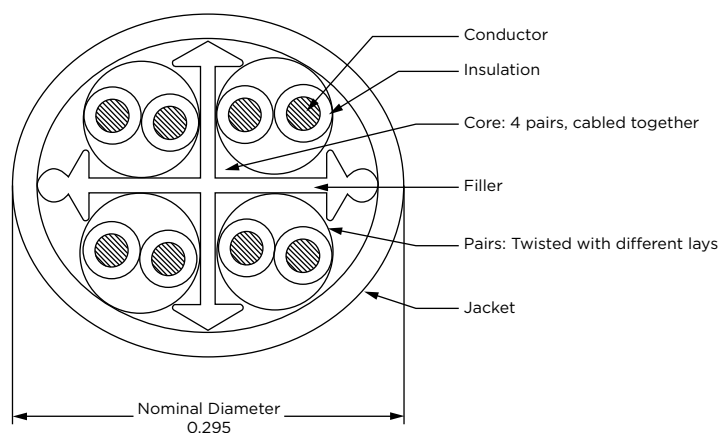


640 Series CMR Cat 6A UTP Cable

TE640R



Description

TE Connectivity's 640 Series UTP cable enables 10 Gigabit Ethernet performance with an industry-low outside diameter. The 640 Series Category 6A cables exceed ANSI/TIA-568-C Category 6A and ISO/IEC 11801 Category 6A performance requirements by significant margins on all parameters. The TE Category 6A System complies with all of the performance requirements for current and proposed applications such as Gigabit Ethernet (1000BASE-Tx), 10/100BASE-Tx, token ring, 155 Mbps ATM, 100 Mbps TP-PMD, ISDN, analog and digital video and analog and digital voice (VoIP). TE's 640 cable also features a patented oblique elliptical offset filler to minimize alien crosstalk.

TE Connectivity Category 6A UTP cables are available in standard colors including white, gray, blue and yellow. Category 6A Cables from TE feature lead-free jacketing. Packaging is on reels with standard put-ups being 1000 ft splice-free lengths.

Specification

Horizontal cabling shall be 23 AWG, 4-pair UTP, NEC/NFPA CMR rated and be independently verified for compliance. Cable jacketing shall be white, gray, blue or yellow and shall be lead-free. Cable shall exceed all ANSI/TIA and ISO Category 6A requirements as well as meet the performance requirements listed in the table shown on page 2.

Cable performance shall be verified and characterized to 650 MHz. Cable shall be supplied on reels. Independent verification for flammability compliance shall be to NEC article 800 and NFPA 70; CMR ANSI/UL 1666. Horizontal cable shall be catalog number TE640R-XXYY, with all color options listed.

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PERFORMANCE DATA

FREQ MHZ	FITTED IMPEDANCE Ohms	INSERTION LOSS dB/100m		RETURN LOSS dB/100m		PAIR-PAIR NEXT dB/100m		PSNEXT dB/100m	
	Spec	Max	Spec	Min	Spec	Min	Spec	Min	Spec
1	100 +/- 5	1.8	2.1	29.1	20.0	87.9	75.3	86.7	72.3
4	100 +/- 3	3.5	3.8	31.1	23.0	75.5	66.3	74.4	63.3
8	100 +/- 3	4.9	5.3	36.0	24.5	68.9	61.8	66.9	58.8
10	100 +/- 3	5.6	5.9	36.9	25.0	69.1	60.3	66.4	57.3
16	100 +/- 3	7.1	7.5	33.6	25.0	66.7	57.2	66.2	54.2
20	100 +/- 3	7.9	8.4	38.7	25.0	66.4	55.8	63.8	52.8
25	100 +/- 3	8.9	9.4	41.4	24.3	64.0	54.3	61.2	51.3
31.25	100 +/- 3	10.0	10.5	37.9	23.6	63.1	52.9	60.8	49.9
62.5	100 +/- 3	14.2	15.0	34.2	21.5	65.8	48.4	63.8	45.4
100	100 +/- 3	18.0	19.1	35.8	20.1	53.7	45.3	51.5	42.3
155	100 +/- 3	22.7	24.1	31.6	18.8	54.1	42.4	51.5	39.4
200	100 +/- 3	25.9	27.6	30.2	18.0	49.8	40.8	46.9	37.8
250	100 +/- 3	29.0	31.1	29.2	17.3	46.7	39.3	45.8	36.3
300	100 +/- 3	31.8	34.3	30.2	17.3	53.2	38.1	50.0	35.1
350	100 +/- 3	34.4	37.2	27.6	17.3	42.2	37.1	40.7	34.1
400	100 +/- 3	37.0	40.1	26.0	17.3	41.5	36.3	40.1	33.3
450	100 +/- 3	39.5	42.7	27.9	17.3	37.9	35.5	37.3	32.5
500	100 +/- 3	41.6	45.3	26.2	17.3	43.7	34.8	39.2	31.8
550	100 +/- 3	43.8	-	23.2	-	42.8	-	40.0	-
600	100 +/- 3	45.7	-	24.2	-	44.8	-	42.7	-
650	100 +/- 3	47.8	-	21.5	-	34.2	-	32.4	-

PERFORMANCE DATA

FREQ MHZ	PAIR-PAIR ACR dB/100m		PSACR dB/100m		PAIR-PAIR ACRF dB/100m		PSACRF dB/100m		TCL dB/100m	ELTCTL dB/100m
	Min	Spec	Min	Spec	Min	Spec	Min	Spec	Min	Min
1	86.2	73.2	84.9	70.2	79.5	68.0	76.3	65.0	40.0	35.0
4	72.0	62.5	71.0	59.5	67.6	56.0	64.4	53.0	40.0	23.0
8	64.0	56.4	62.0	53.4	62.0	49.9	58.5	46.9	40.0	16.9
10	63.6	54.4	60.9	51.4	59.9	48.0	56.5	45.0	40.0	15.0
16	59.8	49.8	59.1	46.8	56.4	43.9	52.7	40.9	38.0	10.9
20	58.6	47.4	56.0	44.4	54.6	42.0	50.7	39.0	37.0	9.0
25	55.3	45.0	52.5	42.0	52.6	40.0	48.8	37.0	36.0	7.0
31.25	53.3	42.4	51.1	39.4	51.0	38.1	47.0	35.1	35.1	-
62.5	51.8	33.4	49.9	30.4	44.6	32.1	41.4	29.1	32.0	-
100	35.9	26.2	33.5	23.2	40.0	28.0	37.6	25.0	30.0	-
155	31.9	18.4	28.8	15.4	35.6	24.2	32.6	21.2	28.1	-
200	24.5	13.2	21.0	10.2	33.6	22.0	32.3	19.0	27.0	-
250	18.4	8.3	17.4	5.3	31.9	20.0	28.0	17.0	26.0	-
300	22.0	3.9	18.9	0.9	30.0	18.5	26.6	15.5	25.2	-
350	8.5	-0.1	6.3	-3.1	27.7	17.1	24.3	14.1	24.6	-
400	5.3	-3.8	3.1	-6.8	25.2	16.0	22.2	13.0	24.0	-
450	-0.6	-7.2	-1.8	-10.2	23.3	14.9	22.1	11.9	23.5	-
500	3.0	-10.4	-1.4	-13.4	22.4	14.0	21.3	11.0	23.0	-
550	0.0	-	-2.8	-	22.5	-	21.4	-	-	-
600	-0.1	-	-2.2	-	23.8	-	20.4	-	-	-
650	-12.5	-	-14.4	-	25.3	-	19.2	-	-	-

NOTE: The above listed discrete frequency electrical performance values are provided for engineering information only.
Actual compliance testing is based on swept frequency measurements.

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TE640R

SPECIFICATIONS

Mutual Capacitance:	5.6 nF/100 m maximum
Conductor DC Resistance:	28.6 Ω /1000' (9.38 Ω /100 m) maximum
Voltage:	300 VDC
Delay Skew:	40 ns/100 m
Propagation Delay:	510 ns/100 m @ 250 MHz
Nominal Velocity of Propagation:	65%
Operating Temperature:	-20° C - 60° C (-4° F - 140° F)
Storage Temperature:	-20° C - 80° C (-4° F - 176° F)
Installation Temperature:	5° C - 50° C (41° F - 122° F)
Bend Radius:	4 × cable diameter
Packaging:	1000' Reel: 39 lbs/kft
Materials:	Conductors: 23 AWG, Solid Copper (0.0220" nominal) Insulation: 0.040" nominal, polyethylene Jacket: 0.295" nominal, FR PVC
Compliances:	UL Subject 444 (UL)-C(UL) Type CMR ICEA S-90-661 ETL Verified TIA-568-C.2 Category 6A Horizontal Cable Requirements ISO/IEC 11801 Category 6A Horizontal Cable Requirements 2002/95/EC RoHS



ORDERING INFORMATION

Product Description	Packaging	Part Numbers
Category 6A UTP Cable, 4-Pair, Riser (CMR) Rated	1000 ft Reel	TE640R-XX02

*Additional reel sizes available, please contact TE customer service.

The following jacket colors are available. Replace XX with:

BL= Blue	WT=White	GY=Gray	YL=Yellow	GN=Green
BK=Black	RD=Red	OR=Orange	VT=Violet	BN=Brown

DATA SHEET



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