

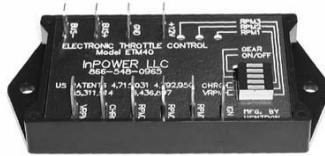
# OWNERS MANUAL

## Model ETM40B/C

### Electronic Throttle Module

#### for

## Ford 6.0 & 7.3 Liter Diesel Truck Engines



### Introduction

Model ETM40B and ETM40C Electronic Throttles are designed to support trucks that use Ford 6.0 & 7.3 liter turbo diesel engines. Mode selection is via five inputs, and mode priority interlocking is provided.

The Model ETM40B contains the Charge Protect mode and supports both automatic and manual transmissions on 7.3L engine applications. It supports only manual transmissions on the 6.0L engine applications.

The Model ETM40C does not contain the Charge Protect mode and supports both automatic and manual transmissions on 6.0L engine applications. It supports only automatic transmissions on 7.3L engine applications.

### Standard Features

- Supports Ford 6.0 & 7.3 liter Power Stroke diesel engines
- Multiple modes of operation
- Direct interface to engine controller
- Licensed Ford patented technology assures compatibility and reliability
- Encapsulated electronics for maximum environmental protection
- LED status indicators

## Operation

When the vehicle is parked and *Chassis Conditions for Proper Operation* are satisfied the engine idle speed may be controlled by selection one of the five available modes (three presets, charge protect or variable rpm). The preset rpm modes may be adjusted by the user via three calibration potentiometers on the top of the ETM40 unit.

### *Chassis Conditions for Proper Operation*

1. Parking brake is set.
2. For automatic transmission, gear shift lever is in "PARK."
3. For manual transmission, foot is off clutch pedal.
4. Foot is off service brake.
5. Foot is off accelerator pedal.
6. Vehicle is stationary.
7. Engine is started and idling.

### *Modes Of Operation*

#### A. Three Preset RPM High Idle Modes:

|                       |                                     |
|-----------------------|-------------------------------------|
| Function:             | Increase idle to a preset rpm value |
| Terminals:            | RPM1, RPM2, RPM3                    |
| Activation:           | Apply ground to terminal            |
| Range of Calibration: | 1200 to 2600 rpm                    |
| Type of Adjustment:   | Internal potentiometers             |
| RPM1 Adjustment:      | Potentiometer 1                     |
| RPM2 Adjustment:      | Potentiometer 2                     |
| RPM3 Adjustment:      | Potentiometer 3                     |

#### B. Charge Protect Mode:

|             |  |
|-------------|--|
| Function:   | Varies rpm to maintain 14 volts at battery |
| Terminal:   | CHRG                                       |
| Activation: | Apply ground to terminal                   |
| RPM Range:  | 1200 to 2600 rpm                           |

#### C. Variable RPM Mode:

|             |   |
|-------------|---|
| Function:   | Varies rpm as a function of voltage on VRPM   |
| Terminal:   | VRPM  |
| Adjustment: | 10K Ohm potentiometer between terminal and ground   |
| Enable:     | Turn potentiometer down to zero resistance, then slowly increase until desired rpm is reached |
| Disengage:  | Turn Potentiometer down to zero and rpm will drop to standard idle                            |
| RPM Range:  | 1200 to 2600 rpm  |

#### D. Mode Priorities

|              |  |
|--------------|--|
| RPM 1        | Highest - Will override all other modes              |
| RPM2         | Second - Will override lower modes                   |
| RPM3         | Third - Will override lower modes                    |
| Variable RPM | Lowest - Will only activate when other modes are off |

## Status Indicators

A five segment LED provides status and problem detection information. Refer to the following table for coding of these functions.

| <b>LED</b> | <b>Status</b> | <b>Indication</b>                                |
|------------|---------------|--|
| ON/OFF     | On Solid      | Module ON and functioning                        |
| ON/OFF     | Flashing      | Module ON, but a problem was detected            |
| GEAR       | On Solid      | Gear = Park, Parking Brk set and Service Brk off |
| GEAR       | Flashing      | Problem detected                                 |
| RPM1       | On Solid      | RPM1 terminal grounded, engine at RPM1           |
| RPM1       | Flashing      | RPM1 terminal grounded, engine at Low Idle       |
| RPM2       | On Solid      | RPM2 terminal grounded, engine at RPM2           |
| RPM2       | Flashing      | RPM2 terminal grounded, engine at Low Idle       |
| RPM3       | On Solid      | RPM3 terminal grounded, engine at RPM3           |
| RPM3       | Flashing      | RPM3 terminal grounded, engine at Low Idle       |
| RPM2/RPM3  | On Solid      | VRPM terminal grounded, engine at High Idle      |
| RPM2/RPM3  | Flashing      | VRPM terminal grounded, engine at Low Idle       |

## Specifications

### *Electrical*

|                                  |               |
|----------------------------------|---------------|
| Input Voltage (+12V Terminal):   | 8 to 16 volts |
| Input Current (+12V Terminal):   | 37 mA         |
| Standby Current:                 | 28 mA         |
| Input Current (on/off terminal): | 1 mA          |
| Control Current:                 | 1 mA          |

### *Mechanical*

|                         |  |
|-------------------------|--|
| Weight:                 | 0.17 lbs   |
| Connections:            | Faston 0.25 inch terminals   |
| Case Material:          | Cyolac thermoplastic (UL 94VO)   |
| Encapsulation Material: | Epoxy potting compound, resistant to most fuels, oils, acids, and cleaning agents. |

NOTE - The GEAR diagnostic LED on the 6.0 liter engine applications should not be used as it will contain erroneous indications.

## Installation

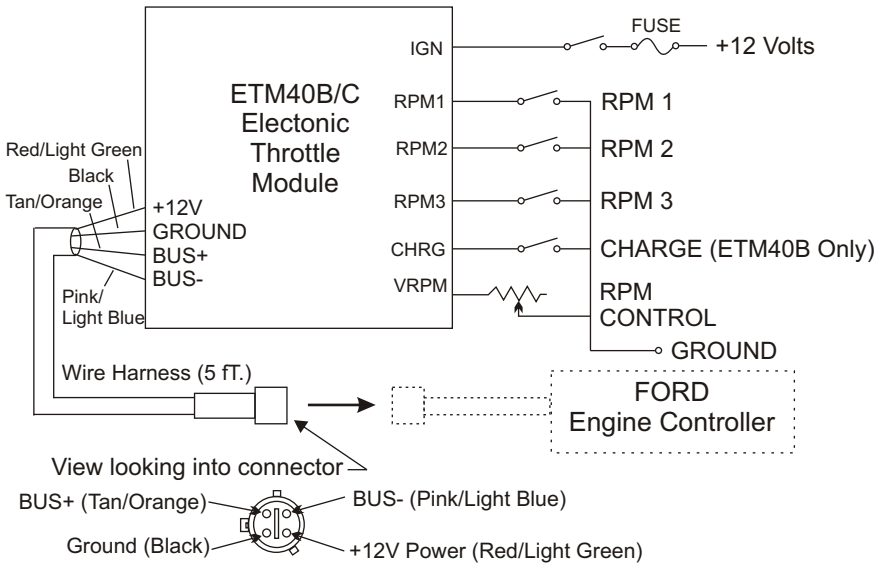
The ETM40 is usually mounted inside the cab under the dashboard. A five ft. cable is supplied that connects to the Ford wiring harness' four-pin connector. The mode activation connections are supplied by the user and are 0.25 inch Faston terminals (see wiring diagram).

Note - Excursion chassis do not have a APCM harness connector for the ETM40 data cable. A special data cable must be used that will connect to the vehicle's OBD-II Data Link Connector. Contact InPower for details.

## Setup and Calibration

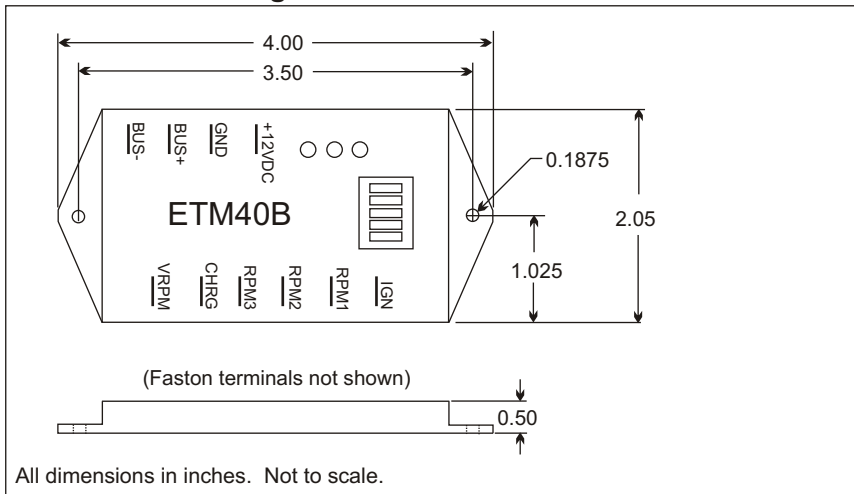
The only calibration required is to select each of the three preset modes (RPM1, RPM2 and RPM3) and adjust the three respective potentiometers on the ETM40 to the desired rpm.

## Wiring Diagram



Note - On Excursion chassis with the diesel engine a special cable must be used as Ford does not provide the above connector. The other cable connects to the OBD-II diagnostic connector.

## Mechanical Drawing



### InPOWER LLC

3555 Africa Road  
Galena, Ohio 43021  
Tel 740-548-0965 Fax 740-548-2302  
www.InPowerDirect.com

### Customer Evaluation

InPower wants to ensure total customer satisfaction. Please download a product evaluation form at [www.InPowerDirect.com/Customer\\_evaluation.htm](http://www.InPowerDirect.com/Customer_evaluation.htm) or call us toll free at 866-548-0965 to be sent a form by mail.