



# FLEXIBLE CONTROL CABLE

### Customization

Customized colour option and printing of the outer sheath on request

**Shielded, without inner sheath**

**90°C/105°C**

**RJ 0102**



### Product Description:

PVC insulated, flexible copper conductor, shielded control cables without inner sheath

### Application:

- Measurement and control wiring of industrial equipments control circuits, power stations.
- Dry or damp interiors under medium mechanical load conditions
- Fixed installation as well as occasional flexing at free, non-continuously recurring movement without tensile load
- In EMI critical environment (electromagnetic interference)
- Chemical resistant suitable for different working conditions.

### Approvals:



### Product features

- Flame retardant, Low smoke, Zero halogen
- Good chemical resistance

### Colour Codes:

- Up to 7 cores: Coloured (Black, Red, Blue, Yellow, White, Green, Yellow/Green)
- More than 7 cores: Numbered

### Benefits:

- Space saving installation due to small cable diameters
- Slim & light, without inner sheath
- High electrical performance due to 100% HV Testing
- Increased flexibility due to short-twisted conductor lay

### Technical Data:

- **Based on**  
IEC 60227-5  
VDE 0281

### Make Up:

- Fine strands of electrolytic grade copper wires
- PVC Compound insulation
- Cores twisted in layers
- Plastic foil wrapping
- Tinned copper braided shield
- Outer sheathing to use, colour coded, PVC, HR, FR, FRLS, ZHFR, as required
- **Specific insulation resistance**  
> 20 G Ohm x cm
- **Conductor stranding**  
Fine wire in accordance to VDE 0295 Class 5 / IEC 60228 Class 5
- **Minimum bending radius**  
Oscillating flexing: 20 x cable diameter  
Fixed installation: 6 x cable diameter
- **Rated voltage**  
U0/U: 300/500 V
- **Test voltage**  
5000 V (Spark Test)  
2000 V (Dielectric Strength)
- **FRLS/Flame Properties**  
Oxygen Index as per ASTM D 2863  
Temperature Index as per ASTM D 2863  
Smoke Density Rating as per ASTM D 2843  
HCL Acid Gas Generation as per IEC 754/Pt-1  
Flammability Test as per IEEE-383  
Swedish Chimney Test as per SEN-SS4241475  
Thermal Stability as per IS:10810 Pt. 60
- **ZHFR Properties(on sheath)**  
Corrosivity of gases evolved during combustion pH & conductivity as per IEC-60754-2
- **Protective conductor**  
G = with protective conductor Green/Yellow  
X = without t protective conductor
- **Range of temperature**  
Normal Working Temp.: -15 °C up to +70 °C  
High Working Temp.: -15 °C up to +90 °C/105 °C  
Cold application Temp upto -55 °C also available



| Part number                     |                              | Number of cores and mm <sup>2</sup> per conductor |                              | Outer diameter in mm approx. | Copper index kg/km | Weight kg/km approx |
|---------------------------------|------------------------------|---------------------------------------------------|------------------------------|------------------------------|--------------------|---------------------|
| without protective conductor(X) | with protective conductor(G) | without protective conductor(X)                   | with protective conductor(G) |                              |                    |                     |
| <b>RJ 0102</b>                  |                              |                                                   |                              |                              |                    |                     |
| 0102 10102                      |                              | 2 X 0.5                                           |                              | 6.4                          | 36                 | 60                  |
| 0102 10103                      | 0102 00103                   | 3 X 0.5                                           | 3 G 0.5                      | 6.7                          | 43                 | 70                  |
| 0102 10104                      | 0102 00104                   | 4 X 0.5                                           | 4 G 0.5                      | 7.4                          | 49                 | 80                  |
| 0102 10105                      | 0102 00105                   | 5 X 0.5                                           | 5 G 0.5                      | 8.0                          | 57                 | 95                  |
| 0102 10107                      | 0102 00107                   | 7 X 0.5                                           | 7 G 0.5                      | 8.8                          | 69                 | 120                 |
| 0102 10112                      | 0102 00112                   | 12 X 0.5                                          | 12 G 0.5                     | 11.6                         | 104                | 200                 |
| 0102 10118                      | 0102 00118                   | 18 X 0.5                                          | 18 G 0.5                     | 13.5                         | 141                | 275                 |
| 0102 10125                      | 0102 00125                   | 25 X 0.5                                          | 25 G 0.5                     | 16.0                         | 211                | 360                 |
| 0102 10202                      |                              | 2 X 0.75                                          |                              | 6.8                          | 43                 | 65                  |
| 0102 10203                      | 0102 00203                   | 3 X 0.75                                          | 3 G 0.75                     | 7.2                          | 52                 | 80                  |
| 0102 10204                      | 0102 00204                   | 4 X 0.75                                          | 4 G 0.75                     | 7.9                          | 61                 | 98                  |
| 0102 10205                      | 0102 00205                   | 5 X 0.75                                          | 5 G 0.75                     | 8.6                          | 72                 | 125                 |
| 0102 10207                      | 0102 00207                   | 7 X 0.75                                          | 7 G 0.75                     | 9.5                          | 89                 | 160                 |
|                                 | 0102 00212                   |                                                   | 12 G 0.75                    | 12.7                         | 138                | 240                 |
|                                 | 0102 00212                   |                                                   | 18 G 0.75                    | 14.8                         | 211                | 340                 |
| 0102 10225                      | 0102 00225                   | 25 X 0.75                                         | 25 G 0.75                    | 17.6                         | 280                | 455                 |
| 0102 10302                      |                              | 2 X 1.0                                           |                              | 7.2                          | 51                 | 74                  |
| 0102 10303                      | 0102 00303                   | 3 X 1.0                                           | 3 G 1.0                      | 7.6                          | 62                 | 95                  |
| 0102 10304                      | 0102 00304                   | 4 X 1.0                                           | 4 G 1.0                      | 8.3                          | 74                 | 110                 |
| 0102 10305                      | 0102 00305                   | 5 X 1.0                                           | 5 G 1.0                      | 9.4                          | 88                 | 135                 |
| 0102 10307                      | 0102 00307                   | 7 X 1.0                                           | 7 G 1.0                      | 10.2                         | 112                | 170                 |
|                                 | 0102 00312                   |                                                   | 12 G 1.0                     | 13.4                         | 185                | 285                 |
|                                 | 0102 00318                   |                                                   | 18 G 1.0                     | 15.9                         | 268                | 400                 |
|                                 | 0102 00325                   |                                                   | 25 G 1.0                     | 18.9                         | 354                | 520                 |
| 0102 10402                      |                              | 2 X 1.5                                           |                              | 8.3                          | 65                 | 96                  |
| 0102 10403                      | 0102 00403                   | 3 X 1.5                                           | 3 G 1.5                      | 8.8                          | 82                 | 120                 |
| 0102 10404                      | 0102 00404                   | 4 X 1.5                                           | 4 G 1.5                      | 9.9                          | 100                | 150                 |
| 0102 10405                      | 0102 00405                   | 5 X 1.5                                           | 5 G 1.5                      | 10.8                         | 119                | 170                 |
| 0102 10407                      | 0102 00407                   | 7 X 1.5                                           | 7 G 1.5                      | 11.9                         | 154                | 230                 |
|                                 | 0102 00412                   |                                                   | 12 G 1.5                     | 15.5                         | 268                | 375                 |
|                                 | 0102 00418                   |                                                   | 18 G 1.5                     | 18.4                         | 373                | 553                 |
|                                 | 0102 00425                   |                                                   | 25 G 1.5                     | 22.0                         | 530                | 734                 |
|                                 | 0102 00503                   |                                                   | 3 G 2.5                      | 10.7                         | 118                | 178                 |
|                                 | 0102 00504                   |                                                   | 4 G 2.5                      | 11.8                         | 147                | 215                 |
|                                 | 0102 00505                   |                                                   | 5 G 2.5                      | 13.0                         | 176                | 270                 |
|                                 | 0102 00507                   |                                                   | 7 G 2.5                      | 14.0                         | 253                | 345                 |
|                                 | 0102 00512                   |                                                   | 12 G 2.5                     | 18.7                         | 355                | 589                 |
|                                 | 0102 00518                   |                                                   | 18 G 2.5                     | 22.0                         | 569                | 950                 |
|                                 | 0102 00525                   |                                                   | 25 G 2.5                     | 26.4                         | 827                | 1300                |
|                                 | 0102 00604                   |                                                   | 4 G 4                        | 13.2                         | 248                | 305                 |
|                                 | 0102 00607                   |                                                   | 7 G 4                        | 15.9                         | 355                | 500                 |



## FLEXIBLE CONTROL CABLE

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90°C/105°C

RJ 0103



### Product Description:

PVC insulated, flexible copper conductor, shielded control cables without inner sheath.

### Application:

- Suitable for outdoor applications considering temperature range. Industrial machinery & appliances wiring, control, air conditioning, power stations.  
The additional inner sheath provides mechanical strength.
- Dry or damp interiors under heavy mechanical load conditions
- Plant engineering and construction Industrial machinery Air conditioning installations Power station
- In EMI critical environment (electromagnetic interference)
- Fixed installation as well as occasional flexing at free, non-continuously recurring movement without tensile load

### Approvals:



### Product features

- Flame retardant, Low smoke, Zero halogen
- UV resistant and weather proof

### Colour Codes:

- Up to 7 cores: Coloured (Black, Red, Blue, Yellow, White, Green, Yellow/Green)
- More than 7 cores: Numbered

### Benefits:

- Space saving installation due to small cable diameters
- High electrical performance due to 100% HV Testing

### Technical Data:

- **Based on**  
IEC 60502-1

### Make Up:

- Fine strands of electrolytic grade copper wires
- PVC Compound insulation
- Cores twisted in layers
- PVC inner sheath, black
- Tinned copper braid, shielding
- Outer sheathing to use, colour coded, PVC, HR, FR, FRLS, ZHFR, etc.
- **Specific insulation resistance**  
> 20 GOhm x cm
- **Conductor stranding**  
Fine wire in accordance to VDE 0295 Class 5 / IEC 60228 Class 5
- **Minimum bending radius**  
Oscillating flexing: 20 x cable diameter  
Fixed installed: 6 x outer diameter
- **Rated voltage**  
U0/U: 600/1000 V
- **Test voltage**  
5000 V (Spark Test)  
3000 V (Dielectric Strength)
- **FRLS/Flame Properties**  
Oxygen Index as per ASTM D 2863  
Temperature Index as per ASTM D 2863  
Smoke Density Rating as per ASTM D 2843  
HCL Acid Gas Generation as per IEC 754/Pt-1  
Flammability Test as per IEEE-383  
Swedish Chimney Test as per SEN-SS4241475  
Thermal Stability as per IS:10810 Pt. 60
- **ZHFR Properties(on sheath)**  
Corrosivity of gases evolved during combustion pH & conductivity as per IEC-60754-2
- **Protective conductor**  
G = with protective conductor Green/Yellow  
X = without protective conductor
- **Range of temperature**  
Normal Working Temp.: -20°C up to +70°C  
High Working Temp.: -20°C up to +90°C/105°C  
Cold application Temp upto -55°C also available



| Part number                     |                              | Number of cores and mm <sup>2</sup> per conductor |                              | Outer diameter in mm approx. | Copper index kg/km | Weight kg/km approx |
|---------------------------------|------------------------------|---------------------------------------------------|------------------------------|------------------------------|--------------------|---------------------|
| without protective conductor(X) | with protective conductor(G) | without protective conductor(X)                   | with protective conductor(G) |                              |                    |                     |
| <b>RJ 0103</b>                  |                              |                                                   |                              |                              |                    |                     |
| 0103 10202                      |                              | 2 X 0.75                                          |                              | 10.5                         | 46                 | 183                 |
|                                 | 0103 00203                   |                                                   | 3 G 0.75                     | 10.9                         | 56                 | 210                 |
| 0103 10204                      | 0103 00204                   | 4 X 0.75                                          | 4 G 0.75                     | 11.4                         | 67                 | 238                 |
|                                 | 0103 00205                   |                                                   | 5 G 0.75                     | 12.5                         | 78                 | 272                 |
|                                 | 0103 00207                   |                                                   | 7 G 0.75                     | 13.4                         | 97                 | 315                 |
|                                 | 0103 00212                   |                                                   | 12 G 0.75                    | 16.7                         | 168                | 464                 |
|                                 | 0103 00218                   |                                                   | 18 G 0.75                    | 19.0                         | 229                | 616                 |
|                                 | 0103 00225                   |                                                   | 25 G 0.75                    | 22.7                         | 296                | 762                 |
| 0103 10302                      |                              | 2 X 1.0                                           |                              | 10.8                         | 52                 | 198                 |
| 0103 10303                      | 0103 00303                   | 3 X 1.0                                           | 3 G 1.0                      | 11.2                         | 66                 | 228                 |
| 0103 10304                      | 0103 00304                   | 4 X 1.0                                           | 4 G 1.0                      | 12.2                         | 79                 | 261                 |
|                                 | 0103 00305                   |                                                   | 5 G 1.0                      | 13.0                         | 93                 | 300                 |
|                                 | 0103 00307                   |                                                   | 7 G 1.0                      | 13.9                         | 117                | 335                 |
|                                 | 0103 00312                   |                                                   | 12 G 1.0                     | 17.4                         | 204                | 522                 |
|                                 | 0103 00318                   |                                                   | 18 G 1.0                     | 20.0                         | 280                | 687                 |
|                                 | 0103 00325                   |                                                   | 25 G 1.0                     | 23.8                         | 369                | 884                 |
| 0103 10402                      |                              | 2 X 1.5                                           |                              | 11.4                         | 69                 | 243                 |
| 0103 10403                      | 0103 00403                   | 3 X 1.5                                           | 3 G 1.5                      | 12.0                         | 87                 | 273                 |
| 0103 10404                      | 0103 00402                   | 4 X 1.5                                           | 4 G 1.5                      | 13.0                         | 102                | 290                 |
|                                 | 0103 00405                   |                                                   | 5 G 1.5                      | 13.9                         | 125                | 352                 |
|                                 | 0103 00407                   |                                                   | 7 G 1.5                      | 15.0                         | 180                | 448                 |
|                                 | 0103 00412                   |                                                   | 12 G 1.5                     | 18.7                         | 281                | 690                 |
|                                 | 0103 00418                   |                                                   | 18 G 1.5                     | 21.8                         | 391                | 938                 |
|                                 | 0103 00425                   |                                                   | 25 G 1.5                     | 25.9                         | 518                | 1180                |
|                                 | 0103 00503                   |                                                   | 3 G 2.5                      | 13.5                         | 123                | 354                 |
|                                 | 0103 00504                   |                                                   | 4 G 2.5                      | 14.6                         | 168                | 413                 |
|                                 | 0103 00505                   |                                                   | 5 G 2.5                      | 15.7                         | 204                | 515                 |
|                                 | 0103 00507                   |                                                   | 7 G 2.5                      | 17.3                         | 265                | 619                 |
|                                 | 0103 00512                   |                                                   | 12 G 2.5                     | 22.2                         | 421                | 936                 |
|                                 | 0103 00604                   |                                                   | 4 G 4                        | 16.2                         | 238                | 587                 |
|                                 | 0103 00605                   |                                                   | 5 G 4                        | 17.7                         | 302                | 689                 |
|                                 | 0103 00607                   |                                                   | 7 G 4                        | 19.3                         | 396                | 828                 |
|                                 | 0103 00704                   |                                                   | 4 G 6                        | 17.7                         | 318                | 715                 |
|                                 | 0103 00705                   |                                                   | 5 G 6                        | 19.2                         | 419                | 862                 |
|                                 | 0103 00707                   |                                                   | 7 G 6                        | 21.2                         | 559                | 1105                |