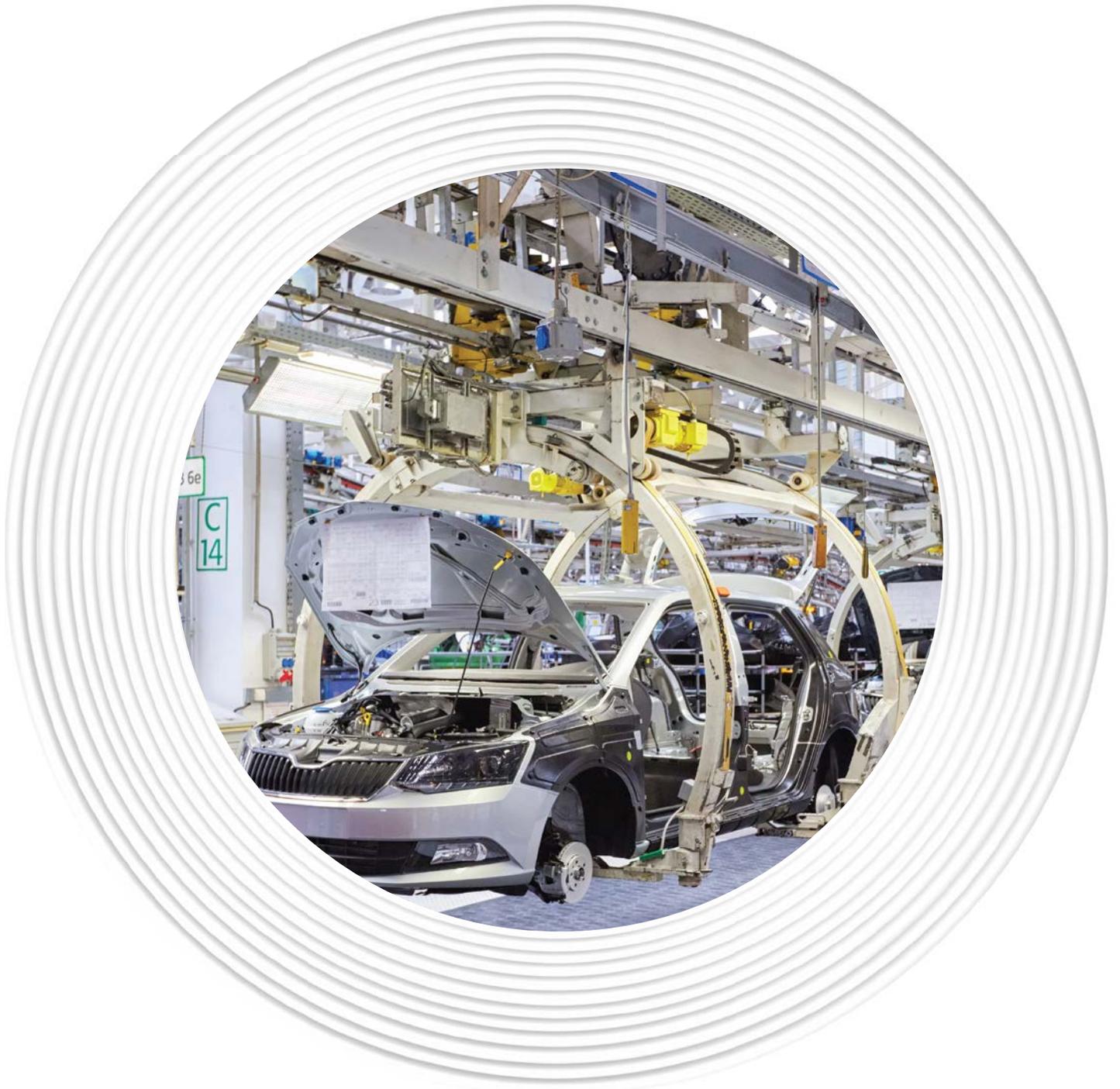


## SECTION-IV

### **DRAG CHAIN AND SERVO CABLES**

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## PRODUCTS

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**2YSLCY-JB Servo**

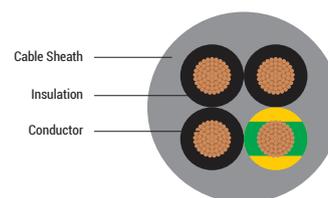
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**Servo FD 10855 CP**

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## Application

These cables are used in machine tools, industrial machineries, measurement control, and electrical applications. These are suitable for oily and wet areas within machinery and production shop floors that are subjected to normal mechanical stress. JZ-30400 P is resistant to contact with mineral oil based lubricants, diluted acids, aqueous alkaline and other chemical media. Outdoor use is possible within the indicated temperature range.

## Technical Data

**Standard** : Adapted to EN 50525-2-51

**Nominal Voltage** :  $U_o / U$  300 / 500 V

**Insulation Resistance** : Min. 20 GΩ x cm

**Temperature Range** : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

**Minimum Bending Radius** : Flexing approx 12.5 x cable ø. Fixed installation approx. 4 x cable ø

**Test Voltage** : 4000V

## Cable Construction

Bare copper, fine wire conductors according to EN 60228 cl. 5.

Core insulation of special PVC T12 EN 50363-3.

Black core with continuous white numbering according to DIN VDE 0293.

Cores stranded in layers with optimal lay-length.

Special polyurethane outer sheath (PUR).

Sheath color : Grey (RAL 7001).

## Properties

Extensively oil resistant.

Abrasion and notch resistant.

Low adhesive surface.

Resistant to hydrolysis and microbes.

UV resistant to ASTM G 154.

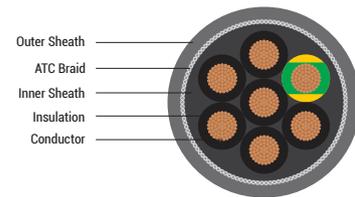
## Cable Design Parameters

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 040100201050 | 2 x 0.5  | 4.8                         | 8.7                           | 30                           |
| 040100311050 | 3G 0.5   | 5.1                         | 13                            | 37                           |
| 040100301050 | 3 x 0.5  | 5.1                         | 13                            | 37                           |
| 040100411050 | 4G 0.5   | 5.6                         | 17.4                          | 46                           |
| 040100401050 | 4 x 0.5  | 5.6                         | 17.4                          | 46                           |
| 040100511050 | 5G 0.5   | 6                           | 21.7                          | 55                           |
| 040100501050 | 5 x 0.5  | 6                           | 21.7                          | 55                           |
| 040100711050 | 7G 0.5   | 6.7                         | 30.4                          | 72                           |

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 040100701050 | 7 x 0.5  | 6.7                         | 30.4                          | 72                           |
| 040101011050 | 10G 0.5  | 8.8                         | 43.5                          | 115                          |
| 040101211050 | 12G 0.5  | 8.9                         | 52.2                          | 126                          |
| 040101811050 | 18G 0.5  | 10.5                        | 78.2                          | 180                          |
| 040102511050 | 25G 0.5  | 12.9                        | 108.6                         | 263                          |
| 040103411050 | 34G 0.5  | 14.3                        | 147.8                         | 337                          |
| 040104211050 | 42G 0.5  | 16.6                        | 182.5                         | 437                          |
| 040100201075 | 2 x 0.75   | 5.3                         | 13                            | 39                           |
| 040100311075 | 3G 0.75  | 5.6                         | 19.6                          | 48                           |
| 040100301075 | 3 x 0.75   | 5.6                         | 19.6                          | 48                           |
| 040100411075 | 4G 0.75  | 6.1                         | 26.1                          | 59                           |
| 040100401075 | 4 x 0.75   | 6.1                         | 26.1                          | 59                           |
| 040100511075 | 5G 0.75  | 6.9                         | 32.6                          | 76                           |
| 040100501075 | 5 x 0.75   | 6.9                         | 32.6                          | 76                           |
| 040100711075 | 7G 0.75  | 7.6                         | 45.6                          | 97                           |
| 040100701075 | 7 x 0.75   | 7.6                         | 45.6                          | 97                           |
| 040101011075 | 10G 0.75   | 10.0                        | 65.2                          | 156                          |
| 040101211075 | 12G 0.75   | 10.1                        | 78.2                          | 171                          |
| 040101811075 | 18G 0.75   | 11.9                        | 117.3                         | 247                          |
| 040102511075 | 25G 0.75   | 14.6                        | 163                           | 357                          |
| 040103411075 | 34G 0.75   | 15.7                        | 221.6                         | 446                          |
| 040104111075 | 41G 0.75   | 17.4                        | 267.3                         | 543                          |
| 040100200001 | 2 x 1  | 5.6                         | 17.4                          | 46                           |
| 040100310001 | 3G 1   | 6.0                         | 26.1                          | 59                           |
| 040100300001 | 3 x 1  | 6.0                         | 26.1                          | 59                           |
| 040100410001 | 4G 1   | 6.8                         | 34.8                          | 77                           |
| 040100400001 | 4 x 1  | 6.8                         | 34.8                          | 77                           |
| 040100510001 | 5G 1   | 7.5                         | 43.5                          | 93                           |
| 040100500001 | 5 x 1  | 7.5                         | 43.5                          | 93                           |
| 040100710001 | 7G 1   | 8.9                         | 60.8                          | 132                          |
| 040101010001 | 10G 1  | 10.8                        | 86.9                          | 191                          |
| 040101210001 | 12G 1  | 11.1                        | 104.3                         | 215                          |
| 040101810001 | 18G 1  | 13.2                        | 156.5                         | 311                          |
| 040102510001 | 25G 1  | 16.2                        | 217.3                         | 452                          |
| 040103410001 | 34G 1  | 18.1                        | 295.5                         | 587                          |
| 040104110001 | 41G 1  | 19.7                        | 356.4                         | 700                          |

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 040100201105 | 2 x 1.5  | 6.3                         | 25.5                          | 61                           |
| 040100311105 | 3G 1.5   | 6.7                         | 38.2                          | 78                           |
| 040100301105 | 3 x 1.5  | 6.7                         | 38.2                          | 78                           |
| 040100411105 | 4G 1.5   | 7.3                         | 50.9                          | 98                           |
| 040100401105 | 4 x 1.5  | 7.3                         | 50.9                          | 98                           |
| 040100511105 | 5G 1.5   | 8.2                         | 63.7                          | 123                          |
| 040100501105 | 5 x 1.5  | 8.2                         | 63.7                          | 123                          |
| 040100711105 | 7G 1.5   | 9.0                         | 89.1                          | 160                          |
| 040100701105 | 7 x 1.5  | 9.0                         | 89.1                          | 160                          |
| 040101211105 | 12G 1.5  | 12.1                        | 152.8                         | 280                          |
| 040101811105 | 18G 1.5  | 14.5                        | 229.2                         | 412                          |
| 040102511105 | 25G 1.5  | 17.2                        | 318.3                         | 576                          |
| 040103411105 | 34G 1.5  | 19.6                        | 432.9                         | 766                          |
| 040104111105 | 41G 1.5  | 21.3                        | 522.0                         | 915                          |
| 040100201205 | 2 x 2.5  | 7.6                         | 42.4                          | 93                           |
| 040100311205 | 3G 2.5   | 8.3                         | 63.7                          | 124                          |
| 040100411205 | 4G 2.5   | 9.1                         | 84.9                          | 157                          |
| 040100511205 | 5G 2.5   | 10.2                        | 106.1                         | 196                          |
| 040100711205 | 7G 2.5   | 11.2                        | 148.5                         | 256                          |
| 040101211205 | 12G 2.5  | 14.8                        | 254.6                         | 443                          |
| 040100410004 | 4G 4   | 10.8                        | 135.0                         | 234                          |
| 040100510004 | 5G 4   | 12.1                        | 168.7                         | 292                          |
| 040100710004 | 7G 4   | 13.3                        | 236.2                         | 383                          |
| 040100410006 | 4G 6   | 13.0                        | 202.4                         | 345                          |
| 040100510006 | 5G 6   | 14.5                        | 253.1                         | 430                          |
| 040100710006 | 7G 6   | 16.0                        | 354.3                         | 566                          |
| 040100410010 | 4G 10  | 15.5                        | 344.7                         | 539                          |
| 040100510010 | 5G 10  | 17.1                        | 430.8                         | 666                          |
| 040100710010 | 7G 10  | 19.0                        | 603.2                         | 888                          |
| 040100410016 | 4G 16  | 18.8                        | 574.1                         | 852                          |

Note :  
\* G = With green/yellow earth core  
X = Without green/yellow earth core



## Application

These cables are used as data and control cable in machinery. The high level of screening ensures a high degree of interference protection. The PVC-inner sheaths of these cables raise the mechanical strength. Such cables can also be used for outdoor applications for the permitted temperature range.

## Technical Data

**Standard** : Adapted to EN 50525-2-51

**Nominal Voltage** :  $U_0 / U$  300 / 500 V

**Insulation Resistance** : Min. 20 G $\Omega$  x cm

**Temperature Range** : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

**Minimum Bending Radius** : Flexing 20 x cable  $\varnothing$ . Fixed installation 6 x cable  $\varnothing$

**Test Voltage** : Core/core: 4000V. Core/screen: 2000V

## Cable Construction

Bare copper, fine wire conductors according to EN 60228 cl. 5.

Core insulation of PVC TI2, EN 50363-3.

Black core with continuous white numbering to DIN VDE 0293.

Green/yellow earth core in outer layer (3 cores and above).

Cores stranded in layers with optimal lay-length.

Special PVC inner jacket.

Tinned copper braided screen.

Special polyurethane outer sheath (PUR).

Sheath colour : Grey (RAL 7001).

## Properties

Extensively oil resistant.

Abrasion and notch resistant.

Low adhesive surface.

Resistant to hydrolysis and microbes.

UV resistant to ASTM G 154.

The screening density assures disturbance-free transmission of all signals and impulses.

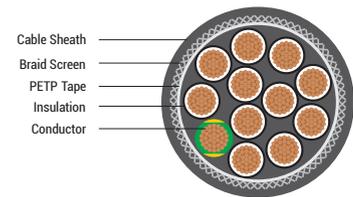
To optimize the EMC features we recommend a large round contact of copper braiding on both ends.

## Cable Design Parameters

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 040200201075 | 2 x 0.75   | 7.4                         | 30.3                          | 80                           |
| 040200311075 | 3G 0.75  | 7.9                         | 38.5                          | 95                           |
| 040200301075 | 3 x 0.75   | 7.9                         | 38.5                          | 95                           |
| 040200411075 | 4G 0.75  | 8.4                         | 46.7                          | 111                          |
| 040200401075 | 4 x 0.75   | 8.4                         | 46.7                          | 111                          |
| 040200511075 | 5G 0.75  | 8.9                         | 53.6                          | 126                          |
| 040200501075 | 5 x 0.75   | 8.9                         | 53.6                          | 126                          |
| 040200711075 | 7G 0.75  | 9.7                         | 70.4                          | 156                          |
| 040200701075 | 7 x 0.75   | 9.7                         | 70.4                          | 156                          |
| 040201211075 | 12G 0.75   | 12.3                        | 111.2                         | 252                          |
| 040201811075 | 18G 0.75   | 14.5                        | 176.6                         | 366                          |
| 040202511075 | 25G 0.75   | 16.6                        | 235.6                         | 487                          |
| 040203411075 | 34G 0.75   | 18.9                        | 306.9                         | 635                          |
| 040204111075 | 41G 0.75   | 20.6                        | 379.7                         | 765                          |
| 040200200001 | 2 x 1  | 7.9                         | 35.3                          | 92                           |
| 040200310001 | 3G 1   | 8.2                         | 46.5                          | 107                          |
| 040200300001 | 3 x 1  | 8.2                         | 46.5                          | 107                          |
| 040200410001 | 4G 1   | 8.7                         | 55.8                          | 124                          |
| 040200400001 | 4 x 1  | 8.7                         | 55.8                          | 124                          |
| 040200510001 | 5G 1   | 9.5                         | 67.4                          | 149                          |
| 040200710001 | 7G 1   | 10.2                        | 87.5                          | 182                          |
| 040201210001 | 12G 1  | 13.3                        | 160.8                         | 318                          |
| 040201810001 | 18G 1  | 15.5                        | 222.7                         | 437                          |
| 040202510001 | 25G 1  | 17.5                        | 298.6                         | 574                          |
| 040203410001 | 34G 1  | 20.2                        | 389.4                         | 760                          |
| 040204110001 | 41G 1  | 22.0                        | 480.8                         | 915                          |
| 040200201105 | 2 x 1.5  | 8.5                         | 46.3                          | 112                          |
| 040200311105 | 3G 1.5   | 8.9                         | 61.6                          | 133                          |
| 040200301105 | 3 x 1.5  | 8.9                         | 61.6                          | 133                          |
| 040200411105 | 4G 1.5   | 9.6                         | 76.0                          | 159                          |
| 040200401105 | 4 x 1.5  | 9.6                         | 76.0                          | 159                          |
| 040200511105 | 5G 1.5   | 10.3                        | 109.1                         | 200                          |
| 040200501105 | 5 x 1.5  | 10.3                        | 109.1                         | 200                          |
| 040200711105 | 7G 1.5   | 11.3                        | 137                           | 246                          |
| 040200701105 | 7 x 1.5  | 11.3                        | 137                           | 246                          |

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 040201211105 | 12G 1.5  | 14.8                        | 218.4                         | 411                          |
| 040201811105 | 18G 1.5  | 17.2                        | 307.5                         | 569                          |
| 040202511105 | 25G 1.5  | 20.1                        | 412.7                         | 774                          |
| 040203411105 | 34G 1.5  | 22.8                        | 547.2                         | 1014                         |
| 040204111105 | 41G 1.5  | 24.7                        | 673.1                         | 1216                         |
| 040200312105 | 3G 2.5   | 10.3                        | 109.0                         | 200                          |
| 040200412105 | 4G 2.5   | 11.3                        | 133.2                         | 243                          |
| 040200512105 | 5G 2.5   | 12.6                        | 161.1                         | 299                          |
| 040200712105 | 7G 1.5   | 13.9                        | 211.6                         | 378                          |
| 040201212105 | 12G 2.5  | 17.6                        | 334.8                         | 608                          |
| 040200410004 | 4G 4   | 13.4                        | 190.6                         | 345                          |
| 040200510004 | 5G 4   | 14.7                        | 233.6                         | 420                          |
| 040200410006 | 4G 6   | 15.8                        | 275.2                         | 493                          |
| 040200510006 | 5G 6   | 17.3                        | 334.1                         | 596                          |
| 040200410010 | 4G 10  | 19.0                        | 434.7                         | 745                          |
| 040200410016 | 4G 16  | 22.2                        | 723.2                         | 1130                         |

Note :  
 \* G = With green/yellow earth core  
 X = Without green/yellow earth core (OZ)re



## Application

These cables are used as data and control cable in machinery. The high level of screening ensures a high degree of interference protection. Such cables can also be used for outdoor applications for the permitted temperature range.

## Technical Data

**Standard** : In acc to HD 21.13 S1 resp. VDE 0281-13 and HD 22.10 S1

**Temperature Range** : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

**Nominal Voltage** :  $U_0 / U$  300 / 500 V

**Insulation Resistance** : Min. 20 GΩ x cm

**Minimum Bending Radius** : Flexing 20 x cable ø. Fixed installation 6 x cable ø

**Test Voltage** : Core/core: 4000V. Core/screen: 2000V

## Cable Construction

Bare copper, fine wire conductors according to EN 60228 cl. 5.

Core insulation of PVC T12, EN 50363-3.

Black core with continuous white numbering to DIN VDE 0293.

Green/yellow earth core in outer layer (3 cores and above).

Cores stranded in layers with optimal lay-length.

PETP tape.

Tinned copper, braided screen, approx 85% coverage.

Special polyurethane outer sheath (PUR).

Sheath colour : Grey (RAL 7001).

## Properties

Extensively oil resistant.

Abrasion and notch resistant.

Low adhesive surface.

Resistant to hydrolysis and microbes.

UV resistant to ASTM G 154.

The screening density assures disturbance-free transmission of all signals and impulses.

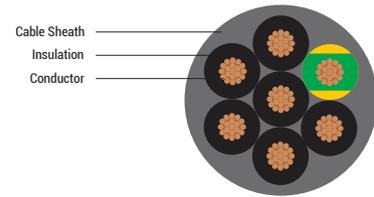
To optimize the EMC features we recommend a large round contact of copper braiding on both ends.

## Cable Design Parameters

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 040300201050 | 2 x 0.5  | 5.8                         | 19.3                          | 45                           |
| 040300311050 | 3G 0.5   | 6.1                         | 25.5                          | 56                           |
| 040300301050 | 3 x 0.5  | 6.1                         | 25.5                          | 56                           |
| 040300411050 | 4G 0.5   | 6.5                         | 30.1                          | 64                           |
| 040300401050 | 4 x 0.5  | 6.5                         | 30.1                          | 64                           |
| 040300511050 | 5G 0.5   | 7.0                         | 35.8                          | 75                           |
| 040300501050 | 5 x 0.5  | 7.0                         | 35.8                          | 75                           |
| 040300711050 | 7G 0.5   | 7.5                         | 46.7                          | 92                           |
| 040300701050 | 7 x 0.5  | 7.5                         | 46.7                          | 92                           |
| 040301211050 | 12G 0.5  | 9.9                         | 74.2                          | 152                          |
| 040301201050 | 12 x 0.5   | 9.9                         | 74.2                          | 152                          |
| 040301811050 | 18G 0.5  | 11.5                        | 104.3                         | 210                          |
| 040301801050 | 18 x 0.5   | 11.5                        | 104.3                         | 210                          |
| 040302511050 | 25G 0.5  | 13.4                        | 140.0                         | 278                          |
| 040302501050 | 25 x 0.5   | 13.4                        | 140.0                         | 278                          |
| 040300201075 | 2 x 0.75   | 6.2                         | 25.7                          | 54                           |
| 040300311075 | 3G 0.75  | 6.5                         | 32.3                          | 65                           |
| 040300301075 | 3 x 0.75   | 6.5                         | 32.3                          | 65                           |
| 040300411075 | 4G 0.75  | 7.0                         | 40.4                          | 78                           |
| 040300401075 | 4 x 0.75   | 7.0                         | 40.4                          | 78                           |
| 040300511075 | 5G 0.75  | 7.7                         | 48.9                          | 95                           |
| 040300501075 | 5 x 0.75   | 7.7                         | 48.9                          | 95                           |
| 040300711075 | 7G 0.75  | 8.3                         | 64.5                          | 119                          |
| 040300701075 | 7 x 0.75   | 8.3                         | 64.5                          | 119                          |
| 040301211075 | 12G 0.75   | 10.9                        | 103.2                         | 194                          |
| 040301811075 | 18G 0.75   | 12.7                        | 147.4                         | 271                          |
| 040302511075 | 25G 0.75   | 14.8                        | 219.5                         | 372                          |
| 040302501075 | 25 x 0.75  | 14.8                        | 219.5                         | 372                          |
| 040300200001 | 2 x 1  | 6.5                         | 30.5                          | 61                           |
| 040300310001 | 3G 1   | 6.8                         | 40.3                          | 75                           |
| 040300300001 | 3 x 1  | 6.8                         | 40.3                          | 75                           |
| 040300410001 | 4G 1   | 7.3                         | 51.0                          | 91                           |
| 040300400001 | 4 x 1  | 7.3                         | 51.0                          | 91                           |
| 040300510001 | 5G 1   | 8.1                         | 60.7                          | 110                          |
| 040300500001 | 5 x 1  | 8.1                         | 60.7                          | 110                          |
| 040300710001 | 7G 1   | 8.8                         | 80.5                          | 140                          |
| 040300700001 | 7 x 1  | 8.8                         | 80.5                          | 140                          |

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 040301210001 | 12G 1  | 11.5                        | 131.2                         | 229                          |
| 040301810001 | 18G 1  | 13.9                        | 188.5                         | 337                          |
| 040302510001 | 25G 1  | 15.9                        | 277.9                         | 452                          |
| 040300201105 | 2 x 1.5  | 7.1                         | 40.8                          | 75                           |
| 040300311105 | 3G 1.5   | 7.5                         | 53.8                          | 95                           |
| 040300301105 | 3 x 1.5  | 7.5                         | 53.8                          | 95                           |
| 040300411105 | 4G 1.5   | 8.2                         | 69                            | 119                          |
| 040300401105 | 4 x 1.5  | 8.2                         | 69                            | 119                          |
| 040300511105 | 5G 1.5   | 8.9                         | 84.4                          | 142                          |
| 040300501105 | 5 x 1.5  | 8.9                         | 84.4                          | 142                          |
| 040300711105 | 7G 1.5   | 9.9                         | 112.9                         | 187                          |
| 040300701105 | 7 x 1.5  | 9.9                         | 112.9                         | 187                          |
| 040301211105 | 12G 1.5  | 13                          | 183.5                         | 306                          |
| 040301811105 | 18G 1.5  | 15.6                        | 288.5                         | 463                          |
| 040302511105 | 25G 1.5  | 17.9                        | 395                           | 614                          |
| 040303411105 | 34G 1.5  | 20.8                        | 511.9                         | 811                          |
| 040300311205 | 3G 2.5   | 8.9                         | 84.4                          | 140                          |
| 040300411205 | 4G 2.5   | 9.9                         | 107.5                         | 179                          |
| 040300511205 | 5G 2.5   | 11                          | 130.8                         | 219                          |
| 040300711205 | 7G 2.5   | 11.9                        | 176.5                         | 281                          |
| 040301211205 | 12G 2.5  | 16                          | 314.8                         | 491                          |
| 040301811205 | 18G 2.5  | 19                          | 454.1                         | 709                          |
| 040302511205 | 25G 2.5  | 22.2                        | 617                           | 954                          |
| 040300410004 | 4G 4   | 11.6                        | 160.8                         | 258                          |
| 040300710004 | 7G 4   | 14.4                        | 269                           | 425                          |
| 040300410006 | 4G 6   | 14.2                        | 233.7                         | 382                          |
| 040300710006 | 7G 6   | 17                          | 415.7                         | 619                          |
| 040300410010 | 4G 10  | 17.2                        | 402.9                         | 608                          |
| 040300510010 | 5G 10  | 19.5                        | 499.3                         | 772                          |
| 040300410016 | 4G 16  | 20.2                        | 647.6                         | 909                          |
| 040300510016 | 5G 16  | 22.6                        | 799.6                         | 1132                         |
| 040300410025 | 4G 25  | 25.1                        | 986.2                         | 1396                         |
| 040300510025 | 5G 25  | 28                          | 1220.9                        | 1737                         |
| 040300410035 | 4G 35  | 28                          | 1369                          | 1838                         |

Note :  
\* G = With green/yellow earth core  
X = Without green/yellow earth core (OZ)



## Application

These are halogen free cables used in machine tools, industrial machineries, measurement control, and electrical applications rated for higher operating temperature. These are suitable for oily and wet areas within machinery and production shop floors that are subjected to normal mechanical stress. It is resistant to contact with mineral oil based lubricants, diluted acids, aqueous, alkaline and other chemical media. Outdoor use is possible within the indicated temperature range.

## Technical Data

**Standard** : Adapted to EN 50525-2-51

**Nominal Voltage** :  $U_0 / U$  300 / 500V

**Insulation Resistance** : Min. 20 GΩ x cm

**Temperature Range** : Flexing -40°C to +90°C. Fixed installation -50°C to +90°C

**Minimum Bending Radius** : Flexing 12.5 x cable ø. Fixed installation 4 x cable ø

Test Voltage : 4000V

## Cable Construction

Bare copper, fine wire conductors according to EN 60228 cl. 5.

Core insulation of TPE.

Black core with continuous white numbering according to DIN VDE 0293.

Cores stranded in layers with optimal lay-length.

Special polyurethane outer sheath (PUR).

Sheath colour : Grey (RAL 7001).

## Properties

Extensively oil resistant.

Abrasion and notch resistant.

Low adhesive surface.

Resistant to hydrolysis and microbes.

Flexible at low temperatures.

Halogen free and flame retardant to EN 60332-1-2.

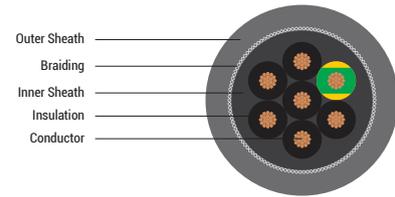
UV resistant to ASTM G 154.

## Cable Design Parameters

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 040400201050 | 2 x 0.5  | 5.9                         | 8.7                           | 39                           |
| 040400311050 | 3G 0.5   | 6.2                         | 13.0                          | 45                           |
| 040400411050 | 4G 0.5   | 6.9                         | 17.4                          | 57                           |
| 040400511050 | 5G 0.5   | 7.4                         | 21.7                          | 67                           |
| 040400711050 | 7G 0.5   | 9.1                         | 30.4                          | 100                          |
| 040401211050 | 12G 0.5  | 11.3                        | 52.2                          | 158                          |

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 040401811050 | 18G 0.5  | 13.2                        | 78.2                          | 220                          |
| 040402511050 | 25G 0.5  | 15.0                        | 108.6                         | 290                          |
| 040400201075 | 2 x 0.75   | 6.4                         | 13.0                          | 48                           |
| 040400311075 | 3G 0.75  | 6.8                         | 19.6                          | 58                           |
| 040400411075 | 4G 0.75  | 7.4                         | 26.1                          | 71                           |
| 040400511075 | 5G 0.75  | 8.6                         | 32.6                          | 94                           |
| 040400711075 | 7G 0.75  | 10.0                        | 45.6                          | 128                          |
| 040401211075 | 12G 0.75   | 12.4                        | 78.2                          | 203                          |
| 040401811075 | 18G 0.75   | 14.4                        | 117.3                         | 283                          |
| 040402511075 | 25G 0.75   | 17.2                        | 163.0                         | 401                          |
| 040400200001 | 2 x 1  | 6.8                         | 17.4                          | 57                           |
| 040400310001 | 3G 1   | 7.2                         | 26.1                          | 69                           |
| 040400410001 | 4G 1   | 8.2                         | 34.8                          | 90                           |
| 040400510001 | 5G 1   | 9.0                         | 43.5                          | 110                          |
| 040400710001 | 7G 1   | 11.1                        | 60.8                          | 163                          |
| 040401210001 | 12G 1  | 13.2                        | 104.3                         | 244                          |
| 040401810001 | 18G 1  | 15.4                        | 156.5                         | 344                          |
| 040402510001 | 25G 1  | 19                          | 217.3                         | 507                          |
| 040403410001 | 34G 1  | 21.8                        | 295.5                         | 675                          |
| 040404110001 | 41G 1  | 23.4                        | 356.4                         | 791                          |
| 040400201105 | 2 x 1.5  | 7.4                         | 25.5                          | 71                           |
| 040400311105 | 3G 1.5   | 8.3                         | 38.2                          | 94                           |
| 040400411105 | 4G 1.5   | 9.0                         | 50.9                          | 116                          |
| 040400511105 | 5G 1.5   | 9.8                         | 63.7                          | 140                          |
| 040400711105 | 7G 1.5   | 12.2                        | 89.1                          | 209                          |
| 040401211105 | 12G 1.5  | 14.5                        | 152.8                         | 317                          |
| 040401811105 | 18G 1.5  | 17.6                        | 229.2                         | 471                          |
| 040402511105 | 25G 1.5  | 20.7                        | 318.3                         | 653                          |
| 040404111105 | 41G 1.5  | 26.3                        | 522.0                         | 1060                         |
| 040400311205 | 3G 2.5   | 9.7                         | 63.7                          | 139                          |
| 040400411205 | 4G 2.5   | 11.0                        | 84.9                          | 181                          |
| 040400511205 | 5G 2.5   | 12.1                        | 106.1                         | 221                          |
| 040400711205 | 7G 2.5   | 14.2                        | 148.5                         | 307                          |
| 040401211205 | 12G 2.5  | 17.8                        | 254.6                         | 500                          |

Note :  
 \*G = With green/yellow earth core  
 X = Without green/yellow earth core



## Application

These are halogen free cables used as data and control cable in machinery. The high level of screening ensures a high degree of interference protection. The special inner sheath aids to the increase in flexibility for robust application. Such cables can also be used for outdoor applications for the permitted temperature range.

## Technical Data

**Standard** : Adapted to EN 50525-2-51

**Nominal Voltage** :  $U_0 / U$  300 / 500V

**Insulation Resistance** : Min. 20 GΩ x cm

**Temperature Range** : Flexing -40°C to +90°C. Fixed installation -50°C to +90°C

**Minimum Bending Radius** : Flexing 15 x cable ø. Fixed installation 6 x cable ø

**Test Voltage** : Core/core: 4000V. Core/screen: 2000V

## Cable Construction

Bare copper, fine wire conductors according to EN 60228 cl. 5.

Core insulation of TPE.

Black core with continuous white numbering to DIN VDE 0293.

Green/yellow earth core in outer layer (3 cores and above).

Cores stranded in layers with optimal lay-length.

TPE inner sheathed.

Tinned copper braided screen.

Special polyurethane outer sheath (PUR).

Sheath colour : Grey (RAL 7001).

## Properties

Extensively oil resistant.

Abrasion and notch resistant.

Low adhesive surface.

Resistant to hydrolysis and microbes.

Halogen free and flame retardant to EN 60332-1-2.

UV resistant to ASTM G 154.

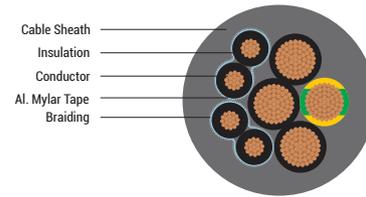
To optimise the EMC features we recommend a large round contact of the copper braiding on both ends.

## Cable Design Parameters

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 040500311050 | 3G 0.5   | 8.3                         | 31.1                          | 83                           |
| 040500411050 | 4G 0.5   | 8.8                         | 37.1                          | 95                           |
| 040500511050 | 5G 0.5   | 9.7                         | 43.3                          | 114                          |

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 040500711050 | 7G 0.5   | 11.2                        | 53.8                          | 150                          |
| 040501211050 | 12G 0.5  | 13.7                        | 83.1                          | 226                          |
| 040501811050 | 18G 0.5  | 15.7                        | 114.4                         | 301                          |
| 040502511050 | 25G 0.5  | 18.5                        | 176.0                         | 430                          |
| 040500201075 | 2 x 0.75   | 8.4                         | 31.0                          | 84                           |
| 040500311075 | 3G 0.75  | 8.7                         | 38.8                          | 95                           |
| 040500411075 | 4G 0.75  | 9.5                         | 47.0                          | 114                          |
| 040500511075 | 5G 0.75  | 10.2                        | 55.4                          | 133                          |
| 040500711075 | 7G 0.75  | 11.9                        | 71.2                          | 179                          |
| 040501211075 | 12G 0.75   | 14.5                        | 111.8                         | 269                          |
| 040502511075 | 25G 0.75   | 20.3                        | 236.3                         | 542                          |
| 040500200001 | 2 x 1  | 8.7                         | 36.2                          | 93                           |
| 040500310001 | 3G 1   | 9.3                         | 46.3                          | 111                          |
| 040500410001 | 4G 1   | 9.9                         | 58.3                          | 131                          |
| 040500510001 | 5G 1   | 10.8                        | 67.6                          | 154                          |
| 040500710001 | 7G 1   | 12.8                        | 88.2                          | 213                          |
| 040501210001 | 12G 1  | 15.4                        | 161.2                         | 332                          |
| 040501810001 | 18G 1  | 17.7                        | 223.2                         | 448                          |
| 040502510001 | 25G 1  | 21.5                        | 295.9                         | 637                          |
| 040503410001 | 34G 1  | 23.8                        | 386.0                         | 799                          |
| 040500201105 | 2 x 1.5  | 9.5                         | 46.8                          | 114                          |
| 040500311105 | 3G 1.5   | 9.9                         | 60.8                          | 132                          |
| 040500411105 | 4G 1.5   | 10.8                        | 76.3                          | 161                          |
| 040500511105 | 5G 1.5   | 11.3                        | 91.0                          | 182                          |
| 040500711105 | 7G 1.5   | 13.9                        | 119.5                         | 265                          |
| 040501211105 | 12G 1.5  | 16.8                        | 216.1                         | 416                          |
| 040501811105 | 18G 1.5  | 20.0                        | 302.9                         | 591                          |
| 040502511105 | 25G 1.5  | 23.5                        | 408.1                         | 808                          |
| 040504111105 | 41G 1.5  | 28.7                        | 635.4                         | 1229                         |
| 040500311205 | 3G 2.5   | 11.1                        | 90.9                          | 178                          |
| 040500411205 | 4G 2.5   | 12.3                        | 115.1                         | 222                          |
| 040500511205 | 5G 2.5   | 14.0                        | 159.9                         | 296                          |
| 040500711205 | 7G 1.5   | 16.4                        | 208.5                         | 402                          |
| 040501211205 | 12G 2.5  | 21.0                        | 329.4                         | 648                          |

Note :  
\* G = With green/yellow earth core  
X = Without green/yellow earth core



## Application

These cables are with composite construction for supply and control between frequency converter and motor. These are also used as connecting cable between servo controller and motor plant engineering. One common cable for multiple circuits.

## Technical Data

**Standard :** Adapted to VDE 0812 / 0250 / 0281

**Nominal Voltage :** Supply cores : 600 / 1000V

**Control core pairs :** 250V

**Insulation Resistance :** > 20 GΩ x cm

**Temperature Range :** Flexing -5°C to +70°C

Fixed installation -30°C to +70°C

**Minimum Bending Radius :** Flexing 20 x cable ø

Fixed installation 6 x cable ø

**Test Voltage :** Supply cores : C/C 4000V & C/S : 2000V

**Control cores :** C/C : 1500V, C/S : 750V

## Cable construction

Bare copper, fine wire conductors according to EN 60228 cl. 5. Supply cores : black with white numbers according to VDE 0293 and GN-YE protective conductor.

Control pairs 0.34 Sq. mm, colour coded-WH/BR, GN/YE.

Control pairs 0.5 Sq. mm and above - Black coloured with white numbers to VDE 0293.

Control pair with laminated aluminium film and tinned copper braiding.

The model with one control pair does not have laminated aluminium foil

PVC outer sheath, grey (RAL 7001).

## Properties

Flame retardant according to EN 60332-1-2.

Low mutual capacitance.

For use in dry, wet and damp interiors.

SERVO 55700 is also available with UV resistance property as SERVO 55700 UV.

Kindly add 'UV' after the part no. for UV resistant cable.

UV resistant to ASTM G 154.

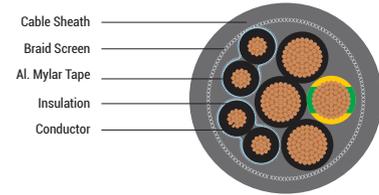
## Cable Design Parameters

| Part Number  | Number of Cores and Sq. mm per Conductor | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 040601010113 | 4 G 0.75 + 2 x (2 x 0.34)                | 9.5                         | 59.9                          | 124                          |
| 040601020113 | 4 G 1.5 + 2 x (2 x 0.75)                 | 12.1                        | 103.0                         | 195                          |
| 040601030113 | 4 G 2.5 + (2 x 2 x 0.75)                 | 13.9                        | 127.6                         | 258                          |
| 040601040113 | 4 G 4 + (2 x 0.75 + 2 x 1)               | 15.8                        | 182.8                         | 351                          |
| 040601050113 | 4 G 6 + (2 x 0.75 + 2 x 1)               | 16.7                        | 250.3                         | 435                          |
| 040601060113 | 4 G 16 + (2 x 2 x 1)                     | 23.5                        | 626.3                         | 1052                         |
| 040601070113 | 4 G 1.5 +(2 x 0.75)                      | 11.7                        | 76.9                          | 174                          |
| 040601080113 | 5 G 1.5 +(2 x 0.75)                      | 12.7                        | 89.7                          | 203                          |
| 040601090113 | 7 G 1.5 +(2 x 0.75)                      | 12.4                        | 115.1                         | 203                          |
| 040601100113 | 4 G 2.5 +(2 x 0.75)                      | 13.1                        | 110.9                         | 239                          |
| 040601110113 | 7 G 2.5 +(2 x 0.75)                      | 15.2                        | 174.6                         | 335                          |

Note :

\* G = With green/yellow earth core

X = Without green/yellow earth core



## Application

These cables are with composite construction for supply and control between frequency converter and motor. These are also used as connecting cable between servo controller and motor plant engineering. One common cable for multiple circuits.

## Technical Data

- Standard** : Adapted to VDE 0812 / 0250 / 0281
- Nominal Voltage** : Supply cores : 600 / 1000V
- Control Core Pairs** : 250V / AC
- Insulation Resistance** : > 20 GΩ x cm
- Temperature Range** : Flexing -5°C to +70°C  
Fixed installation -30°C to +70°C
- Minimum Bending Radius** : Flexing 20 x cable ø  
Fixed installation 6 x cable ø
- Test Voltage** : **Supply cores** : C/C 4000V & C/S : 2000V
- Control cores** : C/C : 1500V, C/S : 750V

## Cable Construction

Conductor Fine wire according to EN 60228, cl. 5  
 Supply cores: black with white numbers according to VDE 0293 and GN-YE protective conductor;  
 Control pairs 0.34 sq mm, color coded - WH/BR, GN/YE  
 Control pairs 0.5 sq mm and above - Black colored with white numbers to VDE 0293  
 Control pair with laminated aluminium film and tinned copper braiding.  
 The model with one control pair does not have laminated aluminium foil.  
 Overall Unit screened with tinned copper braiding.  
 PVC outer sheath, grey (RAL 7001)

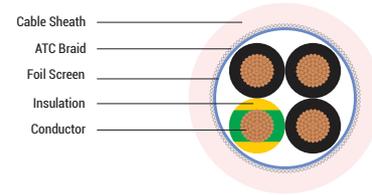
## Properties

Flame retardant according to EN 60332-1-2.  
 Low mutual capacitance.  
 Screening over each control pair offers mutual EMI protection. Optimal braid screen over the complete unit further offers external EMI protection and aids interference-free operations of frequency converters.  
 Servo 60700 CY is also available with UV resistance property as SERVO 60700 CY UV.  
 Kindly add 'UV' after the part no. for UV resistant cable.  
 UV resistant to ASTM G 154.

## Cable Design Parameters

| Part Number  | Number of Cores and Sq. mm per Conductor | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 040701010113 | 4 G 0.75 + 2 x (2 x 0.34)                | 10.5                        | 86.2                          | 173                          |
| 040701020113 | 4 G 1.5 + 2 x (2 x 0.75)                 | 12.7                        | 136.4                         | 246                          |
| 040701030113 | 4 G 2.5 + (2 x 2 x 0.75)                 | 14.9                        | 164.1                         | 328                          |
| 040701040113 | 4 G 4 + (2 x 0.75 + 2 x 1)               | 16.6                        | 223.4                         | 421                          |
| 040701050113 | 4 G 6 + (2 x 0.75 + 2 x 1)               | 17.7                        | 323.5                         | 548                          |
| 040701060113 | 4 G 10 + (2 x 0.75 + 2 x 1)              | 21.6                        | 473.2                         | 839                          |
| 040701070113 | 4 G 16 + (2 x 2 x 1)                     | 24.5                        | 712.3                         | 1192                         |
| 040701080113 | 4 G 25 + (2 x 2 x 1.5)                   | 30.1                        | 1078.4                        | 1809                         |

Note : \* G = With green/yellow earth core X = Without green/yellow earth core



## Application

Connecting cable between frequency convertor and motor. This motor power supply cable is used for the frequency converters and assures electromagnetic compatibility in plants and buildings Handling equipment, for SIMOVERT drives, they are particularly suitable for use with industrial pumps, ventilators, conveyor belts and air-conditioning installations and similar applications.

## Technical Data

**Standard :** Adapted DINVDE 0207/0250/0295

**Nominal Voltage :** U0 / U 600 / 1000V

**Insulation Resistance :** Min. 200 GΩ x cm

**Temperature Range :** Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

**Minimum Bending Radius :** Flexing 15 x cable ø. Fixed installation 4 x cable ø

**Test Voltage :** Supply cores : C/C 4000V & C/S : 2000V

**Control cores :** C/C : 1500V, C/S : 750V

**Mutual Capacitance:** According to different cross sections:

core/core 70 to 250 nF/km

core/screen 110 to 410 nF/km

## Cable Construction

Bare copper, fine wire conductors according to EN 60228 cl. 5.

PE ( polyethylene ) core insulation.

Core colours : black, brown, grey, green-yellow.

Cores stranded in concentric layers.

1. screening with special aluminum foil.

2. screening with tinned coated copper braids.

Transparent special PVC outer sheath.

## Properties

Flame retardant according to EN 60332-1-2.

Special PE insulation ensures low mutual capacitance, lower dielectric loss, low screen interference currents.

Low capacitance design allows a longer cable connection between frequency converter and motor.

Meets EMC requirements.

Due to the optimal screening an interference-free operation of frequency converters is obtained.

## Cable Design Parameters

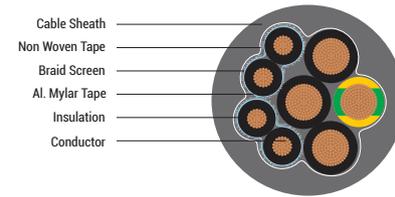
| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 040801010116 | 4 G 1.5  | 11.4                        | 72.9                          | 167                          |
| 040801020116 | 4 G 2.5  | 12.4                        | 110.0                         | 215                          |
| 040801030116 | 4 G 4.0  | 15.6                        | 193.3                         | 363                          |
| 040801040116 | 4 G 6.0  | 17.0                        | 269                           | 462                          |
| 040801050116 | 4 G 10.0   | 19.6                        | 435                           | 660                          |

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 040801060116 | 4 G 16.0   | 22.1                        | 698.3                         | 955                          |
| 040801070116 | 4 G 25.0   | 26.3                        | 1045.7                        | 1390                         |
| 040801080116 | 4 G 35.0   | 29.5                        | 1431.6                        | 1842                         |
| 040801090116 | 4 G 50.0   | 35.8                        | 2010.3                        | 2656                         |
| 040801100116 | 4 G 70.0   | 40.3                        | 2784.5                        | 3579                         |
| 040801110116 | 4 G 95.0   | 46.5                        | 3146.1                        | 4371                         |
| 040801120116 | 4 G 120.0  | 53.2                        | 4687.6                        | 6190                         |
| 040801130116 | 4 G 150.0  | 57.3                        | 5643.8                        | 7315                         |
| 040801140116 | 4 G 185.0  | 62.3                        | 6959.5                        | 8853                         |
| 040801150116 | 3 x 1.5 + 3 G 0.25                                   | 11.4                        | 65.1                          | 158                          |
| 040801160116 | 3 x 2.5 + 3 G 0.5                                    | 12.2                        | 99.4                          | 202                          |
| 040801170116 | 3 x 4 + 3 G 0.75                                     | 14.4                        | 174.0                         | 308                          |
| 040801180116 | 3 x 6 + 3 G 1  | 15.7                        | 237.6                         | 391                          |
| 040801190116 | 3 x 10 + 3 G 1.5                                     | 18.0                        | 375.2                         | 554                          |
| 040801200116 | 3 x 16 + 3 G 2.5                                     | 20.2                        | 603.9                         | 809                          |
| 040801210116 | 3 x 25 + 3 G 4                                       | 23.8                        | 906.3                         | 1174                         |
| 040801220116 | 3 x 35 + 3 G 6                                       | 26.9                        | 1250.8                        | 1581                         |
| 040801230116 | 3 x 50 + 3 G 10                                      | 32.6                        | 1798.9                        | 2317                         |
| 040801240116 | 3 x 70 + 3 G 10                                      | 36.4                        | 2380.3                        | 2988                         |
| 040801250116 | 3 x 95 + 3 G 16                                      | 42.0                        | 2825.8                        | 3730                         |
| 040801260116 | 3 x 120 + 3 G 16                                     | 47.8                        | 3991.9                        | 5072                         |
| 040801270116 | 3 x 150 + 3 G 25                                     | 51.6                        | 4946.4                        | 6193                         |
| 040801280116 | 3 x 185 + 3 G 35                                     | 56.5                        | 6217.8                        | 7691                         |

Note :

\* G = With green/yellow earth core

X = Without green/yellow earth core



## Application

Connecting between the frequency convertor and the motor for power circuits in machine cabling. In dry damp or wet interiors with normal mechanical stress conditions For outdoor usage within the permitted range of temperature.

## Technical Data

**Standard** : Adapted to VDE 0250 / 0281 / 0282

**Nominal Voltage** :  $U_0$  / U 600 / 1000V. Control cores 250V

**Insulation Resistance** : Min. 20 GΩ x cm

**Temperature Range** : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

**Minimum Bending Radius** : Flexing 12 x cable ø. Fixed installation 4 x cable ø

**Test Voltage** : Supply cores: C/C 4000V & C/S: 2000 V

**Control cores**: C/C: 1500 V, C/S: 750 V

## Cable Construction

Bare copper, fine wire conductors according to EN 60228 cl. 6.

Core insulation of special PVC or TPE (control cores).

Control pairs screened with laminated film and braided with a layer of tinned-copper wires.

Cores and pairs are twisted together.

Non woven wrapping.

Extruded PUR outer sheath grey (RAL 7001)

## Properties

Flame retardant according to EN 60332-1-2.

The version with special TPE insulation ensures low mutual capacitance, lower dielectric loss, low screen interference currents.

Meets EMC requirements.

Due to the optimal screening an interference-free operation of frequency converters is obtained.

UV resistant to ASTM G 154.

## Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'y') for the insulation material required:

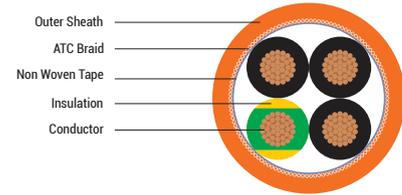
1 - PVC 70°C, 9 - TPE

| Part Number   | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|---------------|--|-----------------------------|-------------------------------|------------------------------|
| 00409010101y3 | 4 G 0.75 + 2 X (2 X 0.34)                            | 13.9                        | 67.4                          | 168                          |
| 00409010201y3 | 4 G 1.5 + 2 X (2 X 0.75)                             | 15.9                        | 108.9                         | 240                          |
| 00409010301y3 | 4 G 2.5 + 2 X (2 X 0.75)                             | 16.7                        | 142.9                         | 290                          |
| 00409010401y3 | 4 G 4 + (2 X 0.75) + (2 X 1)                         | 19                          | 197.9                         | 374                          |
| 00409010501y3 | 4 G 6 + (2 X 0.75) + (2 X 1)                         | 19.6                        | 265.3                         | 459                          |
| 00409010601y3 | 4 G 10 + (2 X 0.75) + (2 X 1)                        | 21.2                        | 407.6                         | 663                          |

Note :

\* G = With green/yellow earth core

X = Without green/yellow earth core



## Application

For power circuits in machine cabling power circuits for electrical equipments used in automation engineering. In dry damp or wet interiors with normal mechanical stress conditions For outdoor usage within the permitted range of temperature.

## Technical Data

Standard : Based on EN 50525-2-51

Nominal Voltage :  $U_0$  / U 600 / 1000V

Insulation Resistance : Min. 20 G $\Omega$  x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing 7.5 x cable  $\phi$ . Fixed installation 4 x cable  $\phi$

Test Voltage : Core/core: 4000V. Core/screen: 2000V

## Cable Construction

Bare copper, fine wire conductors according to EN 60228 Cl. 6,

PP(polypropylene) core insulation.

Cores are twisted together with shorter lay length.

Non woven wrapping.

Tinned copper braiding.

Special PVC TM5 outer sheath to EN 50363-4.1

PVC orange (RAL 2003).

## Properties

Flame retardant according to EN 60332-1-2

Extensively Oil resistant

PP insulation ensures low mutual capacitance, lower dielectric loss, low screen interference currents.

Low adhesive surface

SERVO FD 75781-CY is also available with UV resistance property as SERVO FD 75781-CY UV.

Kindly add 'UV' after the part no. for UV resistant cable.

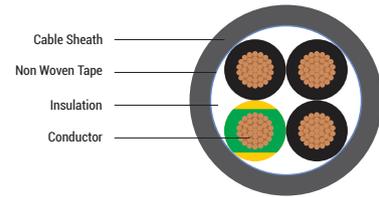
UV resistant to ASTM G 154.

## Cable Design Parameters

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 041000411105 | 4 G 1.5  | 9.8                         | 74.3                          | 130                          |
| 041000411205 | 4 G 2.5  | 11.9                        | 113.8                         | 205                          |
| 041000410004 | 4 G 4  | 13.5                        | 169.7                         | 286                          |
| 041000410010 | 4 G 10   | 19.7                        | 428                           | 641                          |
| 041000410016 | 4 G 16   | 23.9                        | 661.4                         | 931                          |
| 041000410035 | 4 G 35   | 33.3                        | 1386.2                        | 1808                         |
| 041000410050 | 4 G 50   | 38.3                        | 1937.2                        | 2476                         |

Note :

\* G = With green/yellow earth core



## Application

For power circuits in machine cabling power circuits for electrical equipments used in automation engineering. In dry damp or wet interiors with normal mechanical stress conditions for outdoor usage within the permitted range of temperature.

## Technical Data

Standard : Adapted to DIN VDE 0250 / 0281 / 0282  
 Nominal Voltage :  $U_0$  / U 600 / 1000V  
 Insulation Resistance : Min. 20 GΩ x cm  
 Temperature Range : Flexing -40°C to +70°C  
 Fixed Installation : -50°C to +70°C  
 Minimum Bending Radius : Flexing 5 x cable ø. Fixed installation 3 x cable ø  
 Test Voltage : 4000V

## Cable Construction

Bare copper, fine wire conductors according to EN 60228 Cl. 6.  
 TPE core insulation.  
 Black coloured with white numbers acc to VDE 0293.  
 Cores are twisted together with shorter lay length.  
 Non woven wrapping.  
 Outer sheath : PUR grey (RAL 7001).

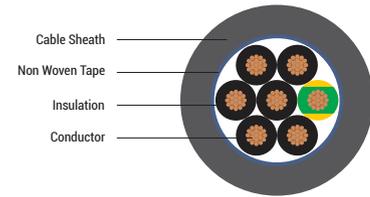
## Properties

Flame retardant according to EN 60332-1-2.  
 Halogen free.  
 Oil resistant.  
 Low adhesive surface.  
 UV resistant to ASTM G 154.

## Cable Design Parameters

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 041100411105 | 4 G 1.5  | 10.0                        | 51.2                          | 132                          |
| 041100411205 | 4 G 2.5  | 11.9                        | 85.8                          | 189                          |
| 041100410004 | 4 G 4  | 13.7                        | 138.3                         | 268                          |
| 041100410006 | 4 G 6  | 15.1                        | 204.3                         | 374                          |
| 041100410010 | 4 G 10   | 19.6                        | 358.5                         | 609                          |
| 041100410016 | 4 G 16   | 22.8                        | 580.2                         | 896                          |
| 041100511105 | 5 G 1.5  | 11.2                        | 64.0                          | 161                          |
| 041100511205 | 5 G 2.5  | 13.3                        | 107.2                         | 233                          |
| 041100510004 | 5 G 4  | 15.2                        | 172.9                         | 330                          |
| 041100510006 | 5 G 6  | 16.8                        | 255.3                         | 461                          |
| 041100510016 | 5 G 16   | 25.5                        | 725.2                         | 1106                         |
| 041100510025 | 5 G 25   | 30.8                        | 1130                          | 1699                         |

Note : \* G = With green/yellow earth core



## Application

For use in power chains or moving machine parts. Suitable for use in measuring, control and regulating circuits. Power circuits for electrical equipment used in automation engineering assembly lines, production lines and in all kinds of machines and plant engineering.

## Technical Data

**Standard** : Requirement adapted to DIN VDE 0245, 0281

**Temperature Range** : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

**Nominal Voltage** :  $U_0$  / U 300 / 500V

**Test Voltage** : 4000V

**Insulation Resistance** : Min. 20 GΩ x cm

**Minimum Bending Radius** : Flexing 7.5 x cable ø. Fixed installation 4 x cable ø

## Cable Construction

Bare copper, fine wire conductors according to EN 60228 Cl. 6,

Core insulation of special PVC T12 EN 50363-3.

Black core with continuous white numbering according to DIN VDE 0293.

Green-yellow earth core in the outer layer (3 cores and above).

Non-woven wrapping.

Outer sheath of special PVC, TM2 to DIN/BS EN 50363-4.1.

Colour grey (RAL 7001).

## Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

This cable is also available with UV resistance property as SERVO FD 85810 UV

Kindly add 'UV' after the part no. for UV resistant cable.

UV resistant to ASTM G 154.

## Cable Design Parameters

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 041200201050 | 2 x 0.5  | 5.3                         | 8.7                           | 39                           |
| 041200311050 | 3G 0.5   | 5.7                         | 13                            | 48                           |
| 041200411050 | 4G 0.5   | 6.3                         | 17.4                          | 60                           |
| 041200511050 | 5G 0.5   | 6.8                         | 21.7                          | 71                           |
| 041200711050 | 7G 0.5   | 8.0                         | 30.4                          | 99                           |
| 041201211050 | 12G 0.5  | 9.5                         | 52.1                          | 147                          |
| 041201811050 | 18G 0.5  | 11.4                        | 78.1                          | 214                          |
| 041202511050 | 25G 0.5  | 13.7                        | 108.5                         | 306                          |

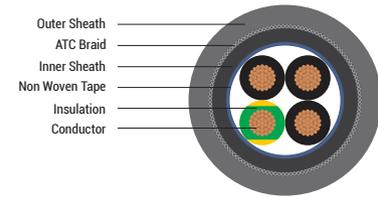
| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 041203011050 | 30G 0.5  | 14.3                        | 130.2                         | 344                          |
| 041203411050 | 34G 0.5  | 15.6                        | 147.5                         | 403                          |
| 041205011050 | 50G 0.5  | 18.5                        | 216.9                         | 574                          |
| 041200201075 | 2 x 0.75   | 5.7                         | 13.0                          | 48                           |
| 041200311075 | 3G 0.75  | 6.2                         | 19.5                          | 60                           |
| 041200411075 | 4G 0.75  | 6.8                         | 26.0                          | 75                           |
| 041200511075 | 5G 0.75  | 7.4                         | 32.5                          | 90                           |
| 041200711075 | 7G 0.75  | 8.9                         | 45.6                          | 129                          |
| 041201211075 | 12G 0.75   | 10.6                        | 78.1                          | 194                          |
| 041201611075 | 16G 0.75   | 12                          | 104.1                         | 253                          |
| 041201811075 | 18G 0.75   | 12.7                        | 117.2                         | 283                          |
| 041202511075 | 25G 0.75   | 15.2                        | 162.7                         | 402                          |
| 041200200001 | 2 x 1  | 6.1                         | 17.4                          | 57                           |
| 041200310001 | 3G 1   | 6.6                         | 26.0                          | 72                           |
| 041200410001 | 4G 1   | 7.3                         | 34.7                          | 90                           |
| 041200510001 | 5G 1   | 8.0                         | 43.4                          | 110                          |
| 041200710001 | 7G 1   | 9.6                         | 60.7                          | 157                          |
| 041201210001 | 12G 1  | 11.4                        | 104.1                         | 237                          |
| 041201410001 | 14G 1  | 12.3                        | 121.5                         | 276                          |
| 041201610001 | 16G 1  | 13                          | 138.8                         | 311                          |
| 041201810001 | 18G 1  | 13.9                        | 156.2                         | 353                          |
| 041202510001 | 25G 1  | 16.4                        | 216.9                         | 491                          |
| 041202610001 | 26G 1  | 16.4                        | 225.6                         | 498                          |
| 041203410001 | 34G 1  | 18.9                        | 295.1                         | 658                          |
| 041204110001 | 41G 1  | 20.6                        | 355.8                         | 786                          |
| 041205010001 | 50G 1  | 22.3                        | 433.9                         | 936                          |
| 041206510001 | 65G 1  | 25.4                        | 564.1                         | 1215                         |
| 041200201105 | 2 x 1.5  | 6.8                         | 26.0                          | 75                           |
| 041200311105 | 3G 1.5   | 7.4                         | 39.1                          | 96                           |
| 041200411105 | 4G 1.5   | 8.1                         | 52.1                          | 119                          |
| 041200511105 | 5G 1.5   | 9.1                         | 65.1                          | 150                          |
| 041200711105 | 7G 1.5   | 9.9                         | 91.1                          | 189                          |
| 041201211105 | 12G 1.5  | 12.9                        | 156.2                         | 322                          |
| 041201811105 | 18G 1.5  | 15.0                        | 234.3                         | 456                          |
| 041202511105 | 25G 1.5  | 17.6                        | 325.4                         | 630                          |
| 041202611105 | 26G 1.5  | 17.8                        | 338.4                         | 649                          |

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 041203411105 | 34G 1.5  | 20.2                        | 442.6                         | 841                          |
| 041204111105 | 41G 1.5  | 22.0                        | 533.7                         | 1006                         |
| 041204211105 | 42G 1.5  | 22.0                        | 546.7                         | 1017                         |
| 041205011105 | 50G 1.5  | 24.0                        | 650.8                         | 1210                         |
| 041200311205 | 3G 2.5   | 9.0                         | 65.1                          | 148                          |
| 041200411205 | 4G 2.5   | 10.0                        | 86.8                          | 188                          |
| 041200511205 | 5G 2.5   | 11.2                        | 108.5                         | 235                          |
| 041200711205 | 7G 2.5   | 12.5                        | 151.9                         | 307                          |
| 041201211205 | 12G 2.5  | 16.0                        | 260.3                         | 513                          |
| 041201411205 | 14G 2.5  | 17.2                        | 303.7                         | 595                          |
| 041200310004 | 3G 4   | 10.6                        | 104.1                         | 217                          |
| 041200410004 | 4G 4   | 11.7                        | 138.8                         | 274                          |
| 041200510004 | 5G 4   | 13.1                        | 173.6                         | 343                          |
| 041200410006 | 4G 6   | 13.9                        | 208.6                         | 398                          |
| 041200510006 | 5G 6   | 15.5                        | 260.8                         | 496                          |
| 041200410010 | 4G 10  | 17.6                        | 358.5                         | 658                          |
| 041200510010 | 5G 10  | 19.6                        | 448.2                         | 819                          |
| 041200410016 | 4G 16  | 21.0                        | 565.0                         | 983                          |
| 041200510016 | 5G 16  | 23.6                        | 706.2                         | 1236                         |

Note :

\* G = With green/yellow earth core

X = Without green/yellow earth core



## Application

For use in power chains or moving machine parts. Suitable for use in measuring, control and regulating circuits. Power circuits for electrical equipment used in automation engineering assembly lines, production lines and in all kinds of machines and plant engineering. The PVC-inner sheaths of these cables raise the mechanical strength of the cable.

## Technical Data

**Standard** : Requirement adapted to DINVDE 0245, 0281

**Nominal Voltage** :  $U_0$  / U 300 / 500V

**Insulation Resistance** : Min. 20 GΩ x cm

**Temperature Range** : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

**Minimum Bending Radius** : Fixed installation 4 x cable ø

**Test Voltage** : Core/core: 4000V. Core/screen: 2000V

## Cable Construction

Bare copper, fine wire conductors according to EN 60228 Cl.6.

Core insulation of special PVC TI2 EN 50363-3.

Black core with continuous white numbering according to DINVDE 0293.

Green/yellow earth core in the outer layer (3 cores and above).

Cores stranded in layers with short lay-length.

Non-woven wrapping.

PVC inner sheath, grey.

Tinned copper braiding.

Outer sheath of special PVC, TM2 to DIN/BS EN 50363-4.1.

Colour grey (RAL 7001).

## Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

SERVO FD 90810 CY is also available with UV resistance property as SERVO FD 90810 CY UV

Kindly add 'UV' after the part no. for UV resistant cable.

UV resistant to ASTM G 154.

## Cable Design Parameters

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 041300201050 | 2 x 0.5  | 7.2                         | 24.5                          | 76                           |
| 041300311050 | 3G 0.5   | 7.5                         | 30.2                          | 86                           |
| 041300411050 | 4G 0.5   | 8.1                         | 36.3                          | 102                          |
| 041300511050 | 5G 0.5   | 8.6                         | 42.4                          | 116                          |
| 041300711050 | 7G 0.5   | 9.1                         | 54.3                          | 136                          |

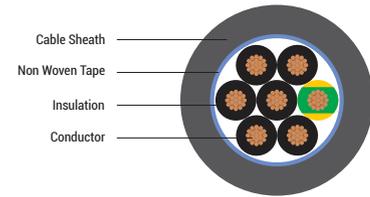
| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 041301211050 | 12G 0.5  | 11.5                        | 84.2                          | 216                          |
| 041301811050 | 18G 0.5  | 13.5                        | 117.5                         | 301                          |
| 041302511050 | 25G 0.5  | 15.12                       | 156.9                         | 386                          |
| 041303011050 | 30G 0.5  | 16.02                       | 185.1                         | 442                          |
| 041300201075 | 2 x 0.75   | 7.6                         | 30.6                          | 88                           |
| 041300311075 | 3G 0.75  | 8.1                         | 39.5                          | 104                          |
| 041300411075 | 4G 0.75  | 8.6                         | 47.2                          | 120                          |
| 041300511075 | 5G 0.75  | 9.1                         | 56.6                          | 138                          |
| 041300711075 | 7G 0.75  | 9.9                         | 71.7                          | 167                          |
| 041301211075 | 12G 0.75   | 12.5                        | 117.1                         | 271                          |
| 041301811075 | 18G 0.75   | 14.42                       | 166.1                         | 371                          |
| 041302511075 | 25G 0.75   | 16.52                       | 221.4                         | 491                          |
| 041303011075 | 30G 0.75   | 18                          | 288.2                         | 595                          |
| 041300200001 | 2 x 1  | 8.1                         | 37.3                          | 102                          |
| 041300310001 | 3G 1   | 8.4                         | 47.3                          | 116                          |
| 041300410001 | 4G 1   | 8.9                         | 58.8                          | 136                          |
| 041300510001 | 5G 1   | 9.7                         | 69.4                          | 161                          |
| 041301210001 | 12G 1  | 13.22                       | 145.7                         | 316                          |
| 041301810001 | 18G 1  | 15.42                       | 210.4                         | 442                          |
| 041302510001 | 25G 1  | 17.4                        | 286.0                         | 580                          |
| 041302610001 | 26G 1  | 17.4                        | 295.7                         | 588                          |
| 041303410001 | 34G 1  | 20.2                        | 392.5                         | 788                          |
| 041304110001 | 41G 1  | 22                          | 466.3                         | 927                          |
| 041305010001 | 50G 1  | 23.7                        | 554.0                         | 1093                         |
| 041300201105 | 2 x 1.5  | 8.9                         | 48.2                          | 126                          |
| 041300311105 | 3G 1.5   | 9.3                         | 64.0                          | 148                          |
| 041300411105 | 4G 1.5   | 10.0                        | 82.3                          | 180                          |
| 041300511105 | 5G 1.5   | 10.5                        | 96.8                          | 202                          |
| 041300711105 | 7G 1.5   | 11.5                        | 128.8                         | 254                          |
| 041301211105 | 12G 1.5  | 15.2                        | 216.8                         | 439                          |
| 041301611105 | 16G 1.5  | 16.7                        | 295.2                         | 555                          |
| 041301811105 | 18G 1.5  | 17.7                        | 317.5                         | 617                          |
| 041302511105 | 25G 1.5  | 20.7                        | 426.7                         | 840                          |
| 041303411105 | 34G 1.5  | 23.5                        | 563.9                         | 1095                         |
| 041300311205 | 3G 2.5   | 10.3                        | 100.7                         | 200                          |
| 041300411205 | 4G 2.5   | 11.3                        | 129.4                         | 249                          |

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 041300511205 | 5G 2.5   | 12.6                        | 158.5                         | 309                          |
| 041300711205 | 7G 2.5   | 13.9                        | 211.5                         | 392                          |
| 041300410004 | 4G 4   | 13.4                        | 192.3                         | 361                          |
| 041300510004 | 5G 4   | 14.7                        | 236.4                         | 439                          |
| 041300410006 | 4G 6   | 15.8                        | 254.9                         | 492                          |
| 041300410010 | 4G 10  | 19.3                        | 414.4                         | 763                          |
| 041300410016 | 4G 16  | 22.0                        | 635.7                         | 1076                         |

Note :

\* G = With green/yellow earth core

X = Without green/yellow earth core



## Application

For use in power chains or moving machine parts. Suitable for use in measuring, control and regulating circuits. Power circuits for electrical equipment used in automation engineering assembly lines, production lines and in all kinds of machines and plant engineering.

## Technical Data

**Standard :** Requirement adapted to DINVDE 0245, 0281

**Nominal Voltage :** U0 / U 300 / 500V

**Insulation Resistance :** Min. 20 GΩ x cm

**Temperature Range :** Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

**Minimum Bending Radius :** Flexing 7.5 x cable ø. Fixed installation 4 x cable ø

**Test Voltage :** 4000V

## Cable Construction

Bare copper, fine wire conductors according to EN 60228 Cl.6.

Core insulation of special PVC T12 EN 50363-3.

Black core with continuous white numbering according to DINVDE 0293.

Green/yellow earth core in the outer layer (3 cores and above).

Cores stranded in layers with short lay-length.

Non-woven wrapping.

Outer sheath of PUR.

Colour grey (RAL 7001).

## Properties

Flame retardant according to EN 60332-1-2.

Oil resistant.

UV resistant to ASTM G 154.

## Cable Design Parameters

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 041400201050 | 2 x 0.5  | 5.3                         | 9.7                           | 35                           |
| 041400311050 | 3G 0.5   | 5.7                         | 13                            | 43                           |
| 041400411050 | 4G 0.5   | 6.3                         | 17.4                          | 54                           |
| 041400511050 | 5G 0.5   | 6.8                         | 21.7                          | 64                           |
| 041400711050 | 7G 0.5   | 8.0                         | 30.4                          | 89                           |
| 041401211050 | 12G 0.5  | 9.5                         | 52.1                          | 135                          |

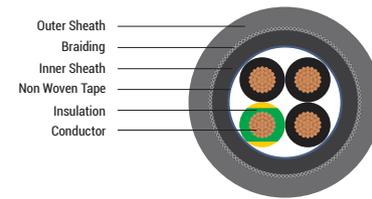
| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 041401811050 | 18G 0.5  | 11.4                        | 78.1                          | 198                          |
| 041400201075 | 2 x 0.75   | 5.7                         | 13.0                          | 43                           |
| 041400311075 | 3G 0.75  | 6.2                         | 19.5                          | 55                           |
| 041400411075 | 4G 0.75  | 6.8                         | 26.0                          | 68                           |
| 041400511075 | 5G 0.75  | 7.4                         | 32.5                          | 82                           |
| 041400711075 | 7G 0.75  | 8.9                         | 45.6                          | 118                          |
| 041401211075 | 12G 0.75   | 10.6                        | 78.1                          | 180                          |
| 041401811075 | 18G 0.75   | 12.7                        | 117.2                         | 264                          |
| 041402511075 | 25G 0.75   | 15.2                        | 162.7                         | 373                          |
| 041400200001 | 2 x 1  | 6.1                         | 17.4                          | 51                           |
| 041400310001 | 3G 1   | 6.6                         | 26.0                          | 65                           |
| 041400410001 | 4G 1   | 7.3                         | 34.7                          | 83                           |
| 041400510001 | 5G 1   | 8.0                         | 43.4                          | 101                          |
| 041400710001 | 7G 1   | 9.6                         | 60.7                          | 144                          |
| 041401210001 | 12G 1  | 11.4                        | 104.1                         | 220                          |
| 041401810001 | 18G 1  | 13.9                        | 156.2                         | 329                          |
| 041402510001 | 25G 1  | 16.4                        | 216.9                         | 457                          |
| 041403410001 | 34G 1  | 18.9                        | 295.1                         | 614                          |
| 041404110001 | 41G 1  | 20.6                        | 355.8                         | 735                          |
| 041405010001 | 50G 1  | 22.3                        | 433.9                         | 877                          |
| 041406510001 | 65G 1  | 25.4                        | 564.1                         | 1139                         |
| 041400201105 | 2 x 1.5  | 7.0                         | 26.0                          | 70                           |
| 041400311105 | 3G 1.5   | 7.6                         | 39.1                          | 90                           |
| 041400411105 | 4G 1.5   | 8.3                         | 52.1                          | 114                          |
| 041400511105 | 5G 1.5   | 9.3                         | 65.1                          | 143                          |
| 041400711105 | 7G 1.5   | 10.2                        | 91.1                          | 182                          |
| 041401211105 | 12G 1.5  | 13.3                        | 156.2                         | 312                          |
| 041401611105 | 16 G 1.5   | 14.6                        | 208.3                         | 395                          |
| 041401811105 | 18G 1.5  | 15.4                        | 234.3                         | 444                          |
| 041402511105 | 25G 1.5  | 18.1                        | 325.4                         | 614                          |
| 041403411105 | 34G 1.5  | 20.8                        | 442.6                         | 822                          |
| 041404211105 | 42G 1.5  | 22.6                        | 546.7                         | 997                          |
| 041405011105 | 50G 1.5  | 24.7                        | 650.8                         | 1186                         |
| 041400311205 | 3G 2.5   | 9.0                         | 65.1                          | 136                          |
| 041400411205 | 4G 2.5   | 10.0                        | 86.8                          | 174                          |
| 041400511205 | 5G 2.5   | 11.2                        | 108.5                         | 218                          |

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 041400711205 | 7G 2.5   | 12.5                        | 151.9                         | 287                          |
| 041401211205 | 12G 2.5  | 16.0                        | 260.3                         | 482                          |
| 041401411205 | 14G 2.5  | 17.2                        | 303.7                         | 559                          |
| 041400410004 | 4G 4   | 11.7                        | 138.8                         | 255                          |
| 041400510004 | 5G 4   | 13.1                        | 173.6                         | 320                          |
| 041400110006 | 1 G 6  | 6.4                         | 52.2                          | 87                           |
| 041400410006 | 4G 6   | 13.9                        | 208.6                         | 372                          |
| 041400110010 | 1 G 10   | 7.7                         | 89.6                          | 139                          |
| 041400410010 | 4G 10  | 17.6                        | 358.5                         | 616                          |
| 041400510010 | 5G 10  | 19.6                        | 448.2                         | 767                          |
| 041400110016 | 1 G 16   | 9.2                         | 141.2                         | 209                          |
| 041400410016 | 4G 16  | 21.0                        | 565.0                         | 925                          |

Note :

\* G = With green/yellow earth core

x = Without green/yellow earth core



## Application

For use in power chains or moving machine parts. Suitable for use in measuring, control and regulating circuits. Power circuits for electrical equipment used in automation engineering assembly lines, production lines and in all kinds of machines and plant engineering. The PVC-inner sheath of these cables raise the mechanical strength of the cable.

## Technical Data

**Standard** : Requirement adapted to DINVDE 0245, 0281

**Nominal Voltage** :  $U_0$  / U 300 / 500V

**Insulation Resistance** : Min. 20 GΩ x cm

**Temperature Range** : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

**Minimum Bending Radius** : Flexible use 7.5 x cable ø. Fixed installation 4 x cable ø

**Test Voltage** : Core/core: 4000V. Core/screen: 2000V

## Cable Construction

Bare copper, fine wire conductors according to EN 60228 Cl.6.

Core insulation of special PVC TI2 EN 50363-3.

Black core with continuous white numbering according to DINVDE 0293.

Green/yellow earth core in the outer layer (3 cores and above).

Cores stranded in layers with short lay-length.

Non-woven wrapping.

PVC inner sheath, grey.

Tinned copper braiding.

Outer sheath of PUR.

Colour grey (RAL 7001).

## Properties

Flame retardant according to EN 60332-1-2.

For use in damp or wet interiors.

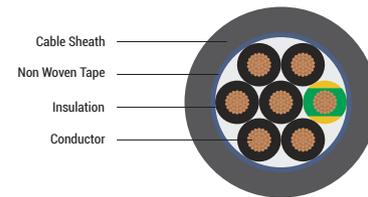
UV resistant to ASTM G 154.

## Cable Design Parameters

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 041500201050 | 2 x 0.5  | 7.2                         | 24.5                          | 72                           |
| 041500311050 | 3G 0.5   | 7.5                         | 30.2                          | 81                           |
| 041500411050 | 4G 0.5   | 8.1                         | 36.3                          | 96                           |
| 041500511050 | 5G 0.5   | 8.6                         | 42.4                          | 110                          |
| 041500711050 | 7G 0.5   | 9.1                         | 54.3                          | 130                          |
| 041501211050 | 12G 0.5  | 11.5                        | 84.2                          | 207                          |

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 041500201075 | 2 x 0.75   | 7.6                         | 30.6                          | 83                           |
| 041500311075 | 3G 0.75  | 8.1                         | 39.5                          | 99                           |
| 041500411075 | 4G 0.75  | 8.6                         | 47.2                          | 114                          |
| 041500511075 | 5G 0.75  | 9.1                         | 56.6                          | 132                          |
| 041500711075 | 7G 0.75  | 9.9                         | 71.7                          | 160                          |
| 041501211075 | 12G 0.75   | 12.5                        | 117.1                         | 261                          |
| 041501611075 | 16 G 0.75  | 13.8                        | 149.1                         | 325                          |
| 041501811075 | 18G 0.75   | 14.4                        | 166.1                         | 358                          |
| 041502511075 | 25G 0.75   | 16.5                        | 221.4                         | 475                          |
| 041500200001 | 2 x 1  | 8.1                         | 37.3                          | 97                           |
| 041500310001 | 3G 1   | 8.4                         | 47.3                          | 111                          |
| 041500410001 | 4G 1   | 8.9                         | 58.8                          | 130                          |
| 041500510001 | 5G 1   | 9.7                         | 69.4                          | 154                          |
| 041500710001 | 7G 1   | 10.4                        | 92.1                          | 189                          |
| 041501210001 | 12G 1  | 13.2                        | 145.7                         | 305                          |
| 041501810001 | 18G 1  | 15.4                        | 210.4                         | 426                          |
| 041502510001 | 25G 1  | 17.4                        | 286.0                         | 563                          |
| 041500201105 | 2 x 1.5  | 8.9                         | 48.2                          | 120                          |
| 041500311105 | 3G 1.5   | 9.3                         | 64.0                          | 142                          |
| 041500411105 | 4G 1.5   | 10.0                        | 82.3                          | 172                          |
| 041500511105 | 5G 1.5   | 10.5                        | 96.8                          | 196                          |
| 041500711105 | 7G 1.5   | 11.5                        | 128.8                         | 247                          |
| 041501211105 | 12G 1.5  | 15.2                        | 216.8                         | 424                          |
| 041501811105 | 18G 1.5  | 17.7                        | 317.5                         | 598                          |
| 041502511105 | 25G 1.5  | 20.7                        | 426.7                         | 814                          |
| 041500311205 | 3G 2.5   | 10.3                        | 100.7                         | 194                          |
| 041500411205 | 4G 2.5   | 11.3                        | 129.4                         | 241                          |
| 041500511205 | 5G 2.5   | 12.6                        | 158.5                         | 298                          |
| 041500711205 | 7G 2.5   | 13.9                        | 211.5                         | 380                          |
| 041501211205 | 12 G 2.5   | 17.5                        | 341.9                         | 609                          |
| 041501411205 | 14 G 2.5   | 18.2                        | 394.5                         | 684                          |
| 041501410004 | 4G 4   | 13.4                        | 192.3                         | 347                          |
| 041501410006 | 4G 6   | 15.8                        | 254.9                         | 477                          |
| 041501410010 | 4G 10  | 19.3                        | 414.4                         | 737                          |
| 041501410016 | 4G 16  | 22.0                        | 635.7                         | 1049                         |

Note :  
\* G = With green/yellow earth core  
X = Without green/yellow earth core



## Application

For use in power chains or moving machine parts. Suitable for use in measuring, control and regulating circuits. Power circuits for electrical equipment used in automation engineering assembly lines, production lines and in all kinds of machines and plant engineering.

## Technical Data

**Standard** : Requirement adapted to DIN VDE 0250/0281/0282

**Nominal Voltage** :  $U_0 / U$  300 / 500V

**Insulation Resistance** : Min. 20 GΩ x cm

**Temperature Range** : Flexing -40°C to +70°C. Fixed installation -50°C to +70°C

**Minimum Bending Radius** : Flexing 5 x cable ø. Fixed installation 3 x cable ø

**Test Voltage** : 4000V

## Cable Construction

Bare copper, fine wire conductors according to EN 60228 Cl.6.

Core insulation of TPE.

Black core with continuous white numbering according to DIN VDE 0293.

Green/yellow earth core in the outer layer (3 cores and above).

Cores stranded in layers with short lay-length.

Non-woven wrapping.

Outer sheath of PUR.

Colour grey (RAL 7001).

## Properties

Flame retardant according to EN 60332-1-2.

For use in damp or wet interiors.

UV resistant to ASTM G 154.

Halogen free.

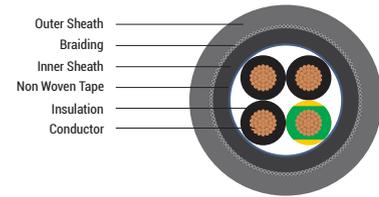
## Cable Design Parameters

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 041600201050 | 2 x 0.5  | 5.1                         | 9.7                           | 33                           |
| 041600311050 | 3G 0.5   | 5.5                         | 13.0                          | 39                           |
| 041600411050 | 4G 0.5   | 6.0                         | 17.4                          | 49                           |
| 041600511050 | 5G 0.5   | 6.6                         | 21.7                          | 59                           |
| 041600611050 | 6 G 0.5  | 7.1                         | 26.0                          | 70                           |
| 041600711050 | 7G 0.5   | 7.7                         | 30.4                          | 82                           |
| 041601211050 | 12G 0.5  | 9.1                         | 52.1                          | 122                          |

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 041601811050 | 18G 0.5  | 10.9                        | 78.1                          | 179                          |
| 041602011050 | 20 G 0.5   | 11.5                        | 86.8                          | 199                          |
| 041602511050 | 25 G 0.5   | 13.4                        | 108.5                         | 262                          |
| 041603011050 | 30 G 0.5   | 13.6                        | 130.2                         | 286                          |
| 041603611050 | 36 G 0.5   | 14.7                        | 156.2                         | 338                          |
| 041600201075 | 2x 0.75  | 5.6                         | 13.0                          | 40                           |
| 041600311075 | 3G 0.75  | 6.0                         | 19.5                          | 51                           |
| 041600411075 | 4G 0.76  | 6.7                         | 26.0                          | 64                           |
| 041600511075 | 5G 0.75  | 7.3                         | 32.5                          | 78                           |
| 041600711076 | 7G 0.75  | 8.8                         | 45.6                          | 112                          |
| 041601211075 | 12G 0.75   | 10.3                        | 78.1                          | 167                          |
| 041601611075 | 18G 0.75   | 12.4                        | 117.2                         | 245                          |
| 041602011075 | 20 G 0.75  | 13.3                        | 130.2                         | 278                          |
| 041602511075 | 25G 0.75   | 15.5                        | 162.7                         | 366                          |
| 041603611075 | 36G 0.75   | 16.9                        | 234.3                         | 471                          |
| 041600200001 | 2x 1   | 6.0                         | 17.4                          | 49                           |
| 041600310001 | 3G 1   | 6.5                         | 26.0                          | 62                           |
| 041600410001 | 4G 1   | 7.2                         | 34.7                          | 79                           |
| 041600610001 | 5G 1   | 7.8                         | 43.4                          | 95                           |
| 041600710001 | 7G 1   | 9.5                         | 60.7                          | 137                          |
| 041601210001 | 12G 1  | 11.2                        | 104.1                         | 208                          |
| 041601810001 | 18G 1  | 13.7                        | 156.2                         | 311                          |
| 041602010001 | 20G 1  | 14.4                        | 173.6                         | 345                          |
| 041602510001 | 25G 1  | 16.8                        | 216.9                         | 452                          |
| 041603010001 | 30 G1  | 17.0                        | 260.3                         | 497                          |
| 041603610001 | 36 G1  | 18.6                        | 312.4                         | 595                          |
| 041600201105 | 2x 1.5   | 6.7                         | 26.0                          | 64                           |
| 041600311105 | 3G 1.5   | 7.3                         | 39.1                          | 84                           |
| 041600411105 | 4G 1.5   | 8.0                         | 52.1                          | 105                          |
| 041600511105 | 5G 1.5   | 9.0                         | 65.1                          | 132                          |
| 041600711105 | 7G 1.5   | 10.7                        | 91.1                          | 186                          |
| 041601211105 | 12G 1.5  | 12.7                        | 156.2                         | 287                          |
| 041601811105 | 18G 1.5  | 15.2                        | 234.3                         | 420                          |
| 041602511105 | 25G 1.5  | 18.8                        | 325.4                         | 614                          |
| 041603011105 | 30G 1.5  | 18.8                        | 390.5                         | 671                          |
| 041603611105 | 36G 1.5  | 20.6                        | 468.6                         | 805                          |

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 041604111105 | 41G 1.5  | 22.4                        | 533.7                         | 934                          |
| 041600311205 | 3G 2.5   | 8.9                         | 65.1                          | 131                          |
| 041600411205 | 4G 2.5   | 9.9                         | 86.8                          | 167                          |
| 041600511205 | 5G 2.5   | 11.0                        | 108.5                         | 207                          |
| 041600711205 | 7G 2.5   | 13.4                        | 151.9                         | 300                          |
| 041601211205 | 12G 2.5  | 15.8                        | 260.3                         | 460                          |
| 041601811205 | 18G 2.5  | 18.9                        | 390.5                         | 674                          |
| 041602511205 | 25G 2.5  | 23.5                        | 542.4                         | 989                          |

Note :  
 \* G = With green/yellow earth core  
 X = Without green/yellow earth core



## Application

In power chains or moving machine parts suitable for use in measuring, control and regulating circuits. Power circuits for electrical equipments used in automation engineering, assembly lines, production lines, in all kinds of machines and plant engineering.

## Technical Data

**Standard** : Requirement adapted to DIN VDE 0245, 0281

**Nominal Voltage** :  $U_0 / U$  300 / 500V

**Insulation Resistance** : Min. 20 GΩ x cm

**Temperature Range** : Flexing -40°C to +80°C. Fixed installation -50°C to +80°C

**Minimum Bending Radius** : Flexible use 7.5 x cable ø. Fixed installation 4 x cable ø

**Test Voltage** : Core/core: 4000V. Core/screen: 2000V

## Cable Construction

Bare copper, fine wire conductors according to EN 60228 Cl.6.

Core insulation of special TPE.

Black core with continuous white numbering according to DIN VDE 0293.

Green/yellow earth core in the outer layer (3 cores and above).

Cores stranded in layers with short lay-length.

Non-woven wrapping.

TPE inner sheath, grey.

Tinned copper braiding.

Outer sheath of PUR.

Colour grey (RAL 7001).

## Properties

Flame retardant according to EN 60332-1-2.

For use in damp or wet interiors.

UV resistant to ASTM G 154.

Halogen free.

## Cable Design Parameters

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 041700201050 | 2 x 0.5  | 6.7                         | 25.5                          | 58                           |
| 041700311050 | 3G 0.5   | 7.1                         | 30.6                          | 67                           |
| 041700511050 | 5G 0.5   | 8.2                         | 42.3                          | 90                           |
| 041700611050 | 6 G 0.5  | 8.7                         | 49.2                          | 103                          |
| 041700711050 | 7G 0.5   | 9.5                         | 53.7                          | 120                          |

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 041701211050 | 12G 0.5  | 10.9                        | 84.2                          | 168                          |
| 041701811050 | 18G 1  | 12.9                        | 210.4                         | 313                          |
| 041702011050 | 20 G 0.5   | 13.5                        | 128.1                         | 259                          |
| 041702511050 | 25G 0.5  | 15.0                        | 156.9                         | 319                          |
| 041703011050 | 30 G 0.5   | 15.8                        | 181.7                         | 362                          |
| 041703611050 | 36 G 0.5   | 16.9                        | 214.5                         | 420                          |
| 041700201075 | 2 x 0.75   | 7.2                         | 30.6                          | 67                           |
| 041700311075 | 3G 0.75  | 7.6                         | 39.5                          | 80                           |
| 041700411075 | 4G 0.75  | 8.3                         | 47.2                          | 96                           |
| 041700511075 | 5G 0.75  | 8.9                         | 56.6                          | 113                          |
| 041700711075 | 7G 0.75  | 10.6                        | 71.7                          | 155                          |
| 041701211075 | 12G 0.75   | 12.1                        | 117.1                         | 220                          |
| 041701811075 | 18G 0.75   | 14.6                        | 166.1                         | 319                          |
| 041702511075 | 25G 0.75   | 17.7                        | 221.4                         | 452                          |
| 041703611075 | 36G 0.75   | 19.4                        | 306.5                         | 576                          |
| 041700200001 | 2 x 1  | 7.6                         | 37.3                          | 78                           |
| 041700310001 | 3G 1   | 8.1                         | 47.3                          | 94                           |
| 041700410001 | 4G 1   | 8.8                         | 58.8                          | 114                          |
| 041700510001 | 5G 1   | 9.6                         | 69.4                          | 135                          |
| 041700710001 | 7G 1   | 11.3                        | 92.1                          | 185                          |
| 041701210001 | 12G 1  | 13.2                        | 145.7                         | 269                          |
| 041701810001 | 18G 1  | 15.9                        | 210.4                         | 392                          |
| 041702510001 | 25G 1  | 19.5                        | 286                           | 568                          |
| 041703010001 | 30 G 1   | 19.6                        | 335.1                         | 612                          |
| 041703610001 | 36 G 1   | 21.2                        | 397.8                         | 722                          |
| 041700201105 | 2 x 1.5  | 8.9                         | 48.2                          | 106                          |
| 041700311105 | 3G 1.5   | 9.3                         | 64.0                          | 126                          |
| 041700411105 | 4G 1.5   | 10.0                        | 82.0                          | 153                          |
| 041700511105 | 5G 1.5   | 10.5                        | 96.8                          | 172                          |
| 041700711105 | 7G 1.5   | 11.5                        | 128.8                         | 219                          |
| 041701211105 | 12G 1.5  | 15.2                        | 223.8                         | 385                          |
| 041701811105 | 18G 1.5  | 17.7                        | 317.5                         | 535                          |
| 041702511105 | 25G 1.5  | 20.3                        | 426.7                         | 709                          |
| 041703611105 | 36 G 1.5   | 22.7                        | 593.0                         | 938                          |
| 041700311205 | 3G 2.5   | 10.7                        | 96.6                          | 178                          |
| 041700411205 | 4G 2.5   | 11.7                        | 123.6                         | 220                          |

| Part Number  | No. of Cores & Nominal Cross Sectional Area (Sq. mm) | Approx. Cable Diameter (mm) | Approx. Copper Weight (kg/km) | Approx. Cable Weight (kg/km) |
|--------------|--|-----------------------------|-------------------------------|------------------------------|
| 041700511205 | 5G 2.5   | 12.8                        | 151                           | 266                          |
| 041700711205 | 7G 2.5   | 14                          | 211.5                         | 344                          |
| 041701211205 | 12 G 2.5   | 17.5                        | 346.5                         | 553                          |
| 041701811205 | 18G 2.5  | 20.2                        | 499.1                         | 771                          |
| 041702511205 | 25G 2.5  | 23.6                        | 675.3                         | 1044                         |

Note :

\* G = With green/yellow earth core

X = Without green/yellow earth core