# SCREENFLEX® 110/200 LiYCY VC4V-K

**Flexible screened PVC cable, for safe signal transmission.**

BASED ON: EN 50525 (for 300/500 V cables) / IC 60502-1 (for 0,6/1 kV cables).


$E_{ca}$
$C_{ca}$

## APPLICATION

Screenflex® 110/200 LiYCY VC4V-K is a screened control cable. It is used in all types of signal transmission connections where the voltage induced by an exterior electromagnetic field may affect the signal transmitted.
Its most common applications are control circuits, electronic equipment connections, computer systems, etc.

## CONSTRUCTION

**Conductor**
Electrolytic annealed copper, class 5 (flexible) according to EN 60228 and IEC 60228.
**Insulation**
Flexible PVC type TI2 according to EN 50363-3 and type PVC/A according to IEC 60502-1.
The standard identification of insulated conductors according to HD 308 and EN 50334 is the following:

| | |
|---|---|
| 1 x | Natural |
| 2 x | Blue + Brown |
| 3 G | Blue + Brown + Green/Yellow |
| 3 x | Brown + Black + Grey |
| 4 G | Brown + Black + Grey + Green/Yellow |
| 4 x | Brown + Black + Grey + Blue |
| 5 G | Brown + Black + Grey + Green/Yellow + Blue |
| 6 or more | Black numbered + Green/Yellow. |

Other identifications (JZ, OZ, J, O) are available on request.
**Screen**
Aluminium-polyester tape screen with overlapping tinned copper braid, ensuring full screening coverage.
**Outer sheath**
Flexible PVC type TM2 according to EN 50363-4-1 and type ST1 according to IEC 60502-1.
Black or grey colour (grey for fire non-propagation).
The ripcord allows you to gently tear the outer-sheath and remove it without damaging the screen.

## CHARACTERISTICS

**Electrical performance**
Low voltage: 300/500 V. (up to 1,5 $mm^2$).
0,6/1 kV (from 2,5$mm^2$ onwards).

**Thermal performance**
Maximum conductor temperature: 70°C.
Maximum short-circuit temperature: 160°C (max. 5 s).
Minimum service temperature: -40°C (static, with protection).

**Fire performance**
Flame non-propagation according to EN 60332-1 / IEC 60332-1.
Fire non-propagation according to EN 60332-3 / IEC 60332-3 (only grey outer sheath).
Reaction to fire CPR according to EN 50575:
$C_{ca}$ -s2, d1, a3 (grey outer sheath 300/500 V)
$C_{ca}$ -s3, d1, a3 (grey outer sheath 0,6/1 kV).
$E_{ca}$ (black outer sheath).
Low halogen emission. Chlorine < 15%.

**Mechanical performance**
Minimum bending radius: 5x cable diameter.
Impact resistance: AG2 Medium severity.

**Environmental performance**
Chemical & Oil resistance: Good.
UV Resistant according to UNE 211605.
Water resistance: AD5 Jets.

## STANDARDS / COMPLIANCE

**Based on**
EN 50525 / IEC 60502-1

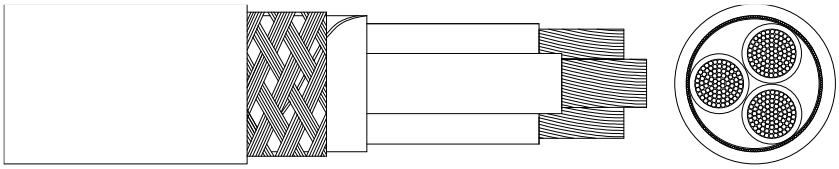
**Standards and approvals**
RoHS / CE

**CPR (Construction Products Regulation)**
$C_{ca}$ -s2, d1, a3 (grey outer sheath 300/500 V)
$C_{ca}$ - s3, d1, a3 (grey outer sheath 0,6/1 kV)
$E_{ca}$ (black outer sheath).

sales@topcable.com | www.topcable.com

# SCREENFLEX® 110/200
# LiYCY VC4V-K

## DIMENSIONS & ADMISSIBLE INTENSITIES



**Screenflex LiYCY 110**

| Cross-section ($mm^2$) | Diameter (mm) | Weight (kg/km) | Open air (A) [1] | Voltage drop (V/A · km) [2] |
|---|---|---|---|---|
| 2 x 0,75 | 6,2 | 55 | 6 | 62,4 |
| 2 x 1 | 6,3 | 60 | 10 | 46,8 |
| 2 x 1,5 | 7,3 | 75 | 16 | 31,9 |
| 3 G 0,75 | 6,5 | 65 | 6 | 62,4 |
| 3 G 1 | 6,6 | 70 | 10 | 46,8 |
| 3 G 1,5 | 7,7 | 95 | 16 | 31,9 |
| 4 G 0,75 | 6,9 | 75 | 6 | 62,4 |
| 4 G 1 | 7,0 | 85 | 10 | 46,8 |
| 4 G 1,5 | 8,4 | 120 | 16 | 31,9 |
| 5 G 0,75 | 7,4 | 90 | 6 | 62,4 |
| 5 G 1 | 7,8 | 105 | 10 | 46,8 |
| 5 G 1,5 | 9,5 | 150 | 16 | 31,9 |
| 6 G 0,75 | 7,9 | 105 | 6 | 62,4 |
| 6 G 1 | 8,3 | 125 | 10 | 46,8 |
| 6 G 1,5 | 10,2 | 175 | 16 | 31,9 |
| 7 G 0,75 | 8,0 | 110 | 6 | 62,4 |
| 7 G 1 | 8,3 | 130 | 10 | 46,8 |
| 7 G 1,5 | 10,2 | 190 | 16 | 31,9 |
| 8 G 0,75 | 8,7 | 125 | 6 | 62,4 |
| 8 G 1 | 9,3 | 155 | 10 | 46,8 |
| 8 G 1,5 | 11,0 | 215 | 16 | 31,9 |
| 10 G 0,75 | 9,7 | 150 | 6 | 62,4 |
| 10 G 1 | 10,3 | 185 | 10 | 46,8 |
| 10 G 1,5 | 12,5 | 265 | 16 | 31,9 |
| 12 G 0,75 | 10,3 | 170 | 6 | 62,4 |
| 12 G 1 | 10,8 | 210 | 10 | 46,8 |
| 12 G 1,5 | 12,9 | 300 | 16 | 31,9 |
| 14 G 0,75 | 10,7 | 195 | 6 | 62,4 |
| 14 G 1 | 11,1 | 235 | 10 | 46,8 |
| 14 G 1,5 | 13,7 | 340 | 16 | 31,9 |
| 16 G 0,75 | 11,4 | 220 | 6 | 62,4 |
| 16 G 1 | 12,0 | 270 | 10 | 46,8 |
| 16 G 1,5 | 14,5 | 370 | 16 | 31,9 |
| 19 G 0,75 | 12,0 | 245 | 6 | 62,4 |
| 19 G 1 | 12,8 | 310 | 10 | 46,8 |
| 19 G 1,5 | 15,4 | 450 | 16 | 31,9 |
| 24 G 0,75 | 13,4 | 305 | 6 | 62,4 |
| 24 G 1 | 14,2 | 380 | 10 | 46,8 |
| 24 G 1,5 | 17,5 | 555 | 16 | 31,9 |
| 30 G 0,75 | 14,4 | 380 | 6 | 62,4 |
| 30 G 1 | 15,5 | 465 | 10 | 46,8 |
| 30 G 1,5 | 19,0 | 680 | 16 | 31,9 |
| 37 G 1 | 16,9 | 560 | 10 | 46,8 |
| 37 G 1,5 | 20,5 | 815 | 16 | 31,9 |
| 52 G 1 | 19,4 | 730 | 10 | 46,8 |
| 61 G 1 | 20,5 | 835 | 10 | 46,8 |

[1] One cable with adequate ventilation and ambient temperature of 30 °C according to EN 50565-1.
[2] At maximum conductor temperature and cosφ=1.
For all cables are supposed a single-phase circuit where not all conductors are fully charged.

# SCREENFLEX® 110/200
# LiYCY VC4V-K

| Screenflex LiYCY 200 | | | | | |
|---|---|---|---|---|---|
| Cross-section ($mm^2$) | Diameter (mm) | Weight (kg/km) | Open air (A) [3] | Buried (A) [4] | Voltage drop (V/A · km) [5] |
| 1 x 10 | 11,7 | 225 | 60 | 50 | 3,97 |
| 1 x 16 | 12,6 | 290 | 82 | 64 | 2,51 |
| 1 x 25 | 14,5 | 405 | 110 | 82 | 1,62 |
| 1 x 35 | 15,6 | 510 | 137 | 98 | 1,15 |
| 1 x 50 | 17,5 | 675 | 167 | 116 | 0,802 |
| 1 x 70 | 19,6 | 900 | 216 | 143 | 0,565 |
| 1 x 95 | 21,7 | 1.140 | 264 | 169 | 0,428 |
| 1 x 120 | 23,3 | 1.395 | 308 | 192 | 0,335 |
| 1 x 150 | 25,6 | 1.715 | 356 | 217 | 0,268 |
| 1 x 185 | 27,4 | 2.010 | 409 | 243 | 0,220 |
| 1 x 240 | 31,4 | 2.650 | 485 | 280 | 0,166 |
| 1 x 300 | 34,3 | 3.255 | 561 | 316 | 0,133 |
| 2 x 2,5 | 8,6 | 110 | 30 | 29 | 19,2 |
| 2 x 4 | 11,4 | 180 | 40 | 37 | 11,9 |
| 2 x 6 | 12,5 | 225 | 51 | 46 | 7,92 |
| 2 x 10 | 15,2 | 350 | 70 | 60 | 4,58 |
| 2 x 16 | 17,5 | 485 | 94 | 78 | 2,90 |
| 2 x 25 | 21,4 | 670 | 119 | 99 | 1,87 |
| 2 x 35 | 24,2 | 895 | 148 | 119 | 1,33 |
| 3 G 2,5 | 9,4 | 145 | 30 | 29 | 19,2 |
| 3 G 4 | 11,7 | 225 | 40 | 37 | 11,9 |
| 3 G 6 | 12,9 | 285 | 51 | 46 | 7,92 |
| 3 G 10 | 16,1 | 450 | 70 | 60 | 4,58 |
| 3 x 16 | 18,7 | 630 | 80 | 64 | 2,51 |
| 3 x 25 | 23,1 | 965 | 101 | 82 | 1,62 |
| 3 x 35 | 25,2 | 1.255 | 126 | 98 | 1,15 |
| 3 x 50 | 29,6 | 1.745 | 153 | 116 | 0,802 |
| 3 x 70 | 33,6 | 2.360 | 196 | 143 | 0,565 |
| 4 x 2,5 | 10,2 | 180 | 25 | 24 | 16,6 |
| 4 x 4 | 12,6 | 275 | 34 | 30 | 10,3 |
| 4 x 6 | 14,4 | 360 | 43 | 38 | 6,86 |
| 4 x 10 | 17,5 | 570 | 60 | 50 | 3,97 |
| 4 x 16 | 20,1 | 815 | 80 | 64 | 2,51 |
| 4 x 25 | 24,5 | 1.225 | 101 | 82 | 1,62 |
| 4 x 35 | 28,2 | 1.655 | 126 | 98 | 1,15 |
| 4 x 50 | 32,3 | 2.270 | 153 | 116 | 0,802 |
| 4 x 70 | 37,5 | 3.105 | 196 | 143 | 0,565 |
| 4 x 95 | 42,6 | 4.020 | 238 | 169 | 0,428 |
| 5 G 2,5 | 11,2 | 220 | 25 | 24 | 16,6 |
| 5 G 4 | 14,3 | 340 | 34 | 30 | 10,3 |
| 5 G 6 | 16,0 | 450 | 43 | 38 | 6,86 |
| 5 G 10 | 19,6 | 725 | 60 | 50 | 3,97 |
| 5 G 16 | 22,3 | 1.030 | 80 | 64 | 2,51 |
| 5 G 25 | 28,1 | 1.565 | 101 | 82 | 1,62 |
| 5 G 35 | 31,3 | 2.100 | 126 | 98 | 1,15 |
| 6 G 2,5 | 12,4 | 255 | 30 | 29 | 19,2 |
| 7 G 2,5 | 12,5 | 275 | 30 | 29 | 19,2 |
| 10 G 2,5 | 14,9 | 375 | 30 | 29 | 19,2 |
| 12 G 2,5 | 15,6 | 445 | 30 | 29 | 19,2 |
| 14 G 2,5 | 16,9 | 505 | 30 | 29 | 19,2 |
| 16 G 2,5 | 17,8 | 575 | 30 | 29 | 19,2 |
| 19 G 2,5 | 18,9 | 665 | 30 | 29 | 19,2 |
| 24 G 2,5 | 21,4 | 825 | 30 | 29 | 19,2 |
| 27 G 2,5 | 22,4 | 925 | 30 | 29 | 19,2 |
| 30 G 2,5 | 23,3 | 1.015 | 30 | 29 | 19,2 |
| 37 G 2,5 | 25,5 | 1.280 | 30 | 29 | 19,2 |

[3] Reference method F for single-core and method E for multicore cables according to IEC 60364-5-52 in open air at 30°C ambient temperature.
[4] Reference method D1 according to IEC 60364-5-52. In a duct buried at 0,7 m depth with soil thermal resistivity of 2,5 K·m/W and 20°C of ground temperature.
[5] At maximum conductor temperature and cosφ=1.
For cables having 2 conductors or 3 cores up to 10 $mm^2$, it is supposed a single-phase circuit. For the rest of the cables are supposed a three-phase circuit.
For cables having 6 or more conductors, are supposed a single-phase circuit that not all conductors are fully charged.

# SCREENFLEX® 110/200
# LiYCY VC4V-K

## SHORT-CIRCUIT CURRENT-CARRYING CAPACITIES

| Time (s) | 0,1 | 0,2 | 0,3 | 0,5 | 1 | 1,5 | 2 | 2,5 | 3 |
|---|---|---|---|---|---|---|---|---|---|
| A/mm² | 364 | 257 | 210 | 163 | 115 | 94 | 81 | 73 | 66 |

## CORRECTION FACTORS FOR AIR TEMPERATURE

| Air T. (°C) | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
|---|---|---|---|---|---|---|---|---|---|
| Factor | 1,12 | 1,06 | 1 | 0,94 | 0,87 | 0,79 | 0,71 | 0,61 | 0,5 |

## CORRECTION FACTORS FOR GROUND TEMPERATURE

| Ground T. (°C) | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|---|---|---|---|---|---|---|---|---|---|
| Factor | 1,10 | 1,05 | 1 | 0,95 | 0,89 | 0,84 | 0,77 | 0,71 | 0,63 |

## CORRECTION FACTORS FOR SOIL THERMAL RESISTIVITY

| Moisture degree of soil | Very damp | Slightly damp | Slightly dry | Dry | Very dry |
|---|---|---|---|---|---|
| Thermal Resist. (K·m/W) | 1 | 1,5 | 2 | 2,5 | 3 |
| Factor | 1,18 | 1,10 | 1,05 | 1 | 0,96 |

Other correction factors (for grouping cables, for harmonic currents), that are not in this specification, can be applied. Further information can be found in IEC 60364-5-52.