

10Gain® XP Category 6A

CMR/CMP



Product Description

10Gain® xP, with its non-conductive Isolation Wrap, is the first Category 6A cable without a continuous shield to offer 3 dB margin over Alien Crosstalk (AXT) performance requirements in ANSI/TIA-568-C.2. The uniquely designed Isolation Wrap contains discontinuous sections of metallized material, held in place by a polymeric layer. 10Gain xP has a nominal 0.275 inch diameter which allows for higher cable density than other CAT 6A cable products. 10Gain xP fully complies with UL 444 requirements for an unshielded twisted pair product.

Applications

- 10BASE-T through 10GBASE-T Ethernet
- Power over Ethernet (PoE) – IEEE 802.3af
- PoE+ – IEEE 802.3at Type 1 and 2
- ATM and token ring
- Backward compatible to legacy protocols and applications

Features

- Guaranteed 3 dB AXT margin
- UL Verified CAT 6A
- Tested to 650 MHz
- Non-conductive Isolation Wrap
- Nominal 0.275 inch diameter
- 1.2 inch bending radius
- CableID® alpha numeric code printed every 2 feet
- QuickCount® marking system in feet and meters
- ColorTip™ circuit identification system

Benefits

- Guaranteed AXT performance in virtually any installation environment
- Assures consistent, worry-free performance
- Assures ample bandwidth headroom
- Provides substantially more AXT protection without grounding or bonding
- Allows higher cable density and smaller bend radius
- Flexible for use in tight spaces
- Allows both ends of a cable run to be easily identifiable without the need to separately label or tone the cable
- Provides remaining length of cable on reel
- Easily identifiable conductor mates even in low-light environments

Specifications

Pair Count	4
Conductor	Solid annealed copper
AWG (mm)	23 (0.57)
Insulation	CMR: Thermoplastic CMP: FEP
Insulation Colors	Pair 1: ColorTip Light Blue, Blue Pair 2: ColorTip Light Orange, Orange Pair 3: ColorTip Light Green, Green Pair 4: ColorTip Light Brown, Brown
Separator	Cross-web
Isolation Wrap	Proprietary construction
Jacket	CMR: Flame retardant (FR) PVC CMP: FR, low smoke PVC
Characteristic Impedance (Ohms)	100 ± 15
Velocity of Propagation (%)	CMR: 66 CMP: 71
Performance Compliance	UL 444 CSA C22.2 No. 214-08 UL 1666 NFPA 262 ANSI/TIA-568-C.2 Article 800, NEC (NFPA 70) RoHS-compliant
NRTL Programs	UL Verified CAT 6A UL, c(UL) Listed CMR UL, c(UL) Listed CMP

Part Numbers and Physical Characteristics

Listing	Part Number ¹	Nominal Diameter in (mm)	Approx. Weight lbs/kft (kg/km)	Package	Packages per Pallet
CMR	16H-272-xA1	0.275 (6.99)	47 (70)	1,000' Plywood reel	12
CMP	16H-272-xB1	0.275 (6.99)	45 (67)	1,000' Plywood reel	12

Jacket Colors

¹Replace "x" with: Blue = 2 Gray = 3 White = 4 Green = 5 Yellow = 6 Purple = 7 Red = 9 Orange = D

Electrical Specifications

Frequency MHz	Insertion Loss @ 20°C Maximum dB/100 m		NEXT Minimum dB/100 m		ACR Minimum dB/100 m		PSNEXT Minimum dB/100 m		PSACR Minimum dB/100 m	
	Guaranteed	Typical	Guaranteed	Typical	Guaranteed	Typical	Guaranteed	Typical	Guaranteed	Typical
1	2.1	2.0	74.3	78.3	72.2	77.3	72.3	77.3	70.2	76.3
4	3.8	3.7	65.3	69.3	61.5	66.6	63.3	68.3	59.5	65.6
8	5.3	5.1	60.8	64.8	55.4	60.6	58.8	63.8	53.4	59.6
10	5.9	5.7	59.3	63.3	53.4	58.6	57.3	62.3	51.4	57.6
16	7.5	7.3	56.2	60.2	48.8	54.0	54.2	59.2	46.8	53.0
20	8.4	8.1	54.8	58.8	46.4	51.7	52.8	57.8	44.4	51.2
25	9.4	9.1	53.3	57.3	44.0	49.7	51.3	56.3	42.0	49.0
31.25	10.5	10.2	51.9	55.9	41.4	47.2	49.9	54.9	39.4	46.7
62.5	15.0	14.4	47.4	51.4	32.4	39.0	45.4	50.4	30.4	38.4
100	19.1	18.4	44.3	48.3	25.2	32.4	42.3	47.3	23.2	31.7
200	27.6	26.5	39.8	43.8	12.2	20.1	37.8	42.8	10.2	19.5
250	31.1	29.8	38.3	42.3	7.3	15.5	36.3	41.3	5.3	15.1
300	34.3	32.9	37.1	41.1	2.9	11.4	35.1	40.1	0.9	10.8
400	40.1	38.3	35.3	39.3		4.6	33.3	38.3		3.6
500	45.3	43.0	33.8	37.8			31.8	36.8		
600		47.5		36.4				35.6		
650		49.7		35.9				35.1		

Frequency MHz	Return Loss Minimum dB/100 m		ACRF Minimum dB/100 m		PSACRF Minimum dB/100 m		PSANEXT Minimum dB/100 m		Guaranteed	Typical
	Guaranteed	Typical	Guaranteed	Typical	Guaranteed	Typical	Guaranteed	Typical		
1	20.0	22.0	67.8	73.8	64.8	70.8	70.0	96.5	70.0	72.0
4	23.0	25.0	55.8	61.8	52.8	58.8	70.0	87.5	69.2	71.2
8	24.5	26.5	49.7	55.7	46.7	52.7	70.0	83.0	63.1	65.1
10	25.0	27.0	47.8	53.8	44.8	50.8	70.0	81.5	61.2	63.2
16	25.0	27.0	43.7	49.7	40.7	46.7	70.0	78.4	57.1	59.1
20	25.0	27.0	41.8	47.8	38.8	44.8	70.0	77.0	55.2	57.2
25	24.3	26.3	39.8	45.8	36.8	42.8	70.0	75.5	53.2	55.2
31.25	23.6	25.6	37.9	43.9	34.9	40.9	70.0	74.1	51.3	53.3
62.5	21.5	23.5	31.9	37.9	28.9	34.9	68.6	69.6	45.3	47.3
100	20.1	22.1	27.8	33.8	24.8	30.8	65.5	66.5	41.2	43.2
200	18.0	20.0	21.8	27.8	18.8	24.8	61.0	62.0	35.2	37.2
250	17.3	19.3	19.8	25.8	16.8	22.8	59.5	60.5	33.2	35.2
300	16.8	18.8	18.3	24.3	15.3	21.3	58.3	59.3	31.7	33.7
400	15.9	17.9	15.8	21.8	12.8	18.8	56.5	57.5	29.2	31.2
500	15.2	17.2	13.8	19.8	10.8	16.8	55.0	56.0	27.2	29.2
600		16.7		18.2		15.2		54.8		27.6
650		16.4		17.5		14.5		54.3		26.9