



**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.
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**History**

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