SATPRO_DISTMIN

Adjusting Minimum Distance:

GPS systems are not perfect, and even when in a fixed position, they usually “move” with errors ranging from one meter up to 20 meters or more if satellite reception is not good. Typically, they move 2 to 4 meters from their position.

SATPRO uses two GPS units:

- **Local GPS of the SATPRO:** This indicates the position of the SATPRO. Depending on the HOME selection, if “GPS” is active, it will continuously move around its position by a few meters. The “GPS” option is designed for when the SATPRO is in motion during a mission, such as being transported by a vehicle, boat, etc. In this case, the HOME will “move” a few meters.

- **Vehicle GPS:** This indicates the position of the vehicle (UAV, drone, UGV, etc.) and will also move by a few meters.

These movements, when the system is active (i.e., there is a position for HOME and the vehicle), cause the SATPRO to calculate its orientation and re-aim at the vehicle. When stationary and close to the vehicle, a position change of only a few meters can cause the SATPRO to change orientation abruptly and continuously, making it ineffective at pointing to the vehicle in practice.

For this reason, SATPRO has a parameter called DISTMIN which should normally be set between 4 and 20 meters to prevent the SATPRO from moving indiscriminately. Configure it so that in practice, if the vehicle is initially near the SATPRO, it does not move randomly.

Setting the HOME:

- **HOME in MAV:** Ensure the SATPRO and the vehicle are as close as possible. With this selection, only the GPS position of the vehicle "moves," allowing you to reduce the minimum distance.
- **HOME in "GPS FIX":** The position of the SATPRO will remain fixed as soon as the local GPS is available, which also reduces movement over short distances.

Keep in mind that the SATPRO is designed for long-distance flights, and this effect only occurs when the SATPRO is 4 to 10 meters away from the vehicle.

DIST is the distance between SATPRO and the vehicle in meters. It is calculated when there is GPS data from the vehicle.