

TOUGH Series Autostart Controller

TG350

For engines or generators

The TOUGH series controllers are designed to provide complete control, protection and engine instrumentation for both standard and electronic CAN Bus engines as well as 3-phase volts metering for generator applications.

The module is easily configured as either an engine controller or a generator controller using either the front panel buttons or our PC configurator software.

TOUGH series controllers are ideally suited for severe duty applications where reliability is critical such as mobile and stationary engine equipment and generators.

Displays:

- Oil Pressure
- Engine Temperature
- Fuel Level
- Oil Level
- Hour Meter
- RPM
- Real time clock with time/date
- Battery Voltage
- J1939 DTC codes with custom text
- DPF and DEF status icons
- Two customer defined parameters (temperature, pressure, voltage, levels)
- 3-Phase AC Volts & Hz (for generators)

Features and Functions:

- SAE J1939 CAN Bus Protocol
- RPM via J1939, Magnetic pick-up, or Generator
- Speed control offset adjustment for electronic engines
- Auto start on Low Battery and other sensors
- Trim feature for sensors and AC voltage inputs
- Maintenance counter



Compact 4.17" x 6.5" x 1.38" Footprint



- Exerciser Clock
- 150 Event Log
- Conformally coated for protection against moisture and contaminants
- Gasket for water ingress protection
- Free PC Configurator Software
- Fast and rugged installation clips
- Passcode protected
- Automatic shutdowns and warnings

- Manual and remote start
- Momentary start/stop inputs
- Pre-heat and many configurable timers
- Accepts common senders (VDO, Datcon, Murphy, and more)
- Custom senders configurable with PC software
- 5-Year Warranty



Front Panel or PC Configurable

The TOUGH series can be programmed manually via front panel buttons or with our easy-to-use PC configurator software that provides customization of screen messages, sender selections, control settings, and much more. The PC configurator uses a standard USB cable with no special programmer required.

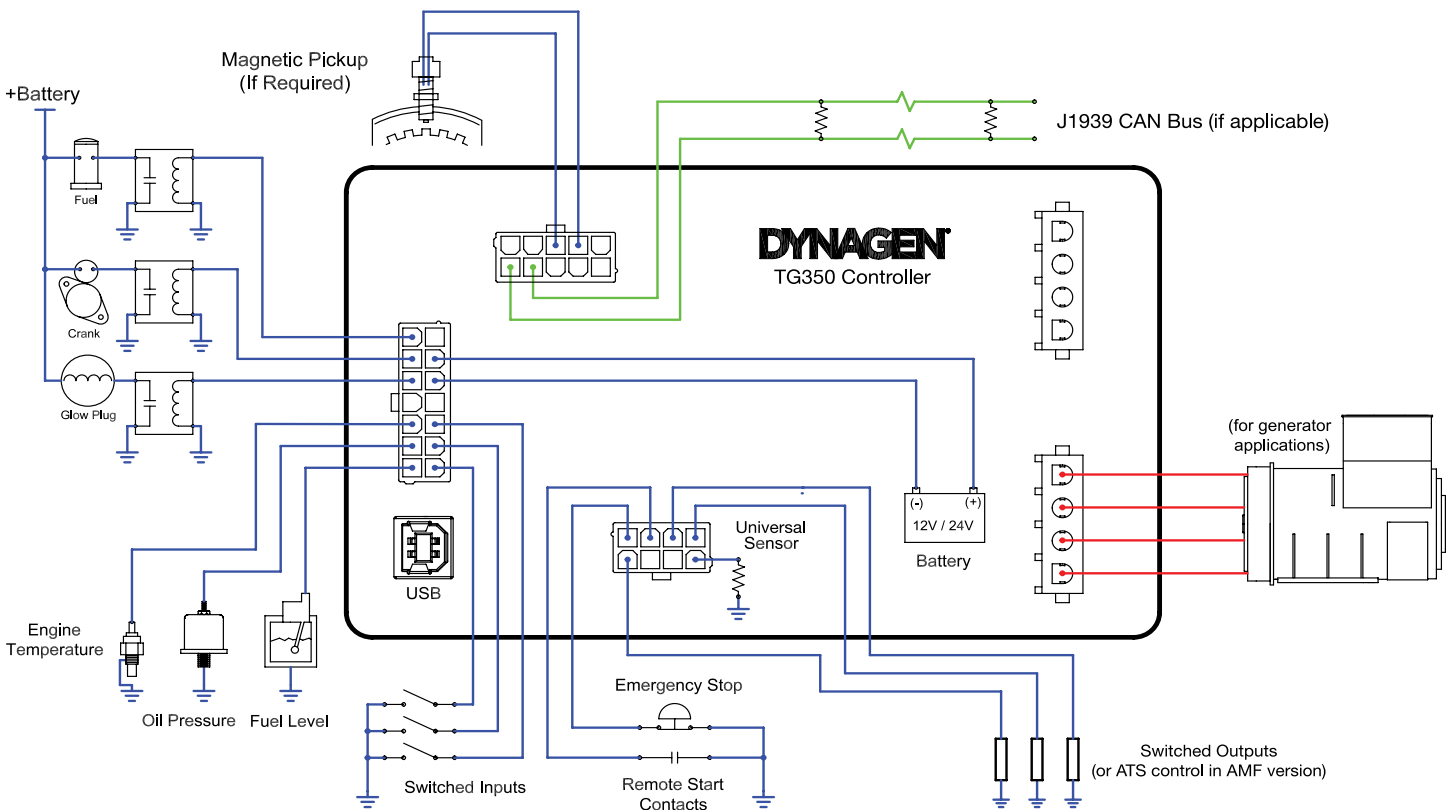


Snap-on RelayPak Option

The RelayPak is socketed to accept four industry standard cube relays. When installed, the RelayPak (RP-100*) eliminates the need to mount and wire external slave relays for Fuel, Crank, and up to two other loads.

*RP-100 includes mounting pack and 3 x 40A (resistive) relays.

Typical Wiring Example



This drawing is for example purposes, as other wiring configurations are possible. Please refer to user manual for detailed wiring instructions.

Inputs & Outputs

TG350	
J1939 CAN Bus	
Magnetic Pickup Input	
Generator Volts	3-Phase
Configurable Switched Inputs	5
Resistive Sensor Inputs	3
Universal Sensor Inputs (Resistive, voltage, 4-20ma)	1
Configurable Switched Outputs (in addition to fuel & crank)	4

Outputs (includes fuel/crank)

- Switched Outputs - 1A Max UL pilot duty:
 - Switched to +Battery
 - Short circuit & overload protected

Communications

- SAE J1939
 - Tier 2, 3, and 4 engines
 - Address settings for both the controller and the engine ECM
- USB
 - PC Configurator Connection
 - High retention socket accepts standard USB cable

SPECIFICATIONS

Operating Voltage

- 5.5 to 38VDC continuous. Cranking dropouts to 0VDC for 50mS, also meets SAE J1113-11
- Standby Current Draw: 50mA
- Reverse battery protected
- Surge withstand & Load Dump: SAE J1113-11

Operating Temperature

- Controller Function: -40 to +70 °C
- Display Screen Viewing: -20 to +70 °C

Vibration & Shock

- Meets or exceeds SAE J1455

Electromagnetic Compatibility

- Meets or exceeds MIL-STD-461E Conducted Emissions

Physical

- Dimensions: 4.17"H x 6.5"W x 1.38"D
- Weight: 0.83 lb

Speed Sensing

- Via J1939 bus, Magnetic pick-up, or Generator

Inputs

- AC Voltage Sensing (for generator applications)
 - Single-phase 2 and 3-wire
 - Delta 3 and 4-wire
 - Wye 2, 3, and 4-wire
 - Max 600vac* (direct connection) true RMS, +/- 1% of full scale
- Fixed Sensor Inputs:
 - 0-7500Ω Engine Temperature sender
 - 0-750Ω Senders or switches**
- Universal Sensor Inputs (configurable):
 - 0-7500Ω Senders, 4-20ma, 0-5V or switch**
 - 0-750Ω Senders

*For 600vac applications, use a step-down transformer or centre tap.

**Failure inputs must close to ground. All failure inputs are ignored for an adjustable bypass period.

- Configurable Switched Inputs with programmable text
 - Auto detect close to +Bat or Gnd

Electronic Engine Support:

- Standard J1939 Engines (Tier II, III & IV)
- Support for Volvo, John Deere, Cummins GM PSI, Yanmar, ISUZU*

* Consult factory for updates.