GPO - General purpose outputs

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The GPO block sets the values of the General purpose outputs (GPO). To read the value, use the GPI block.

Simulink block

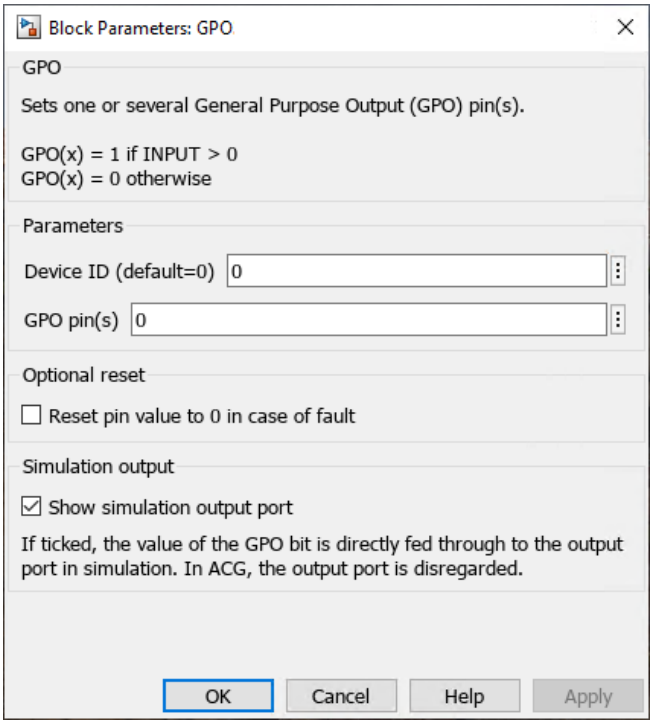
Signal specification

The GPO pin is set if the input is >0.

The pin locations of the general purpose outputs, numbering, and voltage levels are available in the B-Box RCP datasheet and in the B-Board PRO datasheet.

Parameters

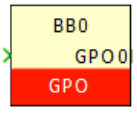
- `Device ID` selects which B-Box/B-Board to address when used in a multi-device configuration.
- `GPO pin(s)` (vectorizable) is the GPO pin(s) to control. It can be a single value or a vector.
- `Reset pin value to 0 in case of fault` acts when a fault is detected, for instance when an analog inputs exceeds a configured limit value.
- `Show simulation output port` defines if the simulation output is displayed or not.



PLECS block

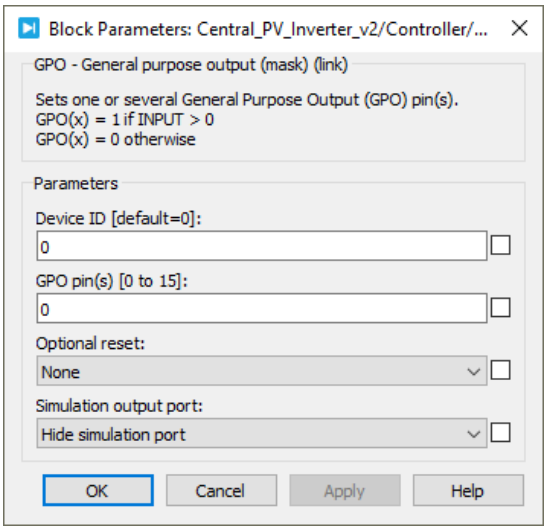
Signal specification

The GPO pin is set if the input is >0.



Parameters

- `Device ID` selects which B-Box/B-Board to address when used in a multi-device configuration.
- `GPO pin(s)` (vectorizable) is the GPO pin(s) to control. It can be a single value or a vector.
- `Optional reset` can be set to `Reset pin value to 0 in case of fault` to act when a fault is detected, for instance when an analog inputs exceeds a configured limit value.
- `Simulation input port` defines if the target *outport* is displayed or not. This parameter is only used in simulation.



C++ functions

`Gpo_SetBit` **— Set the GPO pin**

```
void Gpo_SetBit(unsigned int bit, unsigned int device=0);
```
Code language: C++ (cpp)

Sets the addressed GPO pin.

Parameters

- `bit`: the GPO pin number
- `device`: the id of the addressed device (optional, used in multi-device configuration only)

`Gpo_ClearBit` **— Clear the GPO pin**

```
void Gpo_ClearBit(unsigned int bit, unsigned int device=0);
```
Code language: C++ (cpp)

Clears the addressed GPO pin.

Parameters

- `bit`: the GPO pin number
- `device`: the id of the addressed device (optional, used in multi-device configuration only)

`Gpo_ToggleBit` **— Toggle the GPO pin**

```
void Gpo_ToggleBit(unsigned int bit, unsigned int device=0);
```
Code language: C++ (cpp)

Toggles the addressed GPO pin.

Parameters

- `bit`: the GPO pin number
- `device`: the id of the addressed device (optional, used in multi-device configuration only)

`Gpo_ForceBit` **— Set the GPO** value

```
void Gpo_ForceBit(unsigned int bit, unsigned int value, unsigned int device=0);
```
Code language: C++ (cpp)

Sets the GPO pin to `value`.

GPO(bit) = 0 if `value=0`, GPO(bit) = 1 if `value>0`

Parameters

- `value`: the value to apply to the GPO pin (0 or 1)
- `device`: the id of the addressed device (optional, used in multi-device configuration only)

`Gpo_Set` **— Set the whole 16 GPO** value**s**

```
void Gpo_Set(unsigned int value, unsigned int device=0);
```
Code language: C++ (cpp)

Sets the whole 16-bit GPO register.

It has to be called during the control interrupt.

Parameters

- `value`: the 16-bit value to apply to the GPO outputs
- `device`: the id of the addressed device (optional, used in multi-device configuration only)

`Gpo_ClearBitInCaseOfFault` **— Clear the GPO pin when a fault is detected**

```
void Gpo_ClearBitInCaseOfFault(unsigned int bit, unsigned int device=0);
```
Code language: C++ (cpp)

Configure a bit of the GPO register to be cleared when the system goes in fault.

Parameters

- `value`: the value to apply to the GPO pin (0 or 1)
- `device`: the id of the addressed device (optional, used in multi-device configuration only)