



**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.
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### Physical Characteristics (Overall)

#### Conductor

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

Conductor Count:	2
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#### 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

MII 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

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

## History

Update and Revision:	Revision Number: 0.335 Revision Date: 04-08-2022
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