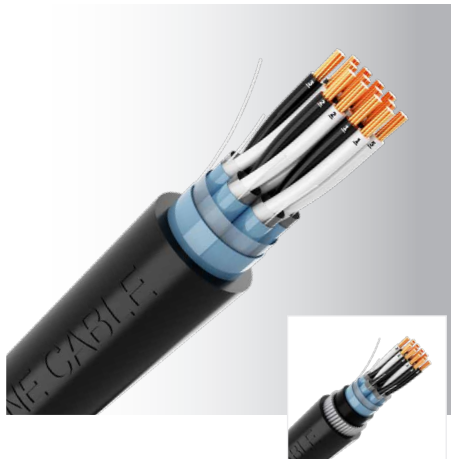


Instrumentation Cables

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

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

Model Code: XIOP-UV or XIOPSP-UV



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

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

Instrumentation Cables



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500V Pairs or Triads

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

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

Model Code: XIOP-UV or XIOPSP-UV

| No. of Pairs/Triads | Conductor | | Insulation Thickness (mm) | Unarmoured Cable | | | Armoured Cable | | | | | |
|---------------------|---------------------------------|--------------------------|---------------------------|------------------|----------------------------|------------------------|-----------------|----------------------------|---------------------|-----------------|------|------|
| | Nominal Area (mm ²) | No./Diam. of Strand (mm) | | Part No. | Approx. Overall Diam. (mm) | Approx. Weight (kg/km) | Part No. | Approx. Overall Diam. (mm) | Approx. Weight (mm) | | | |
| | | | | | | | | | | | | |
| 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 Thickness (mm) | Unarmoured Cable | | | Armoured Cable | | |
|---------------------|---------------------------------|--------------------------|---------------------------|------------------|----------------------------|------------------------|-----------------|----------------------------|---------------------|
| | Nominal Area (mm ²) | No./Diam. of Strand (mm) | | Part No. | Approx. Overall Diam. (mm) | Approx. Weight (kg/km) | Part No. | Approx. Overall Diam. (mm) | Approx. Weight (mm) |
| | | | | | | | | | |
| 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 | | | |

Instrumentation Cables

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)