

# On-Vehicle Monitors Used in Retrofit Applications

Manufacturers of Emission Controls Association

*Southeast Diesel Collaborative  
Third Annual Partners Meeting  
June 25, 2008*



## On-Vehicle Monitors: Examples of Important Features

- Back Pressure and Exhaust Temperature monitor and alarm system
  - 2 Back Pressure Alarms
  - Up to 2 Temperature alarms (2 Temperature inputs)
  - 4 system alarms
- 2 alarm outputs
  - Can be interfaced with vehicle ECU (if equipped) to light Check/Stop Engine lamps or de-rate engine
  - Connect to a Remote Display Unit or drive a buzzer
- Datalogging to allow easy alarm diagnosis
  - Up to 2 years continuous data can be stored



## On-Vehicle Monitors: Examples of Important Features

- Environmentally resistant
  - Durable aluminum enclosure allows installation on vehicle frame, inside engine space, or inside cab
  - Common pigtails allow easy connection to wiring harness
- Easy to use software
  - User Friendly “Push Button” programming
  - Software compatible with Windows 95 and later PCs
  - Generally pre-programmed by the retrofit technology supplier



## On-Vehicle Monitors Have Extensive Experience Base

- Over 30,000 installed internationally
  - On-road vehicles: Transit, municipal, over the road
  - Off-road vehicles: Scrapers, dozers, front end loaders
  - Test cell: Engine dynamometers
  - Industrial: Fork trucks, skid steers

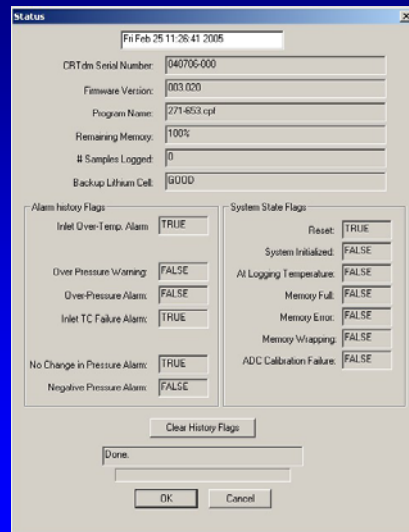


## Example On-Vehicle Monitor System



## Example Software

- User Friendly Software tells technician what alarm is/was active
- True indicates an alarm.



## Example Software

- Real Time readings allow user to see actual second by second back pressure and temperature while the engine is running

Real-Time Values

Thu Jul 21 14:50:25 2005

Inlet Temperature: 22.000000 °C

Outlet Temperature: °C

Pressure: 0.000000 \*Hg

Inlet Over-Temp. Alarm: FALSE

Outlet Over-Temp. Alarm:

Over-Pressure Warning: FALSE

Over-Pressure Alarm: FALSE

Inlet Thermocouple Fail Alarm: FALSE

Outlet Thermocouple Fail Alarm:

No Change in Pressure Alarm: FALSE

Negative Pressure Alarm: FALSE

Pause

Retrieving Real-Time Data...

OK Cancel



## Example Software

- User configurable alarm settings
- Password protection on critical parameters available
- Easily updated firmware
- Creates graphs of recorded data
- Creates a text record of recorded data

Default - CRTdm Communications

File Communications Tools Options View Help

Communications

CRTdm Serial Number: 020409 000

Unit Name:

Unit Type: 51/52

Disconnect

Upload Program To CRTdm

Download Program From CRTdm

Download Data

Clear Memory

Get Status

Start Real-Time Display

Set Time

Change Unit Name

Launch Plotter

Create All Reports

CRTdm Run Program

Pressure Sensor Fail Over-Temp Over-Press Logging Strategy TC Fail

Inlet Over-Temperature Alarm

Enable Alarm

Log Alarm Transitions

Active Output(s) During Alarm: Output 1 Output 2

Output Function: ON Only During Alarm LATCHED ON Upon Alarm

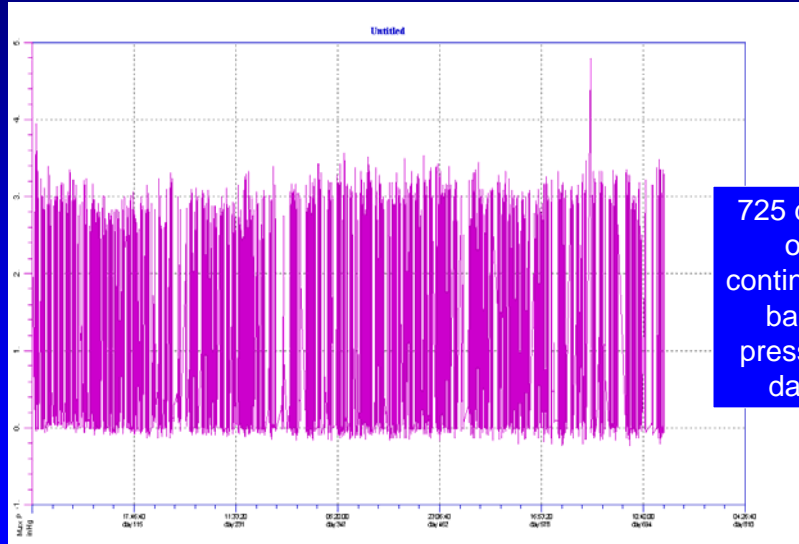
Aspire Alarm Above: 500 C

Hysteresis: 25 C

Upon Over-Temperature, extend alarm for: 60 seconds. (A setting of 1 adds no time extension.)



# Example Data Output



725 days  
of  
continuous  
back  
pressure  
data



# Photos of Installed Monitors

Construction Equipment



In Engine Space



Inside Cab



In Engine Space

