

DESCRIPTION

The EngineMaster™ J1939 CAN Bus Engine Controller is a microprocessor-based, digital controller providing complete engine monitoring, protection, display, and control for SAE J1939 electronic engines. P/N EMT3-C10184 is manual start. P/N EMT3-C10203 is auto start and includes pressure and level control capabilities where engine start, engine stop and pressure or level maintain values can be selected.

DISPLAY

Large backlit display with ½" characters. Six full-time display parameters.



ALARMS & SHUTDOWNS

Engine alarms are provided with easy-to-read display messages and indication lamps (yellow-pre alarm, red-alarm). The display provides the SPN.FMI trouble code, the number of occurrences and a descriptive message.



ENCLOSURE

The enclosure is water tight, constructed of durable, polycarbonate plastic with an industrial overlay of autotext polyester. This heavy-duty package provides protection and longevity for off-highway industrial applications exposed to vibration, UV, chemicals, solvents, diesel fuel, oil, etc.

THROTTLE CONTROL

Four throttle control configurations are available (Selectable).

- Defined Range – Select min and max rpm settings, operate within range
- Two State – Two speed settings
- Three State – Three speed settings
- Automatic Profile Throttle – For auto start applications. Select warm up, operating and cool down speeds for unattended operation.
- Pressure & Level Maintain – Select the pressure or level to maintain and the controller adjust engine speed accordingly.

BUTTONS

Large tactile dome buttons to insure positive feedback for operators with gloves.

CONNECTOR

A water tight 21-pin connector is utilized for simple plug-in installation.



SPECIFICATIONS

GENERAL

OPERATING VOLTAGE.....	5.5 VDC to 36VDC
MAXIMUM CURRENT CONSUMPTION AT 12.6V.....	120mA
STANDBY CURRENT CONSUMPTION IN AUTO MODE.....	25mA
OPERATING TEMPERATURE.....	-20°C to +70°C
STORAGE TEMPERATURE.....	-30°C to +80°C
HUMIDITY.....	95% Non-condensing
REVERSE POLARITY PROTECTION.....	Yes
TRANSIENT VOLTAGE SUPPRESSION.....	Yes
LOAD DUMP PROTECTION.....	Yes
DISPLAY.....	LCD, 1" H X 4" W, (2 lines x 16 characters/line)
ENCLOSURE.....	Polycarbonate Plastic
OVERLAY/INTERFACE.....	Autotex Polyester
APPROX. WEIGHT.....	4.5 lbs
APPROX. DIMENSIONS.....	10.5" H x 8.5" W x 5.5" D

COMMUNICATIONS

ENGINE COM PORT.....	CAN bus J1939 Protocol
REMOTE MONITORING SYSTEMS.....	Options Available

INPUTS

ANALOG INPUTS.....	6
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- 2 Channels configurable as either:
 - active voltage signal 0 to 5VDC max
 - 4-20mA current loop
 - resistive sender to 400 ohms max
 - switch closure to ground to activate (12mA wetting current)
- 1 Channel configurable as either:
 - active voltage signal 0 to 5VDC max
 - 4-20mA current loop
 - resistive sender to 1000 ohms max
 - switch closure to ground to activate (5mA wetting current)
- 3 Channels configurable as either:
 - active voltage signal 0 to 5VDC max
 - switch closure to ground to activate (500uA wetting current)
 - switch closure to +14VDC max to activate (10mA wetting current at 14VDC)

DIGITAL INPUTS.....	20
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- 8 Channels close to ground to activate
- 2 Opto-isolated close to ground to activate (8mA wetting current)
- 1 Periodic wave digitizer input. Accepts a sine wave, square wave, or pulse train from 200mV to 20V p-p amplitude. Self-centering circuit accepts waveforms symmetric about zero, or any level above zero
- 8 position DIP switch on back of PCB for field/service settings
- 1 Jumper block on back of PCB

OUTPUTS

RELAY.....	5
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- 2 Form C 10A @30VDC, with freewheel diodes, common contacts tied together
- 1 Form C 5A @30VDC, with freewheel diode
- 3 Form A 5A @30VDC with freewheel diodes

DIGITAL.....	6
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- 6 TTL (5 volt) compatible outputs, 8mA max source/sink current

THROTTLE CONFIGURATION.....	SELECTABLE
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- 1) Defined Range – Set min and max engine speed, operate within range
- 2) Two State – Set two operating engine speeds
- 3) Three State – Set three operating engine speeds
- 4) Automatic Profile Throttle – For auto start, select automatic throttle profile including warm up, operating and cool down engine speeds

Extreme Cold Weather Option

OPERATING TEMPERATURE.....	-45°C to +85°C
STORAGE TEMPERATURE.....	-55°C to +95°C