



Oil & Gas Cables



Industrial



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.





Keystone Cable **Business Solutions**

INDUSTRIES



Industrial



Building



Infrastructure



Transmission
& Distribution



Communication



Sustainable Energy

This catalogue showcases our range of cables used in the Oil & Gas industries. 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



Instrumentation Cables

Instrumentation Cables are used in data processing and process control for electrical instruments and control equipment in industrial processing plants. The screen protects the screened pairs against electromagnetic radiation from electrical equipment, lightning strikes, surrounding power lines, and transformers. Drain wires provide a simple means of connecting all the shields to a common ground.



Thermocouple Extension & Compensating Cables

Thermocouple Extension and Compensating Cables are indispensable for heating management in terms of automation and labor-saving in industries such as steel, chemistry, electric power, industrial waste disposal, semiconductor mono-crystalline refinements, and synthetic resin molding machines. Extension Cable (XC) is marked by using the type code “K”, “E”, or “T” (e.g. KX, EX, TX). Compensating Cables (CC) are marked by “C” and are often supplemented with different alloys (KCA, KCB).



Variable Speed Drive (VSD) Cables

VSD Cables are commonly known as VVVF, VFD, or AFD and have a 3-symmetrical split earth (in short: 3C + 3E). The copper tape overall screen provides better electromagnetic compatibility (EMC) performance than a traditional screened cable, which also makes VSD Cables an optimal choice against radio frequency interference (RFI) and electromagnetic interference (EMI).



Profibus Cables

Profibus Cables are specially made for process automation (PA). The modular peripheral construction (DP: decentralized periphery) of the bus system simplifies installation and maintenance. Profibus Cables connect digital field devices at the sensor/actuator level to higher-level components.

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Products

Variable Speed Drive Cables

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LSZH Flame Retardant Variable Speed Drive Cables

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LSZH Fire Resistant Variable Speed Drive Cables

0.6/1kV 3-Phase Core + 3-Earth Core, Mica Tape, XLPE Insulated, Copper Tape Screen, Unarmoured & Armoured, LSZH Sheathed 59

Profibus Cables

Profibus DP Cables

300V Single-Pair, FPE Insulated, Double Overall Screen, Unarmoured & Armoured, PVC Sheathed 61

300V Single-Pair, FPE Insulated, Double Overall Screen, Unarmoured & Armoured, LSZH Sheathed 62

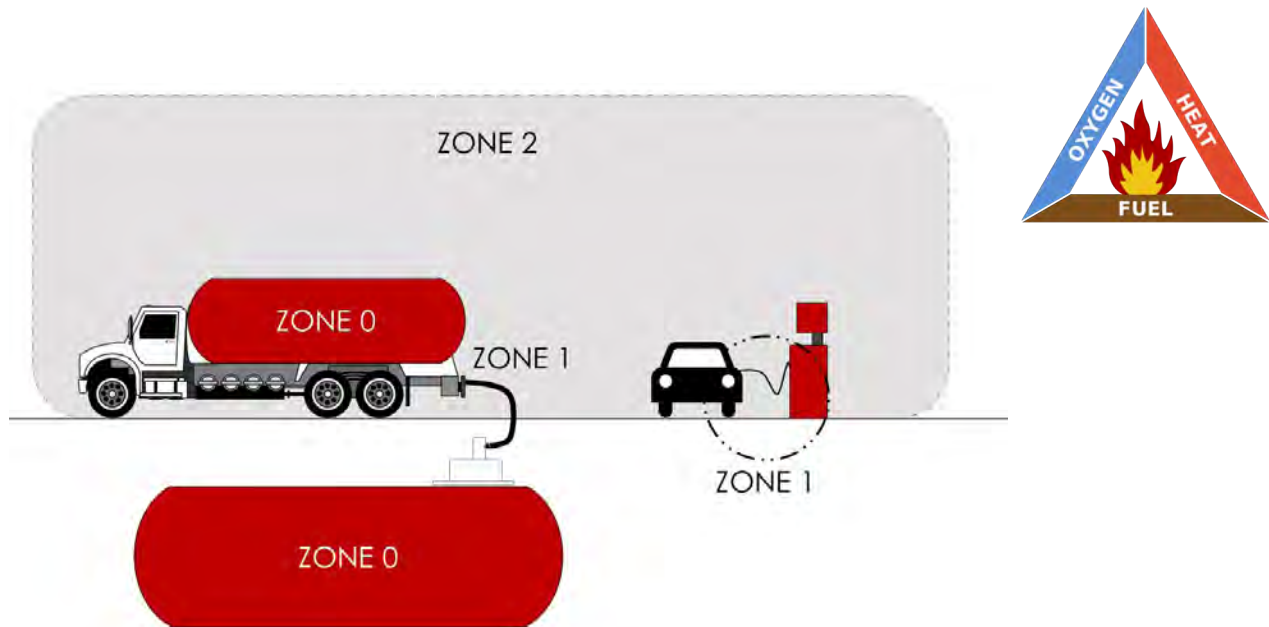
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The **Oil & Gas industry** has a potentially explosive atmosphere which requires products regulated by stringent specifications. A potentially explosive atmosphere is understood to be a mixture of combustible materials (gases, fluids, vapors, and dust) and oxygen.



ZONE	ZONE IEC/CENELEC/ATEX
0	Areas in which a potentially explosive atmosphere is continuously present for long periods.
1	Areas in which a potentially explosive atmosphere occurs occasionally.
2	Areas in which a potentially explosive atmosphere is unlikely to occur, but, if it does, only for short periods of time.

Intrinsic Safety for Every Zone

	INTRINSIC SAFETY
Ex-ia	Highest level of protection, safe for use in Zone 0, Zone 1, and Zone 2
Ex-ib	Adequately safe for use in less frequently hazardous areas (Zone 1 and 2)
Ex-ic	Acceptable for use in infrequently hazardous areas (Zone 1)

Restricted Breathing Test

The "Restricted Breathing Test" tests a 0.5m cable when installed in a sealed enclosure and measures the time interval required for an internal overpressure of at least 30mm water gauge to drop by 15mm water gauge.

Passing Criteria: The time interval required for an overpressure is more than 5 seconds.

Main Cable Specifications

BS EN 60228	IEC 60228
BS EN 50288-1	BS EN 50288-7
IEC 60502-1	BS EN 60584-3
IEC 60584-3	IEC 61158-2

Material Tests

BS EN 50290
IEC 60502-1

Flame Retardant & Fire Resistant Tests

BS EN 60332-1	IEC 60332-1
BS EN 60332-3	IEC 60332-3
BS 6387 CAT. CWZ	IEC 60331
SS 299 CAT. CWZ	

Tests on Acid Gas Evolved

BS EN 60754
IEC 60754

Smoke Density Tests

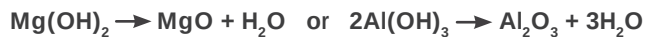
BS EN 61034
IEC 61034

Flame Propagation Tests (IEC 60332, BS EN 60332)

Tests on Electric Cables under Fire Conditions

Part 1 : Tests on a single vertical insulated wire or cable
Part 3 : Tests on bunched wires and cables under fire condition

Flame retardant cables prevent flame propagation during a fire emergency. Our cable's protective material includes additives such as aluminium hydroxide or magnesium hydroxide. When the protective materials comes into contact with fire, the by-product from the endothermic reaction is gaseous water which will help envelop the flame, and thereby exclude oxygen from the fire.



In this reaction, the decomposition products are non-toxic and the mineral phases MgO and Al₂O₃ are alkaline, reducing the likelihood of acidic, corrosive gases exiting the plastic. This ensures higher levels of safety.

This test is also conducted on both a single cable as well as bunched vertical cables. This is because flame propagation along a vertical bunch of cables depends on other factors such as the volume of combustible material exposed and cables' geometrical configuration, which differ across single and bunched cables.

The IEC 60332-3 specifies methods for assessing flame retardance of bunched cables comprising of varying densities of combustible material.

IEC 60332-3	Total volume of non-metallic material in the bunched cables on a vertical ladder	Duration exposed to flame
	(litres)	(mins)
IEC 60332-3-22 (Cat. A)	7	40
IEC 60332-3-23 (Cat. B)	3.5	40
IEC 60332-3-24 (Cat. C)	1.5	20

Passing criteria: After the burning has ceased, the charred portion should not exceed a height of 2.5 meters.

Acid Gas Emission Tests (IEC 60754, BS EN 60754)

Test on Gases Evolved During Combustion of Materials from Cables

When fire comes into contact with polyvinyl chloride (PVC) or chlorine-containing material, hydrogen chloride gas (HCl) is released. The HCl gas could cause irritation to the eyes, mouth, throat, nose, and lungs. At Keystone Cable, all our fire resistant and flame retardant cables use Low Smoke Zero Halogen (LSZH) compounds to prevent the formation of HCl gases from the burning of cables.

The standards determine the degree of acidity of gases evolved during the combustion of cable materials by measuring pH and conductivity.

Passing Criteria: The weighted pH value is not less than 4.3 when related to 1 litre of water, and the weighted value of conductivity is not more than 10µS/mm when related to 1 litre of water.

Smoke Emission Tests (IEC 61034, BS EN 61034)

Measurement of Smoke Density of Electric Cables Burning under Defined Conditions

The "3-meter cube test" measures the amount of smoke generated by cables in the event of a fire. The cables are placed in a 3m³ enclosure. A beam of light is transmitted from one window of the chamber to the opposite window. The cables are subjected to fire in the chamber, and the light transmission is recorded.

Passing Criteria: A minimum light transmission value of 60%.

Fire Resistant Tests (SS 299, BS 6387, IEC 60331)

Specification for Performance Requirements for Cables Required to Maintain Circuit Integrity under Fire Conditions

During fire evacuations, it is important for critical electrical installations including fire alarms, smoke detectors, sprinklers, emergency lightings, and exit lights to function optimally. At Keystone Cable, we conduct these stringent tests by simulating the environment for our fire resistant cables to ensure that they pass the safety requirements and will perform during such emergencies. The protocol letter assigned to the cable reflects the level of testing the cable has gone through and passed.

SS 299:2021, BS 6387:2013 are recognised as the stringent fire resistant test standards for power cables.

Resistance to Fire Alone (SS 299:2021, BS 6387:2013)

Protocol C	Cables are subjected to fire at 950°C for 3 hours
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Resistance to Fire with Water (SS 299:2021, BS 6387:2013)

Protocol W	Cables are subjected to fire at 650°C for 15 minutes, then at 650°C with water spray for another 15 minutes.
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Resistance to Fire with Mechanical Shock (SS 299:2021, BS 6387:2013)

Protocol Z	Cables are subjected to fire at 950°C for 15 minutes with mechanical shock applied every 30s.
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IEC 60331-21 is commonly used as a basic fire resistant test standard.

Resistance to Fire Alone (IEC 60331-21 for common test)

	Cables are subjected to fire at 750°C for 90 minutes
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SS 299:2021 does not specify the essential construction standard and test requirement for small power, instrument, and control cables of less than 0.6/1kV. Based on market's requirement, SS 299-1:1998 will be used for these cables to test circuit integrity accordingly.

Resistance to Fire Alone (SS 299 Part 1:1998)

Category A	Cables are subjected to fire at 650°C for 3 hours
Category B	Cables are subjected to fire at 750°C for 3 hours
Category C	Cables are subjected to fire at 950°C for 3 hours

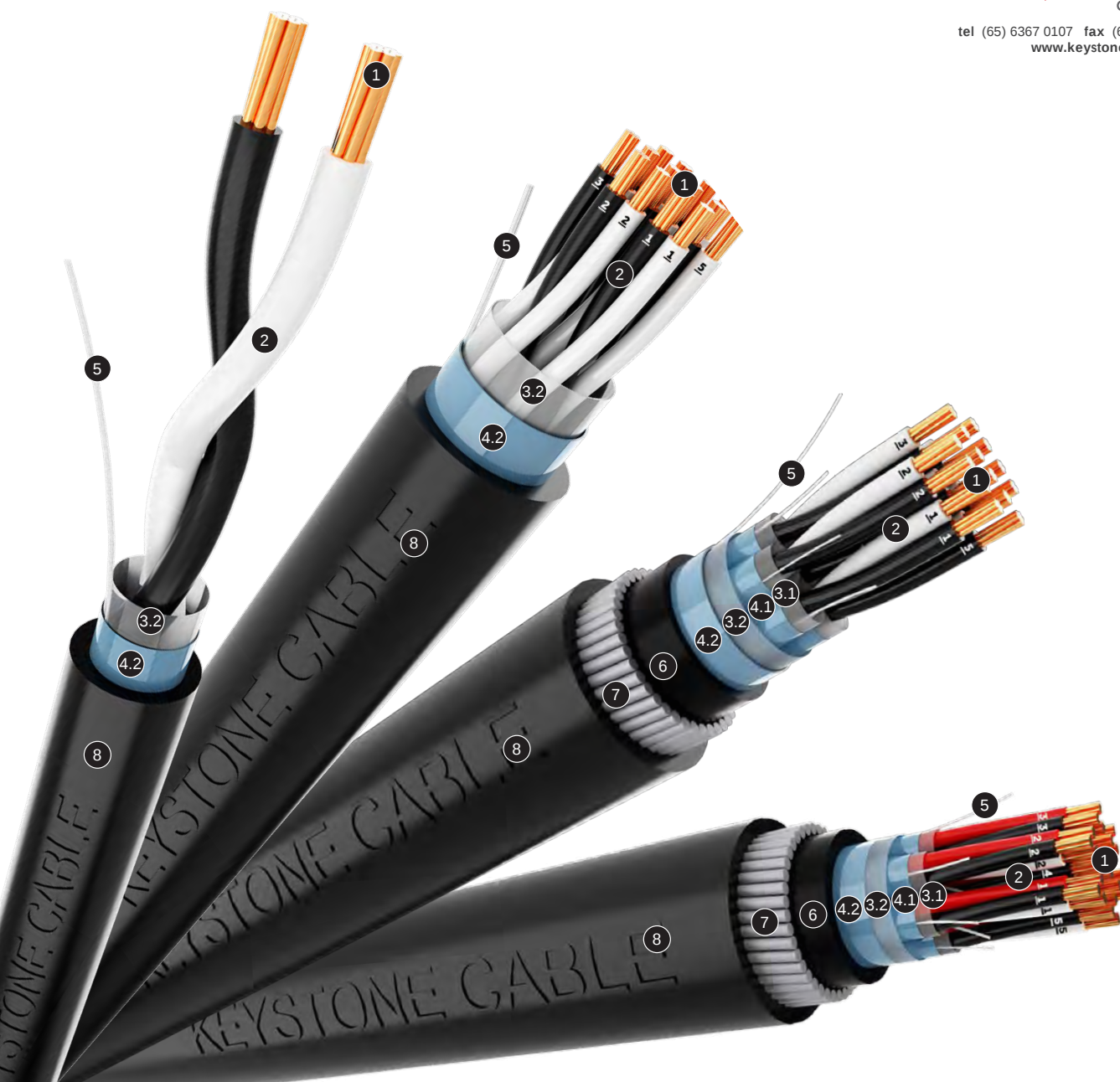
Resistance to Fire with Water (SS 299 Part 1:1998)

Category W	Cables are subjected to fire at 650°C for 15 minutes, then at 650°C with water spray for another 15 minutes.
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Resistance to Fire with Mechanical Shock (SS 299 Part 1:1998)

Category X	Cables are subjected to fire at 650°C for 15 minutes with mechanical shock applied every 30s.
Category Y	Cables are subjected to fire at 750°C for 15 minutes with mechanical shock applied every 30s.
Category Z	Cables are subjected to fire at 950°C for 15 minutes with mechanical shock applied every 30s.

Passing Criteria: No short circuit during the respective testing period.



Instrumentation Cables

1	Conductor	Plain Annealed Copper
2	Insulation	PVC or XLPE
3.1	Binder Tape	Polyester Tape
3.2		
4.1	Individual Screen	Aluminium/Polyester Tape
4.2	Overall Screen	
5	Drain Wire	Tinned Copper Wire
6	Bedding	PVC
7	Armour	Galvanized Steel Wire
8	Oversheath	PVC

Instrumentation Cables

500V Pair(s) or Triad(s)

PVC Insulated, Overall Screen, Unarmoured & Armoured, PVC Sheathed Cable

Description: CU/PVC/OS/PVC-UV or CU/PVC/OS/PVC/SWA/PVC-UV

Model Code: POP-UV or POPSP-UV



Application :	This cable is used in machines, measuring instruments, and control systems for the transmission of analogue and digital signals.
Voltage rating :	500V
Construction :	Plain annealed copper (IEC 60228 Class 2), PVC insulated, twisted pair(s) or triad(s), overall screen (aluminium/polyester tape with tinned copper drain wire), unarmoured or galvanized steel wire armoured, UV resistant PVC sheathed cable
Insulation colour :	Pair(s) : Black, White (or with numbering) Triad(s) : Red, Black, White (or with numbering)
Sheath colour :	Black (other colour upon request) Blue (for intrinsically safe system upon request)
Specification :	BS EN 50288-7, IEC 60332-1-2 IEC 60332-3 (upon request)
Operating temperature :	70°C

No. of Pair(s)/ Triad(s)	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
1P	0.5	7/0.31	0.6	041P3600	7.3	70	041P3601	12.0	280
2P				042P3600	10.1	120	042P3601	15.2	395
4P				044P3600	12.0	170	044P3601	16.9	490
6P				046P3600	14.4	235	046P3601	19.7	620
8P				048P3600	16.1	295	048P3601	21.5	705
10P				040P3600	18.4	360	040P3601	24.4	970
12P				04BP3600	18.9	400	04BP3601	25.2	1050
16P				04FP3600	21.0	490	04FP3601	27.2	1205
20P				04KP3600	23.5	605	04KP3601	29.9	1410
24P				04RP3600	26.2	725	04RP3601	33.2	1815
36P				04P23600	30.1	1000	04P23601	37.4	2255
1T				041T3600	7.4	80	041T3601	12.4	300
2T				042T3600	11.6	150	042T3601	16.7	460
4T				044T3600	13.4	220	044T3601	18.6	575
6T				046T3600	16.0	310	046T3601	21.4	730
10T				040T3600	20.5	485	040T3601	26.8	1180
12T				04BT3600	21.5	550	04BT3601	27.7	1280
16T				04FT3600	23.7	690	04FT3601	29.1	1500
24T				04RT3600	29.6	1025	04RT3601	36.8	2255

Instrumentation Cables



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

500V Pair(s) or Triad(s)

PVC Insulated, Overall Screen, Unarmoured & Armoured, PVC Sheathed Cable

Description: CU/PVC/OS/PVC-UV or CU/PVC/OS/PVC/SWA/PVC-UV

Model Code: POP-UV or POPSP-UV

No. of Pair(s)/ Triad(s)	Conductor		Insulation	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand	Thickness	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm²)	(mm)			(mm)	(mm)		(kg/km)	(mm)
1P	0.75	7/0.37	0.6	051P3600	7.5	75	051P3601	12.6	295
2P				052P3600	11.0	135	052P3601	16.2	430
4P				054P3600	12.8	200	054P3601	17.9	540
6P				056P3600	15.5	280	056P3601	20.7	685
8P				058P3600	17.6	355	058P3601	22.7	810
10P				050P3600	19.6	425	050P3601	25.8	1095
12P				05BP3600	20.4	480	05BP3601	26.4	1165
16P				05FP3600	22.7	605	05FP3601	29.0	1385
20P				05KP3600	25.5	740	05KP3601	32.4	1795
24P				05RP3600	28.4	890	05RP3601	35.5	2080
36P				05P23600	32.6	1245	05P23601	39.8	2595
1T				051T3600	8.0	90	051T3601	12.8	315
2T				052T3600	12.3	175	052T3601	17.4	500
4T				054T3600	14.6	270	054T3601	19.9	655
6T				056T3600	17.3	375	056T3601	22.6	825
10T				050T3600	22.2	595	050T3601	28.7	1350
12T				05BT3600	23.0	670	05BT3601	29.3	1450
16T				05FT3600	25.7	855	05FT3601	32.6	1920
24T				05RT3600	32.0	1265	05RT3601	39.4	2615
1P	1	7/0.43	0.6	061P3600	7.9	85	061P3601	12.7	310
2P				062P3600	11.7	155	062P3601	16.8	470
4P				064P3600	13.6	235	064P3601	18.7	585
6P				066P3600	16.4	330	066P3601	21.6	745
8P				068P3600	18.6	410	068P3601	24.5	1030
10P				060P3600	21.0	505	060P3601	27.0	1200
12P				06BP3600	22.0	575	06BP3601	27.9	1305
16P				06FP3600	24.3	720	06FP3601	30.4	1535
20P				06KP3600	27.2	885	06KP3601	34.2	2010
24P				06RP3600	30.3	1070	06RP3601	37.2	2315
36P				06P23600	34.6	1495	06P23601	42.8	3230
1T				061T3600	8.3	100	061T3601	13.2	335
2T				062T3600	12.9	200	062T3601	18.1	540
4T				064T3600	15.3	305	064T3601	20.6	725
6T				066T3600	18.6	445	066T3601	24.4	1055
10T				060T3600	23.8	700	060T3601	29.9	1510
12T				06BT3600	24.6	795	06BT3601	30.8	1630
16T				06FT3600	27.4	1020	06FT3601	34.5	2165
24T				06RT3600	34.2	1520	06RT3601	42.2	3230

Instrumentation Cables



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500V Pair(s) or Triad(s)

PVC Insulated, Overall Screen, Unarmoured & Armoured, PVC Sheathed Cable

Description: CU/PVC/OS/PVC-UV or CU/PVC/OS/PVC/SWA/PVC-UV

Model Code: POP-UV or POPSP-UV

No. of Pair(s)/ Triad(s)	Conductor		Insulation	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand	Thickness	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
1P	1.5	7/0.53	0.6	071P3600	8.6	100	071P3601	13.7	340
2P				072P3600	12.6	185	072P3601	17.8	525
4P				074P3600	15.1	295	074P3601	20.5	695
6P				076P3600	18.1	420	076P3601	24.1	1025
8P				078P3600	20.2	525	078P3601	26.4	1215
10P				070P3600	23.1	650	070P3601	29.4	1445
12P				07BP3600	23.9	740	07BP3601	30.3	1550
16P				07FP3600	26.6	945	07FP3601	33.9	2055
20P				07KP3600	29.8	1170	07KP3601	37.1	2420
24P				07RP3600	33.4	1410	07RP3601	41.5	3085
36P				07P23600	38.4	2005	07P23601	46.8	3955
1T				071T3600	9.2	125	071T3601	14.2	380
2T				072T3600	14.5	250	072T3601	19.8	640
4T				074T3600	16.8	405	074T3601	22.1	835
6T				076T3600	20.2	570	076T3601	26.4	1255
10T				070T3600	26.1	920	070T3601	33.2	1990
12T				07BT3600	27.0	1050	07BT3601	34.2	2175
16T				07FT3600	30.3	1355	07FT3601	37.4	2605
24T				07RT3600	37.8	2035	07RT3601	46.4	3960
1P	2.5	7/0.67	0.7	081P3600	10.0	135	081P3601	15.1	420
2P				082P3600	15.0	260	082P3601	20.2	660
4P				084P3600	17.8	420	084P3601	24.0	1025
6P				086P3600	21.3	600	086P3601	27.7	1320
8P				088P3600	24.2	770	088P3601	30.6	1585
10P				080P3600	27.6	960	080P3601	34.8	2105
12P				08BP3600	28.6	1095	08BP3601	35.7	2285
16P				08FP3600	32.0	1410	08FP3601	39.4	2745
20P				08KP3600	35.8	1745	08KP3601	44.2	3565
24P				08RP3600	40.1	2115	08RP3601	48.7	4160
36P				08P23600	45.4	3010	08P23601	56.2	5905
1T				081T3600	10.7	175	081T3601	15.9	470
2T				082T3600	16.9	355	082T3601	22.2	800
4T				084T3600	20.0	580	084T3601	26.2	1255
6T				086T3600	24.2	840	086T3601	30.5	1655
10T				080T3600	31.3	1360	080T3601	38.6	2670
12T				08BT3600	32.4	1560	08BT3601	39.7	2915
16T				08FT3600	36.4	2045	08FT3601	44.6	3870
24T				08RT3600	45.5	3045	08RT3601	55.4	5885

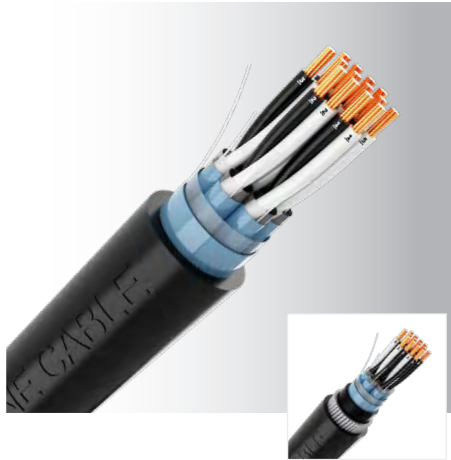
Instrumentation Cables

500V Pairs or Triads

PVC Insulated, Individual & Overall Screen, Unarmoured & Armoured,
PVC Sheathed Cable

Description: CU/PVC/ISOS/PVC-UV or CU/PVC/ISOS/PVC/SWA/PVC-UV

Model Code: PIOP-UV or PIOPSP-UV



Application :	This cable is used in machines, measuring instruments, and control systems for the transmission of analogue and digital signals.
Voltage rating :	500V
Construction :	Plain annealed copper (IEC 60228 Class 2), PVC insulated, twisted pairs or triads, individual and overall screen (aluminium/polyester tape with tinned copper drain wire), unarmoured or galvanized steel wire armoured, UV resistant PVC sheathed cable
Insulation colour :	Pairs : Black, White (with numbering) Triads : Red, Black, White (with numbering)
Sheath colour :	Black (other colour upon request) Blue (for intrinsically safe system upon request)
Specification :	BS EN 50288-7, IEC 60332-1-2 IEC 60332-3 (upon request)
Operating temperature :	70°C

No. of Pairs/Triads	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
2P	0.5	7/0.31	0.6	042P3620	11.8	150	042P3621	16.9	465
4P				044P3620	13.7	220	044P3621	19.0	585
6P				046P3620	16.5	305	046P3621	21.7	735
8P				048P3620	18.7	390	048P3621	24.8	1020
10P				040P3620	21.3	485	040P3621	27.3	1195
12P				048P3620	22.1	545	048P3621	28.3	1290
16P				04FP3620	24.6	685	04FP3621	30.4	1690
20P				04KP3620	27.2	840	04KP3621	34.3	1950
24P				04RP3620	30.3	1000	04RP3621	37.4	2245
36P				04P23620	34.9	1405	04P23621	43.3	3165
2T				042T3620	12.9	185	042T3621	18.2	525
4T				044T3620	15.3	285	044T3621	20.7	685
6T				046T3620	18.4	395	046T3621	24.6	1020
10T				040T3620	23.6	620	040T3621	29.8	1410
12T				04BT3620	24.6	700	04BT3621	31.5	1720
16T				04FT3620	27.4	885	04FT3621	34.3	2020
24T				04RT3620	34.0	1320	04RT3621	42.0	3030

Instrumentation Cables



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500V Pairs or Triads

PVC Insulated, Individual & Overall Screen, Unarmoured & Armoured,
PVC Sheathed Cable

Description: CU/PVC/ISOS/PVC-UV or CU/PVC/ISOS/PVC/SWA/PVC-UV

Model Code: PIOP-UV or PIOPSP-UV

No. of Pairs/Triads	Conductor		Insulation	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand	Thickness	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
2P	0.75	7/0.37	0.6	052P3620	12.5	175	052P3621	17.6	500
4P				054P3620	14.6	260	054P3621	20.0	640
6P				056P3620	17.7	360	056P3621	22.9	815
8P				058P3620	19.9	450	058P3621	25.9	1105
10P				050P3620	22.6	560	050P3621	28.8	1325
12P				058P3620	23.4	625	058P3621	29.5	1420
16P				05FP3620	26.1	795	05FP3621	33.2	1880
20P				05KP3620	29.3	980	05KP3621	36.3	2190
24P				05RP3620	32.4	1180	05RP3621	39.7	2530
36P				05P23620	37.4	1660	05P23621	45.7	3550
2T				052T3620	13.9	220	052T3621	19.3	590
4T				054T3620	16.3	325	054T3621	21.5	745
6T				056T3620	19.6	455	056T3621	25.7	1120
10T				050T3620	25.3	730	050T3621	32.1	1775
12T				05BT3620	26.2	825	05BT3621	33.3	1910
16T				05FT3620	29.3	1055	05FT3621	36.3	2265
24T				05RT3620	36.4	1570	05RT3621	44.7	3400
2P	1	7/0.43	0.6	062P3620	13.1	190	062P3621	18.3	530
4P				064P3620	15.5	295	064P3621	20.8	695
6P				066P3620	18.7	405	066P3621	24.8	1055
8P				068P3620	21.2	520	068P3621	27.2	1135
10P				060P3620	23.9	635	060P3621	30.1	1450
12P				06BP3620	24.9	725	06BP3621	31.7	1760
16P				06FP3620	27.7	920	06FP3621	34.8	2080
20P				06KP3620	31.1	1050	06KP3621	38.4	2460
24P				06RP3620	34.6	1380	06RP3621	42.8	3140
36P				06P23620	39.6	1930	06P23621	48.2	3940
2T				062T3620	14.7	245	062T3621	20.1	635
4T				064T3620	17.1	370	064T3621	23.1	940
6T				066T3620	20.7	534	066T3621	27.0	1235
10T				060T3620	26.7	840	060T3621	33.8	1950
12T				06BT3620	27.9	970	06BT3621	35.0	2140
16T				06FT3620	31.1	1250	06FT3621	38.5	2555
24T				06RT3620	38.8	1855	06RT3621	47.1	3810

Instrumentation Cables

500V Pairs or Triads

PVC Insulated, Individual & Overall Screen, Unarmoured & Armoured,
PVC Sheathed Cable

Description: CU/PVC/ISOS/PVC-UV or CU/PVC/ISOS/PVC/SWA/PVC-UV

Model Code: PIOP-UV or PIOPSP-UV

No. of Pairs/Triads	Conductor		Insulation	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand	Thickness	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
2P	1.5	7/0.53	0.6	072P3620	14.4	235	072P3621	19.8	585
4P				074P3620	17.1	360	074P3621	22.3	800
6P				076P3620	20.6	510	076P3621	26.6	1195
8P				078P3620	23.1	640	078P3621	29.2	1420
10P				070P3620	26.4	800	070P3621	33.4	1905
12P				078P3620	27.4	920	078P3621	34.4	2060
16P				07FP3620	30.6	1175	07FP3621	37.7	2465
20P				07KP3620	34.1	1450	07KP3621	42.5	3185
24P				07RP3620	38.1	1745	07RP3621	46.5	3690
36P				07P23620	43.9	2470	07P23621	53.6	5190
2T				072T3620	16.1	290	072T3621	21.4	715
4T				074T3620	18.9	465	074T3621	25.0	1100
6T				076T3620	22.7	665	076T3621	29.0	1445
10T				070T3620	29.4	1075	070T3621	36.5	2300
12T				07BT3620	30.7	1245	07BT3621	38.0	2530
16T				07FT3620	34.2	1600	07FT3621	42.5	3335
24T				07RT3620	42.6	2385	07RT3621	52.3	5010
2P	2.5	7/0.67	0.7	082P3620	16.9	310	082P3621	22.3	755
4P				084P3620	20.0	495	084P3621	26.1	1165
6P				086P3620	24.1	700	086P3621	30.3	1520
8P				088P3620	27.3	900	088P3621	34.4	2050
10P				080P3620	31.2	1130	080P3621	38.5	2445
12P				08BP3620	32.2	1285	08BP3621	39.5	2640
16P				08FP3620	36.2	1665	08FP3621	44.5	3500
20P				08KP3620	40.4	2060	08KP3621	49.0	4135
24P				08RP3620	45.0	2480	08RP3621	55.0	5285
36P				08P23620	52.3	3560	08P23621	62.4	6820
2T				082T3620	18.7	400	082T3621	25.0	1035
4T				084T3620	22.1	655	084T3621	28.5	1400
6T				086T3620	27.0	955	086T3621	34.2	2085
10T				080T3620	34.8	1545	080T3621	43.3	3320
12T				08BT3620	36.4	1790	08BT3621	44.7	3625
16T				08FT3620	40.6	2305	08FT3621	49.1	4370
24T				08RT3620	50.8	3470	08RT3621	61.0	6640

Instrumentation Cables

500V Pair(s) or Triad(s)

XLPE Insulated, Overall Screen, Unarmoured & Armoured, PVC Sheathed Cable

Description: CU/XLPE/OS/PVC-UV or CU/XLPE/OS/PVC/SWA/PVC-UV

Model Code: XOP-UV or XOPSP-UV



Application :	This cable is used for the transmission of analogue and digital signals in machineries with measurement instruments and control systems.
Voltage rating :	500V
Construction :	Plain annealed copper (IEC 60228 Class 2), XLPE insulated, twisted pair(s) or triad(s), overall screen (aluminium/polyester tape with tinned copper drain wire), unarmoured or galvanized steel wire armoured, UV resistant PVC sheathed cable
Insulation colour :	Pair(s) : Black, White (or with numbering) Triad(s) : Red, Black, White (or with numbering)
Sheath colour :	Black (other colour upon request) Blue (for intrinsically safe system upon request)
Specification :	BS EN 50288-7, IEC 60332-1-2 IEC 60332-3 (upon request)
Operating temperature :	90°C

No. of Pair(s)/ Triad(s)	Conductor		Insulation	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand	Thickness	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
1P	0.5	7/0.31	0.6	041P6750	7.3	70	041P6751	12.0	275
2P				042P6750	10.1	105	042P6751	15.2	385
4P				044P6750	12.0	155	044P6751	16.9	480
6P				046P6750	14.4	215	046P6751	19.7	600
8P				048P6750	16.1	260	048P6751	21.5	685
10P				040P6750	18.4	320	040P6751	24.4	935
12P				04BP6750	18.9	360	04BP6751	25.2	1000
16P				04FP6750	21.0	435	04FP6751	27.2	1150
20P				04KP6750	23.5	535	04KP6751	29.9	1340
24P				04RP6750	26.2	650	04RP6751	33.2	1725
36P				04P26750	30.1	880	04P26751	37.4	2130
1T				041T6750	7.4	75	041T6751	12.4	295
2T				042T6750	11.6	140	042T6751	16.7	450
4T				044T6750	13.4	205	044T6751	18.6	550
6T				046T6750	16.0	285	046T6751	21.4	705
10T				040T6750	20.5	435	040T6751	26.8	1125
12T				04BT6750	21.5	495	04BT6751	27.7	1215
16T				04FT6750	23.7	610	04FT6751	29.1	1600
24T				04RT6750	29.6	905	04RT6751	36.8	2130

Instrumentation Cables



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500V Pair(s) or Triad(s)

XLPE Insulated, Overall Screen, Unarmoured & Armoured, PVC Sheathed Cable

Description: CU/XLPE/OS/PVC-UV or CU/XLPE/OS/PVC/SWA/PVC-UV

Model Code: XOP-UV or XOPSP-UV

No. of Pair(s)/ Triad(s)	Conductor		Insulation	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand	Thickness	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
1P	0.75	7/0.37	0.6	051P6750	7.5	75	051P6751	12.6	295
2P				052P6750	11.0	130	052P6751	16.2	430
4P				054P6750	12.8	180	054P6751	17.9	520
6P				056P6750	15.5	255	056P6751	20.7	660
8P				058P6750	17.6	325	058P6751	22.7	905
10P				050P6750	19.6	390	050P6751	25.8	1050
12P				05BP6750	20.4	435	05BP6751	26.4	1115
16P				05FP6750	22.7	540	05FP6751	29.0	1320
20P				05KP6750	25.5	670	05KP6751	32.4	1525
24P				05RP6750	28.4	805	05RP6751	35.5	1985
36P				05P26750	32.6	1100	05P26751	39.8	2450
1T				051T6750	8.0	85	051T6751	12.8	315
2T				052T6750	12.3	160	052T6751	17.4	490
4T				054T6750	14.6	245	054T6751	19.9	630
6T				056T6750	17.3	340	056T6751	22.6	785
10T				050T6750	22.2	530	050T6751	28.7	1285
12T				05BT6750	23.0	595	05BT6751	29.3	1380
16T				05FT6750	25.7	760	05FT6751	32.6	1825
24T				05RT6750	32.0	1110	05RT6751	39.4	2470
1P	1	7/0.43	0.6	061P6750	7.9	80	061P6751	12.7	305
2P				062P6750	11.7	145	062P6751	16.8	460
4P				064P6750	13.6	210	064P6751	18.7	565
6P				066P6750	16.4	295	066P6751	21.6	720
8P				068P6750	18.6	375	068P6751	24.5	995
10P				060P6750	21.0	455	060P6751	27.0	1155
12P				06BP6750	22.0	520	06BP6751	27.9	1250
16P				06FP6750	24.3	645	06FP6751	30.4	1465
20P				06KP6750	27.2	790	06KP6751	34.2	1915
24P				06RP6750	30.3	955	06RP6751	37.2	2205
36P				06P26750	34.6	1325	06P26751	42.8	3075
1T				061T6750	8.3	95	061T6751	13.2	330
2T				062T6750	12.9	185	062T6751	18.1	525
4T				064T6750	15.3	285	064T6751	20.6	695
6T				066T6750	18.6	400	066T6751	24.4	1015
10T				060T6750	23.8	630	060T6751	29.9	1435
12T				06BT6750	24.6	710	06BT6751	30.8	1540
16T				06FT6750	27.4	905	06FT6751	34.5	2055
24T				06RT6750	34.2	1350	06RT6751	42.2	3055

Instrumentation Cables



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500V Pair(s) or Triad(s)

XLPE Insulated, Overall Screen, Unarmoured & Armoured, PVC Sheathed Cable

Description: CU/XLPE/OS/PVC-UV or CU/XLPE/OS/PVC/SWA/PVC-UV

Model Code: XOP-UV or XOPSP-UV

No. of Pair(s)/ Triad(s)	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area (mm ²)	No./Diam. of Strand (mm)		Part No.	Approx. Overall Diam. (mm)	Approx. Weight (kg/km)	Part No.	Approx. Overall Diam. (mm)	Approx. Weight (kg/km)
	(mm ²)	(mm)							
1P	1.5	7/0.53	0.6	071P6750	8.6	95	071P6751	13.7	335
2P				072P6750	12.6	180	072P6751	17.8	510
4P				074P6750	15.1	275	074P6751	20.5	675
6P				076P6750	18.1	390	076P6751	24.1	990
8P				078P6750	20.2	480	078P6751	26.4	1165
10P				070P6750	23.1	595	070P6751	29.4	1390
12P				07BP6750	23.9	670	07BP6751	30.3	1490
16P				07FP6750	26.6	855	07FP6751	33.9	1960
20P				07KP6750	29.8	1055	07KP6751	37.1	2305
24P				07RP6750	33.4	1275	07RP6751	41.5	2950
36P				07P26750	38.4	1795	07P26751	46.8	3745
1T				071T6750	9.2	115	071T6751	14.2	370
2T				072T6750	14.5	235	072T6751	19.8	620
4T				074T6750	16.8	370	074T6751	22.1	925
6T				076T6750	20.2	520	076T6751	26.4	1200
10T				070T6750	26.1	830	070T6751	33.2	1905
12T				07BT6750	27.0	945	07BT6751	34.2	2070
16T				07FT6750	30.3	1220	07FT6751	37.4	2470
24T				07RT6750	37.8	1830	07RT6751	46.4	3750
1P	2.5	7/0.67	0.7	081P6750	10.0	125	081P6751	15.1	410
2P				082P6750	15.0	240	082P6751	20.2	645
4P				084P6750	17.8	385	084P6751	24.0	990
6P				086P6750	21.3	540	086P6751	27.7	1270
8P				088P6750	24.2	700	088P6751	30.6	1520
10P				080P6750	27.6	870	080P6751	34.8	2020
12P				08BP6750	28.6	990	08BP6751	35.7	2180
16P				08FP6750	32.0	1265	08FP6751	39.4	2605
20P				08KP6750	35.8	1570	08KP6751	44.2	3400
24P				08RP6750	40.1	1905	08RP6751	48.7	3955
36P				08P26750	45.4	2710	08P26751	56.2	5600
1T				081T6750	10.7	160	081T6751	15.9	455
2T				082T6750	16.9	325	082T6751	22.2	775
4T				084T6750	20.0	530	084T6751	26.2	1210
6T				086T6750	24.2	760	086T6751	30.5	1580
10T				080T6750	31.3	1235	080T6751	38.6	2545
12T				08BT6750	32.4	1405	08BT6751	39.7	2765
16T				08FT6750	36.4	1835	08FT6751	44.6	3670
24T				08RT6750	45.5	2735	08RT6751	55.4	5580

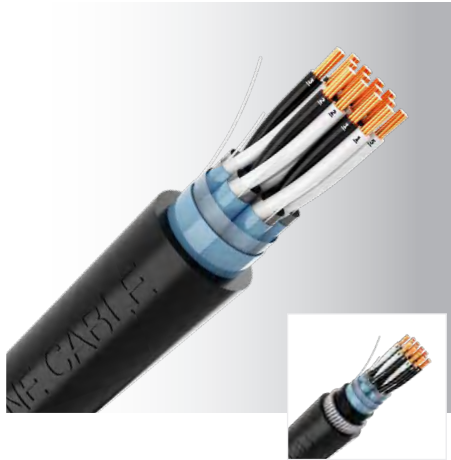
Instrumentation Cables

500V Pairs or Triads

XLPE Insulated, Individual & Overall Screen, Unarmoured & Armoured,
PVC Sheathed Cable

Description: CU/XLPE/ISOS/PVC-UV or CU/XLPE/ISOS/PVC/SWA/PVC-UV

Model Code: XIOP-UV or XIOPSP-UV



Application :	This cable is used for the transmission of analogue and digital signals in machineries with measurement instruments and control systems.
Voltage rating :	500V
Construction :	Plain annealed copper (IEC 60228 Class 2), XLPE insulated, twisted pairs or triads, individual and overall screen (aluminium/polyester tape with tinned copper drain wire), unarmoured or galvanized steel wire armoured, UV resistant PVC sheathed cable
Insulation colour :	Pairs : Black, White (with numbering) Triads : Red, Black, White (with numbering)
Sheath colour :	Black (other colour upon request) Blue (for intrinsically safe system upon request)
Specification :	BS EN 50288-7, IEC 60332-1-2 IEC 60332-3 (upon request)
Operating temperature :	90°C

No. of Pairs/Triads	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
2P	0.5	7/0.31	0.6	042P6754	11.8	140	042P6756	16.9	455
4P				044P6754	13.7	200	044P6756	19.0	565
6P				046P6754	16.5	280	046P6756	21.7	710
8P				048P6754	18.7	360	048P6756	24.8	995
10P				040P6754	21.3	450	040P6756	27.3	1160
12P				04BP6754	22.1	500	04BP6756	28.3	1255
16P				04FP6754	24.6	625	04FP6756	30.4	1665
20P				04KP6754	27.2	760	04KP6756	34.3	1890
24P				04RP6754	30.3	915	04RP6756	37.4	2165
36P				04P26754	34.9	1275	04P26756	43.3	3045
2T				042T6754	12.9	175	042T6756	18.2	510
4T				044T6754	15.3	260	044T6756	20.7	655
6T				046T6754	18.4	360	046T6756	24.6	985
10T				040T6754	23.6	560	040T6756	29.8	1355
12T				04BT6754	24.6	640	04BT6756	31.5	1650
16T				04FT6754	27.4	795	04FT6756	34.3	1920
24T				04RT6754	34.0	1185	04RT6756	42.0	2895

Instrumentation Cables



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500V Pairs or Triads

XLPE Insulated, Individual & Overall Screen, Unarmoured & Armoured,
PVC Sheathed Cable

Description: CU/XLPE/ISOS/PVC-UV or CU/XLPE/ISOS/PVC/SWA/PVC-UV

Model Code: XIOP-UV or XIOPSP-UV

No. of Pairs/ Triads	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(mm)			(mm)	(kg/km)		(mm)	(kg/km)
2P	0.75	7/0.37	0.6	052P6754	12.5	165	052P6756	17.6	485
4P				054P6754	14.6	240	054P6756	20.0	625
6P				056P6754	17.7	335	056P6756	22.9	920
8P				058P6754	19.9	415	058P6756	25.9	1075
10P				050P6754	22.6	515	050P6756	28.8	1285
12P				058P6754	23.4	575	058P6756	29.5	1370
16P				05FP6754	26.1	730	05FP6756	33.2	1815
20P				05KP6754	29.3	900	05KP6756	36.3	2105
24P				05RP6754	32.4	1085	05RP6756	39.7	2430
36P				05P26754	37.4	1515	05P26756	45.7	3400
2T				052T6754	13.9	200	052T6756	19.3	570
4T				054T6754	16.3	300	054T6756	21.5	720
6T				056T6754	19.6	420	056T6756	25.7	1080
10T				050T6754	25.3	665	050T6756	32.1	1710
12T				05BT6754	26.2	750	05BT6756	33.3	1835
16T				05FT6754	29.3	950	05FT6756	36.3	2163
24T				05RT6754	36.4	1415	05RT6756	44.7	3250
2P	1	7/0.43	0.6	062P6754	13.1	175	062P6756	18.3	520
4P				064P6754	15.5	270	064P6756	20.8	670
6P				066P6754	18.7	375	066P6756	24.8	1010
8P				068P6754	21.2	480	068P6756	27.2	1190
10P				060P6754	23.9	595	060P6756	30.1	1395
12P				06BP6754	24.9	670	06BP6756	31.7	1695
16P				06FP6754	27.7	855	06FP6756	34.8	2005
20P				06KP6754	31.1	1050	06KP6756	38.4	2360
24P				06RP6754	34.6	1265	06RP6756	42.8	3025
36P				06P26754	39.6	1755	06P26756	48.2	3765
2T				062T6754	14.7	225	062T6756	20.1	615
4T				064T6754	17.1	340	064T6756	23.1	920
6T				066T6754	20.7	490	066T6756	27.0	1190
10T				060T6754	26.7	775	060T6756	33.8	1875
12T				06BT6754	27.9	895	06BT6756	35.0	2050
16T				06FT6754	31.1	1145	06FT6756	38.5	2440
24T				06RT6754	38.8	1690	06RT6756	47.1	3635

Instrumentation Cables



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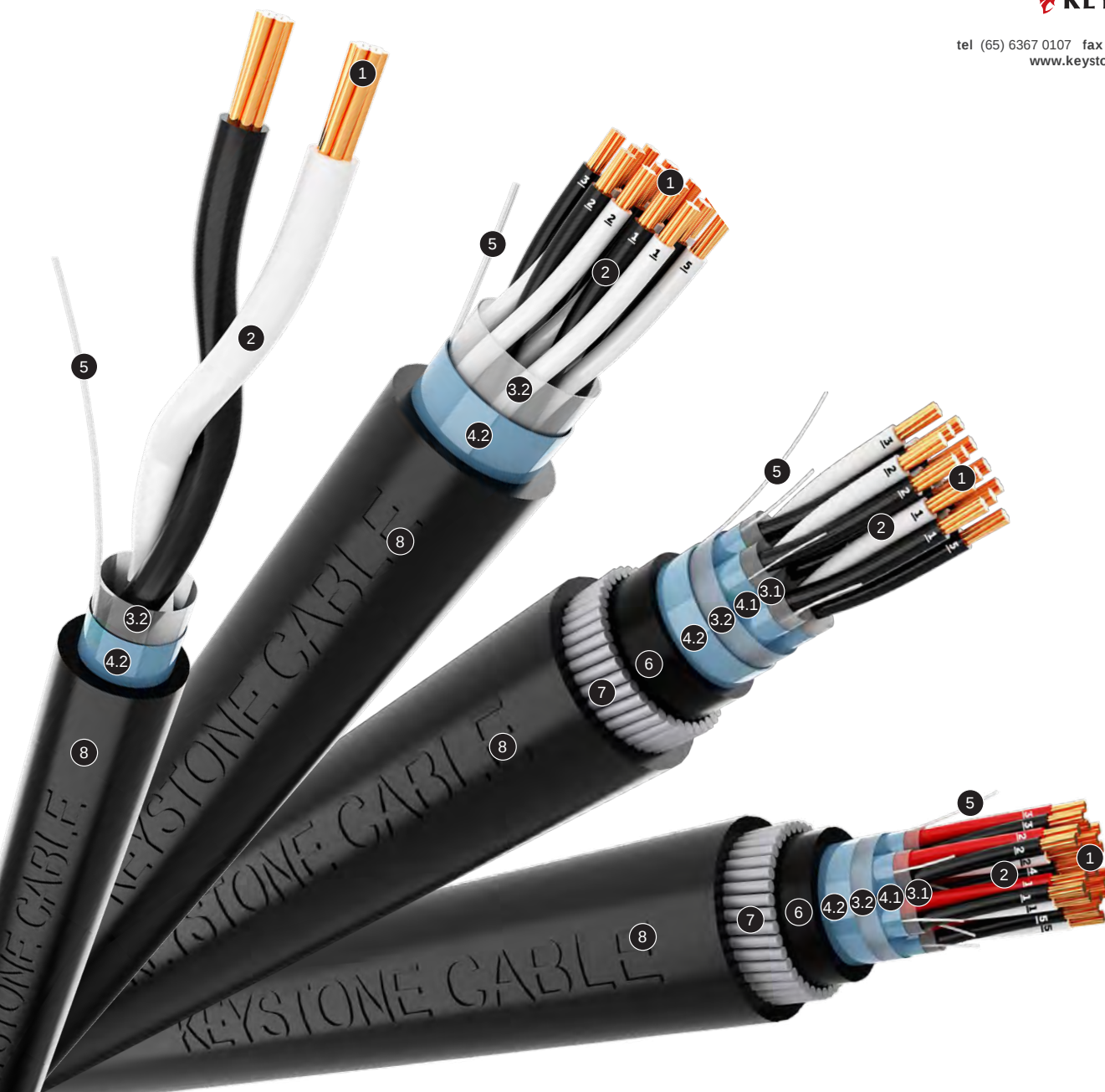
500V Pairs or Triads

XLPE Insulated, Individual & Overall Screen, Unarmoured & Armoured,
PVC Sheathed Cable

Description: CU/XLPE/ISOS/PVC-UV or CU/XLPE/ISOS/PVC/SWA/PVC-UV

Model Code: XIOP-UV or XIOPSP-UV

No. of Pairs/Triads	Conductor		Insulation	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand	Thickness	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
2P	1.5	7/0.53	0.6	072P6754	14.4	215	072P6756	19.8	600
4P				074P6754	17.1	330	074P6756	22.3	900
6P				076P6754	20.6	470	076P6756	26.6	1160
8P				078P6754	23.1	590	078P6756	29.2	1375
10P				070P6754	26.4	740	070P6756	33.4	1840
12P				078P6754	27.4	845	078P6756	34.4	1990
16P				07FP6754	30.6	1085	07FP6756	37.7	2365
20P				07KP6754	34.1	1325	07KP6756	42.5	3070
24P				07RP6754	38.1	1600	07RP6756	46.5	3550
36P				07P26754	43.9	2265	07P26756	53.6	4980
2T				072T6754	16.1	275	072T6756	21.4	690
4T				074T6754	18.9	430	074T6756	25.0	1065
6T				076T6754	22.7	615	076T6756	29.0	1395
10T				070T6754	29.4	1010	070T6756	36.5	2220
12T				07BT6754	30.7	1145	07BT6756	38.0	2430
16T				07FT6754	34.2	1460	07FT6756	42.5	3195
24T				07RT6754	42.6	2175	07RT6756	52.3	4360
2P	2.5	7/0.67	0.7	082P6754	16.9	290	082P6756	22.3	860
4P				084P6754	20.0	455	084P6756	26.1	1130
6P				086P6754	24.1	650	086P6756	30.3	1470
8P				088P6754	27.3	835	088P6756	34.4	1975
10P				080P6754	31.2	1045	080P6756	38.5	2355
12P				08BP6754	32.2	1180	08BP6756	39.5	2530
16P				08FP6754	36.2	1530	08FP6756	44.5	3355
20P				08KP6754	40.4	1890	08KP6756	49.0	3960
24P				08RP6754	45.0	2280	08RP6756	55.0	5075
36P				08P26754	52.3	3250	08P26756	62.4	6510
2T				082T6754	18.7	370	082T6756	25.0	1005
4T				084T6754	22.1	605	084T6756	28.5	1355
6T				086T6754	27.0	880	086T6756	34.2	2000
10T				080T6754	34.8	1425	080T6756	43.3	3185
12T				08BT6754	36.4	1640	08BT6756	44.7	3460
16T				08FT6754	40.6	2105	08FT6756	49.1	4170
24T				08RT6754	50.8	3165	08RT6756	61.0	6325



LSZH Flame Retardant Instrumentation Cables

1	Conductor	Plain Annealed Copper
2	Insulation	XLPE
3.1	Binder Tape	Polyester Tape
3.2		
4.1	Individual Screen	Aluminium/Polyester Tape
4.2	Overall Screen	
5	Drain Wire	Tinned Copper Wire
6	Bedding	LSZH*
7	Armour	Galvanized Steel Wire
8	Oversheath	LSZH*

* LSZH: Low Smoke Zero Halogen

LSZH Flame Retardant Instrumentation Cables

500V Pair(s) or Triad(s)

XLPE Insulated, Overall Screen, Unarmoured & Armoured, LSZH Sheathed Cable

Description: CU/XLPE/OS/LSZH-AT-UV or CU/XLPE/OS/LSZH/SWA/LSZH-AT-UV

Model Code: XOL-AT-UV or XOLSL-AT-UV



Application :	This cable is used for the transmission of analogue and digital signals in machineries with measurement instruments and control systems.
Voltage rating :	500V
Construction :	Plain annealed copper (IEC 60228 Class 2), XLPE insulated, twisted pair(s) or triad(s), overall screen (aluminium/polyester tape with tinned copper drain wire), unarmoured or galvanized steel wire armoured, anti-termite and UV resistant LSZH sheathed cable
Insulation colour :	Pair(s) : Black, White (or with numbering) Triad(s) : Red, Black, White (or with numbering)
Sheath colour :	Black (other colour upon request) Blue (for intrinsically safe system upon request)
Specification :	BS EN 50288-7, IEC 60332-1-2, IEC 60332-3, IEC 60754, IEC 61034-2
Operating temperature :	90°C

No. of Pair(s)/ Triad(s)	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
1P	0.5	7/0.31	0.6	041P6141	7.3	70	041P6787	12.0	275
2P				042P6141	10.1	105	042P6787	15.2	385
4P				044P6141	12.0	155	044P6787	16.9	480
6P				046P6141	14.4	215	046P6787	19.7	600
8P				048P6141	16.1	260	048P6787	21.5	685
10P				040P6141	18.4	320	040P6787	24.4	935
12P				048P6141	18.9	360	048P6787	25.2	1000
16P				04FP6141	21.0	435	04FP6787	27.2	1150
20P				04KP6141	23.5	535	04KP6787	29.9	1340
24P				04RP6141	26.2	650	04RP6787	33.2	1725
36P				04P26141	30.1	880	04P26787	37.4	2130
1T				041T6141	7.4	75	041T6787	12.4	295
2T				042T6141	11.6	140	042T6787	16.7	450
4T				044T6141	13.4	205	044T6787	18.6	550
6T				046T6141	16.0	285	046T6787	21.4	705
10T				040T6141	20.5	435	040T6787	26.8	1125
12T				048T6141	21.5	495	048T6787	27.7	1215
16T				04FT6141	23.7	610	04FT6787	29.1	1600
24T				04RT6141	29.6	905	04RT6787	36.8	2130

LSZH Flame Retardant Instrumentation Cables



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500V Pair(s) or Triad(s)

XLPE Insulated, Overall Screen, Unarmoured & Armoured, LSZH Sheathed Cable

Description: CU/XLPE/OS/LSZH-AT-UV or CU/XLPE/OS/LSZH/SWA/LSZH-AT-UV

Model Code: XOL-AT-UV or XOLSL-AT-UV

No. of Pair(s)/ Triad(s)	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(mm)			(mm)	(kg/km)		(mm)	(kg/km)
1P	0.75	7/0.37	0.6	051P6141	7.5	75	051P6787	12.6	295
2P				052P6141	11.0	130	052P6787	16.2	430
4P				054P6141	12.8	180	054P6787	17.9	520
6P				056P6141	15.5	255	056P6787	20.7	660
8P				058P6141	17.6	325	058P6787	22.7	905
10P				050P6141	19.6	390	050P6787	25.8	1050
12P				05BP6141	20.4	435	05BP6787	26.4	1115
16P				05FP6141	22.7	540	05FP6787	29.0	1320
20P				05KP6141	25.5	670	05KP6787	32.4	1525
24P				05RP6141	28.4	805	05RP6787	35.5	1985
36P				05P26141	32.6	1100	05P26787	39.8	2450
1T				051T6141	8.0	85	051T6787	12.8	315
2T				052T6141	12.3	160	052T6787	17.4	490
4T				054T6141	14.6	245	054T6787	19.9	630
6T				056T6141	17.3	340	056T6787	22.6	785
10T				050T6141	22.2	530	050T6787	28.7	1285
12T				05BT6141	23.0	595	05BT6787	29.3	1380
16T				05FT6141	25.7	760	05FT6787	32.6	1825
24T				05RT6141	32.0	1110	05RT6787	39.4	2470
1P	1	7/0.43	0.6	061P6141	7.9	80	061P6787	12.7	305
2P				062P6141	11.7	145	062P6787	16.8	460
4P				064P6141	13.6	210	064P6787	18.7	565
6P				066P6141	16.4	295	066P6787	21.6	720
8P				068P6141	18.6	375	068P6787	24.5	995
10P				060P6141	21.0	455	060P6787	27.0	1155
12P				06BP6141	22.0	520	06BP6787	27.9	1250
16P				06FP6141	24.3	645	06FP6787	30.4	1465
20P				06KP6141	27.2	790	06KP6787	34.2	1915
24P				06RP6141	30.3	955	06RP6787	37.2	2205
36P				06P26141	34.6	1325	06P26787	42.8	3075
1T				061T6141	8.3	95	061T6787	13.2	330
2T				062T6141	12.9	185	062T6787	18.1	525
4T				064T6141	15.3	285	064T6787	20.6	695
6T				066T6141	18.6	400	066T6787	24.4	1015
10T				060T6141	23.8	630	060T6787	29.9	1435
12T				06BT6141	24.6	710	06BT6787	30.8	1540
16T				06FT6141	27.4	905	06FT6787	34.5	2055
24T				06RT6141	34.2	1350	06RT6787	42.2	3055

LSZH Flame Retardant Instrumentation Cables



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500V Pair(s) or Triad(s)

XLPE Insulated, Overall Screen, Unarmoured & Armoured, LSZH Sheathed Cable

Description: CU/XLPE/OS/LSZH-AT-UV or CU/XLPE/OS/LSZH/SWA/LSZH-AT-UV

Model Code: XOL-AT-UV or XOLSL-AT-UV

No. of Pair(s)/ Triad(s)	Conductor		Insulation	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand	Thickness	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
1P	1.5	7/0.53	0.6	071P6141	8.6	95	071P6787	13.7	335
2P				072P6141	12.6	180	072P6787	17.8	510
4P				074P6141	15.1	275	074P6787	20.5	675
6P				076P6141	18.1	390	076P6787	24.1	990
8P				078P6141	20.2	480	078P6787	26.4	1165
10P				070P6141	23.1	595	070P6787	29.4	1390
12P				07BP6141	23.9	670	07BP6787	30.3	1490
16P				07FP6141	26.6	855	07FP6787	33.9	1960
20P				07KP6141	29.8	1055	07KP6787	37.1	2305
24P				07RP6141	33.4	1275	07RP6787	41.5	2950
36P				07P26141	38.4	1795	07P26787	46.8	3745
1T				071T6141	9.2	115	071T6787	14.2	370
2T				072T6141	14.5	235	072T6787	19.8	620
4T				074T6141	16.8	370	074T6787	22.1	925
6T				076T6141	20.2	520	076T6787	26.4	1200
10T				070T6141	26.1	830	070T6787	33.2	1905
12T				07BT6141	27.0	945	07BT6787	34.2	2070
16T				07FT6141	30.3	1220	07FT6787	37.4	2470
24T				07RT6141	37.8	1830	07RT6787	46.4	3750
1P	2.5	7/0.67	0.7	081P6141	10.0	125	081P6787	15.1	410
2P				082P6141	15.0	240	082P6787	20.2	645
4P				084P6141	17.8	385	084P6787	24.0	990
6P				086P6141	21.3	540	086P6787	27.7	1270
8P				088P6141	24.2	700	088P6787	30.6	1520
10P				080P6141	27.6	870	080P6787	34.8	2020
12P				08BP6141	28.6	990	08BP6787	35.7	2180
16P				08FP6141	32.0	1265	08FP6787	39.4	2605
20P				08KP6141	35.8	1570	08KP6787	44.2	3400
24P				08RP6141	40.1	1905	08RP6787	48.7	3955
36P				08P26141	45.4	2710	08P26787	56.2	5600
1T				081T6141	10.7	160	081T6787	15.9	455
2T				082T6141	16.9	325	082T6787	22.2	775
4T				084T6141	20.0	530	084T6787	26.2	1210
6T				086T6141	24.2	760	086T6787	30.5	1580
10T				080T6141	31.3	1235	080T6787	38.6	2545
12T				08BT6141	32.4	1405	08BT6787	39.7	2765
16T				08FT6141	36.4	1835	08FT6787	44.6	3670
24T				08RT6141	45.5	2735	08RT6787	55.4	5580

LSZH Flame Retardant Instrumentation Cables

500V Pairs or Triads

XLPE Insulated, Individual & Overall Screen, Unarmoured & Armoured,
LSZH Sheathed Cable

Description: CU/XLPE/ISOS/LSZH-AT-UV or CU/XLPE/ISOS/LSZH/SWA/LSZH-AT-UV

Model Code: XIOL-AT-UV or XIOLSL-AT-UV



Application :	This cable is intended for use in machineries, especially suitable for areas where fire would create dense smoke and toxic fumes, imposing major threat to lives and equipment.
Voltage rating :	500V
Construction :	Plain annealed copper (IEC 60228 Class 2), XLPE insulated, twisted pairs or triads, individual and overall screen (aluminium/polyester tape with tinned copper drain wire), unarmoured or galvanized steel wire armoured, anti-termite and UV resistant LSZH sheathed cable
Insulation colour :	Pairs : Black, White (with numbering) Triads : Red, Black, White (with numbering)
Sheath colour :	Black (other colour upon request) Blue (for intrinsically safe system upon request)
Specification :	BS EN 50288-7, IEC 60332-1-2, IEC 60332-3, IEC 60754, IEC 61034-2
Operating temperature :	90°C

No. of Pairs/ Triads	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
2P	0.5	7/0.31	0.6	042P6053	11.8	140	042P6869	16.9	455
4P				044P6053	13.7	200	044P6869	19.0	565
6P				046P6053	16.5	280	046P6869	21.7	710
8P				048P6053	18.7	360	048P6869	24.8	995
10P				040P6053	21.3	450	040P6869	27.3	1160
12P				04BP6053	22.1	500	04BP6869	28.3	1255
16P				04FP6053	24.6	625	04FP6869	30.4	1665
20P				04KP6053	27.2	760	04KP6869	34.3	1890
24P				04RP6053	30.3	915	04RP6869	37.4	2165
36P				04P26053	34.9	1275	04P26869	43.3	3045
2T				042T6053	12.9	175	042T6869	18.2	510
4T				044T6053	15.3	260	044T6869	20.7	655
6T				046T6053	18.4	360	046T6869	24.6	985
10T				040T6053	23.6	560	040T6869	29.8	1355
12T				04BT6053	24.6	640	04BT6869	31.5	1650
16T				04FT6053	27.4	795	04FT6869	34.3	1920
24T				04RT6053	34.0	1185	04RT6869	42.0	2895

LSZH Flame Retardant Instrumentation Cables



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500V Pairs or Triads

XLPE Insulated, Individual & Overall Screen, Unarmoured & Armoured,
LSZH Sheathed Cable

Description: CU/XLPE/ISOS/LSZH-AT-UV or CU/XLPE/ISOS/LSZH/SWA/LSZH-AT-UV

Model Code: XIOL-AT-UV or XIOLSL-AT-UV

No. of Pairs/Triads	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(mm)			(mm)	(kg/km)		(mm)	(kg/km)
2P	0.75	7/0.37	0.6	052P6053	12.5	165	052P6869	17.6	485
4P				054P6053	14.6	240	054P6869	20.0	625
6P				056P6053	17.7	335	056P6869	22.9	920
8P				058P6053	19.9	415	058P6869	25.9	1075
10P				050P6053	22.6	515	050P6869	28.8	1285
12P				05BP6053	23.4	575	05BP6869	29.5	1370
16P				05FP6053	26.1	730	05FP6869	33.2	1815
20P				05KP6053	29.3	900	05KP6869	36.3	2105
24P				05RP6053	32.4	1085	05RP6869	39.7	2430
36P				05P26053	37.4	1515	05P26869	45.7	3400
2T				052T6053	13.9	200	052T6869	19.3	570
4T				054T6053	16.3	300	054T6869	21.5	720
6T				056T6053	19.6	420	056T6869	25.7	1080
10T				050T6053	25.3	665	050T6869	32.1	1710
12T				05BT6053	26.2	750	05BT6869	33.3	1835
16T				05FT6053	29.3	950	05FT6869	36.3	2163
24T				05RT6053	36.4	1415	05RT6869	44.7	3250
2P	1	7/0.43	0.6	062P6053	13.1	175	062P6869	18.3	520
4P				064P6053	15.5	270	064P6869	20.8	670
6P				066P6053	18.7	375	066P6869	24.8	1010
8P				068P6053	21.2	480	068P6869	27.2	1190
10P				060P6053	23.9	595	060P6869	30.1	1395
12P				06BP6053	24.9	670	06BP6869	31.7	1695
16P				06FP6053	27.7	855	06FP6869	34.8	2005
20P				06KP6053	31.1	1050	06KP6869	38.4	2360
24P				06RP6053	34.6	1265	06RP6869	42.8	3025
36P				06P26053	39.6	1755	06P26869	48.2	3765
2T				062T6053	14.7	225	062T6869	20.1	615
4T				064T6053	17.1	340	064T6869	23.1	920
6T				066T6053	20.7	490	066T6869	27.0	1190
10T				060T6053	26.7	775	060T6869	33.8	1875
12T				06BT6053	27.9	895	06BT6869	35.0	2050
16T				06FT6053	31.1	1145	06FT6869	38.5	2440
24T				06RT6053	38.8	1690	06RT6869	47.1	3635

LSZH Flame Retardant
Instrumentation Cables

LSZH Flame Retardant Instrumentation Cables



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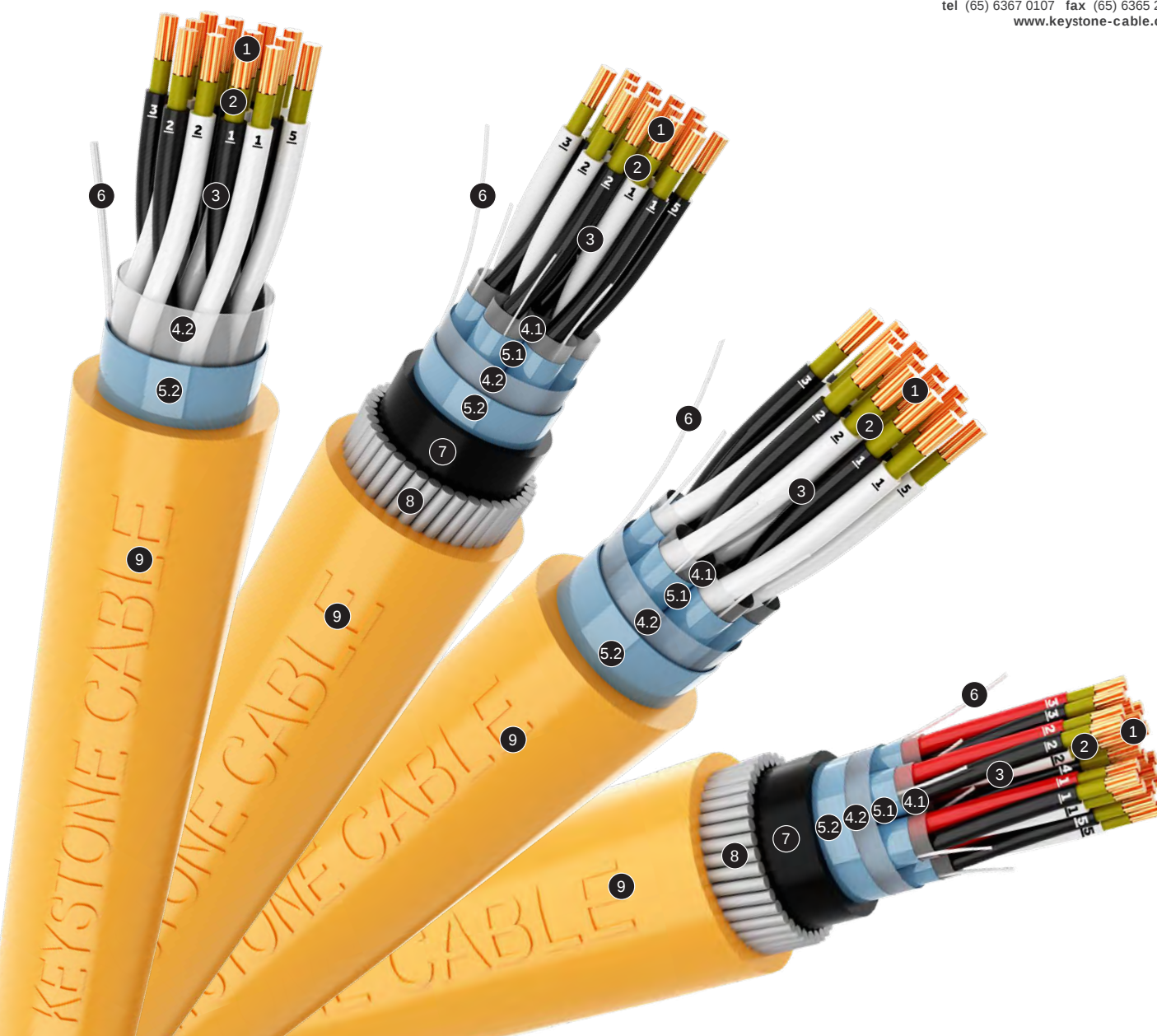
500V Pairs or Triads

XLPE Insulated, Individual & Overall Screen, Unarmoured & Armoured,
LSZH Sheathed Cable

Description: CU/XLPE/ISOS/LSZH-AT-UV or CU/XLPE/ISOS/LSZH/SWA/LSZH-AT-UV

Model Code: XIOL-AT-UV or XIOLSL-AT-UV

No. of Pairs/ Triads	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(mm)			(mm)	(kg/km)		(mm)	(kg/km)
2P	1.5	7/0.53	0.6	072P6053	14.4	215	072P6869	19.8	600
4P				074P6053	17.1	330	074P6869	22.3	900
6P				076P6053	20.6	470	076P6869	26.6	1160
8P				078P6053	23.1	590	078P6869	29.2	1375
10P				070P6053	26.4	740	070P6869	33.4	1840
12P				078P6053	27.4	845	078P6869	34.4	1990
16P				07FP6053	30.6	1085	07FP6869	37.7	2365
20P				07KP6053	34.1	1325	07KP6869	42.5	3070
24P				07RP6053	38.1	1600	07RP6869	46.5	3550
36P				07P26053	43.9	2265	07P26869	53.6	4980
2T				072T6053	16.1	275	072T6869	21.4	690
4T				074T6053	18.9	430	074T6869	25.0	1065
6T				076T6053	22.7	615	076T6869	29.0	1395
10T				070T6053	29.4	1010	070T6869	36.5	2220
12T				07BT6053	30.7	1145	07BT6869	38.0	2430
16T				07FT6053	34.2	1460	07FT6869	42.5	3195
24T				07RT6053	42.6	2175	07RT6869	52.3	4360
2P	2.5	7/0.67	0.7	082P6053	16.9	290	082P6869	22.3	860
4P				084P6053	20.0	455	084P6869	26.1	1130
6P				086P6053	24.1	650	086P6869	30.3	1470
8P				088P6053	27.3	835	088P6869	34.4	1975
10P				080P6053	31.2	1045	080P6869	38.5	2355
12P				08BP6053	32.2	1180	08BP6869	39.5	2530
16P				08FP6053	36.2	1530	08FP6869	44.5	3355
20P				08KP6053	40.4	1890	08KP6869	49.0	3960
24P				08RP6053	45.0	2280	08RP6869	55.0	5075
36P				08P26053	52.3	3250	08P26869	62.4	6510
2T				082T6053	18.7	370	082T6869	25.0	1005
4T				084T6053	22.1	605	084T6869	28.5	1355
6T				086T6053	27.0	880	086T6869	34.2	2000
10T				080T6053	34.8	1425	080T6869	43.3	3185
12T				08BT6053	36.4	1640	08BT6869	44.7	3460
16T				08FT6053	40.6	2105	08FT6869	49.1	4170
24T				08RT6053	50.8	3165	08RT6869	61.0	6325



LSZH Fire Resistant Instrumentation Cables

1	Conductor	Plain Annealed Copper
2	Fire Barrier	Mica Tape
3	Insulation	XLPE
4.1	Binder Tape	Polyester Tape
4.2		
5.1	Individual Screen	Aluminium/Polyester Tape
5.2	Overall Screen	
6	Drain Wire	Tinned Copper Wire
7	Bedding	LSZH*
8	Armour	Galvanized Steel Wire
9	Oversheath	LSZH*

* LSZH: Low Smoke Zero Halogen

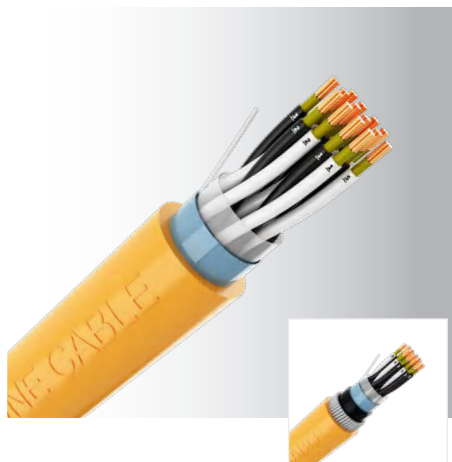
LSZH Fire Resistant Instrumentation Cables

500V Pair(s) or Triad(s)

Mica Tape, XLPE Insulated, Overall Screen, Unarmoured & Armoured,
LSZH Sheathed Cable

Description: CU/MT/XLPE/OS/LSZH-AT-UV or CU/MT/XLPE/OS/LSZH/SWA/LSZH-AT-UV

Model Code: MXOL-AT-UV or MXOLSL-AT-UV



Application :	This cable is intended for use in manufacturing and processing application for emergency services such as fire detection, fire alarm, and PA systems, where signal has to be assured in the event of a fire.
Voltage rating :	500V
Construction :	Plain annealed copper (IEC 60228 Class 2), mica tape fire barrier, XLPE insulated, overall screen (aluminium/polyester tape with tinned copper drain wire), unarmoured or galvanized steel wire armoured, anti-termite and UV resistant LSZH sheathed cable
Insulation colour :	Pair(s) : Black, White (or with numbering) Triad(s) : Red, Black, White (or with numbering)
Sheath colour :	Orange (other colour upon request) Blue (for intrinsically safe system upon request)
Specification :	BS EN 50288-7, SS 299-1:1998, BS 6387, IEC 60331-21, IEC 60332-1-2, IEC 60332-3, IEC 60754, IEC 61034-2
Operating temperature :	90°C

No. of Pair(s)/ Triad(s)	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
1P	0.5	7/0.31	0.6	041P4647	8.9	85	041P4067	14.4	355
2P				042P4647	13.7	155	042P4067	18.9	525
4P				044P4647	16.3	230	044P4067	21.4	645
6P				046P4647	19.7	320	046P4067	25.4	970
8P				048P4647	21.8	385	048P4067	27.6	1110
10P				040P4647	24.8	480	040P4067	30.6	1295
12P				04BP4647	25.6	530	04BP4067	32.4	1570
16P				04FP4647	27.4	650	04FP4067	35.1	1695
20P				04KP4647	31.7	800	04KP4067	38.7	2100
24P				04RP4647	35.3	960	04RP4067	42.9	2705
36P				04P24647	40.6	1315	04P24067	48.5	3320
1T				041T4647	9.4	100	041T4067	15.3	385
2T				042T4647	15.4	200	042T4067	20.6	610
4T				044T4647	18.1	300	044T4067	23.8	890
6T				046T4647	21.8	420	046T4067	27.6	1135
10T				040T4647	27.7	645	040T4067	34.4	1760
12T				04BT4647	28.8	735	04BT4067	35.7	1905
16T				04FT4647	31.0	915	04FT4067	38.9	2210
24T				04RT4647	40.0	1350	04RT4067	47.8	3320

LSZH Fire Resistant Instrumentation Cables



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500V Pair(s) or Triad(s)

Mica Tape, XLPE Insulated, Overall Screen, Unarmoured & Armoured, LSZH Sheathed Cable

Description: CU/MT/XLPE/OS/LSZH-AT-UV or CU/MT/XLPE/OS/LSZH/SWA/LSZH-AT-UV

Model Code: MXOL-AT-UV or MXOLSL-AT-UV

No. of Pair(s)/ Triad(s)	Conductor		Insulation	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand	Thickness	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
1P	0.75	7/0.37	0.6	051P4647	9.3	95	051P4067	15.2	380
2P				052P4647	14.6	180	052P4067	19.8	565
4P				054P4647	17.1	265	054P4067	22.7	825
6P				056P4647	20.5	365	056P4067	26.3	1040
8P				058P4647	23.2	455	058P4067	28.9	1215
10P				050P4647	26.1	550	050P4067	32.7	1610
12P				05BP4647	26.9	610	05BP4067	33.5	1705
16P				05FP4647	30.0	775	05FP4067	36.9	2005
20P				05KP4647	33.5	950	05KP4067	40.4	2305
24P				05RP4647	37.3	1140	05RP4067	45.2	2985
36P				05P24647	42.8	1570	05P24067	51.0	3680
1T				051T4647	9.8	115	051T4067	15.7	405
2T				052T4647	16.3	230	052T4067	21.4	650
4T				054T4647	19.2	345	054T4067	25.1	985
6T				056T4647	22.8	480	056T4067	28.6	1220
10T				050T4647	29.4	760	050T4067	36.3	1950
12T				05BT4647	30.4	850	05BT4067	37.3	2085
16T				05FT4647	33.8	1085	05FT4067	40.8	2455
24T				05RT4647	42.3	1595	05RT4067	50.3	3690
1P	1	7/0.43	0.6	061P4647	9.7	100	061P4067	15.5	395
2P				062P4647	15.2	205	062P4067	20.3	595
4P				064P4647	17.9	295	064P4067	23.5	875
6P				066P4647	21.4	410	066P4067	27.2	1115
8P				068P4647	24.2	520	068P4067	29.9	1315
10P				060P4647	27.2	630	060P4067	33.9	1725
12P				06BP4647	28.4	715	06BP4067	35.0	1855
16P				06FP4647	31.4	890	06FP4067	38.3	2170
20P				06KP4647	35.1	1100	06KP4067	43.0	2825
24P				06RP4647	39.2	1320	06RP4067	47.0	3230
36P				06P24647	45.0	1820	06P24067	54.1	4515
1T				061T4647	10.2	120	061T4067	16.1	430
2T				062T4647	16.8	255	062T4067	22.0	690
4T				064T4647	19.1	400	064T4067	25.9	1065
6T				066T4647	24.0	555	066T4067	29.8	1340
10T				060T4647	30.7	870	060T4067	37.7	2125
12T				06BT4647	31.8	980	06BT4067	38.7	2270
16T				06FT4647	35.5	1250	06FT4067	43.4	3005
24T				06RT4647	44.3	1860	06RT4067	53.5	4505

LSZH Fire Resistant Instrumentation Cables



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500V Pair(s) or Triad(s)

Mica Tape, XLPE Insulated, Overall Screen, Unarmoured & Armoured,
LSZH Sheathed Cable

Description: CU/MT/XLPE/OS/LSZH-AT-UV or CU/MT/XLPE/OS/LSZH/SWA/LSZH-AT-UV

Model Code: MXOL-AT-UV or MXOLSL-AT-UV

No. of Pair(s)/ Triad(s)	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(mm)			(mm)	(kg/km)		(mm)	(kg/km)
1P	1.5	7/0.53	0.6	071P4647	10.2	115	071P4067	16.1	425
2P				072P4647	16.3	235	072P4067	22.0	775
4P				074P4647	19.3	360	074P4067	25.1	1010
6P				076P4647	23.1	510	076P4067	28.8	1260
8P				078P4647	25.9	635	078P4067	32.5	1680
10P				070P4647	29.4	790	070P4067	36.3	1980
12P				07BP4647	30.4	880	07BP4067	37.3	2120
16P				07FP4647	33.9	1125	07FP4067	41.0	2520
20P				07KP4647	38.0	1390	07KP4067	45.8	3265
24P				07RP4647	42.3	1675	07RP4067	50.4	3760
36P				07P24647	48.8	2350	07P24067	58.1	5305
1T				071T4647	10.8	150	071T4067	16.7	465
2T				072T4647	18.3	315	072T4067	24.3	925
4T				074T4647	21.4	485	074T4067	27.2	1185
6T				076T4647	25.8	685	076T4067	32.4	1735
10T				070T4647	33.2	1100	070T4067	40.1	2450
12T				07BT4647	34.3	1240	07BT4067	41.4	2660
16T				07FT4647	40.6	1730	07FT4067	46.2	3480
24T				07RT4647	48.1	2400	07RT4067	57.3	5300
1P	2.5	7/0.67	0.7	081P4647	11.6	160	081P4067	17.8	500
2P				082P4647	18.5	310	082P4067	24.5	940
4P				084P4647	22.0	490	084P4067	28.0	1215
6P				086P4647	26.3	690	086P4067	33.2	1770
8P				088P4647	29.8	880	088P4067	36.6	2095
10P				080P4647	33.9	1105	080P4067	40.9	2495
12P				08BP4647	35.1	1250	08BP4067	42.9	2970
16P				08FP4647	39.1	1590	08FP4067	47.2	3543
20P				08KP4647	43.9	1960	08KP4067	53.1	4630
24P				08RP4647	49.0	2380	08RP4067	58.6	5365
36P				08P24647	56.6	3360	08P24067	66.6	6845
1T				081T4647	12.4	200	081T4067	18.5	560
2T				082T4647	21.0	315	082T4067	26.8	1110
4T				084T4647	24.7	670	084T4067	30.7	1495
6T				086T4647	29.6	955	086T4067	36.5	2155
10T				080T4647	38.3	1540	080T4067	46.4	3445
12T				08BT4647	39.6	1755	08BT4067	47.7	3730
16T				08FT4647	44.4	2285	08FT4067	53.7	4965
24T				08RT4647	55.4	3395	08RT4067	65.5	6835

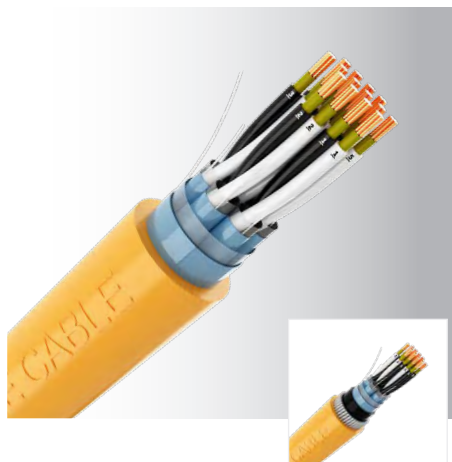
LSZH Fire Resistant Instrumentation Cables

500V Pairs or Triads

Mica Tape, XLPE Insulated, Individual & Overall Screen, Unarmoured & Armoured, LSZH Sheathed Cable

Description: CU/MT/XLPE/ISOS/LSZH-AT-UV or CU/MT/XLPE/ISOS/LSZH/SWA/LSZH-AT-UV

Model Code: MXIOL-AT-UV or MXIOLSL-AT-UV



Application :	This cable is intended for use in manufacturing and processing application for emergency services such as fire detection, fire alarm, and PA systems, where signal has to be assured in the event of a fire.
Voltage rating :	500V
Construction :	Plain annealed copper (IEC 60228 Class 2), mica tape fire barrier, XLPE insulated, individual and overall screen (aluminium/polyester tape with tinned copper drain wire), unarmoured or galvanized steel wire armoured, anti-termite and UV resistant LSZH sheathed cable
Insulation colour :	Pairs : Black, White (with numbering) Triads : Red, Black, White (with numbering)
Sheath colour :	Orange (other colour upon request) Blue (for intrinsically safe system upon request)
Specification :	BS EN 50288-7, SS 299-1:1998, BS 6387, IEC 60331-21, IEC 60332-1-2, IEC 60332-3, IEC 60754, IEC 61034-2
Operating temperature :	90°C

No. of Pairs/ Triads	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
2P	0.5	7/0.31	0.6	042P4066	15.7	205	042P4179	20.6	605
4P				044P4066	18.2	290	044P4179	24.0	890
6P				046P4066	21.8	400	046P4179	27.6	1115
8P				048P4066	24.7	505	048P4179	31.2	1500
10P				040P4066	28.0	630	040P4179	34.6	1765
12P				048P4066	28.9	700	048P4179	35.7	1870
16P				04FP4066	32.2	880	04FP4179	39.0	2195
20P				04KP4066	35.8	1070	04KP4179	43.7	2825
24P				04RP4066	39.9	1290	04RP4179	47.7	3255
36P				04P24066	46.1	1795	04P24179	55.4	4560
2T				042T4066	17.4	245	042T4179	22.8	810
4T				044T4066	20.4	375	044T4179	26.1	1035
6T				046T4066	24.4	520	046T4179	30.4	1330
10T				040T4066	31.1	805	040T4179	37.9	2075
12T				04BT4066	34.0	985	04BT4179	39.3	2230
16T				04FT4066	35.9	1145	04FT4179	43.8	2925
24T				04RT4066	44.8	1700	04RT4179	53.9	4385

LSZH Fire Resistant Instrumentation Cables



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500V Pairs or Triads

Mica Tape, XLPE Insulated, Individual & Overall Screen, Unarmoured & Armoured, LSZH Sheathed Cable

Description: CU/MT/XLPE/ISOS/LSZH-AT-UV or CU/MT/XLPE/ISOS/LSZH/SWA/LSZH-AT-UV

Model Code: MXIOL-AT-UV or MXIOLSL-AT-UV

No. of Pairs/Triads	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(mm)			(mm)	(kg/km)		(mm)	(kg/km)
2P	0.75	7/0.37	0.6	052P4066	16.4	225	052P4179	21.3	640
4P				054P4066	19.2	330	054P4179	25.0	965
6P				056P4066	23.0	460	056P4179	28.7	1210
8P				058P4066	25.7	565	058P4179	32.4	1600
10P				050P4066	29.3	705	050P4179	36.2	1895
12P				05BP4066	30.2	790	05BP4179	37.0	2015
16P				05FP4066	33.8	1000	05FP4179	40.7	2390
20P				05KP4066	37.8	1230	05KP4179	45.7	3080
24P				05RP4066	42.1	1480	05RP4179	50.1	3565
36P				05P24066	48.6	2065	05P24179	57.8	4975
2T				052T4066	18.3	285	052T4179	24.1	890
4T				054T4066	21.3	415	054T4179	27.0	1110
6T				056T4066	25.5	600	056T4179	32.1	1610
10T				050T4066	32.9	930	050T4179	39.7	2255
12T				05BT4066	34.0	1045	05BT4179	41.0	2430
16T				05FT4066	37.9	1330	05FT4179	45.7	3195
24T				05RT4066	47.3	1965	05RT4179	56.5	4820
2P	1	7/0.43	0.6	062P4066	17.1	245	062P4179	22.6	805
4P				064P4066	20.1	370	064P4179	25.8	1025
6P				066P4066	24.0	510	066P4179	29.9	1300
8P				068P4066	27.1	645	068P4179	33.6	1735
10P				060P4066	30.6	790	060P4179	37.4	2035
12P				06BP4066	31.8	900	06BP4179	38.6	2190
16P				06FP4066	35.5	1140	06FP4179	43.4	2890
20P				06KP4066	39.7	1405	06KP4179	47.7	3365
24P				06RP4066	44.2	1690	06RP4179	53.5	4350
36P				06P24066	50.8	2335	06P24179	60.3	5415
2T				062T4066	19.1	310	062T4179	24.8	935
4T				064T4066	22.2	460	064T4179	27.9	1195
6T				066T4066	26.8	670	066T4179	33.4	1745
10T				060T4066	34.3	1020	060T4179	41.4	2460
12T				06BT4066	35.6	1200	06BT4179	43.5	2950
16T				06FT4066	39.8	1520	06FT4179	47.9	3515
24T				06RT4066	49.7	2265	06RT4179	59.0	5260

LSZH Fire Resistant Instrumentation Cables



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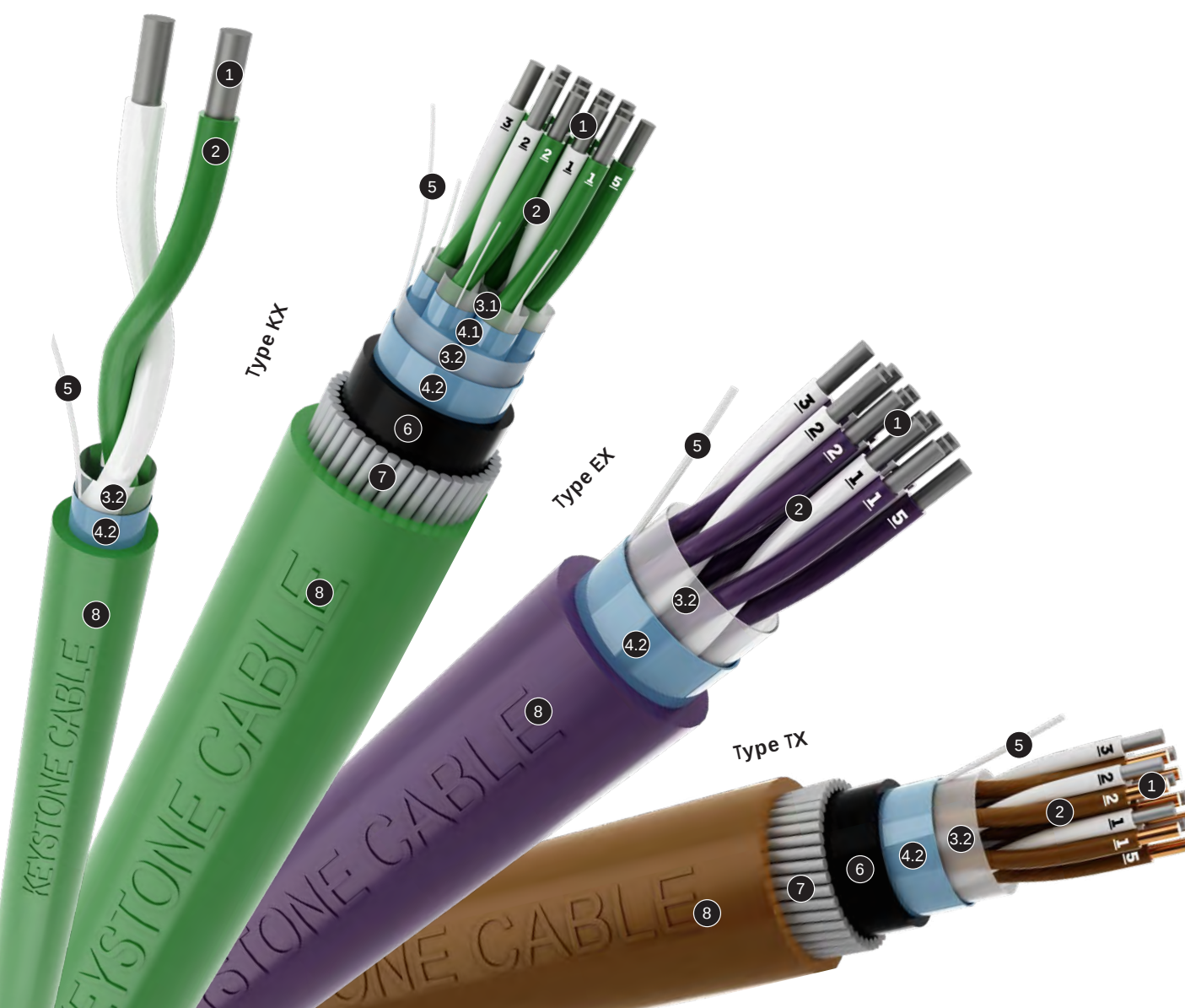
500V Pairs or Triads

Mica Tape, XLPE Insulated, Individual & Overall Screen, Unarmoured & Armoured, LSZH Sheathed Cable

Description: CU/MT/XLPE/ISOS/LSZH-AT-UV or CU/MT/XLPE/ISOS/LSZH/SWA/LSZH-AT-UV

Model Code: MXIOL-AT-UV or MXIOLSL-AT-UV

No. of Pairs/Triads	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(mm)			(mm)	(kg/km)		(mm)	(kg/km)
2P	1.5	7/0.53	0.6	072P4066	18.4	290	072P4179	24.2	900
4P				074P4066	21.5	440	074P4179	27.3	1140
6P				076P4066	25.8	615	076P4179	32.4	1665
8P				078P4066	28.9	775	078P4179	35.8	1940
10P				070P4066	32.9	960	070P4179	40.0	2310
12P				07BP4066	34.3	1105	07BP4179	41.3	2510
16P				07FP4066	38.3	1395	07FP4179	46.3	3290
20P				07KP4066	42.8	1720	07KP4179	51.0	3860
24P				07RP4066	47.6	2070	07RP4179	57.1	4960
36P				07P24066	55.0	2905	07P24179	64.6	6255
2T				072T4066	19.2	360	072T4179	26.0	1025
4T				074T4066	23.7	560	074T4179	29.7	1355
6T				076T4066	28.6	805	076T4179	35.4	1975
10T				070T4066	36.9	1295	070T4179	44.8	3105
12T				07BT4066	38.4	1470	07BT4179	46.5	3375
16T				07FT4066	42.8	1890	07FT4179	51.1	4030
24T				07RT4066	53.5	2810	07RT4179	63.2	6060
2P	2.5	7/0.67	0.7	082P4066	20.7	370	082P4179	26.6	1060
4P				084P4066	24.4	570	084P4179	30.4	1380
6P				086P4066	29.3	810	086P4179	36.1	2000
8P				088P4066	33.2	1045	088P4179	40.1	2390
10P				080P4066	37.7	1305	080P4179	45.9	3165
12P				08BP4066	39.0	1460	08BP4179	47.0	3395
16P				08FP4066	43.9	1895	08FP4179	53.1	4560
20P				08KP4066	49.1	2335	08KP4179	58.5	6315
24P				08RP4066	54.7	2810	08RP4179	64.6	6185
36P				08P24066	63.3	3990	08P24179	74.8	8785
2T				082T4066	23.0	475	082T4179	29.0	1240
4T				084T4066	27.1	760	084T4179	33.9	1860
6T				086T4066	32.8	1100	086T4179	39.8	2445
10T				080T4066	42.4	1763	080T4179	50.7	3880
12T				08BT4066	44.0	2025	08BT4179	52.3	4235
16T				08FT4066	49.1	2590	08FT4179	58.7	5580
24T				08RT4066	61.7	3895	08RT4179	73.1	8545



Thermocouple Extension & Compensating Cables

		Positive(+)	Negative(-)
1	Conductor	See Table 4, based on thermocouple cable type	
2	Insulation	XLPE	
3.1	Binder Tape	Polyester Tape	
3.2			
4.1	Individual Screen	Aluminium/Polyester Tape	
4.2	Overall Screen		
5	Drain Wire	Tinned Copper Wire	
6	Bedding	PVC, LSZH*	
7	Armour	Galvanized Steel Wire	
8	Oversheath	PVC, LSZH*	

* LSZH: Low Smoke Zero Halogen

Thermocouple Extension Cables

500V Pair(s), Type KX

XLPE Insulated, Overall Screen, Unarmoured or Armoured, PVC Sheathed Cable

Description: Type KX-XLPE/OS/PVC-UV or Type KX-XLPE/OS/PVC/SWA/PVC-UV

Model Code: Type KX-XOP-UV or Type KX-XOPSP-UV



Application :	This cable is used in temperature measurement to convey information from a thermocouple sensor, to the measuring instrument.
Voltage rating :	500V
Construction :	Solid conductor (Positive: Nickel Chromium / Negative: Nickel Aluminium), XLPE insulated, twisted pair(s), overall screen (aluminium/ polyester tape with tinned copper drain wire), unarmoured or galvanized steel wire armoured, UV resistant PVC* sheathed cable
Insulation colour :	(+) Green, (-) White (or with numbering)
Sheath colour :	Green
Specification :	BS EN 50288-7, IEC 60584-3, IEC 60332-1-2 IEC 60332-3 (upon request)
Operating temperature :	90°C

*LSZH sheath (upon request), comply with IEC 60332-3, IEC 60754, IEC 61034-2

No. of Pair(s)	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
1P	0.5	1/0.80	0.6	041P6115	7.1	55	041P6673	9.3	265
2P				042P6115	9.9	100	042P6673	12.2	380
4P				044P6115	11.9	150	044P6673	13.8	455
6P				046P6115	14.2	200	046P6673	16.1	575
8P				048P6115	15.7	250	048P6673	17.6	655
10P				040P6115	17.8	310	040P6673	20.4	890
12P				048P6115	18.5	340	048P6673	21.0	960
16P				04FP6115	20.3	415	04FP6673	22.8	1090
20P				04KP6115	22.7	505	04KP6673	25.3	1270
24P				04RP6115	25.3	610	04RP6673	28.4	1635
36P				04P26115	28.9	830	04P26673	32.1	2015
1P	1	1/1.13	0.6	061P6115	7.8	75	061P6673	10.1	295
2P				062P6115	11.3	135	062P6673	13.5	440
4P				064P6115	13.1	200	064P6673	15.2	540
6P				066P6115	15.8	285	066P6673	17.7	685
8P				068P6115	17.9	360	068P6673	20.4	940
10P				060P6115	20.1	435	060P6673	22.6	1105
12P				06BP6115	20.9	495	06BP6673	23.4	1195
16P				06FP6115	23.1	615	06FP6673	25.6	1395
20P				06KP6115	25.8	755	06KP6673	29.1	1715
24P				06RP6115	28.6	910	06RP6673	31.9	2095
36P				06P26115	32.9	1260	06P26673	36.1	2630

Thermocouple Extension Cables

500V Pair(s), Type KX

XLPE Insulated, Overall Screen, Unarmoured or Armoured, PVC Sheathed Cable

Description: Type KX-XLPE/OS/PVC-UV or Type KX-XLPE/OS/PVC/SWA/PVC-UV

Model Code: Type KX-XOP-UV or Type KX-XOPSP-UV

No. of Pair(s)	Conductor		Insulation	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand	Thickness	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
1P	1.3	1/1.29	0.6	411P6115	8.1	85	411P6673	10.5	310
2P				412P6115	12.0	155	412P6673	14.0	470
4P				414P6115	14.2	240	414P6673	16.0	610
6P				416P6115	16.8	435	416P6673	19.4	890
8P				418P6115	18.8	420	418P6673	21.3	1050
10P				410P6115	21.4	520	410P6673	23.9	1230
12P				418P6115	22.0	585	418P6673	24.5	1315
16P				41FP6115	24.5	740	41FP6673	27.7	1750
20P				41KP6115	27.4	910	41KP6673	30.6	2045
24P				41RP6115	30.4	1095	41RP6673	33.6	2345
36P				41P26115	35.2	1540	41P26673	39.2	3300
1P	1.5	1/1.38	0.6	071P6115	8.3	85	071P6673	10.7	320
2P				072P6115	12.2	170	072P6673	14.3	485
4P				074P6115	14.6	260	074P6673	16.4	630
6P				076P6115	17.4	365	076P6673	19.9	930
8P				078P6115	19.4	455	078P6673	21.8	1100
10P				070P6115	21.9	565	070P6673	24.4	1300
12P				07BP6115	22.7	635	07BP6673	25.2	1390
16P				07FP6115	25.2	810	07FP6673	28.4	1845
20P				07KP6115	28.3	1000	07KP6673	31.4	2155
24P				07RP6115	31.4	1195	07RP6673	34.5	2500
36P				07P26115	36.2	1690	07P26673	40.2	3510

Thermocouple Extension Cables

500V Pairs, Type KX

XLPE Insulated, Individual & Overall Screen, Unarmoured or Armoured,
PVC Sheathed Cable

Description: Type KX-XLPE/ISOS/PVC-UV or Type KX-XLPE/ISOS/PVC/SWA/PVC-UV

Model Code: Type KX-XIOP-UV or Type KX-XIOPSP-UV



Application :	This cable is used in temperature measurement to convey information from a thermocouple sensor, to the measuring instrument.
Voltage rating :	500V
Construction :	Solid conductor (Positive: Nickel Chromium / Negative: Nickel Aluminium), XLPE insulated, twisted pairs, individual and overall screen (aluminium/polyester tape with tinned copper drain wire), unarmoured or galvanized steel wire armoured, UV resistant PVC* sheathed cable
Insulation colour :	(+) Green, (-) White (with numbering)
Sheath colour :	Green
Specification :	BS EN 50288-7, IEC 60584-3, IEC 60332-1-2 IEC 60332-3 (upon request)
Operating temperature :	90°C

*LSZH sheath (upon request), comply with IEC 60332-3, IEC 60754, IEC 61034-2

No. of Pairs	Conductor		Insulation	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand	Thickness	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
2P	0.5	1/0.80	0.6	042P6041	11.3	140	042P6042	13.5	435
4P				044P6041	13.0	195	044P6042	15.2	540
6P				046P6041	15.8	270	046P6042	17.9	680
8P				048P6041	17.9	345	048P6042	20.6	945
10P				040P6041	20.4	425	040P6042	23.0	1105
12P				048P6041	21.1	475	048P6042	23.6	1180
16P				04FP6041	23.5	595	04FP6042	26.7	1555
20P				04KP6041	26.0	715	04KP6042	29.2	1800
24P				04RP6041	28.9	870	04RP6042	32.2	2050
36P				04P26041	33.3	1210	04P26042	37.4	2905
2P	1	1/1.13	0.6	062P6041	12.5	175	062P6042	14.7	495
4P				064P6041	14.8	260	064P6042	17.0	650
6P				066P6041	17.9	360	066P6042	20.5	965
8P				068P6041	20.2	460	068P6042	22.8	1135
10P				060P6041	22.8	560	060P6042	25.4	1330
12P				06BP6041	23.8	645	06BP6042	27.0	1625
16P				06FP6041	26.5	815	06FP6042	29.7	1920
20P				06KP6041	29.6	1005	06KP6042	32.8	2250
24P				06RP6041	32.8	1210	06RP6042	36.9	2870
36P				06P26041	37.7	1675	06P26042	41.7	3585

Thermocouple Extension Cables

500V Pairs, Type KX

XLPE Insulated, Individual & Overall Screen, Unarmoured or Armoured,
PVC Sheathed Cable

Description: Type KX-XLPE/ISOS/PVC-UV or Type KX-XLPE/ISOS/PVC/SWA/PVC-UV

Model Code: Type KX-XIOP-UV or Type KX-XIOPSP-UV

No. of Pairs	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
2P	1.3	1/1.29	0.6	412P6041	13.5	200	412P6042	15.5	550
4P				414P6041	16.0	300	414P6042	18.5	830
6P				416P6041	19.0	420	416P6042	21.6	1055
8P				418P6041	21.4	525	418P6042	23.8	1245
10P				410P6041	24.2	655	410P6042	27.4	1650
12P				418P6041	25.2	750	418P6042	28.4	1785
16P				41FP6041	28.0	950	41FP6042	31.3	2130
20P				41KP6041	31.4	1170	41KP6042	35.4	2765
24P				41RP6041	35.8	1405	41RP6042	38.9	3185
36P				41P26041	40.2	1975	41P26042	45.1	4455
2P	1.5	1/1.38	0.6	072P6041	13.7	210	072P6042	15.8	570
4P				074P6041	16.2	320	074P6042	18.8	860
6P				076P6041	19.5	445	076P6042	21.1	1095
8P				078P6041	21.8	560	078P6042	24.4	1300
10P				070P6041	24.8	695	070P6042	28.0	1735
12P				07BP6041	25.8	800	07BP6042	29.0	1880
16P				07FP6041	28.8	1020	07FP6042	32.1	2220
20P				07KP6041	32.2	1255	07KP6042	36.2	2890
24P				07RP6041	35.8	1510	07RP6042	39.8	3330
36P				07P26041	41.3	2135	07P26042	46.3	4705

Thermocouple Extension Cables

500V Pair(s), Type EX

XLPE Insulated, Overall Screen, Unarmoured or Armoured, PVC Sheathed Cable

Description: Type EX-XLPE/OS/PVC-UV or Type EX-XLPE/OS/PVC/SWA/PVC-UV

Model Code: Type EX-XOP-UV or Type EX-XOPSP-UV



Application :	This cable is used in temperature measurement to convey information from a thermocouple sensor, to the measuring instrument.
Voltage rating :	500V
Construction :	Solid conductor (Positive: Nickel Chromium / Negative: Copper Nickel), XLPE insulated, twisted pair(s), overall screen (aluminium/polyester tape with tinned copper drain wire), unarmoured or galvanized steel wire armoured, UV resistant PVC* sheathed cable
Insulation colour :	(+) Violet, (-) White (or with numbering)
Sheath colour :	Violet
Specification :	BS EN 50288-7, IEC 60584-3, IEC 60332-1-2 IEC 60332-3 (upon request)
Operating temperature :	90°C

*LSZH sheath (upon request), comply with IEC 60332-3, IEC 60754, IEC 61034-2

No. of Pair(s)	Conductor		Insulation	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand	Thickness	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
1P	0.5	1/0.80	0.6	041P6889	7.1	55	041P6670	9.3	265
2P				042P6889	9.9	100	042P6670	12.2	380
4P				044P6889	11.9	150	044P6670	13.8	455
6P				046P6889	14.2	200	046P6670	16.1	575
8P				048P6889	15.7	250	048P6670	17.6	655
10P				040P6889	17.8	310	040P6670	20.4	890
12P				04BP6889	18.5	340	04BP6670	21.0	960
16P				04FP6889	20.3	415	04FP6670	22.8	1090
20P				04KP6889	22.7	505	04KP6670	25.3	1270
24P				04RP6889	25.3	610	04RP6670	28.4	1635
36P				04P26889	28.9	830	04P26670	32.1	2015
1P	1	1/1.13	0.6	061P6889	7.8	75	061P6670	10.1	295
2P				062P6889	11.3	135	062P6670	13.5	440
4P				064P6889	13.1	200	064P6670	15.2	540
6P				066P6889	15.8	285	066P6670	17.7	685
8P				068P6889	17.9	360	068P6670	20.4	940
10P				060P6889	20.1	435	060P6670	22.6	1105
12P				06BP6889	20.9	495	06BP6670	23.4	1195
16P				06FP6889	23.1	615	06FP6670	25.6	1395
20P				06KP6889	25.8	755	06KP6670	29.1	1715
24P				06RP6889	28.6	910	06RP6670	31.9	2095
36P				06P26889	32.9	1260	06P26670	36.1	2630

Thermocouple Extension Cables



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500V Pair(s), Type EX

XLPE Insulated, Overall Screen, Unarmoured or Armoured, PVC Sheathed Cable

Description: Type EX-XLPE/OS/PVC-UV or Type EX-XLPE/OS/PVC/SWA/PVC-UV

Model Code: Type EX-XOP-UV or Type EX-XOPSP-UV

No. of Pair(s)	Conductor		Insulation	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand	Thickness	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
1P	1.3	1/1.29	0.6	411P6889	8.1	85	411P6670	10.5	310
2P				412P6889	12.0	155	412P6670	14.0	470
4P				414P6889	14.2	240	414P6670	16.0	610
6P				416P6889	16.8	435	416P6670	19.4	890
8P				418P6889	18.8	420	418P6670	21.3	1050
10P				410P6889	21.4	520	410P6670	23.9	1230
12P				418P6889	22.0	585	418P6670	24.5	1315
16P				41FP6889	24.5	740	41FP6670	27.7	1750
20P				41KP6889	27.4	910	41KP6670	30.6	2045
24P				41RP6889	30.4	1095	41RP6670	33.6	2345
36P				41P26889	35.2	1540	41P26670	39.2	3300
1P	1.5	1/1.38	0.6	071P6889	8.3	85	071P6670	10.7	320
2P				072P6889	12.2	170	072P6670	14.3	485
4P				074P6889	14.6	260	074P6670	16.4	630
6P				076P6889	17.4	365	076P6670	19.9	930
8P				078P6889	19.4	455	078P6670	21.8	1100
10P				070P6889	21.9	565	070P6670	24.4	1300
12P				07BP6889	22.7	635	07BP6670	25.2	1390
16P				07FP6889	25.2	810	07FP6670	28.4	1845
20P				07KP6889	28.3	1000	07KP6670	31.4	2155
24P				07RP6889	31.4	1195	07RP6670	34.5	2500
36P				07P26889	36.2	1690	07P26670	40.2	3510

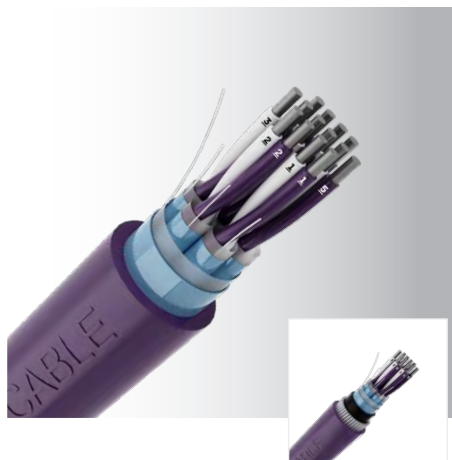
Thermocouple Extension Cables

500V Pairs, Type EX

XLPE Insulated, Individual & Overall Screen, Unarmoured or Armoured,
PVC Sheathed Cable

Description: Type EX-XLPE/ISOS/PVC-UV or Type EX-XLPE/ISOS/PVC/SWA/PVC-UV

Model Code: Type EX-XIOP-UV or Type EX-XIOPSP-UV



Application :	This cable is used in temperature measurement to convey information from a thermocouple sensor, to the measuring instrument.
Voltage rating :	500V
Construction :	Solid conductor (Positive: Nickel Chromium / Negative: Copper Nickel), XLPE insulated, twisted pairs, individual and overall screen (aluminium/ polyester tape with tinned copper drain wire), unarmoured or galvanized steel wire armoured, UV resistant PVC* sheathed cable
Insulation colour :	(+) Violet, (-) White (with numbering)
Sheath colour :	Violet
Specification :	BS EN 50288-7, IEC 60584-3, IEC 60332-1-2 IEC 60332-3 (upon request)
Operating temperature :	90°C

*LSZH sheath (upon request), comply with IEC 60332-3, IEC 60754, IEC 61034-2

No. of Pairs	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
2P	0.5	1/0.80	0.6	042P6685	11.3	140	042P6043	13.5	435
4P				044P6685	13.0	195	044P6043	15.2	540
6P				046P6685	15.8	270	046P6043	17.9	680
8P				048P6685	17.9	345	048P6043	20.6	945
10P				040P6685	20.4	425	040P6043	23.0	1105
12P				048P6685	21.1	475	048P6043	23.6	1180
16P				04FP6685	23.5	595	04FP6043	26.7	1555
20P				04KP6685	26.0	715	04KP6043	29.2	1800
24P				04RP6685	28.9	870	04RP6043	32.2	2050
36P				04P26685	33.3	1210	04P26043	37.4	2905
2P	1	1/1.13	0.6	062P6685	12.5	175	062P6043	14.7	495
4P				064P6685	14.8	260	064P6043	17.0	650
6P				066P6685	17.9	360	066P6043	20.5	965
8P				068P6685	20.2	460	068P6043	22.8	1135
10P				060P6685	22.8	560	060P6043	25.4	1330
12P				06BP6685	23.8	645	06BP6043	27.0	1625
16P				06FP6685	26.5	815	06FP6043	29.7	1920
20P				06KP6685	29.6	1005	06KP6043	32.8	2250
24P				06RP6685	32.8	1210	06RP6043	36.9	2870
36P				06P26685	37.7	1675	06P26043	41.7	3585

Thermocouple Extension Cables



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500V Pairs, Type EX

XLPE Insulated, Individual & Overall Screen, Unarmoured or Armoured,
PVC Sheathed Cable

Description: Type EX-XLPE/ISOS/PVC-UV or Type EX-XLPE/ISOS/PVC/SWA/PVC-UV

Model Code: Type EX-XIOP-UV or Type EX-XIOPSP-UV

No. of Pairs	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
2P	1.3	1/1.29	0.6	412P6685	13.5	200	412P6043	15.5	550
4P				414P6685	16.0	300	414P6043	18.5	830
6P				416P6685	19.0	420	416P6043	21.6	1055
8P				418P6685	21.4	525	418P6043	23.8	1245
10P				410P6685	24.2	655	410P6043	27.4	1650
12P				418P6685	25.2	750	418P6043	28.4	1785
16P				41FP6685	28.0	950	41FP6043	31.3	2130
20P				41KP6685	31.4	1170	41KP6043	35.4	2765
24P				41RP6685	35.8	1405	41RP6043	38.9	3185
36P				41P26685	40.2	1975	41P26043	45.1	4455
2P	1.5	1/1.38	0.6	072P6685	13.7	210	072P6043	15.8	570
4P				074P6685	16.2	320	074P6043	18.8	860
6P				076P6685	19.5	445	076P6043	21.1	1095
8P				078P6685	21.8	560	078P6043	24.4	1300
10P				070P6685	24.8	695	070P6043	28.0	1735
12P				07BP6685	25.8	800	07BP6043	29.0	1880
16P				07FP6685	28.8	1020	07FP6043	32.1	2220
20P				07KP6685	32.2	1255	07KP6043	36.2	2890
24P				07RP6685	35.8	1510	07RP6043	39.8	3330
36P				07P26685	41.3	2135	07P26043	46.3	4705

Thermocouple Extension Cables

500V Pair(s), Type TX

XLPE Insulated, Overall Screen, Unarmoured or Armoured, PVC Sheathed Cable

Description: Type TX-XLPE/OS/PVC-UV or Type TX-XLPE/OS/PVC/SWA/PVC-UV

Model Code: Type TX-XOP-UV or Type TX-XOPSP-UV



Application :	This cable is used in temperature measurement to convey information from a thermocouple sensor, to the measuring instrument.
Voltage rating :	500V
Construction :	Solid conductor (Positive: Copper / Negative: Copper Nickel), XLPE insulated, twisted pair(s), overall screen (aluminium/polyester tape with tinned copper drain wire), unarmoured or galvanized steel wire armoured, UV resistant PVC* sheathed cable
Insulation colour :	(+) Brown, (-) White (or with numbering)
Sheath colour :	Brown
Specification :	BS EN 50288-7, IEC 60584-3, IEC 60332-1-2 IEC 60332-3 (upon request)
Operating temperature :	90°C

*LSZH sheath (upon request), comply with IEC 60332-3, IEC 60754, IEC 61034-2

No. of Pair(s)	Conductor		Insulation	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand	Thickness	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
1P	0.5	1/0.80	0.6	041P6890	7.1	55	041P6891	9.3	265
2P				042P6890	9.9	100	042P6891	12.2	380
4P				044P6890	11.9	150	044P6891	13.8	455
6P				046P6890	14.2	200	046P6891	16.1	575
8P				048P6890	15.7	250	048P6891	17.6	655
10P				040P6890	17.8	310	040P6891	20.4	890
12P				04BP6890	18.5	340	04BP6891	21.0	960
16P				04FP6890	20.3	415	04FP6891	22.8	1090
20P				04KP6890	22.7	505	04KP6891	25.3	1270
24P				04RP6890	25.3	610	04RP6891	28.4	1635
36P				04P26890	28.9	830	04P26891	32.1	2015
1P	1	1/1.13	0.6	061P6890	7.8	75	061P6891	10.1	295
2P				062P6890	11.3	135	062P6891	13.5	440
4P				064P6890	13.1	200	064P6891	15.2	540
6P				066P6890	15.8	285	066P6891	17.7	685
8P				068P6890	17.9	360	068P6891	20.4	940
10P				060P6890	20.1	435	060P6891	22.6	1105
12P				06BP6890	20.9	495	06BP6891	23.4	1195
16P				06FP6890	23.1	615	06FP6891	25.6	1395
20P				06KP6890	25.8	755	06KP6891	29.1	1715
24P				06RP6890	28.6	910	06RP6891	31.9	2095
36P				06P26890	32.9	1260	06P26891	36.1	2630

Thermocouple Extension Cables

500V Pair(s), Type TX

XLPE Insulated, Overall Screen, Unarmoured or Armoured, PVC Sheathed Cable

Description: Type TX-XLPE/OS/PVC-UV or Type TX-XLPE/OS/PVC/SWA/PVC-UV

Model Code: Type TX-XOP-UV or Type TX-XOPSP-UV

No. of Pair(s)	Conductor		Insulation	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand	Thickness	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
1P	1.3	1/1.29	0.6	411P6890	8.1	85	411P6891	10.5	310
2P				412P6890	12.0	155	412P6891	14.0	470
4P				414P6890	14.2	240	414P6891	16.0	610
6P				416P6890	16.8	435	416P6891	19.4	890
8P				418P6890	18.8	420	418P6891	21.3	1050
10P				410P6890	21.4	520	410P6891	23.9	1230
12P				418P6890	22.0	585	418P6891	24.5	1315
16P				41FP6890	24.5	740	41FP6891	27.7	1750
20P				41KP6890	27.4	910	41KP6891	30.6	2045
24P				41RP6890	30.4	1095	41RP6891	33.6	2345
36P				41P26890	35.2	1540	41P26891	39.2	3300
1P	1.5	1/1.38	0.6	071P6890	8.3	85	071P6891	10.7	320
2P				072P6890	12.2	170	072P6891	14.3	485
4P				074P6890	14.6	260	074P6891	16.4	630
6P				076P6890	17.4	365	076P6891	19.9	930
8P				078P6890	19.4	455	078P6891	21.8	1100
10P				070P6890	21.9	565	070P6891	24.4	1300
12P				07BP6890	22.7	635	07BP6891	25.2	1390
16P				07FP6890	25.2	810	07FP6891	28.4	1845
20P				07KP6890	28.3	1000	07KP6891	31.4	2155
24P				07RP6890	31.4	1195	07RP6891	34.5	2500
36P				07P26890	36.2	1690	07P26891	40.2	3510

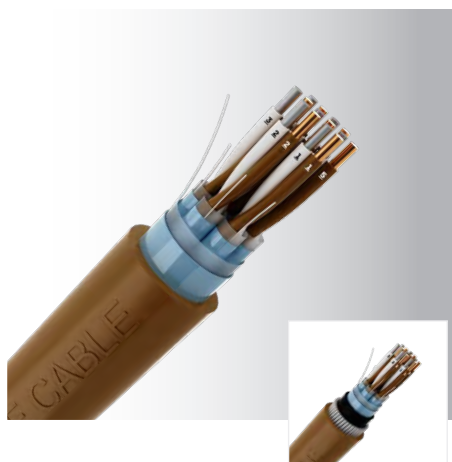
Thermocouple Extension Cables

500V Pairs, Type TX

XLPE Insulated, Individual & Overall Screen, Unarmoured or Armoured,
PVC Sheathed Cable

Description: Type TX-XLPE/ISOS/PVC-UV or Type TX-XLPE/ISOS/PVC/SWA/PVC-UV

Model Code: Type TX-XIOP-UV or Type TX-XIOPSP-UV



Application :	This cable is used in temperature measurement to convey information from a thermocouple sensor, to the measuring instrument.
Voltage rating :	500V
Construction :	Solid conductor (Positive: Copper / Negative: Copper Nickel), XLPE insulated, twisted pairs, individual and overall screen (aluminium/ polyester tape with tinned copper drain wire), unarmoured or galvanized steel wire armoured, UV resistant PVC* sheathed cable
Insulation colour :	(+) Brown, (-) White (with numbering)
Sheath colour :	Brown
Specification :	BS EN 50288-7, IEC 60584-3, IEC 60332-1-2 IEC 60332-3 (upon request)
Operating temperature :	90°C

*LSZH sheath (upon request), comply with IEC 60332-3, IEC 60754, IEC 61034-2

No. of Pairs	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
2P	0.5	1/0.80	0.6	042P6044	11.3	140	042P6894	13.5	435
4P				044P6044	13.0	195	044P6894	15.2	540
6P				046P6044	15.8	270	046P6894	17.9	680
8P				048P6044	17.9	345	048P6894	20.6	945
10P				040P6044	20.4	425	040P6894	23.0	1105
12P				048P6044	21.1	475	048P6894	23.6	1180
16P				04FP6044	23.5	595	04FP6894	26.7	1555
20P				04KP6044	26.0	715	04KP6894	29.2	1800
24P				04RP6044	28.9	870	04RP6894	32.2	2050
36P				04P26044	33.3	1210	04P26894	37.4	2905
2P	1	1/1.13	0.6	062P6044	12.5	175	062P6894	14.7	495
4P				064P6044	14.8	260	064P6894	17.0	650
6P				066P6044	17.9	360	066P6894	20.5	965
8P				068P6044	20.2	460	068P6894	22.8	1135
10P				060P6044	22.8	560	060P6894	25.4	1330
12P				06BP6044	23.8	645	06BP6894	27.0	1625
16P				06FP6044	26.5	815	06FP6894	29.7	1920
20P				06KP6044	29.6	1005	06KP6894	32.8	2250
24P				06RP6044	32.8	1210	06RP6894	36.9	2870
36P				06P26044	37.7	1675	06P26894	41.7	3585

Thermocouple Extension Cables

500V Pairs, Type TX

XLPE Insulated, Individual & Overall Screen, Unarmoured or Armoured,
PVC Sheathed Cable

Description: Type TX-XLPE/ISOS/PVC-UV or Type TX-XLPE/ISOS/PVC/SWA/PVC-UV

Model Code: Type TX-XIOP-UV or Type TX-XIOPSP-UV

No. of Pairs	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
2P	1.3	1/1.29	0.6	412P6044	13.5	200	412P6894	15.5	550
4P				414P6044	16.0	300	414P6894	18.5	830
6P				416P6044	19.0	420	416P6894	21.6	1055
8P				418P6044	21.4	525	418P6894	23.8	1245
10P				410P6044	24.2	655	410P6894	27.4	1650
12P				418P6044	25.2	750	418P6894	28.4	1785
16P				41FP6044	28.0	950	41FP6894	31.3	2130
20P				41KP6044	31.4	1170	41KP6894	35.4	2765
24P				41RP6044	35.8	1405	41RP6894	38.9	3185
36P				41P26044	40.2	1975	41P26894	45.1	4455
2P	1.5	1/1.38	0.6	072P6044	13.7	210	072P6894	15.8	570
4P				074P6044	16.2	320	074P6894	18.8	860
6P				076P6044	19.5	445	076P6894	21.1	1095
8P				078P6044	21.8	560	078P6894	24.4	1300
10P				070P6044	24.8	695	070P6894	28.0	1735
12P				07BP6044	25.8	800	07BP6894	29.0	1880
16P				07FP6044	28.8	1020	07FP6894	32.1	2220
20P				07KP6044	32.2	1255	07KP6894	36.2	2890
24P				07RP6044	35.8	1510	07RP6894	39.8	3330
36P				07P26044	41.3	2135	07P26894	46.3	4705

Thermocouple Compensating Cables

500V Pair(s), Type KCA

XLPE Insulated, Overall Screen, Unarmoured or Armoured, PVC Sheathed Cable

Description: Type KCA-XLPE/OS/PVC-UV or Type KCA-XLPE/OS/PVC/SWA/PVC-UV

Model Code: Type KCA-XOP-UV or Type KCA-XOPSP-UV



Application :	This cable is used in temperature measurement to convey information from a thermocouple sensor, to the measuring instrument.
Voltage rating :	500V
Construction :	Solid conductor (Positive: Iron / Negative: Copper Nickel), XLPE insulated, twisted pair(s), overall screen (aluminium/polyester tape with tinned copper drain wire), unarmoured or galvanized steel wire armoured, UV resistant PVC* sheathed cable
Insulation colour :	(+) Green, (-) White (or with numbering)
Sheath colour :	Green
Specification :	BS EN 50288-7, IEC 60584-3, IEC 60332-1-2 IEC 60332-3 (upon request)
Operating temperature :	90°C

*LSZH sheath (upon request), comply with IEC 60332-3, IEC 60754, IEC 61034-2

No. of Pair(s)	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
1P	0.5	1/0.80	0.6	041P6261	7.1	55	041P6262	9.3	265
2P				042P6261	9.9	100	042P6262	12.2	380
4P				044P6261	11.9	150	044P6262	13.8	455
6P				046P6261	14.2	200	046P6262	16.1	575
8P				048P6261	15.7	250	048P6262	17.6	655
10P				040P6261	17.8	310	040P6262	20.4	890
12P				048P6261	18.5	340	048P6262	21.0	960
16P				04FP6261	20.3	415	04FP6262	22.8	1090
20P				04KP6261	22.7	505	04KP6262	25.3	1270
24P				04RP6261	25.3	610	04RP6262	28.4	1635
36P				04P26261	28.9	830	04P26262	32.1	2015
1P	1	1/1.13	0.6	061P6261	7.8	75	061P6262	10.1	295
2P				062P6261	11.3	135	062P6262	13.5	440
4P				064P6261	13.1	200	064P6262	15.2	540
6P				066P6261	15.8	285	066P6262	17.7	685
8P				068P6261	17.9	360	068P6262	20.4	940
10P				060P6261	20.1	435	060P6262	22.6	1105
12P				06BP6261	20.9	495	06BP6262	23.4	1195
16P				06FP6261	23.1	615	06FP6262	25.6	1395
20P				06KP6261	25.8	755	06KP6262	29.1	1715
24P				06RP6261	28.6	910	06RP6262	31.9	2095
36P				06P26261	32.9	1260	06P26262	36.1	2630

Thermocouple Compensating Cables

500V Pair(s), Type KCA

XLPE Insulated, Overall Screen, Unarmoured or Armoured, PVC Sheathed Cable

Description: Type KCA-XLPE/OS/PVC-UV or Type KCA-XLPE/OS/PVC/SWA/PVC-UV

Model Code: Type KCA-XOP-UV or Type KCA-XOPSP-UV

No. of Pair(s)	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
1P	1.3	1/1.29	0.6	411P6261	8.1	85	411P6262	10.5	310
2P				412P6261	12.0	155	412P6262	14.0	470
4P				414P6261	14.2	240	414P6262	16.0	610
6P				416P6261	16.8	435	416P6262	19.4	890
8P				418P6261	18.8	420	418P6262	21.3	1050
10P				410P6261	21.4	520	410P6262	23.9	1230
12P				418P6261	22.0	585	418P6262	24.5	1315
16P				41FP6261	24.5	740	41FP6262	27.7	1750
20P				41KP6261	27.4	910	41KP6262	30.6	2045
24P				41RP6261	30.4	1095	41RP6262	33.6	2345
36P				41P26261	35.2	1540	41P26262	39.2	3300
1P	1.5	1/1.38	0.6	071P6261	8.3	85	071P6262	10.7	320
2P				072P6261	12.2	170	072P6262	14.3	485
4P				074P6261	14.6	260	074P6262	16.4	630
6P				076P6261	17.4	365	076P6262	19.9	930
8P				078P6261	19.4	455	078P6262	21.8	1100
10P				070P6261	21.9	565	070P6262	24.4	1300
12P				07BP6261	22.7	635	07BP6262	25.2	1390
16P				07FP6261	25.2	810	07FP6262	28.4	1845
20P				07KP6261	28.3	1000	07KP6262	31.4	2155
24P				07RP6261	31.4	1195	07RP6262	34.5	2500
36P				07P26261	36.2	1690	07P26262	40.2	3510

Thermocouple Compensating Cables

500V Pairs, Type KCA

XLPE Insulated, Individual & Overall Screen, Unarmoured or Armoured,
PVC Sheathed Cable

Description: Type KCA-XLPE/ISOS/PVC-UV or Type KCA-XLPE/ISOS/PVC/SWA/PVC-UV

Model Code: Type KCA-XIOP-UV or Type KCA-XIOPSP-UV



Application :	This cable is used in temperature measurement to convey information from a thermocouple sensor, to the measuring instrument.
Voltage rating :	500V
Construction :	Solid conductor (Positive: Iron / Negative: Copper Nickel), XLPE insulated, twisted pairs, individual and overall screen (aluminium/polyester tape with tinned copper drain wire), unarmoured or galvanized steel wire armoured, UV resistant PVC* sheathed cable
Insulation colour :	(+) Green, (-) White (with numbering)
Sheath colour :	Green
Specification :	BS EN 50288-7, IEC 60584-3, IEC 60332-1-2 IEC 60332-3 (upon request)
Operating temperature :	90°C

*LSZH sheath (upon request), comply with IEC 60332-3, IEC 60754, IEC 61034-2

No. of Pairs	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
2P	0.5	1/0.80	0.6	042P6046	11.3	140	042P6895	13.5	435
4P				044P6046	13.0	195	044P6895	15.2	540
6P				046P6046	15.8	270	046P6895	17.9	680
8P				048P6046	17.9	345	048P6895	20.6	945
10P				040P6046	20.4	425	040P6895	23.0	1105
12P				048P6046	21.1	475	048P6895	23.6	1180
16P				04FP6046	23.5	595	04FP6895	26.7	1555
20P				04KP6046	26.0	715	04KP6895	29.2	1800
24P				04RP6046	28.9	870	04RP6895	32.2	2050
36P				04P26046	33.3	1210	04P26895	37.4	2905
2P	1	1/1.13	0.6	062P6046	12.5	175	062P6895	14.7	495
4P				064P6046	14.8	260	064P6895	17.0	650
6P				066P6046	17.9	360	066P6895	20.5	965
8P				068P6046	20.2	460	068P6895	22.8	1135
10P				060P6046	22.8	560	060P6895	25.4	1330
12P				06BP6046	23.8	645	06BP6895	27.0	1625
16P				06FP6046	26.5	815	06FP6895	29.7	1920
20P				06KP6046	29.6	1005	06KP6895	32.8	2250
24P				06RP6046	32.8	1210	06RP6895	36.9	2870
36P				06P26046	37.7	1675	06P26895	41.7	3585

Thermocouple Compensating Cables

500V Pairs, Type KCA

XLPE Insulated, Individual & Overall Screen, Unarmoured or Armoured,
PVC Sheathed Cable

Description: Type KCA-XLPE/ISOS/PVC-UV or Type KCA-XLPE/ISOS/PVC/SWA/PVC-UV

Model Code: Type KCA-XIOP-UV or Type KCA-XIOPSP-UV

No. of Pairs	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
2P	1.3	1/1.29	0.6	412P6046	13.5	200	412P6895	15.5	550
4P				414P6046	16.0	300	414P6895	18.5	830
6P				416P6046	19.0	420	416P6895	21.6	1055
8P				418P6046	21.4	525	418P6895	23.8	1245
10P				410P6046	24.2	655	410P6895	27.4	1650
12P				418P6046	25.2	750	418P6895	28.4	1785
16P				41FP6046	28.0	950	41FP6895	31.3	2130
20P				41KP6046	31.4	1170	41KP6895	35.4	2765
24P				41RP6046	35.8	1405	41RP6895	38.9	3185
36P				41P26046	40.2	1975	41P26895	45.1	4455
2P	1.5	1/1.38	0.6	072P6046	13.7	210	072P6895	15.8	570
4P				074P6046	16.2	320	074P6895	18.8	860
6P				076P6046	19.5	445	076P6895	21.1	1095
8P				078P6046	21.8	560	078P6895	24.4	1300
10P				070P6046	24.8	695	070P6895	28.0	1735
12P				07BP6046	25.8	800	07BP6895	29.0	1880
16P				07FP6046	28.8	1020	07FP6895	32.1	2220
20P				07KP6046	32.2	1255	07KP6895	36.2	2890
24P				07RP6046	35.8	1510	07RP6895	39.8	3330
36P				07P26046	41.3	2135	07P26895	46.3	4705

Thermocouple Compensating Cables

500V Pair(s), Type KCB

XLPE Insulated, Overall Screen, Unarmoured or Armoured, PVC Sheathed Cable

Description: Type KCB-XLPE/OS/PVC-UV or Type KCB-XLPE/OS/PVC/SWA/PVC-UV

Model Code: Type KCB-XOP-UV or Type KCB-XOPSP-UV



Application :	This cable is used in temperature measurement to convey information from a thermocouple sensor, to the measuring instrument.
Voltage rating :	500V
Construction :	Solid conductor (Positive: Copper / Negative: Copper Nickel), XLPE insulated, twisted pair(s), overall screen (aluminium/polyester tape with tinned copper drain wire), unarmoured or galvanized steel wire armoured, UV resistant PVC* sheathed cable
Insulation colour :	(+) Green, (-) White (or with numbering)
Sheath colour :	Green
Specification :	BS EN 50288-7, IEC 60584-3, IEC 60332-1-2 IEC 60332-3 (upon request)
Operating temperature :	90°C

*LSZH sheath (upon request), comply with IEC 60332-3, IEC 60754, IEC 61034-2

No. of Pair(s)	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
1P	0.5	1/0.80	0.6	041P6718	7.1	55	041P6222	9.3	265
2P				042P6718	9.9	100	042P6222	12.2	380
4P				044P6718	11.9	150	044P6222	13.8	455
6P				046P6718	14.2	200	046P6222	16.1	575
8P				048P6718	15.7	250	048P6222	17.6	655
10P				040P6718	17.8	310	040P6222	20.4	890
12P				048P6718	18.5	340	048P6222	21.0	960
16P				04FP6718	20.3	415	04FP6222	22.8	1090
20P				04KP6718	22.7	505	04KP6222	25.3	1270
24P				04RP6718	25.3	610	04RP6222	28.4	1635
36P				04P26718	28.9	830	04P26222	32.1	2015
1P	1	1/1.13	0.6	061P6718	7.8	75	061P6222	10.1	295
2P				062P6718	11.3	135	062P6222	13.5	440
4P				064P6718	13.1	200	064P6222	15.2	540
6P				066P6718	15.8	285	066P6222	17.7	685
8P				068P6718	17.9	360	068P6222	20.4	940
10P				060P6718	20.1	435	060P6222	22.6	1105
12P				06BP6718	20.9	495	06BP6222	23.4	1195
16P				06FP6718	23.1	615	06FP6222	25.6	1395
20P				06KP6718	25.8	755	06KP6222	29.1	1715
24P				06RP6718	28.6	910	06RP6222	31.9	2095
36P				06P26718	32.9	1260	06P26222	36.1	2630

Thermocouple Compensating Cables



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500V Pair(s), Type KCB

XLPE Insulated, Overall Screen, Unarmoured or Armoured, PVC Sheathed Cable

Description: Type KCB-XLPE/OS/PVC-UV or Type KCB-XLPE/OS/PVC/SWA/PVC-UV

Model Code: Type KCB-XOP-UV or Type KCB-XOPSP-UV

No. of Pair(s)	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
1P	1.3	1/1.29	0.6	411P6718	8.1	85	411P6222	10.5	310
2P				412P6718	12.0	155	412P6222	14.0	470
4P				414P6718	14.2	240	414P6222	16.0	610
6P				416P6718	16.8	435	416P6222	19.4	890
8P				418P6718	18.8	420	418P6222	21.3	1050
10P				410P6718	21.4	520	410P6222	23.9	1230
12P				418P6718	22.0	585	418P6222	24.5	1315
16P				41FP6718	24.5	740	41FP6222	27.7	1750
20P				41KP6718	27.4	910	41KP6222	30.6	2045
24P				41RP6718	30.4	1095	41RP6222	33.6	2345
36P				41P26718	35.2	1540	41P26222	39.2	3300
1P	1.5	1/1.38	0.6	071P6718	8.3	85	071P6222	10.7	320
2P				072P6718	12.2	170	072P6222	14.3	485
4P				074P6718	14.6	260	074P6222	16.4	630
6P				076P6718	17.4	365	076P6222	19.9	930
8P				078P6718	19.4	455	078P6222	21.8	1100
10P				070P6718	21.9	565	070P6222	24.4	1300
12P				07BP6718	22.7	635	07BP6222	25.2	1390
16P				07FP6718	25.2	810	07FP6222	28.4	1845
20P				07KP6718	28.3	1000	07KP6222	31.4	2155
24P				07RP6718	31.4	1195	07RP6222	34.5	2500
36P				07P26718	36.2	1690	07P26222	40.2	3510

Thermocouple Compensating Cables

500V Pairs, Type KCB

XLPE Insulated, Individual & Overall Screen, Unarmoured or Armoured,
PVC Sheathed Cable

Description: Type KCB-XLPE/ISOS/PVC-UV or Type KCB-XLPE/ISOS/PVC/SWA/PVC-UV

Model Code: Type KCB-XIOP-UV or Type KCB-XIOPSP-UV



Application :	This cable is used in temperature measurement to convey information from a thermocouple sensor, to the measuring instrument.
Voltage rating :	500V
Construction :	Solid conductor (Positive: Copper / Negative: Copper Nickel), XLPE insulated, twisted pairs, individual and overall screen (aluminium/ polyester tape with tinned copper drain wire), unarmoured or galvanized steel wire armoured, UV resistant PVC* sheathed cable
Insulation colour :	(+) Green, (-) White (with numbering)
Sheath colour :	Green
Specification :	BS EN 50288-7, IEC 60584-3, IEC 60332-1-2 IEC 60332-3 (upon request)
Operating temperature :	90°C

*LSZH sheath (upon request), comply with IEC 60332-3, IEC 60754, IEC 61034-2

No. of Pairs	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
2P	0.5	1/0.80	0.6	042P6686	11.3	140	042P6896	13.5	435
4P				044P6686	13.0	195	044P6896	15.2	540
6P				046P6686	15.8	270	046P6896	17.9	680
8P				048P6686	17.9	345	048P6896	20.6	945
10P				040P6686	20.4	425	040P6896	23.0	1105
12P				048P6686	21.1	475	048P6896	23.6	1180
16P				04FP6686	23.5	595	04FP6896	26.7	1555
20P				04KP6686	26.0	715	04KP6896	29.2	1800
24P				04RP6686	28.9	870	04RP6896	32.2	2050
36P				04P26686	33.3	1210	04P26896	37.4	2905
2P	1	1/1.13	0.6	062P6686	12.5	175	062P6896	14.7	495
4P				064P6686	14.8	260	064P6896	17.0	650
6P				066P6686	17.9	360	066P6896	20.5	965
8P				068P6686	20.2	460	068P6896	22.8	1135
10P				060P6686	22.8	560	060P6896	25.4	1330
12P				06BP6686	23.8	645	06BP6896	27.0	1625
16P				06FP6686	26.5	815	06FP6896	29.7	1920
20P				06KP6686	29.6	1005	06KP6896	32.8	2250
24P				06RP6686	32.8	1210	06RP6896	36.9	2870
36P				06P26686	37.7	1675	06P26896	41.7	3585

Thermocouple Compensating Cables

500V Pairs, Type KCB

XLPE Insulated, Individual & Overall Screen, Unarmoured or Armoured,
PVC Sheathed Cable

Description: Type KCB-XLPE/ISOS/PVC-UV or Type KCB-XLPE/ISOS/PVC/SWA/PVC-UV

Model Code: Type KCB-XIOP-UV or Type KCB-XIOPSP-UV

No. of Pairs	Conductor		Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
	Nominal Area	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
	(mm ²)	(no./mm)			(mm)	(kg/km)		(mm)	(kg/km)
2P	1.3	1/1.29	0.6	412P6686	13.5	200	412P6896	15.5	550
4P				414P6686	16.0	300	414P6896	18.5	830
6P				416P6686	19.0	420	416P6896	21.6	1055
8P				418P6686	21.4	525	418P6896	23.8	1245
10P				410P6686	24.2	655	410P6896	27.4	1650
12P				418P6686	25.2	750	418P6896	28.4	1785
16P				41FP6686	28.0	950	41FP6896	31.3	2130
20P				41KP6686	31.4	1170	41KP6896	35.4	2765
24P				41RP6686	35.8	1405	41RP6896	38.9	3185
36P				41P26686	40.2	1975	41P26896	45.1	4455
2P	1.5	1/1.38	0.6	072P6686	13.7	210	072P6896	15.8	570
4P				074P6686	16.2	320	074P6896	18.8	860
6P				076P6686	19.5	445	076P6896	21.1	1095
8P				078P6686	21.8	560	078P6896	24.4	1300
10P				070P6686	24.8	695	070P6896	28.0	1735
12P				07BP6686	25.8	800	07BP6896	29.0	1880
16P				07FP6686	28.8	1020	07FP6896	32.1	2220
20P				07KP6686	32.2	1255	07KP6896	36.2	2890
24P				07RP6686	35.8	1510	07RP6896	39.8	3330
36P				07P26686	41.3	2135	07P26896	46.3	4705



Variable Speed Drive (VSD) Cables

1	Conductor	Plain Annealed Copper
2	Insulation	XLPE
3	Binder Tape	Non-hygroscopic Tape
4	Bedding	PVC
5	Screen	Copper Tape
6	Separation Sheath	PVC
7	Armouring	Galvanized Steel Wire
8	Oversheath	PVC

Variable Speed Drive (VSD) Cables

0.6/1kV 3-Phase Core + 3-Earth Core

XLPE Insulated, Copper Tape Screen, Unarmoured & Armoured, PVC Sheathed Cable

Description: CU/XLPE/PVC/CTS/PVC or CU/XLPE/PVC/CTS/PVC/SWA/PVC-AT

Model Code: XPCTP or XPCTPSP-AT



Application : This cable provides enhanced protection against electrical noise and maintains stable electrical performance, ensuring reliable system uptime in harsh environments such as control and motor supplying systems in industrial water pumps and conveyor systems where high-frequency currents are present.

Voltage rating : 0.6/1kV

Construction : Plain annealed copper (IEC 60228 Class 2), XLPE insulated, 3-earth cores disposed in interstices of the phase cores, copper tape screen, unarmoured or galvanized steel wires armoured, PVC or anti-termite PVC (for armoured cable only) compound sheathed cable

Insulation colour : Brown, Black, Grey, Green/Yellow (other colour upon request)

Sheath colour : Black (other colour upon request)

Specification : IEC 60502-1, IEC 60332-1-2

Operating temperature : 90°C

3-PHASE CORE + 3-EARTH CORE [3C + 3E]

(Brown, Black, Grey, Green/Yellow)

Conductor				Insulation		Unarmoured Cable			Armoured Cable		
Phase		Earth		Phase	Earth	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
Nominal Area	Approx. Diam.	Nominal Area	Approx. Diam.	Thickness	Thickness						
(mm ²)	(mm)	(mm ²)	(mm)	(mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
1.5	1.59	1.5	1.59	0.7	0.7	07C66065	17.4	395	07C66066	21.6	745
2.5	2.01	1.5	1.59	0.7	0.7	08CA6065	18.3	435	08CA6066	23.3	970
4	2.55	1.5	1.59	0.7	0.7	09CE6065	19.1	500	09CE6066	24.2	1065
6	3.12	2.5	2.01	0.7	0.7	10CH6065	20.7	615	10CH6066	25.6	1230
10	4.05	4	2.55	0.7	0.7	11CL6065	22.9	825	11CL6066	27.8	1495
16	5.10	6	3.12	0.7	0.7	12CR6065	25.4	1105	12CR6066	31.1	2025
25 (cs)	6.20	6	3.12	0.9	0.7	13CV6065	27.6	1425	13CV6066	33.4	2430
35 (cs)	7.30	6	3.12	0.9	0.7	14CX6065	29.7	1760	14CX6066	35.7	2875
50 (cs)	8.20	10	4.05	1.0	0.7	15D06065	33.4	2320	15D06066	40.4	3860
70 (cs)	10.00	16	5.10	1.1	0.7	16D36065	37.3	3200	16D36066	44.3	4900
95 (cs)	11.80	16	5.10	1.1	0.7	17D56065	40.5	4050	17D56066	47.8	5925
120 (cs)	13.00	25 (cs)	6.20	1.2	0.9	18D96065	45.9	5090	18D96066	54.1	7650
150 (cs)	14.40	25 (cs)	6.20	1.4	0.9	19DB6065	47.2	6065	19DB6066	56.7	8815
185 (cs)	16.20	35 (cs)	7.30	1.6	0.9	20DF6065	53.3	7395	20DF6066	61.9	10545
240 (cs)	18.80	50 (cs)	8.20	1.7	1.0	21DJ6065	60.7	9725	21DJ6066	69.6	13155
300 (cs)	21.20	50 (cs)	8.20	1.8	1.0	22DL6065	66.4	11610	22DL6066	76.7	16300

Current rating and voltage drop

For Unarmoured Cable, please refer to Table 6 & 7 (Page 69)

For Armoured Cable, please refer to Table 8 & 9 (Page 70)

(cs) : Circular Compact Stranded Conductor



LSZH Flame Retardant & Fire Resistant Variable Speed Drive (VSD) Cables

1	Conductor	Plain Annealed Copper
2	Fire Barrier	Mica Tape
3	Insulation	XLPE
4	Binder Tape	Non-hygroscopic Tape
5	Bedding	LSZH*
6	Screen	Copper Tape
7	Separation Sheath	LSZH*
8	Armouring	Galvanized Steel Wire
9	Oversheath	LSZH*

* LSZH: Low Smoke Zero Halogen

LSZH Flame Retardant Variable Speed Drive (VSD) Cables



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0.6/1kV 3-Phase Core + 3-Earth Core

XLPE Insulated, Copper Tape Screen, Unarmoured & Armoured, LSZH Sheathed Cable

Description: CU/XLPE/LSZH/CTS/LSZH-AT-UV or CU/XLPE/LSZH/CTS/LSZH/SWA/LSZH-AT-UV

Model Code: XLCTL-AT-UV or XLCTLSL-AT-UV



Application : This cable provides enhanced protection against electrical noise and maintains stable electrical performance, ensuring reliable system uptime in harsh environments such as control and motor supplying systems in industrial water pumps and conveyor systems where high-frequency currents are present.

Voltage rating : 0.6/1kV

Construction : Plain annealed copper (IEC 60228 Class 2), XLPE insulated, 3-earth cores disposed in interstices of the phase cores, copper tape screen, unarmoured or galvanized steel wires armoured, anti-termite and UV resistant LSZH compound sheathed cable

Insulation colour : Brown, Black, Grey, Green/Yellow (other colour upon request)

Sheath colour : Black (other colour upon request)

Specification : IEC 60502-1, IEC 60332-1-2, IEC 60332-3, IEC 60754, IEC 61034-2

Operating temperature : 90°C

3-PHASE CORE + 3-EARTH CORE [3C + 3E]

(Brown, Black, Grey, Green/Yellow)

Conductor				Insulation		Unarmoured Cable			Armoured Cable		
Phase		Earth		Phase	Earth	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
Nominal Area	Approx. Diam.	Nominal Area	Approx. Diam.	Thickness	Thickness		(mm)	(kg/km)		(mm)	(kg/km)
(mm ²)	(mm)	(mm ²)	(mm)	(mm)	(mm)						
1.5	1.59	1.5	1.59	0.7	0.7	07C66237	17.4	395	07C66101	21.6	745
2.5	2.01	1.5	1.59	0.7	0.7	08CA6237	18.3	435	08CA6101	23.3	970
4	2.55	1.5	1.59	0.7	0.7	09CE6237	19.1	500	09CE6101	24.2	1065
6	3.12	2.5	2.01	0.7	0.7	10CH6237	20.7	615	10CH6101	25.6	1230
10	4.05	4	2.55	0.7	0.7	11CL6237	22.9	825	11CL6101	27.8	1495
16	5.10	6	3.12	0.7	0.7	12CR6237	25.4	1105	12CR6101	31.1	2025
25 (cs)	6.20	6	3.12	0.9	0.7	13CV6237	27.6	1425	13CV6101	33.4	2430
35 (cs)	7.30	6	3.12	0.9	0.7	14CX6237	29.7	1760	14CX6101	35.7	2875
50 (cs)	8.20	10	4.05	1.0	0.7	15D06237	33.4	2320	15D06101	40.4	3860
70 (cs)	10.00	16	5.10	1.1	0.7	16D36237	37.3	3200	16D36101	44.3	4900
95 (cs)	11.80	16	5.10	1.1	0.7	17D56237	40.5	4050	17D56101	47.8	5925
120 (cs)	13.00	25 (cs)	6.20	1.2	0.9	18D96237	45.9	5090	18D96101	54.1	7650
150 (cs)	14.40	25 (cs)	6.20	1.4	0.9	19DB6237	47.2	6065	19DB6101	56.7	8815
185 (cs)	16.20	35 (cs)	7.30	1.6	0.9	20DF6237	53.3	7395	20DF6101	61.9	10545
240 (cs)	18.80	50 (cs)	8.20	1.7	1.0	21DJ6237	60.7	9725	21DJ6101	69.6	13155
300 (cs)	21.20	50 (cs)	8.20	1.8	1.0	22DL6237	66.4	11610	22DL6101	76.7	16300

Current rating and voltage drop

For Unarmoured Cable, please refer to Table 6 & 7 (Page 69)

For Armoured Cable, please refer to Table 8 & 9 (Page 70)

(cs) : Circular Compact Stranded Conductor

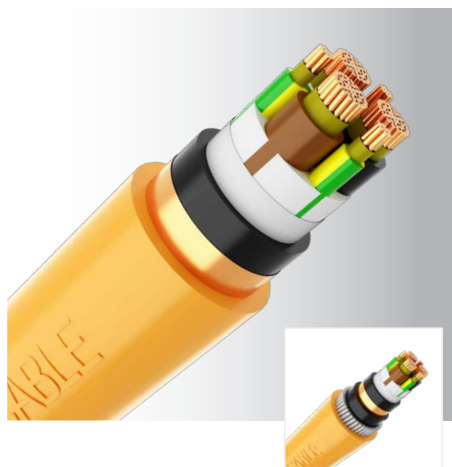
LSZH Fire Resistant Variable Speed Drive (VSD) Cables

0.6/1kV 3-Phase Core + 3-Earth Core

Mica Tape, XLPE Insulated, Copper Tape Screen, Unarmoured & Armoured, LSZH Sheathed Cable

Description: CU/MT/XLPE/LSZH/CTS/LSZH-AT-UV or CU/MT/XLPE/LSZH/CTS/LSZH/SWA/LSZH-AT-UV

Model Code: MXLCTL-AT-UV or MXLCTLSL-AT-UV



Application :	This cable is designed for areas where the integrity of the electrical circuit is critical in maintaining power supply. It also provides enhanced protection against electrical noise and maintains stable electrical performance, ensuring reliable system uptime in harsh environments where high-frequency currents are present.
Voltage rating :	0.6/1kV
Construction :	Plain annealed copper (IEC 60228 Class 2), mica tape fire barrier, XLPE insulated, 3-earth cores disposed in interstices of the phase cores, copper tape screen, unarmoured or galvanized steel wires armoured, anti-termite and UV resistant LSZH compound sheathed cable
Insulation colour :	Brown, Black, Grey, Green/Yellow (other colour upon request)
Sheath colour :	Orange (other colour upon request)
Specification :	IEC 60502-1, SS 299, BS 6387, IEC 60331, IEC 60332-1-2, IEC 60332-3, IEC 60754, IEC 61034-2
Operating temperature :	90°C

3-PHASE CORE + 3-EARTH CORE [3C + 3E]

(Brown, Black, Grey, Green/Yellow)

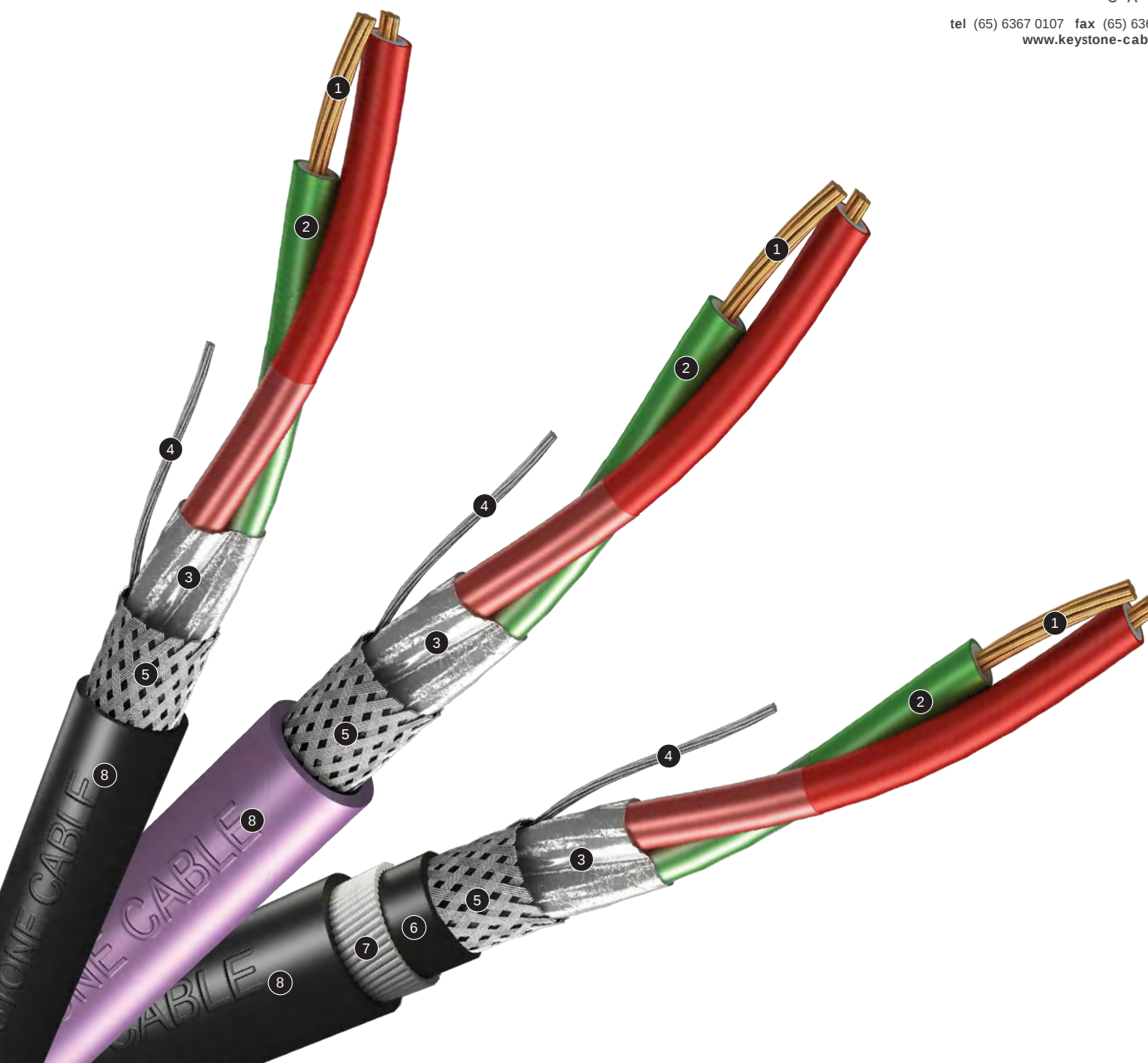
Conductor				Insulation		Unarmoured Cable			Armoured Cable		
Phase		Earth		Phase	Earth	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
Nominal Area	Approx. Diam.	Nominal Area	Approx. Diam.	Thickness	Thickness		(mm)	(kg/km)		(mm)	(kg/km)
(mm ²)	(mm)	(mm ²)	(mm)	(mm)	(mm)						
1.5	1.59	1.5	1.59	0.7	0.7	07C64679	19.7	480	07C64680	24.1	895
2.5	2.01	1.5	1.59	0.7	0.7	08CA4679	20.5	530	08CA4680	25.6	1140
4	2.55	1.5	1.59	0.7	0.7	09CE4679	21.7	600	09CE4680	26.8	1250
6	3.12	2.5	2.01	0.7	0.7	10CH4679	22.8	715	10CH4680	28.1	1395
10	4.05	4	2.55	0.7	0.7	11CL4679	25.9	965	11CL4680	31.0	1740
16	5.10	6	3.12	0.7	0.7	12CR4679	28.4	1260	12CR4680	34.1	2305
25 (cs)	6.20	6	3.12	0.9	0.7	13CV4679	30.7	1600	13CV4680	36.4	2720
35 (cs)	7.30	6	3.12	0.9	0.7	14CX4679	32.2	1920	14CX4680	38.1	3115
50 (cs)	8.20	10	4.05	1.0	0.7	15D04679	37.3	2585	15D04680	44.4	4305
70 (cs)	10.00	16	5.10	1.1	0.7	16D34679	41.4	3510	16D34680	47.1	5285
95 (cs)	11.80	16	5.10	1.1	0.7	17D54679	44.0	4340	17D54680	51.2	6355
120 (cs)	13.00	25 (cs)	6.20	1.2	0.9	18D94679	48.9	5405	18D94680	57.1	8150
150 (cs)	14.40	25 (cs)	6.20	1.4	0.9	19DB4679	51.6	6410	19DB4680	60.0	9325
185 (cs)	16.20	35 (cs)	7.30	1.6	0.9	20DF4679	56.7	7875	20DF4680	65.4	11095
240 (cs)	18.80	50 (cs)	8.20	1.7	1.0	21DJ4679	64.4	10155	21DJ4680	73.4	13840
300 (cs)	21.20	50 (cs)	8.20	1.8	1.0	22DL4679	69.1	12040	22DL4680	79.5	16195

Current rating and voltage drop

For Unarmoured Cable, please refer to Table 6 & 7 (Page 69)

For Armoured Cable, please refer to Table 8 & 9 (Page 70)

(cs) : Circular Compact Stranded Conductor



Profibus Cables

1	Conductor	Plain Annealed Copper
2	Insulation	Foam-Polyethylene (FPE)
3	Overall Screen	Aluminium/Polyester Tape
4	Drain Wire	Tinned Copper Wire
5	Braided Screen	Tinned Copper Wire
6	Bedding	PVC or LSZH*
7	Armouring	Galvanized Steel Wire
8	Oversheath	PVC or LSZH*

* LSZH: Low Smoke Zero Halogen

Profibus DP Cables

300V Single-Pair

FPE Insulated, Double Overall Screen, Unarmoured or Armoured, PVC Sheathed Cable

Description: CU/FPE/OS/OBS/PVC or CU/FPE/OS/OBS/PVC/SWA/PVC



Application :	This cable is primarily used to operate automation devices or in monitor measuring equipment.	
Voltage rating :	300V	
Construction :	Solid bare copper, foam-PE insulated, twisted pair, double overall screen (aluminium/polyester tape with metallic side outside in electrical contact with tinned copper drain wire plus tinned copper wire braid), unarmoured or galvanized steel wires armoured, PVC sheathed cable	
Insulation colour :	Red, Green	
Sheath colour :	Unarmoured	Violet
		Blue (suitable for intrinsically safe systems)
	Armoured	Black (other colour upon request)
Specification :	BS EN 50170, BS EN 50288-7, IEC 61158-2, IEC 60332-1-2	
Operating temperature :	80°C	

Conductor		Approx. Diam.	Unarmoured Cable			Armoured Cable		
Size	No./Diam. of Strand		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
(AWG)	(no./mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
22	1/0.64	2.55	451P1012	8.0	80	451P1063	12.8	310

Electrical Data

Maximum Conductor Loop Resistance D.C. at 20°C	110Ω/km
Maximum Shield Resistance D.C. at 20°C	9.5Ω/km
Minimum Insulation Resistance at 20°C	5000MΩ·km
Maximum Capacitance at 1kHz	30nF/km
Nominal Inductance at 31.25 kHz	1mH/km
Characteristic Impedance	
1) at 9.6kHz	270 ± 27 Ω
2) at 31.25~38.4kHz	185 ± 18 Ω
3) at 3~20MHz	150 ± 15 Ω

Maximum Attenuation at 20°C

Frequency	Attenuation
at 9.6kHz	2.5dB/km
at 38.4kHz	4dB/km
at 4MHz	22dB/km
at 16MHz	42dB/km

LSZH Flame Retardant Profibus DP Cables



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

300V Single-Pair

FPE Insulated, Double Overall Screen, Unarmoured or Armoured, LSZH Sheathed Cable

Description: CU/FPE/OS/OBS/LSZH or CU/FPE/OS/OBS/LSZH/SWA/LSZH



Application :	This cable is primarily used to operate automation devices or in monitor measuring equipment.	
Voltage rating :	300V	
Construction :	Solid bare copper, foam-PE insulated, twisted pair, double overall screen (aluminium/polyester tape with metallic side outside in electrical contact with tinned copper drain wire plus tinned copper wire braid), unarmoured or galvanized steel wires armoured, LSZH sheathed cable	
Insulation colour :	Red, Green	
Sheath colour :	Unarmoured	Violet Blue (suitable for intrinsically safe systems)
	Armoured	Black (other colour upon request)
Specification :	BS EN 50170, BS EN 50288-7, IEC 61158-2, IEC 60332-1-2, IEC 60332-3-24, IEC 60754, IEC 61034-2	
Operating temperature :	80°C	

Conductor			Unarmoured Cable			Armoured Cable		
Size	No./Diam. of Strand	Approx. Diam.	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
(AWG)	(no./mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
22	1/0.64	2.55	451P1025	8.0	80	451P1073	12.8	310

Electrical Data

Maximum Conductor Loop Resistance D.C. at 20°C	110Ω/km
Maximum Shield Resistance D.C. at 20°C	9.5Ω/km
Minimum Insulation Resistance at 20°C	5000MΩ·km
Maximum Capacitance at 1kHz	30nF/km
Nominal Inductance at 31.25 kHz	1mH/km
Characteristic Impedance	
1) at 9.6kHz	270 ± 27 Ω
2) at 31.25~38.4kHz	185 ± 18 Ω
3) at 3~20MHz	150 ± 15 Ω

Maximum Attenuation at 20°C

Frequency	Attenuation
at 9.6kHz	2.5dB/km
at 38.4kHz	4dB/km
at 4MHz	22dB/km
at 16MHz	42dB/km

Profibus PA Cables

300V Single-Pair

FPE Insulated, Double Overall Screen, Unarmoured or Armoured, PVC Sheathed Cable

Description: CU/FPE/OS/OBS/PVC or CU/FPE/OS/OBS/PVC/SWA/PVC



Application :	This cable is primarily used to operate automation devices or in monitor measuring equipment.
Voltage rating :	300V
Construction :	Solid bare copper, foam-PE insulated, twisted pair, double overall screen (aluminium/polyester tape with metallic side outside in electrical contact with tinned copper drain wire plus tinned copper wire braid), unarmoured or galvanized steel wires armoured, PVC sheathed cable
Insulation colour :	Red, Green
Sheath colour :	Black Blue (suitable for intrinsically safe systems)
Specification :	BS EN 50170, BS EN 50288-7, IEC 61158-2, IEC 60332-1-2
Operating temperature :	80°C

Conductor			Unarmoured Cable			Armoured Cable		
Size	No./Diam. of Strand	Approx. Diam.	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
(AWG)	(no./mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
18	7/0.404	2.55	471P1074	8.2	80	471P1075	13.3	335

Electrical Data

Maximum Conductor Loop Resistance D.C. at 20°C	43.6Ω/km
Maximum Shield Resistance D.C. at 20°C	9.5Ω/km
Minimum Insulation Resistance at 20°C	5000MΩ·km
Maximum Capacitance at 1kHz	60nF/km
Nominal Inductance at 31.25 kHz	0.7mH/km
Characteristic Impedance at 31.25 kHz	100 ± 20 Ω

Maximum Attenuation at 20°C

Frequency	Attenuation
at 39kHz	3.0dB/km
at 100kHz	3.5dB/km
at 1MHz	12dB/km

LSZH Flame Retardant Profibus PA Cables



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

300V Single-Pair

FPE Insulated, Double Overall Screen, Unarmoured or Armoured, LSZH Sheathed Cable

Description: CU/FPE/OS/OBS/LSZH or CU/FPE/OS/OBS/LSZH/SWA/LSZH



Application :	For use in process automation, for connecting control systems with field instruments and in potentially explosive atmospheres, especially suitable for areas where fire would create dense smoke and toxic fumes, imposing major threat to lives and equipment.
Voltage rating :	300V
Construction :	Solid bare copper, foam-PE insulated, twisted pair, double overall screen (aluminium/polyester tape with metallic side outside in electrical contact with tinned copper drain wire plus tinned copper wire braid), unarmoured or galvanized steel wires armoured, LSZH sheathed cable
Insulation colour :	Red, Green
Sheath colour :	Black Blue (suitable for intrinsically safe systems)
Specification :	BS EN 50170, BS EN 50288-7, IEC 61158-2, IEC 60332-1-2, IEC 60332-3-24, IEC 60754, IEC 61034-2
Operating temperature :	80°C

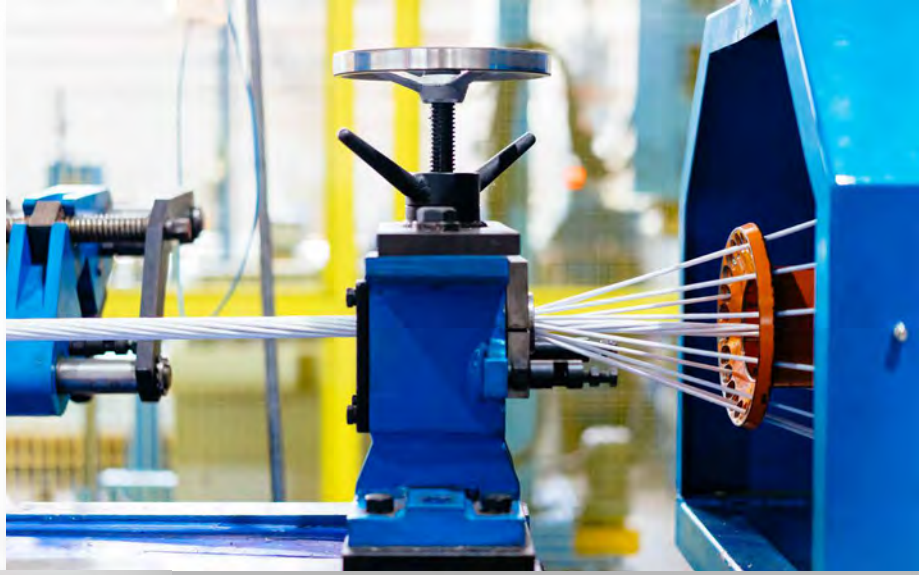
Conductor			Unarmoured Cable			Armoured Cable		
Size	No./Diam. of Strand	Approx. Diam.	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
(AWG)	(no./mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
18	7/0.404	2.55	471P1076	8.2	80	471P1077	13.3	335

Electrical Data

Maximum Conductor Loop Resistance D.C. at 20°C	43.6Ω/km
Maximum Shield Resistance D.C. at 20°C	9.5Ω/km
Minimum Insulation Resistance at 20°C	5000MΩ·km
Maximum Capacitance at 1kHz	60nF/km
Nominal Inductance at 31.25 kHz	0.7mH/km
Characteristic Impedance at 31.25 kHz	100 ± 20 Ω

Maximum Attenuation at 20°C

Frequency	Attenuation
at 39kHz	3.0dB/km
at 100kHz	3.5dB/km
at 1MHz	12dB/km



Technical Information

Table 1 : Electrical Characteristics

Test Item \ Material	PVC	XLPE	PE
A.C. Voltage Test (kV/1 minute)	2	2	2
Minimum Insulation Resistance (MΩ·km)	10	1000	1000
Maximum Mutual Capacitance (nF/km)	250	150	150
Maximum Capacitance Unbalance (pF/500m)	-	500	500
Maximum Inductance (mH/km)	1.0	1.0	1.0

Table 2 : Maximum Inductance to Resistance Ratio (L/R)

Cross-sectional Area	L/R Ratio
(mm ²)	(μH/Ω)
0.5	25
0.75	25
1	25
1.5	40
2.5	60

Table 3 : Conductor Construction Reference

Cross-Sectional Area (mm ²) \ Class	0.5	0.75	1	1.5	2.5
	No./Diam of Strand (no./mm)				
Class 1	1/0.80	1/0.97	1/1.13	1/1.38	1/1.78
Class 2	7/0.31	7/0.37	7/0.43	7/0.53	7/0.67
Class 5	16/0.20	24/0.20	32/0.20	30/0.25	50/0.25

Note : For conductor resistance, please refer to Table 13 (Page 72)

Table 4 : Code, Colour Code and Properties

Sensors	Types	Conductor Composition		Colours (IEC 60584-3-2007)	Nominal e.m.f. (microvolts 0°C/100°C)	Limits of Error		Temperature of Connected Point with Thermocouple	Measuring Junction Temperature
		Positive (PX)	Negative (NX)			Class 1	Class 2		
						(°C)			

Extension Cables :

K	KX	Nickel Chromium	Nickel Aluminium	Green (+) White (-) Green (Sheath)	4,10	±1.5	±2.5	-25 ~ +200	900
J	JX	Iron	Copper Nickel (Constantan)	Black (+) White (-) Black (Sheath)	5,27	±1.5	±2.5	-25 ~ +200	500
T	TX	Copper	Copper Nickel (Constantan)	Brown (+) White (-) Brown (Sheath)	4,28	±0.5	±1.0	-25 ~ +100	300
E	EX	Nickel Chromium	Copper Nickel (Constantan)	Violet (+) White (-) Violet (Sheath)	6,32	±1.5	±2.5	-25 ~ +200	500
N	NX	Nickel Chromium Silicon	Nickel Silicon	Pink (+) White (-) Pink (Sheath)	2,77	±1.5	±2.5	-25 ~ +200	900

Compensating Cables :

K	KCA	Iron	Copper Nickel Alloy	Green (+) White (-) Green (Sheath)	4,10	-	±2.5	0 ~ +150	900
	KCB	Copper	Copper Nickel (Constantan)	Green (+) White (-) Green (Sheath)	4,10	-	±2.5	0 ~ +100	900
R	RCA	Copper	Copper Low Nickel Alloy	Orange (+) White (-) Orange (Sheath)	0,65	-	±2.5	0 ~ +100	1000
	RCB	Copper	Copper Nickel Mo Alloy	Orange (+) White (-) Orange (Sheath)	0,65	-	±5.0	0 ~ +200	1000
S	SCA	Copper	Copper Low Nickel Alloy	Orange (+) White (-) Orange (Sheath)	0,65	-	±2.5	0 ~ +100	1000
	SCB	Copper	Copper Nickel Mo Alloy	Orange (+) White (-) Orange (Sheath)	0,65	-	±5.0	0 ~ +200	1000
B	BC	Copper	Copper	Grey (+) White (-) Grey (Sheath)	0,03	-	±3.5	0 ~ +100	1400
N	NC	Copper Nickel Mg	Copper Nickel Mg	Pink (+) White (-) Pink (Sheath)	2,77	-	±2.5	0 ~ +150	900

Table 5 : Code and Notes

Sensors	Types	Conductor Composition		Notes
		Positive (PX)	Negative (NX)	
K	KX	Nickel Chromium	Nickel Aluminium	Type KX thermocouple extension cable conductors are made from the same constituent elements as the Type K thermocouple combination, minimizing potential errors when connecting to a sensor.
	KCA	Iron	Copper Nickel Alloy	This compensating cable conductor combination is little known and generally not available. It should not be confused with the more popular Type KCB as shown below.
	KCB	Copper	Copper Nickel (Constantan)	This popular compensating cable conductor combination (previously known as Type V) is made with copper vs copper-nickel conductors, and should only be used when the ambient temperature of the interconnection point between the cable and its Type K sensor is below 100°C. If suitable for your requirements, it can save money where long runs are necessary.
J	JX	Iron	Copper Nickel (Constantan)	Type JX extension cable conductors are made from the same constituent elements as Type J thermocouples. There is no compensating cable available for Type J; however, the extension cable is relatively inexpensive.
T	TX	Copper	Copper Nickel (Constantan)	Type TX extension cable conductors are made from the same constituent elements as Type T thermocouples. There is no compensating cable available for Type T, however the extension cable is relatively inexpensive.
E	EX	Nickel Chromium	Copper Nickel (Constantan)	Type EX extension cable conductors are made from the same constituent elements as Type E thermocouples. There is no compensating cable available for Type E.
R	RCA	Copper	Copper Low Nickel Alloy	Type RCA compensating cable is suitable for connecting to Type R thermocouples where the ambient temperature of the interconnection point between the cable and its Type R sensor is below 100°C.
	RCB		Copper Nickel Mo Alloy	Type RCB compensating cable is suitable for connecting to Type R thermocouples where the ambient temperature of the interconnection point between the cable and its Type R sensor is below 200°C. However, this increased range is achieved with a lesser degree of accuracy than Type RCA as shown above.
S	SCA	Copper	Copper Low Nickel Alloy	Type SCA compensating cable is suitable for connecting to Type S thermocouples where the ambient temperature of the interconnection point between the cable and its Type S sensor is below 100°C. SCA is the same material as Type RCA.
	SCB		Copper Nickel Mo Alloy	Type SCB compensating cable is suitable for connecting to Type S thermocouples where the ambient temperature of the interconnection point between the cable and its Type S sensor is below 200°C. However, this increased range is achieved with a lesser degree of accuracy than Type SCA as shown above. SCB is the same material as Type RCB.
B	BC	Copper	Copper	This compensating cable is made from copper vs copper conductors. The expected maximum additional deviation when the ambient temperature of the interconnection point is between 0°C and 100°C would be approximately 3.5°C when the measuring junction is at 1400°C.
N	NX	Nickel Chromium Silicon	Nickel Silicon	Type NX extension cable conductors are made from the same constituent elements as Type N thermocouples. Although there is a designated compensating cable for Type N, it is not readily available at the present.
	NC	Copper Nickel Mg	Copper Nickel Mg	Type NC compensating cable is not readily available at the present. It can be assumed that as Type N thermocouples become more popular, the compensating cable will start to be produced.

Current Rating and Voltage Drop

XLPE Insulated Cables
Multi-Core (3-Phase Core + 3-Earth Core), Unarmoured

Multi-Core Cables with XLPE Insulation, Copper Tape Screen, PVC (or LSZH) Outersheath 0.6/1kV

Table 6 : Current-Carrying Capacities (Amp)

[CU/XLPE/PVC/CTS/PVC, CU/XLPE/LSZH/CTS/LSZH or CU/MT/XLPE/LSZH/CTS/LSZH Cables]

Conductor Operating Temperature : 90°C

Ambient Temperature : 30°C

IEC 60502-1

Conductor Cross-sectional Area	Reference Method 4 (enclosed in an conduit insulated wall etc)	Reference Method 3 (enclosed in conduit on a wall or ceiling, or in trunking)		Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated cable tray), or Reference Method 13 (in free air)	
	one 3-core or 4-core cable, 3-phase a.c.	one 2-core cable, 1-phase a.c. or d.c.	one 3-core or 4-core cable, 3-phase a.c.	one 2-core cable, 1-phase a.c. or d.c.	one 3-core or 4-core cable, 3-phase a.c.	one 2-core cable, 1-phase a.c. or d.c.	one 3-core or 4-core cable, 3-phase a.c.
1	2	3	4	5	6	7	8
mm ²	A	A	A	A	A	A	A
1.5	16.5	22	19.5	24	22	26	23
2.5	22	30	26	33	30	36	32
4	30	40	35	45	40	49	42
6	38	51	44	58	52	63	54
10	51	69	60	80	71	86	75
16	68	91	80	107	96	115	100
25	89	119	105	138	119	149	127
35	109	146	128	171	147	185	158
50	130	175	154	209	179	225	192
70	164	221	194	269	229	289	246
95	197	265	233	328	278	352	298
120	227	305	268	382	322	410	346
150	259	334	300	441	371	473	399
185	295	384	340	506	424	542	456
240	346	459	398	599	500	641	538
300	396	532	455	693	576	741	621
400	472	625	536	803	667	865	741

Note : For rating factors of ambient temperature other than 30°C, please refer to Table 10 (Page 71)

Table 7 : Voltage Drop (Per Amp Per Meter)

[CU/XLPE/PVC/CTS/PVC, CU/XLPE/LSZH/CTS/LSZH or CU/MT/XLPE/LSZH/CTS/LSZH Cables]

Conductor Operating Temperature : 90°C

IEC 60502-1

Conductor Cross-sectional Area	2-core cable, d.c.	2-core cable, 1-phase a.c.			3-core or 4-core cables, 3-phase a.c.		
1	2	3			4		
mm ²	mV/A/m	mV/A/m			mV/A/m		
1.5	31	31			27		
2.5	19	19			16		
4	12	12			10		
6	7.9	7.9			6.8		
10	4.7	4.7			4.0		
16	2.9	2.9			2.5		
		r	x	z	r	x	z
25	1.85	1.85	0.160	1.90	1.60	0.140	1.65
35	1.35	1.35	0.155	1.35	1.15	0.135	1.15
50	0.98	0.99	0.155	1.00	0.86	0.135	0.87
70	0.67	0.67	0.150	0.69	0.59	0.130	0.60
95	0.49	0.50	0.150	0.52	0.43	0.130	0.45
120	0.39	0.40	0.145	0.42	0.34	0.130	0.37
150	0.31	0.32	0.145	0.35	0.28	0.125	0.30
185	0.25	0.26	0.145	0.29	0.22	0.125	0.26
240	0.195	0.200	0.140	0.24	0.175	0.125	0.21
300	0.155	0.160	0.140	0.21	0.140	0.120	0.185
400	0.120	0.130	0.140	0.190	0.115	0.120	0.165

Note : r = resistive component; x = reactive component; z = impedance value

Current Rating and Voltage Drop

XLPE Insulated Cables
Multi-Core (3-Phase Core + 3-Earth Core), Armoured



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

Multi-Core Cables with XLPE Insulation, Copper Tape Screen, Armoured, PVC or LSZH Outersheath 0.6/1kV

Table 8 : Current-Carrying Capacities (Amp)

[CU/XLPE/PVC/CTS/PVC/SWA/PVC, CU/XLPE/LSZH/CTS/LSZH/SWA/LSZH, CU/MT/XLPE/LSZH/CTS/LSZH/SWA/LSZH Cables]

Conductor Operating Temperature : 90°C

Ambient Temperature : 30°C

Ground Temperature : 15°C

Depth of Laying : 0.5m

Soil Thermal Resistivity : 1.2 k•m/W

BS 6724

IEC 60502-1

Conductor Cross-sectional Area	Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated horizontal cable tray) or Reference Method 13 (in free air)		In single-way ducts		Laid direct in ground	
	one 2-core cable, 1-phase a.c. or d.c.	one 3-core or 4-core cable, 3-phase a.c.	one 2-core cable, 1-phase a.c. or d.c.	one 3-core or 4-core cable, 3-phase a.c.	one 2-core cable, 1-phase a.c. or d.c.	one 3-core or 4-core cable, 3-phase a.c.	one 2-core cable, 1-phase a.c. or d.c.	one 3-core or 4-core cable, 3-phase a.c.
1	2	3	4	5	6	7	8	9
mm ²	A	A	A	A	A	A	A	A
1.5	27	23	29	25	-	23	-	28
2.5	36	31	39	33	-	30	-	36
4	49	42	52	44	-	40	-	48
6	62	53	66	56	-	50	-	60
10	85	73	90	78	-	65	-	80
16	110	94	115	99	115	94	140	115
25	146	124	152	131	145	125	180	150
35	180	154	188	162	175	150	215	180
50	219	187	228	197	210	175	255	215
70	279	238	291	251	260	215	315	265
95	338	289	354	304	310	260	380	315
120	392	335	410	353	355	300	430	360
150	451	386	472	406	400	335	480	405
185	515	441	539	463	455	380	540	460
240	607	520	636	546	520	440	630	530
300	698	599	732	628	590	495	700	590
400	787	673	847	728	660	560	790	670

Note : For rating factors of ambient temperature other than 30°C, please refer to Table 10 (Page 71)

For rating factors of ground temperature other than 15°C, please refer to Table 11 (Page 71)

Table 9 : Voltage Drop (Per Amp Per Meter)

[CU/XLPE/PVC/CTS/PVC/SWA/PVC, CU/XLPE/LSZH/CTS/LSZH/SWA/LSZH, CU/MT/XLPE/LSZH/CTS/LSZH/SWA/LSZH Cables]

Conductor Operating Temperature : 90°C

BS 6724

IEC 60502-1

Conductor Cross-sectional Area	2-core cable, d.c.	2-core cables, 1-phase a.c.				3-core or 4-core cables, 3-phase a.c.			2-core cables, 1-phase a.c.	3-core or 4-core cables, 3-phase a.c.
									In ducts or in ground	In ducts or in ground
1	2	3				4			5	6
mm ²	mV/A/m	mV/A/m				mV/A/m			mV/A/m	mV/A/m
1.5	31.0	31.0				27.0			31.0	25.0
2.5	19.0	19.0				16.0			19.0	15.0
4	12.0	12.0				10.0			12.0	9.7
6	7.9	7.9				6.8			7.9	6.5
10	4.7	4.7				4.0			4.7	3.9
16	2.9	2.9				2.5			2.9	2.6
		r	x	z		r	x	z		
25	1.850	1.850	0.160	1.900	1.600	0.140	1.650	1.900	1.600	
35	1.350	1.350	0.155	1.350	1.150	0.135	1.150	1.350	1.200	
50	0.980	0.990	0.155	1.000	0.860	0.135	0.870	1.000	0.870	
70	0.670	0.670	0.150	0.690	0.590	0.130	0.600	0.690	0.610	
95	0.490	0.500	0.150	0.520	0.430	0.130	0.450	0.520	0.450	
120	0.390	0.400	0.145	0.420	0.340	0.130	0.370	0.420	0.360	
150	0.310	0.320	0.145	0.350	0.280	0.125	0.300	0.350	0.300	
185	0.250	0.260	0.145	0.290	0.220	0.125	0.260	0.290	0.250	
240	0.195	0.200	0.140	0.240	0.175	0.125	0.210	0.240	0.210	
300	0.155	0.160	0.140	0.210	0.140	0.120	0.185	0.210	0.190	
400	0.120	0.130	0.140	0.190	0.115	0.120	0.165	0.190	0.180	

70 Note : r = resistive component; x = reactive component; z = impedance value

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
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

Table 11 : Correction Factor for Ambient Ground Temperature Other Than 15°C to be Applied to the Current-Carrying Capacities for Cables in Ducts or in Ground

Insulation	Ground Temperature (°C)											
	10	15	20	25	30	35	40	45	50	55	60	65
XLPE (90°C)	1.03	1.00	0.97	0.93	0.89	0.86	0.82	0.77	0.73	0.67	0.63	0.58

Table 12 : 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 be applied

Note : 1 The factors in the table are applicable to a group of cables all of 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 13 : 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
(mm ²)	(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

Note : For multi-pair, multi-triple, and multi-quad cables, the maximum D.C. resistance shall be increased by 2%.

Table 14 : 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

Table 15 : Short-Circuit Ratings for One Second for XLPE or LSZH, PVC Insulated Cables with Copper Conductor

No.	Cross-sectional Area	Short-Circuit Rating (kA)	
	(mm ²)	XLPE or LSZH Insulated Cables	PVC Insulated Cables
1	1.5	0.21	0.17
2	2.5	0.36	0.29
3	4	0.57	0.46
4	6	0.86	0.69
5	10	1.43	1.15
6	16	2.29	1.84
7	25	3.58	2.88
8	35	5.01	4.03
9	50	7.15	5.75
10	70	10.01	8.05
11	95	13.56	10.93
12	120	17.16	13.80
13	150	21.45	17.25
14	185	26.46	21.28
15	240	34.32	27.28
16	300	42.90	34.50
17	400	57.20	46.00
18	500	71.50	57.50
19	630	90.09	72.45
20	800	114.40	92.00
21	1000	143.00	115.00

The above rating is calculated by using the following formula :

XLPE or LSZH Insulated Cables	PVC Insulated Cables
$I = \frac{0.143 S}{\sqrt{T}} KA$	$I = \frac{0.115 S}{\sqrt{T}} KA$

Where I = short-circuit rating (kA)
S = conductor area (sq mm)
T = duration of short-circuit (1 second)

Basic conditions for circuit calculation :

The conductor temperature prior to short-circuit is assumed to be 90°C (XLPE or LSZH) or 70°C (PVC) and short-circuit temperature is 250°C (XLPE or LSZH) or 160°C / 140°C* (PVC). Above ratings are based on fault duration (symmetrical short-circuit) of 1 second.

* Above 300mm²

For other periods, divide the above tabulated values by the square root of the time in seconds.

Selection of Cables Based on Voltage Drops and Current-Carrying Capacity

Voltage drop is normally only of importance for cables of voltage rating not exceeding 0.6/1kV. If the voltage drop is to be in compliance with SS 638 (formerly known as CP5) wiring regulations, then the voltage drop for any particular cable run must be such that the total voltage drop in the circuit of which the cable forms a part does not exceed 4% of the nominal voltage (i.e. 9.2V for a 1-phase 230V supply and 16.6V for a 3-phase 415V supply).

Since the actual power factor of the load is usually not known, the most practical approach to calculate the voltage drop is to assume the worst conditions (i.e. power factor equal to one and the conductor is at maximum operating temperature). The voltage drop values given in the tables are based on these assumptions and tabulated for a current of 1 amp for a 1 metre run (i.e. for a distance of 1 metre along the route taken by the cables), and represent the result of the voltage drops in all the circuit conductors. For balance 3-phase a.c. circuits, the values relate to the line voltage. For any given run, the values need to be multiplied by the length of the run (metres) and by the current (amps) that the cables carry.

Voltage drop can be calculated using the following formulas :

- Where
- $V_{max} = 4\% \times \text{supply voltage}$
 $I = \text{Current (A)}$
 $L = \text{Length of cable installed (m)}$
 $V_{max} = \text{Max. permissible volt drop in the circuit (V)}$
 - $V_d = \frac{V_{max} \times 1000}{I \times L}$
 $V_d = \text{Max. volt drop in the circuit (mV/A/m)}$
 $V_{ds} = \text{Volt drop of the selected cable (mV/A/m)}$
 - $V_{ds} \leq V_d$
 $V_t = \text{Total volt drop in the circuit (V)}$
 - $V_t = \frac{V_{ds} \times I \times L}{1000}$

Example :

Consider a route of 200 metres of cable to be laid direct in ground and carries a 100 amp load, the supply voltage is 415V, 3-phase a.c. and the cable structure is copper conductor, XLPE insulated armoured.

- $V_{max} = \text{Max. permissible voltage drop in the circuit} = 4\% \times 415V = 16.6V$
- $V_d = \text{Max. voltage drop in the circuit} = 16.6 \times 1000 / (100 \times 200) = 0.83 \text{ mV/A/m}$
- Select a cable from Table 19, such that the V_{ds} is equal to, or less than V_d the 0.83mV/A/m calculated. It will be seen that this value (V_{ds}) is 0.61mV/A/m giving a cable size of 70mm².
- $V_t = \text{Total voltage drop in the circuit} = 0.61 \times 100 \times 200 / 1000 = 12.2V$

Selection of Cable Exposed to Fire Condition Based on Conductor Resistance

Conductor resistance of cable increases suddenly when the cable is subjected to fire conditions and conductor resistance at 750°C becomes 3.87 times that of the one at 20°C.
(For other temperatures, refer to Table 14)

Correspondingly, the voltage drop is also increased by 3.87 times.

To select the size of cable exposed to fire conditions, calculate R_0 using the formula shown below and select the size of cable based on the value shown in Table 13 (Class 2, plain copper) which should not exceed R_0 calculated by the formula.

$$R_0 \leq \frac{V_{max}}{KI} \times \frac{1}{L[1 + (F-1)\frac{L_1}{L}]} \times 10^3 \quad (\Omega / \text{km})$$

Where

- $R_0 = \text{Conductor resistance at } 20^\circ\text{C } (\Omega / \text{km})$
 $V_{max} = \text{Max. permissible voltage drop in the circuit (V)}$
 $K = \text{Factor according to the wiring}$

1-phase 2-Core, $K = 2$

3-phase 3-core, $K = \sqrt{3}$

- $I = \text{Current (A)}$
 $L = \text{Length of cable installed (m)}$
 $L_1 = \text{Length of cable subjected to flame (m)}$
 $F = \text{Correction factor (Table 14)}$

Table 16 : Minimum Bending Radius

Type of Cable	Description	During Installation	Fixed
VSD Cable (XLPE Insulated)	Unarmoured	OD ≤ 25mm	4D
		OD ≥ 25mm	6D
	Armoured or Metal Screened	10D	8D
Instrument Cable	Unarmoured	8D	6D
Thermocouple Cable	Armoured	10D	8D
Bus Cable			

Note : D means the Overall Diam. of cable (mm)

Table 17 : 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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