

## **GF-DIO Operation.**

The GF-DIO is a Goflight module that has 56 inputs and 32 outputs.

The 56 inputs can be used to connect buttons, switches and selectors.

No other input devices are supported.

The 32 outputs can be used to connect LEDS.

The inputs are independent from the outputs.

Because of the complexity of the DIO there is no GUI interface for it in the plugin.

This is because the DIO module can behave like other modules that use buttons, switches and selectors.

So, all Goflight Function IDs need to be added to the XPFG.INI file using a text editor.

This is fairly straight forward and gives more flexibility in what Goflight Function IDs are available.

This situation is not going to change and manual editing of the XPFG.INI file is the only way that will be available for setting up the GF-DIO module.

The existing function list docs should be used to find functions for the DIO.

Most functions that work with the Goflight modules that have buttons and switches should work.  
e.g. GF-T8, GF-P8 etc.

Most functions that work with the Goflight modules that use selector switches should work.  
e.g. GF-EFIS, GF-MESM etc.

However there is no guarantee that all functions will work.

None of the Goflight Function IDs that are used by knobs are supported as the GF-DIO module only supports digital input and output.

## **NOTE**

On OS X a low level library is used because there is no Goflight SDK for OS X.

With the DIO the library does not get any notifications for the last 2 input switch locations.

There is nothing I can do about this so these inputs will not be available with the OS X version of the plugin.

In order for the GF-DIO module to work with different input devices, it needs to know the type of input device that is attached.

The plugin does not have psychic capabilities programmed into it.  
So, the following Switch Types are used.

BUTTON	Standard Push Button (Similar to buttons on GF-P8)
SWITCH2WAY	2 Way Toggle Switch (Similar to switches on GF-T8)
SWITCH3WAY	3 Way Toggle Switch (Similar to switches on GF-EFIS, GF-MESM)
SELECTOR	Selector (Similar to selectors on GF-EFIS, GF-MESM)

e.g

Button and 2 Way Toggle Switch

```
[CONFIG]
[GF-DIO_1]
InputSwitchTypeFunction01=BUTTON
InputFunction01=NAV_LTS
InputSwitchTypeFunction02=SWITCH2WAY
InputFunction02=BEACON_LTS
```

The first input has a button attached to it and the second input has a 2 way toggle switch attached to it.

Outputs are independent of inputs, but if you wanted LED 1 and 2 to reflect the same functionality as the inputs above, you could have added.

```
OutputFunction01=NAV_LTS
OutputFunction02= BEACON_LTS
```

### 3 Way Toggle Switch

```
[CONFIG]
[GFDIO_1]
InputSwitchTypeFunction01=SWITCH3WAY
InputOffStateFunction01=FUEL_FEED_ALL
InputFunction01=FUEL_FEED_LEFT
InputSwitchTypeFunction02=SWITCH3WAY
InputOffStateFunction02=FUEL_FEED_ALL
InputFunction02=FUEL_FEED_RIGHT
```

The first input has a 3 way toggle switch attached to it.

Because this switch has a middle position, you have to be able to assign a Gogflight Function ID to it.

That is why the InputOffStateFunction01 setting is there.

You also need one for the second part of the switch, that is why there is a InputOffStateFunction02 setting.

Both of these should be set to the same Goflight Function ID.

### Selector

```
[CONFIG]
[GFDIO_1]
InputSwitchTypeFunction01=SELECTOR
InputFunction01=EFIS_ND_RANGE_10NM
InputSwitchTypeFunction02=SELECTOR
InputFunction02=EFIS_ND_RANGE_20NM
InputSwitchTypeFunction03=SELECTOR
InputFunction03=EFIS_ND_RANGE_40NM
InputSwitchTypeFunction04=SELECTOR
InputFunction04=EFIS_ND_RANGE_80NM
InputSwitchTypeFunction05=SELECTOR
InputFunction05=EFIS_ND_RANGE_160NM
InputSwitchTypeFunction06=SELECTOR
InputFunction06=EFIS_ND_RANGE_320NM
InputSwitchTypeFunction07=SELECTOR
InputFunction07=EFIS_ND_RANGE_640NM
InputSwitchTypeFunction08=SELECTOR
InputFunction08=EFIS_ND_RANGE_320NM
```

The first 8 inputs have a selector attached to them.

## **How Input Devices are Connected to the GF-DIO Module**

This information should be in the official Goflight Documentation but I will mention it here for completeness.

Buttons and 2 Way Toggle Switches use one of the input connectors.  
So 8 buttons or switches can be added to a bank.

3 Way Toggle Switches use two of the input connectors.  
So 4, 3 Way Toggle Switches can be added to a bank.  
Each 3 Way Toggle Switch lead would be connected to input connectors 1, 3, 5, 7.  
Input connectors 2, 4, 6, 8 should not have anything connected to them.

Selectors use two of the input connectors.  
So an eight position selector should have 4 connection leads.  
Each Selector lead would be connected to input connectors 1, 3, 5, 7.  
Input connectors 2, 4, 6, 8 should not have anything connected to them.

**Example XPGF.INI file that I used to test all Input and Output banks of the GF-DIO**

```
[CONFIG]
[GFDIO_1]
InputSwitchTypeFunction01=BUTTON
InputFunction01=NAV_LTS

InputSwitchTypeFunction09=BUTTON
InputFunction09=STROBE_LTS

InputSwitchTypeFunction17=SWITCH2WAY
InputFunction17=BEACON_LTS

InputSwitchTypeFunction25=SWITCH3WAY
InputOffStateFunction25=FUEL_FEED_ALL
InputFunction25=FUEL_FEED_LEFT
InputSwitchTypeFunction26=SWITCH3WAY
InputOffStateFunction26=FUEL_FEED_ALL
InputFunction26=FUEL_FEED_RIGHT

InputSwitchTypeFunction33=SWITCH3WAY
InputOffStateFunction33=FUEL_FEED_ALL
InputFunction33=FUEL_FEED_LEFT
InputSwitchTypeFunction34=SWITCH3WAY
InputOffStateFunction34=FUEL_FEED_ALL
InputFunction34=FUEL_FEED_RIGHT

InputSwitchTypeFunction41=SWITCH3WAY
InputOffStateFunction41=FUEL_FEED_ALL
InputFunction41=FUEL_FEED_LEFT
InputSwitchTypeFunction42=SWITCH3WAY
InputOffStateFunction42=FUEL_FEED_ALL
InputFunction42=FUEL_FEED_RIGHT
```

**InputSwitchTypeFunction49=SELECTOR**  
**InputFunction49=EFIS\_ND\_RANGE\_10NM**  
**InputSwitchTypeFunction50=SELECTOR**  
**InputFunction50=EFIS\_ND\_RANGE\_20NM**  
**InputSwitchTypeFunction51=SELECTOR**  
**InputFunction51=EFIS\_ND\_RANGE\_40NM**  
**InputSwitchTypeFunction52=SELECTOR**  
**InputFunction52=EFIS\_ND\_RANGE\_80NM**  
**InputSwitchTypeFunction53=SELECTOR**  
**InputFunction53=EFIS\_ND\_RANGE\_160NM**  
**InputSwitchTypeFunction54=SELECTOR**  
**InputFunction54=EFIS\_ND\_RANGE\_320NM**  
**InputSwitchTypeFunction55=SELECTOR**  
**InputFunction55=EFIS\_ND\_RANGE\_640NM**  
**InputSwitchTypeFunction56=SELECTOR**  
**InputFunction56=EFIS\_ND\_RANGE\_320NM**

**OutputFunction01=NAV\_LTS**  
**OutputFunction09=STROBE\_LTS**  
**OutputFunction17=BEACON\_LTS**  
**OutputFunction25=FUEL\_FEED\_ALL**