



Product: [9859](#)

78Ω Twinax, #20 TC, PO, TC Braid

Product Description

78 Ohm Twinax, 20 AWG stranded (7x28) tinned copper conductor, polyethylene insulation, tinned copper braid shield (85% coverage), non-contaminating PVC jacket.

Technical Specifications

Product Overview

| | |
|------------------------|--|
| Suitable Applications: | Harsh Environment, IIoT, Factory or Process Automation, Video, Audio, Data Communication, etc. |
|------------------------|--|

Physical Characteristics (Overall)

Conductor

| AWG | Stranding | Material | Nominal Diameter | No. of Conductors |
|-----|-----------|--------------------|------------------|-------------------|
| 20 | 7x28 | TC - Tinned Copper | 0.038 in | 2 |

| | |
|------------------|---|
| Conductor Count: | 2 |
|------------------|---|

Insulation

| Material | Nominal Diameter |
|-------------------|------------------|
| PE - Polyethylene | .079 in |

Color Chart

| Color |
|---------|
| Natural |
| Natural |

Outer Shield

| Type | Material | Coverage [%] |
|-------|--------------------|--------------|
| Braid | Tinned Copper (TC) | 85% |

Outer Jacket

| Material | Nominal Diameter |
|--|------------------|
| PVC - Polyvinyl Chloride (Non-Contaminating) | 0.235 in |

Electrical Characteristics

Conductor DCR

| Nominal Conductor DCR | Nominal Conductor DCR | Conductor Resistance | Nominal Outer Shield DCR |
|-----------------------|-----------------------|----------------------|--------------------------|
| 9.5 Ohm/1000ft | 9.5 Ohm/1000ft | | 5.3 Ohm/1000ft |

Capacitance

| Nom. Capacitance Conductor to Conductor | Nom. Capacitance Conductor to Other Conductor to Shield |
|---|---|
| 19.7 pF/ft | 45.1 pF/ft |

Inductance

| Nominal Inductance |
|--------------------|
| 0.119 µH/ft |

Impedance

| Nominal Characteristic Impedance |
|----------------------------------|
| 78 Ohm |

High Frequency (Nominal/Typical)

| Frequency [MHz] | Nom. Insertion Loss |
|-----------------|---------------------|
| 1 MHz | 0.7 dB/100ft |
| 10 MHz | 2.3 dB/100ft |
| 50 MHz | 5.2 dB/100ft |
| 100 MHz | 7.5 dB/100ft |
| 200 MHz | 11 dB/100ft |
| 400 MHz | 16 dB/100ft |

Delay

| Max. Delay Skew | Nominal Delay | Nominal Velocity of Propagation (VP) [%] |
|-----------------|---------------|--|
| 66 ns/100m | 1.54 ns/ft | 66% |

Voltage

| Non-UL Voltage Rating |
|-----------------------|
| 750 V |

| | |
|-----------------------------------|--|
| Electrical Characteristics Notes: | Capacitance Conductor to Other Conductor with Shield: 45.1 pF/ft |
|-----------------------------------|--|

Temperature Range

| | |
|------------------------------|----------------|
| Operating Temperature Range: | -40°C to +60°C |
|------------------------------|----------------|

Mechanical Characteristics

| | |
|------------------------------|---------------|
| Bulk Cable Weight: | 30 lbs/1000ft |
| Max. Pull Tension: | 48 lbs |
| Min. Bend Radius/Minor Axis: | 2.4 in |

Standards

| | |
|--------------------------------|--------------------------|
| CPR Euroclass: | Fca |
| RG Type: | 108 |
| Military Compliance: | MIL-DTL-17, M17/45-RG108 |
| Qualified Products List (QPL): | Yes |

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 Compliance: | Yes |
| EU CE Mark: | No |
| MIL Order #39 (China RoHS): | Yes |

Suitability

| | |
|------------------------|--|
| Suitability - Aerial: | Yes - Black only, when supported by messenger wire |
| Suitability - Indoor: | Yes |
| Suitability - Outdoor: | Yes - Black only |

Plenum/Non-Plenum

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

Related Part Numbers

Variants

| Item # | Color | Put-Up Type | Length | UPC |
|--------------|-------|-------------|----------|--------------|
| 9859 0101000 | Black | Reel | 1,000 ft | 612825259695 |

Product Notes

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|--------|--|
| Notes: | One conductor has a bare copper strand for identification. |
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History

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| Update and Revision: | Revision Number: 0.339 Revision Date: 05-05-2023 |
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