



Product: <u>7969A</u> 2

DataTuff® 6, 4 Bonded-Pr #22 Sol BC, PP Ins, X-spline, PVC Jkt, PLTC, CMR, CMX Outdoor

Product Description

Industrial Ethernet Cat 6, 4 Bonded-Pair 22AWG (Solid) Bare Copper, PP Insulation, X-spline, PVC Outer Jacket, PLTC, CMR, CMX Outdoor

Technical Specifications

Product Overview

Suitable Applications: power-limited tray, harsh environment, IIoT, factory or process automation, IP cameras and devices, data communication, etc.										
Construction Details										
Sonductor										
Element	Size	Stranding	Material	No. of Pairs	No. of Elements					
Pair(s)	22 AWG	Solid	BC - Bare Copper	4	4					
Insulation	nsulation									
Materia PO - Poly		nite/Blue Strip	pe & Blue, White/Ora	ange Stripe &	Color Code Orange, White/Gre	en Stripe & Green, White/Brown Stripe & Brown				
Bonded-P	air:		Yes							
Outer Jack	tet									
	Separator Material Nom. Diameter Ripcord									
Contor M	Center Member (Patented X-Spline®) PVC - Polyvinyl Chloride 0.335 in (8.51 mm) Yes									
Center Me	Center Member (Patented X-Spline®) PVC - Polyvinyl Chloride 0.335 in (8.51 mm) Yes									

Electrical Characteristics

Electricals

Max. Conductor DCR	Max. Capacitance Unbalance
56.5 Ohm/km (17.2 Ohm/1000ft)	330 pF/100m

Delay

Frequency	Max. Delay	Max. Delay Skew	Nom. Velocity of Prop.
100 MHz	537 ns/100m	45 ns/100m	69%

High Frequency

Max. Insertion Loss (Attenuation)	Min. NEXT [dB]	Min. PSNEXT [dB]	Min. ACR [dB]	Min. PSACR [dB]	Min. ACRF (ELFEXT) [dB]	Min. PSACRF (PSELFEXT) [dB]	Min. RL (Return Loss) [dB]	Max./Min. Input Impedance (unFitted) [Ohm]	Max./Min. Fitted Impedance [Ohm]	Min. TCL [dB]	Min. ELTCTL [dB]
2.0 dB/100m	74.3	72.3	72.3	70.3	67.8	64.8	20	100 ± 15	100 ± 15	40.0	35.0
3.8 dB/100m	65.3	63.3	61.5	59.5	55.8	52.7	23	100 ± 15	100 ± 15	40.0	23.0
5.3 dB/100m	60.8	58.8	55.4	53.4	49.7	46.7	24.5	100 ± 15	100 ± 15	40.0	16.9
6 dB/100m	59.3	57.3	53.3	51.3	47.8	44.8	25	100 ± 15	100 ± 15	40.0	15.0
7.6 dB/100m	56.2	54.3	48.7	46.7	43.7	40.7	25	100 ± 15	100 ± 15	38.0	10.9
8.5 dB/100m	54.8	52.8	46.3	44.3	41.8	38.8	25	100 ± 15	100 ± 15	37.0	9.0
9.5 dB/100m	53.3	51.3	43.8	41.8	39.8	36.8	24.3	100 ± 15	100 ± 15	36.0	7.0
10.7 dB/100m	51.9	49.9	41.2	39.2	37.9	34.9	23.6	100 ± 15	100 ± 15	35.1	5.1
15.4 dB/100m	47.4	45.4	32	30	31.9	28.9	21.5	100 ± 15	100 ± 15	32.0	
	Loss (Attenuation) 2.0 dB/100m 3.8 dB/100m 5.3 dB/100m 6 dB/100m 7.6 dB/100m 8.5 dB/100m 9.5 dB/100m 10.7 dB/100m	Max. Insertion Loss (Attenuation) NEXT [dB] 2.0 dB/100m 74.3 3.8 dB/100m 65.3 5.3 dB/100m 60.8 6 dB/100m 59.3 7.6 dB/100m 56.2 8.5 dB/100m 54.8 9.5 dB/100m 53.3 10.7 dB/100m 51.9	Max. Insertion Loss (Attenuation) NEXT [dB] PSNEXT [dB] 2.0 dB/100m 74.3 72.3 3.8 dB/100m 65.3 63.3 5.3 dB/100m 60.8 58.8 6 dB/100m 59.3 57.3 7.6 dB/100m 56.2 54.3 8.5 dB/100m 54.8 52.8 9.5 dB/100m 53.3 51.3 10.7 dB/100m 51.9 49.9	Max. Insertion Loss (Attenuation) NEXT [dB] PSNEXT [dB] ACR [dB] 2.0 dB/100m 74.3 72.3 72.3 3.8 dB/100m 65.3 63.3 61.5 5.3 dB/100m 60.8 58.8 55.4 6 dB/100m 59.3 57.3 53.3 7.6 dB/100m 56.2 54.3 48.7 8.5 dB/100m 53.3 51.3 43.8 10.7 dB/100m 51.9 49.9 41.2	Max. Insertion Loss (Attenuation) NEXT [dB] PSNEXT [dB] ACR [dB] PSACR [dB] 2.0 dB/100m 74.3 72.3 72.3 70.3 3.8 dB/100m 65.3 63.3 61.5 59.5 5.3 dB/100m 60.8 58.8 55.4 53.4 6 dB/100m 59.3 57.3 53.3 51.3 7.6 dB/100m 56.2 54.3 48.7 46.7 8.5 dB/100m 54.8 52.8 46.3 44.3 9.5 dB/100m 51.9 49.9 41.2 39.2	Max. Insertion Loss (Attenuation) NEXT [dB] PSNEXT [dB] ACR [dB] PSACR [dB] MIN. ACKr (ELFEXT) [dB] 2.0 dB/100m 74.3 72.3 72.3 70.3 67.8 3.8 dB/100m 65.3 63.3 61.5 59.5 55.8 5.3 dB/100m 60.8 58.8 55.4 53.4 49.7 6 dB/100m 59.3 57.3 53.3 51.3 47.8 7.6 dB/100m 56.2 54.3 48.7 46.7 43.7 8.5 dB/100m 54.8 52.8 46.3 44.3 41.8 9.5 dB/100m 53.3 51.3 43.8 41.8 39.8 10.7 dB/100m 51.9 49.9 41.2 39.2 37.9	Max. Insertion Loss (Attenuation) NEXT [dB] PSNEXT [dB] ACR [dB] PSACR [dB] MIN. ACR- (ELFEXT) [dB] MIN. PSACR- (PSELFEXT) [dB] 2.0 dB/100m 74.3 72.3 72.3 70.3 67.8 64.8 3.8 dB/100m 65.3 63.3 61.5 59.5 55.8 52.7 5.3 dB/100m 60.8 58.8 55.4 53.4 49.7 46.7 6 dB/100m 59.3 57.3 53.3 51.3 47.8 44.8 7.6 dB/100m 56.2 54.3 48.7 46.7 43.7 40.7 8.5 dB/100m 54.8 52.8 46.3 44.3 38.8 36.8 9.5 dB/100m 53.3 51.3 43.8 41.8 39.8 36.8 10.7 dB/100m 51.9 49.9 41.2 39.2 37.9 34.9	Max. Insertion Loss (Attenuation)NEXT [dB]PSNEXT [dB]ACR [dB]PSACR [dB]MIL. ACR- (ELFEXT) [dB]MIL. PSACR- (PSELFEXT) [dB](Return Loss) [dB]2.0 dB/100m74.372.372.370.367.864.8203.8 dB/100m65.363.361.559.555.852.7235.3 dB/100m60.858.855.453.449.746.724.56 dB/100m59.357.353.351.347.844.8257.6 dB/100m56.254.348.746.743.740.7258.5 dB/100m54.852.846.344.341.838.8259.5 dB/100m53.351.343.841.839.836.824.310.7 dB/100m51.949.941.239.237.934.923.6	Max. Insertion Loss (Attenuation)NEXT [dB]PSNEXT [dB]ACR [dB]PSACR [dB]Min. ACKP (ELFEXT) [dB]Min. PSACKP (PSELFEXT) [dB](Return Loss) [dB]Impedance (unFitted) [Ohm]2.0 dB/100m74.372.372.370.367.864.820100 ± 153.8 dB/100m65.363.361.559.555.852.723100 ± 155.3 dB/100m60.858.855.453.449.746.724.5100 ± 156 dB/100m59.357.353.351.347.844.825100 ± 157.6 dB/100m56.254.348.746.743.740.725100 ± 158.5 dB/100m54.852.846.341.838.825100 ± 159.5 dB/100m53.351.343.841.839.836.824.3100 ± 1510.7 dB/100m51.949.941.239.237.934.923.6100 ± 15	Max. Insertion Loss (Attenuation) NEXT [dB] PSNEXT [dB] ACR [dB] PSACR [dB] Min. ACRF (ELFEXT) [dB] Min. PSACRF (PSELFEXT) [dB] (Return Loss) [dB] Impedance (unFitted) [Ohm] Impedance Impedance [Ohm] 2.0 dB/100m 74.3 72.3 72.3 70.3 67.8 64.8 20 100 ± 15 100 ± 15 3.8 dB/100m 65.3 63.3 61.5 59.5 55.8 52.7 23 100 ± 15 100 ± 15 5.3 dB/100m 60.8 58.8 55.4 53.4 49.7 46.7 24.5 100 ± 15 100 ± 15 6 dB/100m 59.3 57.3 53.3 51.3 47.8 44.8 25 100 ± 15 100 ± 15 7.6 dB/100m 56.2 54.3 48.7 46.7 40.7 25 100 ± 15 100 ± 15 8.5 dB/100m 54.8 52.8 46.3 41.8 38.8 24.3 100 ± 15 100 ± 15 9.5 dB/100m 51.9 49.9 41.2 39.2 37.9 34.9 23.	Max. Insertion Loss (Attenuation) NEXT [dB] PSNEXT [dB] ACR [dB] PSACR [dB] Min. ACKP (ELFEXT) [dB] Min. PSACR (PSELFEXT) [dB] (Return Loss) [dB] Impedance (unFitted) [Ohm] Max. Min. Pitted Impedance [Ohm] TCL [dB] 2.0 dB/100m 74.3 72.3 72.3 70.3 67.8 64.8 20 100 ± 15 100 ± 15 40.0 3.8 dB/100m 65.3 63.3 61.5 59.5 55.8 52.7 23 100 ± 15 100 ± 15 40.0 5.3 dB/100m 60.8 58.8 55.4 53.4 49.7 46.7 24.5 100 ± 15 100 ± 15 40.0 6 dB/100m 59.3 57.3 53.3 51.3 47.8 44.8 25 100 ± 15 100 ± 15 40.0 7.6 dB/100m 56.2 54.3 46.7 43.7 40.7 25 100 ± 15 100 ± 15 36.0 8.5 dB/100m 54.8 52.8 46.3 44.8 38.8 25 100 ± 15 100 ± 15 37.0 9.

100	19.8 dB/100m	44.3	42.3	24.5	22.5	27.8	24.8	20.1	100 ± 15	100 ± 15	30.0	
155	25.2 dB/100m	41.5	39.5	16.3	14.3	23.9	20.9	18.8	100 ± 20	100 ± 15	28.1	
200	29.0 dB/100m	39.8	37.8	10.8	8.8	21.8	18.8	18	100 ± 20	100 ± 15	27.0	
250	32.8 dB/100m	38.3	36.3	5.5	3.5	19.8	16.8	17.3	100 ± 20	100 ± 15	26.0	

Voltage

UL Voltage Rating

300 V RMS

Mechanical Characteristics

Temperature UL Temperature Operating Installation Storage 75°C -40°C To +75°C 0°C To +60°C -40°C To +75°C Send Radius Installation Min. 3.4 in (86 mm) Max. Pull Tension: 40 lbs (18 kg) Bulk Cable Weight: 51 lbs/1000ft

Standards and Compliance

Environmental Suitability:	Riser, Indoor, Outdoor, Sunlight Resistance
Flammability / Reaction to Fire:	UL 1666 Riser CMR/CMX Outdoor
CPR Compliance:	CPR Euroclass: Eca
NEC / UL Compliance:	PLTC - CMR/CMX Outdoor
AWM Compliance:	AWM 21047
CEC / C(UL) Compliance:	CMR
IEEE Compliance:	IEEE 802.3bt Type 1, Type 2, Type 3, Type 4
Data Category:	Category 6
TIA/EIA Compliance:	Category 6 - TIA 568.2-D
ISO/IEC Compliance:	11801 ed 2.2 (2011) Class E
European Directive Compliance:	EU CE Mark, EU Directive 2015/863/EU (RoHS 2 amendment), EU Directive 2011/65/EU (RoHS 2), EU Directive 2012/19/EU (WEEE), REACH: 2017-07-10
UK Regulation Compliance:	UKCA Mark
APAC Compliance:	China RoHS II (GB/T 26572-2011)

Product Notes

Notes:	Jacket sequentially marked at 2 ft. intervals.
History	
Update and Revision:	Revision Number: 0.161 Revision Date: 12-12-2023
Opdate and Revision.	Nevision Number. 0. 101 Nevision Date. 12-12-2023

Variants

Item #	Color	Putup Type	Length	Footnote
7969A 0101000	Black	Reel	305 m	С
7969A 0105000	Black	Reel	305 m	С

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