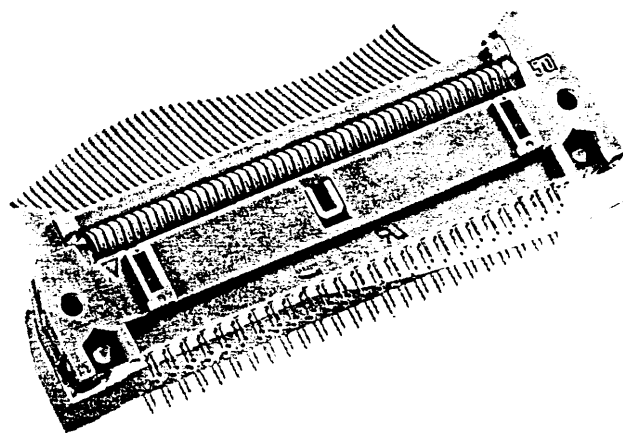


# Flat Cable Connector System



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.

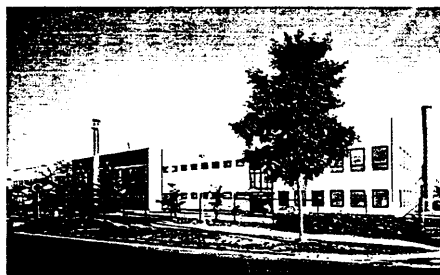
In total approximately 60 quality control personnel are employed. The majority of these engineers and technicians are trained and certified by the German (DCQ) or Swiss (SAQ) quality organisations. The divisions electronic connectors, heavy duty connectors Han® and solenoids are certified according to 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



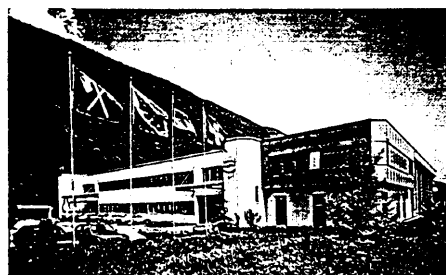
France - Sales and marketing



Espelkamp - Staff Cafeteria



United Kingdom - Production, sales and marketing



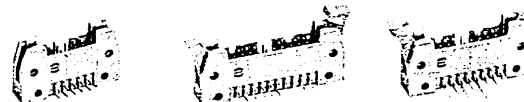
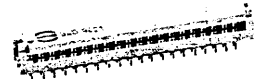
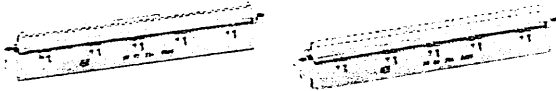
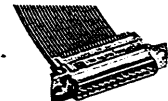
Switzerland - Production plant



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   |
|                                                  | 34                 |                                                                                      |      |
| UL/CSA-approved                                  | 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                  |                                                                                      | 17   |
|                                                  | 10                 |  |      |
|                                                  | 14                 |                                                                                      |      |
|                                                  | 16                 |                                                                                      |      |
|                                                  | 20                 |                                                                                      |      |
|                                                  | 26                 |                                                                                      |      |
|                                                  | 34                 |                                                                                      |      |
| SEK 17 DIP connectors                            | 14                 |   | 18   |
|                                                  | 20                 |                                                                                      |      |
|                                                  | 24                 |                                                                                      |      |
| SEK 19 solder transition connectors, 4 rows      | 10                 |  | 19   |
|                                                  | 16                 |                                                                                      |      |
|                                                  | 20                 |                                                                                      |      |
|                                                  | 26                 |                                                                                      |      |
|                                                  | 34                 |                                                                                      |      |
| Gds A-B · Gds A-C                                | 64                 |  | 20   |
| Female connectors to DIN 41 612                  |                    |                                                                                      |      |
| D-Sub                                            | 9                  |  | 21   |
| Subminiature connectors to DIN 41 652            | 15                 |                                                                                      |      |
|                                                  | 25                 |                                                                                      |      |
|                                                  | 37                 |                                                                                      |      |
| 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.

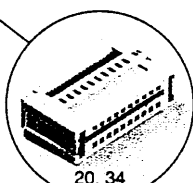
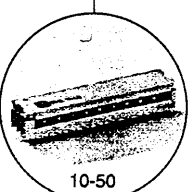
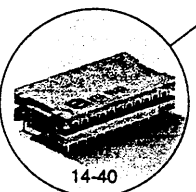
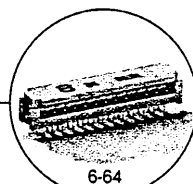
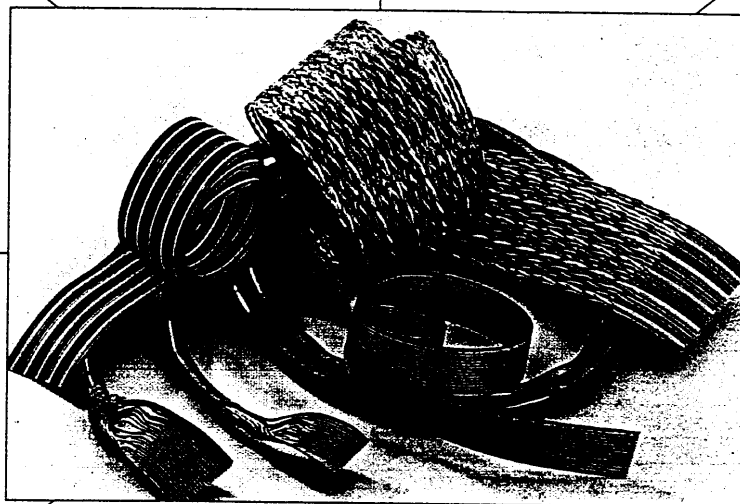
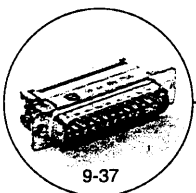
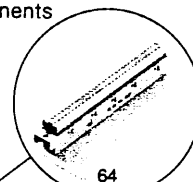
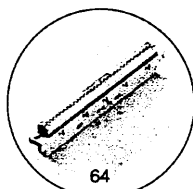
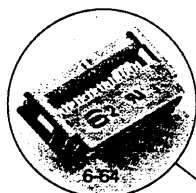
The HARTING<sup>®</sup> insulation displacement technique constitutes the ideal solution to your wiring problems.

<sup>1)</sup>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  
SEK 18 male header  
Insulation displacement connection  
Wire AWG 28 (7 x 0.127) 0.09 mm<sup>2</sup>  
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 mm<sup>2</sup>  
SEK 17 and 19  
Insulation displacement connection  
Wire AWG 28 (7 x 0.127) 0.09 mm<sup>2</sup>

Solder pins 0.45 x 0.35 mm for P.C.B. hole  $\varnothing$  0.8 mm  
Insulation displacement connection  
Wire AWG 28 (7 x 0.127) 0.09 mm<sup>2</sup>

Mouldings Thermoplastic resin (PBTP)  
UL 94-V O

## Contact surface

SEK 18  
Contact zone: gold-plated according to Performance Level<sup>1)</sup>  
Termination zone: tinned

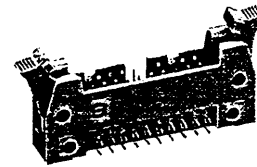
SEK 17 and 19  
Tinned

Gds A-B · Gds A-C  
D-Sub  
Contact zone: gold-plated according to Performance Level<sup>1)</sup>  
Termination zone: tinned

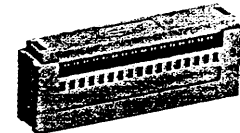
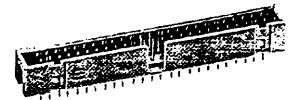
<sup>1)</sup>Performance Level 3 as per DIN 41 651, Part 2  
50 mating cycles  
No gas test

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

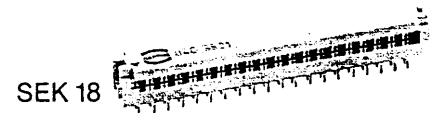
<sup>1)</sup>Performance Level as per MIL-C 83 503  
> 0.76  $\mu\text{m}$  Au (30  $\mu$  inch) on request  
Different contact surfaces on request



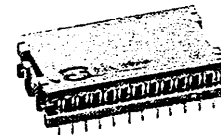
SEK 18



SEK 18



SEK 18



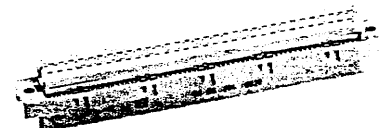
SEK 17



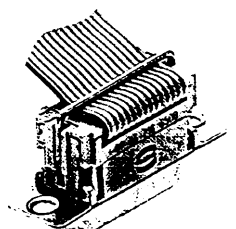
SEK 19



Gds A-B



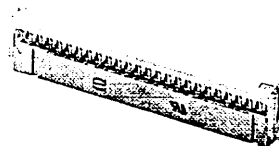
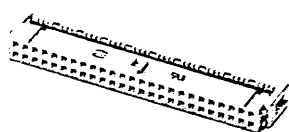
Gds A-C



D-Sub

Number of contacts

6-64



## Female connector

Identification

No. of contacts

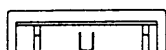
Part No.

Drawing

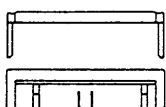
Dimensions in mm

Female connector  
with central  
polarization

without  
strain relief clamp

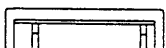


with  
strain relief clamp



Female connector  
without central  
polarization

without  
strain relief clamp

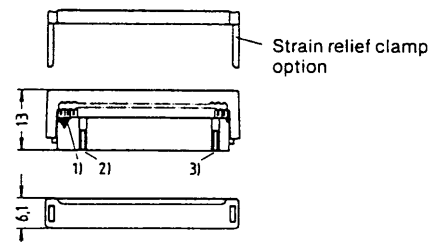
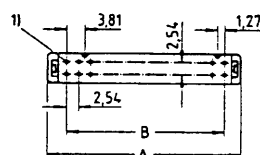
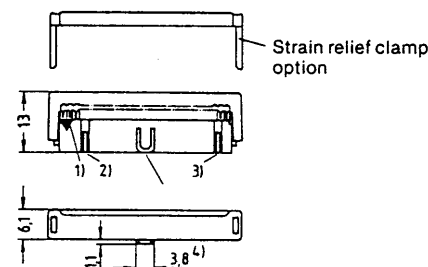
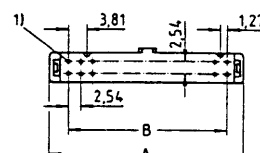
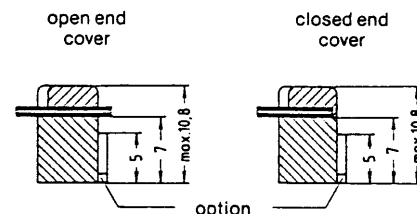


with  
strain relief clamp



| open end cover | closed end cover |
|----------------|------------------|
| 09 18 506 803  | 09 18 506 804    |
| 09 18 510 803  | 09 18 510 804    |
| 09 18 514 803  | 09 18 514 804    |
| 09 18 516 803  | 09 18 516 804    |
| 09 18 520 803  | 09 18 520 804    |
| 09 18 526 803  | 09 18 526 804    |
| 09 18 534 803  | 09 18 534 804    |
| 09 18 540 803  | 09 18 540 804    |
| 09 18 550 803  | 09 18 550 804    |
| 09 18 560 803  | 09 18 560 804    |
| 09 18 564 803  | 09 18 564 804    |
| 09 18 506 813  | 09 18 506 814*   |
| 09 18 510 813  | 09 18 510 814*   |
| 09 18 514 813  | 09 18 514 814*   |
| 09 18 516 813  | 09 18 516 814*   |
| 09 18 520 813  | 09 18 520 814*   |
| 09 18 526 813  | 09 18 526 814*   |
| 09 18 534 813  | 09 18 534 814*   |
| 09 18 540 813  | 09 18 540 814*   |
| 09 18 550 813  | 09 18 550 814*   |
| 09 18 560 813  | 09 18 560 814*   |
| 09 18 564 813  | 09 18 564 814*   |

| open end cover | closed end cover |
|----------------|------------------|
| 09 18 510 805  | 09 18 510 806*   |
| 09 18 514 805  | 09 18 514 806*   |
| 09 18 516 805  | 09 18 516 806*   |
| 09 18 520 805  | 09 18 520 806*   |
| 09 18 526 805  | 09 18 526 806*   |
| 09 18 534 805  | 09 18 534 806*   |
| 09 18 540 805  | 09 18 540 806*   |
| 09 18 550 805  | 09 18 550 806*   |
| 09 18 560 805  | 09 18 560 806*   |
| 09 18 564 805  | 09 18 564 806*   |
| 09 18 510 815* | 09 18 510 816*   |
| 09 18 514 815* | 09 18 514 816*   |
| 09 18 516 815* | 09 18 516 816*   |
| 09 18 520 815* | 09 18 520 816*   |
| 09 18 526 815* | 09 18 526 816*   |
| 09 18 534 815* | 09 18 534 816*   |
| 09 18 540 815* | 09 18 540 816*   |
| 09 18 550 815* | 09 18 550 816*   |
| 09 18 560 815* | 09 18 560 816*   |
| 09 18 564 815* | 09 18 564 816*   |



| 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

# SEK

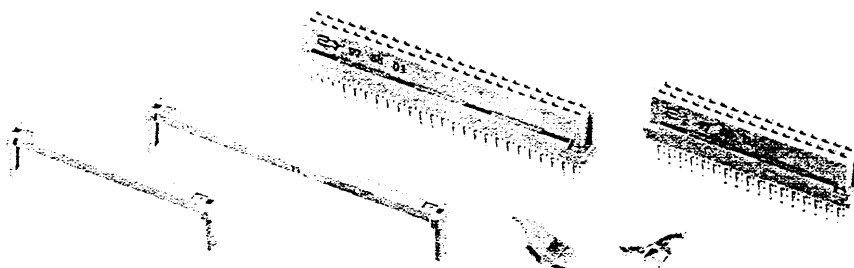


Number of contacts

6-64 SEK 18  
26-64 SEK 24

SEK 18

SEK 24



Strain relief clamp/Locking lever

Press in female connector SEK 24

Identification

No. of contacts

Part No.

Drawing

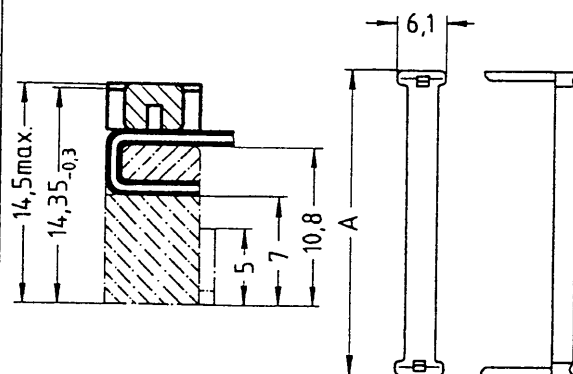
Dimensions in mm

Strain relief clamp

6  
10  
14  
16  
20  
26  
34  
40  
50  
60  
64

09 18 506 9002  
09 18 510 9002  
09 18 514 9002  
09 18 516 9002  
09 18 520 9002  
09 18 526 9002  
09 18 534 9002  
09 18 540 9002  
09 18 550 9002  
09 18 560 9002  
09 18 564 9002

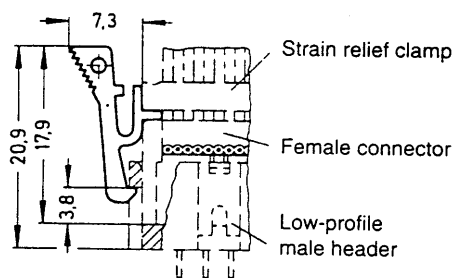
| No. of contacts | A    |
|-----------------|------|
| 6               | 12.2 |
| 10              | 17.3 |
| 14              | 22.4 |
| 16              | 24.9 |
| 20              | 30.0 |
| 26              | 37.6 |
| 34              | 47.8 |
| 40              | 55.4 |
| 50              | 68.1 |
| 60              | 80.8 |
| 64              | 85.9 |



Locking lever for female connector

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

09 18 000 9905<sup>1)</sup>



<sup>1)</sup> Order 2 per female connector

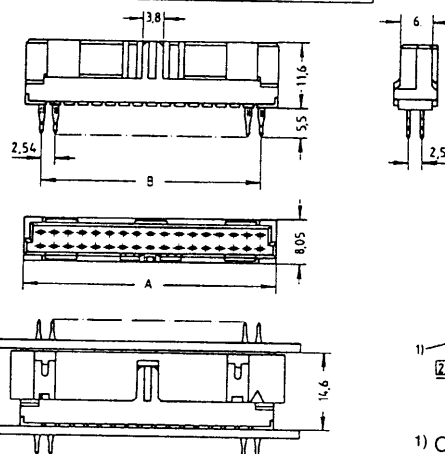
Female connector SEK 24

with straight press-in terminations and central polarization

26  
34  
40  
50  
64

09 24 126 — 801  
09 24 134 — 801  
09 24 140 — 801  
09 24 150 — 801  
09 24 164 — 801

| No. of contacts | A     | B                 |
|-----------------|-------|-------------------|
| 26              | 36.70 | 2.54 x 12 = 30.48 |
| 34              | 46.90 | 2.54 x 16 = 40.64 |
| 40              | 54.50 | 2.54 x 19 = 48.26 |
| 50              | 67.20 | 2.54 x 24 = 60.96 |
| 64              | 85.00 | 2.54 x 31 = 78.74 |



<sup>1)</sup> Contact number 1

<sup>2)</sup> Pitch tolerance:  $\pm 0.1$

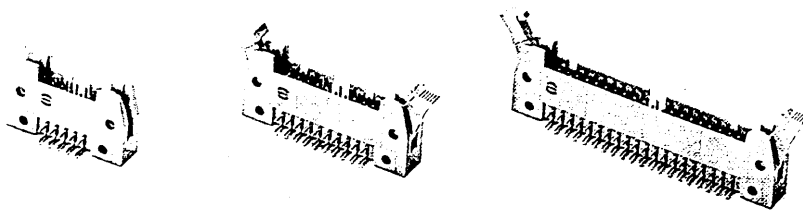
For Performance Level 3 please specify digit 7  
For Performance Level 2 please specify digit 6  
> 0.76  $\mu$ m Au (30  $\mu$  inch) on request 5 \*

\* Not kept in stock

For coding see page 15

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

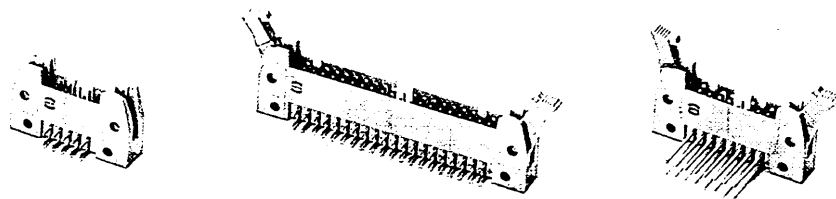
| No. of contacts | Part No.         |                   |                  |
|-----------------|------------------|-------------------|------------------|
|                 | Without levers   | With short levers | With long levers |
| 6               | 09 18 506 □ 923  | 09 18 506 □ 913   | 09 18 506 □ 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* |

\*Not kept in stock

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

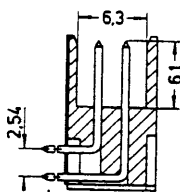
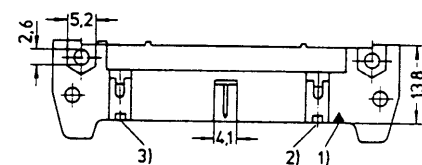
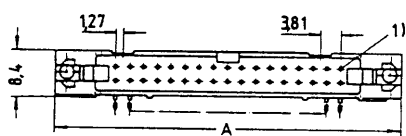
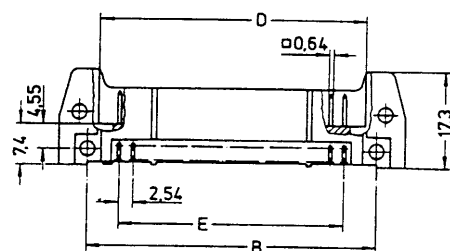
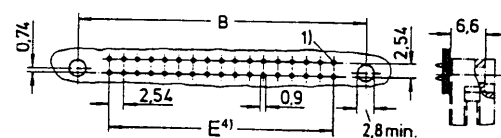


Drawing

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 |

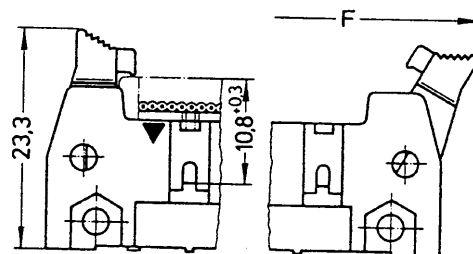
PC. board layout



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

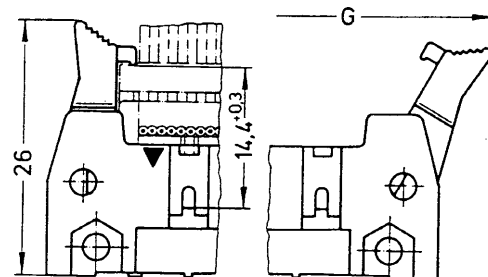
Short levers

for use with female connector without strain relief clamp



Long levers

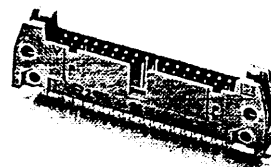
for use with female connector with strain relief clamp



- 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:  $\pm 0.1$

Number of contacts

6-64

Male header with straight pins

Identification/pins

Male header with  
straight solder pins

Length: 2.9 mm

| No. of<br>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  |

Male header with  
straight solder pins

Length: 4.5 mm

|    |                  |                  |                  |
|----|------------------|------------------|------------------|
| 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* |

Male header with  
straight wrap posts

Length: 15 mm

□ 0.6 mm

|    |                  |                  |                  |
|----|------------------|------------------|------------------|
| 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* |

For Performance Level 3 please specify digit 7\*

7

7

For Performance Level 2 please specify digit 6

6

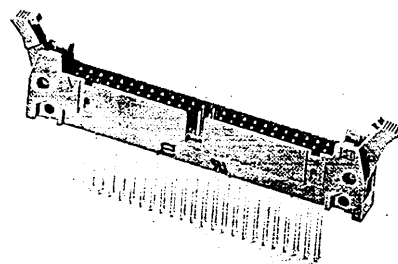
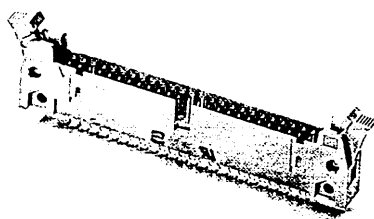
6

&gt; 0.76 μm Au (30 μ inch) on request 5\*

5

5

# SEK 18 DIN 41 651

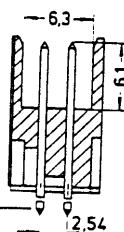
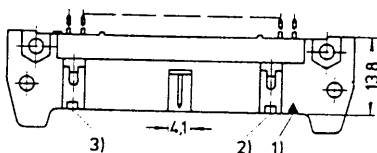
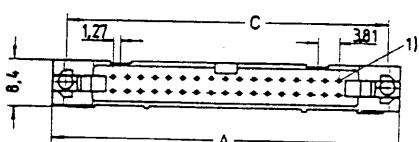
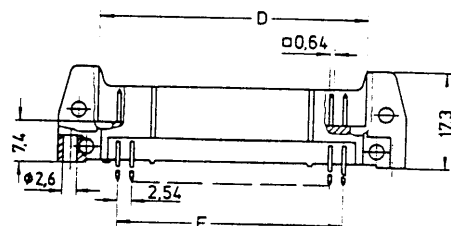
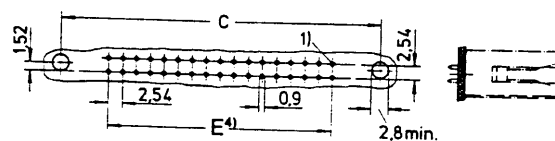


Drawing

| 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

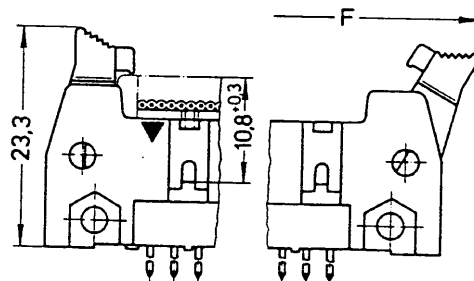
P.C. board layout



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

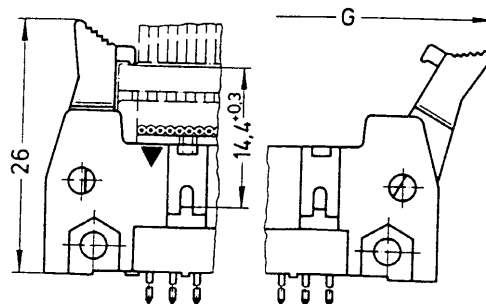
Short levers

for use with female connector without strain relief clamp



Long levers

for use with female connector with strain relief clamp



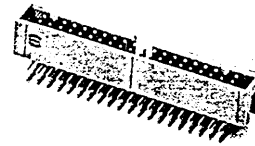
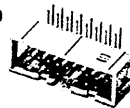
- 1) Contact number 1
- 2) No polarization slot for 6, 10, or 14 way male header
- 3) No polarization slot for 6 way male header
- 4) Pitch tolerance:  $\pm 0.1$

SEK 18

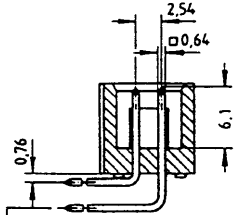
Number of contacts

6-64

864 780  
864 766  
864-791.  
864-821



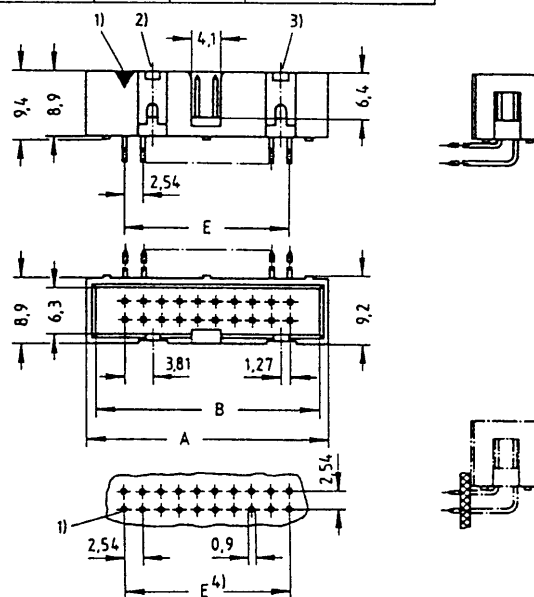
## Low-profile male header, angled pins

| 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<br>A<br>B<br>E           |  <p>Solder pins for<br/>0.9 mm dia. hole</p> |
|                                     | 10              | 09 18 510 323 | 6<br>15.2<br>12.78<br>2.54 x 2 = 5.08    |                                                                                                                                 |
|                                     | 14              | 09 18 514 323 | 10<br>20.3<br>17.86<br>2.54 x 4 = 10.16  |                                                                                                                                 |
|                                     | 16              | 09 18 516 323 | 14<br>25.4<br>22.94<br>2.54 x 6 = 15.24  |                                                                                                                                 |
|                                     | 20              | 09 18 520 323 | 16<br>27.9<br>25.48<br>2.54 x 7 = 17.78  |                                                                                                                                 |
|                                     | 26              | 09 18 526 323 | 20<br>33.0<br>30.56<br>2.54 x 9 = 22.86  |                                                                                                                                 |
|                                     | 34              | 09 18 534 323 | 26<br>40.6<br>38.18<br>2.54 x 12 = 30.48 |                                                                                                                                 |
|                                     | 40              | 09 18 540 323 | 34<br>50.8<br>48.34<br>2.54 x 16 = 40.64 |                                                                                                                                 |
|                                     | 50              | 09 18 550 323 | 40<br>58.4<br>55.96<br>2.54 x 19 = 48.26 |                                                                                                                                 |
|                                     | 60              | 09 18 560 323 | 50<br>71.3<br>68.66<br>2.54 x 24 = 60.96 |                                                                                                                                 |
|                                     | 64              | 09 18 564 323 | 60<br>84.0<br>81.36<br>2.54 x 29 = 73.66 |                                                                                                                                 |
|                                     |                 |               | 64<br>89.1<br>86.44<br>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* |

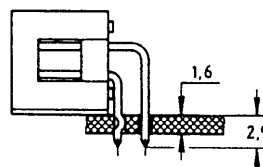


- 1) Contact number 1
- 2) No polarization slot for 6, 10, or 14 way male header
- 3) No polarization slot for 6 way male header
- 4) Pitch tolerance:  $\pm 0.1$

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

Length: 2.9 mm

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

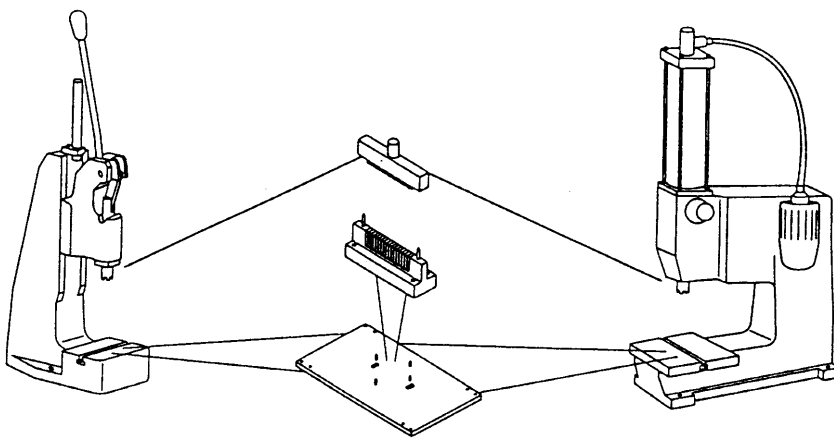
For Performance Level 3 please specify digit 7  
 For Performance Level 2 please specify digit 6  
 > 0.76 µm Au (30 µ inch) on request 5 \*

\*Not kept in stock

For accessories see page 15

# Tools for press-in technique

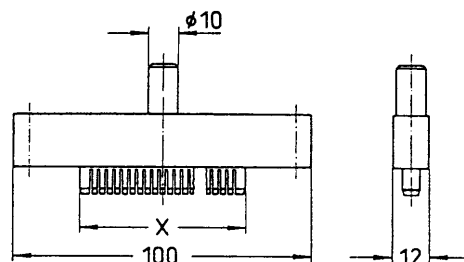


| Identification     | Part No.       | Drawing                                                                            | Dimensions in mm |
|--------------------|----------------|------------------------------------------------------------------------------------|------------------|
| Hand bench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

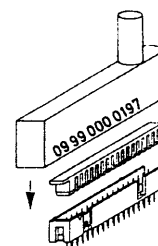
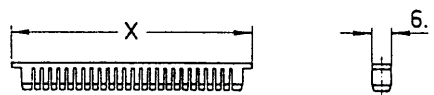
## Tools

|                     |    |                |
|---------------------|----|----------------|
| 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 |



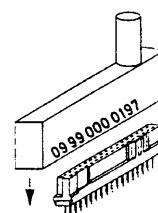
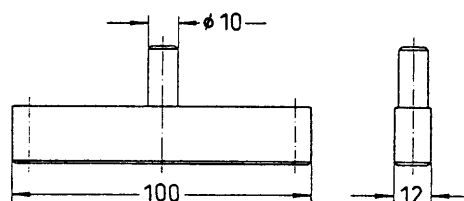
x Length depends on number of contacts



## Top Tool

for SEK 24 female connectors and male connectors with modular insert

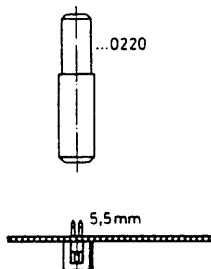
09 99 000 0197



## Press-out tool for complete male connectors

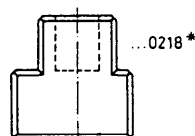
for 5.5 mm terminations

09 99 000 0220



## Support block

09 99 000 0218



\* Further versions on request

Identification

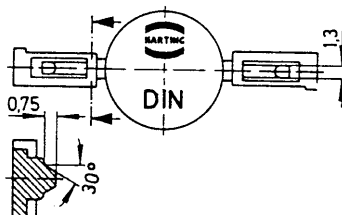
Part No.

Drawing

Dimensions in mm

Polarization key

09 18 500 9902<sup>1)</sup>



<sup>1)</sup> Part No. comprises  
2 keys

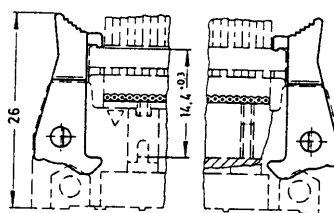
Locking lever

(snaps into place, can be  
fitted whenever required)

Long:

09 18 000 9903<sup>2)</sup>

Long

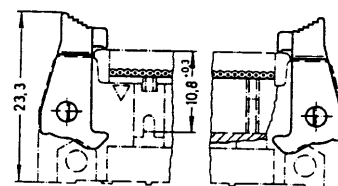


For use with female connector  
with strain relief clamp

Short:

09 18 000 9904<sup>2)</sup>

Short



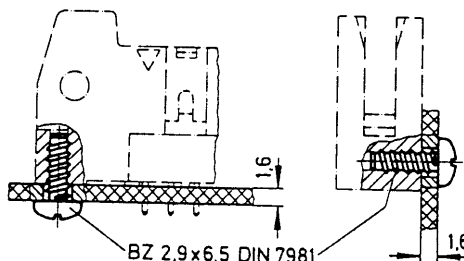
For use with female connector  
without strain relief clamp

<sup>2)</sup> Order 2 per  
male header

Fixing screws

for 1.6 mm PC. board

09 18 000 9906<sup>3)</sup>



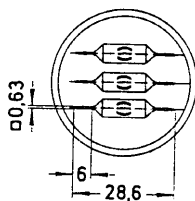
<sup>3)</sup> Part No. comprises  
50 pieces  
(Order 50 or multiples  
of 50)

Coding system with  
loss of contact

Code pin

09 18 000 9901<sup>4)</sup>

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.



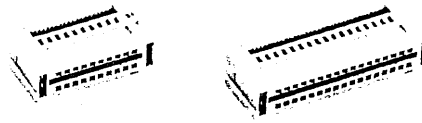
Removal tool  
for  
male contacts  
09 99 000 0133



<sup>4)</sup> Part No. comprises  
6 code pins

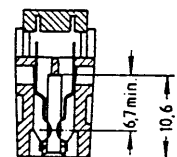
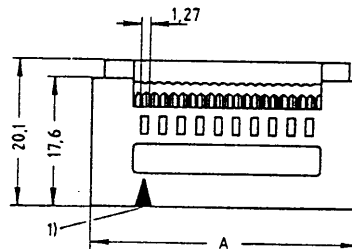
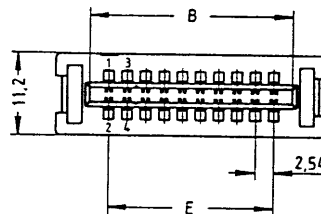
Number of contacts

## 20, 34

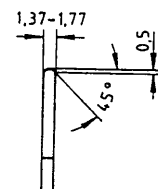
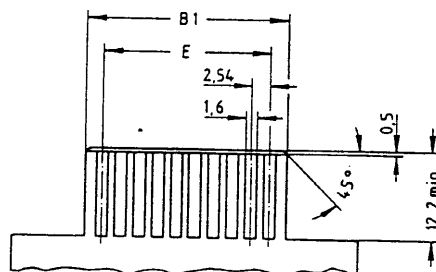


### Card edge connectors for insulation displacement

| Identification                                                               | Number of contacts | Part No.        | Drawing         |       |       |                     |                   | Dimensions in mm |
|------------------------------------------------------------------------------|--------------------|-----------------|-----------------|-------|-------|---------------------|-------------------|------------------|
| Card edge connectors for insulation displacement for P.C.B. thickness 1.6 mm |                    |                 | No. of contacts | A     | B     | B <sub>1</sub> ±0,1 | E                 |                  |
|                                                                              | 20                 | 09 18 620 — 803 | 20              | 37.30 | 28.20 | 27.80               | 2.54 x 9 = 22.86  |                  |
|                                                                              | 34                 | 09 18 634 — 803 | 34              | 55.10 | 46    | 45.60               | 2.54 x 16 = 40.64 |                  |



P.C.B.



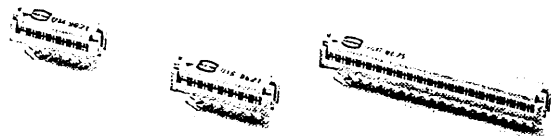
1) Contact number 1

SEK 18

Number of contacts

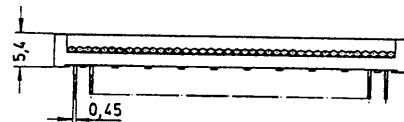
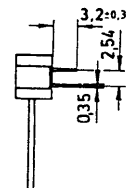
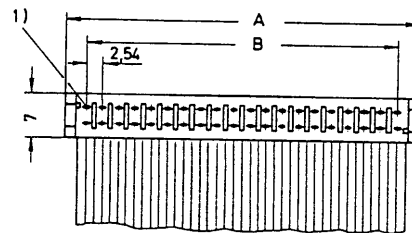
6-64

864900  
864 845.  
864912 , 864 882  
864 857

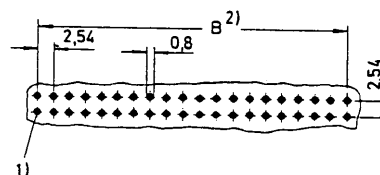


PC.B. transition connector, 2 rows

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



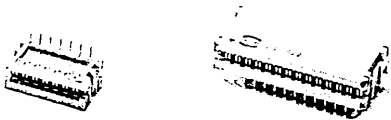
PC. board layout



- 1) Lead number 1  
2) Pitch  
tolerance:  $\pm 0.1$

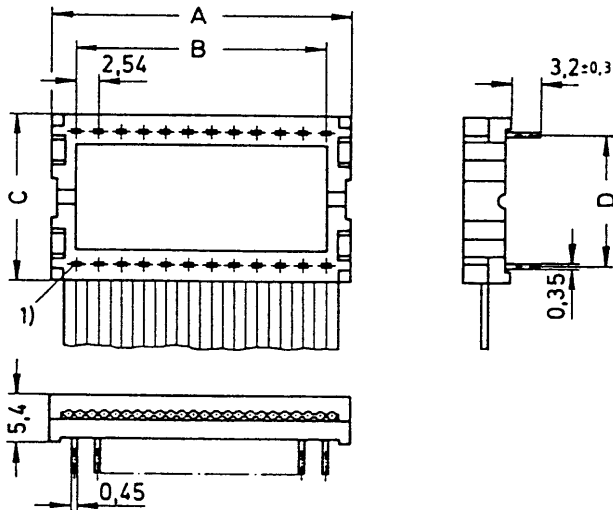
Number of contacts

14-40

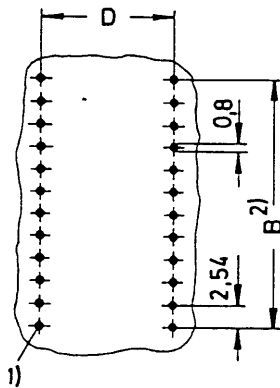


DIP connector for IC base or for soldering into P.C. boards

| 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 |                  |



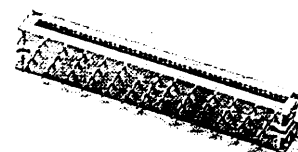
P.C. board layout



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

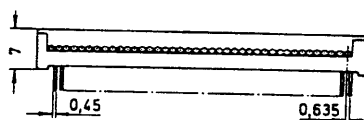
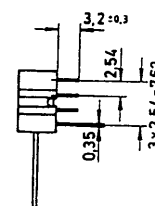
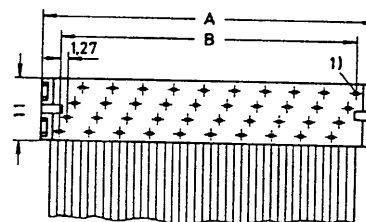
Number of contacts

## 10-50

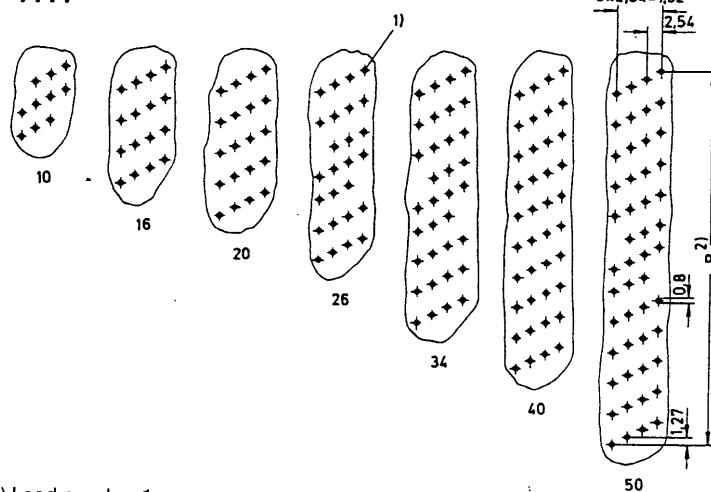


### PC.B. transition connector, 4 rows

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



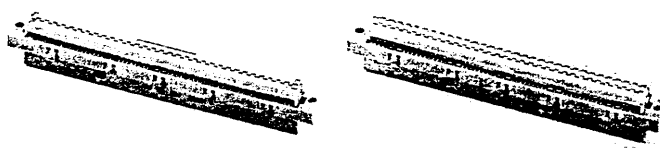
### PC. board layout



- 1) Lead number 1  
2) Pitch tolerance:  $\pm 0.1$

Number of contacts

64

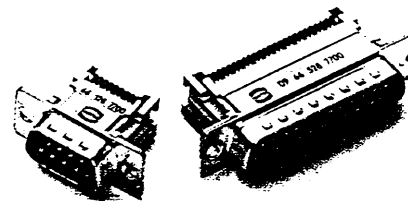
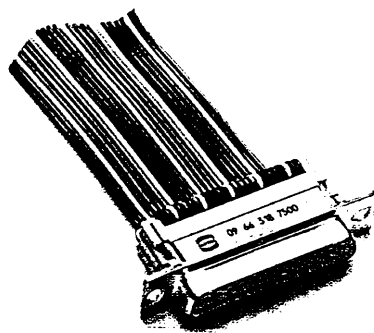


## Female connectors for insulation displacement

| Identification                               | No. of contacts | Part No.                              | Drawing                                                                                                                                                     | Dimensions in mm |   |   |         |     |       |         |      |      |  |
|----------------------------------------------|-----------------|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---|---|---------|-----|-------|---------|------|------|--|
| Female connector for insulation displacement |                 |                                       |                                                                                                                                                             |                  |   |   |         |     |       |         |      |      |  |
| Gds A-B                                      | 34              | Performance Level 2<br>09 02 264 6828 |                                                                                                                                                             |                  |   |   |         |     |       |         |      |      |  |
|                                              |                 | Performance Level 3<br>09 02 264 7828 | Lead number 1 of flat cable on contact 1 b<br>Contact arrangement View from wiring side<br>                                                                 |                  |   |   |         |     |       |         |      |      |  |
|                                              |                 |                                       |                                                                                                                                                             |                  |   |   |         |     |       |         |      |      |  |
|                                              |                 |                                       |                                                                                                                                                             |                  |   |   |         |     |       |         |      |      |  |
| Gds A-C                                      | 34              | Performance Level 2<br>09 03 264 6828 |                                                                                                                                                             |                  |   |   |         |     |       |         |      |      |  |
|                                              |                 | Performance Level 3<br>09 03 264 7828 | Lead number 1 of flat cable on contact 1 c<br>Contact arrangement View from wiring side<br>                                                                 |                  |   |   |         |     |       |         |      |      |  |
|                                              |                 |                                       | Mateable with 3-row male connector Gds A-C.<br>No female contact in middle row.                                                                             |                  |   |   |         |     |       |         |      |      |  |
|                                              |                 |                                       | Panel cut out<br>                                                                                                                                           |                  |   |   |         |     |       |         |      |      |  |
|                                              |                 |                                       | <table><tr><td></td><td>a</td><td>b</td></tr><tr><td>Gds A-B</td><td>8,3</td><td>10,16</td></tr><tr><td>Gds A-C</td><td>10,8</td><td>12,7</td></tr></table> |                  | a | b | Gds A-B | 8,3 | 10,16 | Gds A-C | 10,8 | 12,7 |  |
|                                              | 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

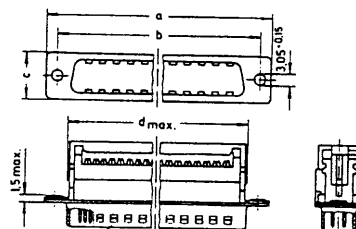
## Strain relief clamp

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

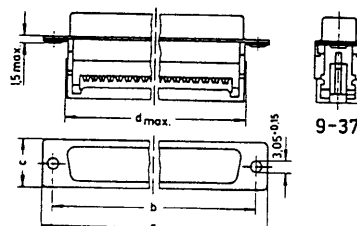
## Male connector



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

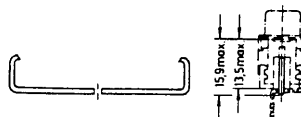


9-37

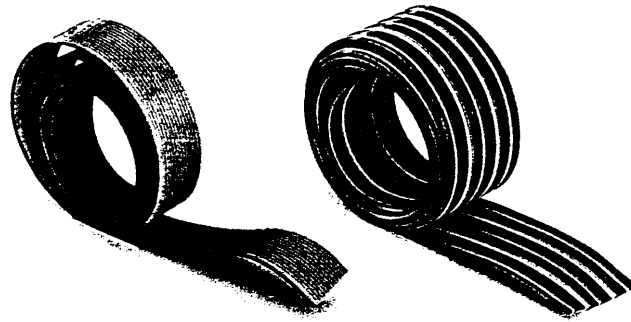
## Specified conductors

stranded wires AWG 28/7  
AWG 26/7

## Strain relief clamp



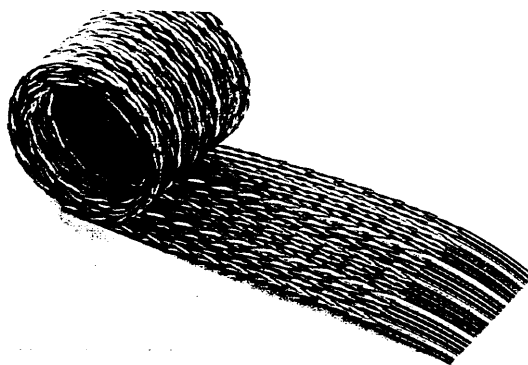
# Flat cable AWG 28/7



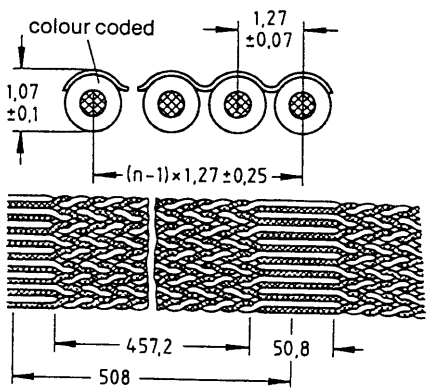
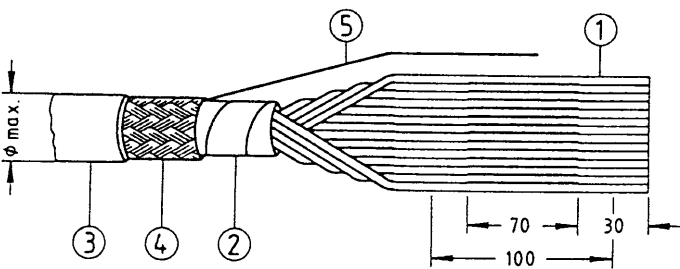
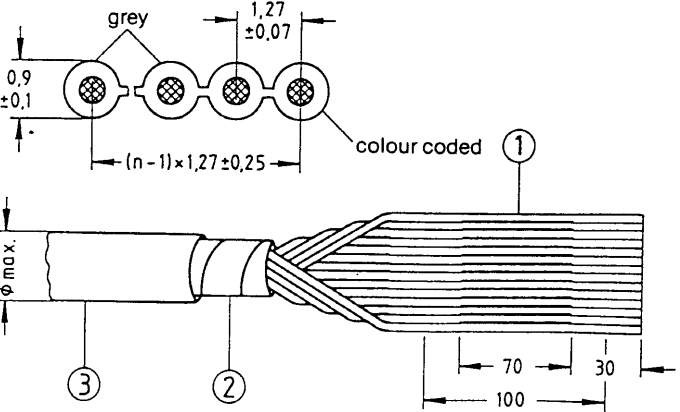
Important:  
always store reels vertically.

| Identification                                             | No. of contacts                                                                                  | Part No.                                                                                                                                                                                                                                                                                      | Drawing | Dimensions in mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flat cable<br>grey<br>UL 2651<br>IEC 918                   | 3<br>9<br>10<br>13<br>15<br>16<br>20<br>24<br>25<br>26<br>28<br>34<br>37<br>40<br>50<br>60<br>64 | 09 18 006 700<br>09 18 009 700<br>09 18 010 700<br>09 18 014 700<br>09 18 015 700<br>09 18 016 700<br>09 18 020 700<br>09 18 024 700<br>09 18 025 700<br>09 18 026 700<br>09 18 028 700<br>09 18 034 700<br>09 18 037 700<br>09 18 040 700<br>09 18 050 700<br>09 18 060 700<br>09 18 064 700 |         | <p><b>NEW</b></p> <p>Grey 7001 = Metric packaging of 50 m</p> <p>Grey 7004 = Metric packaging of 150 m</p> <p>Wire (tinned) _____ Cu</p> <p>Gauge _____ AWG 28/7 0.089 mm<sup>2</sup></p> <p>Conductor resistance _____ 230 mΩ/m</p> <p>Capacity _____ 60 pF/m</p> <p>Characteristic impedance _____ 110 Ω</p> <p>Signal delay _____ 5 ns/m</p> <p>Insulation material _____ PVC</p> <p>Temperature rating _____ -20 °C + 105 °C</p> <p>Insulation resistance _____ 10<sup>4</sup> MΩ / km</p>                  |
| Length per reel<br>50 m (164 feet) 1<br>150 m (492 feet) 4 |                                                                                                  |                                                                                                                                                                                                                                                                                               |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Flat cable<br>colour coded                                 | 10<br>14<br>15<br>20<br>24<br>25<br>26<br>34<br>37<br>40<br>50<br>60<br>64                       | 09 18 010 7005<br>09 18 014 7005<br>09 18 016 7005<br>09 18 020 7005<br>09 18 024 7005<br>09 18 025 7005<br>09 18 026 7005<br>09 18 034 7005<br>09 18 037 7005<br>09 18 040 7005<br>09 18 050 7005<br>09 18 060 7005<br>09 18 064 7005                                                        |         | <p>Colour code sequence (in 10 steps)<br/>brown, red, orange, yellow,<br/>green, blue, violet, grey,<br/>white, black</p> <p>Wire (tinned) _____ Cu</p> <p>Gauge _____ AWG 28/7 0.089 mm<sup>2</sup></p> <p>Conductor resistance _____ 230 mΩ/m</p> <p>Capacity _____ 49 pF/m</p> <p>Characteristic impedance _____ 105 Ω</p> <p>Signal delay _____ 4.6 ns/m</p> <p>Insulation material _____ PVC</p> <p>Temperature rating _____ -20 °C + 105 °C</p> <p>Insulation resistance _____ 10<sup>3</sup> MΩ / km</p> |
| Length per reel<br>30.48 m (100 feet)                      |                                                                                                  |                                                                                                                                                                                                                                                                                               |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 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<br>30.48 m (100 feet) | 10              | 09 18 010 7006 |    |                  |
|                                       | 14              | 09 18 014 7006 |                                                                                      |                  |
|                                       | 16              | 09 18 016 7006 |                                                                                      |                  |
| UL 2693                               | 20              | 09 18 020 7006 |                                                                                      |                  |
|                                       | 26              | 09 18 026 7006 |                                                                                      |                  |
|                                       | 34              | 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<br>30.48 m (100 feet) | 9               | 09 18 009 7007 |  |                  |
| with screening                        | 10              | 09 18 010 7007 |                                                                                      |                  |
|                                       | 14              | 09 18 014 7007 |                                                                                      |                  |
|                                       | 16              | 09 18 015 7007 |                                                                                      |                  |
|                                       | 20              | 09 18 016 7007 |                                                                                      |                  |
|                                       | 25              | 09 18 020 7007 |                                                                                      |                  |
|                                       | 26              | 09 18 025 7007 |                                                                                      |                  |
|                                       | 34              | 09 18 026 7007 |                                                                                      |                  |
|                                       | 37              | 09 18 034 7007 |                                                                                      |                  |
|                                       | 40              | 09 18 037 7007 |                                                                                      |                  |
|                                       | 50              | 09 18 040 7007 |                                                                                      |                  |
|                                       | 60              | 09 18 050 7007 |                                                                                      |                  |
|                                       | 64              | 09 18 060 7007 |                                                                                      |                  |
|                                       | 64              | 09 18 064 7007 |                                                                                      |                  |
| without screening                     | 9               | 09 18 009 7008 |  |                  |
| UL 2464                               | 10              | 09 18 010 7008 |                                                                                      |                  |
|                                       | 14              | 09 18 014 7008 |                                                                                      |                  |
|                                       | 16              | 09 18 015 7008 |                                                                                      |                  |
|                                       | 20              | 09 18 016 7008 |                                                                                      |                  |
|                                       | 25              | 09 18 020 7008 |                                                                                      |                  |
|                                       | 26              | 09 18 025 7008 |                                                                                      |                  |
|                                       | 34              | 09 18 026 7008 |                                                                                      |                  |
|                                       | 37              | 09 18 034 7008 |                                                                                      |                  |
|                                       | 40              | 09 18 037 7008 |                                                                                      |                  |
|                                       | 50              | 09 18 040 7008 |                                                                                      |                  |
|                                       | 60              | 09 18 050 7008 |                                                                                      |                  |
|                                       | 64              | 09 18 060 7008 |                                                                                      |                  |
|                                       | 64              | 09 18 064 7008 |                                                                                      |                  |

|                          | Flat cable twisted pair | Round flat cable with screening | Round flat cable 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

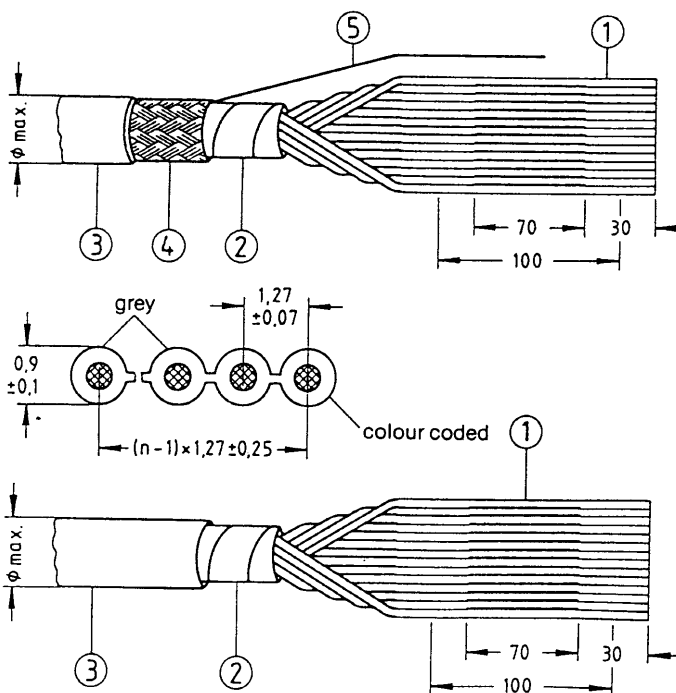
② Barrier tape

③ Outer insulation PVC, grey

④ Tinned copper screen (shielded version)

⑤ Drain Wire AWG 28 (shielded version)

|                          | 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

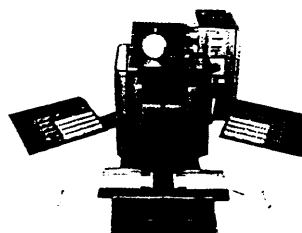


Identification

Part No.

SEK Harnessing  
Work-station

on request



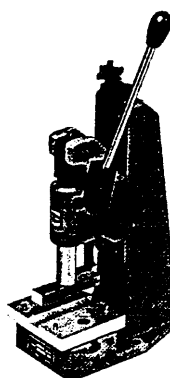
Bench press

for termination  
of insulation  
displacement  
connectors

09 99 000 0114

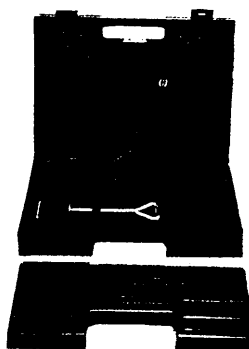
Base plate  
for termination  
of flat cables

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



Cable cutter  
for flat cables

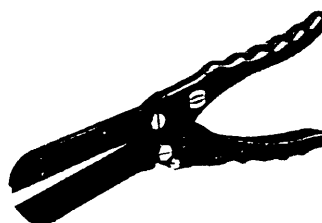
09 99 000 0116

Spare parts  
Blade

09 99 000 0179

Cutting plate

09 99 000 0180



# List of part numbers

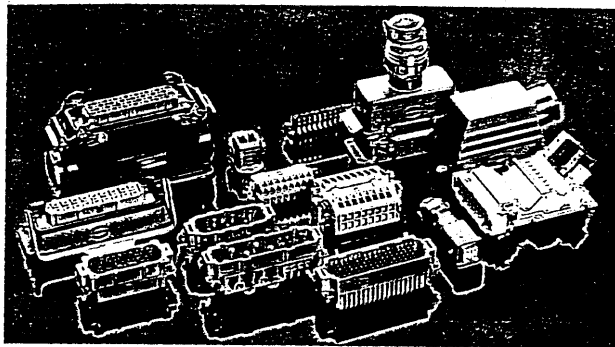


| Part No.         | Page | Part No. | Page      | Part No. | Page      | Part No.       | Page      | Part No.       | Page |
|------------------|------|----------|-----------|----------|-----------|----------------|-----------|----------------|------|
| 09 02 264 6828   | 20   | 09 18 5  | 5321 * 12 | 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         |                |      |

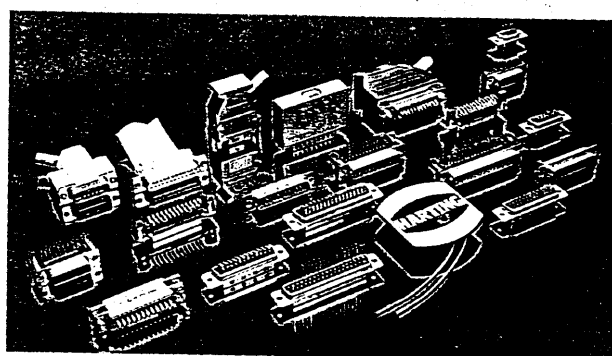
Complete the Part No. by inserting the required number of contacts where indicated thus:

\*Not kept in stock

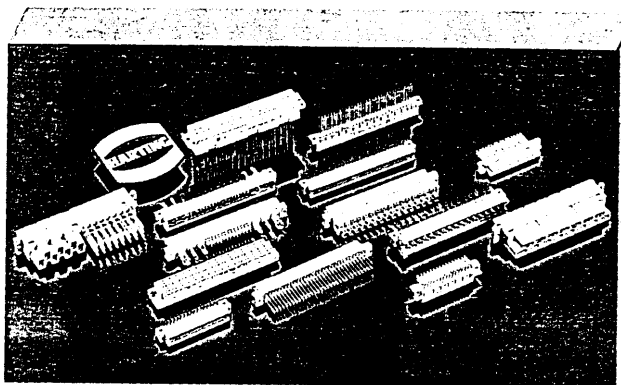
# Some of the components from the HARTING range



Heavy Duty Connectors  
for industrial engineering



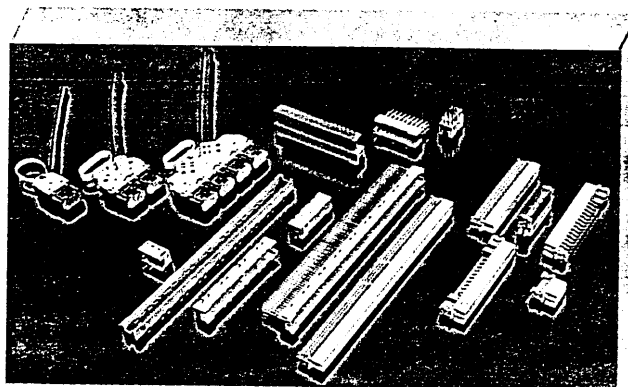
Subminiature D-Connectors  
DIN 41 652



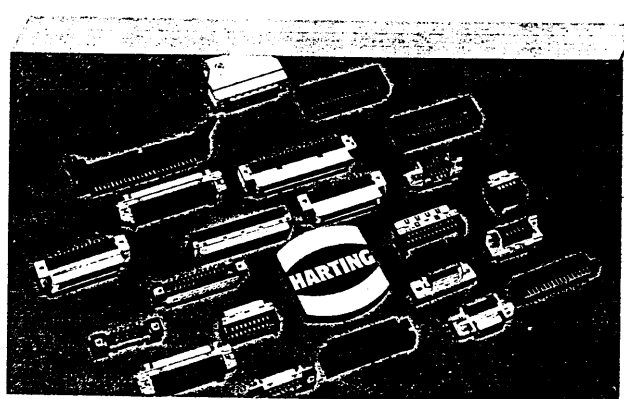
Printed Circuit Connectors  
DIN 41 612 · DIN 41 617



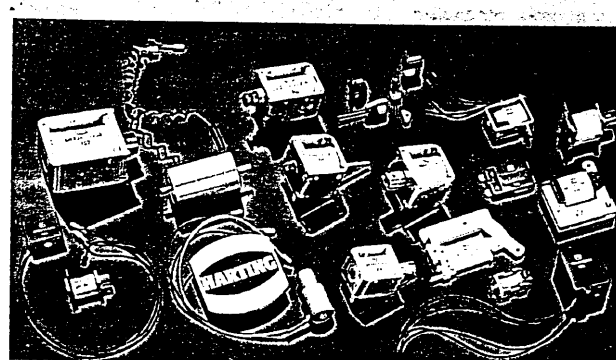
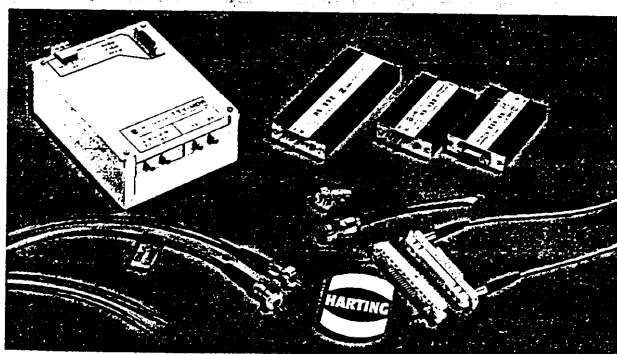
Flat Cable Connector System  
DIN 41 651



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 ELECTRÔNICA 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