

Compass Documentation
4/21/2011 IGVC Senior Project
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General Information

One Compass Used:

HMR3000 3-Axis compass

Provides yaw, pitch, and roll information.

Generally, all you need to do get the information out is to provide power, connect through a serial port and it automatically should spit out information. Runs at 19200 Bps baud rate on the serial port. You will notice a power line that extends out of the compass side of the serial port, check specifications in the file for more details on proper power handling.

The compass did have trouble providing proper yaw and roll values. The yaw is as any other regular compass and spits out values relative to north. We had to create a smoothing algorithm for it because the compass would consistently be off by such and such an amount the further from 0 degrees one gets. You may find this correction algorithm in the compass code. Roll also seemed to fail around 45 degrees tilt.

There are a set of functions that will write to the compass, check documentation for more information on this. You may reset "0" depending on where you are and you may tell it to spit out information or not. There is also a very useful interactive software program for windows called "PCDemo" which you will find in a .rar file in the compass documentation folder. It is very sensitive to any magnetic interference, which makes testing indoors sometimes infeasible.