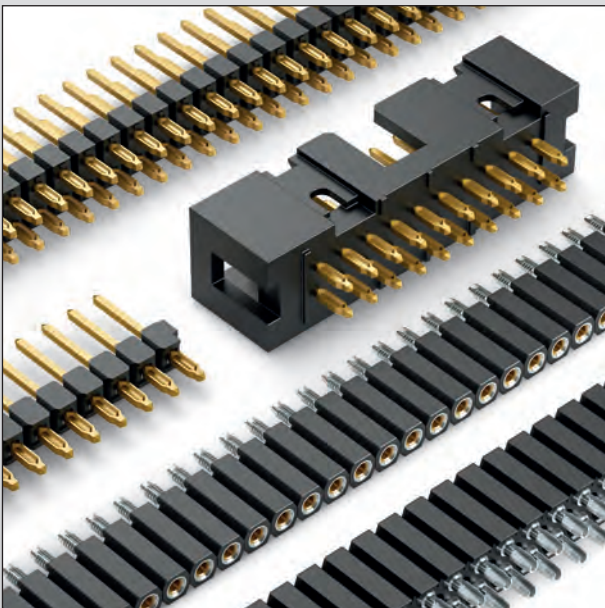
Male and female headers in SMD version

- male header, one and two rows with pick and place pad, horizontal and vertical version
- female header, one and two rows with pick and place pad, horizontal and vertical version
- grid spacing: 2,54 mm, 2,00 mm and 1,27 mm
- optional selectable type of packaging: bar magazine and tape and reel



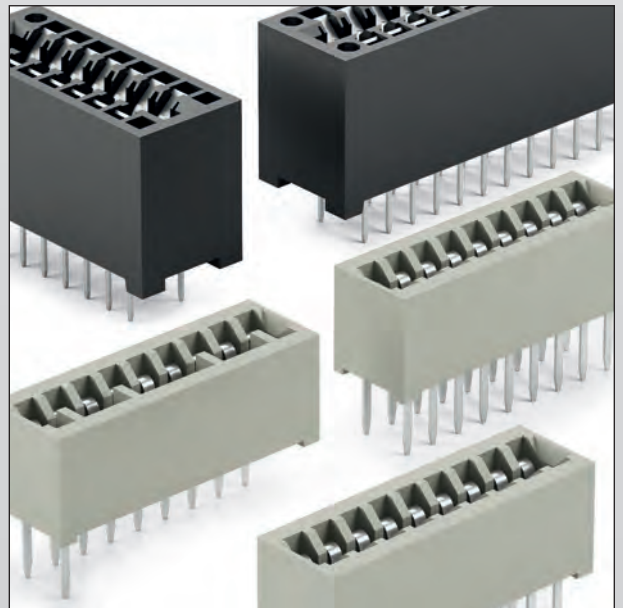
Male and female headers for solder technology (THT)

- male header, one and two rows, straight and angled version with square and precision contacts
- shrouded-header with second insulating body
- female header, one and two rows, straight and angled version with stamped contacts or precision contacts
- through-hole female headers, one and two rows
- grid spacing 2,54 mm, 2,0 mm and 1,27 mm



Male and female header in press-in mounting

- male header, one and two rows, straight version
- female header, one and two rows, straight version
- shrouded male header, two rows, straight version



Multipoint connector

- direct multipoint connector for additional circuit board with a thickness of 0,7 to 0,9 mm
- direct multipoint connector for a circuit board thickness of 1,6 mm

Male headers

Präzisionskontakte, solder and plug pins Ø 0.5 mm

– also available as single contact, **SK ...**


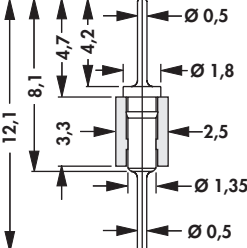

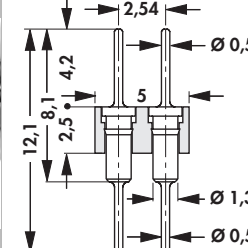

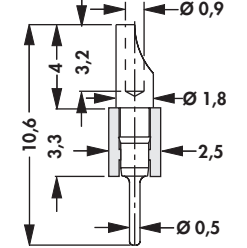

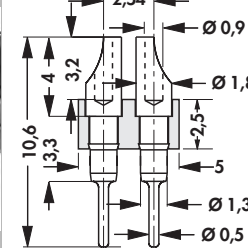

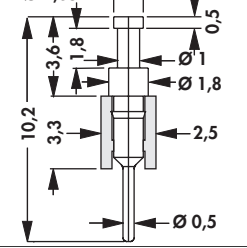
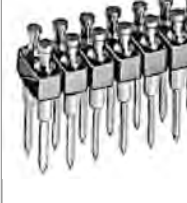
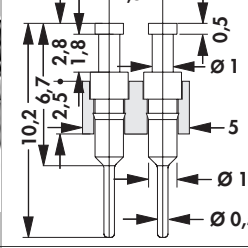

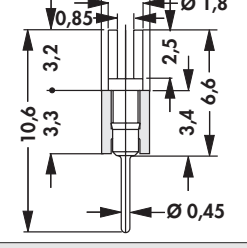

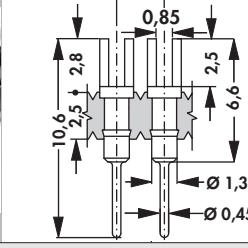
– **version:**

MK 05 / MK 205: contact pin on both sides

MK 04 / MK 204: with diagonal solder cup

MK 03 / MK 203: with solder head

MK 02 / MK 202: with solder fork

<p>art. no.</p>  <p>MK 05 ...</p>		<p>art. no.</p>  <p>MK 205 ...</p>			
<p>art. no.</p>  <p>MK 04 ...</p>		<p>art. no.</p>  <p>MK 204 ...</p>			
<p>art. no.</p>  <p>MK 03 ...</p>		<p>art. no.</p>  <p>MK 203 ...</p>			
<p>art. no.</p>  <p>MK 02 ...</p>		<p>art. no.</p>  <p>MK 202 ...</p>			
<p>please indicate:</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>... no. of contacts</p> <p>one row 1 - 50</p> <p>two rows 2 - 100</p> </td> <td style="width: 50%; vertical-align: top;"> <p>... surface of contact</p> <p>G = gold-plated</p> <p>Z = tin-plated</p> </td> </tr> </table>				<p>... no. of contacts</p> <p>one row 1 - 50</p> <p>two rows 2 - 100</p>	<p>... surface of contact</p> <p>G = gold-plated</p> <p>Z = tin-plated</p>
<p>... no. of contacts</p> <p>one row 1 - 50</p> <p>two rows 2 - 100</p>	<p>... surface of contact</p> <p>G = gold-plated</p> <p>Z = tin-plated</p>				

Female headers 2.54 THT

Female headers 2.54 SMD

Female headers for PC 104

High-prec. male headers 2.54 THT

→ G 52

→ G 58 - 63

→ G 55

→ G 45

Jumpers

Direct female connectors

Female headers 2.54 press-fit

Technical data

→ G 76 - 77

→ G 75

→ G 50 - 66

→ G 78 - 84

G 2


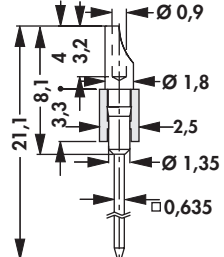

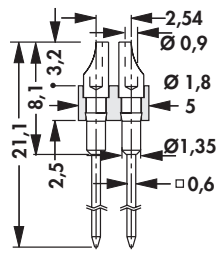

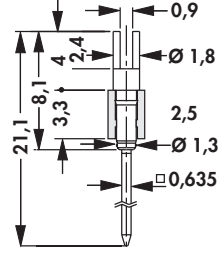

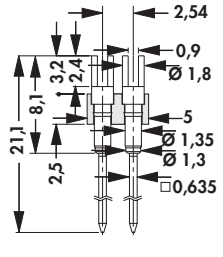
Male headers

Precision contacts, Wire Wrap pin □ 0.635 mm

- version:

MK 10 / MK 210: with diagonal solder bucket

MK 08 / MK 208: with solder fork

art. no. MK 10 ...			art. no. MK 210 ...		
art. no. MK 08 ...			art. no. MK 208 ...		
<p>please indicate: ... no. of contacts ... surface of contact</p> <p> one row 1 - 50 G = gold-plated</p> <p> two rows 2 - 100 Z = tin-plated</p>					

G 3

Female headers 2.54 press-fit
High-prec. male headers 2.54 THT
Jumpers
Female headers 2.54 SMD

→ G 50 - 66
→ G 45 - 55
→ G 76 - 77
→ G 58 - 63


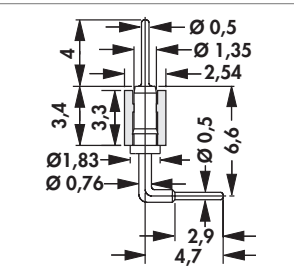

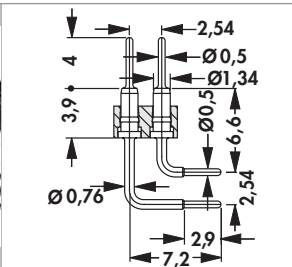

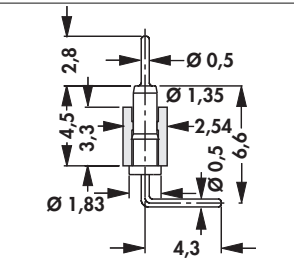
Female headers 2.54 THT
Direct female connectors
Female headers for PC 104
Technical data

→ G 52
→ G 75
→ G 55 - 56
→ G 78 - 84


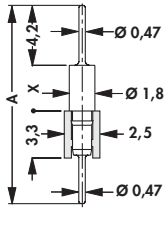

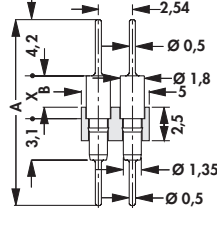
Male headers

Precision contacts, solder and plug pins, Ø 0,5 mm

– rectangular PCB connection

<p>art. no.</p>  <p>MK 51 ...</p>		<p>art. no.</p>  <p>MK 251 ...</p>							
<p>art. no.</p>  <p>MK 15 ...</p>									
<p>please indicate:</p> <table border="0"> <tr> <td>... no. of contacts</td> <td>... surface of contact</td> </tr> <tr> <td>one row 1 - 50</td> <td>G = gold-plated</td> </tr> <tr> <td>two rows 2 - 100</td> <td>Z = tin-plated</td> </tr> </table>				... no. of contacts	... surface of contact	one row 1 - 50	G = gold-plated	two rows 2 - 100	Z = tin-plated
... no. of contacts	... surface of contact								
one row 1 - 50	G = gold-plated								
two rows 2 - 100	Z = tin-plated								

– parallel PCB connection

												
<p>art. no.</p>	<p>dim. [mm]</p>		<p>art. no.</p>	<p>dim. [mm]</p>								
<p>MK 14 X 1 ... G</p>	<p>A</p>	<p>X</p>	<p>MK 214 X 1 ... G</p>	<p>A</p>	<p>B</p>	<p>X</p>						
<p>MK 14 X 2 ... G</p>	<p>13.4</p>	<p>2.7</p>	<p>MK 214 X 2 ... G</p>	<p>13.4</p>	<p>1.9</p>	<p>2.7</p>						
<p>MK 14 X 3 ...</p>	<p>15.4</p>	<p>4.7</p>	<p>MK 214 X 3 ...</p>	<p>15.4</p>	<p>3.9</p>	<p>4.7</p>						
<p>MK 14 X 3 ...</p>	<p>22.2</p>	<p>11.7</p>	<p>MK 214 X 3 ...</p>	<p>22.2</p>	<p>10.9</p>	<p>11.7</p>						
<p>please indicate:</p> <table border="0"> <tr> <td>... no. of contacts</td> <td>... surface of contact</td> </tr> <tr> <td>one row 1 - 50</td> <td>G = gold-plated</td> </tr> <tr> <td>two rows 2 - 100</td> <td>Z = tin-plated</td> </tr> </table>							... no. of contacts	... surface of contact	one row 1 - 50	G = gold-plated	two rows 2 - 100	Z = tin-plated
... no. of contacts	... surface of contact											
one row 1 - 50	G = gold-plated											
two rows 2 - 100	Z = tin-plated											

Direct female connectors
 Female headers for PC 104
 Jumpers
 High-prec. male headers 2.54 THT

→ G 75
 → G 55 - 56
 → G 76 - 77
 → G 45 - 55

Female headers 2.54 THT
 Female headers 2.54 press-fit
 Female headers 2.54 SMD
 Technical data

→ G 52
 → G 50 - 66
 → G 58 - 63
 → G 78 - 84

G 4

A

Male headers

B

Precision contacts, low profile

– also available as single contact, SK ...

C

D

E

F

G

H

I

K

L

M

N

<p>art. no.</p> <p>MK LP 40 ...</p>			<p>art. no.</p> <p>MK LP 240 ...</p>		
<p>art. no.</p> <p>MK LP 41 ...</p>			<p>art. no.</p> <p>MK LP 241 ...</p>		
<p>art. no.</p> <p>MK LP 42 ...</p>			<p>art. no.</p> <p>MK LP 242 ...</p>		
<p>art. no.</p> <p>MK LP 43 ...</p>					
<p>please indicate: ... no. of contacts ... surface of contact</p> <p> one row 1 - 50 G = gold-plated</p> <p> two rows 4 - 100 Z = tin-plated</p>					

G 5

Female headers 2.54 press-fit
 Female headers 2.54 THT
 Female headers for PC 104
 Jumpers

→ G 50 – 66
 → G 52
 → G 55 – 56
 → G 76 – 77

High-prec. male headers 2.54 THT
 Direct female connectors
 Female headers 2.54 SMD
 Technical data

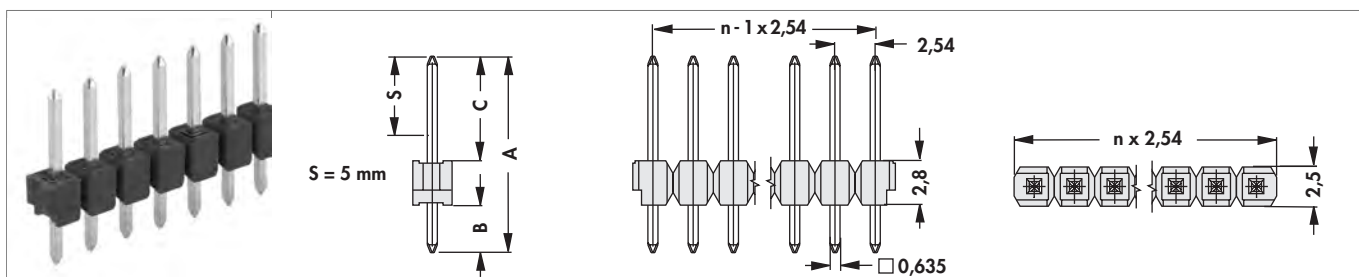
→ G 45 – 55
 → G 75
 → G 58 – 63
 → G 78 – 84

Male headers

– every pin length is available on request

B

– one row, □ 0.635 mm



art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SL 11 097...	9.7	3.0	3.9	SL 1 025 ...	11.2	2.6	5.8
SL 11 112 ...	11.2	3.0	5.4	SL 1 053 ...	13.9	5.8	5.3
SL 11 124 ...	12.4	3.0	6.6	SL 1 078 ...	16.4	5.8	7.8
SL 11 139 ...	13.9	3.0	8.1	SL 1 104 ...	19.0	5.8	10.4
SL 11 164 ...	16.4	3.0	10.6	SL 1 128 ...	21.4	5.8	12.8
SL 11 190 ...	19.0	3.0	13.2	SL 1 154 ...	24.0	5.8	15.4
SL 11 214 ...	21.4	3.0	15.6	SL 1 179 ...	26.5	5.8	17.9
SL 11 240 ...	24.0	3.0	18.2	SL 1 230 ...	31.6	5.8	23.0
SL 11 265 ...	26.5	3.0	20.7				
SL 11 316 ...	31.6	3.0	25.8				

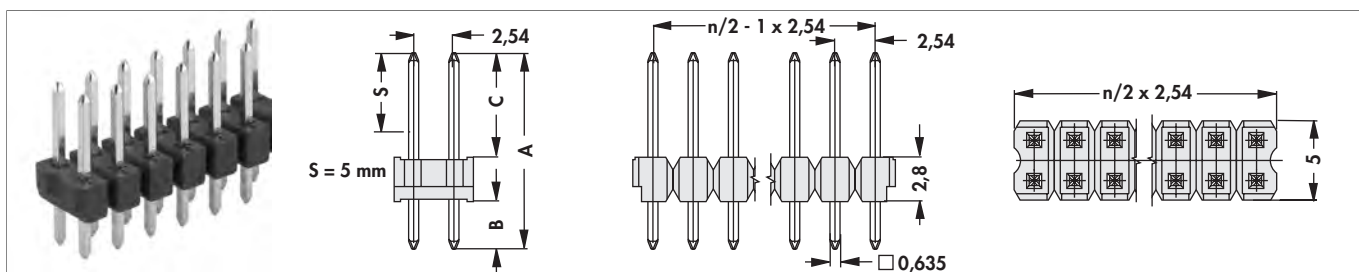
please indicate:

... no. of contacts
one row 1 - 36

... surface of contact
S = selective gold-plated
G = gold-plated
Z = tin-plated

G

– two rows, □ 0.635 mm



art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SL 22 097 ...	9.7	3.0	3.9	SL 2 025 ...	11.2	2.6	5.8
SL 22 112 ...	11.2	3.0	5.4	SL 2 053 ...	13.9	5.8	5.3
SL 22 124 ...	12.4	3.0	6.6	SL 2 078 ...	16.4	5.8	7.8
SL 22 139 ...	13.9	3.0	8.1	SL 2 104 ...	19.0	5.8	10.4
SL 22 164 ...	16.4	3.0	10.6	SL 2 128 ...	21.4	5.8	12.8
SL 22 190 ...	19.0	3.0	13.2	SL 2 154 ...	24.0	5.8	15.4
SL 22 214 ...	21.4	3.0	15.6	SL 2 179 ...	26.5	5.8	17.9
SL 22 240 ...	24.0	3.0	18.2	SL 2 230 ...	31.6	5.8	23.0
SL 22 265 ...	26.5	3.0	20.7				
SL 22 316 ...	31.6	3.0	25.8				

please indicate:

... no. of contacts
two rows 2 - 72

... surface of contact
S = selective gold-plated
G = gold-plated
Z = tin-plated

M

N

G 7

PC connector design DIL
Female headers 2.54 press-fit
High-prec. male headers 2.54 THT
Female headers for PC 104

→ H 9
→ G 50
→ G 45 - 55
→ G 55 - 56

Female headers 2.54 SMD
Direct female connectors
High-prec. fem. headers 2.54 THT
Technical data

→ G 58 - 64
→ G 75
→ G 53 - 56
→ G 78 - 84

Male headers

Through-Hole-Reflow (THR) soldering technology

– every pin length is available upon request

– one row, □ 0.635 mm

S = 4 mm / 5 mm

art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SL 20 THR 097 ...	9.7	2	4.9	SL 20 THR 139 ...	13.9	2	9.1
SL 20 THR 112 ...	11.2	2	6.4	SL 20 THR 164 ...	16.4	2	11.6
SL 20 THR 124 ...	12.4	2	7.6				

please indicate: ... no. of contacts one row 1 - 36

... surface of contact
S = selective gold-plated
G = gold-plated
Z = tin-plated

– two rows, □ 0.635 mm

S = 4 mm / 5 mm

art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SL 21 THR 097 ...	9.7	2	4.9	SL 21 THR 139 ...	13.9	2	9.1
SL 21 THR 112 ...	11.2	2	6.4	SL 21 THR 164 ...	16.4	2	11.6
SL 21 THR 124 ...	12.4	2	7.6				

please indicate: ... no. of contacts two rows 2 - 72

... surface of contact
S = selective gold-plated
G = gold-plated
Z = tin-plated

Direct female connectors
 Female headers for PC 104
 Female headers 2.54 press-fit
 Jumpers

→ G 75
 → G 55 - 56
 → G 50 - 66
 → G 76 - 77

High-prec. male headers 2.54 THT
 Female headers 2.54 THT
 Female headers 2.54 SMD
 Technical data

→ G 45 - 55
 → G 52
 → G 58 - 63
 → G 78 - 84

G 8

A

Male headers

"Dimensions A + B" changeable

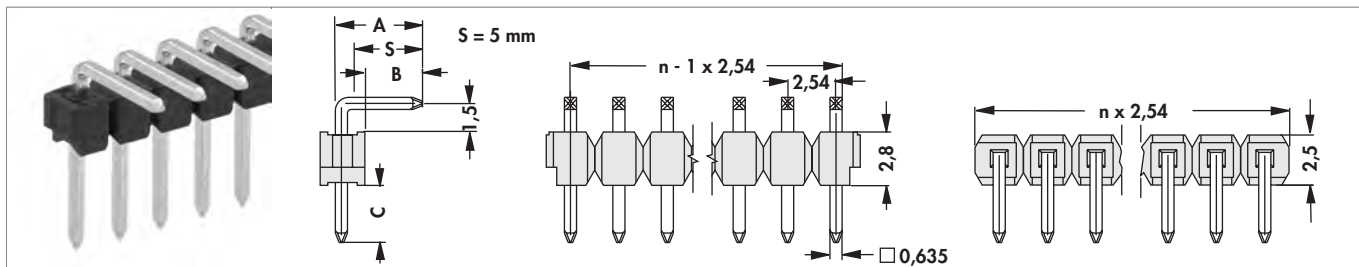
- **separable!** any requested number of contact can be delivered
- any pin length is available upon request

B

- one row, □ 0,635 mm

- **the surface of dimension "C"** of following articles is selective gold-plated: **SLK 3 025 ... S, SL 3 025 ... S**

C



D

art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SLK 3 025 ...	4.5	3.0	3.0	SL 3 131 ...	14.6	13.1	5.8
SL 3 025 ...	4.5	3.0	5.8	SL 3 152 ...	16.7	15.2	5.8
SL 3 053 ...	6.9	5.4	5.8	SL 3 182 ...	19.7	18.2	5.8
SL 3 080 ...	9.5	8.0	5.8	SL 3 207 ...	22.2	20.7	5.8
SL 3 101 ...	11.6	10.1	5.8				

F

please indicate:

... no. of contacts
one row 1 - 36

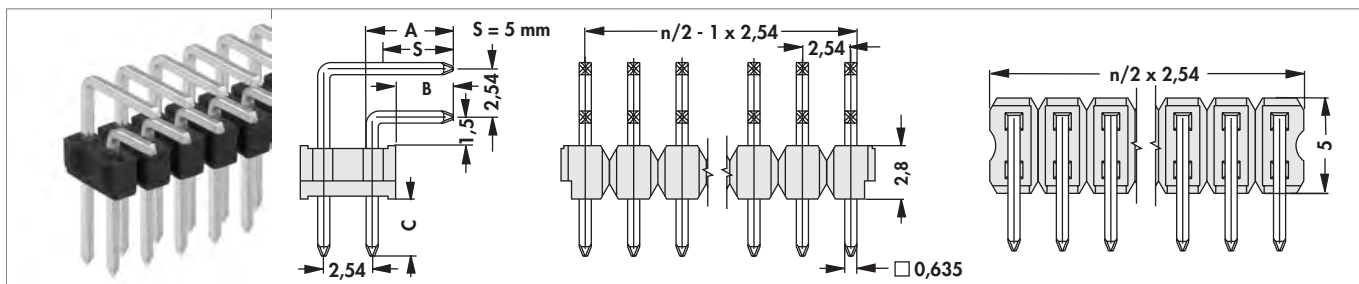
... surface of contact
S = selective gold-plated
G = gold-plated
Z = tin-plated

G

- two rows, □ 0,635 mm

- **the surface of dimension "C"** of following articles is selective gold-plated: **SLK 4 025 ... S, SL 4 025 ... S**

H



I

art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SLK 4 025 ...	4.5	3.0	3.0	SL 4 101 ...	11.6	10.1	5.8
SL 4 025 ...	4.5	3.0	5.8	SL 4 152 ...	16.7	15.2	5.8

K

please indicate:

... no. of contacts
two rows 2 - 72

... surface of contact
S = selective gold-plated
G = gold-plated
Z = tin-plated

L

M

N

G 9

Female headers 2.54 press-fit
Female headers 2.54 THT
Female headers 2.54 SMD
Female headers for PC 104

→ G 50 - 66
→ G 52
→ G 58 - 63
→ G 55 - 56

Direct female connectors
Jumpers
High-prec. male headers 2.54 THT
Technical data


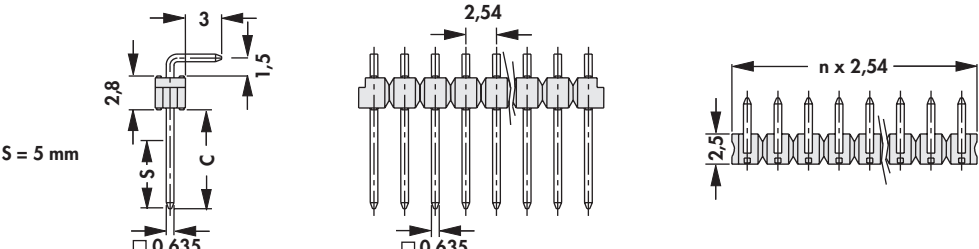
→ G 75
→ G 76 - 77
→ G 45 - 55
→ G 78 - 84

Male headers

Insertion side "dimension C" changeable

- **separable!** any requested number of contact can be delivered
- any pin length is available on request


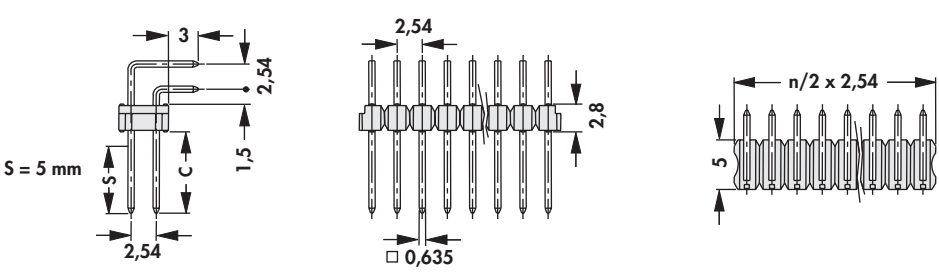
- one row, □ 0.635 mm

art. no.	dim. [mm]	art. no.	dim. [mm]
	C		C
SL 18 042 ...	4.2	SL 18 108 ...	10.8
SL 18 082 ...	8.2	SL 18 132 ...	13.2

please indicate: ... no. of contacts one row 1 - 36 ... surface of contact
S = selective gold-plated
G = gold-plated
Z = tin-plated

- two rows, □ 0.635 mm

art. no.	dim. [mm]	art. no.	dim. [mm]
	C		C
SL 19 082 ...	8.2	SL 19 132 ...	13.2
SL 19 108 ...	10.8		

please indicate: ... no. of contacts two rows 2 - 72 ... surface of contact
S = selective gold-plated
G = gold-plated
Z = tin-plated

Female headers 2.54 press-fit Jumpers
 Female headers for PC 104
 High-prec. male headers 2.54 THT

→ G 50 - 66
 → G 76 - 77
 → G 55 - 56
 → G 45 - 55

Female headers 2.54 SMD Direct female connectors
 Female headers 2.54 THT
 Technical data

→ G 58 - 63
 → G 75
 → G 52
 → G 78 - 84


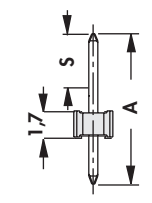
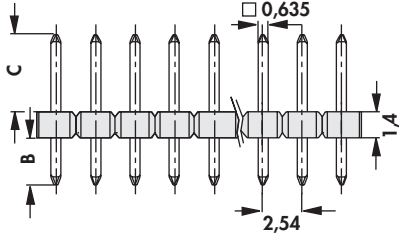
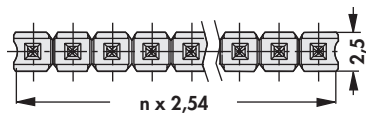
G 10

Male headers

Low profile, straight

– any pin length is available on request

– one row, □ 0.635 mm


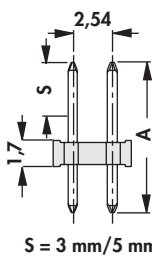
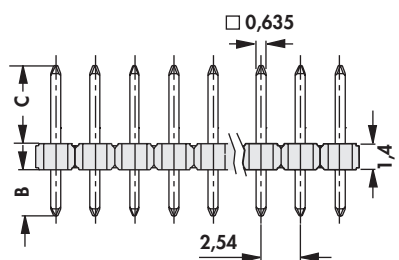
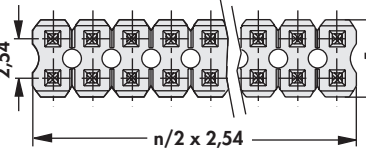





S = 3 mm/5 mm

art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SL LP 1 082 ...	8.2	3	3.5	SL LP 1 139 ...	13.9	3	9.2
SL LP 1 097 ...	9.7	3	5.0	SL LP 1 164 ...	16.4	3	11.7
SL LP 1 112 ...	11.2	3	6.5	SL LP 1 190 ...	19.0	3	14.3

please indicate: ... no. of contacts one row 1 - 36 ... surface of contact
 S = selective gold-plated
 G = gold-plated
 Z = tin-plated

– two rows, □ 0.635 mm

S = 3 mm/5 mm

art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SL LP 2 082 ...	8.2	3	3.5	SL LP 2 139 ...	13.9	3	9.2
SL LP 2 097 ...	9.7	3	5.0	SL LP 2 164 ...	16.4	3	11.7
SL LP 2 112 ...	11.2	3	6.5	SL LP 2 190 ...	19.0	3	14.3

please indicate: ... no. of contacts two rows 2 - 72 ... surface of contact
 S = selective gold-plated
 G = gold-plated
 Z = tin-plated

Male headers

Low profile, angled

– any pin length is available on request

– one row, □ 0.635 mm

art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SL LP 3 041 ...	4.5	3	4.1	SL LP 3 069 ...	4.5	3	6.9
please indicate:		... no. of contacts one row 1 - 36		... surface of contact S = selective gold-plated G = gold-plated Z = tin-plated			

– two rows, □ 0.635 mm

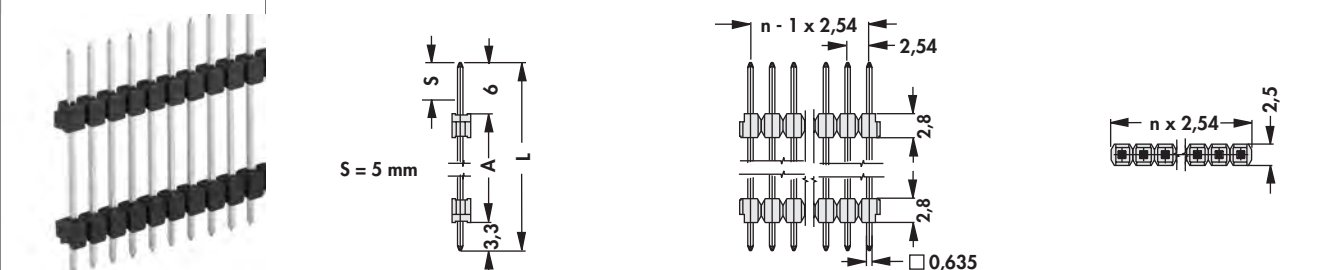
art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SL LP 4 041 ... G	4.5	3	4.1	SL LP 4 069 ...	4.5	3	6.9
SL LP 4 041 ... Z	4.5	3	4.1				
please indicate:		... no. of contacts two rows 2 - 72		... surface of contact S = selective gold-plated G = gold-plated Z = tin-plated			

Male headers

Sandwich-design

- "S" selective gold-plated up to 33 mm pin length
- for interconnections of stacked PCBs
- within the total length of the pin the insulator position can be changed as required ... **Design specification-sheet**
- **separable!** any requested number of contact can be delivered

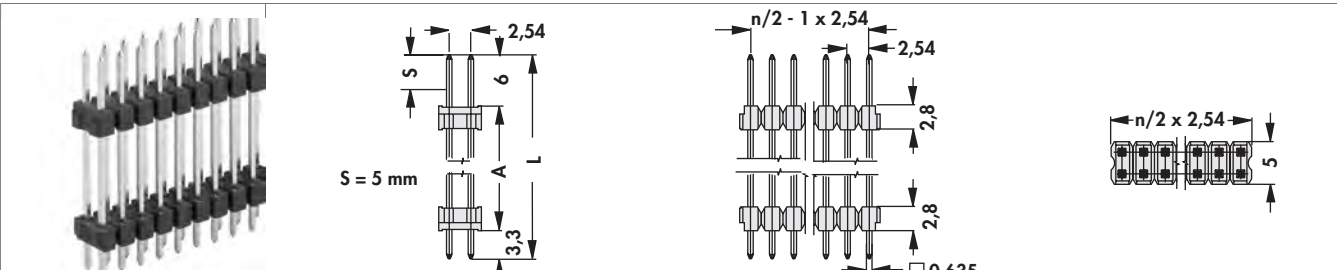
- one row, □ 0,635 mm



art. no.	dim. [mm]		art. no.	dim. [mm]		art. no.	dim. [mm]	
	A	L		A	L		A	L
SL 5 071 ...	7.1	16.4	SL 5 172 ...	17.2	26.5	SL 5 315 ...	31.5	40.8
SL 5 097 ...	9.7	19.0	SL 5 197 ...	19.7	29.0	SL 5 360 ...	36.0	45.3
SL 5 121 ...	12.1	21.4	SL 5 223 ...	22.3	31.6	SL 5 415 ...	41.5	50.8
SL 5 147 ...	14.7	24.0	SL 5 237 ...	23.7	33.0	SL 5 525 ...	52.2	61.5
SL 5 156 ...	15.6	24.9	SL 5 285 ...	28.5	37.8			

please indicate: ... no. of contacts one row 1-36 ... surface of contact
 S = selective gold-plated
 G = gold-plated
 Z = tin-plated

- two rows, □ 0,635 mm



art. no.	dim. [mm]		art. no.	dim. [mm]		art. no.	dim. [mm]	
	A	L		A	L		A	L
SL 6 071 ...	7.1	16.4	SL 6 172 ...	17.2	26.5	SL 6 315 ...	31.5	40.8
SL 6 097 ...	9.7	19.0	SL 6 197 ...	19.7	29.0	SL 6 360 ...	36.0	45.3
SL 6 121 ...	12.1	21.4	SL 6 223 ...	22.3	31.6	SL 6 415 ...	41.5	50.8
SL 6 147 ...	14.7	24.0	SL 6 237 ...	23.7	33.0	SL 6 525 ...	52.2	61.5
SL 6 156 ...	15.6	24.9	SL 6 285 ...	28.5	37.8			

please indicate: ... no. of contacts two rows 2-72 ... surface of contact
 S = selective gold-plated
 G = gold-plated
 Z = tin-plated

G 13

Female headers 2.54 THT
 High-prec. male headers 2.54 THT
 Female headers for PC 104
 Direct female connectors

→ G 52
 → G 45 - 55
 → G 55 - 56
 → G 75


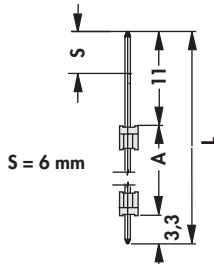
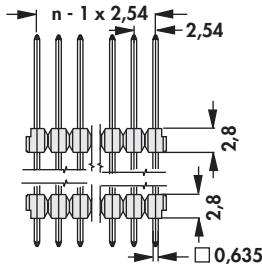
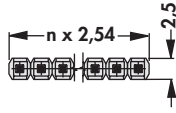
Jumpers
 Female headers 2.54 SMD
 Female headers 2.54 press-fit
 Technical data

→ G 76 - 77
 → G 58 - 63
 → G 50 - 66
 → G 78 - 84

Male headers

Sandwich-design

- "S" selective gold-plated up to 33 mm pin length
- for interconnections of stacked PCBs
- for plugging the the female headers **BL 11 (SL 13 ...)** and **BL 12 (SL 14 ...)**.
- suitable for PCB thicknesses between 1,5 mm and 33 mm
- **separable!** any requested number of contact can be delivered
- one row 0.635 mm


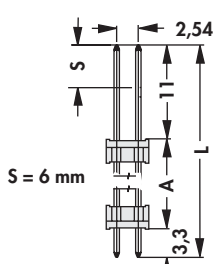
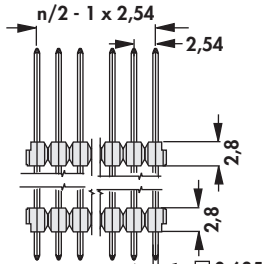
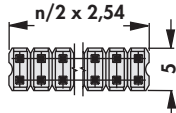





art. no.	dim. [mm]		art. no.	dim. [mm]	
	A	L		A	L
SL 13 071 ...	7.1	21.4	SL 13 235 ...	23.5	37.8
SL 13 097 ...	9.7	24.0	SL 13 265 ...	26.5	40.8
SL 13 122 ...	12.2	26.5	SL 13 310 ...	31.0	45.3
SL 13 147 ...	14.7	29.0	SL 13 365 ...	36.5	50.8
SL 13 187 ...	18.7	33.0			

please indicate: ... no. of contacts one row 1 - 36

... surface of contact
S = selective gold-plated
G = gold-plated
Z = tin-plated

- two rows, 0.635 mm

art. no.	dim. [mm]		art. no.	dim. [mm]	
	A	L		A	L
SL 14 071 ...	7.1	21.4	SL 14 235 ...	23.5	37.8
SL 14 097 ...	9.7	24.0	SL 14 265 ...	26.5	40.8
SL 14 122 ...	12.2	26.5	SL 14 310 ...	31.0	45.3
SL 14 147 ...	14.7	29.0	SL 14 365 ...	36.5	50.8
SL 14 187 ...	18.7	33.0			

please indicate: ... no. of contacts two rows 2 - 72

... surface of contact
S = selective gold-plated
G = gold-plated
Z = tin-plated

Female headers 2.54 THT
 Direct female connectors
 Female headers 2.54 SMD
 Female headers 2.54 press-fit

→ G 52
 → G 75
 → G 58 - 63
 → G 50 - 66

Jumpers
 High-prec. male headers 2.54 THT
 Female headers for PC 104
 Technical data

→ G 76 - 77
 → G 45 - 55
 → G 55 - 56
 → G 78 - 84

G 14

A

Design specification for connectors, grid spacing 2.54 mm

B

date: _____
 pieces per order: _____
 company: _____
 name, dept.: _____
 town: _____
 street: _____
 fax: _____
 signature: _____

D

- inquiry
 order

E

surface finish

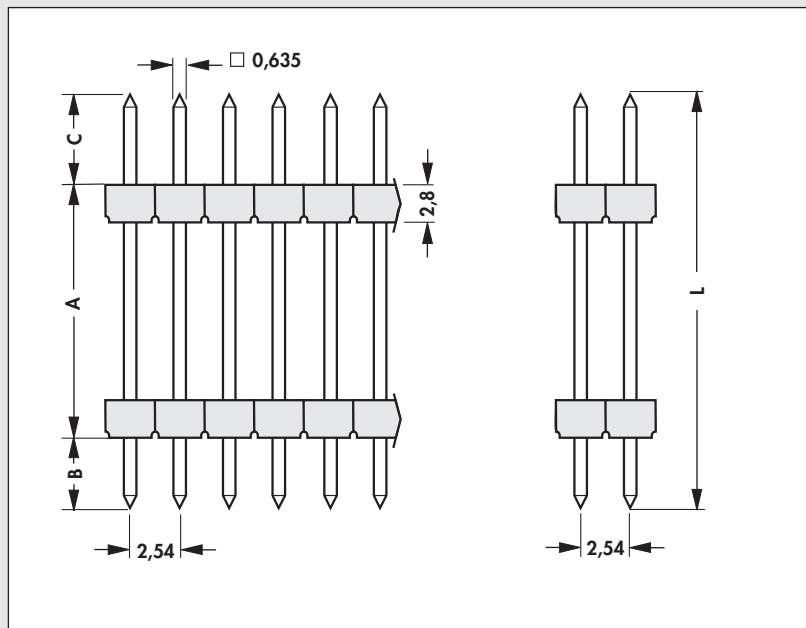
- selective gold-plated
 gold-plated
 tin-plated

- one row 1 - 36 contacts possible
 two rows 2 - 72 contacts possible

number of contacts

F

G


dimensions:

L

A

B

C

L = total contact length
 A = distance between PCBs
 B = solder side
 C = insertion side

M

N

G 15

Female headers 2.54 THT
 Direct female connectors
 Female headers 2.54 SMD
 Female headers 2.54 press-fit

→ G 52
 → G 75
 → G 58 - 63
 → G 50 - 66

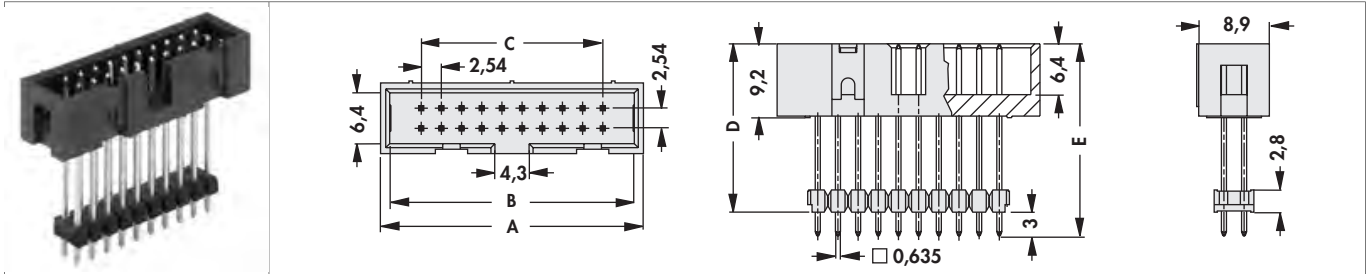
Jumpers
 High-prec. male headers 2.54 THT
 Female headers for PC 104
 Technical data

→ G 76 - 77
 → G 45 - 55
 → G 55 - 56
 → G 78 - 84

Male headers

Shrouded male header, with coding and bolting device

– suitable for many flat cable connectors in 2.54 mm pitch



art. no.	no. of contacts	dim. [mm]				
		A	B	C	D	E
SLU 10 165 ...	10	20.4	17.8	10.16	13.5	16.5
SLU 10 191 ...	10	20.4	17.8	10.16	16.1	19.1
SLU 10 241 ...	10	20.4	17.8	10.16	21.1	24.1
SLU 10 266 ...	10	20.4	17.8	10.16	23.6	26.6
SLU 16 165 ...	16	28.0	25.4	17.78	13.5	16.5
SLU 16 191 ...	16	28.0	25.4	17.78	16.1	19.1
SLU 16 241 ...	16	28.0	25.4	17.78	21.1	24.1
SLU 16 266 ...	16	28.0	25.4	17.78	23.6	26.6
SLU 20 165 ...	20	33.1	30.5	22.86	13.5	16.5
SLU 20 191 ...	20	33.1	30.5	22.86	16.1	19.1
SLU 20 241 ...	20	33.1	30.5	22.86	21.1	24.1
SLU 20 266 ...	20	33.1	30.5	22.86	23.6	26.6
SLU 26 165 ...	26	40.7	38.1	30.48	13.5	16.5
SLU 26 191 ...	26	40.7	38.1	30.48	16.1	19.1
SLU 26 241 ...	26	40.7	38.1	30.48	21.1	24.1
SLU 26 266 ...	26	40.7	38.1	30.48	23.6	26.6
SLU 40 165 ...	40	58.5	55.9	48.26	13.5	16.5
SLU 40 191 ...	40	58.5	55.9	48.26	16.1	19.1
SLU 40 241 ...	40	58.5	55.9	48.26	21.1	24.1
SLU 40 266 ...	40	58.5	55.9	48.26	23.6	26.6
SLU 50 165 ...	50	71.2	68.6	60.96	13.5	16.5
SLU 50 191 ...	50	71.2	68.6	60.96	16.1	19.1
SLU 50 241 ...	50	71.2	68.6	60.96	21.1	24.1
SLU 50 266 ...	50	71.2	68.6	60.96	23.6	26.6

please indicate: ... surface of contact
S = selective gold-plated
Z = tin-plated

Female headers 2.54 THT
 Direct female connectors
 Female headers 2.54 SMD
 Female headers 2.54 press-fit

→ G 52
 → G 75
 → G 58 – 63
 → G 50 – 66

Jumpers
 High-prec. male headers 2.54 THT
 Female headers for PC 104
 Technical data

→ G 76 – 77
 → G 45 – 55
 → G 55 – 56
 → G 78 – 84

Male headers

Precision contacts, plug pins Ø 0.5 mm

art. no.											
MK 26 SMD no. of contacts one row 4 - 20	... surface of contact G = gold-plated Z = tin-plated	... packing (optional) SM = bar magazine B SM = pick and place pad and bar magazine B TR = pick and place pad and tape and reel (250pcs/reel)								

... packing (option) - additions:
 MK 26 SMD ... B TR: 4-12 contacts

Option, for automatic assembly

– reel diameter Ø 330 mm

					MK 26 SMD ... SM		MK 26 SMD ... B SM	
... SM ... B SM								
							MK 26 SMD ... B TR	
... B TR								

Female headers 2.54 THT → G 52
 Female headers 2.54 SMD → G 58 - 63
 Female headers 2.54 press-fit → G 66
 Female headers 1.27 SMD → G 73

Female headers 2.00 SMD → G 68
 High-precision female headers THT → G 2 - 6
 High-prec. male headers 2.54 THT → G 45 - 55
 Technical data → G 78 - 84

Female headers 2.00 SMD → G 68
 High-precision female headers THT → G 2 - 6
 High-prec. male headers 2.54 THT → G 45 - 55
 Technical data → G 78 - 84

G 18

Male headers

Precision contacts, plug pins Ø 0.5 mm

art. no. MK 226 SMD ...					
please indicate:	... no. of contacts two rows 4 - 40	... surface of contact G = gold-plated Z = tin-plated	... packing (optional) SM = bar magazine B SM = pick and place pad and bar magazine B TR = pick and place pad and tape and reel (250pcs/reel)		

... packing (option) - additions:

MK 226 SMD ... SM; ... B SM: 6-40 contacts

MK 226 SMD ... B TR: 6-24 contacts

Option, for automatic assembly

- reel diameter Ø 330 mm

... SM ... B SM			MK 226 SMD ... SM	MK 226 SMD ... B SM
... B TR				MK 226 SMD ... B TR

Male headers

Precision contacts, plug pins Ø 0.5 mm

art. no.			
MK 27 SMD ...			
please indicate:	... no. of contacts one row 2 - 20	... surface of contact G = gold-plated Z = tin-plated	... packing (optional) SM = bar magazine

... packing (option) - additions:
MK 27 SMD ... SM: 3-20 contacts

Option, for automatic assembly

... SM	MK 27 SMD ... SM

- Female headers 2.54 THT
- Female headers 2.54 SMD
- Female headers 2.54 press-fit
- Female headers 1.27 SMD

- G 52
- G 58 - 63
- G 66
- G 73

- Female headers 2.00 SMD
- High-precision female headers THT
- High-prec. male headers 2.54 THT
- Technical data

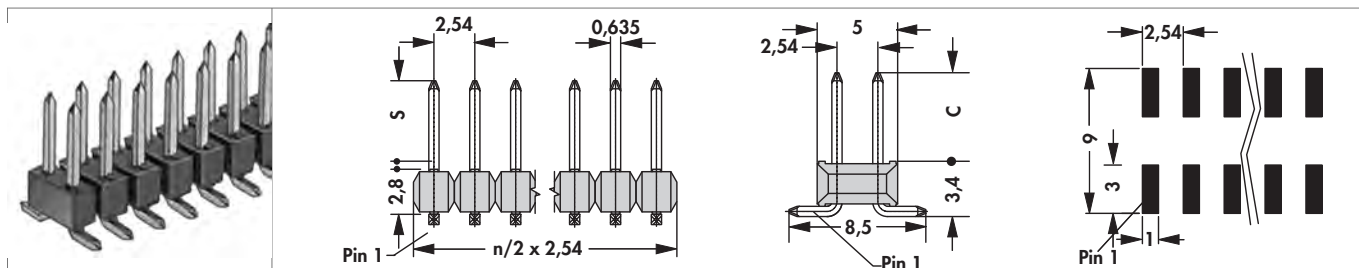
- G 68
- G 2 - 6
- G 45 - 55
- G 78 - 84

G 20

A
B
C
D
E
F
G
H
I
K
L
M
N

Male headers

□ 0.635 mm



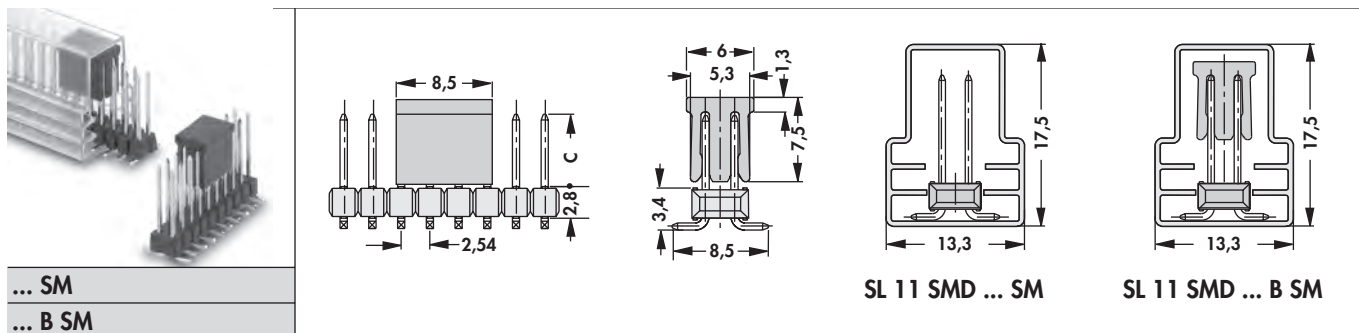
art. no.	dim. [mm] C	art. no.	dim. [mm] C	art. no.	dim. [mm] C
SL 11 SMD 040 ...	4.0	SL 11 SMD 062 ...	6.7	SL 11 SMD 104 ...	10.8
SL 11 SMD 052 ...	5.5	SL 11 SMD 078 ...	8.2	SL 11 SMD 130 ...	13.4

please indicate:	... no. of contacts two rows 4 - 40	... surface of contact S = selective gold-plated G = gold-plated Z = tin-plated	... packing (optional) SM = bar magazine B SM = pick and place pad and bar magazine B TR = pick and place pad and tape and reel (250pcs/reel)
------------------	--	--	--

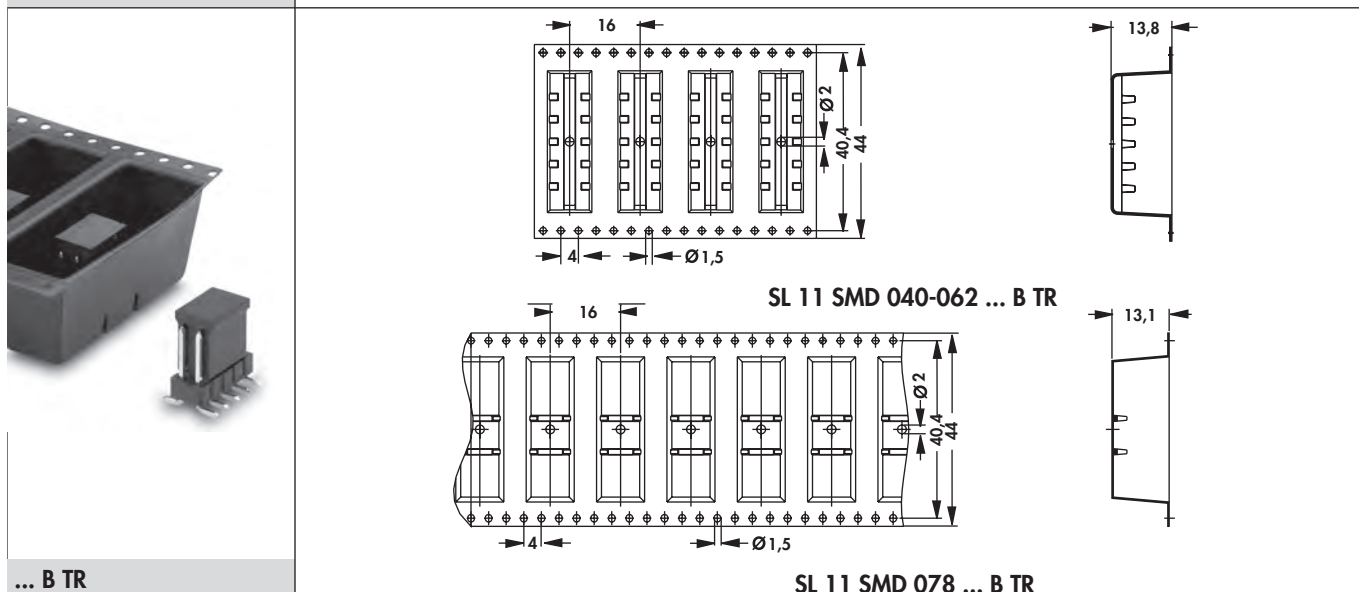
... packing (option) - additions:
 SL 11 SMD 040-104 ... SM; ... B SM: 6-40 contacts
 SL 11 SMD 040-078 ... B TR: 6-24 contacts

Option, for automatic assembly

– reel diameter Ø 330 mm



... SM
 ... B SM



... B TR

Female headers for PC 104 Jumpers
 Female headers for PC 104 Direct female connectors

→ G 55 - 56
 → G 76 - 77
 → G 55 - 56
 → G 75

High-prec. male headers 2.54 THT
 Female headers 2.54 THT
 Female headers 2.54 SMD
 Technical data

→ G 45 - 55
 → G 52
 → G 58 - 63
 → G 78 - 84

G 22

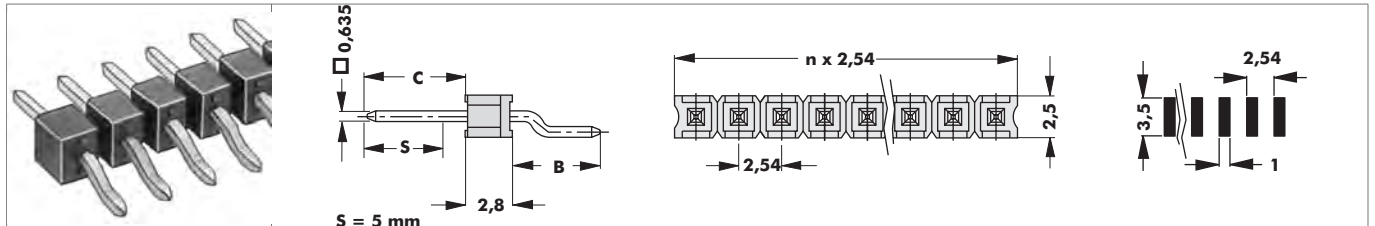
A

Male headers

□ 0.635 mm

B

C



art. no.	dim. [mm]		art. no.	dim. [mm]		art. no.	dim. [mm]	
	B	C		B	C		B	C
SL 12 SMD 031 ...	5.2	3.1	SL 12 SMD 035 ...	3.2	3.5	SL 12 SMD 083 ...	5.2	8.3
SL 12 SMD 032 ...	3.2	5.8	SL 12 SMD 058 ...	5.2	5.8	SL 12 SMD 109 ...	5.2	10.9

please indicate:

- ... no. of contacts one row 2-20
- ... surface of contact
 - S = selective gold-plated
 - G = gold-plated
 - Z = tin-plated
- ... packing (optional)
 - B SM = pick and place pad and bar magazine
 - B TR = pick and place pad and tape and reel (500pcs/reel)

D

E

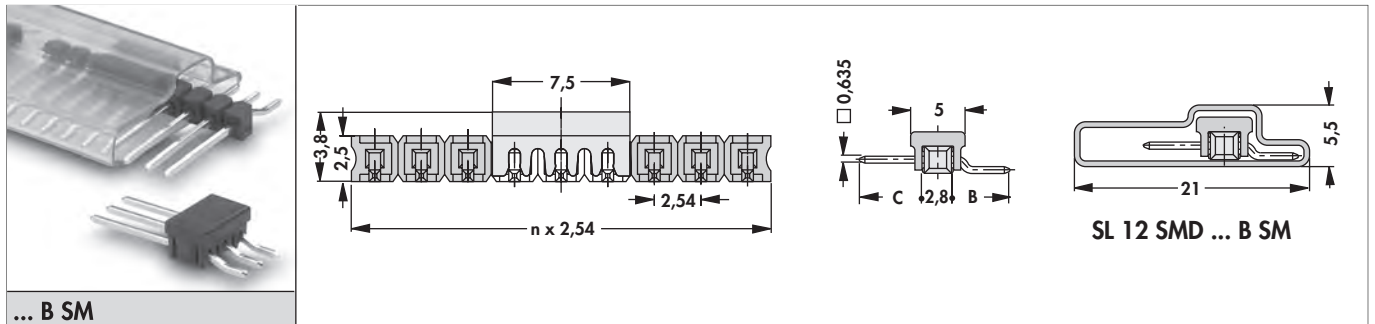
... packing (option) - additions:
SL 12 SMD ... B TR: 2-13 contacts

Option, for automatic assembly

- reel diameter Ø 330 mm

F

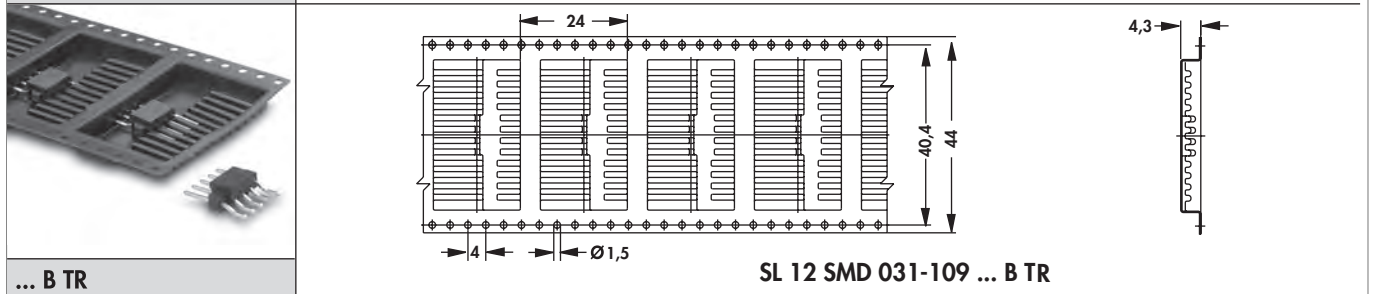
G



... B SM

H

I



... B TR

SL 12 SMD 031-109 ... B TR

K

L

M

N

G 23

Female headers 2.54 press-fit
Female headers 2.00 SMD
Jumpers
Female headers 2.54 THT

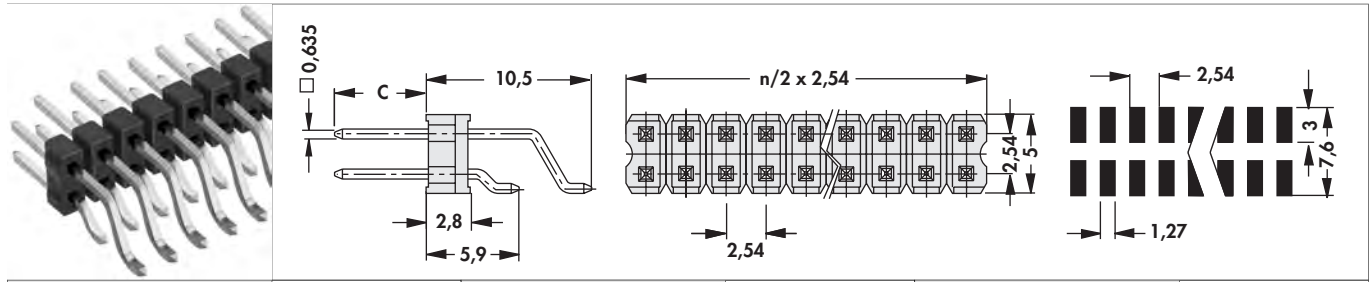
→ G 66
→ G 68 - 69
→ G 76 - 77
→ G 52

High-prec. fem. headers 2.54 THT
Direct female connectors
Male headers 2.00 SMD
Technical data

→ G 53 - 56
→ G 75
→ G 33 - 35
→ G 78 - 84

Male headers

□ 0.635 mm

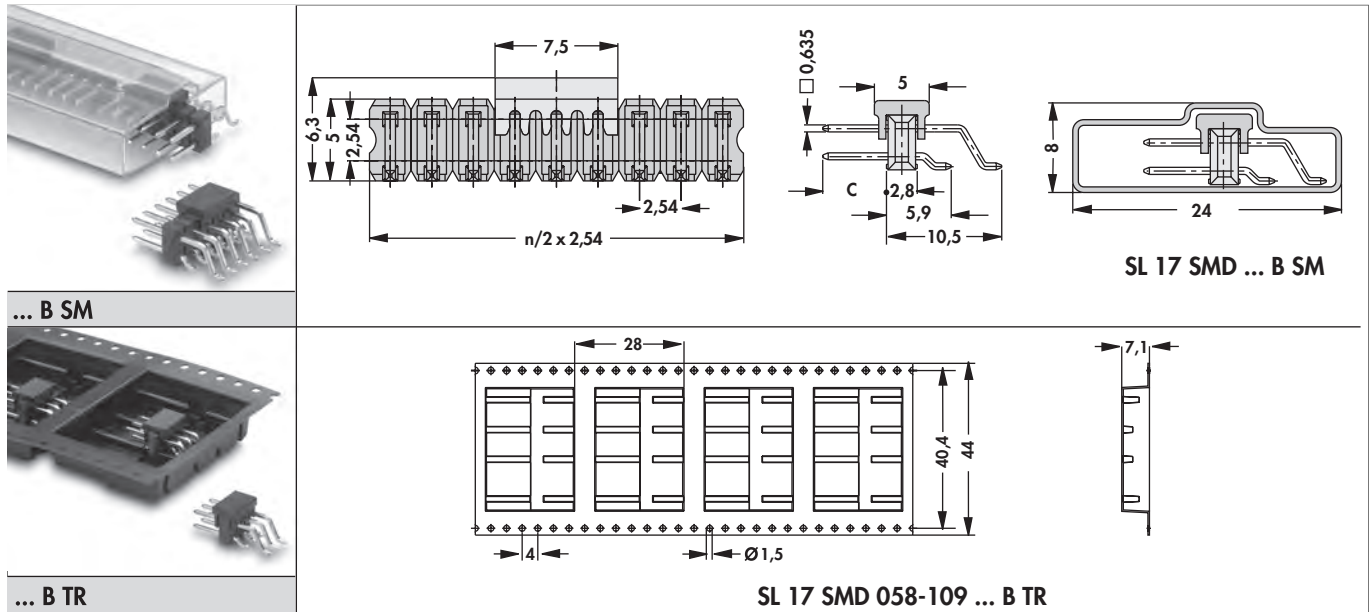


art. no.	dim. [mm] C	art. no.	dim. [mm] C	art. no.	dim. [mm] C
SL 17 SMD 058 ...	5.8	SL 17 SMD 083 ...	8.3	SL 17 SMD 109 ...	10.9
<p>please indicate: ... no. of contacts two rows 4 - 40 ... surface of contact G = gold-plated Z = tin-plated ... packing (optional) B SM = pick and place pad and bar magazine B TR = pick and place pad and tape and reel (300pcs/reel)</p>					

... packing (option) - additions:
SL 17 SMD ... B TR: 6-24 contacts

Option, for automatic assembly

- reel diameter Ø 330 mm



Female headers 2.54 press-fit
Female headers 2.00 SMD
Jumpers
Female headers 2.54 THT

→ G 66
→ G 68 - 69
→ G 76 - 77
→ G 52

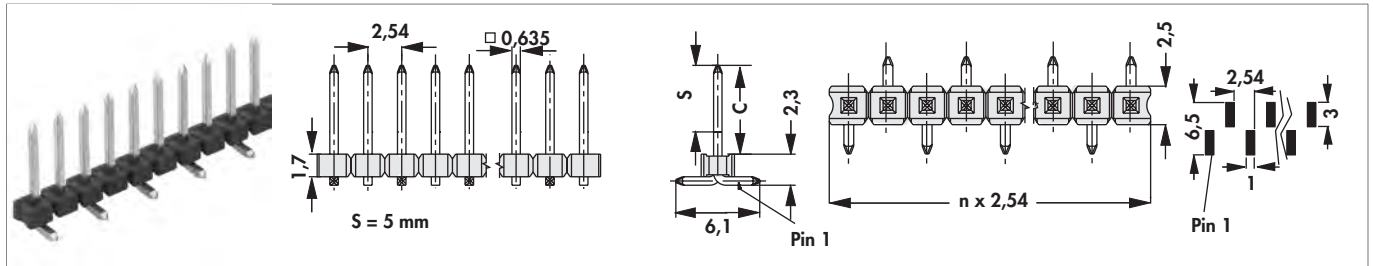
High-prec. fem. headers 2.54 THT
Direct female connectors
Male headers 2.00 SMD
Technical data

→ G 53 - 56
→ G 75
→ G 33 - 35
→ G 78 - 84

A
B
C
D
E
F
G
H
I
K
L
M
N

Male headers

Low profile in SMD □ 0.635 mm



art. no.	dim. [mm]	art. no.	dim. [mm]	art. no.	dim. [mm]
	C		C		C
SL LP 5 SMD 038 ...	3.8	SL LP 5 SMD 051 ...	5.1	SL LP 5 SMD 066 ...	6.6
please indicate:	... no. of contacts one row 4 - 20	... surface of contact S = selective gold-plated G = gold-plated Z = tin-plated	... packing (optional) SM = bar magazine B SM = pick and place pad and bar magazine B TR = pick and place pad and tape and reel (250pcs/reel)		

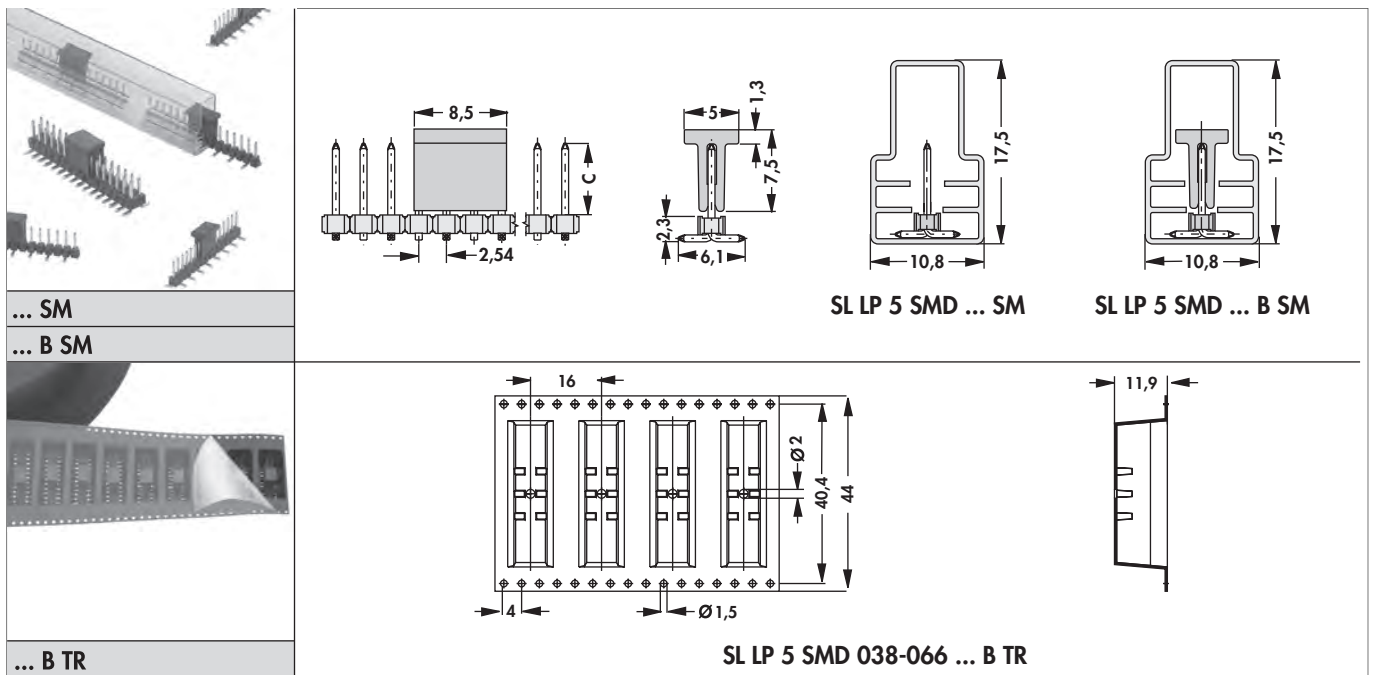
... packing (option) - additions:

SL LP 5 SMD ... SM; ... B SM: 4-20 contacts

SL LP 5 SMD ... B TR: 4-12 contacts

Option, for automatic assembly

– reel diameter Ø 330 mm

**G 25**

Female headers 1.27 THT
 Female headers 2.00 SMD
 Jumpers
 Direct female connectors

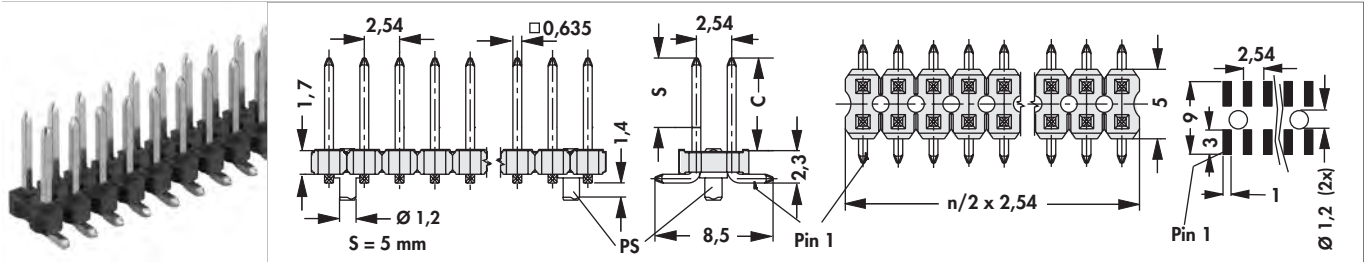
→ G 71
 → G 68
 → G 76 – 77
 → G 75

High-prec. fem. headers 1.27 THT
 High-prec. male head. 1.27 THT
 Male headers 2.00 THT
 Technical data

→ G 72
 → G 42
 → G 30 – 31
 → G 78 – 84

Male headers

Low profile in SMD □ 0.635 mm

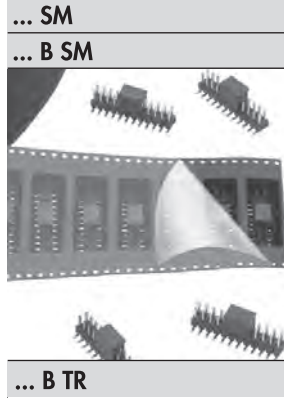
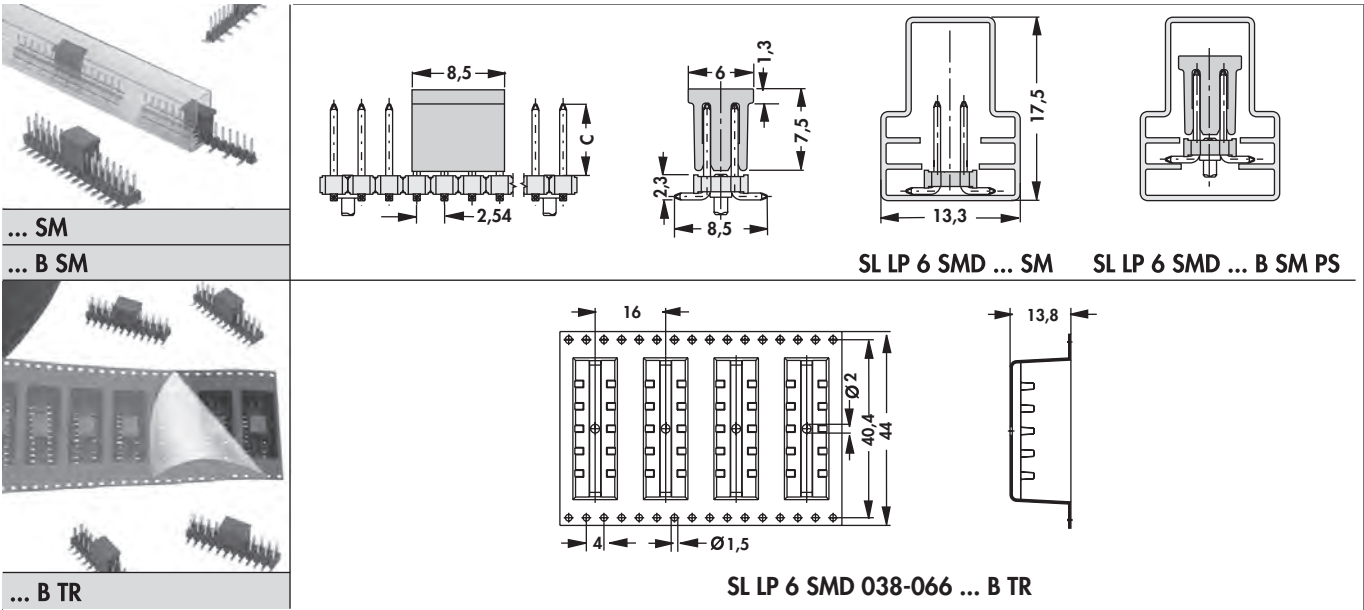


art. no.	dim. [mm]	art. no.	dim. [mm]	art. no.	dim. [mm]
SL LP 6 SMD 038 ...	C 3.8	SL LP 6 SMD 051 ...	C 5.1	SL LP 6 SMD 066 ...	C 6.6
<p>please indicate: ... no. of contacts two rows 4 - 40</p> <p>... surface of contact S = selective gold-plated G = gold-plated Z = tin-plated</p> <p>... packing (optional) SM = bar magazine B SM = pick and place pad and bar magazine B TR = pick and place pad and tape and reel (250pcs/reel)</p>					

... packing (option) - additions:
 SL LP 6 SMD ... SM; ... B SM: 6-40 contacts
 SL LP 6 SMD ... B TR: 6-24 contacts

Option, for automatic assembly

– reel diameter Ø 330 mm



Female headers 1.27 THT
 Female headers 2.00 SMD
 Jumpers
 Direct female connectors

→ G 71
 → G 68
 → G 76 – 77
 → G 75

High-prec. fem. headers 1.27 THT
 High-prec. male head. 1.27 THT
 Male headers 2.00 THT
 Technical data

→ G 72
 → G 42
 → G 30 – 31
 → G 78 – 84

G 26

A

Male headers

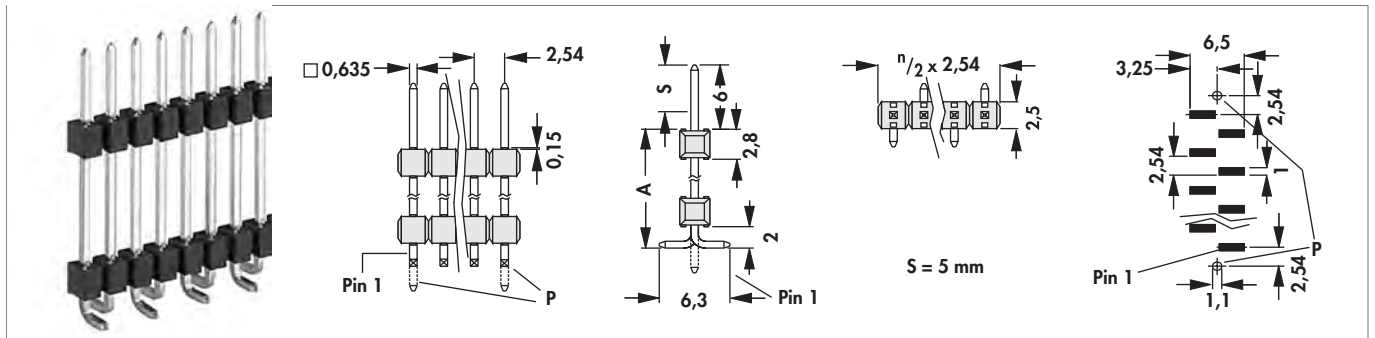
B

□ 0.635 mm – for interconnections of stacked PCBs

- one row, 4-20 contacts
- within the total length of the pin the insulator can be changed according to customer's request

C

D



art. no.	dim. [mm]	art. no.	dim. [mm]	art. no.	dim. [mm]
	A		A		A
SL 15 SMD 107 ...	10.7	SL 15 SMD 182 ...	18.2	SL 15 SMD 207 ...	20.7

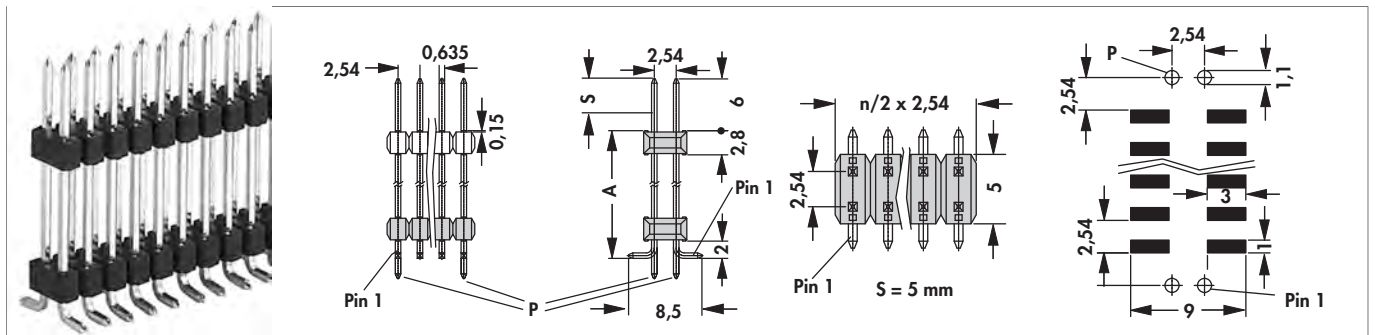
please indicate: ... no. of contacts one row 4 - 20 ... surface of contact
S = selective gold-plated
G = gold-plated
Z = tin-plated

E

F

- two rows, 4-40 contacts
- within the total length of the insulator can be changed according to customer's request

G



art. no.	dim. [mm]	art. no.	dim. [mm]	art. no.	dim. [mm]
	A		A		A
SL 16 SMD 107 ...	10.7	SL 16 SMD 182 ...	18.2	SL 16 SMD 247 ...	24.7
SL 16 SMD 157 ...	15.7	SL 16 SMD 207 ...	20.7		

please indicate: ... no. of contacts two rows 4 - 40 ... surface of contact
S = selective gold-plated
G = gold-plated
Z = tin-plated

H

I

K

L

M

N

G 27

- | | | | |
|----------------------------------|-------------|----------------------------------|-------------|
| Male headers 2.00 SMD | → G 33 – 35 | Jumpers | → G 76 – 77 |
| High-prec. male headers 1.27 SMD | → G 43 | High-prec. fem. headers 2.54 THT | → G 53 – 56 |
| Male headers 2.54 THT | → G 7 | Female headers 2.00 SMD | → G 68 |
| Female headers 1.27 THT | → G 71 | Technical data | → G 78 – 84 |

Male headers

Male connectors

- press-fit mounting without soldering, resilient press-fit area, easy insertion into the PCB
- **separable!** any requested number of contact can be delivered
- **contact material:** Cu Sn 6

- one row, 1-36 contacts
- for PCB thickness ≥ 1.6 mm dimension B = 3.5 mm and ≥ 3.0 mm dimension B = 4.5 mm

art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SLP 1 16 117 ...	11.7	3.5	5.4	SLP 1 16 195 ...	19.5	3.5	13.2
SLP 1 16 129 ...	12.9	3.5	6.6	SLP 1 32 139 ...	13.9	4.5	6.6
SLP 1 16 144 ...	14.4	3.5	8.1	SLP 1 32 164 ...	16.4	4.5	9.1

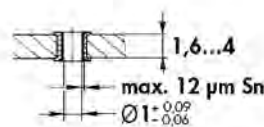
please indicate: ... no. of contacts one row 1-36 ... surface of contact
G = gold-plated
Z = tin-plated

- two rows, 2-72 contacts
- for PCB thickness ≥ 1.6 mm dimension B = 3.5 mm and ≥ 3.0 mm dimension B = 4.5 mm

art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SLP 2 16 117 ...	11.7	3.5	5.4	SLP 2 16 195 ...	19.5	3.5	13.2
SLP 2 16 129 ...	12.9	3.5	6.6	SLP 2 32 139 ...	13.9	4.5	6.6
SLP 2 16 144 ...	14.4	3.5	8.1	SLP 2 32 164 ...	16.4	4.5	9.1

please indicate: ... no. of contacts two rows 2-72 ... surface of contact
G = gold-plated
Z = tin-plated

Hole diameter in PCB - hole structure acc. to DIN EN 60352-5



Male headers 2.00 SMD
 High-prec. male headers 1.27 SMD
 Male headers 2.54 THT
 Female headers 1.27 THT

→ G 33 - 35
 → G 43
 → G 7
 → G 71

Jumpers
 High-prec. fem. headers 2.54 THT
 Female headers 2.00 SMD
 Technical data

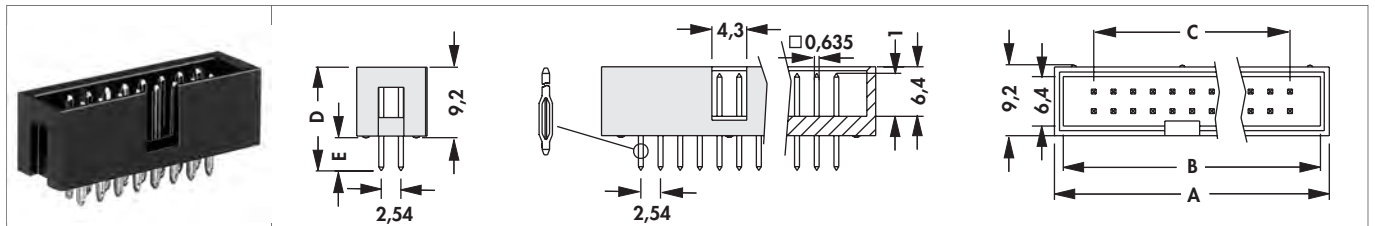
→ G 76 - 77
 → G 53 - 56
 → G 68
 → G 78 - 84

G 28

Male headers

Male header with shroud

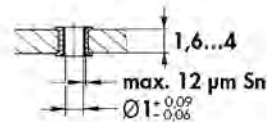
- suitable for lockable female multipoint connector **VFL** and can be combined with many other female multipoint connectors with grid spacing 2.54 mm (e. g.: **PV, BL**)
- press-fit mounting without soldering, resilient press-fit area, easy insertion into PCB
- **contact material:** Cu Sn 6



art. no.	no. of contacts	dim. [mm]				
		A	B	C	D	E
SLUP 31 10 ...	10	20.4	17.8	10.16	12.6	3.5
SLUP 31 16 ...	16	28.0	25.4	17.78	12.6	3.5
SLUP 31 20 ...	20	33.1	30.5	22.86	12.6	3.5

please indicate: ... surface of contact
G = gold-plated
Z = tin-plated

Hole diameter in PCB - hole structure acc. to DIN EN 60352-5


G 29

Male headers 2.00 SMD
 High-prec. male headers 1.27 SMD
 Male headers 2.54 THT
 Female headers 1.27 THT

→ G 33 – 35
 → G 43
 → G 7
 → G 71

Jumpers
 High-prec. fem. headers 2.54 THT
 Female headers 2.00 SMD
 Technical data

→ G 76 – 77
 → G 53 – 56
 → G 68
 → G 78 – 84

Male headers

Standard, □ 0.5 mm

– any requested number of contact is available

art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SLY 1 081 ...	8.1	3	3.6	SLY 1 104 ...	10.4	3	5.9
SLY 1 085 ...	8.5	3	4.0	SLY 1 139 ...	13.9	3	9.4
SLY 1 098 ...	9.8	3	5.3				
art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SLY 2 081 ...	8.1	3	3.6	SLY 2 104 ...	10.4	3	5.9
SLY 2 085 ...	8.5	3	4.0	SLY 2 139 ...	13.9	3	9.4
SLY 2 098 ...	9.8	3	5.3				
art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SLY 3 035 ...	1.5	2.8	3.5	SLY 3 082 ... G	1.5	2.8	8.2
SLY 3 041 ...	1.5	2.8	4.1	SLY 3 082 ... Z	1.5	2.8	8.2
art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SLY 4 035 ...	1.5	2.8	3.5	SLY 4 082 ... G	1.5	2.8	8.2
SLY 4 041... G	1.5	2.8	4.1	SLY 4 082 ... Z	1.5	2.8	8.2
SLY 4 041... Z	1.5	2.8	4.1				
please indicate:	... no. of contacts one row 1 - 50 two rows 4 - 100			... surface of contact S = selective gold-plated G = gold-plated Z = tin-plated			

Female headers 2.00 THT
Female headers 2.00 SMD
Jumpers
Connector-sleeves

→ G 67
→ G 68 - 70
→ G 76 - 77
→ F 19 - 20

Female headers 2.54 THT
Male headers 2.00 THT
Direct female connectors
Technical data

→ G 52
→ G 30 - 31
→ G 75
→ G 78 - 84


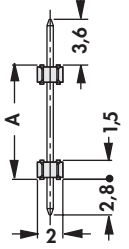
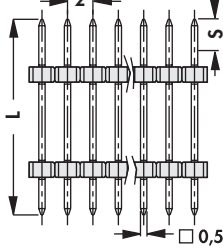
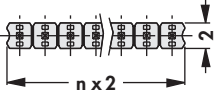
G 30

Male headers


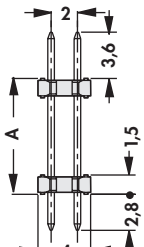
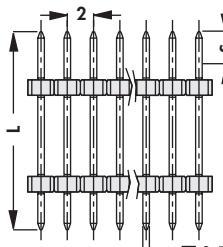
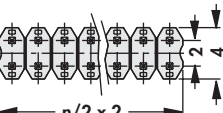
Design, matching for BLY ...

- are used for interconnections of stacked PCBs
- within the total length of the pin the insulator position can be changed as required ... **Design specification-sheet**
- **separable!** any requested number of contact can be delivered

– one row, □ 0.5 mm

			
art. no.	dim. [mm]		
	A	L	
SLY 5 040 ...	4.0	10.4	
SLY 5 075 ...	7.5	13.9	
SLY 5 081 ... G	8.1	14.5	
SLY 5 081 ... Z	8.1	14.5	
SLY 5 122 ... G	12.2	18.6	
SLY 5 122 ... Z	12.2	18.6	
please indicate:	... no. of contacts one row 1 - 50	... surface of contact S = selective gold-plated G = gold-plated Z = tin-plated	

– two rows, □ 0.5 mm

			
art. no.	dim. [mm]		
	A	L	
SLY 6 040 ...	4.0	10.4	
SLY 6 075 ...	7.5	13.9	
SLY 6 081 ... G	8.1	14.5	
SLY 6 081 ... Z	8.1	14.5	
SLY 6 122 ... G	12.2	18.6	
SLY 6 122 ... Z	12.2	18.6	
please indicate:	... no. of contacts two rows 2 - 100	... surface of contact S = selective gold-plated G = gold-plated Z = tin-plated	

G 31

Female headers 2.00 SMD
Female headers 2.00 THT
Direct female connectors
Jumpers

→ G 68 – 70
→ G 67
→ G 75
→ G 76 – 77

Male headers 2.54 THT
Single contacts metal strip
Male headers 2.00 THT
Technical data

→ G 7
→ G 49
→ G 30 – 31
→ G 78 – 84

Design specification for connectors, grid spacing 2 mm

date: _____
 pieces per order: _____
 company: _____
 name, dept.: _____
 town: _____
 street: _____
 fax: _____
 signature: _____

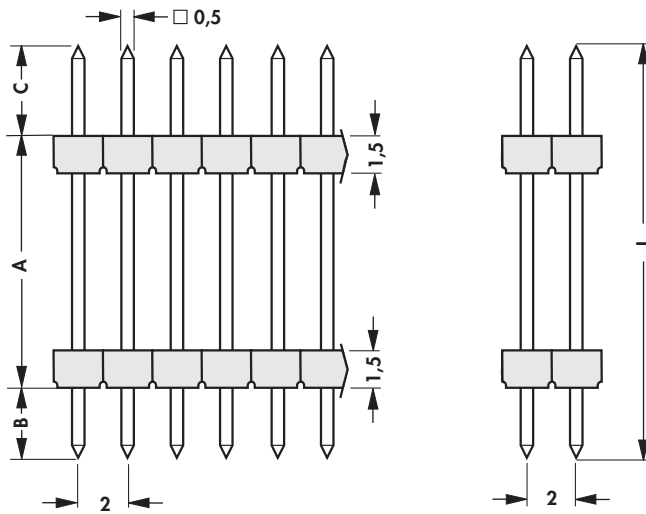
- inquiry
- order

surface finish

- selective gold-plated
- gold-plated
- tin-plated

- one row 1 - 50 contacts possible
- two rows 2 - 100 contacts possible

number of contacts



dimensions:

L

A

B

C

- L = total contact length
- A = distance between PCBs
- B = solder side
- C = insertion side

Female headers 2.00 SMD
Female headers 2.00 THT
Direct female connectors
Jumpers

→ G 68 - 70
 → G 67
 → G 75
 → G 76 - 77

Male headers 2.54 THT
Single contacts metal strip
Male headers 2.00 THT
Technical data

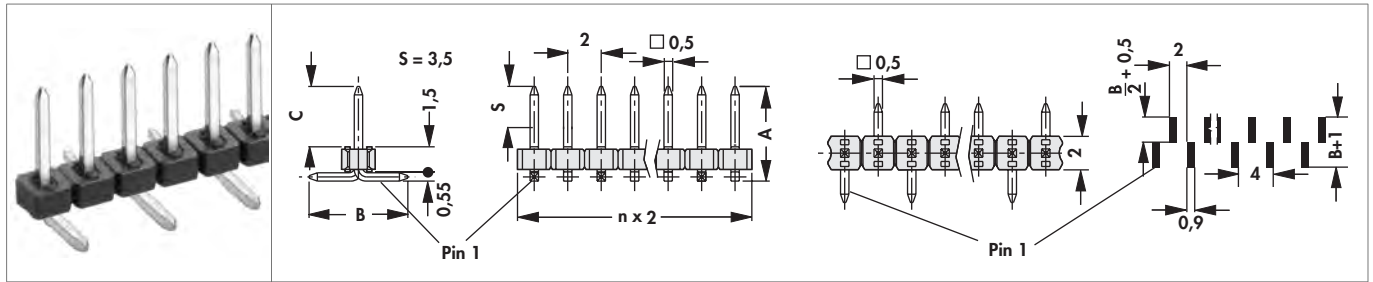
→ G 7
 → G 49
 → G 30 - 31
 → G 78 - 84

G 32

A

Male headers

□ 0.5 mm



art. no.	dim. [mm]			
	A	B	C	S
SLY 7 SMD 036 ...	5.6	6.3	3.6	3.0
SLY 7 SMD 045 ...	6.5	4.6	4.5	3.5
SLY 7 SMD 062 ...	8.2	4.6	6.2	3.5

please indicate: ... no. of contacts one row 4 - 20 ... surface of contact S = selective gold-plated G = gold-plated Z = tin-plated ... packing (optional) SM = bar magazine B SM = pick and place pad and bar magazine B TR = pick and place pad and tape and reel (650pcs/reel)

B

C

D

E

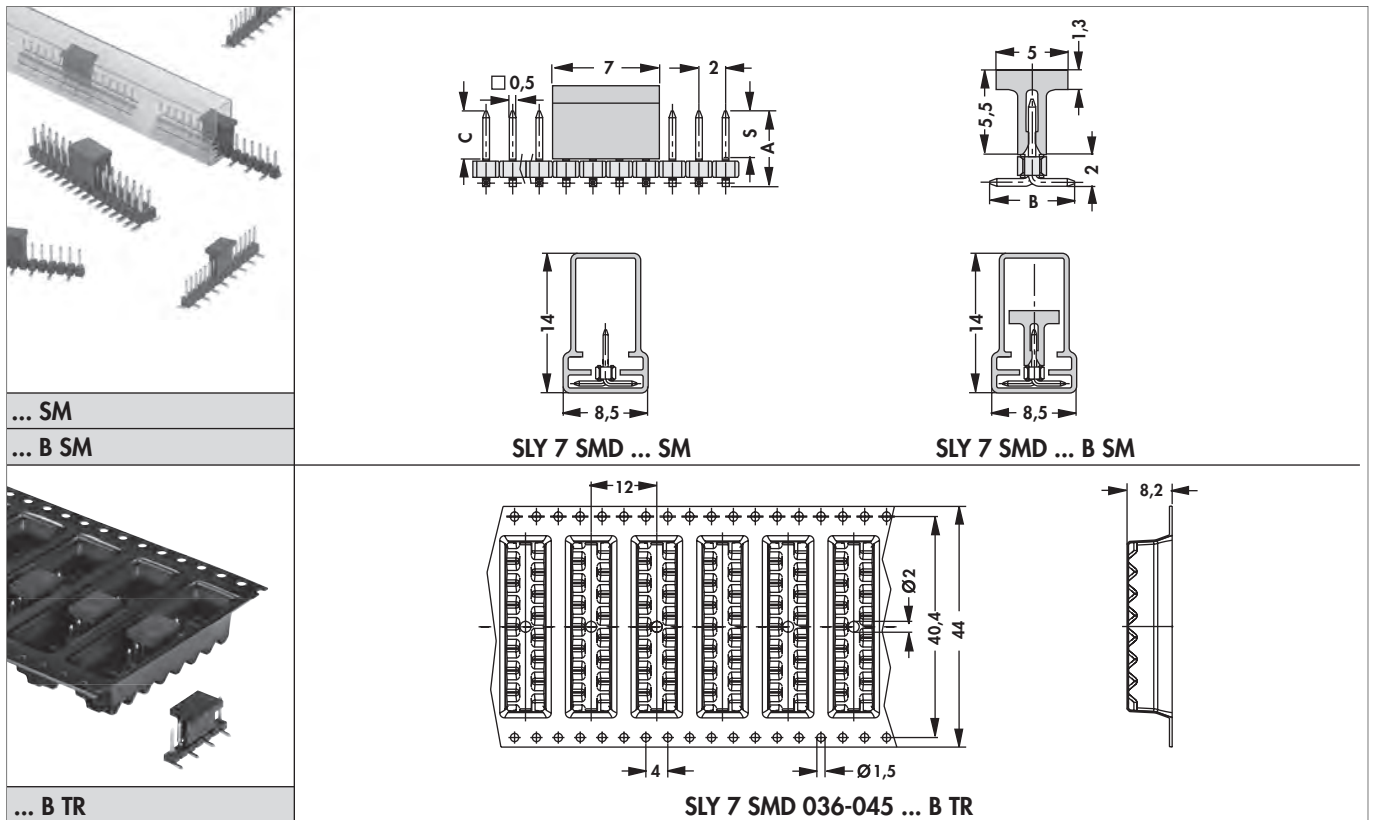
... packing (option) - additions:
SLY 7 SMD 036-045 ... B TR: 4-15 contacts

Option, for automatic assembly

- reel diameter Ø 330 mm

F

G



H

I

K

L

M

G 33

Female headers 2.00 SMD
 Female headers 2.00 THT
 Direct female connectors
 Jumpers

→ G 68 - 70
 → G 67
 → G 75
 → G 76 - 77

Male headers 2.54 THT
 Single contacts metal strip
 Male headers 2.00 THT
 Technical data

→ G 7
 → G 49
 → G 30 - 31
 → G 78 - 84

N

Male headers

□ 0.5 mm

art. no.	dim. [mm]			
	A	B	C	S
SLY 8 SMD 036 ...	5.6	8.5	3.6	3.0
SLY 8 SMD 045 ...	6.5	6.5	4.5	3.5
SLY 8 SMD 062 ...	8.2	6.5	6.2	3.5

please indicate:

- ... no. of contacts**
two rows 4 - 40
- ... surface of contact**
S = selective gold-plated
G = gold-plated
Z = tin-plated
- ... packing (optional)**
SM = bar magazine
B SM = pick and place pad and bar magazine
B TR = pick and place pad and tape and reel (650pcs/reel)

... packing (option) - additions:
SLY 8 SMD ... SM; ... B SM: 6-40 contacts
SLY 8 SMD 036-045 ... B TR: 6-30 contacts

Option, for automatic assembly

– reel diameter Ø 330 mm

... SM
... B SM

SLY 8 SMD ... SM **SLY 8 SMD ... B SM**

... B TR

SLY 8 SMD 036-045 ... B TR

Male headers 2.00 THT
 High-precis.male head.in SMD mount.
 Female headers 2.54 press-fit
 Female header grid 2.00

→ G 30 – 31
 → G 18
 → G 50 – 66
 → H 7

Female headers 2.00 THT
 Female headers 2.00 SMD
 Jumpers
 Technical data

→ G 67
 → G 68 – 70
 → G 76 – 77
 → G 78 – 84

A

Male headers

B

C

D

E

F

G

H

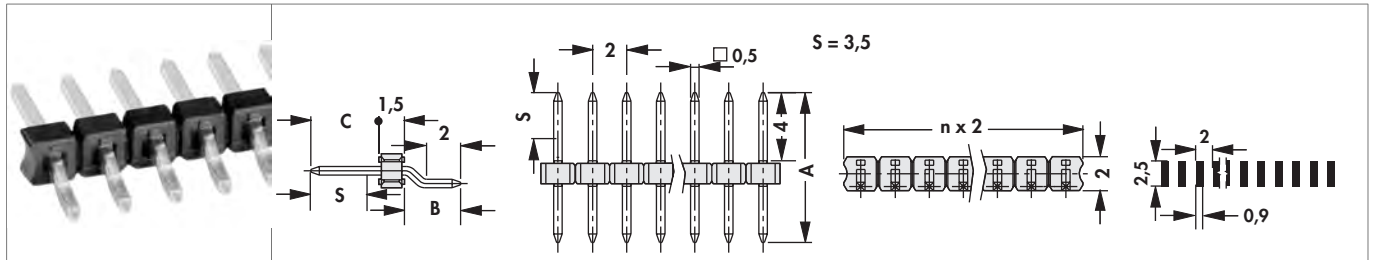
I

K

L

M

□ 0.5 mm

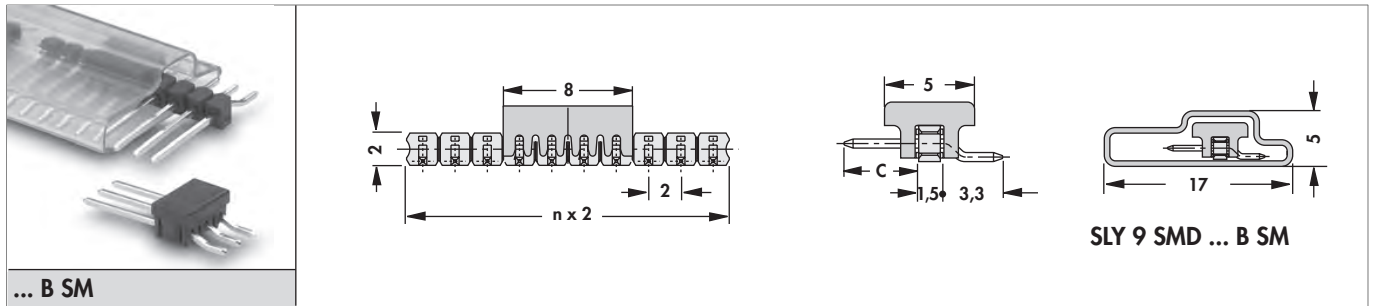


art. no.	dim. [mm]			
	A	B	C	S
SLY 9 SMD 040 ...	8.8	3.3	4.0	3.5
SLY 9 SMD 055 ...	10.3	3.3	5.5	3.5

please indicate: ... no. of contacts one row 2-20 ... surface of contact S = selective gold-plated G = gold-plated Z = tin-plated ... packing (optional) B SM = pick and place pad and bar magazine

Option, for automatic assembly

– reel diameter Ø 330 mm



N

G 35

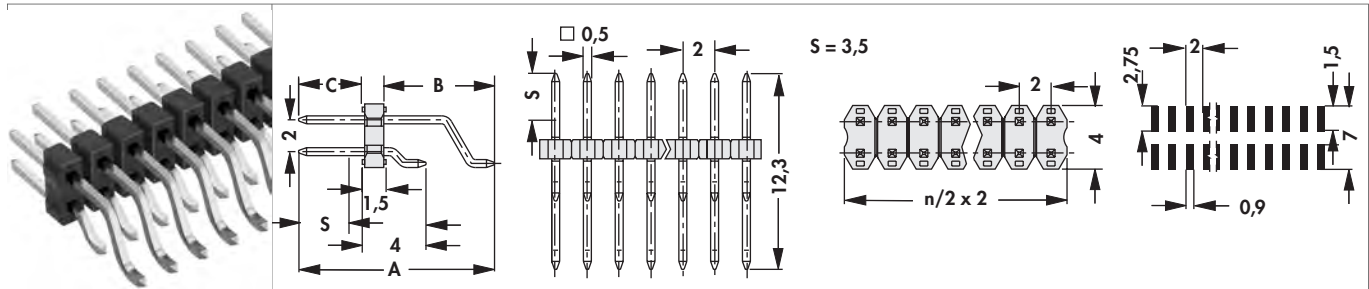
Jumpers
Female header grid 2.00
Female headers 2.00 THT
Direct female connectors

→ G 76 – 77
→ H 7
→ G 67
→ G 75

High-precis. male head.in SMD mount. → G 18
Male headers 2.00 THT → G 30 – 31
Female headers 2.54 press-fit → G 50 – 66
Technical data → G 78 – 84

Male headers

□ 0.5 mm



art. no.	dim. [mm]			
	A	B	C	S
SLY 10 SMD 040 ...	12.3	6.8	4	3.5
please indicate:	... no. of contacts two rows 4 - 40	... surface of contact S = selective gold-plated G = gold-plated Z = tin-plated	... packing (optional) B SM = pick and place pad and bar magazine B TR = pick and place pad and tape and reel (700pcs/reel)	

... packing (option) - additions:
SLY 10 SMD 40 ... B TR: 4-16 contacts

Option, for automatic assembly

- reel diameter Ø 330 mm

... B SM

SLY 10 SMD ... B SM

... B TR

SLY 10 SMD ... B TR

Jumpers
Female header grid 2.00
Female headers 2.00 THT
Direct female connectors

→ G 76 - 77
 → H 7
 → G 67
 → G 75

High-precis. male head.in SMD mount. → G 18
Male headers 2.00 THT → G 30 - 31
Female headers 2.54 press-fit → G 50 - 66
Technical data → G 78 - 84

G 36

A

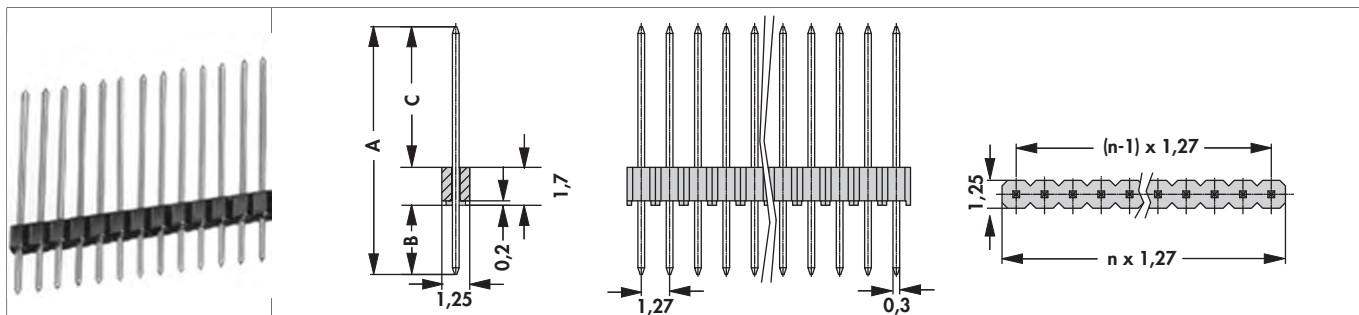
Male headers

B

Contact cross section □ 0.3 mm, straight, slim insulating body

- suitable for female header **BLM**
- one row 1-20 contacts

C



D

art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SLM N 1 063 ...	11.1	3.1	6.3	SLM N 11 063 ...	12.8	4.8	6.3
SLM N 1 092 ...	14.0	3.1	9.2	SLM N 11 117 ...	18.2	4.8	11.7
SLM N 1 117 ...	16.5	3.1	11.7				

please indicate: ... no. of contacts one row 1 - 20 ... surface of contact
G = gold-plated
Z = tin-plated

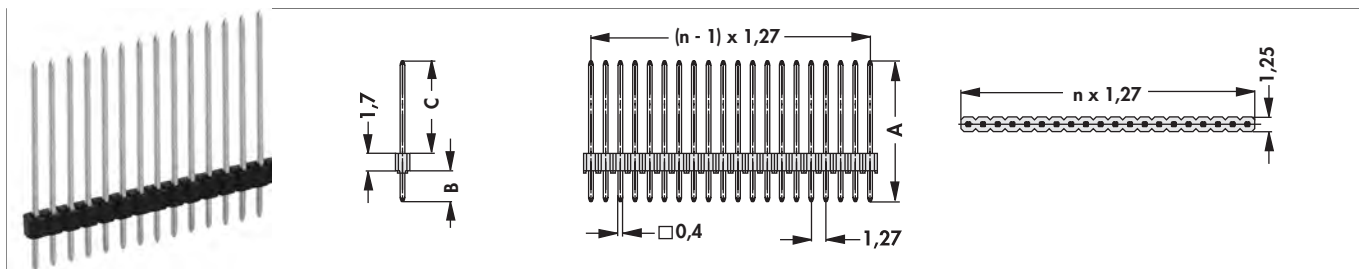
E

F

Contact cross section □ 0.4 mm, straight, slim insulating body

- matching for female header **BLM**
- one row 1-20 contacts

G



H

art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SLV N 1 055 ...	9.7	2.5	5.5	SLV N 11 055 ...	12.2	5.0	5.5
SLV N 1 080 ...	12.2	2.5	8.0	SLV N 11 080 ...	14.7	5.0	8.0
SLV N 1 105 ...	14.7	2.5	10.5	SLV N 11 105 ...	17.2	5.0	10.5
SLV N 1 130 ...	17.2	2.5	13.0				

please indicate: ... no. of contacts one row 1 - 20 ... surface of contact
G = gold-plated
Z = tin-plated

I

K

L

M

N

G 37

Female headers 1.27 SMD
 Jumpers
 Female headers 1.27 THT
 High-prec. fem. headers 1.27 THT

→ G 73 - 74
 → G 76 - 77
 → G 71 - 72
 → G 72

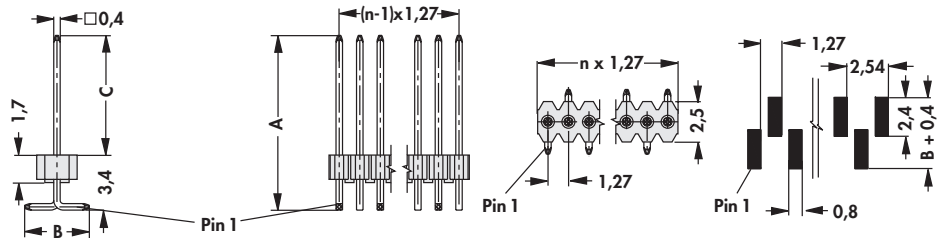
Female headers 2.00 SMD
 Direct female connectors
 High-prec. female headers 1.27 SMD
 Technical data

→ G 68 - 70
 → G 75
 → G 74
 → G 78 - 84

Male headers

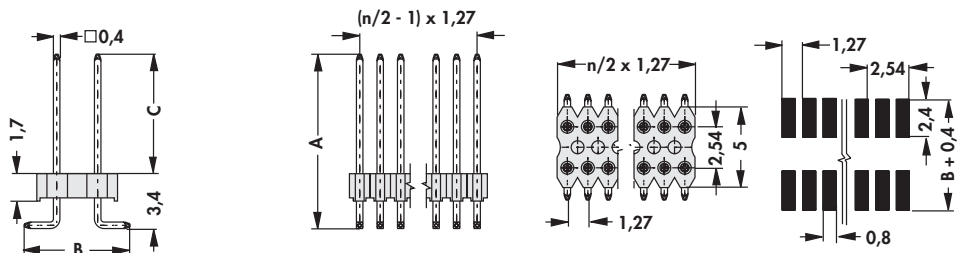
Contact cross section $\square 0.4$ mm, expanded insulating body

- suitable for female header **BLM**
- one row 4-20 contacts



art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SLV W 1 SMD 048 ...	8.2	4	4.8	SLV W 1 SMD 073 ...	10.7	4	7.3
please indicate:		... no. of contacts one row 4 - 20		... surface of contact G = gold-plated Z = tin-plated			

- suitable for female header **BLM**
- two rows 4-40 contacts
- grid spacing 1.27 x 2.54 mm



art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SLV W 2 SMD 048 ...	8.2	6.6	4.8	SLV W 2 SMD 073 ...	10.7	6.6	7.3
please indicate:		... no. of contacts two rows 4 - 40		... surface of contact G = gold-plated Z = tin-plated			

Female headers 1.27 THT
Jumpers
High-prec. fem. headers 1.27 THT
High-prec. female headers 1.27 SMD

→ G 71 - 72
→ G 76 - 77
→ G 72
→ G 74

Female headers 1.27 SMD
Direct female connectors
Female headers 2.00 SMD
Technical data

→ G 73 - 74
→ G 75
→ G 68 - 70
→ G 78 - 84

G 40

A
B
C
D
E
F
G
H
I
K
L
M
N

A

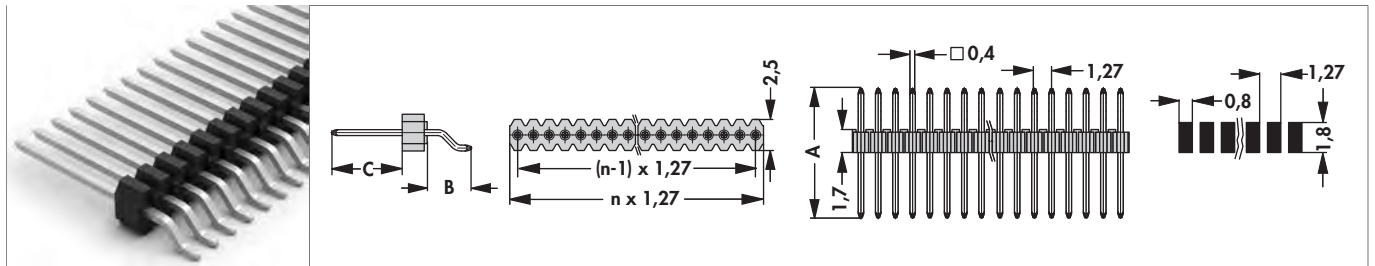
Male headers

B

Pin cross section □ 0.4 mm, expanded insulating body

- matching for female header **BLM**
- one row 2-20 contacts

C



D

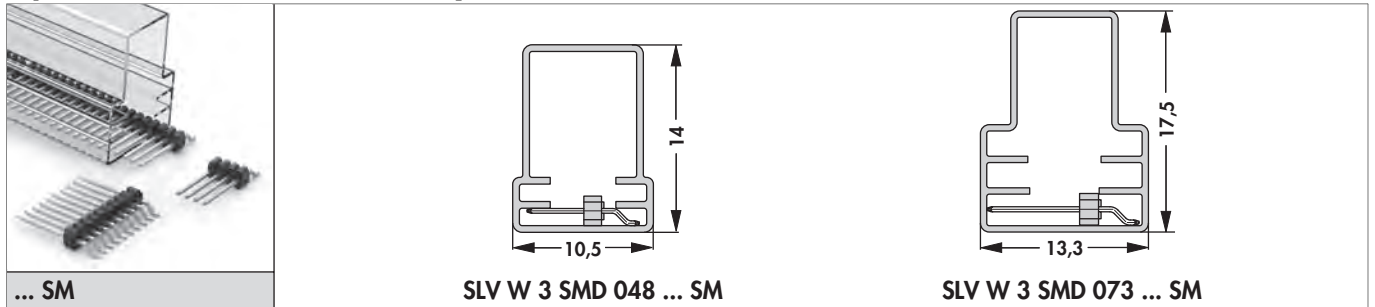
art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SLV W 3 SMD 048 ...	9.5	3	4.8	SLV W 3 SMD 073 ...	12.0	3	7.3
please indicate:		... no. of contacts one row 2-20		... surface of contact G = gold-plated Z = tin-plated		... packing (optional) SM = bar magazine	

E

... packing (option) - additions:
SLV W 3 SMD ... SM: 4-20 contacts

F

Option, for automatic assembly



G

H

I

K

L

M

N

G 41

- | | | | |
|------------------------------------|-------------|--------------------------|-------------|
| Female headers 1.27 THT | → G 71 - 72 | Female headers 1.27 SMD | → G 73 - 74 |
| Jumpers | → G 76 - 77 | Direct female connectors | → G 75 |
| High-prec. fem. headers 1.27 THT | → G 72 | Female headers 2.00 SMD | → G 68 - 70 |
| High-prec. female headers 1.27 SMD | → G 74 | Technical data | → G 78 - 84 |

Male headers

Precision contacts, solder and plug pins, Ø 0.43 mm

- turned precision contacts, less space required on PCB
- other number of contacts on request

art. no. SLR 1 025 ...	no. of contacts 25	art. no. SLR 1 050 ...	no. of contacts 50
<p>please indicate: ... surface of contact G = gold-plated Z = tin-plated</p>			
art. no. SLR 2 050 G	no. of contacts 50		
art. no. SLR 3 025 G	no. of contacts 25	art. no. SLR 3 050 G	no. of contacts 50
art. no. SLR 4 050 G	no. of contacts 50	art. no. SLR 4 100 G	no. of contacts 100
<p>surface of contact: gold-plated</p>			

Jumpers
 Female headers 1.27 SMD
 Female headers 1.27 THT
 Female headers 2.00 SMD

→ G 76 - 77
 → G 73 - 74
 → G 71 - 72
 → G 68 - 70


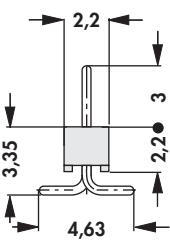
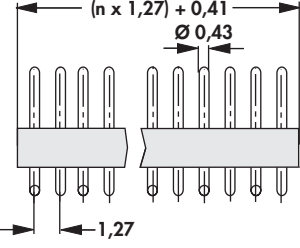
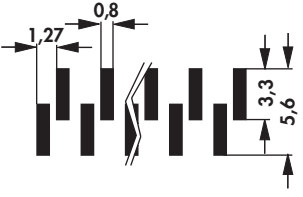
High-prec. fem. headers 1.27 THT
 High-prec. female headers 1.27 SMD
 Direct female connectors
 Technical data

→ G 72
 → G 74
 → G 75
 → G 78 - 84

Male headers

Precision contacts, solder and plug pins Ø 0.43 mm

- less space required on PCB
- other number of contacts on request

			
art. no.	no. of contacts		
SLR 5 SMD 50 G	50		
surface of contact:	gold-plated		

G 43

Jumpers
 Female headers 1.27 SMD
 Female headers 1.27 THT
 Female headers 2.00 SMD

→ G 76 – 77
 → G 73 – 74
 → G 71 – 72
 → G 68 – 70

High-prec. fem. headers 1.27 THT → G 72
 High-prec. female headers 1.27 SMD → G 74
 Direct female connectors → G 75
 Technical data → G 78 – 84

→ G 72
 → G 74
 → G 75
 → G 78 – 84

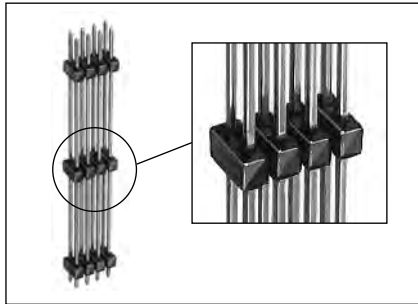
Customer specified male and female headers

We manufacture male and female headers for your specific application.

All pin lengths from 7.5 to 45.3 mm for grid 2.54 mm and 7.5 to 30 mm for grid 2.00 mm available on request.

The insulator can be mounted at any requested position on the full length of the pin.

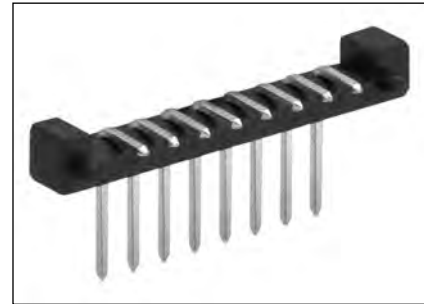
Grid spacing insertion with selective gold-plated contacts on request.



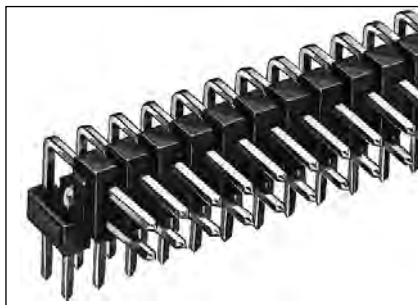
PCB connector,
extra long and additionally stabilized



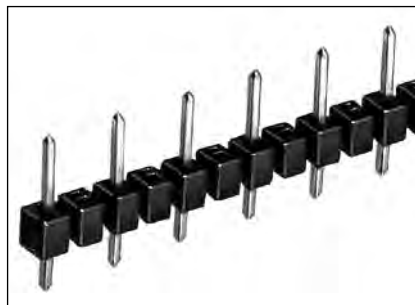
4-contact male header for THR-soldering;
grid 5.75 mm



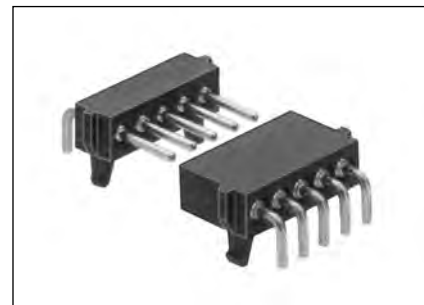
8-contact male header with special
insulating body including locating pin



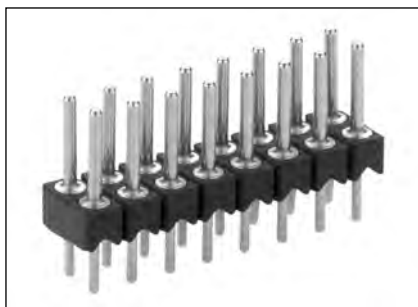
angled male header with two insulators



male header in 5.08 mm grid and
customised



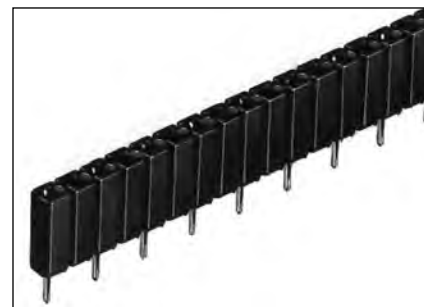
angled male and female header
1.27 mm grid, with customised
insulators



insulator body and precision contacts
according to customer's request



male header with various pin lengths



female header in 5.08 mm grid

Jumpers

Female headers 1.27 SMD

Female headers 1.27 THT

Female headers 2.00 SMD

→ G 76 – 77

→ G 73 – 74

→ G 71 – 72

→ G 68 – 70

High-prec. fem. headers 1.27 THT

High-prec. female headers 1.27 SMD

Direct female connectors

Technical data

→ G 72

→ G 74

→ G 75

→ G 78 – 84

Female headers

Precision contacts, plug pins Ø 0.5 mm

art. no.			art. no.		
MK 01 ...			MK 201 ...		
art. no.			art. no.		
MK 17 ...			MK 217 ...		
art. no.			art. no.		
MK 12 X 2 ...			MK 212 X 2 ...		
please indicate:	... no. of contacts one row 1 - 50 two rows 2 - 100		... surface of contact G = gold-plated Z = tin-plated		

art. no.	dim. [mm] X	art. no.	dim. [mm] X	
MK 13 X 1 ...	5.9	MK 213 X 1 ...	5.9	
MK 13 X 2 ...	8.9	MK 213 X 2 ...	8.9	
please indicate:	... no. of contacts one row 1 - 50 two rows 2 - 100		... surface of contact G = gold-plated Z = tin-plated	
contact spring:	gold-plated			

G 45

High-precision female headers THT → G 2 - 6
 Single precision contacts → F 17 - 18
 Jumpers → G 76 - 77
 High-prec. male headers 2.54 THT → G 45 - 55

Male headers 2.54 THT → G 7 - 17
 Single contacts metal strip → G 49
 Male headers 2.54 SMD → G 21 - 27
 Technical data → G 78 - 84

Female headers

Precision contacts for pin cross section Ø 0.5 mm

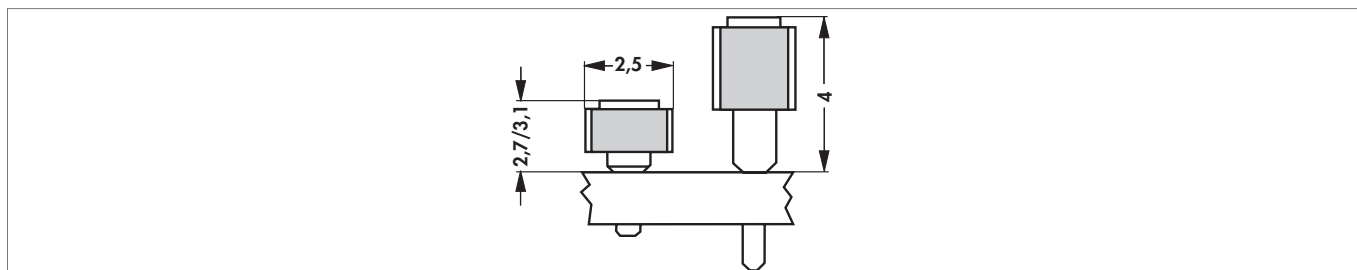
art. no.										
MK 06 ...										
art. no.			art. no.							
MK 07 ...			MK 207 ...							
<p>please indicate:</p> <table border="0"> <tr> <td>... no. of contacts</td> <td>... surface of contact</td> </tr> <tr> <td>one row 1 - 50</td> <td>G = gold-plated</td> </tr> <tr> <td>two rows 2 - 100</td> <td>Z = tin-plated</td> </tr> </table>					... no. of contacts	... surface of contact	one row 1 - 50	G = gold-plated	two rows 2 - 100	Z = tin-plated
... no. of contacts	... surface of contact									
one row 1 - 50	G = gold-plated									
two rows 2 - 100	Z = tin-plated									

Low profile, less than 2.7/3.1 mm - with contact spring for Ø 0.5 mm pins

- solder and plug pin Ø 0.76 mm

art. no.			art. no.								
MK LP 18 ...			MK LP 218 ...								
art. no.			art. no.								
MK LP 19 ...			MK LP 219 ...								
<p>please indicate:</p> <table border="0"> <tr> <td>... no. of contacts</td> <td>... surface of contact</td> </tr> <tr> <td>one row 1 - 50</td> <td>G = gold-plated</td> </tr> <tr> <td>two rows 4 - 100</td> <td>Z = tin-plated</td> </tr> </table>						... no. of contacts	... surface of contact	one row 1 - 50	G = gold-plated	two rows 4 - 100	Z = tin-plated
... no. of contacts	... surface of contact										
one row 1 - 50	G = gold-plated										
two rows 4 - 100	Z = tin-plated										
<p>contact spring: gold-plated</p>											

Low profile: 2.7/3.1 mm; standard profile: 4 mm



- | | | | |
|-----------------------------------|-------------|----------------------------------|-------------|
| High-precision female headers THT | → G 2 - 6 | Jumper links 2 & 2.54 THT | → F 15 |
| Male headers 2.54 SMD | → G 21 - 27 | High-prec. male headers 2.54 THT | → G 45 - 55 |
| High-prec. fem. headers 2.54 THT | → G 53 - 56 | Single precision contacts | → F 17 - 18 |
| Male headers 2.54 THT | → G 7 - 17 | Technical data | → G 78 - 84 |

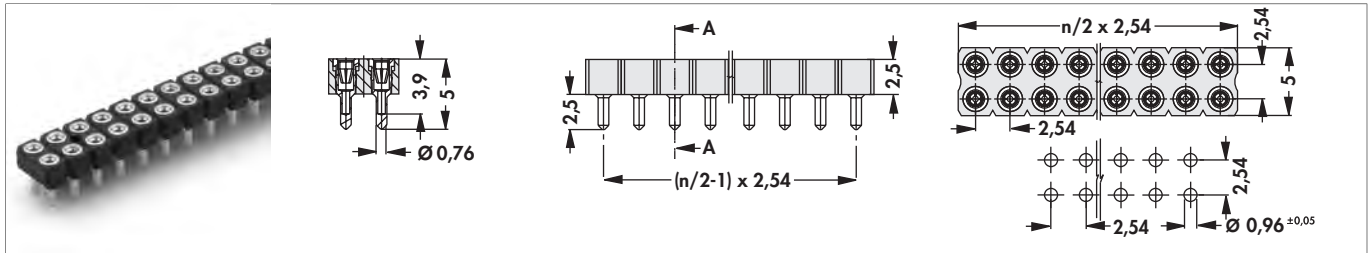
G 46

A

Female headers

Precision contacts in THR-soldering technology for pin cross section $\varnothing 0.5$ mm

– THR: Through-Hole-Reflow-soldering technology (connector to be soldered with modified insert technique in Reflow-soldering method)



art. no.

MK 228 THR ...

please indicate:

... no. of contacts
two rows 2 - 40

... surface of contact
G = gold-plated
Z = tin-plated

contact spring:

gold-plated

E

F

G

H

I

K

L

M

N

G 47

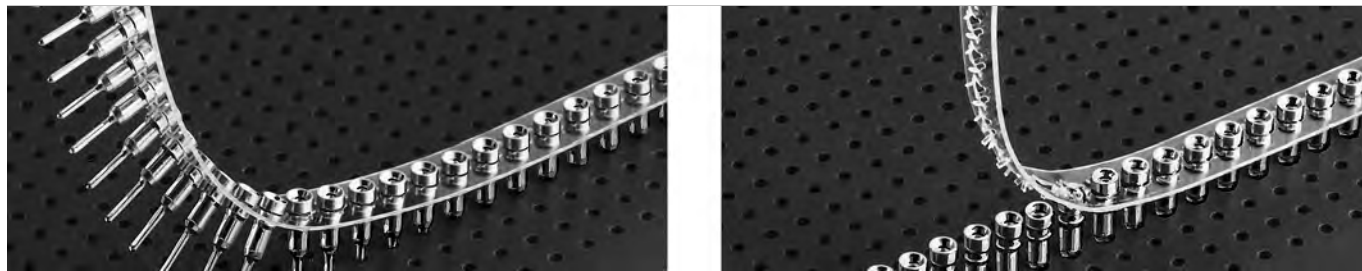
Direct female connectors
Single precision contacts
Jumpers
Single contacts metal strip

→ G 75
→ F 17 – 18
→ G 76 – 77
→ G 49

High-prec.male head.soldering techn.→ G 3 – 17
High-precis.male head.in SMD mount.→ G 18
Jumper links 2 & 2.54 THT → F 15
Technical data → G 78 – 84

Female headers

Peel-Off



- precision contacts are mounted in a temperature-resistant carrier strip which is removed after soldering
- special loadings upon request

art. no.		
PO A ... G	... no. of contacts from 2 pins to endless	
please indicate:		
contact sleeve:	gold-plated	
contact spring:	gold-plated	
annotation:	Technical data of carrier foil: max. tensile strength: 193 N/mm ² max. thermal expansion - longitudinal direction: 1.7x10 ⁻⁵ mm/°C melting point: 250°C	

High-precision female headers THT → G 2 - 6
 Single precision contacts → F 17 - 18
 High-prec. male headers 2.54 THT → G 45 - 55
 Male headers 2.54 THT → G 7 - 17

Jumpers → G 76 - 77
 Male headers 2.54 SMD → G 21 - 27
 Single contacts metal strip → G 49
 Technical data → G 78 - 84

G 48

A

Female headers

B

C

D

E

F

G

H

I

K

L

M

N

Precision contacts on metal strip for pin cross section Ø 0.5 mm

<p>art. no.</p> <p>SIL 1 ...</p>			
<p>art. no.</p> <p>SIL 2 ...</p>			
<p>art. no.</p> <p>SIL 3 ...</p>			
<p>please indicate:</p>		<p>... no. of contacts one row 2 - 100</p>	<p>... surface of contact G = gold-plated Z = tin-plated</p>
<p>contact spring:</p>		<p>gold-plated</p>	
<p>annotation:</p>		<p>carrier strip: brass</p>	

G 49

Female headers 2.54 press-fit → G 66
 High-precision female headers THT → G 2 - 6
 Jumper links 2 & 2.54 THT → F 15
 High-prec. male headers 2.54 THT → G 45 - 55

Male headers 2.54 SMD → G 21 - 27
 Single precision contacts → F 17 - 18
 Single contacts metal strip → G 49
 Technical data → G 78 - 84

Female headers

Stamped contact spring (fork contact)

– **separable!** any requested number of contact can be delivered

– for □ 0.635 mm pin cross section, straight

<p>art. no.</p>					
<p>BL 1 ...</p>					
<p>BL 2 ...</p>	<p>please indicate: ... no. of contacts one row 1 - 36 two rows 2 - 72</p>		<p>... surface of contact G = gold-plated Z = tin-plated</p>		

– for □ 0.635 mm pin cross section, angled

– **BL 4 ...:** packing (option) bar magazine (≥ 6 contacts)

<p>art. no.</p>					
<p>BL 3 ...</p>					
<p>BL 4 ...</p>	<p>please indicate: ... no. of contacts one row 1 - 36 two rows 2 - 72</p>		<p>... surface of contact G = gold-plated Z = tin-plated</p>		

High-prec. fem. headers 2.54 THT
 Female headers 2.54 press-fit
 Single contacts metal strip
 Single precision contacts

→ G 53 – 56
 → G 66
 → G 49
 → F 17 – 18

Female headers 2.54 SMD
 Jumper links 2 & 2.54 THT
 Direct female connectors
 Technical data

→ G 58 – 64
 → F 15
 → G 75
 → G 78 – 84

G 50

A

Female headers

B

Low profile, fork contact spring

– separable! any requested number of contact can be delivered

– for \square 0.635 mm pin cross section, straight

C

<p>art. no.</p> <p>BL LP 1 ...</p>				
<p>art. no.</p> <p>BL LP 2 ...</p>				
<p>please indicate: ... no. of contacts one row 1 - 36 two rows 2 - 72</p> <p> ... surface of contact S = selective gold-plated Z = tin-plated</p>				

D

E

– for \square 0.635 mm pin cross section, angled
 – **BL LP 4 ...**: packing in a bar magazine (min. 6 contacts)

F

G

<p>art. no.</p> <p>BL LP 3 ...</p>				
<p>art. no.</p> <p>BL LP 4 ...</p>				
<p>please indicate: ... no. of contacts one row 1 - 36 two rows 2 - 72</p> <p> ... surface of contact S = selective gold-plated Z = tin-plated</p>				

H

I

K

L

M

G 51

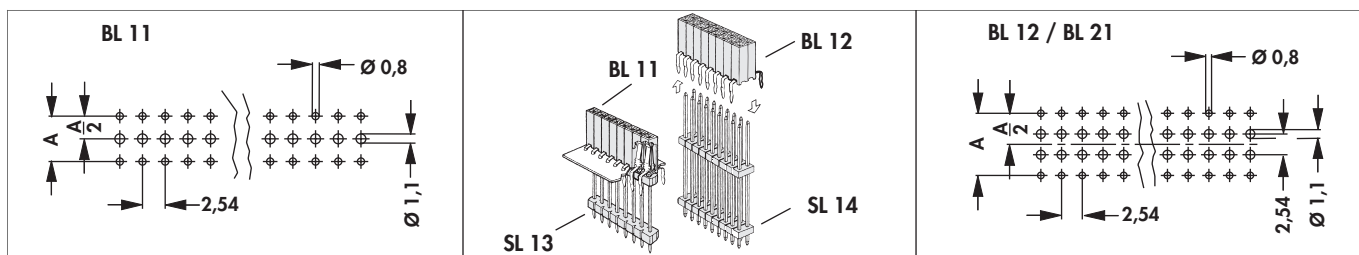
High-prec. fem. headers 2.54 THT
 Female headers 2.54 press-fit
 Single contacts metal strip
 Single precision contacts

→ G 53 – 56
 → G 66
 → G 49
 → F 17 – 18

Female headers 2.54 SMD
 Jumper links 2 & 2.54 THT
 Direct female connectors
 Technical data

→ G 58 – 64
 → F 15
 → G 75
 → G 78 – 84

Female headers



For \square 0.635 mm pin cross section, can be put through / 260 °C Reflow

- for each contact both contact springs have to be interconnected via the PCB
- **packing:** bar magazine
- stamped contact spring; - **separable!** any requested number of contact can be delivered

art. no.	dim. [mm] A	art. no.	dim. [mm] A
BL 11 254 ...	2.54	BL 11 508 ...	5.08
please indicate: ... no. of contacts one row 1 - 45		... surface of contact S = selective gold-plated Z = tin-plated	

For \square 0.635 mm pin cross section, can be put through

- **packing:** bar magazine
- stamped contact spring; - **separable!** any requested number of contact can be delivered

art. no.	dim. [mm] A	art. no.	dim. [mm] A
BL 12 650 ...	6.50	BL 12 762 ...	7.62
art. no.	dim. [mm] A	art. no.	dim. [mm] A
BL 21 650 ...	6.50	BL 21 762 ...	7.62
please indicate: ... no. of contacts two rows 2 - 90		... surface of contact S = selective gold-plated Z = tin-plated	

Single precision contacts

→ F 17 - 18

Jumpers

→ G 76 - 77

Single contacts metal strip

→ G 49

Direct female connectors

→ G 75

High-precision female headers THT

→ G 2 - 6

Male headers 2.54 SMD

→ G 21 - 27

High-prec. male headers 2.54 THT

→ G 45 - 55

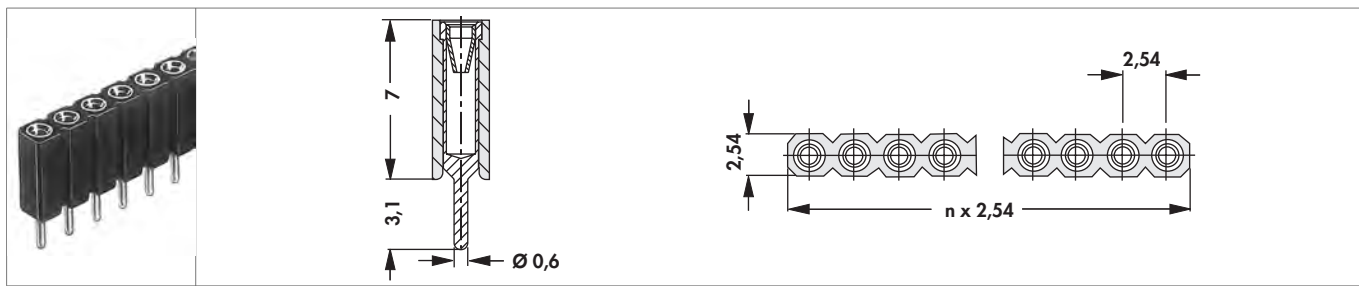
Technical data

→ G 78 - 84

G 52

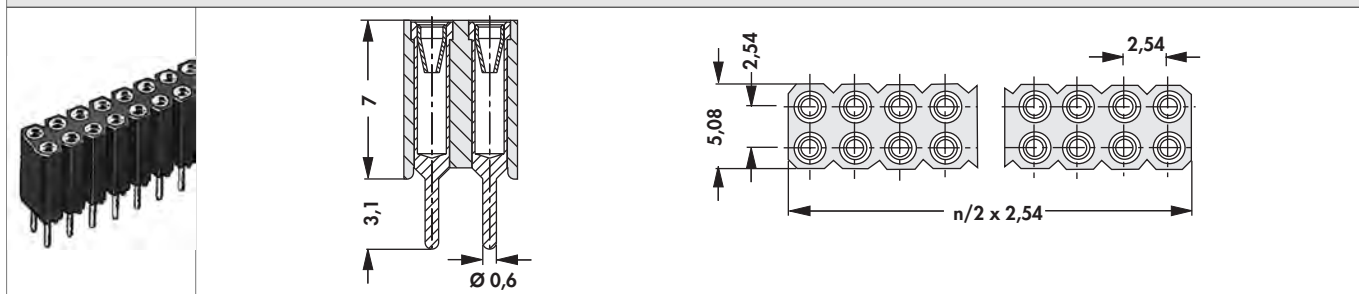
Female headers

Precision contacts for □ 0.635 mm and Ø up to 0.85 mm, pin cross section



art. no.	inner contact spring surface
BL 5 ...	≥ 0,75 μm Au
BL 5 025 ...	≥ 0,25 μm Au

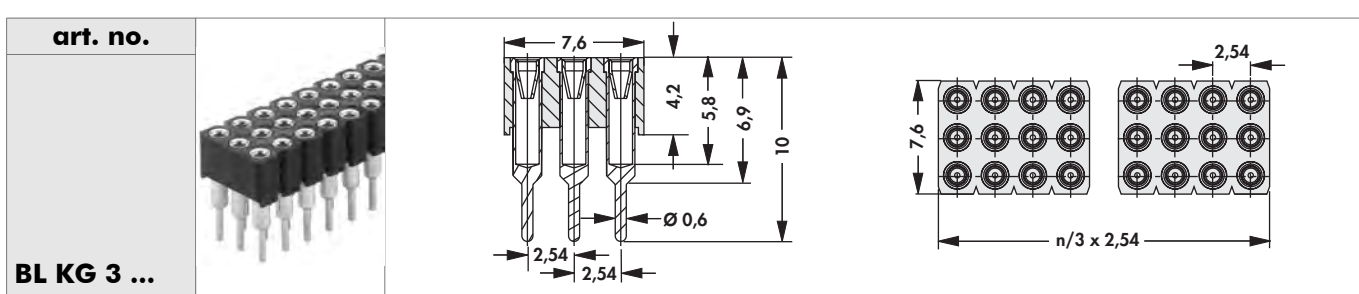
please indicate: ... no. of contacts one row 1 - 36



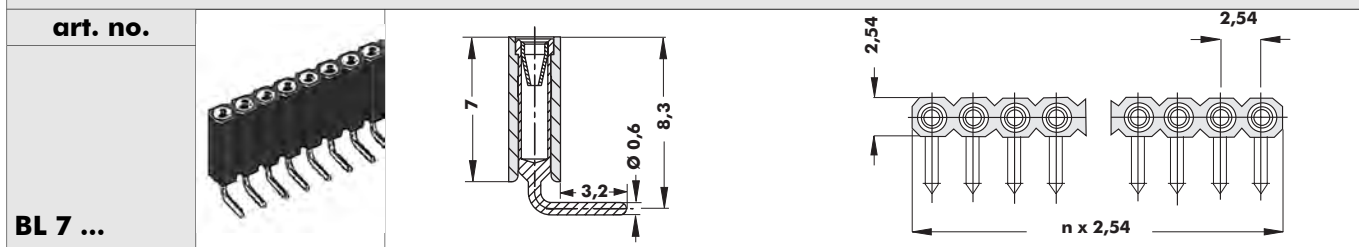
art. no.	inner contact spring surface
BL 6 ...	≥ 0,75 μm Au
BL 6 025 ...	≥ 0,25 μm Au

please indicate: ... no. of contacts two rows 2 - 72

contact sleeve:	tin-plated
contact spring:	gold-plated



please indicate: ... no. of contacts three rows 9 - 96



please indicate: ... no. of contacts one row 1 - 36

contact sleeve:	tin-plated
contact spring:	gold-plated

G 53

- Female headers 2.00 THT → G 67
- Female headers 2.00 SMD → G 68
- Single contacts metal strip → G 49
- High-precision female headers THT → G 2 - 6

- Male headers 2.00 THT → G 30 - 31
- Male headers 2.54 THT → G 7 - 17
- Male headers 2.54 SMD → G 21 - 27
- Technical data → G 78 - 84

Female headers

Precision contacts for \square 0.635 mm and \varnothing up to 0.85 mm, pin cross section

- packing in a bar magazine (≥ 6 contacts)
- no capillary action when soldering due to protected inner contact
- **separable!** any requested number of contact can be delivered

art. no.			
BL 8 ...			
please indicate: ... no. of contacts two rows 4 - 72			
contact sleeve:	tin-plated		
contact spring:	gold-plated		

- no capillary action when soldering due to protected inner contact
- **separable!** any requested number of contact can be delivered

art. no.			
MK 21 ...			
please indicate: ... no. of contacts one row 1 - 50			
art. no.			
MK 221 ...			
please indicate: ... no. of contacts two rows 2 - 100			
contact sleeve:	tin-plated		
contact spring:	gold-plated		

Female headers 2.00 THT → G 67
 Female headers 2.00 SMD → G 68
 Single contacts metal strip → G 49
 High-precision female headers THT → G 2 - 6


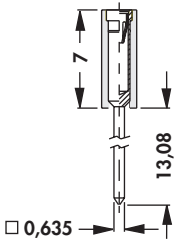
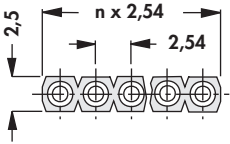

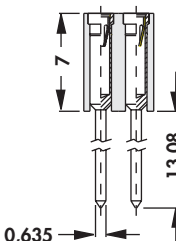
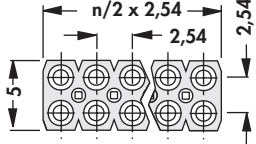
Male headers 2.00 THT → G 30 - 31
 Male headers 2.54 THT → G 7 - 17
 Male headers 2.54 SMD → G 21 - 27
 Technical data → G 78 - 84

G 54


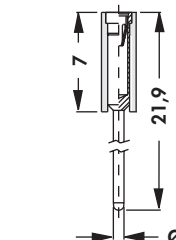
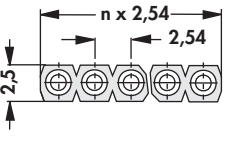

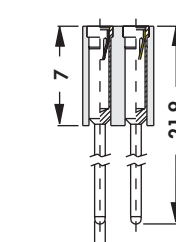
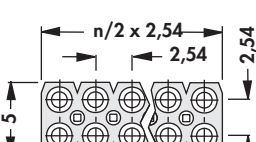
Female headers

Precision contacts for $\square 0.635$ mm and \varnothing up to 0.85 mm, pin cross section

- with aligned Wire-Wrap pins
- no capillary action when soldering due to protected inner contact
- **separable!** any requested number of contact can be delivered

art. no. BL 9 ...			
please indicate: ... no. of contacts one row 1 - 36			
art. no. BL 10 ...			
please indicate: ... no. of contacts two rows 2 - 72			
contact sleeve:	tin-plated		
contact spring:	gold-plated		

- for PC 104 modules
- no capillary action when soldering due to protected contact insert
- **separable!** any requested number of contact can be delivered

art. no. BL 13 ...			
please indicate: ... no. of contacts one row 1 - 36			
art. no. BL 14 ...			
please indicate: ... no. of contacts two rows 2 - 72			
contact sleeve:	tin-plated		
contact spring:	gold-plated		

G 55
Male headers 2.00 THT
High-precision female headers THT
Male headers 2.54 THT
Male headers 2.54 SMD
→ G 30 - 31
→ G 2 - 6
→ G 7 - 17
→ G 21 - 27
Female headers 2.00 THT
Female headers 2.00 SMD
Single contacts metal strip
Technical data
→ G 67
→ G 68
→ G 49
→ G 78 - 84

Female headers

Precision contacts for \square 0.635 mm and \varnothing up to 0.85 mm, pin cross section

- for PC 104 modules
- no capillary action when soldering due to protected contact insert
- **separable!** any requested number of contact can be delivered
- one row, 1-36 contacts

art. no.	dim. [mm] A
BL 18 141 ...	14.1
BL 18 219 ...	21.9
please indicate:	... no. of contacts one row 1 - 36
contact sleeve:	gold-plated
contact spring:	gold-plated

- two rows, 2-72 contacts

art. no.	dim. [mm] A
BL 19 141 ...	14.1
BL 19 219 ...	21.9
please indicate:	... no. of contacts two rows 2 - 72
contact sleeve:	gold-plated
contact spring:	gold-plated

Male headers 2.00 THT
High-precision female headers THT
Male headers 2.54 THT
Male headers 2.54 SMD

→ G 30 - 31
→ G 2 - 6
→ G 7 - 17
→ G 21 - 27

Female headers 2.00 THT
Female headers 2.00 SMD
Single contacts metal strip
Technical data

→ G 67
→ G 68
→ G 49
→ G 78 - 84

G 56

A

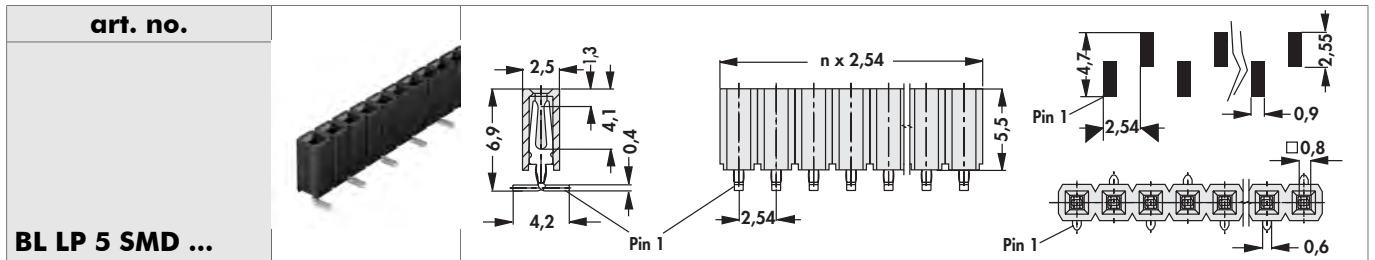
Female headers

B

Low profile, fork contact spring

- for □ 0.635 mm plug pins
- other number of contacts on request

C

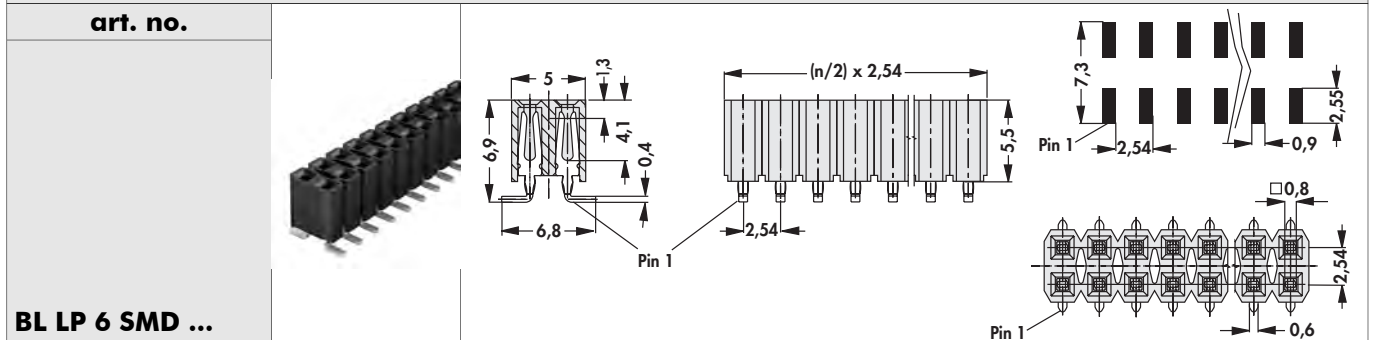


BL LP 5 SMD ...

D

please indicate: ... no. of contacts one row 4 - 20 ... surface of contact S = selective gold-plated Z = tin-plated ... packing (optional) SM = bar magazine B SM = pick and place pad and bar magazine

E



BL LP 6 SMD ...

F

please indicate: ... no. of contacts two rows 4 - 40 ... surface of contact S = selective gold-plated Z = tin-plated ... packing (optional) SM = bar magazine B SM = pick and place pad and bar magazine

G

H

I

K

L

M

N

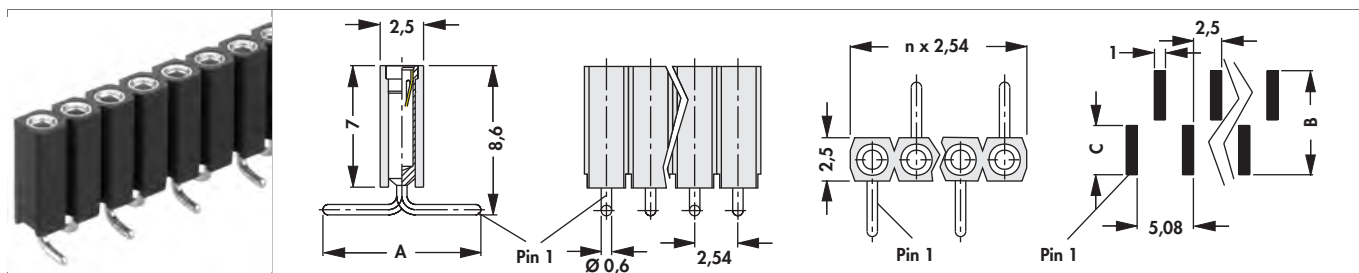
G 57

- | | | | |
|-----------------------------------|-------------|-----------------------------|-------------|
| Male headers 2.00 THT | → G 30 - 31 | Female headers 2.00 THT | → G 67 |
| High-precision female headers THT | → G 2 - 6 | Female headers 2.00 SMD | → G 68 |
| Male headers 2.54 THT | → G 7 - 17 | Single contacts metal strip | → G 49 |
| Male headers 2.54 SMD | → G 21 - 27 | Technical data | → G 78 - 84 |

Female headers

Precision contacts for \square 0.635 mm and \varnothing up to 0.85 mm, pin cross section

- no capillary action when soldering due to protected contact insert
- **separable!** any requested number of contact can be delivered



art. no.	dim. [mm]		
	A	B	C
BL 15 SMD 043...	4.3	5.0	2.5
BL 15 SMD 089...	8.9	9.5	4.8

please indicate:	... no. of contacts	... packing (optional)
	one row 4 - 20	SM = bar magazine
		B SM = pick and place pad and bar magazine
		B TR = pick and place pad and tape and reel (400pcs/reel)

... packing (option) - additions:
BL 15 SMD ... B TR: 4-12 contacts

contact sleeve:	tin-plated
contact spring:	gold-plated

Option, for automatic assembly

- reel diameter \varnothing 330 mm

BL 15 SMD 043 ... SM

BL 15 SMD 043 ... B SM

BL 15 SMD 089 ... SM

BL 15 SMD 089 ... B SM

BL 15 SMD 089 ... B TR

Female headers 1.27 SMD → G 73
 Female headers 2.00 SMD → G 68
 Female headers 2.54 press-fit → G 66
 Single contacts metal strip → G 49

Single precision contacts → F 17 - 18
 Male headers 2.54 THT → G 7 - 17
 Male headers 2.54 SMD → G 21 - 27
 Technical data → G 78 - 84

G 58

A

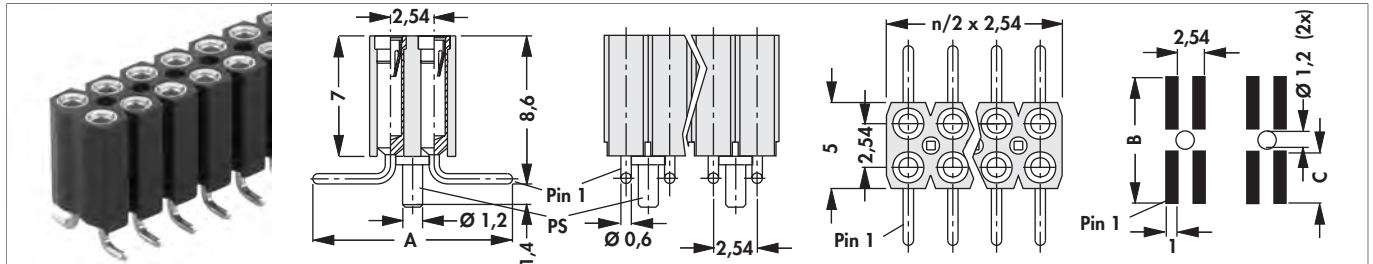
Female headers

B

Precision contacts for \square 0.635 mm and \varnothing up to 0.85 mm, pin cross section

- no capillary action when soldering due to protected contact insert
- **separable!** any requested number of contact can be delivered

C



D

art. no.	dim. [mm]		
	A	B	C
BL 16 SMD 067 ...	6.7	7.5	2.5
BL 16 SMD 113 ...	11.3	12.0	4.8

E

please indicate:

... no. of contacts	... packing (optional)
two rows 4 - 40	SM = bar magazine
	B SM = pick and place pad and bar magazine
	B TR = pick and place pad and tape and reel (250pcs/reel)

F

... packing (option) - additions:
BL 16 SMD ... B TR: 6-40 contacts

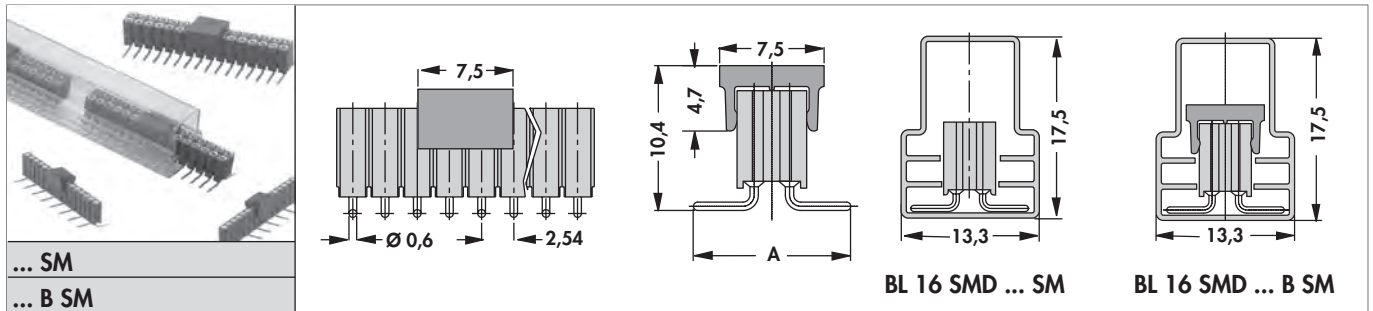
contact sleeve:	tin-plated
contact spring:	gold-plated

G

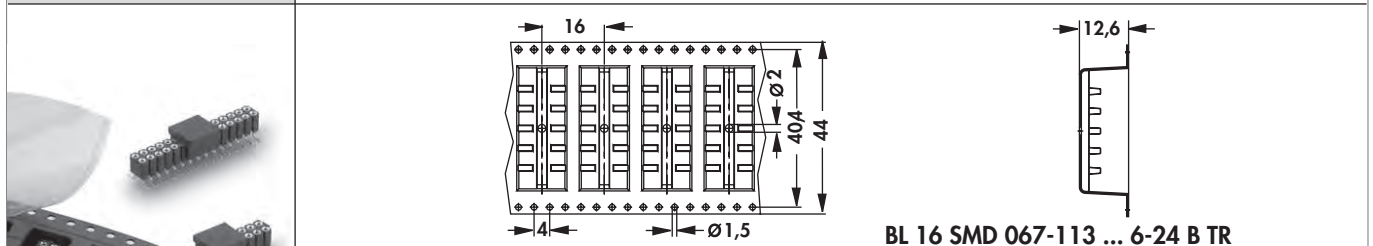
Option, for automatic assembly

- reel diameter \varnothing 330 mm

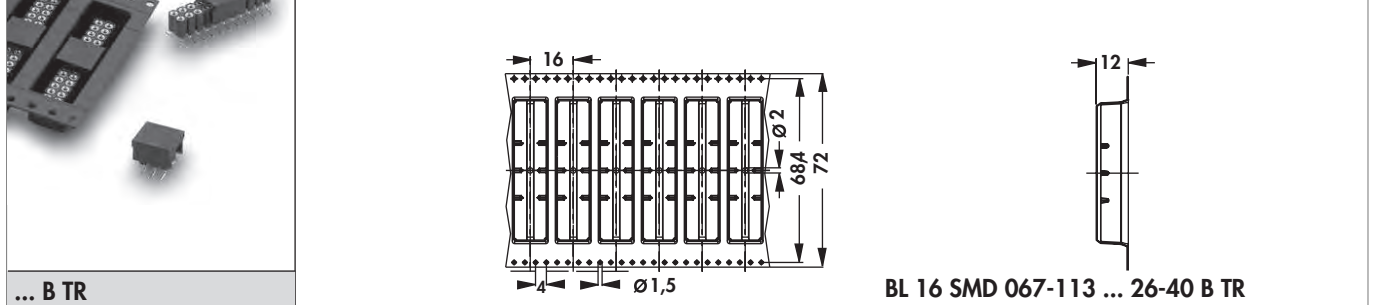
H



I



K



L

M

N

G 59

Female headers 1.27 SMD
Female headers 2.00 SMD
Female headers 2.54 press-fit
Single contacts metal strip

→ G 73
→ G 68
→ G 66
→ G 49

Single precision contacts
Male headers 2.54 THT
Male headers 2.54 SMD
Technical data

→ F 17 - 18
→ G 7 - 17
→ G 21 - 27
→ G 78 - 84

Female headers

Precision contacts for \square 0.635 mm and \varnothing up to 0.85 mm, pin cross section

- no capillary action when soldering due to protected inner contact
- **separable!** any requested number of contact can be delivered

art. no.				
BL 17 SMD ...				
please indicate:	... no. of contacts one row 2 - 20	... packing (optional) SM = bar magazine TR = tape and reel (1.300pcs./reel)		

packing (option) - additions:

BL 17 SMD ... SM: 3-20 contacts

BL 17 SMD ...TR: 2-13 contacts

contact sleeve:	tin-plated
contact spring:	gold-plated

Option, for automatic assembly

- reel diameter \varnothing 330 mm

	<p style="text-align: center;">BL 17 SMD ... SM</p>		
... SM			
	<p style="text-align: center;">BL 17 SMD ... TR</p>		
... TR			

Single contacts metal strip

→ G 49

Male headers 2.54 THT

→ G 7 - 17

Male headers 2.54 SMD

→ G 21 - 27

High-precision female headers THT

→ G 2 - 6

Female headers 1.27 SMD

→ G 73

Female headers 2.00 SMD

→ G 68

Female headers 2.54 press-fit

→ G 66

Technical data

→ G 78 - 84

G 60

Female headers

- no capillary action when soldering due to protected inner contact
- **separable!** any requested number of contact can be delivered

art. no.					
BL 20 SMD ...					
please indicate:	... no. of contacts two rows 4 - 40	... packing (optional) SM = bar magazine			

packing (option) - additions:
BL 20 SMD ... SM: 10-40 contacts

contact sleeve:	tin-plated
contact spring:	gold-plated

Option, for automatic assembly

... SM	BL 20 SMD ... SM

G 61

Single contacts metal strip → G 49
 Male headers 2.54 THT → G 7 - 17
 Male headers 2.54 SMD → G 21 - 27
 High-precision female headers THT → G 2 - 6

→ G 49
 → G 7 - 17
 → G 21 - 27
 → G 2 - 6

Female headers 1.27 SMD → G 73
 Female headers 2.00 SMD → G 68
 Female headers 2.54 press-fit → G 66
 Technical data → G 78 - 84

→ G 73
 → G 68
 → G 66
 → G 78 - 84

Female headers

Precision contacts for \square 0.635 mm and \varnothing up to 0.85 mm, pin cross section

- no capillary action when soldering due to protected inner contact
- **separable!** any requested number of contact can be delivered

art. no.		
MK 22 SMD ...		
please indicate:	... no. of contacts one row 4 - 20	... packing (optional) B SM = pick and place pad and bar magazine
contact sleeve:	tin-plated	
contact spring:	gold-plated	

Option, for automatic assembly

... B SM	MK 22 SMD ... B SM

art. no.		
MK 222 SMD ...		
please indicate:	... no. of contacts two rows 4 - 40	... packing (optional) B SM = pick and place pad and bar magazine
contact sleeve:	tin-plated	
contact spring:	gold-plated	

Option, for automatic assembly

... B SM	MK 222 SMD ... B SM

Single contacts metal strip
 Male headers 2.54 THT
 Male headers 2.54 SMD
 High-precision female headers THT

→ G 49
 → G 7 - 17
 → G 21 - 27
 → G 2 - 6

Female headers 1.27 SMD
 Female headers 2.00 SMD
 Female headers 2.54 press-fit
 Technical data


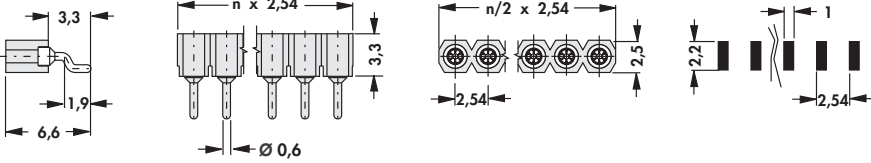
→ G 73
 → G 68
 → G 66
 → G 78 - 84

G 62

Female headers


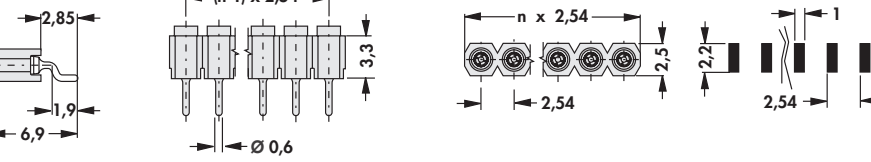
Precision contacts for \square 0.635 mm and up to \varnothing 0.85 mm, pin cross section

- no capillary action when soldering due to protected inner contact
- **separable!** any requested number of contact can be delivered

art. no.		
MK 24 SMD ...		
please indicate:	... no. of contacts one row 2 - 20	
contact sleeve:	tin-plated	
contact spring:	gold-plated	

Precision contacts for pin cross section \varnothing 0,5 mm

- one row
- no capillary action when soldering due to protected contact insert
- **separable!** any requested number of contact can be delivered

art. no.		
MK 25 SMD ...		
please indicate:	... no. of contacts one row 2 - 20	
contact sleeve:	tin-plated	
contact spring:	gold-plated	

G 63
Single contacts metal strip
Male headers 2.54 THT
Male headers 2.54 SMD
High-precision female headers THT
→ G 49
→ G 7 - 17
→ G 21 - 27
→ G 2 - 6
Female headers 1.27 SMD
Female headers 2.00 SMD
Female headers 2.54 press-fit
Technical data
→ G 73
→ G 68
→ G 66
→ G 78 - 84

Female headers

Precision contacts for pin cross section Ø 0,5 mm

- one row
- no capillary action when soldering due to protected inner contact
- **separable!** any requested number of contact can be delivered

art. no.	
MK 23 SMD ...	
please indicate:	... no. of contacts one row 4 - 20 ... packing (optional) B SM = pick and place pad and bar magazine
contact sleeve:	tin-plated
contact spring:	gold-plated

Option, for automatic assembly

... B SM	MK 23 SMD ... B SM

- two rows
- no capillary action when soldering due to protected inner contact
- **separable!** any requested number of contact can be delivered

art. no.	
MK 223 SMD ...	
please indicate:	... no. of contacts two rows 4 - 40 ... packing (optional) B SM = pick and place pad and bar magazine
contact sleeve:	tin-plated
contact spring:	gold-plated

Option, for automatic assembly

... B SM	MK 223 SMD ... B SM

Single contacts metal strip Jumpers
 Female headers 1.27 SMD
 Female headers 2.00 SMD

→ G 49
 → G 76 - 77
 → G 73
 → G 68

Female headers 2.54 press-fit
 High-precision female headers THT
 Female headers 2.54 press-fit
 Technical data

→ G 66
 → G 2 - 6
 → G 50
 → G 78 - 84

G 64

Female headers

Precision contacts for pin cross section $\varnothing 0,5$ mm

- no capillary action when soldering due to protected contact insert
- **separable!** any requested number of contact can be delivered

art. no.			
MK 220 SMD ...			
please indicate:	... no. of contacts two rows 4 - 40	... packing (optional) B SM = pick and place pad and bar magazine B TR = pick and place pad and tape and reel	

... packing (option) - additions:

MK 220 SMD ... BTR 6-12 contacts; 800 pcs/reel

MK 220 SMD ... BTR 14-40 contacts; 500 pcs/reel

contact sleeve:	tin-plated
contact spring:	gold-plated

Option, for automatic assembly

– reel diameter $\varnothing 330$ mm

... B SM			MK 220 SMD ... B SM
... B TR	MK 220 SMD ... 6-12 B TR	MK 220 SMD ... 14-40 B TR	

G 65

Single contacts metal strip
Jumpers
Female headers 1.27 SMD
Female headers 2.00 SMD

→ G 49
→ G 76 - 77
→ G 73
→ G 68

Female headers 2.54 press-fit
High-precision female headers THT
Female headers 2.54 press-fit
Technical data

→ G 66
→ G 2 - 6
→ G 50
→ G 78 - 84

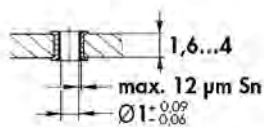
Female headers

Precision contacts for \square 0.635 mm and up to \varnothing 0.85 mm, pin cross section

- press-fit mounting without soldering, resilient press-fit area
- no capillary action when soldering due to protected inner contact contact
- **separable!** any requested number of contact can be delivered

art. no.				
BLP 1 ...		$\varnothing 1,14$	$n \times 2,54$	$2,54$
art. no.				
BLP 2 ...		$\varnothing 1,14$	$n/2 \times 2,54$	$2,54$
<p>please indicate: ... no. of contacts one row 1 - 36 two rows 2 - 72</p>				
contact sleeve:	tin-plated			
contact spring:	gold-plated			

Hole diameter in PCB - hole structure acc. to DIN EN 60352-5



Single contacts metal strip
 Male headers 2.54 press-fit
 Jumpers
 Female headers 2.00 THT

→ G 49
 → G 28
 → G 76 - 77
 → G 67

Female headers 2.54 press-fit
 Shroud male head./press-fit mount.
 Jumper links 2 & 2.54 THT
 Technical data



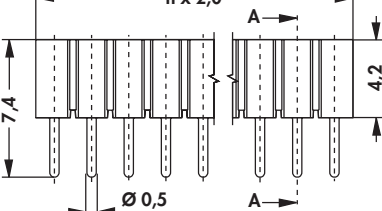
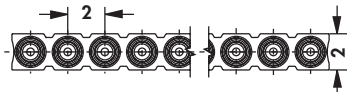

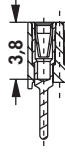
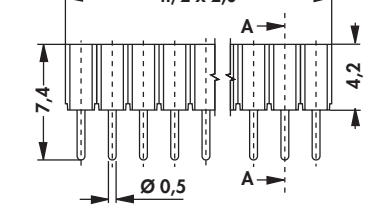
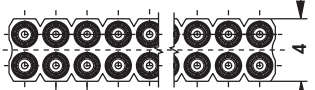

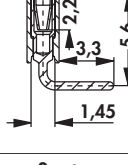
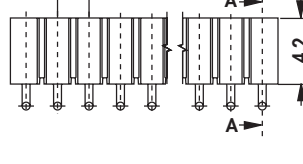
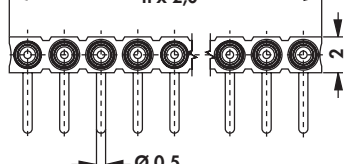

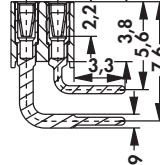
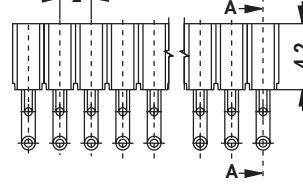
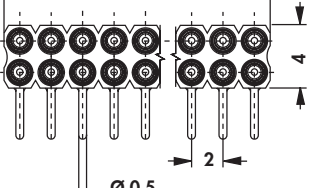
→ G 50
 → G 29
 → F 15
 → G 78 - 84

G 66

Female headers

Precision contacts for $\square 0.5$ mm and \varnothing up to 0.56 mm, pin cross section

- no capillary action when soldering due to protected inner contact
- **separable!** any requested number of contact can be delivered

art. no. BLY 1 ...				
art. no. BLY 2 ...				
art. no. BLY 3 ...				
art. no. BLY 4 ...				
please indicate:		... no. of contacts one row 1 - 50 two rows 2 - 100		
contact sleeve:	tin-plated			
contact spring:	gold-plated			

G 67

Single contacts metal strip
 Male headers 2.00 THT
 Female header grid 2.00
 Female headers 2.00 SMD

→ G 49
 → G 30 - 31
 → H 7
 → G 68

Jumpers
 High-precision female headers THT
 Jumper links 2 & 2.54 THT
 Technical data

→ G 76 - 77
 → G 2 - 6
 → F 15
 → G 78 - 84

Female headers

Precision contacts for \square 0.5mm and \varnothing up to 0.56mm, pin cross section

art. no.			
BLY 5 SMD ...			
please indicate:	... no. of contacts one row 4 - 20	... packing (optional) B SM = pick and place pad and bar magazine	
contact sleeve:	fin-plated		
contact spring:	gold-plated		

Option, for automatic assembly

... B SM	BLY 5 SMD ... B SM

- no capillary action when soldering due to protected inner contact
- **separable!** any requested number of contact can be delivered

art. no.			
BLY 6 SMD ...			
please indicate:	... no. of contacts one row 2 - 20	... packing (optional) TR = tape and reel (2.400pcs/reel)	

... packing (option) - additions:
BLY 6 SMD ... TR: 2-10 contacts

contact sleeve:	fin-plated
contact spring:	gold-plated

Option, for automatic assembly

- reel diameter \varnothing 330 mm

... TR	BLY 6 SMD ... TR

Jumpers
Single contacts metal strip
Female headers 2.00 THT
Female headers 2.54 SMD

→ G 76 - 77
 → G 49
 → G 67
 → G 58 - 64

Male headers 2.00 SMD
Female headers 2.00 THT
Male headers 2.00 THT
Technical data


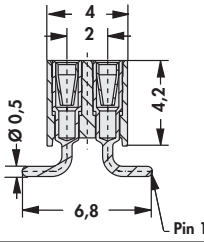
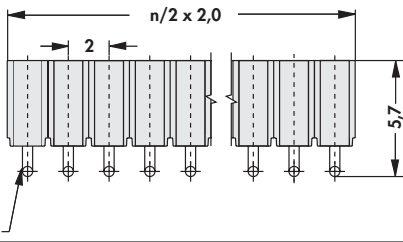
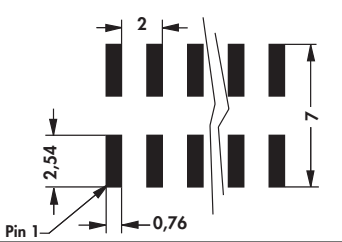
→ G 33 - 35
 → G 67 - 70
 → G 30 - 31
 → G 78 - 84

G 68

Female headers

Precision contacts for \square 0.5 mm and \varnothing up to 0.56 mm, pin cross section

- no capillary action when soldering due to protected inner contact
- **separable!** any requested number of contact can be delivered

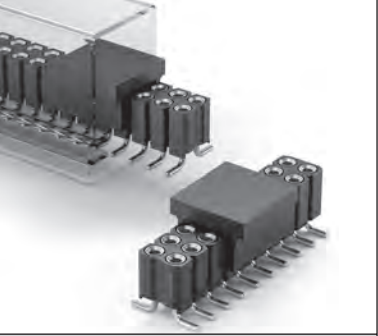
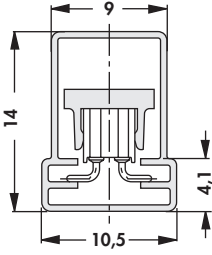
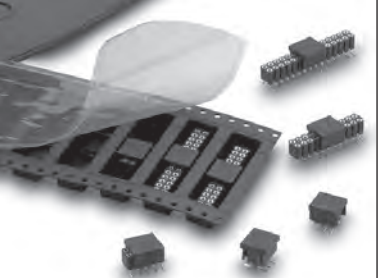
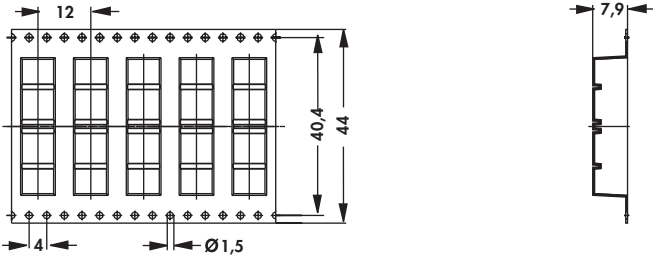
art. no. BLY 8 SMD ...		 	
please indicate: ... no. of contacts two rows 4 - 40		... packing (optional) B SM = pick and place pad and bar magazine B TR = pick and place pad and tape and reel (650pcs/reel)	

... packing (option) - additions:
BLY 8 SMD ... B TR: 6-30 contacts

contact sleeve:	tin-plated
contact spring:	gold-plated

Option, for automatic assembly

– reel diameter \varnothing 330 mm

	 <p style="text-align: center;">BLY 8 SMD ... B SM</p>
<p>... B SM</p>  <p>... B TR</p>	 <p style="text-align: center;">BLY 8 SMD ... B TR</p>

G 69

Jumpers
Single contacts metal strip
Female headers 2.00 THT
Female headers 2.54 SMD

→ **G 76 – 77**
 → **G 49**
 → **G 67**
 → **G 58 – 64**

Male headers 2.00 SMD
Female headers 2.00 THT
Male headers 2.00 THT
Technical data

→ **G 33 – 35**
 → **G 67 – 70**
 → **G 30 – 31**
 → **G 78 – 84**

Female headers

Precision contacts for \square 0.5 mm and \varnothing up to 0.56 mm, pin cross section

- no capillary action when soldering due to protected inner contact
- **separable!** any requested number of contact can be delivered

art. no.			
BLY 9 SMD ...			
please indicate:	... no. of contacts two rows 4 - 40	... packing (optional) SM = bar magazine TR = tape and reel (800pcs./reel)	

... packing (option) - additions:
BLY 9 SMD ... SM: 8-40 contacts
BLY 9 SMD ... TR: 4-20 contacts

contact sleeve:	tin-plated
contact spring:	gold-plated

Option, for automatic assembly

- reel diameter \varnothing 330 mm

... SM	BLY 9 SMD ... SM
... TR	BLY 9 SMD ... TR

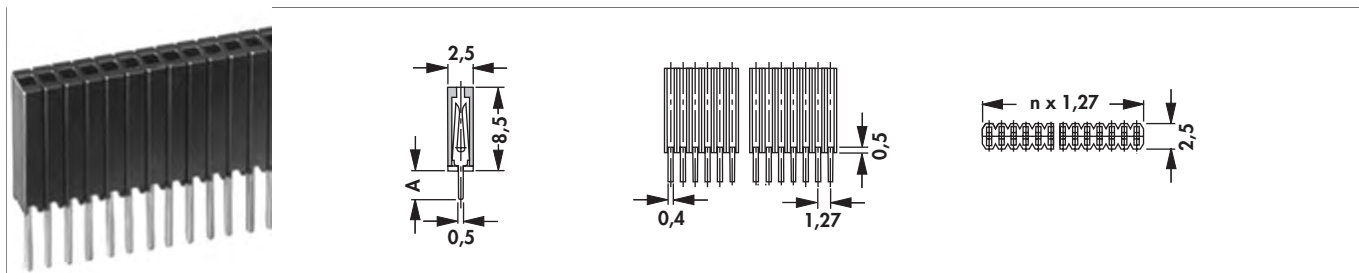
- | | | | |
|------------------------------------|-------------|--------------------------------|-------------|
| Jumpers | → G 76 - 77 | Male headers 2.00 SMD | → G 33 - 35 |
| Single contacts metal strip | → G 49 | Female headers 2.00 THT | → G 67 - 70 |
| Female headers 2.00 THT | → G 67 | Male headers 2.00 THT | → G 30 - 31 |
| Female headers 2.54 SMD | → G 58 - 64 | Technical data | → G 78 - 84 |

G 70

Female headers

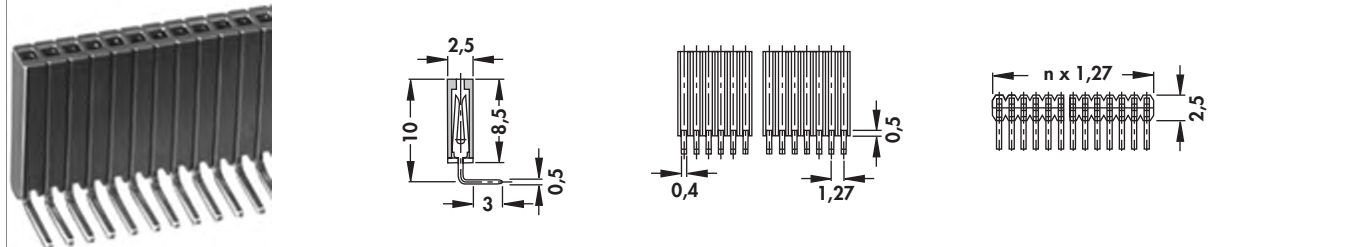
Stamped contact spring (fork contact)

- matching male header **SLM** and **SLV**
- one row 1-36 contacts



art. no.	dim. [mm]	art. no.	dim. [mm]
	A		A
BLM KG 1 ...	3.0	BLM LG 1 ...	5.1

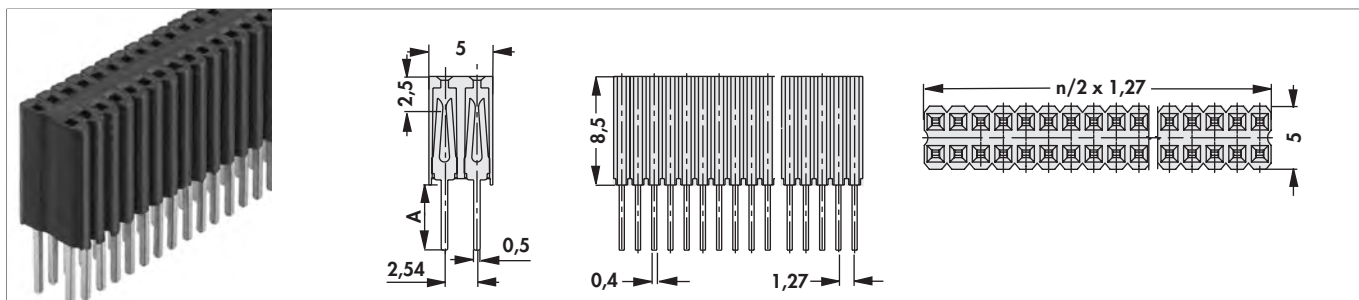
please indicate: ... no. of contacts one row 1-36 ... surface of contact
G = gold-plated
Z = tin-plated



art. no.			
BLM LA 1 ...			

please indicate: ... no. of contacts one row 1-36 ... surface of contact
G = gold-plated
Z = tin-plated

- suitable for male header **SLV**
- two rows 4-72 contacts - grid spacing 1.27 x 2.54 mm



art. no.	dim. [mm]	art. no.	dim. [mm]
	A		A
BLM KG 2 ...	3.0	BLM LG 2 ...	5.1

please indicate: ... no. of contacts two rows 4-72 ... surface of contact
G = gold-plated
Z = tin-plated

G 71

Direct female connectors → G 75
 Shroud male head./press-fit mount. → G 29
 Male headers 1.27 THT → G 37 - 39
 High-prec. male headers 1.27 SMD → G 43

High-prec. male head. 1.27 THT → G 42
 Male headers 2.54 press-fit → G 28
 Jumpers → G 76 - 77
 Technical data → G 78 - 84

Female headers

Precision contacts for Ø 0.35...0.46 mm, pin cross section

- no capillary action when soldering due to protected inner contact
- other number of contacts on request!

art. no. BLR 1 025 Z	no. of contacts 25	art. no. BLR 1 050 Z	no. of contacts 50
art. no. BLR 2 050 Z	no. of contacts 50	art. no. BLR 2 100 Z	no. of contacts 100
art. no. BLR 3 025 Z	no. of contacts 25	art. no. BLR 3 050 Z	no. of contacts 50
art. no. BLR 4 100 Z	no. of contacts 100		
contact sleeve:	tin-plated		
contact spring:	gold-plated		

Shroud male head./press-fit mount. → G 29
 Female headers 1.27 THT → G 71 - 72
 High-prec. male headers 1.27 SMD → G 43
 Male headers 1.27 SMD → G 40

Male headers 2.54 press-fit → G 28
 Direct female connectors → G 75
 High-prec. male head. 1.27 THT → G 42
 Technical data → G 78 - 84

G 72

A

Female headers

B

Fork contact for \square 0.3 mm and \square 0.4 mm pin cross section, wide insulating body

- suitable for male header **SLM** and **SLV**
- one row 4-20 contacts

C

art. no.			
BLM 1 SMD ...			
please indicate:	... no. of contacts two rows 100 - 100 one row 4 - 20	... surface of contact G = gold-plated Z = tin-plated	

D

Grid spacing 1.27 x 2.54 mm

- suitable for male header **SLV**
- two rows 4-40 contacts

E

art. no.			
BLM 2 SMD ...			
please indicate:	... no. of contacts two rows 4 - 40	... surface of contact G = gold-plated Z = tin-plated	

F

G

Fork contact for \square 0.3 mm and \square 0.4 mm pin cross section, wide insulating body

- matching for male header **SLV**
- one row 2-20 contacts

H

art. no.			
BLM 3 SMD ...			
please indicate:	... no. of contacts one row 2 - 20	... surface of contact G = gold-plated Z = tin-plated	

I

K

L

M

N

G 73

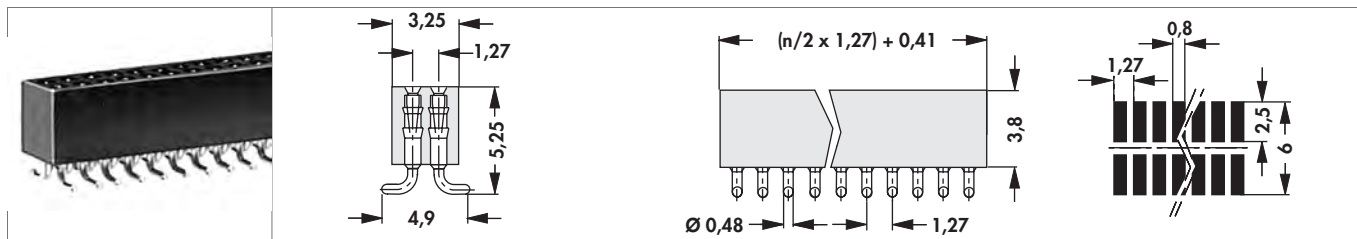
Shroud male head./press-fit mount. → G 29
 Female headers 1.27 THT → G 71 - 72
 High-prec. male headers 1.27 SMD → G 43
 Male headers 1.27 SMD → G 40

Male headers 2.54 press-fit → G 28
 Direct female connectors → G 75
 High-prec. male head. 1.27 THT → G 42
 Technical data → G 78 - 84

Female headers

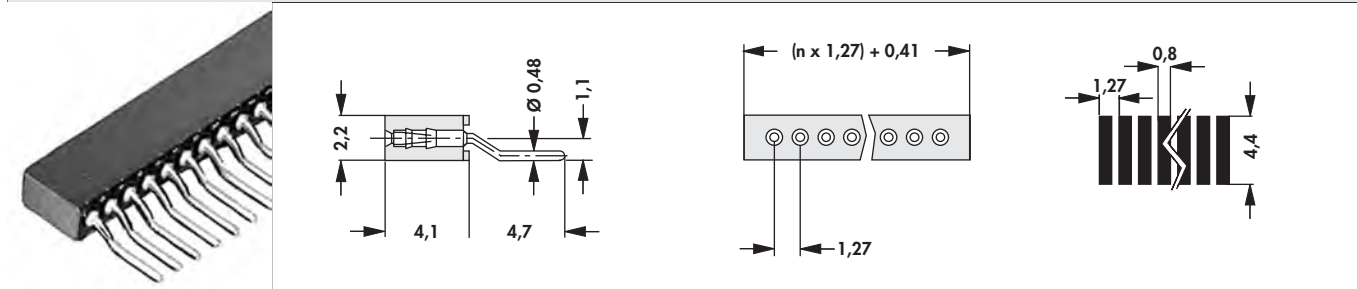
Turned precision contacts for Ø 0.35...0.46 mm

- closed precision turned part with 3-finger contact prevents rising of flux agents
- other number of contacts on request!



art. no.

BLR 6 SMD 100 Z



art. no.

no. of contacts

BLR 7 SMD 50 Z

50

contact sleeve:

tin-plated

contact spring:

gold-plated

Female headers 1.27 THT → G 71 - 72
 High-prec. fem. headers 1.27 THT → G 72
 Single contacts metal strip → G 49
 Male headers 2.54 press-fit → G 28

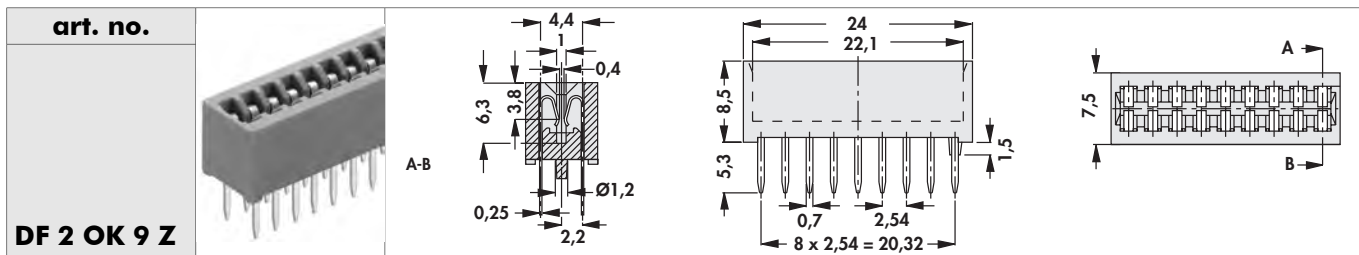
High-prec. male head. 1.27 THT → G 42
 High-prec. male headers 1.27 SMD → G 43
 Shroud male head./press-fit mount. → G 29
 Technical data → G 78 - 84

G 74

Direct female connectors

Without short circuit contact for PCB thickness: 0.7...0.9 mm

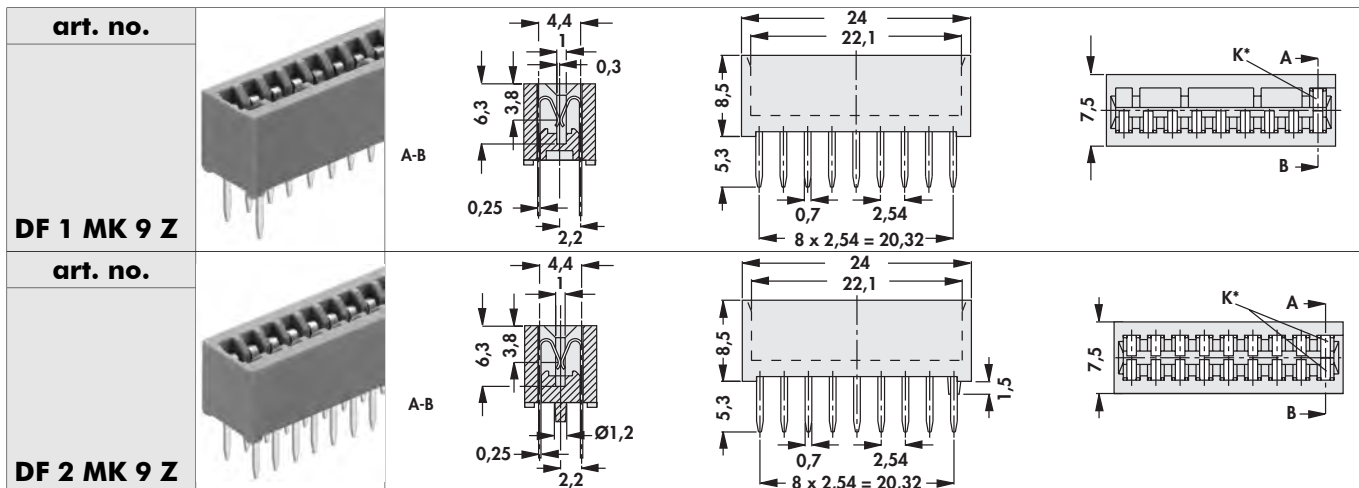
– for removable connection of digital displays, coding switches, impulse counters



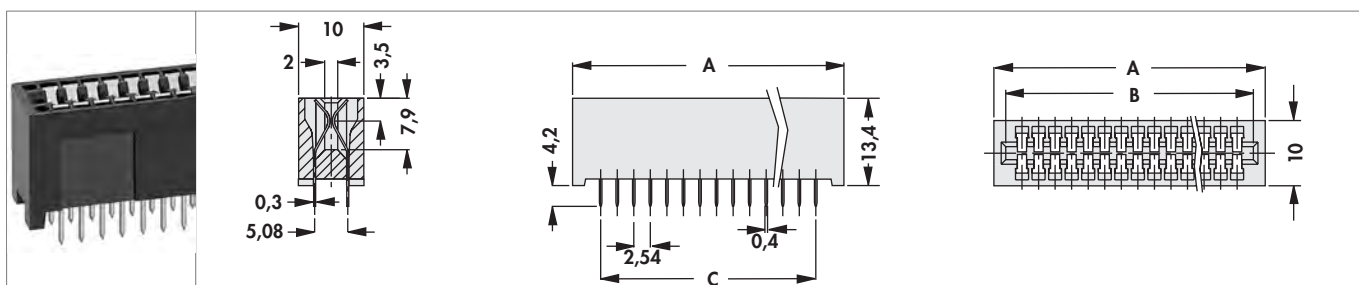
With short circuit contact for PCB thickness: 0.7...0.9 mm

– for removable connection of digital displays, coding switches, impulse counters

– **K*** = arcing contact



For PCB thickness: 1.4...1.8 mm



art. no.	no. of contacts	dim. [mm]		
		A	B	C
DF OB 06	12	21.33	17.70	12.70
DF OB 07	14	23.87	20.24	15.24
DF OB 10	20	31.49	27.86	22.86
DF OB 17	34	49.27	45.64	40.64

surface of contact: tin-plated

G 75

Male headers 1.27 THT
 Male headers 1.27 SMD
 Male headers 2.54 press-fit
 Male headers 2.54 SMD


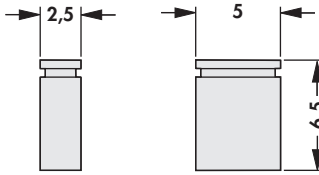

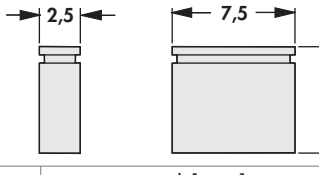
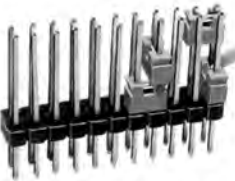
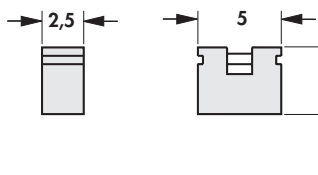
→ G 37 – 39
 → G 40
 → G 28
 → G 21 – 27

Female headers 2.54 press-fit
 Female headers 1.27 THT
 Design spec., grid 2.54 mm
 Technical data

→ G 66
 → G 71 – 53
 → G 14
 → G 78 – 84

Jumpers

For 0.6...0.64 mm wire wrap pins and for Ø 0.6...0.7 mm

				
art. no.	no. of contacts	surface of contact	grid [mm]	version
CAB 4 G ...	2	0.1 µm gold	2.54	closed
CAB 4 Z ...	2	5.0 µm tin	2.54	closed
				
art. no.	no. of contacts	surface of contact	grid [mm]	version
CAB 5 05 G ...	2	0.5 µm gold	5.08	closed, hole for test probe
CAB 5 10 G ...	2	1.0 µm gold	5.08	closed, hole for test probe
CAB 5 Z ...	2	5.0 µm tin	5.08	closed, hole for test probe
				
art. no.	no. of contacts	surface of contact	grid [mm]	version
CAB 6 05 G ...	2	0.5 µm gold	2.54	open, for miniature alligator clip
CAB 6 10 G ...	2	1.0 µm gold	2.54	open, for miniature alligator clip
CAB 6 Z ...	2	5.0 µm tin	2.54	open, for miniature alligator clip
please indicate:	... colour S = black R = red B = blue G = grey			

Male headers 2.54 SMD
 Male headers 2.54 THT
 Male headers 2.54 press-fit
 Male headers 2.00 SMD

→ G 21 – 27
 → G 7
 → G 28
 → G 33 – 35

Male headers 2.00 THT
 High-precision female headers THT
 High-prec. male headers 1.27 SMD
 Technical data

→ G 30 – 31
 → G 2 – 6
 → G 43
 → G 78 – 84

G 76

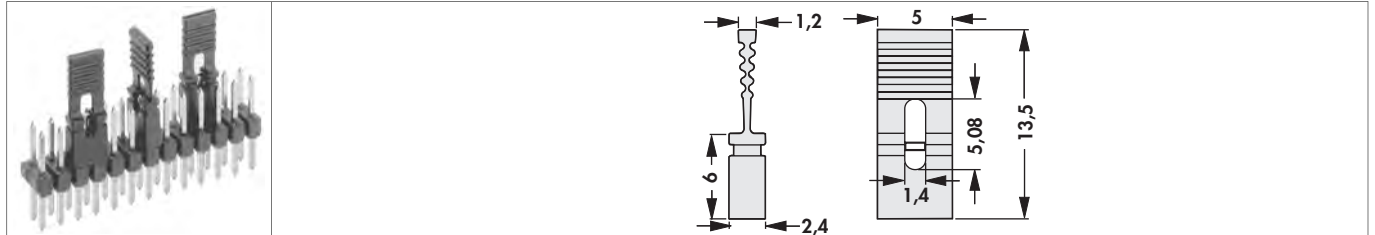
A

Jumpers

- the flexible contacts are short-circuiting two pins
- the jumpers can be mounted behind and next to each other

B

C



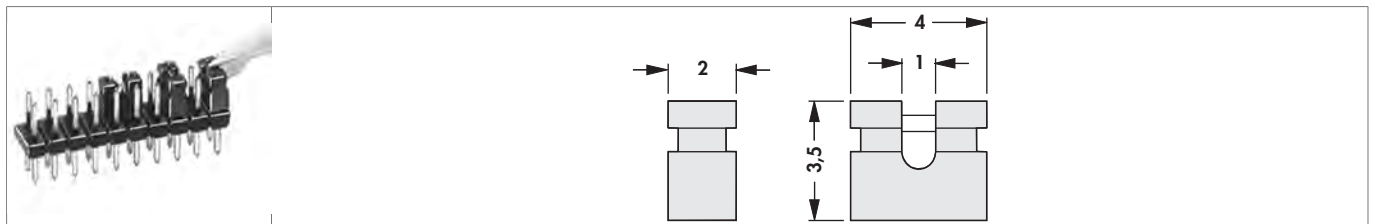
art. no.	no. of contacts	surface of contact	grid [mm]	version
CAB 9 G ...	2	<0.1 µm gold	2.54	tag, open

please indicate: ... colour
S = black
R = red

D

For □ 0.5 mm and for Ø 0.4...0.5 mm

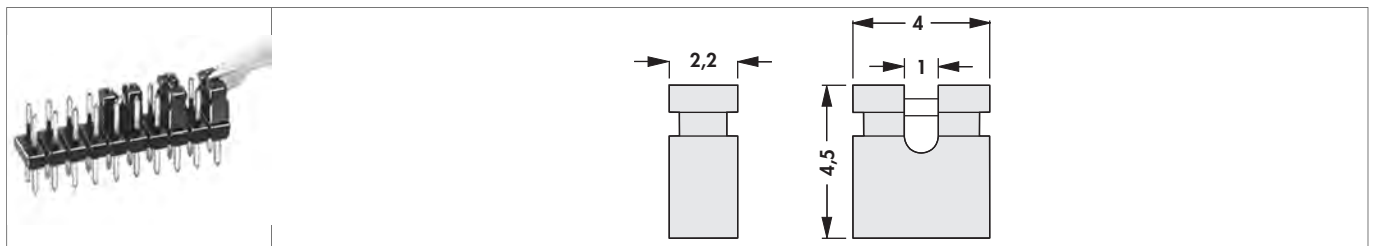
E



art. no.	no. of contacts	grid [mm]	version	colour
CAB 10 G S	2	2	open, for miniature alligator clip	black

F

G



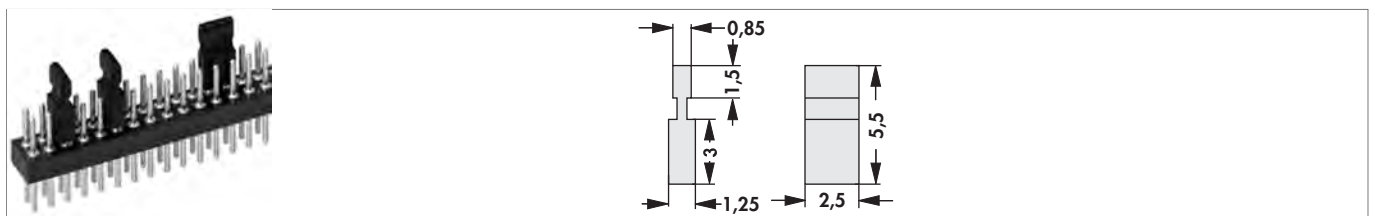
art. no.	no. of contacts	grid [mm]	version	colour
CAB 11 G S	2	2	open, for miniature alligator clip	black

H

I

For □ 0.3...0.4 mm and Ø 0.4...0.5 mm

K



art. no.	no. of contacts	grid [mm]	version	colour
CAB 15 G S	2	1.27	closed, tag	black

L

M

N

G 77

Male headers 2.54 SMD
 Male headers 2.54 THT
 Male headers 2.54 press-fit
 Male headers 2.00 SMD

→ G 21 - 27
 → G 7
 → G 28
 → G 33 - 35

Male headers 2.00 THT
 High-precision female headers THT
 High-prec. male headers 1.27 SMD
 Technical data

→ G 30 - 31
 → G 2 - 6
 → G 43
 → G 78 - 84

Technical data PCB connectors

	MK ..., MK LP ...	SL ..., SL ... THR, SLK ..., SL LP ...	SLU ...	SL KA 3 ..., SL KG 3 ...
contact material	CuZn-alloy	CuSn alloy		CuZn-alloy
surface contact / contact sleeve	Ni+ $\geq 0.2\mu\text{m Au}$ / Ni+4... $6\mu\text{m Sn}$		Ni+ $0.2\mu\text{m Au}$ (selective)/ Ni+4... $6\mu\text{m Sn}$	Ni+ $\geq 0.2\mu\text{m Au}$ / Ni+4... $6\mu\text{m Sn}$
shock resistance	50 g			
volume resistance	$\leq 10\text{ m}\Omega$	$\leq 5\text{ m}\Omega$	$\leq 10\text{ m}\Omega$	$\leq 20\text{ m}\Omega$
vibration resistance max.	15 g			
capacity between two adjacent contacts	$\leq 0,4\text{ pF}$			
nominal current	1.5 A	3 A		
nominal voltage	60 V DC	250 V AC	100 V DC	250 V AC
test voltage	1000 V	2000 V	1000 V	
insulating body material	PA 4.6. GF			
temperature range	-40°C... +163°C/ (260°C/10 s)			-40°C... +163°C/ (260°C/5 s)
class of flammability	UL 94 V-0			
specific insulation resistance	$> 10^7\ \Omega\cdot\text{m}$			

	SLP 1 ..., SLP 2 ..., SLUP 31 ...	SLY ...	SLM N ..., SLV N ..., SLV W ...	SLR ...
contact material	CuSn alloy		CuZn-alloy	
surface contact / contact sleeve	Ni+ $\geq 0.2\mu\text{m Au}$ / Ni+4... $6\mu\text{m Sn}$			
volume resistance	$\leq 10\text{ m}\Omega$	$\leq 5\text{ m}\Omega$		$\leq 20\text{ m}\Omega$
nominal current	3 A		1.5 A	1 A
nominal voltage	250 V AC	100 V DC	125 V AC	100 V AC/ 150 V DC
test voltage	1000 V	500 V	300 V	500 V
insulating body material	PA 4.6. GF			PCT, GF
temperature range	-40°C... +163°C/ (260°C/10 s)			-40°C... +105°C/ (260°C/10 s)
class of flammability	UL 94 V-0			
specific insulation resistance	$> 10^7\ \Omega\cdot\text{m}$			

Technical data PCB connectors

	MK 06 ..., MK 07/207 ..., MK 12/212 ..., MK 13/213 ..., MK 17/217 ...	MK 01/201 ..., MK 220 SMD ..., MK 228 THR ..., MK 23/223 ..., MK 25 SMD ..., MK LP 18 ..., MK LP 19 ..., MK LP 218 ..., MK LP 219 ...	PO A ...	SIL 1 ..., SIL 3 ...
contact material	CuZn-alloy			
surface contact / contact sleeve	Ni+4...6µm Sn	Ni+≥0.2µm Au/ Ni+4...6µm Sn	Ni+4...6µm Sn	
inner contact spring material	CuBe-alloy			
inner contact spring surface	Ni+0,75µm Au	Ni+0,25µm Au	Ni+0,75µm Au	
type internal spring	4-fingers			
plugability for circuit points	□0,22x0,25mm... □0,4x0,55mm/ Ø0,4...0,56mm			
insert depth	2.5...3.6mm	2.5...3.4mm	2.5...3.6mm	
insertion / drawing force	1.8 N/1.4 N			
shock resistance	50 g		50 g	
volume resistance	≤10 mΩ		≤10 mΩ	
vibration resistance max.	15 g		15 g	
capacity between two adjacent contacts	≤0,4 pF		≤0,4 pF	
nominal current	1.5 A	3 A	1.5 A	
nominal voltage	60 V DC	150 V DC	60 V DC	
test voltage	1000 V	1000 V / 1 min.	1000 V	
insulating body material	PA 4.6. GF			
temperature range	-40°C... +163°C/ (260°C/10 s)	-55°C... +125°C/ (260°C/10 s)		
class of flammibility	UL 94 V-0			
specific insulation resistance	>10 ⁷ Ω·m			

Technical data PCB connectors

	SIL 2 ...	BL 1 ..., BL 2 ..., BL 3 ..., BL 4 ...	BL 11 ...	BL 12 ..., BL 21 ...
contact material	CuZn-alloy	CuSn alloy		
surface contact / contact sleeve	Ni+4...6 μ m Sn	Ni+ \geq 0.2 μ m Au/ Ni+4...6 μ m Sn	Ni+4...6 μ m Sn	
inner contact spring material	CuBe-alloy			
inner contact spring surface	Ni+0,25 μ m Au			
type internal spring	4-fingers	fork contact	spring contact	
plugability for circuit points	□0,22x0,25mm... □0,4x0,55mm/ Ø0,4...0,56mm	□0,5...0,7mm	□0,6...0,65mm	
insert depth	2.5...3.6mm	1.5...5mm	\leq 5mm from above/ \leq 8mm from below	\leq 6mm from above or from be- low
insertion / drawing force	1.8 N/1.4 N	1.5 N/1.3 N	1.5 N/0.5 N	1.5 N/0.2 N
shock resistance	50 g			
volume resistance	\leq 10 m Ω		\leq 20 m Ω	
vibration resistance max.	15 g			
capacity between two adjacent contacts	\leq 0,4 pF	\leq 0,9 pF		
nominal current	1.5 A	3 A		
nominal voltage	60 V DC	125 V AC	250 V AC	
test voltage	1000 V	1500 V	500 V	
insulating body material		PPS	PA 4.6. GF	LCP
temperature range		-40°C... +200°C/ (260°C/10 s)	-40°C... +163°C/ (260°C/10 s)	-55°C... +125°C
class of flammability		UL 94 V-0		
specific insulation resistance		$>10^{12}$ Ω ·m	$>10^7$ Ω ·m	$>10^{12}$ Ω ·m

Technical data PCB connectors

	BL KG 3 ...	BL 13 ..., BL 14 ..., BL 18 ..., BL 19 ...	BL LP ...	BL 15 - 17SMD ..., BL 20 SMD ..., BL 5 - 10 ...
contact material	CuZn-alloy		CuSn alloy	CuZn-alloy
surface contact / contact sleeve	Ni+4...6µm Sn	Ni+≥0.2µm Au	Ni+0.2µm Au (selective)/ Ni+2...4µm Sn (matt finished tin)	Ni+4...6µm Sn
inner contact spring material	CuBe-alloy			CuBe-alloy
inner contact spring surface	Ni+0,75µm Au			Ni+0,75µm Au
type internal spring	6-fingers		fork contact	6-fingers
plugability for circuit points	□0,55...0,65mm/ Ø0,65...0,85mm		□0,5...0,7mm	□0,55...0,65mm/ Ø0,65...0,85mm
insert depth	2.5...6mm		2...4mm	2.5...6mm
insertion / drawing force	1.3N/0.3N			1.3N/0.3N
shock resistance		50 g		50 g
volume resistance			≤10 mΩ	
vibration resistance max.		15 g		15 g
capacity between two adjacent contacts		≤ 0,3 pF	≤ 0,9 pF	≤ 0,3 pF
nominal current	3 A			
nominal voltage	150 V DC		125 V AC	150 V DC
test voltage	500 V	1500 V		
insulating body material	PCT, GF	PA 4.6. GF	PPS	PA 4.6. GF
temperature range	-55°C... +125°C/ (260°C/10 s)	-40°C... +163°C/ (260°C/10 s)	-40°C... +200°C/ (260°C/10 s)	-40°C... +163°C/ (260°C/10 s)
class of flammability	UL 94 V-0			
specific insulation resistance		>10 ⁷ Ω·m	>10 ¹² Ω	>10 ⁷ Ω·m

Technical data PCB connectors

	MK 21/221 ..., MK 22/222 ..., MK 24 SMD ...	BLP 1 ..., BLP 2 ...	BLY ...	BLR ...
contact material	CuZn-alloy			
surface contact / contact sleeve	Ni+4...6µm Sn			
inner contact spring material	CuBe-alloy			
inner contact spring surface	Ni+0,75µm Au		Ni+0,25µm Au	Ni+0,75µm Au
type internal spring	6-fingers			3-fingers
plugability for circuit points	□0,55...0,65mm/ Ø0,65...0,85mm		□0,45...0,5mm/ Ø0,4...0,56mm	Ø0,35...0,46mm
insert depth	2.5...3.6mm	2.5...6mm	2.5...3.8mm	2.5...3mm
insertion / drawing force	1.3N/0.3N			1.2N/0.6N
shock resistance	50 g			
volume resistance	≤10 mΩ			≤20 mΩ
vibration resistance max.	15 g			
capacity between two adjacent contacts	≤0,3 pF	≤ 0,3 pF	≤0,7 pF	≤1,0 pF
nominal current	3 A	2 A	2.5 A	1 A
nominal voltage	150 V DC		100 V DC	
test voltage	1500 V	1000 V	500 V	
insulating body material	PA 4.6. GF			PCT, GF
temperature range	-40°C... +163°C/ (260°C/10 s)			-40°C... +105°C/ (260°C/10 s)
class of flammability	UL 94 V-0			
specific insulation resistance	>10 ⁷ Ω·m			

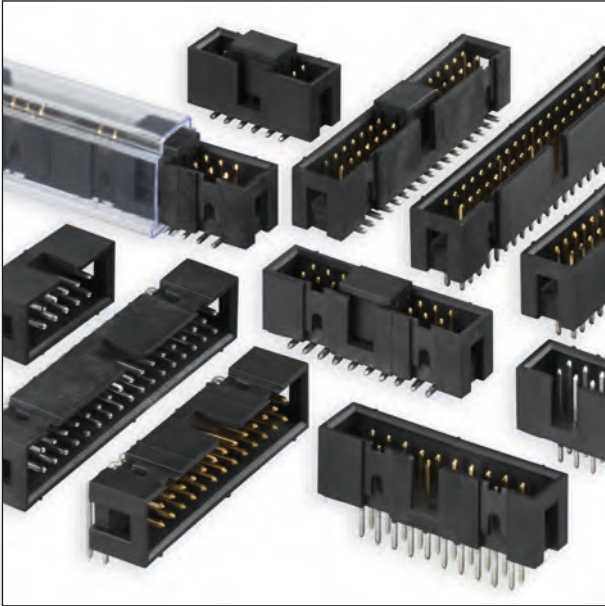
Technical data PCB connectors

	BLM ...	DF 1 ..., DF 2 ...	DF OB ...	CAB 4 ...
contact material	CuSn alloy			
surface contact / contact sleeve	Ni+ $\geq 0.2\mu\text{m}$ Au/ Ni+4...6 μm Sn	Ni+4...6 μm Sn	Ni+7 μm Sn	0.1 μm Au/ 5 μm Sn
type internal spring	fork contact		spring contact	
plugability for circuit points	$\square 0,3...0,4\text{mm}$			
insert depth	2.5...6mm			4...6.1 mm
insertion / drawing force	1.3 N/1.1 N			
volume resistance	$\leq 10\text{ m}\Omega$			
capacity between two adjacent contacts	$\leq 0,4\text{ pF}$			
nominal current	1.5 A	2 A	3 A	1.5 A
nominal voltage	125 V AC			250 V AC
test voltage	500 V		800 V	
insulating body material	PA 4.6. GF	polycarbonate	PA 4.6. GF	PBT
temperature range	-40°C... +163°C/ (260°C/10 s)	-40°C... +125°C	-40°C... +125°C/ (260°C/10 s)	-40°C... +105°C
class of flammability	UL 94 V-0			
specific insulation resistance	$> 10^7\ \Omega\cdot\text{m}$			
PCB thickness		0,7...0,9 mm	1,4...1,8 mm	
mounting				without mounting eyelets

Technical data PCB connectors

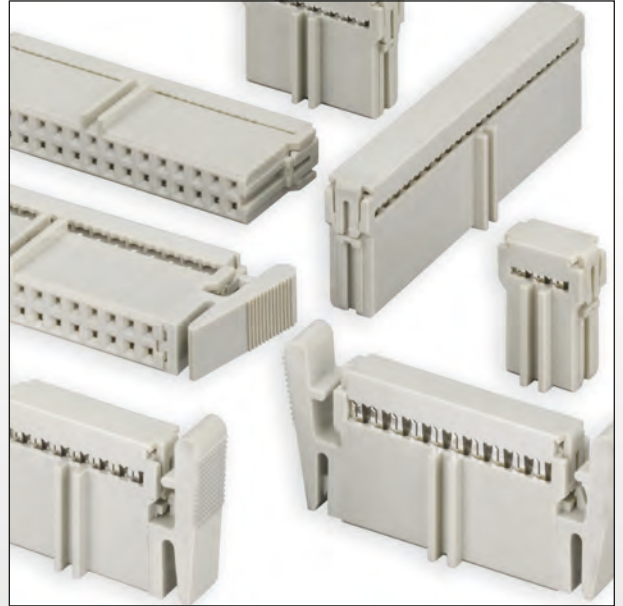
	CAB 5 ...	CAB 6 ...	CAB 9 ...	CAB 10 G S
surface contact / contact sleeve	0.5 μm Au/ 1 μm Au/ 5 μm Sn		0.1 μm Au	
insert depth	4...5.5mm	5mm...plug through	4...5.6mm	4mm...plug through
nominal current	3 A	1.5 A	3 A	1.5 A
nominal voltage	250 V AC		500 V AC	150 V DC
insulating body material	PA 6		PBT	
temperature range	-40°C... +105°C		-40°C... +105°C/ (resistance to soldering heat 235°C/30-60s)	-40°C... +105°C

	CAB 11 G S	CAB 15 G S
surface contact / contact sleeve	0.1 μm Au	<0.1 μm Au
insert depth	5mm...plug through	2.2...2.4mm
nominal current	1.5 A	1 A
nominal voltage	150 V DC	100 V AC
insulating body material	PBT	PA 66
temperature range	-40°C... +105°C	-40°C... +150°C



Shroud male headers

- shroud male headers for lockable multipoint connector
- version: 2 rows, 6 contacts up to 50 contacts, grid 2,54 mm
- straight, angled and for SMD technology
- reflow solderable insulator
- class of flammability acc. to UL 94 V0



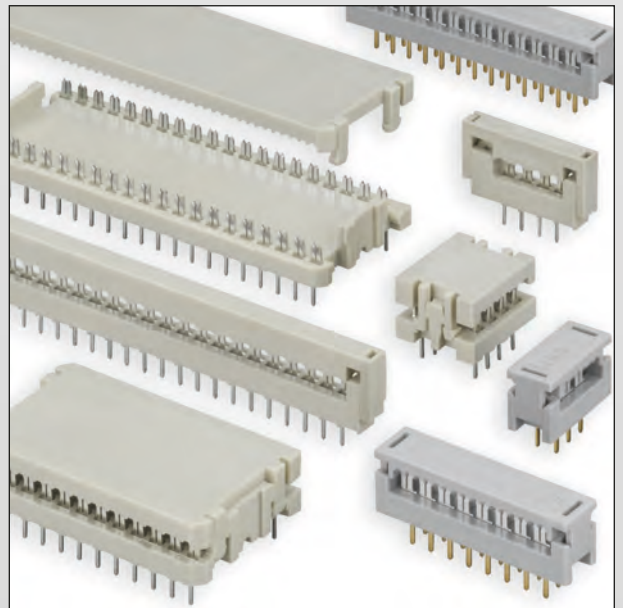
Multipoint connector with and without lock

- multipoint connector for ribbon cable
- version: two rows, 6 contacts up to 50 contacts, grid 2,54mm
- version without lock
- with polarisation



Multipoint connector, one and two rows

- multipoint connector for ribbon cable
- two rows with and without pull relief, grid 2,54, 6 contacts up to 50 contacts
- two rows in grid 2,0 mm, 20 contacts up to 50 contacts
- polarisation at the two row version
- one row in grid 2,54 mm, 3 contacts up to 25 contacts



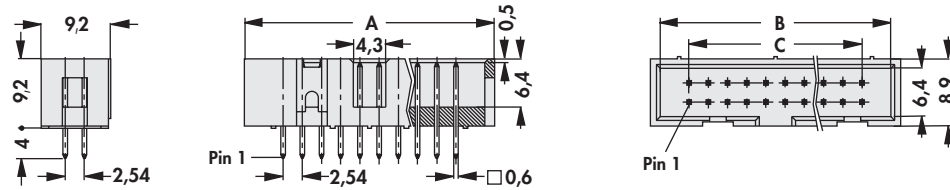
PCB connector

- PCB connector for ribbon cable
- one row in grid 2,54 mm, 4 contacts up to 20 contacts
- two rows in grid 2,54 mm, 6 contacts up to 34 contacts
- two rows in DIL design, grid 2,54 mm, 4 contacts up to 40 contacts

Shroud-male header

Straight, two rows, shrouded

- suitable for female multipoint connector **VFL, FLMP, PV**
- in addition they can be combined with many other ribbon cable connectors in 2.54 mm pitch
- plug-in area available in gold-plated or completely tin-plated!

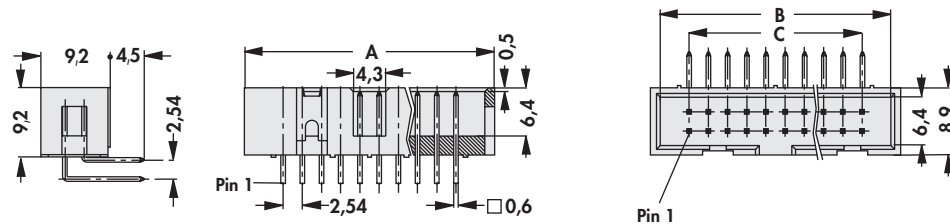


art. no.	no. of contacts	dim. [mm]			art. no.	no. of contacts	dim. [mm]		
		A	B	C			A	B	C
ASLG 06 ...	6	15.3	12.7	5.08	ASLG 20 ...	20	33.1	30.5	22.86
ASLG 08 ...	8	17.8	15.2	7.62	ASLG 26 ...	26	40.7	38.1	30.48
ASLG 10 ...	10	20.4	17.8	10.16	ASLG 34 ...	34	50.9	48.3	40.64
ASLG 12 ...	12	22.9	20.3	12.70	ASLG 40 ...	40	58.5	55.9	48.26
ASLG 14 ...	14	25.4	22.9	15.24	ASLG 50 ...	50	71.2	68.6	60.96
ASLG 16 ...	16	28.0	25.4	17.78					

please indicate: ... surface of contact
G = gold-plated
Z = tin-plated

Angled, two rows, shrouded

- suitable for female multipoint connector **VFL, FLMP, PV**
- in addition they can be combined with many other ribbon cable connectors in 2.54 mm pitch
- plug-in area available in gold-plated or completely tin-plated!



art. no.	no. of contacts	dim. [mm]			art. no.	no. of contacts	dim. [mm]		
		A	B	C			A	B	C
ASLA 06 G	6	15.3	12.7	5.08	ASLA 20 G	20	33.1	30.5	22.86
ASLA 08 G	8	17.8	15.2	7.62	ASLA 26 G	26	40.7	38.1	30.48
ASLA 10 G	10	20.4	17.8	10.16	ASLA 34 G	34	50.9	48.3	40.64
ASLA 12 G	12	22.9	20.3	12.70	ASLA 40 G	40	58.5	55.9	48.26
ASLA 14 G	14	25.4	22.9	15.24	ASLA 50 G	50	71.2	68.6	60.96
ASLA 16 G	16	28.0	25.4	17.78					

Shroud. male header SMD
 Application tools
 Boltable female header
 Female header grid 2.00

→ H 3
 → H 10
 → H 5
 → H 7

PC connectors
 Female header two rows
 PC connector design DIL
 Technical data

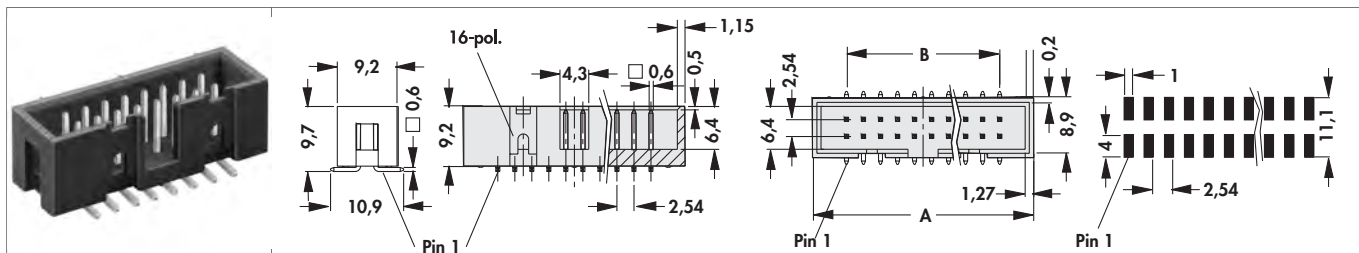
→ H 8
 → H 6
 → H 9
 → H 11 - 12

H 2

Shroud-male header

SMD, two rows, shrouded

- suitable for female multipoint connector **VFL, FLMP, PV**
- **VPE** = packing unit (pieces/tube)
- plug-in area available in gold-plated or completely tin-plated!
- in addition they can be combined with many other ribbon cable connectors in 2.54 mm pitch



art. no.	no. of contacts	packing unit	dim. [mm]		art. no.	no. of contacts	packing unit	dim. [mm]	
			A	B				A	B
ASL 06 SMD ...	6	32	15.3	5.08	ASL 20 SMD ...	20	15	33.1	22.86
ASL 08 SMD ...	8	27	17.8	7.62	ASL 26 SMD ...	26	12	40.7	30.48
ASL 10 SMD ...	10	24	20.4	10.16	ASL 34 SMD ...	34	9	50.9	40.64
ASL 12 SMD ...	12	21	22.9	12.70	ASL 40 SMD ...	40	8	58.5	48.26
ASL 14 SMD ...	14	19	25.4	15.24	ASL 50 SMD ...	50	7	71.2	60.96
ASL 16 SMD ...	16	17	28.0	17.78					

please indicate:

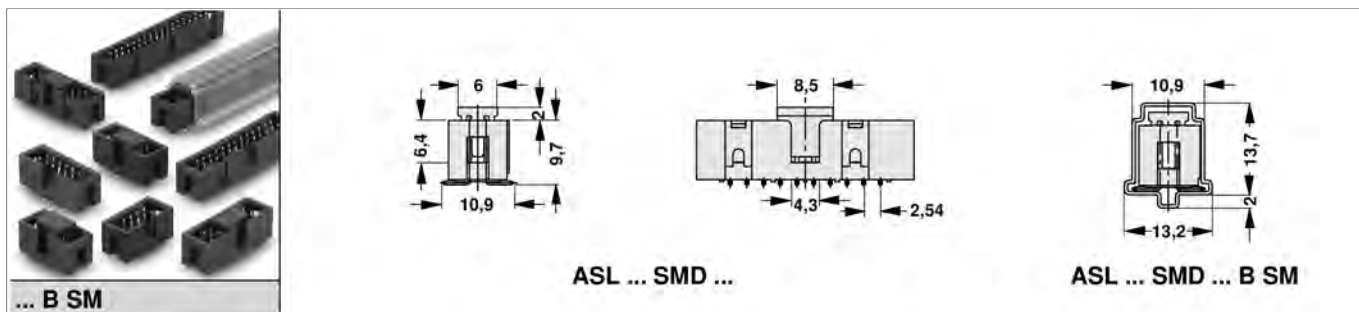
... surface of contact
G = gold-plated
Z = tin-plated

... packing
SM = bar magazine
B SM = pick and place pad and bar magazine

Option, for automatic assembly

Pick and place pad "B" and bar magazin "SM"

- position of the pick and place pad in the middle



H 3

Shroud. male header SMD
 Application tools
 Boltable female header
 Female header grid 2.00

→ H 3
 → H 10
 → H 5
 → H 7

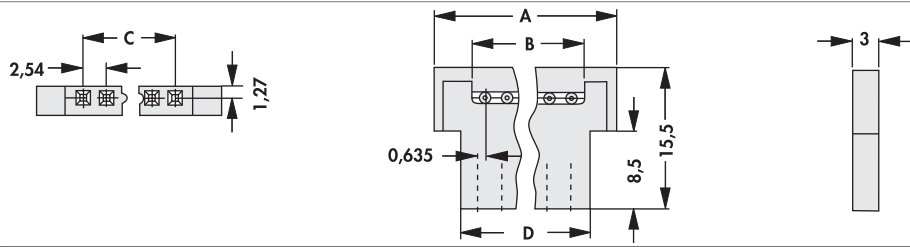
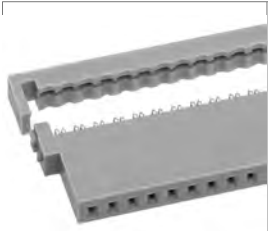
PC connectors
 Female header two rows
 PC connector design DIL
 Technical data

→ H 8
 → H 6
 → H 9
 → H 11 - 12

Female connector

One row

– excess length of the ribbon cable to the case at ≥ 1 mm!



art. no.	no. of contacts	dim. [mm]			
		A	B	C	D
FV 03 ...	3	15.24	7.62	5.08	8.89
FV 04 ...	4	17.78	10.16	7.62	11.43
FV 05 ...	5	20.32	12.70	10.16	7.62
FV 06 ...	6	22.86	15.24	5.08	16.51
FV 07 ...	7	25.40	17.78	15.24	19.05
FV 08 ...	8	27.94	20.32	17.78	21.59
FV 10 ...	10	33.02	25.40	22.86	26.67
FV 12 ...	12	38.10	30.48	27.94	31.75
FV 13 ...	13	40.64	33.02	30.48	34.29
FV 14 ...	14	43.18	35.66	33.02	36.83
FV 16 ...	16	48.26	40.64	38.10	41.91
FV 17 ...	17	50.80	43.18	40.64	44.45
FV 18 ...	18	53.34	45.72	43.18	46.99
FV 20 ...	20	58.42	50.80	48.26	52.07
FV 24 ...	24	68.58	60.96	58.42	62.23
FV 25 ...	25	71.12	63.50	60.96	64.77

please indicate: ... surface of contact
G = gold-plated
Z = tin-plated

annotation:	IDC-pattern 2.54mm
conductor cross-section:	AWG 28...30 = 0,09...0,05 mm ²
insulation diameter:	≤ 1,1 mm
suitable ribbon cable round conductor flat cable:	AWG 28 = massive or strand
recommended connector pins:	□ 0,635 mm

Female header grid 2.00
 Application tools
 PC connectors
 PC connector design DIL

→ H 7
 → H 10
 → H 8
 → H 9

Female header two rows
 Boltable female header
 Shrouded male header
 Technical data

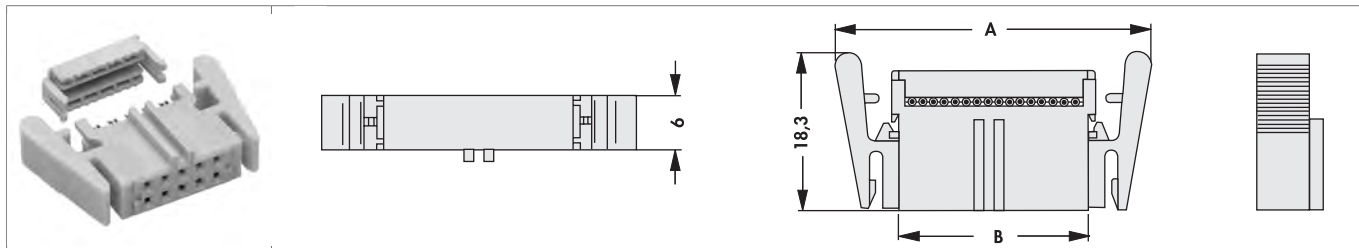
→ H 6
 → H 5
 → H 2
 → H 11 - 12

H 4

Female connector

Two rows, with polarisation

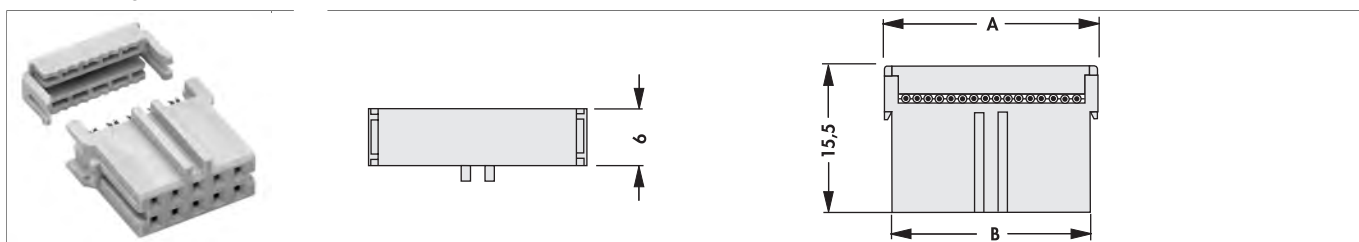
– lockable female multipoint connector, suitable for shrouded male header **ASL ...**



art. no.	no. of contacts	dim. [mm]		art. no.	no. of contacts	dim. [mm]	
		A	B			A	B
VFL 06 ...	6	23.58	9.56	VFL 20 ...	20	41.36	27.34
VFL 08 ...	8	26.12	12.10	VFL 26 ...	26	48.98	34.96
VFL 10 ...	10	28.66	14.64	VFL 34 ...	34	59.14	45.12
VFL 12 ...	12	31.20	17.18	VFL 40 ...	40	66.76	52.74
VFL 14 ...	14	33.74	19.72	VFL 50 ...	50	79.46	65.44
VFL 16 ...	16	36.28	22.26				

please indicate: ... surface of contact
G = gold-plated
Z = tin-plated

– suitable for shrouded male header **ASL ...**
 – excess length of the ribbon cable to the case at ≥ 1 mm!



art. no.	no. of contacts	dim. [mm]		art. no.	no. of contacts	dim. [mm]	
		A	B			A	B
FLMP 06 ...	6	10.97	9.56	FLMP 20 ...	20	28.75	27.34
FLMP 08 ...	8	13.51	12.10	FLMP 26 ...	26	36.37	34.96
FLMP 10 ...	10	16.05	14.64	FLMP 34 ...	34	46.53	45.12
FLMP 12 ...	12	18.59	17.18	FLMP 40 ...	40	54.15	52.74
FLMP 14 ...	14	21.13	19.72	FLMP 50 ...	50	66.85	65.44
FLMP 16 ...	16	23.67	22.26				

please indicate: ... surface of contact
G = gold-plated
Z = tin-plated

annotation:	IDC-pattern 1.27mm
conductor cross-section:	AWG 28...30 = 0,09...0,05 mm ²
insulation diameter:	$\leq 1,1$ mm
suitable ribbon cable round conductor flat cable:	AWG 28 = massive or strand

H 5

Female header grid 2.00
 Application tools
 PC connectors
 PC connector design DIL

→ H 7
 → H 10
 → H 8
 → H 9

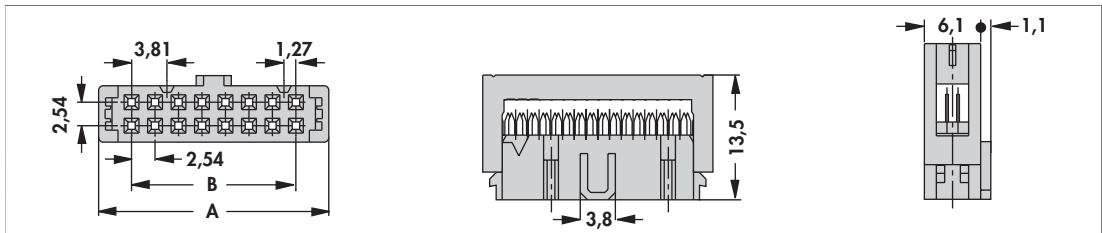
Female header two rows
 Boltable female header
 Shrouded male header
 Technical data

→ H 6
 → H 5
 → H 2
 → H 11 – 12

Female connector

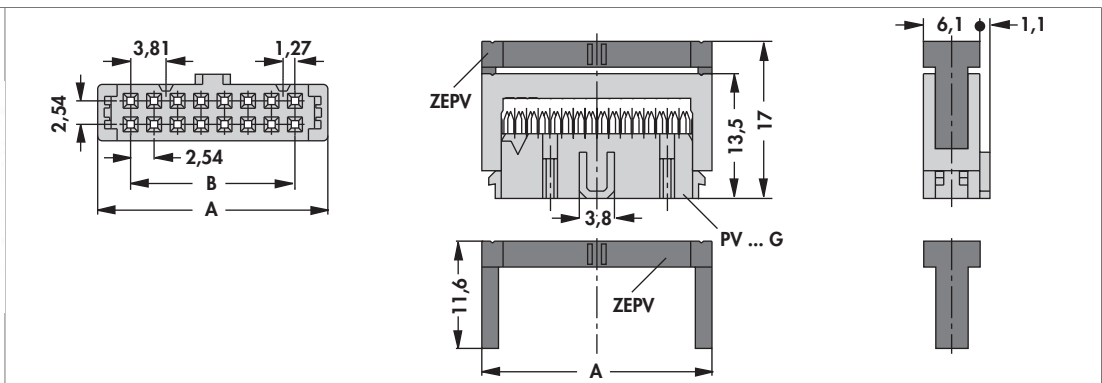
Two rows, with polarisation

- suitable for shrouded male header **ASL ...**
- excess length of the ribbon cable to the case at ≥ 1 mm!



art. no.	no. of contacts	passende Zugentlastung	dim. [mm]		art. no.	no. of contacts	passende Zugentlastung	dim. [mm]	
			A	B				A	B
PV 06 G	6	ZEPV 06	12.2	5.08	PV 26 G	26	ZEPV 26	37.6	30.48
PV 10 G	10	ZEPV 10	17.3	10.16	PV 34 G	34	ZEPV 34	47.8	40.64
PV 14 G	14	ZEPV 14	22.4	15.24	PV 40 G	40	ZEPV 40	55.4	48.26
PV 16 G	16	ZEPV 16	24.9	17.78	PV 50 G	50	ZEPV 50	68.1	60.96
PV 20 G	20	ZEPV 20	30.0	22.86					

surface of contact:	gold-plated
annotation:	IDC-pattern 1.27mm
conductor cross-section:	AWG 28...30 = 0,09...0,05 mm ²
insulation diameter:	≤ 1,1 mm
suitable ribbon cable round conductor flat cable:	AWG 28 = massive or strand



art. no.	no. of contacts	dim. [mm]		art. no.	no. of contacts	dim. [mm]	
		A	B			A	B
ZEPV 06	6	12.2	5.08	ZEPV 26	26	37.6	30.48
ZEPV 10	10	17.3	10.16	ZEPV 34	34	47.8	40.64
ZEPV 14	14	22.4	15.24	ZEPV 40	40	55.4	48.26
ZEPV 16	16	24.9	17.78	ZEPV 50	50	68.1	60.96
ZEPV 20	20	30.0	22.86				

Female header grid 2.00
 Application tools
 PC connectors
 PC connector design DIL

→ H 7
 → H 10
 → H 8
 → H 9

Female header two rows
 Boltable female header
 Shrouded male header
 Technical data

→ H 6
 → H 5
 → H 2
 → H 11 - 12

H 6

A

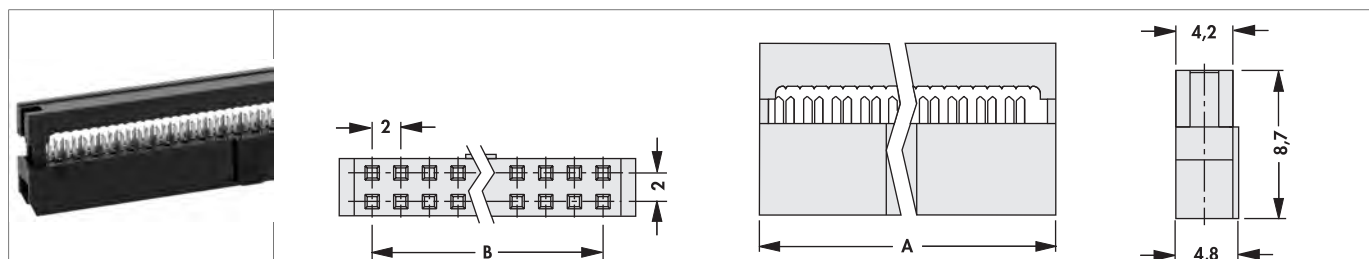
Female connector

B

Two rows

– excess length of the ribbon cable to the case ≥ 1 mm!

C



D

art. no.	no. of contacts	dim. [mm]	
		A	B
PVY 20 S	20	25.1	18
PVY 40 S	40	45.3	38
PVY 44 S	44	49.3	42
PVY 50 S	50	55.1	48

E

surface of contact:	selective gold-plated
annotation:	IDC-pattern, 1 mm
recommended connector pins:	<input type="checkbox"/> 0,5 mm

F

G

H

I

K

L

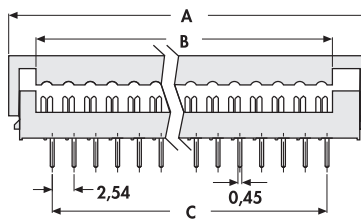
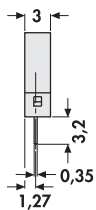
M

N

H 7	Female header grid 2.00	→ H 7	Female header two rows	→ H 6
	Application tools	→ H 10	Bolttable female header	→ H 5
	PC connectors	→ H 8	Shrouded male header	→ H 2
	PC connector design DIL	→ H 9	Technical data	→ H 11 – 12

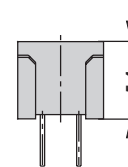
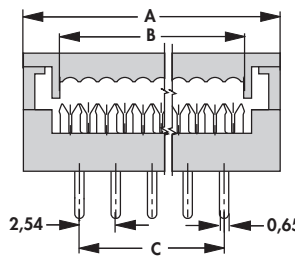
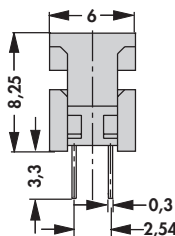
Printed circuit connector

– excess length of the ribbon cable to the case at ≥ 1 mm!



art. no.	no. of contacts	dim. [mm]		
		A	B	C
SBAU 1 04 Z	4	17.78	10.16	7.62
SBAU 1 06 Z	6	22.86	15.24	12.70
SBAU 1 08 Z	8	27.94	20.32	17.78
SBAU 1 10 Z	10	33.02	25.40	22.86
SBAU 1 12 Z	12	38.10	30.48	27.94
SBAU 1 14 Z	14	43.18	35.56	33.02
SBAU 1 16 Z	16	48.26	40.64	38.10
SBAU 1 17 Z	17	50.80	43.18	40.64
SBAU 1 18 Z	18	53.34	45.72	43.18
SBAU 1 20 Z	20	58.42	50.80	48.26
surface of contact:		tin-plated		
annotation:		IDC-pattern 2.54mm		
insulation diameter:		$\leq 1,1$ mm		
suitable ribbon cable round conductor flat cable:		AWG 28 = massive or strand		

– excess length of the ribbon cable to the case at ≥ 1 mm!



art. no.	no. of contacts	dim. [mm]		
		A	B	C
SBAU 06 S	6	12.9	7.8	5.08
SBAU 10 S	10	18.0	12.9	10.16
SBAU 14 S	14	23.0	18.0	15.24
SBAU 16 S	16	25.6	20.5	17.78
SBAU 20 S	20	30.7	25.6	22.86
SBAU 26 S	26	38.3	33.2	30.48
SBAU 34 S	34	48.5	43.4	40.64
surface of contact:		selective gold-plated: solder area gold-plated, IDC area nickel-plated		
annotation:		IDC-pattern 1.27mm		
insulation diameter:		$\leq 1,1$ mm		
suitable ribbon cable round conductor flat cable:		AWG 28 = massive or strand		

Female header one row
D-Sub connectors /flat cable
PC connector design DIL
Female header two rows

→ H 4
→ I 11
→ H 9
→ H 6

Application tools
Flat cable
Female header grid 2.00
Technical data

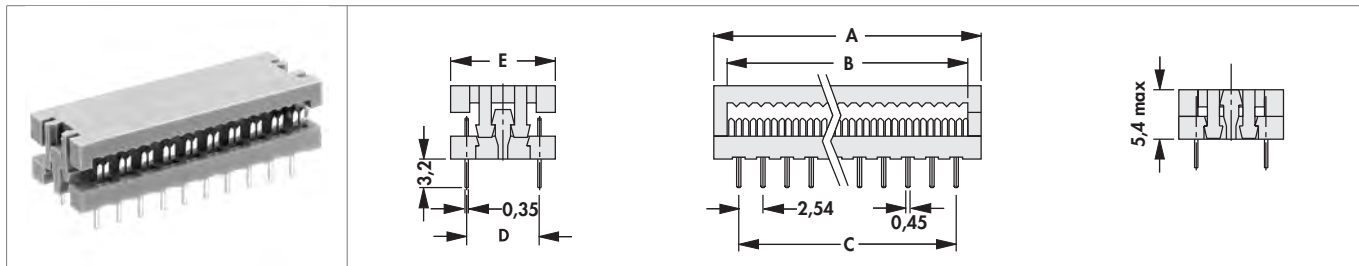
→ H 10
→ H 10
→ H 7
→ H 11 - 12

H 8

Printed circuit connector

Design DIL

– excess length of the ribbon cable to the case at ≥ 1 mm!



art. no.	no. of contacts	dim. [mm]				
		A	B	C	D	E
KK 04 Z	4	8.0	5.1	2.54	7.62	11.0
KK 06 Z	6	10.3	7.6	5.08	7.62	11.0
KK 08 Z	8	13.0	10.2	7.62	7.62	11.0
KK 10 Z	10	15.4	12.7	10.16	7.62	11.0
KK 12 Z	12	18.0	15.3	5.08	7.62	11.0
KK 14 Z	14	20.5	17.8	15.24	7.62	11.0
KK 16 Z	16	23.0	20.3	17.78	7.62	11.0
KK 18 Z	18	25.6	22.9	20.32	7.62	11.0
KK 20 Z	20	28.1	25.4	22.86	7.62	11.0
KK 24 Z	24	33.0	30.5	27.94	15.24	18.7
KK 28 Z	28	38.1	35.6	33.02	15.24	18.7
KK 40 Z	40	53.3	50.8	48.26	15.24	18.7
surface of contact:	tin-plated					
annotation:	IDC-pattern 1.27mm					
insulation diameter:	$\leq 1,1$ mm					
suitable ribbon cable round conductor flat cable:	AWG 28 = massive or strand					

H 9

Female header one row
D-Sub connectors /flat cable
PC connector design DIL
Female header two rows

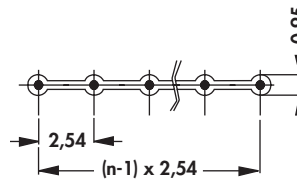
→ H 4
→ I 11
→ H 9
→ H 6

Application tools
Flat cable
Female header grid 2.00
Technical data

→ H 10
→ H 10
→ H 7
→ H 11 – 12

Accessories for flat ribbon cable and application tools

Flat ribbon cable - Spacing 2.54 mm - suitable for connectors FV, SBAU 1



art. no.	no. of contacts
BK 01 32	32

Bench press

- height without handle: 28 cm, weight: 9.02 kg
- the bench press **VBK 1** connects all contacts of IDC connector types **KK, SB, SV, PV, VFL, FV, PVZ** in one simple operation
- the contacts separate the insulation of the flat ribbon cable, whereas a gas-tight and corrosion-proof connection is effected by the construction of the contacts form



art. no.
VBK 1

Accessories, suitable for ribbon cable connector

- exchangeable crimping dies for any indicated types available

art. no.	suitable for male connectors and female headers
KK W	KK
SB W	SB
PV W	PV/ VFL/ FLMP
D W 9 37	D-Sub (9-37 contacts)
PVY W	PVY

Boltable female header
Female header one row
PC connector design DIL
Female header two rows

→ H 5
 → H 4
 → H 9
 → H 6

Shroud. male header SMD
PC connectors
Application tools
Technical data

→ H 3
 → H 8
 → H 10
 → H 11 - 12

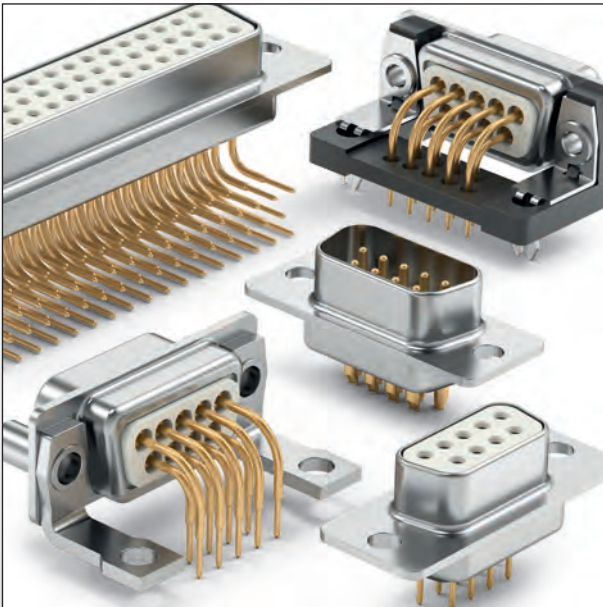
H 10

Technical data IDC-connectors

	ASL ...	FV ...	FLMP ..., VFL ...	PV ...
surface contact / contact sleeve	Ni+ $\geq 0.2\mu\text{m Au/}$ Ni+4...8 $\mu\text{m Sn}$	Ni+ $\geq 0.2\mu\text{m Au/ Ni+5...10}\mu\text{m Sn}$		Ni+ $\geq 5\mu\text{m Sn/}$ Ni+ $\geq 0.2\mu\text{m Au}$
contact material	CuSn alloy			
creeping current resistance		KC 175 nach DIN 53480		KC 250
creepage	$\geq 1,1\text{mm}$ VDE0110	1,4mm VDE0110		
air gap	$\geq 0,8\text{ mm}$ VDE0110	1mm VDE0110		
nominal current	1 A	2 A	1 A	2 A
nominal voltage	250V AC insulation group A, according to VDE0110			
test voltage	500 V AC			
insertion / drawing force		$\geq 0.3\text{N ... } \leq 0.7\text{N}$ per contact		
cycles of operation		≥ 50 according to DIN 41640	200 to DIN41651	
insulating body material	PA 4.6. GF	PC/ colour: RAL 7032		
temperature range	-40°C... +163°C/ (260°C/10 s)	-55°C... +125°C		
class of flammibility	UL 94 V-0			
specific insulation resistance	$> 10^7 \Omega \cdot \text{m}$			
conductor cross-section		AWG 28...30 = 0,09...0,05 mm ²		

Technical data IDC-connectors

	PVY ... S	KK ... Z, SBAU 1 ... Z	SBAU ... S	BK 01 32
surface contact / contact sleeve	contact area: Ni+ <0.1µm Au (flashgold)/ con- nection area: Ni+0.5...2.5µm Sn	Ni+5...10µm Sn	soldering area: Ni+ >0.1µm Au (flashgold)/ IDC area nickel-plated	
contact material	CuSn alloy			
creeping current resistance		KC 175 nach DIN 53480		
creepage		≥0,7mm VDE 0110		
air gap		≥0,5 mm VDE 0110		
nominal current		1 A		2 A
nominal voltage		250V AC insulation group A, according to VDE0110		300 V _{eff} max.
test voltage		500 V AC		
insertion / drawing force	≥0.5 ... ≤1.8N per contact			
insulating body material	PBT/ colour: black	PC/ colour: RAL 7032		
temperature range	-55°C... +105°C	-40°C... +125°C		-30°C... +105°C
class of flammability	UL 94 V-0		UL 94 V-1	
specific insulation resistance	>10 ¹⁰ Ω·m	>10 ¹² Ω·m		
conductor				7 x Ø 0,127 mm
conductor cross-section		AWG 28...30 = 0,09...0,05 mm ²		AWG 28/~0,089 mm ²
capacity				≤ 65 pF/m sym- metrical
conductor resistance				≤230mΩ/m
characteristic impedance				170 Ω symmet- risch



D-Sub connectors

- with Wire Wrap, solder cup and dip soldering connection
- with plastic angle and rivet, earthing plate, snap-in clip
- with metal angle and rivet



D-Sub special design

- high density connector
- filter connectors
- ribbon cable connector
- mixed layout connectors
- SMD technology
- press-in connector



D-Sub hoods

- design with large cable space
- hoods with self-cutting threaded bolts
- hoods with quick fastener
- compact hoods with cable outlet on the side


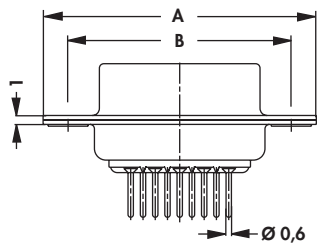
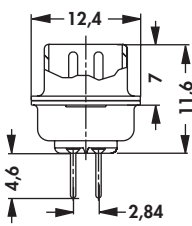
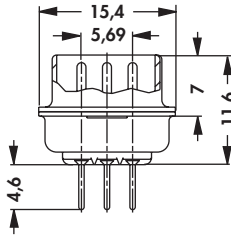

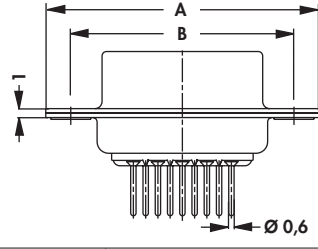
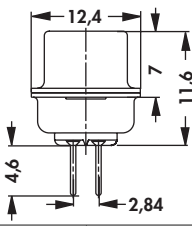
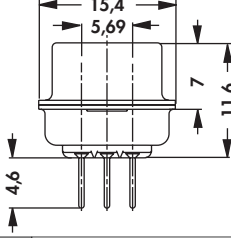


D-Sub accessories

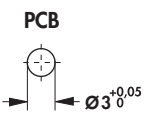
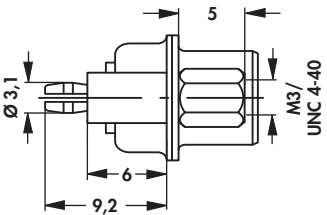
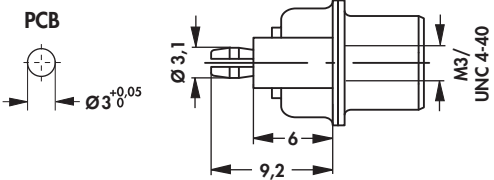
- cable reels
- cut-out covers
- HF-dense seal caps
- HF seals
- Dust covers
- Threaded couplings

D-Sub standard connectors

Male and female headers

	9 - 37 pol.		50 pol.						
									
	art. no.	design	dim. [mm]			art. no.	design	dim. [mm]	
			A	B				A	B
DS 09 T ...	male	30.8	25.0	DS 37 T ...	male	69.5	63.5		
DS 15 T ...	male	39.2	33.3	DS 50 T ...	male	67.0	61.1		
DS 25 T ...	male	53.1	47.0						
	9 - 37 pol.		50 pol.						
									
	art. no.	design	dim. [mm]			art. no.	design	dim. [mm]	
			A	B				A	B
DB 09 T ...	female	30.8	25.0	DB 37 T ...	female	69.5	63.5		
DB 15 T ...	female	39.2	33.3	DB 50 T ...	female	67.0	61.1		
DB 25 T ...	female	53.1	47.0						
<p>please indicate:</p> <p>... type of mounting (optional)</p> <p>RC UN = snap-in-clip with UNC 4-40</p> <p>RC M3 = snap-in-clip with M3</p> <p>RCS UN = snap-in-clip and screwing bolt with UNC 4-40</p> <p>RCS M3 = snap-in-clip and screwing bolt with M3</p>									

type of mounting


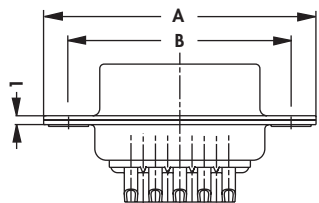
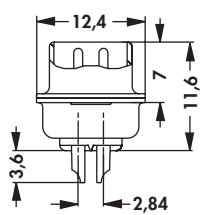
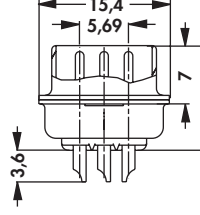

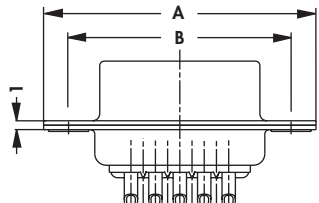
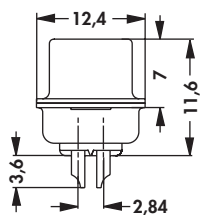
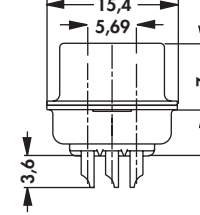

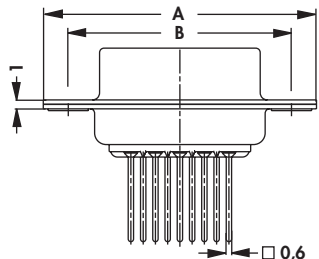
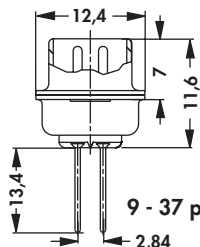
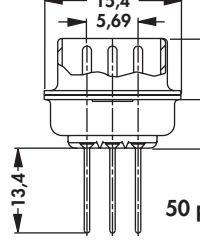

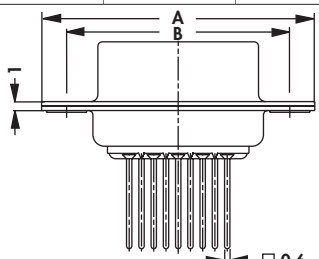
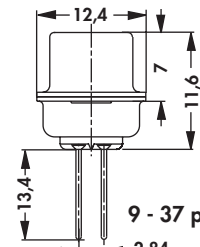
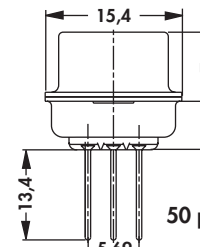
	<p>DB/DS ... T RCSM3 DB/DS ... T RCSUN</p> 	<p>DB/DS ... T RCM3 DB/DS ... T RCUN</p> 
	<p>PCB</p> <p>$\varnothing 3^{+0,05}$</p> <p>5</p> <p>6</p> <p>9,2</p> <p>M3/ UNC 4-40</p>	<p>PCB</p> <p>$\varnothing 3^{+0,05}$</p> <p>6</p> <p>9,2</p> <p>M3/ UNC 4-40</p>

D-Sub high density → I 7 - 8
D-Sub in SMD technique → I 15
D-Sub cut-out cover → I 22
D-Sub connector in pressfit techn. → I 16

Screw fastening → I 23
D-Sub mixed layout → I 13
HF-seals → I 24
Technical data → I 26 - 28

D-Sub standard connectors


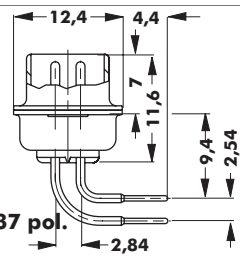
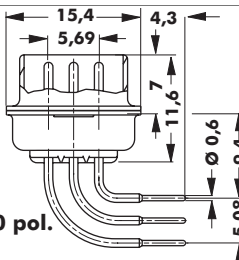
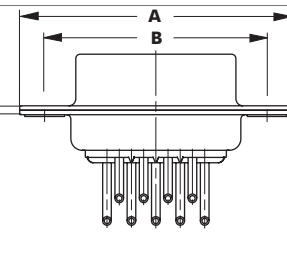

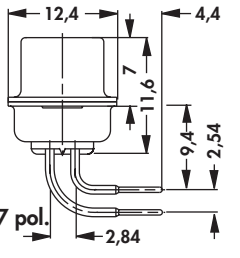
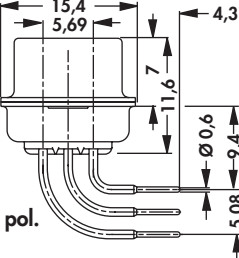
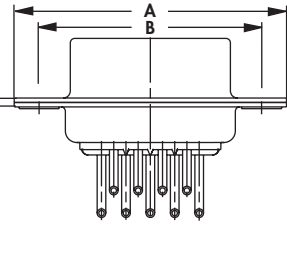
Male and female headers

	9 - 37 pol.		50 pol.						
									
	art. no.	design	dim. [mm]			art. no.	design	dim. [mm]	
			A	B				A	B
DS 09 L	male	30.8	25.0	DS 37 L	male	69.5	63.5		
DS 15 L	male	39.2	33.3	DS 50 L	male	67.0	61.1		
DS 25 L	male	53.1	47.0						
	9 - 37 pol.		50 pol.						
									
	art. no.	design	dim. [mm]			art. no.	design	dim. [mm]	
			A	B				A	B
DB 09 L	female	30.8	25.0	DB 37 L	female	69.5	63.5		
DB 15 L	female	39.2	33.3	DB 50 L	female	67.0	61.1		
DB 25 L	female	53.1	47.0						
	9 - 37 pol.		50 pol.						
									
	art. no.	design	dim. [mm]			art. no.	design	dim. [mm]	
			A	B				A	B
DS 09 WW 3	male	30.8	25.0	DS 37 WW 3	male	69.5	63.5		
DS 15 WW 3	male	39.2	33.3	DS 50 WW 3	male	67.0	61.1		
DS 25 WW 3	male	53.1	47.0						
	9 - 37 pol.		50 pol.						
									
	art. no.	design	dim. [mm]			art. no.	design	dim. [mm]	
			A	B				A	B
DB 09 WW 3	female	30.8	25.0	DB 37 WW 3	female	69.5	63.5		
DB 15 WW 3	female	39.2	33.3	DB 50 WW 3	female	67.0	61.1		
DB 25 WW 3	female	53.1	47.0						

D-Sub standard connectors

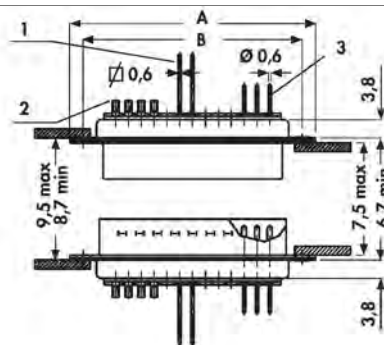
Male and female headers

- with turned precision contacts
- with shielding springs

						
	art. no.	design	dim. [mm]		A	B
DS 09 LA	male			30.8	25.0	
DS 15 LA	male			39.2	33.3	
DS 25 LA	male			53.1	47.0	
DS 37 LA	male			69.5	63.5	
DS 50 LA	male			67.0	61.1	
						
	art. no.	design	dim. [mm]		A	B
DB 09 LA	female			30.8	25.0	
DB 15 LA	female			39.2	33.3	
DB 25 LA	female			53.1	47.0	
DB 37 LA	female			69.5	63.5	
DB 50 LA	female			67.0	61.1	
caseing frame:		steel, tin plated				

Installation diagram


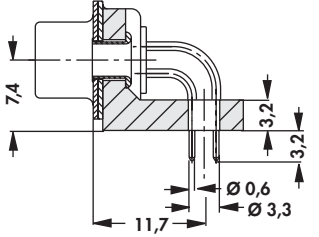
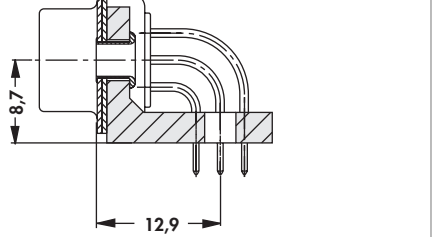

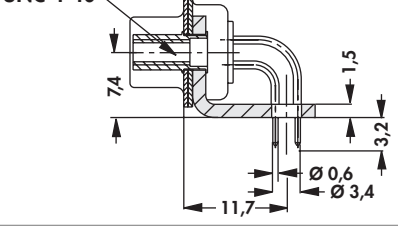

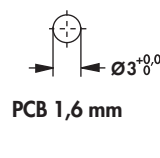
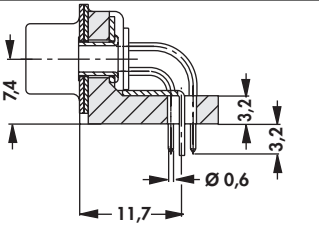

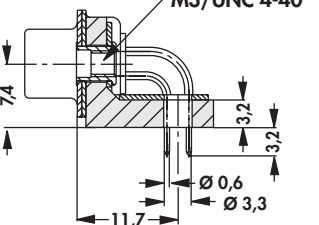
1 = wire wrap pin; 2 = solder terminal; 3 = solder pin for PCB



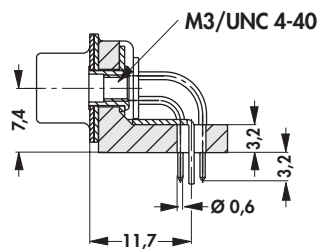
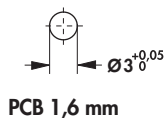
D-Sub high density → I 7 - 8
D-Sub in SMD technique → I 15
D-Sub cut-out cover → I 22
D-Sub connector in pressfit techn. → I 16

Screw fastening → I 23
D-Sub mixed layout → I 13
HF-seals → I 24
Technical data → I 26 - 28

D-Sub standard connectors with mounting bracket

	<p>9 - 37 pol.</p> 	<p>50 pol.</p> 
<p>art. no.</p>	<p>design</p>	<p>fixing part</p>
<p>DS WK ...</p>	<p>male</p>	<p>plastic angle, riveted</p>
<p>DB WK ...</p>	<p>female</p>	<p>plastic angle, riveted</p>
<p>please indicate: ... no. of contacts 9 15 25 37 50</p>		
	<p>UNC 4-40</p> 	
<p>art. no.</p>	<p>design</p>	<p>fixing part</p>
<p>DS WMV 4 ...</p>	<p>male</p>	<p>metal angle with screw fastening, thread UNC4-40</p>
<p>DB WMV 4 ...</p>	<p>female</p>	<p>metal angle with screw fastening, thread UNC4-40</p>
		
<p>art. no.</p>	<p>design</p>	<p>fixing part</p>
<p>DS WR ...</p>	<p>male</p>	<p>plastic angle with earthing plate, snap-on clip</p>
<p>DB WR ...</p>	<p>female</p>	<p>plastic angle with earthing plate, snap-on clip</p>
	<p>M3/UNC 4-40</p> 	
<p>art. no.</p>	<p>design</p>	<p>fixing part</p>
<p>DS WE 3 ...</p>	<p>male</p>	<p>plastic angle with earthing plate and threaded rivet M3</p>
<p>DS WE 4 ...</p>	<p>male</p>	<p>plastic angle with earthing plate, threaded rivet UNC 4-40</p>
<p>DB WE 3 ...</p>	<p>female</p>	<p>plastic angle with earthing plate and threaded rivet M3</p>
<p>DB WE 4 ...</p>	<p>female</p>	<p>plastic angle with earthing plate, threaded rivet UNC 4-40</p>
<p>please indicate: ... no. of contacts 9 15 25 37</p>		

D-Sub standard connectors



art. no.	design	fixing part
DS WR 3 ...	male	plastic angle with earthing plate, threaded rivet M3, snap-on clip
DS WR 4 ...	male	plastic angle with earthing plate, threaded rivet UNC 4-40, snap-on clip
DB WR 3 ...	female	plastic angle with earthing plate, threaded rivet M3, snap-on clip
DB WR 4 ...	female	plastic angle with earthing plate, threaded rivet UNC 4-40, snap-on clip
please indicate:	... no. of contacts	
	9 15 25 37	

D-Sub filter adapter
 Screw fastening
 D-Sub connectors /flat cable
 D-Sub high density

→ I 9 – 10
 → I 23
 → I 11 – 12
 → I 7 – 8

HF-tight caps
 D-Sub hoods
 Application tools
 Technical data

→ I 24
 → I 18 – 21
 → H 10
 → I 26 – 28

A

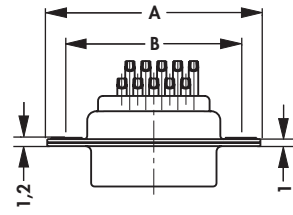
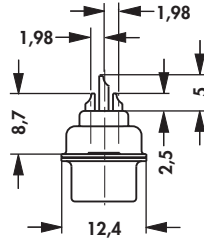
D-Sub connectors High Density

B

Male and female headers

- our D-Sub connectors **HD** are loaded with turned precision contacts
- with shielding springs

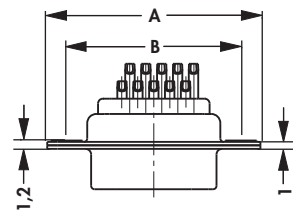
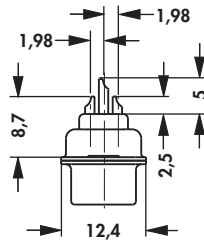
C



D

art. no.	no. of contacts	design	dim. [mm]	
			A	B
HD S 15 L	15	male	30.8	25.0
HD S 26 L	26	male	39.2	33.3
HD S 44 L	44	male	53.1	47.0

E



F

art. no.	no. of contacts	design	dim. [mm]	
			A	B
HD B 15 L	15	female	30.8	25.0
HD B 26 L	26	female	39.2	33.3
HD B 44 L	44	female	53.1	47.0

G

caseing frame: steel, tin plated

H

I

K

L

M

N

17

D-Sub filter adapter
Screw fastening
D-Sub high density
D-Sub connectors /flat cable

→ I 9 - 10
→ I 23
→ I 7 - 8
→ I 11


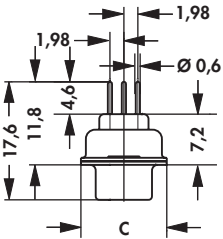
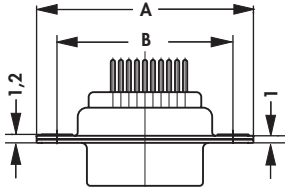

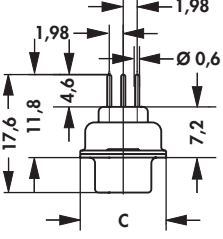
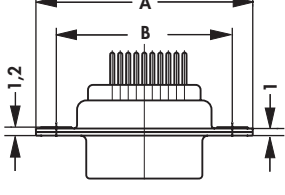
D-Sub mixed layout
HF-seals
Application tools
Technical data

→ I 13 - 14
→ I 24
→ H 10
→ I 26 - 28

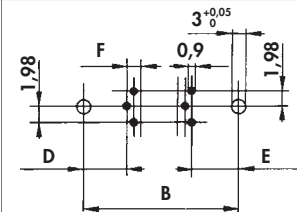
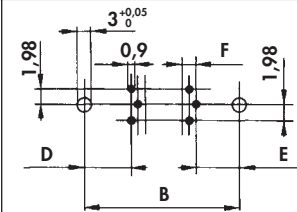
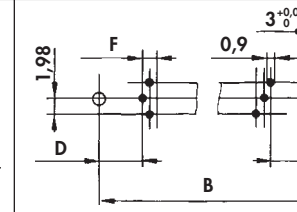
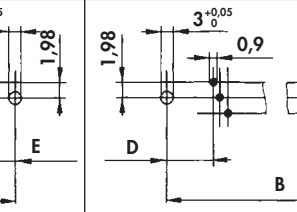
D-Sub connectors High Density

Male and female headers

- our D-Sub connectors **HD** are loaded with turned precision contacts
- with shielding springs

								
art. no.	no. of contacts	design	dim. [mm]					
			A	B	C	D	E	F
HD S 15 T	15	male	30.8	25.0	12.4	7.04	7.67	2.29
HD S 26 T	26	male	39.2	33.3	12.4	6.87	7.00	2.29
HD S 44 T	44	male	53.1	47.0	12.4	6.88	7.01	2.29
								
art. no.	no. of contacts	design	dim. [mm]					
			A	B	C	D	E	F
HD B 15 T	15	female	30.8	25.0	12.4	7.67	7.04	2.29
HD B 26 T	26	female	39.2	33.3	12.4	7.00	6.87	2.29
HD B 44 T	44	female	53.1	47.0	12.4	7.01	6.88	2.29
casing frame:		steel, tin plated						

1 = male, 15 contacts; **2** = female, 15 contacts; **3** = male, 26/44 contacts; **4** = female, 26/44 contacts

1	2	3	4
			

Application tools
Screw fastening
D-Sub filter adapter
D-Sub connectors /flat cable

→ H 10 HF-seals
→ I 23 HF-tight caps
→ I 9 – 10 D-Sub cut-out cover
→ I 11 – 12 Technical data

→ I 24
→ I 24
→ I 22
→ I 26 – 28

A


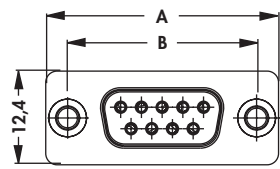
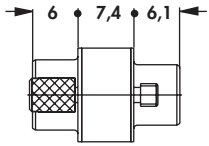
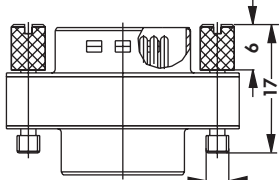
D-Sub filter connector

B

Adapter, 9-37 contacts

- capacity per contact: 1000 pF
- standard installation dimensions
- stud bolt mountable on both sides
- compatible with standard accessories

C

			
art. no.	no. of contacts	dim. [mm]	
		A	B
FD A ... 09 1000	9	30.8	25.0
FD A ... 15 1000	15	39.2	33.3
FD A ... 25 1000	25	53.1	47.0
FD A ... 37 1000	37	69.5	63.5
please indicate:	... type of thread		
	3 = M3		
	UNC = UNC 4-40		

D


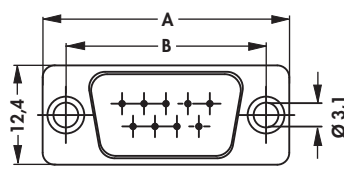
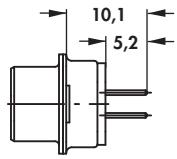
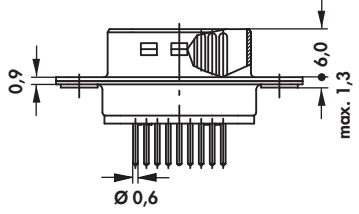

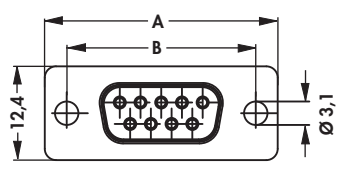
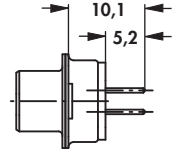
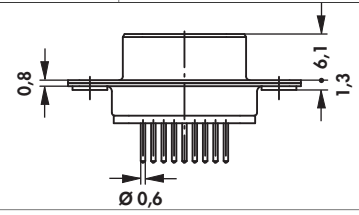
E

F

Male headers and female headers, straight

- capacity per contact: 1000 pF
- other capacity on request

G

				
art. no.	no. of contacts	design	dim. [mm]	
			A	B
FD S 09 T 1000	9	male	30.8	25.0
FD S 15 T 1000	15	male	39.2	33.3
FD S 25 T 1000	25	male	53.1	47.0
FD S 37 T 1000	37	male	69.5	63.5
				
art. no.	no. of contacts	design	dim. [mm]	
			A	B
FD B 09 T 1000	9	female	30.8	25.0
FD B 15 T 1000	15	female	39.2	33.3
FD B 25 T 1000	25	female	53.1	47.0
FD B 37 T 1000	37	female	69.5	63.5

H

I

K

L


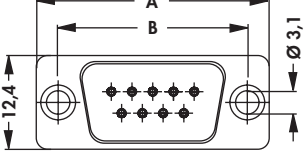
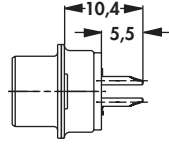
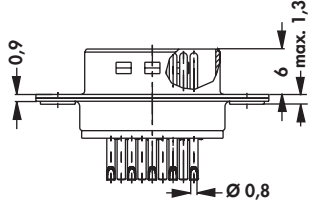
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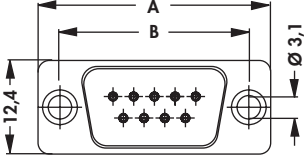
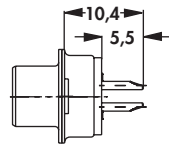
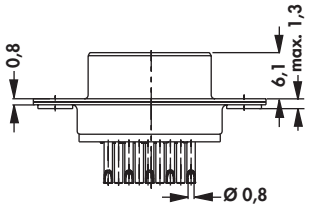
N

D-Sub filter connector

Male and female headers, with solder cup

- capacity per contact: 1000 pF
- other capacity on request
- suitable for AWG 22
- standard installation dimensions
- HF-tight, closed metal rear panel
- compatible with standard accessories

				
art. no.	no. of contacts	design	dim. [mm]	
			A	B
FD S 09 L 1000	9	male	30.8	25.0
FD S 15 L 1000	15	male	39.2	33.3
FD S 25 L 1000	25	male	53.1	47.0
FD S 37 L 1000	37	male	69.5	63.5

				
art. no.	no. of contacts	design	dim. [mm]	
			A	B
FD B 09 L 1000	9	female	30.8	25.0
FD B 15 L 1000	15	female	39.2	33.3
FD B 25 L 1000	25	female	53.1	47.0
FD B 37 L 1000	37	female	69.5	63.5

Application tools

D-Sub hoods

D-Sub cut-out cover

D-Sub connector in pressfit techn.

→ H 10

→ I 18 - 21

→ I 22

→ I 16 - 17

D-Sub mixed layout

HF-tight caps

Screw fastening

Technical data

→ I 13 - 14

→ I 24


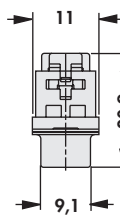
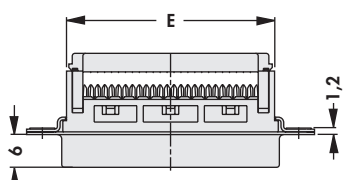
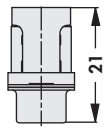
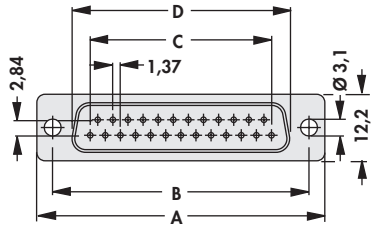

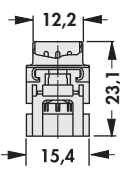
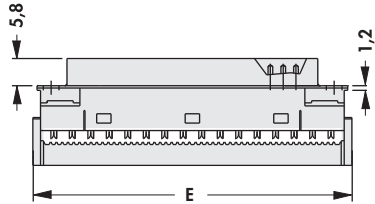
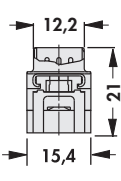
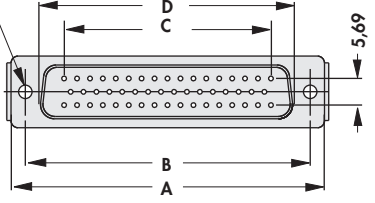

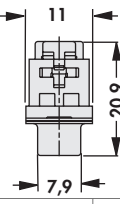
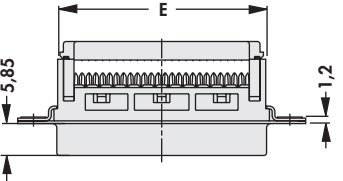
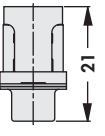
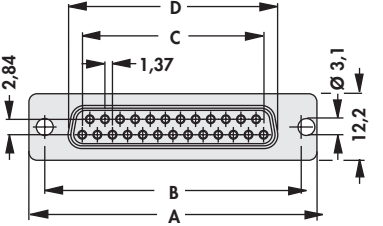

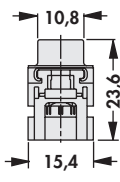
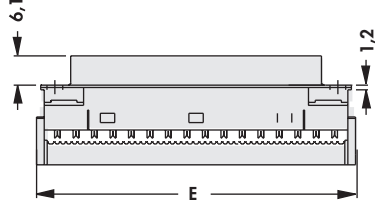
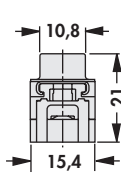
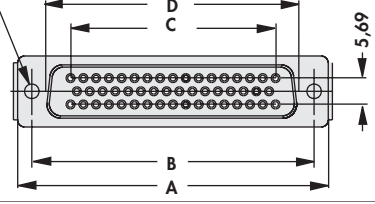
→ I 23

→ I 26 - 28

I 10

D-Sub connector for flat ribbon cable


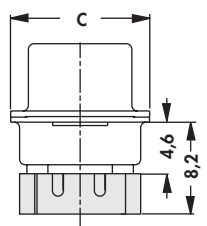
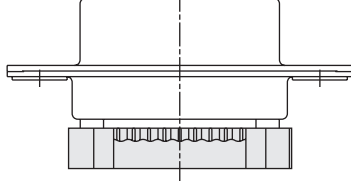
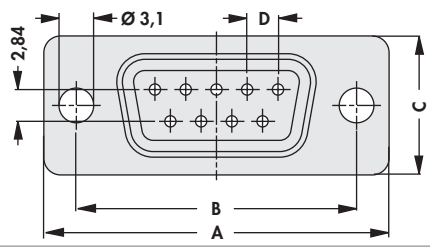

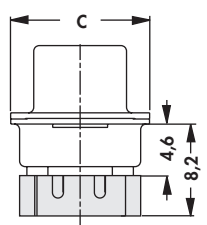
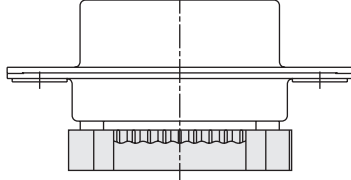
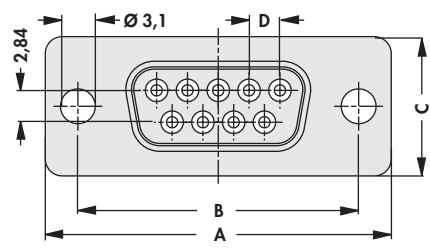
Male and female headers

							
art. no.	no. of contacts	design	dim. [mm]				
			A	B	C	D	E
DS BK 09	9	male	30.6	25.0	10.96	17.9	16.1
DS BK 15	15	male	39.0	33.3	19.33	26.2	23.9
DS BK 25	25	male	52.8	47.0	33.13	39.9	38.1
DS BK 37	37	male	69.2	63.5	49.70	56.3	54.7
							
art. no.	no. of contacts	design	dim. [mm]				
			A	B	C	D	E
DS BK 50	50	male	66.8	61.1	44.2	54	68.6
							
art. no.	no. of contacts	design	dim. [mm]				
			A	B	C	D	E
DB BK 09	9	female	30.6	25.0	10.96	16.3	16.1
DB BK 15	15	female	39.0	33.3	19.33	24.5	23.9
DB BK 25	25	female	52.8	47.0	33.13	38.5	38.1
DB BK 37	37	female	69.2	63.5	49.70	54.8	54.7
							
art. no.	no. of contacts	design	dim. [mm]				
			A	B	C	D	E
DB BK 50	50	female	66.8	61.1	44.2	52.4	68.6

D-Sub connector for flat ribbon cable

Male and female headers, low profile

– useable ribbon cable: AWG 26 ... 28

						
art. no.	no. of contacts	design	dim. [mm]			
			A	B	C	D
DS BK 09 LP	9	male	30.8	25.0	12.4	2.74
DS BK 15 LP	15	male	39.2	33.3	12.4	2.74
DS BK 25 LP	25	male	53.1	47.0	12.4	2.77
DS BK 37 LP	37	male	69.5	63.5	12.4	2.77
						
art. no.	no. of contacts	design	dim. [mm]			
			A	B	C	D
DB BK 09 LP	9	female	30.8	25.0	12.4	2.74
DB BK 15 LP	15	female	39.2	33.3	12.4	2.74
DB BK 25 LP	25	female	53.1	47.0	12.4	2.77
DB BK 37 LP	37	female	69.5	63.5	12.4	2.77
caseing frame:		steel, tin plated				
annotation:		IDC-cable pitch/ 1.27mm				

D-Sub hoods → I 18 – 21
 D-Sub filter adapter → I 9
 Application tools → H 10
 D-Sub standard connectors → I 3 – 6

D-Sub high density → I 7 – 8
 D-Sub filter connector → I 10
 D-Sub mixed layout → I 13 – 14
 Technical data → I 26 – 28

A

D-Sub mixed layout connectors

B

Male headers - suitable for standard D-Sub accessories

- gold-plated contacts
- with high current contacts up to 20 A
- for cables up to AWG 16

C

- 3 high current contacts

<p>art. no. DSM 3K3 L20</p>	<p>design male</p>

D

- 2 high current contacts, 5 signal contacts

<p>art. no. DSM 7K2 L20</p>	<p>design male</p>

E

F

- 3 high current contacts, 10 signal contacts

<p>art. no. DSM 13K3 L20</p>	<p>design male</p>

G

H

I

K

L

M

N

I 13

D-Sub high density
D-Sub connector in pressfit techn.
D-Sub standard connectors
D-Sub cut-out cover

→ I 7 - 8
→ I 16 - 17
→ I 3 - 6
→ I 22

D-Sub hoods
Screw fastening
HF-seals
Technical data


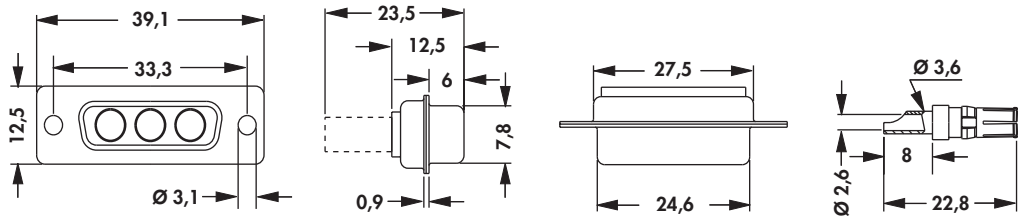
→ I 18 - 21
→ I 23
→ I 24
→ I 26 - 28

D-Sub mixed layout connectors


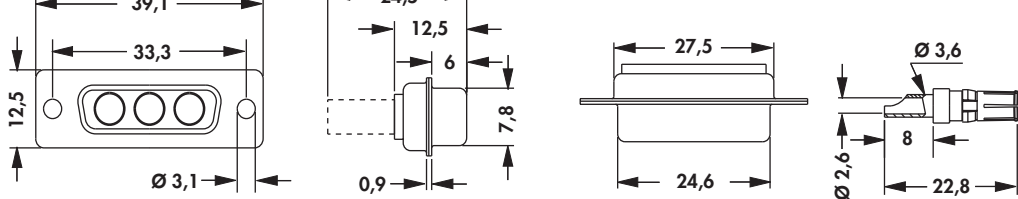
Female headers - suitable for standard D-Sub accessories

- gold-plated contacts
- with high current contacts up to 20 A
- for cables up to AWG 16


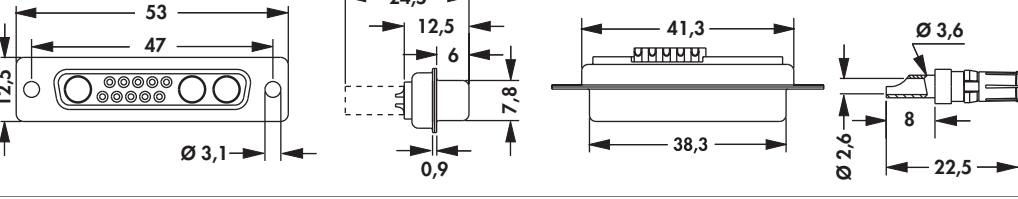
- 3 high current contacts

	
art. no. DBM 3K3 L20	design female

- 2 high current contacts, 5 signal contacts

	
art. no. DBM 7K2 L20	design female

- 3 high current contacts, 10 signal contacts

	
art. no. DBM 13K3 L20	design female

Screw fastening
D-Sub cut-out cover
D-Sub high density
HF-tight caps

→ I 23
 → I 22
 → I 7 - 8
 → I 24

D-Sub standard connectors
Screw fastening, loose
D-Sub hoods
Technical data

→ I 3 - 6
 → I 23
 → I 18 - 21
 → I 26 - 28

D-Sub in SMD-mounting

Male and female headers

– **packing:** tape and reel (150 pcs/reel); reel outer diameter 330 mm

art. no.	no. of contacts	dim. [mm]					
		A	B	Y	Z		
DS 09 SMD TR	9	30.8	25.0	10.98	1.37		
DS 15 SMD TR	15	39.2	33.3	19.20	1.37		
DS 25 SMD TR	25	53.1	47.0	33.12	1.38		
DS 37 SMD TR	37	69.5	63.5	49.68	1.38		
art. no.	no. of contacts	dim. [mm]					
		A	B	Y	Z		
DB 09 SMD TR	9	30.8	25.0	10.98	1.37		
DB 15 SMD TR	15	39.2	33.3	19.20	1.37		
DB 25 SMD TR	25	53.1	47.0	33.12	1.38		
DB 37 SMD TR	37	69.5	63.5	49.68	1.38		

I 15

D-Sub mixed layout
 D-Sub filter adapter
 D-Sub connectors /flat cable
 D-Sub cut-out cover

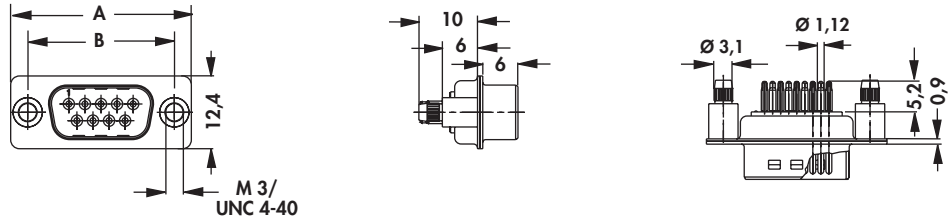
→ I 13 – 14
 → I 9
 → I 11
 → I 22

D-Sub standard connectors
 D-Sub high density
 D-Sub filter connector
 Technical data

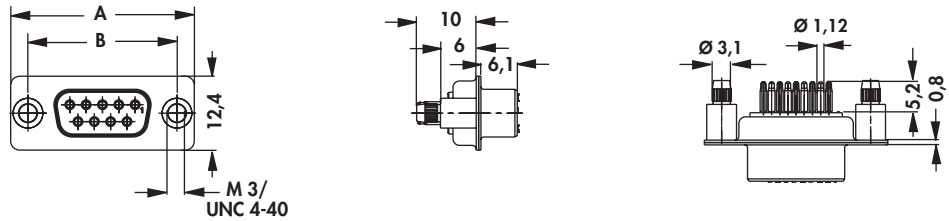
→ I 3 – 6
 → I 7 – 8
 → I 10
 → I 26 – 28

D-Sub connector in pressfit technology

Male and female headers



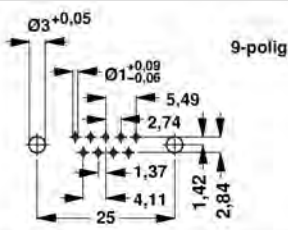
art. no.	no. of contacts	dim. [mm]	
		A	B
DS ... 9 P	9	30.8	25.0
DS ... 15 P	15	39.2	33.3
DS ... 25 P	25	53.1	47.0
DS ... 37 P	37	69.5	63.5



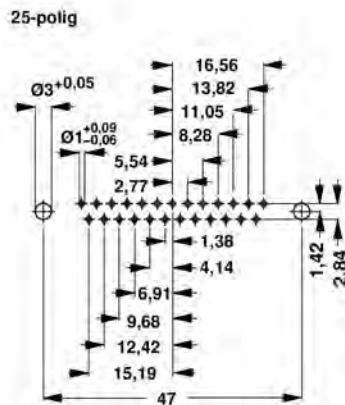
art. no.	no. of contacts	dim. [mm]	
		A	B
DB ... 9 P	9	30.8	25.0
DB ... 15 P	15	39.2	33.3
DB ... 25 P	25	53.1	47.0
DB ... 37 P	37	69.5	63.5

please indicate: ... type of thread
3 = M3
UNC = UNC 4-40

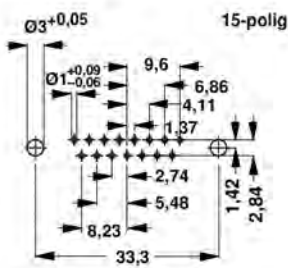
casing frame: steel, tin plated



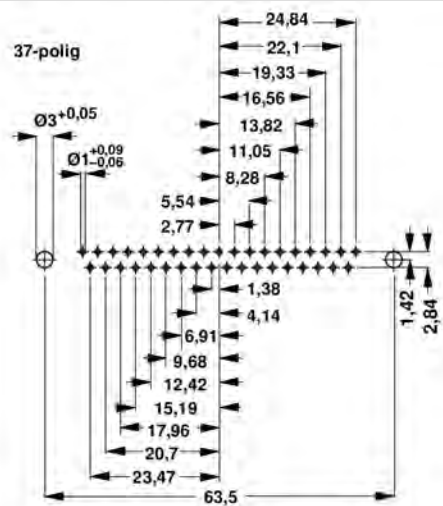
9-polig



25-polig



15-polig



37-polig

D-Sub mixed layout
Application tools
D-Sub filter adapter
Screw fastening

→ I 13 - 14
 → H 10
 → I 9
 → I 23

HF-seals
D-Sub connectors /flat cable
D-Sub hoods
Technical data

→ I 24
 → I 11 - 12
 → I 18 - 21
 → I 26 - 28

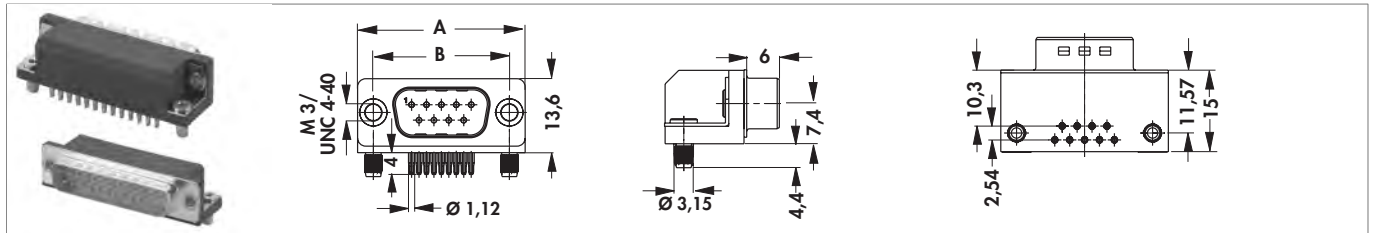
A

D-Sub connector in pressfit technology

B

Male and female headers

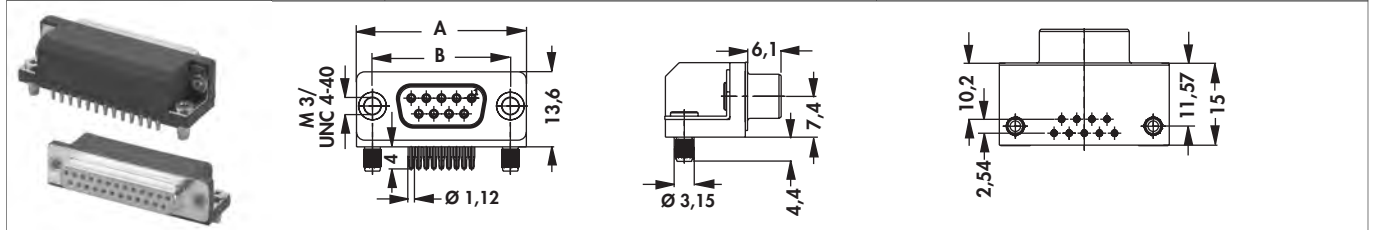
C



D

art. no.	no. of contacts	dim. [mm]	
		A	B
DS WP ... 9	9	30.8	25.0
DS WP ... 15	15	39.2	33.3
DS WP ... 25	25	53.1	47.0

E



F

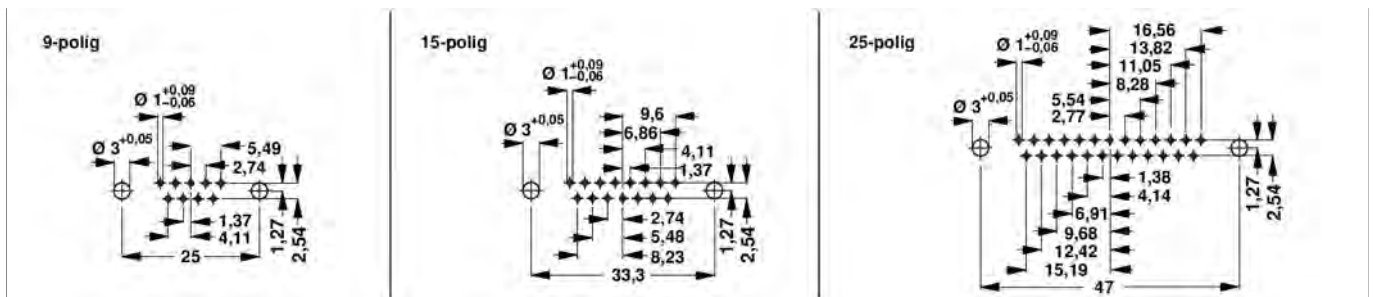
art. no.	no. of contacts	dim. [mm]	
		A	B
DB WP ... 9	9	30.8	25.0
DB WP ... 15	15	39.2	33.3
DB WP ... 25	25	53.1	47.0

G

please indicate: ... type of thread
 3 = M3
 UNC = UNC 4-40

caseing frame: steel, tin plated

H



I

K

L

M

N

I 17

D-Sub mixed layout
 Application tools
 D-Sub filter adapter
 Screw fastening


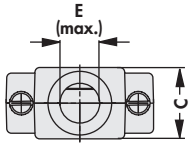
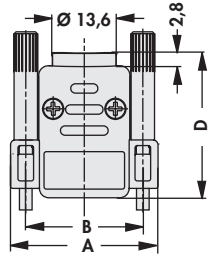
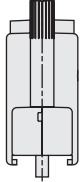

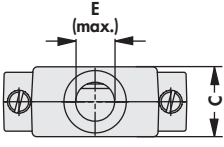
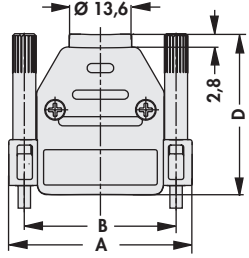
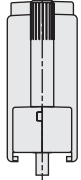
→ I 13 - 14
 → H 10
 → I 9
 → I 23

HF-seals
 D-Sub connectors /flat cable
 D-Sub hoods
 Technical data

→ I 24
 → I 11 - 12
 → I 18 - 21
 → I 26 - 28


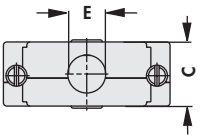
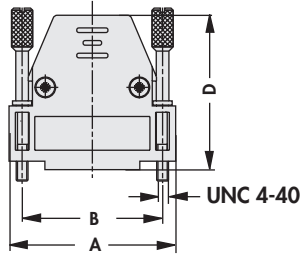
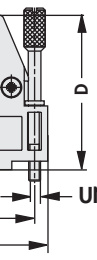
D-Sub hoods

- E = max. diameter of the cable entry in mm
- threaded bolt UNC 4-40
- large cable space with few components
- **9-37 contacts can be mounted in series in (C = 3 HP) grid, thus especially suitable for 19" technology**

						
art. no.	no. of contacts	dim. [mm]				
		A	B	C	D	E
DH 09 ...	9	31.5	25	15.2	31	8.5
						
art. no.	no. of contacts	dim. [mm]				
		A	B	C	D	E
DH 15 ...	15	40.0	33.3	15.2	33.5	8.5
DH 25 ...	25	53.5	47.0	15.2	38.0	11.0
DH 37 ...	37	70.0	63.5	15.2	40.0	11.0
DH 50 ...	50	67.5	61.1	18.2	40.0	12.0
please indicate:	... surface of case S = plastic, black M = plastic, metallized					

With self-cutting threaded bolt

- straight cable outlet with pre-assembled strain relief

						
art. no.	no. of contacts	dim. [mm]				
		A	B	C	D	E
DH SG 09 ...	9	31.0	25.0	16.0	35.6	8
DH SG 15 ...	15	39.5	33.3	16.0	36.6	9
DH SG 25 ...	25	53.0	47.0	16.0	41.0	10
DH SG 37 ...	37	69.5	63.5	16.0	45.3	11
DH SG 50 ...	50	67.0	61.1	19.8	51.4	14
please indicate:	... surface of case S = plastic, black M = plastic, metallized					

D-Sub filter connector → I 10
 D-Sub filter adapter → I 9
 D-Sub high density → I 7 - 8
 D-Sub standard connectors → I 3 - 6

D-Sub connectors /flat cable → I 11 - 12
 D-Sub mixed layout → I 13 - 14
 D-Sub connector in pressfit techn. → I 16 - 17
 Technical data → I 26 - 28

D-Sub hoods

D-Sub hoods with quick-action locking system

– straight and side-gated cable outlet

art. no.	no. of contacts	dim. [mm]		
		A	B	C
DH SV 09 ...	9	33.0	25.0	15.4
DH SV 15 ...	15	41.3	33.3	15.4
DH SV 25 ...	25	55.0	47.0	15.4
DH SV 37 ...	37	71.5	63.5	15.4
DH SV 50 ...	50	69.1	61.1	18.4

please indicate: ... surface of case
S = plastic, black
M = plastic, metallized

Accessories – locking pin for hood – hood connection

– 2 locking pins including locking plates

art. no.
RS HH

Accessories – locking pin for plug connector – hood connection

– 2 latch Pins including locking ring for connectors with thread M3/UNC 4-40

art. no.	type of thread	art. no.	type of thread
RS SH 3	M3	RS SH 4	UNC 4-40

D-Sub hoods

Accessories – locking pin for plug connector – hood connection

– 2 locking pins including spring washer, washer and nut for existing connector with through hole

art. no.		
RS SH D		

Cable sleeve - quick-release hood DH SV ...

– cable sleeves are supplied with chamfers, which are adequate to a diameter-grading of 0.5 mm; they can be cut off depending on the existing diameter of the cable.
 – for cable diameters 3...9 mm

art. no.	no. of contacts	
KT SV	9	

- D-Sub filter connector → I 10
- D-Sub filter adapter → I 9
- D-Sub high density → I 7 – 8
- D-Sub standard connectors → I 3 – 6

- D-Sub connectors /flat cable → I 11 – 12
- D-Sub mixed layout → I 13 – 14
- D-Sub connector in pressfit techn. → I 16 – 17
- Technical data → I 26 – 28

A
B
C
D
E
F
G
H
I
K
L
M
N

A

D-Sub hoods

B

D-Sub-hoods-compact

9-50 contacts

C



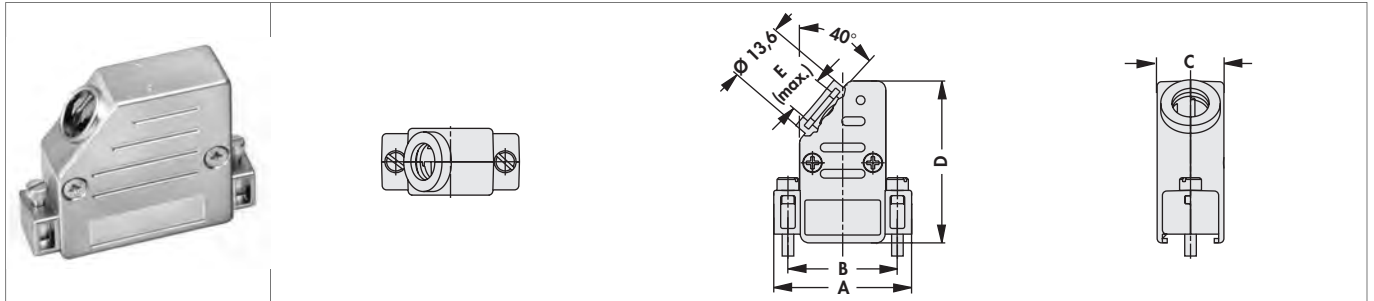
D

- width C - 3 HP
- version 9-37 pins can be mounted in series in 3 HP grid, thus especially suitable for 19" technology
- metallized version with excellent shielding against electrical and magnetic alternating fields
- integrated dust protective shroud
- captive latching screws with UNC 4-40 threads
- 2 side cable outputs:
 - 40° exit (9-50 contacts)
 - 90° exit (25-50 contacts)

E

- **E = max. diameter of the cable bushing in mm**

F



G

art. no.	no. of contacts	dim. [mm]				
		A	B	C	D	E
DH 09 ...	9	31.5	25.0	15.2	37	8.5
DH 15 ...	15	40.0	33.3	15.2	37	8.5
DH 25 ...	25	53.5	47.0	15.2	41	11.0
DH 37 ...	37	70.0	63.5	15.2	41	11.0
DH 50 ...	50	67.8	61.1	18.2	41	12.0

H

please indicate: ... surface of case
K = plastic, black
KM = plastic, metallized

I

K

L

M

N

I 21

D-Sub filter adapter
Application tools
D-Sub mixed layout
Screw fastening

→ I 9
 → H 10
 → I 13 - 14
 → I 23

HF-seals
D-Sub high density
D-Sub connector in pressfit techn.
Technical data

→ I 24
 → I 7 - 8
 → I 16 - 17
 → I 26 - 28

D-Sub accessoires

Suitable cable bushing

– protects the cable against damage by buckling

	<p>KT 0915</p>	<p>KT 2550</p>
art. no.	art. no.	art. no.
KT 0915	KT 2550	

Cover for D-Sub cut outs in front and back panel

– suitable for EMC application, closed on one side

– blank covers for exact sealing of unused D-Sub cut outs in front- and backpanels, size and form are like D-Sub housings

art. no.	dim. [mm]				art. no.	dim. [mm]			
	A	B	C	D		A	B	C	D
BADM 09	30.8	25.0	19.2	16.3	BADM 25	53.0	47.0	41.2	38.3
BADM 15	39.3	33.3	27.5	24.5	BADM 37	69.4	63.5	57.7	54.8
casing frame:	fin-plated								
surface of case:	metal								

– plastic cover, blank, for blind D-Sub and other connector cutouts in front and rear panels

– easy to mount with enclosed clamping springs

art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
BADP 09	25.0	31.2	14.7	BADP 37	63.5	69.9	14.7
BADP 15	33.3	39.6	14.7	BADP 50	61.1	67.6	14.7
BADP 25	47.0	53.3	14.7				
surface of case:	plastic, black						
fixing clamp:	steel						

D-Sub filter adapter
Application tools
D-Sub mixed layout
Screw fastening

→ I 9
→ H 10
→ I 13 – 14
→ I 23

D-Sub filter connector
D-Sub standard connectors
HF-seals
Technical data

→ I 10
→ I 3 – 6
→ I 24
→ I 26 – 28

A

D-Sub accessoires

B

Screw fastening, mounted


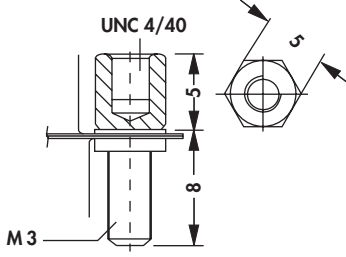
- 2 screw fastenings incl. spacer, washer, nut
- please add a **V** to the corresponding art. no. ...

art. no.	
... V	

D

Screw fastening, loose

- 2 separate screw fasteners, with washer and nut


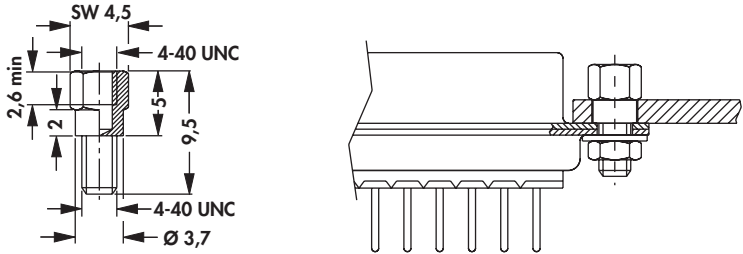
art. no.		
V 2		
material:		screw - brass nickel-plated/ steel-washer tin-plated/ screw-nut - steel nickel-plated

E

F

Screw fastening for assembly of cases, separate

- 2 screw fastenings incl. spacer, washer, nut

art. no.		
VG 2		
material:		steel-washer tin-plated/ screw and steel-screw-nut nickel-plated

G

H

I

K

L

M

N

I 23

D-Sub filter adapter
Application tools
D-Sub mixed layout
Screw fastening

→ I 9
 → H 10
 → I 13 - 14
 → I 23


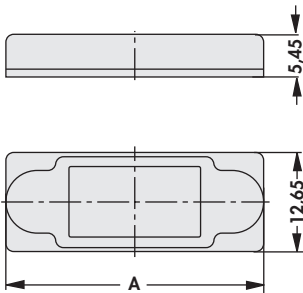
D-Sub filter connector
D-Sub standard connectors
HF-seals
Technical data

→ I 10
 → I 3 - 6
 → I 24
 → I 26 - 28

D-Sub accessoires


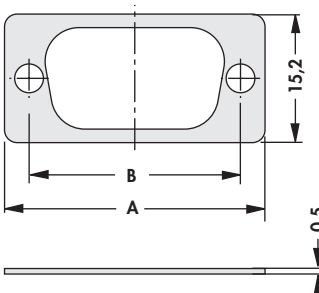
HF-tight caps, male and female headers

– prevent HF-radiation at open interfaces

					
	art. no.	colour	dim. [mm] A	art. no.	colour
HFK S 09	blue	32.9	HFK B 09	red	32.9
HFK S 15	blue	41.3	HFK B 15	red	41.3
HFK S 25	blue	55.7	HFK B 25	red	55.7
annotation:		inside nickel-plated			

HF-seals

– as seal between plug and housing

			
	art. no.	dim. [mm]	
	A	B	
HFD 09	30.8	25.0	
HFD 15	39.4	33.3	
HFD 25	53.4	47.0	
HFD 37	70.7	63.5	
annotation:		extremely low transition resistance	

A

Dust protection caps

B

For male headers

art. no.	dim. [mm]	
	A	B
SSK S 09	22.5	18.2
SSK S 15	30.6	26.5
SSK S 25	43.7	39.8
SSK S 37	60.3	56.2

C

D

E

For female headers

art. no.	dim. [mm]	
	A	B
SSK B 09	22.3	17.00
SSK B 15	30.6	25.00
SSK B 25	44.1	38.65
SSK B 37	60.7	55.30

annotation: extremely low transition resistance

F

G

H

I

K

L

M

N

Technical data D-Sub connectors

	DS ..., DB ...	HD B ..., HD S ...	FD A ..., FD B ..., FD S ...	DS BK ..., DB BK ...
contact material	Cu-alloy			
surface contact / contact sleeve	hard gold plated over nickel			
quality class / cyces of operation	quality class 2 = 200 cycles of operation			quality class 3 = 50 cycles of operation
volume resistance	≤10 mΩ before strain, ΔR 10 mΩ after strain according to DIN 41652. part 2 (MIL-C-24308)			≤10 mΩ
air gap and creep distance	cont.-contact <1mm/ contact- earth <1mm	cont.-contact <0.6mm/ con- tact-earth <0.6mm	cont.-contact <1mm/ contact- earth <1mm	<0.9mm accord- ing to VDE0110
nominal current	5A (20°C)	3A (20°C)	5A (20°C)	1A at AWG 28/ 1.5A at AWG 26
nominal voltage	125 V AC	60 V AC	100 V DC	
test voltage	1000 V		250 V DC	1000 V DC
insulating body material	PBT, GF		PCT, GF	PBTP, GF
temperature range	-55°C... +125°C			
class of flammibility	UL 94 V-0			
insulation resistance	≥5 GΩ		≥1 GΩ (100V DC)	1 GΩ

Technical data D-Sub connectors

	DS BK LP ..., DB BK LP ...	DBM ..., DSM ...	DH ... S, DH ... M, DH SG ..., DH SV ...	KT SV
contact material	Cu-alloy			
surface contact / contact sleeve	hard gold plated over nickel	nickel-phosphor- us-gold-surface/ ($\geq 0.1\mu\text{m}$ Au over 2...4 μm chem. NiP)		
quality class / cyces of operation	quality class 2 = 200 cycles of op- eration	≥ 500 cycles of operation		
volume resistance	≤ 10 m Ω before strain, ΔR 10 m Ω after strain accord- ing to DIN 41652. part 2 (MIL-C-24308)			
air gap and creep distance	cont.-contact < 1 mm/ contact- earth < 1 mm	≥ 1 mm		
nominal current	1 A (20°C)	signal contact: ≤ 5 A/ power contact: ≤ 20 A		
nominal voltage	125 V AC	400 V/ degree of pollution 1		
test voltage	1000 V			
insulating body material	PBT, GF	Polyester, GF	ABS	EPTR
temperature range	-55°C... +125°C	-55°C... +150°C		
class of flammibility	UL 94 V-0		UL 94 V-0 (at thickness ≥ 3 mm), UL 94 V-1	
insulation resistance	≥ 5 G Ω	$\geq 10^9$ Ω		
surface of case			plastic, black/ plastic, metallized	

Technical data D-Sub connectors

	DH ... K DH ... KM	BADM ...	BADP ...	HFK S ... HFK B ...
insulating body material	ABS			ABS
temperature range				-25°C... +70°C
class of flammability	UL 94 V-0			UL 94 V-0
surface of case	plastic, black/ plastic, metallized	metal	plastic, black	

	HFD ...	SSK S ... SSK B ...
insulating body material	Silicone, filled with silver-plated copper particles	Polyethylene



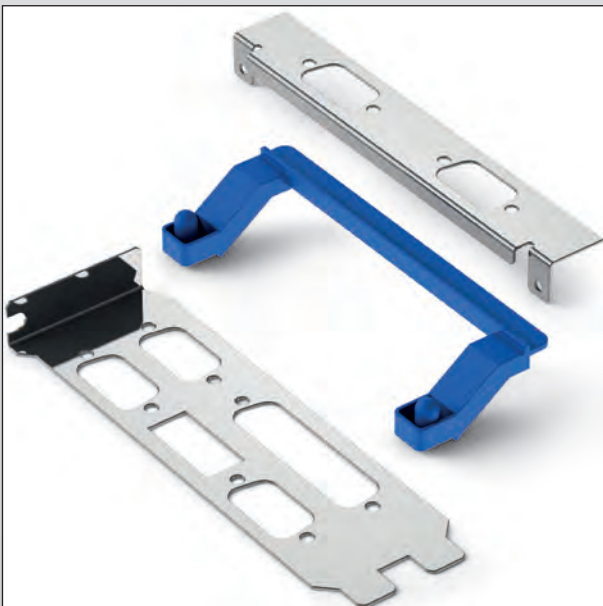
Brackets for PCI

- with or without fixing tab
- standard cut-outs
- custom-specific cut-outs
- custom-specific printings



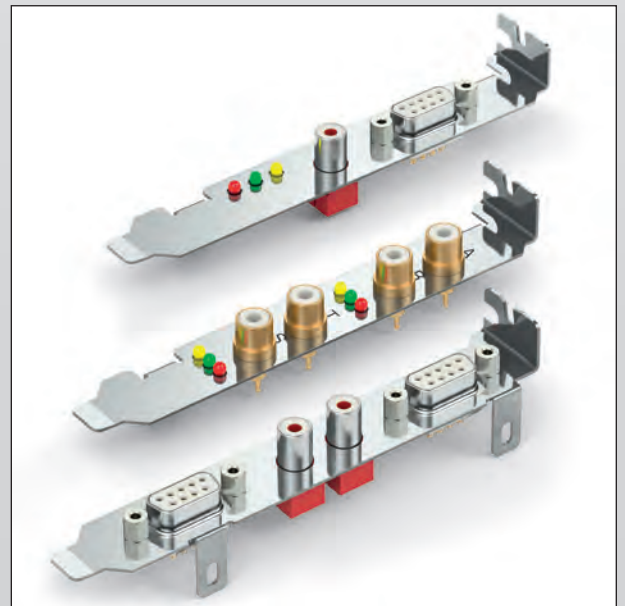
Brackets for AT and similar

- with or without fixing tab
- standard cut-outs
- custom-specific cut-outs
- custom-specific printings



Custom-specific brackets

- double width
- special width
- with printing



Equipped brackets

- equipped with D-Sub
- equipped with LED
- equipped with custom-specific components

A

Brackets for PC

B

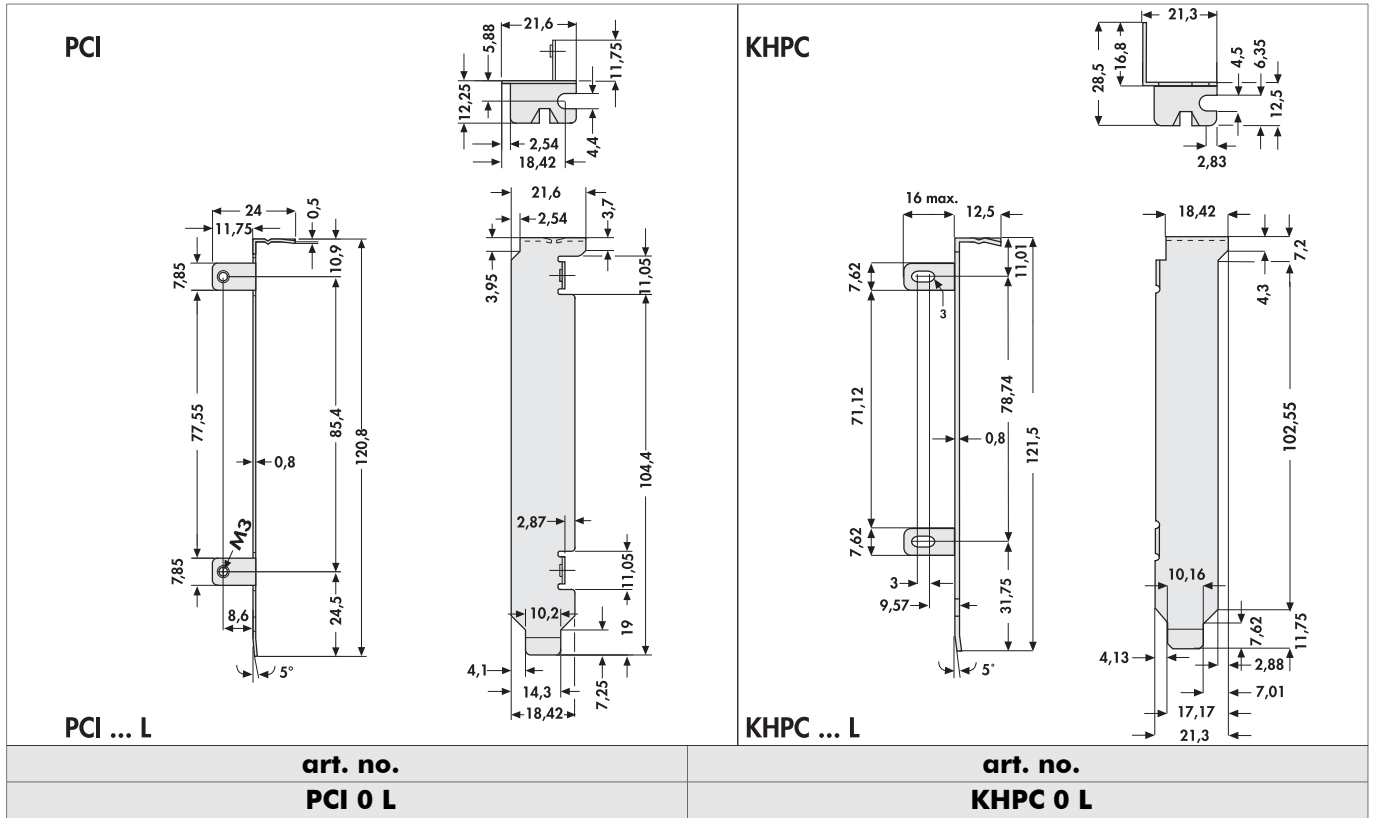
Brackets with fixing tap and without cutout

C

D

E

F



G

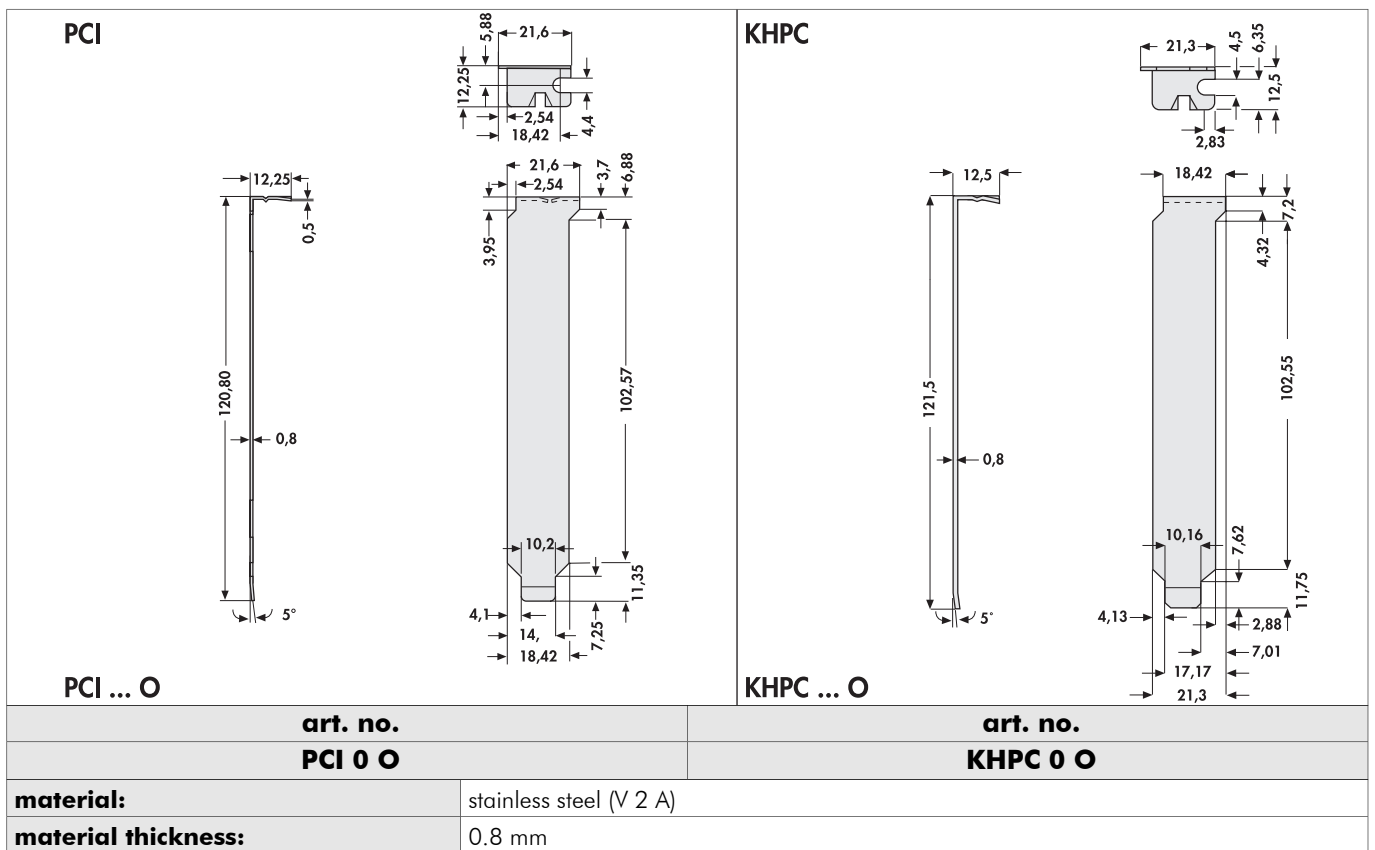
Bracket without fixing tab and without cutout

H

I

K

L



M

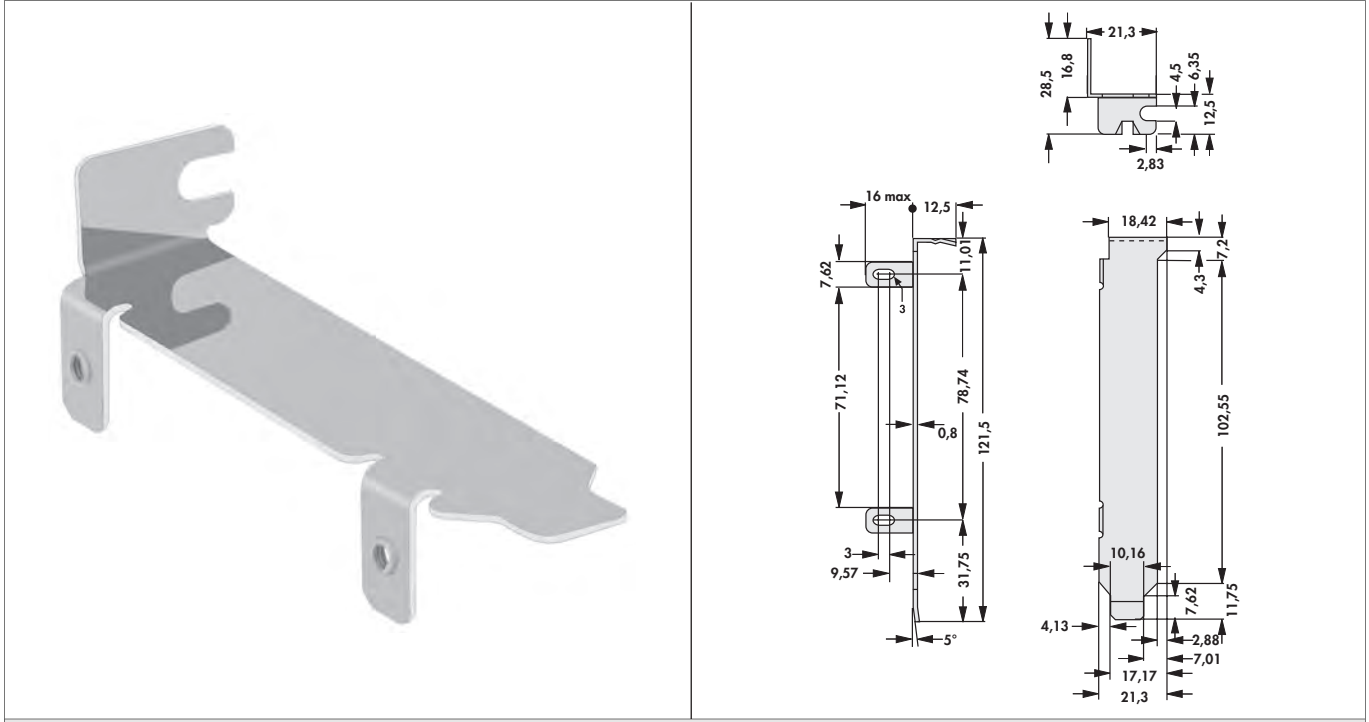
N

K 3

Low Profile bracket for PC

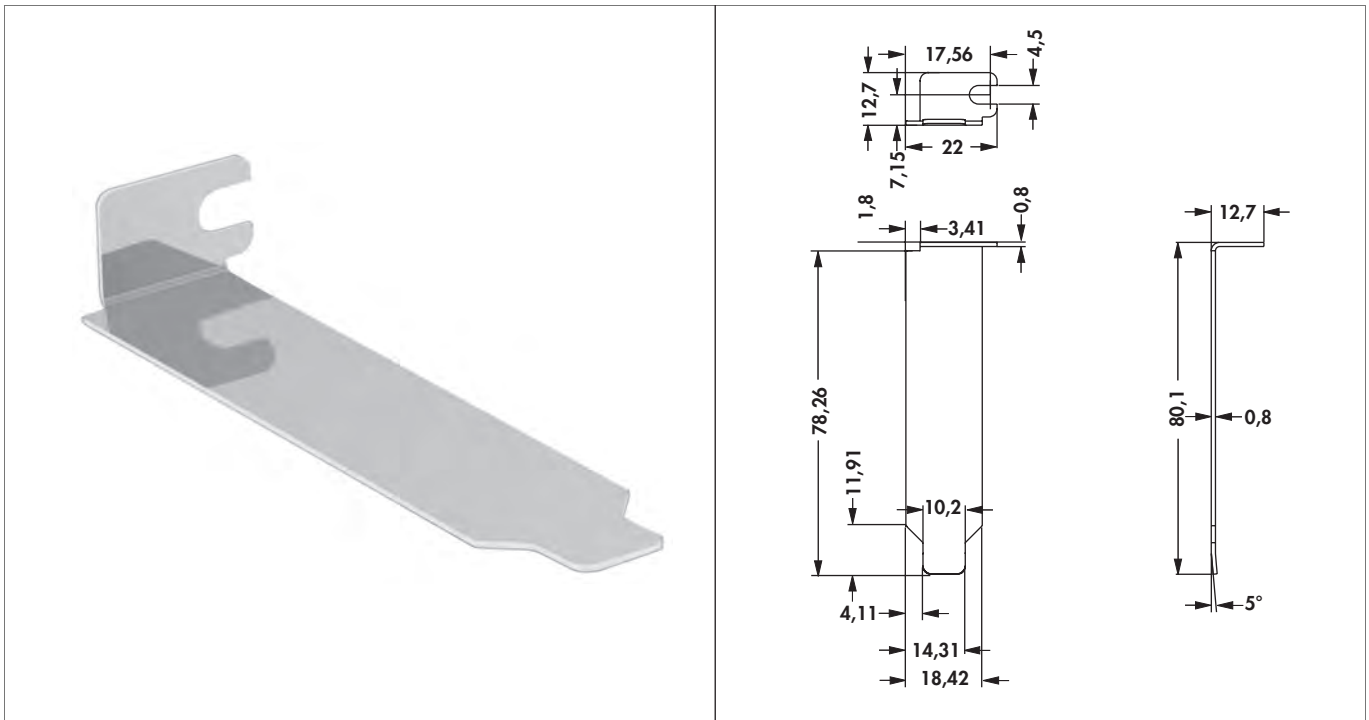
Low Profile bracket with fixing tap and without cutout

- with or without fixing tap; standard cutouts
- customer-specific cutouts and printing; double width (special widths) on request



art. no.
PCI LP ... L

Low Profile bracket without fixing tap and without cutout



art. no.
PCI LP ... O

material:	steel sheet, hot-dip aluminised
material thickness:	0.8 mm

A
B
C
D
E
F
G
H
I
K
L
M
N

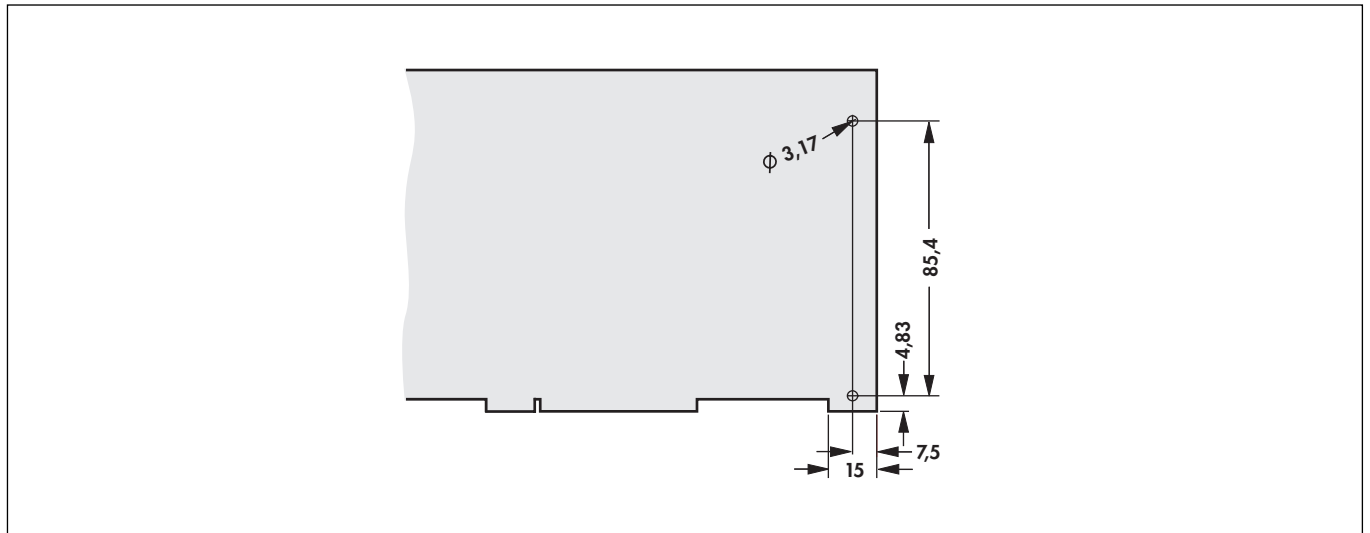
A

Dimensional drawing for PCBs

B

C

D



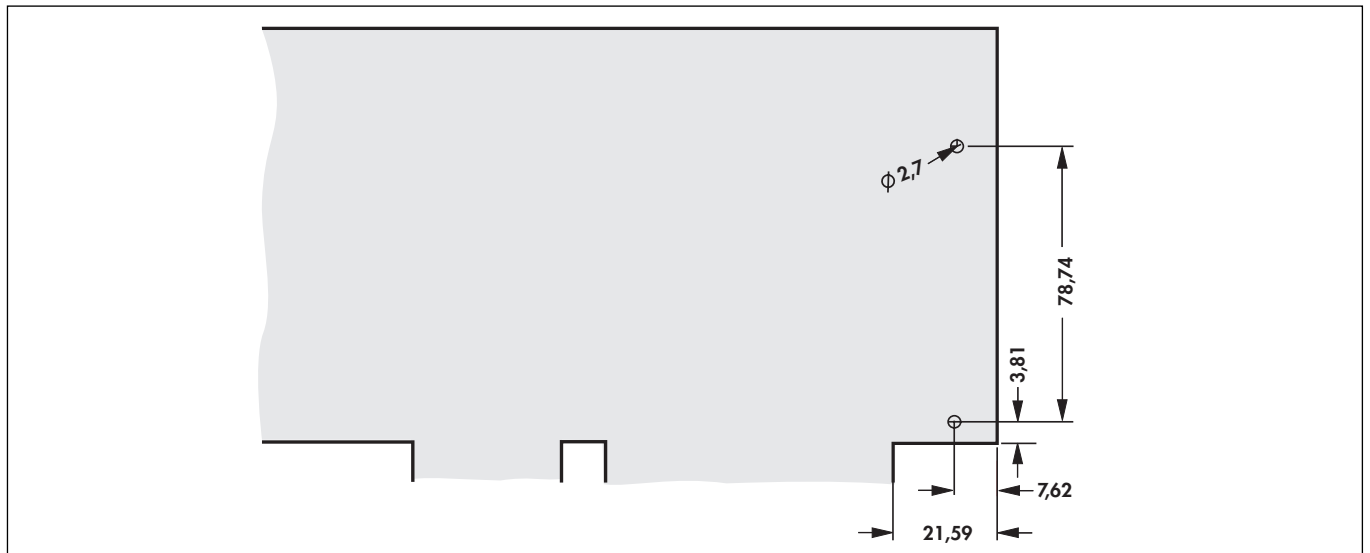
E

Dimensions to fix the PCI L... - bracket to the PCB

F

G

H



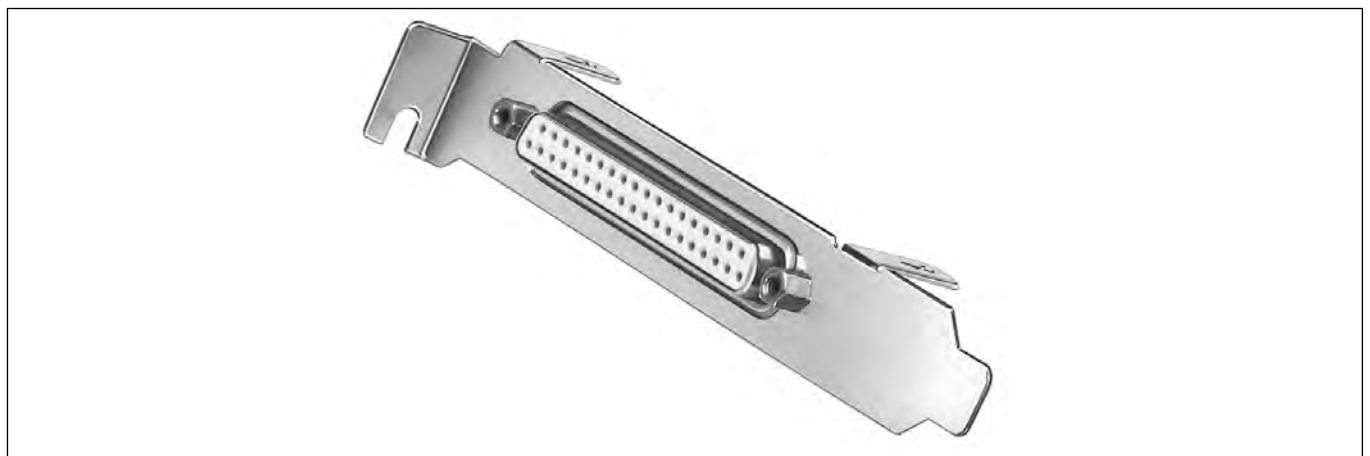
I

Dimensions to fix the KHPC L... - bracket to the PCB

K

L

M



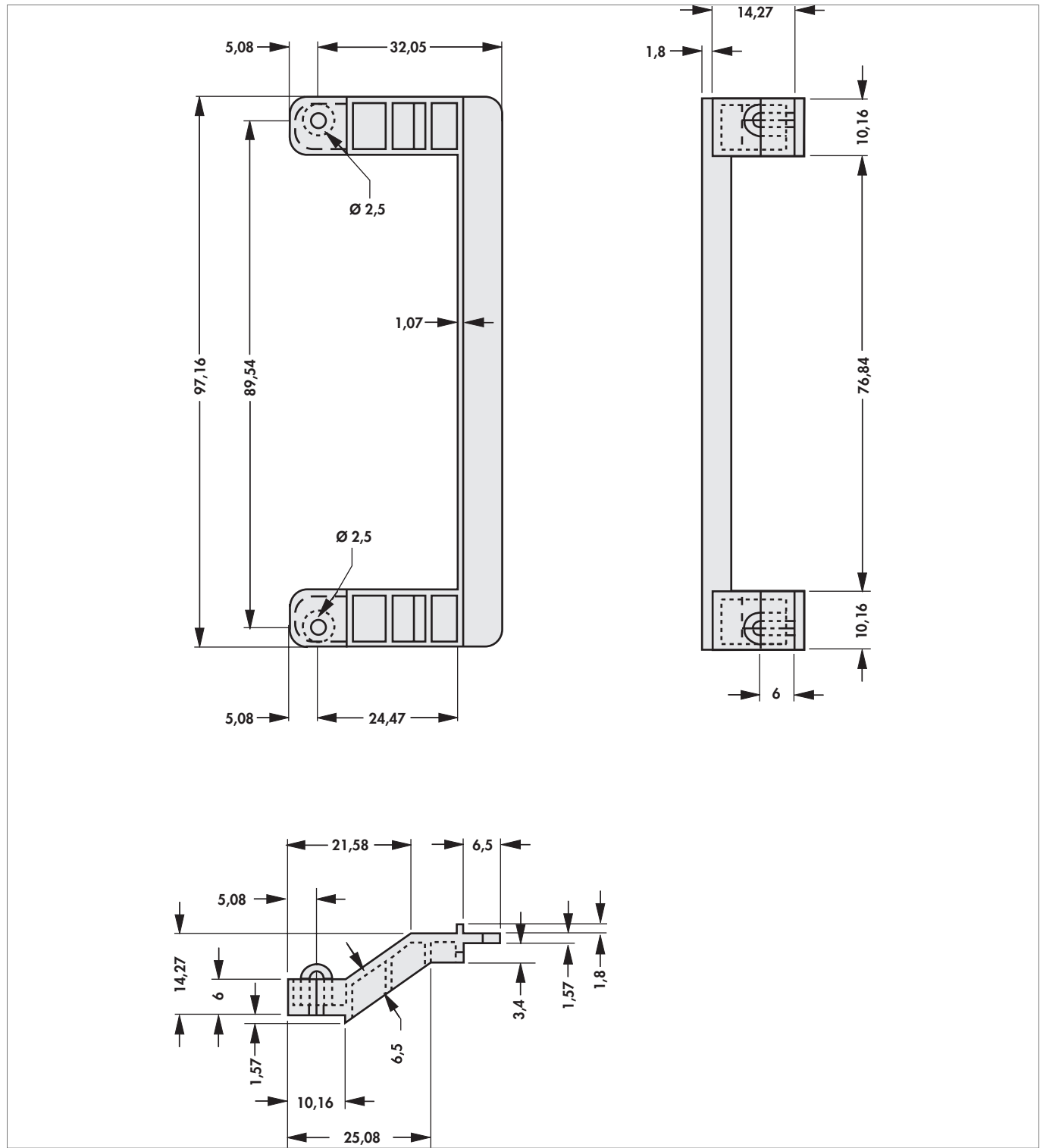
On request also available with D-Sub connector!

N

K 5

Retainers for PCI-cards

– suitable for all ISA-versions



art. no.

PCI R1

class of flammibility:

UL 94 V-0

material:

polycarbonate

A

Brackets for PC

B

C

D

E

F

G

H


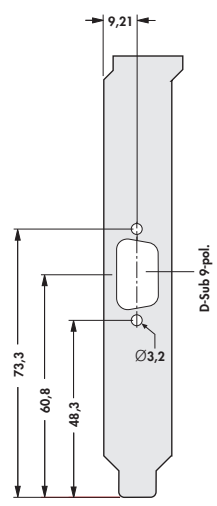
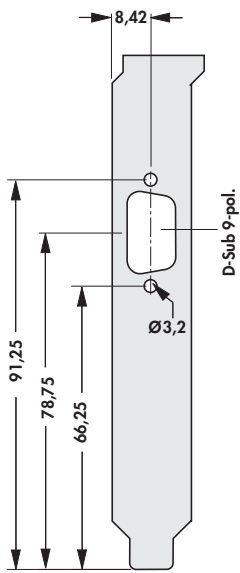
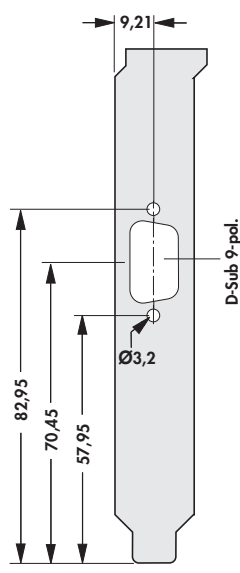
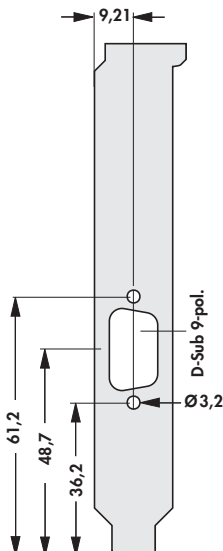
I

K

L


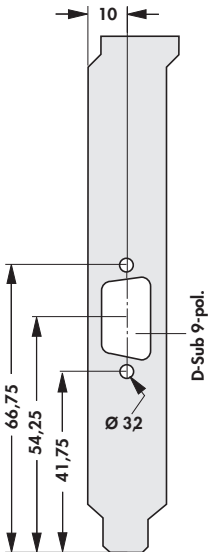
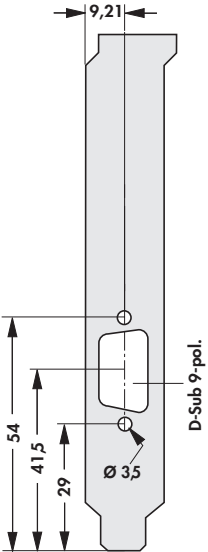
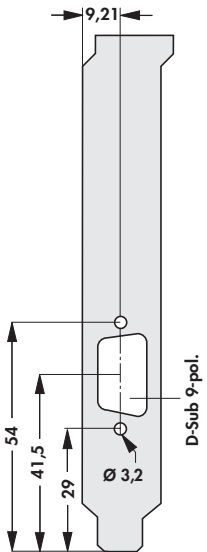
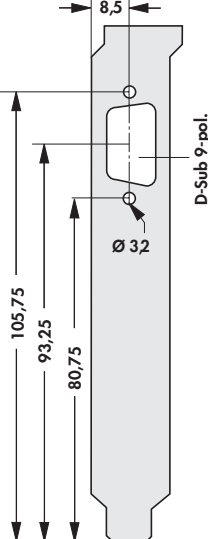
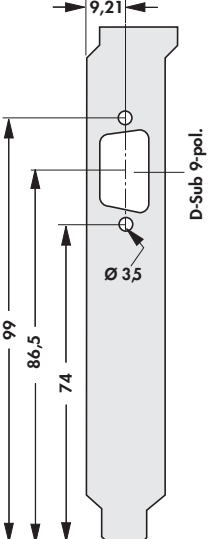
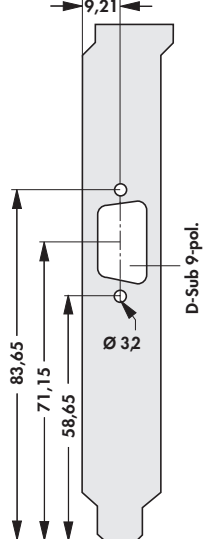
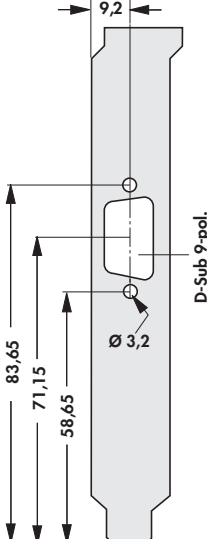
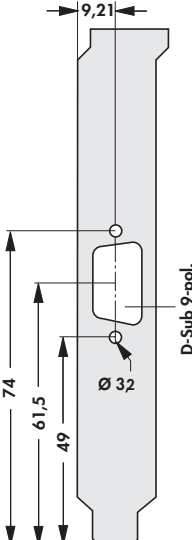
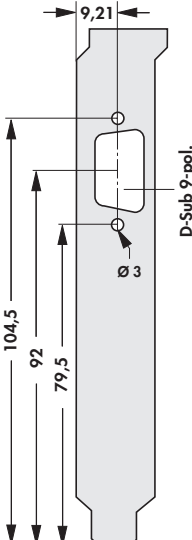
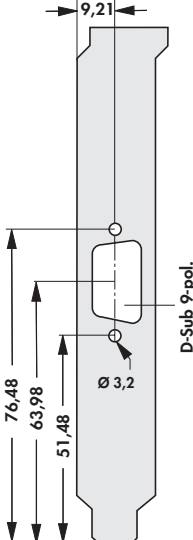
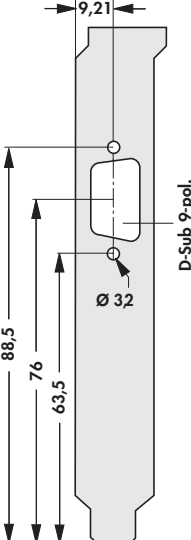
M

N

	<p>PCI 004</p> 	<p>PCI 006</p> 	<p>PCI 005</p> 
<p>PCI 055</p> 			

K 7

If you do not find a suitable bracket, please use the PCI / KHPC design sheet at the end of section "K".

	<p>KHPC 016</p> 	<p>KHPC 007</p> 	<p>KHPC 011</p> 
<p>KHPC 002</p>	<p>KHPC 008</p>	<p>KHPC 094 O</p>	<p>KHPC 003</p>
			
<p>KHPC 010</p>	<p>KHPC 014</p>	<p>KHPC 093</p>	<p>KHPC 096</p>
			
<p>KHPC 009</p>	<p>KHPC 013</p>	<p>KHPC 092</p>	<p>KHPC 095</p>

please indicate:

... fixing tab

O = bracket without fixing tab

L = bracket with fixing tab

K 8

A

Brackets for PC

B

C

D

E

F

G

H


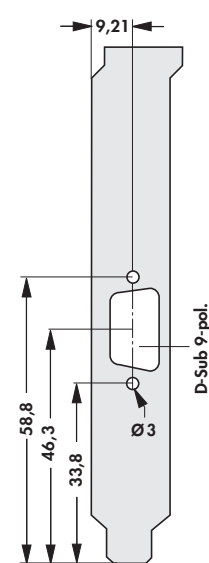
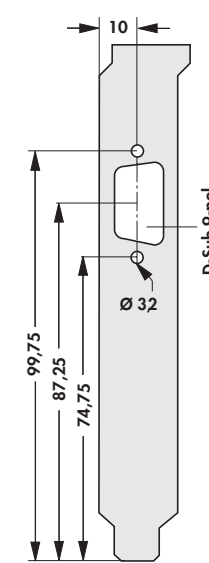
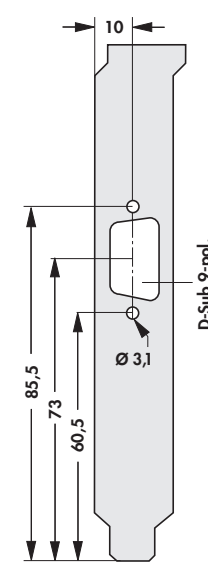

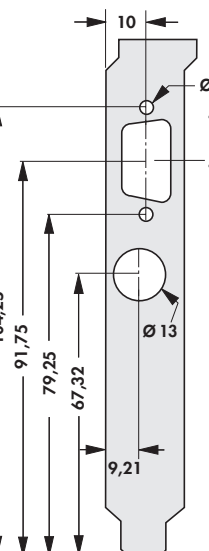
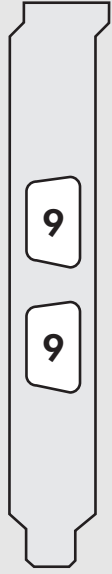
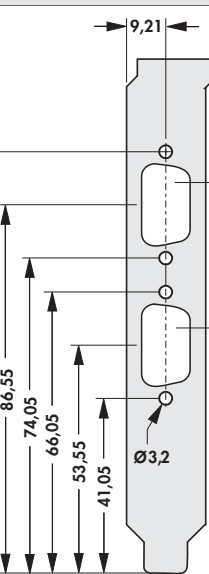
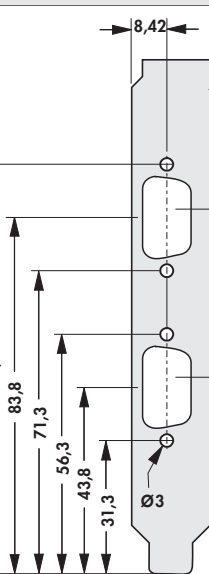
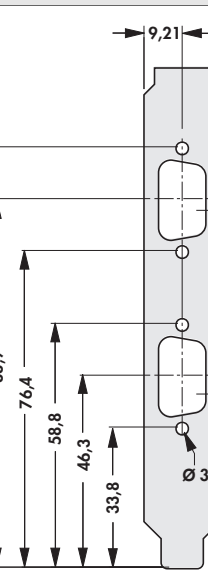
I

K

L

M

N

	<p>KHPC 013</p> 	<p>KHPC 017</p> 	<p>KHPC 095</p> 
	<p>KHPC 131</p> 		
	<p>PCI 012</p> 	<p>PCI 011</p> 	<p>PCI 039 L</p> 

K 9

If you do not find a suitable bracket, please use the PCI / KHPC design sheet at the end of section "K".

Brackets for PC

<p>PCI 013</p> <p>Dimensions: 8,42, 99,05, 86,55, 74,05, 66,05, 53,55, 41,05, Ø3,2</p>	<p>PCI 041</p> <p>Dimensions: 9,21, 100, 87,5, 75, 61,9, 49,4, 36,9, Ø3,2</p>		
<p>Dimensions: 10</p>	<p>KHPC 142</p> <p>Dimensions: 9, 102,15, 89,65, 77,15, 60,15, 47,65, 35,15, Ø3,2</p>	<p>KHPC 072</p> <p>Dimensions: 9,21, 99,5, 87, 74,5, 61,1, 48,6, 36,1, Ø3,2</p>	<p>KHPC 012</p> <p>Dimensions: 9,21, 104,5, 92, 79,5, 58,8, 46,3, 33,8, Ø3</p>
<p>KHPC 015</p> <p>Dimensions: 10, 99,75, 87,25, 74,75, 66,75, 54,25, 41,75, Ø3,2</p>	<p>KHPC 006</p> <p>Dimensions: 9,21, 99, 86,5, 74, 54, 41,5, 29, Ø3,5</p>	<p>KHPC 009</p> <p>Dimensions: 9,21, 108,5, 96, 83,5, 74, 61,5, 49, Ø3,2</p>	<p>KHPC 053 O</p> <p>Dimensions: 9, 101,25, 88,75, 76,25, 60,25, 47,75, 35,25, Ø3,2</p>

please indicate:

... fixing tab

- O = bracket without fixing tab
- L = bracket with fixing tab

K 10

A

Brackets for PC

B

C

D

E

F

G

H

I

K

L

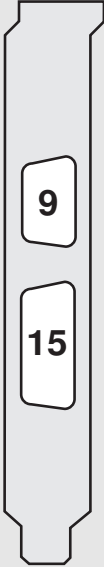
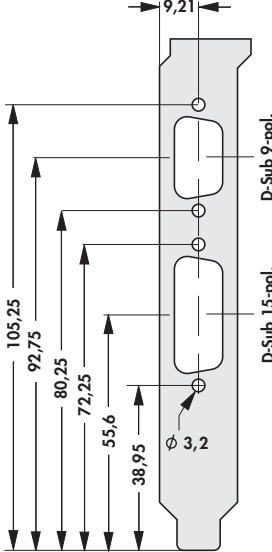
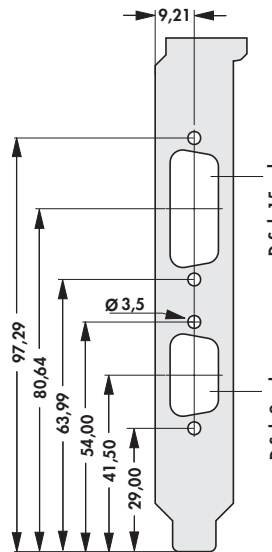
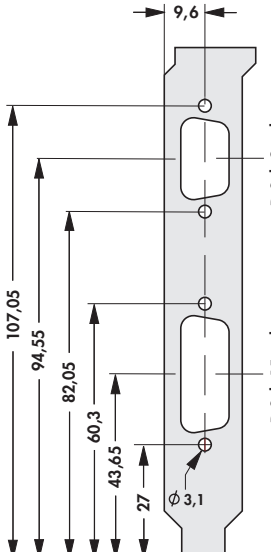
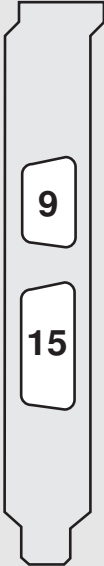
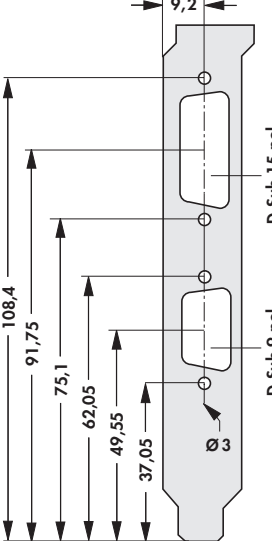
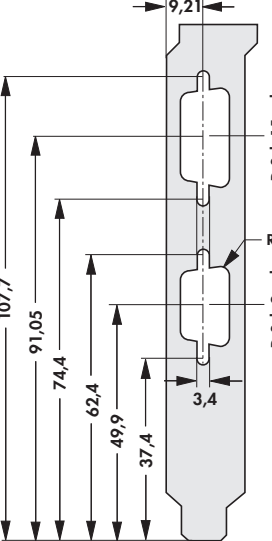
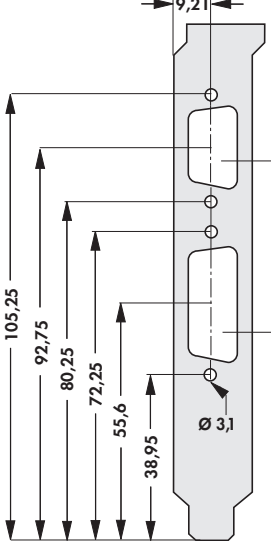
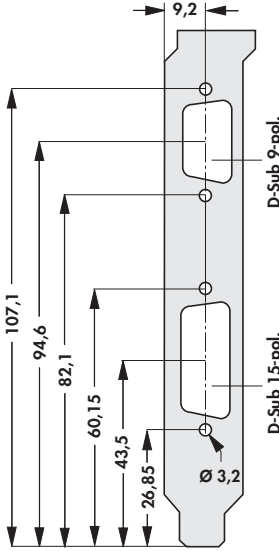
M

N

<p>KHPC 141</p>	<p>KHPC 144</p>	<p>KHPC 138</p>	<p>KHPC 143</p>
	<p>KHPC 160</p>		
	<p>KHPC 005 O</p>	<p>KHPC 065 O</p>	<p>KHPC 454 O</p>

K 11

If you do not find a suitable bracket, please use the PCI / KHPC design sheet at the end of section "K".

	<p>PCI 031</p> 	<p>PCI 065 O</p> 	<p>PCI 032 O</p> 
	<p>KHPC 177 O</p> 	<p>KHPC 178</p> 	<p>KHPC 076</p> 
<p>KHPC 179</p> 			

please indicate:

... fixing tab

O = bracket without fixing tab

L = bracket with fixing tab

A

Brackets for PC

B

C

D

E

F

G

H


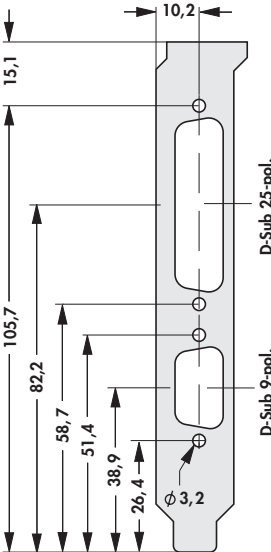

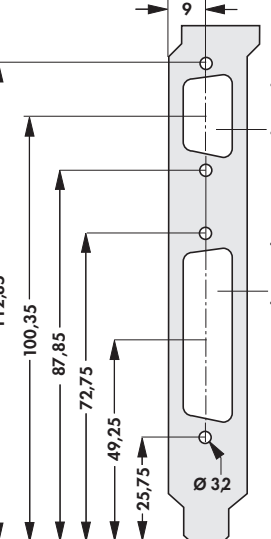
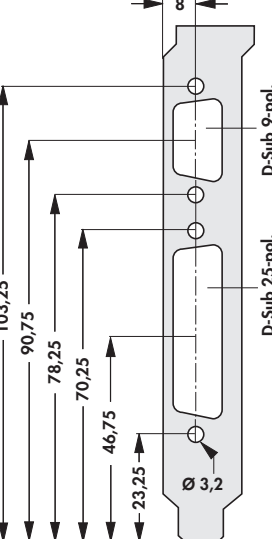
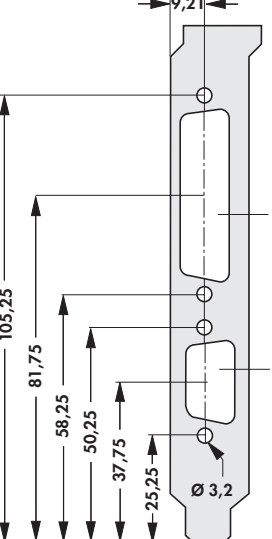
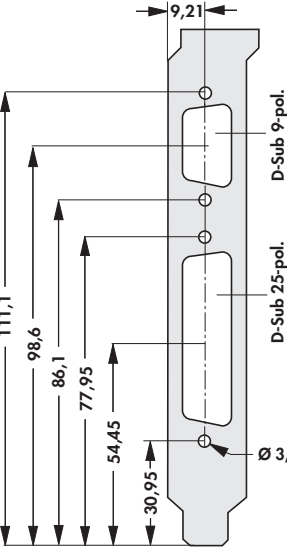
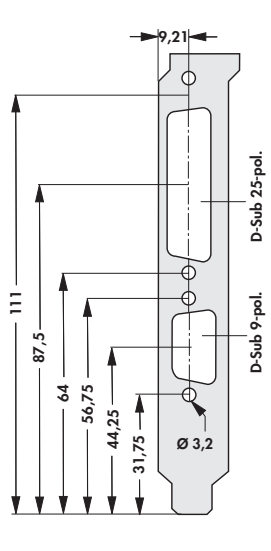
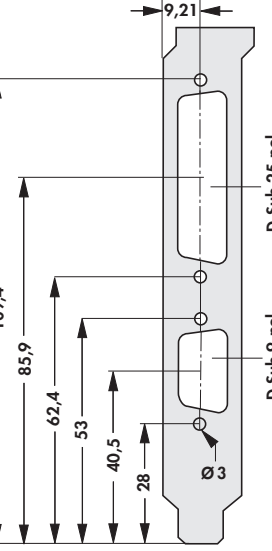
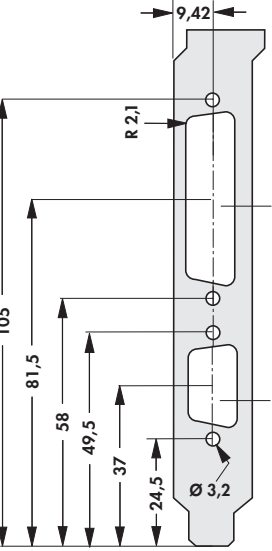
I

K

L

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N

	<p>PCI 033 ...</p> 		
	<p>KHPC 041</p> 	<p>KHPC 189</p> 	<p>KHPC 185</p> 
<p>KHPC 038</p> 	<p>KHPC 187</p> 	<p>KHPC 061</p> 	<p>KHPC 078 O</p> 

K 13

If you do not find a suitable bracket, please use the PCI / KHPC design sheet at the end of section "K".

<p>KHPC 188</p>	<p>KHPC 040</p>		
	<p>PCI 045</p>	<p>PCI 014 L</p>	<p>PCI 015</p>
	<p>KHPC 024</p>	<p>KHPC 019</p>	<p>KHPC 073</p>

please indicate:

... fixing tab

O = bracket without fixing tab

L = bracket with fixing tab

A

Brackets for PC

B

C

D

E

F

G

H


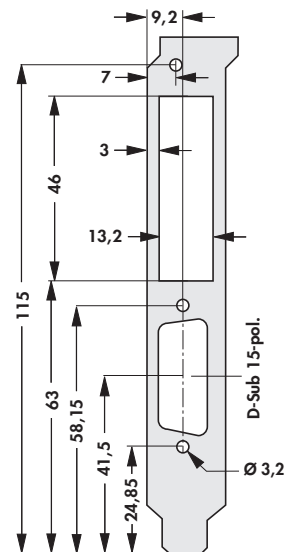
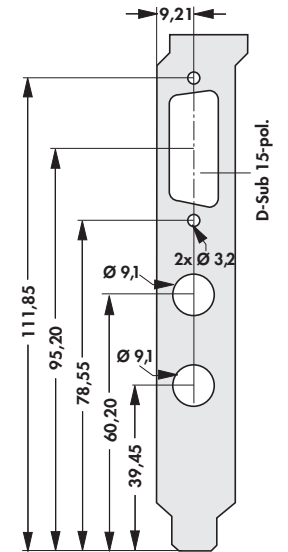
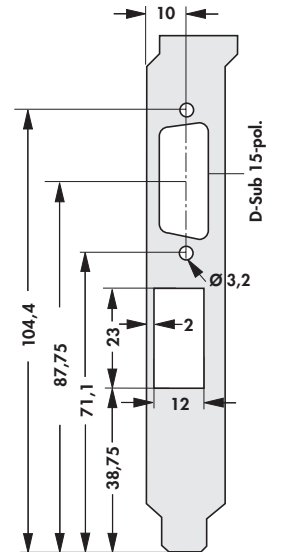
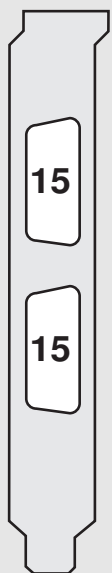
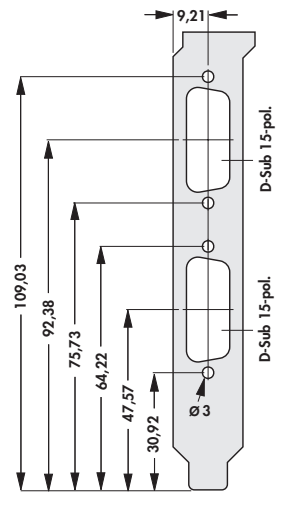
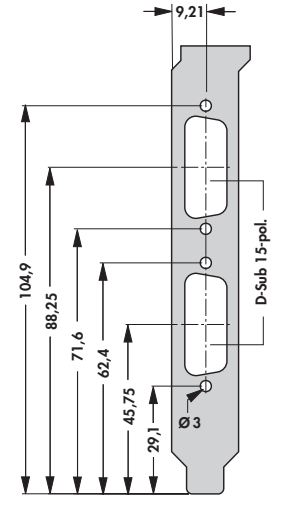
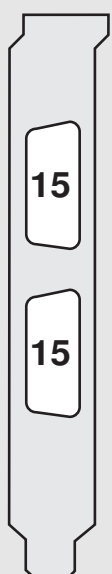
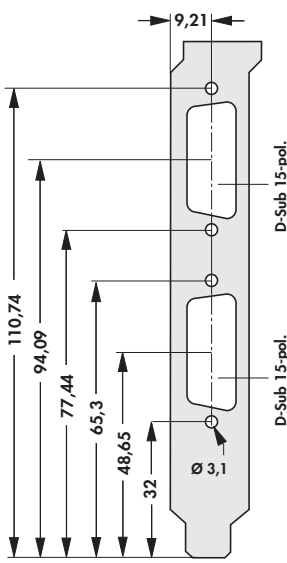
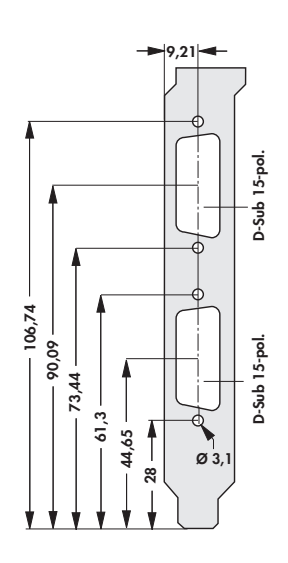
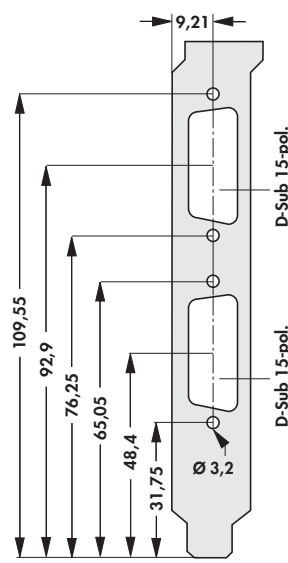
I

K

L

M

N

	<p>KHPC 200</p> 	<p>KHPC 455 ...</p> 	<p>KHPC 218</p> 
	<p>PCI 071</p> 	<p>PCI 047</p> 	
	<p>KHPC 018</p> 	<p>KHPC 225</p> 	<p>KHPC 069</p> 

K 15

If you do not find a suitable bracket, please use the PCI / KHPC design sheet at the end of section "K".

Brackets for PC

<p>KHPC 230</p>	<p>KHPC 022</p>	<p>KHPC 229</p>	
	<p>KHPC 075</p>	<p>KHPC 241</p>	<p>KHPC 042</p>
<p>KHPC 242</p>			

please indicate:

... fixing tab

- O = bracket without fixing tab
- L = bracket with fixing tab

A

Brackets for PC

B

C

D

E

F

G

H


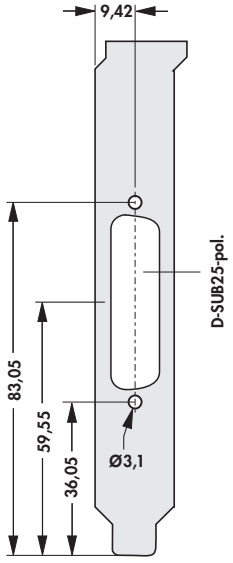
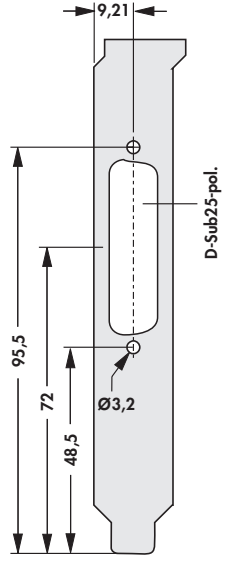
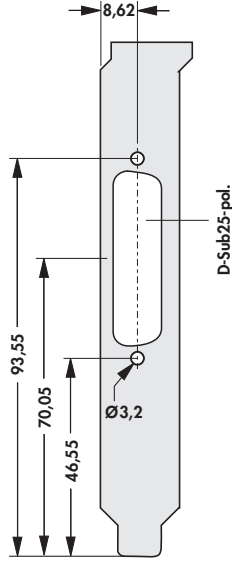

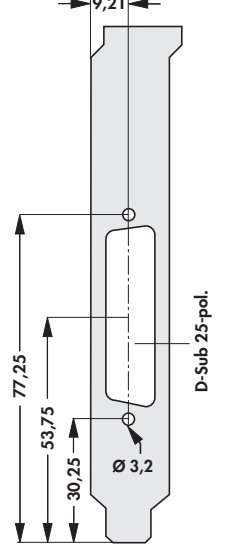
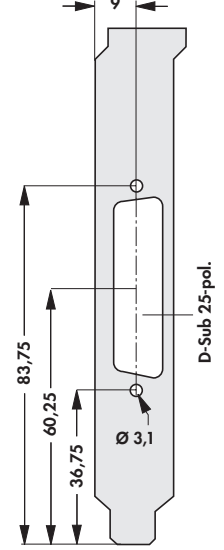
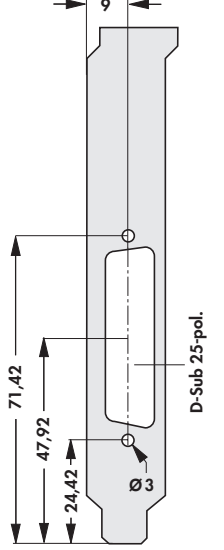
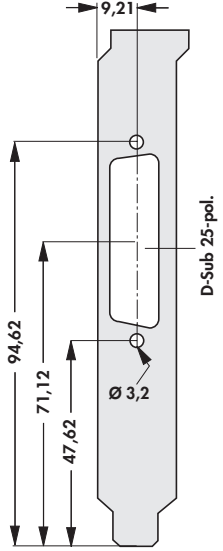
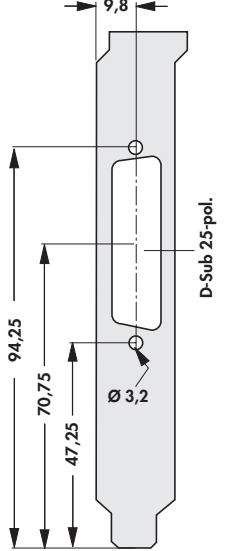
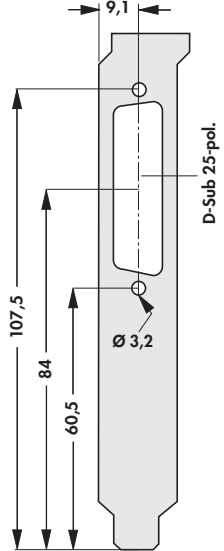
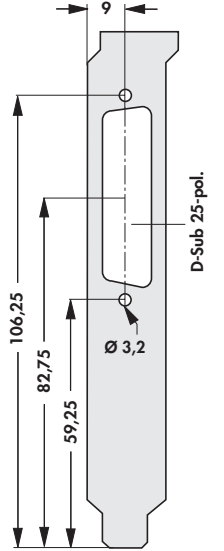
I

K

L

M

N

 <p>25</p>	<p>PCI 016</p>  <p>D-Sub25-pol.</p>	<p>PCI 018</p>  <p>D-Sub25-pol.</p>	<p>PCI 017</p>  <p>D-Sub25-pol.</p>
 <p>25</p>	<p>KHPC 028</p>  <p>D-Sub 25-pol.</p>	<p>KHPC 070</p>  <p>D-Sub 25-pol.</p>	<p>KHPC 243</p>  <p>D-Sub 25-pol.</p>
<p>KHPC 026</p>  <p>D-Sub 25-pol.</p>	<p>KHPC 052</p>  <p>D-Sub 25-pol.</p>	<p>KHPC 054</p>  <p>D-Sub 25-pol.</p>	<p>KHPC 027</p>  <p>D-Sub 25-pol.</p>

K 17

If you do not find a suitable bracket, please use the PCI / KHPC design sheet at the end of section "K".

<p>25</p>	<p>PCI 072</p>		
<p>25</p>	<p>KHPC 262</p>	<p>KHPC 043</p>	
<p>37</p>	<p>PCI 020</p>	<p>PCI 077</p>	<p>PCI 076 O</p>

please indicate:

... fixing tab

O = bracket without fixing tab

L = bracket with fixing tab

A

Brackets for PC

B

C

D

E

F

G

H

I

K

L

M

N

<p>PCI 035 L</p>			
	<p>KHPC 033</p>	<p>KHPC 271</p>	<p>KHPC 058</p>
<p>KHPC 032</p>	<p>KHPC 035</p>	<p>KHPC 270</p>	<p>KHPC 031</p>

K 19

If you do not find a suitable bracket, please use the PCI / KHPC design sheet at the end of section "K".

Brackets for PC

<p>KHPC 034</p>	<p>KHPC 267 O</p>	<p>KHPC 277</p>	
<p>37</p>	<p>KHPC 029</p>	<p>KHPC 295 O</p>	
<p>50</p>	<p>KHPC 036</p>	<p>KHPC 051</p>	<p>KHPC 308</p>

please indicate:

- ... fixing tab
- O = bracket without fixing tab
- L = bracket with fixing tab

A

Brackets for PC

B

C

D

E

F

G

H


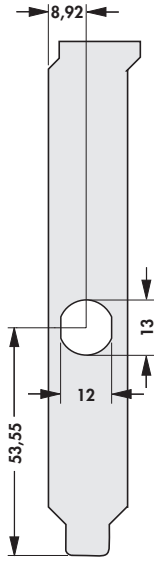

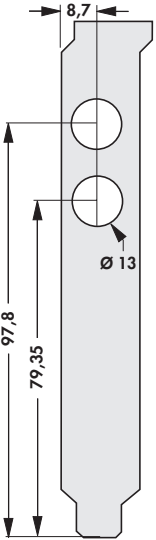

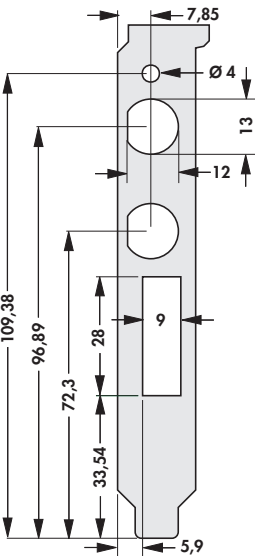
I

K

L


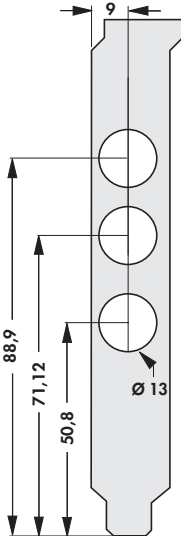

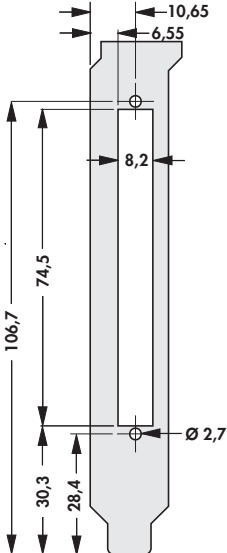

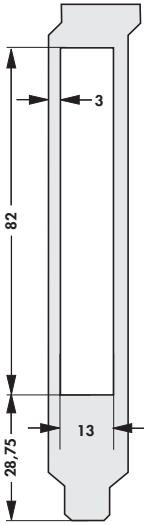
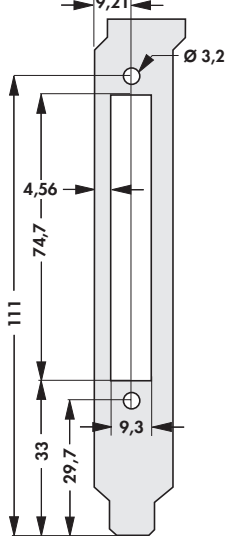
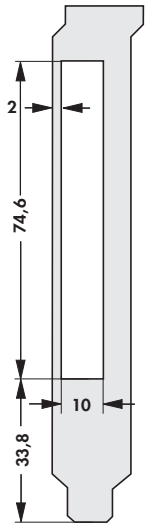
M

N

	<p>PCI 021 O</p>  <p>8,92 53,55 12 13</p>		
	<p>KHPC 325</p>  <p>8,7 97,8 79,35 Ø 13</p>		
	<p>PCI 083 L</p>  <p>109,38 96,89 72,3 33,54 5,9 7,85 Ø 4 13 12 9</p>		

K 21

If you do not find a suitable bracket, please use the PCI / KHPC design sheet at the end of section "K".

	<p>KHPC 335 L</p> 		
	<p>PCI 104 O</p> 		
	<p>KHPC 085</p> 	<p>KHPC 391</p> 	<p>KHPC 390</p> 

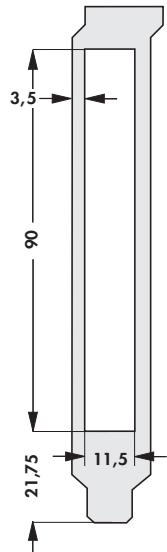
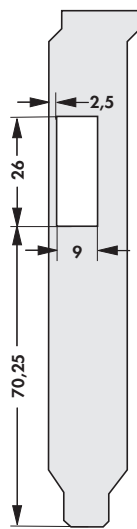
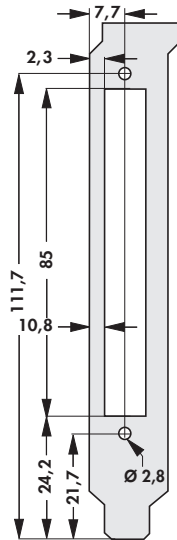
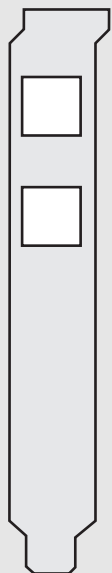
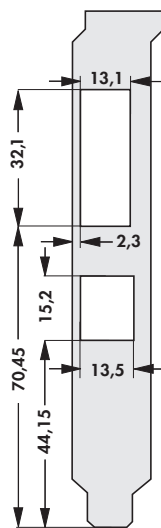
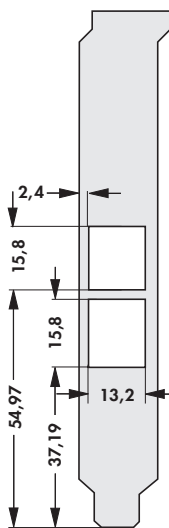
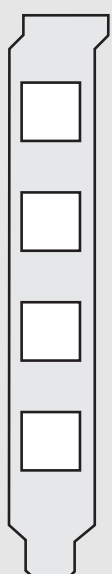
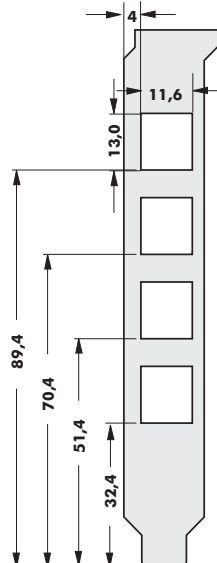
please indicate:


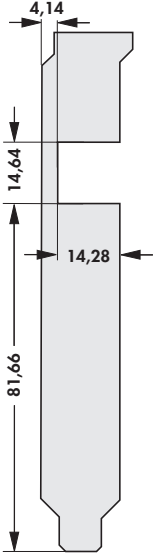
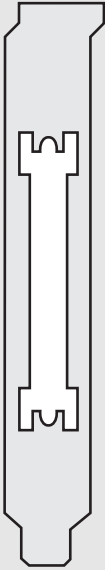
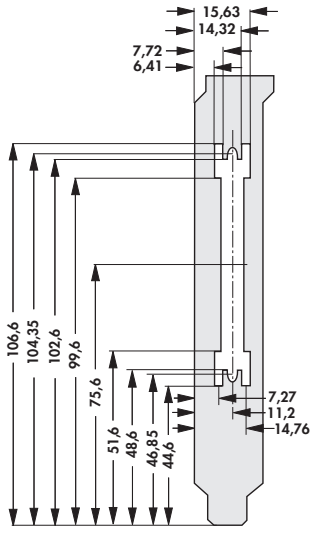
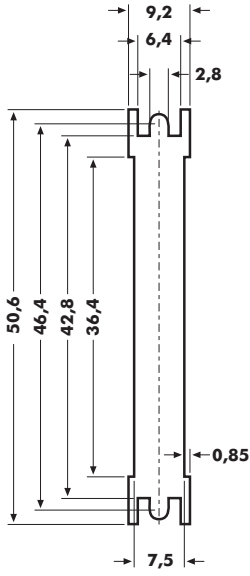
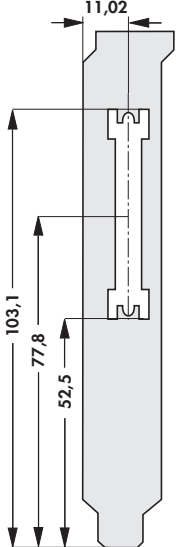
... fixing tab

O = bracket without fixing tab

L = bracket with fixing tab

Brackets for PC

KHPC 398	KHPC 365 L	KHPC 394	
			
	KHPC 404	KHPC 407	
			
	PCI 051		
			

	<p>KHPC 439 O</p>  <p>4,14 14,64 14,28 81,66</p>		
	<p>KHPC 469 O</p>  <p>15,63 14,32 7,72 6,41 106,6 104,35 102,6 99,6 75,6 51,6 48,6 46,85 44,6 7,27 11,2 14,76</p>	<p>KHPC 447</p>  <p>9,2 6,4 2,8 50,6 46,4 42,8 36,4 0,85 7,5</p>	<p>KHPC 449 O</p>  <p>11,02 103,1 77,8 52,5</p>

please indicate:

- ... fixing tab
- O = bracket without fixing tab
- L = bracket with fixing tab

PCI and KHPC-DESIGN

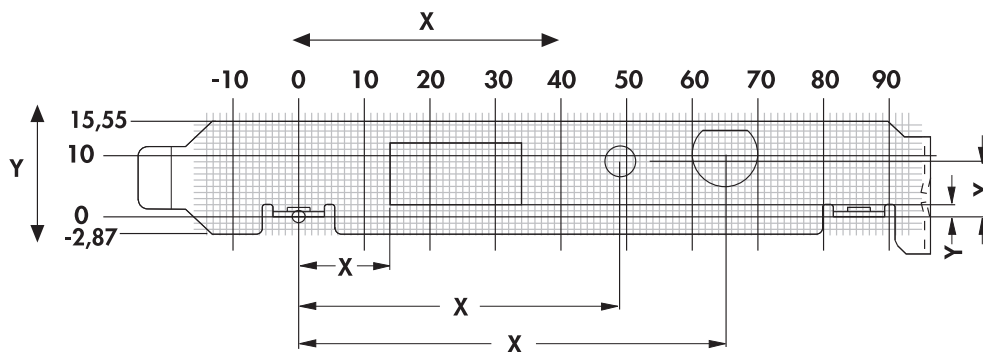
The cutouts shown on the Design sheet should be positioned on the pictured grid.

The zero point of the respective cutout is to be placed on the grid point of the PC card bracket, whereby the X/Y coordinates should be entered in the table as absolute dimensions. Positioning of the cutouts can be specified with an accuracy of max. 0,01 mm. The grid specifies the max. area of the cutout including the component. Please mark whether the version is with or without bent fixing tabs. Other contours, dimensions and cutouts are possible, to the extent that they are technically possible to produce.

Please contact us with regard to this.

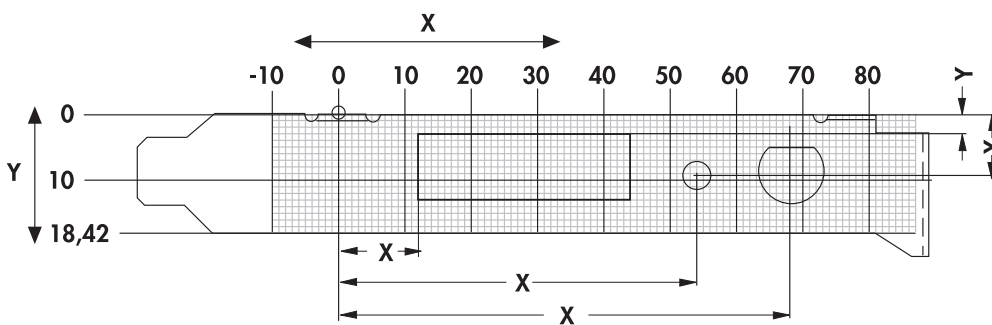
Example

PCI

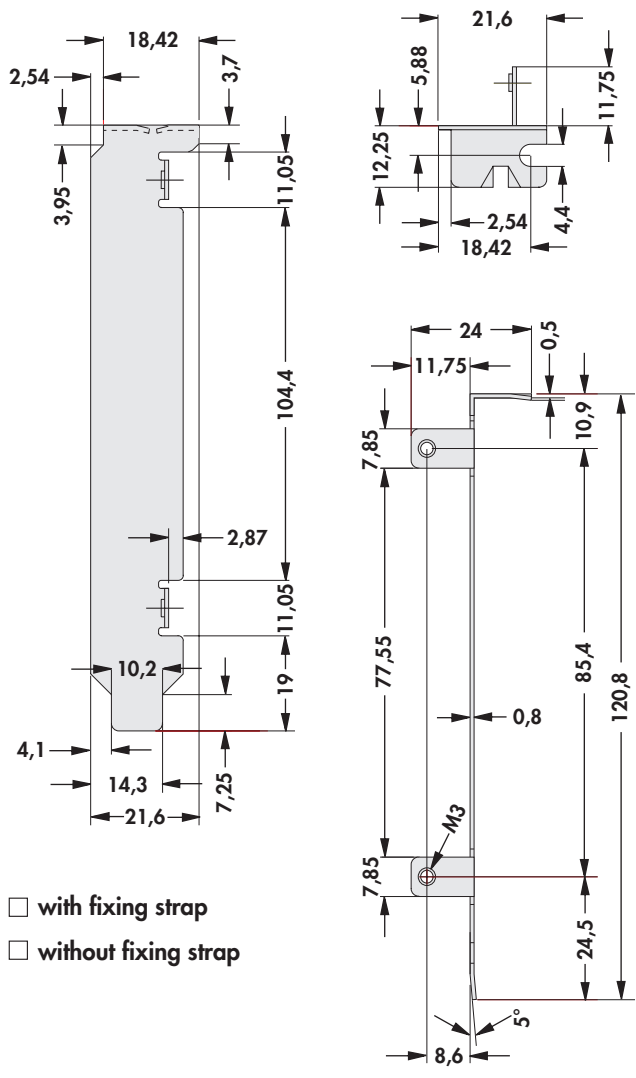


Shape			X-dimension	Y-dimension
A	A = 20	B = 10	14	2
E	D = 5		49	9
D1	D = 12	D1 = 11	65	9

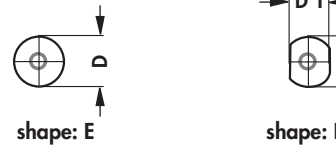
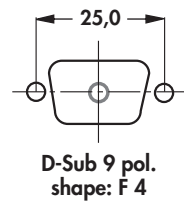
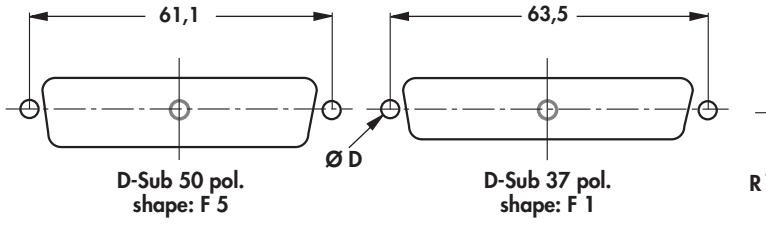
KHPC



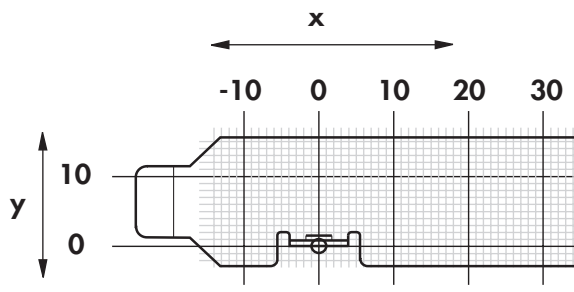
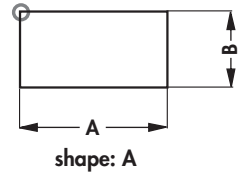
Shape			X-dimension	Y-dimension
A	A = 33	B = 10	12	3
E	D = 2		50	9
D	D = 9,5	D1 = 8,7	69	9



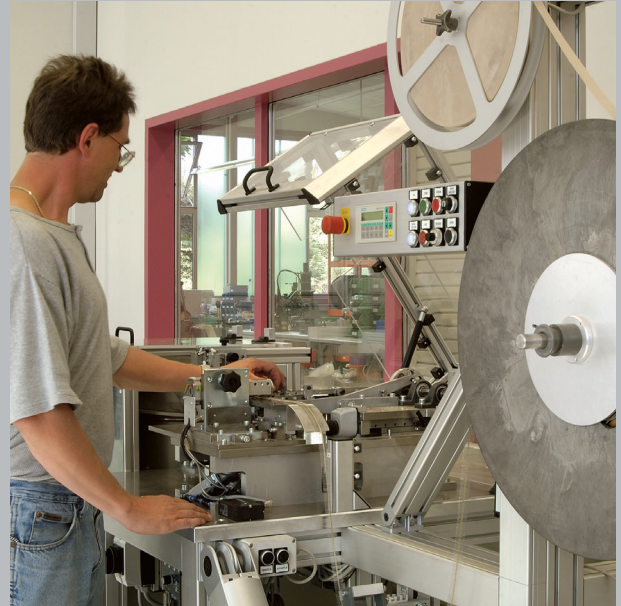
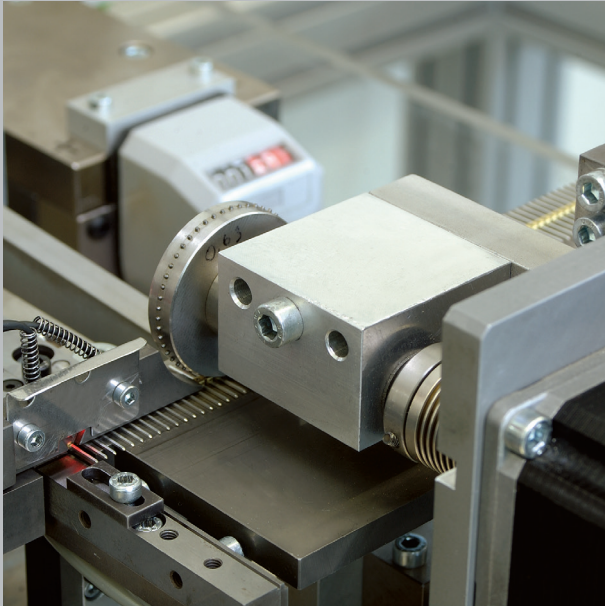
- with fixing strap
- without fixing strap



radius F 1 ... 4
 build in mode:
 3,4 mm rear
 2,1 mm front



shape	X-dim.	Y-dim.	A	B	C	D	D 1	E	F	G	H	I	J	K



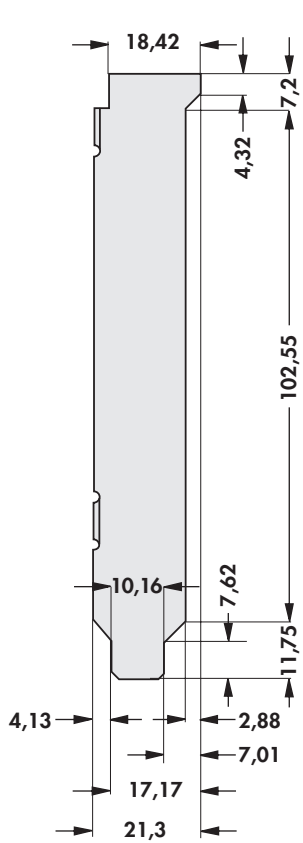
efficient special machines



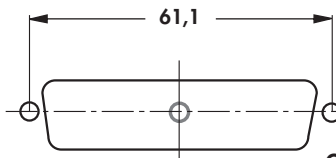
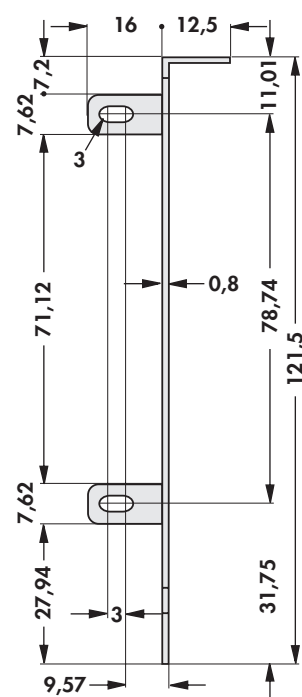
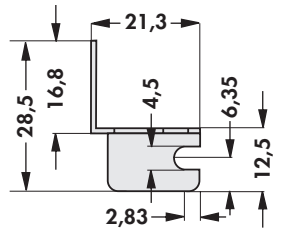
up-to-date injection technology



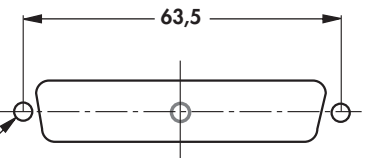
modern surface refinement



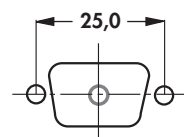
- with fixing strap
- without fixing strap



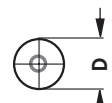
D-Sub 50 pol.
shape: F 5



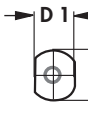
D-Sub 37 pol.
shape: F 1



D-Sub 9 pol.
shape: F 4

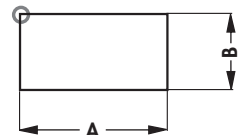


shape: E



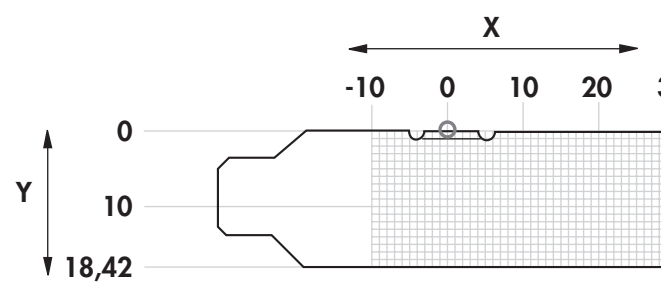
shape: D

zero point



shape: A

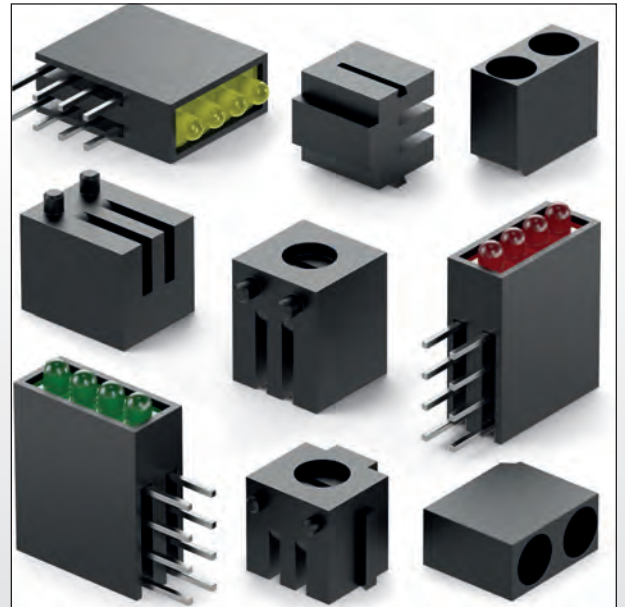
radius F 1 ... 4
build in mode:
 3,4 mm rear
 2,1 mm front



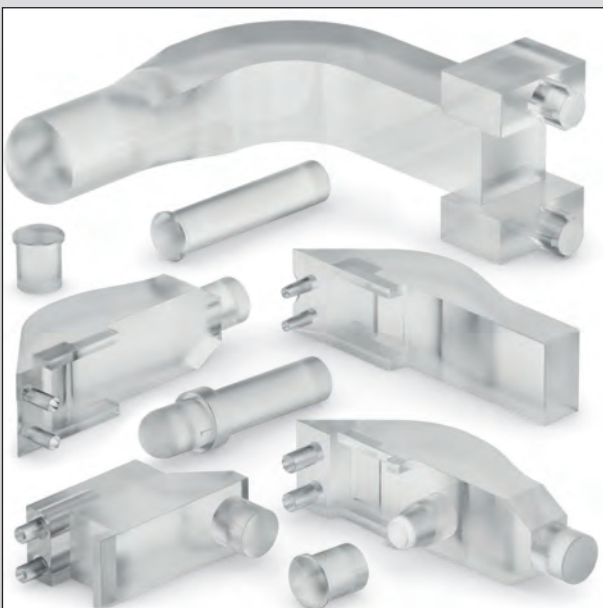
shape	X-dim.	Y-dim.	A	B	C	D	D 1	E	F	G	H	I	J	K



Mounting material
 – spacers for standard LEDs
 – class of flammability acc. to UL 94 VO



LED fastener for horizontal PCB mounting
 – single and double fasteners for a standard diameter of 3 and 5 mm
 – equipped multi-fastener
 – single fasteners and fasteners connectable in series




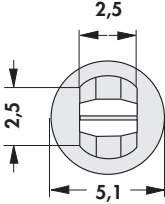
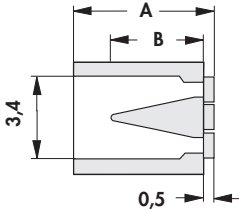
Fibre-optics for SMD-LED components
 – horizontal, fixed fibre-optics with round or rectangular lens made of transparent plastics – also for gauge displays
 – vertical, fixed fibre-optics with round or rectangular lens made of transparent plastics


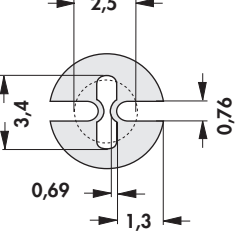
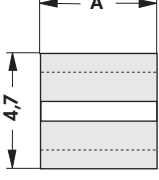


LED fastener for front panel mounting
 – clipable fastener for 5 mm LEDs
 – fastener for 3 and 5 mm LED with clamping ring

Spacers for LED

– universal mount for LED Ø 3 mm and 5 mm, self retaining

					
art. no.	B [mm]	dim. [mm] A	art. no.	B [mm]	dim. [mm] A
MAH 31	1.5	3.1	MAH 71	4.7	7.1
MAH 41	1.5	4.1	MAH 81	4.7	8.1
MAH 51	1.5	5.1	MAH 89	4.7	8.9
MAH 61	1.5	6.1	MAH 99	7.9	9.9
insulating body material:		MPPS, black			
temperature range:		-40°C...+240°C/ (260°C/5 s)			
class of flammibility:		UL 94 V-0			

					
art. no.	dim. [mm] A		art. no.	dim. [mm] A	
MAH 401	1		MAH 406	6	
MAH 402	2		MAH 407	7	
MAH 403	3		MAH 408	8	
MAH 404	4		MAH 409	9	
MAH 405	5		MAH 410	10	
insulating body material:		PVC Blend, black			
temperature range:		-40°C... +85°C			
class of flammibility:		UL 94 V-0			

Connector-sleeves → F 19 – 20
 LED-holders for front panel assembly → L 4
 Fourfold-LED-holders → L 7
 Horizontale Lichtleiter → L 9

LED-holders for PCB assembly → L 5 – 7
 Sockets for LED → F 5 – 6
 Light pipes for SMDs, vertical → L 8 – 9

L 2


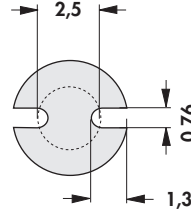
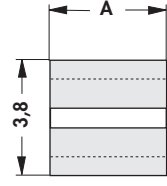
A

Spacers for LED

– for LED Ø 3 mm, thin mount

B

C

art. no.	dim. [mm]	art. no.	dim. [mm]	art. no.	dim. [mm]
	A		A		A
MAH 301	1	MAH 305	5	MAH 308	8
MAH 302	2	MAH 306	6	MAH 309	9
MAH 303	3	MAH 307	7	MAH 310	10
MAH 304	4				
insulating body material:		PVC Blend, black			
temperature range:		-40°C... +85°C			
class of flammibility:		UL 94 V-0			


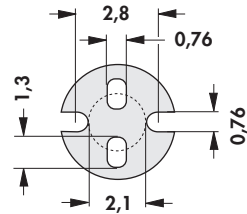
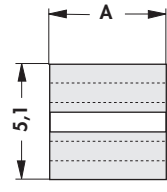
D

E

– for LED Ø 5 mm, self-retaining

F

G

art. no.	dim. [mm]	art. no.	dim. [mm]	art. no.	dim. [mm]
	A		A		A
MAH 501	1	MAH 504	4	MAH 508	8
MAH 502	2	MAH 505	5	MAH 509	9
MAH 503	3	MAH 506	6	MAH 510	10
insulating body material:		PVC Blend, black			
temperature range:		-40°C... +85°C			
class of flammibility:		UL 94 V-0			

H

I

K


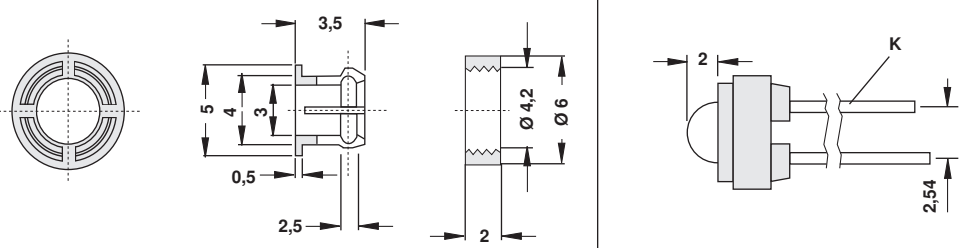
L

M


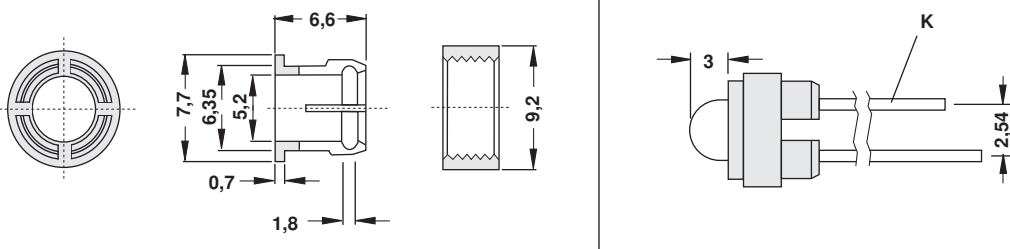
N

LED-holders


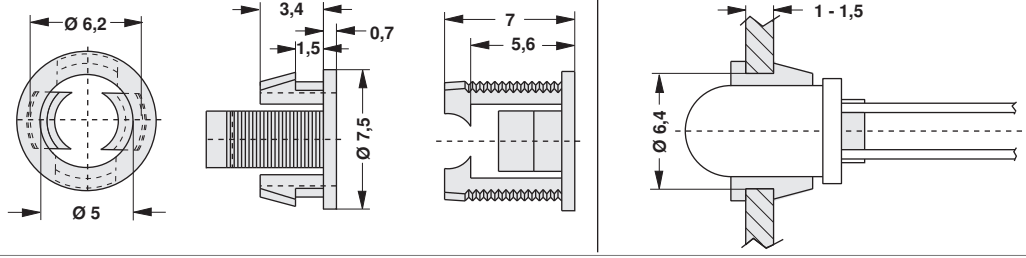
- suitable for 3 mm diodes with a collar height of 0.6 mm
- **K** = cathode

	
art. no. DH 3 V	type for LED Ø3mm
insulating body material:	PA, GF

- suitable for 5 mm diodes with a collar height of 0.6 mm/1 mm
- **K** = cathode

	
art. no. DH 5 VC	type for LED Ø5mm
insulating body material:	PA, GF

- suitable for 5 mm diodes with a collar height of 0.6 mm/1 mm
- **K** = cathode

	
art. no. DH 5 SRC	type for LED Ø5mm
insulating body material:	PA, GF

Spacers & mounting strips → L 2 - 3
Sockets for LED → F 5 - 6
LED-holders for PCB assembly → L 5 - 7
Light pipes for SMDs, vertical → L 8 - 9


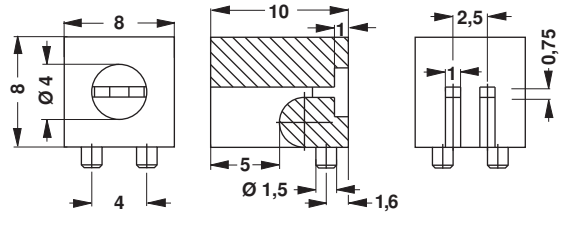
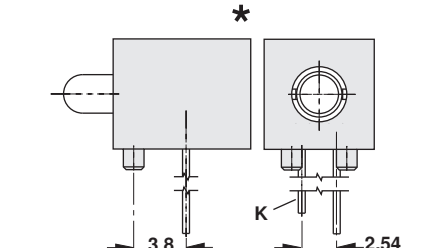

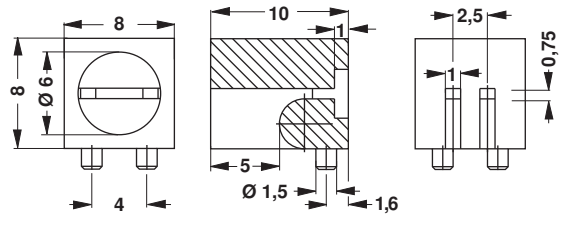
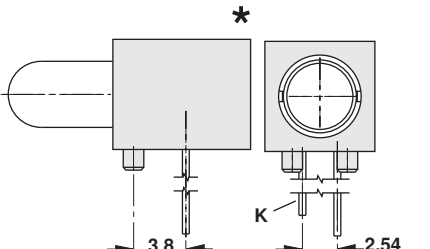

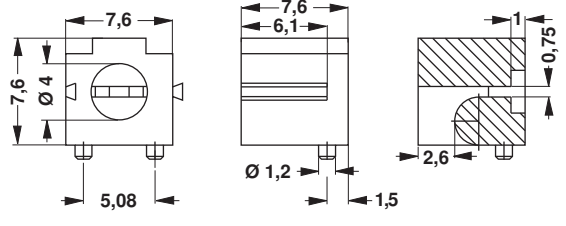
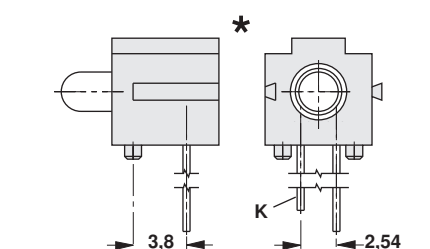

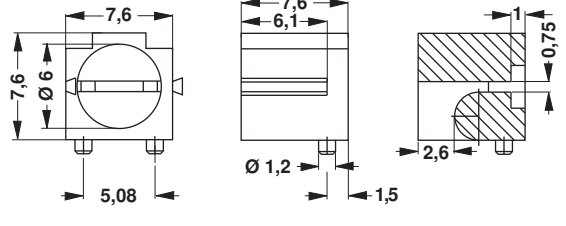
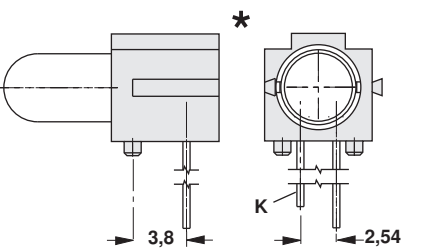
Fourfold-LED-holders → L 7
D-Sub cut-out cover → I 22
Screw fastening → I 23

L 4

LED-holders

LED-holder for LED Ø 3 mm and 5 mm

- K = cathode / * = presentation with diode

		
<p>art. no. DH 3 W</p>	<p>type for LED Ø3mm</p>	
		
<p>art. no. DH 5 W</p>	<p>type for LED Ø5mm</p>	
		
<p>art. no. DH 3 R</p>	<p>type for LED Ø3mm</p>	
		
<p>art. no. DH 5 R</p>	<p>type for LED Ø5mm</p>	

<p>insulating body material:</p>	<p>PA 4.6. GF</p>
<p>temperature range:</p>	<p>-40°C... +163°C/ (260°C/10 s)</p>
<p>class of flammability:</p>	<p>UL 94 V-0</p>

L 5


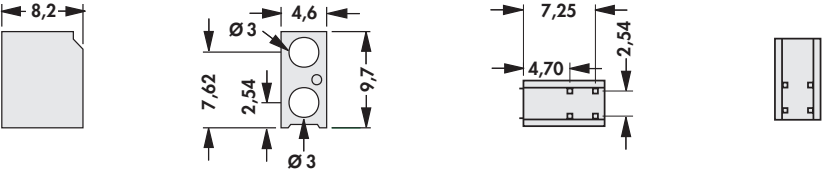
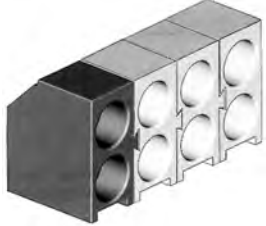
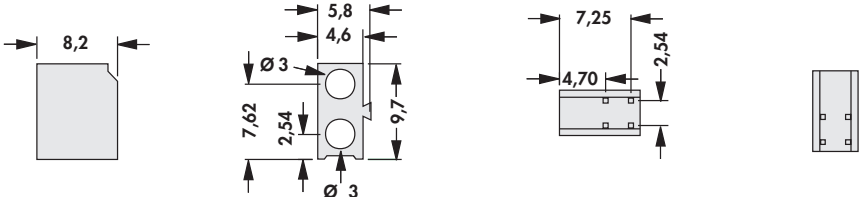
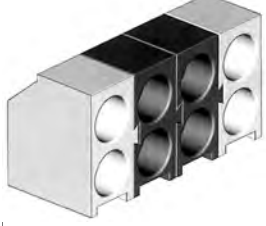
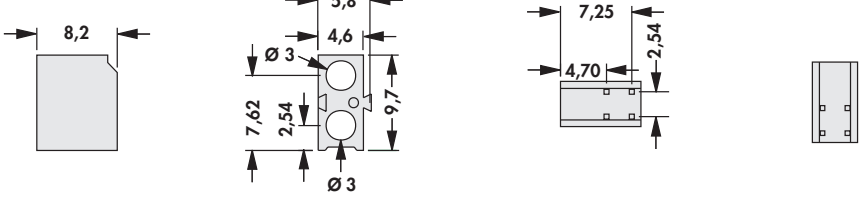
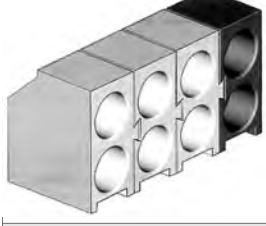
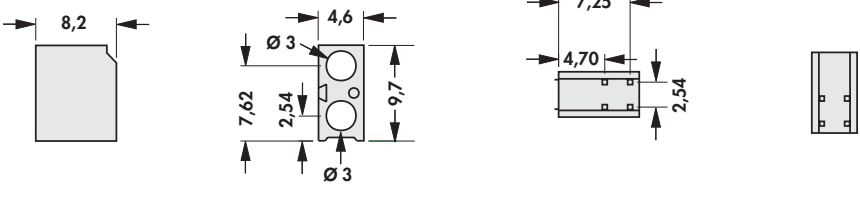
LED-holders for front panel assembly → L 4
 Spacers & mounting strips → L 2 - 3
 Connector-sleeves → F 19 - 20
 Sockets for LED → F 5 - 6

Light pipes for SMDs, vertical → L 8 - 9
 Fourfold-LED-holders → L 7
 Horizontale Lichtleiter → L 9

LED-holders

LED-holder for LED Ø 3 mm

– stackable LED-holders: single holder/can be strung, left/can be strung, middle/can be strung, right

			
<p>art. no. DDH 3 E</p>	<p>type for LED Ø3mm</p>		
			
<p>art. no. DDH 3 L</p>	<p>type for LED Ø3mm, can be strung left</p>		
			
<p>art. no. DDH 3 M</p>	<p>type for LED Ø3mm, can be strung middle</p>		
			
<p>art. no. DDH 3 R</p>	<p>type for LED Ø3mm, can be strung right</p>		
<p>insulating body material:</p>	<p>PA 6/6, GF</p>		
<p>temperature range:</p>	<p>-20°C... +85°C</p>		
<p>class of flammability:</p>	<p>UL 94 V-0</p>		

Sockets for LED → F 5 – 6
 Screw fastening → I 23
 D-Sub cut-out cover → I 22
 Fourfold-LED-holders → L 7

Light pipes for SMDs, vertical → L 8 – 9
 Spacers & mounting strips → L 2 – 3
 Connector-sleeves → F 19 – 20

L 6

A

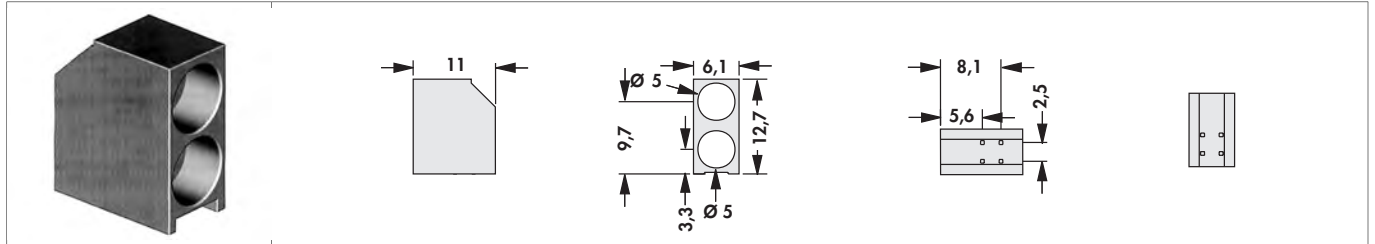
LED-holders

B

LED-holder for LED Ø 5 mm

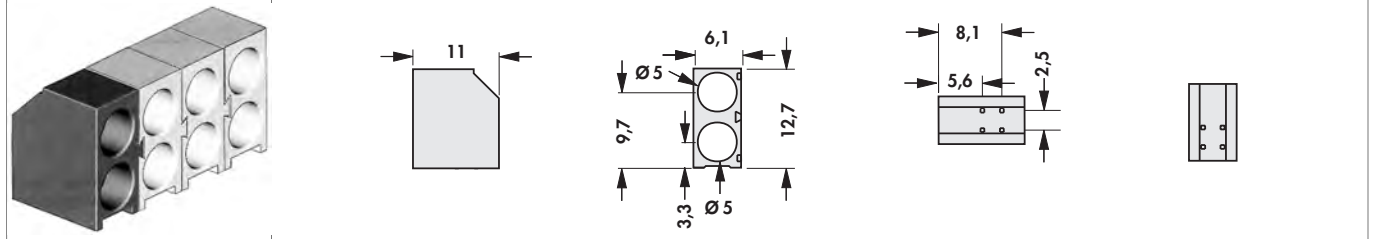
– stackable LED-holders: single holder/can be strung, left/can be strung, middle/can be strung, right

C



art. no.	type
DDH 5 E	for LED Ø5mm, single holder

D



art. no.	type
DDH 5 L	for LED Ø5mm, can be strung left

E

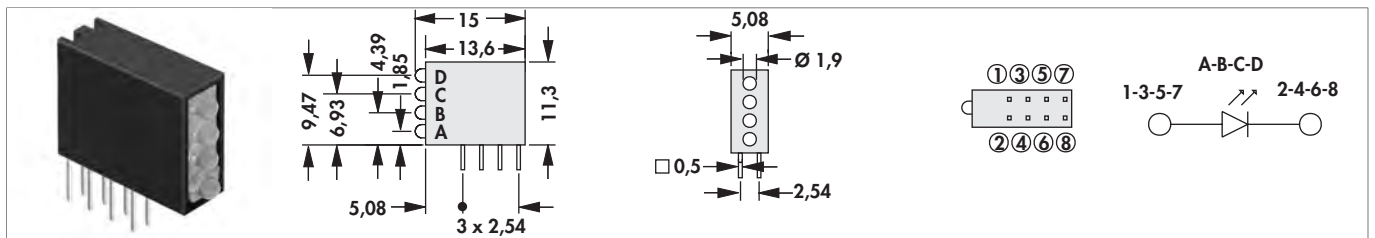
insulating body material:	PA 6/6, GF
temperature range:	-20°C... +85°C
class of flammability:	UL 94 V-0

F

Fourfold-LED-holders

– standard case, standard colours, diffuse lens, space-saving design, round lens, rectangular lens
 – typical data at $T_{amb}=25^{\circ}C$ und $I_F=I_{Ftype}$ 100% DC

G



art. no.	type	emission colour	Spannungen U_{fTyp} / U_{rmax} [V]	wavelength λ_{max} [nm]
DLH 21 ASEH	with LED Ø2mm, fourfold	super red	2.0 / 2.6	635
DLH 21 AYEH	with LED Ø2mm, fourfold	yellow	2.1 / 2.6	585
DLH 21 AGEH	with LED Ø2mm, fourfold	green	2.2 / 2.6	565

H

insulating body material:	Nylon, black
temperature range:	-20°C... +85°C
class of flammability:	UL 94 V-0
beam angle 2 φ:	80 °
design:	2mm round
for cases:	in terms of colour diffuse
derating:	from $T_{amb} < 20^{\circ}C$, operating current reduced by 0.4 mA/K .
light intensity I:	12 mcd
flows I_{Ftyp} / I_{Fmax}:	20/30 mA

I

K

L

M

N

L 7


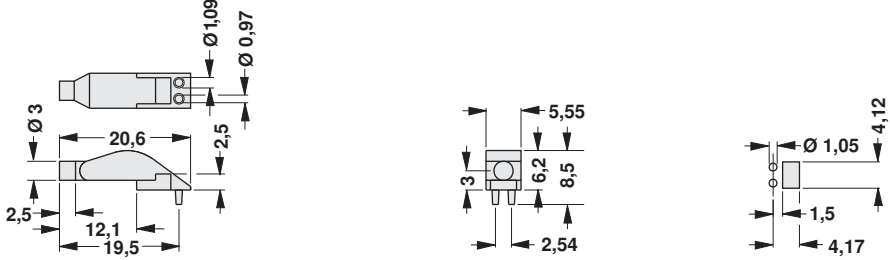

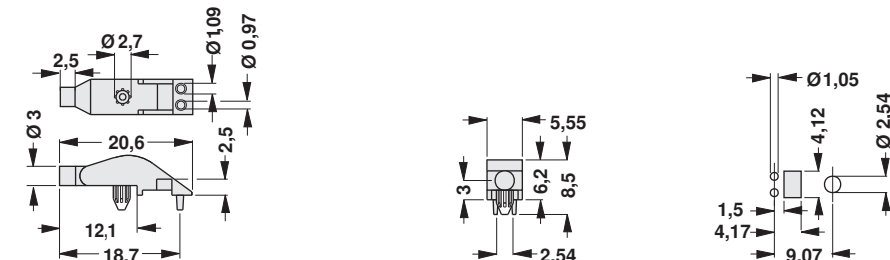

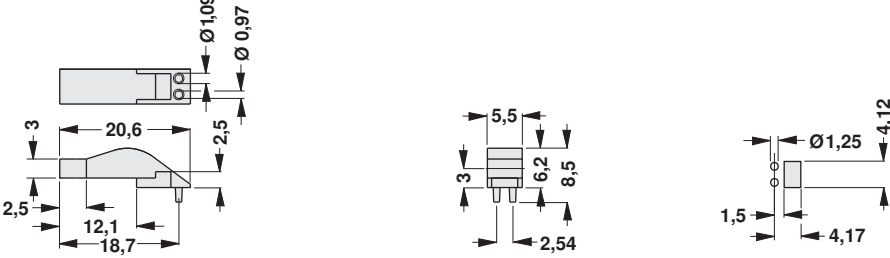

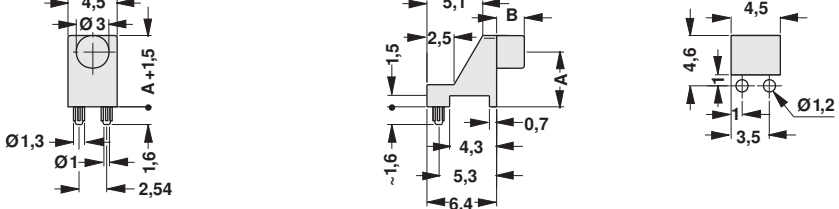
Screw fastening
 D-Sub cut-out cover
 Spacers & mounting strips
 Light pipes for SMDs, vertical

→ I 23
 → I 22
 → L 2 – 3
 → L 8 – 9

Sockets for LED → F 5 – 6
 Connector-sleeves → F 19
 LED-holders for front panel assembly → L 4

Light pipes for SMDs

- suitable for current SMD types
- 3 mm light pipes
- horizontal
- ESD-protection from panel to PCB

		diameter of lens	way of fixation	
LL 30 HRS	Ø3mm		by alignment pins	
		diameter of lens	way of fixation	
LL 30 HRP	Ø3mm		by press-in pins	
		diameter of lens	way of fixation	
LL 35 HVS	rectangle 5.5x3mm		by alignment pins	
		diameter of lens	way of fixation	dim. [mm]
LL 30 WRFP 038	Ø3mm	by press-in pins	A	B
LL 30 WRFP 050	Ø3mm	by press-in pins	3.8	2.5
LL 30 WRFP 076	Ø3mm	by press-in pins	5.0	2.5
LL 30 WRFP 102	Ø3mm	by press-in pins	7.6	2.5
LL 30 WRFP 102	Ø3mm	by press-in pins	10.2	2.5
insulating body material:		Polycarbonate, clear		
temperature range:		-30°C... +100°C		
class of flammability:		UL 94 V-0		

Spacers & mounting strips

→ L 2 - 3

Screw fastening

→ I 23

Sockets for LED

→ F 5 - 6

D-Sub cut-out cover

→ I 22

LED-holders for PCB assembly

→ L 5 - 7

LED-holders for front panel assembly → L 4

Fourfold-LED-holders

→ L 7

L 8

A

Light pipes for SMDs

B

– panel light pipe, 6 mm lens, suitable for common SMD LEDs, white lens, large angle of radiation

C

art. no.	diameter of lens	way of fixation	dim. [mm]
LL 60 WRB 254	Ø6mm	by press-in pins	A 25.4

D

– panel light pipe 3 mm, ESD protection from panel to PCB

E

art. no.	diameter of lens	dim. [mm]	art. no.	diameter of lens	dim. [mm]
LL 30 PRB 032	Ø3mm	A 3.2	LL 30 PRB 089	Ø3mm	A 8.9
LL 30 PRB 064	Ø3mm	6.4			

F

G

art. no.	diameter of lens	dim. [mm]	art. no.	diameter of lens	dim. [mm]
LL 30 PRL 032	Ø3mm	A 3.2	LL 30 PRL 127	Ø3mm	A 12.7
LL 30 PRL 064	Ø3mm	6.4	LL 30 PRL 159	Ø3mm	15.9
LL 30 PRL 089	Ø3mm	8.9			

H

I

– suitable for current SMD LEDs, vertical, rigid light pipe Ø 3 mm, ESD protection from panel to PCB

K

art. no.	diameter of lens	way of fixation	dim. [mm]
LL 30 VRFS 024	Ø3mm	by alignment pins	A 2.4
LL 30 VRFS 050	Ø3mm	by alignment pins	5.0
LL 30 VRFS 075	Ø3mm	by alignment pins	7.5

insulating body material: Polycarbonate, clear
temperature range: -30°C... +100°C
class of flammability: UL 94 V-0

L

M

N

L 9

Spacers & mounting strips
Sockets for LED
LED-holders for PCB assembly
Fourfold-LED-holders

→ L 2 – 3
 → F 5 – 6
 → L 5 – 7
 → L 7

Screw fastening → I 23
D-Sub cut-out cover → I 22
LED-holders for front panel assembly → L 4