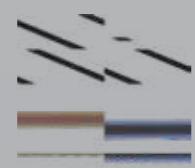




BRIDGING THE GAP ACROSS 60 DIFFERENT COUNTRIES



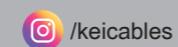
THE POWER BEHIND THE POWER



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KEI Industries Limited

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KEI/CC/QCL/FEBRUARY 2023

CAT 6 UTP Cables

Co-Axial Cables

CCTV Cables

Telephone Cables

Communication Cables
ENABLING SUPERFAST COMMUNICATIONS

Awarded Superbrands INDIA Consumer Validated 2023-24

CMD'S MESSAGE



MR. ANIL GUPTA

Chairman & Managing Director
KEI Industries Limited

KEI Industries, an Indian MNC founded in 1968, is a global leader in wire and cable solutions having an extensive range of world-class products and services. With multiple robust & cutting edge manufacturing facilities and a vast network of more than 30,000 channel partners, KEI serves clients in 65+ countries, establishing itself as a one-stop-shop for comprehensive wire and cable solutions. The company achieved a turnover of INR 8000+ crore in the fiscal year 2023-24.

As the world faces the pressing challenges of global warming and climate change, KEI Industries is dedicated to leading the way towards a sustainable and a carbon-neutral future. Our

dedication involves using clean gas and solar energy, alongside advanced air and water treatment systems, to eliminate hazardous chemicals and ensure a safe, sustainable environment. Our diverse array of products also reflects our strong commitment towards building an eco-friendly efficient surrounding. With an ongoing focus on innovation, KEI is positioned to lead in sustainability while meeting the demands of global consumers through using cutting-edge technologies, driving progress and setting new standards for environmental responsibility.

STATE OF THE ART MANUFACTURING 5 UNITS



BHIWADI
RAJASTHAN



CHOPANKI
RAJASTHAN



PATHREDI
RAJASTHAN



RAKHLI
DADRA AND NAGAR
HAVELI



CHINCHPADA
DADRA AND NAGAR
HAVELI

Empowering the next-gen of superfast communication



BUILDING THE NATION...! PRESTIGIOUS PROJECTS WIRED BY KEI



RAM MANDIR



WORLD'S TALLEST
STATUE OF UNITY



WORLD'S
LARGEST NARENDRA
MODI STADIUM



PARLIAMENT OF
INDIA



KONKAN RAILWAY
PROJECT



INDIA'S LONGEST
BOGIBEEL BRIDGE

- Co-Axial Cables
- Telephone Switch Board Cables
- CAT 6 UTP Cables
- CCTV Cables



BULLET TRAIN



INDIAN INSTITUTE
OF TECHNOLOGY
BOMBAY



AIROLI-KATAI
NAKA TUNNEL



MUMBAI COASTAL
ROAD MEGA PROJECT



MUMBAI MONORAIL



MUMBAI NAGPUR
SAMRUDDHI HIGHWAY

Our range



Co-Axial Cables

KEI's co-axial cables, RG59, RG6 & RG11 used in the transmission of RF signals and power for voice, data and video applications. The double-shield coaxial cable protects signals from external electromagnetic interference & solid electrolytic grade 99.97% pure copper conductor offers superior electrical performance meeting all requirements of CATV, DTH, Broadband, Digital & Analog signal applications.

Our co-axial cables are Special International Digital Designed for transmission of high frequency signals with minimum loss for DTH, Institute and Digital Headend etc. The various configurations of our cables are solid copper center conductor and also available in Copper Clad Steel (CCS), Polyethylene Foam PE, Aluminium laminated tape to provide 100% coverage, Aluminium alloy wire braids to give additional mechanical strength, Flooding Compound jelly to provide internal corrosion & water resistance properties and PVC cover to give environmentally secured safe seal to the construction. Cables tested on 3.0 Ghz spectrum analyzer.



Electrical Properties

Cable Construction

	a) Cable Size & Type b) Construction Details	RG59	RG6	RG11	
1		Electrolytic grade solid bare copper conductor, foam polyethylene insulation, with laminated aluminium tape and Aluminium Alloy Wire braid, Jelly flooded and PVC Jacketing in Black colour.			
2	CONDUCTOR a) Cross Sectional Area b) Diameter (Approx)	Solid Annealed Bare Electrolytic Grade Tough Pitch (ETP) Copper (CU) conductor. Also available in Copper Clad Steel - RG 6 CCS & RG 11 CCS	0.81mm	1.02mm	1.63mm
3	DIELECTRIC a) Material b) Core Diameter (Approx)		3.60mm	Physical foam PE 4.60mm	7.10mm
4	SHIELD CONSTRUCTIONS a) 1st Shield b) 2nd Shield		Bonded Al tape Aluminium alloy wire braid with Minimum 60% coverage.		
5	FLOODING COMPOUNDS a) Material		Jelly		
6	OUTER SHEATH (JACKET) a) Material b) Colour c) Nominal O.D of cable		Extruded PVC Black 6.93mm	10.16mm	
	OTHER DATA a) Bending radius, Minimum b) Packing Length	40mm 100/305 Mtr Coil	70mm 100 mtr Coil/305 Mtr Spool	80mm 100 mtr Coil/305 Mtr Spool	

Maximum Attenuation @ 20°C	CHARACTERISTICS		RG59	RG6	RG11
	Maximum DC Resistance at 20°C (Ohm/100m)		3.55	2.13	0.85
	Impedance (Ohm)		75 ± 3	75 ± 3	75 ± 3
	Velocity of Propagation (Vp)%		Min. 82	Min. 82	Min. 82
	Nominal Capacitance (pf/mtr)		53	53	53
Frequency(MHz)	Frequency(MHz)		(dB/100m)	(dB/100m)	(dB/100m)
	5		2.82	1.9	1.25
	55		6.73	5.25	3.15
	211		12.47	10	6.23
	250		13.45	10.82	6.72
	270		13.85	11.04	7
	300		14.60	11.64	7.38
	330		15.29	12.26	7.71
	350		15.75	12.63	7.94
	400		16.73	13.61	8.53
	450		17.72	14.43	9.02
	500		18.70	15.29	9.51
	550		19.52	16.08	9.97
	600		20.34	16.73	10.43
	750		22.87	18.54	11.97
	870		24.85	20.04	13.31
	1000		26.64	21.49	14.27



Telephone (switch board) Cables

KEI Telephone cables are recommended for use in internal telephone wiring in high-rise buildings, offices, factories, hotels, residential complexes, etc.

KEI twisted pair cables are best suited for telephone cabling applications. The conductor is made of solid annealed, electrolytic grade high conductivity bare copper. The conductor is insulated with special grade high - density polyethylene with colour coding. The insulated cores are twisted with uniform lay to form pairs and are bunched together in such a manner so as to minimize cross talk. The cable is jacketed with a grey colour specially formulated Fire Retardant (FR) PVC with high oxygen and temperature index.

Reference Standard: ITD specifications S/WSS 113C & KEI specifications



Electrical Parameters	0.4 mm Dia.	0.5 mm Dia.
Conductor Resistance (max.) 0hm/km at 20°C	143.0	92.20
Mutual Capacitance (max.) nf/km	50	50
Insulation Resistance in Air (min.) M-ohm/km	10,000	10,000
Capacitance Unbalance Pair to Pair (max.) Pf/km	250	250

Construction parameters	1 pair	2 pair	3 pair	4 pair	5 pair	10 pair
Conductor (Solid Annealed Bare Copper)	0.4 mm diameter (nom.) / 0.5 mm diameter (nom.)					
Insulation Material	Extruded High-Density Polyethylene					
Insulation Thickness (Avg.)	0.17 mm (for 0.4mm Cables) / 0.20 mm (for 0.5mm Cables)					
Diameter of Insulated Conductor (Maximum)	0.74 mm (for 0.4mm Cables) / 0.92 mm (for 0.5mm Cables)					
Rip Cord	Nylon cord placed under Jacket for easy Jacket Stripping					
PVC Jacket	Extruded FR PVC Compound (Grey Colour)					
Approx. Outer Diameter in mm (0.4 mm cables)	2.30	2.90	3.40	3.80	4.20	6.20
Approx. Outer Diameter in mm (0.5 mm cables)	2.60	3.30	3.80	4.50	4.90	8.20
Packing Length (mtrs.) 0.4mm & 0.5mm cables.	100	100	100	100	100	100

	1 pair	2 pair	3 pair	4 pair	5 pair	10 pair
COLOUR COMBINATIONS	White - Blue					
-	White - Orange					
-	-	White - Green				
-	-	-	White - Brown	White - Brown	White - Brown	White - Brown
-	-	-	-	White - Grey	White - Grey	White - Grey
-	-	-	-	-	-	Red - Blue
-	-	-	-	-	-	Red - Orange
-	-	-	-	-	-	Red - Green
-	-	-	-	-	-	Red - Brown
-	-	-	-	-	-	Red - Grey



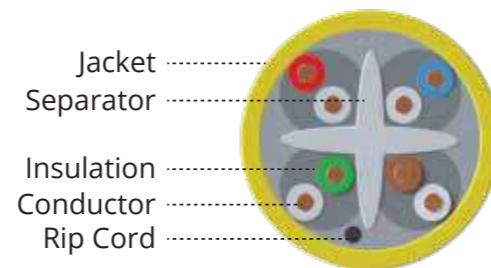
CAT 6 UTP Cables

Applications

KEI CAT 6 UTP cables meet the requirements of ANSI/TIA-568-C.2 having enhanced performance for transmission of high speed data signals on LANs. It also supports Gigabit Ethernet (1000 baseT) standard.

Features & Benefits

- Improve Crosstalk Performance: Central spline separates pairs and maintains stable pair position.
- Optimized Cable Balance: Improved balance of transmission performance for simultaneous parallel transmission protocols.

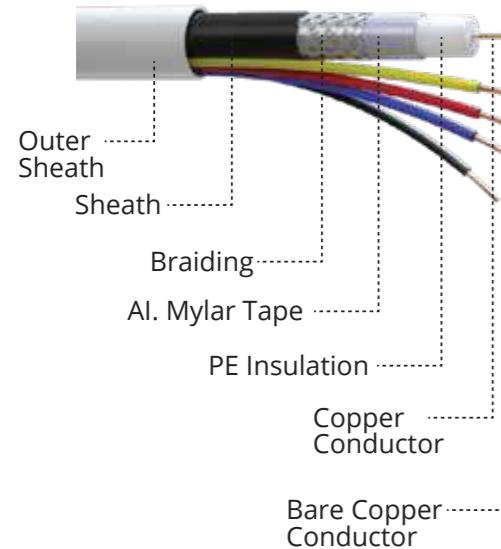


Colour Code Construction

Cable Component	Component Material	
Conductor	Solid bare electrolytic grade copper conductor 23AWG	
Insulation	High Density Poly Ethylene	
Packing	Available in 305 mtr spool.	
Rip Cord	Nylon Cord	
Jacket	PVC outer jacket (Dark Grey, Yellow, Blue Colour) Customized colour options as per customer requirement available.	
Cable OD	Approx. 6.0 mm	
Separator	Made of PE material	
	Wire 1	Wire 2
Pair 1	White - Orange Stripe	Orange
Pair 2	White - Blue Stripe	Blue
Pair 3	White - Green Stripe	Green
Pair 4	White - Brown Stripe	Brown

Electrical Properties - CAT-6 4 P X23 AWG UNSHIELDED CABLES

CHARACTERISTICS	Freq (MHz)	RL(min.)	ATT (max)	NEXT (min.)	PSNEXT (min.)	ELFEXT(min.)	PSELFEXT (min.)	TCL (min.)	ELTCTL (min.)
DC Resistance (20deg)								Max 9.38 Ohm/100m	
DC Resistance Unbalanced								Max 5.0 %	
Mutual Capacitance								Max 5.6 nF/100m	
Capacitance Unbalance (Pr - Gr)								Max 330 pF/100m	
Insulation Resistance								Min 500 MΩ/100m	
Dielectric Strength								1/1 DC kV/min	
Impedance - Zo (1~250MHz)								100 +/- 15 Ω	
NVP								69%	
RL - Return Loss	1	20	2.03	74.3	72.3	67.8	64.8	40	35
Att - Attenuation	4	23	3.78	65.3	63.3	55.8	52.8	40	23
NEXT - Pair To Pair Near End Cross Talk	8	24.5	5.32	60.8	58.8	49.7	46.7	40	16.9
PSNEXT - Power Sum Near End Cross Talk	10	25	5.95	59.3	57.3	47.8	44.8	40	15
ELFEXT - Pair To Pair Equal Level Far End Cross Talk	16	25	7.55	56.2	54.2	43.7	40.7	38	10.9
	20	25	8.47	54.8	52.8	41.8	38.8	37	9
	25	24.3	9.51	53.3	41.3	39.8	36.8	36	7
	30	-	-	-	-	-	-	-	5.5
PSELFEXT - Power Sum Equal Level Far End Cross Talk	31.25	23.6	10.67	51.9	49.9	37.9	34.9	35.1	n/s
	62.5	21.5	15.38	47.4	45.4	31.9	28.9	32	n/s
TCL-Transverse conversion loss	100	20.1	19.8	44.3	42.3	27.8	24.8	30	n/s
ELTCTL-Equal level transverse conversion transfer loss	200	18	28.98	39.8	37.8	21.8	18.8	27	n/s
	250	17.3	32.8	38.3	36.3	19.8	16.8	26	n/s
Propagation Delay (Max)	1 MHz							570 ns/100m	
	250 MHz							536 ns/100m	
Propagation Delay Skew (Max) at 20°C, 40°C & 60°C. Variation between pairs from values measured at 20°C is +/-10ns max.	10 MHz							45 ns/100m	
	100 MHz							45 ns/100m	
	250 MHz							45 ns/100m	



CCTV Cables

This CCTV 3+1, 4+1 construction cable is of hybrid type with combination of Communication and Electrical conductors. The 4 power cores enable powering of the CCTV camera. This cable used for combination of communication and electrical supply to CCTV Cameras & due to its composite component nature it allows CCTV installations tidy & provides lossless output. The communication cable (RG 59 Co-Axial Cable) is used for recording the images by the camera and to communicate with the data center. Co-axial cables are designed to transmit the complete video frequency range with minimum distortion or attenuation, making them an excellent choice for CCTV. The 4 number of wires in this CCTV cables are used for powering the cameras.



Construction Parameters: Co-axial Cable (RG 59)

INNER CONDUCTOR	
Material	Solid Bare Copper
Diameter	0.81 mm (approx.)
DIELECTRIC	
Material	Physical Foam Polyethylene
Diameter	3.60 mm (approx.)
SHIELD	
1st Shield	Bonded Aluminium Tape
2nd Shield	Aluminium Alloy Braid
Coverage	Min. 60%
JACKET	
Material	PVC (Black)
Diameter	6.10 mm (approx.)
Bending Radius	40 mm (approx.)

ELECTRIC DATA

Inner Conductor dc Resistance	Max. 3.55 Ω/Km at 20°C
Capacitance (Nom.)	53.0 pF/m
Characteristic Impedance	75 ± 3 ohm
Structural Return Loss	Min. 15 dB @ 1 – 1000 MHz
Nominal Velocity Ratio	Min. 82%

PERFORMANCE

FREQUENCY	Max. Attenuation (db/100 m) at 20°C
55 MHz	6.73
211 MHz	12.47
300 MHz	14.60
550 MHz	19.52
750 MHz	22.87
870 MHz	24.85
1000 MHz	26.64

INSULATED POWER CORES

No. of Cores	Conductor Diameter (Nom.) Solid or Flexible Bare Annealed Copper	Insulation Material	Core Diameter	Colour Codes	Overall Jacket (PVC) White	Overall Diameter
3	1/0.5mm OR 1/0.188	High Density Polythene	0.9 mm	Red, Yellow, Blue	PVC ST1 Conforming to IS 5831	8.0mm max.
4	1/0.5mm OR 1/0.188	High Density Polythene	0.9 mm	Red, Yellow, Blue, Black	PVC ST1 Conforming to IS 5831	8.0mm max.