

CAINSTRUMENTS

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TMT3939 J1939 250K ⇔ J1939 500K Converter

User Manual



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1. Introduction

The TMT3939 is an electronic translator module used to connect J1939 250K and J1939 500K data buses together. It works by receiving, converting, and re-transmitting all the data between two J1939 data buses in real-time. With the TMT3939, components which support only J1939 250K can transmit and receive data from components with only J1939 500K, and vice versa.

This manual includes information required for installation, operation, and troubleshooting of the TMT3939. It also includes electrical specifications and contact information.

2. Installation

Physical mounting is accomplished using the 4 mounting holes found on the upper and lower flanges of the TMT3939.

Electrical installation is accomplished by following these steps:

1. Connecting the J1939 250K data bus

1. Connect the J1939+ (CAN HI) wire to pin 1 of the terminal strip
2. Connect the J1939- (CAN LO) wire to pin 2 of the terminal strip
3. If applicable, connect the signal GND wire to pin 3 of the terminal strip

2. Connecting the J1939 500K data bus

1. Connect the *green* wire of the micro-c harness to the J1939- (CAN LO) wire of the J1939 500K data bus
2. Connect the *white* wire of the micro-c harness to the J1939+ (CAN HI) wire of the J1939 500K data bus

3. Connecting power

1. Connect chassis gnd to pin 6 of the terminal strip
2. Connect the *black* wire of the micro-c harness to chassis gnd
3. Connect the *red* wire of the micro-c harness to *ignition* power (+12V/24V DC)

Note: The TMT3939 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.

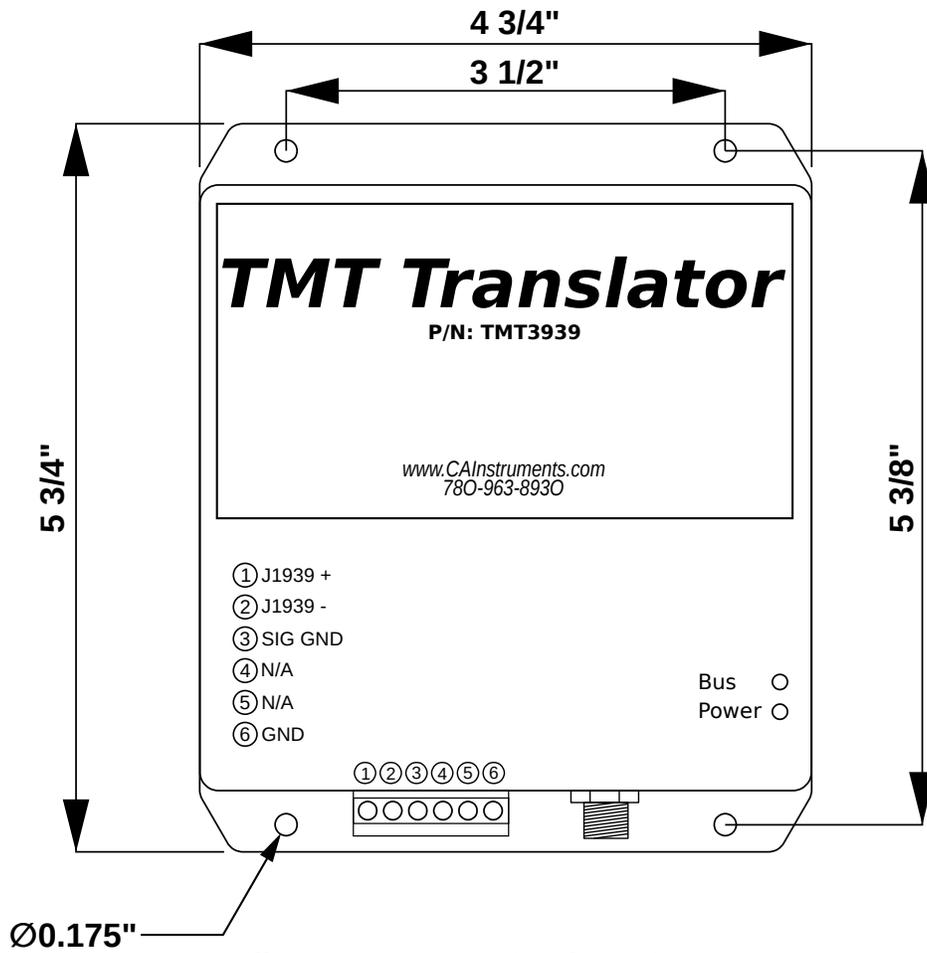


Illustration 1: Mounting dimensions

3. Troubleshooting

The TMT3939 has 2 diagnostic LEDs on its front face. They are labeled BUS and POWER. The POWER LED is lit when the TMT3939 is powered. When it is receiving valid J1939 data, the BUS LED will pulse blue, otherwise, it 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 connection to 12V/24V power and GND
BUS: <i>Pulsing Green</i> POWER: <i>Solid red</i>	Not receiving J1939 data	-Check the connections to the J1939 250K bus -Check the connections to the J1939 500K bus -Ensure other devices on the J1939 250K and J1939 500K buses are connected and powered on
BUS: <i>Flashing Yellow</i> POWER: <i>Solid Red</i>	No J1939 500K data bus detected	-Check connection to the J1939 500K bus -Ensure other devices on the J1939 500K bus are connected and powered on
BUS: <i>Flashing Red</i> POWER: <i>Solid Red</i>	No J1939 250K data bus detected	-Check connection to the J1939 250K bus -Ensure other devices on the J1939 250K bus are connected and powered on
BUS: <i>Pulsing blue</i> POWER: <i>Solid red</i>	Everything is OK; J1939 data is being received and transmitted	
BUS: <i>Flashing yellow and red</i> POWER: <i>Solid red</i>	Device is in flash mode	-Cycle power to the TMT3939 -If the TMT3939 powers immediately into flash mode, contact CAI technical support.

4. 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

5. Contact and Technical Support

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