



Integrated Vehicle Intelligence System



Real-time diagnostics for the mission-critical emergency vehicle market

What is ACETECH™?

ACETECH is a fully integrated, performance monitoring and control system for vehicles. It provides you with powerful system-wide, on-board intelligence — the operational data and insights to help you **improve the efficiency and safety of your vehicles and staff, and to reduce your fleet's fuel and operating costs.**

ACETECH can be installed together or individually to seamlessly merge with your vehicle's on board electronics and communications. The system can be installed either at time of build or most ACETECH components can be retrofitted.

The ACETECH difference is in our integrated approach to vehicle systems. One company providing one complete solution. **ACETECH eliminates the inconvenience** of getting your vehicle-based solutions from different providers. ACETECH does, however, work with other software.

ACETECH's integrated approach means you receive constant **real-time feeds of detailed data** which you can use to take full control of asset placement in the field, enhance driver and occupant safety and reduce operational and fuel costs.

ACETECH provides a wide range of data for individual vehicles or your entire fleet including:

- › Vehicle status and location
- › Battery management
- › Crash prevention with event status & duration reporting
- › Equipment tracking
- › Engine status, idling and fuel consumption
- › Real-time alerts and detailed reporting

The ACETECH™ Modules:

All ACETECH modules are available for new vehicle builds. AVI, ECO and AP Modules may be retrofitted on existing vehicles.



The ECU Module (Electronic Control Unit)

Provides CAN-Bus monitoring and customisable control of all vehicle electronics. This nerve centre eliminates countless relays, switches and control systems. It centralises functionality into one single programmable, reliable unit.



The AVI Module (Advanced Vehicle Informatics)

Combines GPS, OBDII and accelerometer data with real-time email alerts and web-based mapping. Reduce your risk and liability - track and correct fleet and vehicle issues and driver behaviour as it occurs. AVI Module also includes a full featured, web-based reporting interface.



The ECO-Run Module

Provides automated monitoring of system voltage and control of the vehicle's engine to reduce engine idling. Reduced idling lowers fuel consumption and carbon emissions which means increased savings and greener environmental results.



The AP Module (Asset Protection)

Provides RFID based tracking and security for all vehicle equipment assets. Control situations that can lead to the theft or loss of valuable equipment.

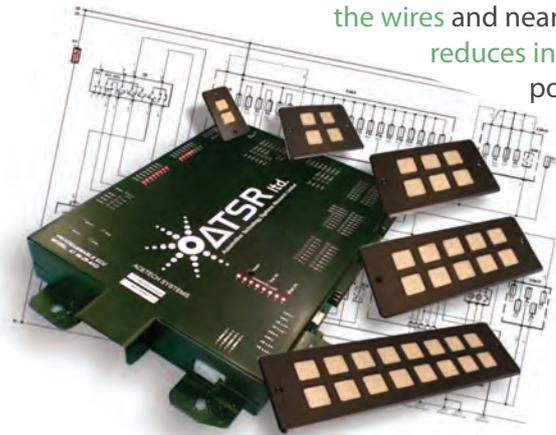


The Electronic Control Unit Module

The ECU Module (Electronic Control Unit) interconnects vehicle electronics through the CAN-bus to provide unparalleled monitoring and customisable control of all vehicle electronics. The ECU controls numerous devices that otherwise would require many separate controllers. The ECU is the one module that must be installed during vehicle build.

Unlike conventional control systems with multiple wires, terminal points and relays, ACETECH's solid-state controllers centralise functionality into a single programmable unit and eliminates up to half the wires and nearly all relays and nodes. For new vehicle builds, the ECU significantly reduces installation time and the amount of wiring, terminations and failure points compared to conventional systems.

The system is easily programmable and changeable before and after installation. Real-time data, combined with text alerts, informs you right away if an error or violation occurs.



ECU Benefits

- › Anti-Theft and High Idle functions built in
- › H/L Flashers built in with multiple timers
- › Exceptional battery management system
- › Enables fleet managers to increase vehicle up time, increase life of vehicle and improve scheduled and non-scheduled repairs and maintenance
- › Robust, reliable vehicle interface delivered by an advanced multiplex system utilising automotive J1939 CAN bus system technology
- › Powerful yet user-friendly configuration software
- › Fast, effective diagnostics using LED display status for all circuits
- › Receive vehicle based information and diagnostic alert by email (ECU +AVI combined)

ECU Features

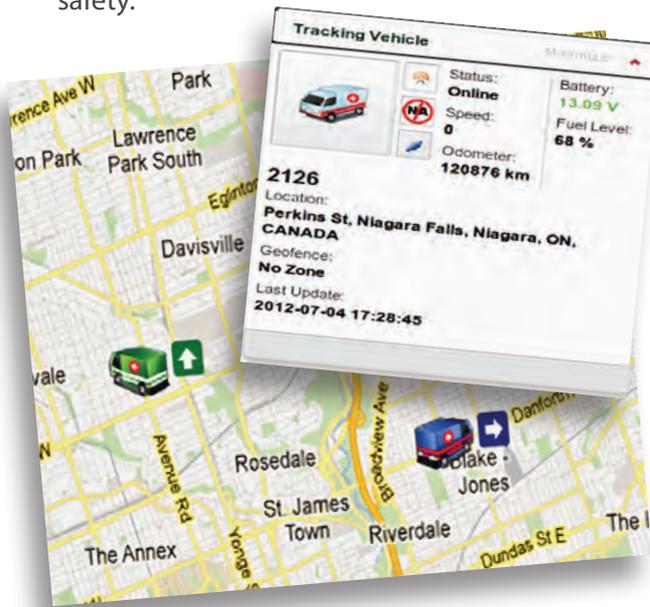
- › Pre-check of all circuits with one button
- › Customised control of all auxiliary vehicle systems using environmentally sealed touch pad switches
- › Flexible design Control Panels - switches all configurable (standard, cyclic, indicator, special feature, respond mode)
- › Integrated battery monitoring system
- › Multi-battery management incorporating multi-channel split charging system
- › Intelligent vehicle-emergency start
- › Monitors and reports on vehicle functions (ECU +AVI combined):
 - Batteries
 - Siren
 - Anti-lock brakes
 - Odometer
 - Light Bar
 - Flood lights
 - Patient lights
 - AC systems
 - Lights
 - Airbags
 - Check engine light
 - Fuel/ Air mix
 - Oil level



The Automatic Vehicle Informatics Module

Optimise vehicle placement, utilisation and safety in the field

The ACETECH AVI Module is so much more than just vehicle tracking. It gives you unparalleled, actionable data and insights on driver behaviour and vehicle status in real-time. The AVI module monitors real-time information supplied from OBDII, sim-card, modem, GPS, a three-axis accelerometer, speed and basic vehicle information. Knowing the real-time status of a driver, a vehicle and your whole fleet puts you in control of vehicle utilisation and safety.



AVI's Integrated Safety System

Reduces collisions and risk of injuries, increase vehicle life, improves financial performance and a whole lot more.

- Receive alerts and intervene to improve safety: Speeding infractions; Unbelted/unsecured occupants; Lights and sirens compliance; Force detection (based on accelerometer data); Unknown driver
- Provide feedback to employees with Driver Safety reports
- Set pre-defined speed limiters (with 000 override option)
- Mapping shortens response distance and decreases risk
- Bypass hazards with an optional 'Traffic Advisor'
- Lead police to a stolen vehicle. Stop it in its tracks!
- Camera integration — reversing; live video feeds to Medical Director

AVI Benefits

- Improve despatch and response times with advanced tracking and geo-fencing
- Increase crew safety with crash notification, panic button and real-time location status
- Protect assets with theft protection and geo-fencing
- Modify driving behaviours with real-time dashboard, full featured reports and auto-updates on driving violations
- Monitors and records Idle data and projects costs
- Reduce fleet administration time and improve fleet efficiency and operations with remote vehicle diagnostics and real-time fleet management
- Track information through web based interface or via established despatch software. Schedule email reports

AVI Features

- Transmits vehicle-based data including vehicle status - real-time speed, location, call sign
- Vehicle reports include fuel efficiency, MPG, fuel levels, driver pattern and ESP & ABS alerts
- Monitor Driver Behaviour for feedback/training - lights & siren compliance, seat belt usage, speeding infractions and more
- GPS based vehicle and call route recording with post crash/ incident review
- Fuel & emissions monitoring, remote vehicle diagnostics, real-time odometer readings
- Audible, visual and remote alert notification including speed limiter, 000 on, siren on, low battery voltage, shoreline mains, left behind assets and geo-fencing
- Complete suite of operational & fleet reports
- Can be retrofitted. Integrates with established despatch software



The ECO-Run Module

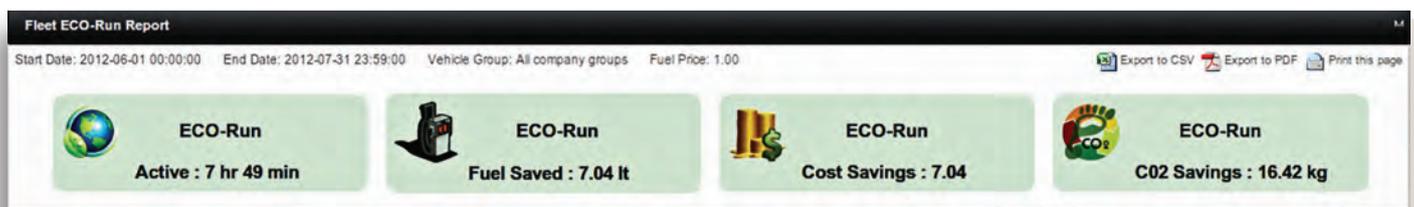
Optimise your fuel efficiency. Reduce your carbon footprint

The ECO-Run module puts you in control of your fleet's fuel consumption and carbon footprint. ECO-Run monitors system voltage and occupant compartment temperature, and automatically cycles the engine off and on during vehicle idle. The Eco-run idle-reduction cycle can reduce vehicle idle times by up to 40%, which lowers fuel consumption, carbon emissions, and general wear on your vehicle's engine. When ECO-Run is engaged, the ignition key may also be removed leaving the module to run in anti-theft mode.

The ECO-Run module gives you the ability to stop unwanted idling. With ECO-Run, you can allow your vehicle to shut down while idling even when:

- › emergency and scene lights are on
- › the air conditioner is running
- › the vehicle is on-scene or at post.

The vehicle will restart according to pre-programmed criteria such as when the battery voltage drops below a certain threshold or when the internal vehicle temperature crosses a predetermined boundary. The emergency start is always available as back up.



ECO-Run Benefits

- › Reduce idle times by as much as 40% to lower your fuel consumption and costs
- › Reduce carbon emissions and contribute to a greener environment
- › Prevent flat batteries
- › Extend vehicle and engine life. ECO-Run reduces engine wear and reduces maintenance costs
- › Monitor drive behaviour to reduce excessive rpm for additional fuel consumption reductions
- › Protect vehicles from theft when left idling
- › Detailed reporting. ECO-Run tells you how many hours your vehicles are idling per day, how much excessive fuel is used, ECO-Run cost savings and carbon savings

ECO-Run Features

- › Continuously monitors voltage and patient compartment temperature
- › Advanced battery management system
- › Automatic or manual system engagement
- › Audible warnings (option)
- › Idle and ECO-Run active web-based reporting when combined with AVI module
- › Programmable vehicle shutdown while idling
- › Automatic restart based on user-defined criteria such as patient compartment temperature
- › Crew override (option)
- › Emergency restart
- › Monitoring and management of battery voltages



The Asset Protection Module

Protect your investments and resources

The ACETECH AP (Asset Protection) module puts you in control of your assets with RFID based tracking and security for all vehicle equipment. The AP module combines an in-vehicle RFID receiver with RFID tags placed on your capital equipment to protect your assets from theft or loss and ensure your gear stays with the designated vehicle.

Asset	Asset type	Status	Location	Last Update	Map
Medical Bag Type B (2111)	Medical Bag B	Present	Portage Rd, Niagara Falls, Niagara, ON, CANADA	2012-05-22 20:52:11	
Stair Track Chair (2111)	Stair Track Chair	Missing	King St, Welland, Niagara, ON, CANADA	2012-05-11 21:27:31	
Airway / Oxygen Therapy Bag (2111)	Oxygen Therapy	Present	Portage Rd, Niagara Falls, Niagara, ON, CANADA	2012-05-23 00:54:04	
[D] Tank O2 Bag (2111)	O2 Bag	Present	Portage Rd, Niagara Falls, Niagara, ON, CANADA	2012-05-22 21:43:07	
Medical Bag A T-2363 (2111)	Medical Bag A	Present	Portage Rd, Niagara Falls, Niagara, ON, CANADA	2012-05-23 04:47:58	
Monitor LP15 BHP-905-704-4019 (2110)	Monitor	Missing	Hospital Dr, Fort Erie, Niagara, ON, CANADA	2012-05-22 20:19:52	
#9 (2110)	#9	Missing	King St, Welland, Niagara, ON, CANADA	2012-05-22 20:19:52	
Stretcher (2110)	Stretcher A	Missing	North St, Niagara Falls, Niagara, ON, CANADA	2012-05-22 20:19:52	

8 asset(s)



AP Benefits

- Track equipment and assets against specific vehicles - stretchers, stair chairs, defibs, drug bags, portable suction units and more
- Never accidentally leave assets at base or at scene. An indicator on the switch panel alerts the driver that he or she is about to leave the scene or station without an asset
- Protect valuable equipment and assets from theft or loss
- Identifies location of equipment for routine maintenance
- Track equipment and assets within a fleet during multiple vehicle response events
- When integrated with the AVI module, you get real-time information on inventory levels held within vehicles or a station

AP Features

- RFID tags and tracking for equipment placed on vehicle
- Effective alarm systems in-vehicle and/or transmitted to Base Station via AVI module when equipment is detected out of vehicle range
- Recording and notification of last known position of equipment

ACETECH™ FAQ

Can I see an ROI from the ACETECH product line?

Yes. ACETECH replaces the features of several other manufacturers into one solution, bringing you excellent savings in both fuel costs and carbon emissions. The built-in safety program is world class in the way it allows you to better manage driving related risks.

How will ACETECH improve vehicle performance?

A 30% reduction in idle time conversely increases the vehicle's life span. The built-in driver safety program helps lower accidents and liability by encouraging safe driving practices. Vehicles with the ECU have greatly reduced electrical wiring and are therefore a simpler, lighter and more efficient vehicle to run. Real -time OBD alerts keep vehicle maintenance up to date and on time. Critical vehicle failures may be avoided resulting in a more reliable response and on-time performance.

Are the ACETECH components able to stand alone, or is it all or nothing?

The ACETECH system is both fully integrated and completely modular. While all four components together create a more robust vehicle management system, each individual component has the ability to stand alone according to your needs.

Can the ACETECH system tie in to existing 3rd party software?

Yes ACETECH can interface with existing 3rd party systems such as dispatch and fleet maintenance software.

Does it matter what vehicle chassis or emergency vehicle manufacturer I use?

No. ACETECH will work on any chassis and we are working with vehicle converters to acquaint them with our product line. As the end customer, you can ask your builder to install the products you choose.

What kind of reports or data can I get?

If your system includes the AVI, you have a wealth of information at your fingertips whether you're in the office, at home or on the road. By logging on to our secure website, you can track vehicles, view your safety performance, determine idle time and estimate fuel costs, view response hotspots and much more. You can also schedule to receive real time alerts on critical performance issues regarding safety and vehicle performance.

Contact Us

Contact us to learn more about the Ferno ACETECH system

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