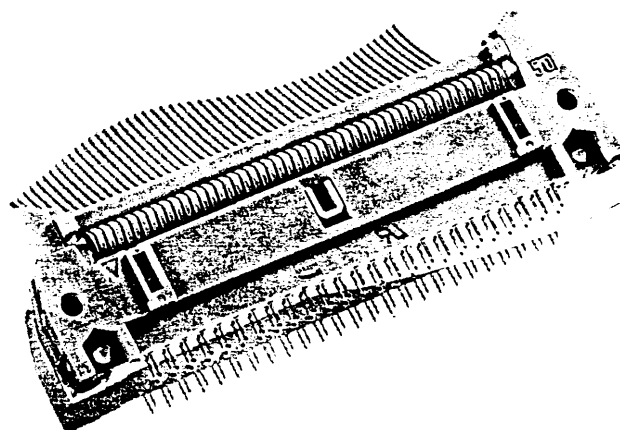


Flat Cable Connector System



Certified according to DIN ISO 9001
in design/development, production,
installation and servicing

The best connections world-wide - connect with quality - specify HARTING

HARTING Elektronik GmbH was founded in 1945 and is 100 % privately owned.

Approximately 1,600 people are employed worldwide including 150 engineers and more than 100 sales engineers who provide the daily interface with our customers.

HARTING with its 15 subsidiaries in Europe, North America and Asia is today one of the world's leading connector manufacturers.

All the company's manufacturing plants, with the exception of Plant 1 in Espelkamp, have been built within the last ten years.

State of the art CAD-Systems are used both in the R & D department and the tool making department in order to bring new products to the market in the most efficient way.

It is HARTING's philosophy that the target of permanent zero defect production is only achievable by the integration of fully automatic in-line inspection processes.

The implementation of the above quality philosophy and associated processes are documented according to DIN ISO 9001 in the Quality Assurance Manual.

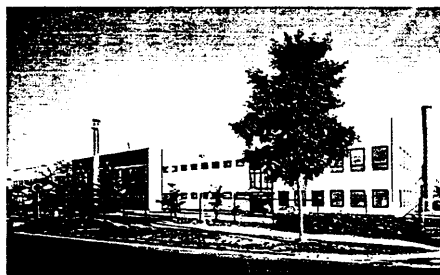
In total approximately 60 quality control personnel are employed. The majority of these engineers and technicians are trained and certified by the German (DCQ) or Swiss (SAQ) quality organisations. The divisions electronic connectors, heavy duty connectors Han® and solenoids are certified according to DIN ISO 9001 for design/R & D, production, assembly and customer service.

The dedication to quality and the ability to deliver on a "Just in Time" basis have led to the development of strong relationships with leading original equipment manufacturers on the world market.

HARTING is the market leader in several of its product ranges.



Germany - Plant 1 Espelkamp



Germany - Plant 2 Espelkamp



Germany - Plant 3 Espelkamp



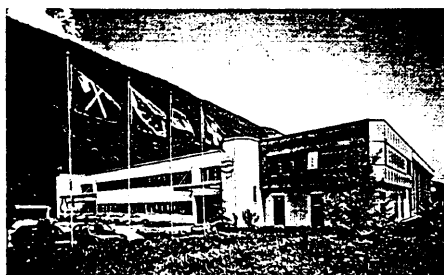
France - Sales and marketing



Espelkamp - Staff Cafeteria



United Kingdom - Production, sales and marketing



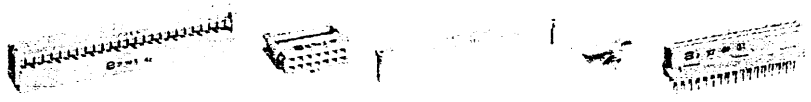
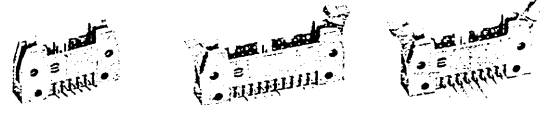
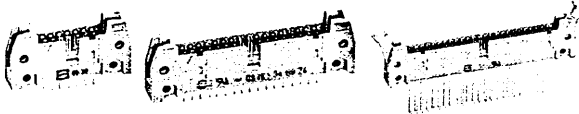
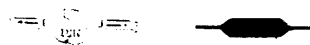
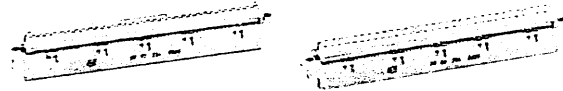
Switzerland - Production plant



Hong Kong - Production, sales and marketing



Italy - Sales and marketing

Series	Number of contacts		Page
Technical characteristics		Flat cable connector systems with insulation displacement	5
SEK 18/24			6
Male and female connectors to IEC	6		8
DIN 41 651	10		
MIL-C 83 503	14		
D 2632, BT 224	16		
HE 10, NFC 93-428	20		
	26		10
UL/CSA-approved	34		
	40		12
	50		
	60		13
	64		
Press-in tools / Accessories			14
Card edge connectors for P.C.B. 1.6 mm	10		16
	14		
	16		
	20		
	26		
	34		
SEK 18 solder transition connectors, 2 rows	6		
	10		
	14		
	16		
	20		
	26		17
SEK 17 DIP connectors	14		18
	20		
	24		
SEK 19 solder transition connectors, 4 rows	10		
	16		
	20		
	26		19
Gds A-B · Gds A-C	64		20
Female connectors to DIN 41 612			
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Subminiature connectors to DIN 41 652	15		21
	25		
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Flat cable/ Tools for termination of flat cables			22
List of part numbers			25
Some of the components from the HARTING range			26
Addresses			27

The HARTING Insulation Displacement Technique



Economic and Reliable Connections

The flat cable and connector can be preassembled and used as a component with predetermined functional characteristics.

The HARTING insulation displacement contacts pierce the insulation on the flat cable to provide a durable gastight connection with the wire.

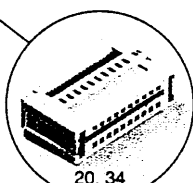
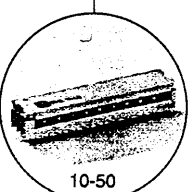
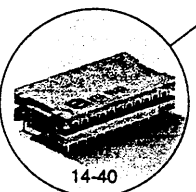
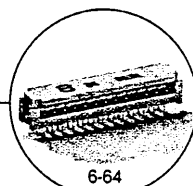
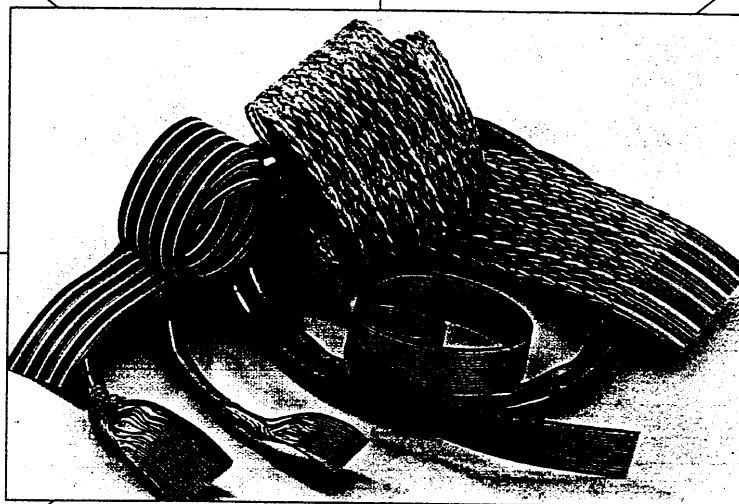
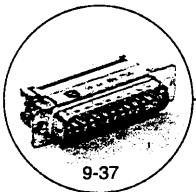
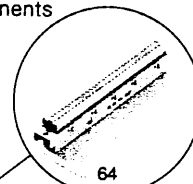
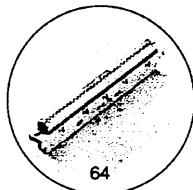
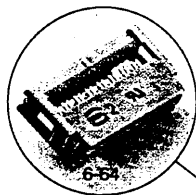
The HARTING[®] insulation displacement technique constitutes the ideal solution to your wiring problems.

¹⁾The HARTING insulation displacement system meets all the characteristics, specifications and test conditions of DIN 41 611/part 6.

For "non standard applications" we can manufacture designs to match your requirements. Please discuss requirements with us.

HARTING SEK connectors incorporate the latest design features and provide the assurance of high quality and reliability with economy.

Sales Department
HARTING-Components



Cable assemblies

- HARTING can supply cable assemblies to customer specifications.
- A wide range of connector types available with various contact arrangements constitute the ideal solution to your wiring problems.
- Cables of all types in economic reel lengths are available.

Quality

- Cables professionally assembled on HARTING work stations ensure reliable connections.
- Finished harnesses are subject to 100% quality checks on a HARTING test device.
- 1 kV insulation test.
- Contact resistance test.

Economy

- The tested assembly of connectors and flat cables from one manufacturer guarantees a high degree of economy and reliability.
- Investment for work stations and test devices are not required.
- Stocks of piece parts are reduced.

General Information

It is the user's responsibility to check whether the components illustrated in this catalogue comply with different regulations from those stated in special fields of application which we are unable to foresee.

We reserve the right to modify designs in order to improve quality, keep pace with technological advancement or meet particular requirements in production.

This catalogue must not be used in any form or manner without our prior approval in writing (Copyright Law, Fair Trading Law, Civil Code). We are bound by the French version only.

Technical Characteristics

Number of contacts 6, 9, 10, 14, 15, 16, 20, 24, 25, 26, 28, 34, 37, 40, 50, 60, 64
Series SEK 18
UL/CSA-approved

Pitch (mm)

Male header 2.54 mm

Insulation displacement contacts on the flat cable connector 1.27 mm

Working current 1 A

Test voltage $U_{r.m.s.}$ 1 kV
SEK 17, SEK 19: 500 V

Contact resistance $\leq 20 \text{ m}\Omega$

Insulation resistance $\geq 10^9 \Omega$

Temperature range $-55^\circ\text{C} + 125^\circ\text{C}$

The maximum temperature includes heating of contacts and ambient temperature.

Terminations

SEK 18 female connector transition connector Insulation displacement connection
Wire AWG 28 (7 x 0.127) 0.09 mm²
SEK 18 male header Wrap posts 0.6 x 0.6 mm
Diagonal 0.79-0.86 mm
Solder pins for P.C.B. hole $\varnothing$ 0.9 mm, DIN IEC 52 141

Compliant press-in termination for $\varnothing$ 0.94 - 1.06 mm
SEK 18 Card edge Insulation displacement connection
Wire AWG 28 (7 x 0.127) 0.09 mm²

SEK 17 and 19 Insulation displacement connection
Wire AWG 28 (7 x 0.127) 0.09 mm²
Solder pins 0.45 x 0.35 mm for P.C.B. hole $\varnothing$ 0.8 mm

Gds A-B · Gds A-C Insulation displacement connection
D-Sub Wire AWG 28 (7 x 0.127) 0.09 mm²

Mouldings Thermoplastic resin (PBTP)
UL 94-V O

Contact surface

SEK 18 Contact zone: gold-plated according to Performance Level¹⁾
Termination zone: tinned

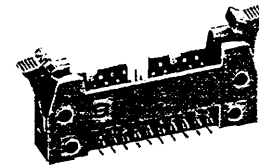
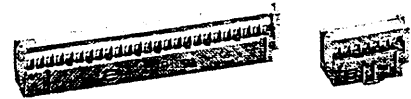
SEK 17 and 19 Tinned

Gds A-B · Gds A-C Contact zone: gold-plated according to Performance Level¹⁾
D-Sub Termination zone: tinned

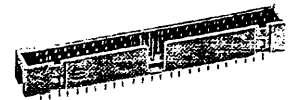
¹⁾Performance Level 3 as per DIN 41 651, Part 2
50 mating cycles
No gas test

¹⁾Performance Level 2 as per DIN 41 651, Part 2
200 mating cycles
4 days gas test

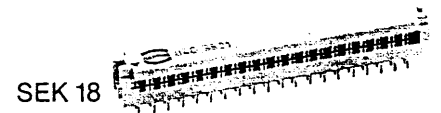
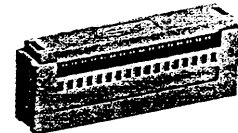
¹⁾Performance Level as per MIL-C 83 503
> 0.76 μm Au (30 μ inch) on request
Different contact surfaces on request



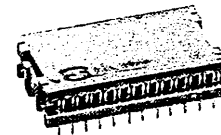
SEK 18



SEK 18



SEK 18



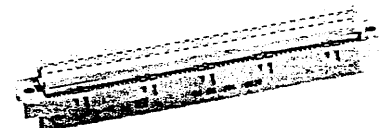
SEK 17



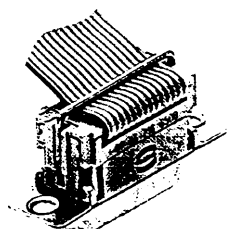
SEK 19



Gds A-B



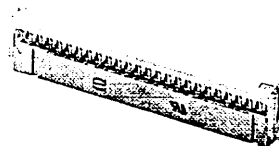
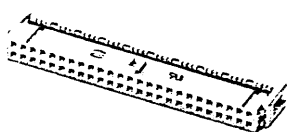
Gds A-C



D-Sub

Number of contacts

6-64



Female connector

Identification

No. of contacts

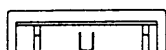
Part No.

Drawing

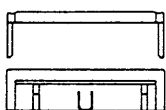
Dimensions in mm

Female connector
with central
polarization

without
strain relief clamp

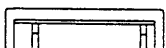


with
strain relief clamp



Female connector
without central
polarization

without
strain relief clamp



with
strain relief clamp

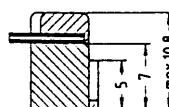
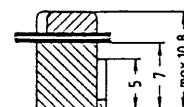


open end
cover

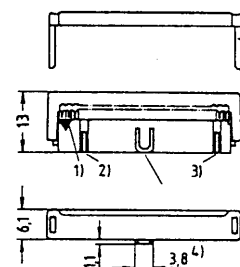
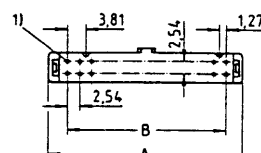
closed end
cover

open end
cover

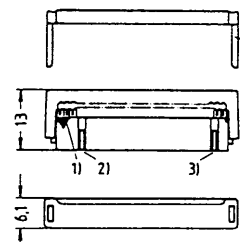
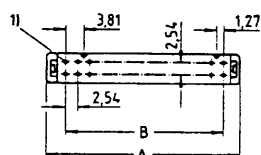
closed end
cover



option



Strain relief clamp
option



Strain relief clamp
option

No. of contacts	6	10	14	16	20	26	34	40	50	60	64
A	12,2	17,3	22,4	24,9	30,0	37,6	47,8	55,4	68,1	80,8	85,9
B	5,08	10,16	15,24	17,78	22,86	30,48	40,64	48,26	60,96	73,66	78,74

1) Contact number 1

2) No polarization slot for 6, 10, or 14way female connector

3) No polarization slot for 6way female connector

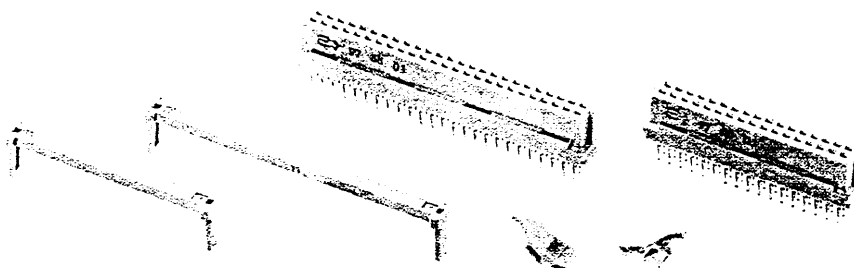
4) 6way: 2.0 mm

For Performance Level 3 please specify digit 7
For Performance Level 2 please specify digit 6
> 0.76 μ m Au (30 μ inch) on request 5*

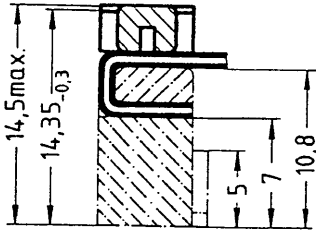
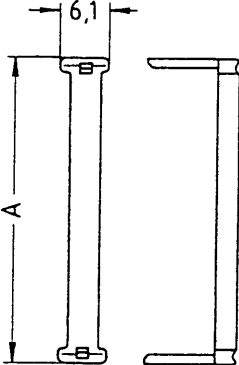
7 *
6 *
5 *

* Not kept in stock

6-64 SEK 18
26-64 SEK 24

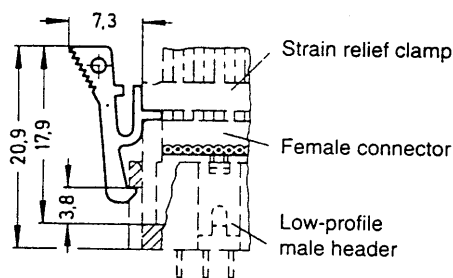


Press in female connector SEK 24

Identification	No. of contacts	Part No.	Drawing	Dimensions in mm																								
Strain relief clamp	6	09 18 506 9002	<table><thead><tr><th>No. of contacts</th><th>A</th></tr></thead><tbody><tr><td>6</td><td>12.2</td></tr><tr><td>10</td><td>17.3</td></tr><tr><td>14</td><td>22.4</td></tr><tr><td>16</td><td>24.9</td></tr><tr><td>20</td><td>30.0</td></tr><tr><td>26</td><td>37.6</td></tr><tr><td>34</td><td>47.8</td></tr><tr><td>40</td><td>55.4</td></tr><tr><td>50</td><td>68.1</td></tr><tr><td>60</td><td>80.8</td></tr><tr><td>64</td><td>85.9</td></tr></tbody></table> 	No. of contacts	A	6	12.2	10	17.3	14	22.4	16	24.9	20	30.0	26	37.6	34	47.8	40	55.4	50	68.1	60	80.8	64	85.9	
	No. of contacts	A																										
	6	12.2																										
	10	17.3																										
	14	22.4																										
	16	24.9																										
	20	30.0																										
	26	37.6																										
	34	47.8																										
	40	55.4																										
50	68.1																											
60	80.8																											
64	85.9																											
10	09 18 510 9002																											
14	09 18 514 9002																											
16	09 18 516 9002																											
20	09 18 520 9002																											
26	09 18 526 9002																											
34	09 18 534 9002																											
40	09 18 540 9002																											
50	09 18 550 9002																											
60	09 18 560 9002																											
64	09 18 564 9002																											

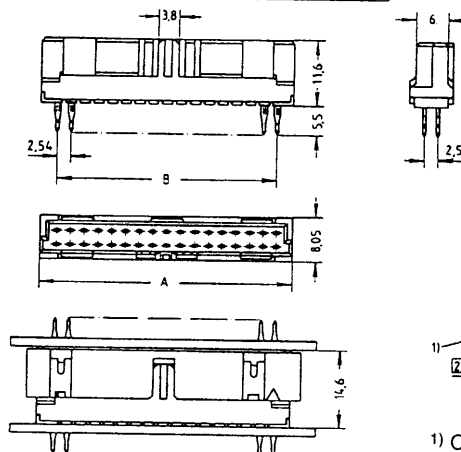
Only in conjunction with
low-profile male header
and strain relief

09 18 000 99051)



Female
connector SEK 24
with straight
press-in terminations
and central polarization

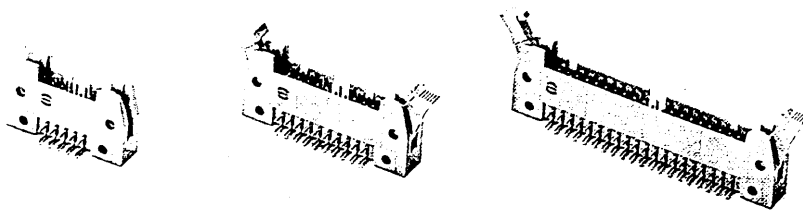
	No. of contacts	A	B
09 24 126 — 801	26	36.70	$2.54 \times 12 = 30.48$
09 24 134 — 801	34	46.90	$2.54 \times 16 = 40.64$
09 24 140 — 801	40	54.50	$2.54 \times 19 = 48.26$
09 24 150 — 801	50	67.20	$2.54 \times 24 = 60.96$
09 24 164 — 801	64	85.00	$2.54 \times 31 = 78.74$



- 1) Contact number 1
- 2) Pitch tolerance: ± 0.1

Number of contacts

6-64



Male header with angled pins

Identification/pins

Male header with
angled solder pins

Length: 2.9 mm

Male header with
angled solder pins

Length: 4.5 mm

Male header with
angled wrap posts

Length: 15 mm
□ 0.6 mm

No. of contacts	Part No.		
	Without levers	With short levers	With long levers
6	09 18 506 □ 923	09 18 506 □ 913	09 18 506 □ 903
10	09 18 510 □ 923	09 18 510 □ 913	09 18 510 □ 903
14	09 18 514 □ 923	09 18 514 □ 913	09 18 514 □ 903
16	09 18 516 □ 923	09 18 516 □ 913	09 18 516 □ 903
20	09 18 520 □ 923	09 18 520 □ 913	09 18 520 □ 903
26	09 18 526 □ 923	09 18 526 □ 913	09 18 526 □ 903
34	09 18 534 □ 923	09 18 534 □ 913	09 18 534 □ 903
40	09 18 540 □ 923	09 18 540 □ 913	09 18 540 □ 903
50	09 18 550 □ 923	09 18 550 □ 913	09 18 550 □ 903
60	09 18 560 □ 923	09 18 560 □ 913	09 18 560 □ 903
64	09 18 564 □ 923	09 18 564 □ 913	09 18 564 □ 903
6	09 18 506 □ 921*	09 18 506 □ 911*	09 18 506 □ 901*
10	09 18 510 □ 921*	09 18 510 □ 911*	09 18 510 □ 901*
14	09 18 514 □ 921*	09 18 514 □ 911*	09 18 514 □ 901*
16	09 18 516 □ 921*	09 18 516 □ 911*	09 18 516 □ 901*
20	09 18 520 □ 921*	09 18 520 □ 911*	09 18 520 □ 901*
26	09 18 526 □ 921*	09 18 526 □ 911*	09 18 526 □ 901*
34	09 18 534 □ 921*	09 18 534 □ 911*	09 18 534 □ 901*
40	09 18 540 □ 921*	09 18 540 □ 911*	09 18 540 □ 901*
50	09 18 550 □ 921*	09 18 550 □ 911*	09 18 550 □ 901*
60	09 18 560 □ 921*	09 18 560 □ 911*	09 18 560 □ 901*
64	09 18 564 □ 921*	09 18 564 □ 911*	09 18 564 □ 901*
6	09 18 506 □ 926*	09 18 506 □ 916*	09 18 506 □ 906*
10	09 18 510 □ 926*	09 18 510 □ 916*	09 18 510 □ 906*
14	09 18 514 □ 926*	09 18 514 □ 916*	09 18 514 □ 906*
16	09 18 516 □ 926*	09 18 516 □ 916*	09 18 516 □ 906*
20	09 18 520 □ 926*	09 18 520 □ 916*	09 18 520 □ 906*
26	09 18 526 □ 926*	09 18 526 □ 916*	09 18 526 □ 906*
34	09 18 534 □ 926*	09 18 534 □ 916*	09 18 534 □ 906*
40	09 18 540 □ 926*	09 18 540 □ 916*	09 18 540 □ 906*
50	09 18 550 □ 926*	09 18 550 □ 916*	09 18 550 □ 906*
60	09 18 560 □ 926*	09 18 560 □ 916*	09 18 560 □ 906*
64	09 18 564 □ 926*	09 18 564 □ 916*	09 18 564 □ 906*

For Performance Level 3 please specify digit 7 *

For Performance Level 2 please specify digit 6 *

> 0.76 µm Au (30 µ inch) on request 5 *

7

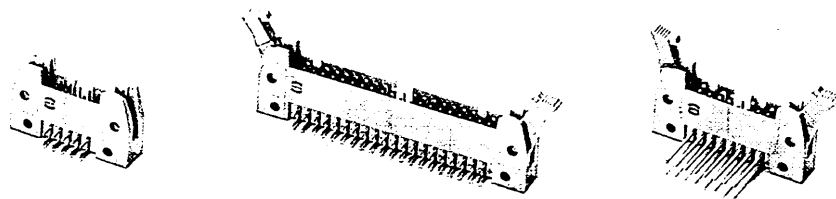
6

5

7

6

5

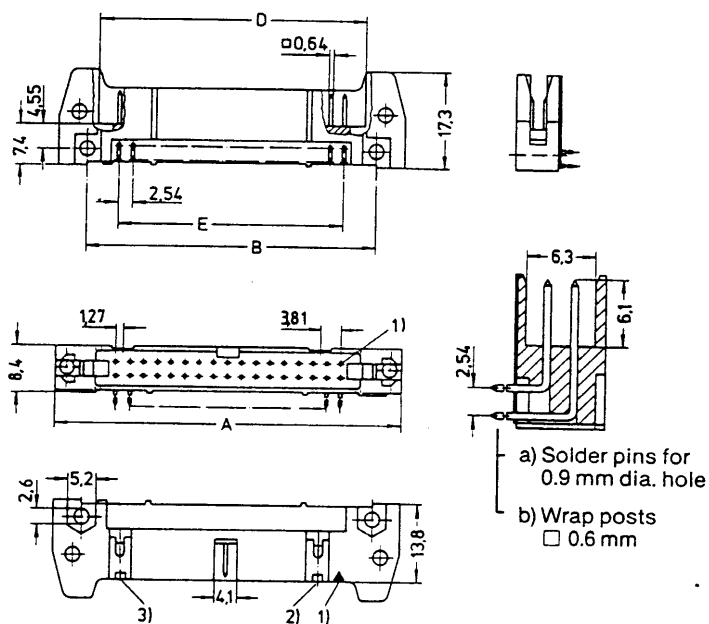
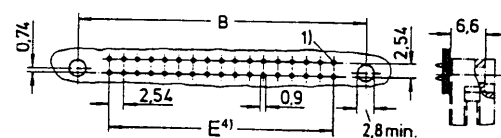


Drawing

Dimensions in mm

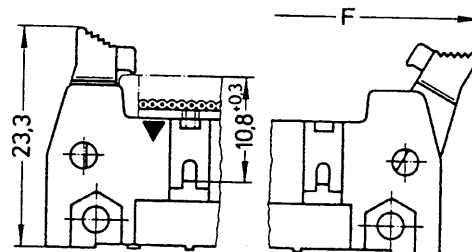
No. of contacts	A	B	D	E	F	G
6	26.9	16.76	12.45	2.54 x 2 = 5.08	36.9	40.3
10	32.0	21.84	17.53	2.54 x 4 = 10.16	42.0	45.4
14	37.1	26.92	22.61	2.54 x 6 = 15.24	47.1	50.4
16	39.6	29.46	25.15	2.54 x 7 = 17.78	49.6	53.0
20	44.7	34.54	30.23	2.54 x 9 = 22.86	54.7	58.1
26	52.3	42.16	37.85	2.54 x 12 = 30.48	62.3	65.7
34	62.5	52.32	48.01	2.54 x 16 = 40.64	72.5	75.8
40	70.1	59.94	55.63	2.54 x 19 = 48.26	80.1	83.5
50	82.8	72.64	68.33	2.54 x 24 = 60.96	92.8	96.2
60	95.5	85.34	81.03	2.54 x 29 = 73.66	105.5	108.9
64	100.6	90.42	86.11	2.54 x 31 = 78.74	110.6	113.9

PC. board layout



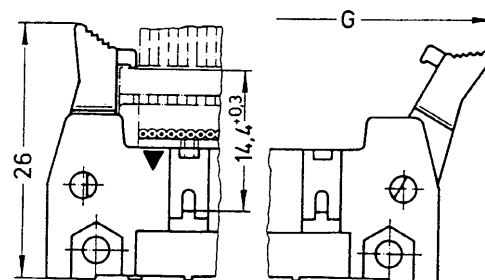
Short levers

for use with female connector without strain relief clamp



Long levers

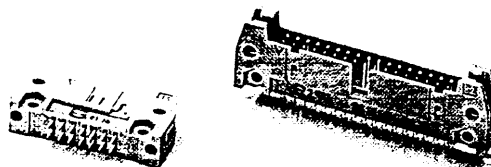
for use with female connector with strain relief clamp



- 1) Contact number 1
- 2) No polarization slot for 6, 10, or 14 way male header
- 3) No polarization slot for 6 way male header
- 4) Pitch tolerance: ± 0.1

Number of contacts

6-64

Male header with straight pins

Identification/pins

Male header with
straight solder pins

Length: 2.9 mm

No. of contacts	Part No.		
	Without levers	With short levers	With long levers
6	09 18 506 □ 924	09 18 506 □ 914	09 18 506 □ 904
10	09 18 510 □ 924	09 18 510 □ 914	09 18 510 □ 904
14	09 18 514 □ 924	09 18 514 □ 914	09 18 514 □ 904
16	09 18 516 □ 924	09 18 516 □ 914	09 18 516 □ 904
20	09 18 520 □ 924	09 18 520 □ 914	09 18 520 □ 904
26	09 18 526 □ 924	09 18 526 □ 914	09 18 526 □ 904
34	09 18 534 □ 924	09 18 534 □ 914	09 18 534 □ 904
40	09 18 540 □ 924	09 18 540 □ 914	09 18 540 □ 904
50	09 18 550 □ 924	09 18 550 □ 914	09 18 550 □ 904
60	09 18 560 □ 924	09 18 560 □ 914	09 18 560 □ 904
64	09 18 564 □ 924	09 18 564 □ 914	09 18 564 □ 904
6	09 18 506 □ 922*	09 18 506 □ 912*	09 18 506 □ 902*
10	09 18 510 □ 922*	09 18 510 □ 912*	09 18 510 □ 902*
14	09 18 514 □ 922*	09 18 514 □ 912*	09 18 514 □ 902*
16	09 18 516 □ 922*	09 18 516 □ 912*	09 18 516 □ 902*
20	09 18 520 □ 922*	09 18 520 □ 912*	09 18 520 □ 902*
26	09 18 526 □ 922*	09 18 526 □ 912*	09 18 526 □ 902*
34	09 18 534 □ 922*	09 18 534 □ 912*	09 18 534 □ 902*
40	09 18 540 □ 922*	09 18 540 □ 912*	09 18 540 □ 902*
50	09 18 550 □ 922*	09 18 550 □ 912*	09 18 550 □ 902*
60	09 18 560 □ 922*	09 18 560 □ 912*	09 18 560 □ 902*
64	09 18 564 □ 922*	09 18 564 □ 912*	09 18 564 □ 902*
6	09 18 506 □ 927*	09 18 506 □ 917*	09 18 506 □ 907*
10	09 18 510 □ 927*	09 18 510 □ 917*	09 18 510 □ 907*
14	09 18 514 □ 927*	09 18 514 □ 917*	09 18 514 □ 907*
16	09 18 516 □ 927*	09 18 516 □ 917*	09 18 516 □ 907*
20	09 18 520 □ 927*	09 18 520 □ 917*	09 18 520 □ 907*
26	09 18 526 □ 927*	09 18 526 □ 917*	09 18 526 □ 907*
34	09 18 534 □ 927*	09 18 534 □ 917*	09 18 534 □ 907*
40	09 18 540 □ 927*	09 18 540 □ 917*	09 18 540 □ 907*
50	09 18 550 □ 927*	09 18 550 □ 917*	09 18 550 □ 907*
60	09 18 560 □ 927*	09 18 560 □ 917*	09 18 560 □ 907*
64	09 18 564 □ 927*	09 18 564 □ 917*	09 18 564 □ 907*

Male header with
straight solder pins

Length: 4.5 mm

Male header with
straight wrap posts

Length: 15 mm

□ 0.6 mm

For Performance Level 3 please specify digit 7*

7

7

For Performance Level 2 please specify digit 6

6

6

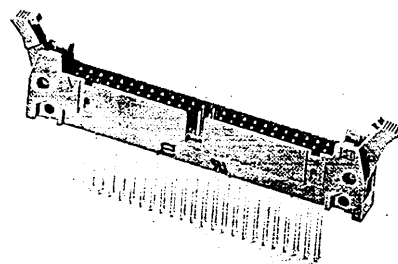
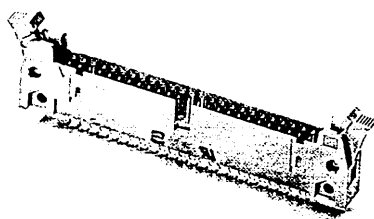
> 0.76 μm Au (30 μ inch) on request 5*

5

5

*Not kept in stock

SEK 18 DIN 41 651

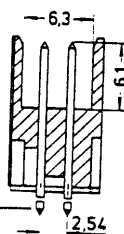
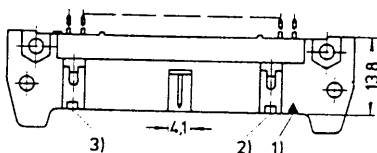
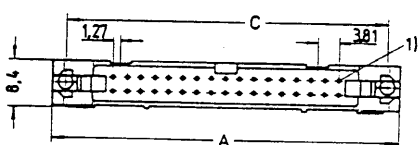
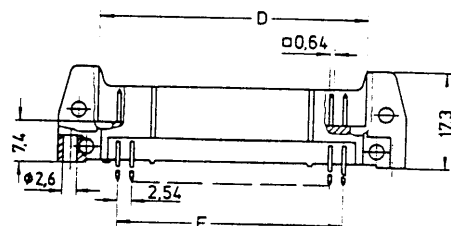
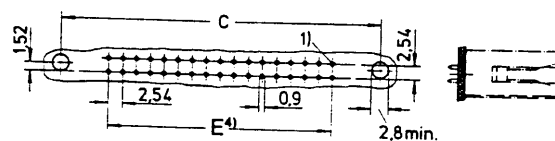


Drawing

No. of contacts	A	C	D	E	F	G
6	26.9	22.86	12.45	2.54 x 2 = 5.08	36.9	40.3
10	32.0	27.94	17.53	2.54 x 4 = 10.16	42.0	45.4
14	37.1	33.02	22.61	2.54 x 6 = 15.24	47.1	50.4
16	39.6	35.56	25.15	2.54 x 7 = 17.78	49.6	53.0
20	44.7	40.64	30.23	2.54 x 9 = 22.86	54.7	58.1
26	52.3	48.26	37.85	2.54 x 12 = 30.48	62.3	65.7
34	62.5	58.42	48.01	2.54 x 16 = 40.64	72.5	75.8
40	70.1	66.04	55.63	2.54 x 19 = 48.26	80.1	83.5
50	82.8	78.74	68.33	2.54 x 24 = 60.96	92.8	96.2
60	95.5	91.44	81.03	2.54 x 29 = 73.66	105.5	108.9
64	100.6	96.52	86.11	2.54 x 31 = 78.74	110.6	113.9

Dimensions in mm

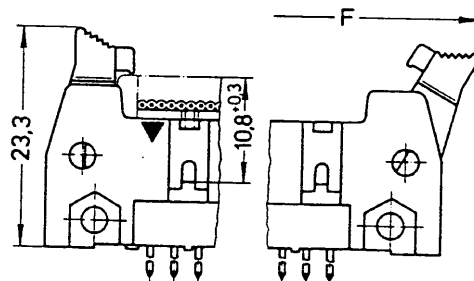
P.C. board layout



- a) Solder pins for 0.9 mm dia. hole
- b) Wrap posts 0.6 mm

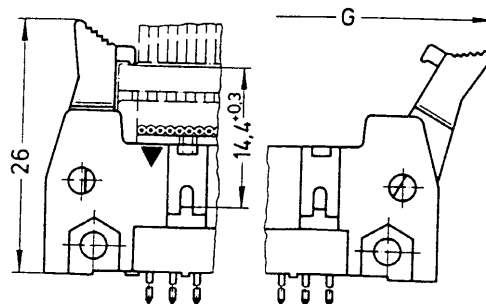
Short levers

for use with female connector without strain relief clamp



Long levers

for use with female connector with strain relief clamp



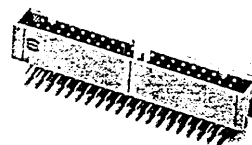
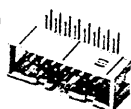
- 1) Contact number 1
- 2) No polarization slot for 6, 10, or 14 way male header
- 3) No polarization slot for 6 way male header
- 4) Pitch tolerance: ± 0.1

SEK 18

Number of contacts

6-64

864 780
864 766
864-791.
864-821



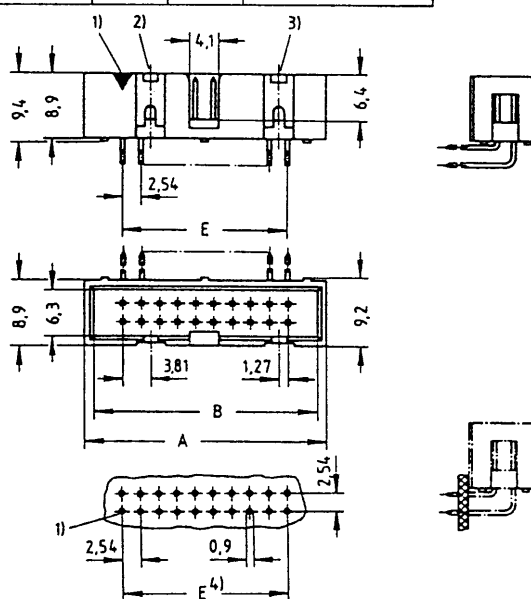
Low-profile male header, angled pins

Identification/pins	No. of contacts	Part No.	Drawing	Dimensions in mm
Male header with angled solder pins				
Length: 2.9 mm	6	09 18 506 323	No. of contacts: 6, A: 15.2, B: 12.78, E: 2.54 x 2 = 5.08	Solder pins for 0.9 mm dia. hole
	10	09 18 510 323	No. of contacts: 10, A: 20.3, B: 17.86, E: 2.54 x 4 = 10.16	
	14	09 18 514 323	No. of contacts: 14, A: 25.4, B: 22.94, E: 2.54 x 6 = 15.24	
	16	09 18 516 323	No. of contacts: 16, A: 27.9, B: 25.48, E: 2.54 x 7 = 17.78	
	20	09 18 520 323	No. of contacts: 20, A: 33.0, B: 30.56, E: 2.54 x 9 = 22.86	
	26	09 18 526 323	No. of contacts: 26, A: 40.6, B: 38.18, E: 2.54 x 12 = 30.48	
	34	09 18 534 323	No. of contacts: 34, A: 50.8, B: 48.34, E: 2.54 x 16 = 40.64	
	40	09 18 540 323	No. of contacts: 40, A: 58.4, B: 55.96, E: 2.54 x 19 = 48.26	
	50	09 18 550 323	No. of contacts: 50, A: 71.3, B: 68.66, E: 2.54 x 24 = 60.96	
	60	09 18 560 323	No. of contacts: 60, A: 84.0, B: 81.36, E: 2.54 x 29 = 73.66	
	64	09 18 564 323	No. of contacts: 64, A: 89.1, B: 86.44, E: 2.54 x 31 = 78.74	

Male header with angled solder pins

Length: 4.5 mm

6	09 18 506 321*
10	09 18 510 321*
14	09 18 514 321*
16	09 18 516 321*
20	09 18 520 321*
26	09 18 526 321*
34	09 18 534 321*
40	09 18 540 321*
50	09 18 550 321*
60	09 18 560 321*
64	09 18 564 321*



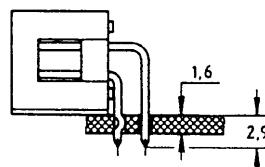
- 1) Contact number 1
- 2) No polarization slot for 6, 10, or 14 way male header
- 3) No polarization slot for 6 way male header
- 4) Pitch tolerance: ± 0.1

Male header with angled solder pins for prelocking on P.C.B 1.6 mm

Length: 2.9 mm

on request

on request



max. 6 specially formed soldered pins provide retention of the male header before soldering process

864-754



SEK 18

Number of contacts

6-64

Low-profile male header, straight pins

Identification/pins	No. of contacts	Part No.	Drawing	Dimensions in mm
Male header with straight solder pins				
Length: 2.9 mm	6	09 18 506 L 324	No. of contacts: 6, A: 15.2, B: 12.78, E: 2.54 x 2 = 5.08	a) Solder pins for 0.9 mm dia. hole
	10	09 18 510 L 324	No. of contacts: 10, A: 20.3, B: 17.86, E: 2.54 x 4 = 10.16	b) Press-in pins for 1.0 mm dia. hole
	14	09 18 514 L 324	No. of contacts: 14, A: 25.4, B: 22.94, E: 2.54 x 6 = 15.24	
	16	09 18 516 L 324	No. of contacts: 16, A: 27.9, B: 25.48, E: 2.54 x 7 = 17.78	
	20	09 18 520 L 324	No. of contacts: 20, A: 33.0, B: 30.56, E: 2.54 x 9 = 22.86	
	26	09 18 526 L 324	No. of contacts: 26, A: 40.6, B: 38.18, E: 2.54 x 12 = 30.48	
	34	09 18 534 L 324	No. of contacts: 34, A: 50.8, B: 48.34, E: 2.54 x 16 = 40.64	
	40	09 18 540 L 324	No. of contacts: 40, A: 58.4, B: 55.96, E: 2.54 x 19 = 48.26	
	50	09 18 550 L 324	No. of contacts: 50, A: 71.3, B: 68.66, E: 2.54 x 24 = 60.96	
	60	09 18 560 L 324	No. of contacts: 60, A: 84.0, B: 81.36, E: 2.54 x 29 = 73.66	
	64	09 18 564 L 324	No. of contacts: 64, A: 89.1, B: 86.44, E: 2.54 x 31 = 78.74	
Male header with straight solder pins				
Length: 4.5 mm	6	09 18 506 L 322*	1) Contact number 1, 2) No polarization slot for 6, 10, or 14 way male header, 3) No polarization slot for 6 way male header, Pitch tolerance: ± 0.1	
	10	09 18 510 L 322*		
	14	09 18 514 L 322*		
	16	09 18 516 L 322*		
	20	09 18 520 L 322*		
	26	09 18 526 L 322*		
	34	09 18 534 L 322*		
	40	09 18 540 L 322*		
	50	09 18 550 L 322*		
	60	09 18 560 L 322*		
	64	09 18 564 L 322*		
Male header with straight press-in terminations				
Length: 5.5 mm	6	09 18 506 L 329		
	10	09 18 510 L 329		
	14	09 18 514 L 329		
	16	09 18 516 L 329		
	20	09 18 520 L 329		
	26	09 18 526 L 329		
	34	09 18 534 L 329		
	40	09 18 540 L 329		
	50	09 18 550 L 329		
	60	09 18 560 L 329		
	64	09 18 564 L 329		

Tools page 14

For Performance Level 3 please specify digit 7
 For Performance Level 2 please specify digit 6
 > 0.76 µm Au (30 µ inch) on request 5 *

*Not kept in stock

For accessories see page 15

Tools for press-in technique

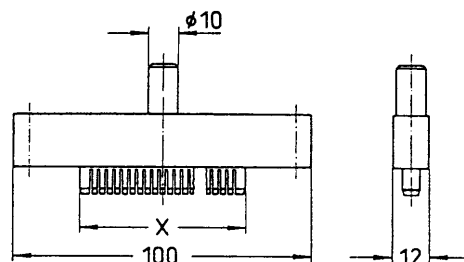


Identification	Part No.	Drawing	Dimensions in mm
Hand bench press	09 99 000 0201		
Pneumatic press	09 99 000 0258		
Base plate	09 99 000 0255		
Bottom tool narrow	09 99 000 0256		

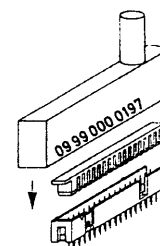
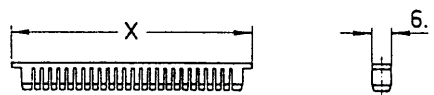
Tools

for male connectors	6	09 99 000 0 06
	10	09 99 000 0 10
	14	09 99 000 0 14
	16	09 99 000 0 16
	20	09 99 000 0 20
	26	09 99 000 0 26
	34	09 99 000 0 34
	40	09 99 000 0 40
	50	09 99 000 0 50
	60	09 99 000 0 60
	64	09 99 000 0 64

Top Tool including insert	4
Modular insert	5



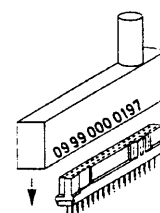
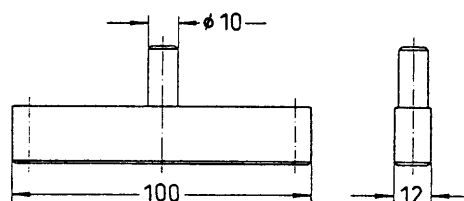
x Length depends on number of contacts



Top Tool

for SEK 24 female connectors and male connectors with modular insert

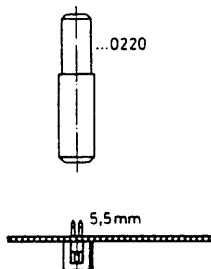
09 99 000 0197



Press-out tool for complete male connectors

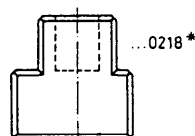
for 5.5 mm terminations

09 99 000 0220



Support block

09 99 000 0218



* Further versions on request

Identification

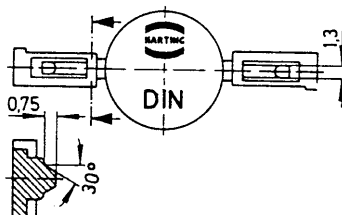
Part No.

Drawing

Dimensions in mm

Polarization key

09 18 500 9902¹⁾



¹⁾ Part No. comprises
2 keys

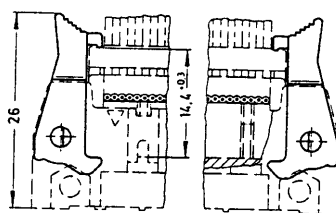
Locking lever

(snaps into place, can be
fitted whenever required)

Long:

09 18 000 9903²⁾

Long

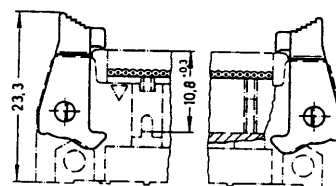


For use with female connector
with strain relief clamp

Short:

09 18 000 9904²⁾

Short



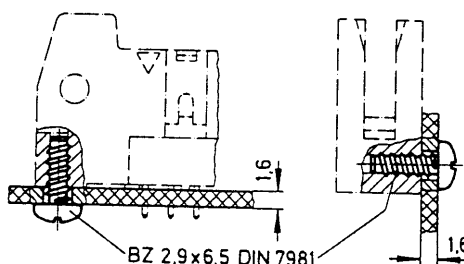
For use with female connector
without strain relief clamp

²⁾ Order 2 per
male header

Fixing screws

for 1.6 mm PC. board

09 18 000 9906³⁾



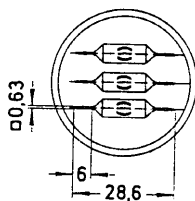
³⁾ Part No. comprises
50 pieces
(Order 50 or multiples
of 50)

Coding system with
loss of contact

Code pin

09 18 000 9901⁴⁾

To avoid cross-plugging adjacent connectors a coding system is required. A code pin is inserted into the appropriate cavity in the female connector. The corresponding male contact is removed by a special removal tool.



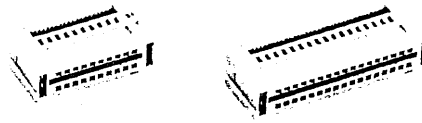
Removal tool
for
male contacts
09 99 000 0133



⁴⁾ Part No. comprises
6 code pins

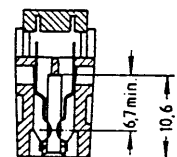
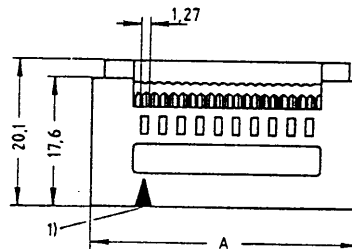
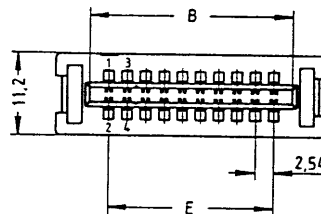
Number of contacts

20, 34

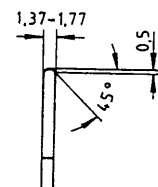
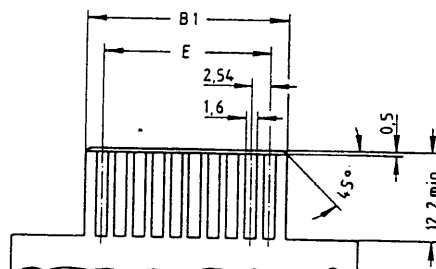


Card edge connectors for insulation displacement

Identification	Number of contacts	Part No.	Drawing					Dimensions in mm
Card edge connectors for insulation displacement for PC.B. thickness 1.6 mm		09 18 620 — 803	No. of contacts	A	B	B ₁ ±0,1	E	
			20	37.30	28.20	27.80	2.54 x 9 = 22.86	
			34	55.10	46	45.60	2.54 x 16 = 40.64	



PC.B.



1) Contact number 1

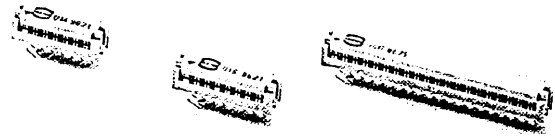
SEK 18

Number of contacts

6-64

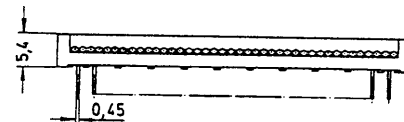
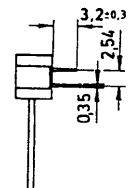
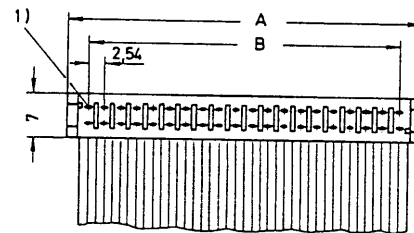
864900
864 845
864912

864 882
864 857

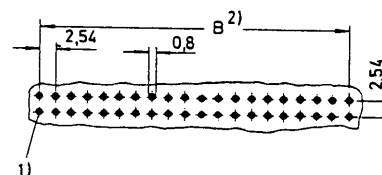


PC.B. transition connector, 2 rows

Identification	No. of contacts	Part No.	Drawing			Dimensions in mm
PC.B. transition connector	2 rows		No. of contacts	A	B	
		09 18 106 9621	6	11.9	2.54x 2 = 5.08	
		09 18 110 9621	10	17.0	2.54x 4 = 10.16	
		09 18 114 9621	14	22.1	2.54x 6 = 15.24	
		09 18 116 9621	16	24.6	2.54x 7 = 17.78	
		09 18 120 9621	20	29.7	2.54x 9 = 22.86	
		09 18 126 9621	26	37.3	2.54x12 = 30.48	
		09 18 134 9621	34	47.5	2.54x16 = 40.64	
		09 18 140 9621	40	55.1	2.54x19 = 48.26	
		09 18 150 9621	50	67.8	2.54x24 = 60.96	
		09 18 160 9621	60	80.5	2.54x29 = 73.66	
		09 18 164 9621	64	85.6	2.54x31 = 78.74	



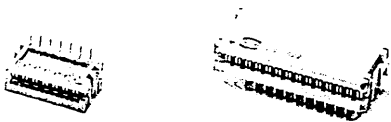
PC. board layout



- 1) Lead number 1
2) Pitch
tolerance: ± 0.1

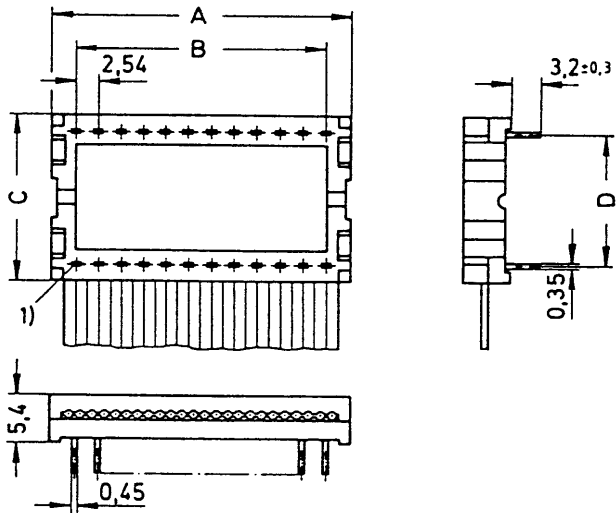
Number of contacts

14-40

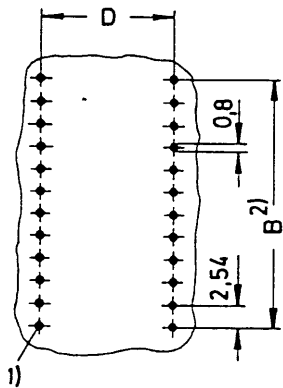


DIP connector for IC base or for soldering into P.C. boards

Identification	No. of contacts	Part No.	Drawing	Dimensions in mm				
DIP connector			No. of contacts	A	B	C	D	
	14	09 17 014 9622	14	20.5	2.54 x 6 = 15.24	11	7.62	
	16	09 17 016 9622	16	23.0	2.54 x 7 = 17.78	11	7.62	
	24	09 17 024 9622	24	33.0	2.54 x 11 = 27.94	18.7	15.24	
	28	09 17 028 9622	28	38.1	2.54 x 13 = 33.02	18.7	15.24	
	40	09 17 040 9622	40	53.3	2.54 x 19 = 48.26	18.7	15.24	



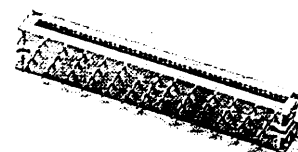
P.C. board layout



1) Lead number 1
2) Pitch tolerance: ± 0.1

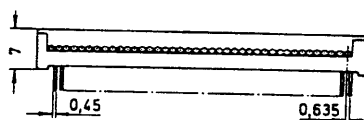
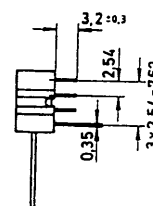
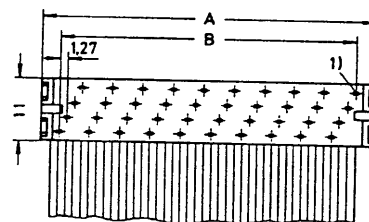
Number of contacts

10-50

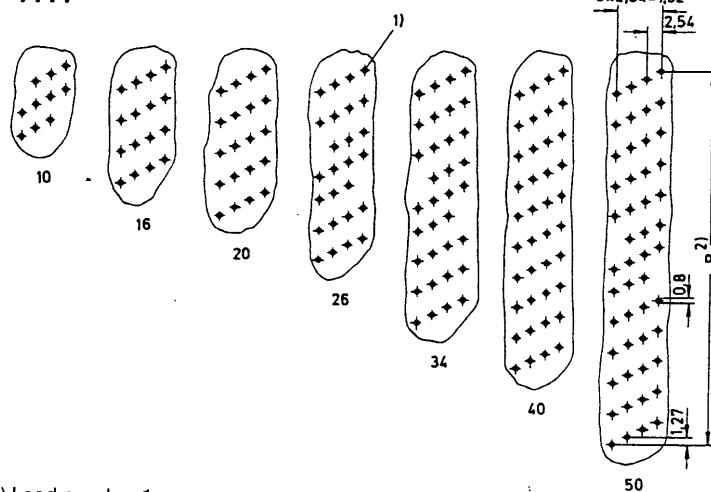


PC.B. transition connector, 4 rows

Identification	No. of contacts	Part No.	Drawing	Dimensions in mm
P.C.B. transition connector				
4 rows	10	09 19 010 9643	No. of contacts	
	16	09 19 016 9643	A	B
	20	09 19 020 9643	10	17.78 1.27 x 9 = 11.43
	26	09 19 026 9643	16	25.40 1.27 x 15 = 19.05
	34	09 19 034 9643	20	30.48 1.27 x 19 = 24.13
	40	09 19 040 9643	26	38.10 1.27 x 25 = 31.75
	50	09 19 050 9643	34	48.26 1.27 x 33 = 41.91
			40	55.88 1.27 x 39 = 49.53
			50	68.58 1.27 x 49 = 62.23

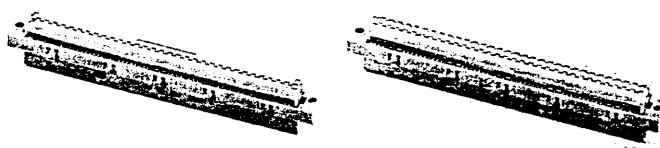


PC. board layout



- 1) Lead number 1
2) Pitch tolerance: ± 0.1

64

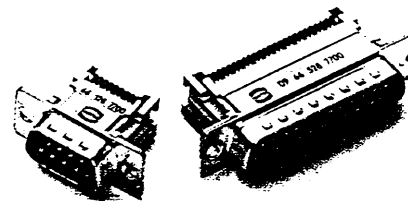
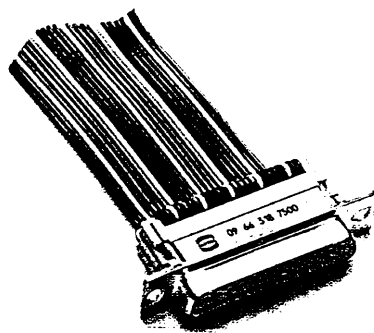


Technical drawing of a rectangular plate. The drawing shows a top view of the plate with dimensions and labels. The overall width is 95 mm, and the overall height is 90 mm. The plate has a central rectangular cutout with a width of 85 mm and a height of 90 mm. The cutout is centered horizontally. The plate has a thickness of 5 mm. The drawing includes a label 'M2,5x2,8' pointing to a hole on the left side. The right side of the plate has a flange with a width of 5 mm and a height of 5 mm. The flange has a central hole with a diameter of 5 mm. The drawing also shows a detail of the flange with a width of 5 mm and a height of 5 mm.

	a	b
Gds A-B	8,3	10,16
Gds A-C	10,8	12,7

Number of contacts

9-37



Male and female connectors

Identification

Performance Levels

as per DIN 41652

Other contact surfaces on request

No. of
contacts

Performance Level

3

Part No.

Performance Level

2

Male connector

- insulation displacement
terminationpitch 1.27 mm
tinned metal shell9
15
25
3709 66 128 7700
09 66 228 7700
09 66 328 7700
09 66 428 770009 66 128 6700
09 66 228 6700
09 66 328 6700
09 66 428 6700

Female connector

- insulation displacement
terminationpitch 1.27 mm
tinned metal shell9
15
25
3709 66 118 7500
09 66 218 7500
09 66 318 7500
09 66 418 750009 66 118 6500
09 66 218 6500
09 66 318 6500
09 66 418 6500

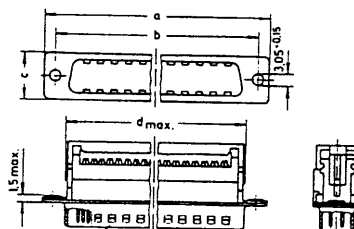
Strain relief clamp

corrosion resistant steel
for male and female connectors9
15
25
3709 66 108 0000
09 66 208 0000
09 66 308 0000
09 66 408 000009 66 108 0000
09 66 208 0000
09 66 308 0000
09 66 408 0000

Dimensions

Dimensions in mm

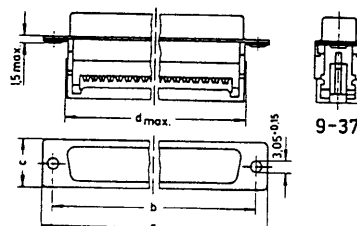
Male connector



Dimples

	a-0.76	b	c-0.76	d
9	31.19	25	12.93	18.6
15	39.52	33.3	12.93	26.9
25	53.42	47	12.93	40.6
37	69.7	63.5	12.93	57.1

Female connector

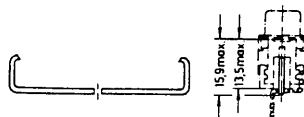


9-37

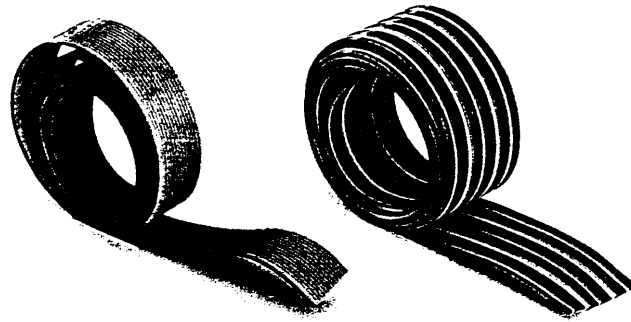
Specified conductors

stranded wires AWG 28/7
AWG 26/7

Strain relief clamp



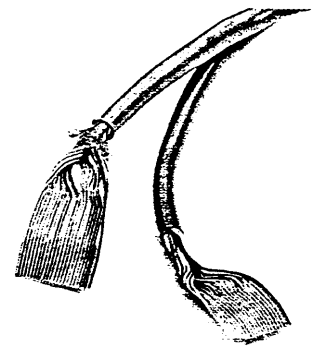
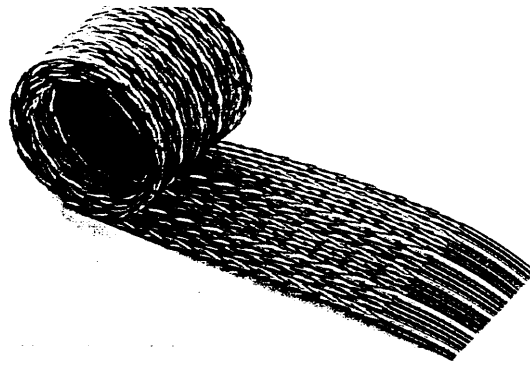
Flat cable AWG 28/7



Important:
always store reels vertically.

Identification	No. of contacts	Part No.	Drawing	Dimensions in mm
Flat cable grey UL 2651 IEC 918	3 9 10 14 15 16 20 24 25 26 28 34 37 40 50 60 64	09 18 006 700 09 18 009 700 09 18 010 700 09 18 014 700 09 18 015 700 09 18 016 700 09 18 020 700 09 18 024 700 09 18 025 700 09 18 026 700 09 18 028 700 09 18 034 700 09 18 037 700 09 18 040 700 09 18 050 700 09 18 060 700 09 18 064 700		NEW Grey 7001 = Metric packaging of 50 m Grey 7004 = Metric packaging of 150 m
Length per reel 50 m (164 feet) 1 150 m (492 feet) 4			Wire (tinned) _____ Cu Gauge _____ AWG 28/7 0.089 mm ² Conductor resistance _____ 230 mΩ/m Capacity _____ 60 pF/m Characteristic impedance _____ 110 Ω Signal delay _____ 5 ns/m Insulation material _____ PVC Temperature rating _____ -20 °C + 105 °C Insulation resistance _____ 10 ⁴ MΩ / km	
Flat cable colour coded	10 14 15 20 24 25 26 34 37 40 50 60 64	09 18 010 7005 09 18 014 7005 09 18 016 7005 09 18 020 7005 09 18 024 7005 09 18 025 7005 09 18 026 7005 09 18 034 7005 09 18 037 7005 09 18 040 7005 09 18 050 7005 09 18 060 7005 09 18 064 7005		Colour code sequence (in 10 steps) brown, red, orange, yellow, green, blue, violet, grey, white, black
Length per reel 30.48 m (100 feet)			Wire (tinned) _____ Cu Gauge _____ AWG 28/7 0.089 mm ² Conductor resistance _____ 230 mΩ/m Capacity _____ 49 pF/m Characteristic impedance _____ 105 Ω Signal delay _____ 4.6 ns/m Insulation material _____ PVC Temperature rating _____ -20 °C + 105 °C Insulation resistance _____ 10 ³ MΩ / km	
UL 2884				

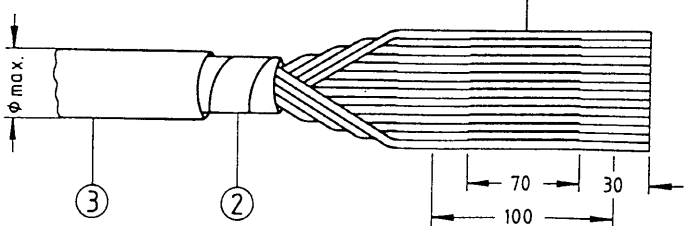
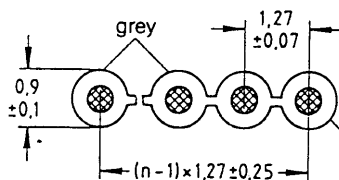
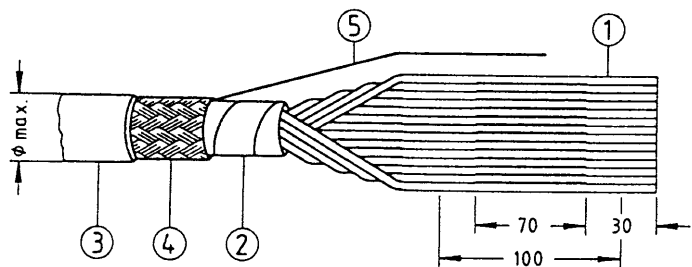
Flat cable AWG 28/7



Important:
always store reels vertically.

Identification	No. of contacts	Part No.	Drawing	Dimensions in mm
Flat cable twisted pair				
Length per reel 30.48 m (100 feet)	10	09 18 010 7006		
	12	09 18 014 7006		
	16	09 18 016 7006		
UL 2693	20	09 18 020 7006		
	26	09 18 026 7006		
	31	09 18 034 7006		
	40	09 18 040 7006		
	50	09 18 050 7006		
	60	09 18 060 7006		
	64	09 18 064 7006		
Round flat cable				
Length per reel 30.48 m (100 feet)				
with screening	9	09 18 009 7007		
	10	09 18 010 7007		
	11	09 18 014 7007		
	13	09 18 015 7007		
	16	09 18 016 7007		
	20	09 18 020 7007		
	25	09 18 025 7007		
	26	09 18 026 7007		
	31	09 18 034 7007		
	37	09 18 037 7007		
	40	09 18 040 7007		
	50	09 18 050 7007		
	60	09 18 060 7007		
	64	09 18 064 7007		
without screening	9	09 18 009 7008		
	10	09 18 010 7008		
	11	09 18 014 7008		
	13	09 18 015 7008		
	16	09 18 016 7008		
	20	09 18 020 7008		
	25	09 18 025 7008		
	26	09 18 026 7008		
	31	09 18 034 7008		
	37	09 18 037 7008		
	40	09 18 040 7008		
	50	09 18 050 7008		
	60	09 18 060 7008		
	64	09 18 064 7008		

	Flat cable	Round flat cable	
	twisted pair	with screening	without screening
Wire (tinned)	Cu		
Gauge	AWG 28/7 0.089 mm²		
Conductor resistance	230 mΩ/m	< 225 mΩ/m	
Capacity	52 pF/m	95 pF/m	65 pF/m
Characteristic impedance	100 Ω	73 Ω	90 Ω
Signal delay	5.3 ns/m	5.0 ns/m	
Insulation material	PVC	PVC	
Temperature rating	-20 °C + 105 °C	-20 °C + 80 °C	
Insulation resistance	10³ MΩ/km	> 50 MΩ/km	



- ① Flat cable, grey AWG 28/7
- ② Barrier tape
- ③ Outer insulation PVC, grey
- ④ Tinned copper screen (shielded version)
- ⑤ Drain Wire AWG 28 (shielded version)

Tools for termination of flat cables

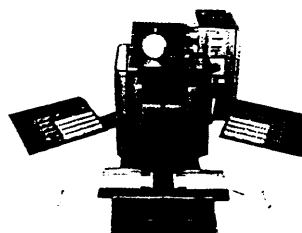


Identification

Part No.

SEK Harnessing
Work-station

on request



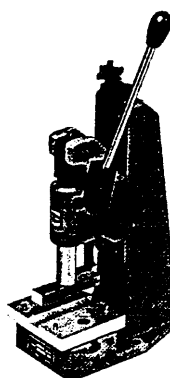
Bench press

for termination
of insulation
displacement
connectors

09 99 000 0114

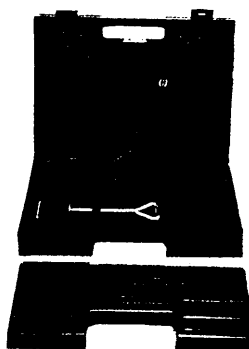
Base plate
for termination
of flat cables

SEK 18	09 99 000 0115
SEK 18 Card edge	09 99 000 0268
SEK 17	09 99 000 0134
SEK 18 2 rows	09 99 000 0131
SEK 19 4 rows	09 99 000 0130
Gds A-B, Gds A-C	09 99 000 0150
D-Sub	09 99 000 0135



Hand tool with
base plates
(included in tool kit)
for termination
of insulation
displacement
connectors

SEK 18	09 99 000 0149
SEK 18 Card edge	
SEK 17	
SEK 18 2 rows	
Gds A-B	
Gds A-C	
D-Sub	



Cable cutter
for flat cables

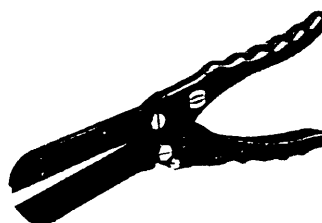
09 99 000 0116

Spare parts
Blade

09 99 000 0179

Cutting plate

09 99 000 0180



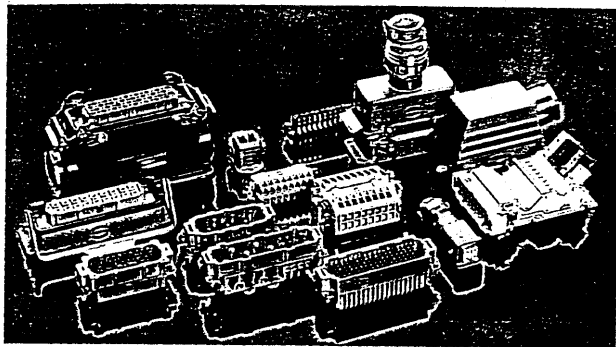
List of part numbers



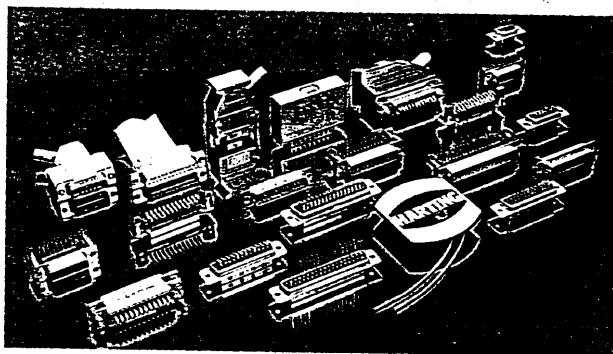
Part No.	Page	Part No.	Page	Part No.	Page	Part No.	Page	Part No.	Page
09 02 264 6828	20	09 18 5	5321 * 12	09 18 5	6321 * 12	09 18 5	7321 * 12	09 24 164 5801	7
7828	20		5322 * 13		6322 * 13		7322 * 13	6801	7
09 03 264 6828	20		5323 * 12		6323 12		7323 12	7801	7
7828	20		5324 * 13		6324 13		7324 13		
			5329 * 13		6329 13		7329 13	09 66 108 0000	21
09 17 014 9622	18	09 18 5	5803 * 6	09 18 5	6803 6	09 18 5	7803 6	118 6500	21
016 9622	18		5804 * 6		6804 6		7804 * 6	7500	21
024 9622	18		5805 * 6		6805 6		7805 6	128 6700 *	21
028 9622	18		5806 * 6		6806 6		7806 * 6	7700	21
040 9622	18		5813 * 6		6813 6		7813 6	09 66 208 0000	21
09 18 000 9901	15		5814 * 6		6814 6		7814 * 6	218 6500	21
9903	15		5815 * 6		6815 6		7815 * 6	7500	21
9904	15		5816 * 6		6816 6		7816 * 6	228 6700	21
9905	7							7700	21
9906	15								
09 18 006 7001/4	22	09 18 5	5901 * 8	09 18 5	6901 * 8	09 18 5	7901 * 8	09 66 308 0000	21
009 7001/4	22		5902 * 10		6902 * 10		7902 * 10	318 6500	21
010 7001/4	22		5903 * 8		6903 8		7903 8	7500	21
014 7001/4	22		5904 * 10		6904 10		7904 10	328 6700	21
015 7001/4	22		5906 * 8		6906 * 8		7906 * 8	7700	21
016 7001/4	22		5907 * 10		6907 * 10		7907 * 10		
020 7001/4	22		5911 * 8		6911 * 8		7911 * 8	09 66 408 0000	21
024 7001/4	22		5912 * 10		6912 * 10		7912 * 10	418 6500	21
025 7001/4	22		5913 * 8		6913 8		7913 8	7500	21
026 7001/4	22		5914 * 10		6914 10		7914 10	428 6700	21
028 7001/4	22		5916 * 8		6916 * 8		7916 * 8	7700	21
034 7001/4	22		5917 * 10		6917 * 10		7917 * 10		
037 7001/4	22		5921 * 8		6921 * 8		7921 * 8	09 99 000 0114	24
040 7001/4	22		5922 * 10		6922 * 10		7922 * 10	0115	24
050 7001/4	22		5923 * 8		6923 8		7923 * 8	0116	24
060 7001/4	22		5924 * 10		6924 10		7924 * 10	0130	24
064 7001/4	22		5926 * 8		6926 * 8		7926 * 8	0131	24
			5927 * 10		6927 * 10		7927 * 10	0133	15
09 18 010 7005	22					09 18 5	9002 7	0134	24
014 7005	22							0135	24
016 7005	22							0149	24
020 7005	22							0150	24
024 7005	22							0179	24
025 7005	22							0180	24
026 7005	22								
034 7005	22								
037 7005	22								
040 7005	22								
050 7005	22								
060 7005	22								
064 7005	22								
09 18 010 7006	23					09 18 106 9621	17	09 99 000 0197	14
014 7006	23					110 9621	17	0201	14
016 7006	23					114 9621	17	0218	14
020 7006	23					116 9621	17	0220	14
026 7006	23					120 9621	17	0255	14
034 7006	23					126 9621	17	0256	14
040 7006	23					134 9621	17	0258	14
050 7006	23					140 9621	17	0268	24
060 7006	23					150 9621	17	0406	14
064 7006	23					160 9621	17	0410	14
						164 9621	17	0414	14
09 18 009 7007/8	23					09 19 010 9643	19	0416	14
010 7007/8	23					016 9643	19	0420	14
014 7007/8	23					020 9643	19	0426	14
015 7007/8	23					026 9643	19	0434	14
016 7007/8	23					034 9643	19	0440	14
020 7007/8	23					040 9643	19	0450	14
025 7007/8	23					050 9643	19	0460	14
026 7007/8	23							0464	14
034 7007/8	23					09 24 126 5801	7	09 99 000 0506	14
037 7007/8	23					6801	7	0510	14
040 7007/8	23					7801	7	0514	14
050 7007/8	23					134 5801	7	0516	14
060 7007/8	23					6801	7	0520	14
064 7007/8	23					7801	7	0526	14
						140 5801	7	0534	14
09 18 500 9002	15			09 18 6	5803 16	6801	7	0540	14
					7803 16	7801	7	0550	14
						150 5801	7	0560	14
						6801	7	0564	14
						7801	7		

Complete the Part No. by inserting the required number of contacts where indicated thus:

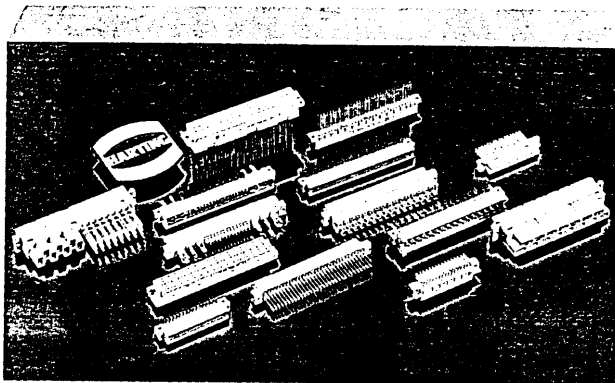
*Not kept in stock



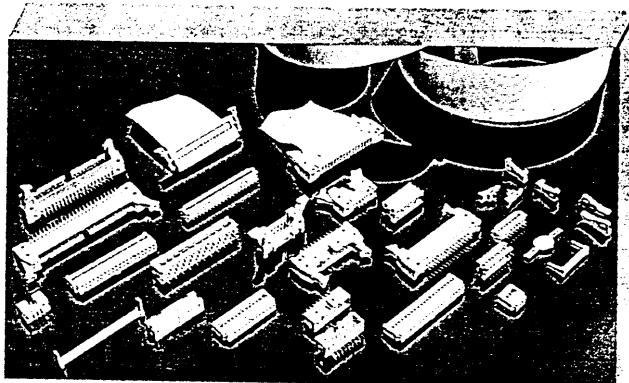
Heavy Duty Connectors
for industrial engineering



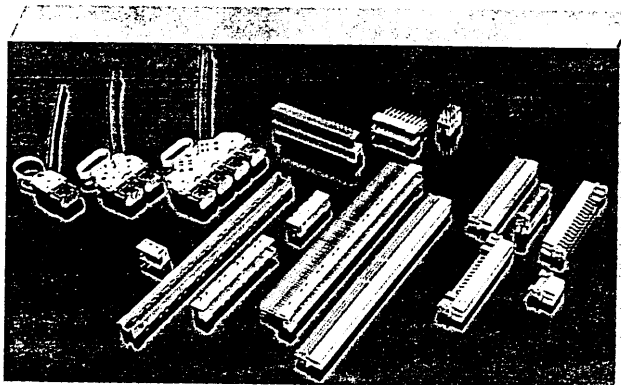
Subminiature D-Connectors
DIN 41 652



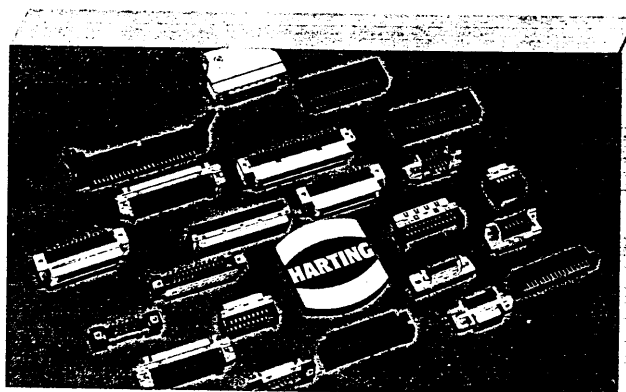
Printed Circuit Connectors
DIN 41 612 · DIN 41 617



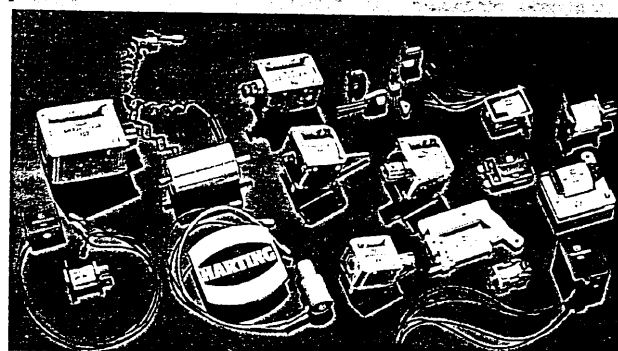
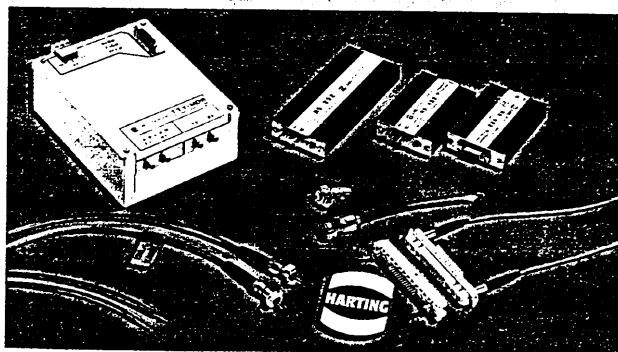
Flat Cable Connector System
DIN 41 651



High Density Connector System
Modular · Metric · DIN 41 642



Micro-Electronic-Connectors
Contact spacing 1.27 mm



Solenoids

HARTING – branch offices in Germany

Baden-Württemberg

71640 Ludwigsburg, Voithstraße 6
Tel. (071 41) 868 91, Fax (071 41) 868 95

Bavarn

82152 Planegg bei München, Georgenstraße 6
Tel. (089) 856 1006, Fax (089) 859 6782

90451 Nürnberg, Mülheimer Straße 15
Tel. (09 11) 963 55-0, Fax (09 11) 642 6960

Berlin

– Espelkamp*

Brandenburg

– Espelkamp

Bremen

– Espelkamp

Hamburg

– Espelkamp

Hessen

– Espelkamp

Mecklenburg-Vorpommern

– Espelkamp

Niedersachsen

– Espelkamp

Nordrhein-Westfalen

– Espelkamp

Rheinland-Pfalz/Saarland

71640 Ludwigsburg, Voithstraße 6
Tel. (071 41) 868 91, Fax (071 41) 868 95

Sachsen/Sachsen-Anhalt/Thüringen

09113 Chemnitz, Blankenauer Straße 99
Tel. (03 71) 42 92 11, Fax (03 71) 42 92 22

Schleswig-Holstein

– Espelkamp

* Postfach 1140, 32325 Espelkamp
Tel. (057 72) 47-0, Fax (057 72) 47-461/282

Foreign representatives

Australia

Brazil

MIDES ELECTRONICA LTDA.
R. Christiano Otoni, 288
33600-000 - Pedro Leopoldo - MG
Tel. (031) 661-1641, Fax (031) 661-1650

Denmark

Knud Wexøe A/S
Skaettekaeret 11, P.O. Box 152
DK-2840 Holte
Tel. 42 42 32 11, Fax 42 42 34 50

Finland

SKS-teknikka Oy
Laurinmäenkuja 3, P.O. Box 40
SF-00441 Helsinki
Tel. 0-852661, Tx 124577, Fax 0-8526820

Portugal

UNIMAQUE-ELÉTRONICA E
ELECTRICIDADE INDUSTRIAL, LDA.
Rua Augusto Gil, 22-B
P-1000 Lisboa
Tel. (01) 796 67 32/85, Fax (01) 796 09 24

South-Africa

Allcable (Pty) Ltd.
P.O. Box 13518
Witfield 1467, R. S. A.
Tel. (011) 8453325, Fax (011) 8454077

Turkey

METESAN
Tünel, Ensiz Sokak Tünel Gecidi
Is Hani No. 3
Beyoglu 80050 Istanbul
Tel. (2 12) 243 50 50, Fax (2 12) 249 01 43

Production plants

Espelkamp plant 1, plant 2, plant 3
Northampton, Great Britain
Biel, Switzerland
Hong Kong

MO/31.3.95/8.0 98 21 007 0201

Distributors – Germany

Helmuth Becker, Ing. GmbH

Elektrogroßhandel
Leipziger Straße 34, 04579 Espenhain
Tel. (03 42 06) 74 44 37, Fax (03 42 06) 74 35 64

elektro-bauelemente May KG

Trabener Straße 65, 14193 Berlin
Tel. (030) 892 50 02, Fax (030) 891 99 02

Hillmann & Ploog GmbH + Co KG

Ivo-Hauptmann-Ring 9, 22159 Hamburg
Tel. (040) 645 88-0, Tx 215183
Fax (040) 645 88 44 0

EVN

Elektro-Vertrieb-Nord GmbH
Industriestraße 30, 24536 Neumünster
Tel. (043 21) 954-221, Fax (043 21) 954-229

straschu Industrie Elektronik GmbH

Mackenstedter Straße 11
28816 Stuhr/Groß Mackenstedt
Tel. (042 06) 41 71-0
Fax (042 06) 41 71-50

setron-Schiffer-Elektronik GmbH & Co KG

Friedrich-Seele-Straße 3a,
38122 Braunschweig
Tel. (0531) 80 98-0, Tx 952812
Fax (0531) 80 98-789, Teletex 5318307

EVG-Martens GmbH & Co KG

Trompeterallee 244, 41189 Mönchengladbach
Tel. (021 66) 55 08-0, Tx 852275
Fax (021 66) 55 08 90

RTG-Elektronik GmbH

Oberste-Wilms-Straße 27, 44309 Dortmund
Tel. (023 31) 56 20 73-0
Fax (023 1) 56 20 73-26

REPRO ELEKTRONIK GmbH

Obere Zeil 4, 61440 Oberursel
Tel. (061 71) 63 07 0, Tx 410836
Fax (061 71) 63 07 63

Peter Seiwert GmbH

Heusweiler Straße 92,
66557 Illingen-Uchtelfangen
Tel. (068 25) 408-0, Tx 444102
Fax (068 25) 408-40/-41

HTF elektro GmbH

Mallastraße 76 (Gewerbegebiet Mallau)
68219 Mannheim
Tel. (06 21) 87 76-0, Fax (06 21) 87 76-1 00

Farnell Electronic GmbH

Bahnhofstraße 44, 71696 Möglingen
Tel. (071 41) 487-0, Tx 7264472
Fax (071 41) 487-210

Emil Ratz GmbH

Kelterstraße 15-17, 75179 Pforzheim
Tel. (07 231) 37 08-0, Tx 783469
Fax (07 231) 37 08 99

Eckert & Graf GmbH

Zollstraße 7, 78239 Rielasingen
Tel. (07 731) 590 70, Tx 793848
Fax (07 731) 226 73

Findler & Sohn

Schwanthalerstraße 25, 80336 München
Tel. (089) 55 1801-0, Teletex 17 897 575

A. Schweiger GmbH

Klausnerring 20, 85551 Heimstetten
Tel. (089) 90 50 03-0, Fax (089) 90 374 66

Farnell Electronic Components GmbH

Grünwalder Weg 30, 82041 Deisenhofen
Tel. (089) 61 30 301, Fax (089) 61 30 31 19

Falkenberg Sensortechnik GmbH

Boxdorfer Straße 11, 90765 Fürth
Tel. (09 11) 93 06 20, Fax (09 11) 93 06 233

HARTING-Subsidiary companies

Austria

HARTING

elektronische Bauelemente Ges. m.b.H.
Himbergerstraße 25, A-1100 Wien
Tel. (1) 68 68 18 + 19, Tx (61) 322 2690,
Fax (1) 68 69 03

Belgium

N. V. HARTING Elektronik S. A.
Doornveld 8, B-1731 Zellik
Tel. 02-466 01 90, Tx 64573, Fax 02-466 78 55

Czech Republic

HARTING Elektronik spol. s r. o.
Poděbradská 186/56, 18066 Praha 9
Tel. (02) 661 07-475/-483, Fax (02) 86 20 47

France

HARTING Elektronik France E.U.R.L.
ZAC Paris Nord II, 181, av. des Nations
B.P. 60058
F-95972 Roissy Charles de Gaulle Cedex
Tel. (1) 49 38 34 00, Tx 231.610,
Fax (1) 48 63 23 06

Great Britain

HARTING Elektronik Ltd.
Caswell Road, Brackmills Industrial Estate
GB-Northampton, NN 47 PW
Tel. (016 04) 76 66 86, Fax (016 04) 70 67 77

Hong Kong

HARTING Elektronik (HK) Ltd.
9th Floor, Chung Shun Knitting Centre 1-3
Wing Yip Street, Kwai Chung N.T., Hongkong
Tel. 0852-2422 1809, Fax 0852-24 80 43 78

Italy

HARTING Elektronik SpA
Via Dell' Industria 7,
I-20090 Vimodrone (Milano)
Tel. (02) 27 40 03 00, Fax (02) 265 05 34

Japan

HARTING Elektronik Co., Ltd.
5F German Industry Center 407
18-2, Hakusan 1-Chome, Midori-ku
Yokohama 226 Japan
Tel. (045) 931-57 15, Fax (045) 931-57 19

Netherlands

HARTING Elektronik B.V.
Larenweg 44, NL-5234 KA's-Hertogenbosch
Postbus 3526, NL-5203 DM's-Hertogenbosch
Tel. (073) 41 04 04, Fax (073) 44 06 99

Norway

HARTING Elektronik A/S
Østensjøveien 36, N-0667 Oslo
Tel. 22-64 75 90, Tx 76399, Fax 22-64 73 93

Russia

196105 St. Petersburg, a/ja 719
AO HARTING Elektronik
Tel. (8 12) 294 89 58, Fax (8 12) 294 65 72

Spain

HARTING Elektronik S.A.
Josep Tarradellas 20-30 4*5ª,
E-08029 Barcelona
Tel. 3-419 28 38, Fax 3-419 95 85

Sweden

HARTING Elektronik AB
Fagerstagatan 3, S-16353 Spånga
Tel. (08) 761 7980, Tx 8125158,
Fax (08) 36 44 42

Switzerland

HARTING Elektronik AG
Industriestrasse 26, CH-8604 Volketswil
Tel. 01-946 09 66, Fax 01-946 09 70

USA

HARTING Elektronik Inc.
2155 Stonington Ave., Suite 212,
P.O. Box 95710
Hoffman Estates, Illinois 60195-0710
Tel. (708) 519-7700, Fax (708) 519-9771

East-Europe

HARTING Elektronik Bauelemente GmbH
Tiertgartenstraße 94, D-01219 Dresden
Tel. (0351) 232 84 57/58, Fax (0351) 232 84 58

South-East-Europe and other foreign countries

HARTING Elektronik GmbH
Postfach 1140, D-32325 Espelkamp