

# DIN-Signal R064MP-5,0C1-2



Image is for illustration purposes only. Please refer to product description.

|                    |                                                                               |
|--------------------|-------------------------------------------------------------------------------|
| Part number        | 09 73 164 6904                                                                |
| Specification      | DIN-Signal R064MP-5,0C1-2                                                     |
| HARTING eCatalogue | <a href="https://harting.com/09731646904">https://harting.com/09731646904</a> |

## Identification

|                            |                |
|----------------------------|----------------|
| Category                   | Connectors     |
| Series                     | DIN 41612      |
| Identification             | Type R         |
| Element                    | Male connector |
| Description of the contact | Straight       |

## Version

|                       |                                            |
|-----------------------|--------------------------------------------|
| Termination method    | Press-in termination                       |
| Connection type       | Motherboard to daughtercard                |
|                       | Mezzanine                                  |
|                       | PCB to cable                               |
| Number of contacts    | 64                                         |
| Contact configuration | Rows a and c, positions 1, 2, ... , 31, 32 |
| Termination length    | 5 mm                                       |
| Coding                | Coding with loss of contacts               |
| PCB fixing            | With fixing flange                         |

## Technical characteristics

|                                    |                                                                 |
|------------------------------------|-----------------------------------------------------------------|
| Contact rows                       | 3                                                               |
| Contact spacing (termination side) | 2.54 mm                                                         |
| Contact spacing (mating side)      | 2.54 mm                                                         |
| Rated current                      | 2 A                                                             |
| Rated current                      | Rated current measured at 20 °C, see derating curve for details |
| Clearance distance                 | ≥1.2 mm                                                         |



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## Technical characteristics

|                                  |                                                               |
|----------------------------------|---------------------------------------------------------------|
| Creepage distance                | ≥1.2 mm                                                       |
| Insulation resistance            | >10 <sup>12</sup> Ω                                           |
| Contact resistance               | ≤20 mΩ                                                        |
| Limiting temperature             | -40 ... +105 °C upper limiting temperature limited by the pcb |
| Insertion force                  | ≤60 N                                                         |
| Withdrawal force                 | ≤40 N                                                         |
| Performance level                | 2<br>acc. to IEC 60603-2                                      |
| Mating cycles                    | ≥400                                                          |
| Test voltage U <sub>r.m.s.</sub> | 1 kV                                                          |
| Isolation group                  | IIIa (175 ≤ CTI < 400)                                        |
| PCB thickness                    | ≥1.6 mm                                                       |
| Hot plugging                     | No                                                            |

## Material properties

|                                           |                                              |
|-------------------------------------------|----------------------------------------------|
| Material (insert)                         | Thermoplastic resin, glass-fibre filled      |
| Colour (insert)                           | RAL 7032 (pebble grey)                       |
| Material (contacts)                       | Copper alloy                                 |
| Surface (contacts)                        | Au over Pd/Ni over Ni<br>Ni Termination side |
| Material flammability class acc. to UL 94 | V-0                                          |
| RoHS                                      | compliant                                    |
| ELV status                                | compliant                                    |
| China RoHS                                | e                                            |
| REACH Annex XVII substances               | Not contained                                |
| REACH ANNEX XIV substances                | Not contained                                |
| REACH SVHC substances                     | Not contained                                |
| California Proposition 65 substances      | Yes                                          |
| California Proposition 65 substances      | Nickel                                       |
| Fire protection on railway vehicles       | EN 45545-2 (2020-08)                         |
| Requirement set with Hazard Levels        | R26                                          |

## Specifications and approvals

|                |             |
|----------------|-------------|
| Specifications | IEC 60603-2 |
|----------------|-------------|



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Specifications and approvals

|                        |                                                            |
|------------------------|------------------------------------------------------------|
| UL / CSA               | UL 1977 ECBT2.E102079<br>CSA-C22.2 No. 182.3 ECBT8.E102079 |
| Railway classification | F4/I3 acc. to NFF 16-101/102                               |

Commercial data

|                                |                                          |
|--------------------------------|------------------------------------------|
| Packaging size                 | 20                                       |
| Net weight                     | 12.34 g                                  |
| Country of origin              | Romania                                  |
| European customs tariff number | 85366990                                 |
| GTIN                           | 5713140103535                            |
| eCl@ss                         | 27460201 PCB connector (board connector) |
| ETIM                           | EC002637                                 |
| UNSPSC 24.0                    | 39121415                                 |

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.  
Measuring and testing techniques acc. to IEC 60512-5-2



#### Coding with loss of contacts

To avoid cross-plugging of adjacent connectors a coding system is required.

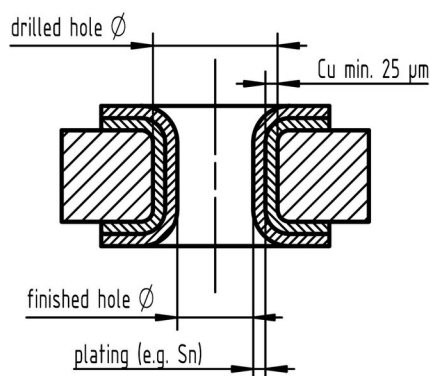
The coding is achieved by means of a code pin which is inserted into the selected chamber of the female connector (the contact cavity must be filled with a female contact!).

The opposite male contact must be removed with the help of the specially designed tool. It's recommended to use a number of code pins in relation to the total number of contacts per connector: 3 pins for 64 contacts, 7 pins for 160 contacts

Coding pin 09 02 000 9901

Removal tool for male contacts 09 99 000 0133

#### Recommended configuration of plated through holes



|                                            |                |                |
|--------------------------------------------|----------------|----------------|
| Tin plated PCB (HAL)<br>acc. to EN 60352-5 | Drilled hole Ø | 1,15±0,025 mm  |
|                                            | Sn             | max. 15 µm     |
|                                            | plated hole Ø  | 0,94 – 1,09 mm |
| Chemical tin plated PCB                    | Drilled hole Ø | 1,15±0,025 mm  |
|                                            | Sn             | min. 0,8µm     |
|                                            | plated hole Ø  | 1,00 – 1,10 mm |
| Gold /Nickel plated PCB                    | Drilled hole Ø | 1,15±0,025 mm  |
|                                            | Ni             | 3 – 7 µm       |
|                                            | Au             | 0,05 – 0,12 µm |
|                                            | plated hole Ø  | 1,00 – 1,10 mm |
| Silver plated PCB                          | Drilled hole Ø | 1,15±0,025 mm  |
|                                            | Ag             | 0,1 – 0,3 µm   |
|                                            | plated hole Ø  | 1,00 – 1,10 mm |
| Copper plated<br>PCB (OSP)                 | Drilled hole Ø | 1,15±0,025 mm  |
|                                            | plated hole Ø  | 1,00 – 1,10 mm |

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 above mentioned configuration of pcb through holes.

#### 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 for the press-in process.

## Mating conditions



To ensure reliable connections and prevent unnecessary damage, please refer to the application data diagrams. These recommendations are set out in IEC 60603-2.

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