

**RG178, 50 Ohm, 3 GHz, 200°C, ø1.8 mm, FEP jacket**

RG\_178\_B/U

**Properties**

- Mil standard RG cable
- Excellent RF performance for precision applications
- Suitable for use in applications up to 3 GHz
- Extended temperature range



| <b>Construction</b> |                                      |               |                   |
|---------------------|--------------------------------------|---------------|-------------------|
| Component           | Material                             | Detail        | Diameter          |
| Centre conductor    | Steel, Copper + Silver plated        | Strand-07     | 0.31 mm           |
| Dielectric          | PTFE (Polytetrafluoroethylene)       |               | 0.83 mm           |
| Outer conductor     | Copper, Silver plated                | Braid, 95%    | 1.33 mm           |
| Jacket              | FEP (Fluorinated ethylene propylene) | RAL 8015 - br | 1.8 mm +/- 0.1 mm |

| <b>Electrical data</b>           |  |
|----------------------------------|--|
| Impedance                        | 50 Ω +/-2Ω                             |
| Operating frequency              | ≤ 3 GHz                                |
| Capacitance                      | 97 pF/m                                |
| Velocity of signal propagation   | 69 %                                   |
| Signal delay                     | 4.84 ns/m                              |
| Screening effectiveness          | 40 dB at frequency 0.0001 GHz ... 1GHz |
| Insulation resistance            | 100000000 MΩ*m                         |
| Inner conductor resistance       | 742 Ω/km                               |
| Operating Voltage (at sea level) | ≤ 0.5 kVrms                            |
| Test voltage (50 Hz/1 min)       | ≤ 1 kVrms                              |

| <b>Mechanical data</b>  |                 |
|-------------------------|-----------------|
| Weight                  | approx. 8.4 g/m |
| Static bending radius   | ≥ 10 mm         |
| Repeated bending radius | 18 mm           |
| Dynamic bending radius  | < 27 mm         |

## RG178, 50 Ohm, 3 GHz, 200°C, Ø1.8 mm, FEP jacket

RG\_178\_B/U

| Environmental data         |                   |
|----------------------------|-------------------|
| Operation temperature      | -65 °C ... 200 °C |
| Installation temperature   | -20 °C ... 60 °C  |
| Flame propagation standard | IEC 60332-3       |
| Fire characteristics       | contains halogene |

| Additional Information                       |
|--|
| MIL reference: M17/93-RG178 and M17/93-00001 |

| Suitable connectors |    |
|---------------------|----|
| Cable group         | U1 |

| Ordering information |                  |                            |
|----------------------|------------------|----------------------------|
| Item number          | Item description | Available as assembly only |
| 22510043             | RG_178_B/U       | No                         |

| Power Matrix  |                                    |                                    |                                    |
|---|------------------------------------|------------------------------------|------------------------------------|
| Calculation: typical Attenuation [ formula: (a*f^0.5 + b*f) ] and maximum Power CW [ formula: (p/f^0.5) ] |                                    |                                    |                                    |
| a coefficient typical =   | <b>1.414</b>                       | b coefficient typical =            | <b>0.173</b>                       |
| fmax =  | <b>3</b>                           | P at 1 GHz =                       | <b>52</b>                          |
| <b>Frequency</b>  | <b>Nom. attenuation</b>            | <b>Nom. attenuation</b>            | <b>CW power</b>                    |
| <b>GHz</b>  | <b>(dB/m)</b>                      | <b>(dB/ft)</b>                     | <b>(W)</b>                         |
|   | sea level 25°C ambient temperature | sea level 25°C ambient temperature | sea level 40°C ambient temperature |
| 0.20  | 0.667                              | 0.203                              | 116                                |
| 0.40  | 0.963                              | 0.294                              | 82                                 |
| 0.60  | 1.199                              | 0.365                              | 67                                 |
| 0.80  | 1.403                              | 0.428                              | 58                                 |
| 1.00  | 1.587                              | 0.484                              | 52                                 |
| 1.20  | 1.757                              | 0.535                              | 47                                 |
| 1.40  | 1.915                              | 0.584                              | 44                                 |
| 1.60  | 2.065                              | 0.630                              | 41                                 |
| 1.80  | 2.208                              | 0.673                              | 39                                 |
| 2.00  | 2.346                              | 0.715                              | 37                                 |
| 3.00  | 2.968                              | 0.905                              | 30                                 |

HUBER+SUHNER is certified by ISO 9001, ISO 14001, ISO 45001, IATF 16949, AS/EN 9100 and ISO/TS 22163-IRIS. Waiver: Facts and figures herein are for information only and do not represent any warranty of any kind.  
DOCUMENT PIM-P974 / Date of publication: 08.08.2024 / uncontrolled copy