



DIN Signal male connector straight



General information

| | | | | |
|--------------------------------|---|------------------|------------------|------------------|
| Design | IEC 60603-2, types: Q, 2Q, 3Q, R, 2R, 3R, R(HE11), RM male | | | |
| No. of contacts | max. 96 | | | |
| Contact spacing | 2,54mm | | | |
| Test voltage | 1000V | | | |
| Contact resistance | max. 15mOhm | | | |
| Insulation resistance | min. 10 ⁹ Ohm | | | |
| Working current | 2A at 20°C (see derating diagram) | | | |
| Temperature range | -55°C ... +125°C -40°C ... +105°C for press-in connectors (due to limitations of PCB material) | | | |
| Termination technology | press-in, solder pins, wirewrap | | | |
| Clearance & creepage distance | min. 1,2mm each | | | |
| Insertion and withdrawal force | 16-pole max. 15N | 20-pole max. 20N | 30-pole max. 30N | 96-pole max. 90N |
| Mating cycles | acc. to performance level, see table below | | | |
| UL file | E102079 | | | |
| RoHS - compliant | Yes | | | |
| Leadfree | Yes | | | |
| Hot plugging | No | | | |

Insulator material

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

Contact material

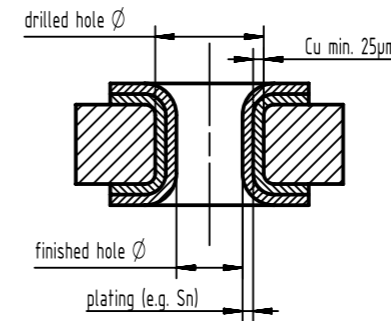
| | | | | |
|--|---|--|--|--|
| Contact material | Copper alloy | | | |
| Plating termination zone | Sn over Ni for solder, Ni for press-in & wirewrap | | | |
| Plating contact zone I | acc. to performance level, see table below | | | |
| Plating contact zone II (termination side) | acc. to performance level, see table below | | | |

| performance level | mating cycles | | plating contact zone | |
|-------------------|---------------------|-----------------------------------|---|--|
| | acc. to IEC 60603-2 | complementary acc. to IEC 60603-2 | plating contact zone I | plating contact zone II (termination side) |
| 1 | 500 | | <i>Au over PdNi over Ni</i> | |
| 2 | 400 | | <i>Au over PdNi over Ni</i> | |
| 3 | 50 | | <i>Au over Ni</i> | |
| NM30 (S4) | | 500 | min. 0,76µm (30pinch) noble metal (alloy) over Ni | |
| Au30 | | 500 | min. 0,76µm (30pinch) Au over Ni | |
| Au50 | | 500 | min. 1,27µm (50pinch) Au over Ni | |
| Au70 | | 500 | min. 1,60µm (70pinch) Au over Ni | |
| Au90 | | 500 | min. 2,00µm (90pinch) Au over Ni | |

Standard plating options highlighted in *italic*, other plating options are available on request.

Recommended configuration of plated through holes for press-in termination

In addition to the hot-air-level (HAL), other PCB surfaces are getting more important. Due to their different properties - such as mechanical strength and coefficient of friction - we recommend the following configuration of PCB through holes.



| | | |
|---|------------------|---------------|
| Tin plated PCB (HAL) acc. to EN 60352-5 | Drilled hole Ø | 1,15±0,025mm |
| | Sn plated hole Ø | max. 15µm |
| Chemical tin plated PCB | Drilled hole Ø | 1,15±0,025mm |
| | Sn plated hole Ø | min. 0,8µm |
| Gold /Nickel plated PCB | Drilled hole Ø | 1,15±0,025mm |
| | Ni plated hole Ø | 3 - 7µm |
| Silver plated PCB | Drilled hole Ø | 1,15±0,025mm |
| | Ag plated hole Ø | 0,1 - 0,3µm |
| Copper plated PCB (OSP) | Drilled hole Ø | 1,15±0,025mm |
| | plated hole Ø | 1,00 - 1,10mm |

Assembly instructions

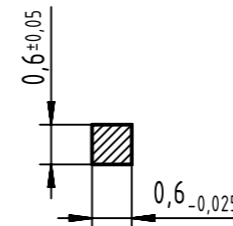
It is highly recommended to use HARTING press-in tools to ensure a reliable press-in process. Please refer to the catalogue for tools, machines and further information about the press-in process.

Soldering instructions

The connectors should be protected when being soldered in a dip, flow or film soldering bath. Otherwise, they might become contaminated as a result of soldering operations or deformed as a result of overheating. In most cases this is covered by the PCB the connector is going to be soldered to.

Cross section of solder terminations

A= 0,35mm² - 0,39mm²

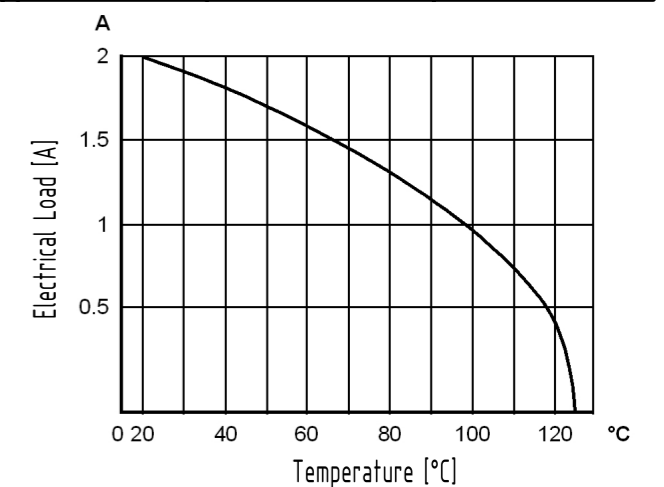


Derating diagram acc. to IEC 60512-5 (Current carrying capacity)

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



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