❸ GPS • No Wind

This model uses GPS only. It can determine L/D, glide ratio, and horizontal and vertical speeds in no wind conditions. Accuracy and latency are determined by accuracy and update rate of the GPS unit. Use of GPS units with 5-10Hz or higher update rate is highly recommended.

Wind

This model works in no wind only.

Measured Inputs

- Latitude
- Longitude
- Altitude

Calculated Outputs

Output Variable	Support	Accuracy
Lift-to-drag Ratio (L/D)	Supported	Determined by GPS accuracy and update rate
Glide Ratio (GR)	Supported	Determined by GPS accuracy and update rate
Horizontal and vertical airspeeds (Vx, Vy)	Supported	Determined by GPS accuracy and update rate
Sustained horizontal and vertical airspeeds (Vxs, Vys)	Supported	Determined by GPS accuracy and update rate
Lift and drag coefficients (Cl, Cd)	Supported	Determined by GPS accuracy and update rate
Lift and drag forces (L, D)	Supported	Determined by GPS accuracy and update rate
Altitude AMSL	Supported	Determined by GPS accuracy and update rate
Groundspeed	Supported	Determined by GPS accuracy and update rate
Groundcourse	Supported	Determined by GPS accuracy and update rate
Aircourse	Supported	Determined by GPS accuracy and update rate
Windspeed	Not supported	
Wind Direction	Not supported	

Compatibility with other models

Data recorded with this model can be reprocessed using the following model, provided that your iOS device was close to your center of gravity:

❹ Accelerometer · GPS · No Wind

Comparison to other models

Compared to...	❸ GPS • No Wind...
❶ Accelerometer ❷ Accelerometer • Gyro	...delivers much less accurate L/D (and much slower), but generally more reliable values of GR, Vx, Vy, Vxs, Vys, Cl, Cd, L, D - thanks to GPS data that “locks in” speed values. Slow convergence is an issue due to low update rate of GPS (typically, 1-10Hz), compared to 100Hz of accelerometer and gyro. Depends on wind being nil.
❹ Accelerometer • GPS • No Wind	...is a bit less accurate because accelerometer delivers additional data used to smooth GPS data.