



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
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Temperature Range

Operating Temperature Range:	-40°C to +60°C
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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
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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: 0.341 Revision Date: 02-03-2025
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