CAN–Ethernet Bridge Datasheet

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1   INTRODUCTION

This document describes the specifications, performance and properties of the Tritium CAN–Ethernet Bridge.
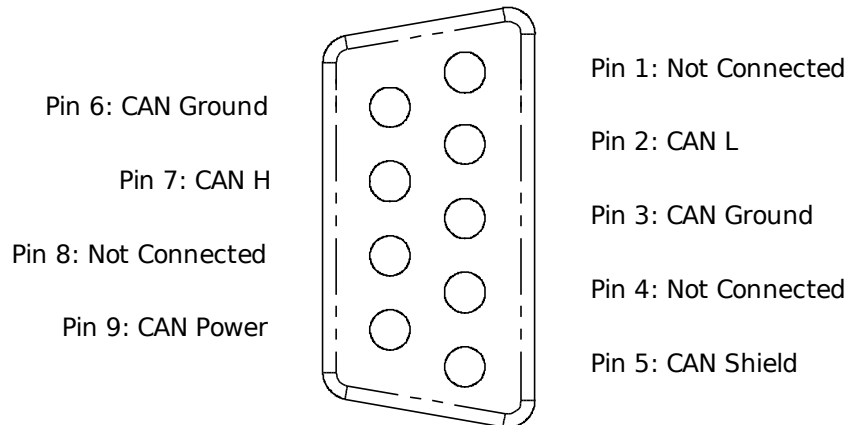
For more details on communications, use, and software installation, please refer to the User's Manual document available on the Tritium website.

Operating the bridge beyond the limits specified in this document will result in the voiding of the bridge warranty. Tritium accepts no responsibility for events caused as a result of operating the bridge beyond the limits specified in this document. Note that the specifications in this document are subject to change at any time due to product improvement.
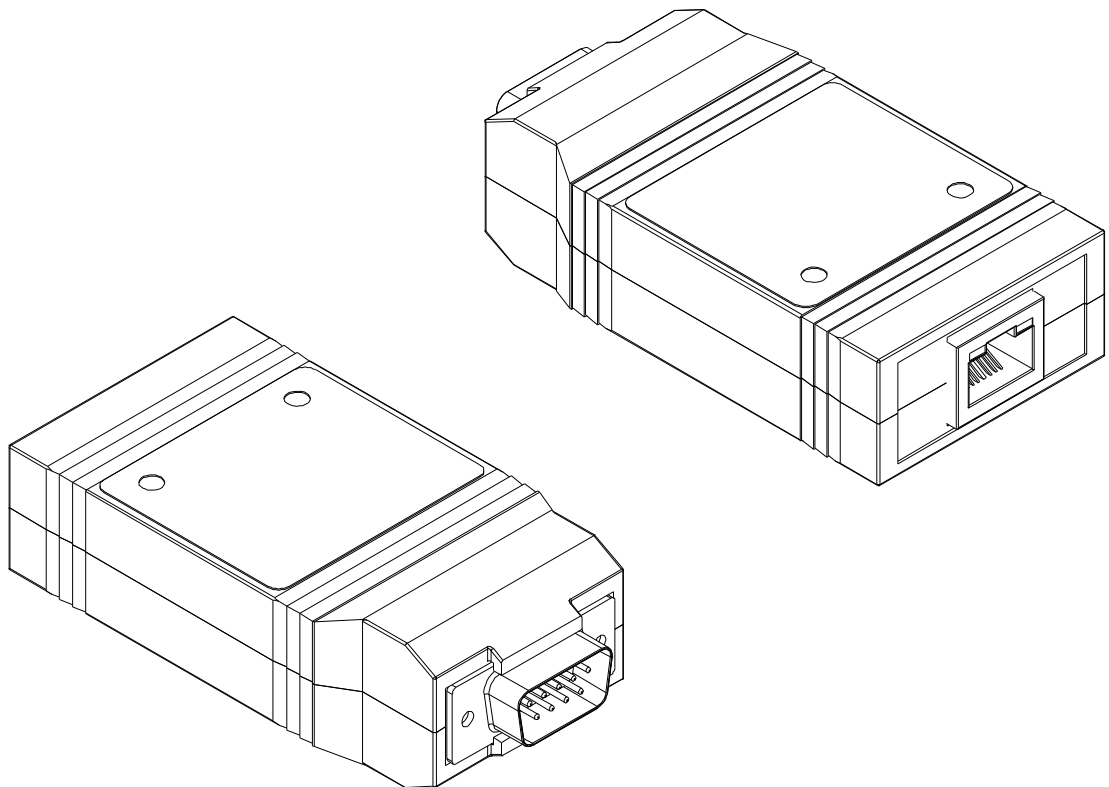
2   DB9 CONNECTOR

The CAN bus and operating power for the bridge are connected through the male DB9 connector at one end of the bridge. The pinout for this connector is shown below, as viewed when looking at the bridge, or when inserting crimps into the mating connector.

Pin 6: CAN Ground

Pin 7: CAN H

Pin 8: Not Connected

Pin 9: CAN Power

Pin 1: Not Connected

Pin 2: CAN L

Pin 3: CAN Ground

Pin 4: Not Connected

Pin 5: CAN Shield

The pinout for this connector follows the standard commonly used in industrial CAN Bus applications such as DeviceNET and CANOpen.

The bridge does not contain any termination between the CAN H and CAN L lines.

Pin 6 and Pin 3 (CAN Ground) are connected together internally to the bridge.

The bridge must be supplied with DC power through the DB9 connector on Pin 9 (CAN Power), relative to CAN Ground.

DC Supply Voltage Minimum:	9	V	(Note 1)
DC Supply Voltage Maximum:	30	V	
DC Supply Voltage Nominal:	13.8	V	
Supply Current at Nominal Voltage:	36	mA	(Note 2)
Supply Power Maximum:	0.5	W	(Note 3)
Default CAN bit rate:	500	kbit/sec	

Notes:

1. The CAN–Ethernet bridge will operate successfully between these voltage limits. Operation outside these voltages may damage the device.

2. Since the CAN–Ethernet bridge uses an internal DC/DC converter, power draw at the input remains approximately constant even as the supply voltage is changed, ie supply current will decrease with increasing supply voltage.

3. Tested with CAN traffic at 20% bus utilisation running at 500kbps. Higher data rates and utilisation will increase power consumption above this figure.

3   ETHERNET

The CAN–Ethernet bridge provides a standard RJ-45 Ethernet jack, capable of operating at 10/100 Mbit/sec, with auto-crossover functionality. It will operate either connected to a switch or hub, or directly connected to a PC for standalone applications.

The bridge has two modes of IP address configuration:

- Auto IP: The bridge tries to acquire an IP address from a DHCP server on startup. If this fails, it reverts to the AutoConf range of IP addresses. Thus the bridge will operate both in a standard network setup (with DHCP), or when connected directly to a PC (point-to-point) application (AutoConf).

- Static IP: The bridge uses its a static IP address which is configured through the bridge configuration tool. Use of the static IP address is recommended for point-to-point applications. The subnet mask of the bridge is automatically set to the default mask for the three classes of available IP ranges: A(255.0.0.0), B(255.255.0.0) and C(255.255.255.0)

By default, the bridge joins a multicast IP address at IP 239.255.60.60, and sends and receives UDP packets on port 4876.

4   MECHANICAL

The CAN–Ethernet bridge is packaged in a black ABS plastic enclosure. It is not environmentally sealed.

Enclosure length:	86	mm	(Note 4)
Enclosure width:	43	mm	
Enclosure height:	24	mm	
Device mass:	45	g	
Device IP rating:	IP40		

Notes:

4.   Does not include mating connector dimensions at both ends of the box.

5   REVISION RECORD

REV	DATE	CHANGE
1	19 October 2010	Document creation (JMK)
2	9 December 2010	Modified default port, shifted button function to user's manual
3	21 February 2011	Modified port to IANA assignment
4	6 October 2011	Added Static IP capability (AKR)