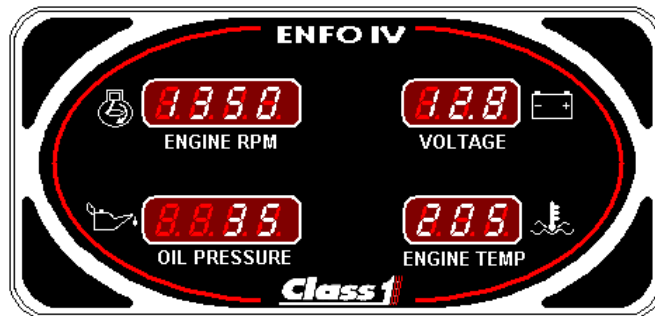


Contents

Enfo IV



Contents	.....	1
Overview	.....	2
Operation	.....	3
Installation and wiring	.....	7
Specifications	.....	9
Menu	.....	10

Overview

The Enfo IV is an engine-monitoring device that reads and displays engine temperature, engine RPM, and engine oil pressure as it is transmitted from the engine ECU via the SAE J1939 CAN bus. Vehicle voltage is also displayed but is independent of CAN operation.

The Enfo IV can be used on both 12 and 24 Volt systems. The Enfo IV uses an automatic voltage detection system to determine the low voltage point for alarm activation.

The Enfo IV can be connected to an external alarm and external alarm-silence switch. High engine temperature (250° F), low oil pressure (10 PSI), or low voltage (11.9V or 23.8V) will cause the Enfo IV to activate the external alarm.

Enfo IV	C1 – PN	108661
---------	---------	---------------

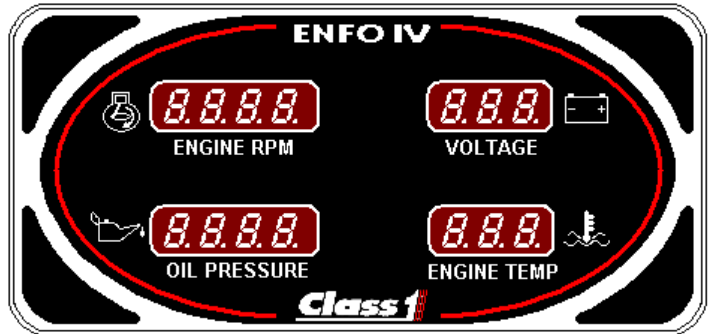
Colored corner tags

Beige	C1 – PN	106669
Black	C1 – PN	106030
Blue	C1 – PN	106023
Brown	C1 – PN	106025
Burgundy	C1 – PN	106667
Gray	C1 – PN	106668
Green	C1 – PN	106022
Lime	C1 – PN	106670
Light Blue	C1 – PN	106671
Orange	C1 – PN	106028
Pink	C1 – PN	106024
Purple	C1 – PN	106666
Red	C1 – PN	106029
Rust	C1 – PN	106027
Silver	C1 – PN	106026
White	C1 – PN	106665
Yellow	C1 – PN	106664
10ft Connection harness	C1 – PN	110346

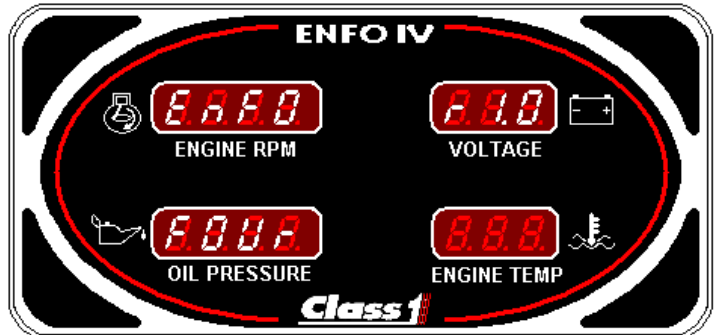
Operation

INITIALIZATION

1. A normal initialization of the Enfo IV will light all LED segments to verify that all displays are operational.

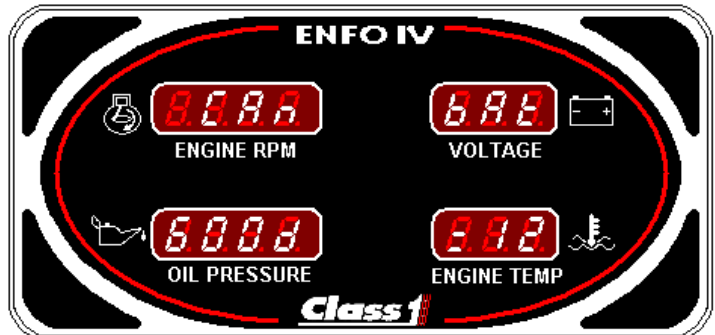


2. The Enfo IV then displays the software revision number.

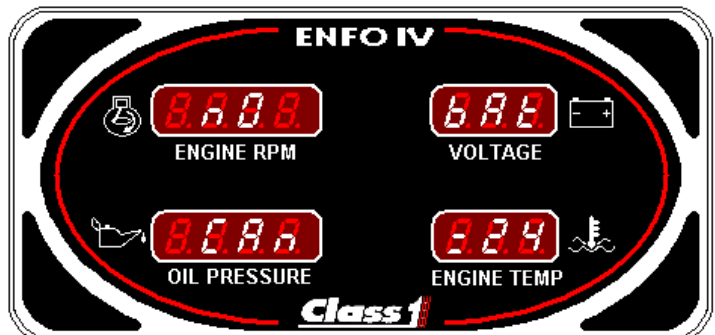


3. The Enfo IV then checks for valid CAN communication and checks the voltage range.

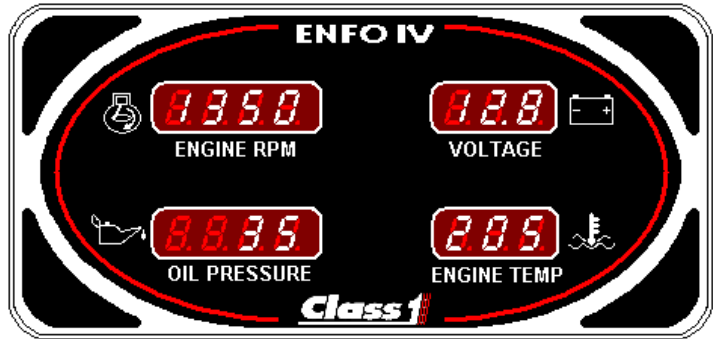
Indication of CAN valid and 12V ignition system detected →



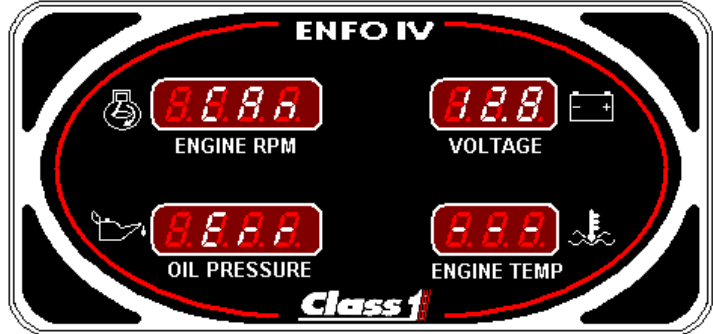
Indication of CAN invalid and 24V ignition system detected →



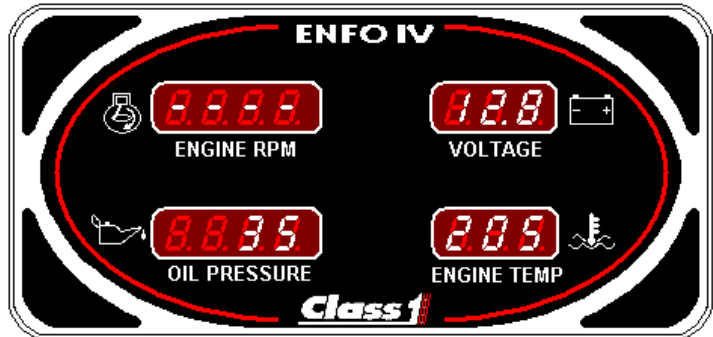
4. The unit will then start normal operation.



If CAN information is not present the Engine RPM, Oil pressure, and Engine temp displays will flash the CAN ERR message.



If CAN information is not present for a specific display, that display will show dashes.



Engine RPM Display

The Engine RPM data is received from the engine ECU via CAN (PGN 61444, EEC1).

Engine Oil Pressure Display

The Engine Oil Pressure data is received from the engine ECU via CAN (PGN 65263, EFLP1).

The ENFO IV will activate the alarm if the pressure drops to **10 PSI** or lower.

When the pressure is low the display will alternately show the current pressure and "**LO**".

Engine Water Temperature Display

The Engine Water Temperature data is received from the engine ECU via CAN (PGN 65262, ET1).

The ENFO IV will activate the alarm if the temperature reaches **250 degrees F** or higher.

When the Temperature is high the display will alternately show the current temperature and "**HI**".

Vehicle Voltage Display

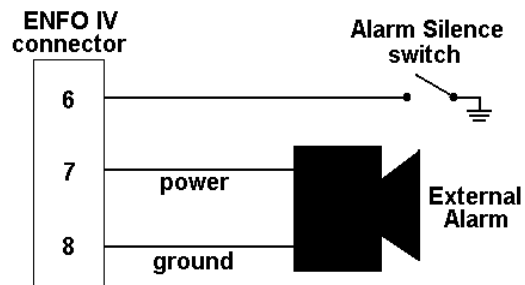
The Voltage is derived from the main input Power and Ground pins and is independent of CAN messages. Voltage is displayed with 0.1V resolution.

The ENFO IV will activate the alarm if the voltage falls to **11.9V** and below (12V ignition), or **23.8V** and below (24V ignition). The voltage level must stay at the low voltage range for a minimum of 2 seconds to activate the alarm.

When the voltage is low the display will alternately show the current voltage and "**LO**".

ALARM

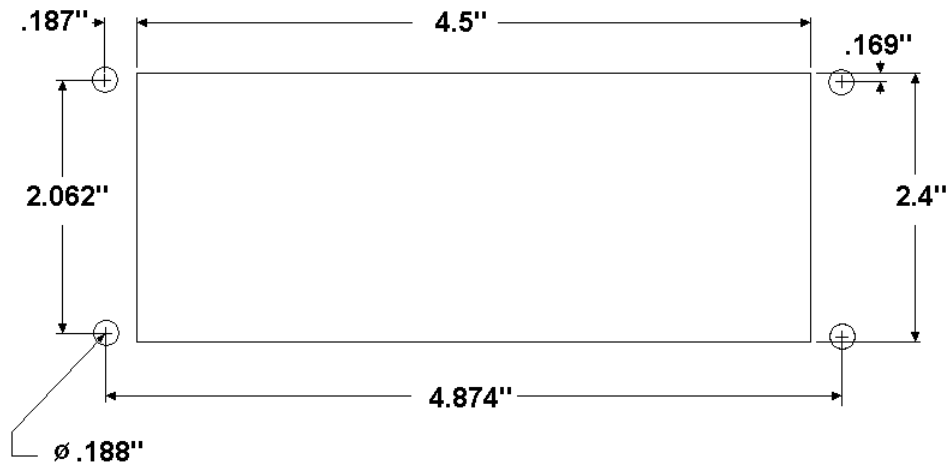
The Enfo IV can be connected to an external alarm (250mA max.) and alarm silence switch. When the Enfo IV activates the alarm it will remain on until the alarm condition is no longer present or the alarm silence button has been pressed. The alarm will remain OFF for 5 minutes after the alarm silence button was activated at which time the alarm will again activate (if the alarm condition still exists).



Installation and Wiring

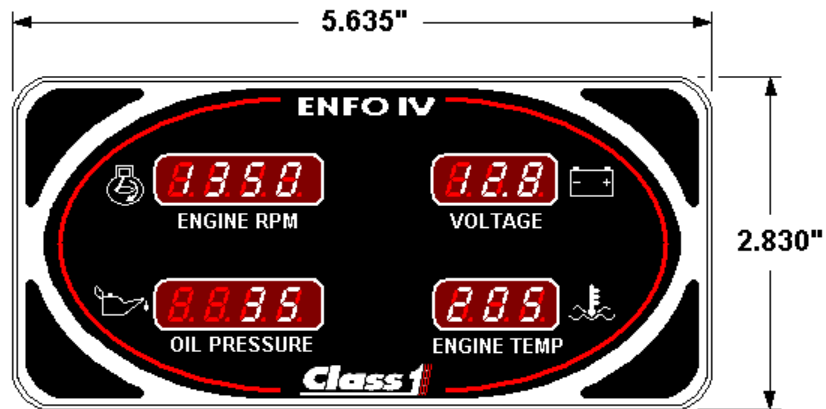
Dimensions

The display requires a cutout as shown. The unit is water tight and may be mounted in any location on the operator's panel.



NOT TO SCALE

Mounting dimensions.



Overall dimensions.

Wiring Installation

Amp connector: 776286-1 Class1 PN: 106297

Amp pins: 770520-1 Class1 PN: 106298

1	CAN High	Data SAE J1939 (HI)	INPUT/OUTPUT
2	CAN Low	Data SAE J1939 (LO)	INPUT/OUTPUT
3	CAN Shield	Shield	
4	System Power	+10 ... 32V DC	INPUT
5	System Ground	Ground	INPUT
6	Alarm Silence	Ground	INPUT
7	Audible Alarm	Power	OUTPUT
8	Audible Alarm	Ground	OUTPUT

Specifications

Parameter	Value	Unit
Input voltage	10 to 32	VDC
<i>Current nominal:</i>		
@ 27.6VDC	115	mA
@ 13.8VDC	184	mA
Operating temperature	-40 to 85	°C
Alarm current maximum	250	mA