



# DIN power female connector



## General information

|                                |                                    |                            |
|--------------------------------|------------------------------------|----------------------------|
| Design                         | IEC 60603-2                        | type: H female low profile |
| No. of contacts                | 15                                 |                            |
| Contact spacing                | 5,08 mm / 6,5 mm between the rows  |                            |
| Test voltage                   | 3100 V                             |                            |
| Contact resistance             | max. 8mOhm                         |                            |
| Insulation resistance          | min. 10 <sup>10</sup> Ohm          |                            |
| Working current                | 15A at 20°C (see derating diagram) |                            |
| Temperature range              | -55°C ... +125°C                   |                            |
| Termination technology         | solder                             |                            |
| Clearance                      | min. 4,5 mm                        |                            |
| Creepage                       | min. 8,0 mm                        |                            |
| Insertion and withdrawal force | 15-pole max. 90N                   |                            |
| Mating cycles                  | - PL1 acc. to IEC 60603-2 =>       | 500 mating cycles          |
|                                | - PL2 acc. to IEC 60603-2 =>       | 400 mating cycles          |
|                                | - PL3 acc. to IEC 60603-2 =>       | 50 mating cycles           |
| UL file                        | E102079                            |                            |
| RoHS - compliant               | Yes                                |                            |
| Leadfree                       | Yes                                |                            |
| Hot plugging                   | No                                 |                            |

## Insulator material

|                                    |   |
|------------------------------------|---|
| Material                           | PBT (thermoplastics, glass fiber reinforcement 30%) |
| Colour                             | RAL 7032 (grey)                                     |
| UL classification                  | UL 94-V0  |
| Material group acc. to IEC 60664-1 | IIIa (175 ≤ CTI < 400)                              |
| NFF classification                 | I3, F4  |

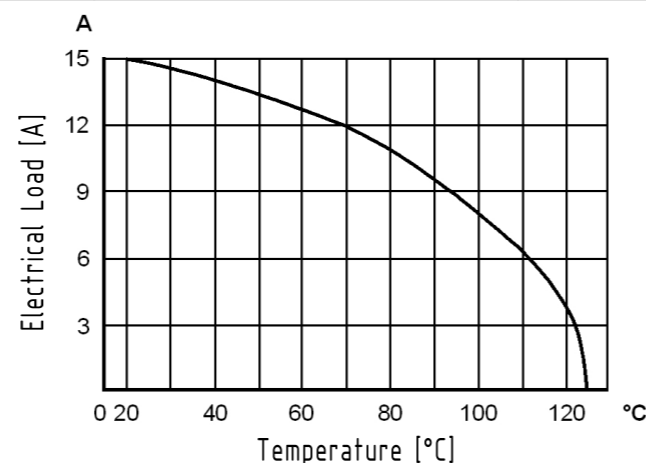
## Contact material

|                          |              |
|--------------------------|--------------|
| Contact material         | Copper alloy |
| Plating termination zone | Ag or Au     |
| Plating contact zone     | Ag or Au     |

## Derating diagram acc. to IEC 60512-5 (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, non interrupted current loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

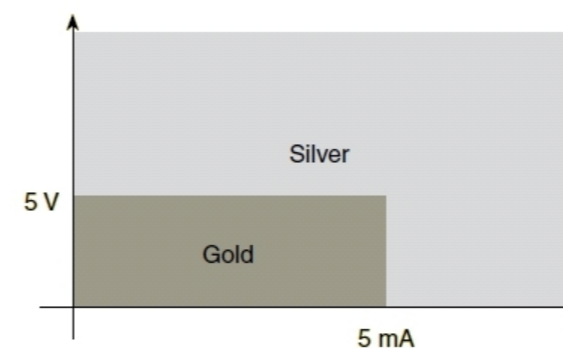
Control and test procedures according to DIN IEC 60512-5



## Low currents and voltages

Type H standard contacts have a silver plated surface. This precious metal has excellent conductive properties. In the course of a contact's lifetime, the silver surface generates a black oxide layer due to its affinity to sulphur. This layer is smooth and very thin and is partly interrupted when the contacts are mated and unmated, thus guaranteeing very low contact resistances. In the case of very low currents or voltages small changes to the transmitted signal may be encountered. In systems where such a change to the transmitted signal could lead to faulty functions and also in extremely aggressive environments, HARTING recommend the use of gold plated contacts.

Below is a table derived from actual experiences.



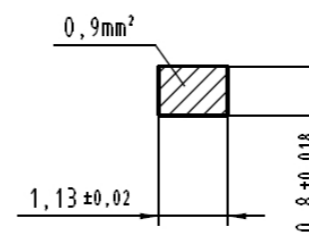
## Soldering instructions

The connectors should be protected when being soldered in a dip, flow or film soldering baths. Otherwise, they might become contaminated as a result of soldering operations or deformed as a result of overheating.

(1) For prototypes and short runs protect the connectors with an industrial adhesive tape, e.g. Tesaband 4331 (www.tesa.de). Cover the underside of the connector moulding and the adjacent parts of the pcb as well as the open sides of the connector. This will prevent heat and gases of the soldering apparatus from damaging the connector. About 140 + 5 mm of the tape should suffice.

(2) For large series a jig is recommended. Its protective cover with a fast action mechanical locking device shields the connectors from gas and heat generated by the soldering apparatus. As an additional protection a foil can be used for covering the parts that should not be soldered.

## Cross section of solder pins



|                          |                       |                            |              |                 |            |                                    |  |
|--------------------------|-----------------------|----------------------------|--------------|-----------------|------------|------------------------------------|--|
|                          | All rights reserved   | Created by                 | Inspected by | Standardisation | Date       | State                              |  |
|                          | Department EC PD - DE | HAGEMEYERE                 | TADJE        | HOFFMANN        | 2014-09-12 | Final Release                      |  |
| HARTING Electronics GmbH |                       | Title                      |              |                 |            | Doc-Key / ECM-Nr.                  |  |
| D-32339 Espelkamp        |                       | DIN power female connector |              |                 |            | 100580736/UGD/000/A<br>50000076069 |  |
|                          |                       | Type                       | Number       |                 | Rev.       | Page                               |  |
|                          |                       | DS                         | 09062100201  |                 | A          | 1/1                                |  |

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