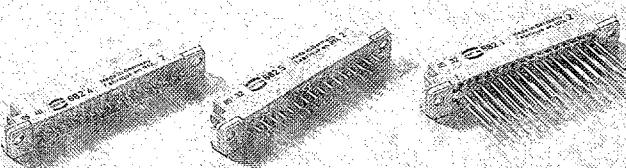


Number of contacts

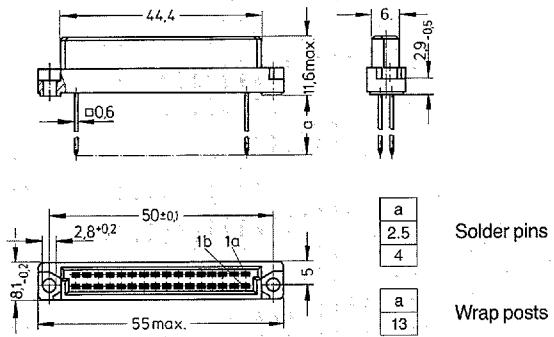
32, 16



Female connectors

| Identification | Number of contacts | Contact arrangement | Part No. | Performance levels according to DIN 41612, explanations page 10 | |
|--|--------------------|---------------------|----------------|---|-----------------|
| | | | 3 | 2 | 1 |
| Female connector with solder pins 2.5 mm | 32 | | 09 22 132 7824 | 09 22 132 6824 | 09 22 132 2824* |
| | 16 | | 09 22 116 7834 | 09 22 116 6834 | 09 22 116 2834* |
| Female connector with solder pins 4.0 mm | 32 | | 09 22 132 7825 | 09 22 132 6825 | 09 22 132 2825* |
| | 16 | | 09 22 116 7835 | 09 22 116 6835 | 09 22 116 2835* |
| Female connector with wrap posts 13 mm | 32 | | 09 22 132 7821 | 09 22 132 6821 | 09 22 132 2821* |
| | 16 | | 09 22 116 7831 | 09 22 116 6831 | 09 22 116 2831* |

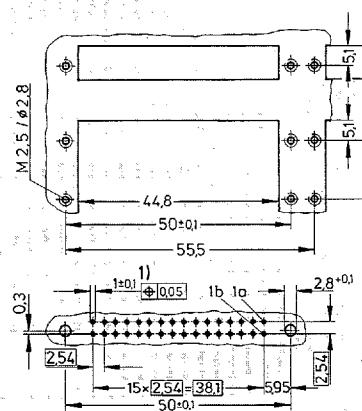
Dimensions



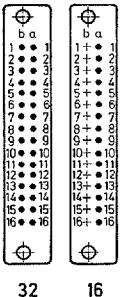
Solder pins

Wrap posts

Panel cut out



Board drillings

Contact arrangement
View from termination side

32 16

1) Solder pins for holes Ø 0.8 + 0.3 mm on request

Mating conditions page 10
Coding information page 88

Dimensions in mm

29

* Not normally kept in stock

9008149 0000603 4T4



Economic and Reliable Connections

The Gds connector system for use in 19" racks to DIN 41494

Gds A series according to

| | |
|-------------|----------------------|
| DIN | 41 612 |
| VG | 95 324 ¹⁾ |
| IEC | 603-2 |
| MIL-C- | 55 302 |
| BT | 222 |
| BS | 9525 |
| HE | 12 |
| NFC | 93-420 |
| UL-gelistet | |
| CSA | 018753 |
| CECC | 75 100 |

Developed for economical assembly of electronic plant and equipment

HARTING offer the most comprehensive range of highly versatile connectors complemented by many styles of shell housings making a complete interconnection and interface system.

¹⁾Connectors can be manufactured to VG 95 324 the standard of the German Federal Agency for Defence Engineering and Procurement (BWB) also with the VDE electronic symbol of approval.



The division Printed Board Connectors Gds A is certified according to DIN EN ISO 9001

The advantages

- Indirect mating (male/female)
- Automated production techniques
- Continuous quality assurance
- 15-96 contacts
- Complete interconnection system
- Numerous interface connectors
- A wide variety of hoods
- Many termination techniques provide for the lowest installed cost
- Contacts selectively gold-plated
- Tinned terminations for increased solderability

The terminations

- Wrap post for automated wiring
- Straight and angled solder pins for printed circuits
- Solder lugs for discrete wiring
- Press-in technique for back planes
- Crimp contacts for selective loading
- Insulation displacement contacts for mass termination
- Faston blades for higher power discrete wiring
- Cage-clamp contacts provide low cost connection for solid or stranded wires

For "non standard applications" we can manufacture designs to match your requirements.

Please discuss requirements with us.

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

Sales Department
HARTING-Components



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 German version on

Performance level 3 as per DIN 41 612, part 5

50 mating cycles.

Then visual inspection no gas test.

No functional impairment.

Part-number-explanation 09 . . . 7 . . .

Performance level 2 as per DIN 41 612, part 5

400 mating cycles.

200 mating cycles 4 days gas test using 10 ppm SO₂.

Measurement of contact resistance.

200 mating cycles then visual inspection. No abrasion of the contact finish through to the base material. No functional impairment.

Part-number-explanation 09 6 . . .

Performance level 1 as per DIN 41 612, part 5

500 mating cycles.

250 mating cycles 21 days gas test using 10 ppm SO₂.

Measurement of contact resistance.

250 mating cycles then visual inspection. No abrasion of the contact finish through to the base material. No functional impairment.

Part-number-explanation 09 2 . . .

VG Version as per VG 95 324, part 1

500 mating cycles – then 1 day gas test using 10.000 ppm SO₂ and 1 day gas test using 10.000 ppm H₂S.

Then visual inspection. No abrasion of the contact finish through to the base material. No functional impairment.

Part-number-explanation 09 4 . . .

Other plating finishes available on request.

Soldering the male connectors into P.C. Boards

The male connectors of the Gds A series should be protected when soldering using dip, flow or film soldering baths, against contamination as a result of soldering operations or deformation of the connector bodies as a result of overheating.

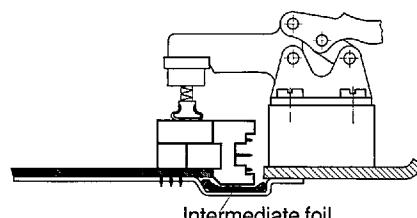
① For prototypes and short runs cover the connectors with an industrial adhesive tape, e.g. Tesaband 4657 grey. Tape the underside of the connector moulding and adjacent parts of the P.C. Board and tape up the open end of the connector. This will prevent heat and gases from the soldering apparatus damaging the connector. About 140 + 5 mm of tape should be sufficient.

② For large run production a jig is recommended. This has a protective cover with a fast action mechanical locking device that shields the connector from the gas and heat generated by the soldering apparatus. For additional protection a foil can be used covering parts not to be soldered.



Adhesive tape

①



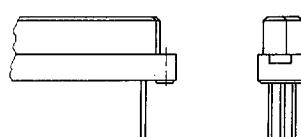
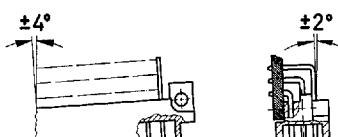
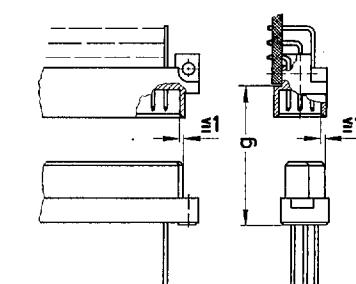
Intermediate foil

Mating conditions

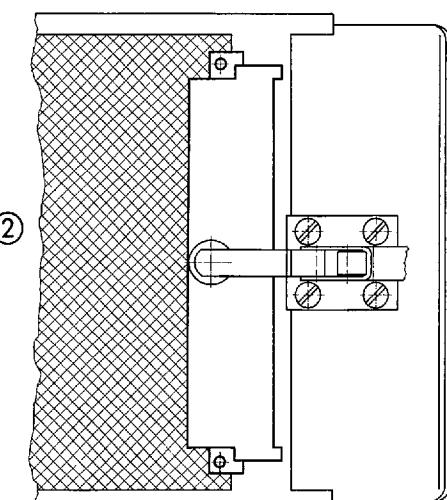
To ensure reliable connections and prevent unnecessary damage, please refer to the application data diagrams.

These recommendations are set out in DIN 41 612 P. 1.

The connectors shall not be coupled and decoupled under electrical load.



g = 124 - 14,2



Summary Gds A



| Type | B | | | 2B | | | C | | | 2C | | | | |
|--|-------------|-------------------|------------------|-------------|----|-----------|-------------|----|---------|-------------|----|----|-----------|----|
| Part No. | 09 02 | | | 09 22 | | | 09 03 | | | 09 23 | | | | |
| Working current | 2 | | | 2 | | | 2 | | | 2 | | | | |
| Clearance (mm) | ≥ 1.2 | | | ≥ 1.2 | | | ≥ 1.2 | | | ≥ 1.2 | | | | |
| Creepage (mm) | ≥ 1.2 | | | ≥ 1.2 | | | ≥ 1.2 | | | ≥ 1.2 | | | | |
| Minimum assembly spacing | 2 x 5.08 mm | | | 2 x 5.08 mm | | | 3 x 5.08 mm | | | 3 x 5.08 mm | | | | |
| Number of contacts | 64 | 32 | 32 | 32 | 16 | | 96 | 64 | 32 | 32 | 48 | 32 | 16 | |
| Contact arrangement View from termination side | | | | | | | | | | | | | | |
| Male connectors | | 1) | ● | ● | ● | 22 | ● | ● | ● | ● | ● | ● | ● | 36 |
| | | 2) | ● | | | 22 | ● | ● | ● | ● | ● | ● | | 36 |
| | | | | | | | | | | | | | | |
| | | < 4 ¹⁾ | ● | ● | ● | 22 | ● | ● | ● | ● | ● | ● | ● | 36 |
| | | < 4 ²⁾ | ● | | | 22 | ● | ● | ● | ● | ● | ● | | 36 |
| | | | | | | | | | | | | | | |
| | | | ● | ● | ● | 22 | | | ● | ● | ● | ● | 30 | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| Female connectors | | | ● | ● | ● | 24 | ● | ● | ● | ● | ● | ● | ● | 37 |
| | | < 4 | ● | ● | ● | 24 | ● | ● | ● | ● | ● | ● | ● | 37 |
| | | ≥ 4 | ● | ● | ● | 24 | ● | ● | ● | ● | ● | ● | ● | 37 |
| | | | ● | ● | ● | 24 | | | ● | ● | ● | ● | 32 | |
| | | | | | | | | | ● | ● | ● | ● | 32 | |
| | | | | | | | | | | | | | | |
| | | see Q → | | | | see 2 Q → | | | see R → | | | | see 2 R → | |
| | | | ● | ← | ← | 27 | | | | ● | ← | ← | 35 | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| Interface connectors | | | | | | | | | | | | | | |
| | | U | 0.6 [□] | ● | | 23 | | | | ← | | | | |
| Distrib- utor | | | | | | | | | | | | | | |
| Pin shroud | | | | → | | | | | ● | | | | 118 | |
| Shell housing | | | | | | | | | | | | | | |
| | | C | | ● | 94 | | | | ● | | | | 94 | |
| Fixing brackets | | | | | | | | | | | | | | |
| | | c | | ● | 96 | | | | ● | | | | 99 | |

¹⁾ Without first mating contacts ²⁾ With first mating contacts

Number of contacts

Contact spacing (mm)

Working current

see current carrying capacity chart

Clearance

Creepage

Working voltage

The working voltage also depends on the clearance and creepage dimensions of the P.C. Board itself, and the associated wiring

Test voltage $U_{r.m.s.}$

Contact resistance

Insulation resistance

Temperature range

The higher temperature limit includes the local ambient and heating effect of the contacts under load

Degree of protection for crimp terminal according to DIN 40050

Electrical termination

Male connector

Female connector

Insertion and withdrawal force

Materials

Mouldings

Contacts

Contact surface

¹⁾ Explanations of performance levels page 10

You will find angled female connectors for

Series Gds A-B

Series Gds A-2B

Series Gds A-C

Series Gds A-2C

Mating conditions page 10

Coding systems page 88

16-96

2.54

2 A max.

1 A with insulation displacement

40 A max. type M

$\geq 1.2 \text{ mm}$

$\geq 1.2 \text{ mm}$

according to the safety regulations of the equipment.
Explanations page 6

1 kV

$\leq 15 \text{ m}\Omega$

$\leq 20 \text{ m}\Omega$ including crimp connection

$\leq 10^{12} \Omega$

$-65^{\circ}\text{C} +125^{\circ}\text{C}$

IP 20

Solder pins 0.6 x 0.6 mm for P.C.B. connections $\varnothing 0.8 + 0.3 \text{ mm}$

Wrap posts 0.6 x 0.6 mm diagonal 0.79-0.86 mm

Wrap posts 0.6 x 0.6 mm diagonal 0.79-0.86 mm

Solder pins 0.6 x 0.6 mm for P.C.B. connections

$\varnothing 1 \pm 0.1 \text{ mm}$ according to IEC 326 for P.C.B. connections $\varnothing 0.8 + 0.3 \text{ mm}$ on request

Solder lugs

Crimp terminal $0.09-0.5 \text{ mm}^2$

Insulation displacement connection

AWG 28/7

Connector for faston 6.3×2.5

16 way $\leq 15 \text{ N}$

32 way $\leq 30 \text{ N}$

48 way $\leq 45 \text{ N}$

64 way $\leq 60 \text{ N}$

96 way $\leq 90 \text{ N}$

Thermoplastic resin,
glass-fibre filled

Copper alloy

Contact zone: selectively gold-plated according to performance level¹⁾

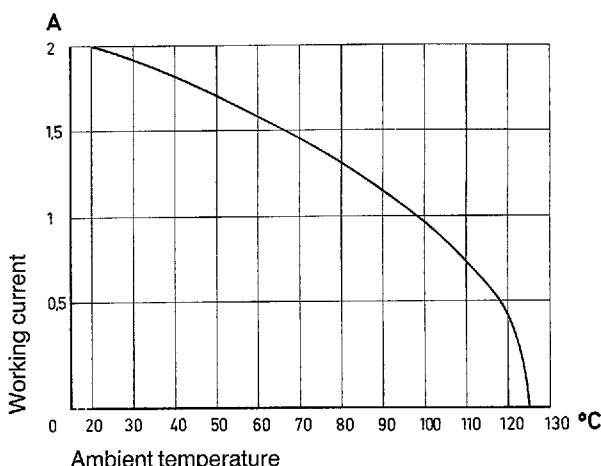
Termination zone: tinned

Wrap posts selectively gold plated on request

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN 41640, part 3.



Fitting the crimp contacts

After crimping the wires onto the contacts the crimp contacts are correctly orientated and inserted into cavities in the connector body in the required configuration. They snap into position and are firmly held in place. A light pull on the wire will check that they are correctly located. When using stranded wire having a gauge below 0.37 mm^2 , an insertion tool is required.

Removing the crimp contacts

The removal tool is inserted into a slot on the side of the respective crimp cavity. This action compresses the contact retaining spring and the contact can then be easily withdrawn using a light pull on the wire. This action will cause no damage to the contact/wire which can be repositioned/refitted as necessary. The diagram demonstrates the crimp removal procedure (max. 5 x).

