**BCLS-21GR-3**

**CAT6 U/UTP LSZH Cable**

Kramer’s BCLS-21GR is a high performance CAT6 U/UTP cable designed for IT, LAN and Ethernet installations. Constructed with 23AWG solid bare copper conductors with a cross filler in a LSZH jacket with internal rip cord and sequential markings every meter and packed in a Reelex II carton for easy to pull-out make this cable exceed CAT6 specifications to provide additional performance and bandwidth over the basic standard.

**Product Description**

CAT6 U/UTP, 23AWG solid bare copper, LSZH. With cross filler.

**Product Features**

- High performance of transmission.
- High quality of safety properties.
- Sweep frequency up to 600 MHz.
- Reelex II carton and easy to pull out.

**Applications**

- Structure cabling for horizontal and building backbone cable.
- Designed for IT, LAN and Ethernet installations.
- IEEE 802.3ab 1000BASE-T, 1000BASE-TX and legacy speeds.
- CDDI / ATM / Token Ring
- IEEE 802.3af (PoE) / IEEE 802.3at (PoE+)

**Applicable Standard**

**Performance Standards:**

- ISO/IEC 11801 (Edition 2.2) Information technology - Generic cabling for customer premises
- IEC 61156-5 (Edition 2.0) Multicore and symmetrical pair/quad cables for digital communications - Part 5: Symmetrical pair/quad cables with transmission characterized up to 1000 MHz - Horizontal floor wiring - Sectional specification
- EN 50288-6-1:2013 Multi-element metallic cables used in analogue and digital communication and control - Part 6-1: Sectional specification for unscreened cables characterized up to 250 MHz - Horizontal and building backbone cables
- EN 50173-1:2011 Information technology - Generic cabling systems - Part 1: General requirements

**Standards for flammability, acidity and smoke:**

- IEC 60332-1-2 Tests on electric and optical fibre cables under fire conditions - Part 1-2: Test for vertical flame propagation for a single insulated wire or cable - Procedure for 1 kW pre-mixed flame
- IEC 61034-1 / 61034-2 Measurement of smoke density of cables burning under defined conditions
- IEC 60754-2 Test on gases evolved during combustion of materials from cables

**EU Directive**

- EU Directive 2011/65/EC (RoHS 2)
- EU Directive 2006/95/EC (LVD)

**CE compliance date:** 2010.01.01
### MATERIAL AND CONSTRUCTION

<table>
<thead>
<tr>
<th>Conductor</th>
<th>Material</th>
<th>23AWG solid bare copper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulation</td>
<td>Color code &amp; diameter</td>
<td>Blue &amp; white/blue Stripe 0.97 ± 0.02 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Orange &amp; white/orange stripe 0.93 ± 0.02 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Green &amp; white/green stripe 0.98 ± 0.02 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Brown &amp; white/brown stripe 0.93 ± 0.02 mm</td>
</tr>
<tr>
<td>Twisted</td>
<td>Description</td>
<td>Left hand direction</td>
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<tr>
<td>Filler</td>
<td>Material</td>
<td>Polyolefin (PO)</td>
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<tr>
<td>Assembly</td>
<td>Description</td>
<td>Left hand direction</td>
</tr>
<tr>
<td>Rip cord</td>
<td>Material</td>
<td>Polyester multi-yarn</td>
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<td>Jacket</td>
<td>Material</td>
<td>Low smoke zero halogen (LSZH)</td>
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<tr>
<td></td>
<td>Diameter</td>
<td>6.0 ± 0.2 mm</td>
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<tr>
<td></td>
<td>Thickness</td>
<td>0.50 ± 0.05 mm</td>
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<tr>
<td></td>
<td>Color</td>
<td>Green (Pantone 363C)</td>
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</table>

### USAGE & ENVIRONMENTAL CONDITION

- **Temperature range**: Storage & shipping -20°C to 60°C, Installation 0°C to 60°C, Operation -20°C to 60°C
- **Minimum bending radius**: ≥ 4 times of overall diameter
- **Maximum pulling tension**: ≤ 110 N

### PHYSICAL & ELECTRICAL CHARACTERISTICS (AT 20°C)

- **Temperature & voltage rating**: 60°C / 300V
- **Spark test**: 2.5 KV DC
- **AC leakage current through overall jacket**: ≤ 10mA (1.5KV AC)
- **Cable cold bend**: -20°C for 4 hr
- **Conductor DC resistance**: ≤ 9.38 Ω/100m
- **Resistence unbalance**: ≤ 5%
- **Dielectric strength**: 1.5 KV ac for 2 s
- **Insulation resistance**: ≥ 5000 MOhs
- **Mutual capacitance**: ≤ 5.6 nF/100m
- **Capacitance unbalance pair-to-ground**: ≤ 330 pF/100m
- **Characteristic Impedance**: Ω1~100MHz: 100±15 Ohm
- **Coupling Attenuation**: AT 30 MHz ≤ 55dB, AT 250 MHz ≤ 47 dB
- **Insulation Tensile Strength**: 2400 PSI MIN. (1.69 Kg/m²)
- **NVP**: 89%

### TRANSMISSION PERFORMANCE (AT 20°C)

<table>
<thead>
<tr>
<th>Freq. MHz</th>
<th>IL</th>
<th>NEXT</th>
<th>PS NEXT</th>
<th>ACR</th>
<th>PS ACR</th>
<th>ACR-F</th>
<th>PS ACR-F</th>
<th>RL</th>
<th>Propagation Delay</th>
<th>Delay Skew</th>
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<tbody>
<tr>
<td>1</td>
<td>2.02</td>
<td>80</td>
<td>58.70</td>
<td>4.20</td>
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<td>3.78</td>
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*Values above 250 MHz are for information only

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**Test Report (Length 305m)**

**RL vs. Frequency**
Max. Graph Point: -30.12 at 591.73 MHz
Min. Graph Point: -65.48 at 56.89 MHz

**IL vs. Frequency**
Max. Graph Point: -1.72 at 1.00 MHz
Min. Graph Point: -48.98 at 600.00 MHz

**NEXT vs. Frequency**
Max. Graph Point: -45.04 at 591.73 MHz
Min. Graph Point: -113.32 at 1.07 MHz

**PS NEXT vs. Frequency**
Max. Graph Point: -42.69 at 591.73 MHz
Min. Graph Point: -95.26 at 1.15 MHz

**Shipping Information:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Dimension</th>
<th>Nominal net weight</th>
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<tbody>
<tr>
<td>Cable</td>
<td>305 m</td>
<td>11.92 kg (26.27 lb)</td>
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<tr>
<td>Reelex II Carton</td>
<td>L395 x W270 x H380 mm</td>
<td>1200 g</td>
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<tr>
<td>Pallet</td>
<td>1150 x 1150 x 120 mm</td>
<td>14.1 kg</td>
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</tbody>
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