

ETM51

Ford Electronic Throttle



Fast Idle Speed Control for E and F-Series Ford Trucks, Vans and Cut-Away Chassis with SEIC circuits.

Vehicle Compatibility

This electronic throttle is compatible with only certain Ford vehicle configurations. To determine the electronic throttle that matches your vehicle model year, chassis, engine and transmission refer to the Throttle Selector menu of InPower's web site, www.InPowerLLC.com.

Applications

- Emergency Vehicles
- Work Trucks
- Transit and Shuttle Buses
- Pumper Trucks
- Service and Rescue Vehicles
- Hydraulic Systems
- Air Compressors
- Power Inverter Systems
- Warning Light Systems

Key Features

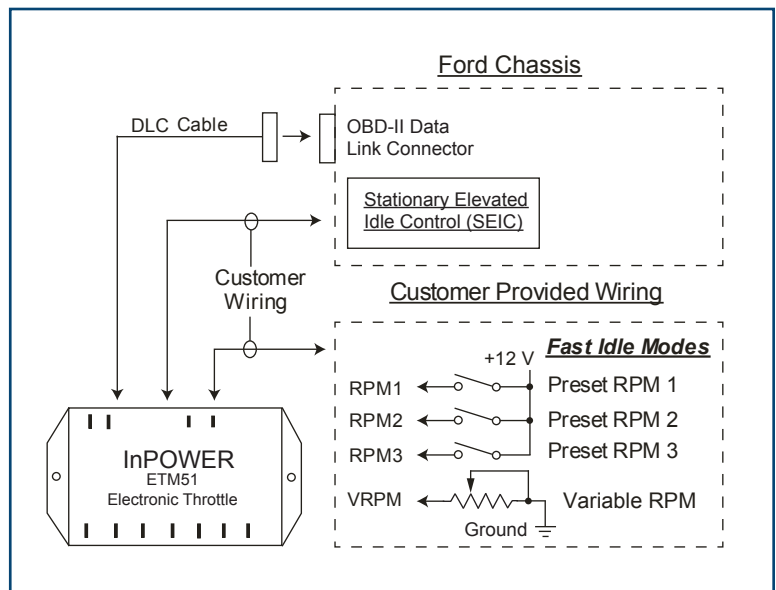
- Three user-adjustable speed presets with priority control.
- Variable speed input for remote control of fast idle speed.
- Works in conjunction with Ford's built-in *Stationary Elevated Idle Control (SEIC)*.
- Engine Control Module programming for speed presets not required.
- LED status and troubleshooting indicators.
- Consistent speed ramp rate control between speed presets.
- Works on model years 2005+ with built-in SEIC

Technical Description

The ETM51 throttle module has four selectable modes of fast engine idle operation, including three adjustable preset fixed speeds and one variable speed control via an external potentiometer. Select the mode by applying +12 volts to the RPM1, RPM2 or RPM3 terminal. The three presets can be individually adjusted by calibration potentiometers accessible on the top of the module. Ten LEDs display the selected operating mode, system status, and error conditions. The ETM51 controller module is compact, measuring only 2 x 4 inches. Wiring terminations utilize 0.25 inch Faston blade terminals. Its circuitry is encapsulated for maximum environmental protection.

Installation is simplified with a wiring harness that plugs into the vehicle's engine data bus, eliminating the need to wire into chassis sensors or the accelerator pedal module. The ETM51 module mounts under the dash and is supplied with a three foot cable that plugs into the vehicle's OBDII Data Link Connector. Customer provided wiring is required to select the fast idle mode and to connect to the Ford SEIC harness (three blunt-cut wires).

System Diagram



Specifications

Modes of Operation

A. Preset RPM Modes

Function:	Increases idle to a preset RPM
Number of presets:	Three
Input identification:	RPM1, RPM2 & RPM3 (RPM1 has highest priority, then RPM2, and RPM3 the lowest priority).
Activation:	Apply +12 V to input to select mode
Range of calibration:	
Diesel Engine:	1200 to 2400 RPM
Gas Engines:	900 to 2340 RPM
Calibration method:	Internal potentiometers (3)

B. Variable RPM Mode

Function:	Varies RPM as a function of external resistance change
Input identification:	VRPM
Adjustment:	10k Ohm potentiometer between input terminal and ground
RPM range:	
Diesel Engines:	1200 to 2400 RPM
Gas Engines:	900 to 2340 RPM

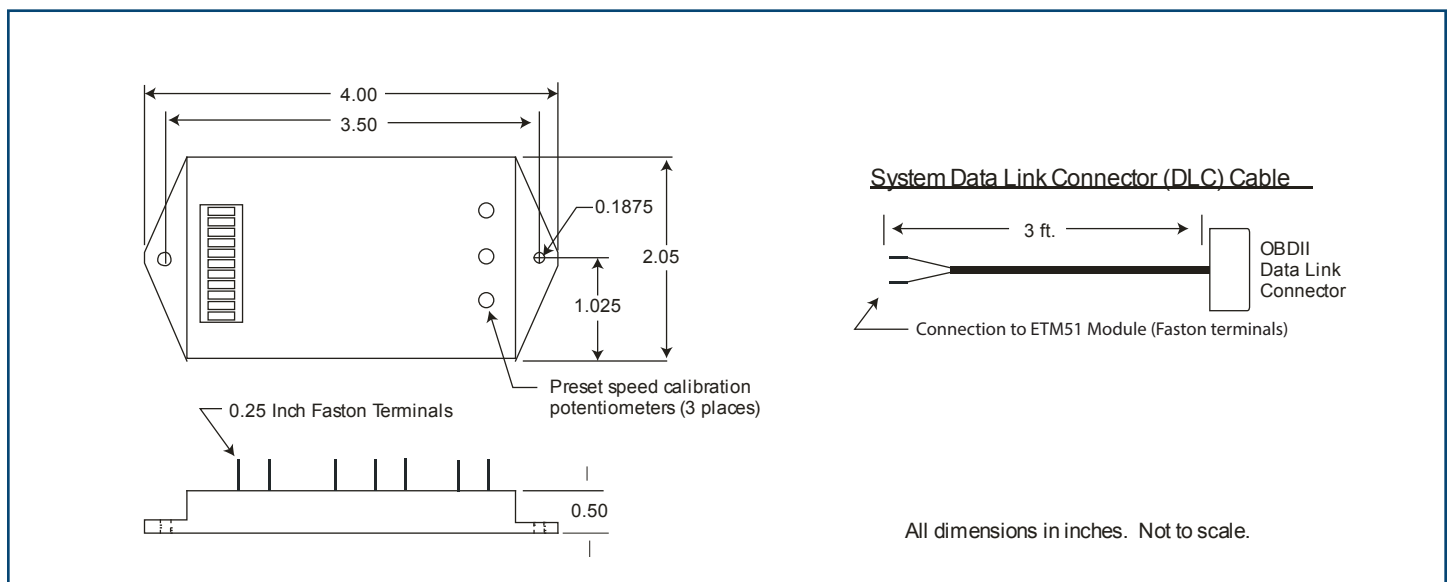
Power Requirements

Input Voltage:	8 to 16 volts DC (from Ignition Switch)
Input Current:	30 milliamps

NOTES

1. Refer to Ford Body Builders Manual for application restrictions that may apply.
2. Certain chassis are not supported as they do not have the Ford SEIC feature.
3. For Charge Protect function refer to the SEIC documentation.
4. Refer to InPower Owners Manual OM-54 for installation and operating instructions.

Mechanical Drawing



ETM68A

GM Electronic Throttle



Fast Idle Speed Control for Chevy and GMC Trucks, Vans and Sport Utility Vehicles.

Vehicle Compatibility

This electronic throttle is compatible with only certain GM vehicle configurations. To determine the electronic throttle that matches your vehicle model year, chassis, engine and transmission refer to the Throttle Selector menu of InPower's web site, www.InPowerLLC.com.

Applications

- Emergency Vehicles
- Work Trucks
- Transit and Shuttle Buses
- Pumper Trucks
- Service and Rescue Vehicles
- Hydraulic Systems
- Air Compressors
- Power Inverter Systems
- Warning Light Systems

Key Features

- Three user-adjustable speed presets with priority control
- Engine Control Module programming for speed presets not required
- No special Chevy/GMC options required
- Direct interface to engine data bus
- Hardwired parking brake switch input
- LED status and troubleshooting indicators

Technical Description

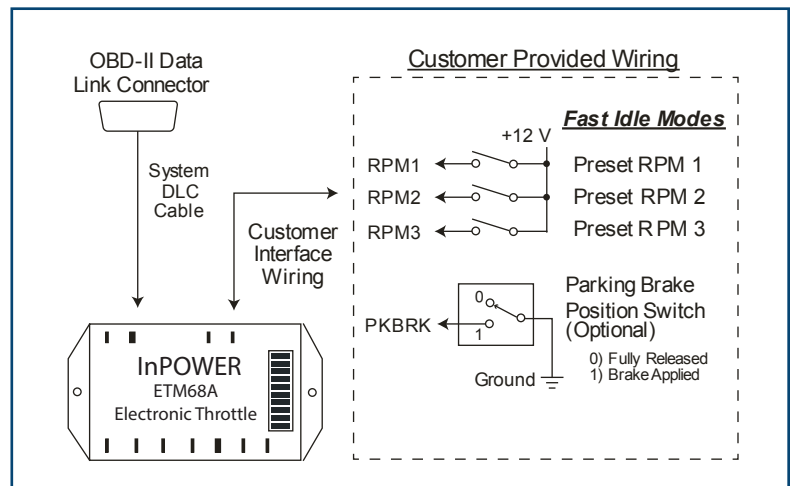
The ETM68A Electronic Throttle Controller provides three modes of engine RPM control for certain Chevy & GMC trucks, vans, and buses equipped with gas or diesel engines and automatic transmissions.

Select one of the three fixed high idle modes by applying +12 volts to the RPM1, RPM2 or RPM3 mode input terminal. The three fast idle presets can be individually adjusted via calibration potentiometers accessible on the top of the module. Ten LEDs display the selected operating mode, system status, and error conditions.

The fast idle function includes chassis ready conditions safeguards that must be satisfied before the engine speed can be increased. These enablers include: transmission in Park, parking brake set, engine running, vehicle stationary (no speed), foot off service brake, and foot off accelerator.

The ETM68A controller module is compact, measuring only 2 x 4 inches. Wiring terminations utilize 0.25 inch Faston (blade) terminals. The controller mounts under the dash, and the included three foot cable plugs into the vehicle's OBD-II Data Link Connector.

System Diagram



Specifications

Modes of Operation

Fast Idle Modes:

Preset RPM Modes

Function:	Increases idle to a preset rpm
Number of presets:	Three
Input identification:	RPM1, RPM2 & RPM3
Activation:	Apply +12 V to input to select mode
Range of calibration:	650 to 1500 rpm (diesel) 650 to 2000 rpm (gas)
Calibration method:	Internal potentiometers (3)

Chassis Ready Conditions

The following conditions *must* be met before the ETM68 controller will initiate a fast idle mode:

1. Engine running at idle speed below 1000 rpm
2. No vehicle speed (less than 3 MPH)
3. Automatic transmission in PARK
4. Service brake not depressed
5. Accelerator pedal not depressed
6. Parking brake set

Owner's Manual

For installation and operating instructions see InPower document OM-64.

Power Requirements

Input Voltage:	8 to 16 volts dc (from Ignition Switch)
Input Current:	30 milliamps

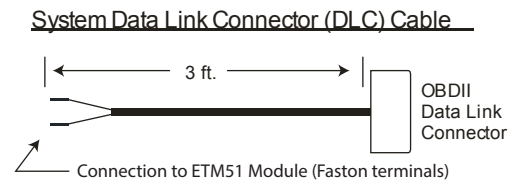
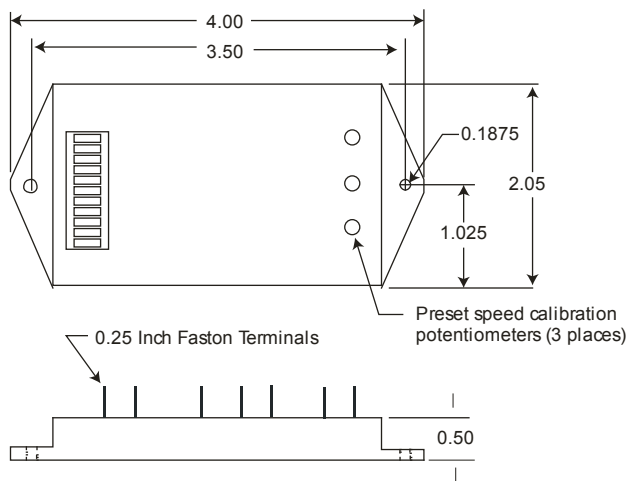
Parking Brake Input

The parking brake set enabler requires the installation of a wire from the parking brake switch to the PK BRK terminal on certain chassis. When a ground is applied to the terminal the parking brake set enabler is satisfied.

PTO Output

The PTO output is set (+12 volts @ 3 amps) when a mode input (RPM1, RPM2 or RPM3) is set, the chassis ready conditions are satisfied, and the ETM68A module has entered the fast idle mode. If any of these enablers drop out, the PTO output will turn off and the ETM68A module will release control of the engine rpm. The LED corresponding to the unsatisfied chassis ready condition will flash.

Mechanical Drawing

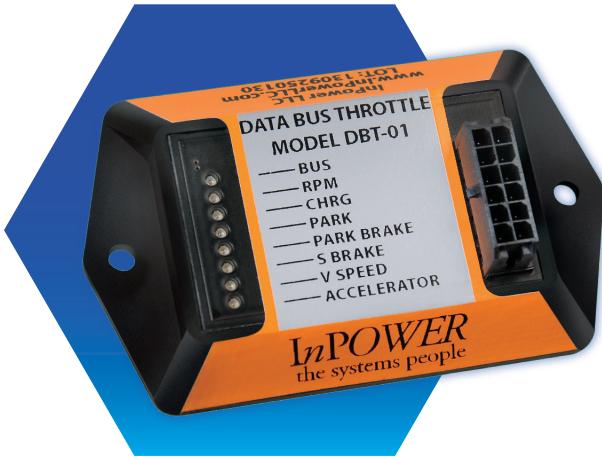


All dimensions in inches. Not to scale.

DBT-LD

Data Bus Throttle

Light-Duty Vehicle Throttle



Technical Description

InPower's DBT-LD Data Bus Throttle provides high idle engine RPM control for light-duty vehicles. It features a plug-and-play design for fast and easy installation. The control module connects to the vehicle's OBD-II diagnostic connector via a cable that includes a second OBD-II connector for any other necessary OBD-II access. The cable also includes blunt-cut wires for the operating mode inputs, the PTO output signal, and the speed adjustment.

Four light duty throttle models are available to meet your needs, each with one default mode and one override mode. *Note:* Module will not activate unless all chassis ready conditions are satisfied.

DBT-LD-01 has one adjustable preset RPM1 as its override, activated by ground, and *Green Charge* automatic charge protect as its default.

DBT-LD-02 has two adjustable presets RPM1 and RPM2. RPM1 is the override, activated by +12 volts.

DBT-LD-03 has one adjustable preset RPM1 as its override, activated by +12 volts, and *Green Charge* automatic charge protect as its default.

DBT-LD-04 has one adjustable preset RPM1 override, activated by ground, and an On/Off charge protect as its default.

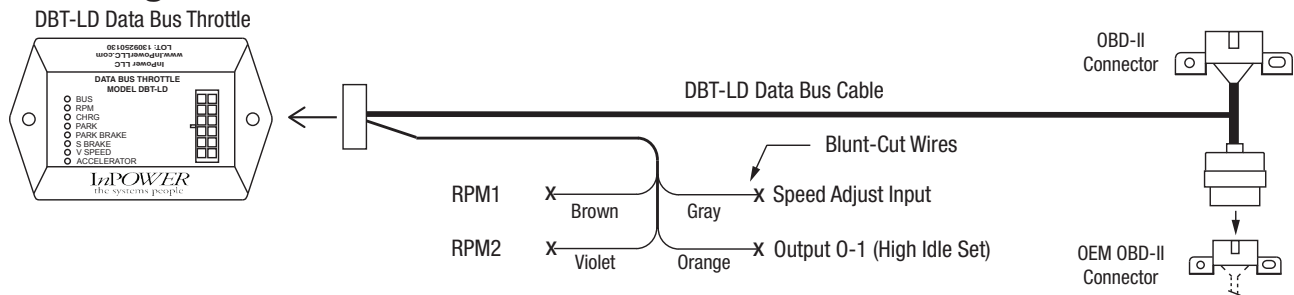
InPower's *Green Charge* activates when the chassis battery enters a low voltage condition. It gradually raises the engine RPM to the minimum necessary to charge the battery before dropping the RPM back to the minimum idle to maximize fuel economy and minimize emissions. The On/Off charge protect immediately boosts the engine RPM to 1500 RPM for faster battery charging.

InPower has designed the DBT's software to support many chassis and model year variations, and more will be added to the library as they are tested. To support our customers in selecting a throttle that is compatible with their specific chassis we provide a Throttle Selector Guide on our web site (www.InPowerLLC.com). Simply select the chassis and model year, and it will display the minimum software revision. The DBT-LD throttle is reprogrammable, so that software may be updated as necessary.

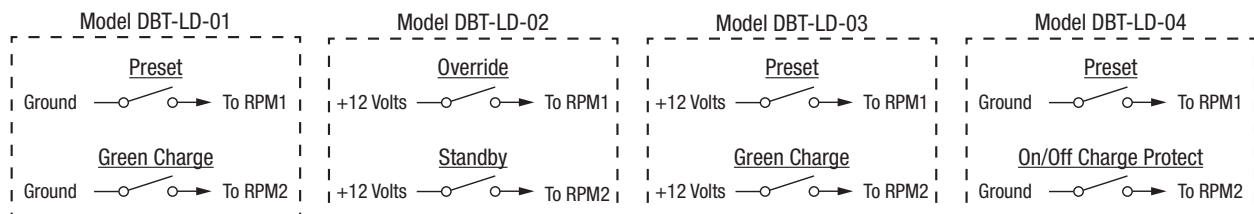
Key Features

- Supports Ford and Chevy light-duty vehicles .
- Low cost with fast and easy installation.
- Automatic charge protect and fixed speed modes.
- Data bus cable connects to OBD-II connector.
- No Ford SEIC wiring required.
- LED status and diagnostic indicators.
- Extra OBD-II connector in data bus cable.
- Customized functions available.

System Diagram



Customer Supplied Speed Mode Switches



Specifications

Power Requirements & Notes

+12 volts: Sourced from OBD-II connector
 Ground: Sourced from OBD-II connector
 PTO Output: +12 volts @ 3 amps. Set when module is activated.
 RPM1: +12 volts or ground as determined by software (see ordering guide)
 RPM2: +12 volts or ground as determined by software (see ordering guide)

Speed Adjust Input: Adjusts preset RPM to desired value between 900 and 2000 RPM.
 Dimensions: 3.17 L x 1.92 W x 0.79 H inches

Charge Protect Modes: Activated when chassis battery voltage is low
 Green Charge: Gradually increases engine RPM to minimum required to charge battery, then lowers once charged.
 On/Off: Immediately increases engine RPM to 1500 to quickly charge chassis battery

Chassis Ready Conditions:

1. Engine running at idle speed below 1,000 RPM.
2. No vehicle speed.
3. Automatic transmission in Park.
4. Service brake not depressed.
5. Accelerator pedal not depressed.
6. Parking brake set.
7. No Diagnostic Trouble Code (DTC).
Check Engine light must be off.

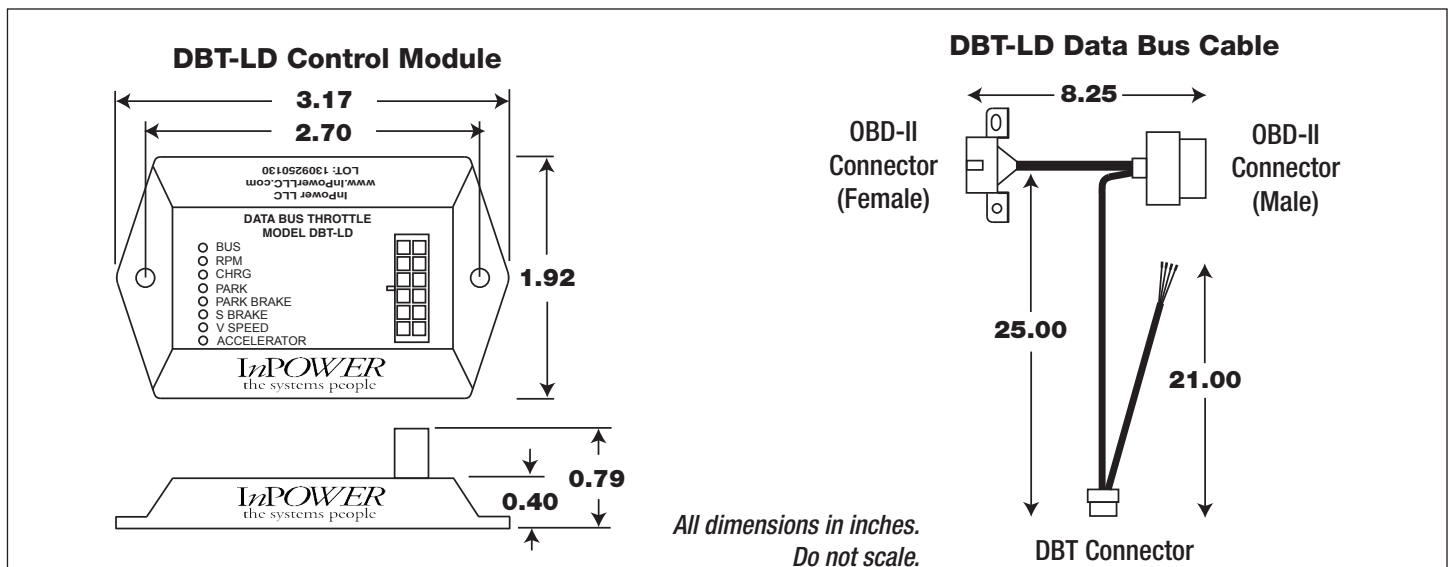
LED Status Indicators:

BUS	Module On & Data Bus Communications
RPM	In elevated fixed speed mode
CHRG	In Auto Charge Protect mode
PARK	Transmission in Park
PARK BRAKE	Park Brake set
S BRAKE	Service Brake set
V SPEED	Vehicle movement detected
ACCELERATOR	Accelerator depressed

Ordering Guide

Model	RPM1	RPM2	Activation Polarity	RPM1 Factory Setting	RPM2 Factory Setting	Highest Priority
DBT-LD-01	Preset	Green Charge	Ground	1500	N/A	RPM1
DBT-LD-02	Override Preset	Standby Preset	+12 Volt	900	1500	RPM2
DBT-LD-03	Preset	Green Charge	+12 Volt	1500	N/A	RPM1
DBT-LD-04	Preset	On/Off Charge Protect	Ground	1500	N/A	RPM1

Mechanical Drawing



DBT-MD

Medium Duty Vehicle Throttle Control



Technical Description

InPower's Medium Duty Data Bus Throttle (DBT-MD) does more than just provide high idle and PTO when and how you need it. It can also output any engine signal you need.

Each module has three adjustable RPM settings and two remote RPM controls, as well as six engine signal outputs for any signal, such as Park, Reverse or Vehicle Speed. The DBT-MD is PTO-enabled, includes Ford SEIC functions and can communicate across CAN. It can be wired to monitor auxiliary battery voltage and another 0 to 5V sensor or accelerator pedal.

The module ships with two cables, one of which connects to the OBDII port, an optional sensor and power, and the other of which connects to all inputs and outputs, including PTO. Diagnostic LEDs aid in troubleshooting, while the lightweight, low profile design makes installation easy.

Features

- Three Adjustable RPMs
- Two Remote RPM controls
- Available for Ford, GM and Cummins Engines
- SEIC Included on Ford Model
- PTO Enabled
- Six Engine Signal Outputs
- CAN communication
- Diagnostic LEDs
- Affordable and Reliable

Available Output Signals

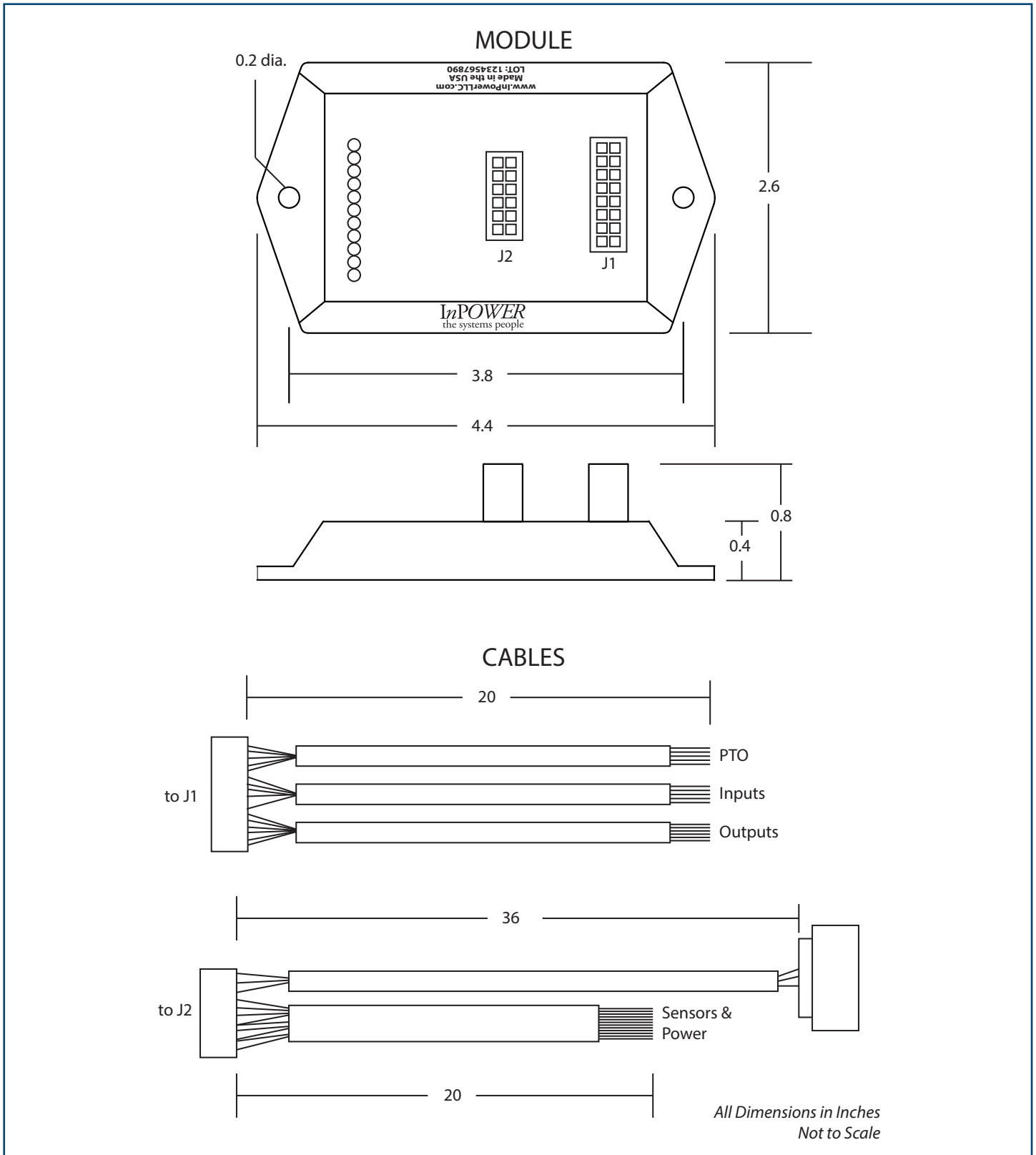
- Park
- Park Brake
- Reverse
- Neutral
- Vehicle Speed
- Chassis Status
- Stop/Start Functions
- and more...

Ordering Guide

Model Number	Vehicle Make	Notes
DBT-MD-01	Ford	SEIC included
DBT-MD-02	GM	
DBT-MD-03	Freightliner with Cummins Engine	

Note: Custom Modules available, if you need custom outputs or signals from the databus not available in our standard configuration.

Mechanical Drawing





SS-GM-01 GM Start/Stop Control Module

Technical Requirements

1. The Chassis into which this SS-GM-01 Module is to be installed **MUST** be manufactured with the PTO Option and Remote PTO Controls is Enabled.
2. It is imperative that the user is familiar with the **GM Bulletin 120** for operation of Remote PTO Control, and what particular parameters are needed.

Technical Description

InPower SS-GM-01 Series Module is designed to provide Start/Stop Functionality for GM 2017-2019 GM C3500 – C6500 factory installed with the PTO Option and Remote PTO Controls Enabled (GM Bulletin 120).

With proper application of the SS-GM-01 GM Start/Stop Control Module, the user will be able to implement a fully integrated and reliable system that will provide Start/Stop control of their chassis engine.

Operational Description: When first powered up, the SS-GM-01 will be in the Engine Off Mode. When a momentary ground is applied to Input 1 (IL1), the SS-GM-01 will activate the remote start sequence. After the engine is running, if a momentary ground is again applied to Input 1 (IL1), the SS-GM-01 will activate the remote Stop sequence.

In addition, there are a wide variety of options that SS-GM-01 may be programmed to do, such as dual voltage monitoring and Frequency/Time measurement.

Since every application is different, please contact InPower for assistance in fully defining your particular application of the SS-GM-01.

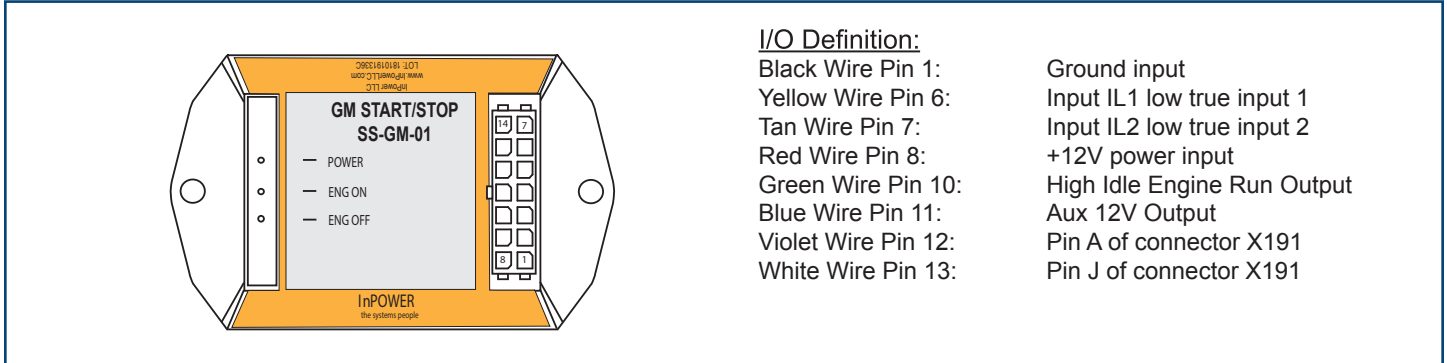
Key Features

- Microprocessor Programmable Operation
- The SS-GM-01 provides a clean, reliable Start/Stop interface
- Provides Start/Stop for 2017-2019 GM C3500 – C6500 Vehicles with Factory Installed PTO Option and Remote PTO controls enabled
- Harness has with 12 in Blunt Cut wires provided in Kit for easy integration
- Optional Dual Voltage Monitoring for Chassis and Aux
- Compact Size with Panel-Mount case

Ordering Guide

Model	Description	Outputs
SS-GM-01	GM Start Stop Controller	1 Extra Output for Custom Applications
SS-GM-01-C	Customizable	

System Diagram



Specifications

Power Input (BAT): +11 to 16 Vdc
 Ground (GND): Connection to vehicle ground (BatteryNegative)
 Outputs are 700mA

Customization (Extra Features)

Extra Frequency Measuring Input Pin for monitoring variety of signals (frequency)
 2 Voltage Monitoring Pins
 (1) 12 Volt Chassis Battery
 (1) Aux Battery
 Extra Output can be utilized to activate PTO Set 2 High Idle Speed.

I/O Definition:

Black Wire	Pin 1:	Ground input
Orange Wire	Pin 3:	CTI input not used (Optional Freq Input Interface)
Gray Wire	Pin 4:	VAUX input not used (2nd Voltage Monitor)
Brown Wire	Pin 5:	IH1 high true input not used (Optional Interface)
Yellow Wire	Pin 6:	IL1 low true input 1
Tan Wire	Pin 7:	IL2 low true input 2
Red Wire	Pin 8:	+12V power input (and 1st Voltage Monitor)
Green Wire	Pin 10:	High Idle 12V Output
Blue Wire	Pin 11:	Aux 12V Output
Violet Wire	Pin 12:	Pin A of connector X191
White Wire	Pin 13:	Pin J of connector X191

Installation

1. We recommend that the module be installed by a person trained and skilled in vehicle electrical systems. The installation should comply with SAE (Society of Automotive Engineers) and the vehicle manufacturer's electrical wiring procedures (e.g. Ford, General Motors, etc.).
2. The module should be installed on the inside of the vehicle in a dry, protected environment.
3. The 12 volt power input must be from a properly fused +12 volt power source.
4. Wiring must be of the proper gage and type to handle the intended load currents.
5. If you are experiencing problems with the installation or need troubleshooting assistance, contact InPower Customer Service at 740-548-0965.

Mechanical Drawing

Mechanical
 Weight: 0.3 lbs.
 Operating Temperature: -40° C to +85° C
 Dimensions: 3.15" L x 1.94" W x .82" H

All dimensions in inches.
 Do not scale.