



Product: [2121A](#)

Fieldbus, 8 Pr #18 Str TC, XLPO Ins, IS/OS, TPE Jkt, 600V TC-ER

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Product Description

Fieldbus, 8 Pair 18AWG (7x26) Tinned Copper, XLPO Insulation, Individual & Overall Beldfoil® Shield, TPE Outer Jacket, 600V TC-ER

Technical Specifications

Product Overview

| | |
|------------------------|--|
| Suitable Applications: | harsh environment digital and serial two-way communication, oil and gas extraction and refining sites, petrochemical, Profibus process automation or Foundation FieldBus process automation, extreme temperature environments, exposure to humidity/moisture, dust, and oil, remote locations long distance applications, etc. |
|------------------------|--|

Physical Characteristics (Overall)

Conductor

| Element | AWG | Stranding | Material | No. of Pairs |
|---------|-----|-----------|--------------------|--------------|
| Pair(s) | 18 | 7x26 | TC - Tinned Copper | 8 |

| | |
|------------------|----|
| Conductor Count: | 16 |
|------------------|----|

Insulation

| Material | Nominal Wall Thickness |
|--|------------------------|
| XLPE - Cross-Linked Polyethylene (Thermoset) | 0.038 in |

Color Chart

| Number | Color |
|--------|---------------------------|
| 1 | Blue, Orange and Numbered |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |

Inner Shield

| Type | Material | Material Trade Name | Coverage [%] | Drainwire Material | Drainwire AWG | Drainwire Construction n x D |
|------|-------------------------|---------------------|--------------|--------------------|---------------|------------------------------|
| Tape | Bi-Laminate (Alum+Poly) | Beldfoil® | 100% | TC - Tinned Copper | 20 | 7x28 |

Outer Shield

| Type | Material | Material Trade Name | Coverage [%] | Drainwire Material | Drainwire AWG | Drainwire Construction n x D |
|------|-------------------------|---------------------|--------------|--------------------|---------------|------------------------------|
| Tape | Bi-Laminate (Alum+Poly) | Beldfoil® | 100% | TC - Tinned Copper | 18 | 7x26 |

Outer Jacket

| Material | Nominal Diameter | Nominal Wall Thickness | Ripcord |
|-------------------------------|------------------|------------------------|---------|
| TPE - Thermoplastic Elastomer | 0.8 in | 0.063 in | Yes |

Electrical Characteristics

Conductor DCR

| |
|-----------------------|
| Nominal Conductor DCR |
|-----------------------|

5.86 Ohm/1000ft

Capacitance

| Max. Capacitance Unbalance | Nom. Capacitance Conductor to Conductor |
|----------------------------|---|
| 1.2 pF/ft | 22 pF/ft |

Inductance

| Nominal Inductance |
|--------------------|
| 0.22 μ H/ft |

Impedance

| Nominal Characteristic Impedance |
|----------------------------------|
| 100 Ohm |

High Frequency (Nominal/Typical)

| Frequency [MHz] | Nom. Insertion Loss |
|-----------------|---------------------|
| 0.039 MHz | 0.08 dB/100ft |

Delay

| Nominal Velocity of Propagation (VP) [%] |
|--|
| 64% |

High Frequency

| Max. Insertion Loss (Attenuation) | Max./Min. Input Impedance (unFitted) |
|-----------------------------------|--------------------------------------|
| 0.091 dB/100ft | 100 Ohm |

Current

| Element | Max. Recommended Current [A] |
|---------------|------------------------------|
| Per Conductor | 7.6 Amps per Conductor |

Voltage

| Description | UL Voltage Rating |
|-----------------|-------------------|
| CSA CIC type TC | 600 V |

Electrical Characteristics Notes: Max Propagation Delay Change From 7.812 kHz to 39.06 kHz: 518 pS/ft

Other Electrical Characteristic 2: 31.25 KBits/sec

Temperature Range

| | |
|------------------------------|---------------|
| Installation Temp Rating: | -25°C |
| UL Temp Rating: | 90°C |
| Operating Temperature Range: | -40°C to 90°C |

Mechanical Characteristics

| | |
|------------------------------|----------------|
| Oil Resistance: | Yes |
| Bulk Cable Weight: | 313 lbs/1000ft |
| Max. Pull Tension: | 481 lbs |
| Min. Bend Radius/Minor Axis: | 8 in |

Standards

| | |
|----------------------|------------------|
| NEC Articles: | Article 336 |
| NEC/(UL) Compliance: | TC-ER |
| CSA AWM Compliance: | AWM I A/B II A/B |
| ISO/IEC Compliance: | IEC 61158-2 |
| Other Standards: | ISA/SP-50 Type A |

Applicable Environmental and Other Programs

| | |
|--|-----|
| EU Directive 2000/53/EC (ELV): | Yes |
| EU Directive 2003/11/EC (BFR): | Yes |
| EU Directive 2011/65/EU (RoHS 2): | Yes |
| EU Directive 2012/19/EU (WEEE): | Yes |
| EU Directive 2015/863/EU (RoHS 2 amendment): | Yes |

| | |
|-----------------------------|-------------------------------|
| EU Directive Compliance: | EU Directive 2003/11/EC (BFR) |
| EU CE Mark: | Yes |
| MII Order #39 (China RoHS): | Yes |

Suitability

| | |
|------------------------------------|-----|
| Suitability - Burial: | Yes |
| Suitability - Indoor: | Yes |
| Suitability - Oil Resistance: | Yes |
| Suitability - Outdoor: | Yes |
| Suitability - Sunlight Resistance: | Yes |

Flammability, LS0H, Toxicity Testing

| | |
|--------------------|----------------------|
| UL Flammability: | UL1581 Vertical Tray |
| IEC Flammability: | IEC 60332-3-24 |
| UL voltage rating: | 600 V RMS |

Plenum/Non-Plenum

| | |
|---------------|----|
| Plenum (Y/N): | No |
|---------------|----|

Related Part Numbers

Variants

| Item # | Color | Put-Up Type | Length | UPC |
|---------------|-------------|-------------|----------|--------------|
| 2121A 0061000 | Blue, Light | Reel | 1,000 ft | 612825129660 |
| 2121A 0065000 | Blue, Light | Reel | 5,000 ft | 612825129677 |
| 2121A 0031000 | Orange | Reel | 1,000 ft | 612825129646 |
| 2121A 0035000 | Orange | Reel | 5,000 ft | 612825129653 |

History

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|----------------------|--|
| Update and Revision: | Revision Number: 0.606 Revision Date: 11-15-2024 |
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