

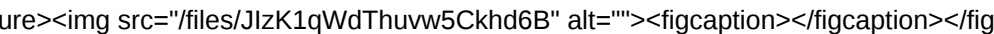
holybro-setup-guide.md

> For the complete documentation index, see `llms.txt` (<https://docs.holybro.com/llms.txt>). Markdown versions of documentation pages are available by appending `.md` to page URLs; this page is available as Markdown (<https://docs.holybro.com/peripherals/h-flow-dronecan/setup-guide.md>).

Setup Guide

Mounting

The recommended mounting orientation is with the connectors on the board pointing toward the back of the vehicle, as shown in the following picture.



This corresponds to the default value (0) of the parameter `SENS_FLOW_ROT`. Change the parameter appropriately if using a different orientation. The sensor can be mounted anywhere on the frame, but you will need to specify the focal point position, relative to the vehicle's center of gravity, during PX4 configuration.

PX4 Configuration

1. Connect H-FLOW to CAN port
2. Set the following parameters:

- * Enable optical flow fusion by setting `EKF2_OF_CTRL` (https://docs.px4.io/main/en/advanced_config/parameter_reference.html#EKF2_OF_CTRL)
- * To optionally disable GPS aiding, set `EKF2_GPS_CTRL` (https://docs.px4.io/main/en/advanced_config/parameter_reference.html#EKF2_GPS_CTRL)
- * Enable `UAVCAN_SUB_FLOW` (https://docs.px4.io/main/en/advanced_config/parameter_reference.html#UAVCAN_SUB_FLOW)
- * Enable `UAVCAN_SUB_RNG` (https://docs.px4.io/main/en/advanced_config/parameter_reference.html#UAVCAN_SUB_RNG)
- * Set `EKF2_RNG_A_HMAX` (https://docs.px4.io/main/en/advanced_config/parameter_reference.html#EKF2_RNG_A_HMAX)
- * Set `EKF2_RNG_Q_LTY_T` (https://docs.px4.io/main/en/advanced_config/parameter_reference.html#EKF2_RNG_Q_LTY_T)
- * Set `UAVCAN_RNG_MIN` (https://docs.px4.io/main/en/advanced_config/parameter_reference.html#UAVCAN_RNG_MIN)
- * Set `UAVCAN_RNG_MAX` (https://docs.px4.io/main/en/advanced_config/parameter_reference.html#UAVCAN_RNG_MAX)
- * Set `SENS_FLOW_MINHGT` (https://docs.px4.io/main/en/advanced_config/parameter_reference.html#SENS_FLOW_MINHGT)
- * Set `SENS_FLOW_MAXHGT` (https://docs.px4.io/main/en/advanced_config/parameter_reference.html#SENS_FLOW_MAXHGT)
- * Set `SENS_FLOW_MAXR` (https://docs.px4.io/main/en/advanced_config/parameter_reference.html#SENS_FLOW_MAXR)
- * The parameters `EKF2_OF_POS_X` (https://docs.px4.io/main/en/advanced_config/parameter_reference.html#EKF2_OF_POS_X)

3. Reboot

After connecting the sensor to the controller, connect it to the controller using QGroundControl. Open the MAVLink Inspector screen for `DISTANCE_SENSOR`. If the sensor is OK, you can see that the current `_distance` number is non-zero.



Refer to link below for the latest PX4 Optical Flow setup info

{% embed url="<https://docs.px4.io/main/en/sensor/optical_flow.html>" %}

Ardupilot Setup Guide

1. Connect H-FLOW to CAN port
2. Set the following parameters:

- * `FLOW_TYPE` = 6 (DroneCAN)
- * `CAN_P1_DRIVER` = 1
- * `CAN_D1_PROTOCOL` = 1
- * `RNGFND1_TYPE` = 24
- * `RNGFND1_MAX_CM` = 3000 (max range 30m)
- * `EK3_SRC_OPTIONS` = 0 (disable FuseALLVelocities)
- * `EK3_FLOW_DELAY` (default)
- * `EK3_SRC1_POSXY` = 0 (use optical flow)
- * `EK3_SRC1_VELXY` = 5
- * `EK3_SRC1_POSZ` = 2
- * `EK3_SRC1_VELZ` = 0
- * `EK3_SRC1_YAW` = 1
- * `FLOW_POS_X`, `FLOW_POS_Y`, `FLOW_POS_Z` (H-FLOW position offsets based on its mounting position)

3. Reboot

After connecting the sensor to the controller, connect the controller to Mission Planner and open the Status tab of the Flight Data screen. If the sensor is operational, you should see non-zero `opt_m_x`, `opt_m_y`, and `opt_qua` values.



Refer to link below for the latest Ardupilot Optical Flow setup info

{% embed url="<<https://ardupilot.org/copter/docs/common-optical-flow-sensor-setup.html>>" %}

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# Agent Instructions
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This documentation is published with GitBook. GitBook is the documentation platform designed so that both hu
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## Querying This Documentation
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If you need additional information that is not directly available in this page, you can query the documentat
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Perform an HTTP GET request on the current page URL with the `ask` query parameter, and the optional `goal` query parameter:

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GET https://docs.holybro.com/peripherals/h-flow-dronecan/setup-guide.md?ask=<question>&goal=<en
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`ask` is the immediate question: it should be specific, self-contained, and written in natural language.
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`goal` is optional and describes the broader end goal you are ultimately trying to accomplish on behalf of t
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The response will contain a direct answer to the question and relevant excerpts and sources from the documentation.

Use this mechanism when the answer is not explicitly present in the current page, you need clarification or additional context, or you want to retrieve related documentation sections.