KEYSTONE CABLE

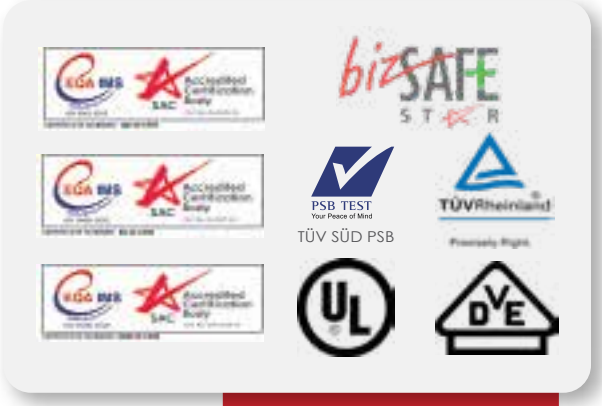
Smart City Cables

Building & Infrastructure

Keystone Cable is a Leading Singapore-based Cable Manufacturer and Supplier

Welcome to Keystone Cable, the trusted source for top-quality cables in Singapore. We bring 3 decades of experience focusing on Extra Low Voltage, Low Voltage, and Medium Voltage cable manufacturing and supply.

Our team is driven by a commitment to innovation, proven legacy, and an understanding of our customers' unique needs in Singapore and beyond. We are a longstanding supplier of cables. As a forward-looking company, we continously invest in our cable machinery, growing our expertise as a cable specialist and creating a greener tomorrow.



CERTIFICATIONS

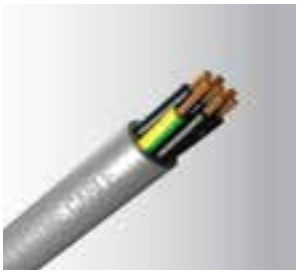
Keystone Cable **Business Solutions**

INDUSTRIES

Industrial | Communication | Sustainable Energy | Infrastructure | Building | Transmission & Distribution

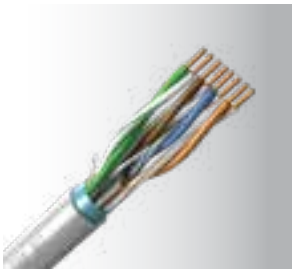
This catalogue showcases our range of cables used in the Smart City.
These cables are designed, manufactured, and tested in accordance to international standards.

For more information on our offerings, please visit our website: www.keystone-cable.com



Flexible Control Cables

Flexible Control Cables are used for surveillance and control of static or mobile devices for industrial needs. These cables are light weight, relatively thin, and resistant to medium mechanical loads.

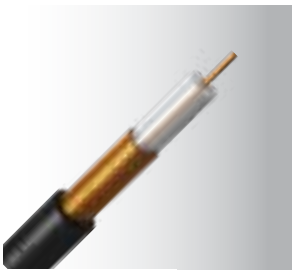


Local Area Network (LAN) Cables

LAN Cables are used to transmit data in structured cabling solutions. These cables are not susceptible to external noise and interference, enable data transfer at high speeds, and are more secure than their wireless counterparts.

Signal Cables

Signal Cables are used to interconnect electric equipment. Most of such signal cables are screened to avoid loss of signal transmissions. Transmitted signals can either be analogue or digital and are critical for ensuring the proper and uninterrupted transmission of data, audio, and video signals between devices.

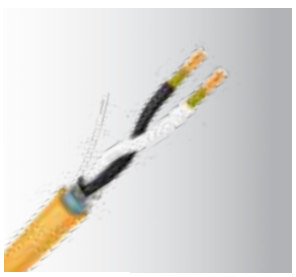


Coaxial Cables

Coaxial Cables enable distortion-free and low-attenuation transmission of signals across broad bandwidth and frequencies, making them essential in commerical radio frequency technology and electronics. Coaxial cables find widespread use in cable TV, Internet, audio/video set ups, telecommunication, and data networks.

Solar Cables

Solar Cables are designed to be UV resistant and weather resistant, making them suitable for photovoltaic power generation. These cables are an essential component in solar energy installations, connecting various elements of the solar power system, such as solar panels, inverters, and charge controllers.



Fire Resistant (FR) Fire Alarm Cables

Low Smoke Zero Halogen (LSZH) FR Fire Alarm Cables are used in fire extinguishing systems, smoke detection and sprinklers, control panels, and exit lights in high-rise buildings, hotels, hospitals, sub-ways, and public facilities.

Contents

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Flexible Control Cables

1	Conductor	Plain Annealed Copper Wire
2	Insulation	PVC, LSZH*
3	Binder Tape	Polyester Tape
4	Braided Screen	Tinned Copper Wire
7	Oversheath	PVC

*LSZH: Low Smoke Zero Halogen

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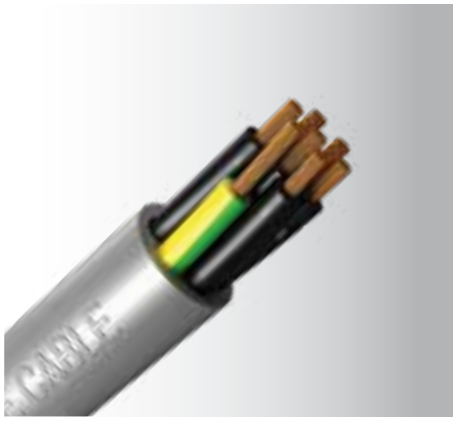
300/500V Multi-Core, YSLY
PVC Insulated, PVC Sheathed Flexible Cable

Description: CU/PVC/PVC

Model Code: S05VV-F or S05VV5-F (Oil-resistant)



Application :	This cable is intended for the interconnection of manufacturing machines. It can be used in dry, humid, and moist environments when subjected to moderate mechanical loads.
Voltage rating :	300/500V
Construction :	Plain annealed copper (BS EN 60228 Class 5), PVC insulated, PVC sheathed (for S05VV-F), oil-resistant PVC sheathed (for S05VV5-F) cable
Insulation colour :	Without earth : Black (With white numbering)
	With earth : Black (With white numbering) + Green/Yellow
Sheath colour :	Grey
Specification :	BS EN 50525-2-51, IEC 60332-1-2
Operating temperature :	-20˚C ~ 70˚C
Certification :	CE, RoHS for oil-resistant type

No. of Core	Conductor Nominal Area	Insulation Thickness	S05VV-F Part No.	S05VV5-F Part No.	Approx. Overall Diam.	Approx. Weight
	(mm^2)	(mm)			(mm)	(kg/km)
2	0.5	0.4	**04023811**	**04023801**	5.0	37
3			**04033811**	**04033801**	5.2	44
3G			**04033812**	**04033802**	5.2	44
4			**04043811**	**04043801**	5.7	53
4G			**04043812**	**04043802**	5.7	53
5			**04053811**	**04053801**	6.2	62
5G			**04053812**	**04053802**	6.2	62
6			**04063811**	**04063801**	6.9	75
6G			**04063812**	**04063802**	6.9	75
7			**04073811**	**04073801**	6.9	82
7G			**04073812**	**04073802**	6.9	82
10			**04103811**	**04103801**	8.8	120
10G			**04103812**	**04103802**	8.8	120
12G			**04123812**	**04123802**	9.1	135
16G			**04163812**	**04163802**	10.2	174
18G			**04183812**	**04183802**	10.8	192
21G			**04213812**	**04213802**	11.5	223
25G			**04253812**	**04253802**	12.9	270

Current rating
Please refer to Table 3 (Page 43)
For Rating Factors, please refer to Table 7 (Page 45)

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300/500V Multi-Core, YSLY
PVC Insulated, PVC Sheathed Flexible Cable

Description: CU/PVC/PVC

Model Code: S05VV-F or S05VV5-F (Oil-resistant)

No. of Core	Conductor Nominal Area	Insulation Thickness	S05VV-F Part No.	S05VV5-F Part No.	Approx. Overall Diam.	Approx. Weight
	(mm^2)	(mm)			(mm)	(kg/km)
2	0.75	0.4	**05023811**	**05023801**	5.3	46
3			**05033811**	**05033801**	5.3	46
3G			**05033812**	**05033802**	5.7	55
4			**05043811**	**05043801**	6.4	71
4G			**05043812**	**05043802**	6.4	71
5			**05053811**	**05053801**	6.9	84
5G			**05053812**	**05053802**	6.9	84
6			**05063811**	**05063801**	7.5	97
6G			**05063812**	**05063802**	7.5	97
7			**05073811**	**05073801**	7.5	107
7G			**05073812**	**05073802**	7.5	107
10			**05103811**	**05103801**	9.9	161
10G			**05103812**	**05103802**	9.9	161
12G			**05123812**	**05123802**	10.2	182
16G			**05163812**	**05163802**	11.4	235
18G			**05183812**	**05183802**	12.0	259
21G			**05213812**	**05213802**	12.9	300
25G			**05253812**	**05253802**	14.4	363
2	1	0.4	**06023811**	**06023801**	5.7	54
3			**06033811**	**06033801**	6.0	66
3G			**06033812**	**06033802**	6.0	66
4			**06043811**	**06043801**	6.8	84
4G			**06043812**	**06043802**	6.8	84
5			**06053811**	**06053801**	7.4	100
5G			**06053812**	**06053802**	7.4	100
6			**06063811**	**06063801**	8.2	119
6G			**06063812**	**06063802**	8.2	119
7			**06073811**	**06073801**	8.2	157
7G			**06073812**	**06073802**	8.2	157
9			**06093811**	**06093801**	10.1	173
9G			**06093812**	**06093802**	10.1	173
10			**06103811**	**06103801**	10.5	192
10G			**06103812**	**06103802**	10.5	192
12G			**06123812**	**06123802**	10.9	218
16G			**06163812**	**06163802**	12.2	282
18G			**06183812**	**06183802**	13.1	318
21G			**06213812**	**06213802**	13.8	362
25G			**06253812**	**06253802**	15.4	453

Current rating

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300/500V Multi-Core, YSLY
PVC Insulated, PVC Sheathed Flexible Cable

Description: CU/PVC/PVC

Model Code: S05VV-F or S05VV5-F (Oil-resistant)

No. of Core	Conductor Nominal Area	Insulation Thickness	S05VV-F Part No.	S05VV5-F Part No.	Approx. Overall Diam.	Approx. Weight
	mm²	(mm)			(mm)	(kg/km)
2	1.5	0.4	**07023811**	**07023801**	6.4	73
3			**07033811**	**07033801**	6.8	90
3G			**07033812**	**07033802**	6.8	90
4			**07043811**	**07043801**	7.4	110
4G			**07043812**	**07043802**	7.4	110
5			**07053811**	**07053801**	8.3	135
5G			**07053812**	**07053802**	8.3	135
6			**07063811**	**07063801**	9.0	157
6G			**07063812**	**07063802**	9.0	157
7			**07073811**	**07073801**	9.0	176
7G			**07073812**	**07073802**	9.0	176
9			**07093811**	**07093801**	11.4	235
9G			**07093812**	**07093802**	11.4	235
10			**07103811**	**07103801**	11.8	261
10G			**07103812**	**07103802**	11.8	261
12G			**07123812**	**07123802**	12.2	298
16G			**07163812**	**07163802**	13.7	385
18G			**07183812**	**07183802**	14.6	434
21G			**07213812**	**07213802**	15.4	495
25G			**07253812**	**07253802**	17.4	604
2	2.5	0.5	**08023811**	**08023801**	7.8	110
3			**08033811**	**08033801**	8.5	142
3G			**08033812**	**08033802**	8.5	142
4			**08043811**	**08043801**	9.3	175
4G			**08043812**	**08043802**	9.3	175
5			**08053811**	**08053801**	10.4	215
5G			**08053812**	**08053802**	10.4	215
7			**08073811**	**08073801**	11.5	287
7G			**08073812**	**08073802**	11.5	287
12			**08123811**	**08123801**	15.5	482
12G			**08123812**	**08123802**	15.5	482

Current rating
Please refer to Table 3 (Page 43)
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KEYSTONE CABLE
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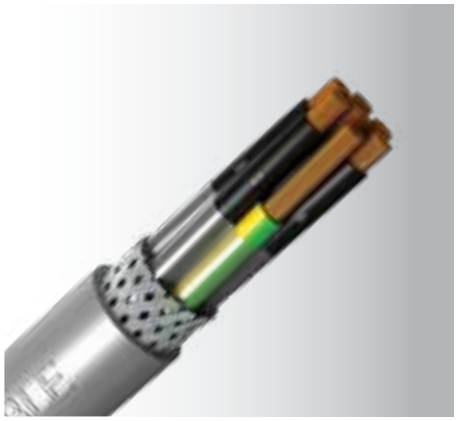
300/500V Multi-Core, YSLCY
PVC Insulated, Braided Screen, PVC Sheathed Flexible Cable

Description: CU/PVC/TCWB/PVC

Model Code: S05VC4V-K or S05VC4V5-K (Oil-resistant)



Application :	This cable is intended for the interconnection of manufacturing machines. It can be used in dry, humid, and moist environments when subjected to moderate mechanical loads.	
Voltage rating :	300/500V	
Construction :	Plain annealed copper (BS EN 60228 Class 5), PVC insulated, polyester tape wrapping, tinned copper wire braided screen, PVC sheathed (for S05VC4V-K), oil-resistant PVC sheathed (for S05VC4V5-K) cable	
Insulation colour :	Without earth	: Black (With white numbering)
	With earth	: Black (With white numbering) + Green/Yellow
Sheath colour :	Grey	
Specification :	BS EN 50525-2-51, IEC 60332-1-2	
Operating temperature :	-20˚C ~ 70˚C	

No. of Core	Conductor Nominal Area	Insulation Thickness	S05VC4V-K Part No.	S05VC4V5-K Part No.	Approx. Overall Diam.	Approx. Weight
	(mm²)	(mm)			(mm)	(kg/km)
2	0.5	0.4	**04023861**	**04023821**	5.6	54
3G			**04033862**	**04033822**	5.9	62
4G			**04043862**	**04043822**	5.9	62
5G			**04053862**	**04053822**	7.0	88
7G			**04073862**	**04073822**	7.6	107
12G			**04123862**	**04123822**	10.0	173
18G			**04183862**	**04183822**	11.7	237
2	0.75	0.4	**05023861**	**05023821**	6.2	68
3G			**05033862**	**05033822**	6.6	79
4G			**05043862**	**05043822**	7.1	94
5G			**05053862**	**05053822**	7.8	112
7G			**05073862**	**05073822**	8.4	138
10G			**05103862**	**05103822**	10.5	196
12G			**05123862**	**05123822**	11.1	224
18G			**05183862**	**05183822**	12.9	308

Current rating

Please refer to Table 3 (Page 43)
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300/500V Multi-Core, YSLCY
PVC Insulated, Braided Screen, PVC Sheathed Flexible Cable

Description: CU/PVC/TCWB/PVC

Model Code: S05VC4V-K or S05VC4V5-K (Oil-resistant)

No. of Core	Conductor Nominal Area (mm²)	Insulation Thickness (mm)	S05VC4V-K Part No.	S05VC4V5-K Part No.	Approx. Overall Diam. (mm)	Approx. Weight (kg/km)
2	1	0.4	**06023861**	**06023821**	6.6	78
3			**06033861**	**06033821**	6.9	91
3G			**06033862**	**06033822**	6.9	91
4			**06043861**	**06043821**	7.5	108
4G			**06043862**	**06043822**	7.5	108
5G			**06053862**	**06053822**	8.3	130
7G			**06073862**	**06073822**	8.9	162
12G			**06123862**	**06123822**	12.0	270
18G			**06183862**	**06183822**	14.1	375
25G			**06253862**	**06253822**	16.5	510
2	1.5	0.4	**07023861**	**07023821**	7.1	96
3			**07033861**	**07033821**	7.5	114
4			**07043861**	**07043821**	8.3	141
4G			**07043862**	**07043822**	8.3	141
5G			**07053862**	**07053822**	9.0	165
7G			**07073862**	**07073822**	9.9	213
12G			**07123862**	**07123822**	13.1	348
18G			**07183862**	**07183822**	15.7	511
2	2.5	0.5	**08023861**	**08023821**	8.7	143
3			**08033861**	**08033821**	9.2	173
3G			**08033862**	**08033822**	9.2	173
4G			**08043862**	**08043822**	10.2	214
5G			**08053862**	**08053822**	11.2	258
7G			**08073862**	**08073822**	12.2	328
12G			**08123862**	**08123822**	16.5	564
2	4	0.5	**09023861**	**09023821**	10.0	196
3			**09033861**	**09033821**	10.6	240
4G			**09043862**	**09043822**	11.7	299
5G			**09053862**	**09053822**	12.9	361
7G			**09073862**	**09073822**	14.4	486
2	6	0.6	**10023861**	**10023821**	11.8	276
4G			**10043862**	**10043822**	13.8	425
5G			**10053862**	**10053822**	15.5	531
4G	10	0.7	**11043862**	**11043822**	18.4	746
4G	16	0.7	**12043862**	**12043822**	21.5	1059
4G	25	0.8	**13043862**	**13043822**	26.0	1579
4G	35	0.8	**14043862**	**14043822**	30.0	2102

Current rating
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KEYSTONE CABLE
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300/500V & 450/750V Single-Core LSZH or PVC Insulated, Non-Sheathed Flexible Cable

Description: CU/LSZH or CU/PVC

Model Code: H05Z-K, H07Z-K or H05V2-K, H07V2-K / 07V2-K

Application :	This cable is used for the internal wiring of electric motors and transformers. It is suitable for laying in pipes, surface wiring, and conduit installations. The LSZH version is generally used in public areas where smoke and toxic fumes may cause a threat to safety and equipment.
Voltage rating :	300/500V; 450/750V
Construction :	Plain or tinned copper (IEC 60228 Class 5), cross-linked polyolefin EI 5, or heat-resisting PVC TI 3 insulated cable
Insulation colour :	Brown, Black, Grey, Blue, Green/Yellow (Other colour upon request)
Specification :	BS EN 50525-3-41, BS EN 50525-2-31, IEC 60332-1-2
LSZH test :	IEC 60754, IEC 61034-2
Operating temperature :	90˚C
Certification :	VDE, CE, RoHS

Conductor		Insulation	**H05Z-K**	**H05V2-K**			Current Rating at 30°C (Method 3) 2 cables single-phase a.c. or d.c.
Nominal Area	Approx. Diam.	Thickness	**Part No.**	**Part No.**	Approx. Overall Diam.	Approx. Weight	
(mm^2)	(mm)	(mm)			(mm)	(kg/km)	(A)
0.5	0.92	0.6	**0401**50**	**0401**34**	2.2	7	12
0.75	1.13	0.6	**0501**50**	**0501**34**	2.4	10	15
1	1.31	0.6	**0601**50**	**0601**34**	2.6	12	18

Conductor		Insulation	**H07Z-K**	**H07V2-K 07V2-K**			Current Rating at 30°C (Method 3) 3 or 4 cables 3-phase a.c.
Nominal Area	Approx. Diam.	Thickness	**Part No.**	**Part No.**	Approx. Overall Diam.	Approx. Weight	
(mm^2)	(mm)	(mm)			(mm)	(kg/km)	(A)
1.5	1.57	0.7	**0701**50**	**0701**34**	3.1	21	19
2.5	2.04	0.8	**0801**50**	**0801**34**	3.7	33	26
4	2.59	0.8	**0901**50**	**0901**34**	4.3	48	35
6	3.16	0.8	**1001**50**	**1001**34**	4.9	66	45
10	4.3	1.0	**1101**50**	**1101**34**	6.4	112	63
16	5.5	1.0	**1201**50**	**1201**34**	7.5	167	85
25	6.7	1.2	**1301**50**	**1301**34**	9.2	254	111
35	7.9	1.2	**1401**50**	**1401**34**	10.8	340	138
50	9.5	1.4	**1501**50**	**1501**34**	12.8	485	168
70	11.3	1.4	**1601**50**	**1601**34**	14.6	674	214
95	13.0	1.6	**1701**50**	**1701**34**	16.8	894	259
120	14.6	1.6	**1801**50**	**1801**34**	18.4	1110	299
150	16.3	1.8	**1901**50**	**1901**34**	20.5	1400	328
185	18.1	2.0	**2001**50**	**2001**34**	22.7	1700	370
240	20.8	2.2	**2101**50**	**2101**34**	25.8	2230	433

**Stands for colour code: Brown (01) Black (02) Grey (03) Blue (04) Green/Yellow (05)

Current rating and voltage drop
Please refer to Table 1 & 2 (Page 42)

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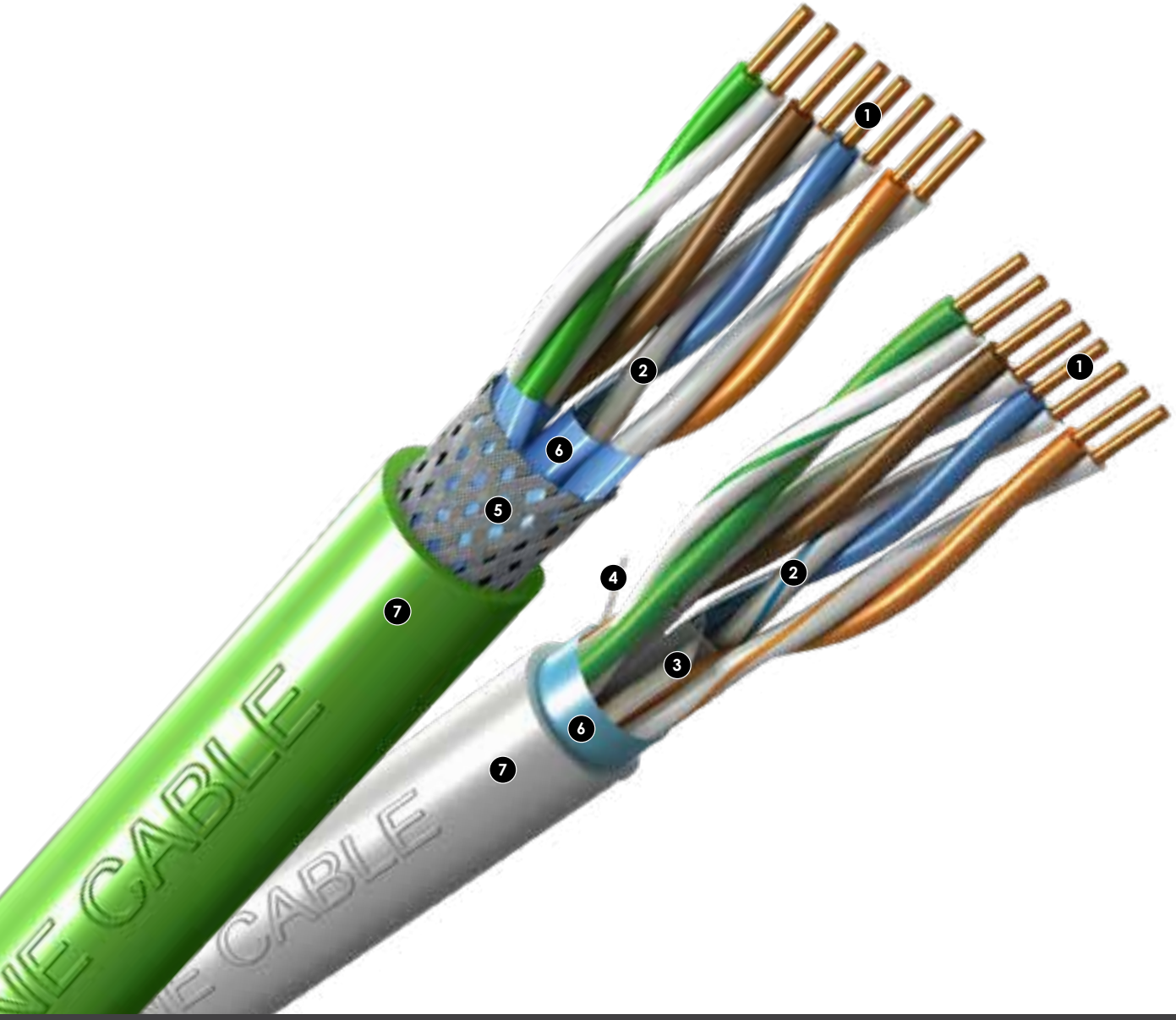


LAN Cables

1	Conductor	Solid Bare Copper
2	Insulation	HDPE or Foam-PE
3	Cross-web Filler	HDPE
4	Drain Wire	Tinned Copper Wire
5	Braided Overall Screen	Tinned Copper Wire
6	Screen	AL/Mylar Tape
7	Oversheath	RoHS PVC, LSZH*, HDPE

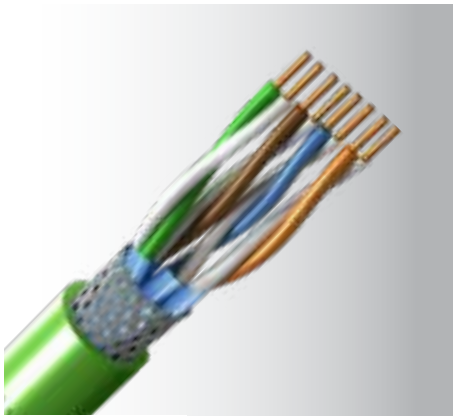
*LSZH: Low Smoke Zero Halogen

LAN Cables

Category 7 4 Pair

Model Code: S/FTP

KEYLAN
A Product of KEYSTONE CABLE



Application :	• High Speed Horizontal Cabling (600 MHz) • 10/100/1000 Base-T, 10G Base-T • Ethernet, Fast Ethernet, Gigabit Ethernet, ATM 155, ATM 622, ATM 1200 10 Gigabit Ethernet
Construction :	Solid bare copper, foam PE insulated, pair screen (PiMF) (aluminium/polyester tape), braided overall screen (tinned copper wire), RoHS compliant PVC, LSZH, or HDPE sheathed cable
Insulation colour :	• Blue & White • Orange & White • Green & White • Brown & White
Sheath colour :	Grey or Blue (RoHS compliant PVC), Green (LSZH), Black (HDPE), or as per order
Specification :	ISO/IEC 11801, IEC 61156-5
Flame test :	UL 1581 (CMX), UL 1685 (CM), UL 1666 (CMR), IEC 60332-1-2
LSZH test :	IEC 60754, IEC 61034-2

Part No.	Conductor	Pair	Approx. Overall Diam.	Standard Length	Approx. Weight	Packaging
			(mm)	(m)	(kg/500m)	
444P*07**	Solid Bare Copper (23 AWG)	4	7.5	500	33	Plywood Drum

Electrical Properties at 20˚C

Conductor Resistance	≤ 9.5Ω/100m
Resistance Unbalance	≤ 4% (between pairs)
Mutual Capacitance	≤ 5.6nF/100m
Capacitance Unbalance	≤ 160pF/100m
Characteristics Impedance	100 ± 15Ω

Electrical Data at 20˚C

Frequency	ATTENUATION Max.	NEXT Min.	PSNEXT Min.	ELFEXT Min.	PSELFEXT Min.	RL Min.
(MHz)	(dB/100m)	(dB)	(dB)	(dB/100m)	(dB/100m)	(dB)
1	2.0	78.0	75.0	78.0	75.0	20.0
4	3.7	78.0	75.0	78.0	75.0	23.0
10	5.9	78.0	75.0	74.0	71.0	25.0
16	7.4	78.0	75.0	69.9	66.9	25.0
20	8.3	78.0	75.0	68.0	65.0	25.0
31.25	10.4	78.0	75.0	64.1	61.1	23.6
62.5	14.9	75.5	72.5	58.1	55.1	21.5
100	19.0	72.4	69.4	54.0	51.0	20.1
155	24.0	69.5	66.5	50.2	47.2	18.8
200	27.5	67.9	64.9	48.0	45.0	18.0
250	31.0	66.4	63.4	46.0	43.0	17.3
500	45.3	61.9	58.9	40.0	37.0	17.3
600	50.1	60.7	57.7	38.4	35.4	17.3

LAN Cables

Category 6A 4 Pair

Model Code: F/FTP

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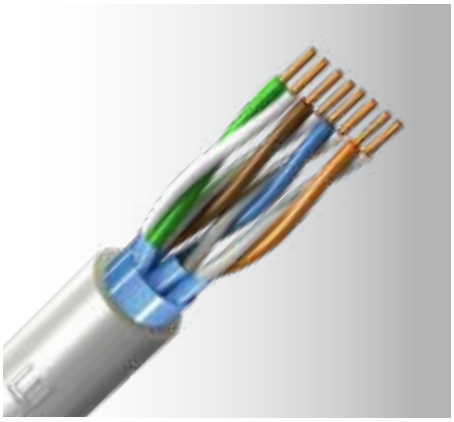

Application :	• High Speed Horizontal Cabling (500 MHz) • 10/100/1000 Base-T • 100 Mbps Fast Ethernet; 155/622 Mbps ATM; Gigabit Ethernet
Construction :	Solid bare copper, foam PE insulated, pair screen (PiMF) (aluminium/polyester tape), overall screen (aluminium/polyester tape with drain wire), RoHS compliant PVC, LSZH, or HDPE sheathed cable
Insulation colour :	• Blue & White • Orange & White • Green & White • Brown & White
Sheath colour :	Grey or Blue (RoHS compliant PVC), Orange (LSZH), Black (HDPE), or as per order
Specification :	ANSI/TIA-568.2-D, ISO/IEC 11801, IEC 61156-5
Flame test :	UL 1581 (CMX), UL 1685 (CM), UL 1666 (CMR), IEC 60332-1-2
LSZH test :	IEC 60754, IEC 61034-2

Part No.	Conductor	Pair	Approx. Overall Diam. (mm)	Standard Length (m)	Approx. Weight (kg/305m)	Packaging
444P*6A**	Solid Bare Copper (23 AWG)	4	7.6	500	28	Plywood Drum

Electrical Properties at 20˚C

Conductor Resistance	≤ 9.38Ω/100m
Resistance Unbalance	≤ 4%
Mutual Capacitance	≤ 5.6nF/100m
Capacitance Unbalance	≤ 330pF/100m
Characteristics Impedance	100 ± 15Ω

Electrical Data at 20˚C

Frequency (MHz)	ATTENUATION Max. (dB/100m)	NEXT Min. (dB)	PSNEXT Min. (dB)	ELFEXT Min. (dB/100m)	PSELFEXT Min. (dB/100m)	RL Min. (dB)
1	2.1	75.3	72.3	68.0	65.0	20.0
4	3.8	66.3	63.3	56.0	53.0	23.0
10	5.9	60.3	57.3	48.0	45.0	25.0
16	7.5	57.2	54.2	43.9	40.9	25.0
20	8.4	55.8	52.8	42.0	39.0	25.0
31.25	10.5	52.9	49.9	38.1	35.1	23.6
62.5	15.0	48.4	45.4	32.1	29.1	21.5
100	19.1	45.3	42.3	28.0	25.0	20.1
200	27.6	40.8	37.8	22.0	19.0	18.0
300	34.3	38.1	35.1	18.5	15.5	17.3
400	40.1	36.3	33.3	16.0	13.0	17.3
500	45.3	34.8	31.8	14.0	11.0	17.3

LAN Cables

Category 6A 4 Pair

Model Code: F/UTP

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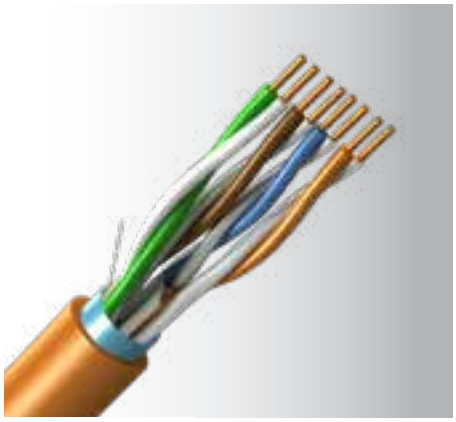

Application :	• High Speed Horizontal Cabling (500 MHz) • 10/100/1000 Base-T • 100 Mbps Fast Ethernet; 155/622 Mbps ATM; Gigabit Ethernet
Construction :	Solid bare copper, foam PE insulated, cross-web filler, aluminium/polyester tape with drain wire, RoHS compliant PVC, LSZH, or HDPE sheathed cable
Insulation colour :	• Blue & White • Orange & White • Green & White • Brown & White
Sheath colour :	Grey or Blue (RoHS compliant PVC), Orange (LSZH), Black (HDPE), or as per order
Specification :	ANSI/TIA-568.2-D, ISO/IEC 11801, IEC 61156-5
Flame test :	UL 1581 (CMX), UL 1685 (CM), UL 1666 (CMR), IEC 60332-1-2
LSZH test :	IEC 60754, IEC 61034-2

Part No.	Conductor	Pair	Approx. Overall Diam. (mm)	Standard Length (m)	Approx. Weight (kg/500m)	Packaging
444P*6A**	Solid Bare Copper (23 AWG)	4	7.2	500	27.5	Plywood Drum

Electrical Properties at 20˚C

Conductor Resistance	≤ 9.38Ω/100m
Resistance Unbalance	≤ 4%
Mutual Capacitance	≤ 5.6nF/100m
Capacitance Unbalance	≤ 330pF/100m
Characteristics Impedance	100 ± 15Ω

Electrical Data at 20˚C

Frequency (MHz)	ATTENUATION Max. (dB/100m)	NEXT Min. (dB)	PSNEXT Min. (dB)	ELFEXT Min. (dB/100m)	PSELFEXT Min. (dB/100m)	RL Min. (dB)
1	2.1	75.3	72.3	68.0	65.0	20.0
4	3.8	66.3	63.3	56.0	53.0	23.0
10	5.9	60.3	57.3	48.0	45.0	25.0
16	7.5	57.2	54.2	43.9	40.9	25.0
20	8.4	55.8	52.8	42.0	39.0	25.0
31.25	10.5	52.9	49.9	38.1	35.1	23.6
62.5	15.0	48.4	45.4	32.1	29.1	21.5
100	19.1	45.3	42.3	28.0	25.0	20.1
200	27.6	40.8	37.8	22.0	19.0	18.0
300	34.3	38.1	35.1	18.5	15.5	17.3
400	40.1	36.3	33.3	16.0	13.0	17.3
500	45.3	34.8	31.8	14.0	11.0	17.3

LAN Cables

Category 6 4 Pair

Model Code: U/UTP

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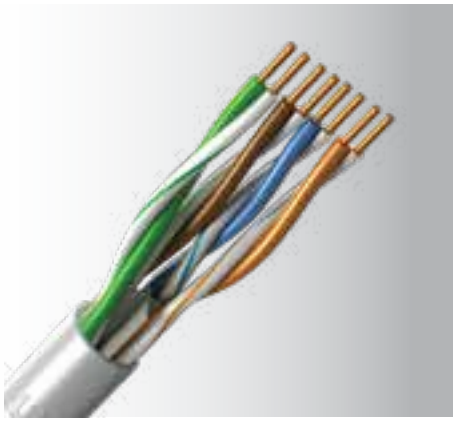

Application :	• High Speed Horizontal Cabling (250 MHz) • 10/100/1000 Base-T • 100 Mbps Fast Ethernet; 155/622 Mbps ATM; Gigabit Ethernet
Construction :	Solid bare copper, HDPE insulated, cross-web filler, RoHS compliant PVC, LSZH, or HDPE sheathed cable
Insulation colour :	• Blue & White/blue stripe • Orange & White/orange stripe • Green & White/green stripe • Brown & White/brown stripe
Sheath colour :	Grey or Blue (RoHS compliant PVC), Orange (LSZH), Black (HDPE), or as per order
Specification :	ANSI/TIA-568.2-D, ISO/IEC 11801, IEC 61156-5
Flame test :	UL 1581 (CMX), UL 1685 (CM), UL 1666 (CMR), IEC 60332-1-2
LSZH test :	IEC 60754, IEC 61034-2

Part No.	Conductor	Pair	Approx. Overall Diam.	Standard Length	Approx. Weight	Packaging
			(mm)	(m)	(kg/305m)	
434P*06**	Solid Bare Copper (24 AWG)	4	6.2	305	12	Reel in Box
444P*06**	Solid Bare Copper (23 AWG)		6.3		12.2	

Electrical Properties at 20˚C

Conductor Resistance	≤ 9.38Ω/100m
Resistance Unbalance	≤ 5%
Mutual Capacitance	≤ 5.6nF/100m
Capacitance Unbalance	≤ 330pF/100m
Characteristics Impedance	100 ± 15Ω

Electrical Data at 20˚C

Frequency	ATTENUATION Max.	NEXT Min.	PSNEXT Min.	ELFEXT Min.	PSELFEXT Min.	RL Min.	DELAY Max.	SKEW Max.
(MHz)	(dB/100m)	(dB)	(dB)	(dB/100m)	(dB/100m)	(dB)	(ns/100m)	(ns/100m)
0.772	1.8	76.0	74.0	70.0	67.0	-	-	-
1	2.0	74.3	72.3	67.8	64.8	20.0	570	45
4	3.8	65.3	63.3	55.8	52.8	23.0	-	-
8	5.3	60.8	58.8	49.7	46.7	24.5	-	-
10	6.0	59.3	57.3	47.8	44.8	25.0	545	45
16	7.6	56.2	54.2	43.7	40.7	25.0	-	-
20	8.5	54.8	52.8	41.8	38.8	25.0	-	-
25	9.5	53.3	51.3	39.8	36.8	24.3	-	-
31.25	10.7	51.9	49.9	37.9	34.9	23.6	-	-
62.5	15.4	47.4	45.4	31.9	28.9	21.5	-	-
100	19.8	44.3	42.3	27.8	24.8	20.1	-	-
200	29.0	39.8	37.8	21.8	18.8	18.0	-	-
250	32.8	38.3	36.3	19.8	16.8	17.3	536	45

LAN Cables

Category 6 4 Pair

Model Code: F/UTP

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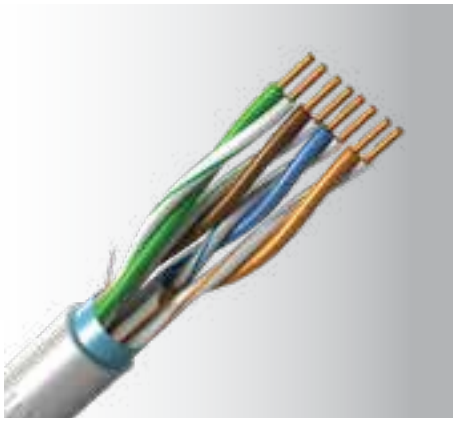

Application :	• High Speed Horizontal Cabling (250 MHz) • 10/100/1000 Base-T • 100 Mbps Fast Ethernet; 155/622 Mbps ATM; Gigabit Ethernet • EMI Proof
Construction :	Solid bare copper, HDPE insulated, cross-web filler, aluminium/polyester tape with drain wire, RoHS compliant PVC, LSZH, or HDPE sheathed cable
Insulation colour :	• Blue & White/blue stripe • Orange & White/orange stripe • Green & White/green stripe • Brown & White/brown stripe
Sheath colour :	Grey or Blue (RoHS compliant PVC), Orange (LSZH), Black (HDPE), or as per order
Specification :	ANSI/TIA-568.2-D, ISO/IEC 11801, IEC 61156-5
Flame test :	UL 1581 (CMX), UL 1685 (CM), UL 1666 (CMR), IEC 60332-1-2
LSZH test :	IEC 60754, IEC 61034-2

Part No.	Conductor	Pair	Approx. Overall Diam.	Standard Length	Approx. Weight	Packaging
			(mm)	(m)	(kg)	
444P*06**	Solid Bare Copper (23 AWG)	4	7.2	500	29.5	Plywood Drum

Electrical Properties at 20˚C

Conductor Resistance	≤ 9.38Ω/100m
Resistance Unbalance	≤ 5%
Mutual Capacitance	≤ 5.6nF/100m
Capacitance Unbalance	≤ 330pF/100m
Characteristics Impedance	100 ± 15Ω

Electrical Data at 20˚C

Frequency	ATTENUATION Max.	NEXT Min.	PSNEXT Min.	ELFEXT Min.	PSELFEXT Min.	RL Min.	DELAY Max.	SKEW Max.
(MHz)	(dB/100m)	(dB)	(dB)	(dB/100m)	(dB/100m)	(dB)	(ns/100m)	(ns/100m)
0.772	1.8	76.0	74.0	70.0	67.0	-	-	-
1	2.0	74.3	72.3	67.8	64.8	20.0	570	45
4	3.8	65.3	63.3	55.8	52.8	23.0	-	-
8	5.3	60.8	58.8	49.7	46.7	24.5	-	-
10	6.0	59.3	57.3	47.8	44.8	25.0	545	45
16	7.6	56.2	54.2	43.7	40.7	25.0	-	-
20	8.5	54.8	52.8	41.8	38.8	25.0	-	-
25	9.5	53.3	51.3	39.8	36.8	24.3	-	-
31.25	10.7	51.9	49.9	37.9	34.9	23.6	-	-
62.5	15.4	47.4	45.4	31.9	28.9	21.5	-	-
100	19.8	44.3	42.3	27.8	24.8	20.1	-	-
200	29.0	39.8	37.8	21.8	18.8	18.0	-	-
250	32.8	38.3	36.3	19.8	16.8	17.3	536	45

LAN Cables

Category 5e 4 Pair

Model Code: U/UTP

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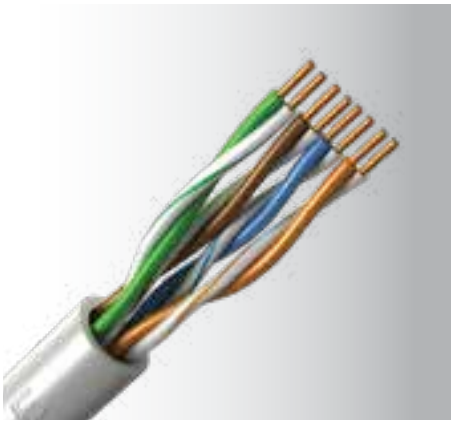

Application :	• High Speed Horizontal Cabling (100 MHz) • 10/100 Base-T • 100 Mbps Fast Ethernet; 155 Mbps ATM
Construction :	Solid bare copper, HDPE insulated, RoHS compliant PVC, LSZH, or HDPE sheathed cable
Insulation colour :	• Blue & White/blue stripe • Orange & White/orange stripe • Green & White/green stripe • Brown & White/brown stripe
Sheath colour :	Grey or Blue (RoHS compliant PVC), Orange (LSZH), Black (HDPE), or as per order
Specification :	ANSI/TIA-568.2-D, ISO/IEC 11801, IEC 61156-5
Flame test :	UL 1581 (CMX), UL 1685 (CM), UL 1666 (CMR), IEC 60332-1-2
LSZH test :	IEC 60754, IEC 61034-2

Part No.	Conductor	Pair	Approx. Overall Diam.	Standard Length	Approx. Weight	Packaging
			(mm)	(m)	(kg/305m)	
434P*5E**	Solid Bare Copper (24 AWG)	4	5.1	305	9	Reel in Box

Electrical Properties at 20˚C

Conductor Resistance	≤ 9.38Ω/100m
Resistance Unbalance	≤ 5%
Mutual Capacitance	≤ 5.6nF/100m
Capacitance Unbalance	≤ 330pF/100m
Characteristics Impedance	100 ± 15Ω

Electrical Data at 20˚C

Frequency	ATTENUATION Max.	NEXT Min.	PSNEXT Min.	ELFEXT Min.	PSELFEXT Min.	RL Min.	DELAY Max.	SKEW Max.
(MHz)	(dB/100m)	(dB)	(dB)	(dB/100m)	(dB/100m)	(dB)	(ns/100m)	(ns/100m)
0.772	1.8	67.0	64.0	66.0	63.0	-	-	-
1	2.0	65.3	62.3	63.8	60.8	20.0	570	45
4	4.1	56.3	53.3	51.7	48.7	23.0	-	-
8	5.8	51.8	48.8	45.7	42.7	24.5	-	-
10	6.5	50.3	47.3	43.8	40.8	25.0	545	45
16	8.2	47.3	44.3	39.7	36.7	25.0	-	-
20	9.3	45.8	42.8	37.7	34.7	25.0	-	-
25	10.4	44.3	41.3	35.8	32.8	24.3	-	-
31.25	11.7	42.9	39.9	33.9	30.9	23.6	-	-
62.5	17.0	38.4	35.4	27.8	24.8	21.5	-	-
100	22.0	35.3	32.3	23.8	20.8	20.3	538	45

LAN Cables

Category 5e 4 Pair

Model Code: F/UTP

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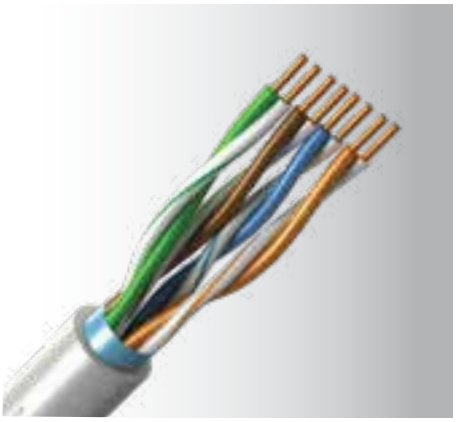

Application :	• High Speed Horizontal Cabling (100 MHz) • 10/100 Base-T • 100 Mbps Fast Ethernet; 155 Mbps ATM • EMI Proof
Construction :	Solid bare copper, HDPE insulated, aluminium/ polyester tape with drain wire, RoHS compliant PVC, LSZH, or HDPE sheathed cable
Insulation colour :	• Blue & White/blue stripe • Orange & White/orange stripe • Green & White/green stripe • Brown & White/brown stripe
Sheath colour :	Grey or Blue (RoHS compliant PVC), Orange (LSZH), Black (HDPE), or as per order
Specification :	ANSI/TIA-568.2-D, ISO/IEC 11801, IEC 61156-5
Flame test :	UL 1581 (CMX), UL 1685 (CM), UL 1666 (CMR), IEC 60332-1-2
LSZH test :	IEC 60754, IEC 61034-2

Part No.	Conductor	Pair	Approx. Overall Diam. (mm)	Standard Length (m)	Approx. Weight (kg/305m)	Packaging
434P*5E**	Solid Bare Copper (24 AWG)	4	6.4	305	13	Reel in Box

Electrical Properties at 20˚C

Conductor Resistance	≤ 9.38Ω/100m
Resistance Unbalance	≤ 5%
Mutual Capacitance	≤ 5.6nF/100m
Capacitance Unbalance	≤ 330pF/100m
Characteristics Impedance	100 ± 15Ω

Electrical Data at 20˚C

Frequency (MHz)	ATTENUATION Max. (dB/100m)	NEXT Min. (dB)	PSNEXT Min. (dB)	ELFEXT Min. (dB/100m)	PSELFEXT Min. (dB/100m)	RL Min. (dB)	DELAY Max. (ns/100m)	SKEW Max. (ns/100m)
0.772	1.8	67.0	64.0	66.0	63.0	-	-	-
1	2.0	65.3	62.3	63.8	60.8	20.0	570	45
4	4.1	56.3	53.3	51.7	48.7	23.0	-	-
8	5.8	51.8	48.8	45.7	42.7	24.5	-	-
10	6.5	50.3	47.3	43.8	40.8	25.0	545	45
16	8.2	47.3	44.3	39.7	36.7	25.0	-	-
20	9.3	45.8	42.8	37.7	34.7	25.0	-	-
25	10.4	44.3	41.3	35.8	32.8	24.3	-	-
31.25	11.7	42.9	39.9	33.9	30.9	23.6	-	-
62.5	17.0	38.4	35.4	27.8	24.8	21.5	-	-
100	22.0	35.3	32.3	23.8	20.8	20.3	538	45

LAN Cables

Category 5e 25 Pair

Model Code: U/UTP

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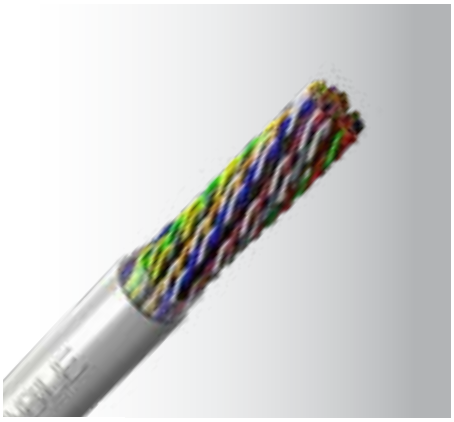

Application :	• High Speed Horizontal Cabling (100 MHz) • 10/100 Base-T • 100 Mbps Fast Ethernet; 155 Mbps ATM
Construction :	Solid bare copper, HDPE insulated, polyester tape, RoHS compliant PVC, LSZH, or HDPE sheathed cable
Insulation colour :	According to standard
Sheath colour :	Grey or Blue (RoHS compliant PVC), Orange (LSZH), Black (HDPE), or as per order
Specification :	ANSI/TIA-568.2-D, ISO/IEC 11801, IEC 61156-5
Flame test :	UL 1581 (CMX), UL 1685 (CM), UL 1666 (CMR), IEC 60332-1-2
LSZH test :	IEC 60754, IEC 61034-2

Part No.	Conductor	Pair	Approx. Overall Diam. (mm)	Standard Length (m)	Approx. Weight (kg/km)	Packaging
43PE*5E**	Solid Bare Copper (24 AWG)	25	13.3	1000	193	Wooden Reel

Electrical Properties at 20˚C

Conductor Resistance	≤ 9.38Ω/100m
Resistance Unbalance	≤ 5%
Mutual Capacitance	≤ 5.6nF/100m
Capacitance Unbalance	≤ 330pF/100m
Characteristics Impedance	100 ± 15Ω

Electrical Data at 20˚C

Frequency (MHz)	ATTENUATION Max. (dB/100m)	NEXT Min. (dB)	ACR Min. (dB)	PSNEXT Min. (dB)	ELFEXT Min. (dB/100m)	PSELFEXT Min. (dB/100m)	RL Min. (dB)	DELAY Max. (ns/100m)	SKEW Max. (ns/100m)
1	3.0	60.0	57.0	54.0	57.4	54.4	17.0	555	50
4	4.5	53.5	49.1	46.1	45.4	42.4	17.0		
8	6.3	48.6	42.3	39.3	39.3	36.3	17.0		
10	7.1	47.0	39.9	36.9	37.4	34.4	17.0		
16	9.1	43.6	34.5	31.5	33.3	30.3	17.0		
20	10.2	42.0	31.8	28.8	31.4	28.4	17.0		
25	11.4	40.3	28.9	25.9	29.4	26.4	16.0		
31.25	12.9	38.7	25.9	22.9	27.5	24.5	15.1		
62.5	18.6	33.6	15.0	12.0	21.5	18.5	12.0		
100	24.0	30.1	6.1	3.1	17.4	14.4	10.0		

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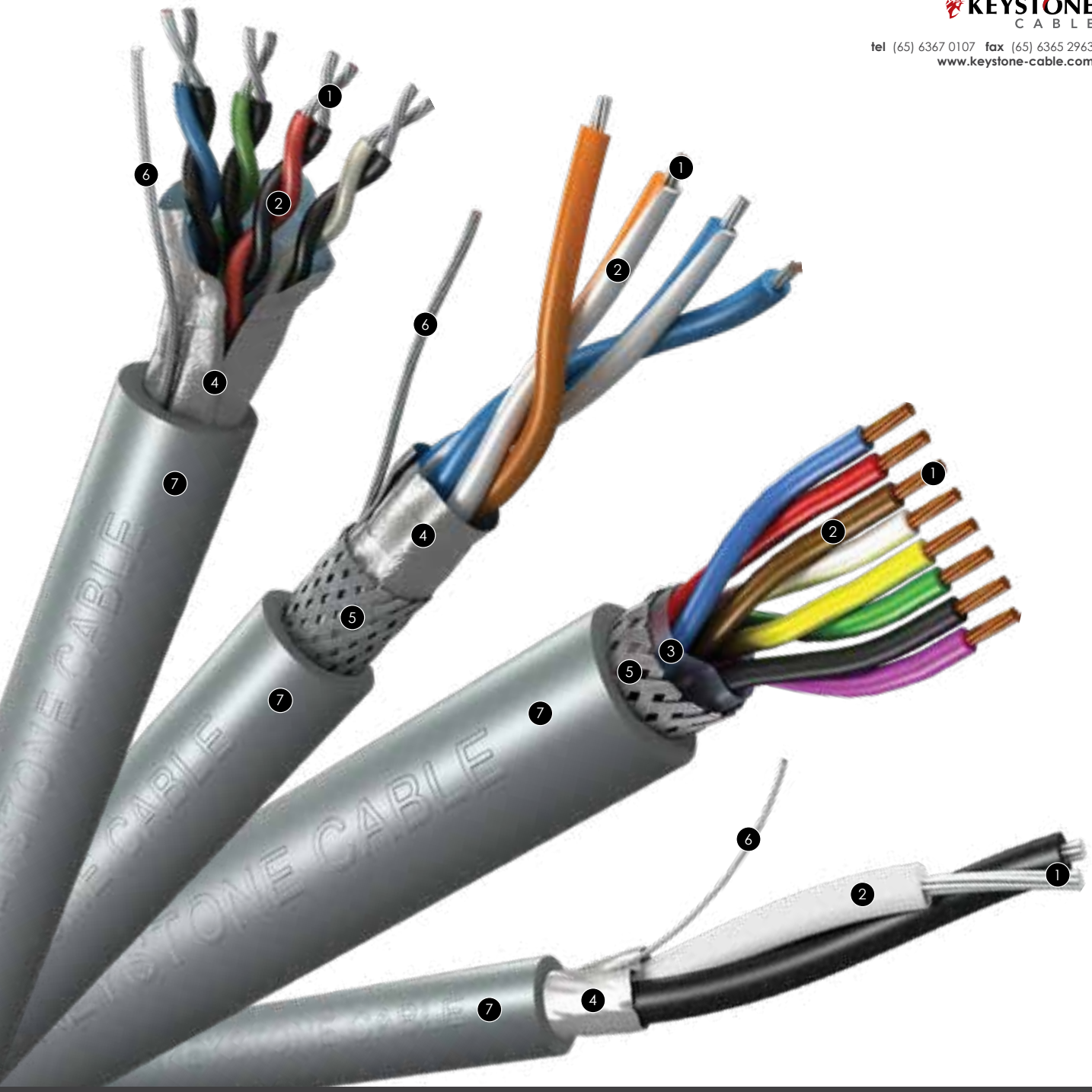
www.keystone-cable.com



Signal Cables

1	Conductor	Plain or Tinned Annealed Copper Wire
2	Insulation	PVC or PE
3	Binder Tape	Polyester Tape
4	Overall Screen	Aluminium/Polyester Tape
5	Braided Screen	Tinned Copper Wire
6	Drain Wire	Tinned Copper Wire
7	Oversheath	PVC

KEYSTONE CABLE
tel (65) 6367 0107 fax (65) 6365 2963
www.keystone-cable.com

250V or 300/500V Multi-Core PVC Insulated, PVC Sheathed Flexible Cable

Description: CU/PVC/PVC
Model Code: LiYY

Application :	For control and signal cable in electronics of computer systems, electronic control equipment, office machines, and measurement devices.
Voltage rating :	250V (0.14 ~ 0.25mm²); 300/500V (0.34 ~ 0.5mm²)
Construction :	Fine plain annealed copper, PVC insulated, PVC sheathed cable
Core colour :	According to Table 13 (page 48)
Sheath colour :	Grey
Specification :	VDE 0812, IEC 60332-1-2
Operating temperature :	Static : -30˚C ~ 70˚C
	Flexing : -5˚C ~ 70˚C
Insulation resistance :	Min. 200MΩ·km

No. of Core	Conductor		Insulation	Part No.	Approx. Overall Diam.	Approx. Weight
	Nominal Area	No./Diam. of Strand	Thickness			
	(mm²)	(no./mm)	(mm)		(mm)	(kg/km)
2	0.14	18/0.10	0.3	**00023825**	3.2	13
3				**00033825**	3.3	16
4				**00043825**	3.5	19
5				**00053825**	4.0	22
6				**00063825**	4.3	25
7				**00073825**	4.3	28
8				**00083825**	4.7	35
10				**00103825**	5.3	41
12				**00123825**	5.6	48
14				**00143825**	5.9	53
16				**00163825**	6.2	59
18				**00183825**	6.5	65
20				**00203825**	6.6	70
24				**00243825**	7.6	87
25				**00253825**	7.7	91
30				**00303825**	8.0	108
2	0.25	14/0.15	0.3	**01023825**	3.8	18
3				**01033825**	3.9	22
4				**01043825**	4.3	26
5				**01053825**	4.8	30
6				**01063825**	5.2	36
7				**01073825**	5.2	42
8				**01083825**	5.7	49
10				**01103825**	6.4	57
12				**01123825**	6.7	66
14				**01143825**	7.1	75
16				**01163825**	7.5	84
18				**01183825**	7.9	92
20				**01203825**	9.1	101
24				**01243825**	9.8	120
25				**01253825**	9.9	132
30				**01303825**	10.3	156

Current rating
Please refer to Table 15 (Page 49)
For Rating Factors, please refer to Table 7 (Page 45)

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250V or 300/500V Multi-Core
PVC Insulated, PVC Sheathed Flexible Cable

Description: CU/PVC/PVC
Model Code: LiYY

No. of Core	Conductor		Insulation	Part No.	Approx. Overall Diam.	Approx. Weight
	Nominal Area	No./Diam. of Strand	Thickness			
	(mm^2)	(no./mm)	(mm)		(mm)	(kg/km)
2	0.34	7/0.25	0.4	**02023863**	4.2	22
3				**02033863**	4.4	30
4				**02043863**	4.9	43
5				**02053863**	5.3	54
6				**02063863**	5.9	58
7				**02073863**	5.9	61
8				**02083863**	6.3	73
10				**02103863**	7.2	82
12				**02123863**	7.6	102
14				**02143863**	8.0	108
16				**02163863**	8.4	126
18				**02183863**	8.9	143
20				**02203863**	9.8	160
24				**02243863**	11.0	186
25				**02253863**	11.2	192
30				**02303863**	11.6	226
2	0.5	16/0.20	0.4	**04023863**	4.8	40
3				**04033863**	5.1	46
4				**04043863**	5.7	55
5				**04053863**	6.2	64
6				**04063863**	7.4	74
7				**04073863**	7.4	81
8				**04083863**	8.0	97
10				**04103863**	8.8	116
12				**04123863**	9.1	135
14				**04143863**	9.5	151
16				**04163863**	10.0	168
18				**04183863**	10.6	182
20				**04203863**	11.2	213
24				**04243863**	12.3	241
25				**04253863**	12.5	249
30				**04303863**	13.5	303

Current rating
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For Rating Factors, please refer to Table 7 (Page 45)

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250V or 300/500V Multi-Pair
PVC Insulated, PVC Sheathed Flexible Cable

Description: CU/PVC/PVC
Model Code: LiYY-TP

Application :	For control and signal cable in electronics of computer systems, electronic control equipment, office machines, and measurement devices.
Voltage rating :	250V (0.14 ~ 0.25mm²); 300/500V (0.34 ~ 0.5mm²)
Construction :	Fine plain annealed copper, PVC insulated, twisted pairs, polyester tape wrapping, PVC sheathed cable
Core colour :	According to Table 14 (page 48)
Sheath colour :	Grey
Specification :	VDE 0812, IEC 60332-1-2
Operating temperature :	Static : -30˚C ~ 70˚C
	Flexing : -5˚C ~ 70˚C
Insulation resistance :	Min. 200MΩ·km

No. of Pair	Conductor		Insulation	Part No.	Approx. Overall Diam.	Approx. Weight
	Nominal Area	No./Diam. of Strand	Thickness			
	(mm²)	(no./mm)	(mm)		(mm)	(kg/km)
2	0.14	18/0.10	0.3	**002P3826**	4.9	25
3				**003P3826**	5.0	32
4				**004P3826**	5.5	39
5				**005P3826**	6.2	46
6				**006P3826**	6.4	51
8				**008P3826**	7.0	59
10				**000P3826**	8.1	78
12				**00BP3826**	8.9	95
14				**00DP3826**	9.4	106
16				**00FP3826**	9.7	111
18				**00HP3826**	10.2	120
20				**00KP3826**	10.8	125
25				**00PE3826**	11.7	181
2	0.25	14/0.15	0.3	**012P3826**	6.1	30
3				**013P3826**	6.3	38
4				**014P3826**	6.6	49
5				**015P3826**	7.2	58
6				**016P3826**	7.8	66
8				**018P3826**	8.4	85
10				**010P3826**	9.8	108
12				**01BP3826**	10.2	125
14				**01DP3826**	11.0	142

Current rating
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For Rating Factors, please refer to Table 7 (Page 45)

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250V or 300/500V Multi-Pair
PVC Insulated, PVC Sheathed Flexible Cable

Description: CU/PVC/PVC
Model Code: LiYY-TP

No. of Pair	Conductor		Insulation	Part No.	Approx. Overall Diam.	Approx. Weight
	Nominal Area	No./Diam. of Strand	Thickness			
	(mm^2)	(no./mm)	(mm)		(mm)	(kg/km)
2	0.34	7/0.25	0.4	**022P3864**	6.6	40
3				**023P3864**	7.0	53
4				**024P3864**	7.8	66
5				**025P3864**	8.7	79
6				**026P3864**	9.6	98
8				**028P3864**	10.2	119
10				**020P3864**	11.6	150
12				**02BP3864**	12.4	175
14				**02DP3864**	13.5	201
2	0.5	16/0.20	0.4	**042P3864**	7	48
3				**043P3864**	7.5	64
4				**044P3864**	8.4	87
5				**045P3864**	9.2	105
6				**046P3864**	10.2	120
8				**048P3864**	11.0	150
10				**040P3864**	12.4	184
12				**04BP3864**	13.4	221
14				**04DP3864**	14.6	259

Current rating
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For Rating Factors, please refer to Table 7 (Page 45)

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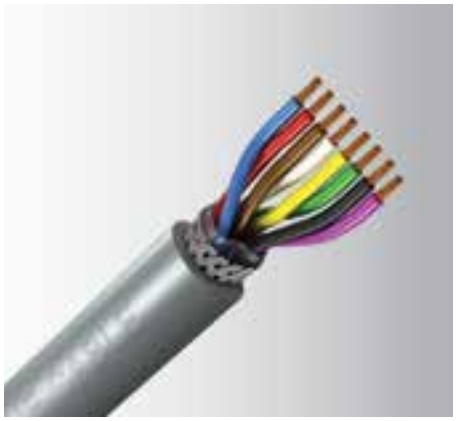
250V or 300/500V Multi-Core
PVC Insulated, Braided Screen, PVC Sheathed Flexible Cable

Description: CU/PVC/TCWB/PVC
Model Code: LiYCY



Application :	For computer, data transmission, office equipment process control, and instrumentation usage where EMI protection is required.
Voltage rating :	250V (0.14 ~ 0.25mm²); 300/500V (0.34 ~ 0.5mm²)
Construction :	Fine plain annealed copper, PVC insulated, polyester tape wrapping, tinned copper wire braided screen, PVC sheathed cable
Core colour :	According to Table 13 (page 48)
Sheath colour :	Grey
Specification :	VDE 0812, IEC 60332-1-2
Operating temperature :	Static : -30˚C ~ 70˚C Flexing : -5˚C ~ 70˚C
Insulation resistance :	Min. 200MΩ·km

No. of Core	Conductor		Insulation	Part No.	Approx. Overall Diam.	Approx. Weight
	Nominal Area	No./Diam. of Strand	Thickness			
	(mm²)	(no./mm)	(mm)		(mm)	(kg/km)
2	0.14	18/0.10	0.3	**00023827**	3.9	20
3				**00033827**	4.1	28
4				**00043827**	4.3	33
5				**00053827**	4.6	38
6				**00063827**	4.9	38
7				**00073827**	4.9	49
8				**00083827**	5.8	56
10				**00103827**	6.1	66
12				**00123827**	6.3	78
14				**00143827**	6.7	80
16				**00163827**	7.0	90
18				**00183827**	7.3	104
20				**00203827**	7.7	116
25				**00253827**	8.6	149
30				**00303827**	8.9	158
2	0.25	14/0.15	0.3	**01023827**	4.5	32
3				**01033827**	4.7	37
4				**01043827**	5.0	41
5				**01053827**	5.6	51
6				**01063827**	6.0	58
7				**01073827**	6.0	65
8				**01083827**	7.1	73
10				**01103827**	7.5	82
12				**01123827**	7.7	98
14				**01143827**	8.0	99
16				**01163827**	8.4	124
18				**01183827**	8.8	143
20				**01203827**	9.3	152
25				**01253827**	10.7	172
30				**01303827**	11.0	189

Current rating
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For Rating Factors, please refer to Table 7 (Page 45)

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250V or 300/500V Multi-Core
PVC Insulated, Braided Screen, PVC Sheathed Flexible Cable

Description: CU/PVC/TCWB/PVC
Model Code: LiYCY

No. of Core	Conductor		Insulation	Part No.	Approx. Overall Diam.	Approx. Weight
	Nominal Area	No./Diam. of Strand	Thickness			
	(mm^2)	(no./mm)	(mm)		(mm)	(kg/km)
2	0.34	7/0.25	0.4	**02023865**	4.9	37
3				**02033865**	5.1	49
4				**02043865**	5.7	59
5				**02053865**	6.2	66
6				**02063865**	6.8	79
7				**02073865**	6.8	83
8				**02083865**	7.8	94
10				**02103865**	8.3	129
12				**02123865**	8.5	142
14				**02143865**	8.9	154
16				**02163865**	9.4	160
18				**02183865**	10.2	173
20				**02203865**	10.7	192
25				**02253865**	12.0	260
30				**02303865**	12.5	292
2	0.5	16/0.20	0.4	**04023865**	5.6	54
3				**04033865**	5.9	67
4				**04043865**	6.5	77
5				**04053865**	7.0	90
6				**04063865**	7.8	104
7				**04073865**	7.8	112
8				**04083865**	8.7	135
10				**04103865**	9.5	160
12				**04123865**	9.8	177
18				**04183865**	11.8	239
20				**04203865**	12.2	276
25				**04253865**	14.0	352
30				**04303865**	14.8	399

Current rating
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For Rating Factors, please refer to Table 7 (Page 45)

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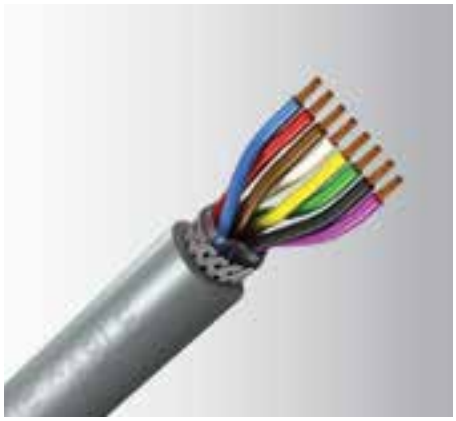
250V or 300/500V Multi-Pair
PVC Insulated, Braided Screen, PVC Sheathed Flexible Cable

Description: CU/PVC/TCWB/PVC
Model Code: LiYCY-TP



Application :	For computer, data transmission, office equipment process control, and instrumentation usage where EMI protection is required.
Voltage rating :	250V (0.14 ~ 0.25mm^2); 300/500V (0.34 ~ 0.5mm^2)
Construction :	Fine plain annealed copper, PVC insulated, twisted pairs, polyester tape wrapping, tinned copper wire braided screen, PVC sheathed cable
Core colour :	According to Table 14 (page 48)
Sheath colour :	Grey
Specification :	VDE 0812, IEC 60332-1-2
Operating temperature :	Static : -30˚C ~ 70˚C Flexing : -5˚C ~ 70˚C
Insulation resistance :	Min. 200MΩ·km

No. of Pair	Conductor		Insulation	Part No.	Approx. Overall Diam.	Approx. Weight
	Nominal Area	No./Diam. of Strand	Thickness			
	(mm^2)	(no./mm)	(mm)		(mm)	(kg/km)
2	0.14	18/0.10	0.3	**002P3828**	5.6	40
3				**003P3828**	5.8	49
4				**004P3828**	6.2	54
5				**005P3828**	6.5	66
6				**006P3828**	7.3	85
8				**008P3828**	8.2	97
10				**000P3828**	8.7	110
12				**00BP3828**	9.3	142
14				**00DP3828**	10.0	148
16				**00FP3828**	10.7	155
18				**00HP3828**	11.0	171
20				**00KP3828**	11.3	184
25				**00PE3828**	12.5	238
2	0.25	14/0.15	0.3	**012P3828**	7.0	54
3				**013P3828**	7.1	68
4				**014P3828**	7.6	81
5				**015P3828**	8.1	102
6				**016P3828**	8.3	115
8				**018P3828**	10.3	130
10				**010P3828**	11.0	158
12				**01BP3828**	11.6	190
14				**01DP3828**	12.0	213
16				**01FP3828**	13.0	238
18				**01HP3828**	13.2	248
20				**01KP3828**	13.7	275
25				**01PE3828**	16.1	344

Current rating
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250V or 300/500V Multi-Pair
PVC Insulated, Braided Screen, PVC Sheathed Flexible Cable

Description: CU/PVC/TCWB/PVC
Model Code: LiYCY-TP

No. of Pair	Conductor		Insulation	Part No.	Approx. Overall Diam.	Approx. Weight
	Nominal Area	No./Diam. of Strand	Thickness			
	(mm^2)	(no./mm)	(mm)		(mm)	(kg/km)
2	0.34	7/0.25	0.4	**022P3866**	7.3	65
3				**023P3866**	7.5	78
4				**024P3866**	8.0	90
5				**025P3866**	8.9	111
6				**026P3866**	10.5	130
8				**028P3866**	10.9	150
10				**020P3866**	12.0	190
12				**02BP3866**	13.2	220
14				**02DP3866**	13.6	245
16				**02FP3866**	15.1	250
18				**02HP3866**	15.5	275
20				**02KP3866**	16.2	288
25				**02PE3866**	17.9	400
2	0.5	16/0.20	0.4	**042P3866**	7.8	93
3				**043P3866**	8.8	109
4				**044P3866**	9.4	136
5				**045P3866**	10.5	152
6				**046P3866**	11.4	198
8				**048P3866**	12.5	259
10				**040P3866**	13.5	320
12				**04BP3866**	14.2	354
14				**04DP3866**	15.3	401
16				**04FP3866**	16.2	459
18				**04HP3866**	17.5	522
20				**04KP3866**	19.5	580
25				**04PE3866**	22.5	740

Current rating
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For Rating Factors, please refer to Table 7 (Page 45)

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300V Paired, UL 2464
PVC Insulated, Overall Foil Screen, PVC Sheathed Cable

Description: TC/PVC/OS/PVC

Application :	For internal and external wiring of electronic equipment.
Voltage rating :	300V
Construction :	Tinned annealed copper, PVC insulated, twisted pair(s), aluminium/polyester tape with tinned copper drain wire, PVC sheathed cable
Insulation colour :	According to Table 11 (page 47)
Sheath colour :	Grey
Specification :	UL 758, UL 1581, UL style 2464, IEC 60332-1-2
Operating temperature :	80˚C

No. of Pair	Conductor		Insulation	Screen	Part No.	Approx. Overall Diam.	Approx. Weight	Maximum Conductor Resistance at 20˚C
	Size	No./Diam. of Strand	Thickness					
	(AWG)	(no./mm)	(mm)			(mm)	(kg/km)	(Ω/km)
1P	22	7/0.254	0.4	Al/PET tape	**451P1002**	5.1	37	59.4
2P					**452P1002**	7.0	65	
3P					**453P1002**	7.5	84	
4P					**454P1002**	8.2	95	
5P					**455P1002**	9.1	105	
6P					**456P1002**	9.8	124	
8P					**458P1002**	11.0	152	
10P					**450P1002**	12.5	188	
1P	20	7/0.32	0.4	Al/PET tape	**461P1002**	5.8	47	36.7
2P					**462P1002**	7.8	80	
3P					**463P1002**	8.2	104	
4P					**464P1002**	9.2	125	
5P					**465P1002**	10.2	136	
6P					**466P1002**	11.2	162	

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300V Paired, UL 2464
PVC Insulated, Overall Foil Screen, PVC Sheathed Cable

Description: TC/PVC/OS/PVC

No. of Pair	Conductor		Insulation	Screen	Part No.	Approx. Overall Diam.	Approx. Weight	Maximum Conductor Resistance at 20°C
	Size	No./Diam. of Strand	Thickness					
	(AWG)	(no./mm)	(mm)			(mm)	(kg/km)	(Ω/km)
1P	18	16/0.254	0.4	Al/PET tape	**471P1002**	8.1	52	23.5
2P					**472P1002**	9.1	103	
3P					**473P1002**	9.8	139	
4P					**474P1002**	10.6	163	
5P					**475P1002**	11.5	181	
6P					**476P1002**	12.6	208	
1P	16	19/0.287	0.5	Al/PET tape	**481P1002**	6.7	69	14.6
2P					**482P1002**	10.6	134	
3P					**483P1002**	11.4	182	
4P					**484P1002**	12.6	215	
5P					**485P1002**	14.0	264	
6P					**486P1002**	15.2	306	

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300V Single-Pair, UL 2092
PE Insulated, Overall Foil Screen, PVC Sheathed Cable

Description: TC/PE/OS/PVC

Application :	For internal or external interconnection of electronic equipment.
Voltage rating :	300V
Construction :	Tinned annealed copper, PE insulated, twisted pair, aluminium/polyester tape with tinned copper drain wire, PVC sheathed cable
Insulation colour :	Clear, Black
Sheath colour :	Grey
Specification :	UL 758, UL 1581, UL style 2092, IEC 60332-1-2
Operating temperature :	80˚C

No. of Pair	Conductor		Insulation	Screen	Part No.	Approx. Overall Diam.	Approx. Weight	Conductor Resistance at 20˚C	Mutual Capacitance
	Size	No./Diam. of Strand	Thickness						
	(AWG)	(no./mm)	(mm)			(mm)	(kg/km)	(Ω/km)	(pF/m)
1	22	7/0.254	0.4	Al/PET tape	**451P1004**	4.4	24	59.4	65
1	20	7/0.32	0.4		**461P1004**	5.2	31	36.7	75
1	18	16/0.254	0.4		**471P1004**	5.6	37	23.5	80

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300V Paired, RS 485
PE Insulated, Double Overall Screen, PVC Sheathed Cable

Description: TC/PE/OS/OBS/PVC

Application :	For use in communication interfaces in data acquisition and control applications in computer and automation systems. In building automation, cables interconnect security control panels and devices such as access control card readers. In industrial application where higher speed and longer distance is needed.
Voltage rating :	300V
Construction :	Tinned annealed copper, PE insulated, twisted pair(s), double overall screen (aluminium/ polyester tape with metallic side outside in electrical contact with tinned copper drain wire plus tinned copper wire braid), PVC sheathed cable
Insulation colour :	According to Table 12 (page 47)
Sheath colour :	Grey
Specification :	EIA-485, UL 2919, IEC 60332-1-2
Operating temperature :	-25˚C ~ 75˚C

No. of Pair	Conductor	Insulation		Method of Double Overall Screen	Part No.	Approx. Overall Diam.	Approx. Weight
	Size	Material	Approx. Diam.				
	(AWG)		(mm)			(mm)	(kg/km)
1	24	PE	1.7	Al/PET tape + Tinned Copper Braid (coverage 90%)	**431P1008**	5.9	54
2					**432P1008**	8.7	81
3					**433P1008**	9.2	93
4					**434P1008**	9.9	122
1	22	PE	1.85		**451P1008**	7.2	65
2					**452P1008**	9.2	106
3					**453P1008**	9.8	136
4					**454P1008**	10.3	160
1	20	PE	2.1		**461P1008**	7.2	73
2					**462P1008**	9.7	115
3					**463P1008**	10.3	152
4					**464P1008**	11.4	180
1	18	PE	3.1		**471P1008**	9.1	110
2					**472P1008**	11.7	214
3					**473P1008**	14.4	269
4					**474P1008**	15.8	323

Coaxial Cables

1	Conductor	Bare Solid Copper or Copper-Clad Steel (CCS)
2	Insulation	Foam PE (FPE) or Polyethlene (PE)
3	Screen-1	Bonded Aluminium/Polyester Tape
4	Screen-2	Aluminium Wire or Bare Copper Wire Braid
5	Oversheath	PVC

Coaxial Cables

Model Code: RG 59/U

KEYSTONE CABLE
tel (65) 6367 0107 fax (65) 6365 2963
www.keystone-cable.com

Application :	For high-frequency transmission. For low-power video and radio frequency signal connections and for use at baseband video frequencies, such as composite video. This cable is viable when digital cables are not required.
Construction :	Bare solid copper conductor, PE insulated, copper wire braided screen, PVC sheathed cable
Insulation colour :	Natural
Sheath colour :	Black
Specification :	MIL-C-17, IEC 60332-1-2
Operating temperature :	-40˚C ~ +75˚C

Part No.	Conductor		Insulation Diam.	Method of Screen	Approx. Overall Diam.	Approx. Weight	Maximum Pulling Tension	Minimum Bending Radius
	Size	No./Diam. of Strand						
	(AWG)	(no./mm)	(mm)		(mm)	(kg/km)	(N)	(mm)
4401R004	23	1/0.59	3.7	Copper Wire Braid (coverage 95%)	6.2	59	275	62

Electrical Data

Maximum Conductor Resistance, D.C. at 20˚C	66.93Ω/km
Capacitance at 1kHz	67pF/m
Characteristic Impedance at 5~1000 MHz	75 ± 3Ω
Nominal Inductance	0.43μH/m

Maximum Attenuation at 20˚C

Frequency	ATTENUATION	Frequency	ATTENUATION
(MHz)	(dB/100m)	(MHz)	(dB/100m)
1	1.31	400	23.00
10	3.61	700	31.80
50	7.90	900	36.42
100	11.20	1000	39.40
200	16.10		

Return Loss

Frequency (MHz)	Return Loss (dB)
1~1000	20

KEYSTONE CABLE
tel (65) 6367 0107 fax (65) 6365 2963
www.keystone-cable.com

Model Code: RG 6/U

Application :	For high-frequency transmission. For low-power video and radio frequency signal connections and for use at baseband video frequencies, such as composite video.
Construction :	Solid copper clad steel conductor, foam PE, double screen (bonded aluminium/polyester tape plus aluminium wire braid), PVC sheathed cable
Insulation colour :	White
Sheath colour :	Black
Specification :	MIL-C-17, IEC 60332-1-2
Operating temperature :	-40˚C ~ +80˚C

Part No.	Conductor		Insulation Diam.	Method of Screen		Approx. Overall Diam.	Approx. Weight	Maximum Pulling Tension	Minimum Bending Radius
	Size	No./Diam. of Strand		Inner Screen	Outer Screen				
	(AWG)	(no./mm)	(mm)			(mm)	(kg/km)	(N)	(mm)
4701R002	18	1/1.02	4.6	Bonded Al/PET tape	Aluminium Wire Braid (coverage 90%)	6.8	42	68	720

Electrical Data

Maximum Conductor Resistance, D.C. at 20˚C	91.5Ω/km
Capacitance at 1kHz	55pF/m
Characteristic Impedance at 5~1000 MHz	75 ± 3Ω
Nominal Inductance	0.32μH/m

Maximum Attenuation at 20˚C

Frequency	ATTENUATION	Frequency	ATTENUATION
(MHz)	(dB/100m)	(MHz)	(dB/100m)
5	2.20	400	13.12
55	5.25	450	14.00
211	9.42	550	15.50
270	10.63	750	18.34
300	11.25	870	19.70
350	12.21	1000	21.50

Return Loss

Frequency (MHz)	Return Loss (dB)
1~1000	20

Model Code: RG 11/U

KEYSTONE CABLE
tel (65) 6367 0107 fax (65) 6365 2963
www.keystone-cable.com

Application :	For high-frequency transmission, CATV, HDTV, TV antenna, and video distribution. For long-length, it is an ideal entry point feeder system that runs through a commercial or residential building into each floor and room. It is also suitable for improving audio and video performance in home theatre applications.
Construction :	Solid copper clad steel conductor, foam PE, double screen (bonded aluminium/polyester tape plus aluminium wire braid), PVC sheathed cable
Insulation colour :	White
Sheath colour :	Black
Specification :	MIL-C-17, IEC 60332-1-2
Operating temperature :	-40˚C to +80˚C

Part No.	Conductor		Insulation Diam.	Method of Screen		Approx. Overall Diam.	Approx. Weight	Maximum Pulling Tension	Minimum Bending Radius
	Size	No./Diam. of Strand		Inner Screen	Outer Screen				
	(AWG)	(no./mm)	(mm)			(mm)	(kg/km)	(N)	(mm)
4901R003	14	1/1.63	7.11	Bonded Al/PET tape	Aluminium Wire Braid (coverage 60%)	10	85	1156	100

Electrical Data

Maximum Conductor Resistance, D.C. at 20˚C	36.1Ω/km
Capacitance at 1kHz	53pF/m
Characteristic Impedance at 5~1000 MHz	75 ± 3Ω
Nominal Inductance	0.32μH/m

Maximum Attenuation at 20˚C

Frequency	ATTENUATION	Frequency	ATTENUATION
(MHz)	(dB/100m)	(MHz)	(dB/100m)
5	1.25	400	8.60
55	3.15	450	9.00
211	6.23	500	9.52
250	6.73	550	10.00
270	7.00	600	10.50
300	7.40	750	12.00
330	7.70	870	13.32
350	7.94	1000	14.30

Return Loss

Frequency (MHz)	Return Loss (dB)
1~1000	20

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Solar Cables

1	Conductor	Stranded Tinned Copper Wire
2	Insulation	Cross-linked Polyolefin
3	Oversheath	Cross-linked Polyolefin

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www.keystone-cable.com

1.0/1.0kV Single-Core
Cross-linked Polyolefin Insulated, Cross-linked Polyolefin Sheathed Cable

Description: TC/XLPO/XLPO
Model Code: H1Z2Z2-K / 62930 IEC 131

Application :	This cable is intended for use in photovoltaic power supply system. It is suitable for fixed installation indoor and outdoor, and within conduits or systems.
Voltage rating :	A.C. U_o/U : 1.0/1.0kV
	D.C. (Max.) : 1.5kV
Construction :	Tinned annealed copper (EN 60228 Class 5), cross-linked polyolefin insulated and sheathed cable
Insulation colour :	White
Sheath colour :	Black or Red
Specification :	EN 50618, IEC 62930, IEC 60332-1-2, IEC 60754, IEC 61034-2
Operating temperature :	-40˚C ~ +90˚C, 20000h at 120˚C

Conductor		Insulation	Sheath	Part No.	Approx. Overall Diam.	Approx. Weight	Minimum Insulation		Maximum Conductor Resistance D.C. at 20˚C	Short-Circuit Current (1 Second)
Nominal Area	Approx. Diam.	Thickness	Thickness				at 20˚C	at 90˚C		
(mm^2)	(mm)	(mm)	(mm)		(mm)	(kg/km)	(MΩ·km)	(MΩ·km)	(Ω/km)	kA
1.5	1.57	0.7	0.8	**0701**88**	4.7	38	860	0.86	13.7	0.22
2.5	2.04	0.7	0.8	**0801**88**	5.2	45	690	0.69	8.21	0.36
4	2.59	0.7	0.8	**0901**88**	5.7	60	580	0.58	5.09	0.57
6	3.16	0.7	0.8	**1001**88**	6.3	90	500	0.50	3.39	0.86
10	4.3	0.7	0.8	**1101**88**	7.6	131	420	0.42	1.95	1.43
16	5.5	0.7	0.9	**1201**88**	9.1	187	340	0.34	1.24	2.29
25	6.7	0.9	1.0	**1301**88**	11.2	276	340	0.34	0.795	3.58
35	7.9	0.9	1.1	**1401**88**	12.7	368	290	0.29	0.565	5.01
50	9.5	1.0	1.2	**1501**88**	14.5	560	270	0.27	0.393	7.15
70	11.3	1.1	1.2	**1601**88**	16.5	756	250	0.25	0.277	10.01
95	13.0	1.1	1.3	**1701**88**	18.7	1036	220	0.22	0.210	13.59
120	14.6	1.2	1.3	**1801**88**	20.4	1309	210	0.21	0.164	17.16
150	16.3	1.4	1.4	**1901**88**	22.7	1636	210	0.21	0.132	21.45
185	18.1	1.6	1.6	**2001**88**	25.2	2000	200	0.20	0.108	26.46
240	20.8	1.7	1.7	**2101**88**	28.5	2607	200	0.20	0.0817	34.32

**Stands for colour code: White/Black (96) White/Red (97)

Current rating
Please refer to Table 4 (Page 44)
For Rating Factors, please refer to Table 5 (Page 44)

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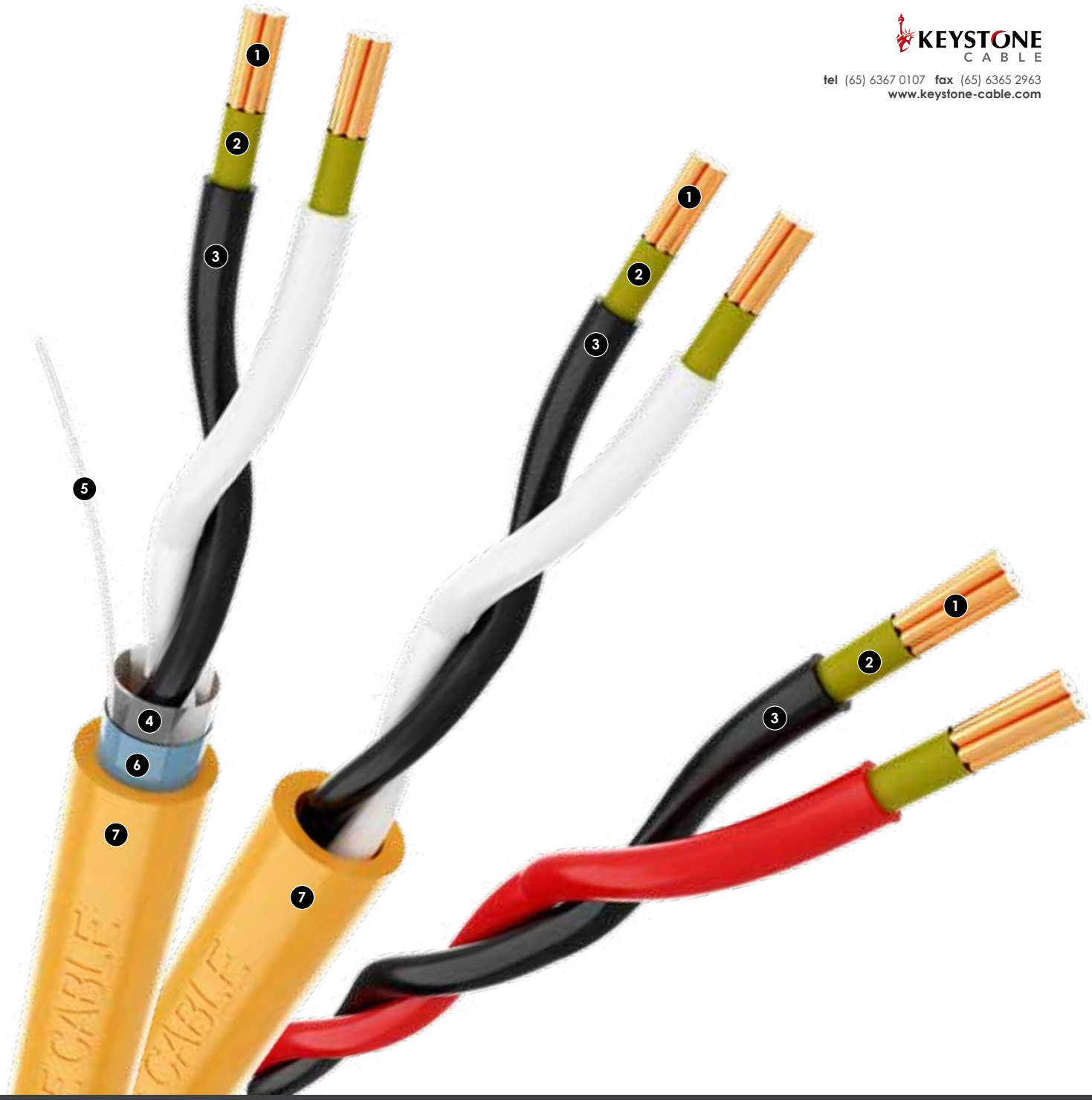

Fire Resistant Fire Alarm Cables

1	Conductor	Plain Annealed Copper Wire
2	Fire Barrier	Mica Tape
3	Insulation	XLPE/LSZH*
4	Binder Tape	Polyester Tape
5	Drain Wire	Tinned Copper Wire
6	Overall Screen	Aluminium/Polyester Tape
7	Oversheath	LSZH*

* LSZH: Low Smoke Zero Halogen

Fire Resistant Fire Alarm Cables

KEYSTONE CABLE
tel (65) 6367 0107 fax (65) 6365 2963
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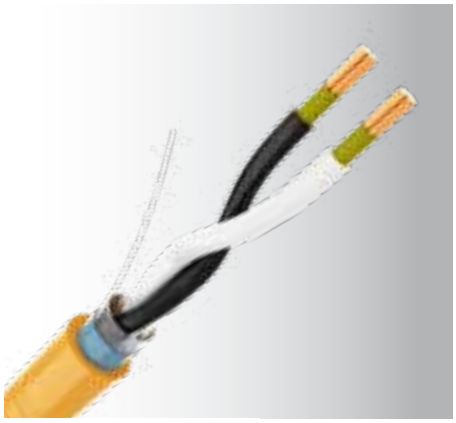
500V Single-Pair
Mica Tape, XLPE Insulated, Overall Foil Screen, LSZH Sheathed Cable
Description: CU/MT/XLPE/OS/LSZH-AT-UV
Model Code: MXOL-AT-UV



Application :	These cables are used in critical security systems such as smoke detectors, emergency lightings, exit signs, and fire command centres.
Voltage rating :	500V
Construction :	Plain annealed copper (IEC 60228 Class 2), mica tape barrier, XLPE insulated, twisted pair, aluminium/polyester tape with tinned copper drain wire, LSZH sheathed cable
Insulation colour :	Black, White
Sheath colour :	Orange
Specification :	BS EN 50288-7, SS 299 Part 1:1998, BS 6387, IEC 60331-21, IEC 60332-1-2, IEC 60754, IEC 61034-2
Operating temperature :	90˚C

No. of Pair	Conductor		Insulation	Part No.	Approx. Overall Diam.	Approx. Weight
	Nominal Area	No./Diam. of Strand	Thickness			
	(mm^2)	(no./mm)	(mm)		(mm)	(kg/km)
1P	1.5	7/0.53	0.6	**071P4084**	10.0	105
1P	2.5	7/0.67	0.7	**081P4084**	11.5	142

Fire Resistant Fire Alarm Cables

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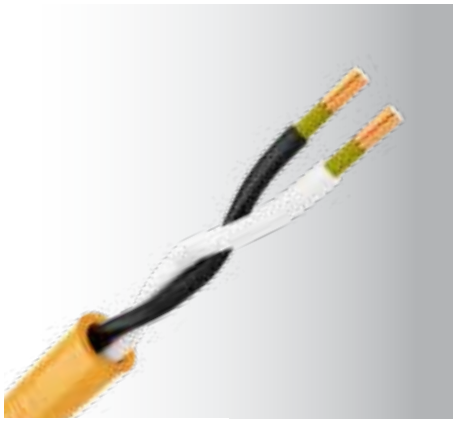
300/500V Single-Pair
Mica Tape, XLPE Insulated, LSZH Sheathed Cable
Description: CU/MT/XLPE/LSZH-AT-UV
Model Code: MXL-AT-UV



Application :	These cables are used in critical security systems such as smoke detectors, emergency lightings, exit signs, and fire command centres.
Voltage rating :	300/500V
Construction :	Plain annealed copper (IEC 60228 Class 2), mica tape barrier, XLPE insulated, twisted pair, LSZH sheathed cable
Insulation colour :	Black, White
Sheath colour :	Orange
Specification :	SS 299 Part 1:1998, IEC 60332-1-2, IEC 60754, IEC 61034-2
Operating temperature :	90˚C

No. of Pair	Conductor		Insulation	Part No.	Approx. Overall Diam.	Approx. Weight
	Nominal Area	No./Diam. of Strand	Thickness			
	(mm²)	(no./mm)	(mm)		(mm)	(kg/km)
1P	1.5	7/0.53	0.6	**071P4664**	8.7	107
1P	2.5	7/0.67	0.7	**081P4664**	9.2	125

Fire Resistant Fire Alarm Cables

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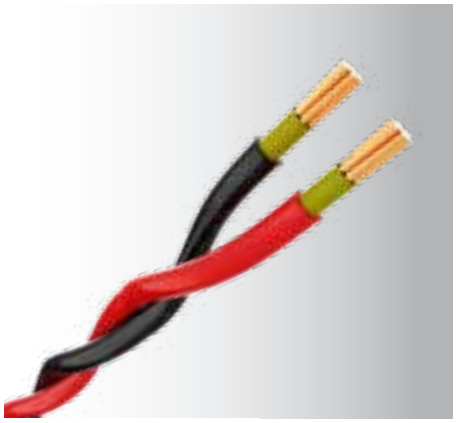
450/750V (0.6/1kV*) 2-Core (Twin Twisted)
Mica Tape, LSZH Insulated, Non-sheathed Cable
Description: CU/MT/LSZH-AT-UV
Model Code: ML-AT-UV



Application :	These cables are used in critical security systems such as smoke detectors, emergency lightings, exit signs, and fire command centres.
Voltage rating :	450/750V (0.6/1kV* REF IEC 60502-1)
Construction :	Plain annealed copper (IEC 60228 Class 2), mica tape barrier, cross-linked polyolefin EI 5, 2-core twisted to form a pair, non-sheathed cable
Insulation colour :	Red, Black
Specification :	BS 8592, SS 299:2021, BS 6387, IEC 60331-3, IEC 60332-1-2, IEC 60332-3, IEC 60754, IEC 61034-2
Operating temperature :	90˚C

No. of Core (Pair)	Conductor		Insulation	Part No.	Approx. Overall Diam.	Approx. Weight
	Nominal Area	No./Diam. of Strand	Thickness			
	(mm²)	(no./mm)	(mm)		(mm)	(kg/km)
2C (1P)	1.5	7/0.53	0.7	**07024082**	7.8	60
2C (1P)	2.5	7/0.67	0.8	**08024082**	9.0	84

Technical Information

Current Rating and Voltage Drop

LSZH or PVC Insulated Cables
Single-Core, Unarmoured

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Single-Core Cables with LSZH or PVC Insulation 300/500V or 450/750V

Table 1 : Current-Carrying Capacities (Amp)
[H05Z-K, H07Z-K or H05V2-K, H07V2-K / 07V2-K Cables]

Conductor Operating Temperature : 90°C
Ambient Temperature : 30°C

BS EN 50525-3-41
BS EN 50525-2-31
BS 8592

Conductor Cross-sectional Area	Reference Method 4 (enclosed in conduit in thermally insulating wall etc)		Reference Method 3 (enclosed in conduit on a wall or in trunking etc)		Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated cable tray, horizontal or vertical)		Reference Method 12 (in free air)		
									Horizontal flat spaced	Vertical flat spaced	Trefoil
	2 cables, 1-phase a.c. or d.c.	3 or 4 cables, 3-phase a.c.	2 cables, 1-phase a.c. or d.c.	3 or 4 cables, 3-phase a.c.	2 cables, 1-phase a.c. or d.c. flat and touching	3 or 4 cables, 3-phase a.c. flat and touching or trefoil	2 cables, 1-phase a.c. or d.c. flat and touching	3 or 4 cables, 3-phase a.c. flat and touching or trefoil	2 cables, 1-phase a.c. or d.c. or 3 cables 3-phase a.c.	2 cables, 1-phase a.c. or d.c. or 3 cables 3-phase a.c.	3 cables trefoil, 3-phase a.c.
1	2	3	4	5	6	7	8	9	10	11	12
mm²	A	A	A	A	A	A	A	A	A	A	A
1.5	18	17	22	19	25	23	-	-	-	-	-
2.5	24	23	30	26	34	31	-	-	-	-	-
4	33	30	40	35	46	41	-	-	-	-	-
6	43	39	51	45	59	54	-	-	-	-	-
10	58	53	71	63	81	74	-	-	-	-	-
16	76	70	95	85	109	99	-	-	-	-	-
25	100	91	126	111	143	130	158	140	183	163	138
35	124	111	156	138	176	161	195	176	226	203	171
50	149	135	189	168	228	209	239	215	274	246	209
70	189	170	240	214	293	268	308	279	351	318	270
95	228	205	290	259	355	326	375	341	426	389	330
120	263	235	336	299	413	379	436	398	495	453	385
150	300	270	375	328	476	436	505	461	570	524	445
185	341	306	426	370	545	500	579	530	651	600	511
240	400	358	500	433	644	590	686	630	769	711	606

Note : For rating factors of ambient temperature other than 30°C, please refer to Table 10 (Page 47)

Table 2 : Voltage Drop (Per Amp Per Meter)
[H05Z-K, H07Z-K or H05V2-K, H07V2-K / 07V2-K Cables]

Conductor Operating Temperature : 90°C

BS EN 50525-3-41
BS EN 50525-2-31
BS 8592

Conductor Cross-sectional Area	2 cables, d.c.	2 cables, 1-phase a.c.						3 or 4 cables, 3-phase a.c.											
		Reference Method 3 (enclosed in conduit or trunking)			Reference Method 1 (clipped direct) Cables touching			Reference Method 3 (enclosed in conduit or trunking)			Reference Method 1, 11 (clipped direct, on tray or in free air)								
											Cables touching Trefoil			Cables touching Flat			Cables spaced* Flat		
1	2	3			4			5			6			7			8		
(mm²)	(mV/A/m)	(mV/A/m)			(mV/A/m)			(mV/A/m)			(mV/A/m)			(mV/A/m)			(mV/A/m)		
1.5	31	31			31			27			27			27			27		
2.5	19	19			19			16			16			16			16		
4	12	12			12			10			10			10			10		
6	7.9	7.9			7.9			6.8			6.8			6.8			6.8		
10	4.7	4.7			4.7			4.0			4.0			4.0			4.0		
16	2.9	2.9			2.9			2.5			2.5			2.5			2.5		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.85	1.85	0.31	1.90	1.85	0.190	1.85	1.60	0.27	1.65	1.60	0.165	1.60	1.60	0.190	1.60	1.60	0.27	1.65
35	1.35	1.35	0.29	1.35	1.35	0.180	1.35	1.15	0.25	1.15	1.15	0.155	1.15	1.15	0.180	1.15	1.15	0.26	1.20
50	0.99	1.00	0.29	1.05	0.99	0.180	1.00	0.87	0.25	0.90	0.86	0.155	0.87	0.86	0.180	0.87	0.86	0.26	0.89
70	0.68	0.70	0.28	0.75	0.68	0.175	0.71	0.60	0.24	0.65	0.59	0.150	0.61	0.59	0.175	0.62	0.59	0.25	0.65
95	0.49	0.51	0.27	0.58	0.49	0.165	0.52	0.44	0.23	0.50	0.43	0.145	0.45	0.43	0.170	0.46	0.43	0.25	0.49
120	0.39	0.41	0.26	0.48	0.39	0.165	0.43	0.35	0.23	0.42	0.34	0.140	0.37	0.34	0.165	0.38	0.34	0.24	0.42
150	0.32	0.33	0.26	0.43	0.32	0.165	0.36	0.29	0.23	0.37	0.28	0.140	0.31	0.28	0.165	0.32	0.28	0.24	0.37
185	0.25	0.27	0.26	0.37	0.26	0.165	0.30	0.23	0.23	0.32	0.22	0.140	0.26	0.22	0.165	0.28	0.22	0.24	0.33
240	0.19	0.21	0.26	0.33	0.20	0.160	0.25	0.185	0.22	0.29	0.17	0.140	0.22	0.17	0.165	0.24	0.17	0.24	0.29

Note : *Spacings larger than one cable diameter will result in a large voltage drop
r = conductor resistance at operating temperature, x = reactance, z = impedance

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Multi-Core Cables with PVC Insulation, PVC Outersheath 300/500V

Table 3 : Current-Carrying Capacities (Amp)

[S05VV-F, S05VV5-F or S05VC4V-K, S05VC4V5-K Cables]

Conductor Operating Temperature : 70°C
Ambient Temperature : 30°C

BS EN 50525-2-51

Conductor Cross-sectional Area	Single-Core (in free air)	2-Core and 3-Core upon or on surface (Method 1)
mm^2	A	A
0.5	12	9
0.75	15	12
1	19	15
1.5	24	18
2.5	32	26
4	42	34
6	54	44
10	73	61
16	98	82
25	129	108
35	158	135

Note : For rating factors of ambient temperature other than 30°C, please refer to Table 10 (Page 47)

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Single-Core Cables with Cross-linked Polyolefin Insulation and Outersheath A.C. 1.0/1.0kV; D.C. 1.5kV

Table 4 : Current-Carrying Capacity of PV Cables
[H1Z2Z2-K / 62930 IEC 131 Cables]

Maximum Conductor Operating Temperature : 120°C — EN 50618
Ambient Temperature : 60°C — IEC 62930

Conductor Cross-sectional Area	Current-Carrying Capacity		
	Single Cable		Two Loaded Cables
	Free in air	On a surface	Touching, on a surface
mm^2	A	A	A
1.5	30	29	24
2.5	41	39	33
4	55	52	44
6	70	67	57
10	98	93	79
16	132	125	107
25	176	167	142
35	218	207	176
50	276	262	221
70	347	330	278
95	416	395	333
120	488	464	390
150	566	538	453
185	644	612	515
240	775	736	620

Note : The expected period of use at maximum conductor temperature of 120°C and at a max. ambient temperature of 90°C is limited to 20000 hrs.
For rating factors of ambient temperature other than 60°C, please refer to Table 5 (Page 44)

Table 5 : Current Rating Conversion Factors for Other Ambient Temperature
[H1Z2Z2-K / 62930 IEC 131 Cables]

Ambient Temperature (°C)	Conversion Factor
up to 60	1.00
70	0.92
80	0.84
90	0.75

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Table 6 : Correction Factors for Ambient Temperature & Group Installation

Correction for groups of more than one circuit of single-core cables, or more than one multi-core cable.

Reference Methods of Installation		Correction Factor (Cg)													
		Number of Circuits or Multi-Core Cables													
		2	3	4	5	6	7	8	9	10	12	14	16	18	20
Enclosed (Method 3 or 4) or bunched and clipped to a non-metallic surface (Method 1)		0.80	0.70	0.65	0.60	0.57	0.54	0.52	0.50	0.48	0.45	0.43	0.41	0.39	0.38
Single layer clipped to a non-metallic surface (Method 1)	Touching	0.85	0.79	0.75	0.73	0.72	0.72	0.71	0.70	-	-	-	-	-	-
	Spaced*	0.94	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Single layer multi-core on a perforated metal cable tray (Method 11)	Touching	0.86	0.81	0.77	0.75	0.74	0.73	0.73	0.72	0.71	0.70	-	-	-	-
	Spaced*	0.91	0.89	0.88	0.87	0.87	-	-	-	-	-	-	-	-	-
Single layer single-core on a perforated metal cable tray, touching (Method 11)	Horizontal	0.90	0.85	-	-	-	-	-	-	-	-	-	-	-	-
	Vertical	0.85	-	-	-	-	-	-	-	-	-	-	-	-	-
Single layer multi-core touching on ladder supports		0.86	0.82	0.80	0.79	0.78	0.78	0.78	0.77	-	-	-	-	-	-

* Space means a clearance between adjacent surfaces of at least one cable Diam. (D_e). Where the horizontal clearance between adjacent cables exceeds 2 D_e, no correction factor need to be applied.

Note : 1 The factors in the table are applicable to a group of cables of all the same sizes. The value of the current derived from application of the appropriate factors is the maximum continous current to be carried by any of the cables in the group.

2 If, due to known operating conditions, a cable is expected to carry not more than 30% of its grouped rating, it may be ignored for the purpose of obtaining the rating factor for the rest of the group.

For example, a group of N loaded cables would normally require a group reduction factor of Cg applied to the tabulated Lt. However, if M cables in the group carry loads which are not greater than 0.3Cg Lt amperes, the other cables can be sized by using the group rating factor corresponding to (N-M) cables.

Table 7 : Correction Factor for Cables with More Than 4 Loaded Cores

No. of Loaded Cores	5	6	7	10	12	14	19
Correction Factor	0.72	0.67	0.63	0.56	0.53	0.51	0.45
No. of Loaded Cores	24	27	30	37	44	46	48
Correction Factor	0.42	0.40	0.39	0.36	0.34	0.33	0.33

Note: 1. The current-carrying capacity for a cable in the size range 1.5 to 4mm^2, having more than 4 loaded cores, is obtained by multiplying the current-carrying capacity of a 2-core, having the same installation type, by the factor selected from this table. The current-carrying for the 2-core cable is that for the installation condition to be used for the multi-core cable.

2. If due to known operating conditions, a core is expected to carry not more than 30% of its current-carrying capacity in the multi-core cable, it may be ignored for the purpose of obtaining the correction factor for the number of loaded cores.

3. If due to known operating conditions, a core is expected to carry not more than 30% of its rating, after applying the correction factor for the total number of current-carrying cores, it may be ignored for the purpose of obtaining the correction factor for the number of loaded cores.

For example, the current-carrying capacity of a cable having N loaded cores would normally be obtained by multiplying the current-carrying capacity of a 2-core, having the same insulation type, by the factor selected from this table for N cores. That is $I_{z1c} = I_{t2c} \times C_{gN}$ where:

I_{z1c} is the current-carrying capacity for the multi-core cable after applying the correction factor for the total number of current-carrying cores.

I_{t2c} is the tablulated current-carrying capacity of a 2-core cable, having the same insulation type as the multi-core cable.

C_{gN} is the correction factor from Table 7 for the total number of current-carrying cores.

However, if M cores in the cable carry loads which are not greater than $0.3 \times I_{t2c} \times C_{gN}$, the current-carrying capacity can be obtained by using the correction factor corresponding to (N-M) cores.

The 'not greater than $0.3 \times I_{t2c} \times C_{gN}$' calculation should be applied before the adjacent multi-core cable grouping factor, if applicable, from Table 6 from BS 7671. The 30% rule should not be further applied to any adjacent cable grouping factor calculations.

I_{z1c} should be greater than or equal to I_n or I_b as appropriate, divided by the relevant correction factor(s) C, that is $I_{z1c} \geq I_n$ or I_b / C

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Table 8 : Maximum Conductor Resistance D.C. at 20°C

IEC 60228
BS EN 60288

Nominal	Maximum Conductor Resistance D.C. at 20 °C					
Cross-sectional Area	Class 1		Class 2		Class 5	
	Plain	Tinned	Plain	Tinned	Plain	Tinned
(mm²)	(Ω/km)	(Ω/km)	(Ω/km)	(Ω/km)	(Ω/km)	(Ω/km)
0.5	36.0	36.7	36.0	36.7	39.0	40.1
0.75	24.5	24.8	24.5	24.8	26.0	26.7
1	18.1	18.2	18.1	18.2	19.5	20.0
1.5	12.1	12.2	12.1	12.2	13.3	13.7
2.5	7.41	7.56	7.41	7.56	7.98	8.21
4	4.61	4.70	4.61	4.70	4.95	5.09
6	3.08	3.11	3.08	3.11	3.30	3.39
10	-	-	1.83	1.84	1.91	1.95
16	-	-	1.15	1.16	1.21	1.24
25	-	-	0.727	0.734	0.780	0.795
35	-	-	0.524	0.529	0.554	0.565
50	-	-	0.387	0.391	0.386	0.393
70	-	-	0.268	0.270	0.272	0.277
95	-	-	0.193	0.195	0.206	0.210
120	-	-	0.153	0.154	0.161	0.164
150	-	-	0.124	0.126	0.129	0.132
185	-	-	0.0991	0.100	0.106	0.108
240	-	-	0.0754	0.0762	0.0801	0.0817
300	-	-	0.0601	0.0607	0.0641	0.0654
400	-	-	0.0470	0.0475	0.0486	0.0495
500	-	-	0.0366	0.0369	0.0384	0.0391
630	-	-	0.0283	0.0286	0.0287	0.0292
800	-	-	0.0211	0.0224	-	-
1000	-	-	0.0176	0.0177	-	-

Table 9 : Conductor Resistance Temperature Other than 20°C

Temperature (°C)	Factor	Temperature (°C)	Factor
10	0.961	25	1.020
11	0.965	30	1.039
12	0.969	35	1.059
13	0.972	40	1.079
14	0.976	45	1.098
15	0.980	50	1.118
16	0.984	55	1.138
17	0.988	60	1.157
18	0.922	65	1.177
19	0.996	70	1.196
20	1.000	75	1.216
21	1.004	80	1.236
22	1.008	85	1.255
23	1.012	90	1.275

Note : The value of correction factors are based on a resistance-temperature co-efficient of 0.00393 per °C at 20 °C

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Table 10 : Correction Factor for Ambient Air Temperature Other than 30°C to be Applied to the Current-Carrying Capacities for Cables in Free Air

Insulation	Ambient Temperature (°C)															
	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85
PVC (70°C)	1.22	1.17	1.12	1.06	1.00	0.94	0.87	0.79	0.71	0.61	0.50	0.35	-	-	-	-
XLPE (90°C)	1.15	1.12	1.08	1.04	1.00	0.96	0.91	0.87	0.82	0.76	0.71	0.65	0.58	0.50	0.41	0.29
PVC (90°C)	-	-	-	1.03	1.00	0.97	0.94	0.91	0.87	0.84	0.80	0.76	0.71	0.61	0.50	0.35

Table 11 : UL 2464 Colour Code for Paired & Multi-Core Cables

Pair						Multi-Core (Method 1)		Multi-Core (Method 2)			
No.	A Wire	B Wire	No.	A Wire	B Wire	No.	Colour	No.	Colour	No.	Colour
1	Black	Red	16	Green	Yellow	1	Black	1	Black	16	Black-red
2	Black	White	17	Green	Brown	2	White	2	White	17	White-red
3	Black	Green	18	Green	Orange	3	Red	3	Red	18	Orange-red
4	Black	Blue	19	White	Blue	4	Green	4	Green	19	Blue-red
5	Black	Yellow	20	White	Yellow	5	Brown	5	Orange	20	Red-green
6	Black	Brown	21	White	Brown	6	Blue	6	Blue		
7	Black	Orange	22	White	Orange	7	Orange	7	White-black		
8	Red	White	23	Blue	Yellow	8	Yellow	8	Red-black		
9	Red	Green	24	Blue	Brown	9	Purple	9	Green-black		
10	Red	Blue	25	Blue	Orange	10	Grey	10	Orange-black		
11	Red	Yellow				11	Pink	11	Blue-black		
12	Red	Brown				12	Tan	12	Black-white		
13	Red	Orange						13	Red-white		
14	Green	White						14	Green-white		
15	Green	Blue						15	Blue-white		

Table 12 : Colour Code for RS 485 Cables

Pair	A Wire	B Wire
1	White-blue stripe	Blue-white stripe
2	White-orange stripe	Orange-white stripe
3	White-green stripe	Green-white stripe
4	White-brown stripe	Brown-white stripe
5	White-grey stripe	Grey-white stripe

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Table 13 : DIN 47100 with Colour Repetition for Multi-Core LiYY, LiYCY Control Cables to DIN VDE 0812

No.	Colour	No.	Colour A	Colour B	No.	Colour A	Colour B	No.	Colour A	Colour B
1	White	11	Grey-pink		28	Yellow-grey		45	White	
2	Brown	12	Red-blue		29	Pink-green		46	Brown	
3	Green	13	White-green		30	Yellow-pink		47	Green	
4	Yellow	14	Brown-green		31	Green-blue		48	Yellow	
5	Grey	15	White-yellow		32	Yellow-blue		49	Grey	
6	Pink	16	Yellow-brown		33	Green-red		50	Pink	
7	Blue	17	White-grey		34	Yellow-red		51	Blue	
8	Red	18	Grey-brown		35	Green-black		52	Red	
9	Black	19	White-pink		36	Yellow-black		53	Black	
10	Violet	20	Pink-brown		37	Grey-blue		54	Violet	
		21	White-blue		38	Pink-blue		55	Grey-pink	
		22	Brown-blue		39	Grey-pink		56	Red-blue	
		23	White-red		40	Pink-red		57	White-green	
		24	Brown-red		41	Grey-black		58	Brown-green	
		25	White-black		42	Pink-black		59	White-yellow	
		26	Brown-black		43	Blue-black		60	Yellow-brown	
		27	Grey-green		44	Red-black		61	White-grey	

Table 14 : DIN 47100 with Colour Repetition for Multi-Pair LiYY-TP, LiYCY-TP Cables to DIN VDE 0812, Pairs Are Repeated After the 22nd Pair, then Repeated After 44 Pairs Again

Pair	A Wire	B Wire	Pair	A Wire	B Wire
1	White	Brown	12	White/red	Brown/red
2	Green	Yellow	13	White/black	Brown/black
3	Grey	Pink	14	Grey/green	Yellow/grey
4	Blue	Red	15	Pink/green	Yellow/pink
5	Black	Violet	16	Green/blue	Yellow/blue
6	Grey/pink	Red/blue	17	Green/red	Yellow/red
7	White/green	Brown/green	18	Green/black	Yellow/black
8	White/yellow	Yellow/brown	19	Grey/blue	Pink/blue
9	White/grey	Grey/brown	20	Grey/red	Pink/red
10	White/pink	Pink/brown	21	Grey/black	Pink/black
11	White/blue	Brown/blue	22	Blue/black	Red/black

Explanation of Colour Code Identification as Follows:

Multi-coloured code identification for core or pair are combined with a basic colour and a colour in form of rings or stripe.

In reference to Table 13, Colour A is the base colour, and Colour B is the secondary colour in the form of rings, printed on top of Colour A. Each ring seperation is 2-3mm. The cores are counted in one direction from the outer layer in.

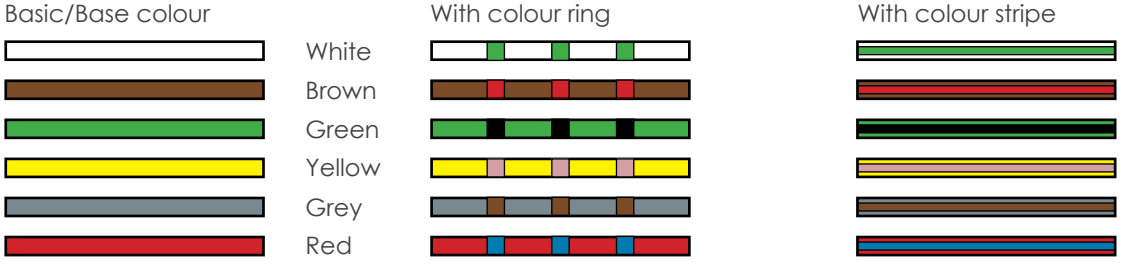

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Table 15 : For LiYY, LiYCY (1 ~ 4-Core) Cables

Cross-sectional Area	No./Diam. of Strand	Maximum Conductor Resistance at 20°C	Capacitance at 800Hz, 20°C	Capatiance at 800 Hz, 20°C		Minimum Insulation Resistance	Voltage Test (1 min)	Current Rating at 30°C
			Between cores	Between pairs	Pair to ground			
(mm^2)	(no./mm)	(Ω/km)	(nF/km)	(nF/km)	(nF/km)	(MΩ·km)	(V)	(A)
0.14	18/0.10	148	80				1200	1.5
0.25	14/0.15	79.9	100					2.5
0.34	7/0.25	58.0	100					4
0.5	16/0.20	39.0	110	120	160	200	2500	7
0.75	24/0.20	26.0	110					12
1	32/0.20	19.5	120					15
1.5	30/0.25	13.3	120					18

Table 16 : UL 1581, Conductor Configuration and D.C. Resistance

Conductor Size	Class (UL)	Configuration		Approx. Diam.	Maximum D.C. Resistance at 20°C	
					Plain	Tinned
(AWG)		(AWG)	(mm)	(mm)	(Ω/km)	(Ω/km)
24	B	7 x 32	7 x 0.203	0.579	87.6	94.2
22	B	7 x 30	7 x 0.254	0.729	55.4	59.4
20	B	7 x 28	7 x 0.320	0.919	34.6	36.7
18	B	7 x 26	7 x 0.404	1.16	21.8	23.2
16	C	19 x 29	19 x 0.287	1.49	13.7	14.9
14	C	19 x 27	19 x 0.361	1.87	8.62	9.32
12	C	19 x 25	19 x 0.450	2.35	5.43	5.88

Table 17 : UL 1581, Single/Solid Wire Diam.

Conductor Size	Nominal Diam.	Minimum Diam.	Conductor Size	Nominal Diam.	Minimum Diam.	Conductor Size	Nominal Diam.	Minimum Diam.
(AWG)	(mm)	(mm)	(AWG)	(mm)	(mm)	(AWG)	(mm)	(mm)
40	0.079	0.077	28	0.320	0.312	16	1.29	1.26
39	0.089	0.087	27	0.361	0.353	15	1.45	1.42
38	0.102	0.100	26	0.404	0.396	14	1.63	1.60
37	0.114	0.112	25	0.455	0.444	13	1.83	1.79
36	0.127	0.125	24	0.511	0.500	12	2.05	2.01
35	0.142	0.139	23	0.574	0.561	11	2.30	2.26
34	0.160	0.157	22	0.643	0.630	10	2.588	2.537
33	0.180	0.177	21	0.724	0.709	9	2.906	2.847
32	0.203	0.199	20	0.813	0.798	8	3.264	3.198
31	0.226	0.222	19	0.912	0.894	7	3.665	3.592
30	0.254	0.249	18	1.020	1.000	6	4.115	4.034
29	0.287	0.282	17	1.150	1.130	5	4.620	4.529

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Table 18 : Minimum Bending Radius

Type of Cable	Description	Voltage	During Installation	Fixed	Occasional Flexing
Fixed Wiring (PVC, XLPE, or Elastomer)	OD ≤25mm	up to 0.6/1kV	6D	4D	-
	OD ≥ 25mm		10D	6D	-
	Multi-core SWA or metal tape (CTS, DSTA)	0.6/1kV	18D	12D	-
	Solid aluminium, stranded, or sector	0.6/1kV	12D	8D	-
	Lead alloy sheathed	-	18D	12D	-
	Polyamide jacketed	-	30Dn	20Dn	-
Flexible Cable (PVC, Elastomer)	Single & multi-core	300/500V & 450/750V	8D	4D	-
	Multi-core		8D	4D	12D
	Twisted pairs		8D	4D	12D
	Multi-core & twisted pairs screened		10D	6D	15D
Signal Flexible Control Cable	Multi-core (LiYY)	250V & 300/500V	8D	6D	15D
	Twisted pairs (LiYY-TP)		8D	6D	15D
	Multi-core (LiYCY)		8D	6D	15D
	Multi-core & twisted pairs (LiYCY-TP)		8D	6D	15D
Instrument Cable	Overall or individual & overall, Unarmoured	500V	10D	6D	-
	Overall or individual & overall, Armoured		10D	8D	-
Thermocouple Cable	Unarmoured (*Solid conductor)	500V	10D/15D*	6D/12D*	-
	Armoured (*Solid conductor)		12D/20D*	8D/15D*	-
Bus Cable	Unarmoured	300V	10D	8D	-
	Armoured		12D	10D	-
Welding	Elastomer	-	-	6D	-
HDPE Sheath	All type	-	25D	15D	-
Solar Cable	H1Z2Z2-K / 62930 IEC 131	A.C.: 1.0/1.0kV D.C.: 1.5kV	8D	OD<12mm: 4D OD>12mm: 6D	-

Note : D means the Overall Diam. of cable (mm)
Dn means the Diam. over the Polyamide layer (mm)
It is recommended that the lowest temperature for cable installation be higher than its minimum operating temperature by 10°C ~ 20°C

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Table 19 : Wire Gauge Conversion

Size	Cross-sectional Area	Nearest Available	Size	Cross-sectional Area	Nearest Available
(AWG/kcmil)	(mm^2)	(mm^2)	(AWG/kcmil)	(mm^2)	(mm^2)
26	0.128	0.14	250	127	120
24	0.205	0.22	300	152	150
23	0.259	0.25	350	177	185
22	0.324	0.34	400	203	185
20	0.519	0.5	450	228	240
18	0.823	1	500	253	240
16	1.31	1.5	550	279	300
14	2.08	2.5	600	304	300
12	3.31	4	650	329	300
10	5.26	6	700	355	400
8	8.37	10	750	380	400
6	13.3	16	800	405	400
4	21.1	25	900	456	400
2	33.6	35	1000	507	500
1	42.4	50	1250	633	630
1/0	53.5	70	1300	659	630
2/0	67.4	70	1500	760	800
3/0	85.0	95	1750	887	800 or 1000
4/0	107	120	2000	1013	1000

Note : AWG - American Wire Gauge
kcmil is an abbreviation for thousands of circular mills, an old measurement of wire gauge
1 kcmil = 0.5067 mm^2

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