

On-Vehicle Monitors Used in Retrofit Applications

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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.

The screenshot shows a 'Status' window with the following information:

Time: Fri Feb 25 11:26:41 2005

CRTdm Serial Number:	040706-000
Firmware Version:	003.020
Program Name:	271-653.cpf
Remaining Memory:	100%
# Samples Logged:	0
Backup Lithium Cell:	GOOD

Alarm history Flags		System State Flags	
Inlet Over-Temp. Alarm	<input checked="" type="checkbox"/> TRUE	Reset:	<input checked="" type="checkbox"/> TRUE
Over Pressure Warning:	<input type="checkbox"/> FALSE	System Initialized:	<input type="checkbox"/> FALSE
Over-Pressure Alarm:	<input type="checkbox"/> FALSE	At Logging Temperature:	<input type="checkbox"/> FALSE
Inlet TC Failure Alarm:	<input checked="" type="checkbox"/> TRUE	Memory Full:	<input type="checkbox"/> FALSE
No Change in Pressure Alarm:	<input checked="" type="checkbox"/> TRUE	Memory Error:	<input type="checkbox"/> FALSE
Negative Pressure Alarm:	<input type="checkbox"/> FALSE	Memory Wrapping:	<input type="checkbox"/> FALSE
		ADC Calibration Failure:	<input type="checkbox"/> FALSE

Buttons: Clear History Flags, Done, OK, Cancel

Example Software

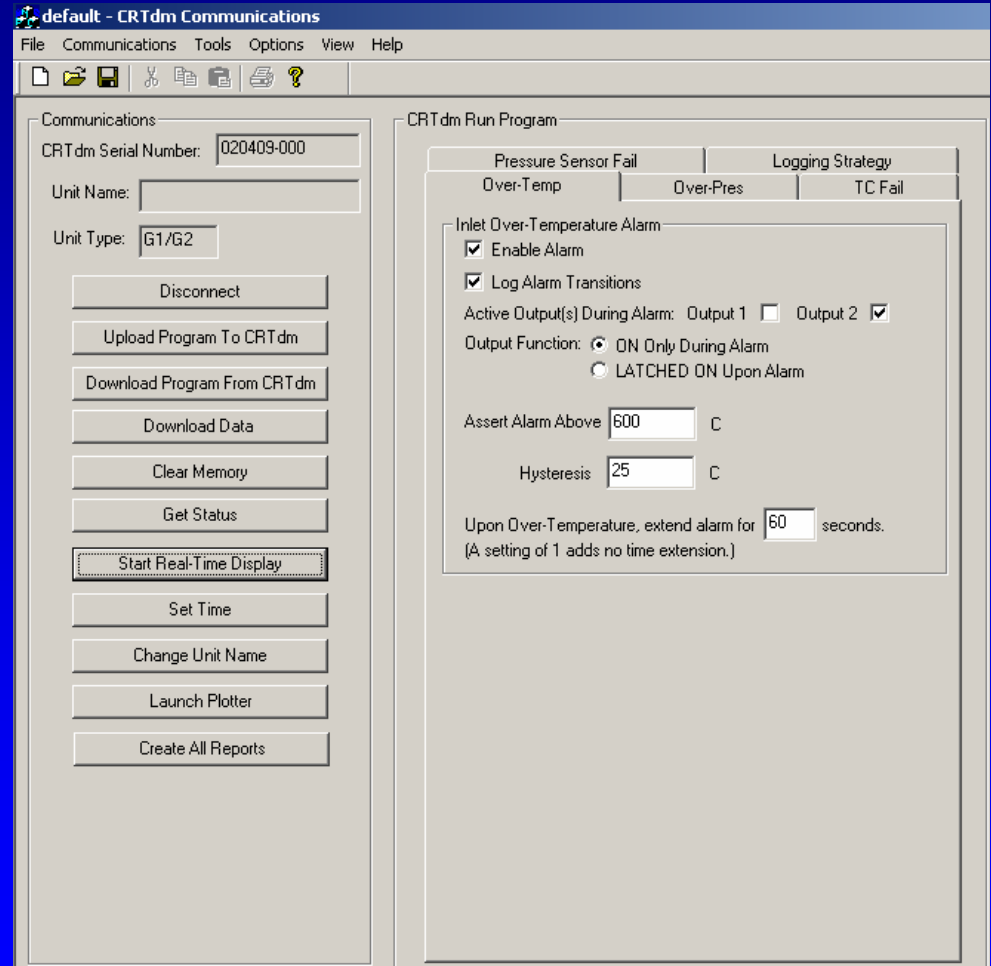
- Real Time readings allow user to see actual second by second back pressure and temperature while the engine is running

The screenshot shows a software window titled "Real-Time Values" with a close button (X) in the top right corner. The window displays the following information:

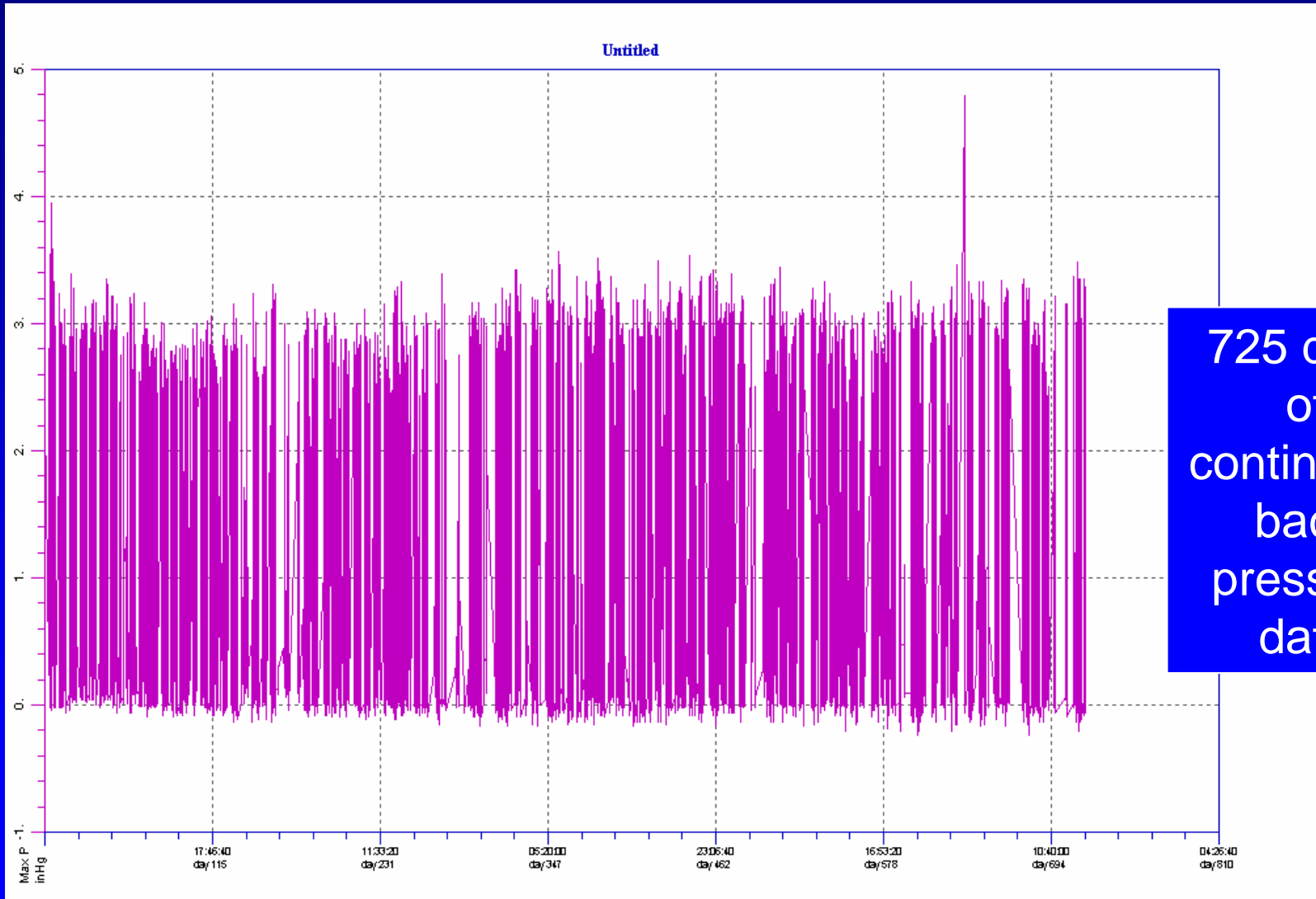
- A date and time field: Thu Jul 21 14:50:25 2005
- Inlet Temperature: 22.000000 °C
- Outlet Temperature: [empty] °C
- Pressure: 0.000000 "Hg
- Inlet Over-Temp. Alarm: FALSE
- Outlet Over-Temp. Alarm: [empty]
- Over-Pressure Warning: FALSE
- Over-Pressure Alarm: FALSE
- Inlet Thermocouple Fail Alarm: FALSE
- Outlet Thermocouple Fail Alarm: [empty]
- No Change in Pressure Alarm: FALSE
- Negative Pressure Alarm: FALSE
- A "Pause" button
- A status bar: Retrieving Real-Time Data...
- A progress bar with 10 segments, all of which are filled with blue.
- "OK" and "Cancel" buttons at the bottom.

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



Example Data Output



725 days
of
continuous
back
pressure
data

Photos of Installed Monitors

Construction Equipment



Inside Cab



In Engine Space



In Engine Space

