# TRAYCONTROL® 500-C

**Oil Res I/II, exposed run: TC-ER, PLTC-ER, ITC-ER, NFPA 79, EMC-preferred type**

HELUKABEL® TRAYCONTROL® 500-C P/N 62855 12AWG 4C (UL) TC-ER 90°C DRY WET 600V SUN RES DIR BUR OIL RES I/II E330430 OR MTW "FLEXING" OR WTTC 1000V OR c(UL)CIC TC FT4 CSA AWM I/II A/B 105°C 1000V FT4

## TECHNICAL DATA

**PVC control and connection cable acc. to CSA-Std. C22.2 No. 210 - AWM I/II A/B, 20 AWG - 1 AWG: UL-Std. 1063 (MTW), 20 AWG - 12 AWG: UL-Std. 2250 (ITC-ER), UL-Std. 13 (PLTC-ER), 18 AWG - 500 kcmil: UL-Std. 1277 (TC-ER), UL-Std. 2277 (WTTC), UL-Std. 1690 (DP-1), 18 AWG - 4/0 AWG: CSA-Std. C22.2 No. 230 & 239 - c(UL) CIC-TC, 1/0 AWG - 500 kcmil: UL-Std. 44 (XHHW-2)**

| | |
|---|---|
| **Temperature range** | flexible +5°C to +50°C<br>fixed -25°C to +105°C<br>UL (TC) flexible to +90°C |
| **Nominal voltage** | UL (TC) AC 600 V<br>UL (WTTC) AC 1000 V<br>UL (MTW) AC 600 V<br>CIC-TC AC 600 V |
| **Test voltage core/core** | 6000 V |
| **Test voltage core/screen** | 6000 V |
| **Minimum bending radius** | flexible 12x Outer-Ø<br>fixed 6x Outer-Ø |

## CABLE STRUCTURE

- Copper wire bare, finely stranded acc. to ASTM B174 Class K, AWG sizes
- Core insulation: see table
- Core identification: black cores with consecutive labeling in white digits
- Protective conductor: starting with 3 cores,
  G = with protective conductor GN-YE, in the outer layer,
  x = without protective conductor
- Cores stranded in layers with optimal lay lengths
- 1. Screen: plastic-coated aluminium foil (St)
  2. Screen: braided screen of tinned copper wires, approx. coverage 85%
- Outer sheath: Special-PVC
- Sheath colour: grey (RAL 7001)
- Length marking: in feet

## PROPERTIES

- resistant to: oil, UV radiation (SUN RES)
- for outdoor use
- direct burial (DIR BUR)
- the materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

## TESTS

- flame-retardant acc. to CSA FT4
- oil-resistant acc. to UL Std 1277 Tab. 12.2, Oil Res I / Oil Res II
- Cold Bend Test acc. to UL Std. 1277 No. 17
- Impact Test (-ER) acc. to UL Std. 1277 No. 23
- Crushing Test (-ER) acc. to UL Std. 1277 No. 24
- direct burial (DIR BUR) acc. to UL Std. 1277 No. 5 (wet-locations insulation), No. 19 (crushing test)
- Vertical-Tray Flame Test (FT4) acc. to UL Std. 1277 No. 15 / UL Std. 1685
- certifications and approvals:
  EAC
  ECOLAB®
  Part numbers with protective conductor (GN-YE): for Class 1 Div. 2 explosive environments acc. to NEC Art. 501

## APPLICATION

TRAYCONTROL® 500-C is a flexible, oil resistant control cable. The special combination of TC-ER, PLTC-ER and ITC-ER allows this cable to be used as a connecting cable for industrial plant and machinery in accordance with NFPA 79. Approved for open, unprotected installation in cable trays to the machine. Its outstanding oil resistance (OIL RES I & II) allows for a long service life. For industrial applications in dry, damp and wet environments. Recommended applications: Production lines, bottling plants, machine construction, switch cabinets, conveyor systems, packaging machines, automotive industry. EMC = Electromagnetic Compatibility; in order to optimise EMC properties, we recommend a double-sided and all-round large contact area of the copper braiding. Only cables with 3 or more cores are rated for exposed run (ER).

## NOTES

- Conductor sizes are based on the AWG measurement system, metric conductor sizes (mm²) are approximated and are for reference only

| Part no. | No. cores x AWG-No. | Cross-sec. mm², approx. | Outer Ø mm, approx. | Cu factor per km | Weight kg/km, approx. | Core insulation |
|---|---|---|---|---|---|---|
| 62813 | 2 x 20 | 0.51 | 7.3 | 24.3 | 76.0 | PVC / Nylon |
| 62814 | 3 G 20 | 0.51 | 7.6 | 29.9 | 88.0 | PVC / Nylon |
| 11009547 | 4 G 20 | 0.51 | 8.1 | 36.3 | 103.0 | PVC / Nylon |
| 11009548 | 5 G 20 | 0.51 | 8.7 | 42.9 | 118.0 | PVC / Nylon |
| 62815 | 7 G 20 | 0.51 | 9.3 | 54.7 | 143.0 | PVC / Nylon |
| 11009549 | 9 G 20 | 0.51 | 10.5 | 68.3 | 174.0 | PVC / Nylon |
| 62816 | 12 G 20 | 0.51 | 11.6 | 85.9 | 213.0 | PVC / Nylon |
| 11009550 | 18 G 20 | 0.51 | 13.6 | 119.5 | 284.0 | PVC / Nylon |
| 62817 | 25 G 20 | 0.51 | 16.2 | 160.1 | 405.0 | PVC / Nylon |
| 62818 | 2 x 18 | 0.96 | 7.8 | 34.3 | 89.0 | PVC / Nylon |
| 62819 | 3 G 18 | 0.96 | 8.2 | 44.0 | 107.0 | PVC / Nylon |

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## Oil Res I/II, exposed run: TC-ER, PLTC-ER, ITC-ER, NFPA 79, EMC-preferred type

| Part no. | No. cores x AWG-No. | Cross-sec. mm², approx. | Outer Ø mm, approx. | Cu factor per km | Weight kg/km, approx. | Core insulation |
|---|---|---|---|---|---|---|
| 62820 | 4 G 18 | 0.96 | 8.8 | 54.9 | 126.0 | PVC / Nylon |
| 62821 | 5 G 18 | 0.96 | 9.4 | 66.4 | 150.0 | PVC / Nylon |
| 62822 | 7 G 18 | 0.96 | 10.1 | 85.9 | 180.0 | PVC / Nylon |
| 62823 | 9 G 18 | 0.96 | 11.6 | 108.7 | 222.0 | PVC / Nylon |
| 62824 | 10 G 18 | 0.96 | 12.4 | 120.2 | 244.0 | PVC / Nylon |
| 62825 | 12 G 18 | 0.96 | 12.8 | 139.4 | 278.0 | PVC / Nylon |
| 62826 | 15 G 18 | 0.96 | 14.9 | 169.6 | 359.0 | PVC / Nylon |
| 11009551 | 16 G 18 | 0.96 | 14.9 | 178.3 | 372.0 | PVC / Nylon |
| 62827 | 18 G 18 | 0.96 | 15.6 | 198.5 | 402.0 | PVC / Nylon |
| 62828 | 19 G 18 | 0.96 | 15.6 | 207.1 | 420.0 | PVC / Nylon |
| 62829 | 25 G 18 | 0.96 | 18.0 | 281.4 | 479.0 | PVC / Nylon |
| 11009552 | 27 G 18 | 0.96 | 18.4 | 299.2 | 576.0 | PVC / Nylon |
| 11009553 | 34 G 18 | 0.96 | 20.3 | 368.5 | 695.0 | PVC / Nylon |
| 11009554 | 37 G 18 | 0.96 | 20.3 | 396.2 | 734.0 | PVC / Nylon |
| 11009555 | 41 G 18 | 0.96 | 22.7 | 437.4 | 865.0 | PVC / Nylon |
| 11009556 | 50 G 18 | 0.96 | 24.5 | 523.9 | 1013.0 | PVC / Nylon |
| 11009557 | 61 G 18 | 0.96 | 26.0 | 628.3 | 1205.0 | PVC / Nylon |
| 11009558 | 2 x 16 | 1.31 | 8.4 | 41.6 | 100.0 | PVC / Nylon |
| 62830 | 3 G 16 | 1.31 | 8.7 | 56.1 | 124.0 | PVC / Nylon |
| 62831 | 4 G 16 | 1.31 | 9.4 | 70.4 | 149.0 | PVC / Nylon |
| 62832 | 5 G 16 | 1.31 | 10.1 | 85.1 | 173.0 | PVC / Nylon |
| 62833 | 6 G 16 | 1.31 | 10.9 | 100.0 | 196.0 | PVC / Nylon |
| 62834 | 7 G 16 | 1.31 | 10.9 | 111.9 | 216.0 | PVC / Nylon |
| 11009559 | 8 G 16 | 1.31 | 11.7 | 126.8 | 240.0 | PVC / Nylon |
| 62835 | 9 G 16 | 1.31 | 12.5 | 141.5 | 265.0 | PVC / Nylon |
| 62836 | 10 G 16 | 1.31 | 14.3 | 157.1 | 323.0 | PVC / Nylon |
| 62837 | 12 G 16 | 1.31 | 14.7 | 182.8 | 365.0 | PVC / Nylon |
| 11009560 | 14 G 16 | 1.31 | 15.3 | 209.3 | 405.0 | PVC / Nylon |
| 62838 | 15 G 16 | 1.31 | 16.1 | 224.4 | 430.0 | PVC / Nylon |
| 11009561 | 16 G 16 | 1.31 | 16.1 | 236.5 | 448.0 | PVC / Nylon |
| 62839 | 18 G 16 | 1.31 | 16.8 | 263.3 | 499.0 | PVC / Nylon |
| 62840 | 19 G 16 | 1.31 | 16.8 | 275.4 | 524.0 | PVC / Nylon |
| 62841 | 20 G 16 | 1.31 | 17.8 | 290.8 | 552.0 | PVC / Nylon |
| 62842 | 25 G 16 | 1.31 | 19.5 | 371.8 | 662.0 | PVC / Nylon |
| 11009562 | 27 G 16 | 1.31 | 19.9 | 398.0 | 699.0 | PVC / Nylon |
| 11009563 | 30 G 16 | 1.31 | 20.6 | 435.7 | 759.0 | PVC / Nylon |
| 11009564 | 34 G 16 | 1.31 | 23.1 | 492.3 | 908.0 | PVC / Nylon |
| 11009565 | 40 G 16 | 1.31 | 23.9 | 567.3 | 1022.0 | PVC / Nylon |
| 11009566 | 41 G 16 | 1.31 | 24.7 | 583.6 | 1052.0 | PVC / Nylon |
| 11009567 | 50 G 16 | 1.31 | 26.8 | 701.5 | 1263.0 | PVC / Nylon |
| 11009568 | 61 G 16 | 1.31 | 28.3 | 842.6 | 1476.0 | PVC / Nylon |
| 11009569 | 2 x 14 | 2.08 | 9.4 | 60.3 | 129.0 | PVC / Nylon |
| 62843 | 3 G 14 | 2.08 | 9.8 | 80.6 | 161.0 | PVC / Nylon |
| 62844 | 4 G 14 | 2.08 | 10.6 | 102.6 | 171.0 | PVC / Nylon |
| 62845 | 5 G 14 | 2.08 | 11.5 | 124.2 | 231.0 | PVC / Nylon |
| 11009570 | 6 G 14 | 2.08 | 12.5 | 146.8 | 263.0 | PVC / Nylon |
| 62846 | 7 G 14 | 2.08 | 12.5 | 163.0 | 290.0 | PVC / Nylon |
| 62847 | 9 G 14 | 2.08 | 15.2 | 210.7 | 390.0 | PVC / Nylon |
| 62848 | 10 G 14 | 2.08 | 16.3 | 234.5 | 443.0 | PVC / Nylon |
| 62849 | 12 G 14 | 2.08 | 16.8 | 286.1 | 506.0 | PVC / Nylon |
| 62850 | 15 G 14 | 2.08 | 18.6 | 351.1 | 603.0 | PVC / Nylon |
| 11009571 | 16 G 14 | 2.08 | 18.6 | 370.2 | 628.0 | PVC / Nylon |
| 62851 | 18 G 14 | 2.08 | 19.5 | 411.7 | 673.0 | PVC / Nylon |
| 62852 | 19 G 14 | 2.08 | 19.5 | 430.8 | 716.0 | PVC / Nylon |
| 62853 | 25 G 14 | 2.08 | 23.7 | 585.0 | 997.0 | PVC / Nylon |
| 11009572 | 2 x 12 | 3.31 | 10.3 | 85.8 | 165.0 | PVC / Nylon |
| 62854 | 3 G 12 | 3.31 | 10.8 | 117.7 | 208.0 | PVC / Nylon |
| 62855 | 4 G 12 | 3.31 | 11.8 | 151.6 | 333.0 | PVC / Nylon |
| 62856 | 5 G 12 | 3.31 | 12.8 | 185.9 | 313.0 | PVC / Nylon |
| 62857 | 6 G 12 | 3.31 | 14.7 | 219.8 | 384.0 | PVC / Nylon |
| 62858 | 7 G 12 | 3.31 | 14.7 | 249.8 | 418.0 | PVC / Nylon |
| 62859 | 9 G 12 | 3.31 | 16.8 | 318.9 | 525.0 | PVC / Nylon |
| 62860 | 12 G 12 | 3.31 | 18.8 | 430.3 | 680.0 | PVC / Nylon |
| 62861 | 15 G 12 | 3.31 | 20.8 | 530.7 | 820.0 | PVC / Nylon |
| 11009573 | 16 G 12 | 3.31 | 20.8 | 561.2 | 857.0 | PVC / Nylon |
| 11009574 | 18 G 12 | 3.31 | 22.8 | 627.0 | 1006.0 | PVC / Nylon |
| 62862 | 19 G 12 | 3.31 | 22.8 | 657.6 | 1045.0 | PVC / Nylon |

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| Part no. | No. cores x AWG-No. | Cross-sec. mm², approx. | Outer Ø mm, approx. | Cu factor per km | Weight kg/km, approx. | Core insulation |
|---|---|---|---|---|---|---|
| 62863 | 20 G 12 | 3.31 | 23.9 | 694.7 | 1100.0 | PVC / Nylon |
| 62864 | 25 G 12 | 3.31 | 26.5 | 883.0 | 1354.0 | PVC / Nylon |
| 11009575 | 2 x 10 | 5.26 | 12.3 | 129.8 | 232.0 | PVC / Nylon |
| 62865 | 3 G 10 | 5.26 | 13.0 | 180.6 | 299.0 | PVC / Nylon |
| 62866 | 4 G 10 | 5.26 | 15.0 | 234.2 | 412.0 | PVC / Nylon |
| 62867 | 5 G 10 | 5.26 | 16.3 | 287.6 | 506.0 | PVC / Nylon |
| 62868 | 7 G 10 | 5.26 | 17.8 | 402.5 | 640.0 | PVC / Nylon |
| 62869 | 9 G 10 | 5.26 | 20.6 | 513.8 | 798.0 | PVC / Nylon |
| 62870 | 12 G 10 | 5.26 | 24.0 | 670.4 | 1013.0 | PVC / Nylon |
| 11009576 | 18 G 10 | 5.26 | 27.9 | 1012.0 | 1530.0 | PVC / Nylon |
| 62871 | 19 G 10 | 5.26 | 27.9 | 1061.1 | 1591.0 | PVC / Nylon |
| 11009577 | 25 G 10 | 5.26 | 32.4 | 1381.1 | 2034.0 | PVC / Nylon |
| 11009578 | 3 G 8 | 8.37 | 17.6 | 292.8 | 522.0 | PVC / Nylon |
| 62872 | 4 G 8 | 8.37 | 19.3 | 400.0 | 682.0 | PVC / Nylon |
| 11009579 | 5 G 8 | 8.37 | 21.1 | 485.8 | 799.0 | PVC / Nylon |
| 11009580 | 7 G 8 | 8.37 | 23.9 | 650.9 | 1055.0 | PVC / Nylon |
| 11009581 | 3 G 6 | 13.3 | 20.1 | 452.5 | 701.0 | PVC / Nylon |
| 62873 | 4 G 6 | 13.3 | 23.2 | 586.6 | 975.0 | PVC / Nylon |
| 11009582 | 5 G 6 | 13.3 | 25.1 | 720.1 | 1128.0 | PVC / Nylon |
| 11009583 | 7 G 6 | 13.3 | 27.5 | 979.7 | 1496.0 | PVC / Nylon |
| 11009584 | 3 G 4 | 21.2 | 25.2 | 696.6 | 1101.0 | PVC / Nylon |
| 62874 | 4 G 4 | 21.2 | 27.8 | 903.7 | 1406.0 | PVC / Nylon |
| 11009585 | 5 G 4 | 21.2 | 30.4 | 1115.3 | 1702.0 | PVC / Nylon |
| 11009586 | 3 G 2 | 33.6 | 29.3 | 1053.7 | 1565.0 | PVC / Nylon |
| 62875 | 4 G 2 | 33.6 | 32.3 | 1377.7 | 2076.0 | PVC / Nylon |
| 11009587 | 5 G 2 | 33.6 | 35.4 | 1708.0 | 2411.0 | PVC / Nylon |
| 11009588 | 4 G 1 | 42.4 | 36.4 | 1721.8 | 2626.0 | PVC / Nylon |
| 11009589 | 4 G 1/0 | 53.5 | 39.5 | 2227.7 | 2978.0 | XLPE |
| 11009590 | 4 G 2/0 | 67.4 | 39.0 | 2763.5 | 3609.0 | XLPE |
| 11009591 | 4 G 3/0 | 85 | 47.5 | 3437.6 | 4380.0 | XLPE |
| 11009592 | 4 G 4/0 | 107.2 | 49.8 | 4224.8 | 5497.0 | XLPE |
| 11009593 | 4 G 250 kcmil | 126.7 | 53.8 | 5000.2 | 6502.0 | XLPE |
| 11009594 | 4 G 350 kcmil | 177.3 | 60.1 | 7024.1 | 8792.0 | XLPE |
| 11009595 | 4 G 500 kcmil | 253.4 | 74.7 | 9732.5 | 11823.0 | XLPE |

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