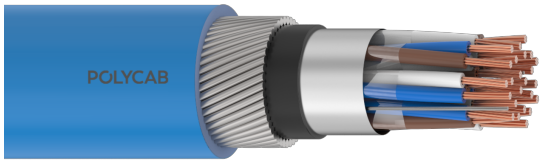
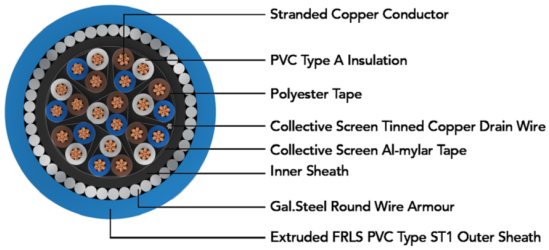
# POLYCAB INSTRU 300 T (ST)
## Instrumentation cable PVC/PE Insulated Overall shielded 300V




Images not to scale. Follow table for dimensions

## APPLICATION

POLYCAB INSTRU 300 SINGLE & MT, Stranded copper conductor, PVC/PE insulated, Overall al-mylar shielded, armoured/unarmoured and PVC/LSZH sheathed cable confirming to BS EN 50288-7 are designed for transmission of analogue and digital signals in instrument and control systems. POLYCAB INSTRU 300 SINGLE & MT cables are used for diverse applications within industrial process for control, communication, data & voice transmission in oil, gas & petrochemical industries, cement, steel, fertilizers etc.

## CHARACTERISTICS

**Voltage Rating**
300 V

**Operation Temperature**
Max.: PVC 70°C,
HRPVC 85°C,
XLPE 90°C,
LDPE 60°C.

**Bending Radius**
12 x Overall diameter

## CONSTRUCTION

- Stranded Copper conductor as per EN 60228
- Insulated with PVC/PE as per EN 50288-7
- Collective screen Al/PET (Aluminium/Polyester tape) with drain wire of tinned Cu/ Tinned copper braiding.
- Extruded inner sheath with PVC/LSZH to EN 50290-2-22/27
- Armoured with Galvanised Steel Strip/Round as per EN 50288-7
- Sheathed with Extruded PVC/LSZH to EN 50290-2-22/27

**Core Identification**
White, Blue & Brown for Triad

Outer sheath colour: Blue/Black

## OUTSTANDING FEATURES

- Flame retardant
- Low smoke emission
- Long life

## STANDARD FOLLOWS

EN 50288-7
EN 50288-1
EN 60228
EN 50290-2-22/27

## COMPLIANCE

| | |
|---|---|
| Conductor resistance | - EN 60228 |
| Insulation resistance | - EN 50288-7 |
| L/R Ratio | - EN 50288-7 |
| Mutual capacitance | - EN 50288-7 |

## OUR ACCREDITATIONS

## APPROVAL

## NOTES

Outer sheath also available with PE & FRLS on request.
As per the application/identification requirement, other colour also available on request.

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POLYCAB
IDEAS. CONNECTED.

**Weight & Dimension Data**

**300 VOLTS, SINGLE & MULTI TRIAD, STR.COPPER, PVC/PE INSULATED, ALUMINIUM MYLAR TAPED OVERALL SHIELDED, ARMOURED AND UNARMOURED INSTRUMENTATION CABLES AS PER EN 50288-7**

| Area of conductor | No.of triad | Min. thickness of insulation | ARMOURED CABLES | | | | | | UNARMOURED CABLES | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Nominal thickness of inner sheath | Diameter of G.I. armour wire | Nominal thickness of outer Sheath | Nominal Overall diameter | Approx. weight - PE insulation | Approx. weight of PVC Insulation | Nominal thickness of outer sheath | Nominal overall Diameter | Approx. weight - PE insulation | Approx. weight of PVC Insulation |
| Sqmm | | mm | mm | mm | mm | mm | kg/km | kg/km | mm | mm | kg/km | kg/km |
| 0.5 | 1 | 0.26 | 0.8 | 0.9 | 1.3 | 9.9 | 190 | 195 | 0.8 | 5.5 | 42 | 45 |
| 0.5 | 2 | 0.26 | 0.9 | 0.9 | 1.3 | 12.8 | 285 | 290 | 0.9 | 8.4 | 76 | 81 |
| 0.5 | 4 | 0.26 | 1.0 | 0.9 | 1.4 | 14.5 | 375 | 385 | 1.0 | 9.9 | 120 | 135 |
| 0.5 | 5 | 0.26 | 1.0 | 0.9 | 1.4 | 15.4 | 415 | 430 | 1.0 | 10.8 | 145 | 160 |
| 0.5 | 6 | 0.26 | 1.0 | 0.9 | 1.4 | 16.4 | 460 | 475 | 1.0 | 11.8 | 170 | 185 |
| 0.5 | 8 | 0.26 | 1.1 | 0.9 | 1.5 | 18.2 | 560 | 580 | 1.1 | 13.4 | 220 | 140 |
| 0.5 | 10 | 0.26 | 1.1 | 0.9 | 1.5 | 19.9 | 640 | 670 | 1.1 | 15.1 | 265 | 190 |
| 0.5 | 12 | 0.26 | 1.1 | 0.9 | 1.5 | 20.4 | 690 | 720 | 1.1 | 15.6 | 300 | 335 |
| 0.5 | 14 | 0.26 | 1.1 | 0.9 | 1.5 | 21.2 | 750 | 790 | 1.1 | 16.4 | 345 | 380 |
| 0.5 | 16 | 0.26 | 1.2 | 0.9 | 1.6 | 22.6 | 840 | 880 | 1.2 | 17.6 | 390 | 435 |
| 0.5 | 19 | 0.26 | 1.2 | 0.9 | 1.6 | 23.5 | 920 | 970 | 1.2 | 18.5 | 450 | 500 |
| 0.5 | 20 | 0.26 | 1.2 | 1.25 | 1.6 | 25.3 | 1100 | 1160 | 1.2 | 19.6 | 475 | 530 |
| 0.5 | 24 | 0.26 | 1.3 | 1.25 | 1.7 | 27.8 | 1280 | 1340 | 1.3 | 21.9 | 570 | 640 |
| 0.5 | 30 | 0.26 | 1.3 | 1.25 | 1.7 | 29.1 | 1430 | 1510 | 1.3 | 23.2 | 690 | 770 |
| 0.5 | 37 | 0.26 | 1.4 | 1.25 | 1.7 | 31.2 | 1640 | 1750 | 1.4 | 25.3 | 840 | 940 |
| 0.75 | 1 | 0.26 | 0.8 | 0.9 | 1.3 | 10.4 | 210 | 210 | 0.8 | 6.0 | 52 | 55 |
| 0.75 | 2 | 0.26 | 0.9 | 0.9 | 1.4 | 13.8 | 330 | 340 | 0.9 | 9.2 | 95 | 100 |
| 0.75 | 4 | 0.26 | 1.0 | 0.9 | 1.4 | 15.5 | 430 | 440 | 1.0 | 10.9 | 160 | 170 |
| 0.75 | 5 | 0.26 | 1.0 | 0.9 | 1.4 | 16.5 | 480 | 500 | 1.0 | 11.9 | 190 | 205 |
| 0.75 | 6 | 0.26 | 1.1 | 0.9 | 1.5 | 18.0 | 560 | 580 | 1.1 | 13.2 | 225 | 245 |
| 0.75 | 8 | 0.26 | 1.1 | 0.9 | 1.5 | 19.6 | 660 | 680 | 1.1 | 14.8 | 285 | 310 |
| 0.75 | 10 | 0.26 | 1.2 | 0.9 | 1.5 | 21.7 | 770 | 810 | 1.2 | 16.9 | 355 | 390 |
| 0.75 | 12 | 0.26 | 1.2 | 0.9 | 1.6 | 22.5 | 850 | 890 | 1.2 | 17.5 | 410 | 450 |
| 0.75 | 14 | 0.26 | 1.2 | 1.25 | 1.6 | 24.1 | 1050 | 1100 | 1.2 | 18.4 | 470 | 510 |
| 0.75 | 16 | 0.26 | 1.2 | 1.25 | 1.6 | 25.1 | 1150 | 1200 | 1.2 | 19.4 | 530 | 580 |
| 0.75 | 19 | 0.26 | 1.3 | 1.25 | 1.6 | 26.4 | 1270 | 1330 | 1.3 | 20.7 | 620 | 680 |
| 0.75 | 20 | 0.26 | 1.3 | 1.25 | 1.7 | 27.8 | 1360 | 1420 | 1.3 | 21.9 | 650 | 720 |
| 0.75 | 24 | 0.26 | 1.4 | 1.25 | 1.7 | 30.4 | 1560 | 1640 | 1.4 | 24.5 | 780 | 860 |
| 0.75 | 30 | 0.26 | 1.4 | 1.25 | 1.8 | 32.0 | 1780 | 1880 | 1.4 | 25.9 | 950 | 1040 |
| 0.75 | 37 | 0.26 | 1.5 | 1.25 | 1.8 | 34.3 | 2060 | 2180 | 1.5 | 28.2 | 1150 | 1270 |
| 1.0 | 1 | 0.26 | 0.9 | 0.9 | 1.3 | 10.9 | 235 | 240 | 0.9 | 6.5 | 64 | 68 |

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| Area of conductor | No.of triad | Min. thickness of insulation | ARMOURED CABLES | | | | | | UNARMOURED CABLES | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Nominal thickness of inner sheath | Diameter of G.I. armour wire | Nominal thickness of outer Sheath | Nominal Overall diameter | Approx. weight - PE insulation | Approx. weight of PVC Insulation | Nominal thickness of outer sheath | Nominal overall Diameter | Approx. weight - PE insulation | Approx. weight of PVC Insulation |
| Sqmm | | mm | mm | mm | mm | mm | kg/km | kg/km | mm | mm | kg/km | kg/km |
| 1.0 | 2 | 0.26 | 1.0 | 0.9 | 1.4 | 14.6 | 370 | 380 | 1.0 | 10.0 | 120 | 125 |
| 1.0 | 4 | 0.26 | 1.0 | 0.9 | 1.4 | 16.3 | 485 | 500 | 1.0 | 11.7 | 195 | 205 |
| 1.0 | 5 | 0.26 | 1.0 | 0.9 | 1.5 | 17.6 | 560 | 570 | 1.0 | 12.8 | 230 | 250 |
| 1.0 | 6 | 0.26 | 1.1 | 0.9 | 1.5 | 18.9 | 630 | 650 | 1.1 | 14.1 | 280 | 300 |
| 1.0 | 8 | 0.26 | 1.1 | 0.9 | 1.5 | 20.7 | 750 | 780 | 1.1 | 15.9 | 355 | 385 |
| 1.0 | 10 | 0.26 | 1.2 | 0.9 | 1.6 | 23.2 | 900 | 940 | 1.2 | 18.2 | 440 | 480 |
| 1.0 | 12 | 0.26 | 1.2 | 1.25 | 1.6 | 24.6 | 1110 | 1150 | 1.2 | 18.9 | 510 | 560 |
| 1.0 | 14 | 0.26 | 1.3 | 1.25 | 1.6 | 25.7 | 1230 | 1280 | 1.3 | 20.0 | 590 | 640 |
| 1.0 | 16 | 0.26 | 1.3 | 1.25 | 1.7 | 27.1 | 1350 | 1410 | 1.3 | 21.2 | 670 | 730 |
| 1.0 | 19 | 0.26 | 1.3 | 1.25 | 1.7 | 28.2 | 1500 | 1560 | 1.3 | 22.3 | 780 | 840 |
| 1.0 | 20 | 0.26 | 1.4 | 1.25 | 1.7 | 29.7 | 1590 | 1660 | 1.4 | 23.8 | 830 | 900 |
| 1.0 | 24 | 0.26 | 1.4 | 1.25 | 1.8 | 32.5 | 1830 | 1920 | 1.4 | 26.4 | 980 | 1070 |
| 1.0 | 30 | 0.26 | 1.5 | 1.25 | 1.8 | 34.3 | 2110 | 2220 | 1.5 | 28.2 | 1200 | 1310 |
| 1.0 | 37 | 0.26 | 1.6 | 1.25 | 1.9 | 37.0 | 2470 | 2600 | 1.6 | 30.7 | 1470 | 1600 |
| 1.5 | 1 | 0.35 | 0.9 | 0.9 | 1.3 | 12.0 | 280 | 285 | 0.9 | 7.6 | 86 | 91 |
| 1.5 | 2 | 0.35 | 1.0 | 0.9 | 1.4 | 16.5 | 455 | 465 | 1.0 | 11.9 | 160 | 170 |
| 1.5 | 4 | 0.35 | 1.1 | 0.9 | 1.5 | 18.9 | 630 | 650 | 1.1 | 14.1 | 280 | 300 |
| 1.5 | 5 | 0.35 | 1.1 | 0.9 | 1.5 | 20.3 | 720 | 750 | 1.1 | 15.5 | 335 | 365 |
| 1.5 | 6 | 0.35 | 1.1 | 0.9 | 1.6 | 22.1 | 840 | 870 | 1.1 | 17.1 | 400 | 435 |
| 1.5 | 8 | 0.35 | 1.3 | 1.25 | 1.6 | 25.2 | 1150 | 1190 | 1.3 | 19.5 | 520 | 570 |
| 1.5 | 10 | 0.35 | 1.3 | 1.25 | 1.7 | 28.1 | 1350 | 1410 | 1.3 | 22.2 | 640 | 700 |
| 1.5 | 12 | 0.35 | 1.4 | 1.25 | 1.7 | 29.1 | 1500 | 1560 | 1.4 | 23.2 | 760 | 820 |
| 1.5 | 14 | 0.35 | 1.4 | 1.25 | 1.7 | 30.3 | 1640 | 1720 | 1.4 | 24.4 | 870 | 940 |
| 1.5 | 16 | 0.35 | 1.5 | 1.25 | 1.8 | 32.1 | 1830 | 1910 | 1.5 | 26.0 | 990 | 1080 |
| 1.5 | 19 | 0.35 | 1.5 | 1.25 | 1.8 | 33.5 | 2030 | 2140 | 1.5 | 27.4 | 1150 | 1250 |
| 1.5 | 20 | 0.35 | 1.5 | 1.25 | 1.8 | 35.1 | 2140 | 2250 | 1.5 | 29.0 | 1210 | 1320 |
| 1.5 | 24 | 0.35 | 1.7 | 1.6 | 2.0 | 39.8 | 2760 | 2890 | 1.7 | 32.6 | 1470 | 1600 |
| 1.5 | 30 | 0.35 | 1.7 | 1.6 | 2.0 | 41.8 | 3140 | 3310 | 1.7 | 34.6 | 1780 | 1950 |
| 1.5 | 37 | 0.35 | 1.8 | 1.6 | 2.1 | 45.1 | 3670 | 3880 | 1.8 | 37.7 | 2170 | 2380 |

For Cables of sizes or triad not listed above the product data is available on request
Dimensions & Weights are representative figures and may vary

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## Instrumentation cable PVC/PE Insulated Overall shielded 300V

**Electrical Parameter**

| Area of Conductor | Max. DC resistance of conductor at 20°C Plain wires | Max. DC resistance of conductor at 20°C Metal coated wires | Insulation resistance (PVC) | Insulation resistance (PE/XLPE) | Mutual capacitance | Inductance to resistance ratio(L/R) |
|---|---|---|---|---|---|---|
| Sqmm | Ohm/km | Ohm/km | MΩ/Km | MΩ/Km | nf/Km | µH/Ω |
| 0.5 | 36 | 36.7 | 10 | 1000 | < 250 | < 25 |
| 0.75 | 24.5 | 24.8 | 10 | 1000 | < 250 | < 25 |
| 1 | 18.1 | 18.2 | 10 | 1000 | < 250 | < 25 |
| 1.5 | 12.1 | 12.2 | 10 | 1000 | < 250 | < 40 |
| 2.5 | 7.41 | 7.56 | 10 | 1000 | < 250 | < 60 |