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**TRC-8546**

## SPECIFICATIONS

# TRC-8546

## LIN Transceiver Cable

The following specifications are typical for the range -40 °C to 70 °C unless otherwise noted.

## LIN Characteristics

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Transceiver	NXP TJA1028
Max certified baud rate	20 kbps
LIN bus lines voltage	-40 VDC to +40 VDC
Supply voltage range ( $V_{SUP}$ )	+8 VDC to +18 VDC normal operating; -0.3 VDC to +40 VDC absolute limits
MTBF	Contact NI for Bellcore MTBF specifications at other temperatures or MIL-HDBK-217F specifications.

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## Power Requirements

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Thermal dissipation (at 70 °C)	650 mW max (active mode); 330 mW typical (active mode)
Power consumption from NI-XNET Transceiver Cable host	330 mW max (active mode); 150 mW typical (active mode)
Power consumption from $V_{SUP}$	320 mW max; 180 mW typical

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## Physical Characteristics

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To clean the TRC-8546, wipe it with a dry towel.

Weight	70 g (2.5 oz)
Length	447 mm to 462 mm (17.6 in. to 18.2 in.)
D-Sub connector jackscrew maximum torque	0.56 N · m (5.0 lb · in.)

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# Safety

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## Maximum Voltage<sup>1</sup>

Connect only the voltages that are within these limits.

Port-to-COM	-40 VDC to +40 VDC max, Measurement Category I
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Measurement Category I is for measurement performed on circuits not directly connected to the electrical distribution system referred to as MAINS voltage. MAINS is a hazardous live electrical supply system that powers equipment. This category is for measurements of voltages from specially protected secondary circuits. Such voltage measurements include signal levels, special equipment, limited-energy parts of equipment, circuits powered by regulated low-voltage sources, and electronics.



**Caution** Do not connect to signals or use for measurements within Measurement Categories II, III, or IV.



**Note** Measurement Categories CAT I and CAT O (Other) are equivalent. These test and measurement circuits are not intended for direct connection to the MAINS building installations of Measurement Categories CAT II, CAT III, and CAT IV.

## Isolation Voltage

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Port-to-earth ground

Continuous	60 VDC, Measurement Category I
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**Note** The TRC-8546 COM signals are not connected to the host port ground.

# Safety and Hazardous Locations Standards

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This product is designed to meet the requirements of the following electrical equipment safety standards for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 61010-1, CSA 61010-1
- EN 60079-0:2012, EN 60079-15:2010
- IEC 60079-0: Ed 6, IEC 60079-15; Ed 4

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<sup>1</sup> The maximum voltage that can be applied or output without creating a safety hazard.

- UL 60079-0; Ed 6, UL 60079-15; Ed 4
- CSA 60079-0:2011, CSA 60079-15:2012



**Note** For UL and other safety certifications, refer to the product label or the [Online Product Certification](#) section.

## Hazardous Locations

U.S. (UL)	Class I, Division 2, Groups A, B, C, D, T4; Class I, Zone 2, AEx nA IIC T4
Canada (C-UL)	Class I, Division 2, Groups A, B, C, D, T4; Class I, Zone 2, Ex nA IIC T4
Europe (DEMKO)	Ex nA IIC T4 Gc

## Environmental

Refer to the manual for the host you are using for more information about meeting these specifications.

Operating temperature <sup>2</sup> (IEC 60068-2-1, IEC 60068-2-2)	-40 °C to 70 °C
Storage temperature <sup>2</sup> (IEC 60068-2-1, IEC 60068-2-2)	-40 °C to 85 °C
Ingress protection	IP40
Operating humidity (IEC 60068-2-56)	10% RH to 90% RH, noncondensing
Storage humidity (IEC 60068-2-56)	5% RH to 95% RH, noncondensing
Pollution Degree (IEC 60664)	2
Maximum altitude	5,000 m

Indoor use only.

<sup>2</sup> Similar to other standard PVC cables, this product's cable becomes less ductile at low temperatures. Preroute and secure the cable while flexible to avoid premature failure.

# Shock and Vibration

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To meet these specifications, you must securely mount your TRC-8546 and ensure all cables and connectors have proper strain relief.

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## Operating vibration

Random (IEC 60068-2-64)	5 g <sub>rms</sub> , 10 Hz to 500 Hz
Sinusoidal (IEC 60068-2-6)	5 g, 10 Hz to 500 Hz
Operating shock (IEC 60068-2-27)	30 g, 11 ms half sine; 50 g, 3 ms half sine; 18 shocks at 6 orientations

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# Electromagnetic Compatibility

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This product meets the requirements of the following EMC standards for electrical equipment for measurement, control, and laboratory use:

- EN 61326-1 (IEC 61326-1): Class A emissions; Industrial immunity
- EN 55011 (CISPR 11): Group 1, Class A emissions
- EN 55022 (CISPR 22): Class A emissions
- EN 55024 (CISPR 24): Immunity
- AS/NZS CISPR 11: Group 1, Class A emissions
- AS/NZS CISPR 22: Class A emissions
- FCC 47 CFR Part 15B: Class A emissions
- ICES-001: Class A emissions



**Note** In the United States (per FCC 47 CFR), Class A equipment is intended for use in commercial, light-industrial, and heavy-industrial locations. In Europe, Canada, Australia and New Zealand (per CISPR 11) Class A equipment is intended for use only in heavy-industrial locations.



**Note** Group 1 equipment (per CISPR 11) is any industrial, scientific, or medical equipment that does not intentionally generate radio frequency energy for the treatment of material or inspection/analysis purposes.



**Note** For EMC declarations and certifications, and additional information, refer to the *Online Product Certification* section.

# CE Compliance

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This product meets the essential requirements of applicable European Directives, as follows:

- 2014/35/EU; Low-Voltage Directive (safety)
- 2014/30/EU; Electromagnetic Compatibility Directive (EMC)
- 2014/34/EU; Potentially Explosive Atmospheres (ATEX)

## Online Product Certification

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Refer to the product Declaration of Conformity (DoC) for additional regulatory compliance information. To obtain product certifications and the DoC for this product, visit [ni.com/certification](https://ni.com/certification), search by model number or product line, and click the appropriate link in the Certification column.

## Environmental Management

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NI is committed to designing and manufacturing products in an environmentally responsible manner. NI recognizes that eliminating certain hazardous substances from our products is beneficial to the environment and to NI customers.

For additional environmental information, refer to the *Minimize Our Environmental Impact* web page at [ni.com/environment](https://ni.com/environment). This page contains the environmental regulations and directives with which NI complies, as well as other environmental information not included in this document.

## Waste Electrical and Electronic Equipment (WEEE)



**EU Customers** At the end of the product life cycle, all NI products must be disposed of according to local laws and regulations. For more information about how to recycle NI products in your region, visit [ni.com/environment/weee](https://ni.com/environment/weee).

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