



Product: [4642FDW](#)

Life Cycle Status: Capability

OSDP RS485, 3 Pr #24 Str TC, PO Ins, OS, LSZH Jkt, Cca



Product Description

OSDP RS-485, 3 Pair 24AWG (7x32) Tinned Copper, PO Insulation, Overall Beldfoil®+Tinned Copper drainwire, LSZH Outer Jacket, CPR Cca

Technical Specifications

Product Overview

|                        |  |
|------------------------|--|
| Suitable Applications: | Instrumentation and computer cable. For OSDP EIA RS-485 transmissions applications |
|------------------------|--|

Construction Details

Conductor

| Element | No. of Elements | Size   | Stranding | Material           |
|---------|-----------------|--------|-----------|--------------------|
| Pair(s) | 3               | 24 AWG | 7x32      | TC - Tinned Copper |

Insulation

| Element | Material                 | Nom. Thickness    | Nom. Insulation Diameter | Color Code  |
|---------|--------------------------|-------------------|--------------------------|---|
| Pair(s) | PE - Polyethylene (Foam) | 0.4 mm (0.016 in) | 1.40 mm (0.0551 in)      | White/Blue & Blue/White, White/Orange & Orange/White, White/Green & Green/White |

Outer Shield

| Shield Type | Material                | Coverage | Drainwire Type   |
|-------------|-------------------------|----------|------------------|
| Tape        | Bi-Laminate (Alum+Poly) | 100%     | 24 AWG (7x32) TC |

Outer Jacket

| Material  | Nom. Thickness    | Nom. Diameter      |
|---|-------------------|--------------------|
| LSZH - Low Smoke Zero Halogen (Flame Retardant) | 1.1 mm (0.043 in) | 7.50 mm (0.295 in) |

|                                   |                    |
|-----------------------------------|--------------------|
| Overall Cable Diameter (Nominal): | 7.50 mm (0.295 in) |
|-----------------------------------|--------------------|

Electrical Characteristics

Electricals

| Element | Nom. Conductor DCR            | Nom. Capacitance Cond-to-Cond | Nom. Capacitance Cond-to-Other (Conds + Shield) | Nom. Characteristic Impedence | Nom. Velocity of Prop. | Max. Current           |
|---------|-------------------------------|-------------------------------|---|-------------------------------|------------------------|------------------------|
| Pair(s) | 78.7 Ohm/km (24.0 Ohm/1000ft) | 42 pF/m (13 pF/ft)            | 75.5 pF/m                                       | 120 Ohm                       | 78%                    | 1.5 Amps per Conductor |

High Frequency (Nominal/Typical)

| Element | Frequency [MHz] | Nom. Insertion Loss (Attenuation) |
|---------|-----------------|-----------------------------------|
| Pair(s) | 1               | 1.97 dB/100m (0.600 dB/100ft)     |

Voltage

| Voltage Rating |
|----------------|
| 300 V          |

Mechanical Characteristics

Temperature

| Operating | Installation | Storage |
|-----------|--------------|---------|
|-----------|--------------|---------|

|                |                |                |
|----------------|----------------|----------------|
| -45°C To +70°C | -15°C To +70°C | -45°C To +70°C |
|----------------|----------------|----------------|

Bend Radius

| Stationary Min. | Installation Min. |
|-----------------|-------------------|
| 38 mm (1.5 in)  | 75 mm (3.0 in)    |

|                    |                          |
|--------------------|--------------------------|
| Max. Pull Tension: | 340 N (76 lbf)           |
| Bulk Cable Weight: | 57 kg/km (38 lbs/1000ft) |

Standards and Compliance

|                                  |  |
|----------------------------------|--|
| Environmental Suitability:       | Indoor - Euroclass Cca, Indoor, Non-Halogenated, Sunlight Resistance   |
| Flammability / Reaction to Fire: | IEC 60332-1-2  |
| CPR Compliance:                  | CPR Euroclass: Cca-s1a,d1,a1   |
| ISO/IEC Compliance:              | IEC 61034-2 - Smoke Density Min Transmittance = 60%  |
| CENELEC Compliance:              | EN 50290-2-20  |
| European Halogen Free Standards: | IEC 62821-1 Halogen Free Compliance = Yes, IEC 60754-1 - Halogen Amount = Zero, IEC 60754-2 - Halogen Acid Gas Amount - Max. Conductivity = 2.5 µS/mm, IEC 60754-2 - Halogen Acid Gas Amount - Min. pH = 4.3 |
| European Directive Compliance:   | EU CE Mark   |
| UK Regulation Compliance:        | UKCA Mark  |

Product Notes

|        |  |
|--------|--|
| Notes: | This is a preliminary Technical Design Specification (TDS) which is subject to modification throughout the prototyping phase. The minimum business quantity to offer is 3km for the first order. This product will have Orange as standard color and 305mt or 500mt as standard put-ups. Additional options for colors and put-ups are available on special request. The estimated production lead time for the first order will be similar to the production lead time of 4541FDW plus extra 6-7 weeks. Please liaise with your Belden representative for confirmation. |
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History

|                      |   |
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| Update and Revision: | Revision Number: 0.18 Revision Date: 05-07-2025 |
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