

BEST CONTACTS FOR YOUR SUCCESS



**Telegärtner**

KARL GÄRTNER GMBH

---

NETWORKING COMPONENTS

---

COAXIAL CONNECTORS

---

CABLE ASSEMBLIES

---

PRECISION TURNED PARTS

---

PLASTIC INJECTION MOULD PARTS

---

INDUSTRIAL ELECTRONICS

---



Coax

# Coaxial Cables

**in Bulk Rings or on Cable Drums**

# Coaxial Cables

In addition to the wide range of coaxial connectors, Telegärtner offers suitable coaxial cables with a characteristic impedance of either 50 or 75 Ohm. This enables a one-stop shopping process for connectors and cables for our customers. Using the Coax Configurator, customers can also easily create and order their own cable assemblies online. The coaxial cable range at Telegärtner includes standard RG cables, high-quality PTFE cables, Low Loss cables as well as

hand-formable and highly shielded Semi Flex cables. Furthermore, the portfolio encompasses special cables like a suitable cable for drag chains or a railway-approved Low Loss cable. Telegärtner also offers UL approved versions for selected cable types.

Coaxial cables can be ordered ex stock in coiled and tied standard unit rings. Selected types are also available on complete cable drums.

## Simple RG Cables



- well-known standard worldwide
- single or double braid as outer conductor
- jacket made of PVC, PE or other compound material
- available in 50 Ohm and 75 Ohm
- for many various applications

## RG Cable with Jacket Made of PTFE/FEP



- single or double braid as outer conductor
- high-quality jacket made of PTFE or FEP
- resistant to oil, UV radiation and chemicals
- available in 50 Ohm and 75 Ohm
- for applications in harsh environments
- high-temperature resistant

## Low Loss Cables



- foil and single braid as outer conductor in combination with foamed dielectric for lowest signal loss
- jacket made of PVC, PE or other compound material
- for long transmission lines
- available in 50 Ohm and also in 75 Ohm for HDTV

## Semi Flex Cables



- very dense outer conductor braid that has been soaked in tin for high screening effectiveness
- available with or without FEP jacket (outdoor application possible)
- hand-formable, keeps the shape after bending
- available in 50 Ohm
- can be installed in highly electrically radiating environments (for example in devices like mobile communications antennas)
- for frequencies up to 18 GHz

## Portfolio Highlights



### X-bend 58 PUR



- 50  $\Omega$
- used for drag chains
- very flexible and robust
- designed for approx. 2 Mio bending cycles
- resistant to oil and UV radiation, flame retardant, halogen free

### RG-58 Types



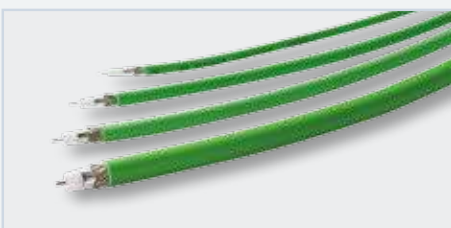
- 50  $\Omega$
- very common coax cable for various applications
- flexible design with inner conductor made of 19 strands
- available with jacket made of PVC, PE or flame retardant compound material

### Low Loss 400 Rail FR LS ZH



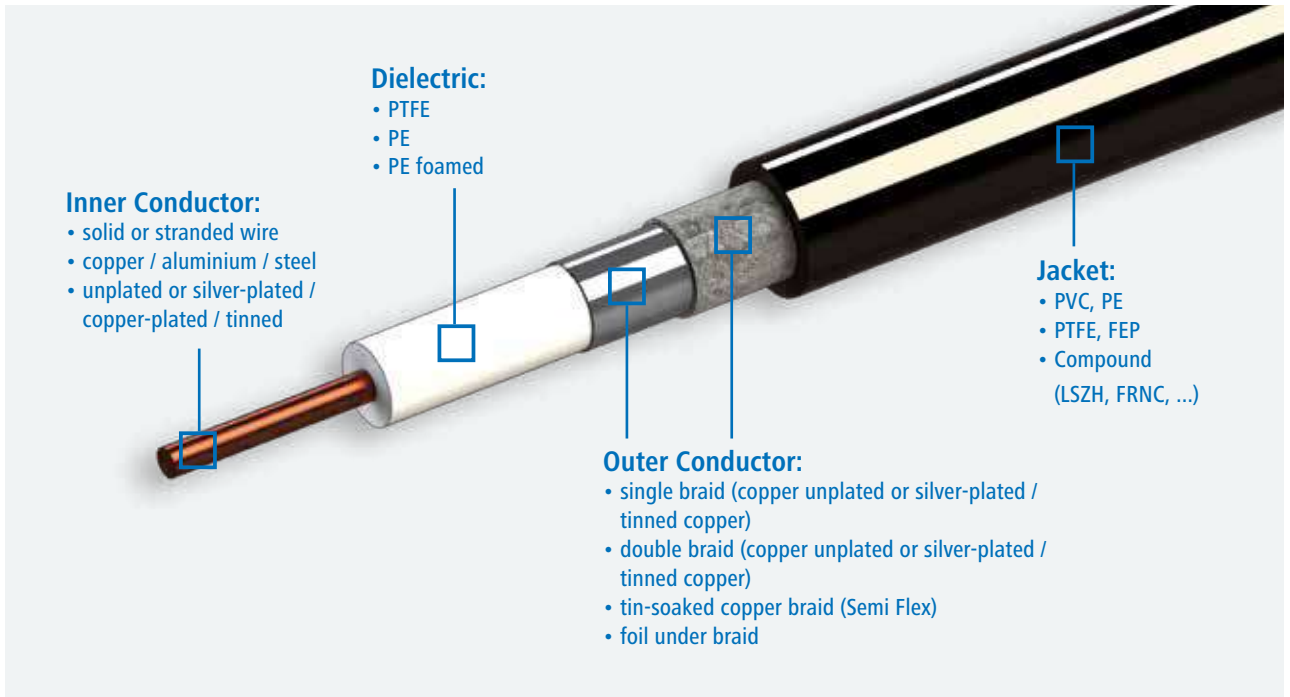
- 50  $\Omega$
- approved for installation and use in trains
- very robust
- highly flame retardant according to EN 45545-2, NFF 16101
- low attenuation
- halogen free

### Low Loss HD



- 75  $\Omega$
- designed for studio equipment and broadcast vans
- HDTV, usable for 4K
- Flame retardant jacket and thus well-suited for indoor installation

# General Design of Coaxial Cables



## Criteria for Selecting Suitable Coaxial Cables

A variety of technical characteristics is shown in the product table of this brochure. Using this table will help you easily and quickly find the right cable for your application. The most important characteristics are briefly described here:

### ■ Impedance 50 Ohm or 75 Ohm

Almost every system works with 50 Ohm technology. For broadcast and video applications, 75 Ohm systems are used.

### ■ Insertion Loss (Attenuation)







Insertion loss describes the total electrical loss along an electrical line (ratio of input to output power). This value is mainly determined by cable diameter, material of the dielectric and the transmission frequency. Low Loss Cables for example are characterized by particularly good, that is, low values of insertion loss. Compared to corresponding RG-Cables of the same size, the signal attenuation is significantly lower, especially when using higher frequencies.

### ■ Screening Effectiveness

Screening effectiveness describes how well a cable prevents electrical energy escaping from or entering into a transmission line. Improving this value is achieved by applying double braids, foil under braid (Low Loss Cables) or tin-soaked braids (Semi Flex Cables) as the outer conductor.

### ■ Temperature Range

Depending on the materials used, cables may be applied in different ambient temperature ranges. Cables with PE or PVC jackets can be used up to approx. 80°C, cables with PTFE or FEP jacket up to approx. 200°C. PTFE or FEP jackets are furthermore resistant to oil, UV radiation or chemicals.

|   | Type                               | Order No.<br>Ring | Length /<br>Ring [m] | Order No.<br>Drum | Length /<br>Drum [m]* | Cable<br>Group | Inner Conductor |          |          | Dielectric |          | Outer Conductor |                      | Cable Jacket |          |                   | Power [W]<br>at 2 GHz | Screening Efficacy<br>[dB] | Velocity of<br>Propagation [%] | Attenuation [dB/100m] at ... GHz |     |     |     |     |     | Typ. Frequ.<br>up to [GHz] | Temp. Range [°C] |      | Min. Bend. Radius [mm] |                  | Remark   |                          |
|---|------------------------------------|-------------------|----------------------|-------------------|-----------------------|----------------|-----------------|----------|----------|------------|----------|-----------------|----------------------|--------------|----------|-------------------|-----------------------|----------------------------|--------------------------------|----------------------------------|-----|-----|-----|-----|-----|----------------------------|------------------|------|------------------------|------------------|--|--------------------------|
|   |                                    |                   |                      |                   |                       |                | Ø [mm]          | Design   | Material | Ø [mm]     | Material | Screen          | Material             | Ø [mm]       | Material | Colour            |                       |                            |                                | 1                                | 2   | 3   | 4   | 5   | 6   |                            | min.             | max. | single                 | multiple         |  |                          |
| <br>single-braided<br>outer conductor              | 50 Ohm RG-178                      | L01000B0001       | 50                   | L01000T0001       | 1000                  | G3             | 0,30            | stranded | CWS      | 0,87       | PTFE     | single          | CuS                  | 1,85         | FEP      | brown-transparent | 35                    | >60                        | 70                             | 163                              | 239 | 299 | 350 | 396 | 438 | 6                          | -55              | +200 | 10                     | 20               | passes UL 94 V-0                                 |                          |
|   | 50 Ohm RG-316                      | L01000C0002       | 50                   | L01000T0002       | 1000                  | G7             | 0,51            | stranded | CWS      | 1,52       | PTFE     | single          | CuS                  | 2,5          | FEP      | brown-transparent | 75                    | >60                        | 70                             | 91                               | 132 | 163 | 190 | 214 | 235 | 6                          | -55              | +200 | 15                     | 30               | passes UL 94 V-0                                 |                          |
|   | 50 Ohm RG-174                      | L01000D0009       | 100                  | L01000T0009       | 500                   | G7             | 0,48            | stranded | CW       | 1,52       | PE       | single          | CuZ                  | 2,8          | PVC      | black             | -                     | -                          | 66                             | 97                               | 142 | 181 | 209 | 236 | 261 | 6                          | -20              | +70  | 30                     | 60               | -  |                          |
|   | 50 Ohm RG-174 UL                   | L01000C0009       | 100                  | -                 | -                     | -              | G7              | 0,48     | stranded | CW         | 1,5      | PE              | single               | CuZ          | 2,65     | PVC               | black                 | -                          | -                              | 66                               | 110 | 171 | 220 | 264 | 303 | 340                        | 6                | -40  | +85                    | 10               | 20   | UL-listed (E81280)       |
|   | 50 Ohm RG-58 PVC                   | L01000C0003       | 100                  | L01000T0003       | 500                   | G1             | 0,9             | stranded | CuZ      | 2,95       | PE       | single          | CuZ                  | 4,95         | PVC      | black             | -                     | -                          | 66                             | 59                               | 87  | 108 | 126 | 143 | 157 | 6                          | -20              | +70  | 25                     | 50               | -  |                          |
|   | 50 Ohm RG-58 PE                    | L01000B0004       | 100                  | -                 | -                     | -              | G1              | 0,9      | stranded | CuZ        | 2,95     | PE              | single               | CuZ          | 4,95     | PE                | black                 | 40                         | >53 (100-900 MHz)              | 66                               | 71  | 102 | 127 | 148 | 166 | 183                        | 6                | -40  | +85                    | 25               | 50   | -                        |
|   | 50 Ohm RG-58 PVC FR LS ZH UL       | L01020B0025       | 100                  | L01020T0025       | 1000                  | G1             | 0,93            | stranded | CuZ      | 2,85       | PE       | single          | CuZ                  | 4,9          | FRNC     | black             | 40                    | -                          | 66                             | 65                               | 97  | 122 | 144 | 163 | 181 | 6                          | -40              | +80  | 15                     | 30               | UL-Style 1375 (80°C / 30V)                       |                          |
|   | 50 Ohm X-bend 58 PUR               | L01021B0020       | 100                  | -                 | -                     | -              | G5              | 0,9      | stranded | Cu         | 2,95     | PP              | single               | Cu           | 5,4      | PUR               | black                 | 20                         | -                              | 66                               | 58  | 85  | 105 | 123 | 139 | 153                        | 2 moved          | -20  | +60                    | -                | 55 moved   | designed for drag chains |
| 50 Ohm RG-213   | L01002B0001                        | 100               | L01002T0001          | 500               | -                     | 2,25           | stranded        | Cu       | 7,25     | PE         | single   | Cu              | 10,3                 | PVC          | black    | 140               | >57 (100-900 MHz)     | 66                         | 25                             | 38                               | 48  | 56  | 64  | 72  | 6   | -55                        | +85              | 50   | 100                    | -                |  |                          |
| 50 Ohm RG-213 LS ZH   | L01002H0002                        | 100               | -                    | -                 | -                     | 2,25           | stranded        | Cu       | 7,25     | PE         | single   | Cu              | 10,3                 | LSZH         | black    | 140               | >57 (100-900 MHz)     | 66                         | 25                             | 38                               | 48  | 56  | 64  | 72  | 6   | -30                        | +70              | 50   | 100                    | -                |  |                          |
| <br>double-braided<br>outer conductor              | 50 Ohm RD-316                      | L01020D0009       | 50                   | L01020T0009       | 1000                  | G8             | 0,51            | stranded | CWS      | 1,52       | PTFE     | double          | CuS                  | 2,9          | FEP      | brown-transparent | 90                    | >70                        | 71                             | 92                               | 135 | 170 | 200 | 227 | 251 | 2,5                        | -55              | +200 | 15                     | 30               | -  |                          |
|   | 50 Ohm RG-142                      | L01000B0007       | 25                   | -                 | -                     | -              | 0,94            | solid    | CWS      | 2,95       | PTFE     | double          | CuS                  | 5,0          | FEP      | brown-transparent | 200                   | -                          | 70                             | 49                               | 73  | 93  | 110 | 126 | 140 | 6                          | -55              | +200 | 30                     | 120              | -  |                          |
|   | 50 Ohm RG-223                      | L01001C0003       | 100                  | L01001T0003       | 500                   | G5             | 0,9             | solid    | CuS      | 2,95       | PE       | double          | CuS                  | 5,4          | PVC      | black             | 35                    | >78 (100-900 MHz)          | 66                             | 49                               | 73  | 91  | 104 | 117 | 130 | 6                          | -30              | +70  | 25                     | 50               | -  |                          |
|   | 50 Ohm RG-223 LS ZH                | L01001E0003       | 100                  | L01001S0003       | 500                   | G5             | 0,9             | solid    | CuS      | 2,95       | PE       | double          | CuS                  | 5,4          | LSZH     | black             | 35                    | >78 (100-900 MHz)          | 66                             | 49                               | 73  | 91  | 107 | 122 | 135 | 6                          | -30              | +70  | 25                     | 50               | -  |                          |
|   | 50 Ohm RG-400                      | L01001B0006       | 25                   | L01001T0006       | 500                   | G5             | 1,0             | stranded | CWS      | 2,95       | PTFE     | double          | CuS                  | 4,95         | FEP      | brown-transparent | -                     | -                          | 70                             | 58                               | -   | 106 | -   | -   | -   | 6                          | -55              | +200 | 120                    | 200              | -  |                          |
|   | 50 Ohm RG-393                      | L01001B0007       | 25                   | -                 | -                     | -              | 2,4             | stranded | CuS      | 7,25       | PTFE     | double          | CuS                  | 9,9          | FEP      | brown-transparent | 800                   | >80                        | 70                             | 23                               | 34  | -   | -   | -   | -   | 6                          | -55              | +200 | 50                     | 100              | passes UL 94 V-0                                 |                          |
|   | 50 Ohm RG-214                      | L01002B0000       | 100                  | L01002T0000       | 500                   | -              | 2,25            | stranded | CuS      | 7,25       | PE       | double          | CuS                  | 10,8         | PVC      | black             | 100                   | >78 (100-900 MHz)          | 66                             | 25                               | 38  | 52  | 62  | 70  | 78  | 6                          | -30              | +70  | 50                     | 100              | -  |                          |
| 50 Ohm RG-214 LS ZH   | L01002C0000                        | 100               | -                    | -                 | -                     | 2,25           | stranded        | CuS      | 7,25     | PE         | double   | CuS             | 10,8                 | LSZH         | black    | 100               | >78 (100-900 MHz)     | 66                         | 25                             | 38                               | 52  | -   | -   | -   | 6   | -30                        | +70              | 50   | 100                    | -                |  |                          |
| <br>foil and braid as<br>outer conductor           | 50 Ohm Low Loss 100 Flex FR ZH     | L01020B0026       | 100                  | -                 | -                     | G7             | 0,48            | stranded | Cu       | 1,5        | PE       | double          | Tape Al-PET-Al + CuZ | 2,8          | FRNC     | black             | 15                    | >90                        | 66                             | 83                               | 120 | 148 | 173 | 194 | 214 | 6                          | -20              | +75  | 15                     | 30               | -  |                          |
|   | 50 Ohm Low Loss 195                | L01020C0023       | 100                  | L01020T0023       | 500                   | G1             | 0,95            | solid    | Cu       | 2,8        | PE foam  | double          | Tape Al-PET-Al + CuZ | 5,0          | PVC      | black             | 100                   | >85 (100-900 MHz)          | 80                             | 40                               | 57  | 70  | 81  | 91  | 100 | 6                          | -30              | +70  | 25                     | 50               | -  |                          |
|   | 50 Ohm Low Loss 195 FR LS ZH UL    | L01020D0023       | 100                  | -                 | -                     | G1             | 0,95            | solid    | Cu       | 2,8        | PE foam  | double          | Tape Al + CuZ        | 5,0          | FRPE     | black             | 100                   | >90                        | 75                             | 40                               | 57  | 70  | 81  | 91  | 100 | 6                          | -40              | +85  | 15                     | 50               | UL/CSA Rated CMR/MPR (PCC-FT4), UL-1666, E170516 |                          |
|   | 50 Ohm Low Loss 240                | L01021B0017       | 100                  | L01021T0017       | 500                   | G30            | 1,4             | solid    | Cu       | 3,8        | PE foam  | double          | Tape Al-PET-Al + CuZ | 6,1          | PVC      | black             | 180                   | >90 (100-900 MHz)          | 84                             | 26                               | 38  | 47  | 55  | 62  | 69  | 6                          | -30              | +70  | 30                     | 60               | -  |                          |
|   | 50 Ohm Low Loss 240 FR LS ZH       | L01021B0018       | 100                  | -                 | -                     | G30            | 1,4             | solid    | Cu       | 3,8        | PE foam  | double          | Tape Al + CuZ        | 6,1          | HFS80T   | black             | 170                   | >90                        | 81                             | 27                               | 38  | 47  | -   | -   | 65  | 6                          | -40              | +85  | 60                     | 120              | passes UL 94 V-0                                 |                          |
|   | 50 Ohm Low Loss 240 Flex           | L01021C0005       | 100                  | L01021T0005       | 1000                  | G30            | 1,4             | stranded | Cu       | 3,9        | PE foam  | double          | Tape Al-PET-Al + CuZ | 5,4          | PE       | black             | 50                    | >85 (30-1000 MHz)          | 80                             | 32                               | 45  | 56  | 64  | 72  | 79  | 6                          | -30              | +70  | 60                     | 120              | -  |                          |
|   | 50 Ohm Low Loss 400 ZH             | L01022B0010       | 100                  | L01022T0010       | 500                   | G37            | 2,74            | solid    | Cu       | 7,24       | PE foam  | double          | Tape Al-PET + CuZ    | 10,3         | LSZH     | black             | 370                   | >90 (100-1000 MHz)         | 85                             | 14                               | 20  | 25  | 29  | 32  | 36  | 6                          | -40              | +85  | 50                     | 100              | -  |                          |
|   | 50 Ohm Low Loss 400 FR LS ZH UL    | L01022D0003       | 100                  | -                 | -                     | G37            | 2,74            | solid    | AlCu     | 7,24       | PE foam  | double          | Tape Al + CuZ        | 10,29        | FRPE     | black             | 370                   | >90                        | 85                             | 14                               | 20  | 25  | 29  | 33  | 36  | 6                          | -40              | +85  | 25                     | 100              | UL/CSA Rated CMR/MPR (PCC-FT4), UL-1666, E170516 |                          |
|   | 50 Ohm Low Loss 400 Flex           | L01022B0017       | 100                  | -                 | -                     | G37            | 2,7             | stranded | Cu       | 7,24       | PE foam  | double          | Tape Al-PET + CuZ    | 10,3         | PUR      | black             | -                     | >90 (100-1000 MHz)         | 80                             | 17                               | 23  | -   | -   | -   | -   | 6                          | -40              | +85  | 50                     | 100              | -  |                          |
| 50 Ohm Low Loss 400 Rail FR LS ZH   | -                                  | -                 | L01022T0023          | 500               | G37                   | 2,74           | solid           | AlCu     | 7,3      | PE foam    | double   | Tape Cu + Cu    | 10,1                 | FR LSZH      | black    | 410               | >85                   | 85                         | 13                             | 20                               | 25  | 28  | 34  | 37  | 11  | -40                        | +85              | 25   | 50                     | railway-approved |  |                          |
| <br>tin-soaked single braided<br>outer conductor | 50 Ohm Semi Flex .85               | L01030D0001       | 25                   | L01030T0001       | 1000                  | G11            | 0,54            | solid    | CWS      | 1,68       | PTFE     | single          | CuZ                  | -            | -        | -                 | 80                    | >110 (1000-9000 MHz)       | 70                             | 73                               | 108 | 135 | 159 | 180 | 200 | 18                         | -65              | +180 | 6                      | 25               | -  |                          |
|   | 50 Ohm Semi Flex .85 (FEP Jacket)  | L01030B0023       | 25                   | L01030T0023       | 1000                  | G11            | 0,54            | solid    | CWS      | 1,68       | PTFE     | single          | CuZ                  | 2,5          | FEP      | blue-transparent  | 80                    | >110 (1000-9000 MHz)       | 70                             | 73                               | 108 | 135 | 159 | 180 | 200 | 18                         | -65              | +180 | 6                      | 25               | -  |                          |
|   | 50 Ohm Semi Flex .141              | L01030E0000       | 25                   | L01030T0000       | 500                   | G10            | 0,94            | solid    | CuS      | 2,95       | PTFE     | single          | CuZ                  | -            | -        | -                 | 290                   | >110                       | 70                             | 42                               | 62  | 78  | 92  | 105 | 116 | 18                         | -65              | +180 | 10                     | 40               | -  |                          |
|   | 50 Ohm Semi Flex .141 (FEP Jacket) | L01030B0021       | 25                   | L01030T0021       | 500                   | G10            | 0,94            | solid    | CuS      | 2,95       | PTFE     | single          | CuZ                  | 4,1          | FEP      | blue-transparent  | 290                   | >110                       | 70                             | 42                               | 62  | 78  | 92  | 105 | 116 | 18                         | -65              | +180 | 10                     | 40               | -  |                          |
|   | 50 Ohm Semi Flex .250              | L01031B0000       | 25                   | -                 | -                     | G9             | 1,67            | solid    | CuS      | 5,31       | PTFE     | single          | CuZ                  | -            | -        | -                 | 730                   | >110                       | 70                             | 25                               | 38  | 49  | 58  | 66  | 74  | 18                         | -65              | +180 | 40                     | 120              | -  |                          |
| <br>single-braided outer conductor               | 75 Ohm RG-179                      | L01000C0000       | 50                   | L01000T0000       | 1000                  | G4             | 0,3             | stranded | CWS      | 1,6        | PTFE     | single          | CuS                  | 2,55         | FEP      | brown-transparent | 65                    | >60                        | 70                             | 92                               | 131 | 161 | 187 | 209 | 230 | 6                          | -55              | +200 | 15                     | 30               | passes UL 94 V-0                                 |                          |
|   | 75 Ohm RG-59                       | L01001B0001       | 100                  | L01001T0001       | 500                   | G2             | 0,6             | solid    | CW       | 3,7        | PE       | single          | Cu                   | 6,15         | PVC      | black             | -                     | -                          | 66                             | 43                               | 63  | 78  | 91  | 103 | 113 | 6                          | -40              | +80  | 30                     | 90               | -  |                          |
|   | 75 Ohm RG-59 ZH                    | L01001B0011       | 100                  | -                 | -                     | G2             | 0,58            | solid    | CW       | 3,7        | PE       | single          | Cu                   | 6,1          | HM4      | black             | -                     | -                          | 66                             | 39                               | -   | -   | -   | -   | -   | 6                          | -20              | +70  | 30                     | 90               | -  |                          |
| <br>foil and braid as<br>outer conductor         | 75 Ohm Low Loss HD 0.6/2.8 FR NC   | L01020B0038       | 100                  | L01020T0038       | 1000                  | G41            | 0,6             | solid    | Cu       | 2,8        | PE foam  | double          | Tape Al-PET-Al + CuZ | 4,5          | FRNC     | green             | -                     | >100                       | 78                             | 36                               | 52  | 64  | 74  | 83  | 91  | 6                          | -20              | +60  | 25                     | 50               | -  |                          |
|   | 75 Ohm Low Loss HD 0.8/3.7 FR NC   | L01021B0023       | 100                  | L01021T0023       | 1000                  | G39            | 0,8             | solid    | Cu       | 3,7        | PE foam  | double          | Tape Al-PET-Al + CuZ | 5,9          | FRNC     | green             | -                     | >100                       | 78                             | 28                               | 40  | 50  | 59  | 66  | 73  | 6                          | -20              | +60  | 40                     | 80               | -  |                          |
|   | 75 Ohm Low Loss HD 1.0/4.8 FR NC   | L01021B0024       | 100                  | -                 | -                     | G27            | 1,0             | solid    | Cu       | 4,8        | PE foam  | double          | Tape Al-PET-Al + CuZ | 7,0          | FRNC     | green             | -                     | >100                       | 78                             | 23                               | 34  | 43  | 50  | 57  | 63  | 6                          | -20              | +60  | 45                     | 90               | -  |                          |
|   | 75 Ohm Low Loss HD 1.6/7.3 FR NC   | L01022B0014       | 100                  | -                 | -                     | G48            | 1,6             | solid    | Cu       | 7,3        | PE foam  | double          | Tape Al-PET-Al + CuZ | 10,3         | FRNC     | green             | -                     | >100                       | 78                             | 16                               | 25  | 32  | 38  | 43  | 48  | 6                          | -20              | +60  | 60                     | 120              | -  |                          |

Key:

Cu = Copper      Al = Aluminium      CW = copper-plated steel wire  
\* manufacturing tolerance approx. 10%, possibly few cable pieces on one drumZ = tinned  
FEP = Fluorethylenepolymer

## More Customised: assembling RF cables online

Do you want to assemble RF cables with coaxial connectors individually and add strain relief, labelling and cable length according to your requirements? Then the COAX configurator developed by Telegärtner is just what you need:

- ... **simple**, and is available to you around the clock
- ... **fast**, and allows you to configure your customised assembly with just a few clicks, thanks to a logical and easy-to-understand user-guidance
- ... **user-orientated**, and offers you exactly the information you require in order to configure your individual cable assembly

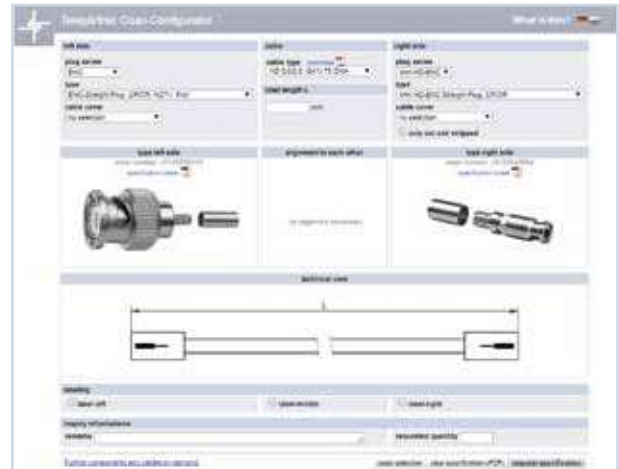
You can find all the COAX products in the overview in our

**COAX  
ONLINE CATALOGUE**

[www.telegaertner.com](http://www.telegaertner.com)



## User-friendly input mask ...



## ... and creation of a clear specification (PDF)



⇒ for individually assembled RF cables



**Telegärtner**  
**Karl Gärtner GmbH**

Lerchenstr. 35  
D-71144 Steinenbronn

Telefon: +49 (0) 71 57/1 25-0  
Telefax: +49 (0) 71 57/1 25-5120

E-Mail: [info@telegaertner.com](mailto:info@telegaertner.com)  
Web: [www.telegaertner.com](http://www.telegaertner.com)

Your stockist: