

# FM200 Plus

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## OVERVIEW

The FM200 Plus is the ideal on-board computer for the management of driver safety, performance and vehicle utilisation.

The on-board computer records second-by-second interval data, driver and vehicle violations and detailed trip information.



## FEATURES

<p><b>Vehicle Immobilization Data Recording</b></p>	<p>A driver tag (code-plug) is used to verify a driver. Standard recorded data includes:</p> <ul style="list-style-type: none"> <li>• Date and time</li> <li>• Distance or hours</li> <li>• Speed or hours</li> <li>• Engine speed (RPM)</li> <li>• Trip start/depart/arrive/end time</li> <li>• Driver name and ID</li> <li>• Vehicle ID</li> </ul>
<p><b>Violation &amp; Event Monitoring</b></p>	<p>Standard event violations include:</p> <ul style="list-style-type: none"> <li>• Over speed</li> <li>• Over RPM</li> <li>• Green band driving (low and high)</li> <li>• Hard braking</li> <li>• Rapid acceleration</li> <li>• Excessive idling</li> <li>• Overtime driving</li> </ul> <p>In addition, optional hardware is available to allow you to define additional custom events such as door open, no-go zone entered, warning lights activated, refrigerator temperature exceeded, etc.</p>
<p><b>Driver Warning</b></p>	<p>A buzzer can be set to sound when an event occurs.</p>

## MEMORY

<p><b>1 MB</b></p>	<ul style="list-style-type: none"> <li>• 900+ trips, including event and violation data (up to 30 days of driving @ 30 trips per day)</li> <li>• 384KB for trip and event data, 128KB reserved for second by second interval (tacho) data, and the remaining memory is used by the operating system and device drivers)</li> </ul>
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## EVENT PARAMETERS

<p><b>Over Speed</b></p>	<p>Speed &gt; (x) where (x) is user defined</p>
<p><b>Excess Idling</b></p>	<p>Idling time longer than (time), where (time) is user defined</p>
<p><b>Over RPM</b></p>	<p>RPM &gt; (x) where (x) is user defined</p>
<p><b>Idling</b></p>	<p>RPM &lt; (x) and speed &lt; (y) where (x) and (y) are user defined</p>
<p><b>Hard Braking</b></p>	<p>Deceleration &lt; (x) where (x) is user-defined</p>
<p><b>Overtime</b></p>	<p>User defined</p>
<p><b>Green Band</b></p>	<p>RPM &lt; (x) or RPM &gt; (y) where (x) and (y) are user defined</p>
<p><b>Trip Start</b></p>	<p>Ignition "on" and driver identified or speed detected or RPM detected</p>

<b>Trip Depart</b>	Speed > 5 km/h
<b>Trip Arrive</b>	Speed < 5 km/h
<b>Trip End</b>	Rev = 0 and speed = 0 and no speed for longer than (time) where (time) is user defined between 35 seconds and 10 minutes

## AUXILLIARY INPUTS/OUTPUTS

<b>8 Configurable Analog or Digital inputs</b>	The FM200 <i>Plus</i> analog or digital inputs can be configured to monitor any device that generates a change in voltage, e.g. seat belts, head lights, refrigeration units, emergency lights, brakes, doors, PTO, UDS, trailer coupling, etc.
<b>4 Auxiliary Frequency Input</b>	The FM200 <i>Plus</i> auxiliary frequency input can be configured to monitor any device that generates a change in frequency, e.g. temperature sensor or liquid flow measurement. Alternatively, this input can be used as a pulse counter, e.g. electronic fuel consumption measurement (EDM). This input can also be used to read low baud rate digital data (e.g. GPS).
<b>2 Auxiliary Relay Drives</b>	Can be used to switch a relay with a current consumption of up to 150 mA.
<b>3 Serial Interfaces (2x RS232 and 1x TTL)</b>	Can be connected to any TTL or RS232 serial device using the external TTL to RS232 converter or TM Splitter (e.g. GSM modem or TM Terminal).

## TECHNICAL SPECIFICATIONS

<b>8 configurable analogue or digital inputs</b>	The FM200 <i>Plus</i> analogue or digital inputs can be configured to monitor any device that generated a change in voltage, e.g. seat belts, headlights, refrigeration units, emergency lights, doors, PTO, UDS, trailer coupling etc.
<b>4 auxiliary frequency input</b>	The FM200 <i>Plus</i> auxiliary frequency input can be configured to monitor any device that generates a change in frequency e.g. temperature sensor, liquid flow measurement or as a pulse counter e.g. electronic fuel consumption measurement (EDM). This input can also be used to read low baud rate digital data (e.g. GPS).
<b>2 Auxiliary relay drive</b>	This can be used to switch a relay with a current consumption of up to 150 mA.
<b>3 Serial interface (2x RS232 and 1x TTL)</b>	Can be connected to any TTL or RS232 serial device using the external TTL to RS232 converter (e.g. GSM modem or FM Terminal).

## DATA EXTRACTION

Three alternatives are available for extracting data from a FM200 *Plus* unit:

<b>CODE PLUG (Manual)</b> <b>Choice of 96k or 256k Green Code-Plug</b>	The code plug mechanism is the original means of extracting data from a vehicle. A plug is inserted into the vehicle's code-plug socket, and then inserted into a download module connected to a PC. The plug can store 900+ trips, including event and violation data (up to 30 days of driving @ 30 trips per day).
<b>GSM (Remote)</b> <b>(Optional Extra)</b>	Provided a GSM module has been connected and configured, you are able to perform automated remote downloads via GSM data calls, avoiding the need for the physical access to the vehicle required by the code-plug downloading method. These downloads are scheduled and initiated by the GSM Download Scheduler Software.
<b>Wireless (Yard)</b> <b>(Optional Extra)</b>	Provided a FM Wireless Kit module has been connected and configured to a wireless access point, the wireless network can be used over a short distance. This negates the need for the physical access to the vehicle required by the code-plug downloading method and is intended for vehicles that return regularly to home base. These downloads are scheduled and initiated by the Fleet Manager application software.

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## ACCESSORIES

The FM200 *Plus* is modular in design and can interface with a wide range of accessory products including fuel meters, tachograph, handheld computers and other products in the FM range (e.g. FM Terminal.). The FM200 *Plus* unit supports the use of the black passenger code-plug for identifying passengers.

## DRIVER MANAGEMENT

Using the blue driver code-plug, you can define and control access to your vehicles. The optional starter-circuit interruption (immobiliser) ensures that if a driver attempts to start a vehicle without authorization, the vehicle will not disarm. This improves security by preventing unauthorised trips, while also saving you money. Driver identification also means that you will always know who drove your vehicles, and when. All vehicle trips will be associated with a driver, and this will encourage your drivers to be more responsible and careful about their driving and the use of company vehicles.

The FM200 *Plus* also improves your drivers' driving style and reduces the potential for road accidents at the same time. When a user-defined event violation occurs in a vehicle (e.g. over speed, hard braking) the in-vehicle buzzer can sound to notify the driver instantly. The drivers can then take immediate corrective action and avoid potentially fatal consequences.

## VEHICLE MANAGEMENT

You can reduce fleet operating costs by monitoring and managing critical vehicle event and fuel data. The FM200 *Plus* detects and records standard and user-defined events, including over speed, over RPM, hard braking, rapid acceleration and out of green band driving. Reducing these events can significantly reduce the variable fleet operating costs associated with unnecessary tire, brake and engine wear, excessive fuel costs and high accident rates.

## ACCIDENT ANALYSIS

The FM200 *Plus* records second-to-second (tacho) data which can be used for accident analysis. Interval (tacho) data is second-to-second data that includes date, time, speed and RPM as well as the current status of the digital/analog inputs. A traditional tachometer records speed and RPM in graphical format on a paper disc where the on-board computer records this information electronically. This information can assist you when analyzing accidents, helping you identify what happened during the last few seconds before an accident.