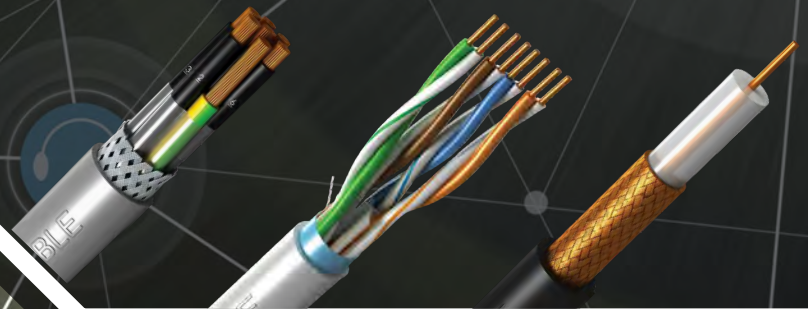


DELIVERING ENERGY >>

Smart City Cables



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 continuously invest in our cable machinery, growing our expertise as a cable specialist and creating a greener tomorrow.

CERTIFICATIONS



ISO 9001:2008



ISO 14001:2004



OHSAS 45001:2018



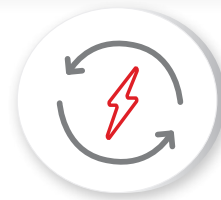
Keystone Cable Business Solutions



INDUSTRIAL



COMMUNICATION



SUSTAINABLE
ENERGY

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 in other industries, please visit our website: www.keystone-cable.com

OTHER INDUSTRIES



Building

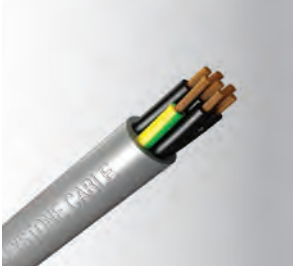


Infrastructure



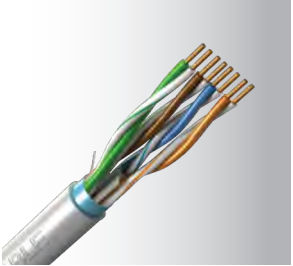
Transmission &
Distribution

Cable Properties



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.



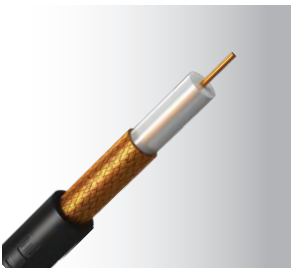
Local Area Network (LAN) Cables

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.



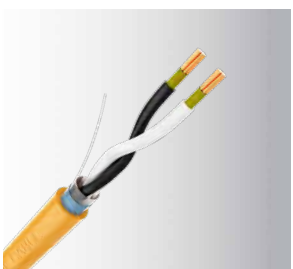
Coaxial Cables

Coaxial Cables enable distortion-free and low-attenuation transmission of signals across broad bandwidth and frequencies, making them essential in commercial 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.

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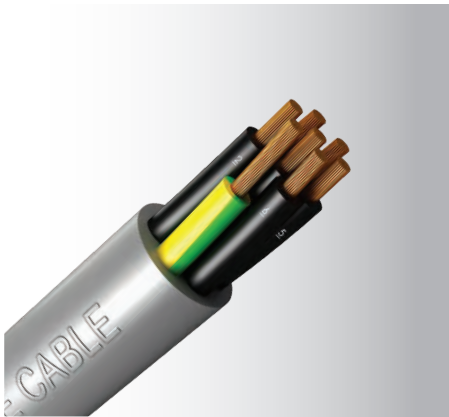
Flexible Control Cables

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

Flexible Control Cables

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	Insulation	S05VV-F	S05VV5-F	Approx. Overall Diam.	Approx. Weight
	Nominal Area (mm ²)	Thickness (mm)	Part No.	Part No.		
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)

Flexible Control Cables



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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	Insulation	S05VV-F	S05VV5-F	Approx. Overall Diam. (mm)	Approx. Weight (kg/km)
	Nominal Area	Thickness	Part No.	Part No.		
	(mm ²)	(mm)				
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
Please refer to Table 3 (Page 43)
For Rating Factors, please refer to Table 7 (Page 45)

Flexible Control Cables



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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	Insulation	S05VV-F	S05VV5-F	Approx. Overall Diam. (mm)	Approx. Weight (kg/km)
	Nominal Area	Thickness	Part No.	Part No.		
	mm ²	(mm)				
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)
For Rating Factors, please refer to Table 7 (Page 45)

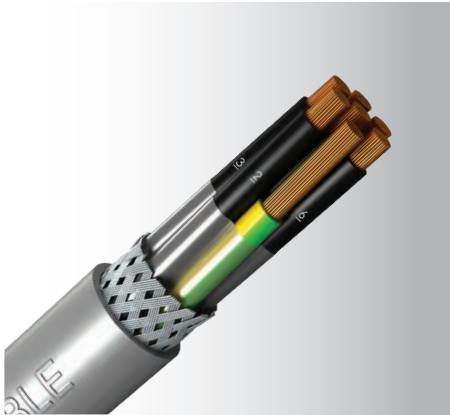
Flexible Control Cables

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	Insulation	S05VC4V-K	S05VC4V5-K	Approx. Overall Diam.	Approx. Weight
	Nominal Area (mm ²)	Thickness (mm)	Part No.	Part No.		
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)

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

Flexible Control Cables



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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	Insulation	S05VC4V-K	S05VC4V5-K	Approx. Overall Diam. (mm)	Approx. Weight (kg/km)
	Nominal Area	Thickness	Part No.	Part No.		
	(mm ²)	(mm)				
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
Please refer to Table 3 (Page 43)
For Rating Factors, please refer to Table 7 (Page 45)

Flexible Cables

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



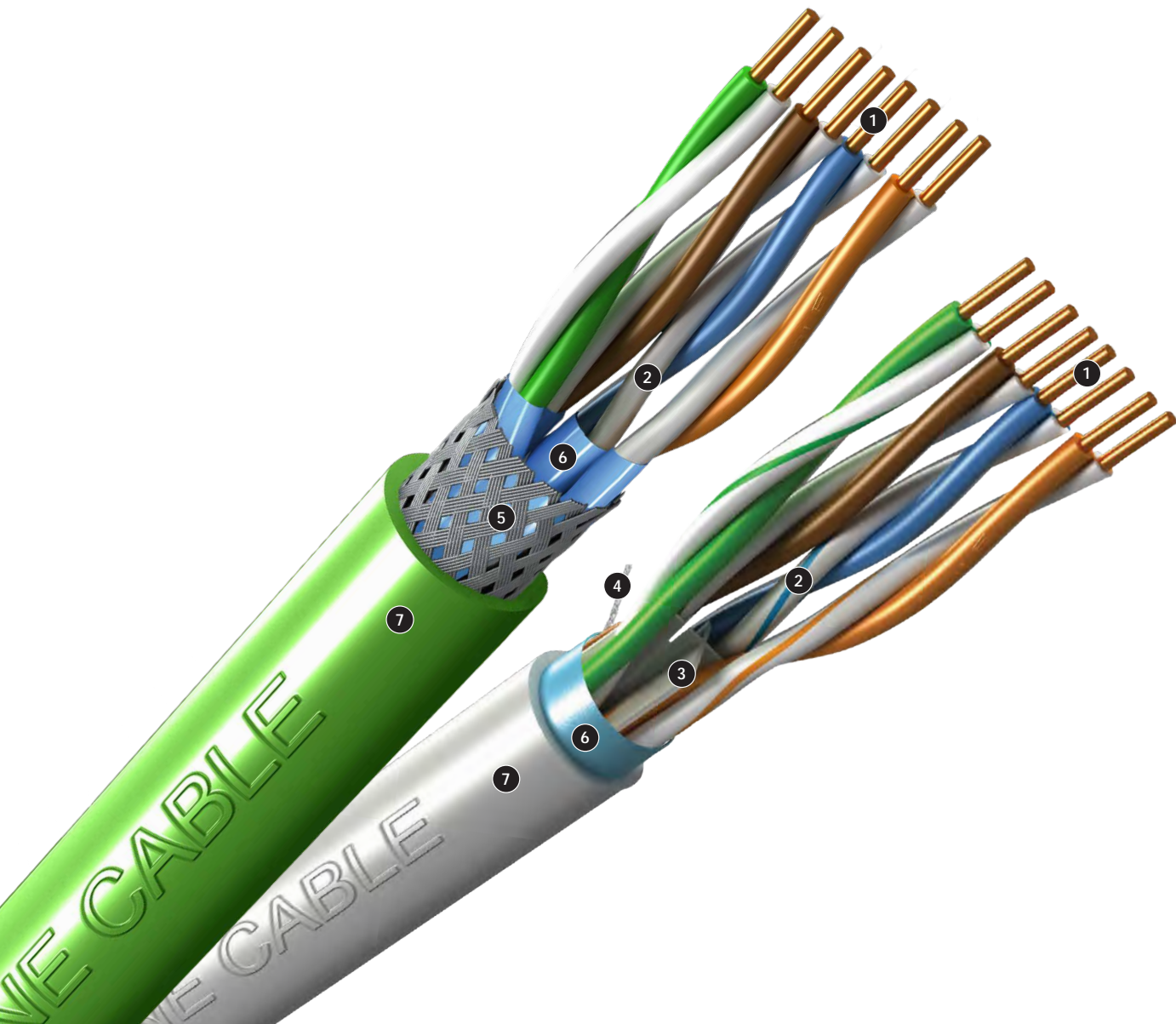
Application :	This cable is used for the internal wiring of electric motors and transformers. It is suitable for laying in pipes, surface wiring, and conduit installations. The LSZH version is generally used in public areas where smoke and toxic fumes may cause a threat to safety and equipment.
Voltage 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	Approx. Overall Diam.	Approx. Weight	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.			
(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	Approx. Overall Diam.	Approx. Weight	Current Rating at 30°C (Method 3) 3 or 4 cables 3-phase a.c.
Nominal Area	Approx. Diam.	Thickness	Part No.	Part No.			
(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)



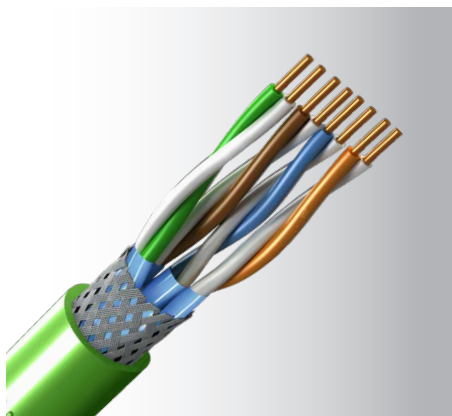
LAN Cables

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



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

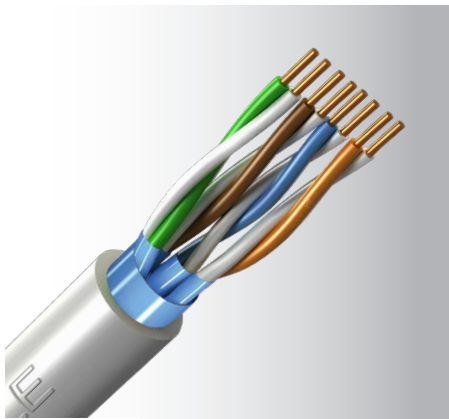
Conductor Resistance	≤ 9.5Ω/100m
Resistance Unbalance	≤ 4% (between pairs)
Mutual Capacitance	≤ 5.6nF/100m
Capacitance Unbalance	≤ 160pF/100m
Characteristics Impedance	100 ± 15Ω

Electrical Data at 20°C

Frequency (MHz)	ATTENUATION Max. (dB/100m)	NEXT Min. (dB)	PSNEXT Min. (dB)	ELFEXT Min. (dB/100m)	PSELFEXT Min. (dB/100m)	RL Min. (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



Application :	<ul style="list-style-type: none"> 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 :	<ul style="list-style-type: none"> 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.	Standard Length	Approx. Weight	Packaging
			(mm)	(m)	(kg/305m)	
444P***6A	Solid Bare Copper (23 AWG)	4	7.6	500	28	Plywood Drum

Electrical Properties at 20°C

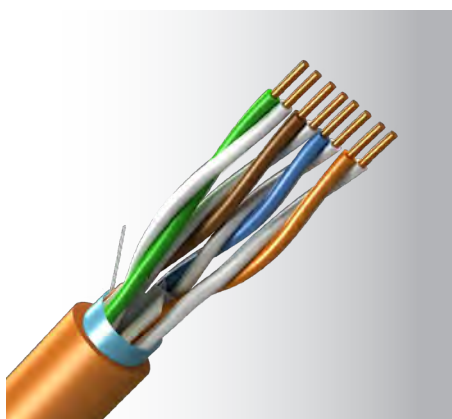
Conductor Resistance	≤ 9.38Ω/100m
Resistance Unbalance	≤ 4%
Mutual Capacitance	≤ 5.6nF/100m
Capacitance Unbalance	≤ 330pF/100m
Characteristics Impedance	100 ± 15Ω

Electrical Data at 20°C

Frequency	ATTENUATION Max.	NEXT Min.	PSNEXT Min.	ELFEXT Min.	PSELFEXT Min.	RL Min.
(MHz)	(dB/100m)	(dB)	(dB)	(dB/100m)	(dB/100m)	(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



Application :	<ul style="list-style-type: none"> 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 :	<ul style="list-style-type: none"> 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.	Standard Length	Approx. Weight	Packaging
			(mm)	(m)	(kg/500m)	
444P***6A	Solid Bare Copper (23 AWG)	4	7.2	500	27.5	Plywood Drum

Electrical Properties at 20°C

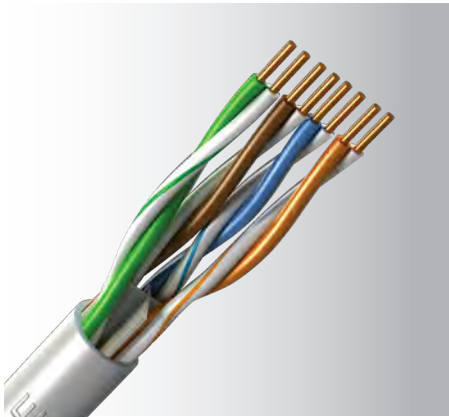
Conductor Resistance	≤ 9.38Ω/100m
Resistance Unbalance	≤ 4%
Mutual Capacitance	≤ 5.6nF/100m
Capacitance Unbalance	≤ 330pF/100m
Characteristics Impedance	100 ± 15Ω

Electrical Data at 20°C

Frequency	ATTENUATION Max.	NEXT Min.	PSNEXT Min.	ELFEXT Min.	PSELFEXT Min.	RL Min.
(MHz)	(dB/100m)	(dB)	(dB)	(dB/100m)	(dB/100m)	(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



Application :	<ul style="list-style-type: none"> 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 :	<ul style="list-style-type: none"> 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

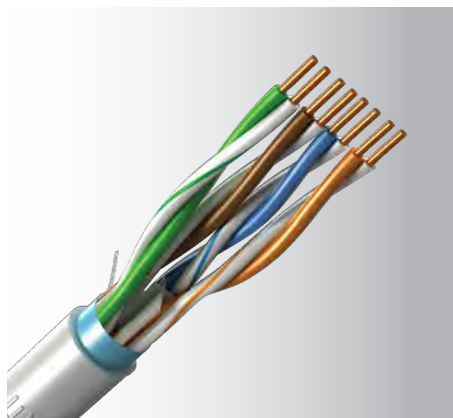
Conductor Resistance	≤ 9.38Ω/100m
Resistance Unbalance	≤ 5%
Mutual Capacitance	≤ 5.6nF/100m
Capacitance Unbalance	≤ 330pF/100m
Characteristics Impedance	100 ± 15Ω

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



Application :	<ul style="list-style-type: none"> 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, aluminium/polyester tape with drain wire, RoHS compliant PVC, LSZH, or HDPE sheathed cable
Insulation colour :	<ul style="list-style-type: none"> 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	7.5	305	16	Reel in Box

Electrical Properties at 20°C

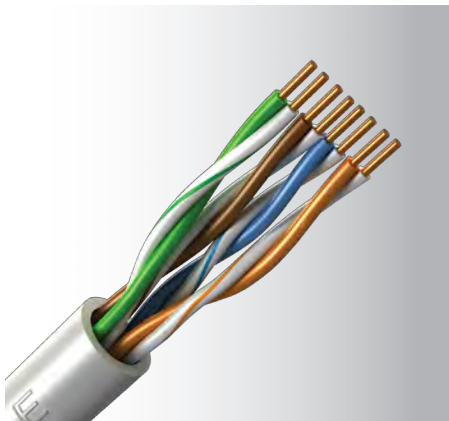
Conductor Resistance	≤ 9.38Ω/100m
Resistance Unbalance	≤ 5%
Mutual Capacitance	≤ 5.6nF/100m
Capacitance Unbalance	≤ 330pF/100m
Characteristics Impedance	100 ± 15Ω

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	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



Application :	<ul style="list-style-type: none"> 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 :	<ul style="list-style-type: none"> 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

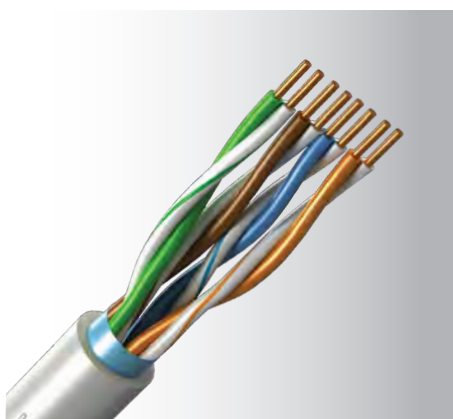
Conductor Resistance	≤ 9.38Ω/100m
Resistance Unbalance	≤ 5%
Mutual Capacitance	≤ 5.6nF/100m
Capacitance Unbalance	≤ 330pF/100m
Characteristics Impedance	100 ± 15Ω

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



Application :	<ul style="list-style-type: none"> 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 :	<ul style="list-style-type: none"> 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	6.4	305	13	Reel in Box

Electrical Properties at 20°C

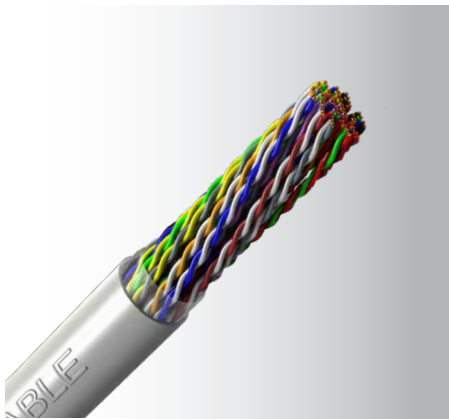
Conductor Resistance	≤ 9.38Ω/100m
Resistance Unbalance	≤ 5%
Mutual Capacitance	≤ 5.6nF/100m
Capacitance Unbalance	≤ 330pF/100m
Characteristics Impedance	100 ± 15Ω

Electrical Data at 20°C

Frequency	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 25 Pair
Model Code: U/UTP



Application :	<ul style="list-style-type: none"> 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

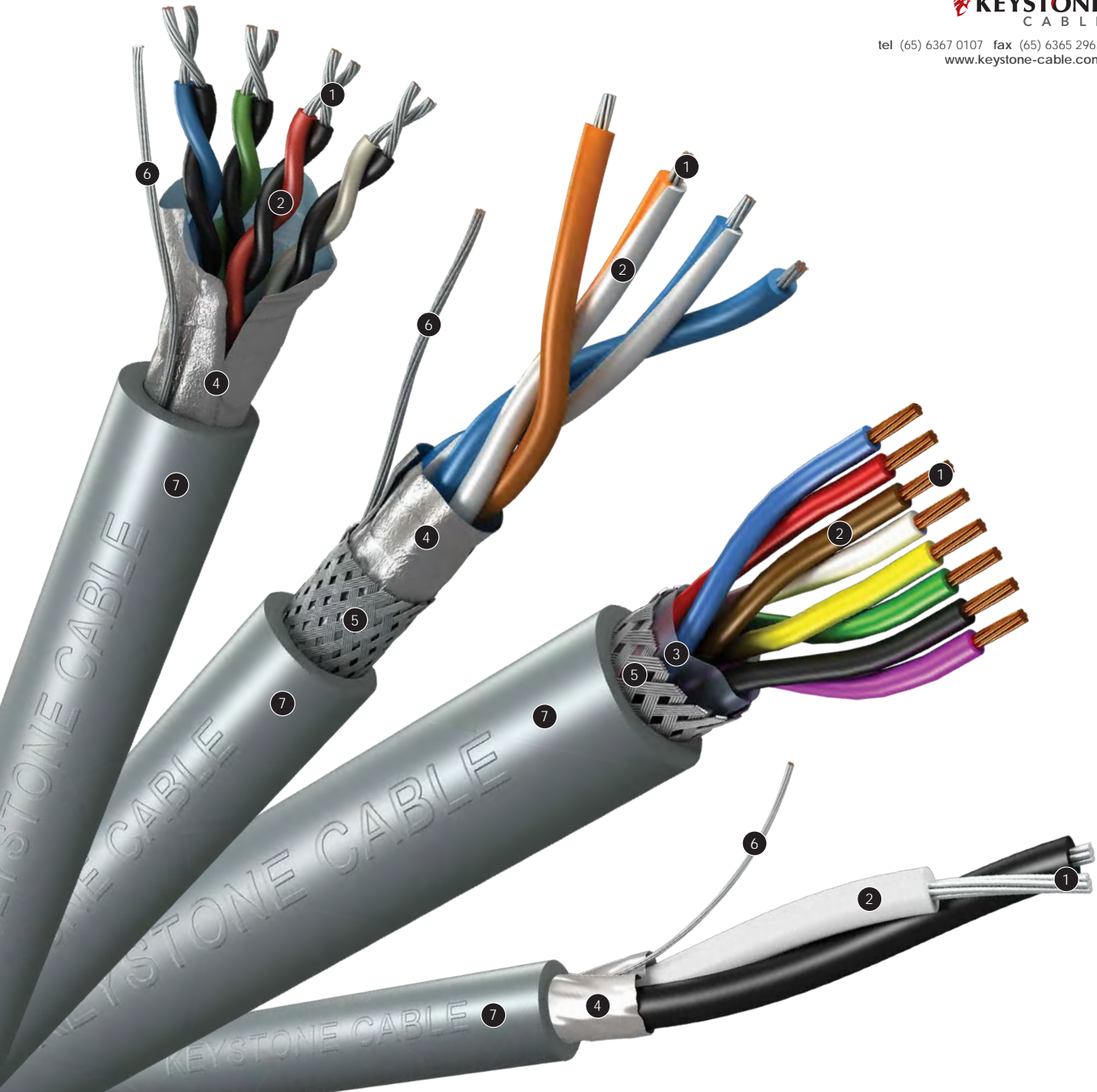
Part No.	Conductor	Pair	Approx. Overall Diam.	Standard Length	Approx. Weight	Packaging
			(mm)	(m)	(kg/km)	
43PE***5E	Solid Bare Copper (24 AWG)	25	13.3	1000	193	Wooden Reel

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	ATTENUATION Max.	NEXT Min.	ACR Min.	PSNEXT Min.	ELFEXT Min.	PSELFEXT Min.	RL Min.	DELAY Max.	SKEW Max.
(MHz)	(dB/100m)	(dB)	(dB)	(dB)	(dB/100m)	(dB/100m)	(dB)	(ns/100m)	(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		



Signal Cables

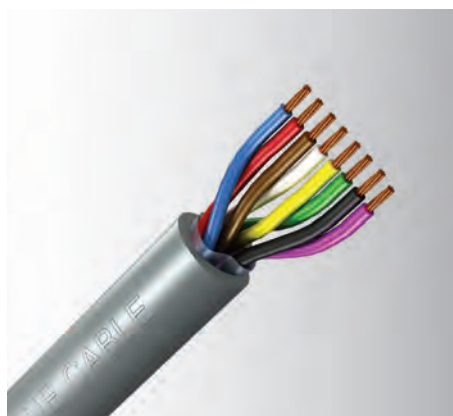
1	Conductor	Plain or Tinned Annealed Copper Wire
2	Insulation	PVC or PE
3	Binder Tape	Polyester Tape
4	Overall Screen	Aluminium/Polyester Tape
5	Braided Screen	Tinned Copper Wire
6	Drain Wire	Tinned Copper Wire
7	Oversheath	PVC

Signal Cables

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 ~ 0.25mm ²); 300/500V (0.34 ~ 0.5mm ²)
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 Thickness (mm)	Part No.	Approx. Overall Diam. (mm)	Approx. Weight (kg/km)
	Nominal Area (mm ²)	No./Diam. of Strand (no./mm)				
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)

Signal Cables

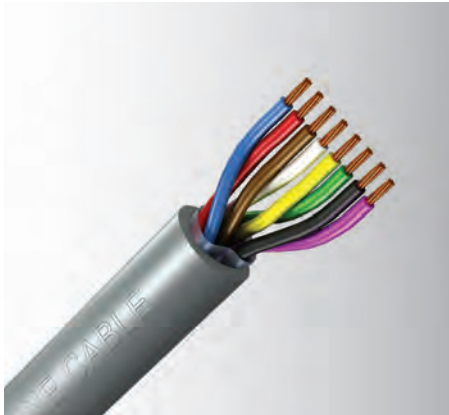
250V or 300/500V Multi-Core
PVC Insulated, PVC Sheathed Flexible Cable
Description: CU/PVC/PVC
Model Code: LIYY

No. of Core	Conductor		Insulation	Part No.	Approx. Overall Diam. (mm)	Approx. Weight (kg/km)
	Nominal Area (mm ²)	No./Diam. of Strand (no./mm)	Thickness (mm)			
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
Please refer to Table 15 (Page 49)
For Rating Factors, please refer to Table 7 (Page 45)

Signal Cables

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 ~ 0.25mm ²); 300/500V (0.34 ~ 0.5mm ²)
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 Thickness (mm)	Part No.	Approx. Overall Diam. (mm)	Approx. Weight (kg/km)			
	Nominal Area (mm ²)	No./Diam. of Strand (no./mm)							
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
Please refer to Table 15 (Page 49)
For Rating Factors, please refer to Table 7 (Page 45)

Signal Cables

250V or 300/500V Multi-Pair
PVC Insulated, PVC Sheathed Flexible Cable
Description: CU/PVC/PVC
Model Code: LIYY-TP

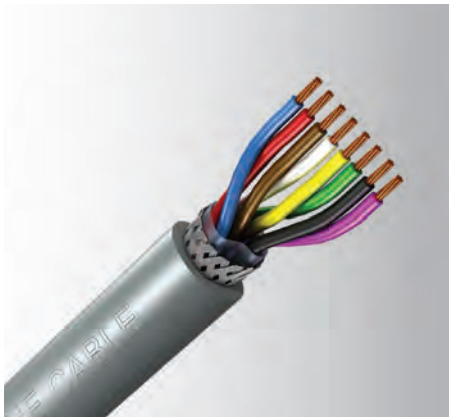
No. of Pair	Conductor		Insulation	Part No.	Approx. Overall Diam. (mm)	Approx. Weight (kg/km)			
	Nominal Area (mm ²)	No./Diam. of Strand (no./mm)	Thickness (mm)						
2	0.34	7/0.25	0.4	022P3864	6.6	40			
3				023P3864	7.0	53			
4				024P3864	7.8	66			
5				025P3864	8.7	79			
6				026P3864	9.6	98			
8				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

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

Signal Cables

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 ~ 0.25mm ²); 300/500V (0.34 ~ 0.5mm ²)
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. (mm)	Approx. Weight (kg/km)
	Nominal Area (mm ²)	No./Diam. of Strand (no./mm)	Thickness (mm)			
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
Please refer to Table 15 (Page 49)
For Rating Factors, please refer to Table 7 (Page 45)

Signal Cables

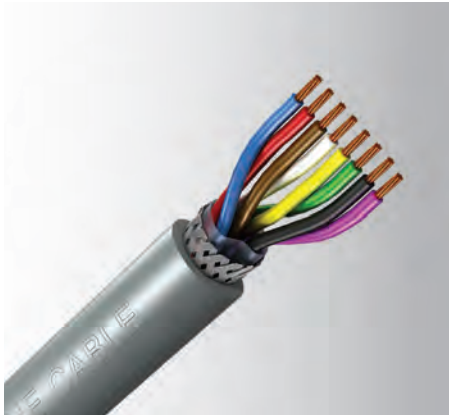
250V or 300/500V Multi-Core
PVC Insulated, Braided Screen, PVC Sheathed Flexible Cable
Description: CU/PVC/TCWB/PVC
Model Code: LIYCY

No. of Core	Conductor		Insulation	Part No.	Approx. Overall Diam. (mm)	Approx. Weight (kg/km)
	Nominal Area (mm ²)	No./Diam. of Strand (no./mm)	Thickness (mm)			
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
Please refer to Table 15 (Page 49)
For Rating Factors, please refer to Table 7 (Page 45)

Signal Cables

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. (mm)	Approx. Weight (kg/km)
	Nominal Area (mm ²)	No./Diam. of Strand (no./mm)	Thickness (mm)			
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
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
Please refer to Table 15 (Page 49)
For Rating Factors, please refer to Table 7 (Page 45)

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. (mm)	Approx. Weight (kg/km)			
	Nominal Area	No./Diam. of Strand	Thickness						
	(mm ²)	(no./mm)	(mm)						
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
Please refer to Table 15 (Page 49)
For Rating Factors, please refer to Table 7 (Page 45)

Signal Cables

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)										
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										

Signal Cables



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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)					
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	

Signal Cables

300V Single-Pair, UL 2092
PE Insulated, Overall Foil Screen, PVC Sheathed Cable
Description: TC/PE/OS/PVC

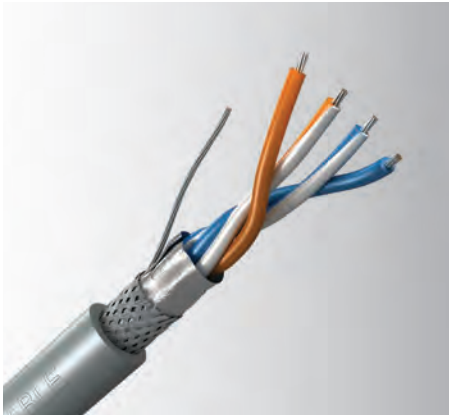


Application :	For internal or external interconnection of electronic equipment.
Voltage rating :	300V
Construction :	Tinned annealed copper, PE insulated, twisted pair, aluminium/polyester tape with tinned copper drain wire, PVC sheathed cable
Insulation colour :	Clear, Black
Sheath colour :	Grey
Specification :	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. (mm)	Approx. Weight (kg/km)	Conductor Resistance at 20°C (Ω/km)	Mutual Capacitance (pF/m)
	Size	No./Diam. of Strand	Thickness						
	(AWG)	(no./mm)	(mm)						
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

Signal Cables

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

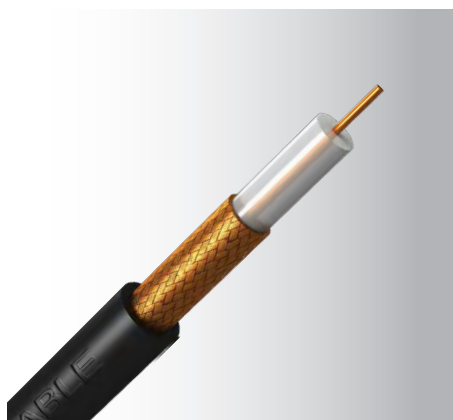
No. of Pair	Conductor	Insulation		Method of Double Overall Screen	Part No.	Approx. Overall Diam. (mm)	Approx. Weight (kg/km)
	Size (AWG)	Material	Approx. Diam. (mm)				
1	24	PE	1.7	Al/PET tape + Tinned Copper Braid (coverage 90%)	431P1008	5.9	54
2					432P1008	8.7	81
3					433P1008	9.2	93
4					434P1008	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 Polyethylene (PE)
3	Screen-1	Bonded Aluminium/Polyester Tape
4	Screen-2	Aluminium Wire or Bare Copper Wire Braid
5	Oversheath	PVC

Model Code: RG 59/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. 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)						
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 (MHz)	ATTENUATION (dB/100m)	Frequency (MHz)	ATTENUATION (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

Coaxial Cables

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. (mm)	Method of Screen		Approx. Overall Diam. (mm)	Approx. Weight (kg/km)	Maximum Pulling Tension (N)	Minimum Bending Radius (mm)
	Size	No./Diam. of Strand		Inner Screen	Outer Screen				
	(AWG)	(no./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 (MHz)	ATTENUATION (dB/100m)	Frequency (MHz)	ATTENUATION (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



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 (MHz)	ATTENUATION (dB/100m)	Frequency (MHz)	ATTENUATION (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



Solar Cables

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

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_0/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

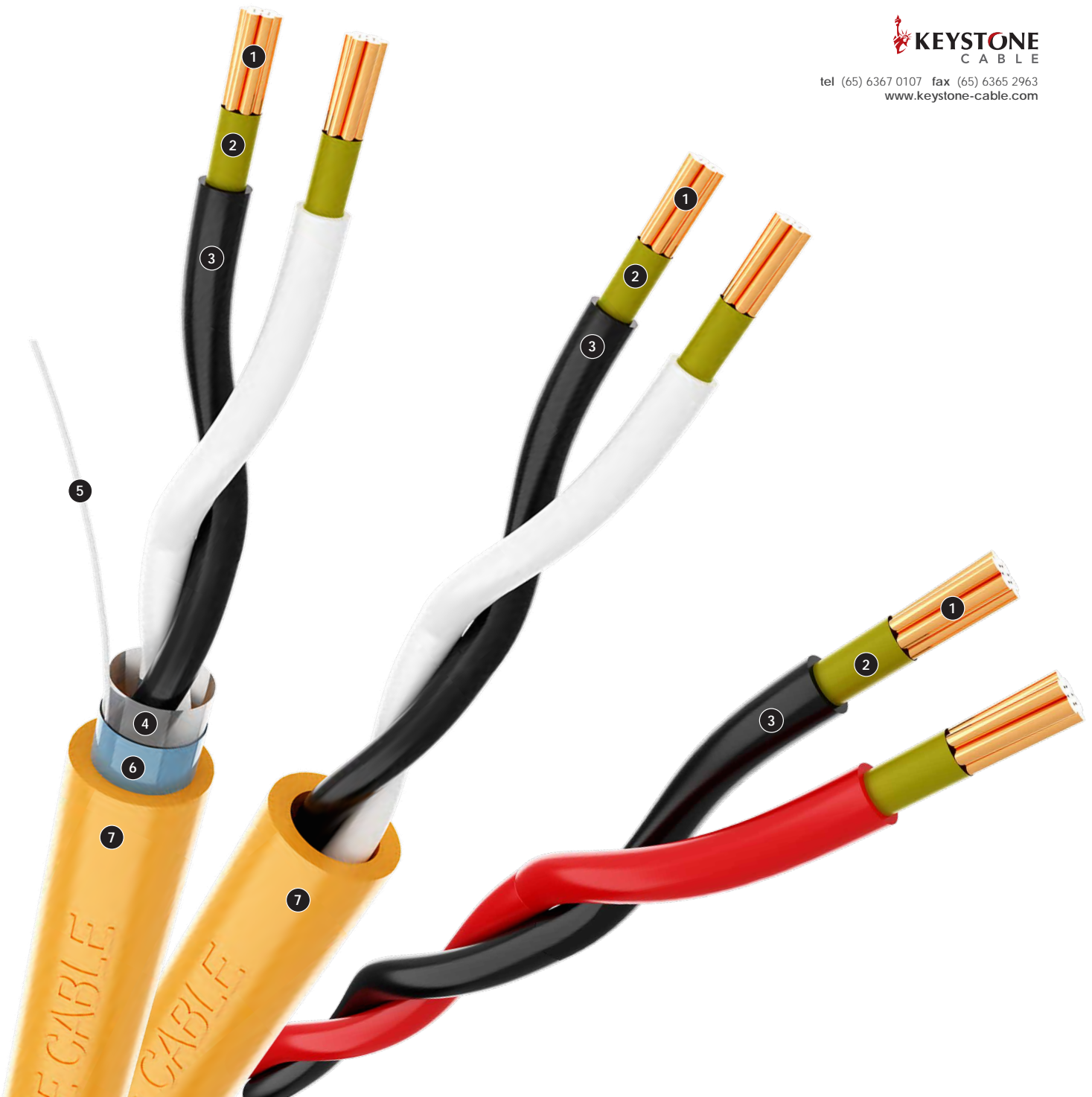
Conductor		Insulation	Sheath	Part No.	Approx. Overall Diam.	Approx. Weight	Minimum Insulation		Maximum Conductor Resistance D.C. at 20°C	Short-Circuit Current (1 Second)
Nominal Area	Approx. Diam.	Thickness	Thickness				at 20°C	at 90°C		
(mm ²)	(mm)	(mm)	(mm)				(MΩ km)	(MΩ km)		
1.5	1.57	0.7	0.8	0701**88	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)



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

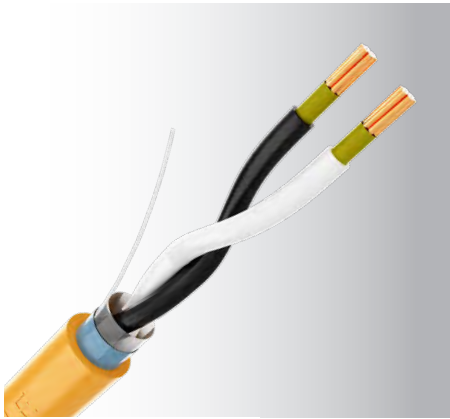
Fire Resistant Fire Alarm Cables

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. (mm)	Approx. Weight (kg/km)
	Nominal Area (mm ²)	No./Diam. of Strand (no./mm)	Thickness (mm)			
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

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

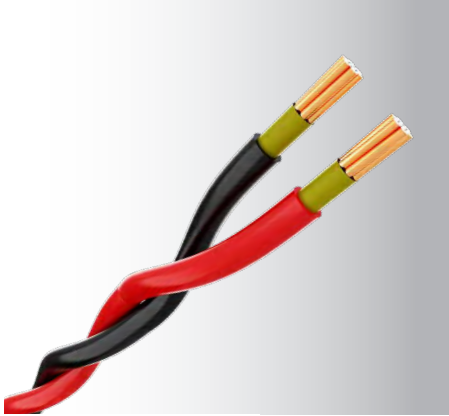


Application :	These cables are used in critical security systems such as smoke detectors, emergency lightings, exit signs, and fire command centres.
Voltage rating :	300/500V
Construction :	Plain annealed copper (IEC 60228 Class 2), mica tape barrier, XLPE insulated, twisted pair, LSZH sheathed cable
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. (mm)	Approx. Weight (kg/km)
	Nominal Area (mm ²)	No./Diam. of Strand (no./mm)	Thickness (mm)			
1P	1.5	7/0.53	0.6	071P4664	8.7	107
1P	2.5	7/0.67	0.7	081P4664	9.2	125

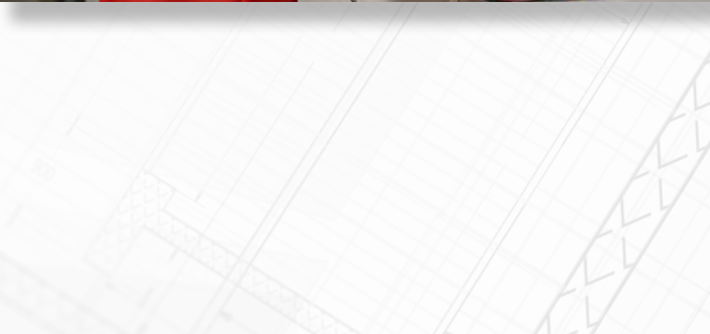
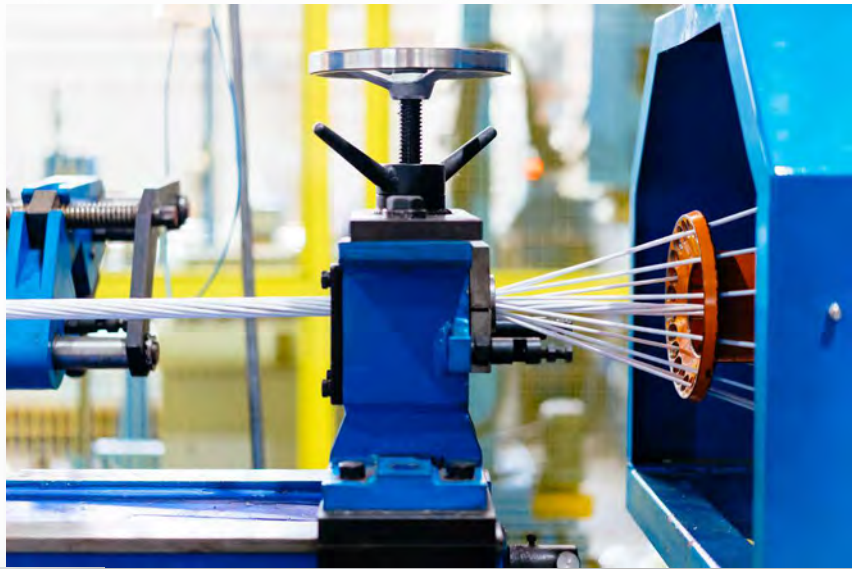
Fire Resistant Fire Alarm Cables

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 (mm ²)	No./Diam. of Strand (no./mm)	Thickness (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



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

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)		
	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	Horizontal flat spaced	Vertical flat spaced	Trefoil
	2	3	4	5	6	7	8	9	10	11	12
mm ²	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			Cables touching			Cables spaced*		
											Trefoil			Flat			Flat		
1	2	3		4		5			6			7			8				
(mm ²)	(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

Current Rating

PVC Insulated Cables
Multi-Core, With or without screen

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)

Current Rating

Solar Cables



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

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
Ambient Temperature : 60°C

EN 50618
IEC 62930

Conductor Cross-sectional Area mm ²	Current-Carrying Capacity		
	Single Cable		Two Loaded Cables
	Free in air	On a surface	Touching, on a surface
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

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 continuous 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 4mm², 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 $I_{21c} = I_{22c} \times C_{gN}$ where:

I_{21c} is the current-carrying capacity for the multi-core cable after applying the correction factor for the total number of current-carrying cores.

I_{22c} is the tabulated 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 $0.3 \times I_{22c} \times C_{gN}$, the current-carrying capacity can be obtained by using the correction factor corresponding to (N-M) cores.

The 'not greater than $0.3 \times I_{22c} \times C_{gN}$ ' 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_{21c} should be greater than or equal to I_n or I_b as appropriate, divided by the relevant correction factor(s) C, that is $I_{21c} \geq I_n / C$ or I_b / C

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

IEC 60228
BS EN 60288

Nominal Cross-sectional Area (mm ²)	Maximum Conductor Resistance D.C. at 20 °C					
	Class 1		Class 2		Class 5	
	Plain	Tinned	Plain	Tinned	Plain	Tinned
	(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

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

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 separation is 2-3mm. The cores are counted in one direction from the outer layer in.

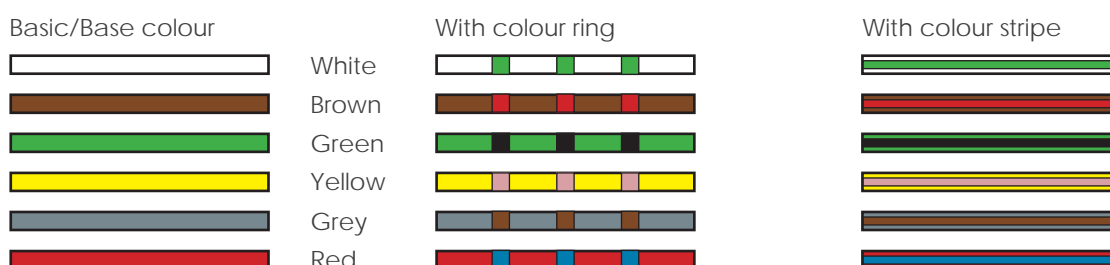


Table 15 : For LIYY, LIYCY (1 ~ 4-Core) Cables

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	120	160	200	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				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	
		(AWG)	(mm)		(mm)	Plain (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

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

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 mm²



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