Detailed Specifications & Technical Data

BELDENCable

7877A Composite - Composite Data, Audio, Video, Security and Control Cable

For more information please call

1-800-Belden1

See Put-ups and Colors

Description:

Composite - (1) Cat 5e 4-bonded-pair. 24 AWG unshielded plus (2) Series 6 Coax with Duobond Plus® Bonded Tri-shield. Polyolefin Insulation on the pairs; Gas-injected FPE Insulation on the coax, F-R PVC jackets, overall F-R PVC jacket.

SUITABLE APPLICATIONS:

Suitable Appplications	HDTV, DBS, CATV, SVHS, CCTV, Multimedia, Voice, Video, Data, High Speed Internet, Networked Computing, Distributed Video, Distributed Audio, Security Monitoring, Energy Monitoring

PHYSICAL CHARACTERISTICS:

COAX:

Number of Coax	2
Series Type (Single Coax)	Series 6

CONDUCTOR :

Coax AWG	18
Coax Stranding	Solid
Coax Conductor Diameter	.040 in.
Coax Conductor Material	BC - Bare Copper

INSULATION :

Coax Insulation Material	Gas-injected FPE - Foam Polyethylene
Coax Insulation Diameter	.180 in.

INNER SHIELD :

Coax Inner Shield Material Trade Name	Duobond Plus®
Coax Inner Shield Type	Tape/Braid/Tape

Coax Inner Shield Material :

Layer Number	Trade Name	Type	Material	Coverage (%)
1	Bonded Duofoil®	Tape	Bonded Aluminum Foil-Polyester Tape-Aluminum Foil	100
2		Braid	AL - Aluminum	77
3		Tape	Bonded Aluminum Foil-Polyester Tape with Shorting Fold	100

Coax Inner Shield % Coverage	100 %

OUTER JACKET :

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Coax Outer Jacket Material	PVC - Polyvinyl Chloride
Coax Outer Jacket Diameter	.275 in.

Coax Outer Jacket Color Code Chart :

Number	Color
1	Black
2	White

TWISTED PAIR CABLE(S):

CONDUCTOR :

Number of Pairs	4
Twisted Pair AWG	24
Twisted Pair Stranding	Solid
Twisted Pair Conductor Diameter	.020 in.
Twisted Pair Conductor Material	BC - Bare Copper

INSULATION :

Twisted Pair Insulation Material	PO - Polyolefin
Twisted Pair Insulation Diameter	.038 in.

Twisted Pair Color Code Chart :

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

OUTER JACKET :

Twisted Pair Outer Jacket Material	PVC - Polyvinyl Chloride
Twisted Pair Outer Jacket Ripcord	Yes
Twisted Pair Outer Jacket Color Code Chart	Blue

OVERALL DIAMETER :

Twisted Pair Overall Nominal Diameter	.200

OVERALL CABLING:

OUTER SHIELD :

Overall Cabling Outer Shield Material	Unshielded

OUTER JACKET :

Overall Cabling Outer Jacket Material	PVC - Polyvinyl Chloride
Overall Cabling Outer Jacket Ripcord	Yes

OVERALL DIAMETER :

Overall Composite Cabling Nominal Diameter	.610 in.

MECHANICAL CHARACTERISTICS:

OVERALL CABLING:

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Belden CDT

BELDEN Cable

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Overall Cabling Operating Temperature Range	-20°C To +75°C
Overall Cabling Bulk Cable Weight	116 lbs/1000 ft.
Overall Cabling Max. Recommended Pulling Tension	122 lbs.
Overall Cabling Min. Bend Radius (Install)	6 in.

APPLICABLE SPECIFICATIONS AND AGENCY COMPLIANCE:

OVERALL CABLING:

APPLICABLE STANDARDS :	
Overall Cabling NEC/(UL) Specification	CMR
Overall Cabling CEC/C(UL) Specification	CMG
Overall Cabling IEC Specification	ISO/IEC 11801, Category 5
Overall Cabling TIA/EIA Specification	ANSI/TIA/EIA-568-B.2, Category 5e
Overall Cabling Other Specification	NEMA WC-63.1, Category 5e
FLAME TEST :	
Overall Cabling UL Flame Test	UL1666 Riser
Overall Cabling C(UL) Flame Test	FT4
PLENUM/NON-PLENUM :	
Overall Cabling Plenum (Y/N)	N

ELECTRICAL CHARACTERISTICS:

COAX:

Coax Nom. Characteristic Impedance	75 Ohms
Coax Nom. Inductance	.097 µH/ft
Coax Nom. Capacitance Conductor to Shield	16.2 pF/ft
Coax Nominal Velocity of Propagation	83 %
Coax Nominal Delay	1.2 ns/ft
Coax Nom. Conductor DC Resistance @ 20 Deg. C	6.4 Ohms/1000 ft
Coax Nom. Inner Shield DC Resistance	4.6 Ohms/1000 ft

Coax Typical Structural Return Loss :

Description	Frequency (MHz)	Start Frequency (MHz)	Stop Frequency (MHz)	Typical Structural Return Loss (dB)
		5	2250	15

Coax Nom. Attenuation :

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Description	Frequency (MHz)	Start Frequency (MHz)	Stop Frequency (MHz)	Nom. Attenuation (dB/100 ft.)
	5			0.5
	55			1.4
	211			2.6
	500			4.1
	750			5.1
	862			5.5
	1000			6.0
	1450			7.9
	1800			8.4
	2250			10.1

Coax Max. Attenuation :

Description	Frequency (MHz)	Start Frequency (MHz)	Stop Frequency (MHz)	Max. Attenuation (dB/100 ft.)
	5			.67
	55			1.60
	211			3.02
	500			4.72
	750			5.83
	862			6.27
	1000			6.78
	1450			8.30
	1800			9.30
	2250			10.60

Coax Max. Operating Voltage - UL	350 V RMS

Coax Shield Effectiveness :

Description	Frequency (MHz)	Start Frequency (MHz)	Stop Frequency (MHz)	Shield Effectiveness (dB)
		5	50	105
		50	1000	125

Coax Other Electrical Characteristic 1	Coax Sweep tested to 2.25 GHz.

TWISTED PAIR CABLE(S):

PREMISE :

Twisted Pair Premise Cable Electricals Table 1 :

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BELDENCable

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Frequency (MHz)	Max. Attenuation (dB/100 m)	Min. NEXT (dB)	Min. PSNEXT (dB)	Min. ACR (dB)	Min. PSACR (dB)	Min. Return Loss (dB)	Min. Structural Return Loss (dB)
1.0	2.0		62.3		60	20.0	
4.0	4.1		53.3		49	23.0	
8.0	5.8		48.8		43	24.5	
10.0	6.5		47.3		41	25.0	
16.0	8.2		44.3		36	25.0	
20.0	9.3		42.8		34	25.0	
25.0	10.4		41.3		31	24.3	
31.25	11.7		39.9		28	23.6	
62.5	17.0		35.4		19	21.5	
100	22.0		32.3		11	20.1	

Twisted Pair Premise Cable Electricals Table 2 :

Frequency (MHz)	Input (Unfitted) Impedance (Ohms)	Fitted Impedance (Ohms)	Min. ELFEXT (dB)	Min. PSELFEXT (dB)
1.0	100 +/- 15%			60.8
4.0	100 +/- 15%			48.7
8.0	100 +/- 15%			42.7
10.0	100 +/- 15%			40.8
16.0	100 +/- 15%			36.7
20.0	100 +/- 15%			34.7
25.0	100 +/- 15%			32.8
31.25	100 +/- 15%			30.9
62.5	100 +/- 15%			24.8
100	100 +/- 15%			20.8

MULTICONDUCTOR CABLE(S):

Multi-Conductor Nom. Mutual Capacitance @ 1 kHz	15 pF/ft
Multi-Conductor Nominal Velocity of Propagation	70 %
Multi-Conductor Max. Cond.DC Resist. @ 20 Deg. C	9.38 Ohms/100 m
Multi-Conductor Max. Operating Voltage - UL	300 V RMS
Multi-Conductor Other Electrical Characteristic 1	Third party verified to TIA/EIA-568-B.2, Category 5E

NOTES:

OVERALL CABLING:

Overall Cabling Notes	Overall jacket sequentially marked. Shielding effectivenss determined from screening attenuation measurement when tested in accordance with IEC 61196-1.

PUT-UPS AND COLORS:

Item	Description	Put-Up (ft.)	Ship Weight (lbs.)	Jacket Color	Notes
7877A N3U1000	2 #18 COAX,4PR#24 PP FRPVC PVC	1000	128	GREEN, MIL	

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BELDENCable™

7877A Composite - Composite Data, Audio, Video, Security and Control Cable

7877A N3U500	2 #18 COAX,4PR#24 PP FRPVC PVC	500	67	GREEN, MIL	C

C = CRATE REEL PUT-UP.

Revision Number: 3 Revision Date: 09-17-2004

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