KEYSTONE CABLE

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 High Voltage cable manufacturing and supply. Our team is driven by a commitment to innovation, proven legacy, and understanding of our customers' unique needs in Singapore and beyond. We are a longstanding supplier of cables across 6 key industries. As a forward-looking company, we continuously invest in our cable machinery, growing our expertise as a cable specialist and creating a greener tomorrow.

CERTIFICATIONS

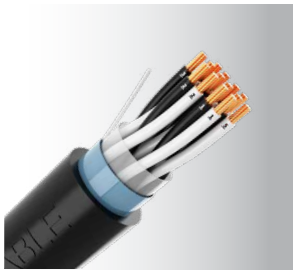
Keystone Cable **Business Solutions**

INDUSTRIES

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

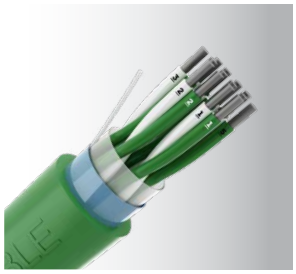
This catalogue showcases our range of cables used in the Oil & Gas industries.
These cables are designed, manufactured, and tested in accordance to international standards.

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



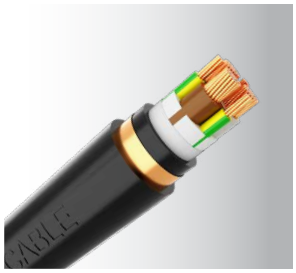
Instrumentation Cables

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.



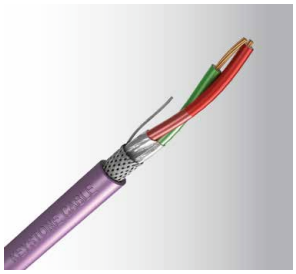
Thermocouple Extension & Compensating Cables

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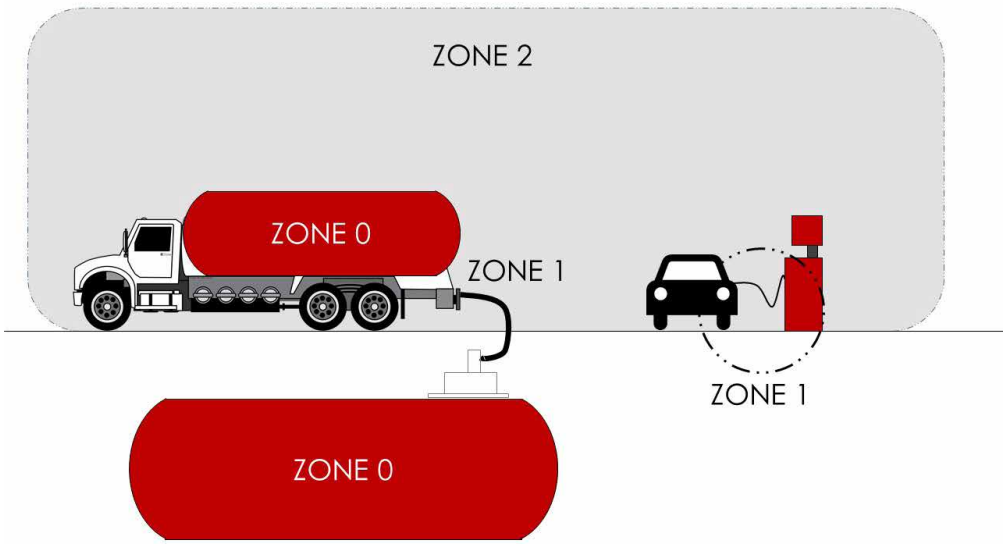
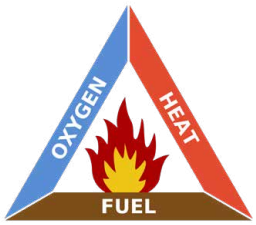
The **Oil & Gas industry** has a potentially explosive atmosphere which requires products regulated by stringent specifications. A potentially explosive atmosphere is understood to be a mixture of combustible materials (gases, fluids, vapors, and dust) and oxygen.





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 occassionally.
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.

Testing & Standards

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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

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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.

$$Mg(OH)_2 \rightarrow MgO + H_2O \quad \text{or} \quad 2Al(OH)_3 \rightarrow Al_2O_3 + 3H_2O$$

In this reaction, the decomposition products are non-toxic and the mineral phases MgO and Al_2O_3 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 $3m^3$ 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%.

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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

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.

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.

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

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.

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.

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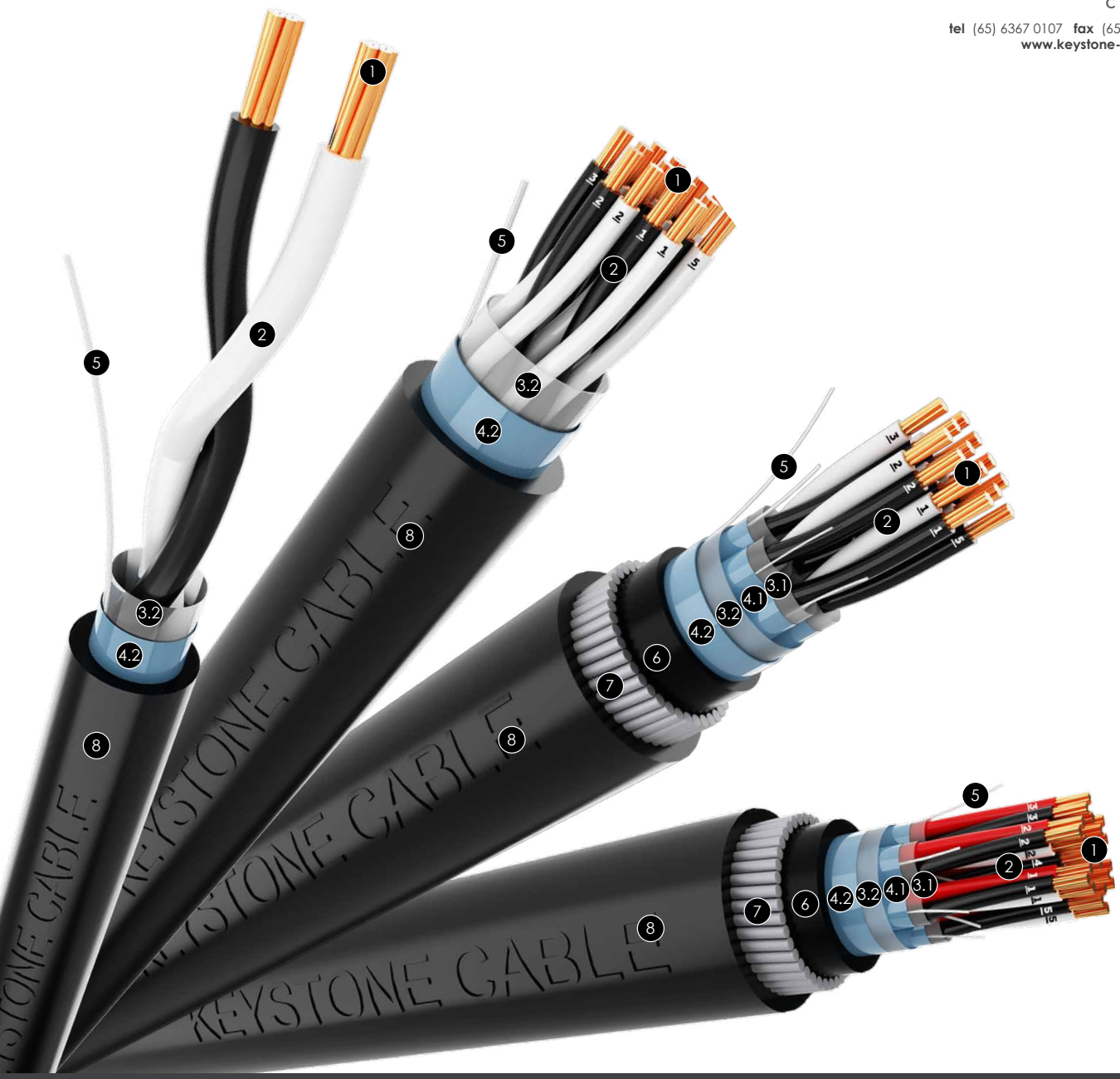

Instrumentation Cables

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

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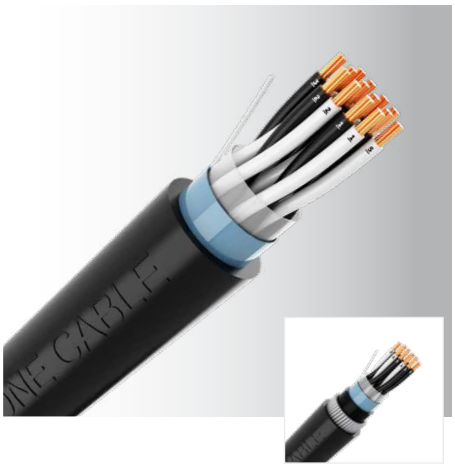
500V Pair(s) or Triad(s)
PVC Insulated, Overall Screen, Unarmoured & Armoured, PVC Sheathed Cable
Description: CU/PVC/OS/PVC-UV or CU/PVC/OS/PVC/SWA/PVC-UV
Model Code: POP-UV or POPSP-UV



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	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	**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

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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
	(mm²)	(mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
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

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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
	(mm²)	(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

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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

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	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	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				**04BP3620**	22.1	545	**04BP3621**	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

KEYSTONE CABLE
tel (65) 6367 0107 fax (65) 6365 2963
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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
	(mm²)	(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				**05BP3620**	23.4	625	**05BP3621**	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

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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
	(mm²)	(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				**07BP3620**	27.4	920	**07BP3621**	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

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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

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

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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
	(mm²)	(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	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)	(kg/km)
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

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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

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	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	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	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)	(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				**05BP6754**	23.4	575	**05BP6756**	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
	(mm²)	(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				**07BP6754**	27.4	845	**07BP6756**	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

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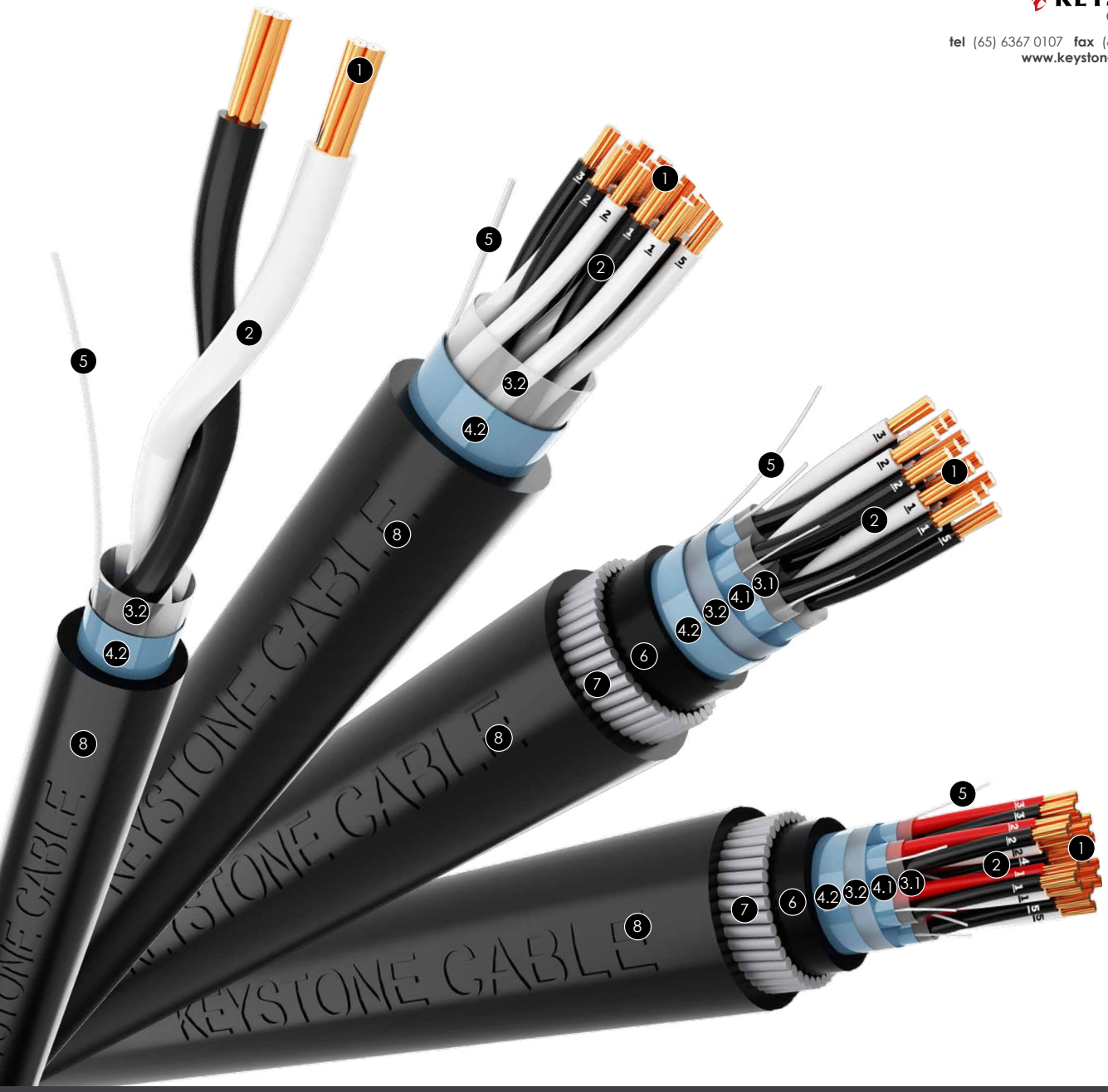

LSZH Flame Retardant Instrumentation Cables

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

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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

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	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	**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				**04BP6141**	18.9	360	**04BP6787**	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				**04BT6141**	21.5	495	**04BT6787**	27.7	1215
16T				**04FT6141**	23.7	610	**04FT6787**	29.1	1600
24T				**04RT6141**	29.6	905	**04RT6787**	36.8	2130

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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	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
	(mm²)	(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

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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

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	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	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	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)	(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

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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	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)	(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				**07BP6053**	27.4	845	**07BP6869**	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

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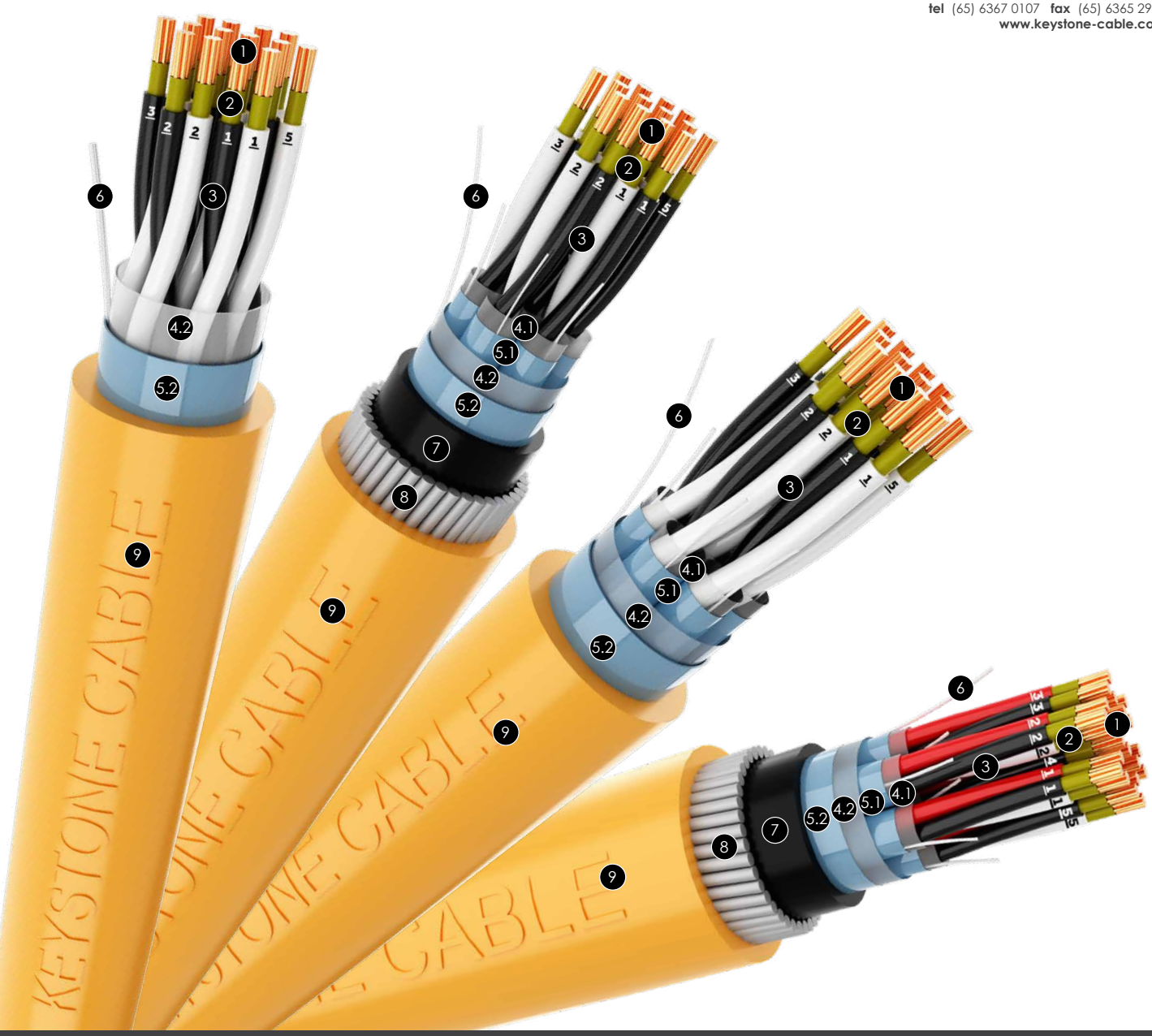

LSZH Fire Resistant Instrumentation Cables

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

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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

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	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	**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
	(mm²)	(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

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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
	(mm²)	(mm)	(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

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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	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	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				**04BP4066**	28.9	700	**04BP4179**	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

KEYSTONE CABLE
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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	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)	(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	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)	(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

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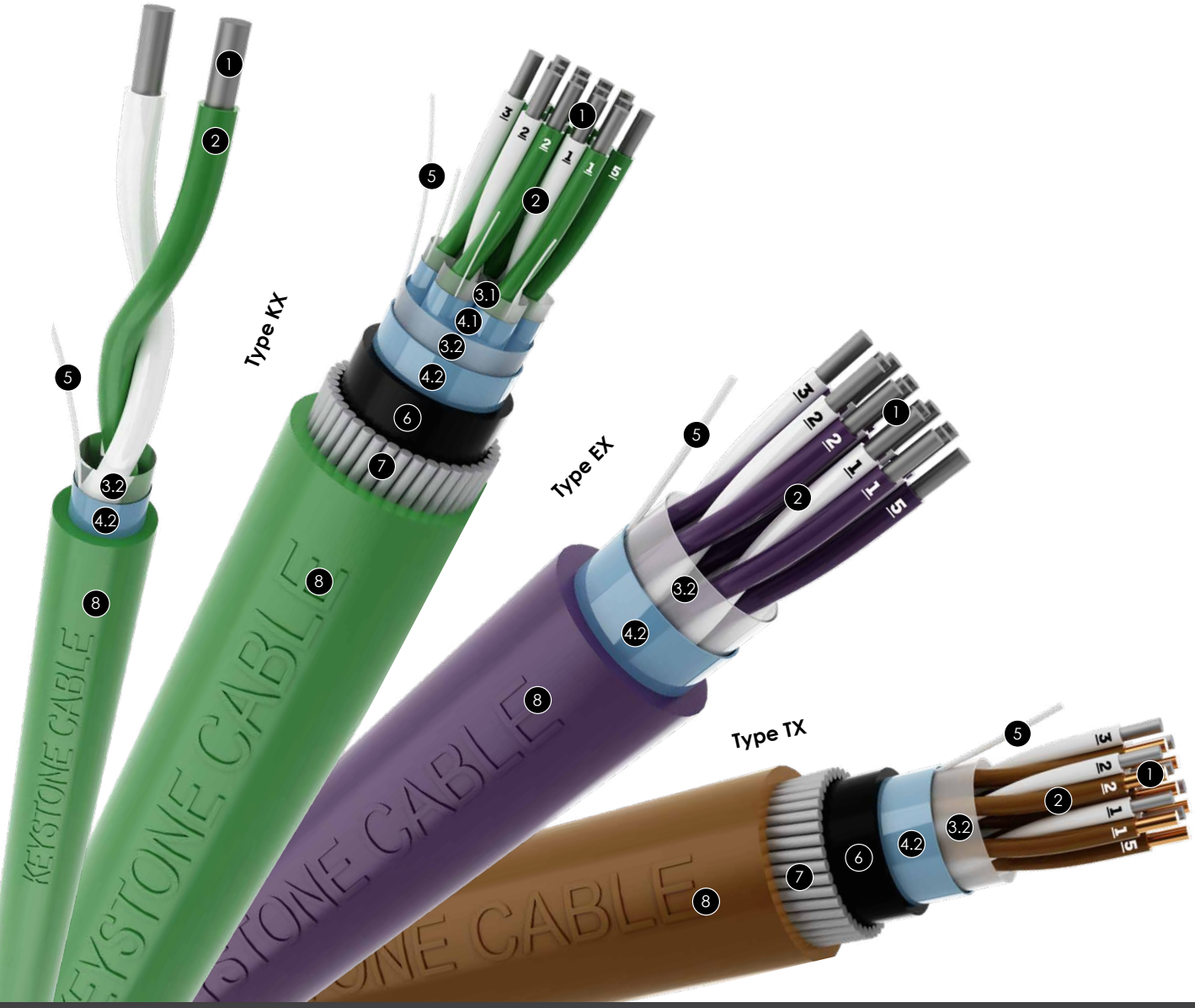

Thermocouple Extension & Compensating Cables

1	Conductor	Positive(+) Negative(-) 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

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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	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	**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				**04BP6115**	18.5	340	**04BP6673**	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

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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
	(mm²)	(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				**41BP6115**	22.0	585	**41BP6673**	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

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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				**04BP6041**	21.1	475	**04BP6042**	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

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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	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	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				**41BP6041**	25.2	750	**41BP6042**	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

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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

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
	(mm²)	(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				**41BP6889**	22.0	585	**41BP6670**	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

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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

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	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	**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				**04BP6685**	21.1	475	**04BP6043**	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

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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	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	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				**41BP6685**	25.2	750	**41BP6043**	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

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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

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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
	(mm²)	(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				**41BP6890**	22.0	585	**41BP6891**	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

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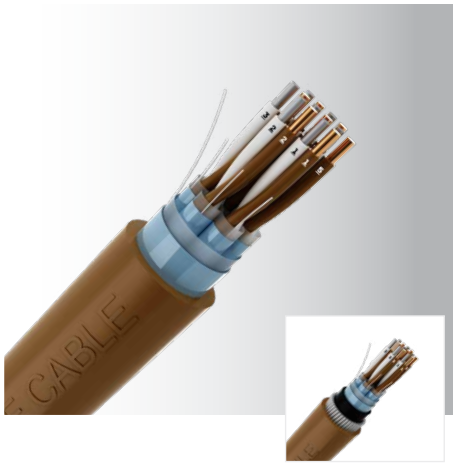
500V Pairs, Type TX
XLPE Insulated, Individual & Overall Screen, Unarmoured or Armoured, PVC Sheathed Cable

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	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	**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				**04BP6044**	21.1	475	**04BP6894**	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

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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	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	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				**41BP6044**	25.2	750	**41BP6894**	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

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500V Pair(s), Type KCA
XLPE Insulated, Overall Screen, Unarmoured or Armoured, PVC Sheathed Cable
Descrption: 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	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	**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				**04BP6261**	18.5	340	**04BP6262**	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

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500V Pair(s), Type KCA
XLPE Insulated, Overall Screen, Unarmoured or Armoured, PVC Sheathed Cable
Descrption: 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	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	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				**41BP6261**	22.0	585	**41BP6262**	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

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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	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	**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				**04BP6046**	21.1	475	**04BP6895**	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

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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	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	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				**41BP6046**	25.2	750	**41BP6895**	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

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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

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	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	**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				**04BP6718**	18.5	340	**04BP6222**	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

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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	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	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				**41BP6718**	22.0	585	**41BP6222**	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

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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	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	**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				**04BP6686**	21.1	475	**04BP6896**	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

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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	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	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				**41BP6686**	25.2	750	**41BP6896**	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

KEYSTONE CABLE
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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

KEYSTONE CABLE
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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						
Nominal Area	Approx. Diam.	Nominal Area	Approx. Diam.	Thickness	Thickness	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
(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

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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

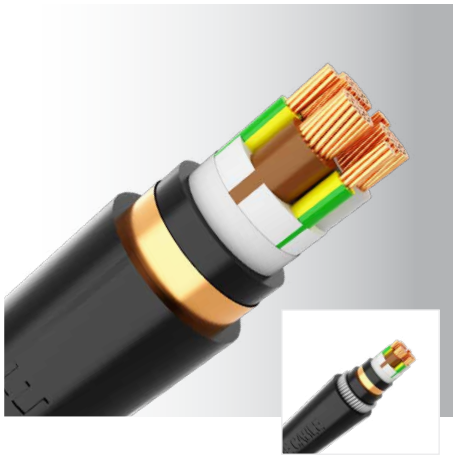
LSZH Flame Retardant Variable Speed Drive (VSD) Cables

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

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						
Nominal Area	Approx. Diam.	Nominal Area	Approx. Diam.	Thickness	Thickness	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
(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	**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)

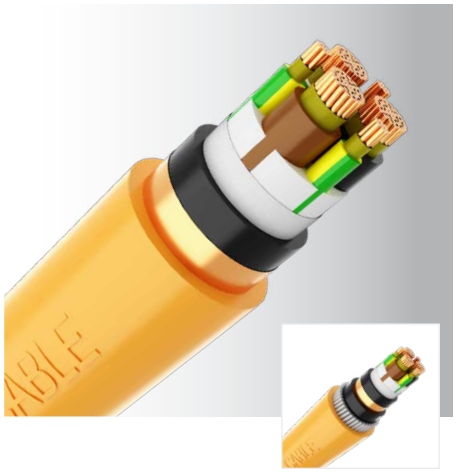
(cs) : Circular Compact Stranded Conductor

LSZH Fire Resistant Variable Speed Drive (VSD) Cables

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

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						
Nominal Area	Approx. Diam.	Nominal Area	Approx. Diam.	Thickness	Thickness	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
(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	**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

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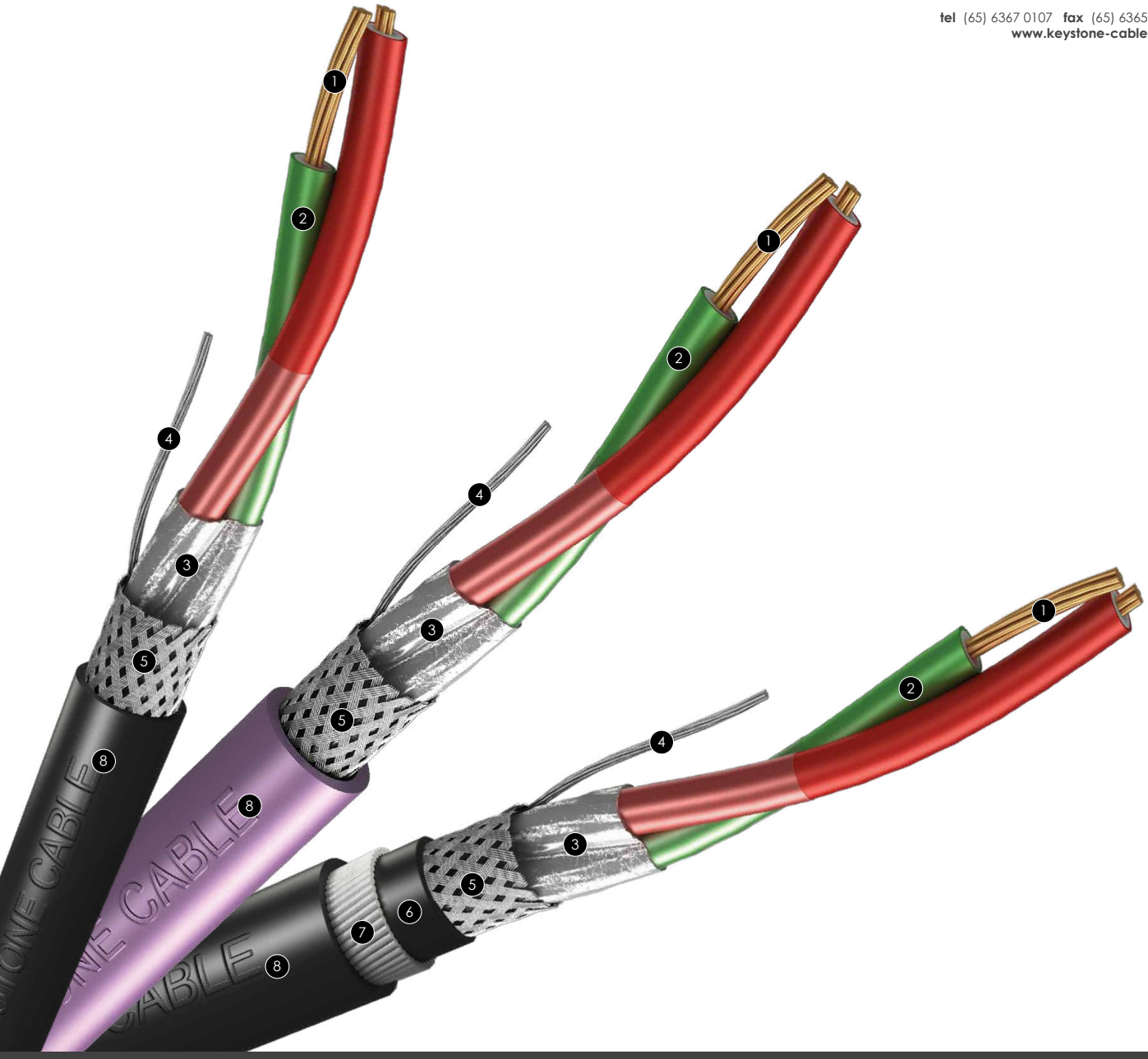


Profibus Cables

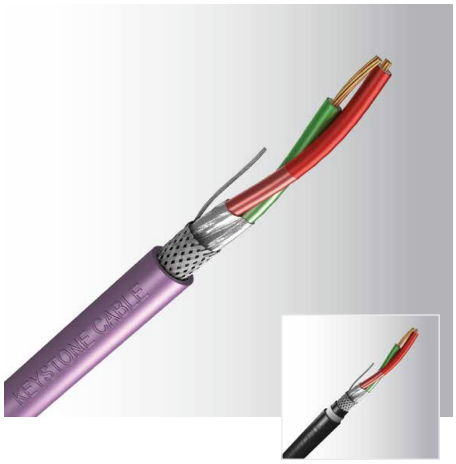
1	Conductor	Plain Annealed Copper
2	Insulation	Foam-Polyethylene (FPE)
3	Overall Screen	Aluminium/Polyester Tape
4	Drain Wire	Tinned Copper Wire
5	Braided Screen	Tinned Copper Wire
6	Bedding	PVC or LSZH*
7	Armouring	Galvanized Steel Wire
8	Oversheath	PVC or LSZH*

* LSZH: Low Smoke Zero Halogen

Profibus DP Cables

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

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

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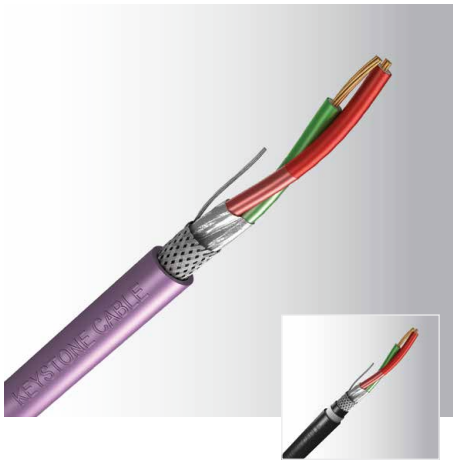
300V Single-Pair
FPE Insulated, Double Overall Screen, Unarmoured or Armoured, LSZH Sheathed Cable
Description: CU/FPE/OS/OBS/LSZH or CU/FPE/OS/OBS/LSZH/SWA/LSZH



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		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	**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

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

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		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)
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

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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

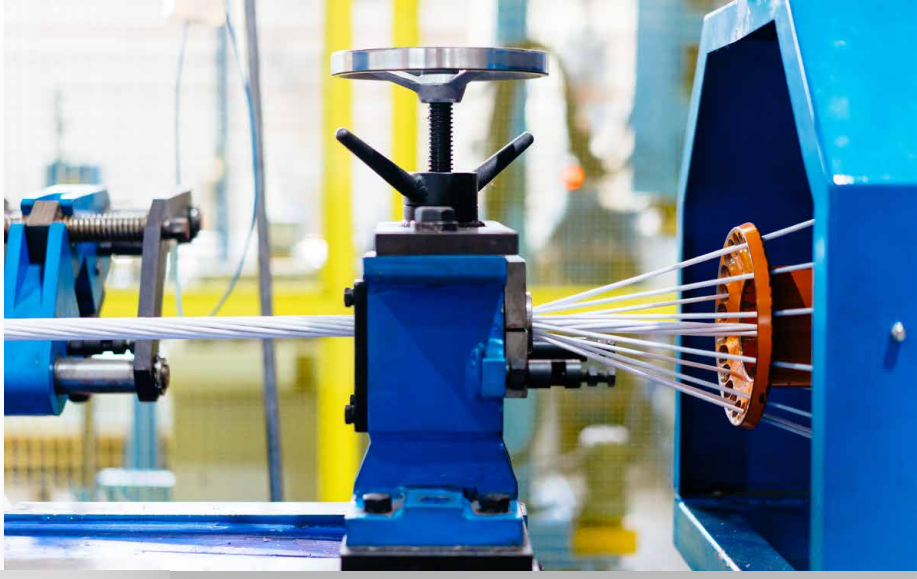
Conductor		Approx. Diam.	Unarmoured Cable			Armoured Cable		
Size	No./Diam. of Strand		**Part No.**	Approx. Overall Diam.	Approx. Weight	**Part No.**	Approx. Overall Diam.	Approx. Weight
(AWG)	(no./mm)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
18	7/0.404	2.55	**471P1076**	8.2	80	**471P1077**	13.3	335

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

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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

Class \ Cross-Sectional Area (mm^2)	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)

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Table 4 : Code, Colour Code and Properties

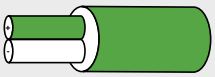
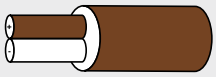
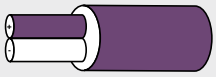
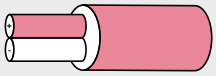
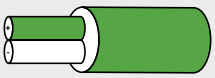
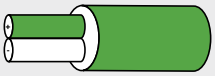
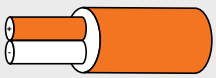
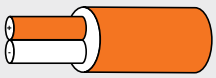
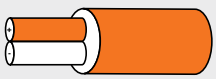
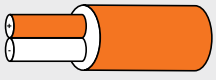
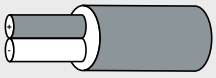
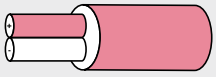
Sensors	Types	Conductor Composition		Colours (IEC 60584-3-2007)	Nominal e.m.f. (microvolts 0°C/100°C)	Limits of Error		Temperature of Connected Point with Thermocouple	Measuring Junction Temperature
		Positive (PX)	Negative (NX)			Class 1	Class 2		
						(°C)		(°C)	(°C)
Extension Cables :									
K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

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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.

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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
mm²	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		
mm²	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

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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 — BS 6724
Ambient Temperature : 30°C — IEC 60502-1
Ground Temperature : 15°C — Depth of Laying : 0.5m — Soil Thermal Resistivity : 1.2 k•m/W

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

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

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

Insulation	Ambient Temperature (°C)															
	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85
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 continous current to be carried by any of the cables in the group.

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

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

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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
(mm²)	(Ω/km)	(Ω/km)	(Ω/km)	(Ω/km)	(Ω/km)	(Ω/km)
0.5	36.0	36.7	36.0	36.7	39.0	40.1
0.75	24.5	24.8	24.5	24.8	26.0	26.7
1	18.1	18.2	18.1	18.2	19.5	20.0
1.5	12.1	12.2	12.1	12.2	13.3	13.7
2.5	7.41	7.56	7.41	7.56	7.98	8.21
4	4.61	4.70	4.61	4.70	4.95	5.09
6	3.08	3.11	3.08	3.11	3.30	3.39
10	-	-	1.83	1.84	1.91	1.95
16	-	-	1.15	1.16	1.21	1.24
25	-	-	0.727	0.734	0.780	0.795
35	-	-	0.524	0.529	0.554	0.565
50	-	-	0.387	0.391	0.386	0.393
70	-	-	0.268	0.270	0.272	0.277
95	-	-	0.193	0.195	0.206	0.210
120	-	-	0.153	0.154	0.161	0.164
150	-	-	0.124	0.126	0.129	0.132
185	-	-	0.0991	0.100	0.106	0.108
240	-	-	0.0754	0.0762	0.0801	0.0817
300	-	-	0.0601	0.0607	0.0641	0.0654

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

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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 $300mm^2$
For other periods, divide the above tabulated values by the square root of the time in seconds.

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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 :

1. V_{max} = 4% x supply voltage

2. $V_d = \dfrac{V_{max} \times 1000}{I \times L}$

3. $V_{ds} \leq V_d$

4. $V_t = \dfrac{V_{ds} \times I \times L}{1000}$

Where
I = Current (A)
L = Length of cable installed (m)
V_{max} = Max. permissible volt drop in the circuit (V)

V_d = Max. volt drop in the circuit (mV/A/m)
V_{ds} = Volt drop of the selected cable (mV/A/m)

V_t = Total volt drop in the circuit (V)

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.

1. V_{max} = Max. permissible voltage drop in the circuit = 4% x 415V = 16.6V
2. V_d = Max. voltage drop in the circuit = 16.6 x 1000 / (100 x 200) = 0.83 mV/A/m
3. Select a cable from Table 19, such that the V^{ds} is equal to, or less than Vd 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 70mm^2.
4. V_t = Total voltage drop in the circuit = 0.61 x 100 x 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.

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

Where
R_0 = Conductor resistance at 20°C (Ω / km)
V_{max} = Max. permissible voltage drop in the circuit (V)
K = Factor according to the wiring

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

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

I = Current (A)
L = Lengh of cable installed (m)
L_1 = Lengh of cable subjected to flame (m)
F = Correction factor (Table 14)

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Table 16 : Minimum Bending Radius

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

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 mm^2

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