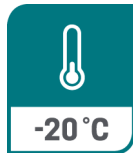
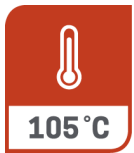




# RCI Controlled Impedance Cables

## LSZH, 300V, 110°C Ethernet and CANBus

- 100-ohm Cat5e, Cat6, Cat6A Ethernet
- 120-ohm CANBus
- Polyolefin Primaries and EXTRAD® 110REZ Jacket
- Wide Temperature Range, -40°C to 110°C
- Conformance to Applicable North American and International Rail Transit Standards
- Excellent Fluid / Oil Resistance
- Halogen Free, Flame Retardant
- Shielded and Unshielded Options

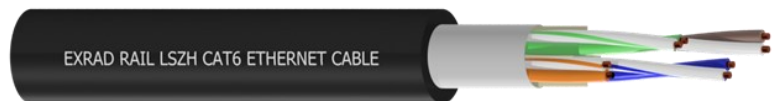
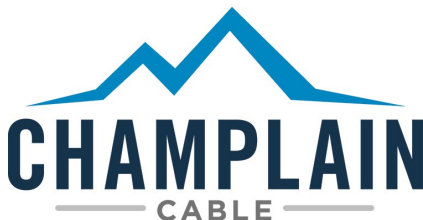


### CABLE CONSTRUCTION:

- Conductor:** Solid BC  
**Insulation:** Polyolefin  
**Fillers:** Center cross-web  
**Cable:** Twisted Pairs. Lay length per governing spec  
**Binder:** Polyester tape helically wrapped with overlap  
**Barrier:** Flame barrier tape helically wrapped with overlap  
**Shield:** Foil shield and/or braid shield (as required)  
**Jacket:** EXTRAD® 110REZ  
**Print:** As required. Includes part number, Date of mfr., Traceability, Length marking

Shielding References	Shielding Type
UTP	Unshielded Twisted Pair
FUTP	Foil over UTP Core
SUTP	Foil + Braid over UTP Core

Custom designs available. Specialty data, Custom shielding, Additional components. Consult factory for details.





# RCI Controlled Impedance Cables

## CONFORMANCE TO PERFORMANCE STANDARDS:

**NFPA 130 - Standard for Fixed Guideway Transit and Passenger Rail Systems - 2017**

Section 8.6.7.1.1.1

FT4/IEEE1202 - Flame Testing of Cables for use in Cable Tray - 2012

ANSI/UL 1685 - for total smoke released and peak smoke release rate

**UL CMG-ST1 (Cat5e, 6, 6A)**

**AAR RP-585 - Wiring and Cable Specification - Applicable Sections**

**49 CFR Part 238 - Passenger Equipment Safety Standards: Smoke Generation**

**ASTM E662-06 - Optical Density of Smoke Generated by Solid Materials**

**MIL-DTL-24643 - Halogen Content per paragraph 4.8.23**

**Smoke Index per paragraph 4.8.24**

Product Number	Pair Count	Conductor Size (BC)		Strand	Insulated Primary Diameter		Final Cable Diameter		Finished Cable Weight	
		AWG	mm <sup>2</sup>		In	mm	In	mm	lb/KFT	Kg/KM
<b>Cat 5e (100 Ω)</b>										
EXRAD-RCI-C5E-UTP	4	24	0.20	Solid	0.035	0.89	0.255	6.58	34	51
EXRAD-RCI-C5E-FUTP	4	24	0.20	Solid	0.045	1.14	0.296	7.64	39	58
EXRAD-RCI-C5E-SUTP	4	24	0.20	Solid	0.045	1.14	0.308	7.95	49	73
<b>Cat 6 (100 Ω)</b>										
EXRAD-RCI-C6-UTP	4	23	0.26	Solid	0.040	1.02	0.265	6.84	36	54
EXRAD-RCI-C6-FUTP	4	23	0.26	Solid	0.049	1.24	0.305	7.87	42	63
EXRAD-RCI-C6-SUTP	4	23	0.26	Solid	0.049	1.24	0.320	8.26	55	82
<b>Cat 6A (100 Ω)</b>										
EXRAD-RCI-C6A-UTP	4	23	0.26	Solid	0.040	1.02	0.265	6.84	36	54
EXRAD-RCI-C6A-FUTP	4	23	0.26	Solid	0.049	1.24	0.305	7.87	42	63
EXRAD-RCI-C6A-SUTP	4	23	0.26	Solid	0.049	1.24	0.320	8.26	55	82
<b>Can-Bus (120 Ω)</b>										
EXRAD-RCI-CAN-SUTP	1	22	0.35	7/30	0.082	2.08	0.247	6.38	74	110

Weight and dimensions nominal and subject to variation within industry best-practice.

We cannot anticipate all conditions under which this information and our products or the products of other manufacturers in combination with our products may be used. We accept no responsibility for results obtained by the application of this information or the safety and suitability of our products alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each such product combination for their own purpose. Unless otherwise agreed in writing, we sell the products without warranty, and buyers and users assume all responsibility and liability for loss and damage arising from the handling and use of our products whether used alone or in combination with other products



# Ethernet Electrical Properties

Cat 5e ELECTRICAL PROPERTIES					
DC Resistance (Ohms/100m)	9.38 max				
DC Resistance Unbalance	5% max				
Input Impedance (1 MHz - 500MHz)	100 Ohms ±15%				
<b>Frequency</b>	<b>1.0</b>	<b>10.0</b>	<b>31.25</b>	<b>62.5</b>	<b>100.0</b>
Return Loss dB/100m (min)	20.0	25.0	23.6	21.5	20.1
Insertion Loss dB/100m (max)	2.0	6.5	11.7	17.0	22.0
NEXT dB/100m (min)	65.3	50.3	42.9	38.4	35.3
EL FEXT dB/100m (min)	63.8	43.8	33.9	27.9	23.8
PS NEXT dB/100m (min)	62.3	47.3	39.9	35.4	32.3
PS ELFEXT dB/100m (min)	60.8	40.8	30.9	24.9	20.8
Propagation Delay ns/100m (max)	570	545	540	539	538
Delay Skew ns/100m (max)	45	45	45	45	45

Cat 6 ELECTRICAL PROPERTIES						
DC Resistance (Ohms/100m)	9.38 max					
DC Resistance Unbalance	4% max					
Input Impedance (1 MHz - 500MHz)	100 Ohms ±15%					
<b>Frequency</b>	<b>1.0</b>	<b>10.0</b>	<b>31.25</b>	<b>62.5</b>	<b>100.0</b>	<b>250.0</b>
Return Loss dB/100m (min)	20.0	25.0	23.6	21.5	20.1	17.3
Insertion Loss dB/100m (max)	2.0	6.0	10.7	15.4	19.8	32.8
NEXT dB/100m (min)	74.3	59.3	51.9	47.4	44.3	38.3
PS NEXT dB/100m (min)	72.3	57.3	49.9	45.4	42.3	36.3
ACRF [ELFEXT] dB/100m (min)	67.8	47.8	37.9	31.9	27.8	19.8
PSACRF [PS ELFEXT] dB/100m (min)	64.8	44.8	34.9	28.9	24.8	16.8
Propagation Delay ns/100m (max)	570	545	540	539	538	536
Delay Skew ns/100m (max)	45	45	45	45	45	45

Cat 6A ELECTRICAL PROPERTIES						
DC Resistance (Ohms/100m)	9.38 max					
DC Resistance Unbalance	4% max					
Input Impedance (1 MHz - 500MHz)	100 Ohms ±15%					
<b>Frequency</b>	<b>1.0</b>	<b>10.0</b>	<b>31.25</b>	<b>62.5</b>	<b>100.0</b>	<b>500.0</b>
Return Loss dB/100m (min)	20.0	25.0	23.6	21.5	20.1	15.2
Insertion Loss dB/100m (max)	2.1	5.9	10.5	15.0	19.1	45.3
NEXT dB/100m (min)	74.3	59.3	51.9	47.4	44.3	33.8
PS NEXT dB/100m (min)	72.3	57.3	49.9	45.4	42.3	31.8
ACRF [ELFEXT] dB/100m (min)	67.8	47.8	37.9	31.9	27.8	13.8
PSACRF [PS ELFEXT] dB/100m (min)	64.8	44.8	34.9	28.9	24.8	10.8
TCL dB (min)	40.0	40.0	35.1	32.0	30.0	23
Propagation Delay ns/100m (max)	570	545	540	539	538	536
Delay Skew ns/100m (max)	45	45	45	45	45	45