

# TI C2000 Toolbox GPIO DO (Generic)

This document describes Generic *GPIO DO (Generic)* component from TI C2000 Toolbox library.

## Short description

Generic GPIO DO component allows the user to manipulate digital inputs of the HIL device using MCU digital outputs within the GPIO peripheral. User can *set*, *clear*, and *toggle* the digital inputs, depending on how the component is configured and the value of the component's runtime input. It is designed to simplify utilization of the MCU GPIO peripheral with the HIL device and [interface board](#).

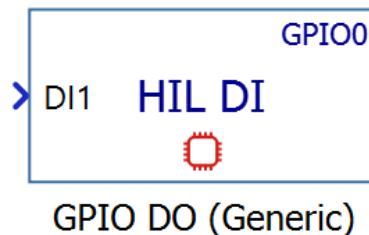


Figure 1. GPIO DO (Generic) component icon.

## Detailed overview

### Component properties:

- Tab **General**:
  - HIL DI number - specify number of HIL device digital input,
  - Pin action - select action that will be applied to target pin:
    - **Set**: Set the pin if **DIx** > 0.5,
    - **Clear**: Clear the pin if **DIx** > 0.5,
    - **Toggle**: Toggle the pin if **DIx** > 0.5,
    - **Pin Action**: **DIx** directly controls the pin value – pin is set if **DIx** > 0.5, otherwise cleared.
  - Interface type - select interface board that is used, currently supported boards are 'HIL TI Launchpad Interface' and 'HIL TI uGrid Launchpad Interface', 'HIL DSP 180 Interface' and 'HIL DSP Interface'.
  - Controller index - visible only when 'HIL TI uGrid Launchpad Interface' is selected, specifies used MCU slot on the interface board.
  - Execution rate - Desired rate at which component input will be applied. This value must be compatible with other components of the same subsystem: the value must be a multiple of the fastest execution rate in the circuit. To specify the execution rate, you can use either decimal (e.g. 0.001) or exponential values (e.g. 1e-3) in seconds. Alternatively, you can type in 'inherit' in which

case the component will be assigned execution rate based on the execution rate of the components it is receiving input from.

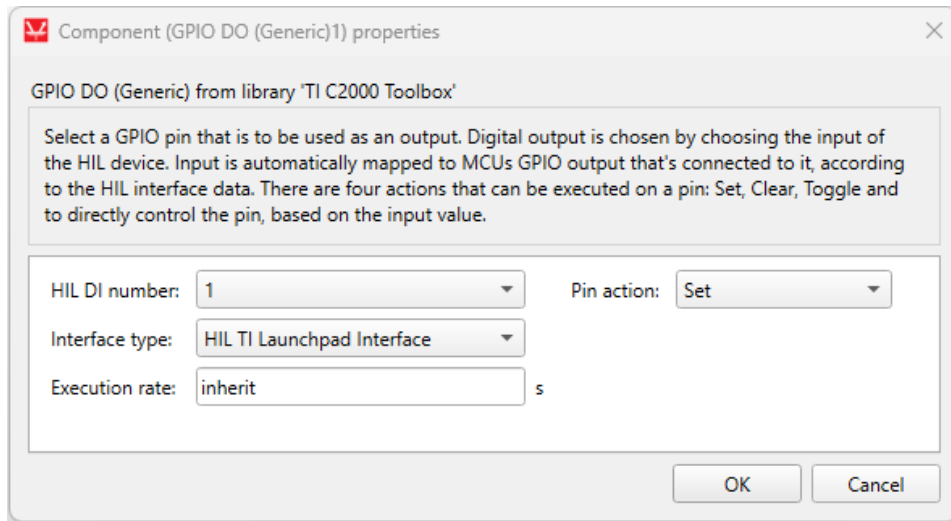


Figure 2. GPIO DO (Generic) - component dialog.

**NOTE:** It is recommended to select *target platform* on [TI C2000 Setup](#) component, *interface type* and *controller index* before configuring the component.

Selected HIL DI number is mapped to corresponding GPIO pin according to the selected [interface board](#). Currently supported interface boards are [HIL TI Launchpad Interface](#) and [HIL TI uGrid Launchpad Interface](#), [HIL DSP 180 Interface](#) and [HIL DSP Interface](#).

### Component inputs:

- Dlx – signal which drives the HIL digital input pin.
  - Supported types: uint,
  - Vector support: no