

readycable® hybrid cable suitable for Allen Bradley

2090-CSWM1DF-18AF, basic cable PVC 10xd

MAT9751702



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Bradley 2090-CSWM1DF-18AF, basic cable

PVC 10xd

- For medium-duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame retardant
- Guarantee up to 4 years

Product description

Introducing the readycable® hybrid cable, designed for medium duty applications. This reliable cable features a durable PVC outer jacket that is oil resistant and flame retardant, ensuring longevity in various environments. Suitable for both indoor and outdoor use at temperatures above 5°C, it excels in industries like wood processing and packaging. With an overall shield and silicone-free construction, this cable is perfect for gliding applications up to 10m, making it a versatile choice for your needs.

Manufacturer attributes

|                      |                   |
|----------------------|-------------------|
| Manufacturer Part No | 2090-CSWM1DF-18AF |
| Cable type           | Basic cable       |

Connectors

|             |                    |
|-------------|--------------------|
| Connector A | round plug, socket |
| Connector B | open cable end     |

General properties

|                                                     |                                |
|-----------------------------------------------------|--------------------------------|
| Number of cores and conductor nominal cross-section | (4G1.0+(2x0.75)C)+(2xAWG22)C)C |
| Outer diameter (d) max. mm                          | 12 mm                          |
| Weight per km                                       | 200 kg/km                      |
| Copper index kg/km                                  | 129 kg/km                      |



Electricity attributes



Nominal voltage

600/1,000V (according to DIN VDE 0298-3)

UL Voltage Rating

1000 V



Test voltage

4000V (according to DIN EN 50395)



## Cable structure



### Conductor

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



### Core insulation

Mechanically high-quality, especially low-capacity XLPE mixture.



### Core stranding

Power cores and control pair elements wound with a short pitch length around a high tensile strength centre element.



### Conductor colours

According to servo hybrid specification.

### Core group 1 core structure

4G1.0

### Core group 1 colour code

3 black cores with white printing: 1st core: U/L1/C/L+ 2nd core: V/L2 3rd core: W/L3/D/L- followed by a green-yellow core

### Core group 2 core structure

(2x0.75)C



### Element shield

Flexible braiding made of tinned copper wires.



### Overall shield

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



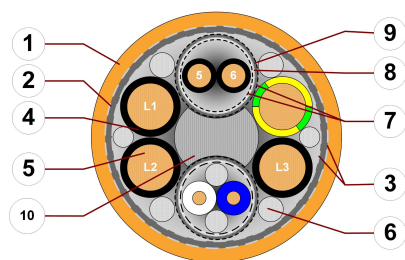
### Outer jacket

Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (according to DIN EN 50363-4-1).



### Outer jacket colour

Pastel orange (comparable to RAL 2003)



1. Outer jacket: pressure extruded, PUR mixture Pressure extruded, PVC mixture
2. Overall shield: extremely flexible braiding made of tinned copper wires
3. Banding: plastic fleece
4. Core insulation: mechanically high-quality, especially low-capacity TPE mixture
5. Conductor: particularly resistant to bending made of bare copper wires
6. Filler: plastic yarns
7. Element banding: plastic foil
8. Shield film: aluminium-coated plastic foil
9. Element shield: bend-resistant braiding of tinned copper wires
10. Strain relief: high tensile strength centre element



## Dynamic properties

|                                                                                    |                                     |                                               |
|------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------|
|    | Min. bend radius, e-chain (factor)  | 10 x d                                        |
|    | Min. bend radius, e-chain           | 120 mm                                        |
|    | Min. bend radius, flexible (factor) | 8 x d                                         |
|    | Min. bend radius, fixed (factor)    | 5 x d                                         |
|    | Temperature e-chain®                | +5°C up to +70°C                              |
|    | Temperature, flexible               | -5°C to +70°C (according to DIN EN 60811-504) |
|    | Temperature, fixed                  | -15°C to +70°C (according to DIN EN 50305)    |
|    | v max. unsupported (speed)          | 10 m/s                                        |
|   | v max. gliding (speed)              | 2 m/s                                         |
|  | a max. (acceleration)               | 50 m/s <sup>2</sup>                           |
|  | travel length                       | Class 2                                       |
|  | 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,    | v max. [m/s] |         | a max.              | Travel | R min. [Factor x d] | R min. [Factor x d] | R min. [Factor x d] |
| from/to [°C]    | unsupported  | gliding | [m/s <sup>2</sup> ] | [m]    |                     |                     |                     |
| +5 / +15        |              |         |                     |        | 12.5                | 13.5                | 14.5                |
| +15 / +60       | 10           | 2       | 50                  | ≤ 10   | 10                  | 11                  | 12                  |
| +60 / +70       |              |         |                     |        | 12.5                | 13.5                | 14.5                |

\* Higher number of double strokes possible - please ask for your individual calculation.

## Properties and approvals

|  |                 |                                                                                                                                                     |
|--|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
|  | UV resistance   | Medium                                                                                                                                              |
|  | Oil resistance  | Oil-resistant (according to DIN EN 50363-4-1), Class 2                                                                                              |
|  | 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)                                                           |
|  | UL verified     | Certificate no. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"                |
|  | UL/CSA AWM      | Style 10989 and 2570, 1000 V, 80 °C                                                                                                                 |
|  | NFPA            | According to NFPA 79-2018, chapter 12.9                                                                                                             |
|  | 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 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1 |
|  | CE              | According to 2014/35/EU                                                                                                                             |



## Certificates and standards

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