

SH96-96-1 Cable Specifications

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This document lists specifications for the SH96-96-1 shielded cable. These specifications are typical for the range of 0 °C to 55 °C unless otherwise stated. The system must be allowed to warm up for 15 minutes to achieve the rated accuracy. All specifications are subject to change without notice. Visit ni.com/manuals for the most current specifications and product documentation.



Note Verify the accessory safety voltage to which you connect the cable by consulting the accessory specification document. If the accessory safety voltage is lower than the cable rating, use the accessory safety voltage rather than the cable rating.

Electrical

Max working voltage

Any pin to any pin 60 VDC

Max current capacity

PWR and ISO_GND 250 mA

Wire gauge 0.326 mm² (7/0.255 mm stranded),
[22 AWG (7/30 stranded)]

All other I/O pins 50 mA

Wire gauge 0.081 mm² (7/0.127 mm stranded),
[28 AWG (7/36 stranded)]

Connect only voltages that are within the following limits.

NI PXIe-4353

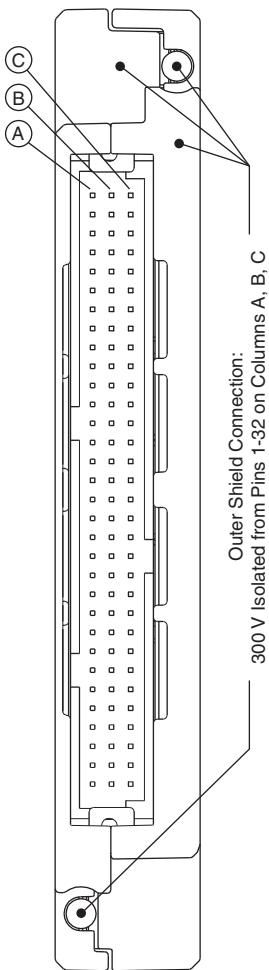
Between any TC+ and TC- ±80 mV

Between any TC terminal

and COM ±10 V

Between CJC+ and CJC- ±1.024 V

Table 1. Generic Pinout of SH96-96-1 Cable¹

Male Connector Diagram	Column A	Column B	Column C
 <p>Outer Shield Connection: 300 V Isolated from Columns A, B, C</p>	A32	B32	C32
	A31	B31	C31
	A30	B30	C30
	A29	B29	C29
	A28	B28	C28
	A27	B27	C27
	A26	B26	C26
	A25	B25	C25
	A24	B24	C24
	A23	B23	C23
	A22	B22	C22
	A21	B21	C21
	A20	B20	C20
	A19	B19	C19
	A18	B18	C18
	A17	B17	C17
	A16	B16	C16
	A15	B15	C15
	A14	B14	C14
	A13	B13	C13
	A12	B12	C12
	A11	B11	C11
	A10	B10	C10
	A9	B9	C9
	A8	B8	C8
	A7	B7	C7
	A6	B6	C6
	A5	B5	C5
	A4	B4	C4
	A3	B3	C3
	A2 [RSVD]	B2 [ISO_GND]	C2 [RSVD]
	A1 [RSVD]	B1 [PWR]	C1 [RSVD]

Note: The outer shield is connected to earth ground.

RSVD—reserved

¹ Refer to your NI PXIe module documentation for specific pinout details.

Physical Requirements

Dimensions (available lengths)	1 m (3.3 ft)
	3 m (9.8 ft)
	5 m (16.4 ft)

Weights

1 meter	1187 g (42.2 oz)
3 meter	2040 g (72.6 oz)
5 meter	2894 g (102.1 oz)

I/O connector

Male	96-pin Type R DIN 41612/IEC 60603-2
Female	96-pin Type C DIN 41612/IEC 60603-2

Environmental Specifications

Maximum altitude..... 2,000 m (800 mbar)

Pollution Degree

2

Indoor use only

Operating Environment

Ambient temperature range

0 °C to 55 °C

(Tested in accordance with IEC-60068-2-1 and IEC-60068-2-2. Meets MIL-PRF-28800F Class 3 low temperature limit and MIL-PRF-28800F Class 2 high temperature limit.)

Relative humidity range..... 10% to 90%, noncondensing

(Tested in accordance with IEC-60068-2-56.)

Storage Environment

Ambient temperature range

–40 °C to 71°C

(Tested in accordance with IEC-60068-2-1 and IEC-60068-2-2. Meets MIL-PRF-28800F Class 3 limits.)

Relative humidity range..... 5% to 95%, noncondensing

(Tested in accordance with IEC-60068-2-56.)

Shock and Vibration

Operating shock	30 g peak, half-sine, 11 ms pulse (Tested in accordance with IEC-60068-2-27. Meets MIL-PRF-28800F Class 2 limits.)
Random vibration	
Operating	5 Hz to 500 Hz, 0.3 g _{rms}
Non-operating	5 Hz to 500 Hz, 2.4 g _{rms} (Tested in accordance with IEC-60068-2-64. Nonoperating test profile exceeds the requirements of MIL-PRF-28800F, Class 3.)

Safety Voltages

Isolation

Channel-to-channel	None
Channel-to-earth ground	
Continuous	300 V _{rms} , Measurement Category II
Withstand	3,000 V _{rms} , verified by a 5 s dielectric withstand test

Measurement Category II is for measurements performed on circuits directly connected to the electrical distribution system.

This category refers to local-level electrical distribution, such as that provided by a standard wall outlet, for example, 115 V for U.S. or 230 V for Europe.



Caution Do *not* connect the SH96-96-1 to signals or use for measurements within Measurement Categories III or IV.



Caution The protection provided by the SH96-96-1 can be impaired if it is used in a manner not described in this document.

Safety

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

- IEC 61010-1, EN 61010-1
- UL 61010-1, CSA 61010-1



Note For UL and other safety certifications, refer to the product label.

Environmental Management

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 *NI and the Environment* Web page at 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 products *must* be sent to a WEEE recycling center. For more information about WEEE recycling centers, National Instruments WEEE initiatives, and compliance with WEEE Directive 2002/96/EC on Waste and Electronic Equipment, visit ni.com/environment/weee.

电子信息产品污染控制管理办法（中国 RoHS）



中国客户 National Instruments 符合中国电子信息产品中限制使用某些有害物质指令 (RoHS)。关于 National Instruments 中国 RoHS 合规性信息, 请登录 ni.com/environment/rohs_china。 (For information about China RoHS compliance, go to ni.com/environment/rohs_china.)

Where to Go for Support

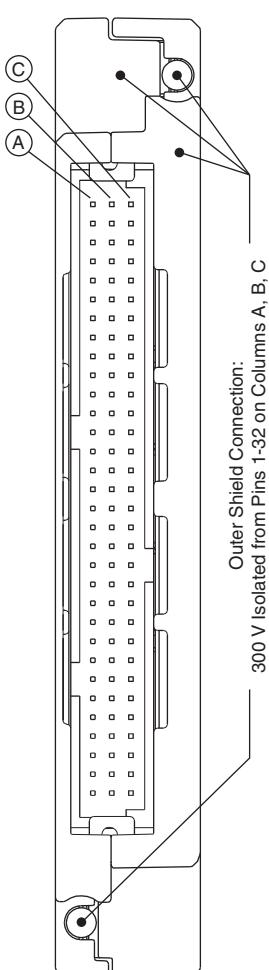
The National Instruments Web site is your complete resource for technical support. At ni.com/support you have access to everything from troubleshooting and application development self-help resources to email and phone assistance from NI Application Engineers.

National Instruments corporate headquarters is located at 11500 North Mopac Expressway, Austin, Texas, 78759-3504. National Instruments also has offices located around the world to help address your support needs. For telephone support in the United States, create your service request at ni.com/support and follow the calling instructions or dial 512 795 8248. For telephone support outside the United States, visit the Worldwide Offices section of ni.com/niglobal to access the branch office Web sites, which provide up-to-date contact information, support phone numbers, email addresses, and current events.

Appendix

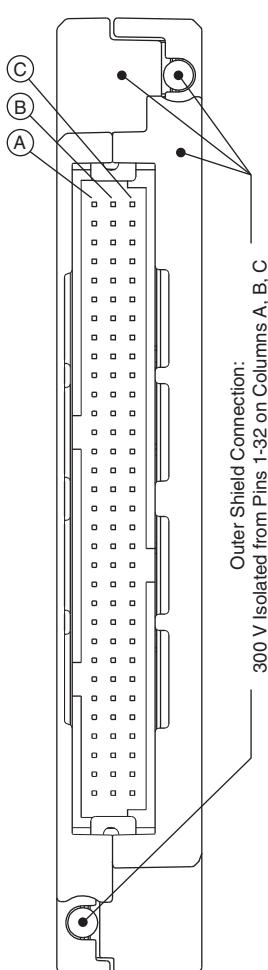
Tables 2 and 3 are provided to allow you to document pinout information for your specific application that is not otherwise documented.

Table 2. Generic Pinout of SH96-96-1 Cable¹

Male Connector Diagram	Column A	Column B	Column C
 <p>Outer Shield Connection: 300 V Isolated from Pins 1-32 on Columns A, B, C</p>			
<p>Note: The outer shield is connected to earth ground.</p> <p>RSVD—reserved</p>	A2 [RSVD]	B2 [ISO_GND]	C2 [RSVD]
	A1 [RSVD]	B1 [PWR]	C1 [RSVD]

¹ Refer to your NI PXIe module documentation for specific pinout details.

Table 3. Generic Pinout of SH96-96-1 Cable¹

Male Connector Diagram	Column A	Column B	Column C
			
Note: The outer shield is connected to earth ground.			
RSVD—reserved	A2 [RSVD]	B2 [ISO_GND]	C2 [RSVD]
	A1 [RSVD]	B1 [PWR]	C1 [RSVD]

¹ Refer to your NI PXIe module documentation for specific pinout details.

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