

# KEI

## Wires & Cables

BRIDGING THE GAP ACROSS 60 DIFFERENT COUNTRIES



THE POWER BEHIND THE POWER



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**KEI Industries Limited**

REGISTERED AND CORPORATE OFFICE:

D-90, OKHLA INDUSTRIAL AREA PHASE-I, NEW DELHI-110020, TEL: +91-11-26818840/8642/0242 FAX: 26817225, 26811959  
E-MAIL: [info@kei-ind.com](mailto:info@kei-ind.com) WEBSITE: [www.kei-ind.com](http://www.kei-ind.com) CIN NO: L74899DL1992PLC051527



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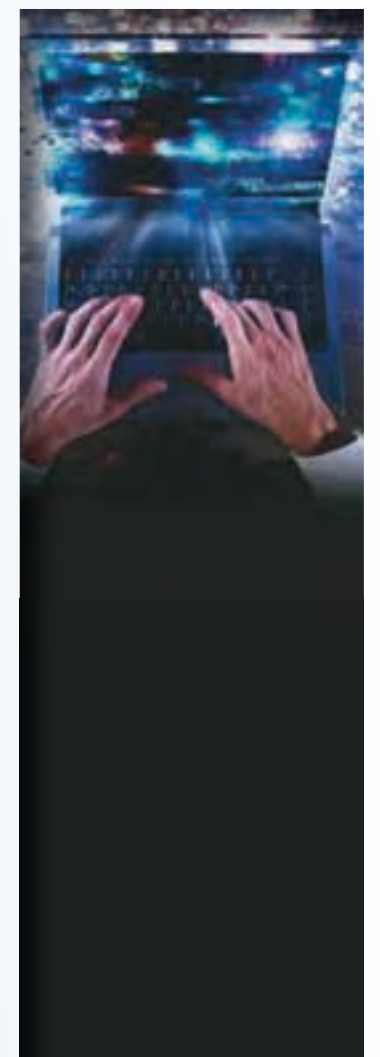
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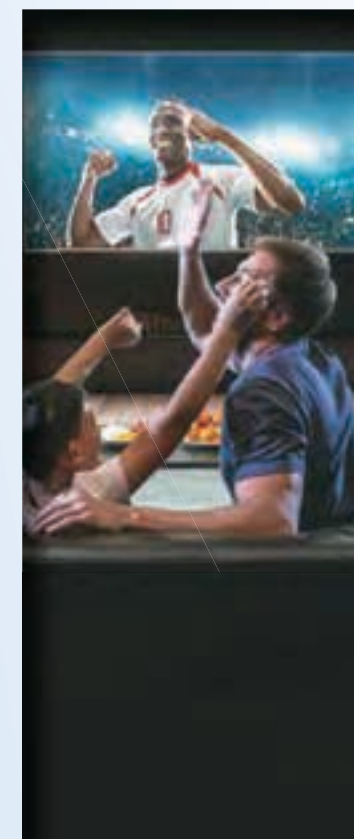
# KEI

## Wires & Cables

CAT 6 UTP  
Cables



Co-Axial  
Cables



CCTV  
Cables



Telephone  
Cables



**COMMUNICATION CABLES**

ENABLING SUPERFAST COMMUNICATIONS



# Empowering the nex-gen of superfast communication



Established in 1968, KEI Industries Ltd. is ranked amongst the top cable manufacturing companies of the world. Through its customer focus approach and continuous quest for world class quality, KEI has emerged as an industry leader over a period of five decades. KEI is acclaimed for its strong customer support and an efficient marketing and distribution network. It has an ever growing international footprint with clients spread across 45 countries to date.

Today, KEI enjoys a premium brand imagery serving large infrastructure projects in various fields like refinery, power, petrol chemical, cement, steel, fertilizers and renewable energy sectors. Along with

this, utmost safety standards are practiced, confirming to occupational health and safety management system standards of OHSAS.

KEI has the world-class quality, skilled manpower, and most importantly, the technology to ace any new challenge that can come during transmission, distribution, and supply of electrical power. The faith and support extended by its clients usher KEI to serve yet another important and critical application- Tele-communication Cabling. We continue to innovate new and better ways to power your network's future.



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

## 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.

## Cable Construction

		RG59	RG6	RG11
1	a) Cable Size & Type b) Construction Details	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	<b>CONDUCTOR</b> a) Cross Sectional Area b) Diameter (Approx)	Solid Annealed Bare Electrolytic Grade Tough Pitch (ETP) Copper (CU) conductor. Also available in Copper Clad Steel (CCS) for RG6 & RG11. <b>0.81mm                      1.02mm                      1.63mm</b>		
3	<b>DIELECTRIC</b> a) Material b) Core Diameter (Approx)	Physical foam PE <b>3.60mm                      4.60mm                      7.10mm</b>		
4	<b>SHIELD CONSTRUCTIONS</b> a) 1st Shield b) 2nd Shield	Bonded Al tape Aluminium alloy wire braid with Minimum 60% coverage.		
5	<b>FLOODING COMPOUNDS</b> a) Material	Jelly		
6	<b>OUTER SHEATH ( JACKET )</b> a) Material b) Colour c) Nominal O.D of cable	Extruded PVC Black <b>6.10mm                      6.93mm                      10.16mm</b>		
	<b>OTHER DATA</b> a) Bending radius, Minimum b) Packing Length	<b>40mm</b> 100/305 Mtr Coil	<b>70mm</b> 100 mtr Coil/305 Mtr Spool	<b>80mm</b> 100 mtr Coil/305 Mtr Spool

## Electrical Properties

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
Maximum Attenuation @ 20°C	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/WS 113C & KEI specifications

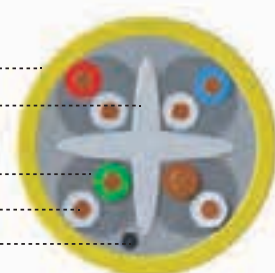


Electrical Parameters	0.4 mm Dia.	0.5 mm Dia.
Conductor Resistance (max.) Ohm/km at 20°C	143.0	92.20
Mutual Capacitance (max.) nf/km	50	50
Insulation Resistance in Air (min.) M-ohm/km	10,000	10,000
Capacitance Unbalance Pair to Pair (max.) Pf/km	250	250

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

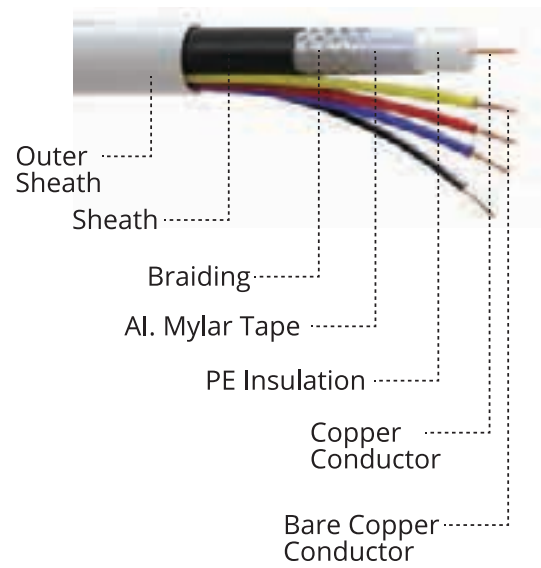
COLOUR COMBINATIONS	1 pair	2 pair	3 pair	4 pair	5 pair	10 pair
	White - Blue	White - Blue	White - Blue	White - Blue	White - Blue	White - Blue
	-	White - Orange	White - Orange	White - Orange	White - Orange	White - Orange
	-	-	White - Green	White - Green	White - Green	White - Green
	-	-	-	White - Brown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





CHARACTERISTICS									
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%							
	Freq (MHz)	RL(min.)	ATT (max)	NEXT (min.)	PSNEXT (min.)	ELFEXT(min.)	PSELFEXT (min.)	TCL (min.)	ELTCTL (min)
RL - Return Loss	1	20	2.03	74.3	72.3	67.8	64.8	40	35
	4	23	3.78	65.3	63.3	55.8	52.8	40	23
Att - Attenuation	8	24.5	5.32	60.8	58.8	49.7	46.7	40	16.9
NEXT – Pair To Pair Near End Cross Talk	10	25	5.95	59.3	57.3	47.8	44.8	40	15
	16	25	7.55	56.2	54.2	43.7	40.7	38	10.9
PSNEXT – Power Sum Near End Cross Talk	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
ELFEXT – Pair To Pair Equal Level Far End Cross Talk	30	-	-	-	-	-	-	-	5.5
	31.25	23.6	10.67	51.9	49.9	37.9	34.9	35.1	n/s
PSELFEXT – Power Sum Equal Level Far End Cross Talk	62.5	21.5	15.38	47.4	45.4	31.9	28.9	32	n/s
	100	20.1	19.8	44.3	42.3	27.8	24.8	30	n/s
TCL-Transverse conversion 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
ELTCTL-Equal level transverse conversion transfer loss									
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.	1 MHz	45 ns/100m							
	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 out . 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)	
<b>INNER CONDUCTOR</b>	
Material	Solid Bare Copper
Diameter	0.81 mm (approx.)
<b>DIELECTRIC</b>	
Material	Physical Foam Polyethylene
Diameter	3.60 mm (approx.)
<b>SHIELD</b>	
1st Shield	Bonded Aluminium Tape
2nd Shield	Aluminium Alloy Braid
Coverage	Min. 60%
<b>JACKET</b>	
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.