Part Number: 121700A
DataTuff® 5e, 4 Bonded-Pr #24 Sol BC, PO Ins, PVC Jkt, AIA Armor, PVC Jkt, CMG CM

Product Description
Industrial Ethernet Cat 5e, 4 Bonded-Pair 24AWG (Solid) Bare Copper, PO Insulation, PVC Inner Jacket, Aluminum Interlock Armor, PVC Outer Jacket, CMG CM

Technical Specifications

Product Overview
Suitable Applications:
Industrial Ethernet Cable, Harsh Environments, 350MHz Enhanced Category 5e, Gigabit Ethernet, 100BaseTX, 100BaseVG ANYLAN, 155ATM, 622ATM, NTSC/PAL Component or Composite Video, AES/EBU Digital Audio, AES51, RS-422, RJ-45 Compatible, Flexible Applications, Armored for Extra Protection

Physical Characteristics (Overall)

Conductor
<table>
<thead>
<tr>
<th>AWG</th>
<th>Stranding</th>
<th>Material</th>
<th>Nominal Diameter</th>
<th>No. of Pairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>Solid</td>
<td>BC - Bare Copper</td>
<td>0.02 in</td>
<td>4</td>
</tr>
</tbody>
</table>

Conductor Count: 8
Total Number of Pairs: 4

Insulation
<table>
<thead>
<tr>
<th>Material</th>
<th>Nominal Diameter</th>
<th>Nominal Wall Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO - Polyolefin</td>
<td>0.038 in</td>
<td>0.009 in</td>
</tr>
</tbody>
</table>

Bonded-Pair: Yes

Color Chart
<table>
<thead>
<tr>
<th>Number</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>White/Blue Stripe &amp; Blue</td>
</tr>
<tr>
<td>2</td>
<td>White/Orange Stripe &amp; Orange</td>
</tr>
<tr>
<td>3</td>
<td>White/Green Stripe &amp; Green</td>
</tr>
<tr>
<td>4</td>
<td>White/Brown Stripe &amp; Brown</td>
</tr>
</tbody>
</table>

Inner Jacket Material
<table>
<thead>
<tr>
<th>Material</th>
<th>Nominal Diameter</th>
<th>Ripcord</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVC - Polyvinyl Chloride</td>
<td>0.206 in</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Outer Shield Material
<table>
<thead>
<tr>
<th>Material</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unshielded</td>
<td></td>
</tr>
</tbody>
</table>

Outer Jacket Material
<table>
<thead>
<tr>
<th>Material</th>
<th>Nominal Diameter</th>
<th>Nominal Wall Thickness</th>
<th>Separator Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Grade PVC - Polyvinyl Chloride</td>
<td>0.553 in</td>
<td>0.045 in</td>
<td>Polyester</td>
</tr>
</tbody>
</table>

Construction and Dimensions

Armor
<table>
<thead>
<tr>
<th>Type of Armor</th>
<th>Material</th>
<th>Diameter over Armoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interlocked Armor</td>
<td>Aluminum</td>
<td>0.463 mm</td>
</tr>
</tbody>
</table>
## Electrical Characteristics

### Conductor DCR

<table>
<thead>
<tr>
<th>Max. Conductor DCR</th>
<th>Max. DCR Unbalance</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 Ohm/1000ft</td>
<td>3 %</td>
</tr>
</tbody>
</table>

### Capacitance

<table>
<thead>
<tr>
<th>Max. Capacitance Unbalance</th>
<th>Nom. Mutual Capacitance</th>
</tr>
</thead>
<tbody>
<tr>
<td>66 pF/ft</td>
<td>15 pF/ft</td>
</tr>
</tbody>
</table>

### Delay

<table>
<thead>
<tr>
<th>Max. Delay</th>
<th>Max. Delay Skew</th>
<th>Nominal Velocity of Propagation (VP) [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>510 ns/100m</td>
<td>25 ns/100m</td>
<td>70 %</td>
</tr>
</tbody>
</table>

### High Freq

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 MHz</td>
<td>2 dB/100m</td>
<td>65.3 dB</td>
<td>65.3 dB</td>
<td>63.3 dB</td>
<td>63.3 dB</td>
<td>63.8 dB</td>
<td>60.8 dB</td>
<td>20 dB</td>
<td>100 ± 12 Ohm</td>
</tr>
<tr>
<td>4 MHz</td>
<td>4 dB/100m</td>
<td>56.3 dB</td>
<td>56.3 dB</td>
<td>52.3 dB</td>
<td>52.3 dB</td>
<td>51.7 dB</td>
<td>48.7 dB</td>
<td>23 dB</td>
<td>100 ± 12 Ohm</td>
</tr>
<tr>
<td>8 MHz</td>
<td>5.7 dB/100m</td>
<td>51.8 dB</td>
<td>51.8 dB</td>
<td>46.1 dB</td>
<td>46.1 dB</td>
<td>45.7 dB</td>
<td>42.7 dB</td>
<td>24.5 dB</td>
<td>100 ± 12 Ohm</td>
</tr>
<tr>
<td>10 MHz</td>
<td>6.4 dB/100m</td>
<td>50.3 dB</td>
<td>50.3 dB</td>
<td>43.9 dB</td>
<td>43.9 dB</td>
<td>43.8 dB</td>
<td>40.8 dB</td>
<td>25 dB</td>
<td>100 ± 12 Ohm</td>
</tr>
<tr>
<td>16 MHz</td>
<td>8.1 dB/100m</td>
<td>47.3 dB</td>
<td>47.3 dB</td>
<td>39.1 dB</td>
<td>39.1 dB</td>
<td>39.7 dB</td>
<td>36.7 dB</td>
<td>25 dB</td>
<td>100 ± 12 Ohm</td>
</tr>
<tr>
<td>20 MHz</td>
<td>9.2 dB/100m</td>
<td>45.8 dB</td>
<td>45.8 dB</td>
<td>35.2 dB</td>
<td>35.2 dB</td>
<td>35.7 dB</td>
<td>34.7 dB</td>
<td>25 dB</td>
<td>100 ± 12 Ohm</td>
</tr>
<tr>
<td>25 MHz</td>
<td>10.3 dB/100m</td>
<td>44.3 dB</td>
<td>44.3 dB</td>
<td>34.1 dB</td>
<td>34.1 dB</td>
<td>35.8 dB</td>
<td>32.4 dB</td>
<td>24.3 dB</td>
<td>100 ± 15 Ohm</td>
</tr>
<tr>
<td>31.25 MHz</td>
<td>11.6 dB/100m</td>
<td>42.9 dB</td>
<td>42.9 dB</td>
<td>31.3 dB</td>
<td>31.3 dB</td>
<td>33.9 dB</td>
<td>30.9 dB</td>
<td>23.8 dB</td>
<td>100 ± 15 Ohm</td>
</tr>
<tr>
<td>62.5 MHz</td>
<td>16.8 dB/100m</td>
<td>38.4 dB</td>
<td>38.4 dB</td>
<td>21.6 dB</td>
<td>21.6 dB</td>
<td>24.9 dB</td>
<td>24.8 dB</td>
<td>21.5 dB</td>
<td>100 ± 15 Ohm</td>
</tr>
<tr>
<td>100 MHz</td>
<td>21.7 dB/100m</td>
<td>35.3 dB</td>
<td>35.3 dB</td>
<td>17.1 dB</td>
<td>17.1 dB</td>
<td>19.7 dB</td>
<td>20.8 dB</td>
<td>20.1 dB</td>
<td>100 ± 15 Ohm</td>
</tr>
<tr>
<td>155 MHz</td>
<td>27.7 dB/100m</td>
<td>32.5 dB</td>
<td>32.5 dB</td>
<td>4.7 dB</td>
<td>4.7 dB</td>
<td>19.9 dB</td>
<td>16.9 dB</td>
<td>19 dB</td>
<td>100 ± 18 Ohm</td>
</tr>
<tr>
<td>200 MHz</td>
<td>32 dB/100m</td>
<td>30.8 dB</td>
<td>30.8 dB</td>
<td>3 dB</td>
<td>3 dB</td>
<td>17.7 dB</td>
<td>14.7 dB</td>
<td>19 dB</td>
<td>100 ± 20 Ohm</td>
</tr>
<tr>
<td>250 MHz</td>
<td>36.4 dB/100m</td>
<td>29.3 dB</td>
<td>29.3 dB</td>
<td>0 dB</td>
<td>0 dB</td>
<td>15.8 dB</td>
<td>12.8 dB</td>
<td>18 dB</td>
<td>100 ± 20 Ohm</td>
</tr>
<tr>
<td>300 MHz</td>
<td>40.5 dB/100m</td>
<td>28.2 dB</td>
<td>28.2 dB</td>
<td>0 dB</td>
<td>0 dB</td>
<td>14.2 dB</td>
<td>11.2 dB</td>
<td>18 dB</td>
<td>100 ± 20 Ohm</td>
</tr>
<tr>
<td>310 MHz</td>
<td>41.3 dB/100m</td>
<td>27.9 dB</td>
<td>27.9 dB</td>
<td>13.9 dB</td>
<td>13.9 dB</td>
<td>10.9 dB</td>
<td>18 dB</td>
<td>100 ± 20 Ohm</td>
<td></td>
</tr>
<tr>
<td>350 MHz</td>
<td>44.3 dB/100m</td>
<td>27.2 dB</td>
<td>27.2 dB</td>
<td>12.9 dB</td>
<td>9.9 dB</td>
<td>17 dB</td>
<td>100 ± 22 Ohm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Voltage

#### UL Voltage Rating

| 300 V RMS |

### Temperature Range

<table>
<thead>
<tr>
<th>Installation Temp Range:</th>
<th>-25°C To +75°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL Temp Rating:</td>
<td>60°C</td>
</tr>
<tr>
<td>Storage Temp Range:</td>
<td>-40°C To +85°C</td>
</tr>
<tr>
<td>Operating Temp Range:</td>
<td>-40°C To +75°C</td>
</tr>
</tbody>
</table>

### Mechanical Characteristics

<table>
<thead>
<tr>
<th>Bulk Cable Weight:</th>
<th>101 lbs/1000ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Recommended Pulling Tension:</td>
<td>40 lbs</td>
</tr>
<tr>
<td>Min Bend Radius/Minor Axis:</td>
<td>6.5 in</td>
</tr>
</tbody>
</table>

### Standards

<table>
<thead>
<tr>
<th>NEC(UL) Specification:</th>
<th>CM, UL 444</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEC(C(UL) Specification:</td>
<td>CMG, HL</td>
</tr>
<tr>
<td>CPR Euroclass:</td>
<td>Eca</td>
</tr>
<tr>
<td>Data Category:</td>
<td>Category 5e</td>
</tr>
</tbody>
</table>

### Applicable Environmental and Other Programs

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>EU Directive 2011/65/EU (ROHS II):</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### EU Directive Compliance

- **EU Directive 2012/19/EU (WEEE):** Yes
- **EU Directive 2015/863/EU:** Yes
- **EU Directive Compliance:** EU Directive 2003/11/EC (BFR)
- **EU RoHS Compliance Date:** (yyyy-mm-dd): 2004-01-04
- **CA Prop 65 (CJ for Wire & Cable):** Yes
- **MII Order #39 (China RoHS):** Yes

### Suitability

- **Suitability - Oil Resistance:** Yes
- **Suitability - Sunlight Resistance:** Yes

### Flammability, LS0H, Toxicity Testing

- **UL Flammability:** UL1685 UL Loading
- **CSA Flammability:** FT4
- **ISO/IEC Flammability:** IEC 60332-1-2
- **UL voltage rating:** 300 V RMS

### Plenum/Non-Plenum

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

### Part Number

#### Variants

<table>
<thead>
<tr>
<th>Item #</th>
<th>Color</th>
<th>UPC</th>
<th>Length</th>
<th>Footnote</th>
</tr>
</thead>
<tbody>
<tr>
<td>121700A 0101000</td>
<td>Black</td>
<td>612825108962</td>
<td>1,000 ft</td>
<td>C Z</td>
</tr>
<tr>
<td>121700A 0103000</td>
<td>Black</td>
<td>612825399728</td>
<td>3,000 ft</td>
<td>C Z</td>
</tr>
<tr>
<td>121700A 0105000</td>
<td>Black</td>
<td>612825108979</td>
<td>5,000 ft</td>
<td>C Z</td>
</tr>
<tr>
<td>121700A 0081000</td>
<td>Gray</td>
<td>612825108955</td>
<td>1,000 ft</td>
<td>C Z</td>
</tr>
</tbody>
</table>

**Footnote:** C - CRATE REEL PUT-UP.

**Footnote:** Z - FINAL PUT-UP MAY VARY (= OR -) 10% FOR SPOOLS OR REELS AND (+ OR -) 5% FOR UNREEL CARTONS FROM LENGTH SHOWN.

**Patent:** https://www.belden.com/resources/patents

### Product Notes

**Notes:** US Patent #'s 5606151; 5734126 Operating temperatures are subject to length de-rating. Cable passes -40°C Cold Bend per UL 1581.

### History

**Update and Revision:** Revision Number: 0.289 Revision Date: 08-22-2019

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