



ADL160

User and Installation Manual

Version 1.00

17.01.2022

1 Version History

Version 1.00 published 17.01.2022

2 Page Index

This manual contains numbered pages 1 to 9.

3 Possible Interference

If you suspect any malfunction of the ADL160 or interference with aircraft systems, please switch off the device immediately. Do not restart the device until the problem has been investigated and resolved on the ground.

4 Weather Warning

While we do every possible effort to ensure quality, the ADL160 devices might not work at any time. In addition the system may display false information. **NEVER PENETRATE WEATHER BASED ON THE INFORMATION PROVIDED BY THE ADL160** This information is for situational awareness only. The device features a GPS moving map system. This system is designed to display the aircraft position in relation to the weather data. **THE ADL160 IS NOT SUITABLE AS A MEANS OF PRIMARY NAVIGATION.** Especially the build in database is not updated in a regular aviation cycle. It is also not maintained to the standards of certified aviation databases

5 General Description ADL160

The ADL160 is a small size satellite weather receiver designed to be placed on the glare shield in the aircraft. It is powered via Micro USB (5V). The ADL160 can be used as a mobile device or can be installed permanently.

6 Certification ADL160

The ADL160 can be installed permanently but currently there is not yet any paperwork available. So this option is limited to experimental, ultra light aircraft or situations where you generate your own paperwork. We are working on an ESA minor change approval.

7 The Iridium satellite service

Before you can use the ADL160 you have to subscribe to one of our Iridium satellite service plans. Please login to the ADL customer portal to order the different service plans:

<https://www.ing-golze.de/login.jsp>

If you have no login yet, please contact us by email at mail@ing-golze.de.

PLEASE NOTE: The ADL160 will show satellite signal even without an active satellite service plan and will even be able to transmit data. But this data will not be processed and the device will receive no data.

8 General Operation

The ADL160 is designed to be as simple as possible. Place the device on the glare shield with the rounded side facing up. This is important as the internal antenna will not work when upside down. Then power the device by connecting a Micro USB cable. Note there are no switches or similar on the ADL160. Once it receives USB power, it starts until power is cut.

9 USB Power Supply Details

The quality of the USB power supply is crucial. USB is specified at 5V but there will be loss in cables etc. When operating the ADL160 you can check on the Config page of the ADLConnect app the actual voltage measured by the device. That should not be below 4.7V to 4.8V or there could be outages when the ADL160 is communicating with the satellite. Also the voltage should be as stable as possible when the ADL160 transmits and uses more power. Some low quality USB outlets might not keep up with that. Also using low quality or long USB cables can cause issues. On average the ADL160 will consume approximately 500mA at 5V.

10 Interconnect Options

The ADL160 supports all WiFi GDL90 interconnect options available on nearly all ADL devices. This means you can interface to ForeFlight, SkyDemon and other WiFi GDL90 compatible apps. But the ADL160 does not provide any wired RS232 interface options. If you require such advanced features, please select another ADL device like the ADL150B/190/200.

11 Dimensions

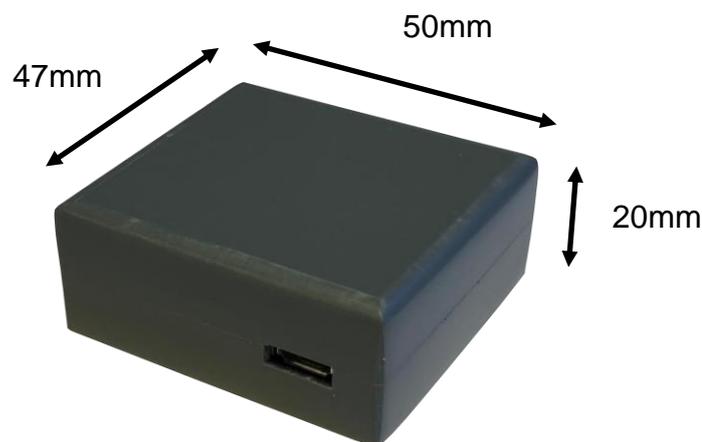


Figure 1 ADL160 dimensions excluding USB cable (in millimeters)

12 Heat Considerations

The ADL160 is supplied in grey color to reduce the heat buildup in direct sunlight, compared to a black enclosure, and still minimize visual disturbances in the front window. We do not recommend painting the enclosure black or similar as overheat situations might result. The device is tested to be stored and operated between – 20°C and 60°C. If you operate in extremely hot climates and experience heat related issues, please contact us and we might be able to provide a lighter color enclosure. Often you can also protect the device from some heat by placing it below the glare shield unless it is made of conductive material shielding the satellite signal. An ad hoc solution can also be to protect the ADL160 below a white piece of paper or similar.

13 Placement and Optional Installation

The ADL160 contains an internal Iridium and GPS antenna. This is a directional antenna. The device has to lie in the right side as shown below to get good view of the sky. We recommend placing the device on the glare shield. Do not place the device upside down or satellite reception will be very poor.



Figure 2 ADL160 on the glare shield in the right orientation

If you wish to install the ADL160 permanently, attach it to the glare shield with double sided adhesive or velcro. You can also place the device below the glare shield if it is made from non conductive material. In that case please make sure the same side with

the round corners faces up and glue it to the glare shield with non metallic adhesive or velcro. Make sure there are no metal parts like fasteners or similar above the device.

14 Connecting your iPad/iPhone/Android device to the ADL160

After powering up the ADL device you have to connect your portable device to the WiFi access point provided by the ADL device. Go to the settings screen of your device. We show this step for the Apple iPad but other devices will work in a similar way. Choose "Wi-Fi" on the left side. Then on the right side you will see the network "ADL Connect". Choose this network and make sure the iPad really connects to the ADL Connect wireless network.



Figure 3 iPad Wi-Fi Settings

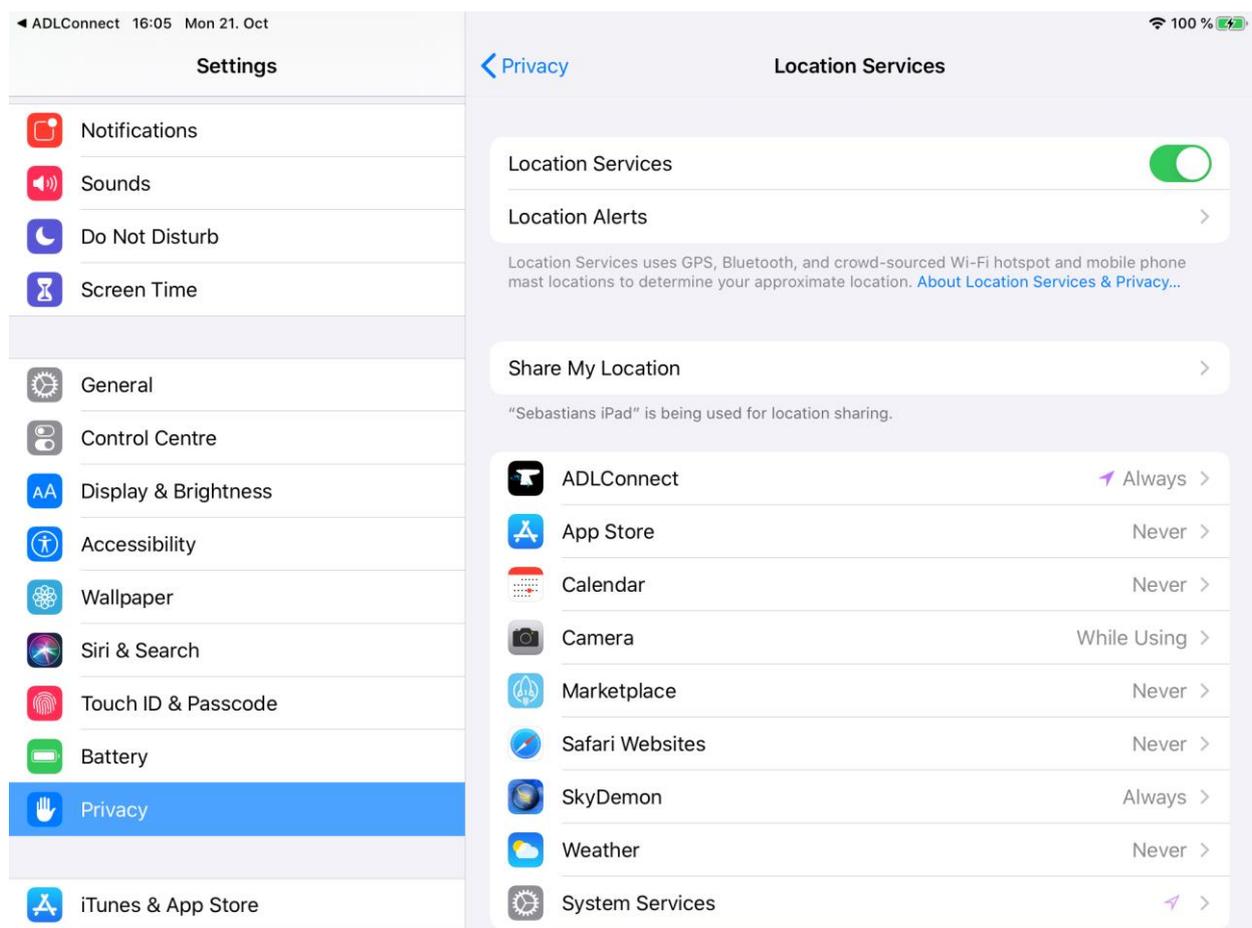
15 Installing the ADLConnect App and Login

Before you can start to use the ADL with your mobile device, you have to install the ADLConnect iPad app. On Apple devices open the app store and search for "ADLConnect" and install the free app. On Android devices please open the Google play store and also search for "ADLConnect".

When starting the app the first time, it will ask you to log in with the email and password supplied to you by us on purchase of the ADL device. Please refer to the ADLConnect documentation for the detailed usage of the ADLConnect app.

16 Important ADLConnect Privacy Setting

When running iOS 13 or later it is essential to configure the location privacy setting properly. The setting should be as shown in the following screenshot. Enable the location services and authorize ADLConnect to use this information "Always". ADLConnect will only use this privilege when connected to an ADL device, else it will not use your location. But disabling the location can cause severe issues regarding the WiFi communication between the ADLConnect app and the ADL device.



17 Your first weather download

Go to the Download page. Select Radar / Infrared / Strikes / Minima: Download and Wind / Temps: Download. Select an appropriate flight level range for the wind data. Finally select one or more ICAO codes for which you would like to download the METAR and or TAF. Then press "Single ADL Download" and the download will start. A satellite download will take an average of 2 minutes but this can vary a lot depending antenna and satellite position etc.

Please note that Iridium satellites move very fast over the sky. Thus, the reception will vary all the time and a bad or good connection at a single moment does not say much about the general quality of the reception.

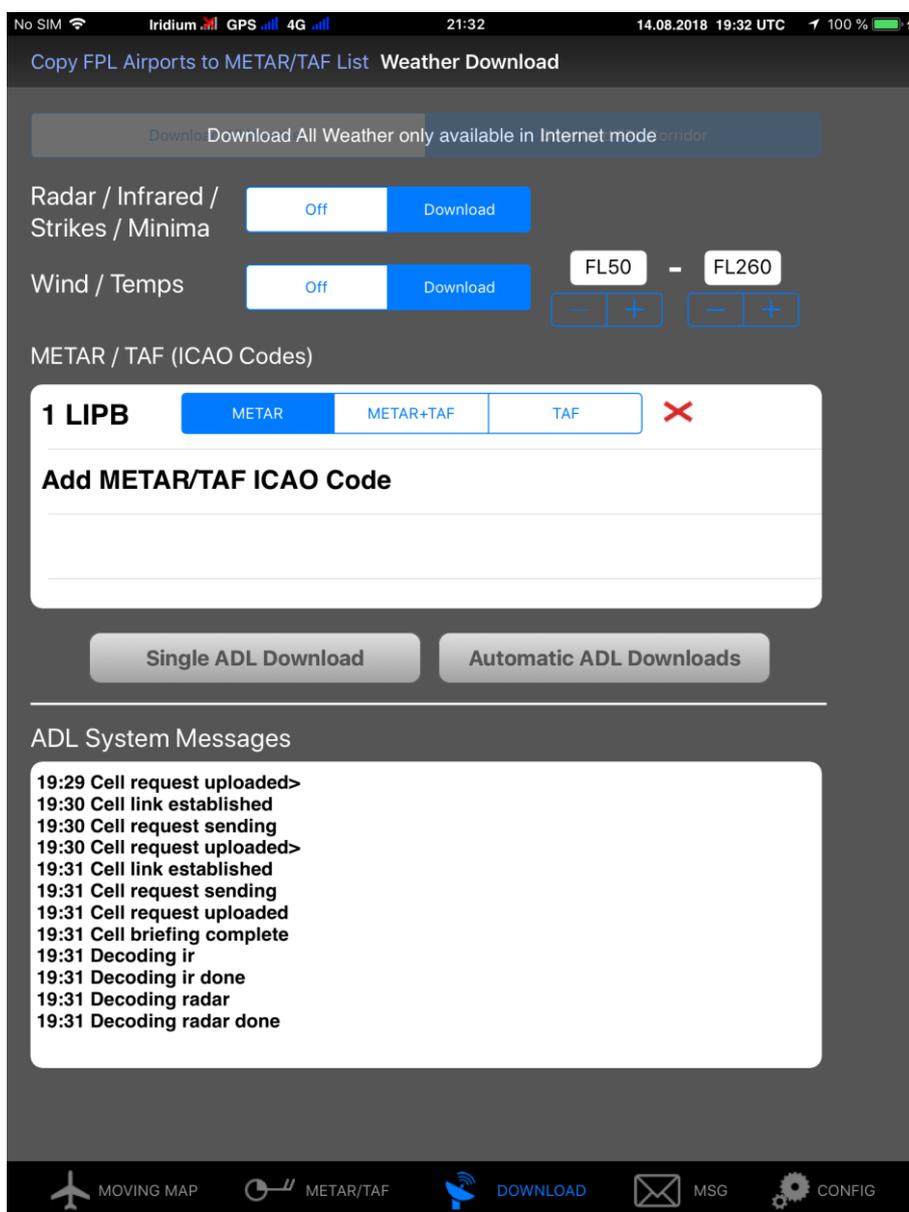


Figure 4 Download Page

Finally you can see the weather information on the moving map page. Please note that the weather information is downloaded as a corridor along the flight plan you did enter. Therefore enter at least the destination of your flight in the flight plan table right to the moving map to get the weather for your whole flight path.

18 ADL160 Technical data

- Operating and storage temperature range -20 to 60°C
- Dimensions: 50 x 47 x 20mm
- Mass: 65g
- Requires USB micro power, 5V, 500mA minimum

19 ADL160 Label

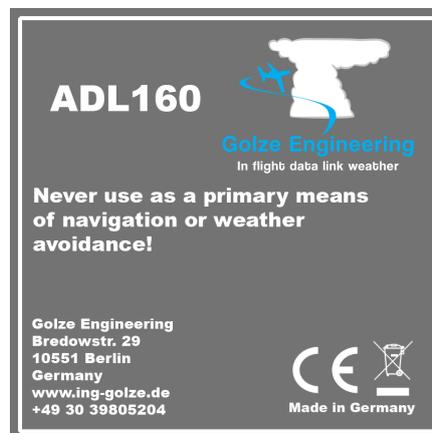


Figure 5 ADL160 Label

20 Contact

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