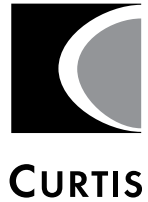


enGage® **DIGITAL INSTRUMENTATION: CAN**  
**MODEL 3100T**



**Read Instructions Carefully!**



## 1. Technical Specifications

### 1.1 Electrical

#### Operating Range

Operating Voltage Range: 12-48V operating range (9 to 60VDC), 35mA (typ., CAN inactive)

### 1.2 Mechanical

#### Display

LCD with 10 segment bar and 6 digit numeric (5mm high); Warning LED

#### Hardware

Mounting bracket (see section 2.0)

#### Panel Cutout

52mm / 2 1/16" diameter

### 1.3 Environmental

#### Operating Temperature

-40C to +85C

#### Storage Temperature

-50C to +90C

#### Humidity

95% RH (non-condensing) at +38C

#### Shock

SAE J 1378 March 83 Amplitude 44-55g, half sine, 9-13ms duration

#### Vibration

SAE J 1378 Double amplitude of 1.53mm with frequency sweep for 10-80-10Hz (20g max) at 1 minute intervals

#### Sealing

IP65 front, IP65 rear (with connector installed)

## 2. Installation

### 2.1 Terminal Assignments

#### J1 External Description

Pin - 1 B- Common voltage return

Pin - 3 B+ + volts / 140 mA max current

#### J2 External Description

Pin - 1 CAN LOW CAN (Open, J1939 protocol)

Pin - 2 CAN HI CANOpen (Open, J1939 protocol)

Pin - 7 Network Comm Speed Select (125k bps/250K bps)

### 2.2 Mounting

The Curtis model 3100T is mounted in a 45 X 92 mm cutout. In addition to the snap fit case design, a mounting bracket is available.

## 3. Operation

Upon initial power up, all display segments and warning LED icons are illuminated for 1 second and then turned off. The unit is then ready to received CAN messages. The basic 3100T is a passive communication device and simply waits to receive / display CAN messages from vehicle controller (standard is Curtis Model 1234, 1236 or 1238 motor controllers).

Optional buttons (2) are used to send CAN messages to the motor controller. Each button sends a specific CAN message to the controller. VCL (Vehicle Control Language) resident in the motor controller can be used to define a specific response to each button.


## 4. Trouble Shooting

For any deviation in operation described in Section 3.0, verify proper voltage rating, check harness pin-out terminals, and make sure the 4 pin AMP mating connector is fully seated.

## 5. Maintenance

The 3100T is not serviceable in the field.

## 6. Safety

- This instrument was manufactured and tested according to the applicable technical standards. It complies with all the safety regulations as shipped from the factory.
- Installation and startup must be performed by skilled personnel.
- Failure to install and operate the unit in accordance with these instructions may result in damage or injury.
- If safe operation of the instrument can no longer be ensured, stop and secure it against accidental operation.
- If instrument failure or malfunction may cause personal injury or material damage, use additional safety measures such as limit switches, guards, etc.
- Read the Operating Instructions carefully before startup.
-  Note the safety instructions marked with this warning symbol in this manual.

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