FEATURES AND SPECIFICATIONS

molex

PowerCat 6 Enhanced Cable

Features and Benefits

The Molex PowerCat 6 Enhanced cable is our premium Category 6 U/UTP cable that is ideal for high speed Gbit Ethernet networks. This premium cable is designed specifically to handle voice, video, and data concurrently and is also ideal for PoE applications. PowerCat 6 Enhanced cable is key component of the Molex PowerCat 6 end-to-end solution.

- Full duplex operation capable over four cable pairs
- Increased crosstalk headroom beyond the TIA Cat 6 standard
- Documented balance characteristics (LCL/TCL, EL TCTL)
- Reduced Insertion Loss (Attenuation)
- ETL verified to TIA-568-C.2 Category 6 standard
- Highest performing UTP cable available
- 1000 foot to 0 foot markers
- Specified and tested to 500 MHz

Commerical Standards

North American: TIA-568-C.2 Category 6
International: ISO/IEC 11801 Ed.2:2002
European: EN 50173-1:2011

Fire Propagation Tests

Non-plenum: UL 1666, CMR, CMG, IEC 332-1, C(UL)
Plenum: NFPA 262, CMP

Applications

PowerCat 6 Enhanced Cable is intended for high speed data applications including:
IEEE 802.3 1000BASE-T, 100BASE-TX, 10BASE-T, 155 Mb/s ATM, ANSI X3.263 100 Mb/s, 4/16 Mb/s Token Ring

Technical Information

Mechanical Characteristics

Materials
(23 AWG), bare copper wire insulated with polyethylene (non-plenum) or insulated with FEP (plenum). Two insulated conductors twisted together to form a pair and four such pairs laid up to form the basic unit jacketed with flame-retardant PVC.

Non Plenum
Conductor Size in.(mm): .023 (0.58)
Cable Diameter in. (mm) .231 (5.87)
Nominal Cable Weight
lb./kft. (kg/km): 27 (12.2)
Max Installation Tension
lb. (N): 25 (110)
Min. bend radius in. (mm): 1.0 (25.4)

Plenum
Conductor Size in.(mm): .023 (0.58)
Cable Diameter in. (mm): .220 (5.59)
Nominal Cable Weight
lb./kft. (kg/km): 30 (13.6)
Max Installation Tension
lb. (N): 25 (110)
Min. bend radius in. (mm): 1.0 (25.4)

Pulling tension: 110 N (25 lbf)

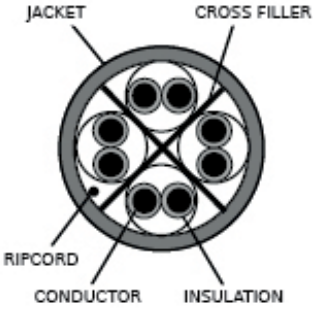
Color Code

Pair 1: White/Blue	Blue
Pair 2: White/Orange	Orange
Pair 3: White/Green	Green
Pair 4: White/Brown	Brown

Electrical Characteristics

Mutual Capacitance: 5.6 nF/100 m maximum
DC resistance maximum: 9.37 Ohms/100m maximim
Skew: 45 ns/100 m maximum
Pair to ground Unbalance: 330 pF/100m max
Nominal Velocity of Propagation (NVP); 72%
Input Impedance (Ohms):
100Ω± 13% 0.772-100 MHz
100Ω± [13+15log (F/100)] 100-500 MHz

Temperature Rating
Installation: 0°C to + 50°C
Operation: -10°C to + 60°C



PowerCat 6 Enhanced Cable

MOLEX PREMISE NETWORKS

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Please refer to our website at **http://www.molexpn.com/About-Us/Our-Warranty.html** for terms and conditions of any resulting warranty.
This information is correct at the time of publication, specifications are subject to change.

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FREQ MHz	RL (dB)		NEXT (dB)		PS NEXT (dB)		Insertion Loss (dB/100m)		ACR (dB@100m)		PS-ACR (dB@100m)	
	Min.	Typical	Min.	Typical	Min.	Typical	Max.	Typical	min.	Typical	Min	Typical
1	20.0	33.0	74.3	96.5	72.3	92.8	2.0	1.7	72.3	93.0	70.3	91.0
4	23.0	32.8	65.3	88.6	63.3	84.9	3.8	3.5	61.5	82.7	59.5	81.4
10	25.0	32.5	59.3	82.8	57.3	79.0	6.0	5.5	53.3	74.5	51.3	73.4
16	25.0	33.9	56.2	79.5	54.2	76.2	7.6	7.0	48.7	70.4	46.7	68.9
20	25.0	34.8	54.8	77.8	52.8	74.1	8.5	7.9	46.3	67.3	44.3	66.0
31.25	23.6	33.8	51.9	75.0	49.9	71.4	10.7	9.9	41.2	62.8	39.2	61.4
62.5	21.5	33.2	47.4	70.1	45.4	66.5	15.4	14.3	32.0	53.4	30.0	52.0
100	20.1	30.6	44.3	66.7	42.3	63.1	19.8	18.2	24.5	46.1	22.5	44.6
150	18.9	31.7	41.7	64.3	39.7	60.5	24.7	22.6	16.9	39.0	14.9	37.6
200	18.0	31.2	39.8	62.2	37.8	58.6	29.0	26.4	10.8	33.5	8.8	31.8
250	17.3	30.1	38.3	60.4	36.3	56.7	32.8	29.7	5.5	28.0	3.5	26.5
300	-	29.3	-	58.9	-	55.1	-	32.7	-	23.4	-	21.9
350	-	28.3	-	57.7	-	54.0	-	35.5	-	19.5	-	17.8
400	-	27.8	-	57.1	-	52.9	-	38.1	-	15.8	-	14.2
450	-	27.0	-	55.5	-	51.6	-	40.8	-	11.5	-	9.9
500	-	26.2	-	54.3	-	50.4	-	43.3	-	7.8	-	6.3

FREQ MHz	ACRF (dB/100m)		PSACRF (dB/100m)		LCL/ TCL (dB)	EL TCTL (dB)
	Min	Typical	Min.	Typical	Typical	Typical
1	67.8	90.1	64.8	86.0	40.0	35.0
4	55.8	78.6	52.8	74.4	40.0	23.0
10	47.8	70.9	44.8	66.6	40.0	15.0
16	43.7	67.2	40.7	62.6	38.0	10.9
20	41.8	65.3	38.8	60.6	37.0	9.0
31.25	37.9	61.3	34.9	57.0	35.1	5.1
62.5	31.9	55.3	28.9	51.4	32.0	-
100	27.8	51.0	24.8	47.4	30.0	-
150	24.3	47.0	21.3	43.8	28.2	-
200	21.8	44.8	18.8	41.1	27.0	-
250	19.8	42.7	16.8	39.2	26.0	-
300	-	40.5	-	37.0	25.2	-
350	-	39.4	-	35.8	24.6	-
400	-	37.9	-	34.3	24.0	-
450	-	36.4	-	32.7	23.5	-
500	-	34.3	-	30.5	23.0	-

Data above 250 MHZ is for engineering information only

ORDERING INFORMATION

Order No.	Jacket Color	Jacket	No. Pairs	Flame Rating
CAA-0183R-BL	Blue	PVC	4	CMR Riser
CAA-0183R-02	White	PVC	4	CMR Riser
CAA-0183R-08	Light Gray	PVC	4	CMR Riser
CAA-0183P-BL	Blue	PVC Alloy	4	CMP Plenum
CAA-0183P-02	White	PVC Alloy	4	CMP Plenum
CAA-0183P-08	Light Gray	PVC Alloy	4	CMP Plenum

NOTE: Standard Lengths: 1,000 feet (305 meters). Specifications subject to change without notice. Part numbers listed are for boxes. Other colors available, lead time may vary

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