



4504-50 st, Stony Plain, AB, T7Z 1L5, Canada

www.cainstruments.com

Ph: 1-866-963-8930

TMTCDL39 CAT Data Link to SAE J1939 Translator

User Manual



Table of Contents

- 1. Introduction..... 3
- 2. Installation..... 3
- 3. Configuration..... 4
- 4. Translated Parameter List.....4
- 5. Troubleshooting.....5
 - 5.1 *CHECKING THE CDL BUS VOLTAGE*..... 5
- 6. Electrical Specifications and Certification..... 6
- 7. Contact and Technical Support.....6

Illustration Index

- Illustration 1: Mounting dimensions..... 4

1. Introduction

The TMTCDL39 reads data directly from a CDL ECU and transmission and transmits the translated equivalent data on a SAE J1939 network. The TMTCDL39 is a simple and easy-to-use solution for making data from older engines available to newer SAE J1939 devices.

2. Installation

Physical mounting is accomplished using the 4 mounting holes found on the upper and lower flanges of the TMTCDL39.

Electrical installation is done by the following:

1. Connect terminal 5 to CDL+, and terminal 6 to CDL-.
2. Connect terminal 1 to J1939-, and terminal 3 to J1939+.
3. If the J1939 has a shield wire, connect it to terminal 2.
4. Connect a good chassis ground to terminal 4, and ignition (switched) power through a 5 amp fuse to terminal 7.

Note: The TMTCDL39 is not waterproofed. If the unit is mounted vertically, ensure the terminal strip is facing downward to reduce the risk of water leaking into the device.

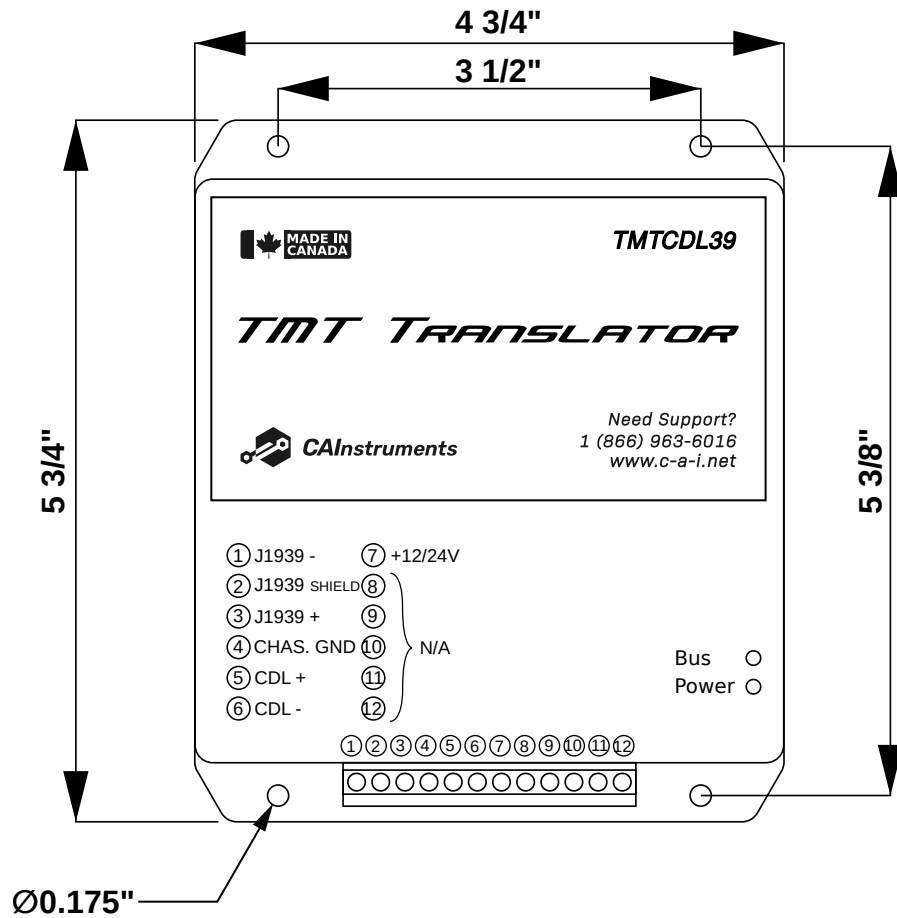


Illustration 1: Mounting dimensions

3. Configuration

The TMTCDL39 comes pre-programmed with support for several common CDL parameters. However, depending on the specific equipment connected, more information may be available that is not supported by the TMTCDL39.

To address this, the TMTCDL39 has a built-in USB port which can be used with the CAI ToolBox software to scan the connected equipment and obtain a list of available information. This information can be submitted to CAI to receive a customized configuration that adds support for all available parameters.

4. Translated Parameter List

The default TMTCDL39 translates the following parameters, if available:

- Engine RPM

- Engine boost pressure
- Engine oil pressure
- Engine coolant temperature
- Engine fuel level
- Total engine hours
- Percent engine load
- Battery potential

Additional parameters can be added so long as they are available on the CDL. For more information, [contact us](#).

5. Troubleshooting

The TMTCDL39 has 3 diagnostic LEDs on its front face. They are labelled BUS and POWER. The POWER LED is lit when the TMTCDL39 is powered. The BUS LED will pulse blue when the TMTCDL39 is receiving CDL data, otherwise the LED will pulse green.

See the chart below for additional error/operating modes.

LIGHTS	STATUS	ACTION
BUS: <i>Off</i> POWER: <i>Off</i>	No power	-Check the connections to 12/24V power and chassis gnd -Check that any connected fuses are not blown
BUS: <i>Pulsing Green</i> POWER: <i>Solid Red</i>	Not receiving CDL data	-Check the connections to the J1587/J1708 bus -Check the CDL databus voltage -Ensure other devices on the bus are powered and working
BUS: <i>Flashing Yellow</i> POWER: <i>Solid red</i>	No J1939 databus detected	-Check connections to the J1939 databus -Check the J1939 databus voltage -Ensure other J1939 databus devices are powered and working -Ensure the J1939 databus has proper terminating resistors installed
BUS: <i>Pulsing blue</i> POWER: <i>Solid red</i>	Everything is OK; CDL data is being received	
BUS: <i>Pulsing purple</i> POWER: <i>Solid red</i>	Everything is OK; device is in J1939 analyzer mode or CDL analyzer mode	
BUS: <i>Flashing yellow/red</i> POWER: <i>Solid red</i>	Device is in flash mode	-Cycle power to the TMTCDL39 -If the TMTCDL39 powers immediately into flash mode, contact CAI technical support.

5.1 CHECKING THE CDL BUS VOLTAGE

Make sure the TMTCDL39 is powered and the vehicle ignition is on.

With a voltage meter set to DC, measure the voltages on the CDL+ and CDL- wires separately. Each wire must be measured relative to ground (terminal 6).

WIRE	EXPECTED VOLTAGE
CDL +	3.5V – 4.5V
CDL -	0.5V – 1.5V

6. Electrical Specifications and Certification

Num	Rating	Min	Typical	Max	Unit
1	Operating Voltage	9.0	12.0	30.0	V
2	Transient Voltage (Max 3 positive transients, 60 seconds intervals)	-	-	80.0	V
3	Power Consumption (+12V/24V @ 12VDC)	-	55	150	mA
4	Operating Temperature	-40	-	80.0	°C
5	Repetitive Reverse Polarity Voltage (Voltage at GND relative to +12V/24V)	-	-	200	V
6	Reverse Polarity Duration (GND @ +100V relative to +12V/24V)	-	-	∞	S

7. Contact and Technical Support

Phone: 1- (780) 963-8930
1- (866)-963-6016
Email (sales): sales@c-a-i.net
Email (support): support@c-a-i.net
Website: www.cainstruments.com
Address: Canadian Automotive Instruments Ltd.
4504-50 st
Stony Plain, AB CANADA
T7Z 1L5