

Benutzerhandbuch



INFLIGHT allows you to illuminate aircraft models realistically.

Below is an overview of how to power, connect, and configure INFLIGHT.

Aircraft lights

The lighting on an aircraft can be very complex—there are slight differences depending on the aircraft. Below are some general tips for installation. The list of lights is not exhaustive; there are other lights, but the chip only has a limited number of outputs. The missing lights include, for example, inspection lights for the wings or for the landing gear bay at the nose, and auxiliary lights for cameras.

Visibility of the aircraft

To ensure that aircraft are clearly visible to other traffic participants both on the ground and in the air, aircraft are equipped with the following lights.

- Position lights Red at the left wing tip, green at the right wing tip; supplemented by a white light at the tail.
- Position lights – strobe Bright white lights at each wing tip that flash regularly. On Boeing aircraft, this is a single flash, on Airbus aircraft a double flash. Often also found at the rear; on an A350, for example, this flashes only once.
- Beacon / collision warning light orange flashing light, usually at the top and bottom of the aircraft. The lights are usually switched on before the engines are started and switched off after they are shut down.

Visibility for the pilot

- Taxi For illuminating the runway while the aircraft is taxiing on the ground. Usually mounted on the front landing gear or on the nose.
- Runway Turnoff Similar to taxi lights, but aligned to the left and right to better illuminate the sides of the runway.
- Runway lights Very powerful lights that illuminate the runway during takeoff and landing. They are usually located on the wings near the fuselage.
- Wing inspection (not part of INFLIGHT) Lights for inspecting the leading edge of the wings, usually located on the fuselage. Allow the pilot to illuminate the wings to see for damage.

Other lights

- Cabin Cabin lighting.
- Cockpit Cockpit lighting.

Autopilot

INFLIGHT has a built-in autopilot that simulates a flight from gate to gate, switching the lights on and off in sequence.

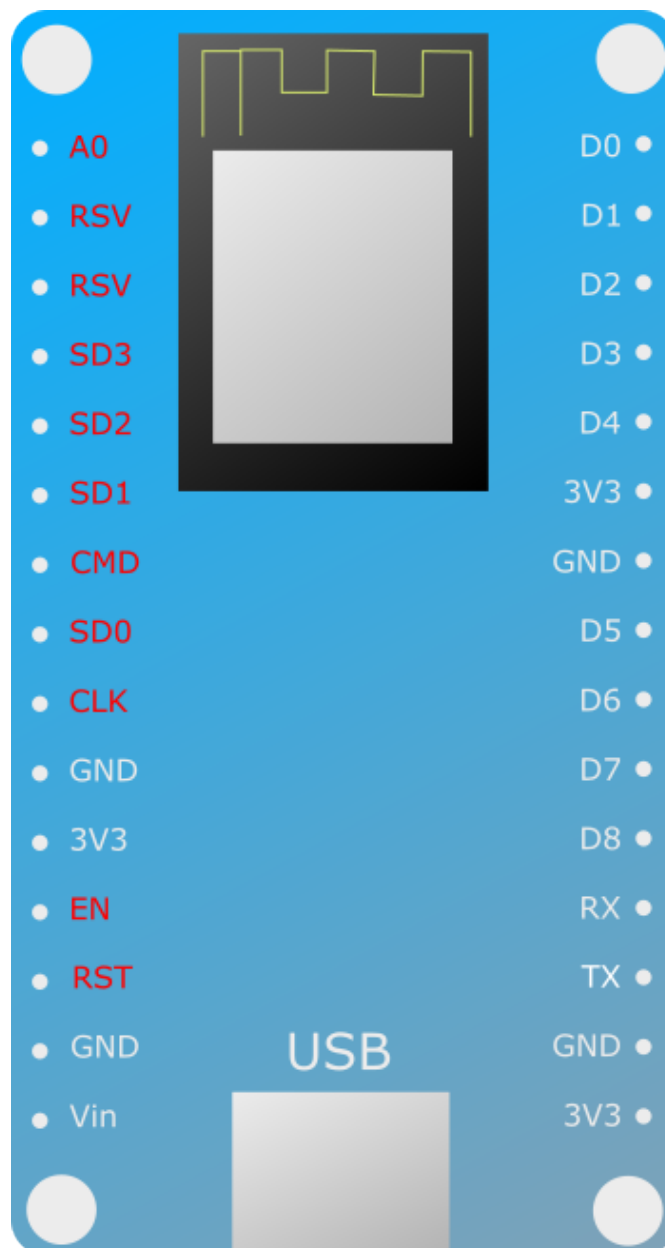
1. Gate The aircraft is at the gate. Cabin, cockpit, logo lighting, and position lights are switched on.
2. Gate - engines on The collision warning lights are switched on.
3. Taxi The cockpit lighting is switched off, the taxi lights/runway turn-off lights and the strobe collision

warning lights are switched on.

4. Runway Cabin lighting is dimmed, taxi lights are turned off, and takeoff lights are turned on.
5. Flight Cabin lighting is turned on fully, logo lighting and takeoff lights are turned off.
6. Preparation for landing Logo lighting is turned on, cabin lighting is dimmed.
7. Landing Approach Runway lights are switched on.
8. Runway Runway lights are switched off, landing lights are switched on.
9. Taxi As above.
10. Gate As above

Connection

Chip overview



The image above shows where the individual connections are located.

Power supply

- Via the micro USB port on a PC or a standard USB power supply/power bank
- To two pins **3V3** (red) and the adjacent **GND** (black) with max. 3.3 volts DC
- To the two pins **Vin** (yellow) and **GND** with 5 volts, preferably 7-10V DC

Connecting the LEDs

The output voltage is 3.3 volts.

Name	Function	PIN
Cockpit	On/Off	D0 - GPIO 16
Runway lights	On/Off	D1 - GPIO 5
Taxiway Lights	On/Off	D2 - GPIO 4
Take-Off lights	On/Off	D3 - GPIO 0
Cabin	On/Dimmed (landing)/Off	D4 - GPIO 2
Collision warning light	On/Off (flashes approx. once per second)	D5 - GPIO 14
Landing lights	On/Off	D6 - GPIO 12
Position light	On/Off	D7 - GPIO 13
Position light strobe 2	On/Off (double strobe)	D8 - GPIO 15
Position light strobe 1	On/Off (simple strobe)	RX - GPIO 3
Logo	On/Off	TX - GPIO 1

The LED is always connected to the output + one of the **GND** connections; multiple LEDs can share one **GND**.

Demo Mode

Since version 2.1.0

INFLIGHT has a static demo mode that saves a lighting state and automatically restores it when the chip is started. This can be useful for demonstrating the same lighting effects as soon as the power is turned on.

NOTE	The INFLIGHT memory can be written to approximately 10,000 times. Frequent saving to the demo mode can shorten the memory's service life.
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Demo Mode vs. Autopilot

Demo mode overrides the autopilot.

Demo Mode Activation

To activate demo mode, go to [http://\[chip address\]/demo](http://[chip address]/demo). There you will find the same settings as on the main page, i.e. you can switch on/off the same lights but with the additional option to save the status via a button. Once you click on save, the current lighting state is stored in the chip's memory.

When demo mode is activated, [http://\[chip address\]/](http://[chip address]/) also returns the demo page.

[demo mode] | <img/demo-mode.png>

Demo Mode Deactivation

To deactivate demo mode, click on “Reset demo mode”. This will return INFLIGHT to normal mode (autopilot/manual).

WLAN

INFLIGHT supports two connection modes: as a separate network or as a normal device in an existing network.

NOTE INFLIGHT supports the WiFi standard 5 at 2.4 GHz. With mesh networks, the device may not be able to connect to the WLAN.

Separate network.

1. Use your smartphone/PC to select the Wi-Fi network “INFLIGHT”^[1].
2. Enter <http://192.168.4.1> in your browser

Connection to existing network

NOTE To connect to an existing network, first connect as Your own network, then change the Wi-Fi mode to “Single network” under [Settings](#). Then restart the chip.

1. Connect to the “INFLIGHT” Wi-Fi network and
2. Click on “Log in to network” (displayed on your smartphone) or open 192.168.4.1 in your browser.
3. Select “Configure Wi-Fi”.
4. Select your own Wi-Fi network, enter your password^[2] and click on “Save.”
5. INFLIGHT will attempt to establish a connection.
6. If the connection is successful, INFLIGHT will be accessible on your network. Depending on your router, it will be listed under [set address](#), as ESP-xxxxx or with an IP address. If the connection is unsuccessful (e.g., because the password was entered incorrectly or the connection was rejected by the router), the INFLIGHT Wi-Fi will reopen after approx. 1 minute.

Settings

You can adjust the settings at [http://\[address of the chip\]/settings](http://[address of the chip]/settings). Some settings require a restart afterwards, which can be achieved either by powering off and on again or via [http://\[address of the chip\]/restart](http://[address of the chip]/restart)

General settings

1. Autopilot active at startup: When enabled (default), INFLIGHT automatically starts the [Autopilot](#). Heading: Change the labels on the main page.

Wifi network standalone

1. Name: Name of the network. Password: Password for the network (leave blank for no password); minimum 8, maximum 16 characters

Wifi network client

1. DNS name: The name under which INFLIGHT should be accessible on the network (recommended: only standard letters, numbers, and “-”). Example: If you enter b747-400 here, you can later enter

“http://b747-400” in your browser to access INFLIGHT. This may not work with some routers.

[1] Name can be configured in [Settings](#)

[2] The password is only stored locally. INFLIGHT does not transfer any information outside the network