



#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

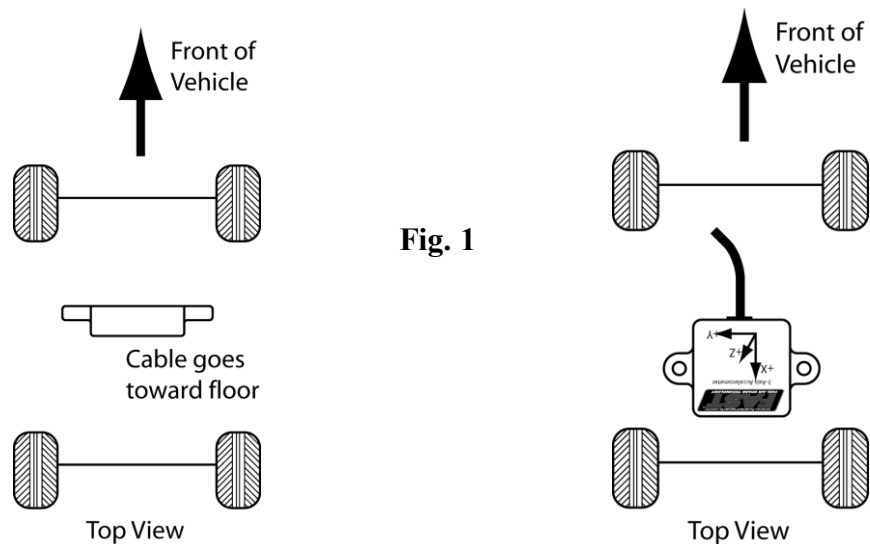
Overview

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.



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 1

Pin	Function	Wire Color
1	Power	Red
2	Ground	Black
3	CAN High	Yellow
4	CAN Low	Green
5	Not Used	No Wire
6	Not Used	No Wire
7	Not Used	No Wire
8	Not Used	No Wire

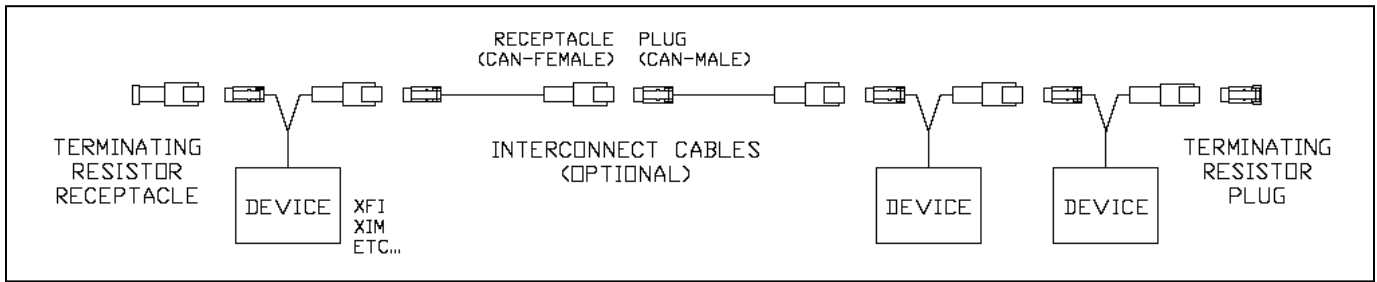
Power and Ground:

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.