

TMT3978_{TB} Universal Translator (Translating J1939 to J1587/J1708)

INSTALLATION INSTRUCTIONS:

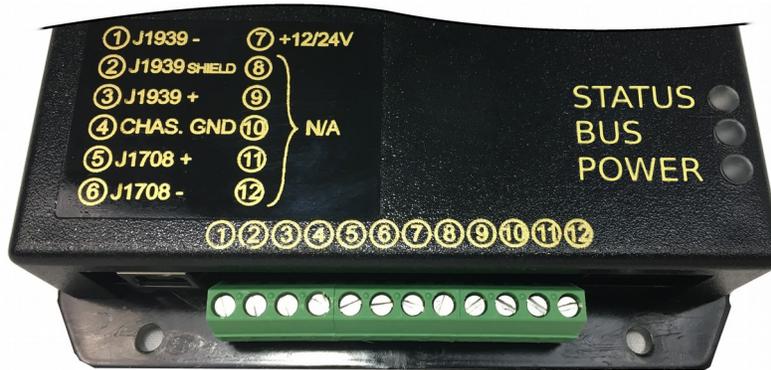
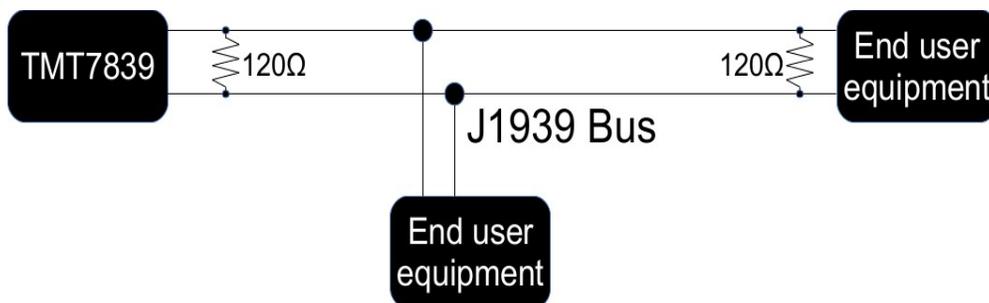
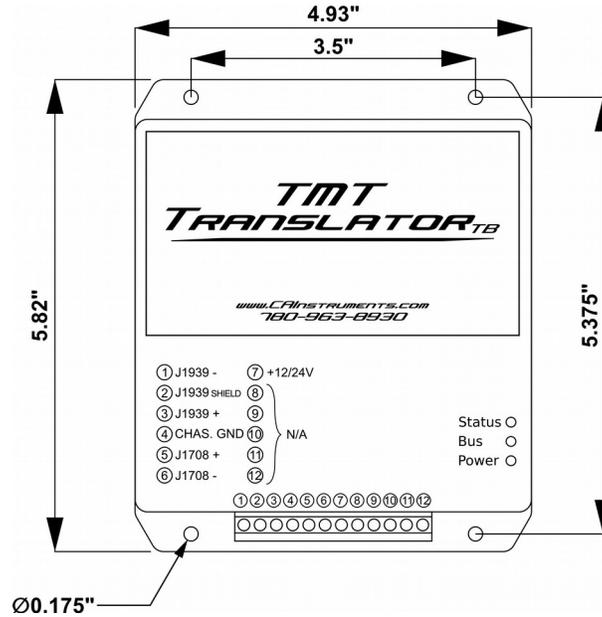


Figure 1: TMT3978 Terminal Strip

1. Connect +12/24 volt power to terminal 7 and ground to terminal 4.
2. Connect the J1708/J1587+ wire to terminal 5, and the J1708/J1587- wire to terminal 6.
3. Connect the J1939+ wire to terminal 3 and the J1939- wire to terminal 1. If you have one, connect the cable shielding to terminal 2.
4. The J1939 databus *must* have proper terminating resistors installed. Ensure that the J1939 databus has two 120 ohm resistors connected between J1939+ and J1939-. The resistors should be installed at each physical end of the bus.



MOUNTING



Note: The TMT3978 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.

TROUBLESHOOTING AND DIAGNOSTIC LIGHTS:

The TMT3978 has 3 diagnostic lights located on the front of the device. They are labeled STATUS, BUS, and POWER.

LIGHTS	STATUS	ACTION
STATUS: Solid green BUS: Solid green POWER: Solid red	Everything is OK	None
STATUS: Off BUS: Off POWER: Off	No power	-Apply power -Check power wiring and voltage levels
BUS: Off POWER: Solid red	J1939 unavailable/disconnected	-Check J1939 wiring and voltages -Ensure other J1939 devices are powered on -Ensure terminating resistors are installed -Check J1939 bus resistance -Check vehicle ignition is on

CHECKING THE J1708/J1587 BUS VOLTAGE

Make sure the TMT3978_{TB} is powered and the vehicle ignition is on.

With a voltage meter set to DC, measure the voltages on the J1587/J1708+ and J1587/J1708- wires separately. Each wire must be measured relative to ground (terminal 4).

WIRE	EXPECTED VOLTAGE
J1587/J1708 +	3.5V – 4.5V
J1587/J1708 -	0.5V – 1.5V

CHECKING THE J1939 BUS VOLTAGE

Make sure the TMT3978_{TB} is powered and the vehicle ignition is on.

With a voltage meter set to DC, measure the voltages on the J1939 + and J1939 - wires separately. Each wire must be measured relative to ground (terminal 4).

WIRE	EXPECTED VOLTAGE
J1939 +	2.5V – 3.5V
J1939 -	1.3V – 2.3V

CHECKING THE J1939 BUS RESISTANCE

Make sure the TMT3978_{TB} is powered OFF and the vehicle ignition is OFF.

With a multimeter set to ohms, measure the resistance from J1939 + to J1939 -. A correctly terminated J1939 bus should read **60 ohms**.

RESISTANCE	CAUSE
0 ohms	Short circuit between J1939+ and J1939-
< 60 ohms	Incorrect terminating resistors installed or too many terminating resistors installed
60 ohms	Correctly terminated J1939 bus
120 ohms	Only one terminating resistor installed
> 120 ohms	Incorrect or missing terminating resistors