FMS Gateway G2™ interface
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1 Introduction

Thank you for purchasing an Inventure product. Your new FMS Gateway G2™ interface is a carefully engineered, high quality durable product with intelligent features and robust styling. It is designed to give you the quality and convenience you expect from an automotive measuring instrument.

To familiarize yourself with all the features of your unit please read the following instructions carefully. Retain this guide for future reference.

2 The FMS Gateway G2™ interface

The interface connects to vehicle electronic communication channels, acquires and transfers real vehicle sensor data on its output. The output format can be standard FMS CAN, and/or RS232. The output data can be transferred via hardwire (FMS Gateway output cable – FMS CAN and/or RS232) method.

The FMS Gateway G2™ has only one firmware for each manufacturing group and it uses Automatic Vehicle Detection which means that after installing the device will detect your vehicle by itself.

2.1 Main features

This intelligent interface provides solution for different needs, as listed below:

- 1 firmware for each manufacturing group
- Automatic vehicle detection
- FMS functionality (according to FMS 2.0 / 3.0 standard) to monitor vehicle parameters
- Eco-Driving functionality to monitor driver behavior
- Additional CAN input for flexible CAN data capture
- Analog input to monitor analogue signal
- Tachograph functionality\(^1\) to manage vehicle availability
- Trailer information\(^2\) to monitor vehicle gross weight, ABS activity, lamp status, etc.
- Diagnostic Trouble Code\(^3\) to assist vehicle maintenance

2.2 Features in comparison to FMS Gateway G1™

In comparison to FMS Gateway G1™ interface the new generational device provides additional features to the user, such as:

- 1 firmware for each manufacturing group
- Automatic vehicle detection

\(^1\) Extra feature: please contact Inventure Automotive for details
\(^2\) Extra feature: please contact Inventure Automotive for details
\(^3\) Extra feature: please contact Inventure Automotive for details
- **Additional vehicle parameters** (according to FMS 2.0 / 3.0 standard)
- **Eco-Driving functionality** to monitor driver behavior
- **Additional CAN input** for flexible CAN data capture
- **Analog input** to monitor analogue signal
- **Tachograph functionality**¹ to manage vehicle availability
- **Trailer information**² to monitor vehicle gross weight, ABS activity, lamp status, etc.
- **Diagnostic Trouble Code or MIL status**³ to assist vehicle maintenance

### 2.3 Additional features

The FMS Gateway G2 interface has advantageous features that are accessible via mini USB connector, such as:

- **Flexibility**: vehicle related firmware can be uploaded or updated
- **Configurability**: interface output parameters can be set or filtered
- **Vehicle measurement**: If the vehicle is not supported, then you can easy make a CAN measurement using FMS Gateway G2. You just send this measurement to Inventure Support ([support@inventure-automotive.com](mailto:support@inventure-automotive.com)), we analyze the files and update new firmware as soon as possible
- **Troubleshooting**: should you need further assistance during installation, measurements can be recorded from the Support Tool PC software. The measurement can be analyzed by Inventure experts and effective support can be provided.
2.4 **Product levels, device functionality (ECO vs. PLUS)**

The FMS Gateway G2 device's functionality depends on the purchased features. The functionality can be extended by purchasing additional features. The new features will be available after refreshing the G2 Device Database.

There are two product levels: Eco and Plus. The Eco has a different hardware than the Plus, since it only has 2 connectors instead of 5. The available features of each different product level are shown in the next table.

<table>
<thead>
<tr>
<th>Information</th>
<th>Eco</th>
<th>Plus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firmware Update</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>FMS Data</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Eco-Driving Information</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Analog Input</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Extra Information</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>J1708 Input</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>2nd CAN Input</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>DTC (Diagnostic Trouble Code)</td>
<td>x*</td>
<td></td>
</tr>
<tr>
<td>Trailer Information</td>
<td>x*</td>
<td></td>
</tr>
<tr>
<td>Reefer Information</td>
<td>x*</td>
<td></td>
</tr>
<tr>
<td>Tachograph Information</td>
<td>x*</td>
<td></td>
</tr>
</tbody>
</table>

* - Extra modules. Not included, please contact Inventure Sales ([sales@inventure-automotive.com](mailto:sales@inventure-automotive.com)) for further information.

To enable the Extra Modules, you will need the G2 Device Database. You can find more detailed about the G2 Device Database in the **FMS Gateway Support Tool User's manual**.

**Explanation:**

- **Firmware Update**
  - *An option to update the firmware of the device so it is usable in other vehicles*

- **FMS Data**
  - *Available FMS Data according to FMS 3.0 standard*

- **Eco-Driving Information**
  - *Information about the driving style (for more detailed please check the Inventure FMS Gateway G2 Eco-Driving document)*
Analog Input
- An option to connect analog voltage sensor (e.g. fuel level sensor)

Extra Information
- Useful information that are not part of the FMS Standard, like information about the doors, lights and seatbelt.
- Only available if the sensor is present in the vehicle

J1708 Input
- Provides an input connection possibility for J1708 buses.

2nd CAN Input
- A second CAN input where other can bus or one of the extra modules can be connected.

DTC (Diagnostic Trouble Code)
- Provides the decimal or hexadecimal error codes that are currently active or in some vehicles MIL status information
- Extra module, please contact sales@inventure-automotive.com for further details

Trailer Information
- Can provide information about the attached trailer such as ABS Status, Retarder status, Trailer speed, Acceleration, Trailer distance, Trailer ID, Stop lamp, Tyre pressure, Braking information (pressure, temperature, etc.), Axle load, etc.
- Some information are only available if a sensor is present in the vehicle
- Extra module, please contact sales@inventure-automotive.com for further details

Reefer Information
- Provides multi zone temperature monitoring and other information such as operating mode, engine mode and total hours of operation.
- Extra module, please contact sales@inventure-automotive.com for further details

Tachograph Information
- Provides driving information such as driving time, driver ID, cumulated driving time, etc.
- Extra module, please contact sales@inventure-automotive.com for further details
2.5 How to use Inventure FMS Gateway G2™

❖ Identify your vehicle
  o To properly set up your device you will need to know your vehicle’s manufacturer, type and in some cases the year it was manufactured. Check your vehicle in the Inventure Supported Vehicle list. (support@inventure-automotive.com)

  E.g.: INV_FMSGW_G2_Supported_Veh_List_v04_20180618.pdf

❖ Firmware update process
  o Install FMS Gateway Support Tool

    ▪ See further details in the FMS Gateway Support Tool User’s manual

❖ Check Fuel Tank size
  o On some vehicles the fuel tank capacity needs to be set manually. Because of this, this information is present on every G2 related installation guide’s first page with bold red font.

    ▪ If you need to change the value, the exact value is written in the manual

    ▪ If you don’t need to change it, it is also stated in the document

  o The FMS Gateway G2™ uses automatic vehicle detection, it recognizes your vehicle after connection. The firmware file has .i2b extension (E.g.: G2_02_02_01_20__TRUCK.i2b)

  o If you wish to use any Extra Features (see Section 2.4), you need to have a G2 Device Database. Please contact Inventure Sales (sales@inventure-automotive.com) for further information.

❖ Vehicle installation process
  o During installation please refer to the vehicle specific Installation guide. Please contact Inventure Support (support@inventure-automotive.com) for the install guide.

  E.g.: FORD_FOCUS_Mk3_2011-2014_INSTALL_GUIDE_G2_Plus_v06.pdf

  o After device installation, please connect input cables (Power, Ground, Vehicle CAN input and other inputs when needed). See Section 5 for more details.

  o Please connect the FMS Gateway G2™ output cables to the input of your AVL device.

❖ After successful installation and power-up, the device testing can be started.
  o The FMS Gateway G2™ has an in-built Status LED that indicates its operating status. If everything works as it should, the LED flashes green once in every 6 seconds. If not, please check Section 7 for further information.
The complete vehicle tracking system can be tested online, by visiting your fleet tracking system’s website, where you are able to see the vehicle data beside the GPS position.
3 Safety notices

Please read the following safety instructions carefully. Inventure Automotive accepts no liability for damage that results from disregarding the safety instructions.

- Usage of the interface is permitted for industrial purposes only.
- The interface must not be used in situations in which human lives depend upon the operation of this equipment.
- Product must be installed by professional and this fact should be recorded legally.
- The interface may be damaged by contact with water or any liquids. Use and store the interface in an area protected from water.
- Do not expose the interface to direct sunlight or high temperature (see section 11 for reference) to ensure proper operation.
4 Package Contents

Please make sure that the package contains the items listed below.

- FMS Gateway G2™ interface
- CL-CAN (contactless CAN) sensor and/or CL-J1708 sensor (optional)
- Cable set (optional)
- User's Manual (this guide)
- Installation guide on the specific vehicle model
5 Connection overview

<table>
<thead>
<tr>
<th>INPUT DESCRIPTION</th>
<th>CONNECTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle CAN 1 channel</td>
<td>V_CAN 1</td>
</tr>
<tr>
<td>Vehicle CAN 2 channel</td>
<td>V_CAN 2</td>
</tr>
<tr>
<td>Diagnostics channel</td>
<td>DIAG</td>
</tr>
<tr>
<td>Tachograph connection</td>
<td>TACHO</td>
</tr>
<tr>
<td>Main harness (Power, FMS CAN, RS232, Analog)</td>
<td>MAIN</td>
</tr>
<tr>
<td>Programming / Configuring / Measuring channel</td>
<td>mini USB B</td>
</tr>
</tbody>
</table>

Table 2: Input description

For the device proper functioning, please make sure to connect only to the following points according to the charts. The rest should be left as is (DNC - Do Not Connect).

5.1 V_CAN 1 connector

<table>
<thead>
<tr>
<th>Pin Nr.</th>
<th>Designation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GND</td>
<td>Ground</td>
</tr>
<tr>
<td>2</td>
<td>V_CAN_L 1</td>
<td>Vehicle CAN 1 bus CAN Low line</td>
</tr>
<tr>
<td>3</td>
<td>CL_PWR</td>
<td>Power output for CL-CAN sensor</td>
</tr>
<tr>
<td>4</td>
<td>V_CAN_H 1</td>
<td>Vehicle CAN 1 bus CAN High line</td>
</tr>
</tbody>
</table>

Table 3: Micro Fit 4-pin (V_CAN 1) assignment
5.2 **MAIN connector**

![Diagram of MAIN connector](image)

<table>
<thead>
<tr>
<th>Pin Nr.</th>
<th>Designation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GND</td>
<td>Ground</td>
</tr>
<tr>
<td>2</td>
<td>RS232 GND</td>
<td>RS232 Ground</td>
</tr>
<tr>
<td>3</td>
<td>RS232 RXD</td>
<td>RS232 channel receive data line</td>
</tr>
<tr>
<td>4</td>
<td>FMS CAN_L</td>
<td>FMS CAN bus CAN Low line</td>
</tr>
<tr>
<td>5</td>
<td>FMS TER 2</td>
<td>FMS CAN bus terminating resistor activation loop 2</td>
</tr>
<tr>
<td>6</td>
<td>IGN / BATT</td>
<td>Ignition / Battery + input</td>
</tr>
<tr>
<td>7</td>
<td>ANALOG IN</td>
<td>Analog sensor input (e.g.: fuel level sensor)</td>
</tr>
<tr>
<td>8</td>
<td>RS232 TXD</td>
<td>RS232 channel transmit data line</td>
</tr>
<tr>
<td>9</td>
<td>FMS CAN_H</td>
<td>FMS CAN bus CAN High line</td>
</tr>
<tr>
<td>10</td>
<td>FMS TER 1</td>
<td>FMS CAN bus terminating resistor activation loop 1</td>
</tr>
</tbody>
</table>

Table 4: Micro Fit 10-pin (MAIN) assignment

5.3 **V_CAN 2 connector**

![Diagram of V_CAN 2 connector](image)

<table>
<thead>
<tr>
<th>Pin Nr.</th>
<th>Designation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GND</td>
<td>Ground</td>
</tr>
<tr>
<td>2</td>
<td>V CAN_L 2</td>
<td>Vehicle CAN 2 bus CAN Low line</td>
</tr>
<tr>
<td>3</td>
<td>CL_PWR</td>
<td>Power output for CL-CAN sensor</td>
</tr>
<tr>
<td>4</td>
<td>V CAN_H 2</td>
<td>Vehicle CAN 2 bus CAN High line</td>
</tr>
</tbody>
</table>

Table 5: Micro Fit 4-pin (V_CAN 2) assignment
5.4 TACHO connector (Optional Extra feature)

Tachograph connection:

Table 6: Micro Fit 6-pin (TACHO) assignment

<table>
<thead>
<tr>
<th>Pin Nr.</th>
<th>Designation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DNC</td>
<td>Do Not Connect</td>
</tr>
<tr>
<td>2</td>
<td>TCO CAN_L</td>
<td>Tachograph CAN 2 bus CAN Low line</td>
</tr>
<tr>
<td>3</td>
<td>TCO TER2</td>
<td>Tachograph CAN bus terminating resistor activation loop 2</td>
</tr>
<tr>
<td>4</td>
<td>TCO D8</td>
<td>Tachograph D8 line</td>
</tr>
<tr>
<td>5</td>
<td>TCO CAN_H</td>
<td>Tachograph CAN 2 bus CAN High line</td>
</tr>
<tr>
<td>6</td>
<td>TCO TER1</td>
<td>Tachograph CAN bus terminating resistor activation loop 1</td>
</tr>
</tbody>
</table>

Figure 5: Micro Fit 6-pin (TACHO) assignment

Notice!

Prior to installation please make sure that the Inventure FMS Gateway G2 firmware has enabled Tachograph functionality.
5.5 **DIAG connector**

![Diagram of DIAG connector]

**Table 7: Micro Fit 4-pin (DIAG) assignment**

<table>
<thead>
<tr>
<th>Pin Nr.</th>
<th>Designation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GND</td>
<td>Ground</td>
</tr>
<tr>
<td>2</td>
<td>DIAG A</td>
<td>DAG bus A line</td>
</tr>
<tr>
<td>3</td>
<td>CL_PWR</td>
<td>Power output for CL-J1708 sensor</td>
</tr>
<tr>
<td>4</td>
<td>DIAG B</td>
<td>DAG bus B line</td>
</tr>
</tbody>
</table>

5.6 **USB Mini connector**

Please make sure to follow the below steps:

- Connect FMS Gateway to computer (use Mini USB – USB cable)
- Install device driver
- Install FMS Gateway Support Tool software
- Activate FMS Gateway Support Tool software using license file (Send the activation request file in e-mail to Inventure Automotive support)
6 Installation to vehicle

In order to avoid damaging the vehicle or the device the installation must be performed by professional, skilled person.

During installation please consider safety instructions (see Section 3) and follow the instructions below:

1. Make sure that the FMS Gateway G2™ device has the newest firmware and it is appropriate for the vehicle model (check firmware version by using FMS Gateway Support Tool)

2. Update the appropriate firmware to the device if necessary (by using FMS Gateway Support Tool)

3. Update the settings if you need specific configuration (by using FMS Gateway Support Tool)

4. Connect the vehicle communication bus wires to the interface input connectors by using vehicle specific Installation guide
   - Connect CL-CAN sensor to V_CAN 1
   - Connect CL-J1708 sensor to DIAG if applicable
   - Connect tachograph harness to TACHO if applicable

5. **Tighten the device to avoid damaging the unit. You can use the 2 holes in the box to secure the device with zip ties.**

![Figure 9 - Securing the device](image-url)
6. Connect device output to the telematics device
   - FMS CAN and/or
     - *Default baudrate: 250 kb/s, according to FMS Standard*
   - RS232 and/or
     - *Default baudrate: 115200 b/s*

7. Turn vehicle ignition ON, start engine and check FMS Gateway device LED status. LED should be flashing green once in every 6 seconds. Should it be different, please see Troubleshooting on Section 9.)

8. Check telematics device’s operating status (LED indicator if available) then verify the dataflow from vehicle on remote server database.

7 Troubleshooting, LED status

The FMS Gateway has a status LED on the face of the enclosure which indicates the current operational mode.

When ignition turns ON the status LED lights RED for 5s (initialization process), after this the status LED indicates the current operation state. The status LED flashes 1-5 times in 5s period with different color, see attached table.

Status LED flashing states:

<table>
<thead>
<tr>
<th>State</th>
<th>Status LED</th>
<th>Flashing / 5s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper operation</td>
<td>Green</td>
<td>1</td>
</tr>
<tr>
<td>No communication on device input</td>
<td>Not flashing</td>
<td>0</td>
</tr>
<tr>
<td>V_CAN 1 input Error</td>
<td>Red</td>
<td>2</td>
</tr>
<tr>
<td>V_CAN 1 input Idle</td>
<td>Red</td>
<td>3</td>
</tr>
<tr>
<td>DIAG input Idle</td>
<td>Red</td>
<td>4</td>
</tr>
<tr>
<td>Unknown Vehicle</td>
<td>Red</td>
<td>6</td>
</tr>
<tr>
<td>V_CAN 2 input Error</td>
<td>Red</td>
<td>7</td>
</tr>
<tr>
<td>V_CAN 2 input Idle</td>
<td>Red</td>
<td>8</td>
</tr>
<tr>
<td>K-Line input Idle</td>
<td>Red</td>
<td>9</td>
</tr>
<tr>
<td>FMS CAN output Error</td>
<td>Yellow</td>
<td>5</td>
</tr>
<tr>
<td>Bootloader state (USB Connected)</td>
<td>Yellow</td>
<td>rapid</td>
</tr>
</tbody>
</table>

Table 8: Device working status
7.1 Proper operation

Device works correctly, LED flashes GREEN 1 time in 5s period.

In this working state the device gets power supply (voltage and current OK) and detects the input CAN and/or DIAG communication channels’ messages.

In this operating state the device and the GPS device connection are correct, the GPS device sends CAN acknowledges (in case of FMS CAN connection).

7.2 V_CAN 1 Error

In case of the status LED flashes RED 2 times in 5s period the FMS gateway detects error on V_CAN input channel. The device detects CAN errors on vehicle CAN communication bus.

Possible Faults:

- FMS Gateway Firmware does not fit for this vehicle model
  - Check the updated firmware version, use FMS Gateway Support Tool to read firmware version. Update firmware if necessary.

- V_CAN 1 bus connection wrong:
  - Check V_CAN 1 connections (CAN Low ~2,3V, CAN High 2,7V DC)

- V_CAN 1 bus lines reverse connection:
  - Check V_CAN 1 connections reverse polarity (CAN Low ~2,3V, CAN High 2,7V DC)

7.3 V_CAN 1 Idle

In case of the status LED flashes RED 3 times in 5s period the FMS Gateway does NOT detect any communication in V_CAN 1 input CAN bus, while detecting active communication on DIAG bus.

Possible Faults:

- No communication on input channel:
  - Turn Ignition ON and start the engine

- V_CAN 1 bus connection is wrong:
Check V_CAN 1 connections (CAN Low ~2,3V, CAN High 2,7V DC)

- **V_CAN 1 bus lines have reverse connection:**
  - Check V_CAN 1 connections for reverse polarity (CAN Low ~2,3V, CAN High 2,7V DC)

### 7.4 DIAG Idle

In case of the status LED flashing 4 times RED in 5s period the FMS gateway does NOT detect any communication in DIAG input bus, while detecting active communication on V_CAN1 bus

Possible Faults:

- **No communication on input channel:**
  - Turn Ignition ON, and start the engine

- **DIAG bus connection is wrong:**
  - Check DIAG connections

- **DIAG bus lines have reverse connection:**
  - Check DIAG connections for reverse polarity

### 7.5 Unknown vehicle

In case of the status LED flashes RED 6 times in 5s period the FMS Gateway has detected an unknown vehicle. Please check the latest **Inventure Supported Vehicle List** or contact support@inventure-automotive.com.

### 7.6 V_CAN 2 Error

In case of the status LED flashes RED 7 times in 5s period the FMS gateway detects error on V_CAN 2 input channel. The device detects CAN errors on vehicle CAN communication bus.

Possible Faults:

- **FMS Gateway Firmware does not fit for this vehicle model**
  - Check the updated firmware version, use FMS Gateway Support Tool to read firmware version. Update firmware if necessary.

- **V_CAN 2 bus connection wrong:**
  - Check V_CAN 2 connections (CAN Low ~2,3V, CAN High 2,7V DC)

- **V_CAN 2 bus lines reverse connection:**
  - Check V_CAN 2 connections reverse polarity (CAN Low ~2,3V, CAN High 2,7V DC)
7.7 V_CAN 2 Idle
In case of the status LED flashes RED 8 times in 5s period the FMS gateway does NOT detect any communication in V_CAN 2 input CAN bus. The device detects this bus as idle.

Possible Faults:

❖ No communication on input channel:
  o Turn Ignition ON and start the engine

❖ V_CAN 2 bus connection is wrong:
  o Check V_CAN 2 connections (CAN Low ~2,3V, CAN High 2,7V DC)

❖ V_CAN 2 bus lines have reverse connection:
  o Check V_CAN 2 connections for reverse polarity (CAN Low ~2,3V, CAN High 2,7V DC)

7.8 K-Line Idle
In case of the status LED flashes RED 9 times in 5s period the FMS gateway does NOT detect any communication in K-LINE input CAN bus. The device detects this bus as idle.

7.9 FMS CAN Output Error
In case of the status LED flashes YELLOW 5 times in 5s period the connection between the FMS Gateway device and the GPS device is not working properly. Check connections!

Possible Faults:

❖ FMS CAN bus connection is wrong:
  o Check FMS CAN connections (CAN Low ~2,3V, CAN High 2,7V DC)

❖ FMS CAN bus lines have reverse connection:
  o Check FMS CAN connections for reverse polarity (CAN Low ~2,3V, CAN High 2,7V DC)

❖ No CAN acknowledge from GPS device:
  o If there is no acknowledge on FMS CAN bus then FMS Gateway cannot transfer CAN messages to GPS device.
  o Set GPS device CAN settings Normal or turn on CAN acknowledge.

❖ No CAN terminating resistor:
  o Check 120Ohm terminating resistors on CAN bus according ISO11898-2 standard.

❖ FMS CAN bus baudrate is wrong:
  o The FMS CAN output baudrate is 250kb/s according to FMS Standard. Set this baudrate in GPS device settings.
7.10 Bootloader state (USB Connected)

In case of the status LED flashes YELLOW rapidly the FMS Gateway is in firmware update mode. In this mode you can easily update the firmware of the FMS gateway device, change device settings and make measurement from the vehicle’s input communication channels.

Possible Faults:

- **USB cable is connected:**
  - If USB cable is connected to the device the FMS Gateway is in firmware update mode. Disconnect USB Cable from the device.

8 Inventured Support information

In case of any problem with device installation, firmware upgrade or any questions please contact Inventured Automotive support team (support@inventure-automotive.com). To get the fastest answer please describe the problem as detailed as possible.

Please provide the following information in case of any problem:

- Vehicle Type, model year, VIN, Engine code
- Short description of the problem
- Company name
- Device serial number
- LED status (which color and how often it flashes)
- Firmware name
- If you can connect to the device, the whole device information screen content (use FMS Gateway Support Tool)
  - Bootloader version
  - Last update was successful or not
  - Update trial counter
  - Last update trial date
  - Firmware description
- FMS Gateway Support Tool Error message
## 9 System Characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Min.</th>
<th>Tip.</th>
<th>Max.</th>
<th>Unit</th>
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<tr>
<td><strong>Power Supply</strong></td>
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<tr>
<td>Voltage supply</td>
<td>VIGN</td>
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<td>32</td>
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<td>V</td>
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<td>mA</td>
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Table 9: System characteristics
10 Warranty

There is a one-year warranty on FMS GATEWAY G2™ starting from the date of the original purchase. The warranty covers any defect in materials or workmanship. The warranty is valid only if FMS GATEWAY G2™ was operated under normal circumstances in regular use. The warranty does not include damage from misuse or neglect.

As FMS GATEWAY G2™ has a well thought design, it is thoroughly tested before release and it is composed of high quality parts, there should be no need for maintenance of any parts of FMS GATEWAY G2™ during normal operation. If the box was damaged the warranty for FMS GATEWAY G2™ is no longer valid.

Remember to save your sales receipt in case of you ever need warranty service. Please refer to the serial number of your FMS GATEWAY G2™ in case of any problems. The serial number can be found on a label outside the box. In case of warranty claims contact your local dealer or directly Inventure, Inc.
11 How to contact Inventure?

Inventure provides customer support via its World Wide Web (WWW) site. The Inventure website is available by using from your favorite Internet browser at:

www.inventure-automotive.com

Our website provides a variety of services. Read up-to-date information about the company, the products, application possibilities and the services. Frequently asked questions and the corresponding answers are also available on the Inventure site.

If you have problems, questions, suggestions, or you just want to express your opinion about us or our products, please feel free to write an email to us, and we will surely find a way to the solution.

support@inventure-automotive.com

Come and visit our website, tell us your experience concerning our product, fill out the registration form to be able to inform you directly about the latest results of research and development and the continuously improving customer services.

Your comments are also welcome under the following address:

Inventure Automotive Electronics R&D, Plc.
H-1113 Budapest
11 Tarcali Street
HUNGARY

Phone: +36 1 381-0970
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