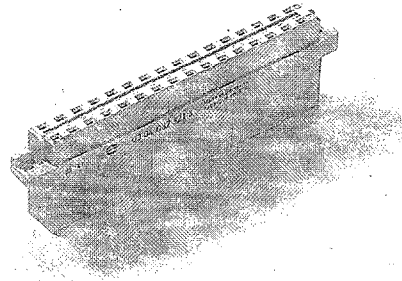

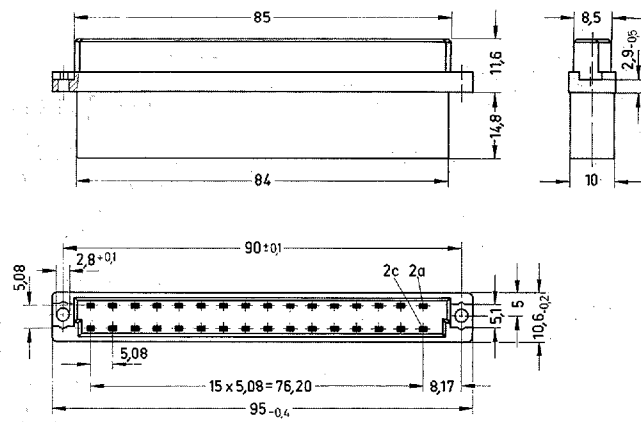
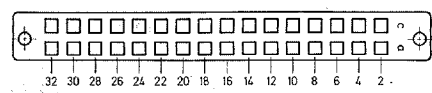
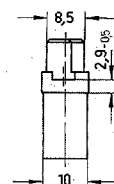






Number of contacts

max. 32



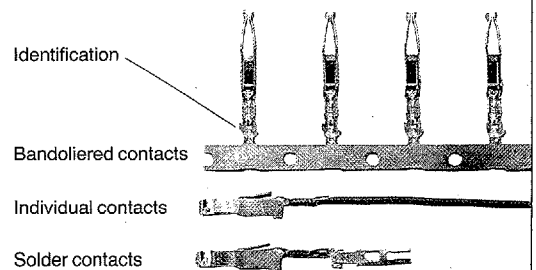
Female connectors

Identification	Number of contacts	Part No.	Drawing	Dimensions in mm
Female connector for crimp contacts Order contacts separately	 32	09 04 032 3213	 <p>Contact arrangement View from termination side</p> 	
Shell housing 09 03 096 0501 page 94				

Identification	Identification Wire gauge	Part No.	Performance levels according to DIN 41 612, explanations page 10	Special		
		2	1			
Female crimp contacts		Bandoliered contacts (approx. 2500 pieces)	09 06 000 6484	09 06 000 6474	09 06 000 6424	
			09 06 000 6481	09 06 000 6471	09 06 000 6421	
			09 06 000 6482	09 06 000 6472	09 06 000 6422	
Bandoliered contacts (approx. 300 pieces)		1	09 06 000 9484	09 06 000 9474	please check change-over to performance level 1 or 2	
		2	09 06 000 9481	09 06 000 9471		09 06 000 9421
		3	09 06 000 9482	09 06 000 9472		09 06 000 9422
Individual contacts		1	09 06 000 8484	09 06 000 8474	09 06 000 6434	
		2	09 06 000 8481	09 06 000 8471	09 06 000 6431	
		3	09 06 000 8482	09 06 000 8472	09 06 000 6432	
Female contacts with solder lugs (lockable)					09 06 000 6420	

Wire gauge mm ²	AWG	Insulation Ø mm
0.09 - 0.25	28 - 24	0.7 - 1.5
0.14 - 0.56	26 - 20	0.8 - 2.0
0.5 - 1.5	20 - 16	1.6 - 2.8

3.5 + 0.5 mm of insulation is stripped from the wires to be crimped
Crimping tools page 91



Economic and Reliable Connections

The Gds connector system for use in 19" racks to DIN 41 494

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.

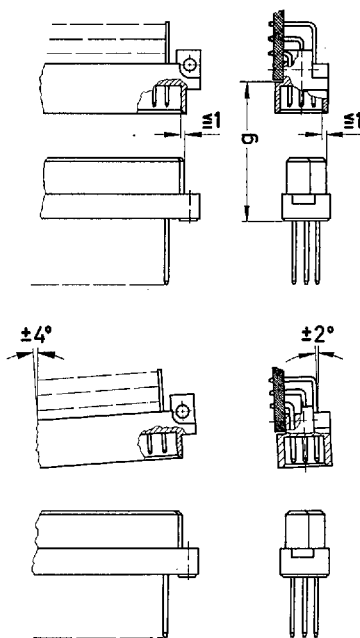
Part-number-explanation 09 4 . . .

Other plating finishes available on request.

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.

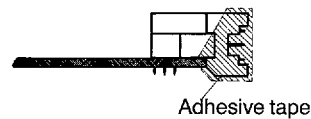


g = 12,4 - 14,2

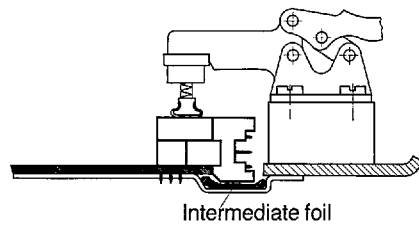
Soldering the male connectors into P.C. Boards

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.

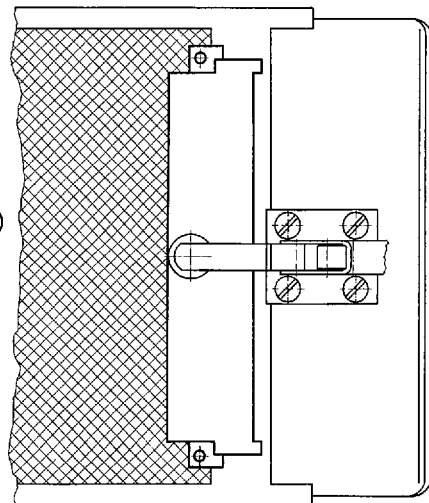
- ① For prototypes and short runs cover the connectors with an industrial adhesive tape, e.g. Tesaband 4657 grey. Tape the underside of the connector moulding and adjacent parts of the P.C. Board and tape up the open end of the connector. This will prevent heat and gases from the soldering apparatus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



①



②



Summary Gds A



Type	M				D		E		F/FC			FM		2F/FC					
Part No.	09 03				09 04		09 05		09 06			09 06		09 26					
Working current	2				6		6		6			6		6					
Clearance (mm)	≧ 1.2				≧ 1.6		≧ 1.6		≧ 1.6			≧ 1.6		≧ 1.6					
Creepage (mm)	≧ 1.2				≧ 3.0		≧ 3.0		≧ 3.0			≧ 3.0		≧ 3.0					
Minimum assembly spacing	3 x 5.08 mm				3 x 5.08 mm		4 x 5.08 mm		3 x 5.08 mm			3 x 5.08 mm		3 x 5.08 mm					
Number of contacts	78+2	60+4	42+6	24+8	32		48		48	32	32	45		24					
Contact arrangement View from termination side					Page		Page		Page				Page		Page				
Male connectors		1)	●	●	●	●	38	●	44	●	48	●	●	●	54	●	64		
		2)						●	44	●	48	●	●		54				
		< 4 ¹⁾						●	44										
		< 4 ²⁾						●	44										
		≧ 4 ¹⁾								●	48	●	●		55				
		1)										●	●		55				
												●			57		●	67	
Female connectors			●	●	●	●	39	●	45	●	50	●	●	●	58	●	65		
		< 4	●	●	●	●	39	●	45	●	50	●	●	●	58				
		≧ 4	●	●	●	●	39	●	45	●	50	●	●	●	58				
								●	45	●	50	●	●	●	58				
								●	46			●	●	●	61				
								●	47	●	51	●	←	←	62	●	65	●	68
												●	●	●	60				
Interface connectors	I		≧ 4							●	49	●	●		55				
			1□										●	●		55			
	U											●	←	←	56		●	66	
			1□									●	←	←	57		●	67	

Distributor								●	63	●	63	●	63				
		1□										● ³⁾					
Piggy back connector		1 row						●	115	●	115	●	115				
		2 rows						●	115	●	115	●	115				
		3 rows										●	115				
Shell housing		A										●	98		●	69	
		B										●	100				
		C						●	94	●	94						
		D										●	104				
		G								●	112	●	112				
		O										●	112				
Fixing brackets		a										●	99				
		b										●	102				
		c						●	96	●	96						

1) Without first mating contacts

2) With first mating contacts

3) Please ask for special documentation

Number of contacts

Gds A-D	32
Gds A-E	48

Contact spacing (mm)

Gds A-D	5.08
Gds A-E	male connector 5.08 x 5.08
	male connector 2.54 x 5.08
	female connector 5.08 x 5.08

Working current

see current carrying capacity chart
6 A max.

Clearance

Gds A-D, Gds A-E	≧ 3.0 mm
Gds A-E male connector	≧ 1.6 mm
row separation	2.54 mm

Creepage

≧ 3.0 mm

Working voltage

The working voltage also depends on the clearance and creepage dimensions of the P.C. Board itself, and the associated wiring
according to the safety regulations of the equipment.
Explanations page 6

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

1.55 kV

Contact resistance

≧ 15 mΩ
≧ 20 mΩ including crimp connection

Insulation resistance

≧ $10^{12} \Omega$

Temperature range

The higher temperature limit includes the local ambient and heating effect of the contacts under load
- 65 °C + 125 °C

Degree of protection for crimp terminal

IP 20 according to DIN 40 050

Electrical termination

Male connector	Solder pins 0.6 x 0.6 mm for P.C.B. connections $\varnothing 0.8 + 0.3$ mm
Female connector	Wrap posts 1 x 1 mm diagonal 1.34–1.45 mm
	Solder pins $\varnothing 0.7$ mm for P.C.B. connections $\varnothing 1.0 \pm 0.1$ mm according to IEC 326
	Angled solder pins 1 x 1 mm for P.C.B. connections $\varnothing 1.6 \pm 0.1$ mm
	Solder lugs
	Crimp terminal 0.09–1.5 mm ²

Insertion and withdrawal force

32 way ≧ 40 N
48 way ≧ 75 N

Materials

Mouldings	Thermoplastic resin, glass-fibre filled
Contacts	Copper alloy

Contact surface

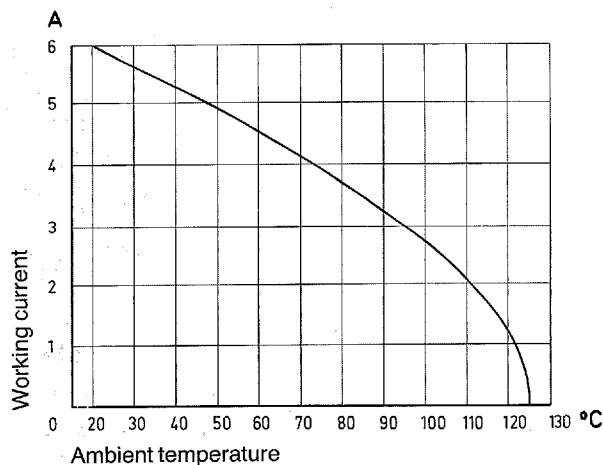
Contact zone: selectively gold plated according to performance level¹⁾
Termination zone: tinned

¹⁾ Explanations of performance levels page 10

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 41 640, part 3.

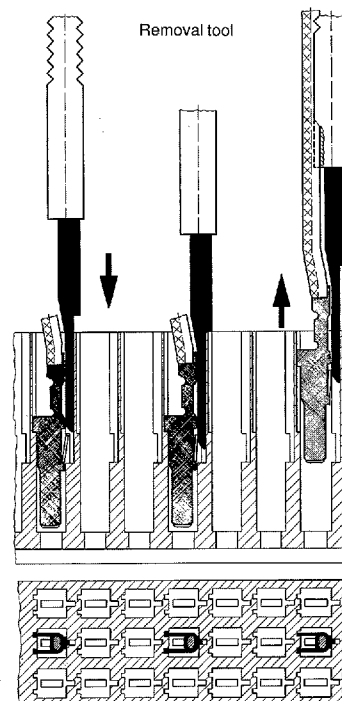


Fitting the crimp contacts

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 mm², 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).



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