❷ Accelerometer • Gyro

This model uses accelerometer and gyro. It can determine L/D with high accuracy. Other parameters, such as glide ratio in non-sustained flight, and vertical and horizontal airspeeds (both momentary Vx and Vy as well as sustained Vxs and Vys), may accumulate errors; their accuracy will depend on accuracy of initial conditions, specified process and observation noise values in Kalman Filter, flight mode changes and so on.

Wind

This model works in any wind, as it only depends on *relative* wind.

Measured Inputs

- Z-component of apparent gravity (perpendicular to screen)
- Y-component of apparent gravity (from the bottom of screen in portrait mode to the top)
- X-component of rotational rate (around axis spanning from left to right in portrait mode)

Calculated Outputs

Output Variable	Support	Accuracy
Lift-to-drag Ratio (L/D)	Supported	Very Accurate
Glide Ratio (GR), relative to air	Supported	May be somewhat inaccurate during non-sustained flight; very accurate in sustained flight (equal to L/D)
Horizontal and vertical airspeeds (Vx, Vy)	Supported	May be inaccurate
Sustained horizontal and vertical airspeeds (Vxs, Vys)	Supported	May be inaccurate (however, their ratio, Vxs/Vys = L/D, is very accurate)
Lift and drag coefficients (Cl, Cd)	Supported	May be inaccurate (however, their ratio, Cl/Cd = L/D, is very accurate)
Lift and drag forces (L, D)	Supported	May be inaccurate (however, their ratio, L/D, is very accurate)
Altitude AMSL	Not supported	
Groundspeed	Not supported	
Groundcourse	Not supported	
Aircourse	Not supported	
Windspeed	Not supported	
Wind Direction	Not supported	

Compatibility with other models

Data recorded with this model can be reprocessed using any of the following models, subject to their wind requirements:

❶ Accelerometer
❸ GPS • No Wind
❹ Accelerometer • GPS • No Wind

Comparison to other models

Compared to...	❷ Accelerometer • Gyro...
❶ Accelerometer	...generally delivers more accurate values of GR, Vx, Vy, Vxs, Vys, Cl, Cd, L, D - thanks to gyroscope's rotational rate data.
❸ GPS • No Wind ❹ Accelerometer • GPS • No Wind	...delivers much more accurate and fast L/D; works in any wind; GR, Vx, Vy, Vxs, Vys, Cl, Cd, L, D may be less accurate.