



# 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 <sup>9</sup> 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	
	32-pole max. 30N	48-pole max. 45N	64-pole max. 60N	96-pole max. 90N
Mating cycles	PL 1 acc. to IEC 60603-2		500 mating cycles	
	PL 2 acc. to IEC 60603-2		400 mating cycles	
	PL 3 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%)			
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

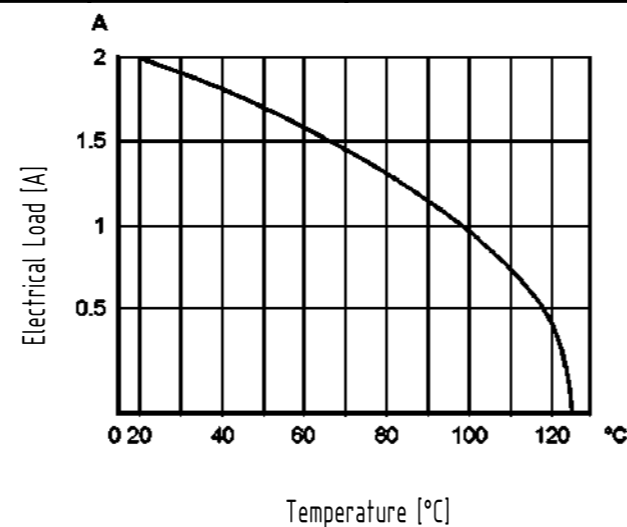
Contact material	Copper alloy			
Plating termination zone	Sn over Ni for solder, Ni for press-in & wirewrap			
Plating contact zone I	Au over PdNi over Ni	S4: 0,06µm Au over 0,7µm PdNi over Ni		
Plating contact zone II (termination side)	Au over Ni	S4: 0,76µm Au over Ni		

## 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.

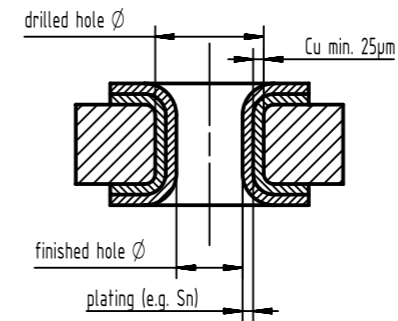
The current capacity curve is valid for continuous, non interrupted current loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60512-5



## 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.



Plating	Drilled hole Ø	Plated hole Ø
Tin plated PCB (HAL) acc. to EN 60352-5	1,15±0,025mm	max. 15µm
		0,94 - 1,09mm
Chemical tin plated PCB	1,15±0,025mm	min. 0,8µm
		1,00 - 1,10mm
Gold /Nickel plated PCB	1,15±0,025mm	3 - 7µm
		0,05 - 0,12µm
		1,00 - 1,10mm
Silver plated PCB	1,15±0,025mm	0,1 - 0,3µm
		1,00 - 1,10mm
Copper plated PCB (OSP)	1,15±0,025mm	1,00 - 1,10mm
		1,00 - 1,10mm

## Assembly instructions

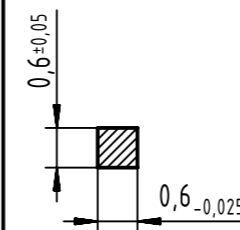
It is highly recommended to use HARTING press-in tools to ensure a reliable press-in process. Please refer to the catalogue for tools, machines and further information about the press-in process.

## 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= 0,35mm<sup>2</sup> - 0,39mm<sup>2</sup>



	All Dimensions in mm Original Size DIN A3	Scale 1:1	Free size tol.	Ref. Sub. DS 09 73 110 00 01 / EC04453 / 21.02.2012	
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HARTING Electronics GmbH D-32339 Espelkamp	Title DIN Signal male connector straight			Doc-Key / ECM-Nr. 100560208/UGD/001/C 50000069481	
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