

## 7927A Multi-Conductor - Category 6 DataTuff® Twisted Pair Cable



### Description:

23 AWG Bonded-Pair solid bare copper conductors, polyolefin insulation, E-Spline center member, industrial grade sunlight- and oil-resistant PVC jacket, rip cord. Sequential marking at two foot intervals.

### Usage (Overall)

**Suitable Applications:**

Industrial Ethernet Cable, Harsh Environments, 600 MHz Enhanced Category 6, Gigabit Ethernet, 100BaseTX, 100BaseVG ANYLAN, 155ATM, 622ATM, NTSC/PAL Component or Composite Video, AES/EBU Digital Audio, AES51, RS-422, RJ-45 Compatible

### Physical Characteristics (Overall)

#### Conductor

**AWG:**

# Pairs	AWG	Stranding	Conductor Material
4	23	Solid	BC - Bare Copper

#### Insulation

**Insulation Material:**

Insulation Material
PO - Polyolefin

#### Outer Shield

**Outer Shield Material:**

Outer Shield Material
Unshielded

#### Outer Jacket

**Outer Jacket Material:**

Outer Jacket Material
Industrial Grade PVC - Polyvinyl Chloride

**Outer Jacket Ripcord:**

Yes

### Overall Cabling

**Overall Cabling Fillers:**

E-Spline Center Member

**Overall Cabling Color Code Chart:**

Number	Color
1	White/Green & Green
2	White/Orange & Orange
3	White/Blue & Blue
4	White/Brown & Brown

**Overall Nominal Diameter:**

0.251 x 0.339 in.

### Mechanical Characteristics (Overall)

**Installation Temperature Range:**

-25°C To +75°C

**Operating Temperature Range:**

-40°C To +75°C

**Bulk Cable Weight:**

33.500 lbs/1000 ft.

**Max. Recommended Pulling Tension:**

45 lbs.

## 7927A Multi-Conductor - Category 6 DataTuff® Twisted Pair Cable

Min. Bend Radius (Install)/Minor Axis: 0.250 in.

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

NEC/(UL) Specification:	CMR
CEC/C(UL) Specification:	CMR
AWM Specification:	UL Style 444 (300 V 75°C)
EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2002/95/EC (RoHS):	Yes
EU RoHS Compliance Date (mm/dd/yyyy):	10/13/2005
EU Directive 2002/96/EC (WEEE):	Yes
EU Directive 2003/11/EC (BFR):	Yes
CA Prop 65 (CJ for Wire & Cable):	Yes
MII Order #39 (China RoHS):	Yes
Telecommunications Standards:	ANSI/TIA/EIA-568-B.2-1 CAT 6
Other Specification:	UL Verified to Category 6

#### Flame Test

UL Flame Test:	UL1666 Riser
C(UL) Flame Test:	FT4

#### Suitability

Sunlight Resistance:	Yes
Oil Resistance:	Yes

#### Plenum/Non-Plenum

Plenum (Y/N):	No
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### Electrical Characteristics (Overall)

#### Nom. Mutual Capacitance:

Capacitance (pF/ft)  
15.5

#### Nominal Velocity of Propagation:

VP (%)  
67

Maximum Capacitance Unbalance (pF/100 m): 65.6

#### Maximum Delay:

Delay (ns/100 m)  
538 @ 100MHz

#### Max. Delay Skew:

Delay Skew (ns/100 m)  
38

#### Maximum Conductor DC Resistance:

DCR @ 20°C (Ohm/100 m)  
8.2

#### Max. Operating Voltage - UL:

Voltage  
300 V RMS

#### Maximum DCR Unbalanced:

DCR Unbalance @ 20°C (%)  
3

## 7927A Multi-Conductor - Category 6 DataTuff® Twisted Pair Cable

### Electrical Characteristics-Premise (Overall)

Premise Cable Electrical Table 1:

Freq. (MHz)	Max. Attenuation (dB/100 m)	Min. NEXT (dB)	Min. PSNEXT (dB)	Min. ACR (dB)	Min. PSACR (dB)	Min RL (dB)	Min. SRL (dB)
1	1.9	82.3	80.3	80.5	78.5	20.0	27.0
4	3.6	73.3	71.3	69.7	67.7	23.0	27.0
8	5.1	68.8	66.8	63.7	61.7	24.5	27.0
10	5.7	67.3	65.3	61.6	59.6	25.0	27.0
16	7.2	64.3	62.3	57.0	55.0	25.0	27.0
20	8.1	62.8	60.8	54.7	52.7	25.0	27.0
25	9.1	61.3	59.3	52.3	50.3	25.0	27.0
31.25	10.2	59.9	57.9	49.7	47.7	25.0	27.0
62.5	14.7	55.4	53.4	40.7	38.7	25.0	27.0
100	18.9	52.3	50.3	33.4	31.4	25.0	27.0
155	23.9	49.5	47.5	25.5	23.5	22.8	24.7
200	27.5	47.8	45.8	20.3	18.3	21.7	23.4
250	31.2	46.3	44.3	15.2	13.2	20.5	22.2
300	34.5	43.2	41.2	10.6	8.6	20.2	21.2
310	35.2	42.9	40.9	9.8	7.8	20.1	21.1
350	37.7	42.2	40.2	6.5	4.5	19.8	20.4
400	40.6	41.3	39.3	2.6	0.6	19.5	19.7
450	43.5	40.5	38.5	2.1	0.10	18.9	19.1
460	44.0	40.4	38.4	0	0	18.8	19.0
500	46.2	39.8	37.8			18.4	18.5
550	48.8	39.2	37.2			18.0	18.0
600	51.4	38.6	36.6			17.6	17.6

Premise Cable Electrical Table 2:

Freq. (MHz)	Input (Unfitted) Imp. (Ohms)	Fitted Impedance	Min. ELFEXT (dB)	Min. PSELFEXT (dB)
1	100 ± 12	100 ± 15	73.8	70.8
4	100 ± 12	100 ± 10.4	61.8	58.8
8	100 ± 12	100 ± 8	55.7	52.7
10	100 ± 12	100 ± 7.3	53.8	50.8
16	100 ± 12	100 ± 5.7	49.7	46.7
20	100 ± 12	100 ± 5	47.8	44.8
25	100 ± 15	100 ± 5	45.8	42.8
31.25	100 ± 15	100 ± 5	43.9	40.9
62.5	100 ± 15	100 ± 5	37.9	34.9
100	100 ± 15	100 ± 5	33.8	30.8
155	100 ± 15	100 ± 5	30.0	27.0
200	100 ± 15	100 ± 5	27.8	24.8
250	100 ± 20	100 ± 5	25.8	22.8
300	100 ± 20	100 ± 5	24.3	21.3
310	100 ± 20	100 ± 5	24.0	21.0
350	100 ± 22	100 ± 5	22.9	19.9
400	100 ± 22	100 ± 5	21.8	18.8
450	100 ± 22	100 ± 5	20.7	17.7
460	100 ± 22	100 ± 5	20.5	17.5
500	100 ± 22	100 ± 5	19.8	16.8
550	100 ± 22	100 ± 5	19.0	16.0
600	100 ± 22	100 ± 5	18.2	15.2

### Notes (Overall)

**Notes:** US Patent #'s 6, 297, 454-B1; 5, 606, 151; 5, 734, 126; 5, 789, 711. Third party verified to TIA/EIA-568-B.2, Category 6. Operating temperature subject to length de-rating. Cable passes -40C Cold Bend per UL 1581.

### Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
7927A 0101000	1,000 FT	44.000 LB	BLACK	C	4 PR #23 PP PVC

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## 7927A Multi-Conductor - Category 6 DataTuff® Twisted Pair Cable

7927A 0102000	2,000 FT	88.000 LB	BLACK	C	4 PR #23 PP PVC
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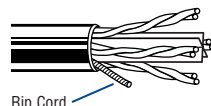
# Industrial Data Solutions® — Industrial Ethernet

## Category 6 DataTuff® Twisted Pair Cables, 4-Pair Heavy-Duty Jackets

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths		Standard Unit Wt.		Nominal OD		Freq. (MHz)	Max. Atten. (dB/100m)	Min. PSUM NEXT (dB)	Min. PSUM ACR (dB/100m)	Min. PSUM ELFEXT (dB/100m)	Input Imped. (Ω)	Min. RL (dB)
				Ft.	m	Lbs.	kg	Inch	mm							

**Enhanced Cat 6 • 23 AWG Bonded-Pairs** Solid BC Conductors • Patented E-Spline Center Member • Rip Cord • See Color Code Chart

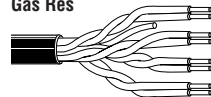
**Polyolefin Insulation • .030" Industrial Grade Sunlight- and Oil-resistant Black PVC Jacket**

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths		Standard Unit Wt.		Nominal OD		Freq. (MHz)	Max. Atten. (dB/100m)	Min. PSUM NEXT (dB)	Min. PSUM ACR (dB/100m)	Min. PSUM ELFEXT (dB/100m)	Input Imped. (Ω)	Min. RL (dB)		
				Ft.	m	Lbs.	kg	Inch	mm									
	7927A	NEC: CMR CEC: CMR FT4	4	1000	304.8	44.0	20.0	.251	6.38	1	1.9	80.3	78.5	70.8	100±12	20.0		
				2000	609.6	88.0	39.9	x	x	10	5.7	65.3	59.6	50.8	100±12	25.0		
												31.25	10.2	57.9	47.7	40.9	100±15	25.0
												62.5	14.7	53.4	38.7	34.9	100±15	25.0
												100	18.9	50.3	31.4	30.8	100±15	25.0
												155	23.9	47.5	23.5	27.0	100±15	22.8
												200	27.5	45.8	18.3	24.8	100±15	21.7
												250	31.2	44.3	13.2	22.8	100±20	20.5
												350	37.7	40.2	4.5	19.9	100±22	19.8
												400	40.6	39.3	0.6	18.8	100±22	19.5
												500	46.2	37.8	>0.0*	16.8	100±22	18.4
												550	48.8	37.2	—	16.0	100±22	18.0
								600	51.4	36.6	—	15.2	100±22	17.6				

RJ-45 Compatible • Jacket sequentially marked at 2 ft. intervals • Third party verified to TIA/EIA-568-B.2-1, Category 6  
Cable passes -40°C Cold Bend per UL1581 • Installation Temperature: -25°C to +75°C • Operating Temperature: -40°C to +75°C\*\*  
\*PSUM ACR >0 is guaranteed to 460 MHz. • U.S. Patents 5,606,151; 5,734,126; 5,789,711 and 6,297,454-B1

**Cat 6 • 23 AWG Bonded-Pairs** Solid BC Conductors • See Color Code Chart (below)

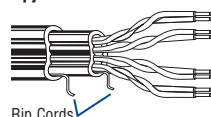
**Plenum • FEP Insulation • Sunlight-, Oil- and Gas-resistant Black FEP Jacket**

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths		Standard Unit Wt.		Nominal OD		Freq. (MHz)	Max. Atten. (dB/100m)	Min. PSUM NEXT (dB)	Min. PSUM ACR (dB/100m)	Min. PSUM ELFEXT (dB/100m)	Input Imped. (Ω)	Min. RL (dB)		
				Ft.	m	Lbs.	kg	Inch	mm									
	7931A	NEC: Limited CEC: FHC 25/50 CMP CEC: CMP FT6	4	1000	304.8	35.0	15.9	.214	5.44	1	2.0	72.3	70.3	64.8	100±15	20.0		
												10	6.0	57.3	51.3	44.8	100±15	25.0
												20	8.5	52.8	44.3	38.7	100±15	25.0
												31.25	10.7	49.9	39.2	34.9	100±15	23.6
												62.5	15.4	45.4	30.0	28.8	100±15	21.5
												100	19.8	42.3	22.5	24.8	100±15	20.1
								200	29.0	37.8	8.8	18.7	100±22	18.0				
								250	32.8	36.3	3.5	16.8	100±32	17.3				

RJ-45 Compatible  
Cable passes -70°C Cold Bend per UL1581 • Installation Temperature: -55°C to +150°C • Operating Temperature: -70°C to +150°C\*\*  
Jacket sequentially marked at 2 ft. intervals • Third party verified to TIA/EIA-568-B.2-1, Category 6 • U.S. Patents 5,606,151 and 5,734,126

**Enhanced Cat 6 • 23 AWG Bonded-Pairs** Solid BC Conductors • Rip Cord • See Color Code Chart (below)

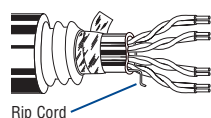
**Polyolefin Insulation • PVC Inner Jacket • .035" Industrial Grade PVC Outer Jacket (Black or Gray)**

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths		Standard Unit Wt.		Nominal OD		Freq. (MHz)	Max. Atten. (dB/100m)	Min. PSUM NEXT (dB)	Min. PSUM ACR (dB/100m)	Min. PSUM ELFEXT (dB/100m)	Input Imped. (Ω)	Min. RL (dB)				
				Ft.	m	Lbs.	kg	Inch	mm											
	11872A	NEC: CM CEC: FT1	4	1000	304.8	66.0	30.0	.475	12.07	1	1.9	72.3	70	64.8	100±12	20.0				
												4	3.7	63.3	59	52.7	100±12	23.0		
												x	x	10	5.9	57.3	51	44.8	100±12	25.0
												.265	6.73	16	7.5	54.3	46	40.7	100±12	25.0
														31.25	10.6	49.9	39	34.9	100±15	23.6
														62.5	15.4	45.4	30	28.8	100±15	21.5
												Nominal		100	19.8	42.3	25	24.8	100±15	21.0
												Core OD:		155	25.1	39.5	14	20.9	100±15	21.0
												.365	9.27	200	29.0	37.9	10	18.7	100±15	21.0
												x	x	310	37.1	34.9	—	14.9	100±20	18.0
												.165	4.19	350	39.8	34.2	—	13.9	100±22	17.0
														400†	43.0	33.3	—	12.7	100±32	14.0
										500†	49.0	31.8	—	10.8	100±32	14.0				

†Value provided for information only. • RJ-45 Compatible • Cable passes -25°C Cold Bend per UL1581  
Installation Temperature: -10°C to +75°C • Operating Temperature: -25°C to +75°C\*\*  
Jacket sequentially marked at 2 ft. intervals • Verified to TIA/EIA-568-B.2-1, Category 6 • U.S. Patents 5,606,151, 5,734,126 and 5,821,467

**Enhanced Cat 6 • 23 AWG Bonded-Pairs** Solid BC Conductors • Polyester Wrap • Rip Cord • See Color Code Chart (below)

**AL Interlocked Armor • Polyolefin Insulation • PVC Inner Jacket • .055" Industrial Grade PVC Outer Jacket (Black or Gray)**

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths		Standard Unit Wt.		Nominal OD		Freq. (MHz)	Max. Atten. (dB/100m)	Min. PSUM NEXT (dB)	Min. PSUM ACR (dB/100m)	Min. PSUM ELFEXT (dB/100m)	Input Imped. (Ω)	Min. RL (dB)					
				Ft.	m	Lbs.	kg	Inch	mm												
	121872A	NEC: HL CEC: CMG FT4	4	1000	304.8	222.0	100.6	.684	17.37	1	1.9	72.3	70	64.8	100±12	20.0					
												4	3.7	63.3	59	52.7	100±12	23.0			
													10	5.9	57.3	51	44.8	100±12	25.0		
													.265	6.73	16	7.5	54.3	46	40.7	100±12	25.0
														31.25	10.6	49.9	39	34.9	100±15	23.6	
														62.5	15.4	45.4	30	28.8	100±15	21.5	
												Nominal		100	19.8	42.3	25	24.8	100±15	21.0	
												Core OD:		155	25.1	39.5	14	20.9	100±15	21.0	
												.365	9.27	200	29.0	37.9	10	18.7	100±15	21.0	
												x	x	310	37.1	34.9	—	14.9	100±20	18.0	
												.165	4.19	350	39.8	34.2	—	13.9	100±22	17.0	
														400†	43.0	33.3	—	12.7	100±32	14.0	
										500†	49.0	31.8	—	10.8	100±32	14.0					

†Value provided for information only. • RJ-45 Compatible • Jacket sequentially marked at 1 meter intervals  
Cable passes -40°C Cold Bend per UL1581 • Installation Temperature: -25°C to +75°C • Operating Temperature: -40°C to +75°C\*\*  
Verified to TIA/EIA-568-B.2-1, Category 6 • U.S. Patents 5,606,151, 5,734,126 and 5,821,467

ACR = Attenuation Crosstalk Ratio • AL = Aluminum • BC = Bare Copper • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • TC = Tinned Copper  
\*\*Subject to length de-rating.

**Color Codes: DataTuff**

Pair No.	Color Combination
1	White/Blue Stripe & Blue
2	White/Orange Stripe & Orange
3	White/Green Stripe & Green
4	White/Brown Stripe & Brown