#301419 Accelerometer Kit

Thank you for choosing FAST™ products; we are proud to be your manufacturer of choice. Please read this instruction sheet carefully before beginning installation, and also take a moment to review the included limited warranty information.

The accelerometer module is shipped with the following items.

- Accelerometer Module
- Installation Manual
- Wiring Harness

Overview

The accelerometer module measures and transmits G-force data from all three axes with a range of +/- 4g. The module transmits the data using the Controller Area Network (CAN) protocol at 500 kbps. Once transmitted, the data is available for viewing and logging through either the XFI™ or the FAST™ Dash Logger.

Installation

Mounting:

The accelerometer module should be mounted as close to the vehicle's centerline as possible. The module should be secured to the vehicle using the two bolt holes in the case. It can be mounted vertically or horizontally as shown in Figure 1. Be sure the accelerometer is mounted level when the vehicle is on flat and level ground.

Fig. 1
When mounting the accelerometer, the most important rule to follow is to have one axis perfectly aligned with the vehicle's direction of motion and another axis perpendicular to this. If the accelerometer is not mounted perfectly square in the vehicle, it will transmit inaccurate vehicle measurements. Once the accelerometer is mounted, make note of the label on the accelerometer and identify which axis is measuring forward or reverse forces and which is measuring lateral forces. The axis names, such as X, Y or Z, are fixed. These names are used when monitoring the data or reviewing a data log.

To check for proper installation, monitor the accelerometer when the vehicle is stationary on flat level ground. The forward and lateral axis should measure 0g while the third axis measures 1g. When driving, during a straight line acceleration, the change in g's should only be noticed in the forward axis. If the lateral g's also increase when driving in a straight line, then the module is not mounted square to the vehicle. Check the mounting and perform another test.

**Wiring:**

The accelerometer module pin out and wire color descriptions are listed in Table 1 below.

<table>
<thead>
<tr>
<th>Pin</th>
<th>Function</th>
<th>Wire Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power</td>
<td>Red</td>
</tr>
<tr>
<td>2</td>
<td>Ground</td>
<td>Black</td>
</tr>
<tr>
<td>3</td>
<td>CAN High</td>
<td>Yellow</td>
</tr>
<tr>
<td>4</td>
<td>CAN Low</td>
<td>Green</td>
</tr>
<tr>
<td>5</td>
<td>Not Used</td>
<td>No Wire</td>
</tr>
<tr>
<td>6</td>
<td>Not Used</td>
<td>No Wire</td>
</tr>
<tr>
<td>7</td>
<td>Not Used</td>
<td>No Wire</td>
</tr>
<tr>
<td>8</td>
<td>Not Used</td>
<td>No Wire</td>
</tr>
</tbody>
</table>

**Power and Ground:**

The accelerometer module requires a switched 6 to 24 volts DC connected to pin 1 for operation. The power should turn on and off with the ignition switch. The module draws 0.05 amps of current and should be fused accordingly. A clean ground should be connected to pin 2.

**Communication:**

The accelerometer module transmits data to the XFI™ ECU using the Controller Area Network (CAN). CAN is a two wire connection that can be used to connect a series of devices together.

FAST™ CAN devices (XFI™, XIM™, certain sensors, etc) have a pair of CAN connectors built into their harnesses. The plug from one harness will connect to the receptacle from another harness. It does not matter which pair of connectors is used as long as one pair is mated between each neighboring device. This connection can be made through an interconnect cable(s) for additional reach. There will be one loose plug and one loose receptacle at either end of the CAN wiring. These loose ends need to be capped off with a terminating plug at one end and a terminating receptacle at the other. This is absolutely necessary for proper network performance.
XFI™ Monitoring and Logging

Monitoring:

To monitor accelerometer data using C-Com XFI™, add the accelerometer sensors to the dashboard of your choice. Throughout C-Com XFI™, the X, Y, and Z axis are referred to as “X Acceleration”, “Y Acceleration”, and “Z Acceleration” respectively.

FAST™ LIMITED LIFETIME WARRANTY AND LIMITED WARRANTY

FAST™ warrants that its EZ-EFI™ products are free from defects in material and workmanship for the lifetime of the product. This Limited Lifetime Warranty shall cover only the original purchaser. All other FAST™ products are covered by a Limited Warranty which covers defects in material and workmanship for a period of one year from the date of purchase.

FAST’s obligation under this warranty is limited to the repair or replacement of its product. To make a warranty claim, the part must be returned directly to FAST™ at the address listed below with a valid Return Merchant Authorization Number (RMA), freight prepaid. Items covered under warranty will be returned to you freight collect. To obtain an RMA, call 877-334-8355 to report the issue you are experiencing. At that time, FAST™ will attempt to trouble shoot your issue.

It is the responsibility of the installer to ensure that all of the components are correct before installation. We assume no liability for any errors made in tolerances, component selection or installation.

There is absolutely no warranty on the following:

A. Any parts used in racing applications or subject to excessive wear;
B. Any product used in marine applications, unless that product is listed by FAST™ as a specific marine product;
C. Any product that has been physically altered improperly installed or maintained;
D. Any product used in improper applications, abused, or not used in conjunction with the proper parts.

There are no implied warranties of merchantability or fitness for a particular purpose. There are no warranties which extend beyond the description of the face hereof. FAST™ will not be responsible for incidental and consequential damages, property damage or personal injury damages. Where required by law, implied warranties or merchantability and fitness are limited to terms outline above.

This warranty gives you specific legal rights and you may also have other legal rights which vary from state to state.