

TRONIC-CY (LiY-CY) flexible, Cu-screened, colour coded to DIN 47100, EMC-preferred type, meter marking



Technical data

- Special PVC data screened cables, adapted to DIN VDE 0812
- **Temperature range**
flexing -5 °C to +80 °C
fixed installation -40 °C to +80 °C
- **Nominal voltage**
0,14 mm² = 350 V
≥ 0,25 mm² = 500 V
- **Test voltage**
core/core 1200 V
core/screen 800 V
- **Breakdown voltage** min. 2400 V
- **Insulation resistance**
min. 200 MOhm x km
- **Capacitance** (approx. -value) at 800 Hz
core/core at 0,14 mm² = 120 pF/m
core/core ≥ 0,25 mm² = 150 pF/m
core/screen at 0,14 mm² = 240 pF/m
core/screen ≥ 0,25 mm² = 270 pF/m
- **Load** (A) According to different cross-sections, see table Technical Information
- **Inductance** approx. 0,65 mH/km
- **Impedance** approx. 78 Ohm
- **Coupling resistance** max. 250 Ohm/km
- **Minimum bending radius**
flexing 10x cable ø
fixed installation 5x cable ø
- **Radiation resistance**
up to 80x10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper, fine wire conductors for 0,5 mm² to DIN VDE 0295 cl. 5 and IEC 60228 cl. 5
- Conductor make-up for
0,14 mm² = 18x0,1 mm
0,25 mm² = 14x0,15 mm
0,34 mm² = 7x0,25 mm
- Special PVC core insulation TI2, to DIN VDE 0281 part 1
- Cores stranded in layers with optimal lay-length
- Colour coded to DIN 47100, but without colour repetition
- Core wrapping with foil
- Drain-wire, tinned
- Tinned, copper braided screen, approx. 85% coverage
- Special PVC outer sheath TM2, to DIN VDE 0281 part 1
- Colour grey (RAL 7001)
- with meter marking, change-over in 2011

Properties

- Extensively oil resistant, oil-/ chemical Resistance - see table Technical Informations
- PVC self-extinguishing and flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Note

- HELUKABEL®-TRONIC-CY is also available in paired version (e.g. HELUKABEL®-PAAR-TRONIC-CY 16x2x0,14 mm²).
- For 1 core cable screen of helically wound.
- **unscreened analogue type: TRONIC (LiYY)**, see page B 4

Application

These screened cables are used for flexible use with free movement without tensile stress or forced movements in dry, moist and wet rooms but not suitable for open air, wherever the construction requirements call for a minimum outer diameter, TRONIC is the suitable cable to use. This applies especially to such areas as tool making and machine industries as well as electronic, computer, measurement and control sectors.

The extremely small outer diameter make suitable for miniature plugs etc.

EMC = Electromagnetic compatibility

To optimise the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

| Part no. | No. cores x cross-sec. mm ² | Outer Ø approx. mm | Cop. weight kg / km | Weight approx. kg / km | AWG-No. |
|----------|--|--------------------|---------------------|------------------------|---------|
| 20139 | 1 x 0,14 | 2,5 | 6,1 | 16,0 | 26 |
| 20001 | 2 x 0,14 | 3,7 | 12,0 | 20,0 | 26 |
| 20002 | 3 x 0,14 | 3,9 | 13,0 | 27,0 | 26 |
| 20003 | 4 x 0,14 | 4,1 | 14,5 | 32,0 | 26 |
| 20004 | 5 x 0,14 | 4,4 | 15,5 | 37,0 | 26 |
| 20005 | 6 x 0,14 | 4,9 | 18,2 | 42,0 | 26 |
| 20006 | 7 x 0,14 | 4,9 | 19,0 | 48,0 | 26 |
| 20007 | 8 x 0,14 | 5,2 | 21,3 | 55,0 | 26 |
| 20008 | 10 x 0,14 | 6,2 | 28,7 | 65,0 | 26 |
| 20009 | 12 x 0,14 | 6,2 | 30,5 | 77,0 | 26 |
| 20010 | 14 x 0,14 | 6,6 | 32,0 | 79,0 | 26 |
| 20011 | 16 x 0,14 | 6,9 | 43,2 | 89,0 | 26 |
| 20012 | 18 x 0,14 | 7,2 | 51,0 | 103,0 | 26 |
| 20013 | 20 x 0,14 | 7,7 | 55,0 | 116,0 | 26 |
| 20014 | 21 x 0,14 | 7,9 | 56,0 | 120,0 | 26 |

| Part no. | No. cores x cross-sec. mm ² | Outer Ø approx. mm | Cop. weight kg / km | Weight approx. kg / km | AWG-No. |
|----------|--|--------------------|---------------------|------------------------|---------|
| 20015 | 24 x 0,14 | 8,3 | 62,0 | 131,0 | 26 |
| 20091 | 25 x 0,14 | 8,5 | 61,0 | 136,0 | 26 |
| 20016 | 27 x 0,14 | 8,5 | 65,0 | 142,0 | 26 |
| 20017 | 30 x 0,14 | 9,3 | 69,0 | 157,0 | 26 |
| 20018 | 32 x 0,14 | 9,6 | 76,0 | 163,0 | 26 |
| 20019 | 36 x 0,14 | 9,9 | 83,0 | 182,0 | 26 |
| 20020 | 40 x 0,14 | 10,2 | 88,0 | 209,0 | 26 |
| 20021 | 42 x 0,14 | 10,5 | 94,0 | 217,0 | 26 |
| 20022 | 44 x 0,14 | 11,2 | 110,0 | 226,0 | 26 |
| 20023 | 48 x 0,14 | 11,3 | 115,0 | 240,0 | 26 |
| 20024 | 52 x 0,14 | 11,8 | 124,0 | 270,0 | 26 |
| 20025 | 56 x 0,14 | 12,1 | 132,0 | 320,0 | 26 |
| 20026 | 61 x 0,14 | 12,4 | 146,0 | 370,0 | 26 |
| 20027 | 80 x 0,14 | 14,1 | 226,0 | 510,0 | 26 |
| 20028 | 100 x 0,14 | 15,6 | 267,0 | 580,0 | 26 |

Continuation ▶

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EMC-preferred type, meter marking



B

| Part no. | No. cores x cross-sec. mm ² | Outer Ø approx. mm | Cop. weight kg / km | Weight approx. kg / km | AWG-No. |
|----------|--|--------------------|---------------------|------------------------|---------|
| 20084 | 1 x 0,25 | 2,9 | 7,2 | 27,0 | 24 |
| 20029 | 2 x 0,25 | 4,2 | 15,8 | 31,0 | 24 |
| 20030 | 3 x 0,25 | 4,3 | 18,6 | 36,0 | 24 |
| 20031 | 4 x 0,25 | 4,7 | 22,0 | 40,0 | 24 |
| 20032 | 5 x 0,25 | 5,3 | 26,5 | 51,0 | 24 |
| 20083 | 6 x 0,25 | 5,7 | 32,4 | 58,0 | 24 |
| 20033 | 7 x 0,25 | 5,7 | 35,0 | 64,0 | 24 |
| 20034 | 8 x 0,25 | 6,3 | 42,1 | 82,0 | 24 |
| 20035 | 10 x 0,25 | 7,2 | 49,9 | 85,0 | 24 |
| 20036 | 12 x 0,25 | 7,3 | 58,0 | 90,0 | 24 |
| 20037 | 14 x 0,25 | 7,9 | 62,0 | 144,0 | 24 |
| 20038 | 16 x 0,25 | 8,3 | 67,0 | 110,0 | 24 |
| 20039 | 18 x 0,25 | 9,1 | 78,0 | 142,0 | 24 |
| 20086 | 19 x 0,25 | 9,1 | 79,0 | 146,0 | 24 |
| 20040 | 20 x 0,25 | 9,4 | 88,0 | 152,0 | 24 |
| 20041 | 21 x 0,25 | 9,4 | 91,0 | 150,0 | 24 |
| 20042 | 24 x 0,25 | 10,0 | 96,0 | 163,0 | 24 |
| 20092 | 25 x 0,25 | 10,1 | 99,0 | 169,0 | 24 |
| 20043 | 27 x 0,25 | 10,1 | 122,0 | 176,0 | 24 |
| 20044 | 30 x 0,25 | 11,1 | 132,0 | 189,0 | 24 |
| 20045 | 32 x 0,25 | 11,5 | 138,0 | 204,0 | 24 |
| 20046 | 36 x 0,25 | 11,9 | 146,0 | 219,0 | 24 |
| 20087 | 37 x 0,25 | 11,9 | 152,0 | 230,0 | 24 |
| 20047 | 40 x 0,25 | 12,4 | 157,0 | 247,0 | 24 |
| 20048 | 42 x 0,25 | 12,8 | 160,0 | 269,0 | 24 |
| 20049 | 44 x 0,25 | 13,6 | 164,0 | 292,0 | 24 |
| 20050 | 48 x 0,25 | 13,7 | 164,0 | 317,0 | 24 |
| 20051 | 52 x 0,25 | 14,1 | 175,0 | 330,0 | 24 |
| 20052 | 56 x 0,25 | 14,5 | 189,0 | 343,0 | 24 |
| 20053 | 61 x 0,25 | 15,1 | 204,0 | 365,0 | 24 |
| 20054 | 80 x 0,25 | 17,1 | 387,0 | 480,0 | 24 |
| 20055 | 100 x 0,25 | 19,1 | 505,0 | 605,0 | 24 |
| 20088 | 1 x 0,34 | 3,2 | 13,5 | 24,0 | 22 |
| 20056 | 2 x 0,34 | 5,0 | 18,0 | 30,0 | 22 |
| 20057 | 3 x 0,34 | 5,2 | 22,0 | 37,0 | 22 |
| 20058 | 4 x 0,34 | 5,6 | 28,0 | 48,0 | 22 |
| 20059 | 5 x 0,34 | 6,0 | 31,0 | 54,0 | 22 |
| 20085 | 6 x 0,34 | 6,7 | 45,0 | 61,0 | 22 |
| 20060 | 7 x 0,34 | 6,7 | 51,0 | 67,0 | 22 |
| 20061 | 8 x 0,34 | 7,2 | 54,0 | 81,0 | 22 |
| 20062 | 10 x 0,34 | 8,4 | 65,0 | 103,0 | 22 |
| 20063 | 12 x 0,34 | 8,5 | 70,0 | 110,0 | 22 |
| 20064 | 14 x 0,34 | 9,0 | 81,0 | 153,0 | 22 |
| 20065 | 16 x 0,34 | 9,6 | 88,0 | 159,0 | 22 |
| 20066 | 18 x 0,34 | 10,1 | 103,0 | 172,0 | 22 |
| 20089 | 19 x 0,34 | 10,1 | 106,0 | 181,0 | 22 |
| 20067 | 20 x 0,34 | 10,7 | 112,0 | 191,0 | 22 |
| 20068 | 21 x 0,34 | 10,7 | 116,0 | 199,0 | 22 |
| 20069 | 24 x 0,34 | 11,3 | 129,0 | 229,0 | 22 |
| 20093 | 25 x 0,34 | 11,5 | 120,0 | 241,0 | 22 |
| 20070 | 27 x 0,34 | 11,5 | 138,0 | 258,0 | 22 |
| 20071 | 30 x 0,34 | 12,6 | 158,0 | 290,0 | 22 |
| 20072 | 32 x 0,34 | 13,0 | 163,0 | 305,0 | 22 |
| 20073 | 36 x 0,34 | 13,7 | 178,0 | 330,0 | 22 |
| 20090 | 37 x 0,34 | 13,7 | 192,0 | 348,0 | 22 |
| 20074 | 40 x 0,34 | 14,2 | 198,0 | 364,0 | 22 |
| 20075 | 42 x 0,34 | 14,8 | 203,0 | 389,0 | 22 |
| 20076 | 44 x 0,34 | 15,4 | 214,0 | 414,0 | 22 |
| 20077 | 48 x 0,34 | 15,6 | 227,0 | 420,0 | 22 |
| 20078 | 52 x 0,34 | 16,2 | 242,0 | 450,0 | 22 |
| 20079 | 56 x 0,34 | 16,6 | 267,0 | 480,0 | 22 |
| 20080 | 61 x 0,34 | 17,1 | 295,0 | 520,0 | 22 |
| 20081 | 80 x 0,34 | 19,4 | 524,0 | 580,0 | 22 |
| 20082 | 100 x 0,34 | 21,7 | 620,0 | 694,0 | 22 |
| 16001 | 1 x 0,5 | 3,6 | 15,0 | 40,0 | 20 |
| 16002 | 2 x 0,5 | 5,5 | 29,0 | 45,0 | 20 |
| 16003 | 3 x 0,5 | 5,7 | 39,0 | 55,0 | 20 |
| 16004 | 4 x 0,5 | 6,3 | 46,0 | 61,0 | 20 |
| 16005 | 5 x 0,5 | 6,8 | 52,0 | 76,0 | 20 |
| 16006 | 6 x 0,5 | 7,3 | 66,0 | 89,0 | 20 |
| 16007 | 7 x 0,5 | 7,3 | 68,0 | 98,0 | 20 |
| 16008 | 8 x 0,5 | 8,0 | 80,0 | 117,0 | 20 |
| 16009 | 10 x 0,5 | 9,4 | 93,0 | 135,0 | 20 |
| 16010 | 12 x 0,5 | 9,6 | 117,0 | 157,0 | 20 |
| 16011 | 14 x 0,5 | 10,1 | 122,0 | 190,0 | 20 |

| Part no. | No. cores x cross-sec. mm ² | Outer Ø approx. mm | Cop. weight kg / km | Weight approx. kg / km | AWG-No. |
|----------|--|--------------------|---------------------|------------------------|---------|
| 16012 | 16 x 0,5 | 10,6 | 129,0 | 210,0 | 20 |
| 16013 | 18 x 0,5 | 10,7 | 152,0 | 217,0 | 20 |
| 16526 | 19 x 0,5 | 11,2 | 156,0 | 246,0 | 20 |
| 16014 | 20 x 0,5 | 11,7 | 173,0 | 275,0 | 20 |
| 16015 | 24 x 0,5 | 12,6 | 236,0 | 337,0 | 20 |
| 16016 | 25 x 0,5 | 12,7 | 250,0 | 351,0 | 20 |
| 16527 | 27 x 0,5 | 12,7 | 265,0 | 373,0 | 20 |
| 16017 | 30 x 0,5 | 14,1 | 297,0 | 396,0 | 20 |
| 16018 | 32 x 0,5 | 14,6 | 301,0 | 431,0 | 20 |
| 16164 | 34 x 0,5 | 15,3 | 312,0 | 440,0 | 20 |
| 16019 | 36 x 0,5 | 15,3 | 320,0 | 445,0 | 20 |
| 16528 | 37 x 0,5 | 15,3 | 325,0 | 458,0 | 20 |
| 16020 | 40 x 0,5 | 15,8 | 345,0 | 470,0 | 20 |
| 16021 | 50 x 0,5 | 18,1 | 407,0 | 570,0 | 20 |
| 16022 | 61 x 0,5 | 19,1 | 508,0 | 650,0 | 20 |
| 16023 | 80 x 0,5 | 21,9 | 690,0 | 780,0 | 20 |
| 16024 | 100 x 0,5 | 24,3 | 814,0 | 990,0 | 20 |
| 16025 | 1 x 0,75 | 3,8 | 19,0 | 41,0 | 18 |
| 16026 | 2 x 0,75 | 5,8 | 38,0 | 59,0 | 18 |
| 16027 | 3 x 0,75 | 6,3 | 50,0 | 66,0 | 18 |
| 16028 | 4 x 0,75 | 6,8 | 57,0 | 77,0 | 18 |
| 16029 | 5 x 0,75 | 7,3 | 70,0 | 93,0 | 18 |
| 16030 | 6 x 0,75 | 8,1 | 87,0 | 113,0 | 18 |
| 16031 | 7 x 0,75 | 8,2 | 96,0 | 130,0 | 18 |
| 16032 | 8 x 0,75 | 9,0 | 110,0 | 145,0 | 18 |
| 16033 | 10 x 0,75 | 10,3 | 140,0 | 180,0 | 18 |
| 16034 | 12 x 0,75 | 10,5 | 151,0 | 202,0 | 18 |
| 16035 | 14 x 0,75 | 11,3 | 167,0 | 225,0 | 18 |
| 16036 | 16 x 0,75 | 11,8 | 183,0 | 275,0 | 18 |
| 16037 | 18 x 0,75 | 12,6 | 207,0 | 292,0 | 18 |
| 16529 | 19 x 0,75 | 12,6 | 221,0 | 322,0 | 18 |
| 16038 | 20 x 0,75 | 13,4 | 238,0 | 362,0 | 18 |
| 16039 | 24 x 0,75 | 14,1 | 270,0 | 435,0 | 18 |
| 16040 | 25 x 0,75 | 14,3 | 278,0 | 415,0 | 18 |
| 16041 | 27 x 0,75 | 14,3 | 287,0 | 467,0 | 18 |
| 16042 | 30 x 0,75 | 15,8 | 315,0 | 486,0 | 18 |
| 16043 | 32 x 0,75 | 16,3 | 330,0 | 530,0 | 18 |
| 16163 | 34 x 0,75 | 17,1 | 350,0 | 570,0 | 18 |
| 16044 | 36 x 0,75 | 17,1 | 370,0 | 600,0 | 18 |
| 16530 | 37 x 0,75 | 17,9 | 386,0 | 640,0 | 18 |
| 16045 | 40 x 0,75 | 17,9 | 395,0 | 680,0 | 18 |
| 16120 | 42 x 0,75 | 18,4 | 408,0 | 714,0 | 18 |
| 16047 | 61 x 0,75 | 21,5 | 555,0 | 900,0 | 18 |
| 16048 | 80 x 0,75 | 24,6 | 715,0 | 1200,0 | 18 |
| 16049 | 100 x 0,75 | 27,2 | 910,0 | 1440,0 | 18 |
| 16475 | 2 x 1 | 6,4 | 46,0 | 65,0 | 17 |
| 16476 | 3 x 1 | 6,7 | 56,0 | 80,0 | 17 |
| 16477 | 4 x 1 | 7,2 | 69,0 | 98,0 | 17 |
| 16478 | 5 x 1 | 8,0 | 89,0 | 127,0 | 17 |
| 16479 | 6 x 1 | 8,6 | 105,0 | 144,0 | 17 |
| 16480 | 7 x 1 | 8,6 | 111,0 | 158,0 | 17 |
| 16481 | 8 x 1 | 9,4 | 130,0 | 197,0 | 17 |
| 16482 | 10 x 1 | 11,2 | 140,0 | 232,0 | 17 |
| 16483 | 12 x 1 | 11,4 | 168,0 | 260,0 | 17 |
| 16484 | 14 x 1 | 12,0 | 198,0 | 302,0 | 17 |
| 16485 | 16 x 1 | 12,8 | 218,0 | 346,0 | 17 |
| 16486 | 19 x 1 | 13,6 | 268,0 | 412,0 | 17 |
| 16487 | 24 x 1 | 15,2 | 320,0 | 493,0 | 17 |
| 16488 | 27 x 1 | 15,4 | 360,0 | 562,0 | 17 |
| 16489 | 37 x 1 | 18,3 | 485,0 | 790,0 | 17 |
| 16500 | 2 x 1,5 | 7,3 | 63,0 | 88,0 | 16 |
| 16501 | 3 x 1,5 | 7,6 | 76,0 | 100,0 | 16 |
| 16502 | 4 x 1,5 | 8,3 | 98,0 | 126,0 | 16 |
| 16503 | 5 x 1,5 | 9,2 | 116,0 | 160,0 | 16 |
| 16504 | 6 x 1,5 | 9,9 | 140,0 | 192,0 | 16 |
| 16505 | 7 x 1,5 | 9,9 | 152,0 | 208,0 | 16 |
| 16506 | 8 x 1,5 | 10,8 | 172,0 | 244,0 | 16 |
| 16507 | 10 x 1,5 | 13,0 | 193,0 | 315,0 | 16 |
| 16508 | 12 x 1,5 | 13,0 | 254,0 | 338,0 | 16 |
| 16509 | 14 x 1,5 | 13,9 | 272,0 | 383,0 | 16 |
| 16510 | 16 x 1,5 | 14,9 | 285,0 | 424,0 | 16 |
| 16511 | 19 x 1,5 | 15,6 | 387,0 | 506,0 | 16 |
| 16512 | 24 x 1,5 | 17,7 | 448,0 | 690,0 | 16 |
| 16513 | 27 x 1,5 | 17,9 | 506,0 | 781,0 | 16 |
| 16514 | 37 x 1,5 | 21,2 | 682,0 | 941,0 | 16 |

Dimensions and specifications may be changed without prior notice. (RB01)