

readycable® bus cable suitable for AIDA Profinet RJ-45, extension cable 7th axis, pin/pin

MAT904117091



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- For medium duty applications
- PUR outer jacket
- Overall shield
- Coolant-resistant
- Notch-resistant
- Oil-resistant (according to DIN EN 50363-10-2)
- Up to 4 years guarantee

Product description

Introducing the readycable® bus cable, designed for AIDA Profinet RJ-45 connections. This extension cable features a durable PUR outer jacket, making it perfect for medium-duty applications. With exceptional oil, coolant, and flame resistance, it's suitable for both indoor and outdoor use. Its UV and hydrolysis resistance ensures longevity, while being PVC-free and halogen-free adds to its eco-friendliness. Experience reliable performance with this versatile and robust cable for your processing and machine tool needs.

Connectors

|             |                           |
|-------------|---------------------------|
| Connector A | AIDA Profinet - RJ-45 pin |
| Connector B | AIDA Profinet - RJ-45 pin |

General properties

|                                                     |           |
|-----------------------------------------------------|-----------|
| Bus system                                          | Profinet  |
| Number of cores and conductor nominal cross-section | (4x0.38)C |
| Outer diameter (d) max. mm                          | 7 mm      |
| Weight per km                                       | 64 kg/km  |
| Copper index kg/km                                  | 33 kg/km  |



## Electricity attributes

|                         |              |
|-------------------------|--------------|
| Nominal voltage         | 50V          |
| UL Voltage Rating       | 300 V        |
| Test voltage            | 500V         |
| Wave resistance approx. | 100 $\Omega$ |

## Properties and approvals

|                 |                                                                                                                                                           |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| UV resistance   | Medium                                                                                                                                                    |
| Oil resistance  | Oil-resistant (according to DIN EN 50363-10-2), Class 3                                                                                                   |
| Offshore        | MUD-resistant according to NEK 606 - status 2018                                                                                                          |
| Flame-retardant | According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2/Horizontal Flame                                                                                  |
| Silicone-free   | Free from silicone which can affect paint adhesion (according to PV 3.10.7 – status 1992)                                                                 |
| Halogen-free    | According to DIN EN 60754                                                                                                                                 |
| UL verified     | Certificate no. V293650: "The igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"                  |
| UL-Listed       | CMX UL 444, 75°C                                                                                                                                          |
| UL/CSA AWM      | Style 1598 and 20236, 30 V, 80 °C                                                                                                                         |
| NFPA            | According to NFPA 79-2018, chapter 12.9                                                                                                                   |
| DNV             | Type approval certificate TAE00003X6                                                                                                                      |
| REACH           | In accordance with Regulation (EC) No. 1907/2006 (REACH)                                                                                                  |
| Lead-free       | According to 2011/65/EU (RoHS-II/RoHS-III)                                                                                                                |
| Cleanroom       | According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1 |
| DESINA          | According to VDW, DESINA standardisation                                                                                                                  |
| CE              | According to 2014/35/EU                                                                                                                                   |



## Cable structure

### Conductor

Stranded conductor in an especially bend-resistant version consisting of bare copper wires (according to DIN EN 60228).

### Core insulation

According to bus specification.



### Conductor colours

white, orange, blue, yellow (star quad stranding) black, brown, grey, blue

### Core group 1 core structure

4x0.38

### Core group 1 colour code

white, orange, blue, yellow (star-quad stranding)

### Overall shield

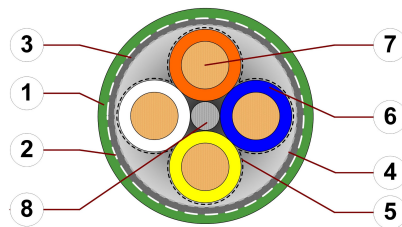
Bend-resistant braiding made of tinned copper wires. Coverage approx. 55% linear, approx. 80% optical

### Outer jacket

Low-adhesion, halogen-free, highly abrasion-resistant PUR mixture, adapted to suit the requirements in e-chains® (according to DIN EN 50363-10-2).

### Outer jacket colour

Yellow-green (comparable to RAL 6018)



1. Outer jacket: pressure extruded PUR mixture
2. Overall banding: plastic fleece
3. Overall shield: bend-resistant braiding of tinned copper wires
4. Shield film: aluminium-coated plastic foil
5. Banding: plastic foil
6. Core insulation: mechanically high-quality TPE mixture (according to bus specification)
7. Conductor: fine-wire strand in especially bending-stable version consisting of bare copper wires
8. Strain relief: high tensile strength centre element



## Dynamic properties

|                                                                                    |                                     |                                                |
|------------------------------------------------------------------------------------|-------------------------------------|------------------------------------------------|
|    | Min. bend radius, e-chain (factor)  | 12.5 x d                                       |
|    | Min. bend radius, e-chain           | 87.5 mm                                        |
|    | Min. bend radius, flexible (factor) | 10 x d                                         |
|    | Min. bend radius, fixed (factor)    | 7 x d                                          |
|    | Temperature e-chain®                | -20°C up to +70°C                              |
|    | Temperature, flexible               | -40°C to +70°C (according to DIN EN 60811-504) |
|    | Temperature, fixed                  | -50°C to +70°C (according to DIN EN 50305)     |
|    | v max. unsupported (speed)          | 3 m/s                                          |
|                                                                                    | v max. gliding (speed)              | 2 m/s                                          |
|   | a max. (acceleration)               | 30 m/s <sup>2</sup>                            |
|  | travel length                       | Class 3                                        |
|  | torsion                             | No torsion                                     |



chainflex®Lifetime

Guaranteed service life for this series according to guarantee conditions  
Further information: [chainflex® guarantee](#)

| Double strokes* | 5 million    | 7.5 million  | 10 million   |
|-----------------|--------------|--------------|--------------|
| Temperature,    | R min.       | R min.       | R min.       |
| from/to [°C]    | [Factor x d] | [Factor x d] | [Factor x d] |
| -20 / -10       | 15           | 16           | 17           |
| -10 / +60       | 12.5         | 13.5         | 14.5         |
| +60 / +70       | 15           | 16           | 17           |

\* Higher number of double strokes possible - use the service life calculation function on this page.

Technical note on bus cables

chainflex® bus cables have been specially developed and tested for continuously moving use in e-chains® applications. Depending on the outer jacket material and the design principle, the bus cables are designed for different mechanical requirements and media resistance. The cables have been electrically designed in such a way that, on the one hand, the electrical requirements of the respective bus specification are reliably met and, on the other, that great value is placed on a high degree of EMC reliability. It is also ensured that the electrical values remain stable over the long term in spite of permanent movement. However, the overall quality of transmission in a complete bus communication system is not solely dependent on the cable used. Rather, it requires precise co-ordination of all components (electronic components,

connection technology and cable) as well as observing the maximum transmission levels depending on the respective systems in relation to the required data transmission rates. A cable is therefore not solely responsible for the secure transmission of signals.

igus® advises you when you are designing your bus system to take all these factors into account and, with extensive tests, helps you to ensure the process reliability of your system from the very beginning.

Certificates and standards

