


|                           |   |   |
|---------------------------|---|---|
| 2171222                   | <b>DATA SHEET</b>                         |  |
| Valid from:<br>17.09.2018 | <b>IE-PNB-5-M12D-A-(L*)-Y-2-22-7-RJ45</b> |   |

## Product description

Industrial Ethernet Patchcord, Profinet Type B, Cat.5, angled plug M12 (D-coded) on straight plug RJ45, PVC, flexible



This datasheet is also valid for other lengths configurations. Other lengths configurations on request.

## Product variations

| Article number | Article description              | Length (L*) [m] |
|----------------|----------------------------------|-----------------|
| 2171222        | IE-PNB-5-M12D-A-1-Y-2-22-7-RJ45  | 1               |
| 2171223        | IE-PNB-5-M12D-A-2-Y-2-22-7-RJ45  | 2               |
| 2171224        | IE-PNB-5-M12D-A-3-Y-2-22-7-RJ45  | 3               |
| 2171225        | IE-PNB-5-M12D-A-5-Y-2-22-7-RJ45  | 5               |
| 2171226        | IE-PNB-5-M12D-A-10-Y-2-22-7-RJ45 | 10              |
| 2171227        | IE-PNB-5-M12D-A-20-Y-2-22-7-RJ45 | 20              |


## General properties, Patchcord

|                               |                           |
|-------------------------------|---------------------------|
| Outer diameter, cable         | 6.5 mm                    |
| Number of cores               | 4                         |
| Outer sheath                  | PVC                       |
| Outer sheath, color           | green similar to RAL 6018 |
| Mating cycles, M12 connector  | 100                       |
| Mating cycles, RJ45 connector | 750                       |
| Screening                     | SF/UTP                    |

## General properties, cable

|                              |   |
|------------------------------|---|
| LAPP-Article number of cable | 2170886   |
| LAPP-Description of cable    | ETHERLINE PN Cat. 5 Y FLEX FC   |
| Conductor, outer diameter    | ca. 0.75 mm   |
| Conductor, material          | braid of copper wire, tinned wire   |
| Insulation, outer diameter   | ca. 1.5 mm  |
| Insulation, material         | PE  |
| Core identification code     | acc. to IEC 708-1: white, yellow, blue, orange                              |
| Stranding                    | star quad (optional with central filler)                                    |
| Wrapping                     | plastic tape (overlapping)<br>plastic laminated aluminum foil (overlapping) |
| Screening                    | on top: braid of copper wire<br>tinned wire, coverage ca. 85%               |

|   |                                      |             |
|---|--------------------------------------|-------------|
| Creator: MANA2/PDP<br>Released: IVSE1/PDP | Document: DB2171222EN<br>Version: 03 | Page 1 of 3 |
|---|--------------------------------------|-------------|

|                           |   |   |
|---------------------------|---|---|
| 2171222                   | <b>DATA SHEET</b>                         |  |
| Valid from:<br>17.09.2018 | <b>IE-PNB-5-M12D-A-(L*)-Y-2-22-7-RJ45</b> |   |

### Electrical properties, cable at 20 °C

|   |              |
|---|--------------|
| Resistance (loop)                                   | ≤ 120 Ω/km   |
| Insulation material, specific electrical resistance | ≥ 500 MΩ*km  |
| Characteristic impedance (1 MHz to 100 MHz)         | 100 Ω ± 15 Ω |
| UL-Rating   | 600 V        |
| Signal propagation time                             | < 5.3 ns/m   |
| Test voltage (rms 50 Hz, 1 min.), core-core         | 2000 V       |
| Test voltage (rms 50 Hz, 1 min.), core-screening    | 2000 V       |

### Mechanical and thermal properties, cable

|   |  |
|---|--|
| Minimum bending radius, during laying             | 15 x cable diameter  |
| Minimum bending radius, fixed installation        | 10 x cable diameter  |
| Permissible temperature range, during laying      | -20 °C to +60 °C   |
| Permissible temperature range, fixed installation | -40 °C to +80 °C   |
| Sunlight resistance                               | sunlight resistant acc. to UL 1581 Sec. 1200   |
| Oil resistance                                    | oil resistant acc. to UL 1581 Sec. 480 (60°C)  |
| Flame propagation                                 | flame retardant acc. to UL 1685 (CSA FT 4)   |
| General requirements                              | Dangerous and forbidden substance acc. to RoHS directive (2002/95/EG) are not allowed to the manufacturing |

### General properties, M12 connector

|                                       |                            |
|---------------------------------------|----------------------------|
| Coding                                | D                          |
| Protection degree                     | IP67/IP69 locked connector |
| Rated voltage max.                    | 250 V                      |
| Rated current at 40 °C                | 4 A                        |
| Ambient temperature                   | -30 °C to +90 °C           |
| Insulation resistance                 | ≥ 10 <sup>8</sup> Ω        |
| Locking nut with vibration protection | Yes                        |
| Tightening torque                     | 1.0 Nm                     |

### Materials, M12 connector


|                            |      |
|----------------------------|------|
| Contacts, base material    | CuZn |
| Contacts, surface          | Au   |
| Grip body                  | TPU  |
| Locking nut, base material | CuZn |

### General properties, RJ45 connector

|                        |                     |
|------------------------|---------------------|
| Protection degree      | IP20                |
| Rated voltage max.     | 50 V                |
| Rated current at 40 °C | 1 A                 |
| Ambient temperature    | -40 °C to +70 °C    |
| Insulation resistance  | ≥ 10 <sup>8</sup> Ω |

### Materials, RJ45 connector

|                     |                       |             |
|---------------------|-----------------------|-------------|
| Creator: MANA2/PDP  | Document: DB2171222EN | Page 2 of 3 |
| Released: IVSE1/PDP | Version: 03           |             |

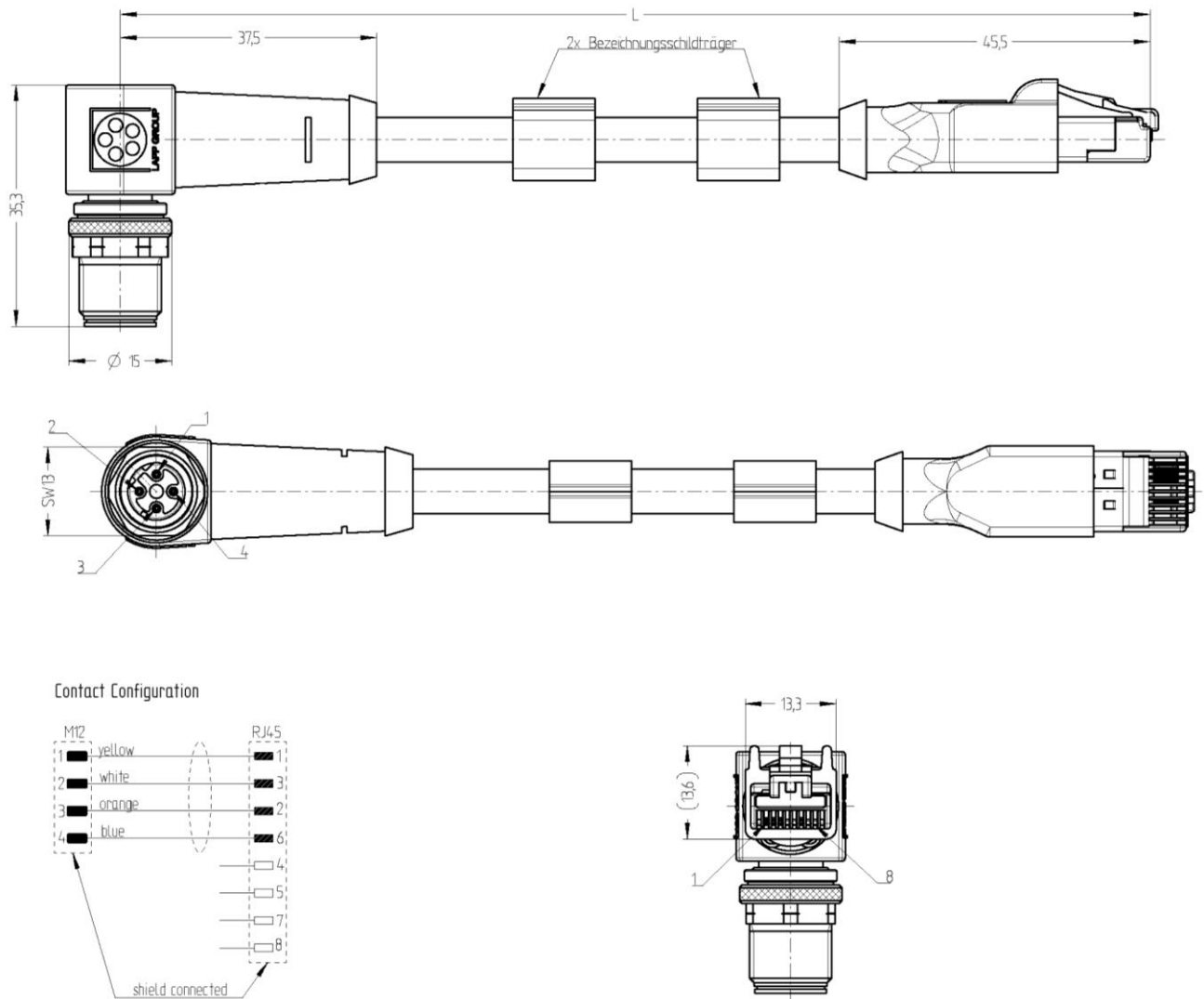
|                           |   |   |
|---------------------------|---|---|
| 2171222                   | <b>DATA SHEET</b>                         |  |
| Valid from:<br>17.09.2018 | <b>IE-PNB-5-M12D-A-(L*)-Y-2-22-7-RJ45</b> |   |

|                         |      |
|-------------------------|------|
| Contacts, base material | CuZn |
| Contacts, surface       | Au   |
| Grip body               | TPU  |

### Standards

|                                  |                    |
|----------------------------------|--------------------|
| Product standard, M12 connector  | DIN EN 61076-2-101 |
| Product standard, RJ45 connector | DIN EN 60603-7-51  |

### Drawings



### Application range

Automation, industrial machinery and plant engineering

### Note

Photographs are not true to scale and do not represent detailed images of the respective products.

|   |                                      |             |
|---|--------------------------------------|-------------|
| Creator: MANA2/PDP<br>Released: IVSE1/PDP | Document: DB2171222EN<br>Version: 03 | Page 3 of 3 |
|---|--------------------------------------|-------------|