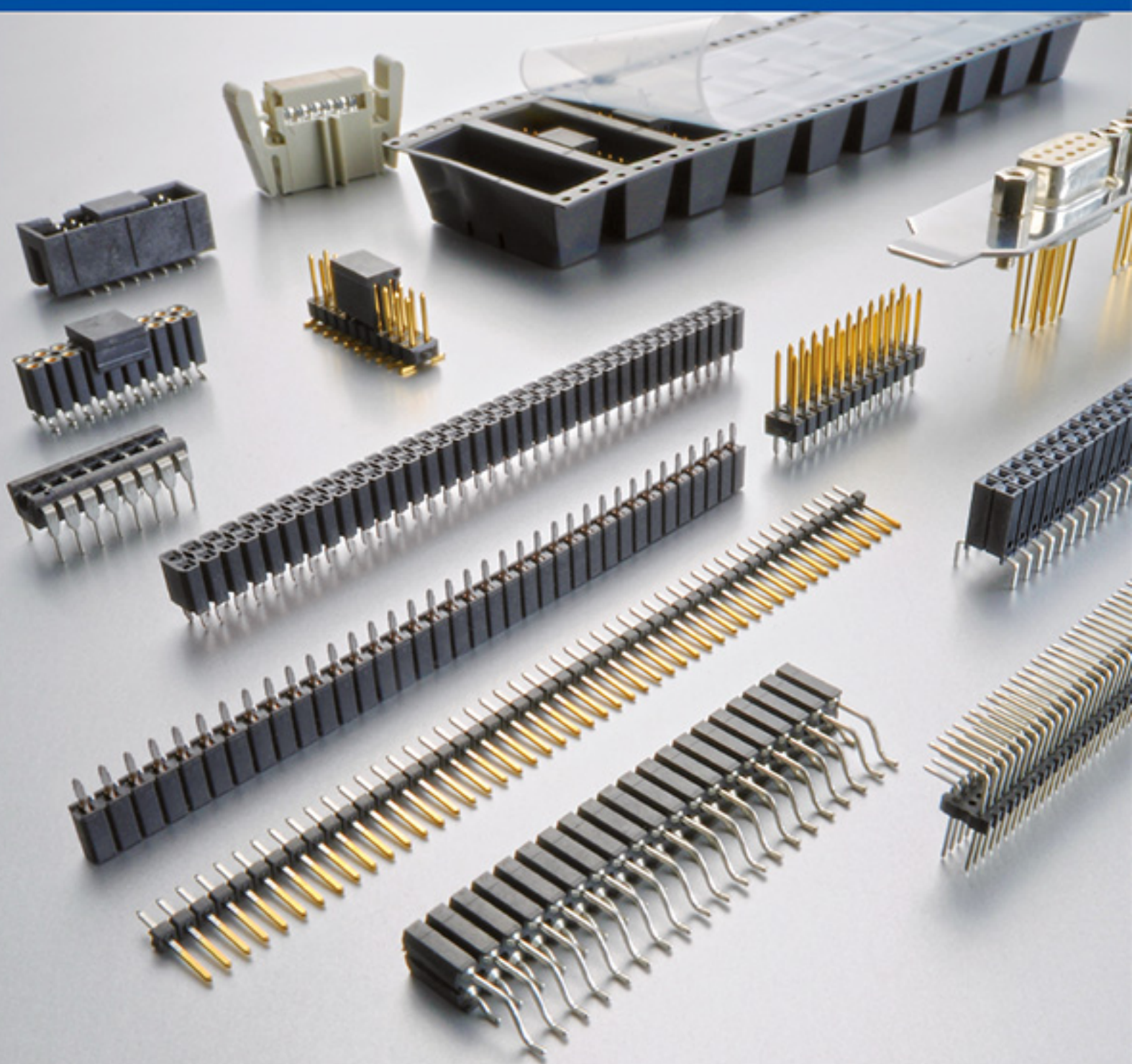


fischer elektronik 

to cool to protect to connect



f.con.e 14/15

Sockets

Connectors



ISO 9001
ISO 14001
ISO 27001

Brackets

Alphanumerical product list

art. no.	page	art. no.	page	art. no.	page	art. no.	page
1706 G	F 17	BL KG 3	G 53	DB 37 SMD TR	I 15	DIL 08 SMD SK5 Z	F 8
1831 Z	F 17	BL LP 1	G 51	DB 37 T	I 2	DIL 10 G	F 6
ASL 06 SMD	H 3	BL LP 2	G 51	DB 37 WW 3	I 3	DIL 10 M	F 2
ASL 08 SMD	H 3	BL LP 3	G 51	DB 50 L	I 3	DIL 10 U	F 3
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
ASL 14 SMD	H 3	BL LP 6 SMD	G 57	DB 50 WW 3	I 3	DIL 14 M	F 2
ASL 16 SMD	H 3	BLM 1 SMD	G 73	DB BK 09	I 11	DIL 14 N	F 2
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
ASL 40 SMD	H 3	BLM KG 2	G 71	DB BK 25	I 11	DIL 14 U	F 3
ASL 50 SMD	H 3	BLM LA 1	G 71	DB BK 25 LP	I 12	DIL 14 W 90	F 6
ASLA 06 G	H 2	BLM LG 1	G 71	DB BK 37	I 11	DIL 16 06 E Z	F 5
ASLA 08 G	H 2	BLM LG 2	G 71	DB BK 37 LP	I 12	DIL 16 06 H Z	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
ASLA 20 G	H 2	BLR 2 050 Z	G 72	DB WE 3	I 5	DIL 16 O	F 2
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
ASLA 40 G	H 2	BLR 3 050 Z	G 72	DB WMV 4	I 5	DIL 16 Q	F 3
ASLA 50 G	H 2	BLR 4 100 Z	G 72	DB WP ... 9	I 17	DIL 16 SMD M	F 8
ASLG 06	H 2	BLR 6 SMD 100 Z	G 74	DB WP ... 15	I 17	DIL 16 SMD SK5 Z	F 8
ASLG 08	H 2	BLR 7 SMD 50 Z	G 74	DB WP ... 25	I 17	DIL 18 06 E Z	F 5
ASLG 10	H 2	BLY 1	G 67	DB WR	I 5	DIL 18 06 H Z	F 5
ASLG 12	H 2	BLY 2	G 67	DB WR 3	I 6	DIL 18 E	F 4
ASLG 14	H 2	BLY 3	G 67	DB WR 4	I 6	DIL 18 M	F 2
ASLG 16	H 2	BLY 4	G 67	DDH 3 E	L 6	DIL 20 E	F 4
ASLG 20	H 2	BLY 5 SMD	G 68	DDH 3 M	L 6	DIL 20 G	F 6
ASLG 26	H 2	BLY 6 SMD	G 68	DDH 3 R	L 6	DIL 20 M	F 2
ASLG 34	H 2	BLY 8 SMD	G 69	DDH 5 E	L 7	DIL 20 O	F 2
ASLG 40	H 2	BLY 9 SMD	G 70	DDH 5 L	L 7	DIL 20 Q	F 3
ASLG 50	H 2	CAB 3 06 03 Z	F 15	DDH 3L	L 6	DIL 20 SMD M	F 8
BADM 09	I 22	CAB 3 08 03 Z	F 15	DF 1 MK 9 Z	G 75	DIL 20 SMD SK5 Z	F 8
BADM 15	I 22	CAB 3 12 03 Z	F 15	DF 2 MK 9 Z	G 75	DIL 22 03 M	F 2
BADM 25	I 22	CAB 3 14 03 Z	F 15	DF 2 OK 9 Z	G 75	DIL 22 M	F 2
BADM 37	I 22	CAB 3 16 03 Z	F 15	DF OB 06	G 75	DIL 22 O	F 2
BADP 09	I 22	CAB 4 G	G 76	DF OB 07	G 75	DIL 22 U	F 3
BADP 15	I 22	CAB 4 Z	G 76	DF OB 10	G 75	DIL 24 03 M	F 2
BADP 25	I 22	CAB 5 05 G	G 76	DF OB 17	G 75	DIL 24 03 SMD M	F 8
BADP 37	I 22	CAB 5 10 G	G 76	DH 3 R	L 5	DIL 24 04 M	F 2
BADP 50	I 22	CAB 5 Z	G 76	DH 3 V	L 4	DIL 24 M	F 2
BK 01 32	H 10	CAB 6 05 G	G 76	DH 3 W	L 5	DIL 24 U	F 3
BL 1	G 50	CAB 6 10 G	G 76	DH 5 R	L 5	DIL 28 03 M	F 2
BL 2	G 50	CAB 6 Z	G 76	DH 5 SRC	L 4	DIL 28 E	F 4
BL 3	G 50	CAB 9 G	G 77	DH 5 VC	L 4	DIL 28 M	F 2
BL 4	G 50	CAB 10 G S	G 77	DH 5 W	L 5	DIL 28 SMD M	F 8
BL 5	G 53	CAB 11 G S	G 77	DH 09	I 21	DIL 32 E	F 4
BL 5 025	G 53	CAB 15 G S	G 77	DH 15	I 21	DIL 32 M	F 2
BL 6	G 53	CB 1	F 14	DH 25	I 21	DIL 36 M	F 2
BL 6 025	G 53	CB 3	F 14	DH 37	I 21	DIL 40 E	F 4
BL 7	G 53	CB 6	F 14	DH 50	I 21	DILS 04 PK 5	F 6
BL 8	G 54	DB ... 9 P	I 16	DH SG 09 ...	I 18	DILS 06 PK 3	F 6
BL 9	G 55	DB ... 15 P	I 16	DH SG 15 ...	I 18	DILS 08 GA LO	F 7
BL 10	G 55	DB ... 25 P	I 16	DH SG 25 ...	I 18	DILS 08 GB LO	F 7
BL 11 254	G 52	DB ... 37 P	I 16	DH SG 37 ...	I 18	DILS 08 GO	F 7
BL 11 508	G 52	DB 09 L	I 3	DH SG 50 ...	I 18	DILS 14 GA LO	F 7
BL 12 650	G 52	DB 09 LA	I 4	DH SV 09	I 19	DILS 14 GB LO	F 7
BL 12 762	G 52	DB 09 SMD TR	I 15	DH SV 15	I 19	DILS 14 GO	F 7
BL 13	G 55	DB 09 T	I 2	DH SV 25	I 19	DILS 14 PK 3	F 6
BL 14	G 55	DB 09 WW 3	I 3	DH SV 37	I 19	DILS 16 6 PK 3	F 7
BL 15 SMD 043	G 58	DB 15 L	I 3	DH SV 50	I 19	DILS 16 GA LO	F 7
BL 15 SMD 089	G 58	DB 15 LA	I 4	DIL 4 OR	F 5	DILS 16 GB LO	F 7
BL 16 SMD 067	G 59	DB 15 SMD TR	I 15	DIL 6 E	F 4	DILS 16 GO	F 7
BL 16 SMD 113	G 59	DB 15 T	I 2	DIL 6 M	F 2	DILS 16 PK 3	F 6
BL 17 SMD	G 60	DB 15 WW 3	I 3	DIL 6 P	F 3	DILS 16 PK 5	F 6
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
BL 20 SMD	G 61	DB 25 WW 3	I 3	DIL 8 M	F 2	DILS 24 GA LO	F 7
BL 21 650	G 52	DB 37 L	I 3	DIL 8 O	F 2	DILS 24 GB LO	F 7
BL 21 762	G 52	DB 37 LA	I 4	DIL 8 Q	F 3	DILS 24 GO	F 7

Alphanumerical product list

art. no.	page	art. no.	page	art. no.	page	art. no.	page
DILS 28 6 PK 3	F 7	FD S 15 L 1000	I 10	KHPC 016	K 8	KHPC 398 O	K 23
DILS 28 GB LO	F 7	FD S 15 T 1000	I 9	KHPC 017	K 9	KHPC 404	K 23
DILS 28 GO	F 7	FD S 25 L 1000	I 10	KHPC 018	K 15	KHPC 407	K 23
DILS 40 6 PK 3	F 7	FD S 25 T 1000	I 9	KHPC 019	K 14	KHPC 439	K 24
DILS 40 GA LO	F 7	FD S 37 L 1000	I 10	KHPC 022	K 16	KHPC 454	K 11
DILS 40 GB LO	F 7	FD S 37 T 1000	I 9	KHPC 024	K 14	KHPC 455	K 15
DILS 40 GO	F 7	FLMP 06	H 5	KHPC 026	K 17	KK 04 Z	H 9
DLH 21 AGEH	L 7	FLMP 08	H 5	KHPC 027	K 17	KK 06 Z	H 9
DLH 21 ASEH	L 7	FLMP 10	H 5	KHPC 028	K 17	KK 08 Z	H 9
DLH 21 AYEH	L 7	FLMP 12	H 5	KHPC 029	K 20	KK 10 Z	H 9
DS ... 9 P	I 16	FLMP 14	H 5	KHPC 031	K 19	KK 12 Z	H 9
DS ... 15 P	I 16	FLMP 16	H 5	KHPC 032	K 19	KK 14 Z	H 9
DS ... 25 P	I 16	FLMP 20	H 5	KHPC 033	K 19	KK 16 Z	H 9
DS ... 37 P	I 16	FLMP 26	H 5	KHPC 034	K 20	KK 18 Z	H 9
DS 09 L	I 3	FLMP 34	H 5	KHPC 035	K 19	KK 20 Z	H 9
DS 09 LA	I 4	FLMP 40	H 5	KHPC 036	K 20	KK 24 Z	H 9
DS 09 SMD TR	I 15	FLMP 50	H 5	KHPC 038	K 13	KK 28 Z	H 9
DS 09 T	I 2	FV 03	H 4	KHPC 040	K 14	KK 40 Z	H 9
DS 09 WW 3	I 3	FV 04	H 4	KHPC 041	K 13	KK W	H 10
DS 15 L	I 3	FV 05	H 4	KHPC 042	K 16	KT 0915	I 22
DS 15 LA	I 4	FV 06	H 4	KHPC 043	K 18	KT 2550	I 22
DS 15 SMD TR	I 15	FV 07	H 4	KHPC 051	K 20	KT SV	I 20
DS 15 T	I 2	FV 08	H 4	KHPC 052	K 17	LB 02 G	F 14
DS 15 WW 3	I 3	FV 10	H 4	KHPC 053	K 10	LB 03 G	F 14
DS 25 L	I 3	FV 12	H 4	KHPC 054	K 17	LB 04 G	F 14
DS 25 LA	I 4	FV 13	H 4	KHPC 058	K 19	LB 06 G	F 14
DS 25 SMD TR	I 15	FV 14	H 4	KHPC 061	K 13	LB SL 0508	F 15
DS 25 T	I 2	FV 16	H 4	KHPC 065	K 11	LB SL 0762	F 15
DS 25 WW 3	I 3	FV 17	H 4	KHPC 069	K 15	LB SL 1016	F 15
DS 37 L	I 3	FV 18	H 4	KHPC 070	K 17	LB SL 1524	F 15
DS 37 LA	I 4	FV 20	H 4	KHPC 072	K 10	LB SL LP 039 SMD	F 16
DS 37 SMD TR	I 15	FV 24	H 4	KHPC 073	K 14	LB SLY 06	F 15
DS 37 T	I 2	FV 25	H 4	KHPC 075	K 16	LEB 01 G	F 14
DS 37 WW 3	I 3	HD B 15 L	I 7	KHPC 076	K 12	LEB 02 G	F 14
DS 50 L	I 3	HD B 15 T	I 8	KHPC 078	K 13	LEB 03 G	F 14
DS 50 LA	I 4	HD B 26 L	I 7	KHPC 085	K 22	LL 30 HRP	L 8
DS 50 T	I 2	HD B 26 T	I 8	KHPC 093	K 8	LL 30 HRS	L 8
DS 50 WW 3	I 3	HD B 44 L	I 7	KHPC 094	K 8	LL 30 PRB 032	L 9
DS BK 09	I 11	HD B 44 T	I 8	KHPC 095	K 9	LL 30 PRB 064	L 9
DS BK 09 LP	I 12	HD S 15 L	I 7	KHPC 096	K 8	LL 30 PRB 089	L 9
DS BK 15	I 11	HD S 15 T	I 8	KHPC 131	K 9	LL 30 PRL 032	L 9
DS BK 15 LP	I 12	HD S 26 L	I 7	KHPC 138	K 11	LL 30 PRL 064	L 9
DS BK 25	I 11	HD S 26 T	I 8	KHPC 141	K 11	LL 30 PRL 089	L 9
DS BK 25 LP	I 12	HD S 44 L	I 7	KHPC 142	K 10	LL 30 PRL 127	L 9
DS BK 37	I 11	HD S 44 T	I 8	KHPC 143	K 11	LL 30 PRL 159	L 9
DS BK 37 LP	I 12	HFD 09	I 24	KHPC 144	K 11	LL 30 VRFS 024	L 9
DS BK 50	I 11	HFD 15	I 24	KHPC 160	K 11	LL 30 VRFS 050	L 9
DSM 13K3 L20	I 13	HFD 25	I 24	KHPC 177	K 12	LL 30 VRFS 075	L 9
DSM 3K3 L20	I 13	HFD 37	I 24	KHPC 178	K 12	LL 30 WRFP 038	L 8
DSM 7K2 L20	I 13	HFK B 09	I 24	KHPC 179	K 12	LL 30 WRFP 050	L 8
DS WE 3	I 5	HFK B 15	I 24	KHPC 185	K 13	LL 30 WRFP 076	L 8
DS WE 4	I 5	HFK B 25	I 24	KHPC 187	K 13	LL 30 WRFP 102	L 8
DS WK	I 5	HFK S 09	I 24	KHPC 188	K 14	LL 35 HVS	L 8
DS WMV 4	I 5	HFK S 15	I 24	KHPC 189	K 13	LL 60 WRB 254	L 9
DS WP ... 9	I 17	HFK S 25	I 24	KHPC 200	K 15	MAH 31	L 2
DS WP ... 15	I 17	ISQ 04	F 13	KHPC 218	K 15	MAH 41	L 2
DS WP ... 25	I 17	ISQ 05	F 13	KHPC 225	K 15	MAH 51	L 2
DS WR	I 5	ISQ 06	F 13	KHPC 229	K 16	MAH 61	L 2
DS WR 3	I 6	ISQ 07	F 13	KHPC 230	K 16	MAH 71	L 2
DS WR 4	I 6	ISQ 08	F 13	KHPC 241	K 16	MAH 81	L 2
D W 9 37	H 10	KHPC 0 L	K 3	KHPC 242	K 16	MAH 89	L 2
FD A ... 09 1000	I 9	KHPC 0 O	K 3	KHPC 243	K 17	MAH 99	L 2
FD A ... 15 1000	I 9	KHPC 002	K 8	KHPC 262	K 18	MAH 301	L 3
FD A ... 25 1000	I 9	KHPC 003	K 8	KHPC 267	K 20	MAH 302	L 3
FD A ... 37 1000	I 9	KHPC 005	K 11	KHPC 270	K 19	MAH 303	L 3
FD B 09 L 1000	I 10	KHPC 006	K 10	KHPC 271	K 19	MAH 304	L 3
FD B 09 T 1000	I 9	KHPC 007	K 8	KHPC 277	K 20	MAH 305	L 3
FD B 15 L 1000	I 10	KHPC 008	K 8	KHPC 295	K 20	MAH 306	L 3
FD B 15 T 1000	I 9	KHPC 009	K 10	KHPC 308	K 20	MAH 307	L 3
FD B 25 L 1000	I 10	KHPC 010	K 8	KHPC 325	K 21	MAH 308	L 3
FD B 25 T 1000	I 9	KHPC 011	K 8	KHPC 335	K 22	MAH 309	L 3
FD B 37 L 1000	I 10	KHPC 012	K 10	KHPC 365	K 23	MAH 310	L 3
FD B 37 T 1000	I 9	KHPC 013	K 9	KHPC 390	K 22	MAH 401	L 2
FD S 09 L 1000	I 10	KHPC 014	K 8	KHPC 391	K 22	MAH 402	L 2
FD S 09 T 1000	I 9	KHPC 015	K 10	KHPC 394 O	K 23	MAH 403	L 2

Alphanumerical product list

art. no.	page	art. no.	page	art. no.	page	art. no.	page
MAH 404	L 2	MK LP 242	G 5	PVY 50	H 7	SL 3 182	G 9
MAH 405	L 2	PCI 0 L	K 3	PVY W	H 10	SL 3 207	G 9
MAH 406	L 2	PCI 0 O	K 3	QS 25 GS	F 13	SL 4 025	G 9
MAH 407	L 2	PCI 004	K 7	RS HH	I 19	SL 4 101	G 9
MAH 408	L 2	PCI 005	K 7	RS SH 3	I 19	SL 4 152	G 9
MAH 409	L 2	PCI 006 O	K 7	RS SH 4	I 19	SL 5 071	G 13
MAH 410	L 2	PCI 011	K 9	RS SH D	I 20	SL 5 097	G 13
MAH 501	L 3	PCI 012	K 9	SB 1	F 19	SL 5 121	G 13
MAH 502	L 3	PCI 013	K 10	SB 2	F 19	SL 5 147	G 13
MAH 503	L 3	PCI 014	K 14	SB 3	F 19	SL 5 156	G 13
MAH 504	L 3	PCI 015	K 14	SB 4	F 19	SL 5 172	G 13
MAH 505	L 3	PCI 016 L	K 17	SB 5	F 19	SL 5 197	G 13
MAH 506	L 3	PCI 017	K 17	SB 6	F 19	SL 5 223	G 13
MAH 508	L 3	PCI 018	K 17	SB 9	F 20	SL 5 237	G 13
MAH 509	L 3	PCI 020	K 18	SB 12	F 20	SL 5 285	G 13
MAH 510	L 3	PCI 021	K 21	SB 13	F 20	SL 5 315	G 13
MIC 03	F 8	PCI 031 O	K 12	SB 15	F 20	SL 5 360	G 13
MIC 06	F 8	PCI 032	K 12	SB 16	F 20	SL 5 415	G 13
MK 01	G 45	PCI 033	K 13	SBAU 1 04	H 8	SL 5 525	G 13
MK 02	G 2	PCI 035	K 19	SBAU 1 06	H 8	SL 6 071	G 13
MK 03	G 2	PCI 039 O	K 9	SBAU 1 08	H 8	SL 6 097	G 13
MK 04	G 2	PCI 041	K 10	SBAU 1 10	H 8	SL 6 121	G 13
MK 05	G 2	PCI 045	K 14	SBAU 1 12	H 8	SL 6 147	G 13
MK 06	G 46	PCI 047	K 15	SBAU 1 14	H 8	SL 6 156	G 13
MK 07	G 46	PCI 051	K 23	SBAU 1 16	H 8	SL 6 172	G 13
MK 08	G 3	PCI 055	K 7	SBAU 1 17	H 8	SL 6 197	G 13
MK 10	G 3	PCI 065	K 12	SBAU 1 18	H 8	SL 6 223	G 13
MK 12 X 2	G 45	PCI 071	K 15	SBAU 1 20	H 8	SL 6 237	G 13
MK 13 X 1	G 45	PCI 072	K 18	SBAU 06 S	H 8	SL 6 285	G 13
MK 13 X 2	G 45	PCI 076	K 18	SBAU 10 S	H 8	SL 6 315	G 13
MK 14 X 1	G 4	PCI 077	K 18	SBAU 14 S	H 8	SL 6 360	G 13
MK 14 X 2	G 4	PCI 083	K 21	SBAU 16 S	H 8	SL 6 415	G 13
MK 14 X 3	G 4	PCI 104	K 22	SBAU 20 S	H 8	SL 6 525	G 13
MK 15	G 4	PCI LP ... L	K 4	SBAU 26 S	H 8	SL 7	G 6
MK 17	G 45	PCI LP ... O	K 4	SBAU 34 S	H 8	SL 8	G 6
MK 21	G 54	PCI R1	K 6	SB W	H 10	SL 9	G 6
MK 22 SMD	G 62	PEK G	F 17	SIL 1	G 49	SL 10 SMD 040	G 21
MK 23 SMD	G 64	PF 53	F 10	SIL 2	G 49	SL 10 SMD 052	G 21
MK 24 SMD	G 63	PF 54	F 10	SIL 3	G 49	SL 10 SMD 062	G 21
MK 25 SMD	G 63	PF 58 2	F 10	SK 02	F 18	SL 10 SMD 078	G 21
MK 26 SMD	G 18	PF 58 23	F 10	SK 03	F 18	SL 10 SMD 104	G 21
MK 27 SMD	G 20	PF 510	F 11	SK 04 Z	F 18	SL 10 SMD 130	G 21
MK 51	G 4	PK 1	F 17	SK 05	F 18	SL 11 097	G 7
MK 201	G 45	PK 4 Z	F 18	SK 06	F 17	SL 11 112	G 7
MK 202	G 2	PLCC 20	F 9	SK 08 G	F 18	SL 11 124	G 7
MK 203	G 2	PLCC 20 SMD	F 9	SK 13 X 2 G	F 17	SL 11 139	G 7
MK 204	G 2	PLCC 28	F 9	SK 14 X 2	F 18	SL 11 164	G 7
MK 205	G 2	PLCC 28 SMD	F 9	SK 19	F 17	SL 11 190	G 7
MK 207	G 46	PLCC 32	F 9	SK 40 G	F 18	SL 11 214	G 7
MK 208	G 3	PLCC 32 SMD	F 9	SK 41	F 18	SL 11 240	G 7
MK 210	G 3	PLCC 44	F 9	SK 42	F 18	SL 11 265	G 7
MK 212 X 2	G 45	PLCC 44 SMD	F 9	SKB 5 Z	F 17	SL 11 316	G 7
MK 213 X 1	G 45	PLCC 52	F 9	SKB 9 Z	F 17	SL 11 SMD 040	G 22
MK 213 X 2	G 45	PLCC 52 SMD	F 9	SL 1 025	G 7	SL 11 SMD 052	G 22
MK 214 X 1	G 4	PLCC 68	F 9	SL 1 053	G 7	SL 11 SMD 062	G 22
MK 214 X 2	G 4	PLCC 68 SMD	F 9	SL 1 078	G 7	SL 11 SMD 078	G 22
MK 214 X 3	G 4	PLCC 84	F 9	SL 1 104	G 7	SL 11 SMD 104	G 22
MK 217	G 45	PLCC 84 SMD	F 9	SL 1 128	G 7	SL 11 SMD 130	G 22
MK 220 SMD	G 65	PO A	G 48	SL 1 154	G 7	SL 12 SMD 031	G 23
MK 221	G 54	PQ 18	F 13	SL 1 179	G 7	SL 12 SMD 032	G 23
MK 222 SMD	G 62	PQ 18 W	F 13	SL 1 230	G 7	SL 12 SMD 035	G 23
MK 223 SMD	G 64	PSB 03 G	F 14	SL 2 025	G 7	SL 12 SMD 058	G 23
MK 226 SMD	G 19	PV 06	H 6	SL 2 053	G 7	SL 12 SMD 083	G 23
MK 228 THR	G 47	PV 10	H 6	SL 2 078	G 7	SL 12 SMD 109	G 23
MK 251	G 4	PV 14	H 6	SL 2 104	G 7	SL 13 071	G 14
MK LP 18	G 46	PV 16	H 6	SL 2 128	G 7	SL 13 097	G 14
MK LP 19	G 46	PV 20	H 6	SL 2 154	G 7	SL 13 122	G 14
MK LP 40	G 5	PV 26	H 6	SL 2 179	G 7	SL 13 147	G 14
MK LP 41	G 5	PV 34	H 6	SL 2 230	G 7	SL 13 187	G 14
MK LP 42	G 5	PV 40	H 6	SL 3 025	G 9	SL 13 235	G 14
MK LP 43	G 5	PV 50	H 6	SL 3 053	G 9	SL 13 265	G 14
MK LP 218	G 46	PV W	H 10	SL 3 080	G 9	SL 13 310	G 14
MK LP 219	G 46	PVY 20	H 7	SL 3 101	G 9	SL 13 365	G 14
MK LP 240	G 5	PVY 40	H 7	SL 3 131	G 9	SL 14 071	G 14
MK LP 241	G 5	PVY 44	H 7	SL 3 152	G 9	SL 14 097	G 14

Alphanumerical product list

art. no.	page	art. no.	page	art. no.	page	art. no.	page
SL 14 122	G 14	SLM N 1 063	G 37	SLV W 2 KA 030 16	G 39	SSK S 37	I 25
SL 14 147	G 14	SLM N 1 092	G 37	SLV W 2 KA 030 20	G 39	TF 53	F 12
SL 14 187	G 14	SLM N 1 117	G 37	SLV W 2 KA 030 26	G 39	TF 54	F 12
SL 14 235	G 14	SLM N 11 063	G 37	SLV W 2 KA 030 30	G 39	TF 56	F 12
SL 14 265	G 14	SLM N 11 117	G 37	SLV W 2 KA 030 34	G 39	TF 58	F 12
SL 14 310	G 14	SLP 1 16 117	G 28	SLV W 2 KA 030 40	G 39	TF 183	F 12
SL 14 365	G 14	SLP 1 16 129	G 28	SLV W 2 KA 030 50	G 39	TF 184	F 12
SL 15 SMD 107	G 27	SLP 1 16 144	G 28	SLV W 2 KA 030 72	G 39	TF 510	F 12
SL 15 SMD 182	G 27	SLP 1 16 195	G 28	SLV W 2 KA 054 10	G 39	TF 512	F 12
SL 15 SMD 207	G 27	SLP 1 32 139	G 28	SLV W 2 KA 054 14	G 39	TF G	F 17
SL 16 SMD 107	G 27	SLP 1 32 164	G 28	SLV W 2 KA 054 16	G 39	V	I 23
SL 16 SMD 157	G 27	SLP 2 16 117	G 28	SLV W 2 KA 054 20	G 39	V 2	I 23
SL 16 SMD 182	G 27	SLP 2 16 129	G 28	SLV W 2 KA 054 26	G 39	VBK 1	H 10
SL 16 SMD 207	G 27	SLP 2 16 144	G 28	SLV W 2 KA 054 30	G 39	VFL 06	H 5
SL 16 SMD 247	G 27	SLP 2 16 195	G 28	SLV W 2 KA 054 34	G 39	VFL 08	H 5
SL 17 SMD 058	G 24	SLP 2 32 139	G 28	SLV W 2 KA 054 40	G 39	VFL 10	H 5
SL 17 SMD 083	G 24	SLP 2 32 164	G 28	SLV W 2 KA 054 50	G 39	VFL 12	H 5
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 3 035	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		

Brackets for PC	K 3-24
Connector-sleeves	F 19-20
Direct female connectors	G 75
D-Sub accessoires	I 22-25
D-Sub connector for flat ribbon cable	I 11-12
D-Sub connector in pressfit technology	I 16-17
D-Sub connectors High Density	I 7-8
D-Sub filter connector	I 9-10
D-Sub hoods	I 18-21
D-Sub in SMD-mounting	I 15
D-Sub mixed layout connectors	I 13-14
D-Sub standard connectors	I 2-6
Female connector	H 4-7
Female headers	G 45-74
High-precision contacts, loose	F 17-18
High-precision sockets and plugs for DIL-IC	F 2-8
Jumper links / Separable jumpers	F 14-16
Jumpers	G 76-77
LED-holders	L 4-7
Light pipes for SMDs	L 8-9
Male headers	G 2-45
Printed circuit connector	H 8-10
Shroud-male header	H 2-3
Sockets for crystal oscillators	F 13
Sockets for IC-PLCC	F 9
Sockets for TO ... cases	F 10-12
Spacers for LED	L 2-3

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 $\pm 0,2\text{mm}$
- the space allowance is $\pm 0,03\text{mm}$, the overall space allowance over 36 pins $\pm 0,2\text{mm}$
- the shape tolerance of the insulating body is defined by $\pm 0,15\text{mm}$
- the separation of number of pins by means of cutting: $+0,6\text{mm}/-0,3\text{mm}$
- the separation of number of pins by means of sawing: $+0,1\text{mm}/-0,4\text{mm}$ (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.



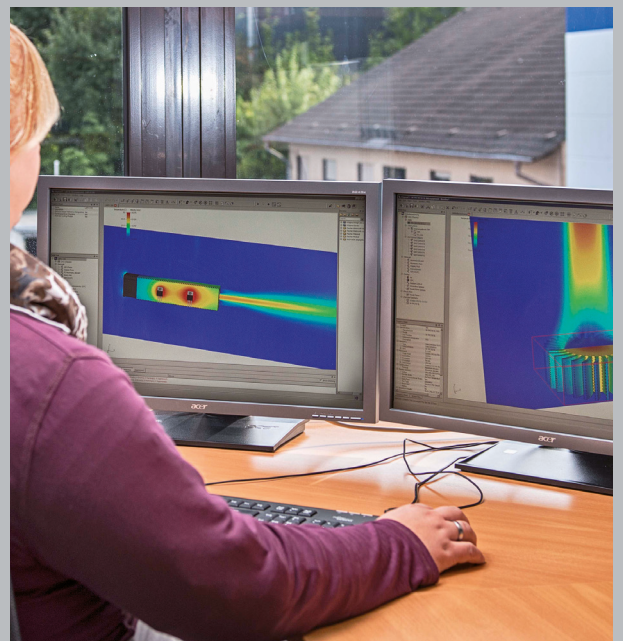
foyer of the company



motivated employees



committed field service



innovative product development

Explanations – references – printings



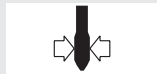
... plastic of the insulator is suitable for reflow-soldering up to 260 °C



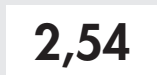
... components are suitable for soldering technique (THT)



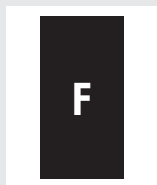
... components are suitable for SMD technique



... 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)

Macromedia Free Hand (.fh)

QuarkXPress (.qxd)

without half-tone images, fonts transformed into paths or supplied

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!

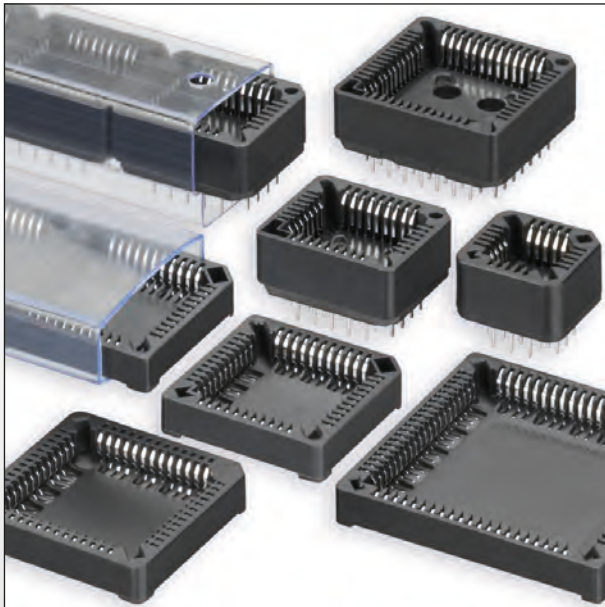
Please note as a general rule: Retouching work extending beyond the standard time will be invoiced additionally at cost price.

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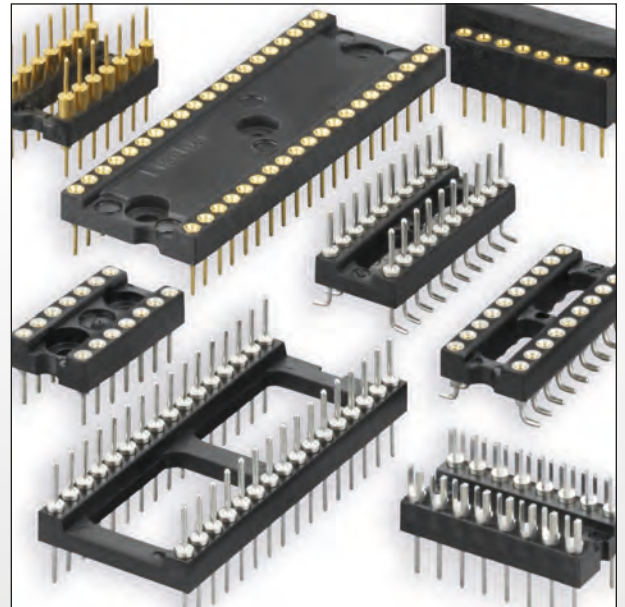
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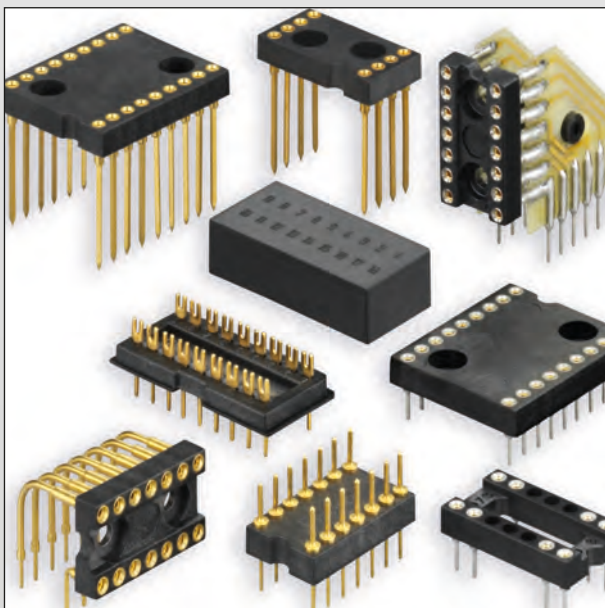
Precision sockets and plugs for ICs with high packing density

- PLCC-socket for soldering technology (THT)
- PLCC-socket for SMD technology – low profile
- type of packaging: bar magazine



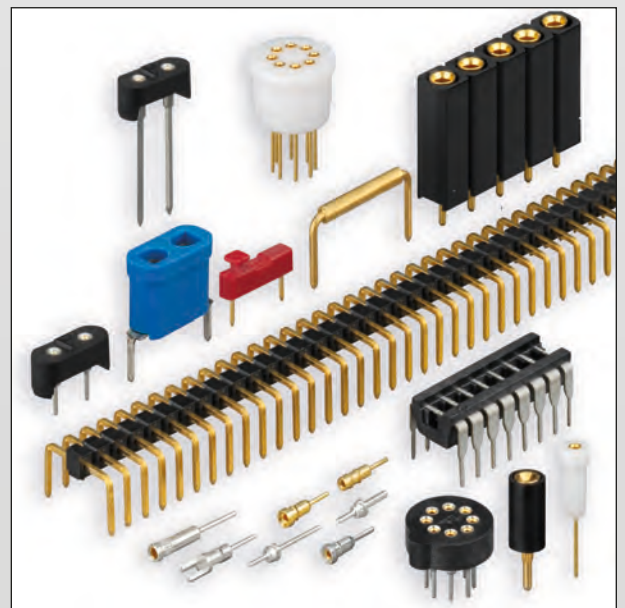
Precision sockets and plugs for DIL-ICs

- 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


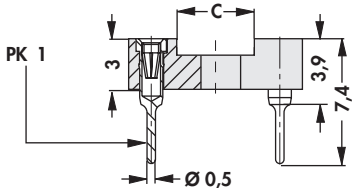
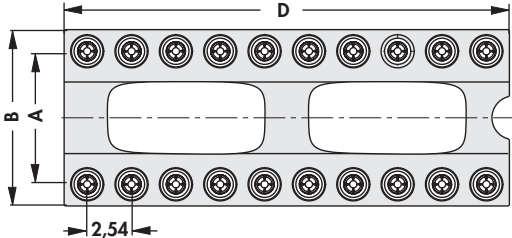


Mounting sockets for discrete components, jumper links and connectors

- 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


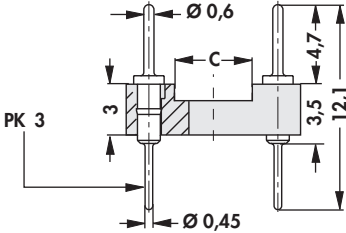
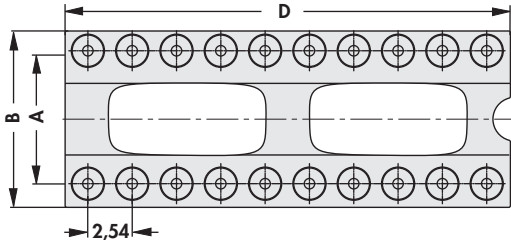
High-precision sockets and plugs for DIL-IC

– other number of contacts upon request!


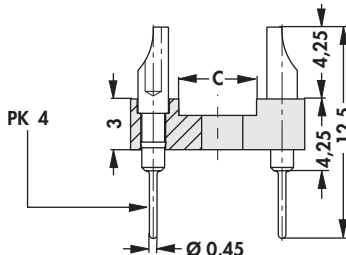
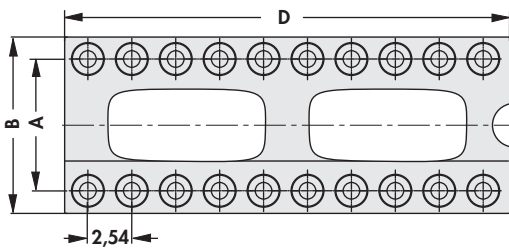
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		A	B	C	D			A	B	C	D
DIL 6 M ...	6	7.62	10.1	3.8	7.6	DIL 22 03 M Z	22	7.62	10.1	4.8	27.9
DIL 8 M ...	8	7.62	10.1	3.8	10.1	DIL 24 M ...	24	15.24	17.7	11.6	30.6
DIL 10 M ...	10	7.62	10.1	4.7	12.7	DIL 24 03 M ...	24	7.62	10.1	4.0	30.6
DIL 14 M ...	14	7.62	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

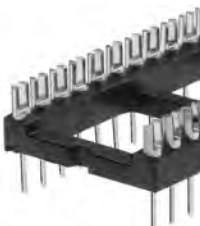
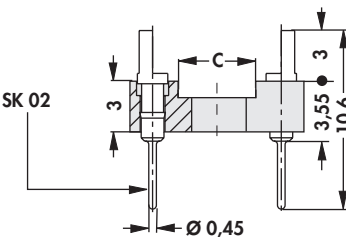
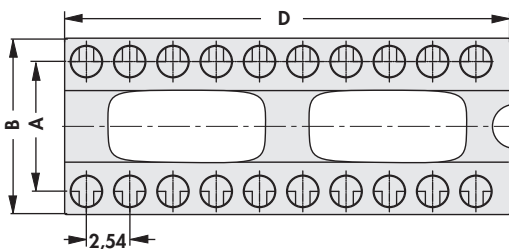
art. no.	no. of contacts	dim. [mm]				art. no.	no. of contacts	dim. [mm]			
DIL 14 N ...	14	7.62	10.1	4.9	17.7	DIL 16 N ...	16	7.62	10.1	3.5	20.4
please indicate: ... surface of contact G = gold-plated Z = tin-plated											
contact spring: gold-plated											


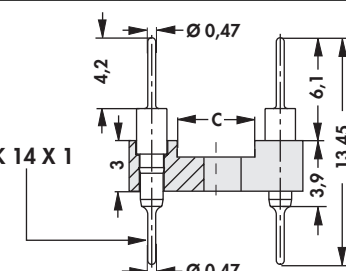
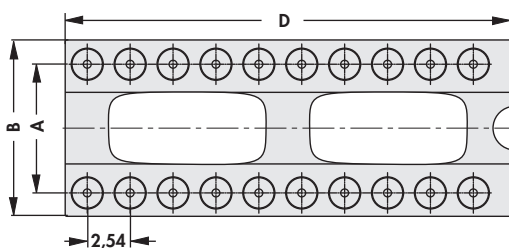
											
art. no.	no. of contacts	dim. [mm]				art. no.	no. of contacts	dim. [mm]			
		A	B	C	D			A	B	C	D
DIL 8 O ...	8	7.62	10.1	3.8	10.1	DIL 20 O G	20	7.62	10.1	3.4	25.5
DIL 14 O ...	14	7.62	10.1	4.9	17.7	DIL 22 O ...	22	10.16	12.7	6.6	27.9
DIL 16 O ...	16	7.62	10.1	3.5	20.4						
please indicate: ... surface of contact G = gold-plated Z = tin-plated											

High-precision sockets and plugs for DIL-IC

– other number of contacts on request!

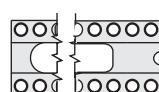
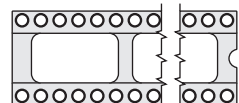
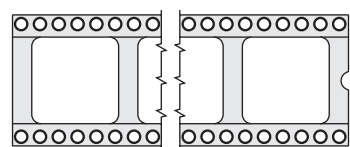
											
art. no.	no. of contacts	dim. [mm]				art. no.	no. of contacts	dim. [mm]			
DIL 6 P Z	6	A	B	C	D	DIL 16 P Z	16	A	B	C	D
DIL 14 P Z	14	7.62	10.1	4.9	17.7			7.62	10.1	3.5	20.4

											
art. no.	no. of contacts	dim. [mm]				art. no.	no. of contacts	dim. [mm]			
DIL 8 Q G	8	A	B	C	D	DIL 20 Q Z	20	A	B	C	D
DIL 16 Q Z	16	7.62	10.1	3.5	20.4			7.62	10.1	3.4	25.5


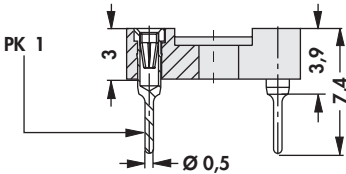
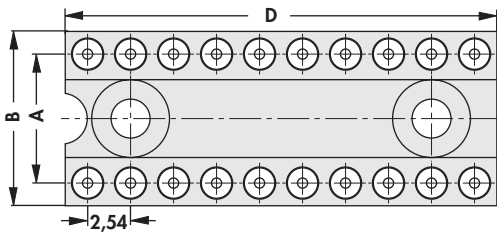
											
art. no.	no. of contacts	dim. [mm]				art. no.	no. of contacts	dim. [mm]			
DIL 10 U Z	10	A	B	C	D	DIL 22 U ...	22	A	B	C	D
DIL 14 U G	14	7.62	10.1	4.9	17.7	DIL 24 U ...	24	15.24	17.7	11.6	30.6

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



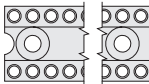
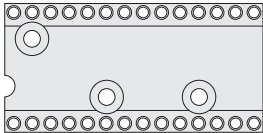
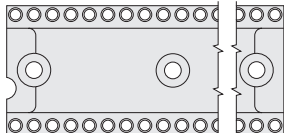
Socket layout for various numbers of contacts for DIL-IC, open frame

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


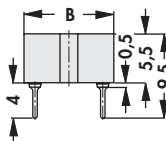
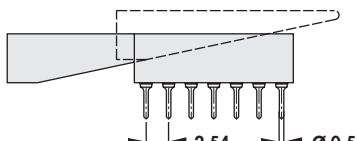
High-precision sockets and plugs for DIL-IC

  									
art. no.	no. of contacts	dim. [mm]			art. no.	no. of contacts	dim. [mm]		
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


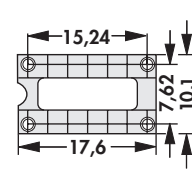
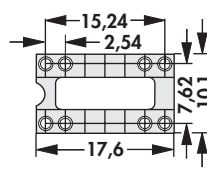
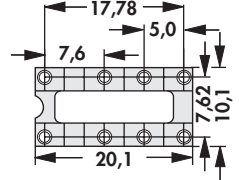
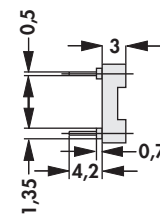
6 pol. 	8 pol. 	14-22 pol. 
28 pol. 	32-40 pol. 	

DIL-IC-sockets with extractor


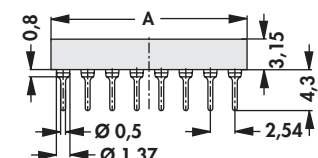
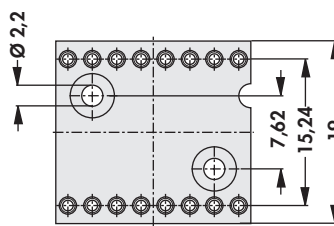

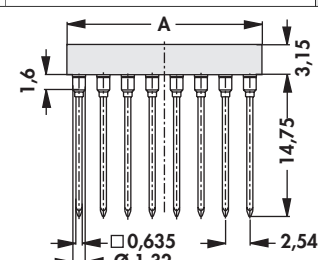
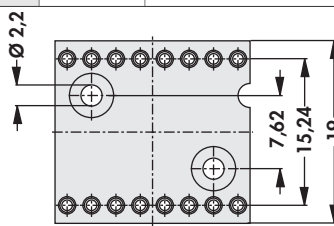
	 										
art. no.	no. of contacts	dim. [mm]				art. no.	no. of contacts	dim. [mm]			
DIL 14 PEK	14	7.62	10.1	12	17.0	DIL 16 PEK	16	7.62	10.1	12	20.3
contact spring:				gold-plated							
contact sleeve:				gold-plated							

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				


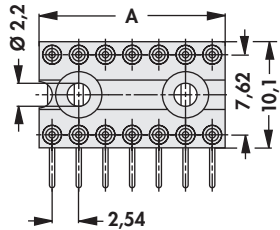
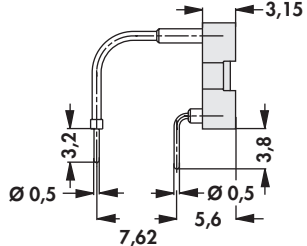
LED display sockets of 0.6" pitch

					
art. no.	no. of contacts	dim. [mm]	art. no.	no. of contacts	dim. [mm]
		A			A
DIL 16 06 E Z	16	20.3	DIL 18 06 E Z	18	22.8
					
art. no.	no. of contacts	dim. [mm]	art. no.	no. of contacts	dim. [mm]
		A			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				

High-precision sockets and plugs for DIL-IC

LED display sockets in vertical construction

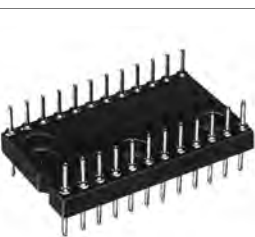
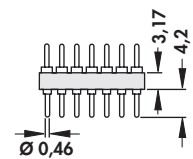
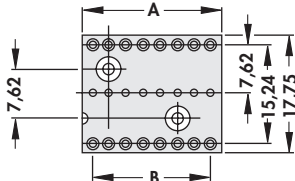
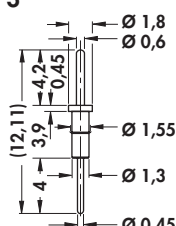
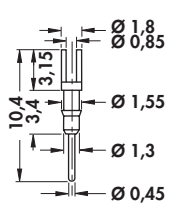
art. no.	no. of contacts	dim. [mm]	
		A	B
DIL 14 W 90	14	27.7	22.7
contact spring:		gold-plated	
contact sleeve:		tin-plated	

					
art. no.	no. of contacts	dim. [mm] A	art. no.	no. of contacts	dim. [mm] A
DIL 8 G Z	8	10.1	DIL 16 G ...	16	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


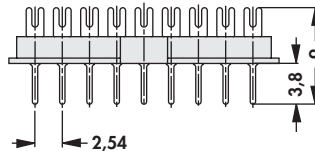
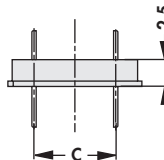
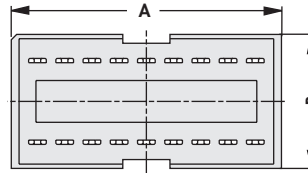
		PK 3		SK 02 (≙ PK 5)		PK 3		SK 02 (≙ PK 5)	
art. no.	no. of contacts	dim. [mm]		art. no.	no. of contacts	dim. [mm]			
		A	B			A	B		
DILS 04 PK 5	4	5.0	2.54	DILS 16 PK 3	16	20.3	17.78		
DILS 06 PK 3	6	7.6	5.08	DILS 16 PK 5	16	20.3	17.78		
DILS 14 PK 3	14	17.7	15.24	DILS 18 PK 5	18	23.0	20.32		
surface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

High-precision sockets and plugs for DIL-IC

					PK 3 		SK 02 (≅ PK 5) 	
art. no.	no. of contacts	dim. [mm]		art. no.	no. of contacts	dim. [mm]		
		A	B			A	B	
DILS 16 6 PK 3	16	20.3	17.78	DILS 40 6 PK 3	40	50.8	48.26	
DILS 28 6 PK 3	28	35.5	33.02					
surface of contact:		gold-plated						


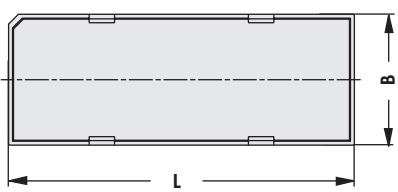
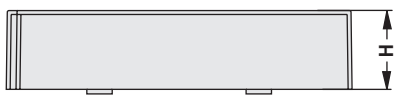
DIL platforms

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

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

DIL cases - grid spacing 2.54 mm

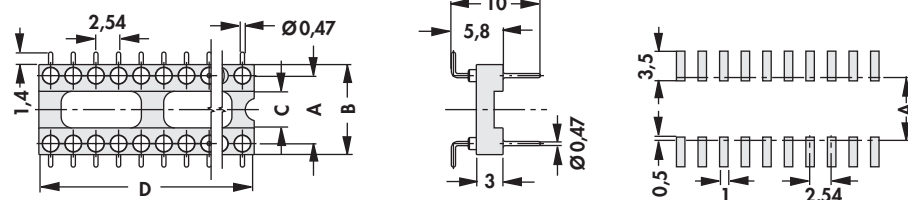
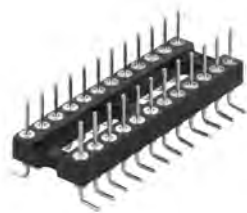
– suitable for **DIL** plugs DILS ... GO

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

High-precision sockets and plugs for DIL-IC

SMD-plug for DIL

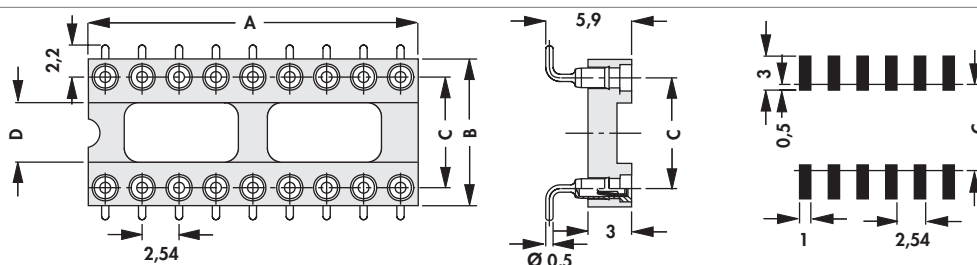
- with **SK 5**-contacts
- other number of contacts on request!



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 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 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									

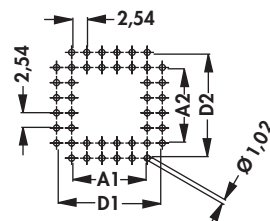
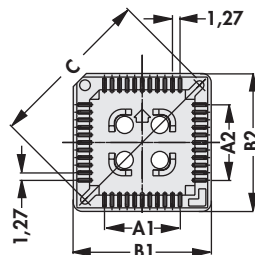
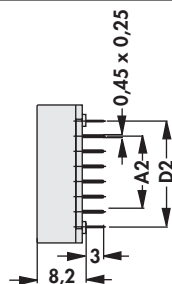
IC-mounting tools - Design DIL



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

Sockets for IC-PLCC

- 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



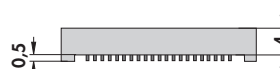
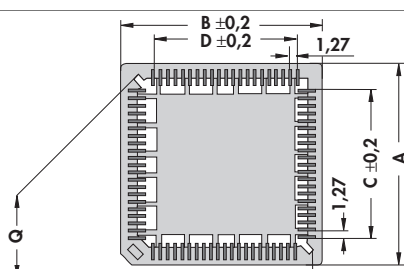
art. no.	no. of contacts	packing unit	dim. [mm]						
			A 1	A 2	B 1	B 2	C	Ø D1	Ø D2
PLCC 20	20	39	5.08	5.08	15.55	15.55	16.7	10.16	10.16
PLCC 28	28	33	7.62	7.62	18.10	18.10	20.3	12.70	12.70
PLCC 32	32	29	7.62	10.16	18.10	20.70	22.2	12.70	15.24
PLCC 44	44	25	12.70	12.70	23.20	23.20	27.5	17.78	17.78
PLCC 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

surface of contact:

tin-plated

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




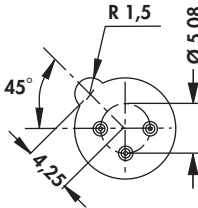
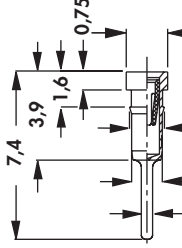
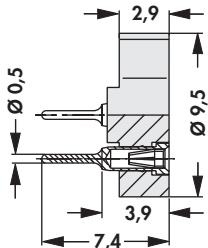

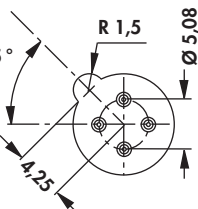
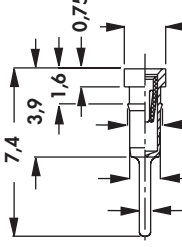
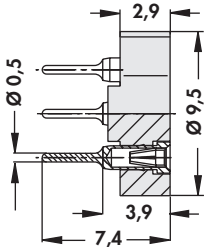

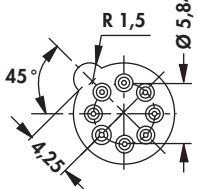
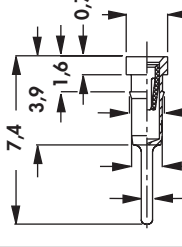
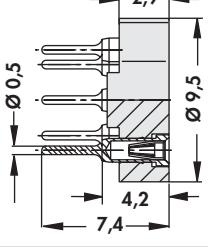

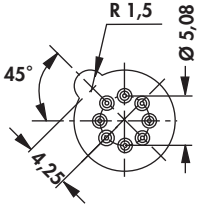
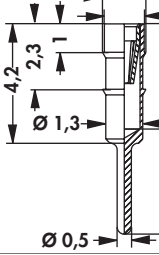
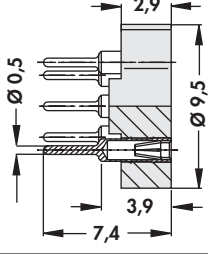
art. no.	no. of contacts	packing unit	dim. [mm]				
			A	B	C	D	Q
PLCC 20 SMD	20	39	15.58	15.58	5.08	5.08	16.0
PLCC 28 SMD	28	33	18.12	18.12	7.62	7.62	20.6
PLCC 32 SMD	32	29	18.12	20.66	7.62	10.16	22.5
PLCC 44 SMD	44	26	23.40	23.40	12.70	12.70	27.5
PLCC 52 SMD	52	23	25.74	25.74	15.24	15.24	31.1
PLCC 68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

surface of contact:

tin-plated


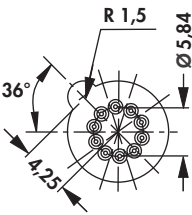
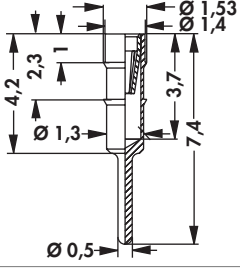
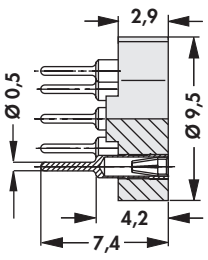
Sockets for TO ... cases

Transistor sockets for TO 5

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


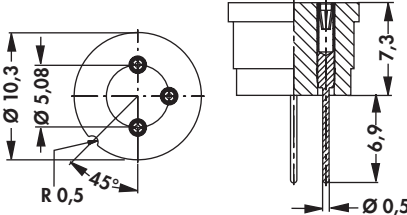

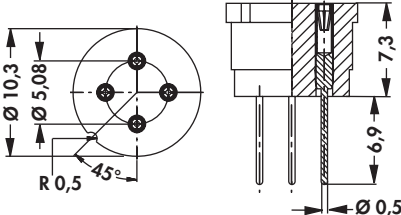

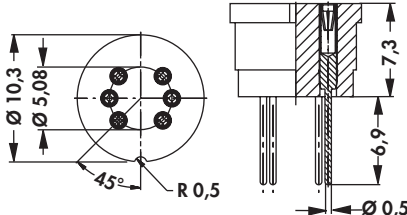

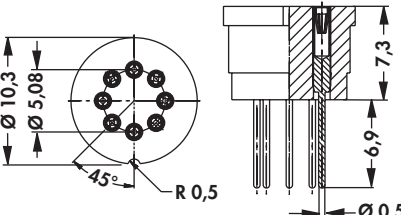

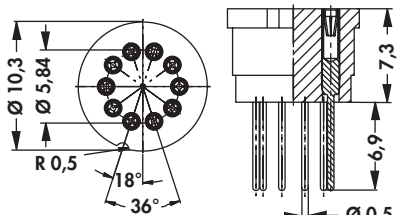

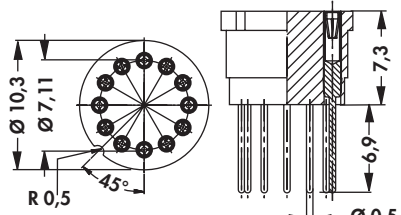
Sockets for TO ... cases

Sockets for TO 5


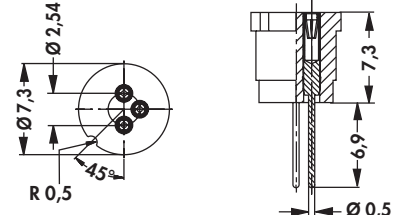

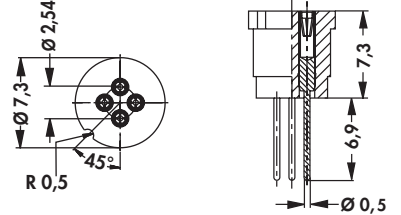
			
art. no.	no. of contacts		
PF 510 G	10		
contact spring:	gold-plated		
contact sleeve:	gold-plated		

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


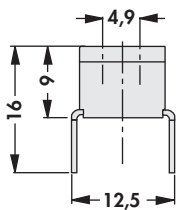
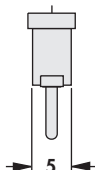
			
art. no.	no. of contacts	art. no.	no. of contacts
TF 183	3	TF 184	4
contact spring:		gold-plated	
contact sleeve:		gold-plated	

A

Sockets for crystal oscillators

B

C


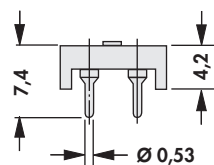
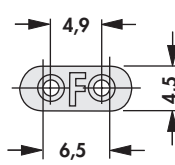
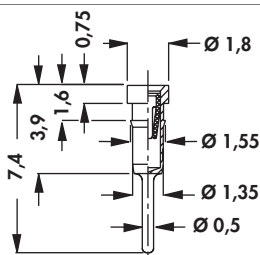

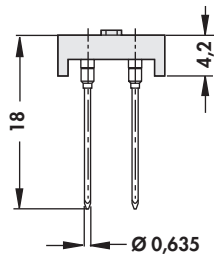
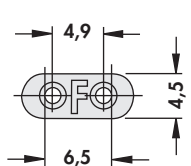
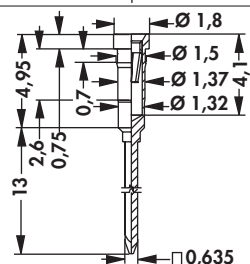
art. no.				
QS 25 GS				
surface of contact:				

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



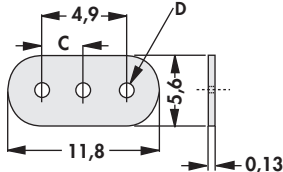
H

I

K

L

M

				
*				
art. no.	case design			
		C	D	
ISQ 04	HC-18/U/ HC-49/U/ HC-43/U	-	0.71	
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

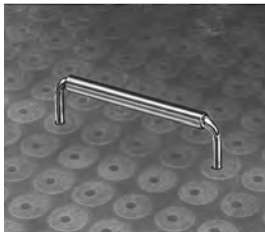
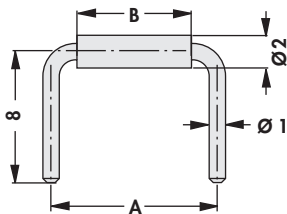

→ F 12
 → F 19 – 20
 → F 9
 → F 5 – 6

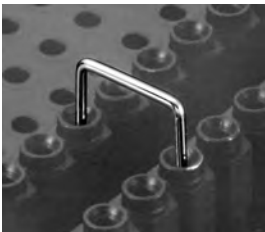
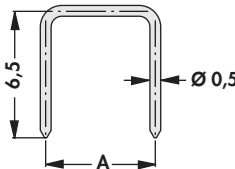

High-prec. male headers 2.54 THT
 Single precision contacts
 Sockets for DIL-IC
 Technical data


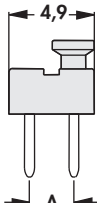
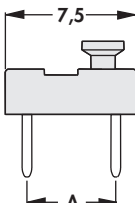
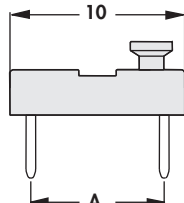
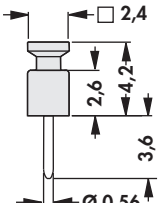
→ G 45 – 46
 → F 17 – 18
 → F 2 – 4
 → F 21 – 27


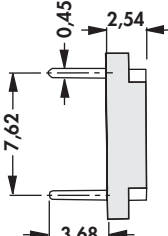
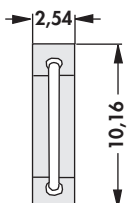
Jumper links / Separable jumpers

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


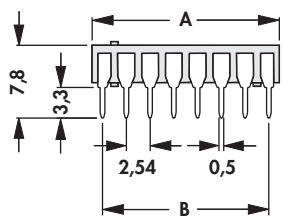
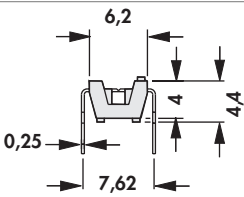
→ F 12
→ F 17 – 18
→ F 5 – 6
→ F 21 – 27

F 14

Jumper links / Separable jumpers


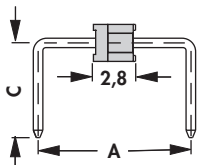
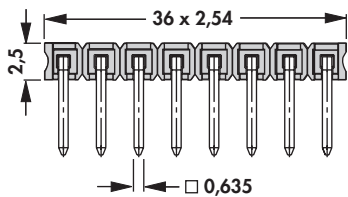
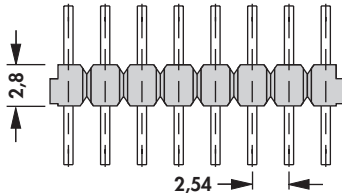
separable jumpers for soldering technology

– 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					


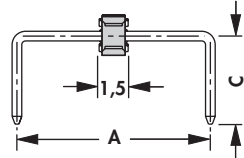
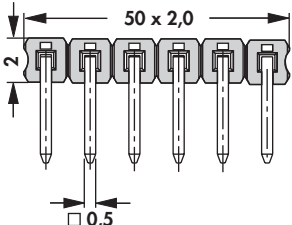
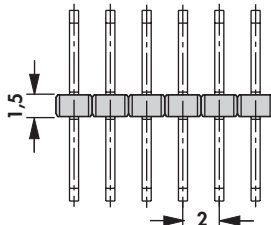
Jumper links, grid spacing 2.54 mm, □ 0.635 mm

– **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

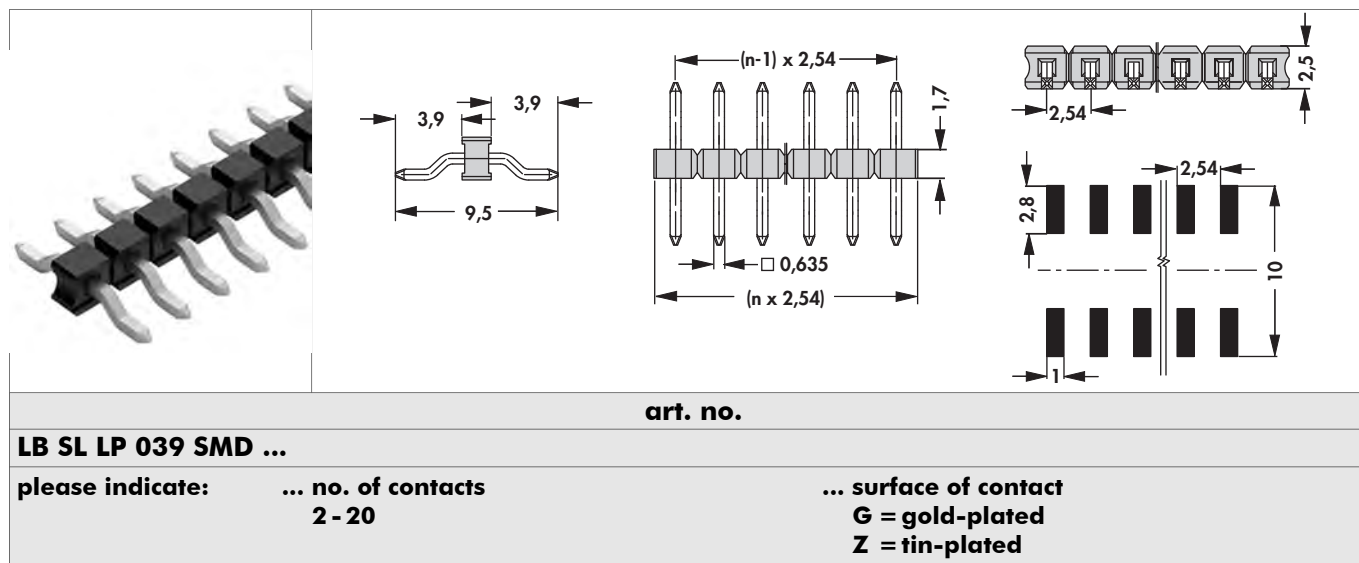
– **separable!** any requested number of contact can be delivered

   							
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			

Jumper links / Separable jumpers

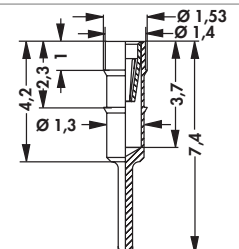
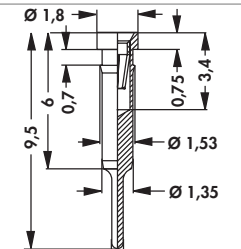
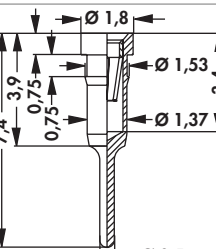
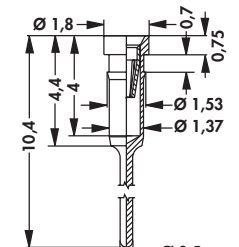
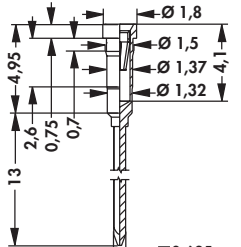
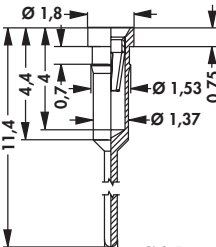
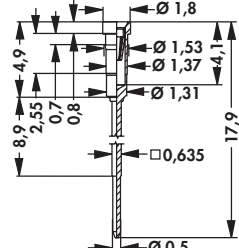
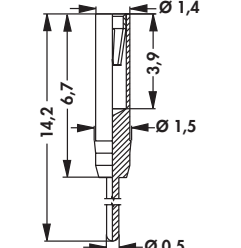
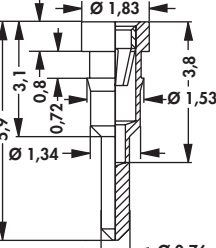
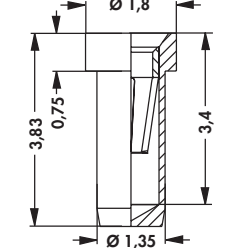
Jumper link for LED- and standard-PCBs

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

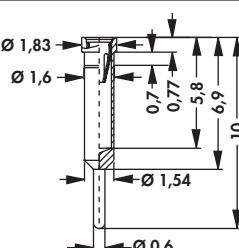
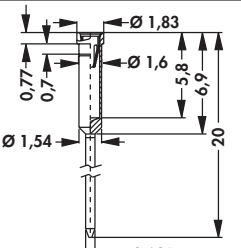


High-precision contacts, loose

Female contacts for Ø 0.5 mm

art. no. 1706 G		art. no. PEK G		art. no. PK 1 ...	
art. no. 1831 Z		art. no. WWPS 1 G		art. no. SK 06 ...	
art. no. SK 13 X 2 G		art. no. TF G		art. no. SK 19 ...	
art. no. SIL 1 ...					
<p>please indicate: ... surface of contact G = gold-plated Z = tin-plated</p>					
contact spring:		gold-plated			

Female contact for 0.64 mm □ and Ø 0.80 mm

art. no. SKB 5 Z		art. no. SKB 9 Z	
contact spring:		gold-plated	
contact sleeve:		tin-plated	

Sockets for DIL-IC
Connector-sleeves
Teflon sockets/TO 5 & TO 18
Jumper links

→ F 2 – 4
→ F 19
→ F 12
→ F 14 – 15

SMD socket for DIL-IC
High-precision female headers THT
Sockets for LED
Technical data

→ F 8
→ G 2 – 6
→ F 5 – 6
→ F 21 – 27

High-precision contacts, loose

Contacts with solder head


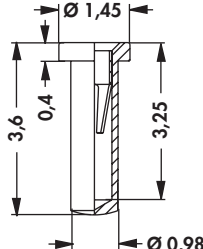
art. no.		art. no.		art. no.	
PK 4 Z		SK 02 ...		SK 03 ...	
art. no.		art. no.			
SK 04 Z		SK 08 G			
<p>please indicate: ... surface of contact G = gold-plated Z = tin-plated</p>					

Male contacts


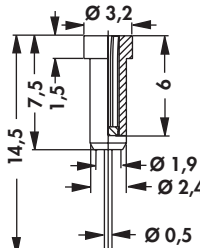
art. no.		art. no.		art. no.	
SK 05 ...		SK 14 X 2 ...		SK 40 G	
art. no.		art. no.			
SK 41 ...		SK 42 ...			
<p>please indicate: ... surface of contact G = gold-plated Z = tin-plated</p>					

Connector-sleeves


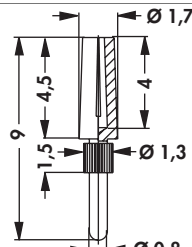
For 0.4 mm with BeCu spring 3 μm Ni, 1 μm Au

art. no.		
		
SB 1		


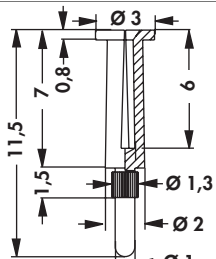

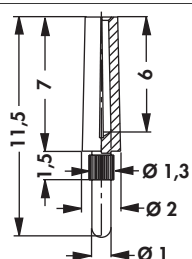

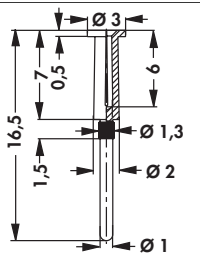
For 0.4 mm with bronze spring, teflon insulated

art. no.		
		
SB 2		

For 0.8 mm, slotted


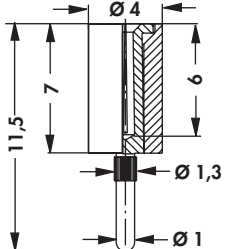
art. no.		
		
SB 3		

For 1 mm, slotted


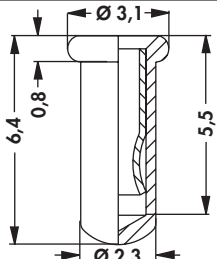
art. no.		
		
SB 4		
art. no.		
		
SB 5		
art. no.		
		
SB 6		
surface of contact:		gold-plated

Connector-sleeves


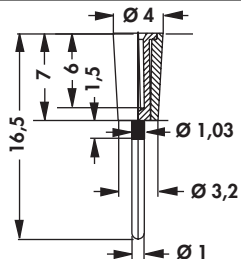
For 1 mm, slotted, plastic insulated

art. no.		
		
SB 9		


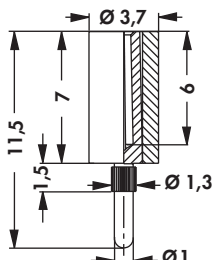
For 1 mm, with BeCu spring 3 µm Ni, 1 µm Au

art. no.		
		
SB 12		


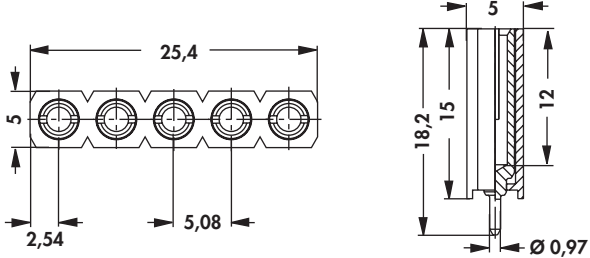
For 1 mm, slotted, plastic insulated

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
 Teflon sockets/TO 5 & TO 18
 High-precision female headers THT
 Jumper links

→ G 45 – 46
 → F 12
 → G 2 – 6
 → F 14 – 15

Sockets für PLCC
 Sockets for LED
 Sockets for crystal oscillators
 Technical data

→ F 9
 → F 5 – 6
 → F 13
 → 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+≥0.2μm Au/ Ni+4...6μm Sn		Ni+≥0.2μm Au	Ni+4...6μm Sn
inner contact spring material	CuBe-alloy		CuBe-alloy	
inner contact spring surface	Ni+0,25μm Au		Ni+0,75μm Au	Ni+0,25μm Au
plugability for circuit points	0,22x0,25mm... 0,4x0,55mm/ Ø0,4...0,56mm		0,22x0,25mm... 0,4x0,55mm/ Ø0,4...0,56mm	
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 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			
temperature range	-40°C... +200°C/ (260°C/10 s)			
class of flammibility	UL 94 V-0			
specific insulation resistance	>10 ¹² Ω·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 flammability	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+≥0.2μm Au/ Ni+4...6μm Sn		Ni+2...4μm Sn	Ni+≥0.2μm Au
inner contact spring material	CuBe-alloy			CuBe-alloy
inner contact spring surface	Ni+0,25μm Au			Ni+0,75μm Au
plugability for circuit points	0,22x0,25mm... 0,4x0,55mm/ Ø0,4...0,56mm			0,22x0,25mm... 0,4x0,55mm/ Ø0,4...0,56mm
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 mΩ		>30 mΩ	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		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 ≥3mm), UL 94 V-1	UL 94 V-0	
specific insulation resistance	>10 ¹² Ω·m		>10 ⁸ Ω·m	>10 ¹⁴ Ω·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+ $\geq 0.2\mu$ m Au/ Ni+4...6 μ m Sn	Ni+ $\geq 0.2\mu$ m Au	Ni+ $\geq 0.2\mu$ 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 con- tact/ 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 flammability	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 flammibility	UL 94 V-0			
specific insulation resistance	>10 ⁷ Ω·m			

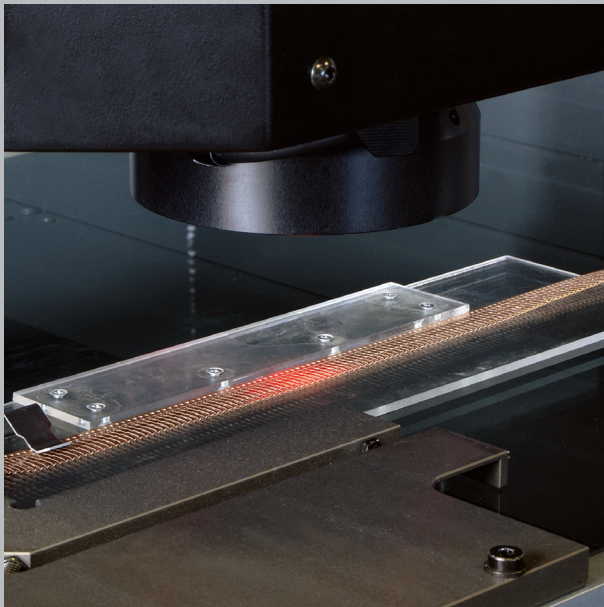
Technical data Sockets

	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

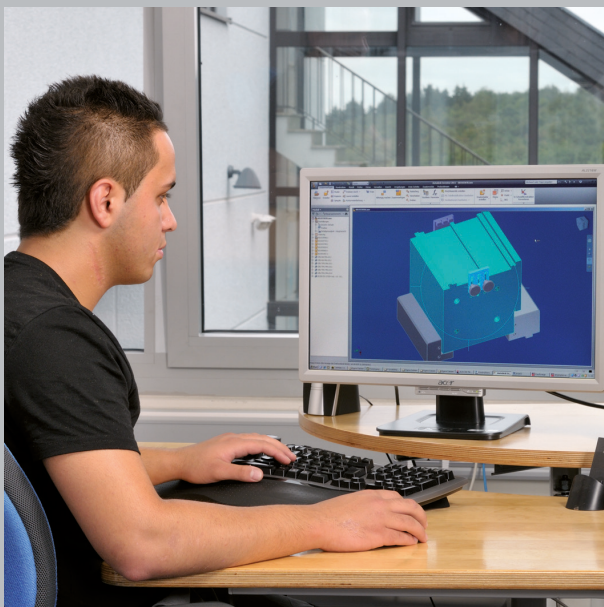
Technical data Sockets

	SB 3	SB 4, SB 5, SB 6	SB 9	SB 12
contact material	CuZn-alloy			
surface contact / contact sleeve	Ni+0.25µm Au			
inner contact spring material				CuBe-alloy
inner contact spring surface				Ni+1µm 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		≤500 V		

	SB 16	SB 13	SB 15
contact material	CuZn-alloy		
surface contact / contact sleeve	Ni+0.25µm 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 flammability	UL 94 V-0		UL 94 V-0
dielectric strength		≤500 V	



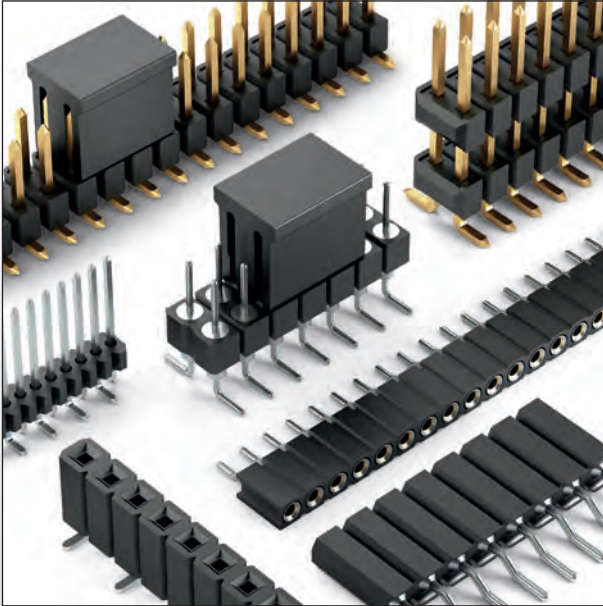
certified quality management



own tool-making department

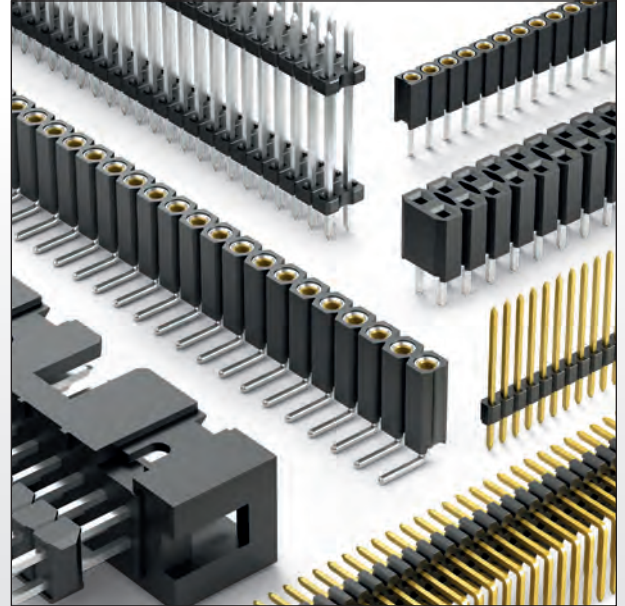


foresighted storekeeping



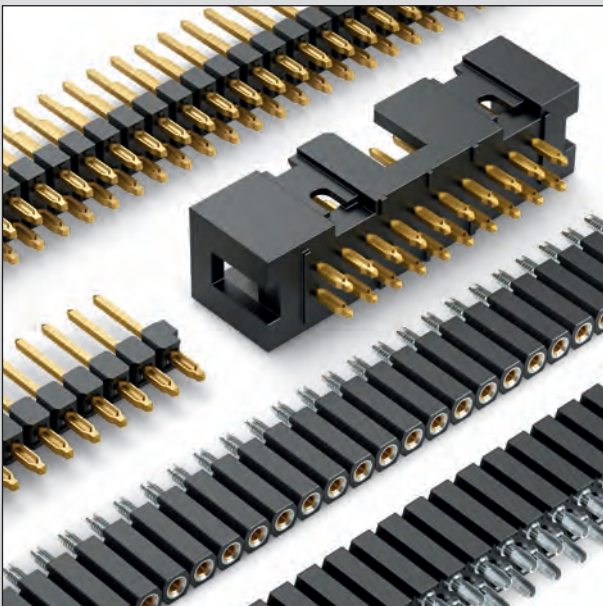
Male and female headers in SMD version

- 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



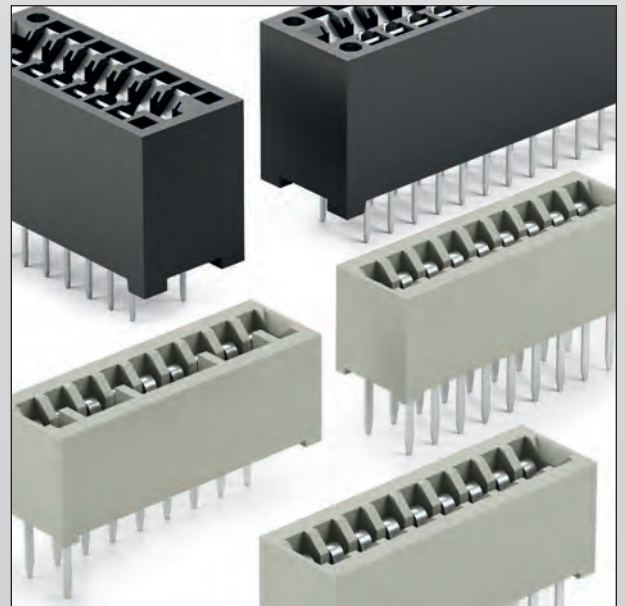
Male and female headers for solder technology (THT)

- 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


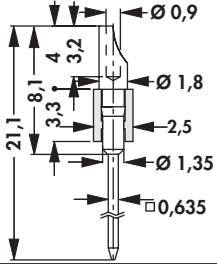

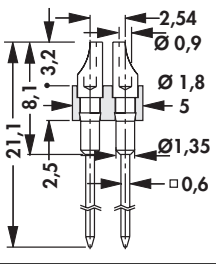

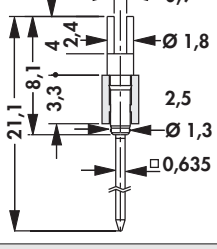

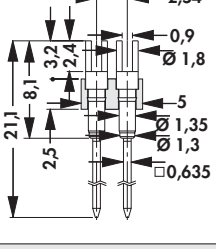
art. no.			art. no.		
MK 05 ...			MK 205 ...		
art. no.			art. no.		
MK 04 ...			MK 204 ...		
art. no.			art. no.		
MK 03 ...			MK 203 ...		
art. no.			art. no.		
MK 02 ...			MK 202 ...		
<p>please indicate:</p> <p>... no. of contacts one row 1 - 50 two rows 2 - 100</p> <p>... surface of contact G = gold-plated Z = tin-plated</p>					

Male headers

Precision contacts, Wire Wrap pin \square 0.635 mm

– version:

MK 10 / MK 210: with diagonal solder bucket**MK 08 / MK 208:** with solder fork

art. no.			art. no.		
MK 10 ...			MK 210 ...		
art. no.			art. no.		
MK 08 ...			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


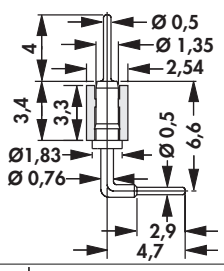

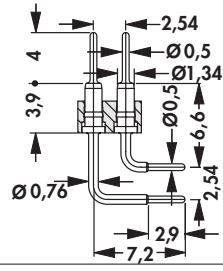

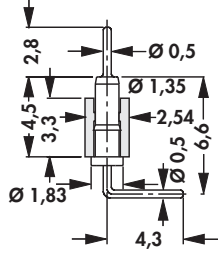
Female headers 2.54 THT
 Direct female connectors
 Female headers for PC 104
 Technical data

→ G 52
 → G 75
 → G 55 – 56
 → G 78 – 84


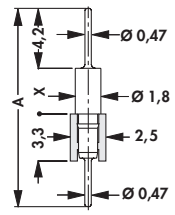

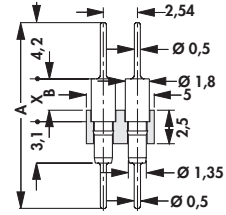
Male headers

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

– rectangular PCB connection

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


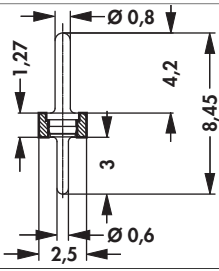

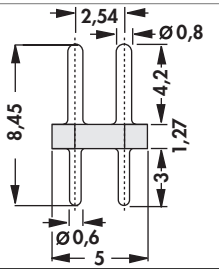

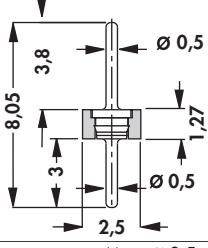

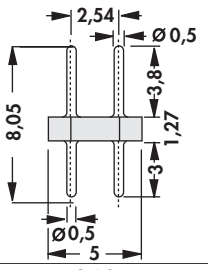

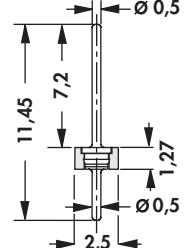

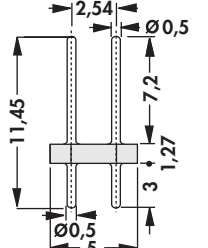

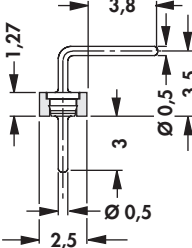
– parallel PCB connection

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

Male headers

Precision contacts, low profile


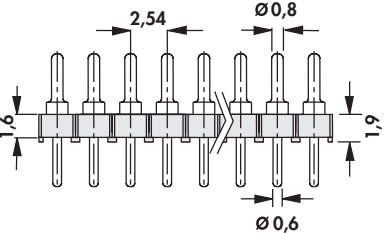
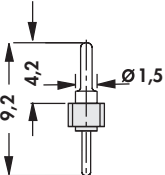
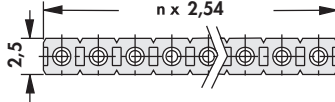

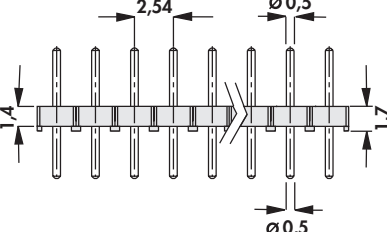
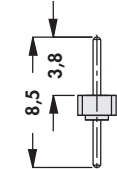
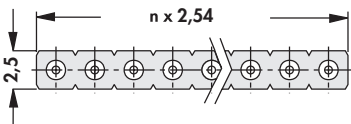

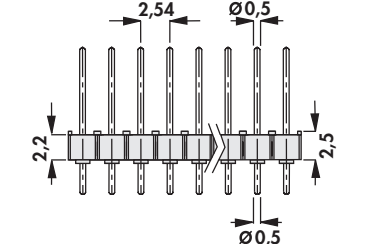
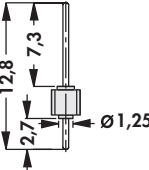
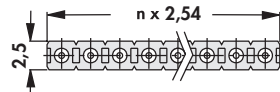
– also available as single contact, **SK** ...

art. no.			art. no.		
MK LP 40 ...			MK LP 240 ...		
art. no.			art. no.		
MK LP 41 ...			MK LP 241 ...		
art. no.			art. no.		
MK LP 42 ...			MK LP 242 ...		
art. no.					
MK LP 43 ...					
<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>					

Male headers

Precision contacts, low profile

— one row

art. no.				
SL 7 ...				
art. no.				
SL 8 ...				
art. no.				
SL 9 ...				
please indicate:	... no. of contacts one row 1 - 20		... surface of contact G = gold-plated Z = tin-plated	

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

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

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


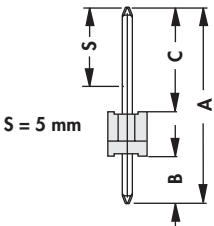
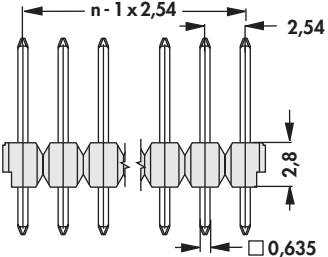
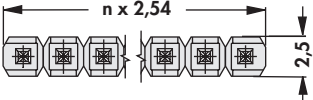
→ G 58 – 63
→ G 45 – 55
→ G 75
→ G 78 – 84

G 6


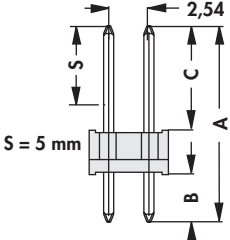
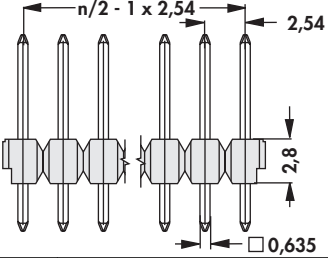
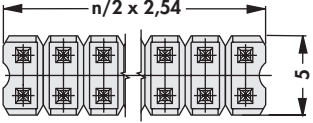
Male headers

– every 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 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				
<p>please indicate:</p> <p>... no. of contacts one row 1 - 36</p> <p>... surface of contact S = selective gold-plated G = gold-plated Z = tin-plated</p>							

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

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


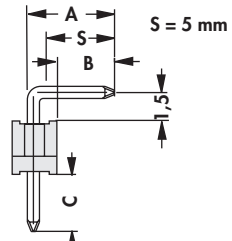
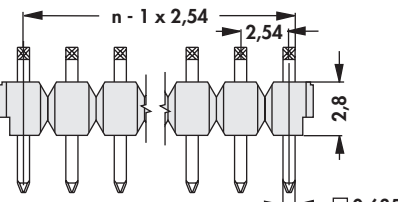
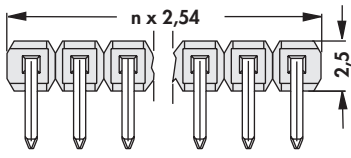
Male headers

"Dimensions A + B" changeable

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


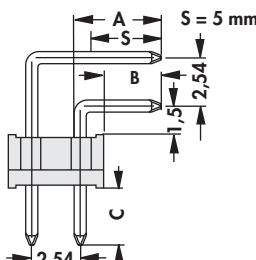
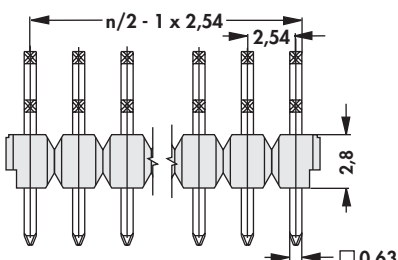
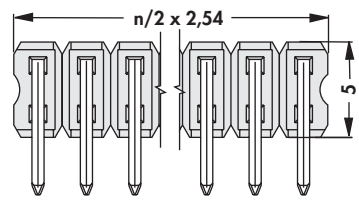
– one row, \square 0.635 mm

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

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

– two rows, \square 0.635 mm

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


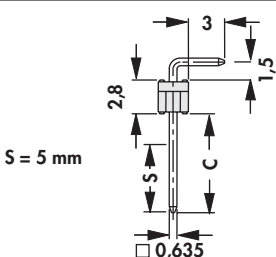
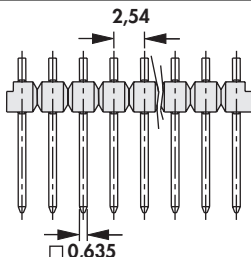
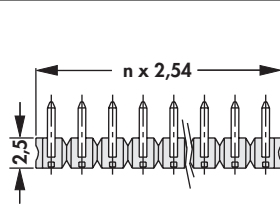
   							
art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SLK 4 025 ...	4.5	3.0	3.0	SL 4 101 ...	11.6	10.1	5.8
SL 4 025 ...	4.5	3.0	5.8	SL 4 152 ...	16.7	15.2	5.8
please indicate: ... no. of contacts two rows 2 - 72 ... surface of contact S = selective gold-plated G = gold-plated Z = tin-plated							

Male headers


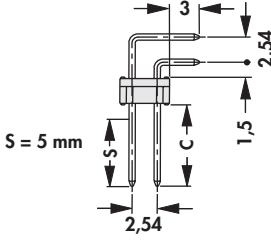
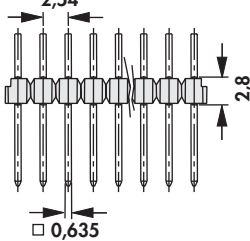
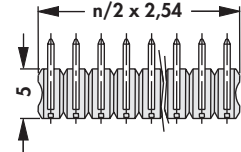
Insertion side "dimension C" changeable

- **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] C	art. no.	dim. [mm] 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


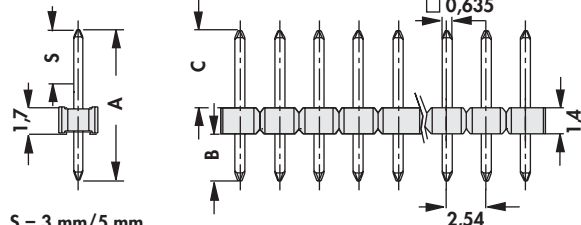
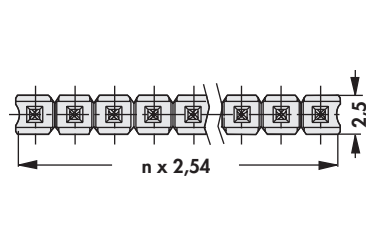
G 10

Male headers


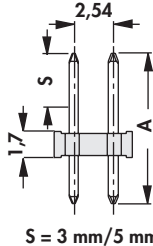
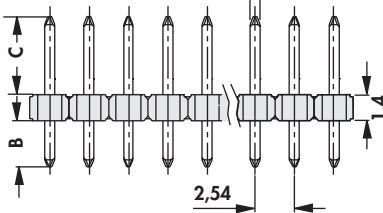
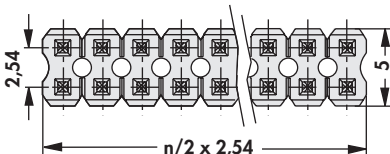
Low profile, straight

– 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]		art. no.		dim. [mm]	
A	B	C		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]		art. no.		dim. [mm]	
A	B	C		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							

- 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
- for plugging 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			
<p>please indicate:</p> <p>... no. of contacts one row 1 - 36</p> <p>... surface of contact</p> <p>S = selective gold-plated</p> <p>G = gold-plated</p> <p>Z = tin-plated</p>					

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

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

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

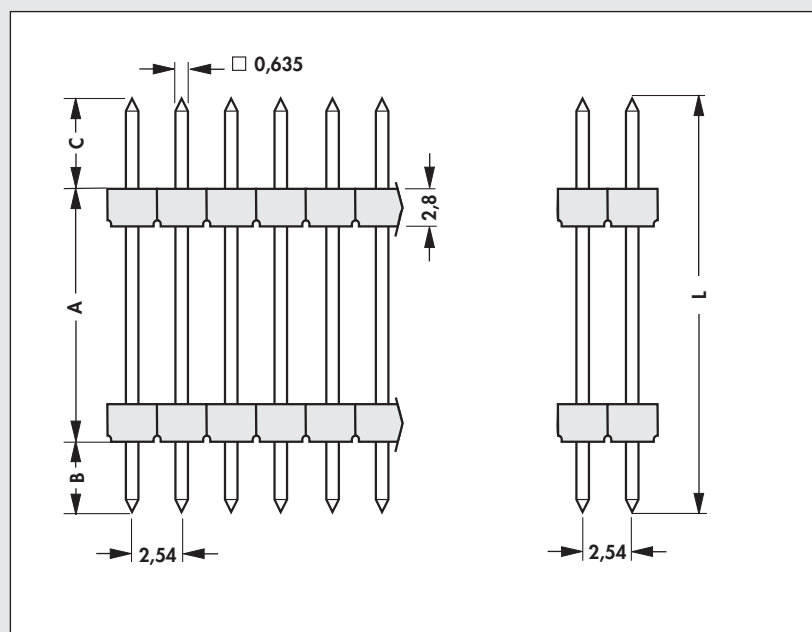
- ☐ selective gold-plated
- ☐ gold-plated
- ☐ tin-plated

- ☐ 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

H

I

K

L

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**

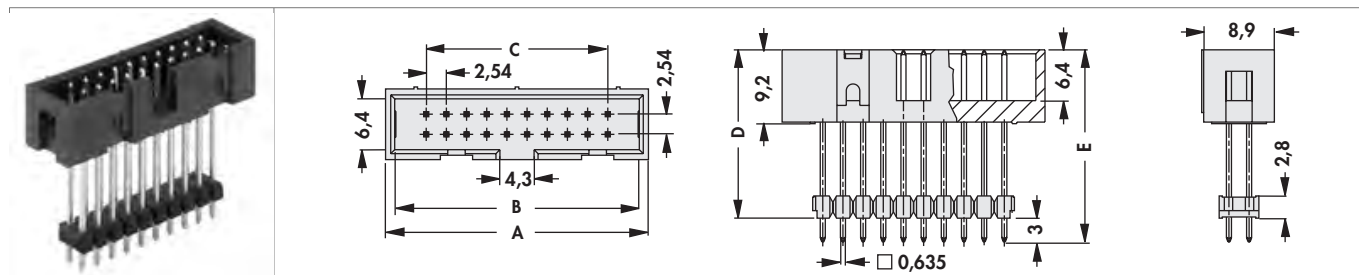
Jumpers
High-prec. male headers 2.54 THT
Female headers for PC 104
Technical data

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

Male headers

Shrouded male header, with coding and bolting device

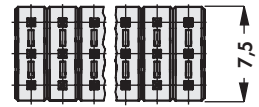
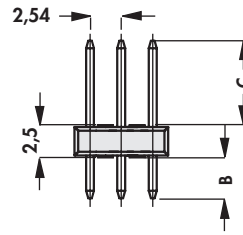
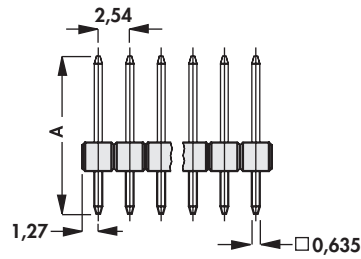
– suitable for many flat cable connectors in 2.54 mm pitch



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						

Male headers

Three rows, □ 0.635 mm



art. no.

dim. [mm]

A

B

C

SL KG 3 113 ...

11.3

3.3

5.5

SL KG 3 126 ...

12.6

3.3

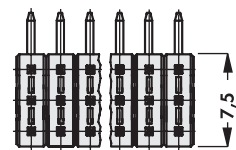
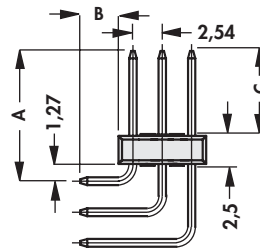
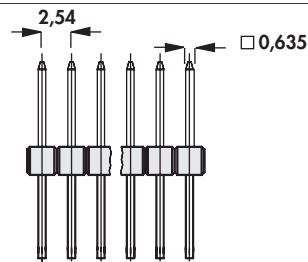
6.8

SL KG 3 147 ...

14.7

3.3

8.9



art. no.

dim. [mm]

A

B

C

SL KA 3 072 ...

7.2

3.3

3.4

SL KA 3 085 ...

8.5

3.3

4.7

SL KA 3 108 ...

10.8

3.3

7.0

please indicate:

... no. of contacts
three rows 3 - 150... surface of contact
G = gold-plated
Z = tin-plated

Male headers

Precision contacts, plug pins Ø 0.5 mm

art. no.			
MK 26 SMD ...			
please indicate:	... 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

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

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

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**


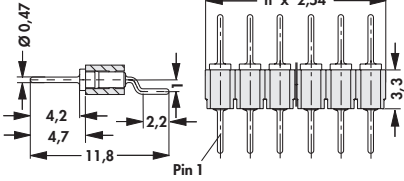
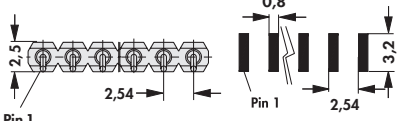
Option, for automatic assembly

– reel diameter Ø 330 mm

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


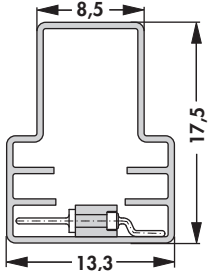
Male headers

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	

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

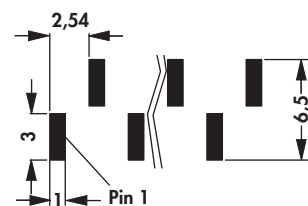
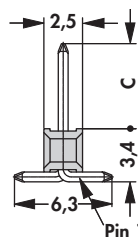
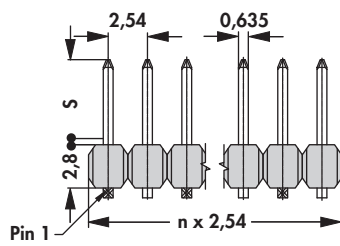
→ G 52
→ G 58 - 63
→ G 66
→ G 73

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

Male headers

□ 0.635 mm



art. no.	dim. [mm] C	art. no.	dim. [mm] C	art. no.	dim. [mm] C
SL 10 SMD 040 ...	4.0	SL 10 SMD 062 ...	6.7	SL 10 SMD 104 ...	10.8
SL 10 SMD 052 ...	5.5	SL 10 SMD 078 ...	8.2	SL 10 SMD 130 ...	13.4
<p>please indicate: ... no. of contacts one row 4 - 20</p> <p>... surface of contact S = selective gold-plated G = gold-plated Z = tin-plated</p> <p>... packing 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>					

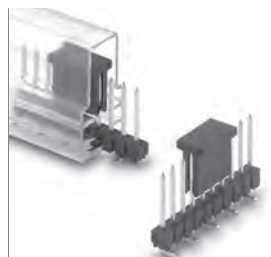
... packing (option) - additions:

SL 10 SMD 040-104 ... SM; ... B SM: 4-20 contacts

SL 10 SMD 040-078 ... B TR: 4-12 contacts

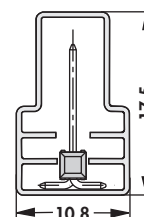
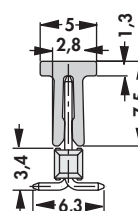
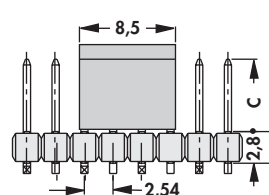
Option, for automatic assembly

– reel diameter Ø 330 mm

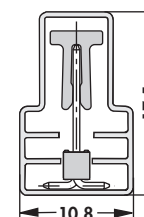


... SM

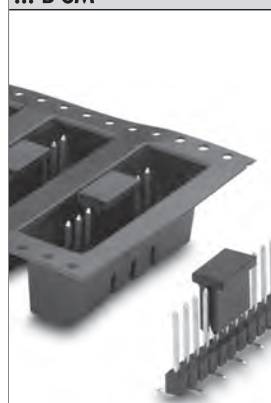
... B SM



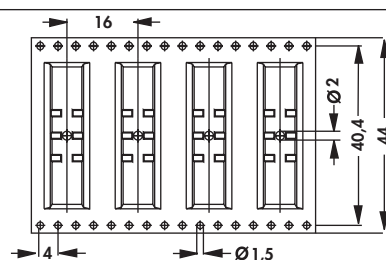
SL 10 SMD ... SM



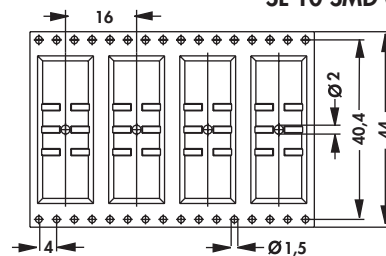
SL 10 SMD ... B SM



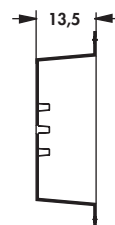
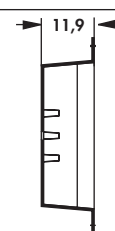
... B TR



SL 10 SMD 040-062 ... B TR


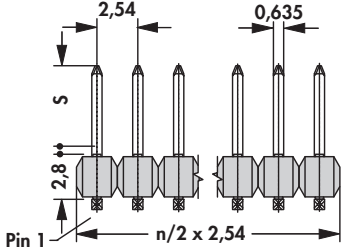
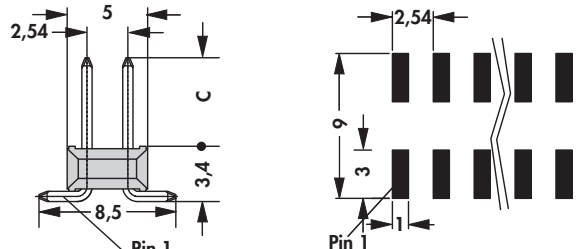


SL 10 SMD 078 ... B TR



Male headers

0.635 mm

					
art. no.	dim. [mm]	art. no.	dim. [mm]	art. no.	dim. [mm]
	C		C		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
<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>					

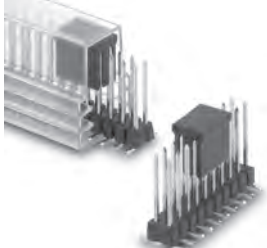
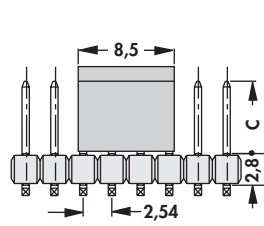
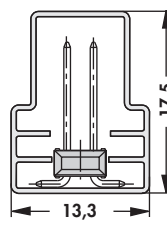
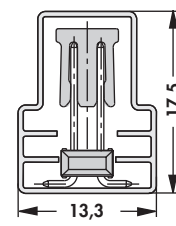

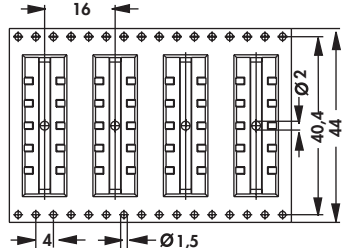
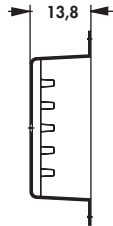
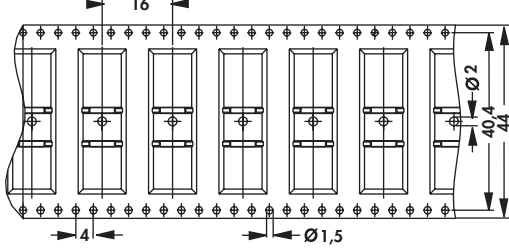
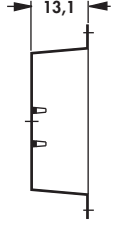
... packing (option) - additions:

SL 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			SL 11 SMD ... SM		SL 11 SMD ... B SM	
... B SM						
						
			SL 11 SMD 040-062 ... B TR			
... B TR						
			SL 11 SMD 078 ... 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

Male headers

□ 0.635 mm

S = 5 mm											
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		... surface of contact		... packing (optional)					
		one row 2 - 20		S = selective gold-plated G = gold-plated Z = tin-plated		B SM = pick and place pad and bar magazine B TR = pick and place pad and tape and reel (500pcs/reel)					

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

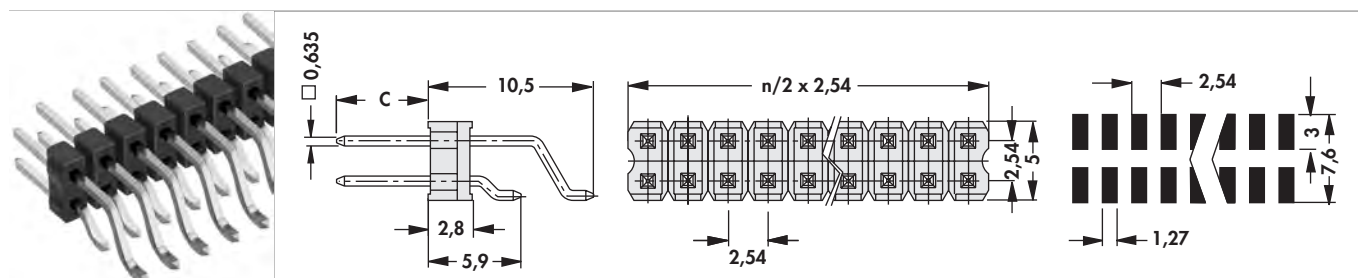
Option, for automatic assembly

– reel diameter Ø 330 mm

... B SM						SL 12 SMD ... B SM	
... B TR						SL 12 SMD 031-109 ... B TR	

Male headers

□ 0.635 mm



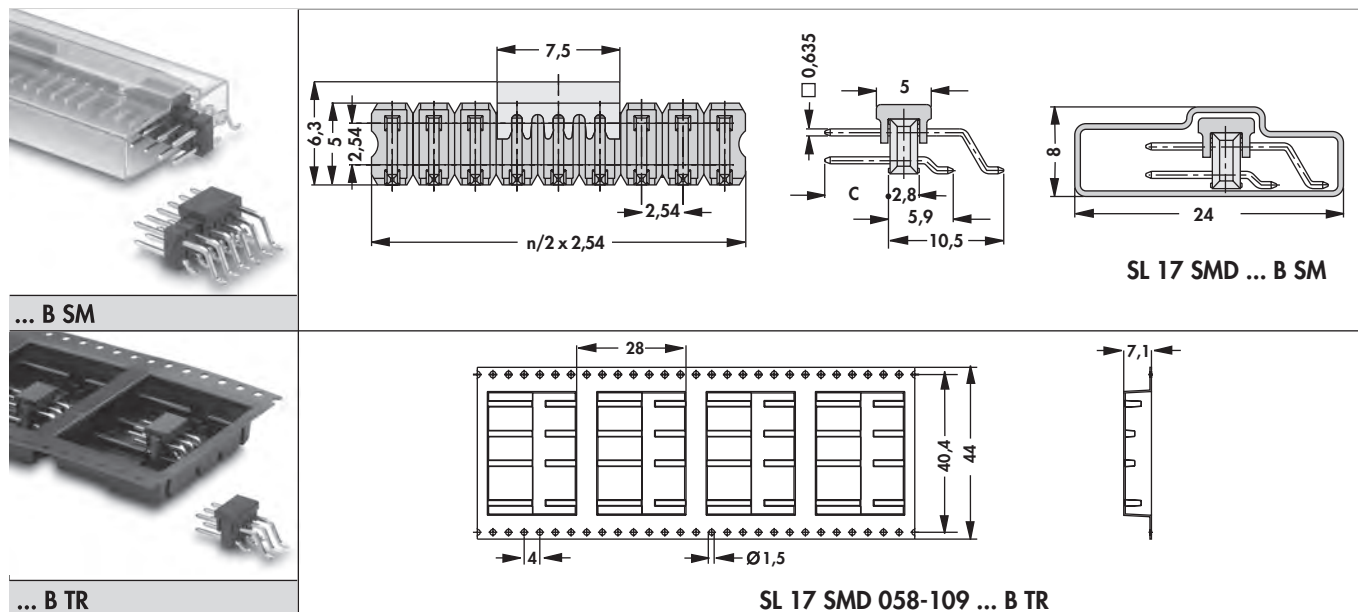
art. no.	dim. [mm] C	art. no.	dim. [mm] C	art. no.	dim. [mm] C
SL 17 SMD 058 ...	5.8	SL 17 SMD 083 ...	8.3	SL 17 SMD 109 ...	10.9
<p>please indicate:</p> <p>... no. of contacts two rows 4 - 40</p> <p>... surface of contact G = gold-plated Z = tin-plated</p> <p>... packing (optional) B SM = pick and place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

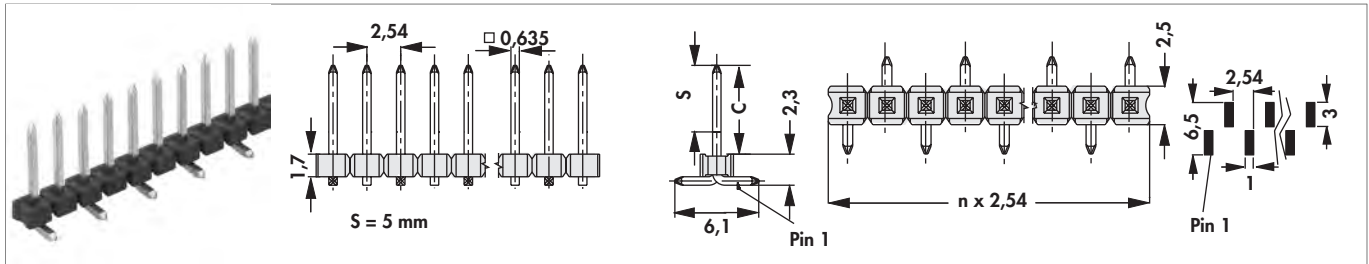
→ G 75

→ G 33 – 35

→ G 78 – 84

Male headers

Low profile in SMD □ 0.635 mm



art. no.	dim. [mm] C	art. no.	dim. [mm] C	art. no.	dim. [mm] C
SL LP 5 SMD 038 ...	3.8	SL LP 5 SMD 051 ...	5.1	SL LP 5 SMD 066 ...	6.6
<p>please indicate: ... no. of contacts one row 4 - 20</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>					

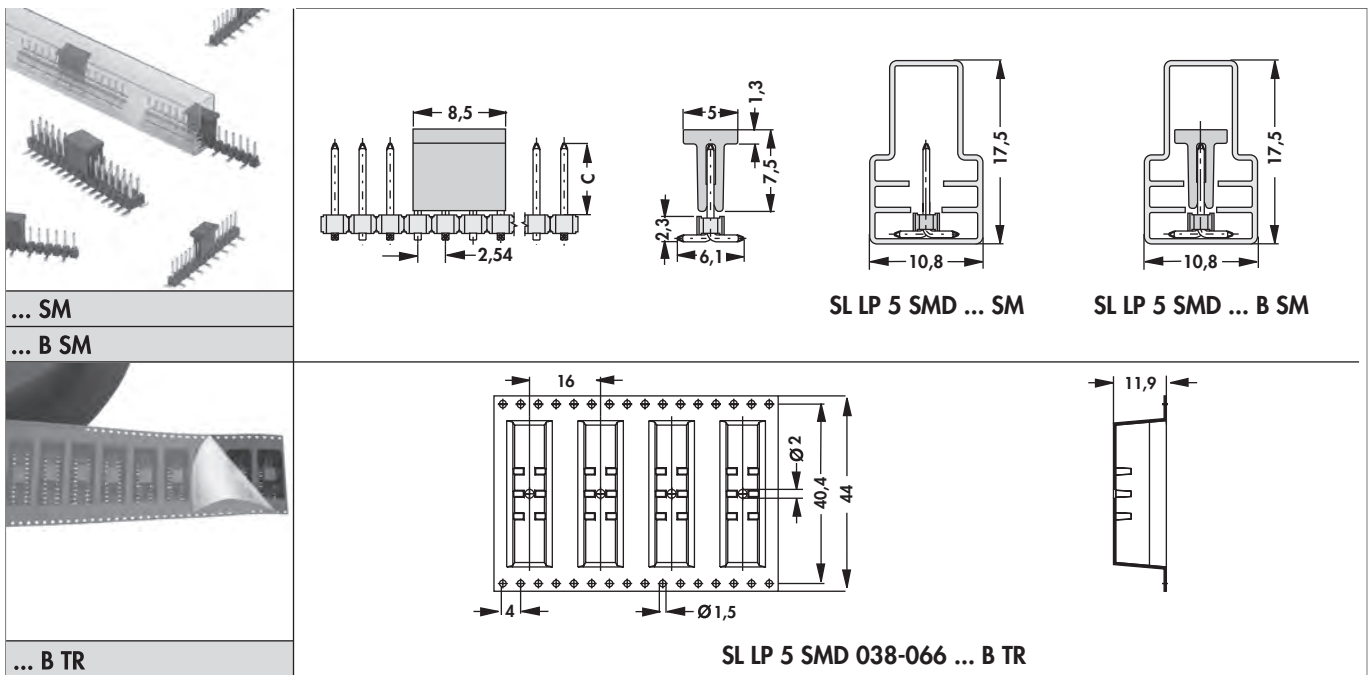
... packing (option) - additions:

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

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


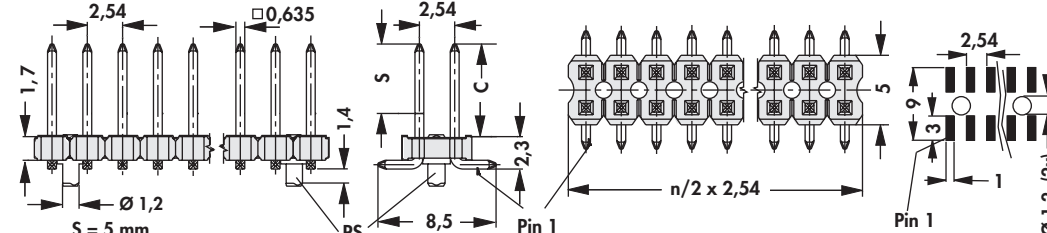
Option, for automatic assembly

– reel diameter Ø 330 mm



Male headers

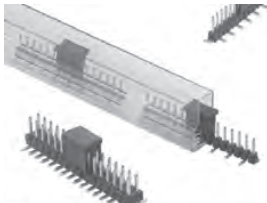
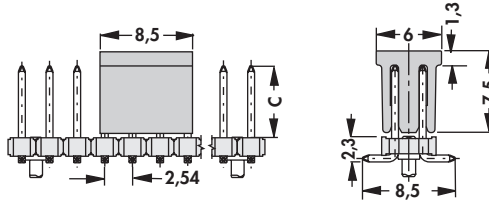
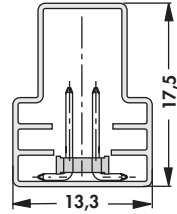
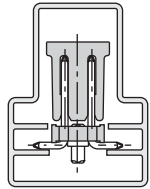
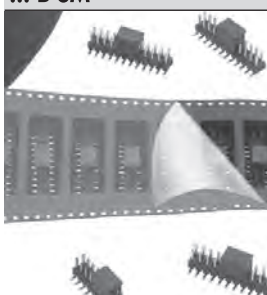
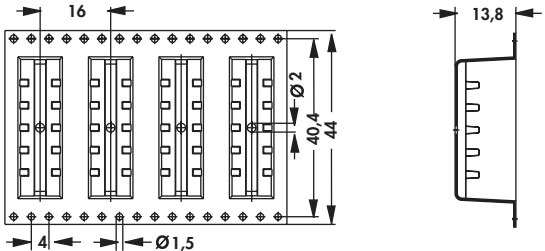
Low profile in SMD □ 0.635 mm

					
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:</p> <p>... 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


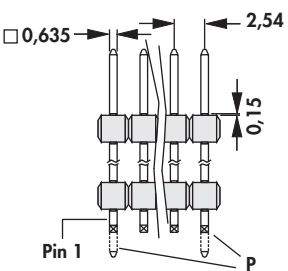
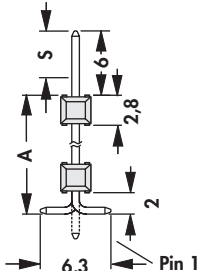
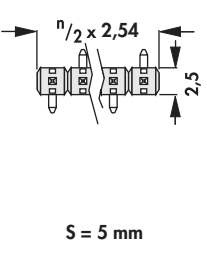
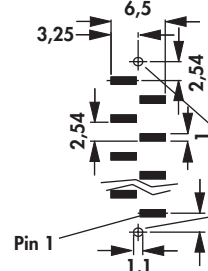
– reel diameter Ø 330 mm

					
... SM			SL LP 6 SMD ... SM		SL LP 6 SMD ... B SM PS
... B SM					
					
... B TR	SL LP 6 SMD 038-066 ... B TR				


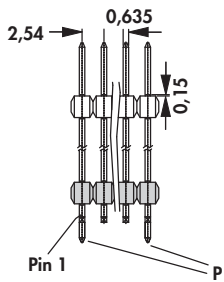
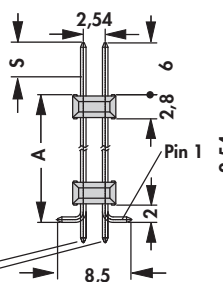
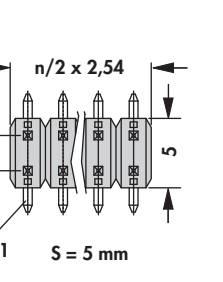
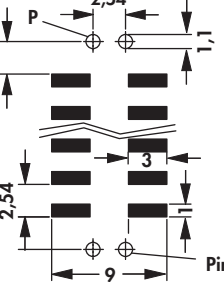
Male headers

□ 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

    					
art. no.	dim. [mm] A	art. no.	dim. [mm] A	art. no.	dim. [mm] A
SL 15 SMD 107 ...	10.7	SL 15 SMD 182 ...	18.2	SL 15 SMD 207 ...	20.7
<p>please indicate:</p> <p>... no. of contacts one row 4 - 20</p> <p>... surface of contact S = selective gold-plated G = gold-plated Z = tin-plated</p>					

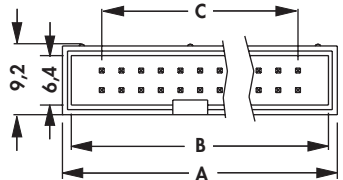
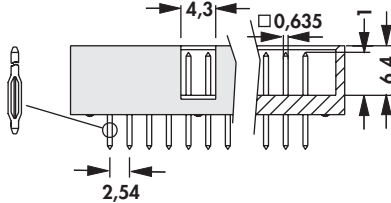
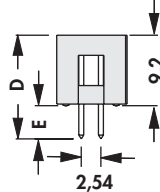

- two rows, 4-40 contacts
- within the total length of the insulator can be changed according to customer's request

    					
art. no.	dim. [mm] A	art. no.	dim. [mm] A	art. no.	dim. [mm] 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		
<p>please indicate:</p> <p>... no. of contacts two rows 4 - 40</p> <p>... surface of contact S = selective gold-plated G = gold-plated Z = tin-plated</p>					

Male headers

Male header with shroud

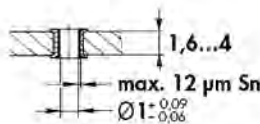
- suitable for lockable female multipoint connector **VFL** and can be combined with many other female multipoint connectors with grid spacing 2.54 mm (e. g.: **PV, BL**)
- press-fit mounting without soldering, resilient press-fit area, easy insertion into PCB
- **contact material:** Cu Sn 6



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



Male headers

Standard, □ 0.5 mm

– any requested number of contact is available

<p>please indicate:</p>				<p>... no. of contacts one row 1 - 50 two rows 4 - 100</p>			
				<p>... surface of contact S = selective gold-plated G = gold-plated Z = tin-plated</p>			

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


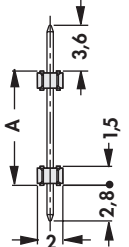
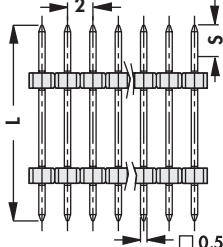
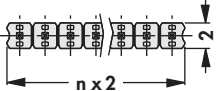
G 30

Male headers


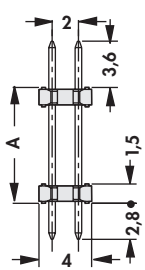
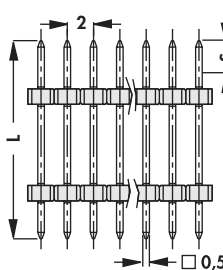
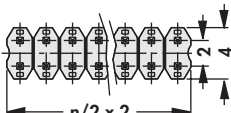
Design, matching for BLY ...

- 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				

Design specification for connectors, grid spacing 2 mm

date: _____

pieces per order: _____

company: _____

name, dept.: _____

town: _____

street: _____

fax: _____

signature: _____

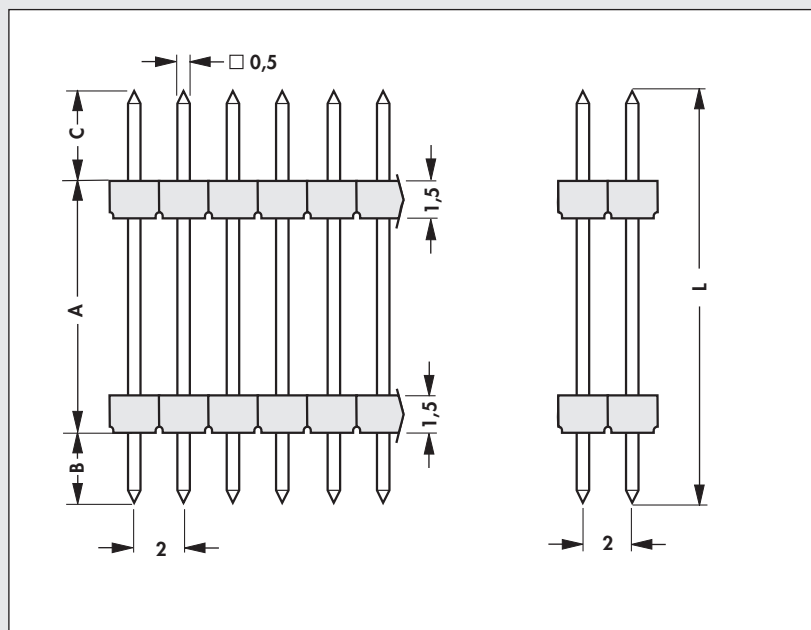
- ☐ inquiry
- ☐ order

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

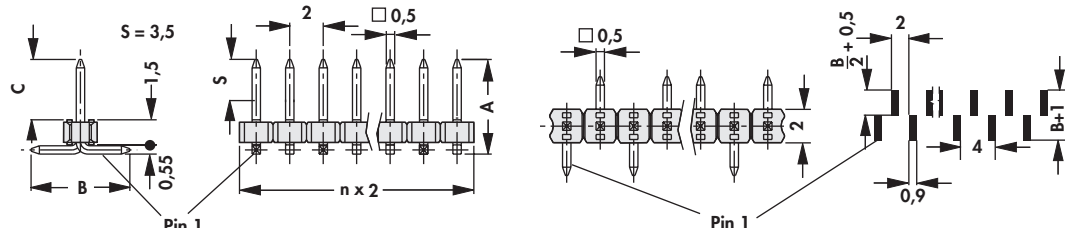
Male headers 2.54 THT
Single contacts metal strip
Male headers 2.00 THT
Technical data

→ G 7
→ G 49
→ G 30 - 31
→ G 78 - 84

G 32

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

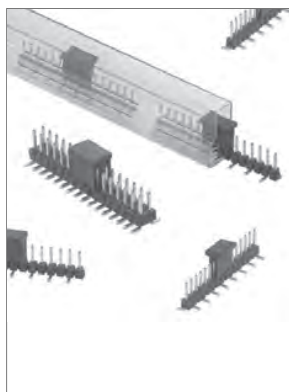
... packing (optional)
 SM = bar magazine
 B SM = pick and place pad and bar magazine
 B TR = pick and place pad and tape and reel (650pcs/reel)

... packing (option) - additions:

SLY 7 SMD 036-045 ... B TR: 4-15 contacts

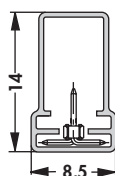
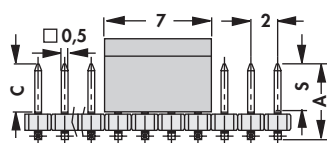
Option, for automatic assembly

– reel diameter Ø 330 mm

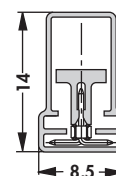
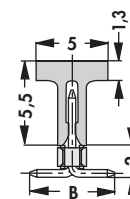


... SM

... B SM



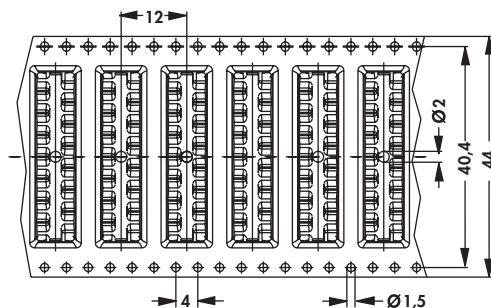
SLY 7 SMD ... SM



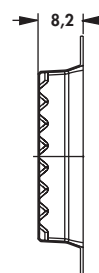
SLY 7 SMD ... B SM



... B TR


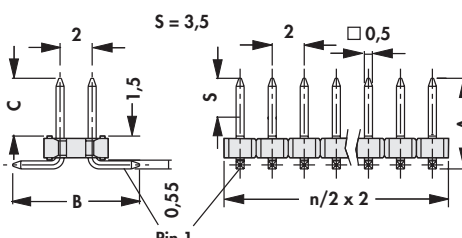
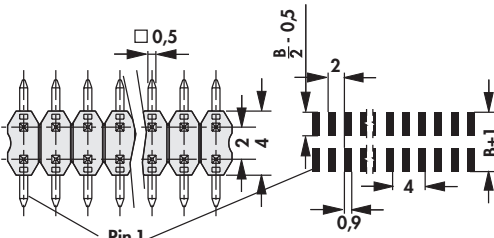


SLY 7 SMD 036-045 ... B TR



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
<p>please indicate:</p> <p>... 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 (650pcs/reel)</p>				

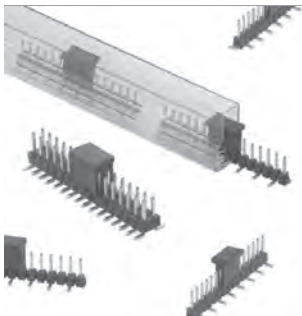
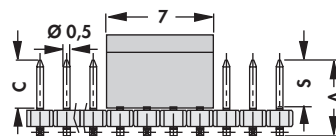
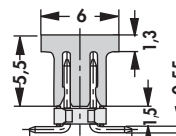
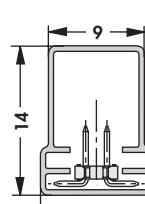
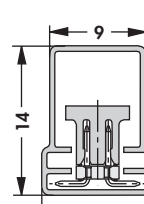
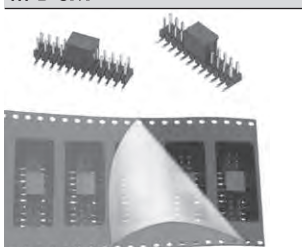
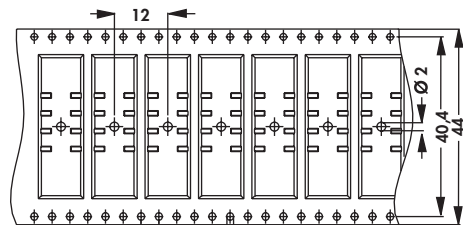
... packing (option) - additions:

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


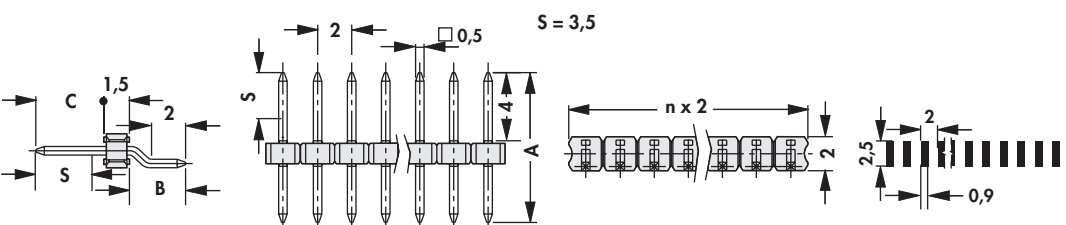
→ G 76 – 77

→ G 78 – 84

G 34


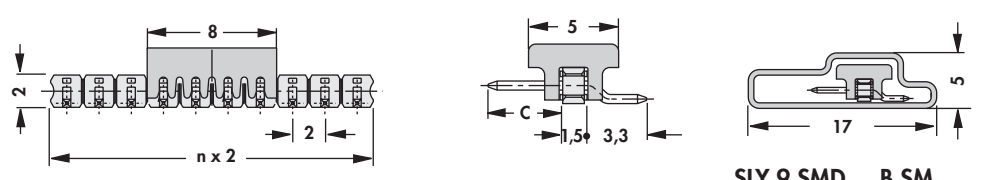
Male headers

□ 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

	
... B SM	SLY 9 SMD ... B SM

Male headers

□ 0.5 mm

art. no.	dim. [mm]			
SLY 10 SMD 040 ...	A 12.3	B 6.8	C 4	S 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


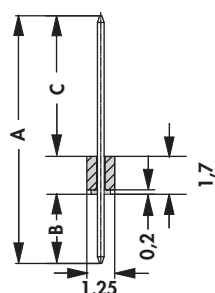
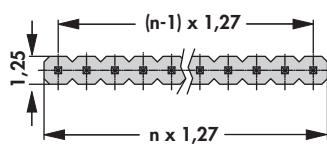
High-precis.male head.in SMD mount.→ G 18
Male headers 2.00 THT → G 30 – 31
Female headers 2.54 press-fit → G 50 – 66
Technical data → G 78 – 84

G 36

Male headers


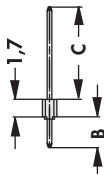
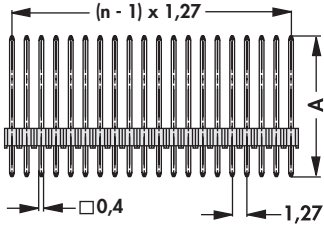
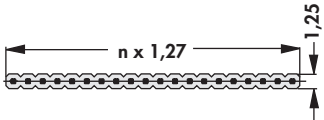
Contact cross section □ 0.3 mm, straight, slim insulating body

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

							
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 ... surface of contact							
one row 1 - 20 G = gold-plated							
Z = tin-plated							

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

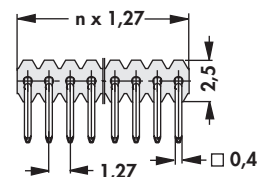
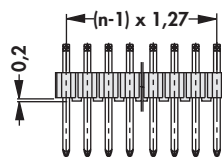
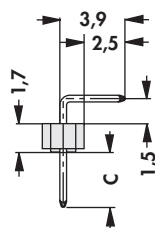
- matching for female header **BLM**
- one row 1-20 contacts

							
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			

Male headers

Contact cross section matching for BLM ..., □ 0.4 mm, 90° angled, expanded insulating body

– one row 1-36 contacts



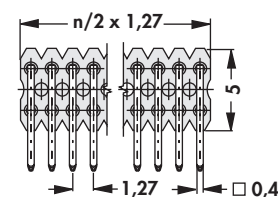
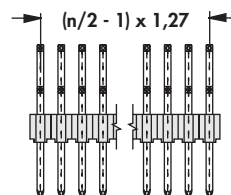
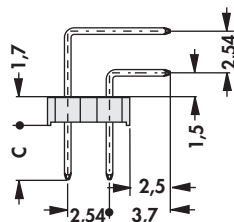
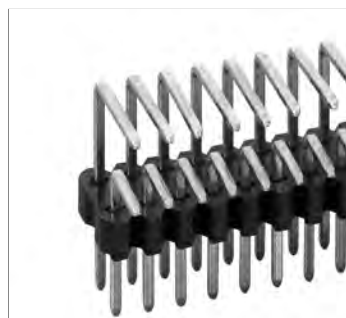
art. no.	dim. [mm] C	art. no.	dim. [mm] C
SLV W 1 KA 030 ...	3.0	SLV W 1 KA 080 ...	8.0
SLV W 1 KA 055 ...	5.5	SLV W 1 KA 105 ...	10.5
please indicate: ... no. of contacts one row 1 - 36 ... surface of contact G = gold-plated Z = tin-plated			

– two rows 6-72 contacts

– grid spacing 1.27 x 2.54 mm

– **packing in a bar magazine**– **VPE** = packing unit (pieces/tube)

– preferred number of contacts, further ones can be made upon request



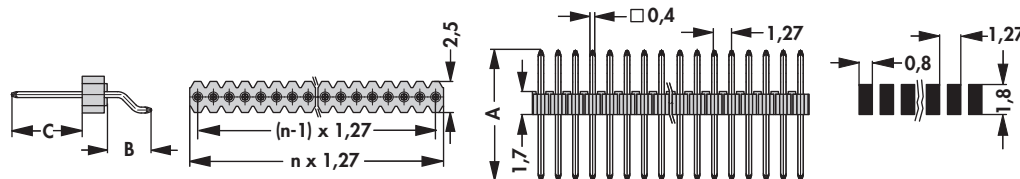
art. no.	no. of con- tacts	pack- ing unit	dim. [mm] C	art. no.	no. of con- tacts	pack- ing unit	dim. [mm] C
SLV W 2 KA 030 10 ...	10	78	3.0	SLV W 2 KA 054 10 ...	10	78	5.4
SLV W 2 KA 030 14 ...	14	55	3.0	SLV W 2 KA 054 14 ...	14	55	5.4
SLV W 2 KA 030 16 ...	16	50	3.0	SLV W 2 KA 054 16 ...	16	50	5.4
SLV W 2 KA 030 20 ...	20	40	3.0	SLV W 2 KA 054 20 ...	20	40	5.4
SLV W 2 KA 030 26 ...	26	31	3.0	SLV W 2 KA 054 26 ...	26	31	5.4
SLV W 2 KA 030 30 ...	30	27	3.0	SLV W 2 KA 054 30 ...	30	27	5.4
SLV W 2 KA 030 34 ...	34	24	3.0	SLV W 2 KA 054 34 ...	34	24	5.4
SLV W 2 KA 030 40 ...	40	20	3.0	SLV W 2 KA 054 40 ...	40	20	5.4
SLV W 2 KA 030 50 ...	50	16	3.0	SLV W 2 KA 054 50 ...	50	16	5.4
SLV W 2 KA 030 72 ...	72	11	3.0	SLV W 2 KA 054 72 ...	72	11	5.4

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

Male headers

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

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



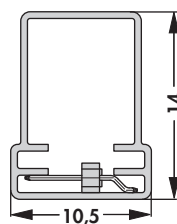
art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	C		A	B	C
SLV W 3 SMD 048 ...	9.5	3	4.8	SLV W 3 SMD 073 ...	12.0	3	7.3
<p>please indicate: ... no. of contacts one row 2 - 20</p> <p>... surface of contact G = gold-plated Z = tin-plated</p> <p>... packing (optional) SM = bar magazine</p>							

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

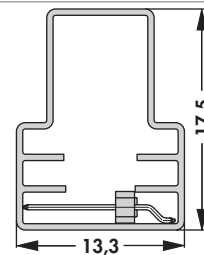
Option, for automatic assembly



... SM



SLV W 3 SMD 048 ... SM


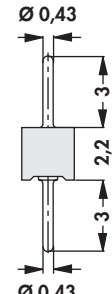
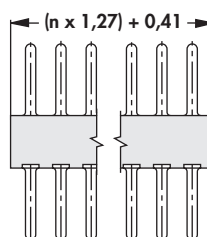
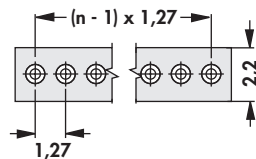

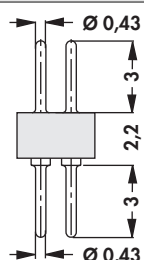
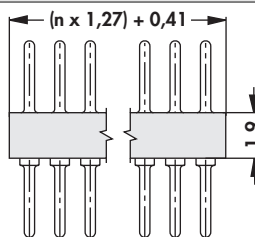
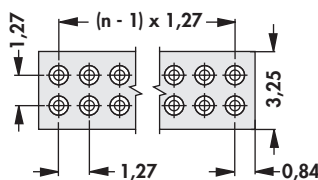

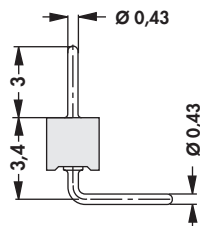
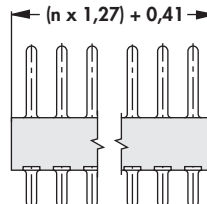
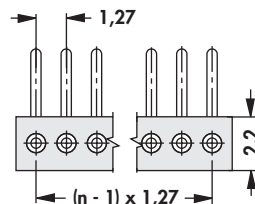

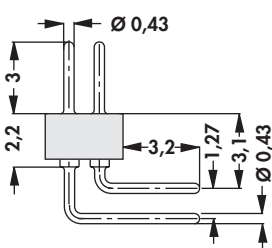
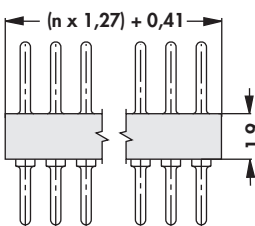
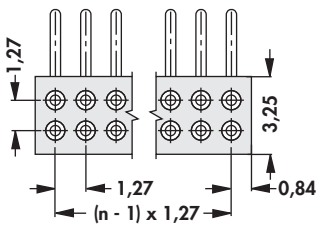


SLV W 3 SMD 073 ... SM

Male headers

Precision contacts, solder and plug pins, Ø 0.43 mm

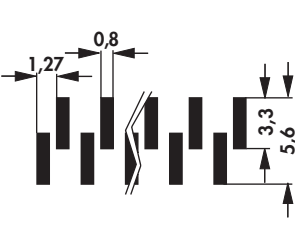
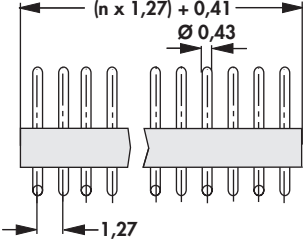
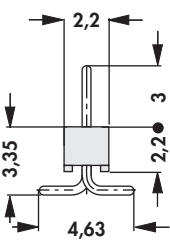

- turned precision contacts, less space required on PCB
- other number of contacts on request

			
art. no. SLR 1 025 ...	no. of contacts 25	art. no. SLR 1 050 ...	no. of contacts 50
please indicate: ... surface of contact G = gold-plated Z = tin-plated			
			
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
surface of contact: gold-plated			

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	

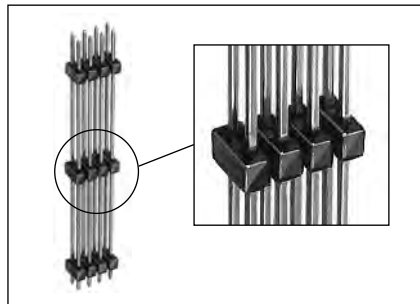
Customer specified male and female headers

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.

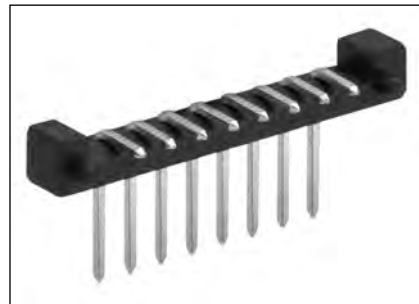
Grid spacing insertion with selective gold-plated contacts on request.



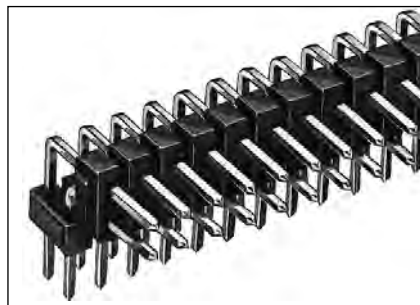
PCB connector,
extra long and additionally stabilized



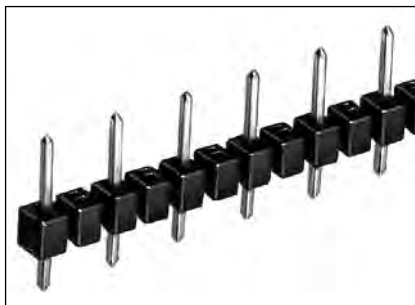
4-contact male header for THR-soldering;
grid 5.75 mm



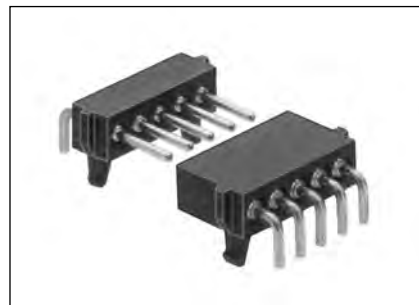
8-contact male header with special
insulating body including locating pin



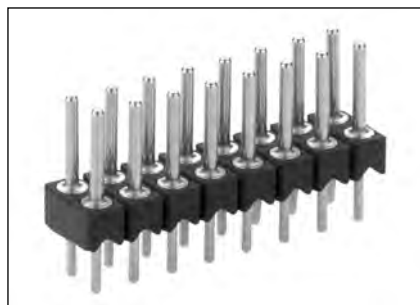
angled male header with two insulators



male header in 5.08 mm grid and
customised



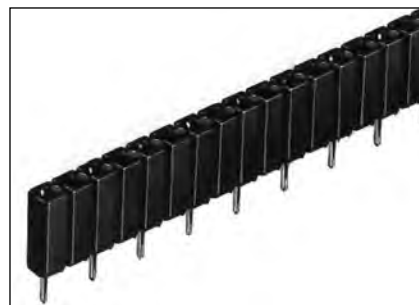
angled male and female header
1.27 mm grid, with customised
insulators



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


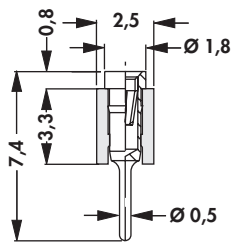

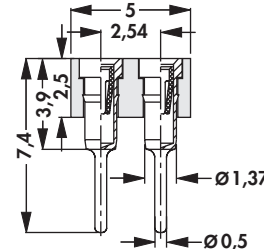

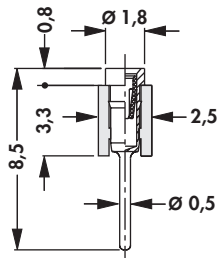

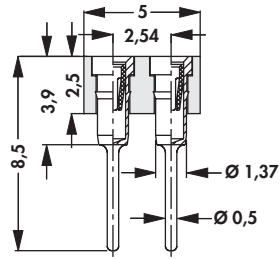

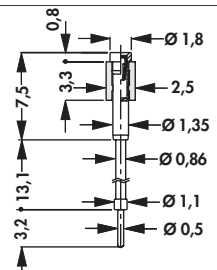

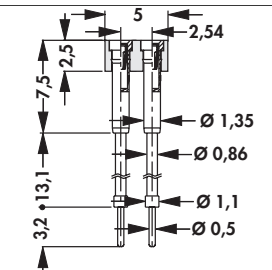
→ G 74


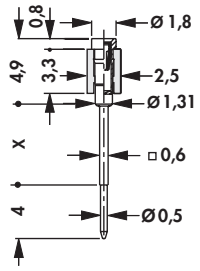

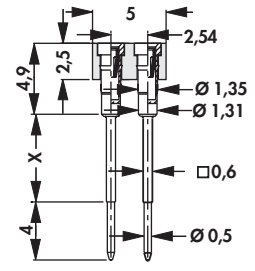
→ G 75

→ 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 ... surface of contact one row 1 - 50 G = gold-plated two rows 2 - 100 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 ... surface of contact one row 1 - 50 G = gold-plated two rows 2 - 100 Z = tin-plated			
contact spring:		gold-plated	

Female headers

Precision contacts for pin cross section Ø 0.5 mm

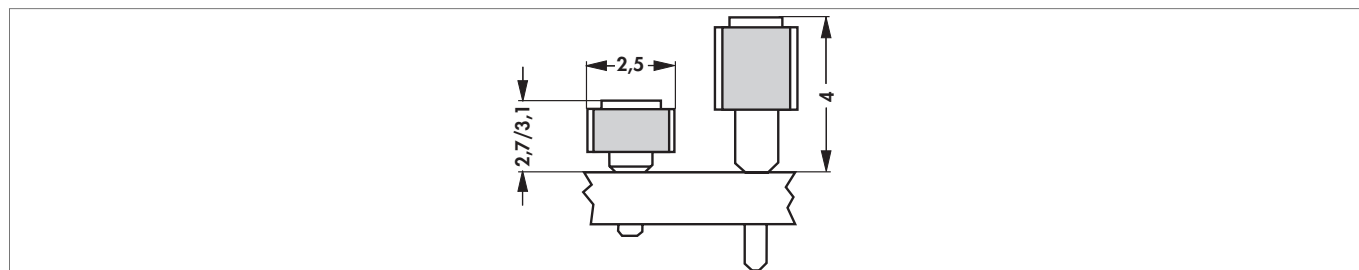
art. no.				
MK 06 ...				
art. no.			art. no.	
MK 07 ...			MK 207 ...	
<p>please indicate: ... no. of contacts ... surface of contact</p> <p>one row 1 - 50 G = gold-plated</p> <p>two rows 2 - 100 Z = tin-plated</p>				

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: ... 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>				
contact spring:		gold-plated		

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



High-precision female headers THT → G 2 - 6
Male headers 2.54 SMD → G 21 - 27
High-prec. fem. headers 2.54 THT → G 53 - 56
Male headers 2.54 THT → G 7 - 17

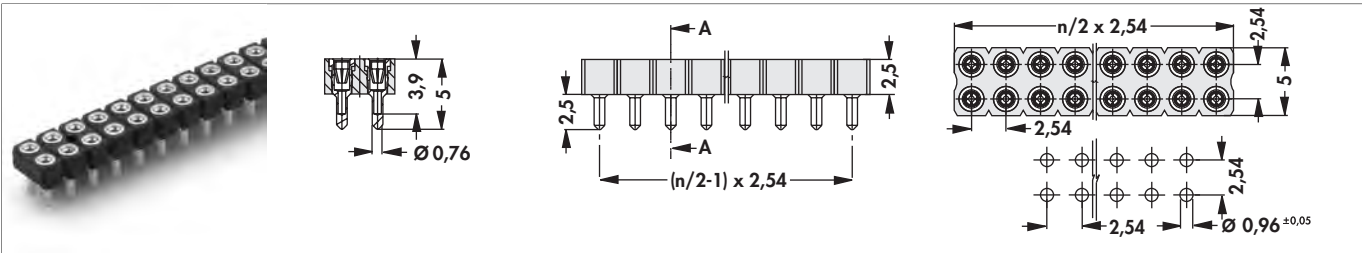
Jumper links 2 & 2.54 THT → F 15
High-prec. male headers 2.54 THT → G 45 - 55
Single precision contacts → F 17 - 18
Technical data → G 78 - 84

G 46

Female headers

Precision contacts in THR-soldering technology for pin cross section Ø 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	

G 47

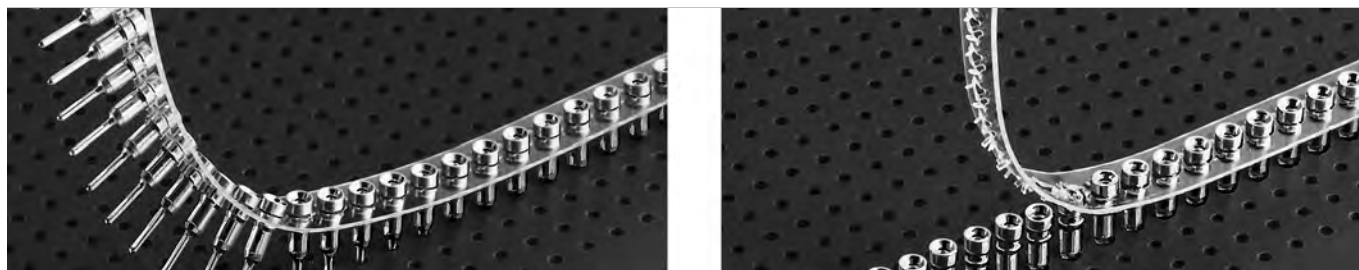
Direct female connectors
Single precision contacts
Jumpers
Single contacts metal strip

→ G 75
→ F 17 – 18
→ G 76 – 77
→ G 49


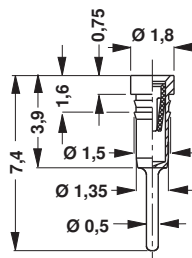
High-prec.male head.soldering techn.→ G 3 – 17
High-precis.male head.in SMD mount.→ G 18
Jumper links 2 & 2.54 THT → F 15
Technical data → G 78 – 84

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		
please indicate:	... no. of contacts from 2 pins to endless	
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
Single precision contacts
High-prec. male headers 2.54 THT
Male headers 2.54 THT

→ G 2 – 6
→ F 17 – 18
→ G 45 – 55
→ G 7 – 17

Jumpers
Male headers 2.54 SMD
Single contacts metal strip
Technical data

→ G 76 – 77
→ G 21 – 27
→ G 49
→ G 78 – 84


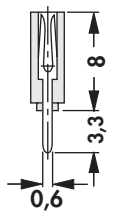
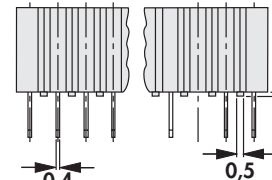
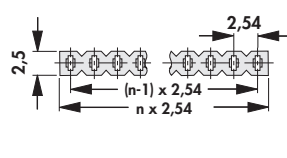

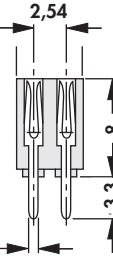
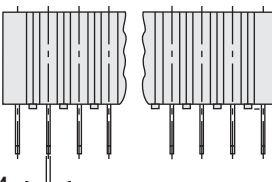
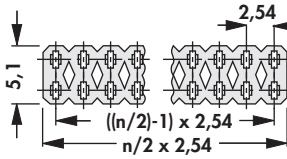
G 48

Female headers

Stamped contact spring (fork contact)


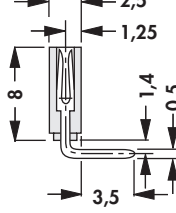
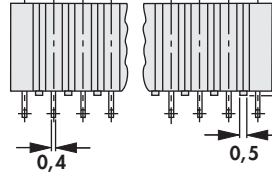
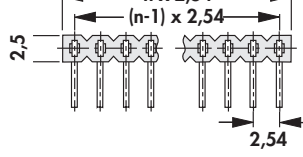

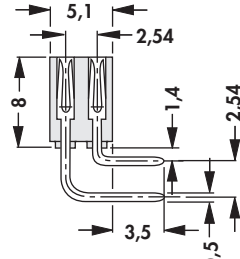
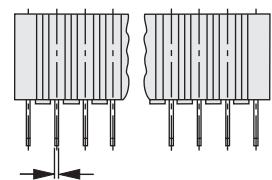
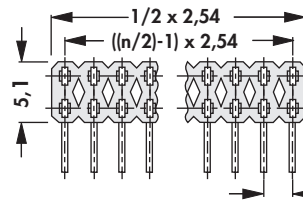
– **separable!** any requested number of contact can be delivered

– for □ 0.635 mm pin cross section, straight

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

– for □ 0.635 mm pin cross section, angled

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

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

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

Female headers

Low profile, fork contact spring

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

– for □ 0.635 mm pin cross section, straight

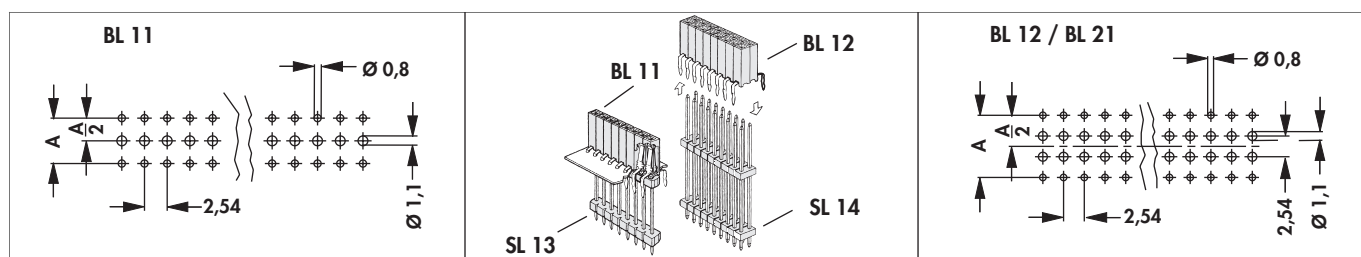
art. no.				
BL LP 1 ...				
art. no.				
BL LP 2 ...				
please indicate:	... no. of contacts one row 1 - 36 two rows 2 - 72	... surface of contact S = selective gold-plated Z = tin-plated		

– for □ 0.635 mm pin cross section, angled

– **BL LP 4 ...:** packing in a bar magazine (min. 6 contacts)

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

Female headers



For ☐ 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
<p>please indicate: ... no. of contacts one row 1 - 45</p> <p>... surface of contact S = selective gold-plated Z = tin-plated</p>			

For ☐ 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
<p>please indicate: ... no. of contacts two rows 2 - 90</p> <p>... surface of contact S = selective gold-plated Z = tin-plated</p>			

Single precision contacts → F 17 – 18
Single contacts metal strip → G 49
High-precision female headers THT → G 2 – 6
High-prec. male headers 2.54 THT → G 45 – 55

Jumpers → G 76 – 77
Direct female connectors → G 75
Male headers 2.54 SMD → G 21 – 27
Technical data → G 78 – 84

Female headers


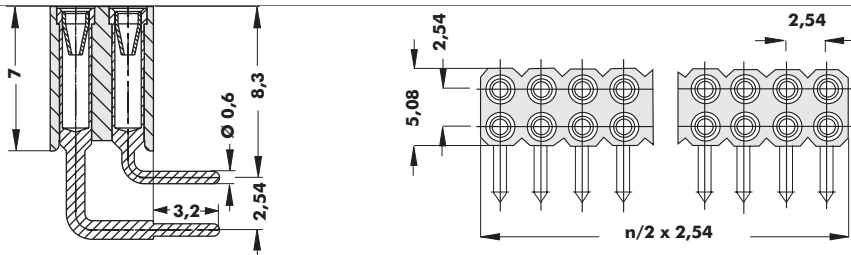
Precision contacts for \square 0.635 mm and \varnothing up to 0.85 mm, pin cross section

art. no.	inner contact spring surface
BL 5 ...	$\geq 0,75 \mu\text{m Au}$
BL 5 025 ...	$\geq 0,25 \mu\text{m Au}$
please indicate: ... no. of contacts one row 1 - 36	
art. no.	inner contact spring surface
BL 6 ...	$\geq 0,75 \mu\text{m Au}$
BL 6 025 ...	$\geq 0,25 \mu\text{m Au}$
please indicate: ... no. of contacts two rows 2 - 72	
contact sleeve:	tin-plated
contact spring:	gold-plated
art. no.	
please indicate: ... no. of contacts three rows 9 - 96	
art. no.	
please indicate: ... no. of contacts one row 1 - 36	
contact sleeve:	tin-plated
contact spring:	gold-plated


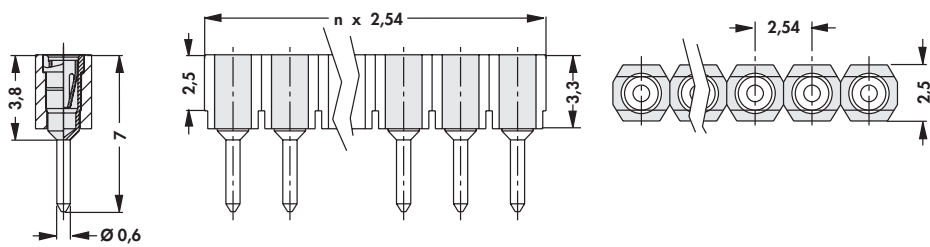

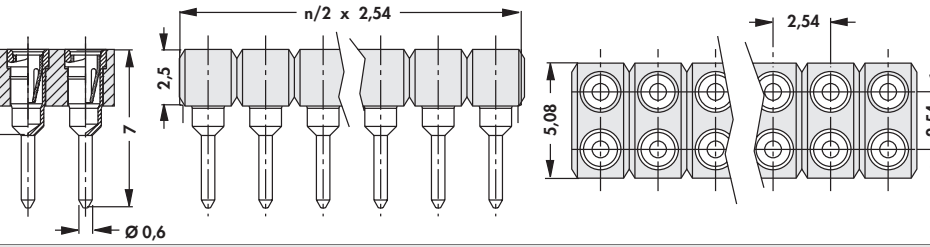
Female headers

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	


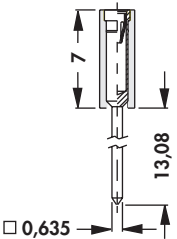
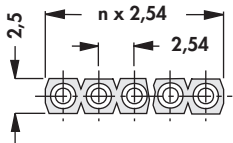

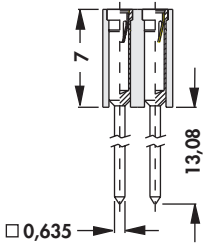
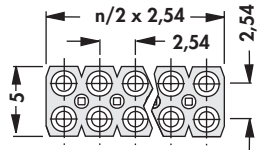
- no capillary action when soldering due to protected inner contact
- **separable!** any requested number of contact can be delivered

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	


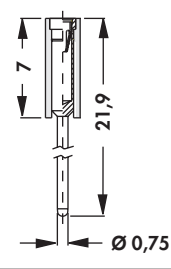
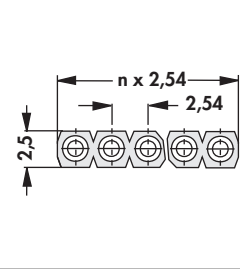

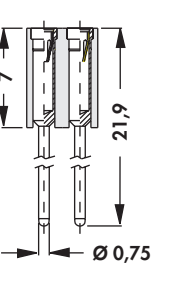
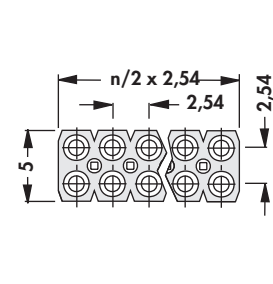
Female headers

Precision contacts for □ 0.635 mm and Ø 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


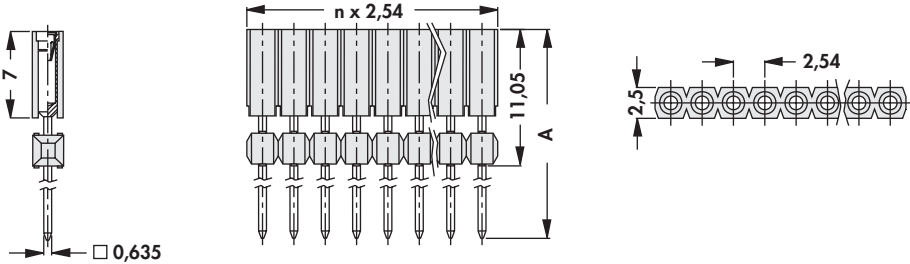
- **G 67**
- **G 68**
- **G 49**
- **G 78 – 84**

Female headers


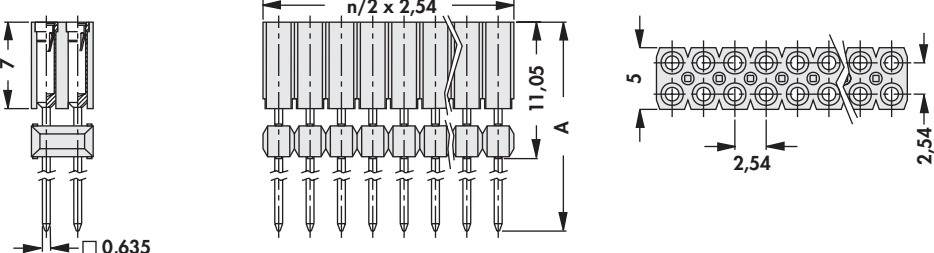
Precision contacts for \square 0.635 mm and \varnothing up to 0.85 mm, pin cross section

- 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


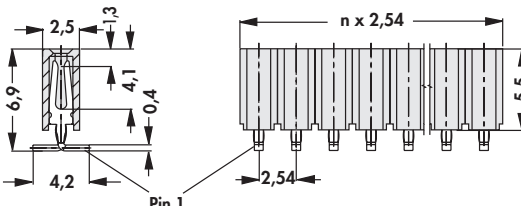
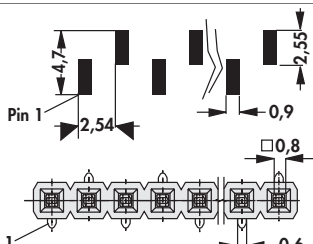
– two rows, 2-72 contacts


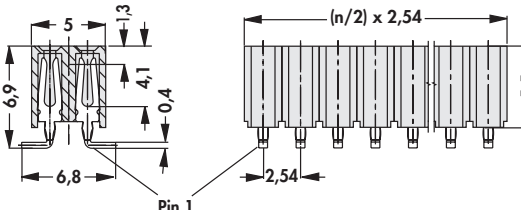
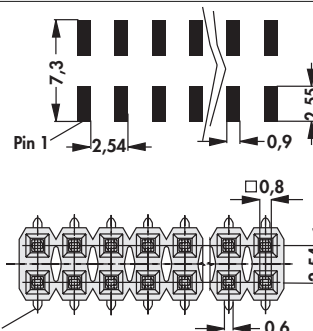
	
art. no.	dim. [mm] A
BL 19 141 ...	14.1
BL 19 219 ...	21.9
please indicate: ... no. of contacts two rows 2 - 72	
contact sleeve:	gold-plated
contact spring:	gold-plated

Female headers

Low profile, fork contact spring

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

art. no.				
				
BL LP 5 SMD ...				
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

art. no.				
				
BL LP 6 SMD ...				
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

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

... 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

... SM	BL 15 SMD 043 ... SM	BL 15 SMD 043 ... B SM
... B SM		
... B TR	BL 15 SMD 089 ... SM	BL 15 SMD 089 ... B SM

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

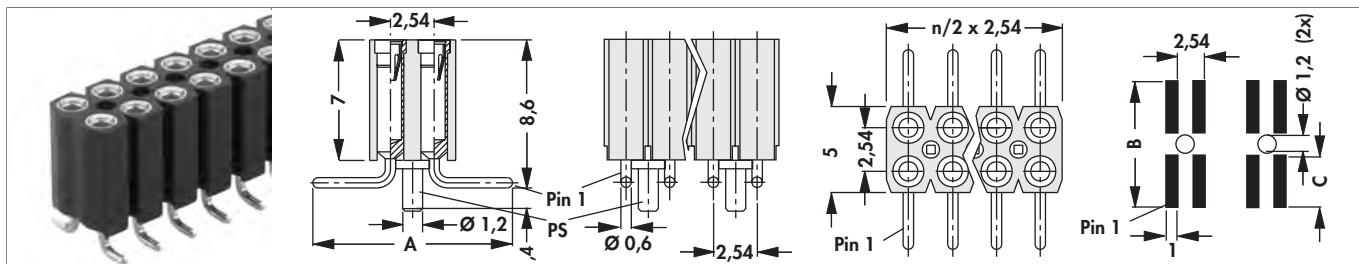
Single precision contacts
Male headers 2.54 THT
Male headers 2.54 SMD
Technical data

→ 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 contact insert
- **separable!** any requested number of contact can be delivered



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

please indicate: ... no. of contacts two rows 4 - 40

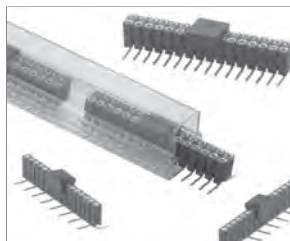
... packing (optional)
 SM = bar magazine
 B SM = pick and place pad and bar magazine
 B TR = pick and place pad and tape and reel (250pcs/reel)

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

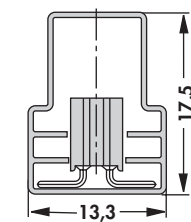
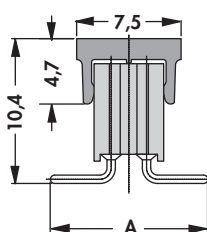
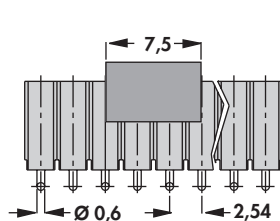
contact sleeve:	tin-plated
contact spring:	gold-plated

Option, for automatic assembly

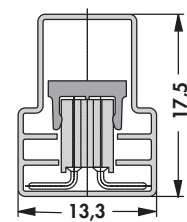
- reel diameter \varnothing 330 mm



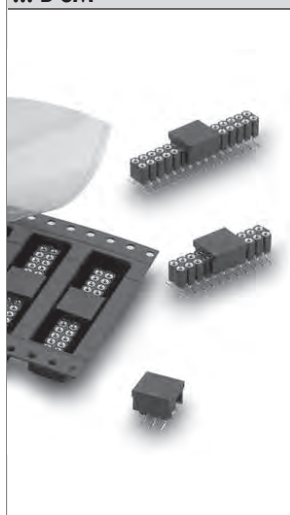
... SM
 ... B SM



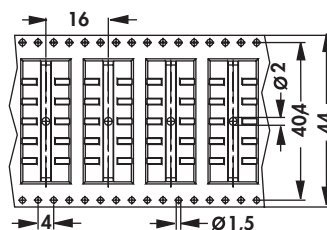
BL 16 SMD ... SM



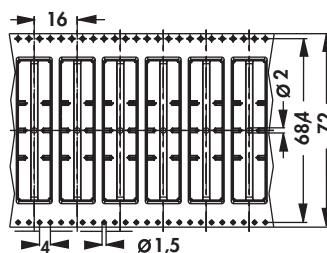
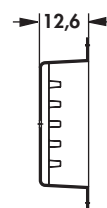
BL 16 SMD ... B SM



... B TR



BL 16 SMD 067-113 ... 6-24 B TR




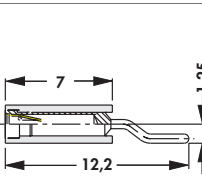
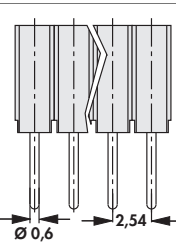
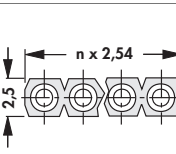
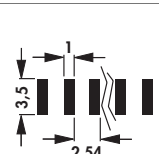
BL 16 SMD 067-113 ... 26-40 B TR



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:


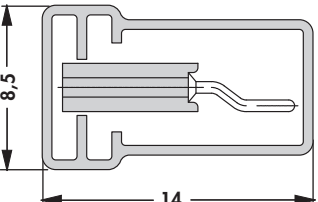

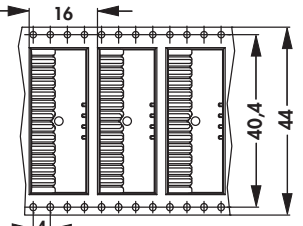
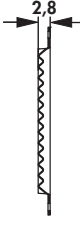
BL 17 SMD ... SM: 3-20 contacts

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>BL 17 SMD ... SM</p>
... SM	
	  <p>BL 17 SMD ... TR</p>
... TR	

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


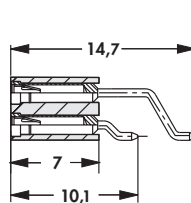
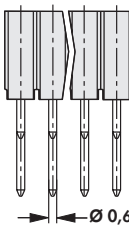
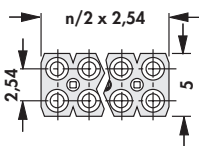
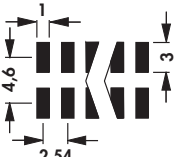
→ G 66

→ G 78 – 84

G 60

Female headers


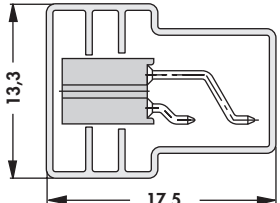
- no capillary action when soldering due to protected inner contact
- **separable!** any requested number of contact can be delivered

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

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

		MK 22 SMD ... B SM
... 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

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

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


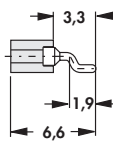
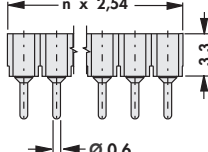
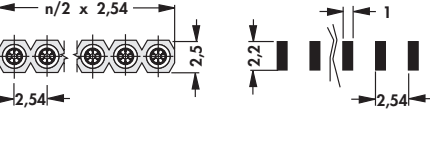
Technical data

→ G 78 - 84

Female headers


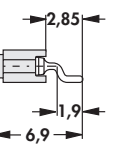
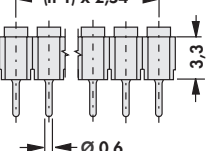
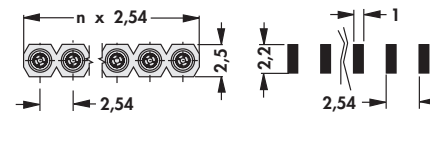
Precision contacts for \square 0.635 mm and up to \varnothing 0.85 mm, pin cross section

- 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


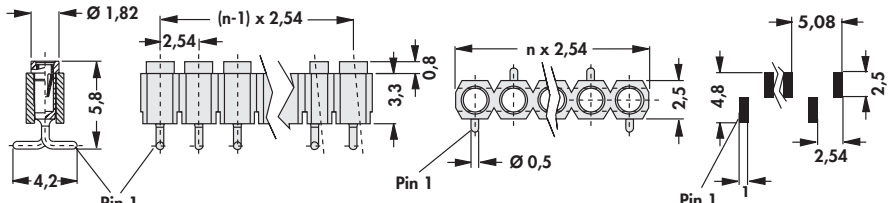
- one row
- no capillary action when soldering due to protected contact insert
- **separable!** any requested number of contact can be delivered

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


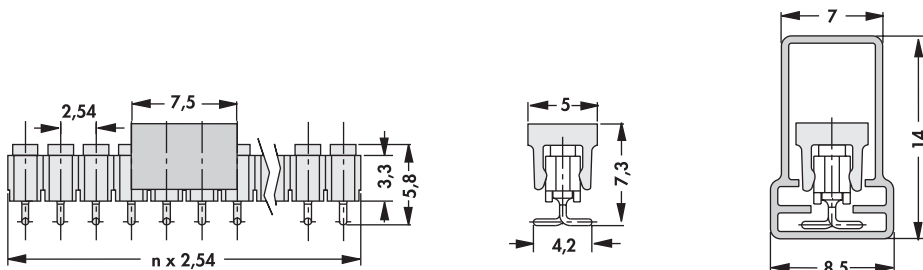
Female headers

Precision contacts for pin cross section Ø 0,5 mm


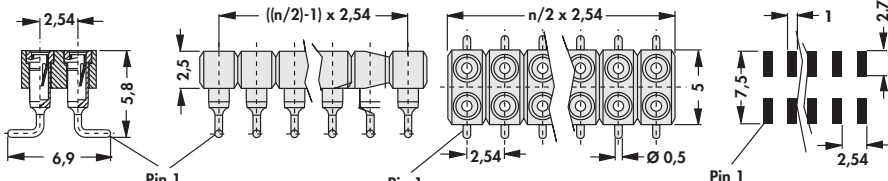
- one row
- no capillary action when soldering due to protected inner contact
- **separable!** any requested number of contact can be delivered

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	

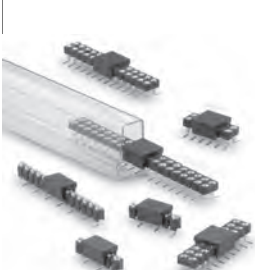
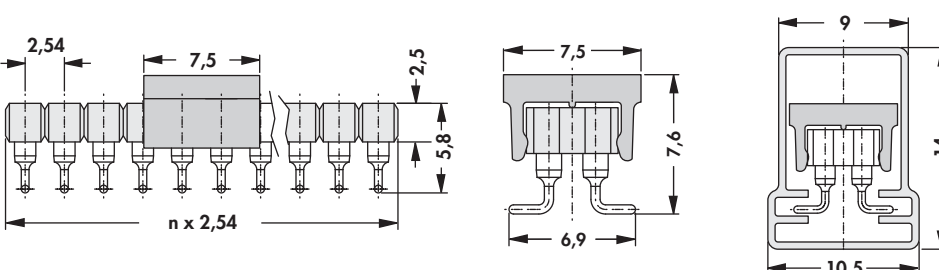
Option, for automatic assembly

	
... 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 Ø 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 Ø 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

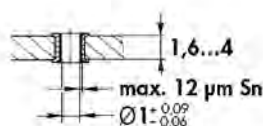
Female headers

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 ...				
art. no.				
BLP 2 ...				
please indicate: ... no. of contacts one row 1 - 36 two rows 2 - 72				
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


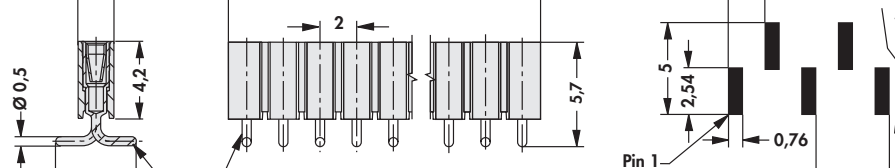
Precision contacts for $\square 0.5$ mm and \varnothing up to 0.56 mm, pin cross section

- 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			

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:		tin-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


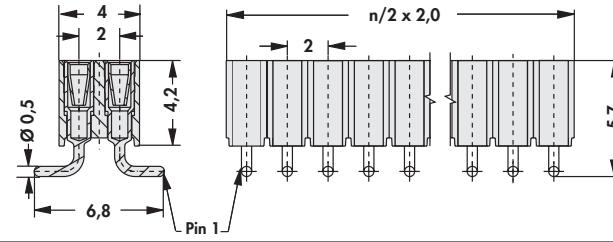
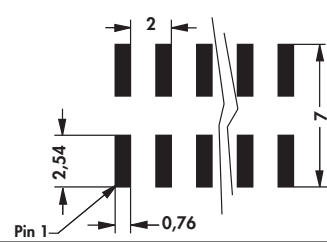
→ **G 33 – 35**
→ **G 67 – 70**
→ **G 30 – 31**
→ **G 78 – 84**

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

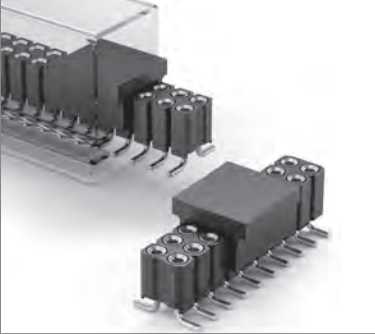
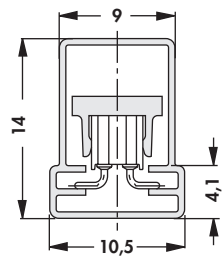
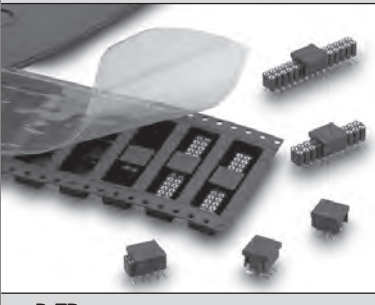
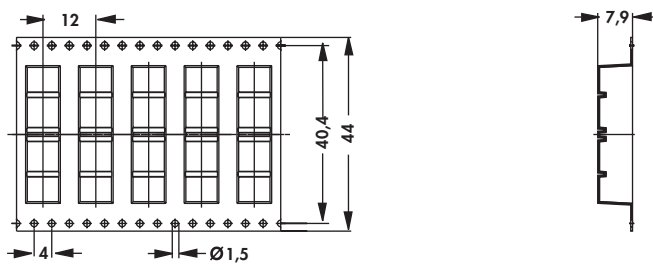
art. no. BLY 8 SMD ...			
please indicate:	... no. of contacts two rows 4 - 40	... packing (optional) B SM = pick and place pad and bar magazine B TR = pick and place pad and tape and reel (650pcs/reel)	

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

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

Option, for automatic assembly

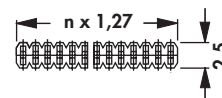
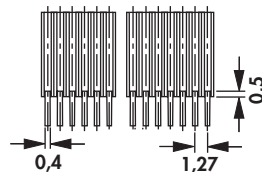
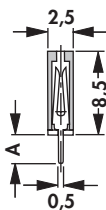
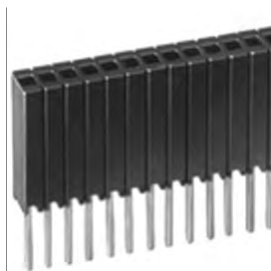
– reel diameter \varnothing 330 mm

	 <p>BLY 8 SMD ... B SM</p>
... B SM 	 <p>BLY 8 SMD ... B TR</p>

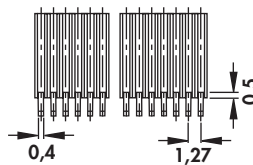
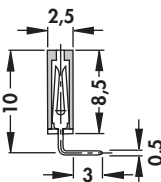
Female headers

Stamped contact spring (fork contact)

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

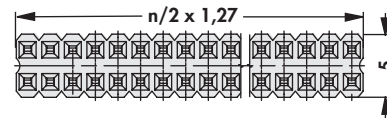
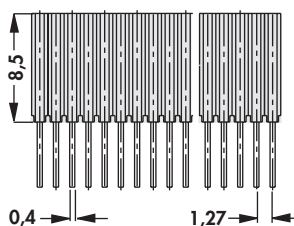
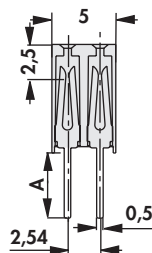
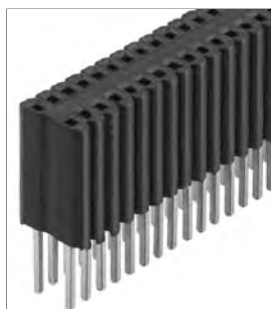


art. no.	dim. [mm]	art. no.	dim. [mm]
	A		A
BLM KG 1 ...	3.0	BLM LG 1 ...	5.1
please indicate: ... no. of contacts one row 1 - 36 ... surface of contact G = gold-plated Z = tin-plated			



art. no.	dim. [mm]	art. no.	dim. [mm]
	A		A
BLM LA 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			

- 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


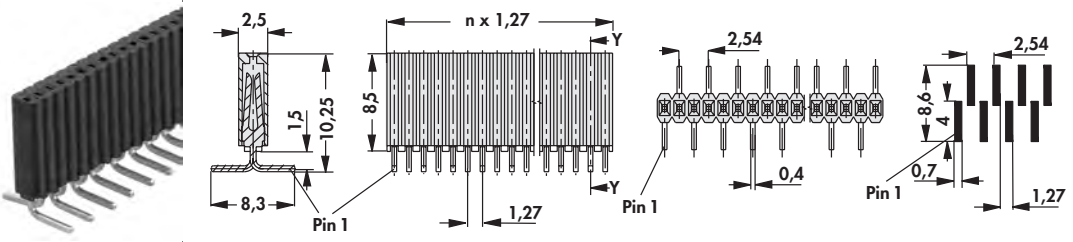
High-prec. male head. 1.27 THT → G 42

Technical data → G 78 – 84

Female headers


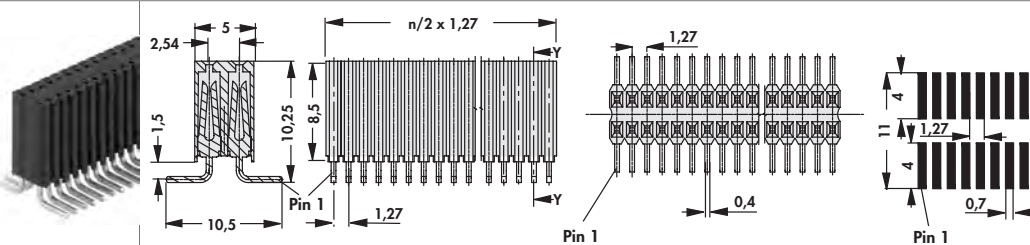
Fork contact for \square 0.3 mm and \square 0.4 mm pin cross section, wide insulating body

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

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	


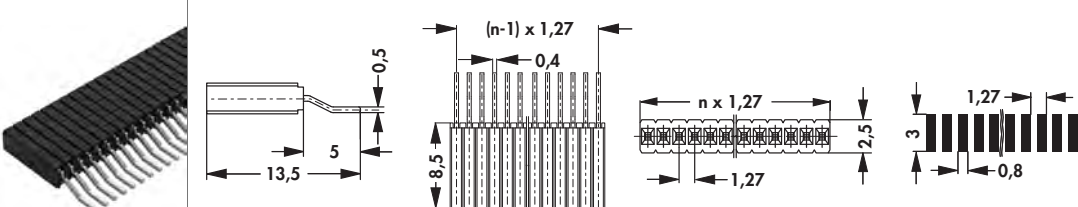
Grid spacing 1.27 x 2.54 mm

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

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

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

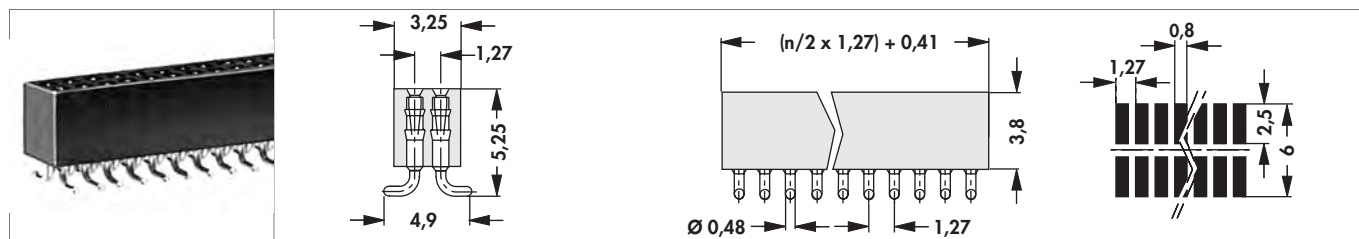
- matching for male header **SLV**
- one row 2-20 contacts

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

Female headers

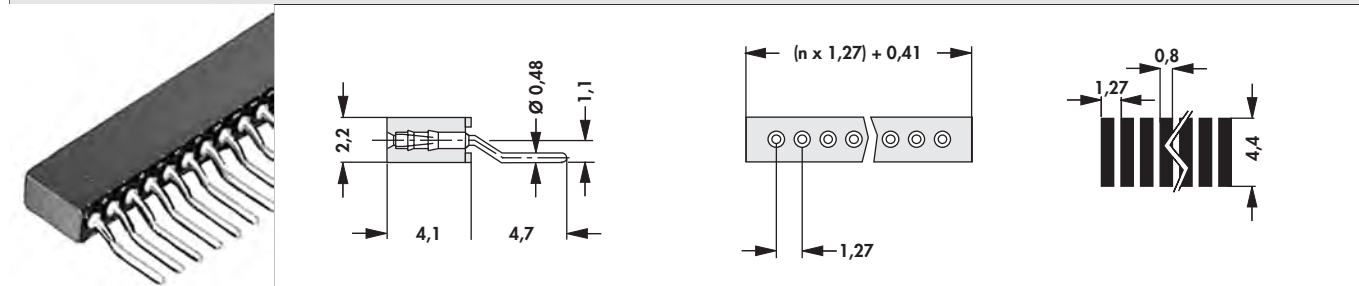
Turned precision contacts for Ø 0.35...0.46 mm

- 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

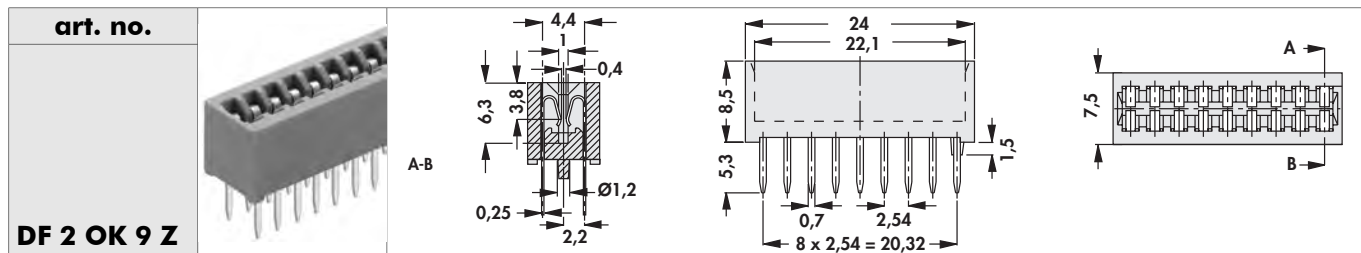
contact spring:

gold-plated

Direct female connectors

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

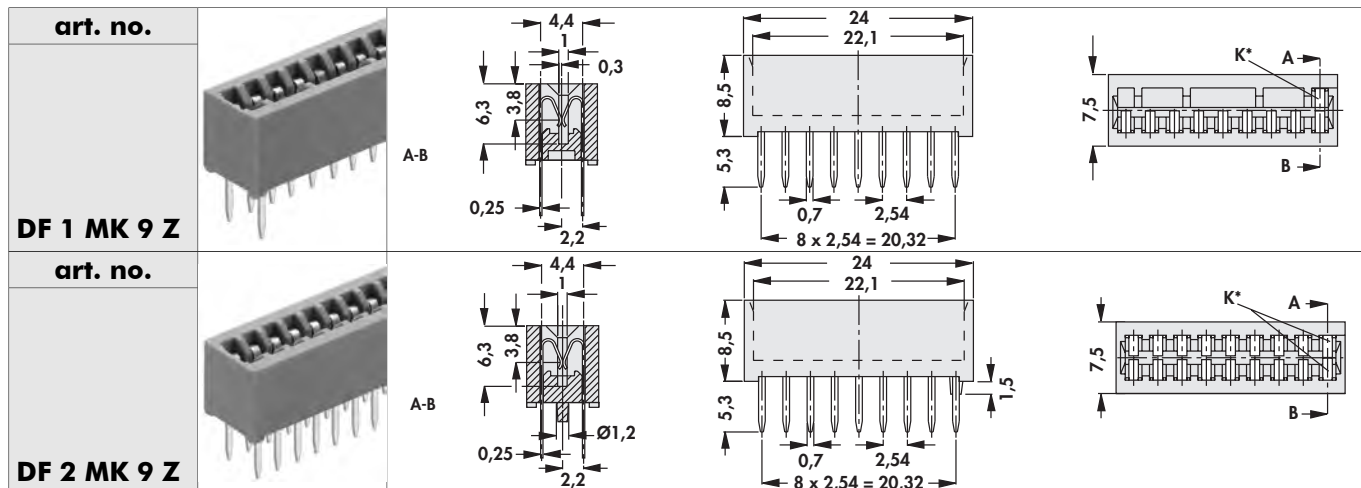
– for removable connection of digital displays, coding switches, impulse counters



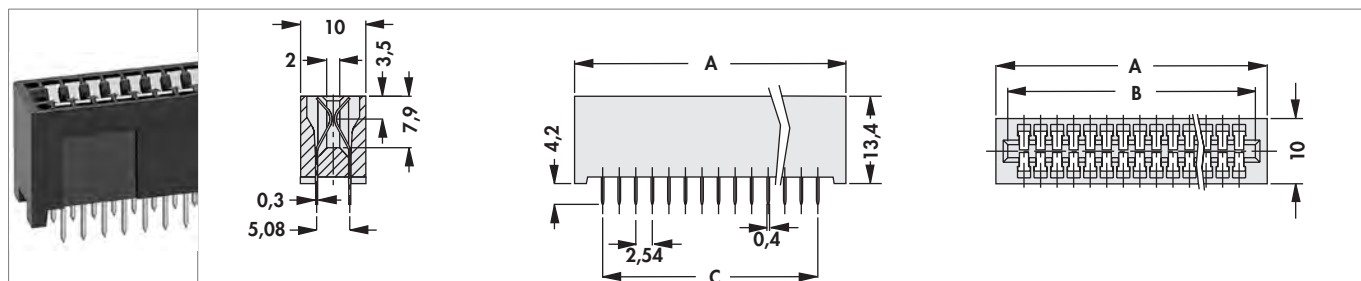
With short circuit contact for PCB thickness: 0.7...0.9 mm

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

– **K*** = arcing contact



For PCB thickness: 1.4...1.8 mm




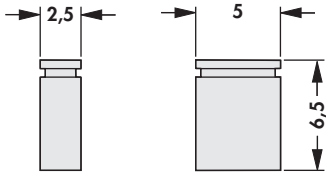

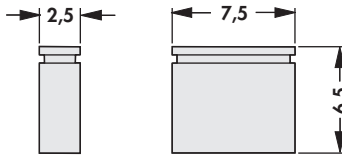

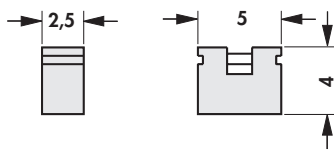
art. no.	no. of contacts	dim. [mm]		
		A	B	C
DF OB 06	12	21.33	17.70	12.70
DF OB 07	14	23.87	20.24	15.24
DF OB 10	20	31.49	27.86	22.86
DF OB 17	34	49.27	45.64	40.64

surface of contact:

tin-plated

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

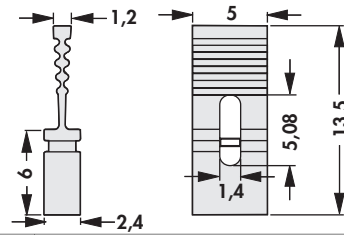
Male headers 2.00 THT
High-precision female headers THT
High-prec. male headers 1.27 SMD
Technical data

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

A

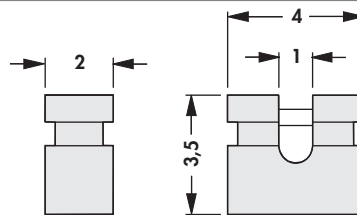
Jumpers

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

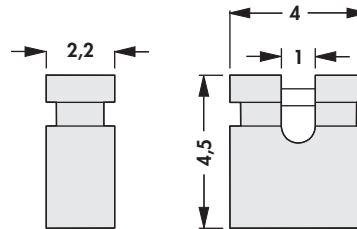


art. no.	no. of contacts	surface of contact	grid [mm]	version
CAB 9 G ...	2	<0.1 μm gold	2.54	tag, open
please indicate: ... colour S = black R = red				

For ☐ 0.5 mm and for \varnothing 0.4...0.5 mm

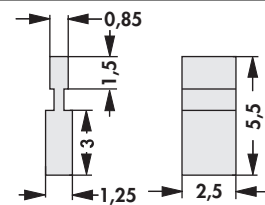


art. no.	no. of contacts	grid [mm]	version	colour
CAB 10 G S	2	2	open, for miniature alligator clip	black



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

For ☐ 0.3...0.4 mm and \varnothing 0.4...0.5 mm



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

B

C

D

E

F

G

H

I

K

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

	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+≥0.2μm Au/ Ni+4...6μm Sn		Ni+0.2μm Au (selective)/ Ni+4...6μm Sn	Ni+≥0.2μm Au/ Ni+4...6μm Sn
shock resistance	50 g			
volume resistance	≤10 mΩ	≤5 mΩ	≤10 mΩ	≤20 mΩ
vibration resistance max.	15 g			
capacity between two adjacent contacts	≤0,4 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 flammibility	UL 94 V-0			
specific insulation resistance	>10 ⁷ Ω·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+ ≥0.2µm Au/ Ni+4...6µm Sn			
volume resistance	≤10 mΩ	≤5 mΩ		≤20 mΩ
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 Ω·m			

	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			

	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...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+0,25µm 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	≤5mm from above/ ≤8mm from below	≤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	≤10 mΩ		≤20 mΩ	
vibration resistance max.	15 g			
capacity between two adjacent contacts	≤0,4 pF	≤ 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 flammibility		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

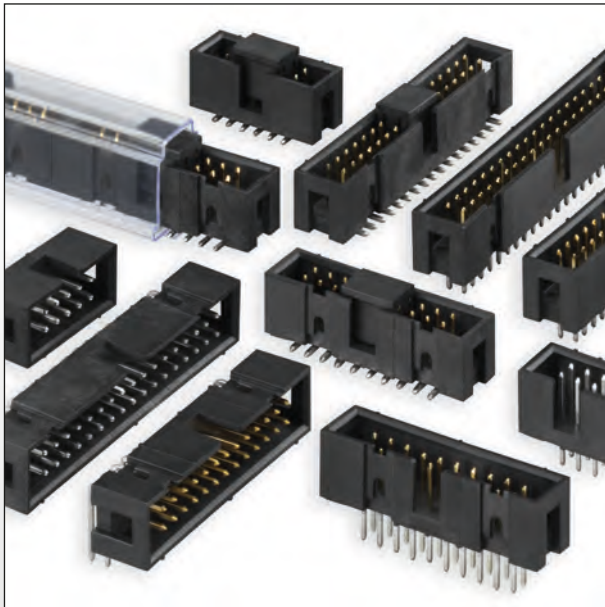
	MK 21/221 ..., MK 22/222 ..., MK 24 SMD ...	BLP 1 ..., BLP 2 ...	BLY ...	BLR ...
contact material	CuZn-alloy			
surface contact / contact sleeve	Ni+4...6µm Sn			
inner contact spring material	CuBe-alloy			
inner contact spring surface	Ni+0,75µm Au		Ni+0,25µm Au	Ni+0,75µm Au
type internal spring	6-fingers			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	□0,3...0,4mm			
insert depth	2.5...6mm			4...6.1mm
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	$> 10^7\text{ }\Omega\cdot\text{m}$			
PCB thickness		0,7...0,9 mm	1,4...1,8 mm	
mounting			without mounting eyelets	

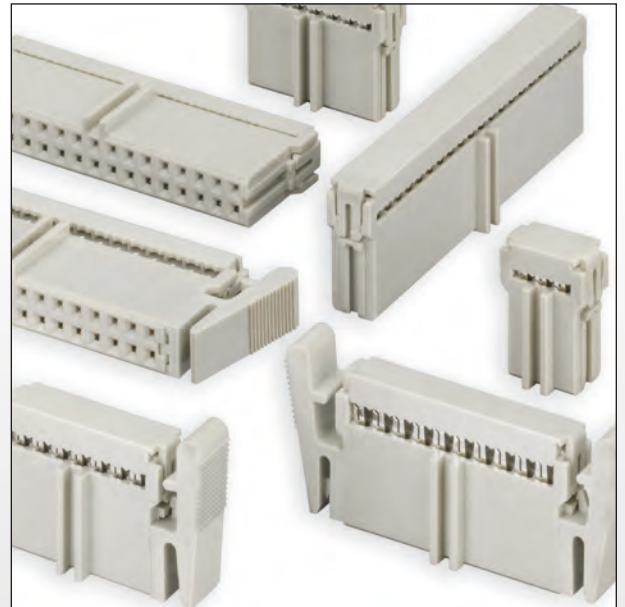
	CAB 5 ...	CAB 6 ...	CAB 9 ...	CAB 10 G S
surface contact / contact sleeve	0.5 μm Au/ 1 μm Au/ 5 μm Sn		0.1 μm Au	
insert depth	4...5.5mm	5mm...plug through	4...5.6mm	4mm...plug through
nominal current	3 A	1.5 A	3 A	1.5 A
nominal voltage	250 V AC		500 V AC	150 V DC
insulating body material	PA 6		PBT	
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



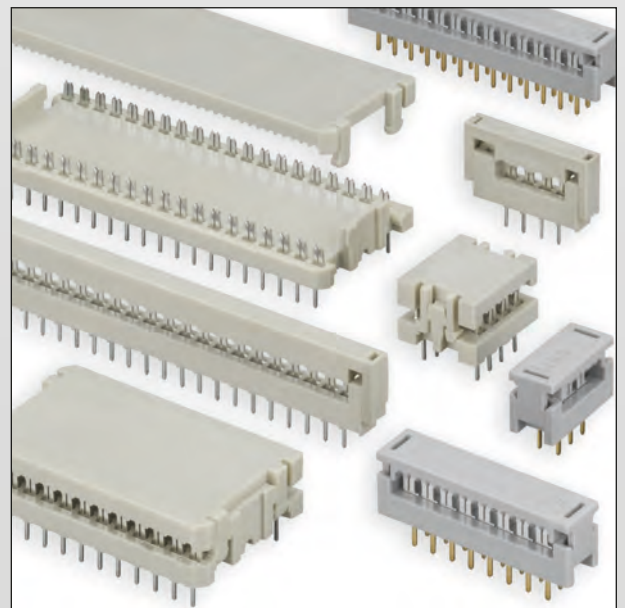
Multipoint connector with and without lock

- 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



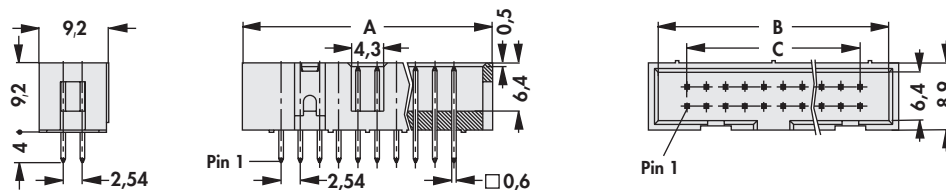
PCB connector

- 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!

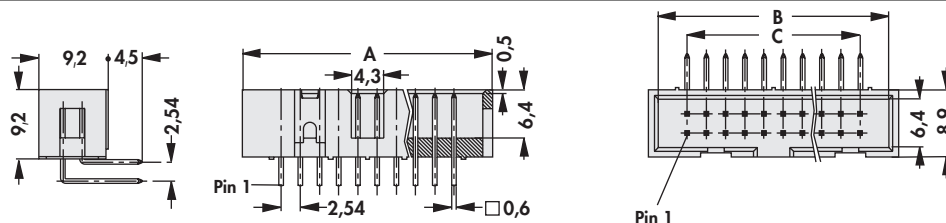


art. no.	no. of contacts	dim. [mm]			art. no.	no. of contacts	dim. [mm]		
		A	B	C			A	B	C
ASLG 06 ...	6	15.3	12.7	5.08	ASLG 20 ...	20	33.1	30.5	22.86
ASLG 08 ...	8	17.8	15.2	7.62	ASLG 26 ...	26	40.7	38.1	30.48
ASLG 10 ...	10	20.4	17.8	10.16	ASLG 34 ...	34	50.9	48.3	40.64
ASLG 12 ...	12	22.9	20.3	12.70	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!


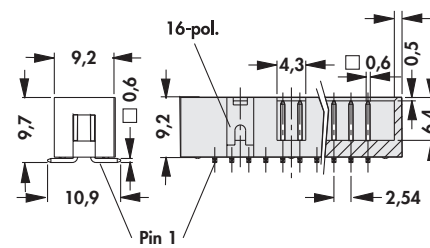
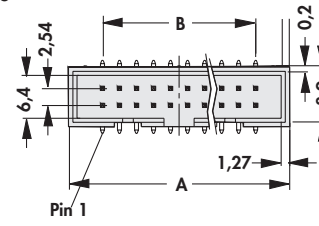
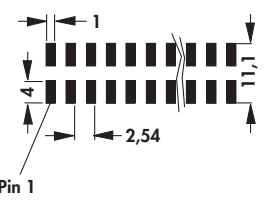


art. no.	no. of contacts	dim. [mm]			art. no.	no. of contacts	dim. [mm]		
		A	B	C			A	B	C
ASLA 06 G	6	15.3	12.7	5.08	ASLA 20 G	20	33.1	30.5	22.86
ASLA 08 G	8	17.8	15.2	7.62	ASLA 26 G	26	40.7	38.1	30.48
ASLA 10 G	10	20.4	17.8	10.16	ASLA 34 G	34	50.9	48.3	40.64
ASLA 12 G	12	22.9	20.3	12.70	ASLA 40 G	40	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, two rows, shrouded


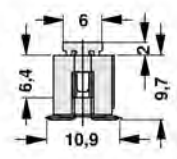
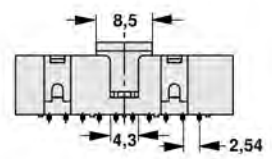
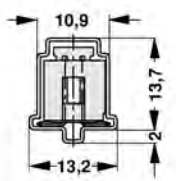
- suitable for female multipoint connector **VFL, FLMP, PV**
- **VPE** = packing unit (pieces/tube)
- plug-in area available in gold-plated or completely tin-plated
- in addition they can be combined with many other ribbon cable connectors in 2.54 mm pitch

												
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

							
... B SM		ASL ... SMD ...				ASL ... SMD ... B SM	

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

→ H 3
 → H 10
 → H 5
 → H 7

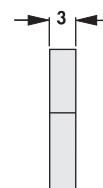
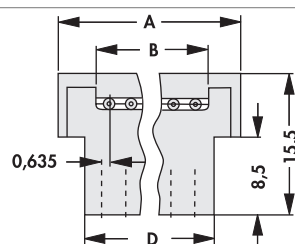
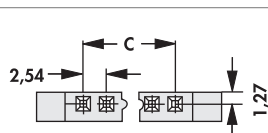
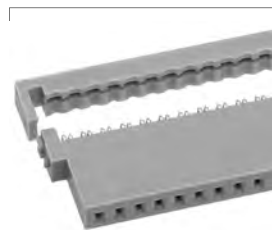
PC connectors
 Female header two rows
 PC connector design DIL
 Technical data

→ 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 con- tacts	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

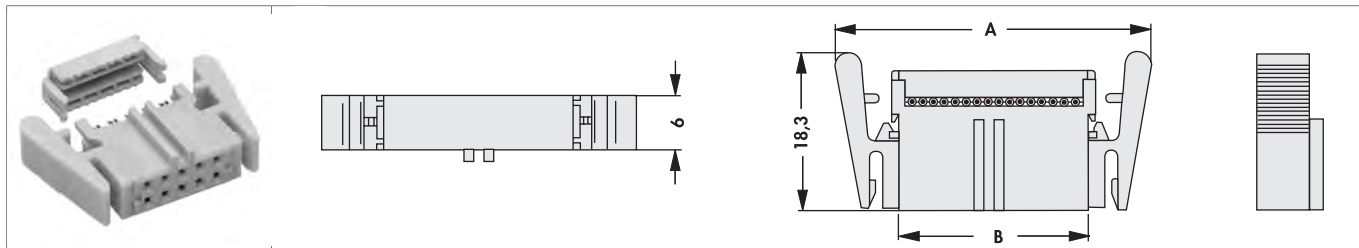
please indicate: ... surface of contact
G = gold-plated
Z = tin-plated

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

Female connector

Two rows, with polarisation

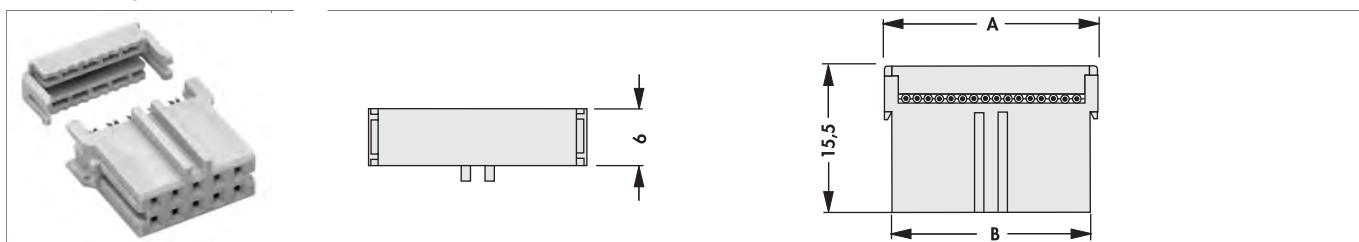
– lockable female multipoint connector, suitable for shrouded male header **ASL ...**



art. no.	no. of con- tacts	dim. [mm]		art. no.	no. of con- tacts	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 con- tacts	dim. [mm]		art. no.	no. of con- tacts	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 mm²

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

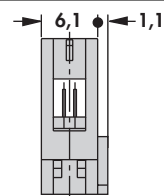
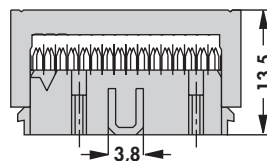
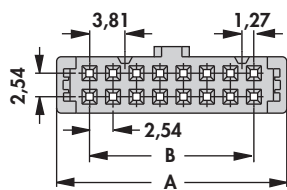
Female header two rows
 Bolttable female header
 Shrouded male header
 Technical data

→ H 6
 → H 5
 → H 2
 → H 11 – 12

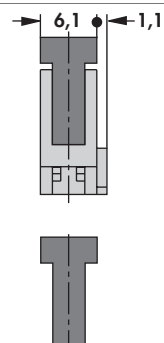
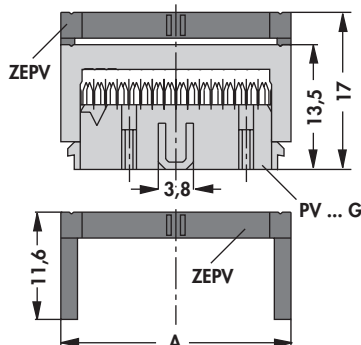
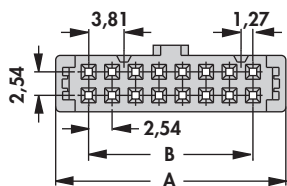
Female connector

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:			$\leq 1,1$ mm						
suitable ribbon cable round conductor flat cable:			AWG 28 = massive or strand						


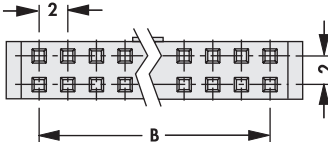
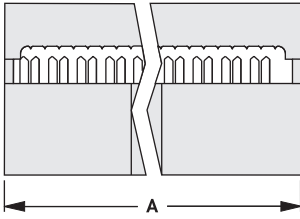
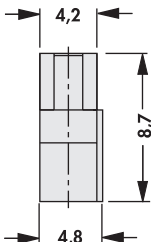


art. no.	no. of contacts	dim. [mm]		art. no.	no. of contacts	dim. [mm]	
		A	B			A	B
ZEPV 06	6	12.2	5.08	ZEPV 26	26	37.6	30.48
ZEPV 10	10	17.3	10.16	ZEPV 34	34	47.8	40.64
ZEPV 14	14	22.4	15.24	ZEPV 40	40	55.4	48.26
ZEPV 16	16	24.9	17.78	ZEPV 50	50	68.1	60.96
ZEPV 20	20	30.0	22.86				

Female connector

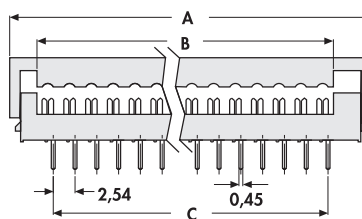
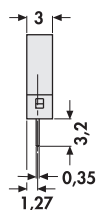
Two rows

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

						
art. no.	no. of contacts	dim. [mm]				
		A		B		
		25.1		18		
		45.3		38		
		49.3		42		
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		
surface of contact:		selective gold-plated				
annotation:		IDC-pattern, 1 mm				
recommended connector pins:		□ 0,5 mm				

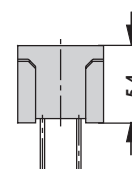
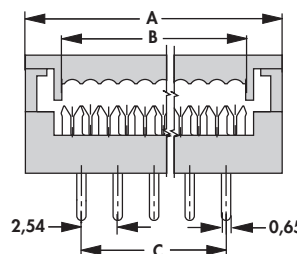
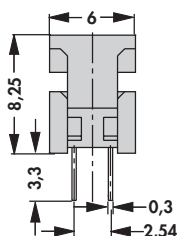
Printed circuit connector

– 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

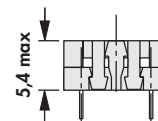
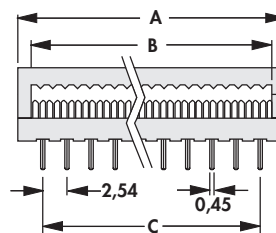
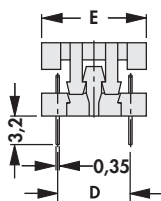
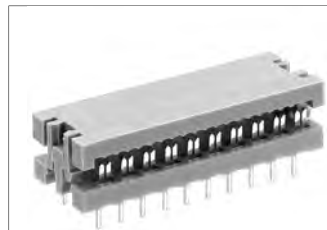
→ H 10
→ H 10
→ H 7
→ H 11 – 12

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

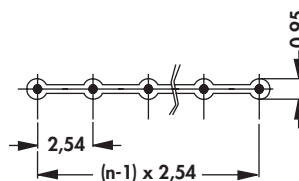
→ H 4
→ I 11
→ H 9
→ H 6

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

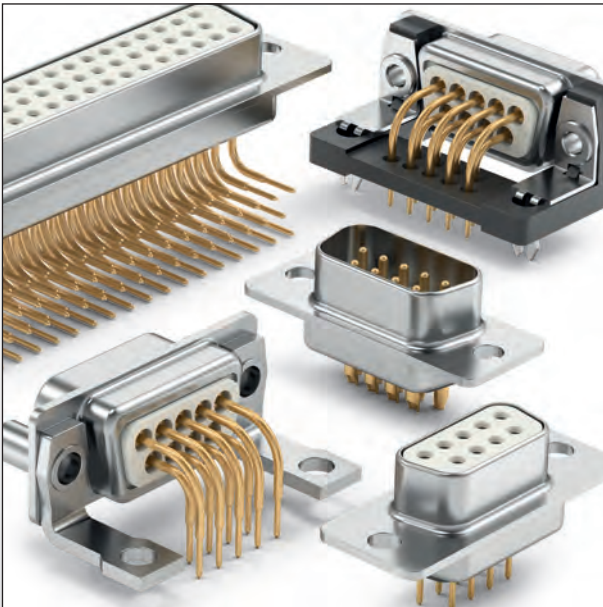
→ H 3
→ H 8
→ H 10
→ H 11 – 12

H 10

Technical data IDC-connectors

	ASL ...	FV ...	FLMP ..., VFL ...	PV ...
surface contact / contact sleeve	Ni+≥0.2μm Au/ Ni+4...8μm Sn	Ni+≥0.2μm Au/ Ni+5...10μm Sn		Ni+≥5μm Sn/ Ni+≥0.2μm Au
contact material	CuSn alloy			
creeping current resistance		KC 175 nach DIN 53480		KC 250
creepage	≥1,1mm VDE0110	1,4mm VDE0110		
air gap	≥0,8 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		≥0.3N ... ≤0.7N 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 flammability	UL 94 V-0			
specific insulation resistance	>10 ⁷ Ω·m			
conductor cross-section		AWG 28...30 = 0,09...0,05 mm ²		

	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


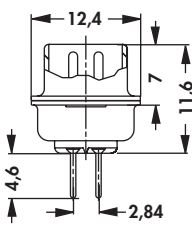
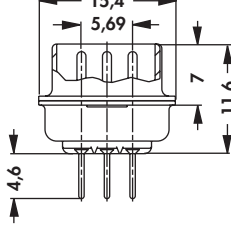
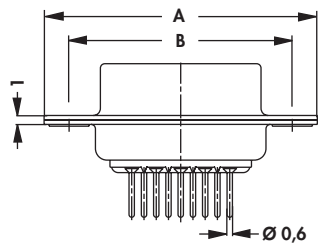

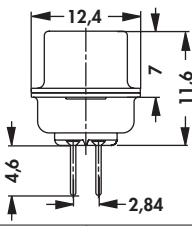
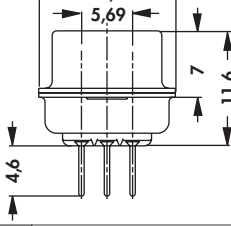
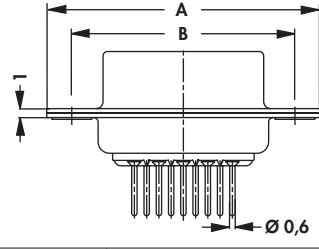


D-Sub accessories


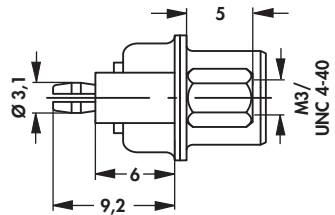

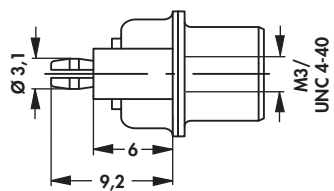
- cable reels
- cut-out covers
- HF-dense seal caps
- HF seals
- Dust covers
- Threaded couplings

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


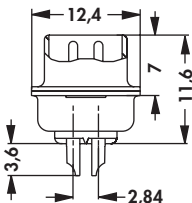
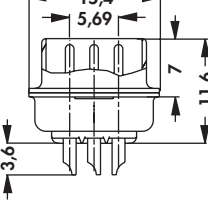
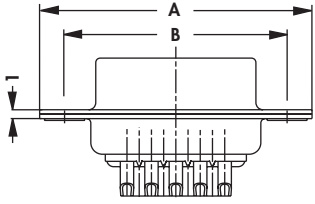

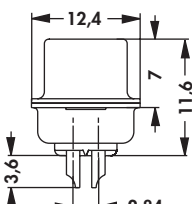
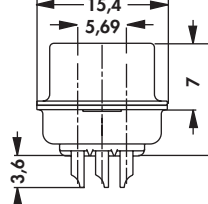
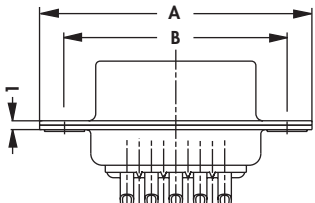

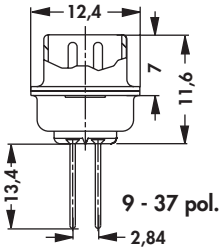
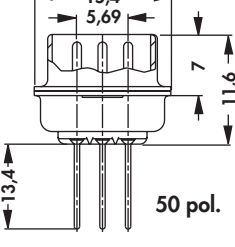
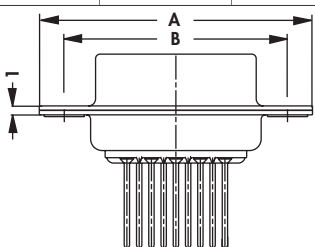

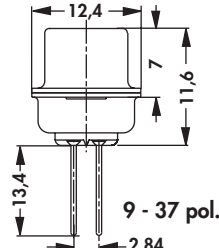
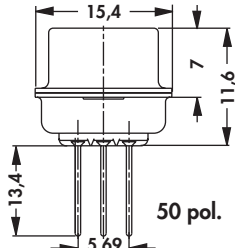
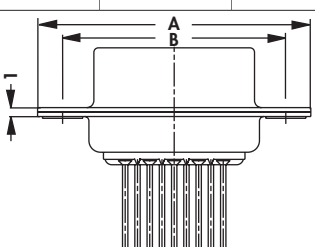

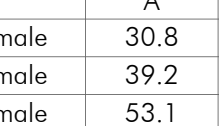

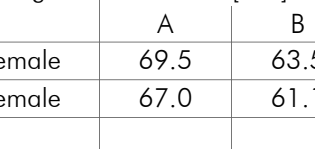
DB/DS ... T RCSM3 DB/DS ... T RCSUN		DB/DS ... T RCM3 DB/DS ... T RCUN	
			

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


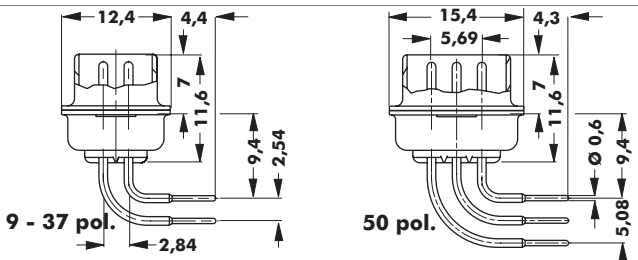
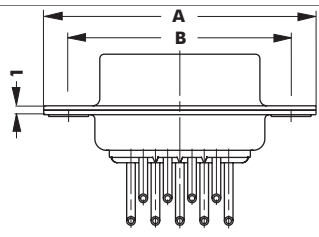

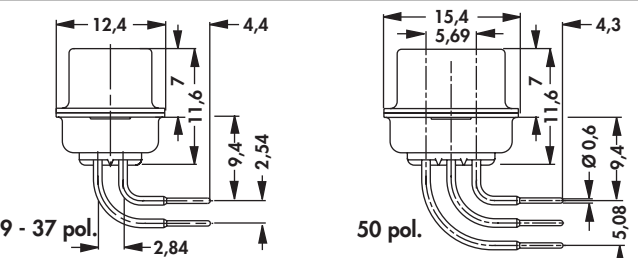
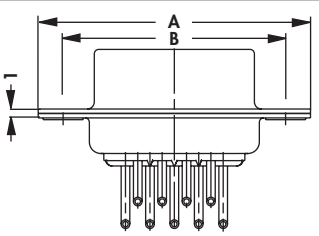
Male and female headers

	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	
	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	
	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	
	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	
	9 - 37 pol. 			50 pol. 					
	art. no.	design	dim. [mm]		art. no.	design	dim. [mm]		
			A	B			A	B	
	DB 15 WW 3	female	39.2	33.3	DB 50 WW 3	female	67.0	61.1	

D-Sub standard connectors

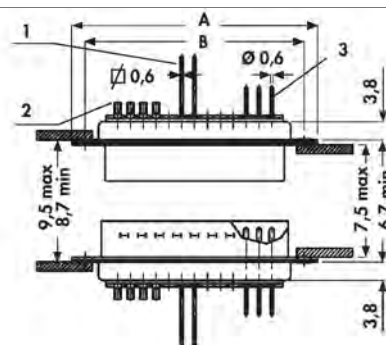
Male and female headers

- with turned precision contacts
- with shielding springs

					
	9 - 37 pol.	50 pol.			
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	
					
	9 - 37 pol.	50 pol.			
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	
casing frame:		steel, tin plated			

Installation diagram


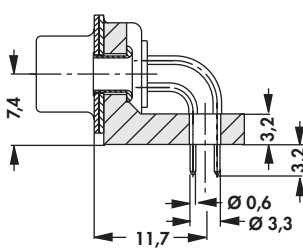
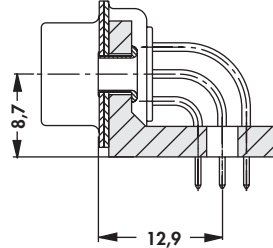

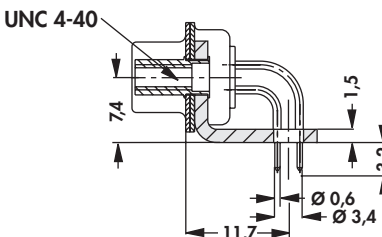

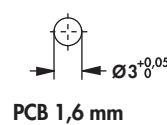

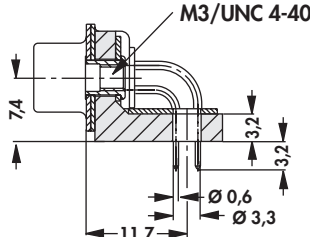
1 = wire wrap pin; 2 = solder terminal; 3 = solder pin for PCB




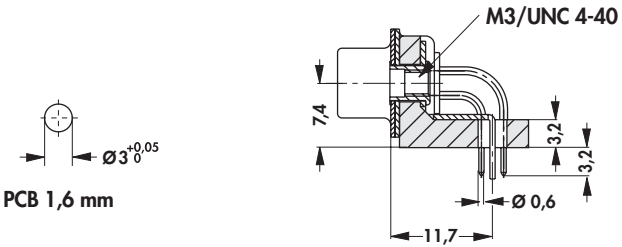
D-Sub high density → I 7 - 8
D-Sub in SMD technique → I 15
D-Sub cut-out cover → I 22
D-Sub connector in pressfit techn. → I 16

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

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

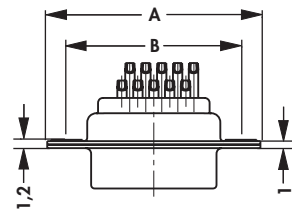
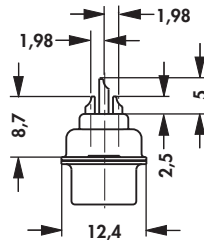
D-Sub standard connectors

		
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		

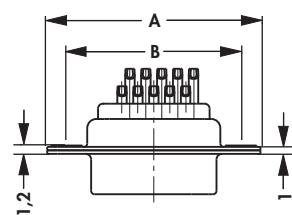
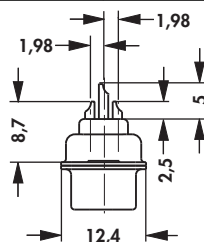
D-Sub connectors High Density

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
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



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

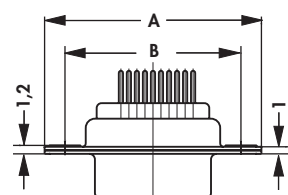
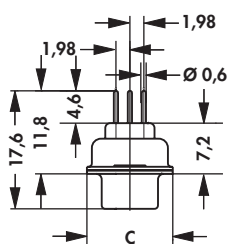
casing frame:

steel, tin plated

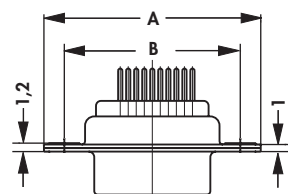
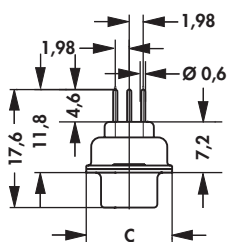
D-Sub connectors High Density

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
→ I 23
→ I 9 – 10
→ I 11 – 12


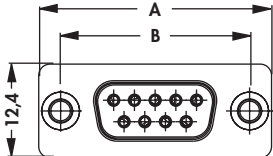
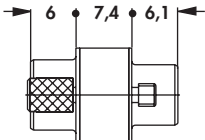
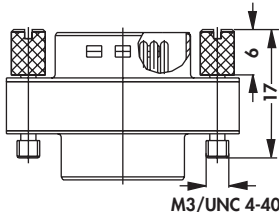
HF-seals
HF-tight caps
D-Sub cut-out cover
Technical data

→ I 24
→ I 24
→ I 22
→ I 26 – 28

D-Sub filter connector


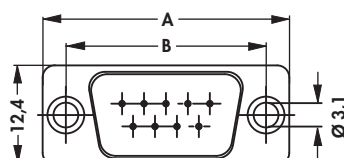
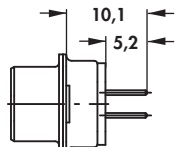
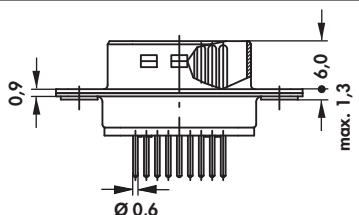

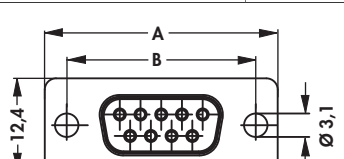
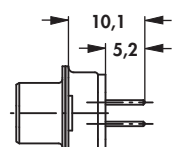
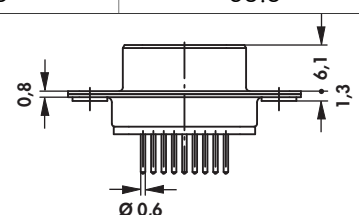
Adapter, 9-37 contacts

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

					
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					

Male headers and female headers, straight


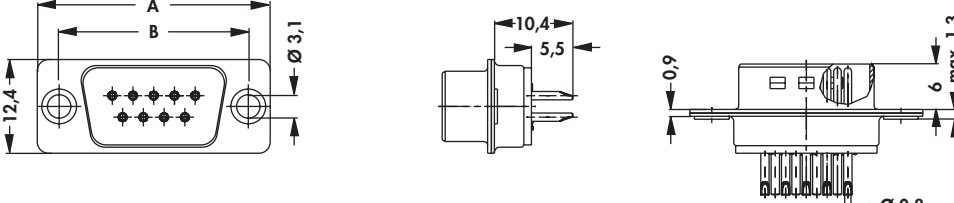
- capacity per contact: 1000 pF
- other capacity on request


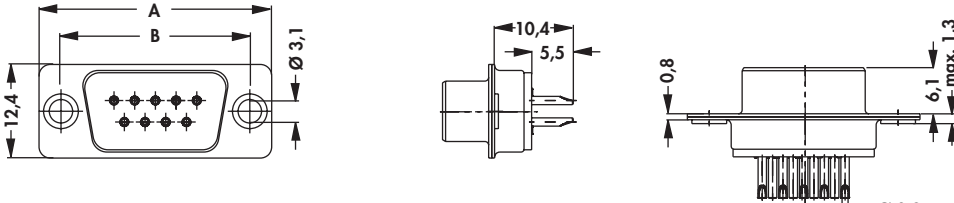
				
art. no.	no. of contacts	design	dim. [mm]	
FD S 09 T 1000	9	male	A	B
FD S 15 T 1000	15	male	30.8	25.0
FD S 25 T 1000	25	male	39.2	33.3
FD S 37 T 1000	37	male	53.1	47.0
FD S 37 T 1000	37	male	69.5	63.5
				
art. no.	no. of contacts	design	dim. [mm]	
FD B 09 T 1000	9	female	A	B
FD B 15 T 1000	15	female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

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]
FD S 09 L 1000	9	male	A	B
FD S 15 L 1000	15	male	30.8	25.0
FD S 25 L 1000	25	male	39.2	33.3
FD S 37 L 1000	37	male	53.1	47.0
			69.5	63.5

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

D-Sub connector for flat ribbon cable


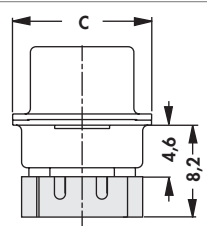
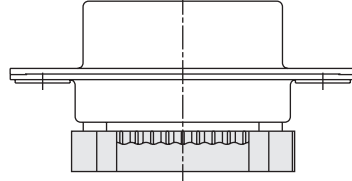
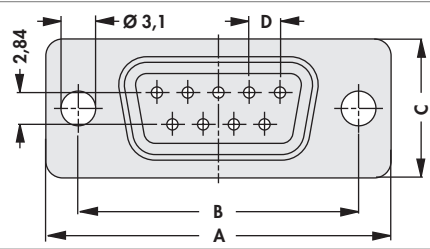
Male and female headers


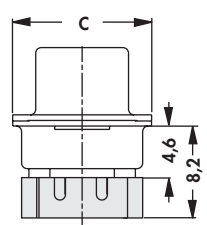
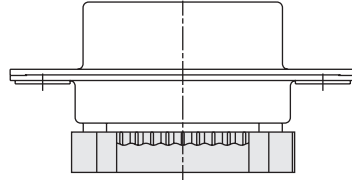
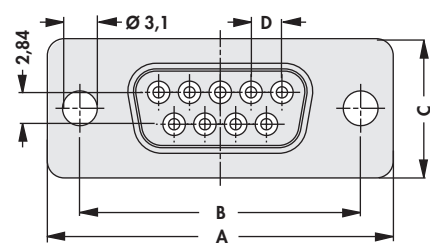
art. no.	no. of contacts	design	A	B	C	D	E		
DS BK 09	9	male	30.6	25.0	10.96	17.9	16.1		
DS BK 15	15	male	39.0	33.3	19.33	26.2	23.9		
DS BK 25	25	male	52.8	47.0	33.13	39.9	38.1		
DS BK 37	37	male	69.2	63.5	49.70	56.3	54.7		
art. no.	no. of contacts	design	A	B	C	D	E		
DS BK 50	50	male	66.8	61.1	44.2	54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


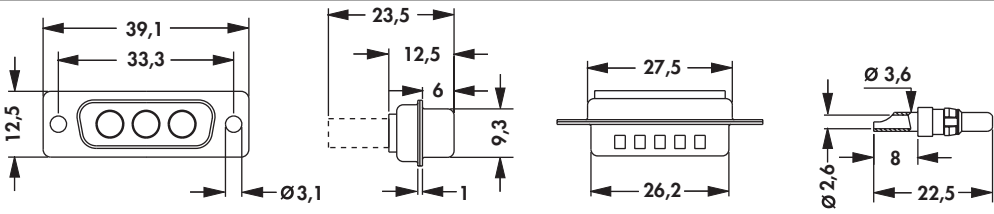
						
art. no.	no. of contacts	design	dim. [mm]			
			A	B	C	D
DB BK 09 LP	9	female	30.8	25.0	12.4	2.74
DB BK 15 LP	15	female	39.2	33.3	12.4	2.74
DB BK 25 LP	25	female	53.1	47.0	12.4	2.77
DB BK 37 LP	37	female	69.5	63.5	12.4	2.77
casing frame:		steel, tin plated				
annotation:		IDC-cable pitch/ 1.27mm				

D-Sub mixed layout connectors


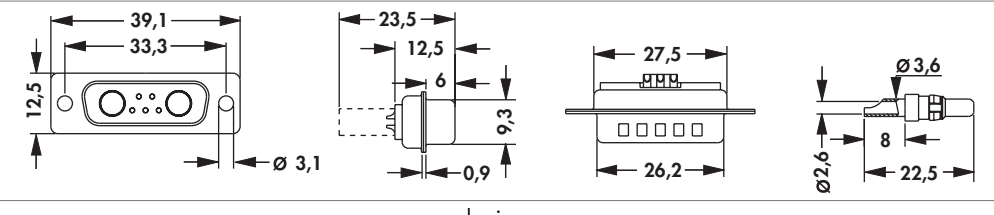
Male headers - suitable for standard D-Sub accessories

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


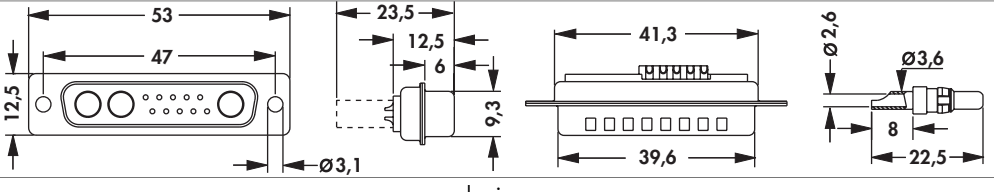
- 3 high current contacts

	
art. no. DSM 3K3 L20	design male

- 2 high current contacts, 5 signal contacts

	
art. no. DSM 7K2 L20	design male

- 3 high current contacts, 10 signal contacts


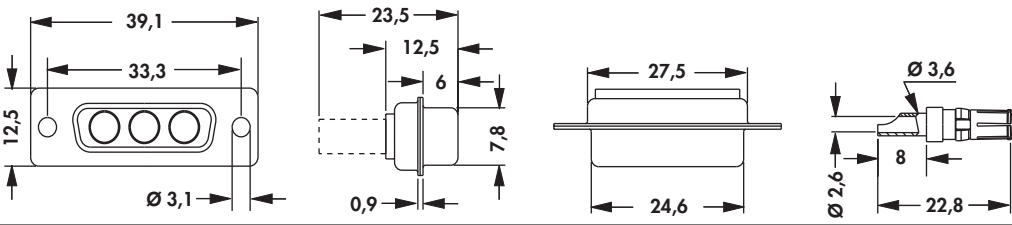
	
art. no. DSM 13K3 L20	design male

D-Sub mixed layout connectors


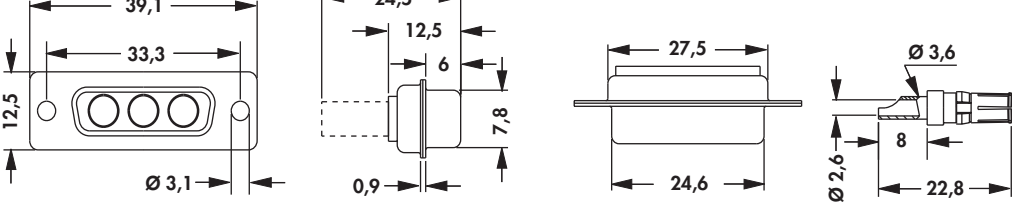
Female headers - suitable for standard D-Sub accessories

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


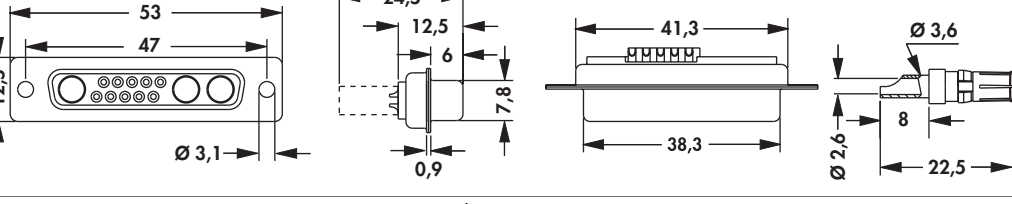
- 3 high current contacts

	
art. no. DBM 3K3 L20	design female

- 2 high current contacts, 5 signal contacts

	
art. no. DBM 7K2 L20	design female



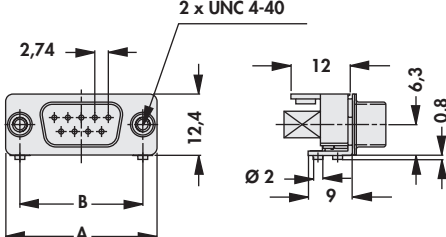
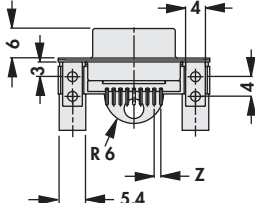
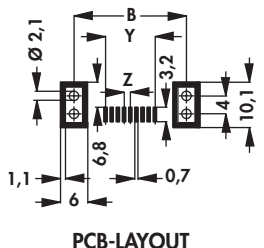
- 3 high current contacts, 10 signal contacts



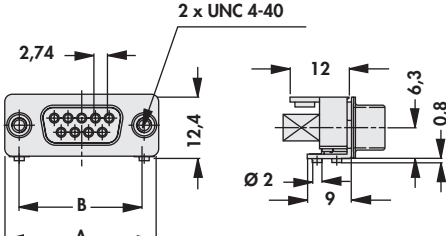
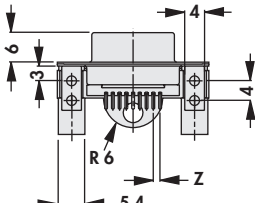
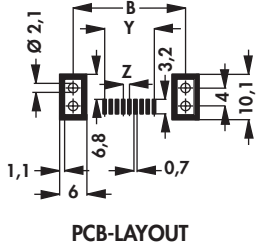
	
art. no. DBM 13K3 L20	design female

D-Sub in SMD-mounting

Male and female headers


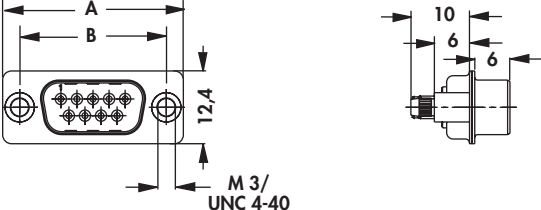
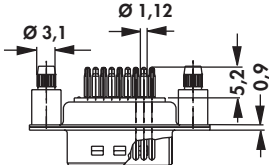

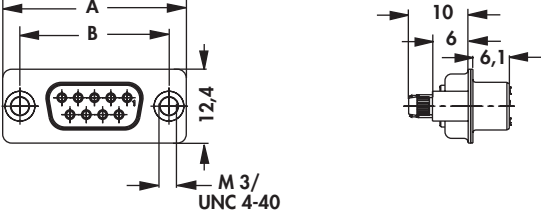
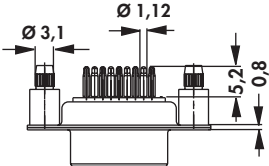
– **packing:** tape and reel (150 pcs/reel); reel outer diameter 330 mm

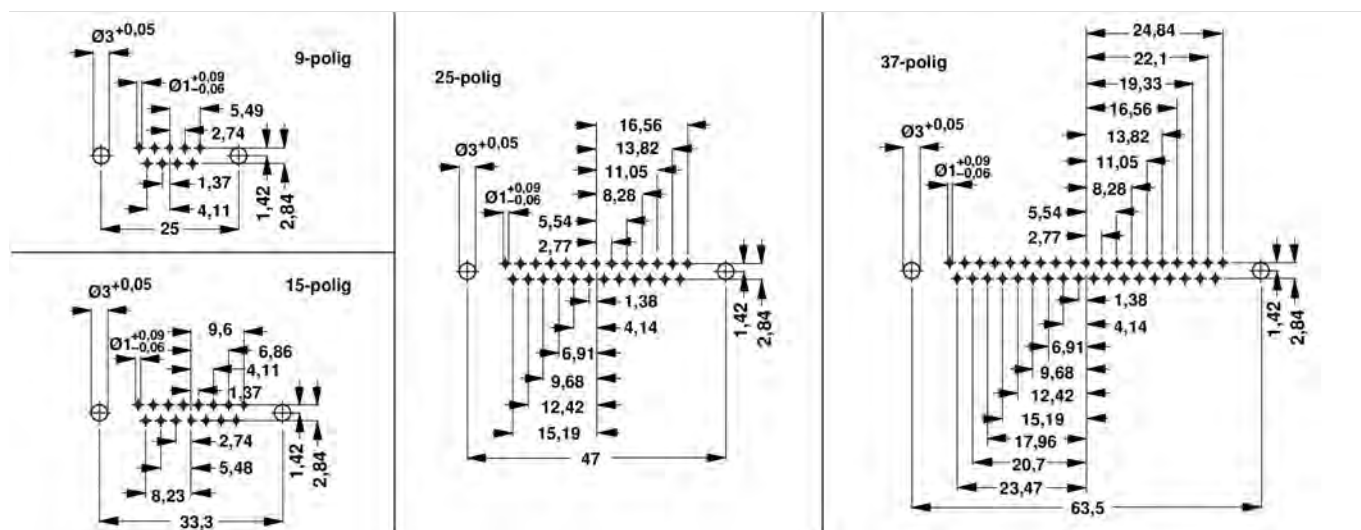
    					
art. no.	no. of contacts	dim. [mm]			
		A	B	Y	Z
DS 09 SMD TR	9	30.8	25.0	10.98	1.37
DS 15 SMD TR	15	39.2	33.3	19.20	1.37
DS 25 SMD TR	25	53.1	47.0	33.12	1.38
DS 37 SMD TR	37	69.5	63.5	49.68	1.38

    					
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

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	



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


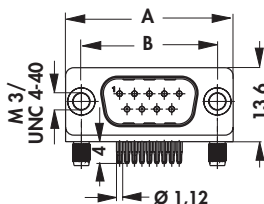
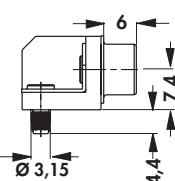
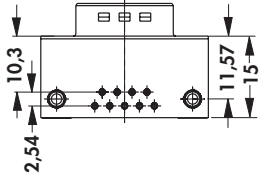

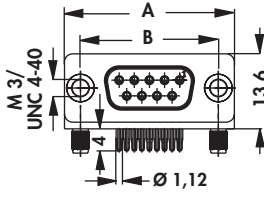
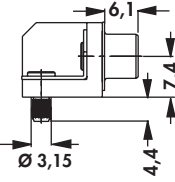
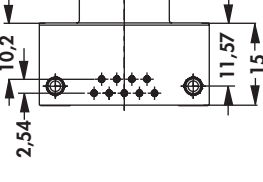
→ I 13 – 14
 → H 10
 → I 9
 → I 23

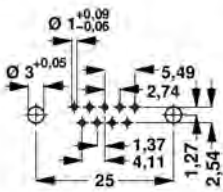
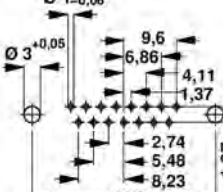
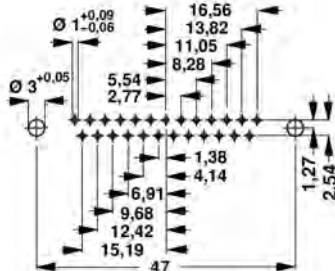
HF-seals
D-Sub connectors /flat cable
D-Sub hoods
Technical data

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

D-Sub connector in pressfit technology


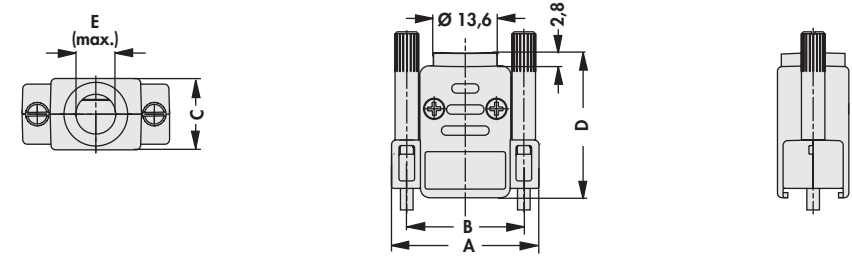

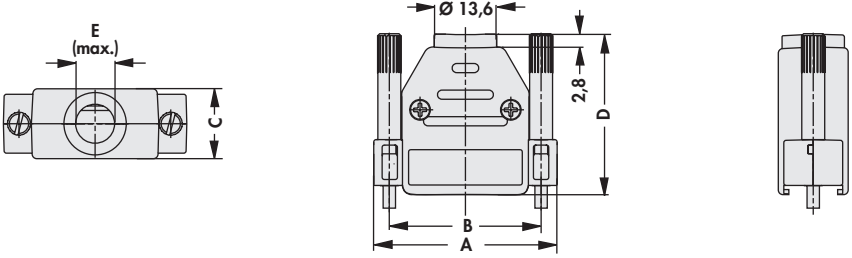
Male and female headers

   			
art. no.	no. of contacts	dim. [mm]	
DS WP ... 9	9	A	B
DS WP ... 15	15	30.8	25.0
DS WP ... 25	25	39.2	33.3
		53.1	47.0
   			
art. no.	no. of contacts	dim. [mm]	
DB WP ... 9	9	A	B
DB WP ... 15	15	30.8	25.0
DB WP ... 25	25	39.2	33.3
		53.1	47.0
<p>please indicate: ... type of thread</p> <p>3 = M3</p> <p>UNC = UNC 4-40</p>			
casing frame:		steel, tin plated	

<p>9-polig</p> 	<p>15-polig</p> 	<p>25-polig</p> 
---	--	--


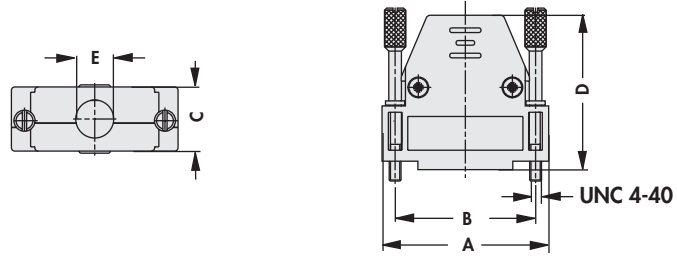
D-Sub hoods

- **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
DH 09 ...		9	31.5	25	15.2	31
						
	art. no.	no. of contacts	dim. [mm]			
			A	B	C	D
DH 15 ...		15	40.0	33.3	15.2	33.5
DH 25 ...		25	53.5	47.0	15.2	38.0
DH 37 ...		37	70.0	63.5	15.2	40.0
DH 50 ...		50	67.5	61.1	18.2	40.0
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
DH SG 09 ...		9	31.0	25.0	16.0	35.6
DH SG 15 ...		15	39.5	33.3	16.0	36.6
DH SG 25 ...		25	53.0	47.0	16.0	41.0
DH SG 37 ...		37	69.5	63.5	16.0	45.3
DH SG 50 ...		50	67.0	61.1	19.8	51.4
please indicate: ... surface of case S = plastic, black M = plastic, metallized						

D-Sub filter connector
D-Sub filter adapter
D-Sub high density
D-Sub standard connectors

→ I 10
 → I 9
 → I 7 – 8
 → I 3 – 6


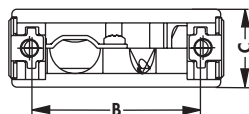
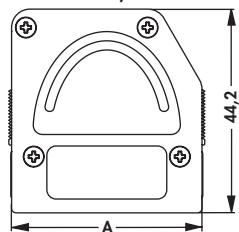
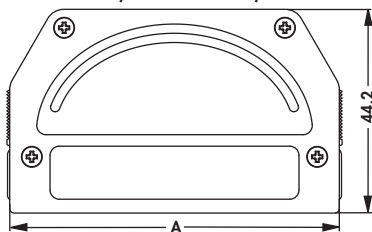
D-Sub connectors /flat cable
D-Sub mixed layout
D-Sub connector in pressfit techn.
Technical data

→ I 11 – 12
 → I 13 – 14
 → I 16 – 17
 → I 26 – 28

D-Sub hoods


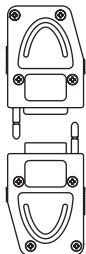
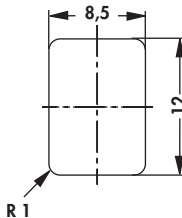
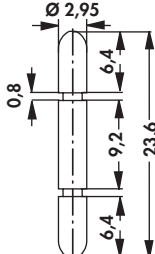
D-Sub hoods with quick-action locking system

– straight and side-gated cable outlet

				DH SV 09 ... / DH SV 15 ...		DH SV 25 ... / DH SV 37 ... / DH SV 50 ...	
							
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			


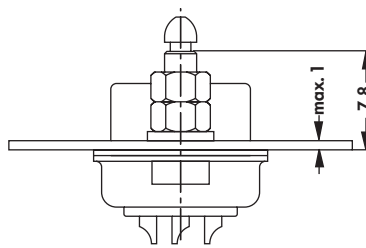
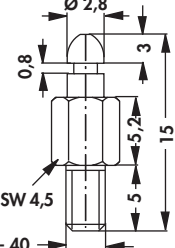
Accessories – locking pin for hood – hood connection

– 2 locking pins including locking plates

			
art. no.			
RS HH			

Accessories – locking pin for plug connector – hood connection


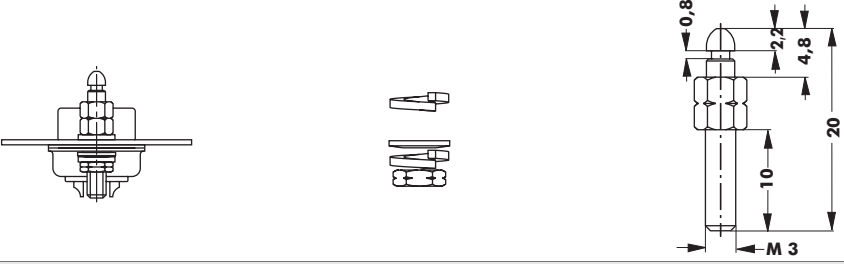
– 2 latch Pins including locking ring for connectors with thread M3/UNC 4-40

					
				M 3 / 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


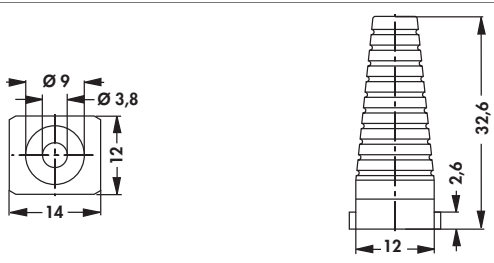
Accessories – locking pin for plug connector – hood connection

- 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

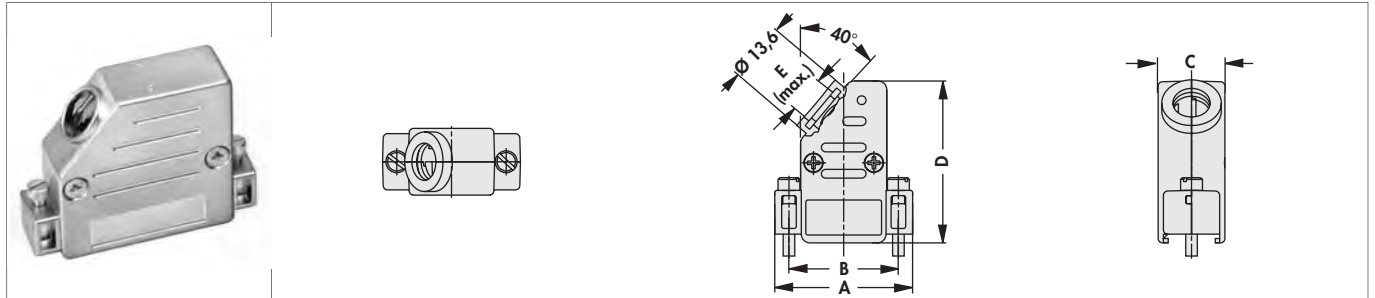
D-Sub hoods

D-Sub-hoods-compact

9-50 contacts



- 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 treads
- 2 side cable outputs:
 - 40° exit (9-50 contacts)
 - 90° exit (25-50 contacts)
- **E = max. diameter of the cable bushing in mm**



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

please indicate:


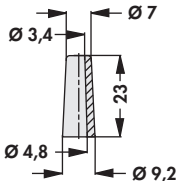
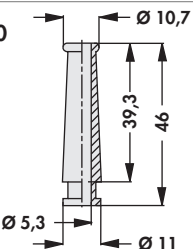
... surface of case

K = plastic, black**KM** = plastic, metallized

D-Sub accessoires


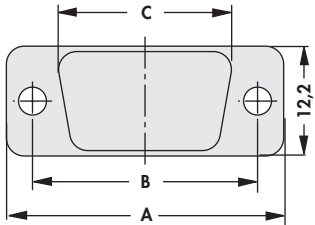
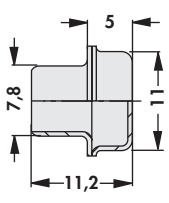
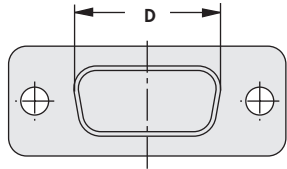
Suitable cable bushing

- protects the cable against damage by buckling


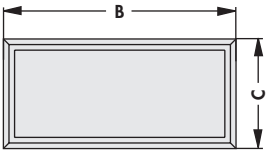
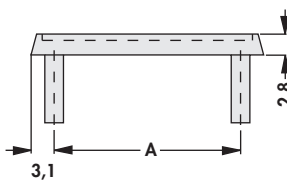
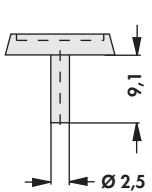
	<p>KT 0915</p> 	<p>KT 2550</p> 
<p>art. no.</p>	<p>art. no.</p>	
<p>KT 0915</p>	<p>KT 2550</p>	

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

			
<p>art. no.</p>	<p>dim. [mm]</p>	<p>art. no.</p>	<p>dim. [mm]</p>
<p>BADM 09</p>	<p>A B C D</p>	<p>BADM 25</p>	<p>A B C D</p>
<p>BADM 15</p>	<p>30.8 25.0 19.2 16.3</p>	<p>BADM 25</p>	<p>53.0 47.0 41.2 38.3</p>
<p>BADM 15</p>	<p>39.3 33.3 27.5 24.5</p>	<p>BADM 37</p>	<p>69.4 63.5 57.7 54.8</p>
<p>casing frame:</p>	<p>tin-plated</p>	<p>surface of case:</p>	<p>metal</p>

- plastic cover, blank, for blind D-Sub and other connector cutouts in front and rear panels
- easy to mount with enclosed clamping springs

			
<p>art. no.</p>	<p>dim. [mm]</p>	<p>art. no.</p>	<p>dim. [mm]</p>
<p>BADP 09</p>	<p>A B C</p>	<p>BADP 37</p>	<p>A B C</p>
<p>BADP 15</p>	<p>25.0 31.2 14.7</p>	<p>BADP 37</p>	<p>63.5 69.9 14.7</p>
<p>BADP 15</p>	<p>33.3 39.6 14.7</p>	<p>BADP 50</p>	<p>61.1 67.6 14.7</p>
<p>BADP 25</p>	<p>47.0 53.3 14.7</p>		
<p>surface of case:</p>	<p>plastic, black</p>	<p>fixing clamp:</p>	<p>steel</p>

D-Sub accessoires


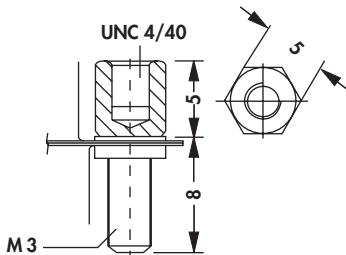
Screw fastening, mounted

- 2 screw fastenings incl. spacer, washer, nut
- please add a **V** to the corresponding art. no. ...

art. no.	
... V	


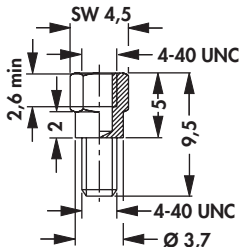
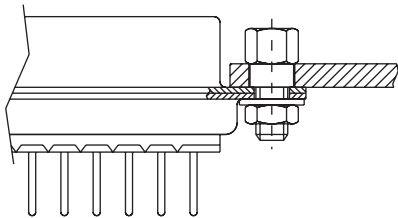
Screw fastening, loose

- 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	

Screw fastening for assembly of cases, separate

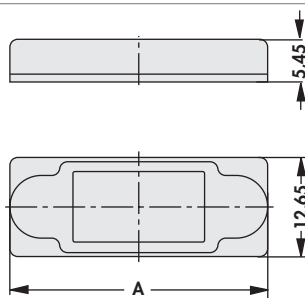
- 2 screw fastenings incl. spacer, washer, nut

art. no.			
VG 2			
material:	steel-washer tin-plated/ screw and steel-screw-nut nickel-plated		

D-Sub accessoires

HF-tight caps, male and female headers

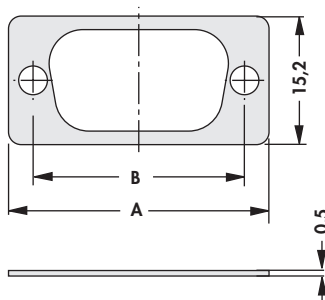
– prevent HF-radiation at open interfaces



art. no.	colour	dim. [mm] A	art. no.	colour	dim. [mm] A
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


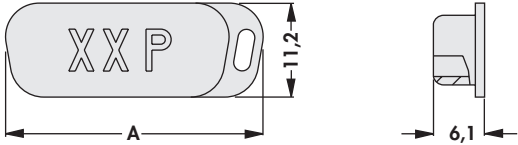
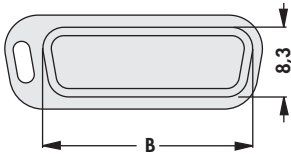
– as seal between plug and housing




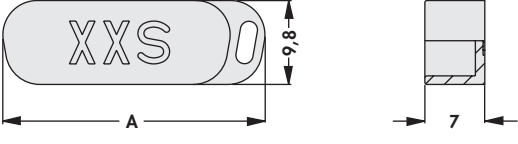
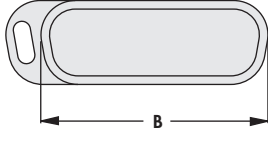
art. no.	dim. [mm]	
	A	B
HFD 09	30.8	25.0
HFD 15	39.4	33.3
HFD 25	53.4	47.0
HFD 37	70.7	63.5
annotation:		extremely low transition resistance

Dust protection caps

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	

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		

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	$\leq 10 \text{ m}\Omega$ before strain, ΔR 10 m Ω after strain according to DIN 41652. part 2 (MIL-C-24308)			$\leq 10 \text{ m}\Omega$
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	$\geq 5 \text{ G}\Omega$		$\geq 1 \text{ G}\Omega$ (100V DC)	1 G Ω

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/ (≥0.1μm Au over 2...4μm chem. NiP)		
quality class / cyces of operation	quality class 2 = 200 cycles of op- eration	≥500 cycles of operation		
volume resistance	≤10 mΩ before strain, ΔR 10 mΩ 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 ≥3mm), UL 94 V-1
insulation resistance	≥5 GΩ	≥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



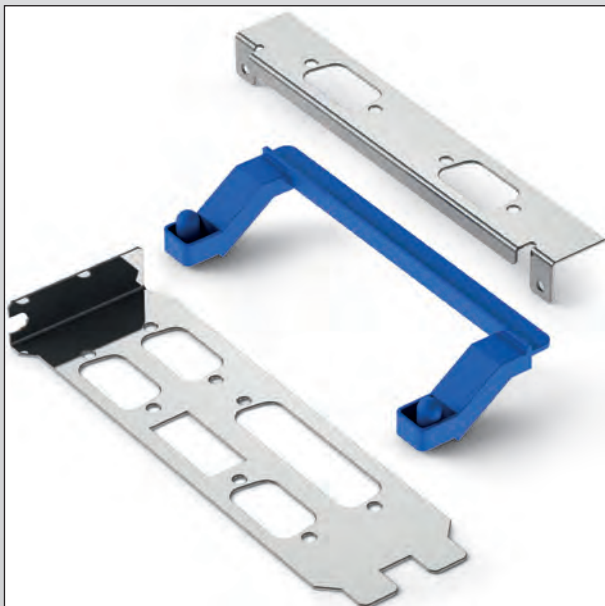
Brackets for PCI

- with or without fixing tab
- standard cut-outs
- custom-specific cut-outs
- custom-specific printings



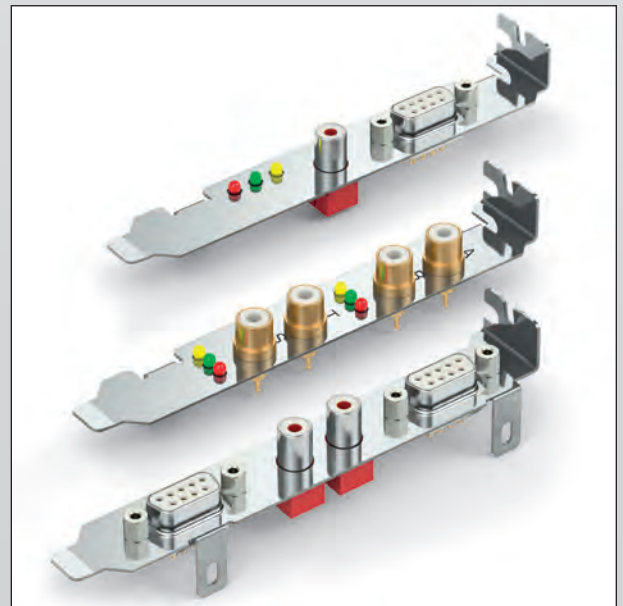
Brackets for AT and similar

- with or without fixing tab
- standard cut-outs
- custom-specific cut-outs
- custom-specific printings



Custom-specific brackets

- double width
- special width
- with printing



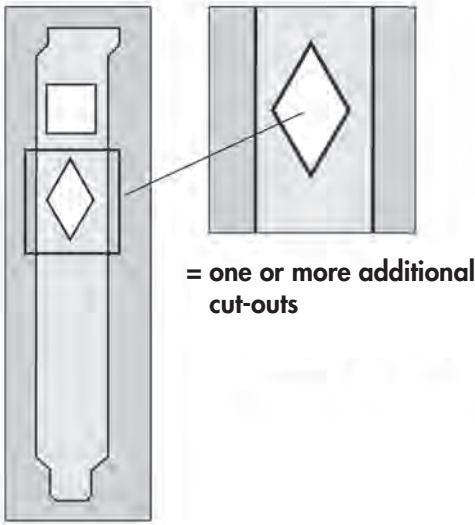
Equipped brackets

- equipped with D-Sub
- equipped with LED
- equipped with custom-specific components

Index Bracket-Groups

page	PCI	7		9			12	13	14		15		17	18
	KHPC	9	9	10	11	11	12	13	14	15	15	16	17	18

page	PCI	18			21	21			22	23				
	KHPC	19	20	20			21	22	22		23	24	24	



A

Brackets for PC

Brackets with fixing tap and without cutout

<p>PCI</p> <p>PCI ... L</p> <p>art. no. PCI 0 L</p>	<p>KHPC</p> <p>KHPC ... L</p> <p>art. no. KHPC 0 L</p>
---	--

Bracket without fixing tab and without cutout

<p>PCI</p> <p>PCI ... O</p> <p>art. no. PCI 0 O</p>	<p>KHPC</p> <p>KHPC ... O</p> <p>art. no. KHPC 0 O</p>
<p>material:</p>	<p>stainless steel (V 2 A)</p>
<p>material thickness:</p>	<p>0.8 mm</p>

H

I

K

L

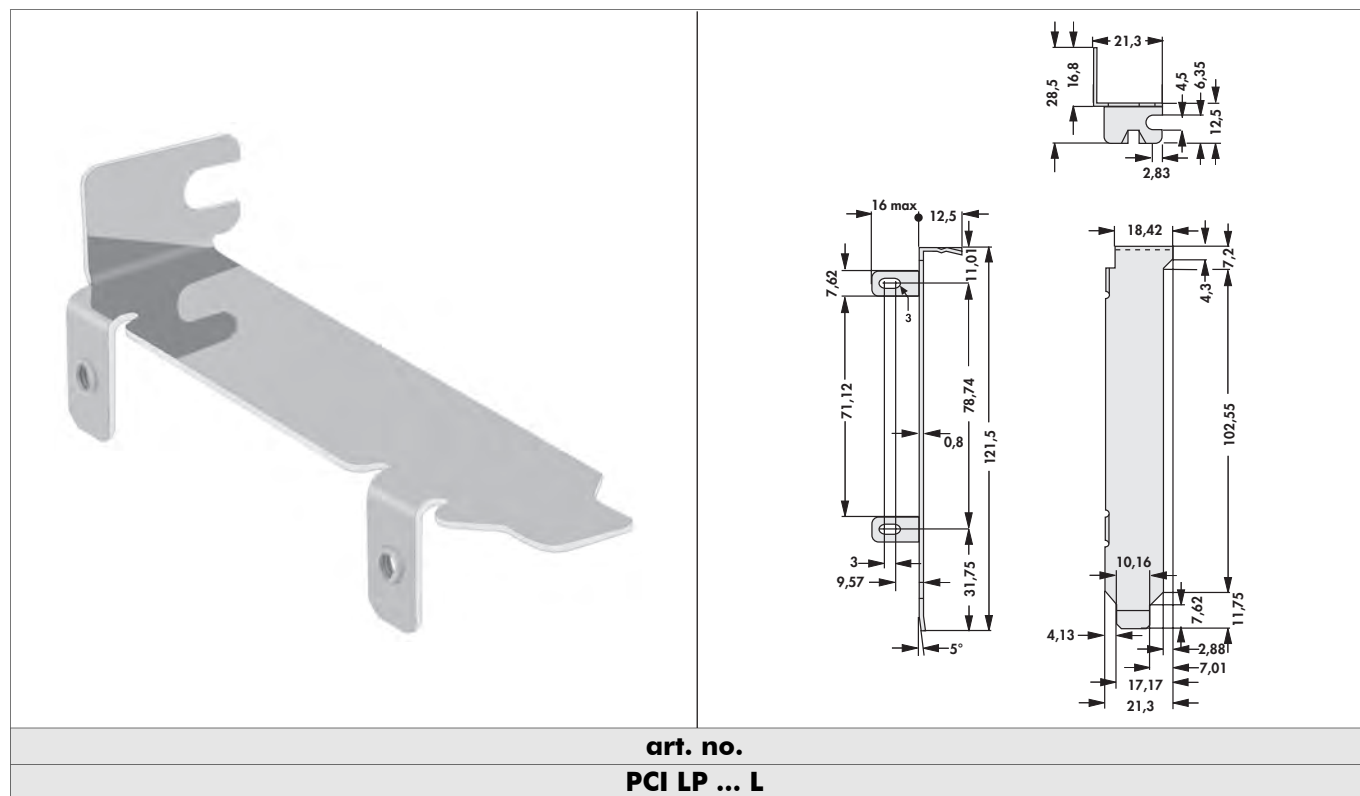
M

N

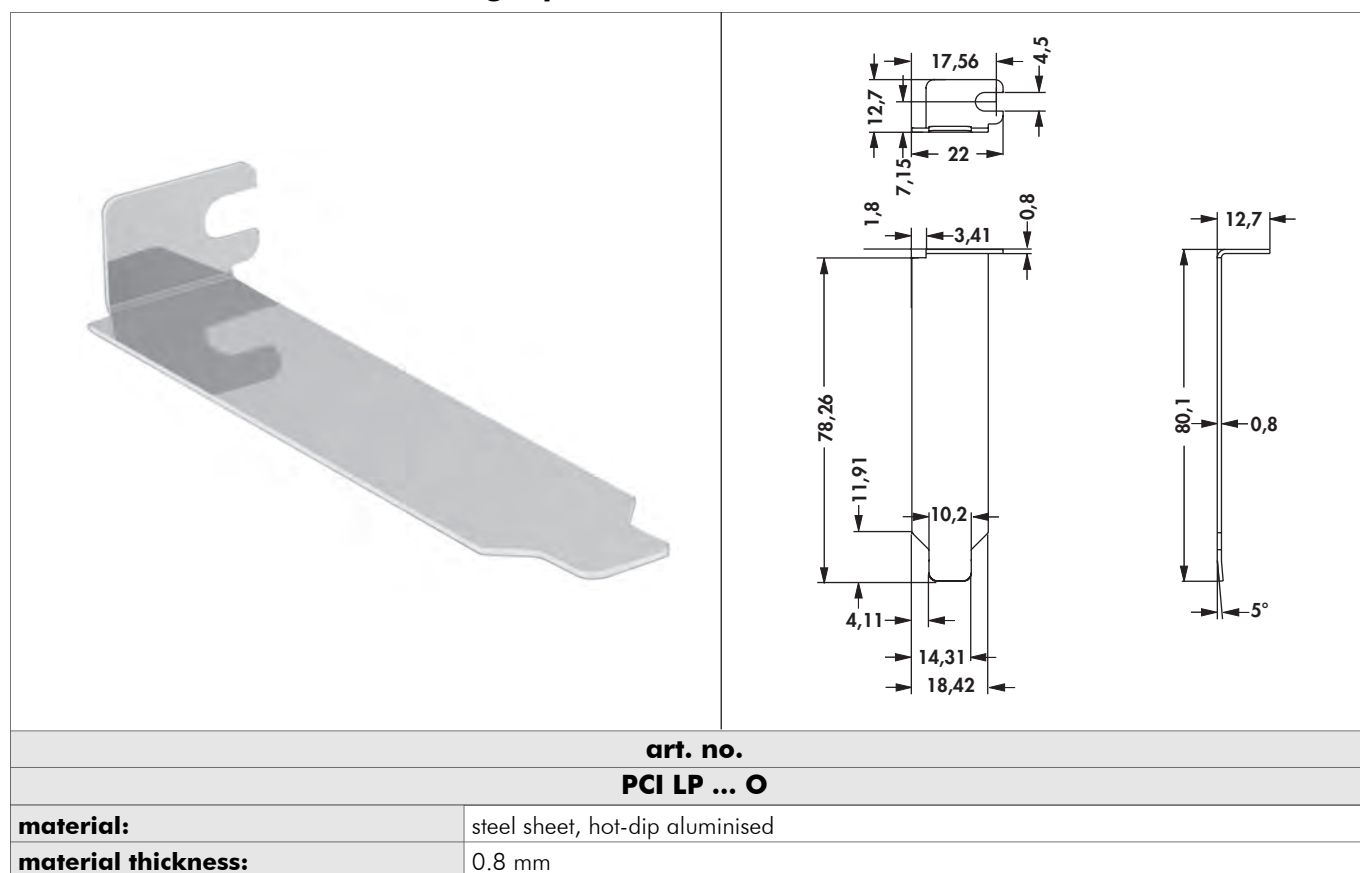
Low Profile bracket for PC

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



Low Profile bracket without fixing tap and without cutout



A

Dimensional drawing for PCBs

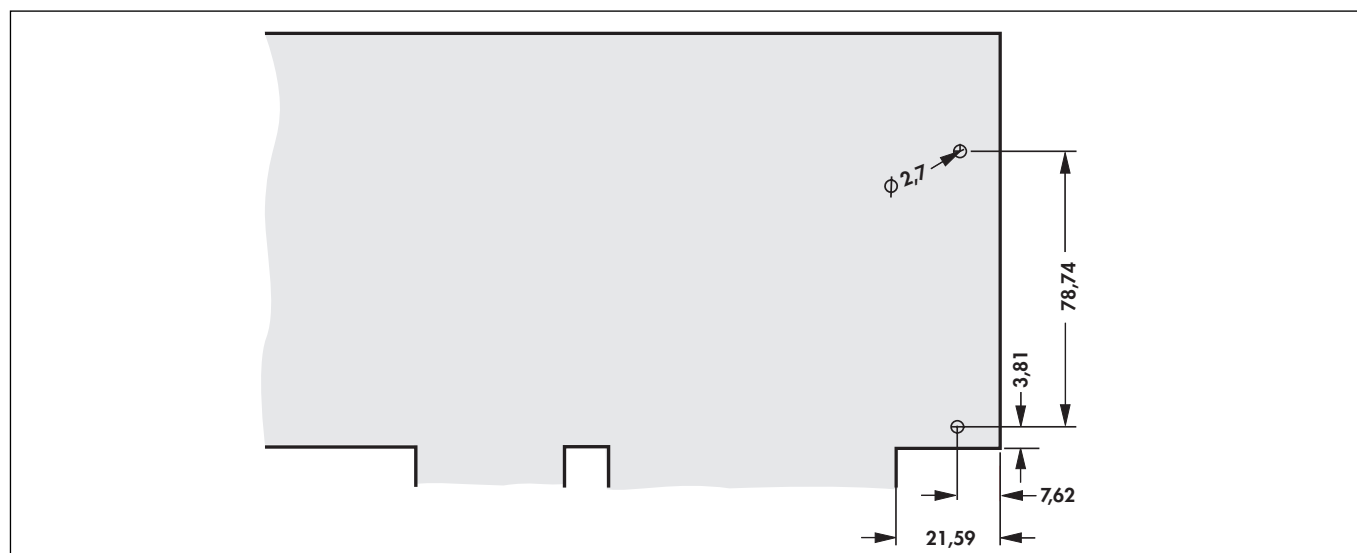
B

C

D

E

Dimensions to fix the PCI L ... - bracket to the PCB



F

G

H

I

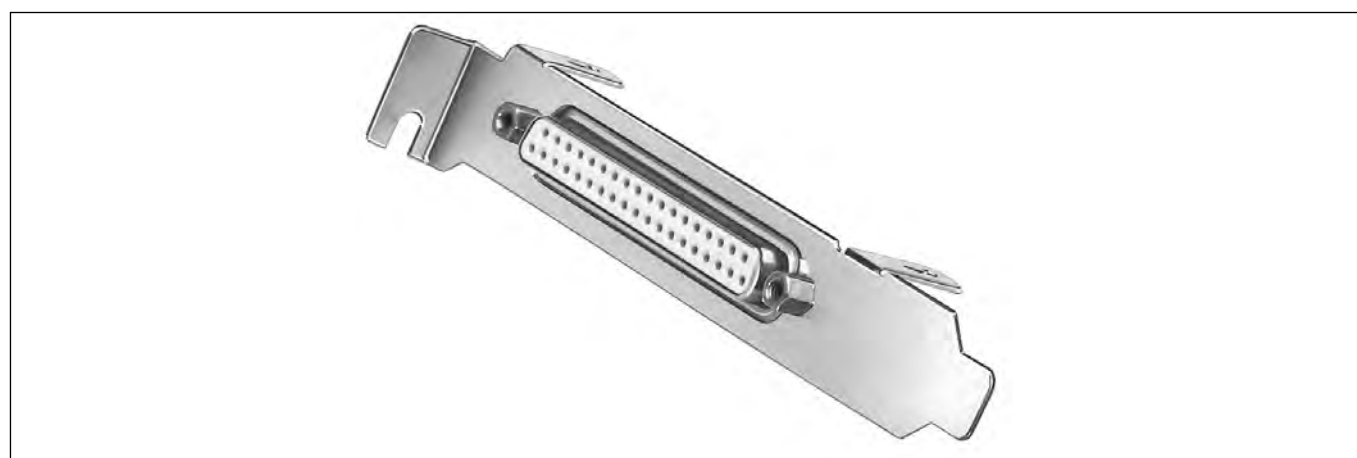
K

L

M

N

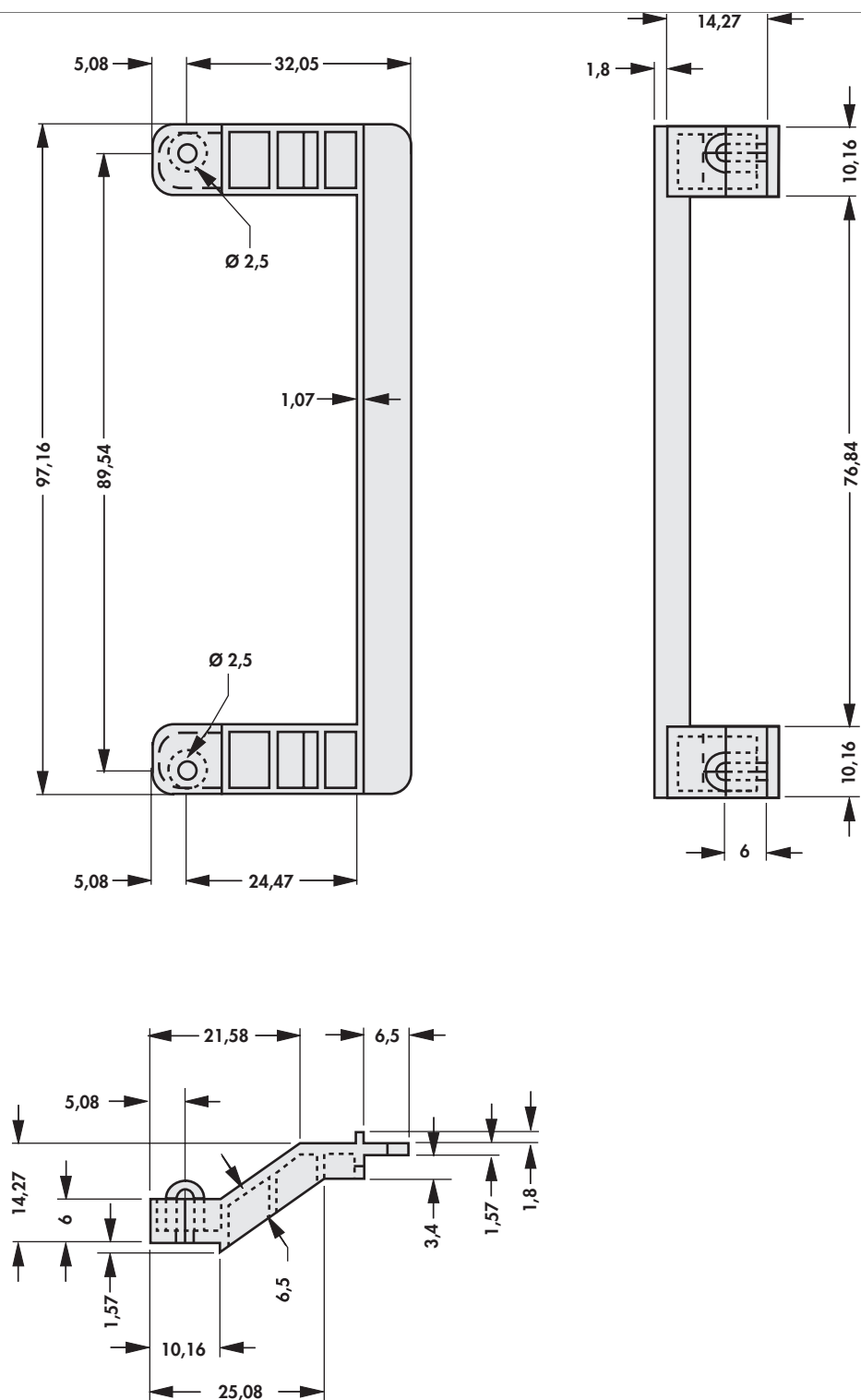
Dimensions to fix the KHPC L ... - bracket to the PCB



On request also available with D-Sub connector!

Retainers for PCI-cards

- suitable for all ISA-versions



art. no.

PCI R1

class of flammability:

UL 94 V-0

material:

polycarbonate

A

Brackets for PC

B

C

D

E

F

G

H


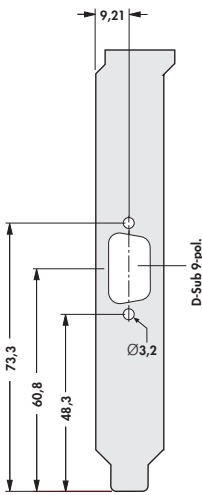
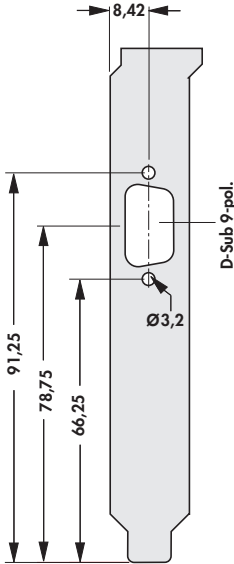
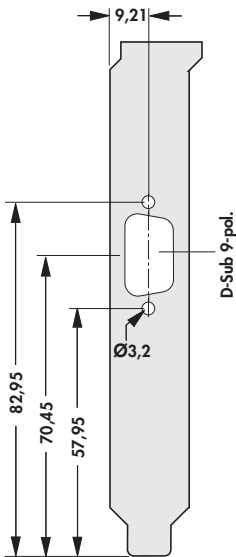
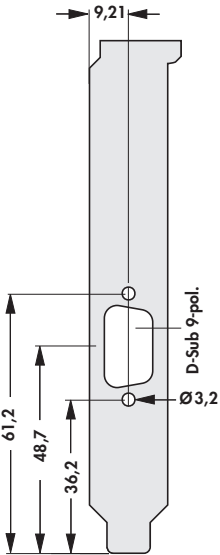
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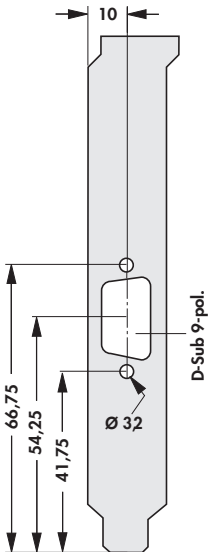
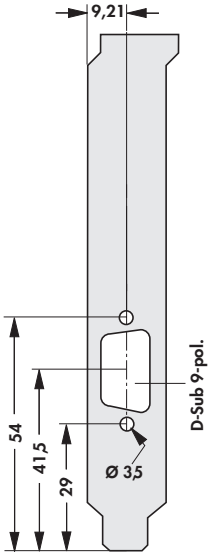
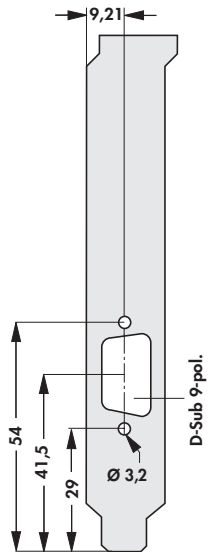
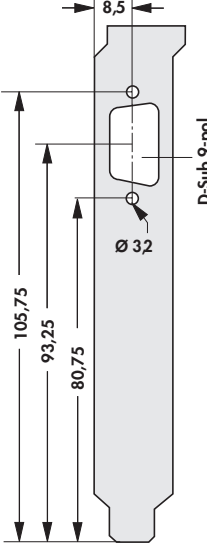
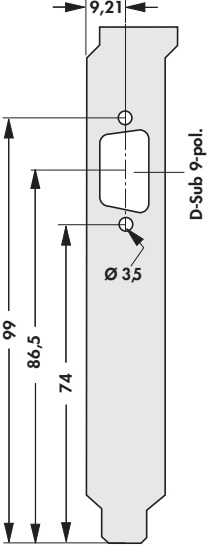
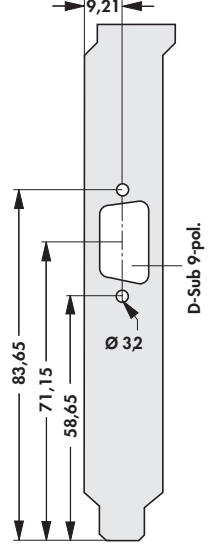
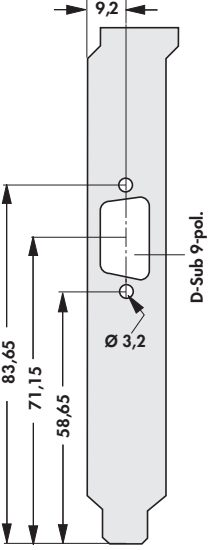
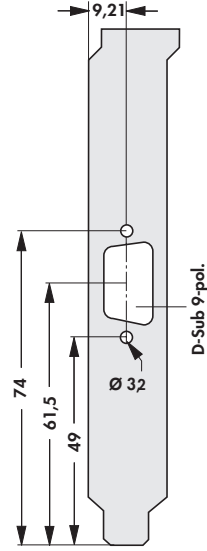
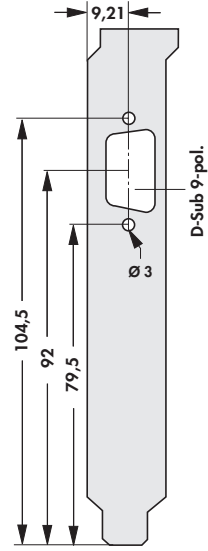
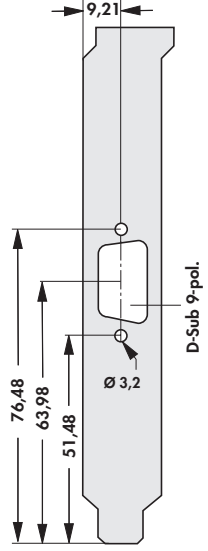
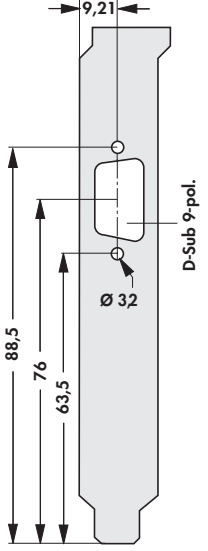
K

L

M

N

	PCI 004	PCI 006	PCI 005
 <p>9</p>			
PCI 055			
			

	KHPC 016 	KHPC 007 	KHPC 011 
KHPC 002 	KHPC 008 	KHPC 094 O 	KHPC 003 
KHPC 010 	KHPC 014 	KHPC 093 	KHPC 096 

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


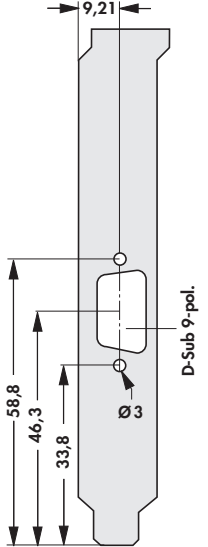
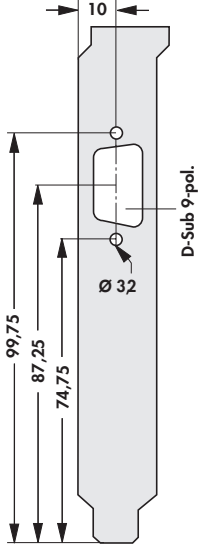
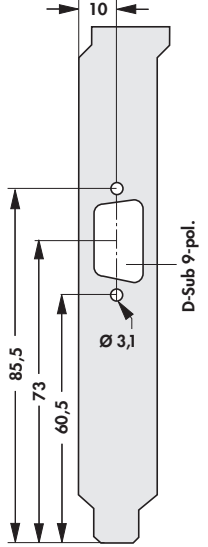

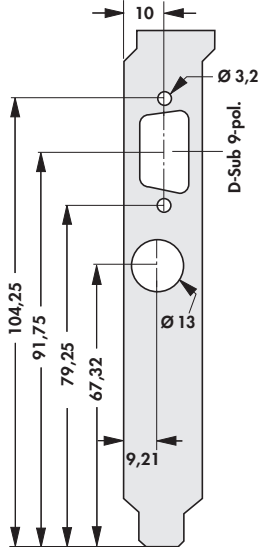
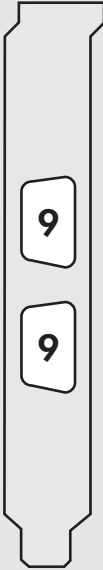
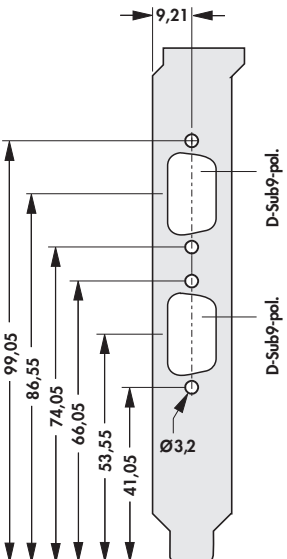
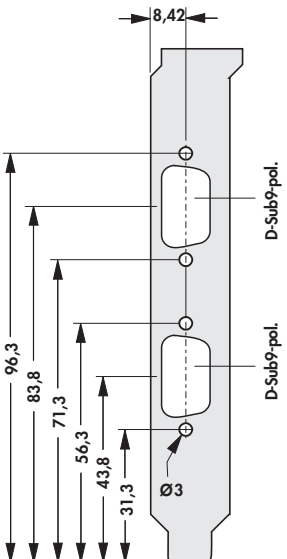
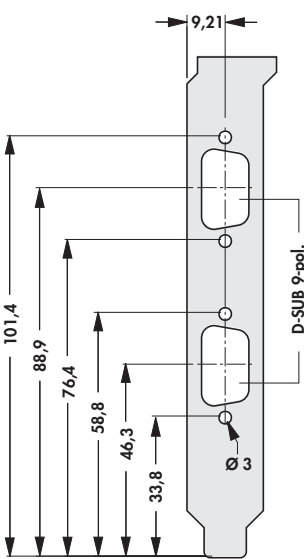
I

K

L

M

N

	KHPC 013 	KHPC 017 	KHPC 095 
	KHPC 131 		
	PCI 012 	PCI 011 	PCI 039 L 

K 9

If you do not find a suitable bracket, please use the PCI / KHPC design sheet at the end of section "K".

<p>PCI 013</p>	<p>PCI 041</p>		
<p>KHPC 015</p>	<p>KHPC 072</p>	<p>KHPC 012</p>	
<p>KHPC 006</p>	<p>KHPC 009</p>	<p>KHPC 053 O</p>	

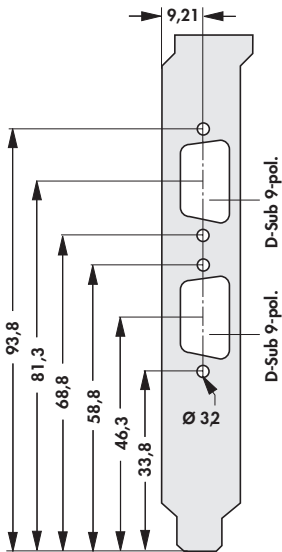
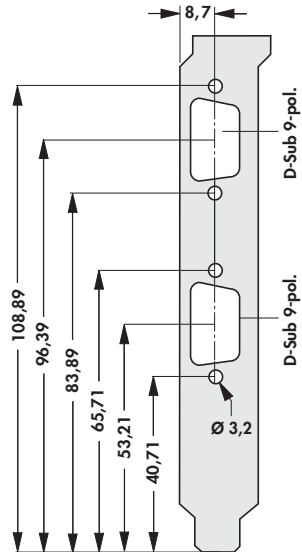
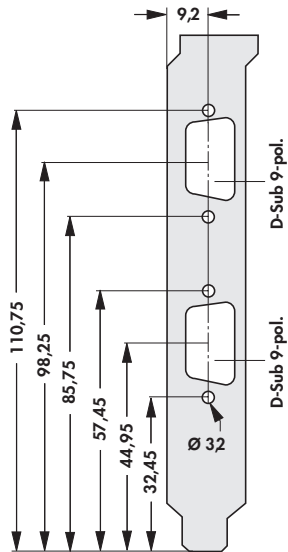
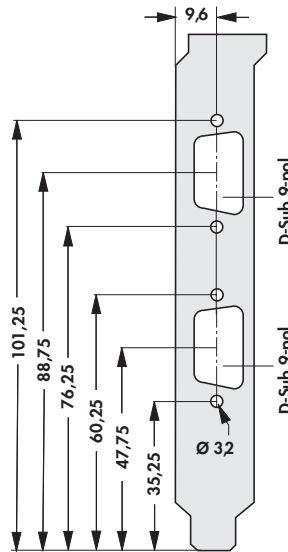

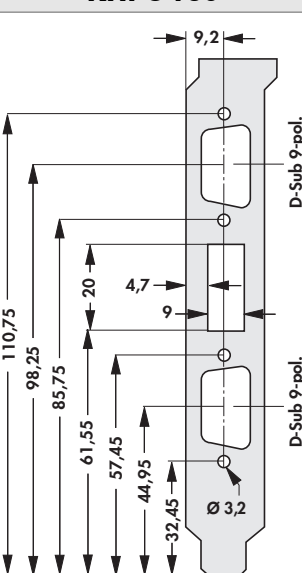

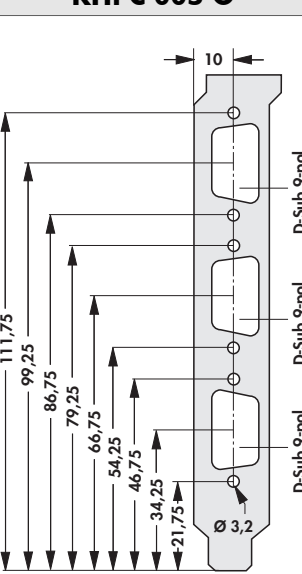
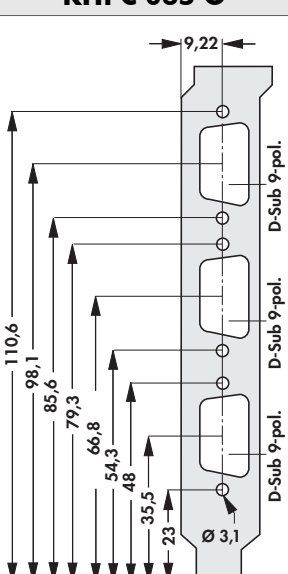
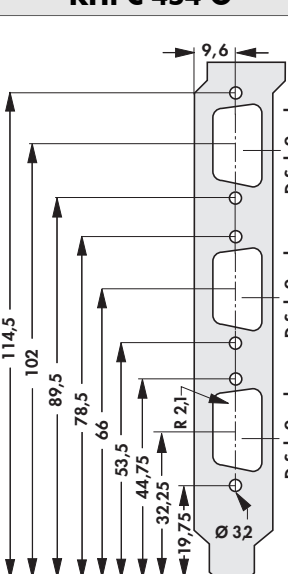
please indicate:

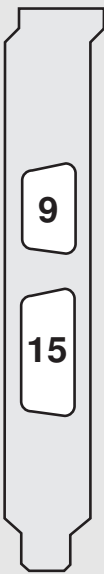
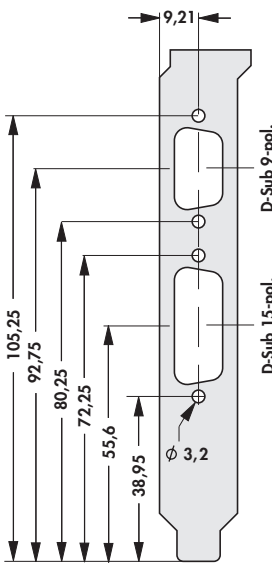
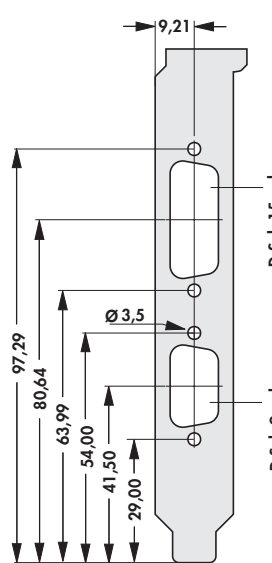
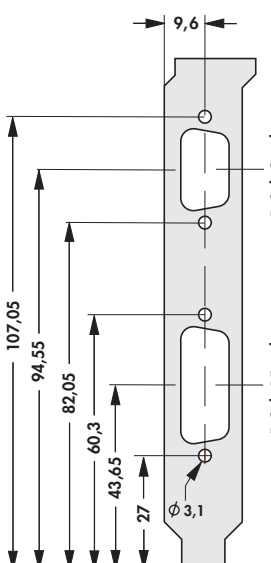
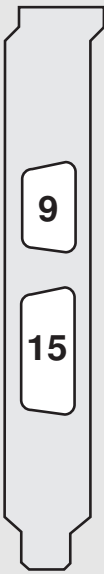
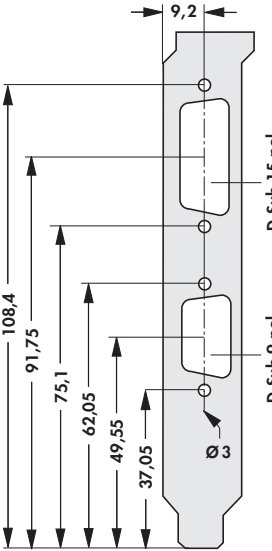
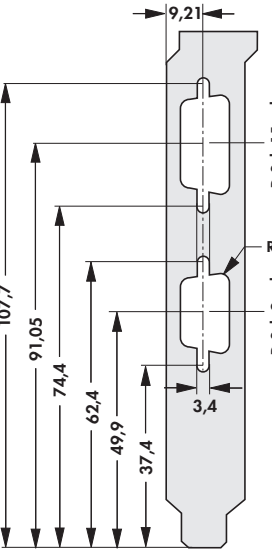
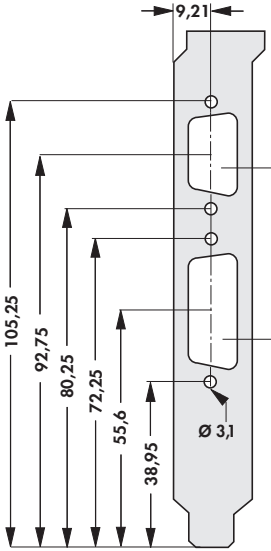
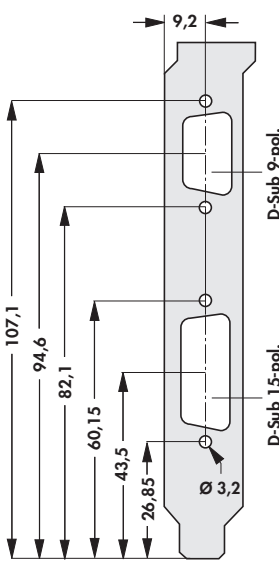
... fixing tab

O = bracket without fixing tab

L = bracket with fixing tab

Brackets for PC

<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> 

	<p>PCI 031</p>  <p>D-Sub 9-pol. D-Sub 15-pol.</p>	<p>PCI 065 O</p>  <p>D-Sub 15-pol. D-Sub 9-pol.</p>	<p>PCI 032 O</p>  <p>D-Sub 9-pol. D-Sub 15-pol.</p>
	<p>KHPC 177 O</p>  <p>D-Sub 15-pol. D-Sub 9-pol.</p>	<p>KHPC 178</p>  <p>D-Sub 15-pol. D-Sub 9-pol.</p>	<p>KHPC 076</p>  <p>D-Sub 9-pol. D-Sub 15-pol.</p>
<p>KHPC 179</p>  <p>D-Sub 9-pol. D-Sub 15-pol.</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


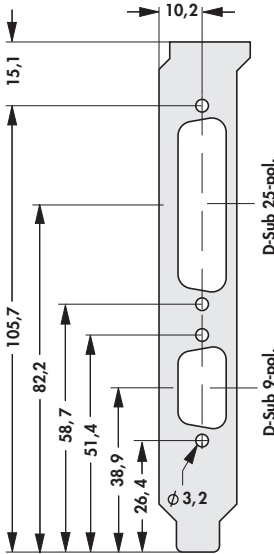

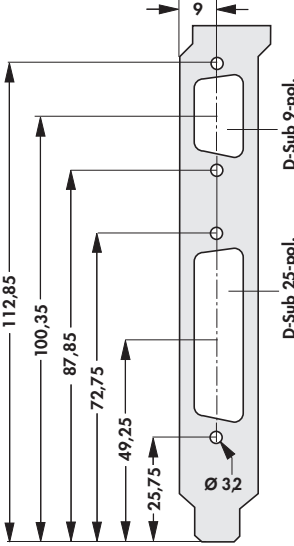
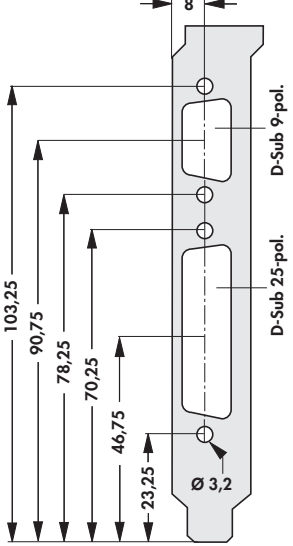
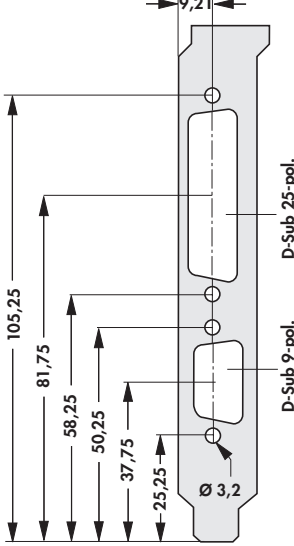
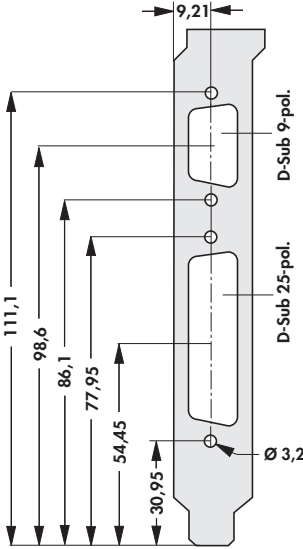
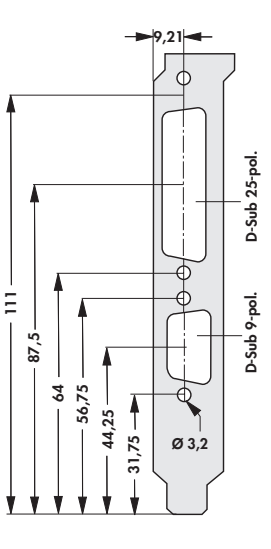
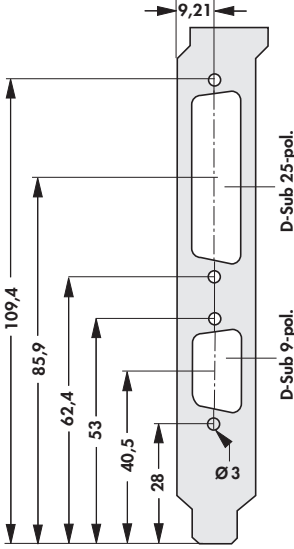
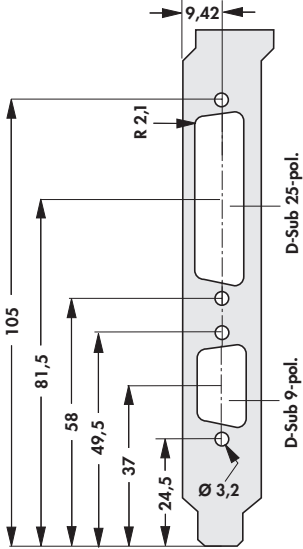
I

K

L

M

N

	PCI 033 ... 		
	KHPC 041 	KHPC 189 	KHPC 185 
KHPC 038 	KHPC 187 	KHPC 061 	KHPC 078 O 

KHPC 188 	KHPC 040 		
	PCI 045 	PCI 014 L 	PCI 015
	KHPC 024 	KHPC 019 	KHPC 073

please indicate:

... fixing tab

O = bracket without fixing tab

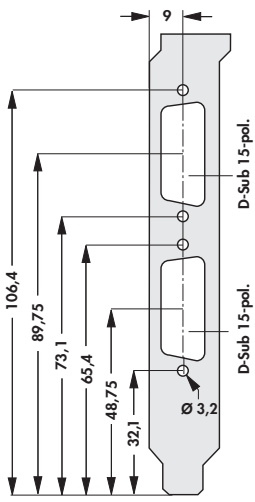
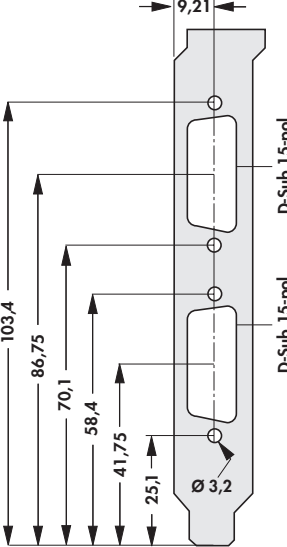
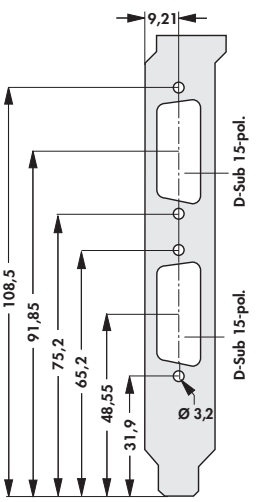
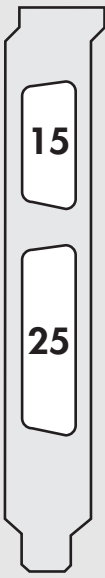
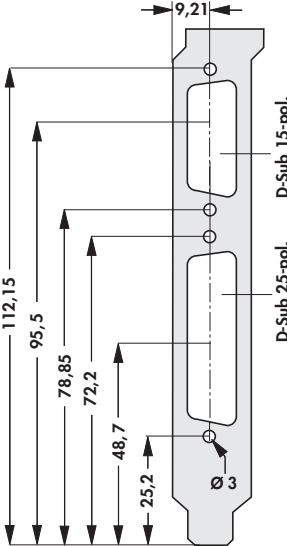
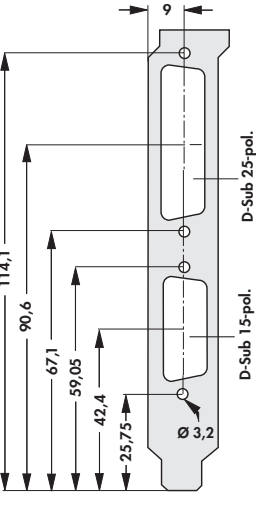
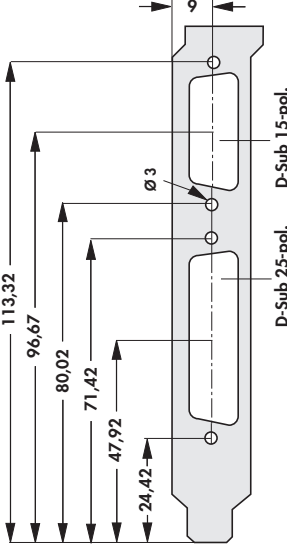
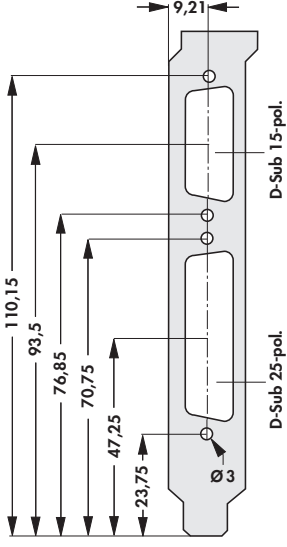
L = bracket with fixing tab

Brackets for PC

		KHPC 200	KHPC 455 ...	KHPC 218
B				
C				
D				
E				
F				
G				
H				
I				
K				
L				
M				

K 15

If you do not find a suitable bracket, please use the PCI / KHPC design sheet at the end of section "K".

KHPC 230	KHPC 022	KHPC 229	
			
	KHPC 075	KHPC 241	KHPC 042
			
KHPC 242			
			

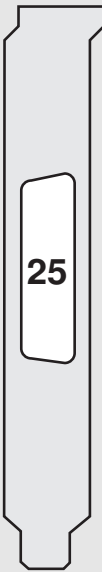
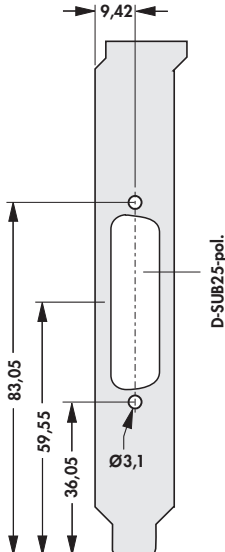
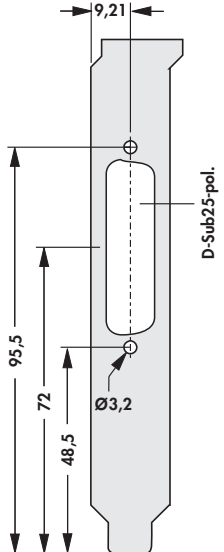
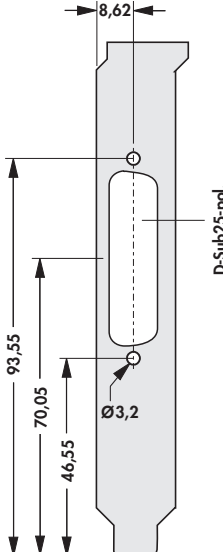
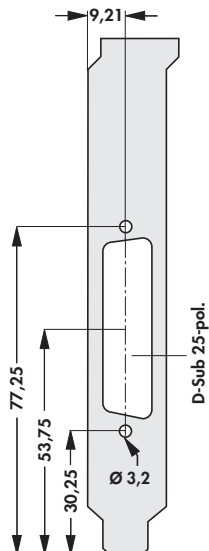
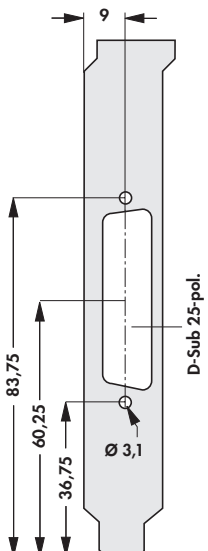
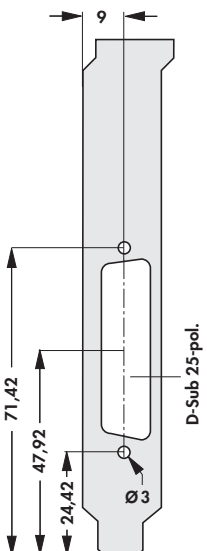
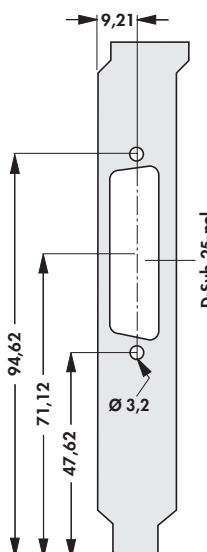
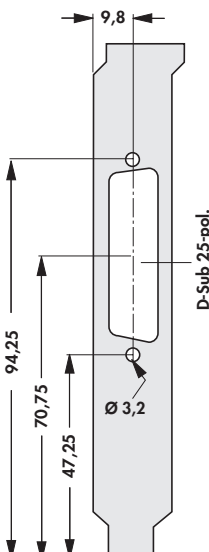
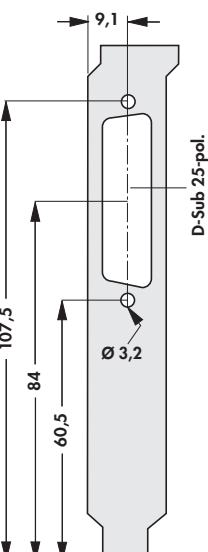
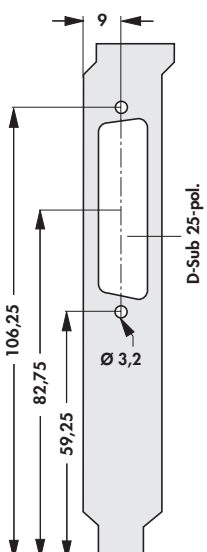
please indicate:


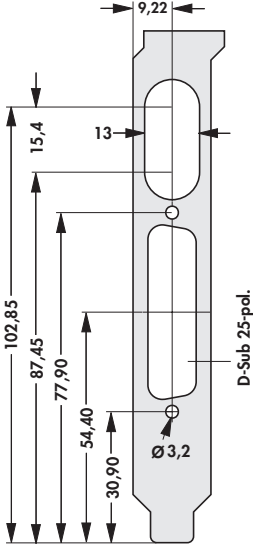

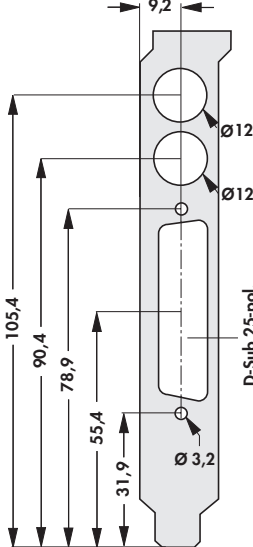
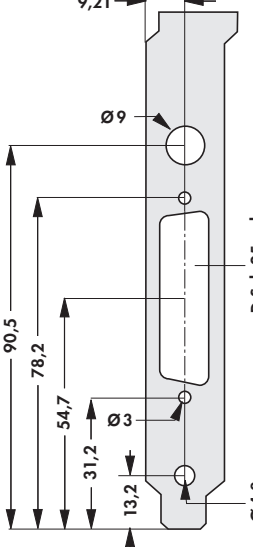
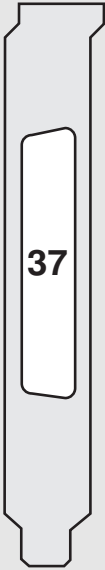
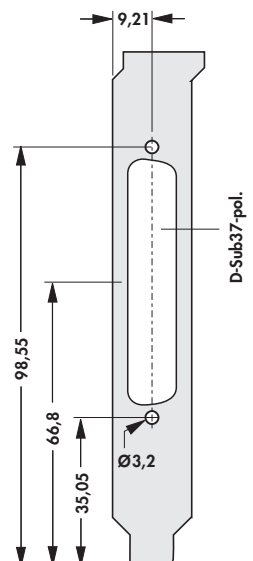
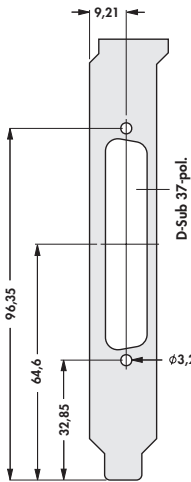
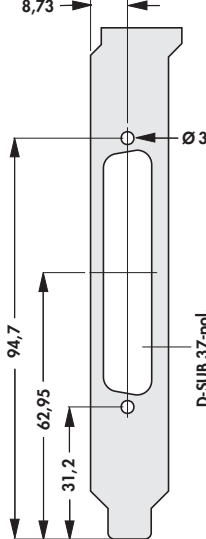
... fixing tab

O = bracket without fixing tab

L = bracket with fixing tab

Brackets for PC

 <p>25</p>	<p>PCI 016</p> 	<p>PCI 018</p> 	<p>PCI 017</p> 
	<p>KHPC 028</p> 	<p>KHPC 070</p> 	<p>KHPC 243</p> 
<p>KHPC 026</p> 	<p>KHPC 052</p> 	<p>KHPC 054</p> 	<p>KHPC 027</p> 

 <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

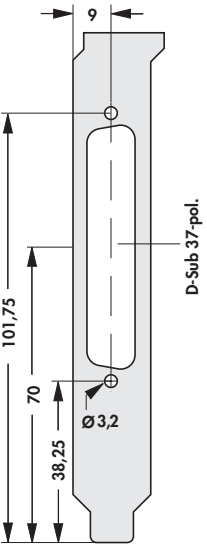
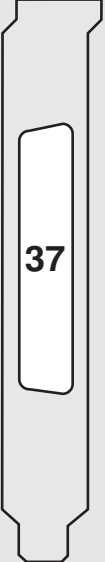
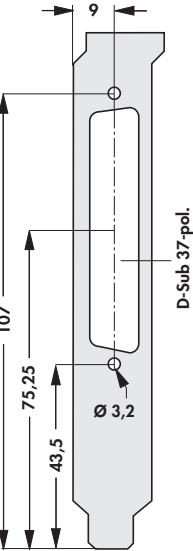
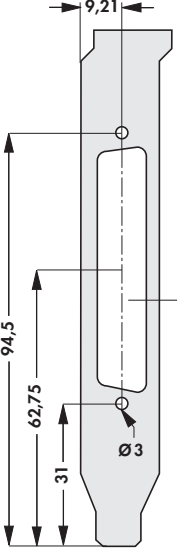
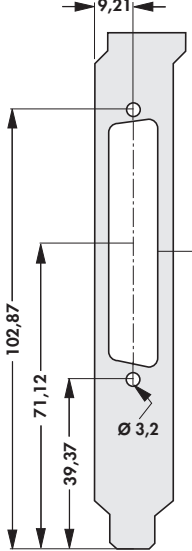
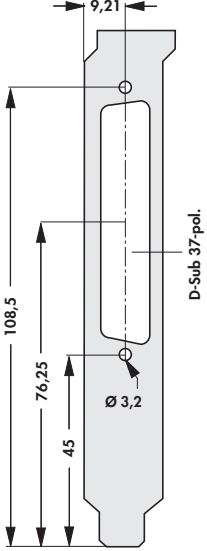
I

K

L

M

N

PCI 035 L 			
	KHPC 033	KHPC 271	KHPC 058
			
KHPC 032 			

KHPC 034	KHPC 267 O	KHPC 277	
	KHPC 029	KHPC 295 O	
	KHPC 036	KHPC 051	KHPC 308

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


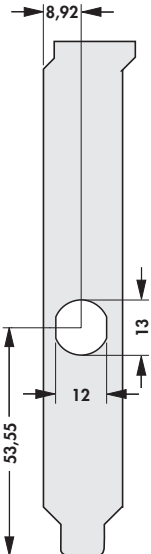

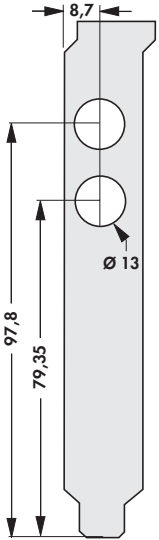
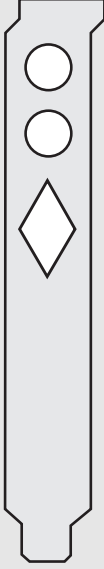
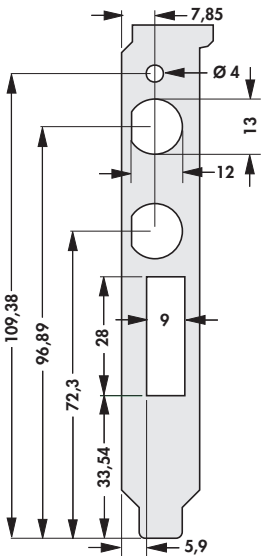
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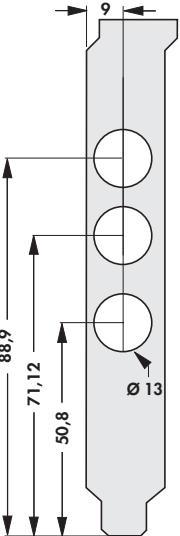

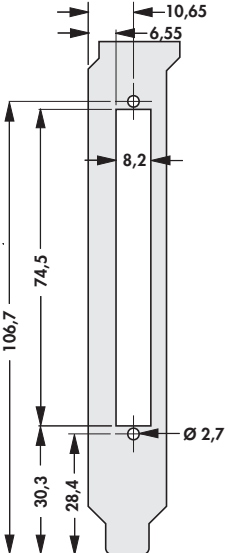

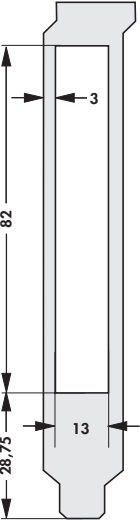
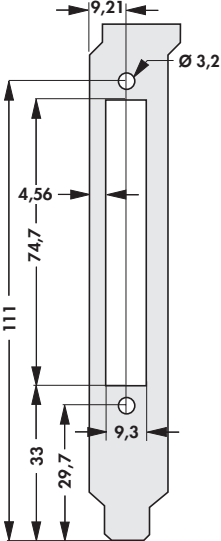
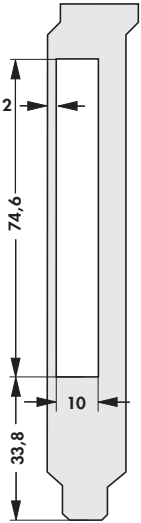
K

L

M

N

	PCI 021 O 		
	KHPC 325 		
	PCI 083 L 		

	KHPC 335 L 		
	PCI 104 O 		
	KHPC 085 	KHPC 391 	KHPC 390 

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

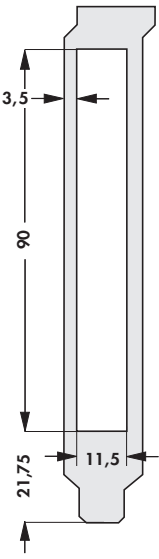
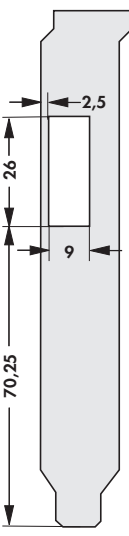
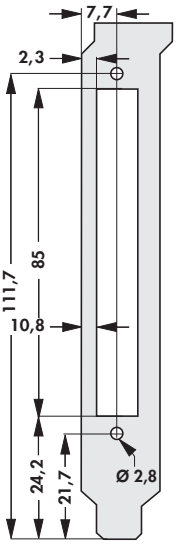
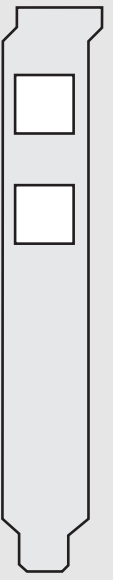
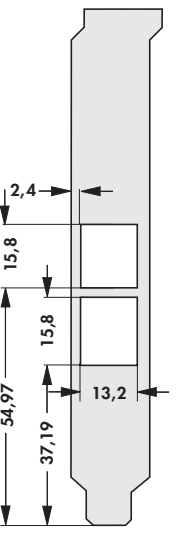
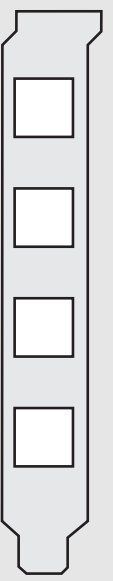
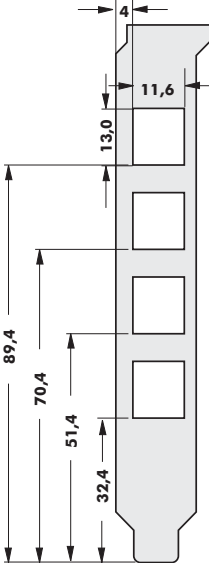
I


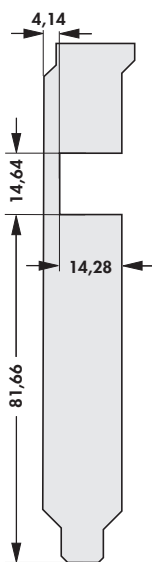
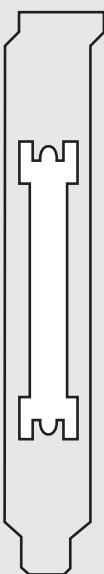
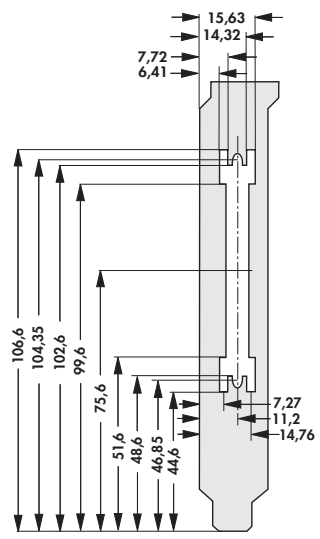
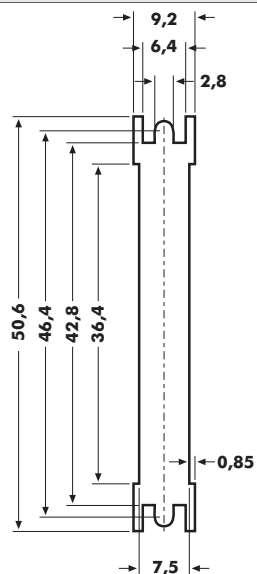
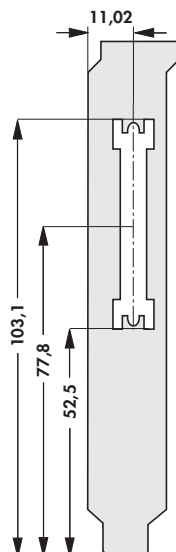
K

L

M

N

KHPC 398	KHPC 365 L	KHPC 394	
			
	KHPC 404	KHPC 407	
			
	PCI 051		
			

	<p>KHPC 439 O</p> 		
	<p>KHPC 469 O</p> 	<p>KHPC 447</p> 	<p>KHPC 449 O</p> 

please indicate:

... fixing tab

O = bracket without fixing tab

L = bracket with fixing tab

A

B

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.

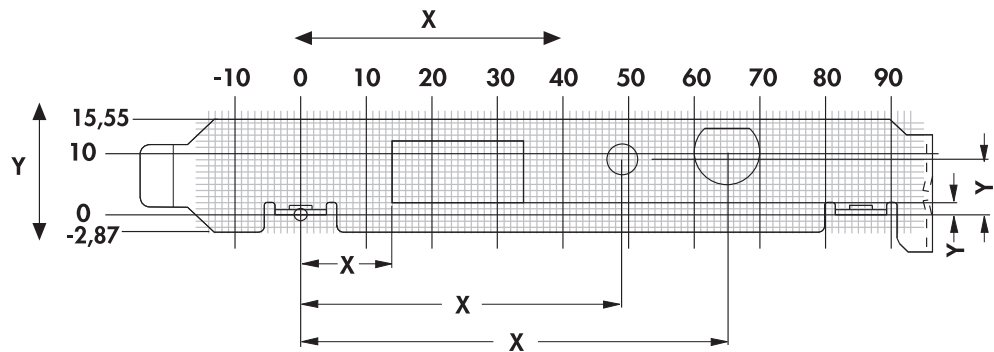
C

Please contact us with regard to this.

D

Example

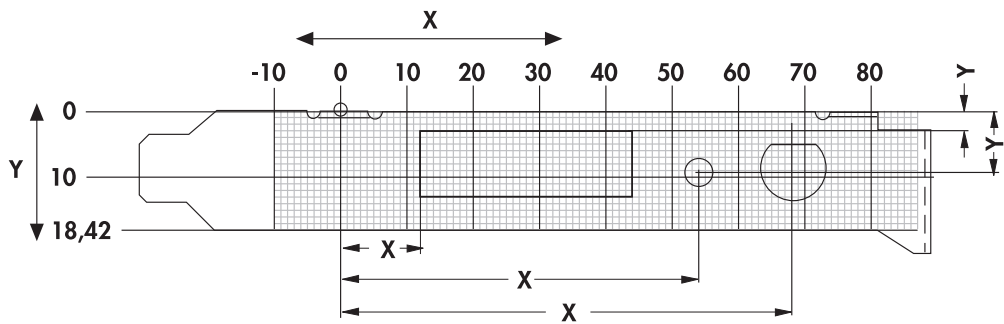
PCI



Shape			X-dimension	Y-dimension
A	A = 20	B = 10	14	2
E	D = 5		49	9
D1	D = 12	D1 = 11	65	9

H

KHPC

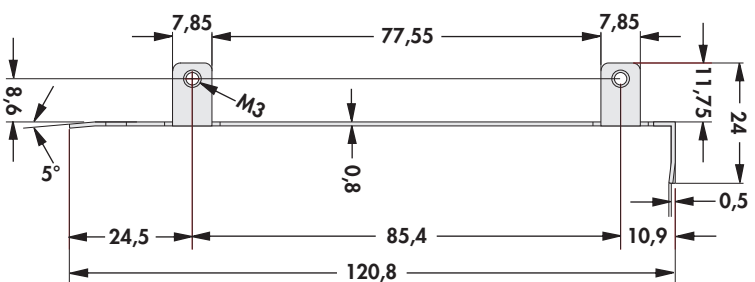
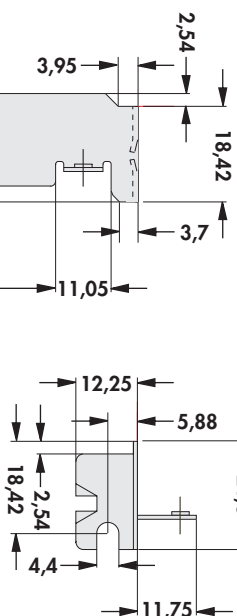


Shape			X-dimension	Y-dimension
A	A = 33	B = 10	12	3
E	D = 2		50	9
D	D = 9,5	D1 = 8,7	69	9

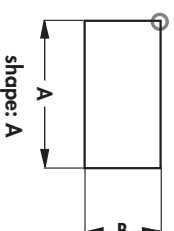
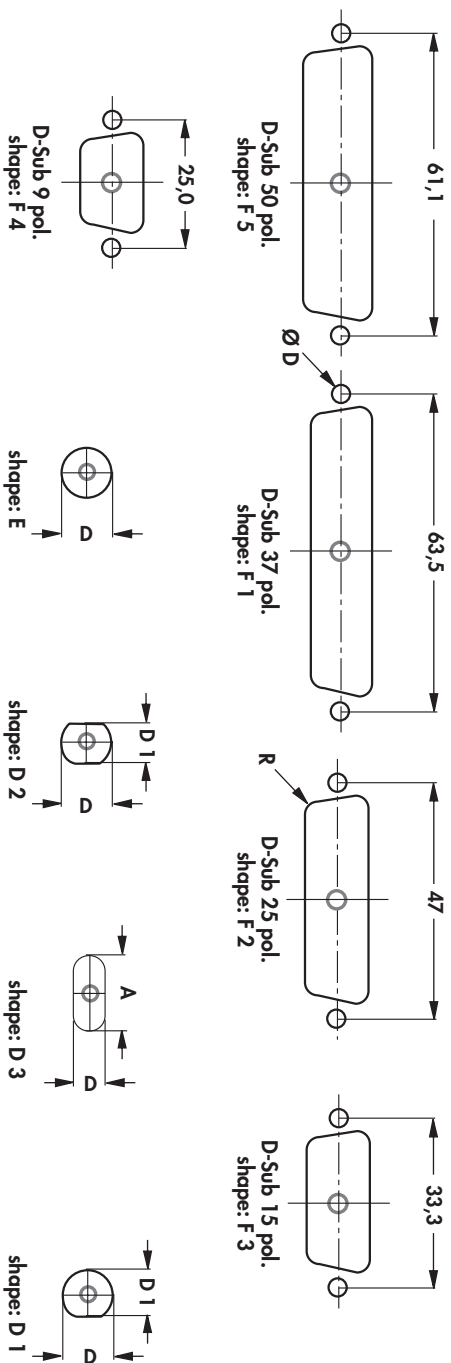
L

M

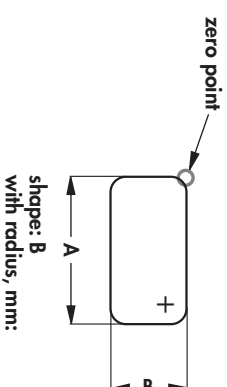
N



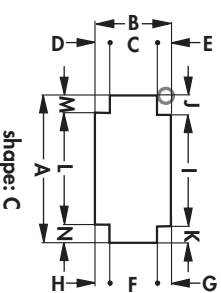
radius F 1 ... 4
build in mode:
☐ 3,4 mm rear
☐ 2,1 mm front



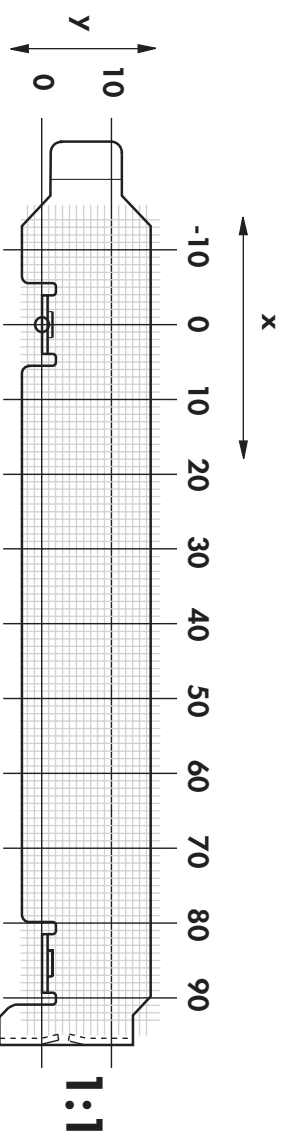
shape: A



shape: B
with radius, mm:



shape: C



— • —

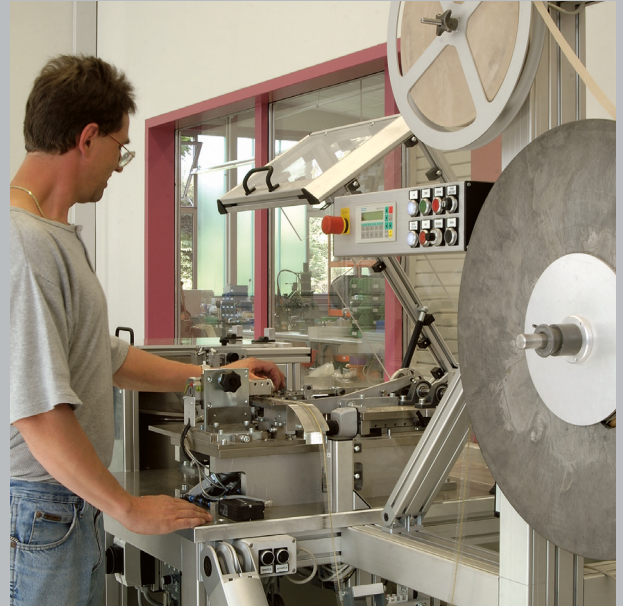
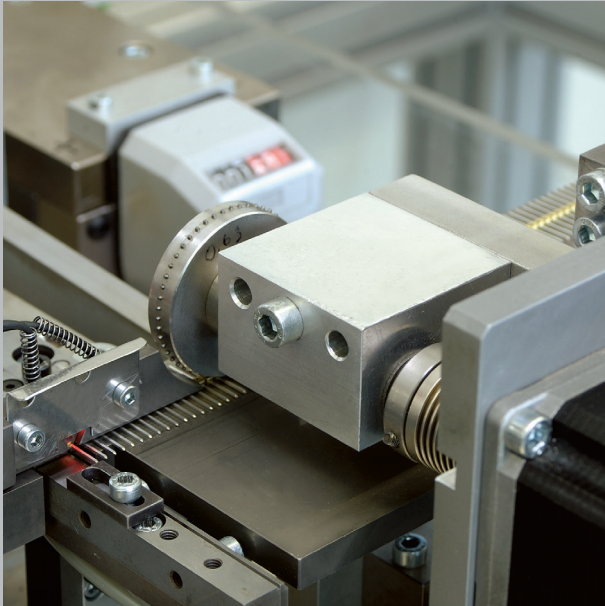
[illegible]

PCI DESIGN

company name:

part name:

drawing number:



efficient special machines



up-to-date injection technology

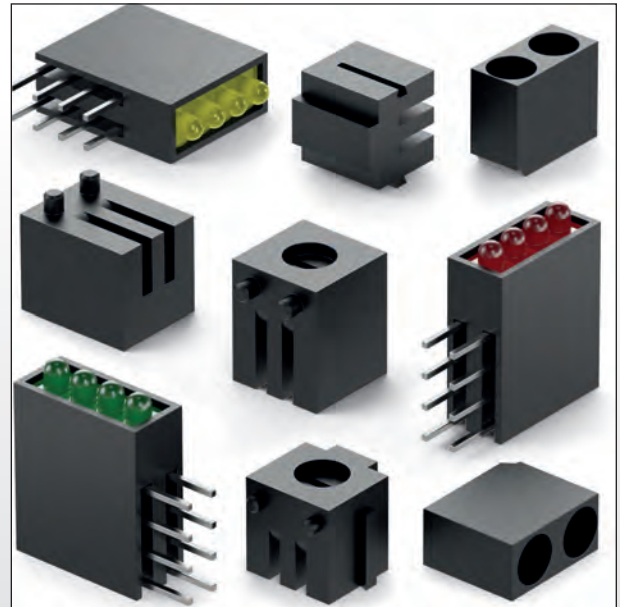


modern surface refinement



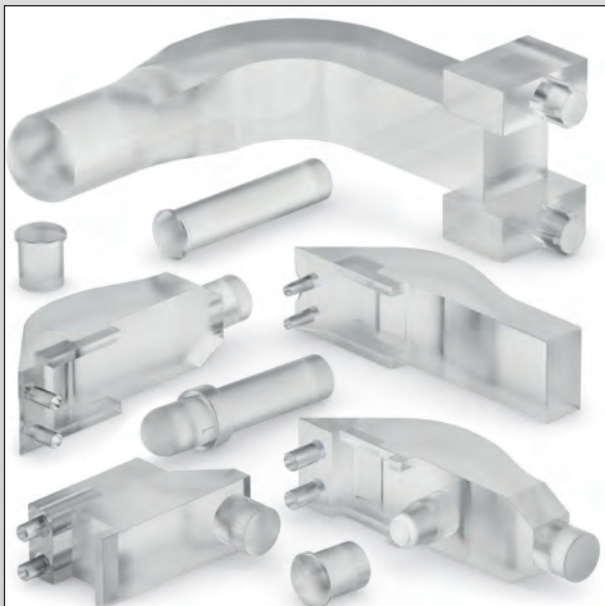
Mounting material

- 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 lense made of transparent plastics – also for gauge displays
- vertical, fixed fibre-optics with round or rectangular lense made of transparent plastics


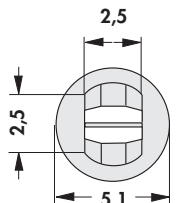
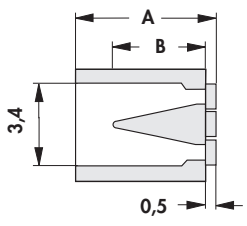



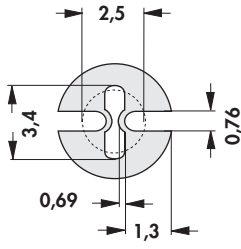
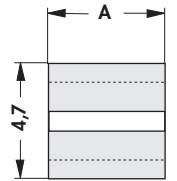
LED fastener for front panel mounting

- 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 flammability:		UL 94 V-0			

				
art. no.	dim. [mm]		art. no.	dim. [mm]
	A			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 flammability:		UL 94 V-0		


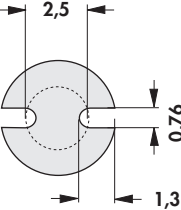
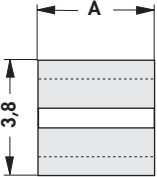
Connector-sleeves → F 19 – 20
LED-holders for front panel assembly → L 4
Fourfold-LED-holders → L 7
Horizontale Lichtleiter → L 9

LED-holders for PCB assembly → L 5 – 7
Sockets for LED → F 5 – 6
Light pipes for SMDs, vertical → L 8 – 9


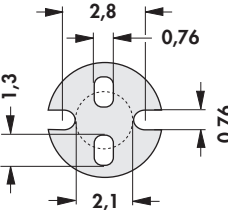
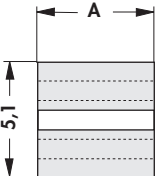
A

Spacers for LED

– for LED Ø 3 mm, thin mount

					
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 flammability:		UL 94 V-0			

– for LED Ø 5 mm, self-retaining

					
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 flammability:		UL 94 V-0			

F

G

H

I

K

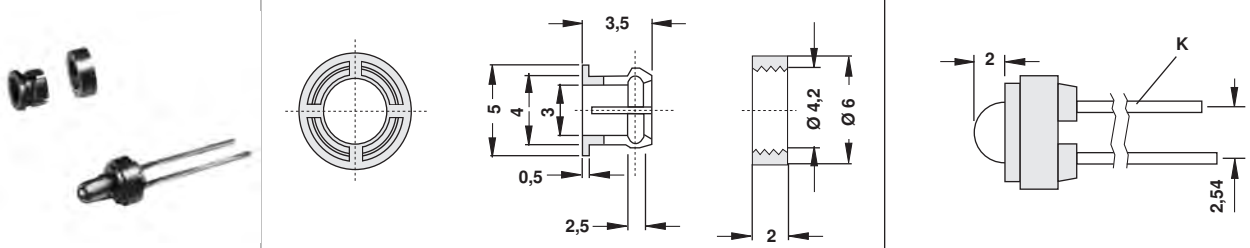
L

M

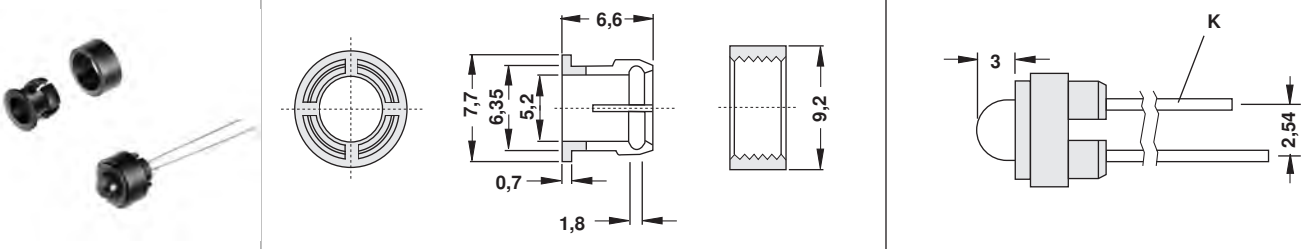
N

LED-holders

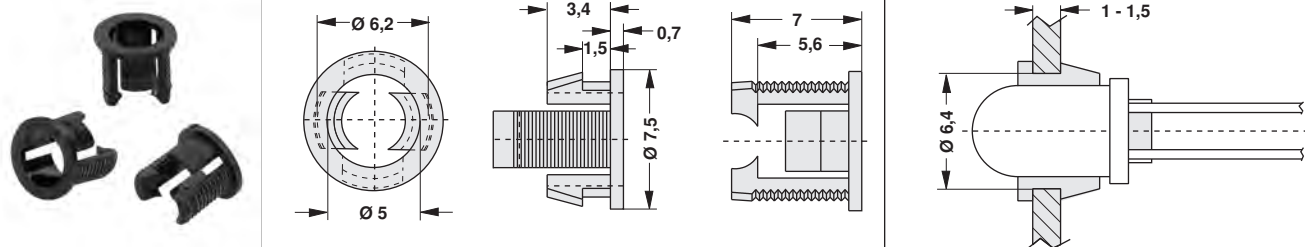
- suitable for 3 mm diodes with a collar height of 0.6 mm
- **K** = cathode

	
art. no.	type
DH 3 V	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.	type
DH 5 VC	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.	type
DH 5 SRC	for LED Ø5mm
insulating body material:	PA, GF

Spacers & mounting strips
Sockets for LED
LED-holders for PCB assembly
Light pipes for SMDs, vertical

→ L 2 – 3
 → F 5 – 6
 → L 5 – 7
 → L 8 – 9

Fourfold-LED-holders
D-Sub cut-out cover
Screw fastening


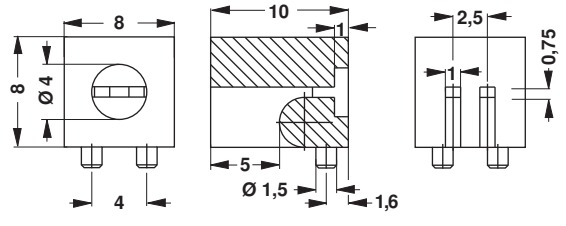
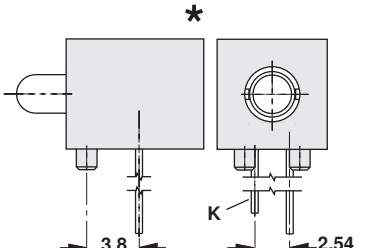

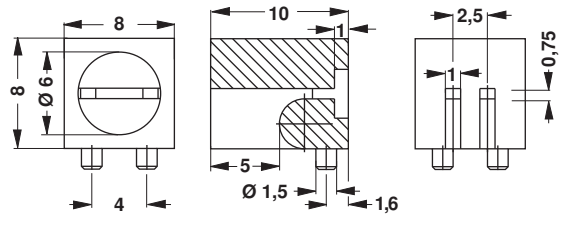
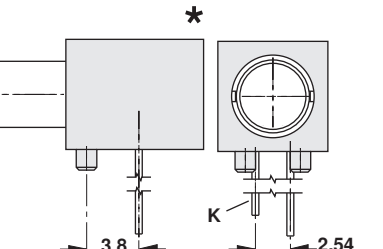

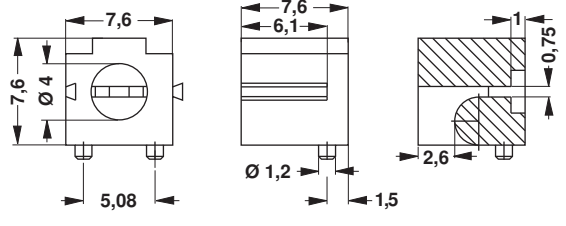
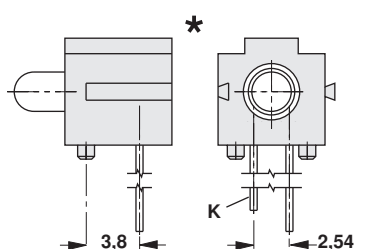

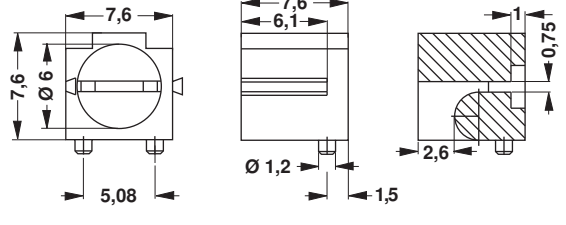
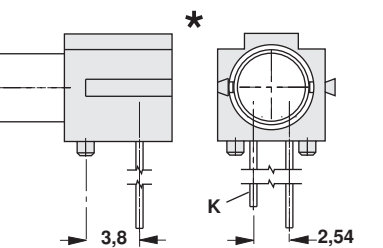
→ L 7
 → I 22
 → I 23

L 4

LED-holders

LED-holder for LED Ø 3 mm and 5 mm

– K = cathode / * = presentation with diode

		
art. no. DH 3 W	type for LED Ø3mm	
		
art. no. DH 5 W	type for LED Ø5mm	
		
art. no. DH 3 R	type for LED Ø3mm	
		
art. no. DH 5 R	type for LED Ø5mm	
insulating body material:	PA 4.6. GF	
temperature range:	-40°C... +163°C/ (260°C/10 s)	
class of flammability:	UL 94 V-0	

L 5


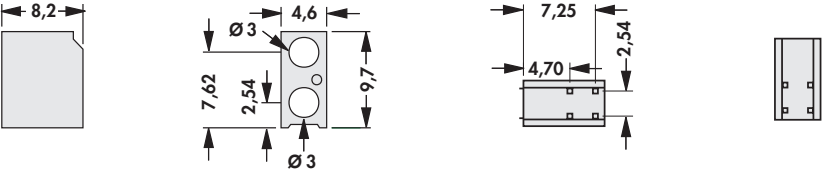
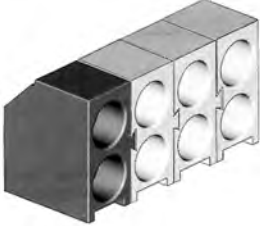
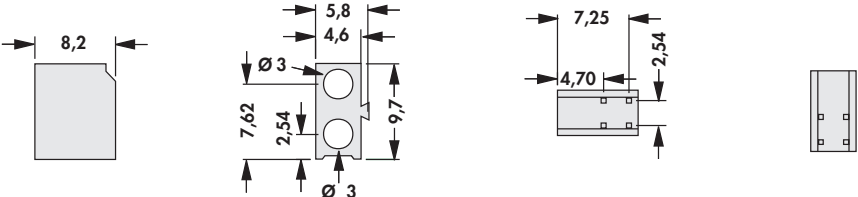
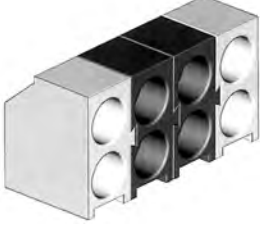
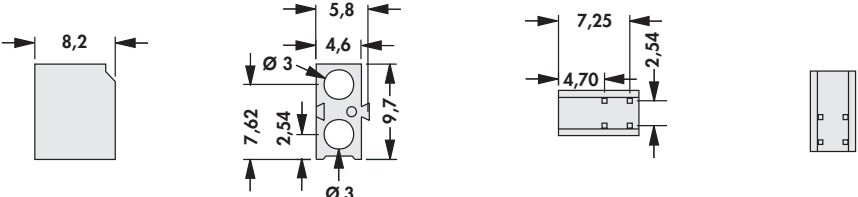

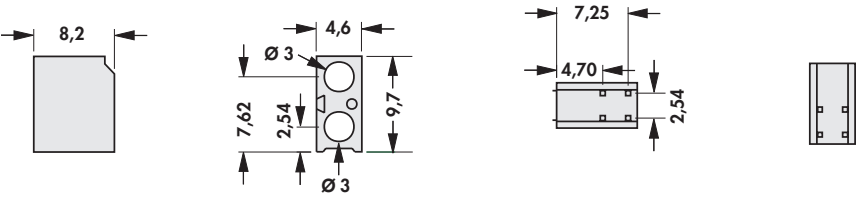
LED-holders for front panel assembly → L 4
 Spacers & mounting strips → L 2 – 3
 Connector-sleeves → F 19 – 20
 Sockets for LED → F 5 – 6

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


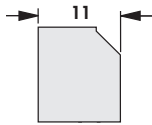
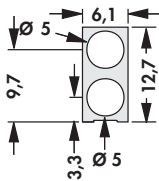
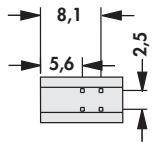

– stackable LED-holders: single holder/can be strung, left/can be strung, middle/can be strung, right

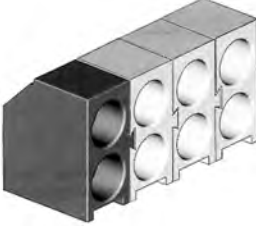
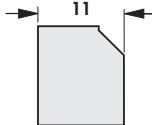
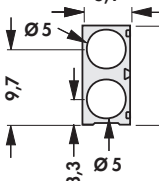
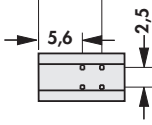

	
art. no. DDH 3 E	type for LED Ø3mm
	
art. no. DDH 3 L	type for LED Ø3mm, can be strung left
	
art. no. DDH 3 M	type for LED Ø3mm, can be strung middle
	
art. no. DDH 3 R	type for LED Ø3mm, can be strung right
insulating body material:	PA 6/6, GF
temperature range:	-20°C... +85°C
class of flammability:	UL 94 V-0

LED-holders

LED-holder for LED Ø 5 mm

– stackable LED-holders: single holder/can be strung, left/can be strung, middle/can be strung, right


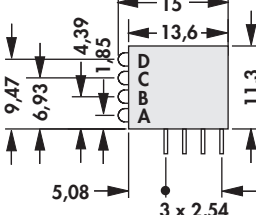
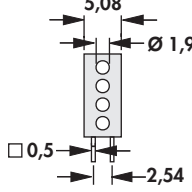
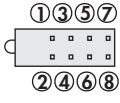
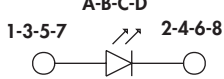
				
art. no.	type			
DDH 5 E	for LED Ø5mm, single holder			

				
art. no.	type			
DDH 5 L	for LED Ø5mm, can be strung left			
insulating body material:	PA 6/6, GF			
temperature range:	-20°C... +85°C			
class of flammability:	UL 94 V-0			

Fourfold-LED-holders

– standard case, standard colours, diffuse lens, space-saving design, round lens, rectangular lens

– typical data at $T_{amb}=25^{\circ}\text{C}$ und $I_F=I_{Ftyp}$ 100% DC

    				
art. no.	type	emission colour	Spannungen $U_{f_{typ}}$ / $U_{r_{max}}$ [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
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 $T_{amb} < 20^{\circ}\text{C}$, operating current reduced by 0.4 mA/K .			
light intensity I:	12 mcd			
flows I_{Ftyp} / I_{Fmax} :	20/30 mA			

L 7

Screw fastening
D-Sub cut-out cover
Spacers & mounting strips
Light pipes for SMDs, vertical


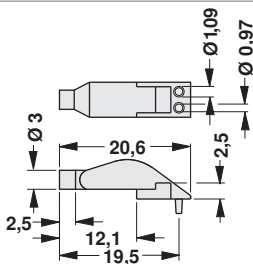
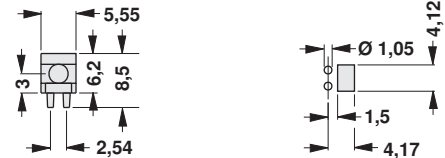

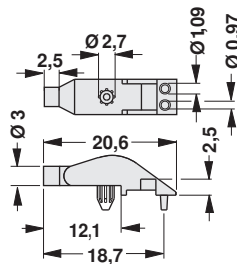
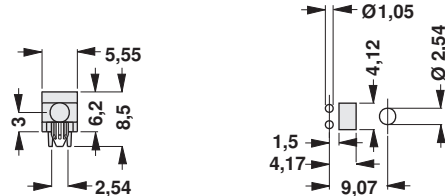

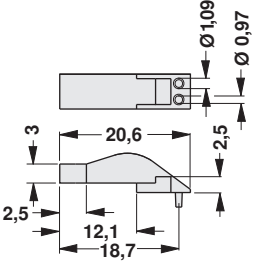
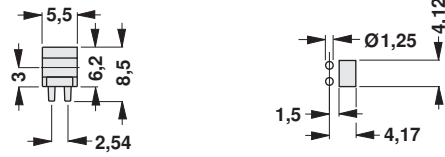

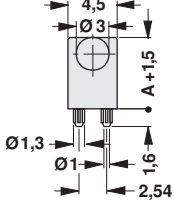
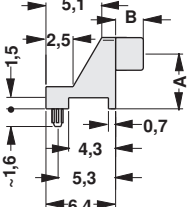
→ I 23
→ I 22
→ L 2 – 3
→ L 8 – 9

Sockets for LED
Connector-sleeves
LED-holders for front panel assembly

→ F 5 – 6
→ F 19
→ L 4

Light pipes for SMDs

- suitable for current SMD types
- 3 mm light pipes
- horizontal
- ESD-protection from panel to PCB

				
art. no.	diameter of lens	way of fixation		
LL 30 HRS	Ø3mm	by alignment pins		
				
art. no.	diameter of lens	way of fixation		
LL 30 HRP	Ø3mm	by press-in pins		
				
art. no.	diameter of lens	way of fixation		
LL 35 HVS	rectangle 5.5x3mm	by alignment pins		
				
art. no.	diameter of lens	way of fixation	dim. [mm]	
			A	B
LL 30 WRFP 038	Ø3mm	by press-in pins	3.8	2.5
LL 30 WRFP 050	Ø3mm	by press-in pins	5.0	2.5
LL 30 WRFP 076	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
 Sockets for LED
 LED-holders for PCB assembly
 Fourfold-LED-holders

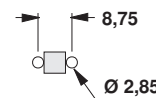
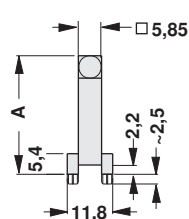
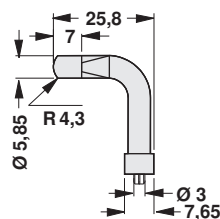
→ L 2 – 3
 → F 5 – 6
 → L 5 – 7
 → L 7

Screw fastening → I 23
 D-Sub cut-out cover → I 22
 LED-holders for front panel assembly → L 4

A

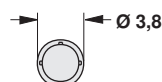
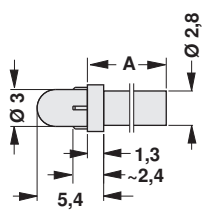
Light pipes for SMDs

– panel light pipe, 6 mm lens, suitable for common SMD LEDs, white lens, large angle of radiation

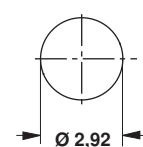
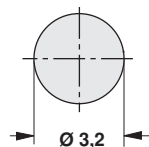
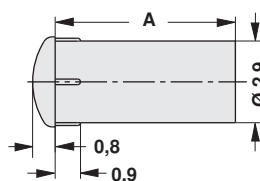


art. no.	diameter of lense	way of fixation	dim. [mm] A
LL 60 WRB 254	Ø6mm	by press-in pins	25.4

– panel light pipe 3 mm, ESD protection from panel to PCB

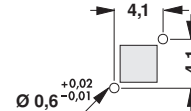
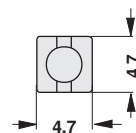
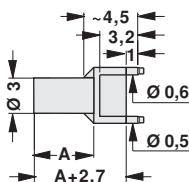


art. no.	diameter of lense	dim. [mm] A	art. no.	diameter of lense	dim. [mm] A
LL 30 PRB 032	Ø3mm	3.2	LL 30 PRB 089	Ø3mm	8.9
LL 30 PRB 064	Ø3mm	6.4			



art. no.	diameter of lense	dim. [mm] A	art. no.	diameter of lense	dim. [mm] A
LL 30 PRL 032	Ø3mm	3.2	LL 30 PRL 127	Ø3mm	12.7
LL 30 PRL 064	Ø3mm	6.4	LL 30 PRL 159	Ø3mm	15.9
LL 30 PRL 089	Ø3mm	8.9			

– suitable for current SMD LEDs, vertical, rigid light pipe Ø 3 mm, ESD protection from panel to PCB



art. no.	diameter of lense	way of fixation	dim. [mm] A
LL 30 VRFS 024	Ø3mm	by alignment pins	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 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
D-Sub cut-out cover
LED-holders for front panel assembly

→ **I 23**
 → **I 22**
 → **L 4**

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