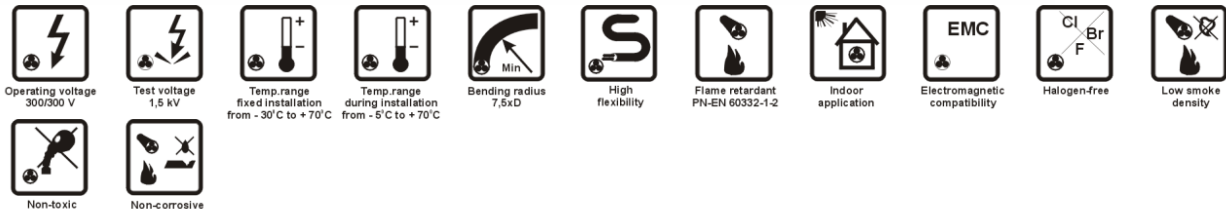


**TECHNOTRONIK LIHCH****HALOGEN FREE CONTROL CABLES FOR INDUSTRIAL ELECTRONIC APPLICATIONS****APPLICATIONS**

**TECHNOTRONIK LIHCH** are halogen free, overall shielded control cables intended for control and instrumentation circuits, for signal, monitoring and data processing systems and for analogue or digital data transmission, all for industrial electronic applications.

Halogen free cables, applied when higher safety in case of fire is required. The cables are flame retardant, their smoke emission in fire is low and released gases are not corrosive.

To achieve high analogue or digital data transmission performance the cable is protected against external electromagnetic interferences by an overall shield.

The cables are designed to offer high flexibility and small outer diameter combined with tensile strength.

The cables are suitable for connecting fixed and movable equipment inside rail vehicles, subway trains, in trams, as well as for indoor installations.

**CONSTRUCTION**

- flexible, multiwire conductors, stranded of bare annealed copper wires (tin-plated on request), meeting requirements of class 5 per PN-EN 60228,
- insulation made of halogen free compound (HFFR) - identification colour code in accordance with DIN VDE 47100,
- insulated conductors laid-up in layers,
- cable core wrapped in polyester tape,
- tinned copper wire braid shield of effective density coverage,
- cable sheath made of halogen free compound (HFFR), grey (RAL 7001), other colours also available.

**AVAILABLE UPON REQUEST**

**TECHNOTRONIK LIHCEH** - cables with flexible drain wire stranded of tin-plated annealed copper wires, laid under a shield.

**TECHNOTRONIK IB-LIHCH** - specially designed intrinsically safe cable.

## TECHNOTRONIK LIHCH

### CHARACTERISTICS

| Conductor cross-section                        | mm <sup>2</sup> | 0.5  | 0.75 | 1.0  | 1.5  | 2.5  |
|------------------------------------------------|-----------------|------|------|------|------|------|
| DC conductor resistance at 20°C, maximum       | Ω/km            | 39.0 | 26.0 | 19.5 | 13.3 | 7.98 |
| Capacitance between conductors at 1 kHz, appr. | nF/km           | 100  | 110  | 140  | 130  | 150  |

|                                     |                                           |
|-------------------------------------|-------------------------------------------|
| Operating voltage U <sub>0</sub> /U | 300/300 V                                 |
| Insulation resistance, minimum      | 20 MΩ·km                                  |
| Voltage test                        | 1.5 kV rms                                |
| Inductance, approximate             | 0.7 mH/km                                 |
| Impedance, approximate              | 80 Ω                                      |
| Corrosivity of emitted gases per    | PN-EN 60754-1, PN-EN 60754-2, IEC 60754-2 |
| pH appr.                            | 6.8                                       |
| conductivity appr.                  | 0.4 μS/mm                                 |
| Smoke density                       | PN-EN 61034-2, IEC 61034-2                |
| light transmittance, minimum        | 70 %                                      |

|                             |                                |
|-----------------------------|--------------------------------|
| Operating temperature range | from - 30 to + 70°C            |
| for fixed installation      | from - 5 to + 70°C             |
| for movable installation    |                                |
| Minimum bending radius      | 10 x cable diameter            |
| Cable combustibility        | flame retardant                |
| Combustibility tests        | PN-EN 60332-1-2, IEC 60332-1-2 |
| Reference standards         | DIN VDE 0812, DIN VDE 0814     |

### CE = the cable meets requirements of the low voltage directive 2014/35/EU

| Product No. | Number of conductors x conductor cross-section | Cable outer diameter (appr.) | Copper index | Cable weight (appr.) |
|-------------|------------------------------------------------|------------------------------|--------------|----------------------|
|             | mm <sup>2</sup>                                | mm                           | kg/km        | kg/km                |
| 0076 002    | 2 x 0,5                                        | 4.5                          | 17.7         | 30                   |
| 0076 003    | 3 x 0,5                                        | 4.7                          | 22.4         | 37                   |
| 0076 014    | 4 x 0,5                                        | 5.3                          | 27.3         | 47                   |
| 0076 023    | 5 x 0,5                                        | 5.8                          | 33.7         | 57                   |
| 0076 030    | 6 x 0,5                                        | 6.3                          | 38.8         | 66                   |
| 0076 046    | 7 x 0,5                                        | 6.3                          | 43.6         | 69                   |
| 0076 033    | 10 x 0,5                                       | 7.9                          | 64.9         | 99                   |
| 0076 035    | 12 x 0,5                                       | 8.1                          | 75.0         | 112                  |
| 0076 047    | 16 x 0,5                                       | 9.0                          | 96.6         | 143                  |
| 0076 048    | 20 x 0,5                                       | 10.3                         | 118.1        | 186                  |
| 0076 049    | 25 x 0,5                                       | 11.8                         | 145.4        | 231                  |
| 0076 050    | 32 x 0,5                                       | 12.7                         | 181.3        | 278                  |
| 0076 051    | 34 x 0,5                                       | 13.2                         | 192.2        | 298                  |
| 0076 052    | 37 x 0,5                                       | 13.2                         | 206.6        | 307                  |
| 0076 053    | 44 x 0,5                                       | 15.0                         | 250.8        | 373                  |
| 0076 009    | 2 x 0,75                                       | 4.9                          | 22.4         | 36                   |
| 0076 010    | 3 x 0,75                                       | 5.3                          | 29.7         | 47                   |
| 0076 011    | 4 x 0,75                                       | 5.8                          | 38.5         | 58                   |
| 0076 054    | 5 x 0,75                                       | 6.3                          | 46.0         | 70                   |
| 0076 012    | 6 x 0,75                                       | 6.8                          | 54.2         | 83                   |
| 0076 036    | 7 x 0,75                                       | 6.8                          | 61.4         | 88                   |
| 0076 055    | 10 x 0,75                                      | 8.6                          | 91.0         | 125                  |
| 0076 037    | 12 x 0,75                                      | 8.9                          | 105.9        | 143                  |
| 0076 056    | 16 x 0,75                                      | 10.2                         | 137.0        | 193                  |
| 0076 057    | 20 x 0,75                                      | 11.3                         | 168.6        | 237                  |
| 0076 038    | 25 x 0,75                                      | 12.9                         | 208.3        | 295                  |
| 0076 058    | 32 x 0,75                                      | 14.1                         | 261.3        | 364                  |
| 0076 059    | 34 x 0,75                                      | 14.6                         | 276.9        | 390                  |
| 0076 005    | 2 x 1,0                                        | 5.4                          | 27.4         | 44                   |
| 0076 006    | 3 x 1,0                                        | 5.7                          | 38.5         | 57                   |
| 0076 026    | 4 x 1,0                                        | 6.2                          | 48.2         | 69                   |

| Product No. | Number of conductors x conductor cross-section | Cable outer diameter (appr.) | Copper index | Cable weight (appr.) |
|-------------|------------------------------------------------|------------------------------|--------------|----------------------|
|             | mm <sup>2</sup>                                | mm                           | kg/km        | kg/km                |
| 0076 027    | 5 x 1,0                                        | 6.8                          | 59.0         | 86                   |
| 0076 039    | 6 x 1,0                                        | 7.3                          | 69.6         | 101                  |
| 0076 028    | 7 x 1,0                                        | 7.3                          | 79.2         | 107                  |
| 0076 040    | 10 x 1,0                                       | 9.7                          | 116.5        | 162                  |
| 0076 041    | 12 x 1,0                                       | 10.0                         | 136.9        | 186                  |
| 0076 060    | 16 x 1,0                                       | 11.1                         | 178.0        | 238                  |
| 0076 029    | 20 x 1,0                                       | 12.4                         | 219.1        | 299                  |
| 0076 042    | 25 x 1,0                                       | 14.3                         | 271.4        | 373                  |
| 0076 020    | 2 x 1,5                                        | 6.2                          | 38.6         | 58                   |
| 0076 013    | 3 x 1,5                                        | 6.5                          | 53.6         | 75                   |
| 0076 007    | 4 x 1,5                                        | 7.1                          | 69.2         | 94                   |
| 0076 043    | 5 x 1,5                                        | 7.9                          | 88.9         | 120                  |
| 0076 061    | 6 x 1,5                                        | 8.5                          | 105.4        | 143                  |
| 0076 001    | 7 x 1,5                                        | 8.5                          | 119.8        | 152                  |
| 0076 021    | 10 x 1,5                                       | 11.2                         | 168.4        | 222                  |
| 0076 062    | 12 x 1,5                                       | 11.8                         | 198.2        | 261                  |
| 0076 063    | 16 x 1,5                                       | 13.0                         | 258.9        | 335                  |
| 0076 064    | 20 x 1,5                                       | 14.6                         | 320.1        | 422                  |
| 0076 065    | 25 x 1,5                                       | 16.6                         | 404.6        | 524                  |
| 0076 044    | 2 x 2,5                                        | 7.0                          | 59.4         | 79                   |
| 0076 024    | 3 x 2,5                                        | 7.4                          | 84.2         | 105                  |
| 0076 045    | 4 x 2,5                                        | 8.2                          | 113.7        | 137                  |
| 0076 066    | 5 x 2,5                                        | 9.0                          | 139.8        | 170                  |
| 0076 067    | 6 x 2,5                                        | 10.2                         | 165.8        | 213                  |
| 0076 025    | 7 x 2,5                                        | 10.2                         | 189.8        | 228                  |
| 0076 068    | 10 x 2,5                                       | 13.1                         | 268.8        | 325                  |
| 0076 069    | 12 x 2,5                                       | 13.6                         | 318.1        | 376                  |
| 0076 070    | 16 x 2,5                                       | 15.3                         | 424.6        | 502                  |

Other cross-sections and conductor counts available on request.  
TECHNOKABEL S.A. reserves the right to change specifications without prior notice.