



Product: [7896Z](#)

DeviceBus®, 2 Pr #16+18 Str TC, XLPe+PP Ins, IS+OA TC Brd, LSZH-TS Jkt, 600V TC-ER-ST1

Product Description

DeviceBus® for ODVA DeviceNet™, 2 Pair 16+18AWG (19x29+19x30) Tinned Copper, XLPE+ PP Insulation, Individual Beldfoil® & OA Tinned Copper Braid(65%) Shield, LSZH Thermoset Outer Jacket, 600V TC-ER-ST1

Technical Specifications

Product Overview

| | |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable Applications: | harsh environment, ODVA device-level communication, used with CIP (common Industrial Protocol) for control, configuration, and data collection between devices, such as sensors and actuators, and higher level devices such as PLC, and PC in industrial automation, bus topology, etc. |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Construction Details

| Conductor | | | | |
|---------------|-----------------|--------|-----------|--------------------|
| Element | No. of Elements | Size | Stranding | Material |
| Power Pair(s) | 1 | 16 AWG | 19x29 | TC - Tinned Copper |
| Data Pair(s) | 1 | 18 AWG | 19x30 | TC - Tinned Copper |

| Insulation | | | | |
|---------------|----------------------------------------------|--------------------|--------------|-----------------|
| Element | Material | Nom. Thickness | Color Code | Notes |
| Power Pair(s) | XLPE - Cross-Linked Polyethylene (Thermoset) | 0.031 in (0.79 mm) | Red & Black | |
| Data Pair(s) | PP - Polypropylene | 0.068 in (1.7 mm) | Blue & White | Flame Retardant |

| Inner Shield | | | |
|---------------|-------------|-------------------------|----------|
| Element | Shield Type | Material | Coverage |
| Power Pair(s) | Tape | Bi-Laminate (Alum+Poly) | 100% |
| Data Pair(s) | Tape | Bi-Laminate (Alum+Poly) | 100% |

| Outer Shield | | | |
|--------------|--------------------|----------|-------------------|
| Shield Type | Material | Coverage | Drainwire Type |
| Braid | Tinned Copper (TC) | 65% | 16 AWG (19x29) TC |

| Outer Jacket | | |
|------------------------------------------------------------|--------------------|--------------------|
| Material | Nom. Thickness | Nom. Diameter |
| LSZH - Low Smoke Zero Halogen (Flame Retardant, Thermoset) | 0.115 in (2.92 mm) | 0.646 in (16.4 mm) |
| Overall Cable Diameter (Nominal): | 0.646 in (16.4 mm) | |

Electrical Characteristics

| Electricals | | | | | |
|------------------------|----------------------------|-------------------------------|-------------------------------|------------------------|------------------------------|
| Element | Nom. Conductor DCR | Nom. Capacitance Cond-to-Cond | Nom. Characteristic Impedence | Nom. Velocity of Prop. | Max. Current |
| Power Pair(s) | 4.9 Ohm/1000ft (16 Ohm/km) | | | | 8 Amps per Conductor at 25°C |
| Data Pair(s) | 6.9 Ohm/1000ft (23 Ohm/km) | 14.7 pF/ft (48.2 pF/m) | 120 Ohm | 75% | |
| Nom. Outer Shield DCR: | | 1.8 Ohm/1000ft (5.9 Ohm/km) | | | |

| High Frequency | | |
|----------------|-----------------|-----------------------------------|
| Element | Frequency [MHz] | Max. Insertion Loss (Attenuation) |
| Data Pair(s) | 0.125 | 0.13 dB/100ft |

| | | |
|--|-----|---------------|
| | 0.5 | 0.25 dB/100ft |
| | 1 | 0.40 dB/100ft |

Voltage

| UL Voltage Rating |
|-------------------|
| 600 V (TC-ER-ST1) |

Mechanical Characteristics

Temperature

| UL Temperature | Operating | Installation |
|----------------|----------------|----------------|
| 75°C Dry | -20°C to +75°C | -20°C To +75°C |

Bend Radius

| Stationary Min. | Installation Min. |
|-----------------|-------------------|
| 6.0 in (150 mm) | 6.0 in |

| | |
|--------------------|----------------------------|
| Max. Pull Tension: | 190 lbs (86 kg) |
| Bulk Cable Weight: | 222 lbs/1000ft (330 kg/km) |

Standards and Compliance

| | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Environmental Suitability: | Indoor, Outdoor, Sunlight Resistance, Oil Resistance, Burial |
| Flammability / Reaction to Fire: | UL 1685 UL Loading, 1202, IEC 60332-3-22 |
| NEC / UL Compliance: | Article 336, TC-ER-ST1 |
| AWM Compliance: | I/II A/B |
| Marine Compliance: | ABS Type Approval 20-HS1959654-PDA |
| European Directive Compliance: | EU CE Mark, EU Directive 2015/863/EU (RoHS 2 amendment), EU Directive 2011/65/EU (RoHS 2), EU Directive 2012/19/EU (WEEE) |
| APAC Compliance: | China RoHS II (GB/T 26572-2011) |
| Other Standard Compliance(s): | ODVA Cable V |

Product Notes

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|--------|-----------------------------------------------------------------------------------------------------------------------------|
| Notes: | Meter marks on jacket to aid users in installation. ODVA DeviceNet is an Open DeviceNet Vendor Association, Inc. trademark. |
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History

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| Update and Revision: | Revision Number: 0.375 Revision Date: 04-30-2024 |
|----------------------|--------------------------------------------------|

Part Numbers

Variants

| Item # | Color | UPC | Footnote |
|---------------|-------|--------------|----------|
| 7896Z 0105000 | Black | 612825190868 | C |

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