



Electronic compass user guide

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The compass module is a three dimensional compass that can compensate for pitch and roll. Use the compass module in applications where GPS headings are inaccurate or unreliable, such as

- In a hovering aircraft which cannot use the GPS for direction when hovering
- In slow moving aircraft, like a blimp, in which GPS headings are unreliable
- For dead reckoning if the GPS is lost
- When operating the autopilot in strong winds

About compass heading and GPS heading

The compass heading is the direction in which the nose of the aircraft is pointed. The GPS heading is the direction in which the aircraft is travelling. Because wind causes the aircraft to drift, compass heading and GPS heading are rarely the same.

In an extreme example, assume the wind is 80 km/hr from the north, the aircraft has a compass heading of north, and an airspeed of 60 km/hr. The GPS will indicate that the aircraft is moving south with a groundspeed of 20 km/hr.

When flying in a quartering headwind you would turn the aircraft slightly into the wind to hold to the planned flight path. The GPS indicates the direction the aircraft is moving. The compass indicates the direction the aircraft is pointing.

If you know the compass heading, GPS heading, airspeed, and ground speed, you can calculate the direction and intensity of the wind.