Sensor Communication Issues

The INS requires valid communications from aiding sensors and the IMU. The INS will not be able to apply aiding sensor data to the solution if it cannot communicate with the aiding sensors.

Typical sensor communication issues and their causes consist of the following:

- **The INS is communicating but not providing a solution.** The INS requires valid IMU communications to develop a solution. If the INS does not provide a solution, but is communicating, a likely cause will be that it cannot communicate with the IMU.

- **The INS updates attitude data but will not propagate a translation solution.** This may be due to loss of an aiding sensor or invalid IMU communications. If the IMU communications are valid, a loss of translation solution will commonly be due to faulty aiding sensor communications. Because the free inertial drift rate is so great with most INS configurations, the INS will only allow free inertial drift for a short period of time before it stops propagating the translation solution.

- **No sensor communications.** This is typically due to faulty wiring or power but can also be due to an improper sensor configuration in the INS. If the INS is expecting one type of sensor or sensor input, but finds another, it considers this invalid data.

Article ID: 191

Source URL: http://localhost:8888/kb2017/sensor-communication-issues