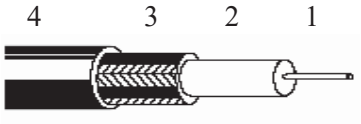
Product Datasheet
# MRG5800
# 50 Ohm Transmission

Rev. 2/ 2005-11-30 2/2

## Application

Transmission cable is used for low and high power radio frequency (RF) connections. Examples include radio antenna tower connections, CB and cellular phone antenna connections and microwave transmitter and receiver applications.

## Construction & Dimensions




1. **Conductor**
2. **Dielectric**
3. **Braid**
4. **Jacket**

1. **Inner Conductor** Innenleiter - Conduttore Interno – Conducteur – Conductor - Проводник

| | |
|---|---|
| Material | stranded (19x0.18) tinned copper |
| Diameter | 0.91 mm |

2. **Dielectric** Dielektrikum – Dielettrico – Diélectrique – Dieléctrico - Диэлектрик

| | |
|---|---|
| Material | PE |
| Diameter over insulation | 2.95 mm |

3. **Outer Conductor** Aussenleiter - Conduttore Esterno - Conducteur extérieur - Conductor externo - Внешний проводник

| | |
|---|---|
| Material | braid |
| Diameter screen | 3.5 mm |
| Shielding braid | tinned copper braid |
| Coverage | 93% ± 5% |

4. **Jacket** Aussenmantel – Guaina – Gaine – Revestimiento - Оболочка

| | |
|---|---|
| Material | PVC |
| Diameter: | 4.95 ± 0.2 mm |
| Color and text: | see table Marking |

## Requirements and test methods

### Electrical characteristics

Mean characteristic impedance: 50 ± 3 Ω

Wellenwiderstand - Impedenza Caratteristica Principale - Impédance nominale - Características eléctricas - Электрические характеристики

Nominal capacitance conductor to shield: 100 pF/m

Kapazitaet - Capacità Nominale Conduttore/Schermo - Capacité nominale entre conducteur et blindage - Capacitancia nominal de conductor a blindaje - Номинальная емкость “проводник-экран”

Nominal velocity of propagation: 66%

Ausbreitungsgeschwindigkeit - Velocità Nominale di Propagazione - Vitesse de propagation nominale - Velocidad nominal de propagación - Номинальная скорость распространения сигнала

Max. DC loop resistance: 52.0 Ω/km

Schleifenwiderstand – Resistenza continua di Loop – Resistenza (DC) di Loop - Resistencia de bucle CC - Сопротиление петли пост. Тока

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Max. inner conductor DC resistance @ 20 ˚C: 36.0 Ω/km
Gleichstromwiderstand Innenleiter - Resistenza Nominale DC del Conduttore Interno - Résistance du conducteur intérieur - Resistencia CC nominal del conductor interno - Номин. сопротивление пост. тока внутреннего проводника при

Max. outer conductor DC resistance @ 20 ˚C: 16.0 Ω/km
Gleichstromwiderstand Aussenleiter - Resistenza Nominale DC del Conduttore Esterno - Résistance du conducteur extérieur - Resistencia CC nominal del conductor externo - Номин. сопротивление пост. тока внутреннего проводника при

| | | |
|---|---|---|
| Return loss at | 5- 470 MHz: | ≥ 20 dB* |
| | 470-1000 MHz: | ≥ 18 dB* |
| | 1000-2000 MHz: | ≥ 16 dB* |
| | 2000-3000 MHz: | ≥ 15 dB* |

Rueckflussdaempfung - Perdite Cumulative di Riflessione - Taux de réflexion du signal - Pérdida de retorno - Обратные потери на

Screening attenuation at 30-1000 MHz: ≥ 65 dB
Schirmungsmass – Attenuazione dello Schermo- L'affaiblissement lié au blindage - Eficacia de blindaje - Эффективность экранирования

Nominal Attenuation: Wellendaempfung - Attenuazione Nominale – Affaiblissement - Atenuación nominal - Номинальное затухание

| MHz | dB/100m | MHz | dB/100m |
|---|---|---|---|
| 5 | 3.3 | 862 | 45.8 |
| 50 | 10.6 | 1000 | 49.6 |
| 100 | 15.1 | 1350 | 58.2 |
| 230 | 23.1 | 1750 | 66.8 |
| 400 | 30.7 | 2150 | 74.6 |
| 800 | 44.1 | 2400 | 79.2 |

RoHS COMPLIANT ENVIRONMENTALLY FRIENDLY

## Mechanical and physical characteristics

| | |
|---|---|
| Temperature range - storage/operation | -15°C to +70°C |
| Temperature range - installation | -5 °C to + 70˚C |
| Minimum bending radius | 10x Ø cable |

Biegeradius - Raggio Minimo di Curvatura - Rayon de courbure minimum - Radio de curvatura mínimo - Минимальный радиус изгиба

Nominal cable weight 35 kg/km
Gewicht - Peso Nominale del Cavo – Poids - Peso nominal del cable - Номинальный вес кабеля

## MARKING

| Jacket colour | Text |
|---|---|
| Black, White | BELDEN-NL MRG5800 0.91/2.95 PVC 44 |

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