Probe variable

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The probe variable block creates a variable that can be watched and logged in real-time using using imperix Cockpit. It supports the *int32*, *uint32*, and *float* data types.

The probe block can also be configured to periodically transmit the variable value:

- as a CAN message similarly to a CAN output mailbox.
- on Ethernet via UDP/IP similarly to an Ethernet output mailbox.

Simulink block

Signal specification

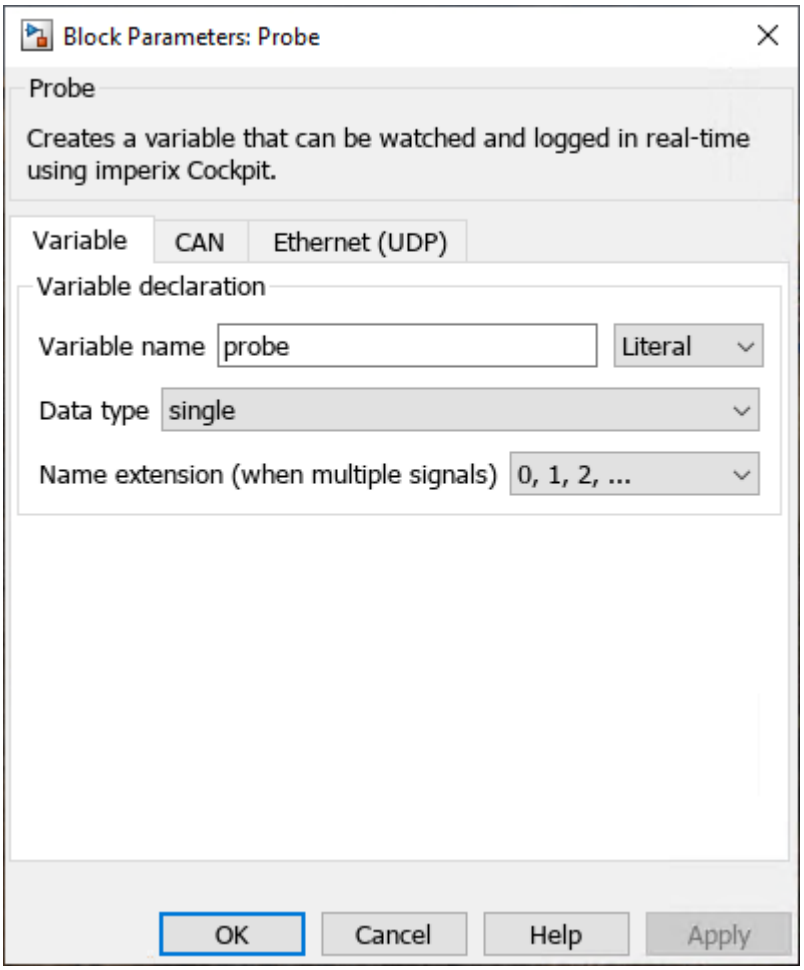
The input is the data to probe.

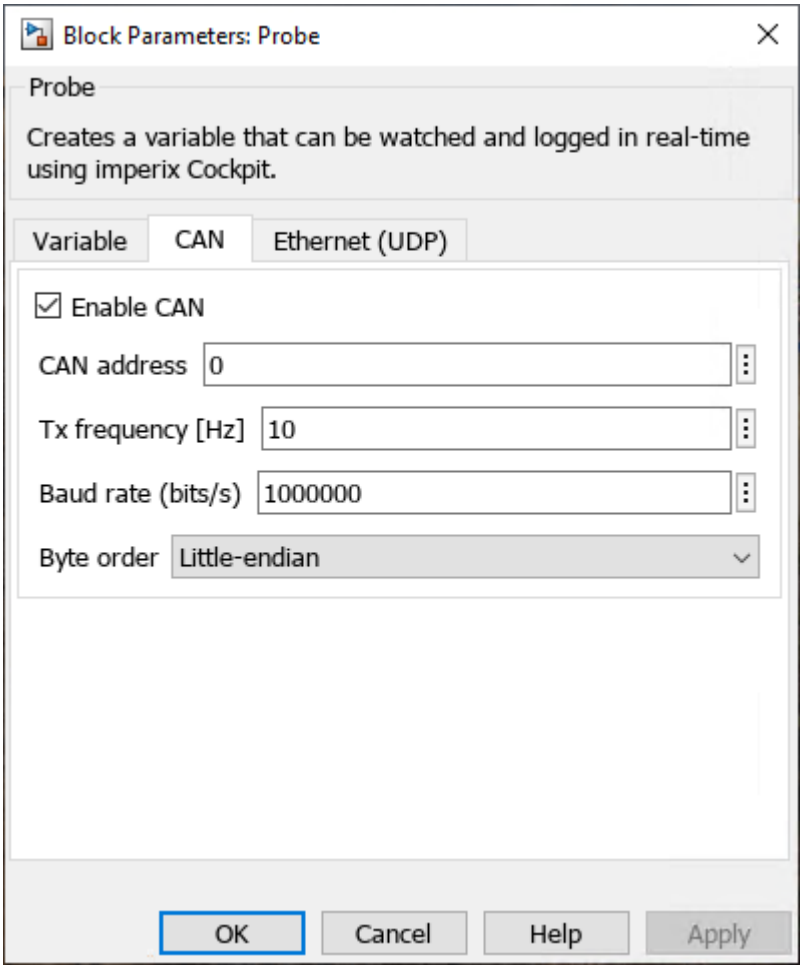
When connected to a vector, *N* variables are created where *N* is the vector size. For example, when a probe named `V_grid` is connected to a vector containing 3 values, 3 variables named `V_grid_0`, `V_grid_1` , and `V_grid_2` are created.

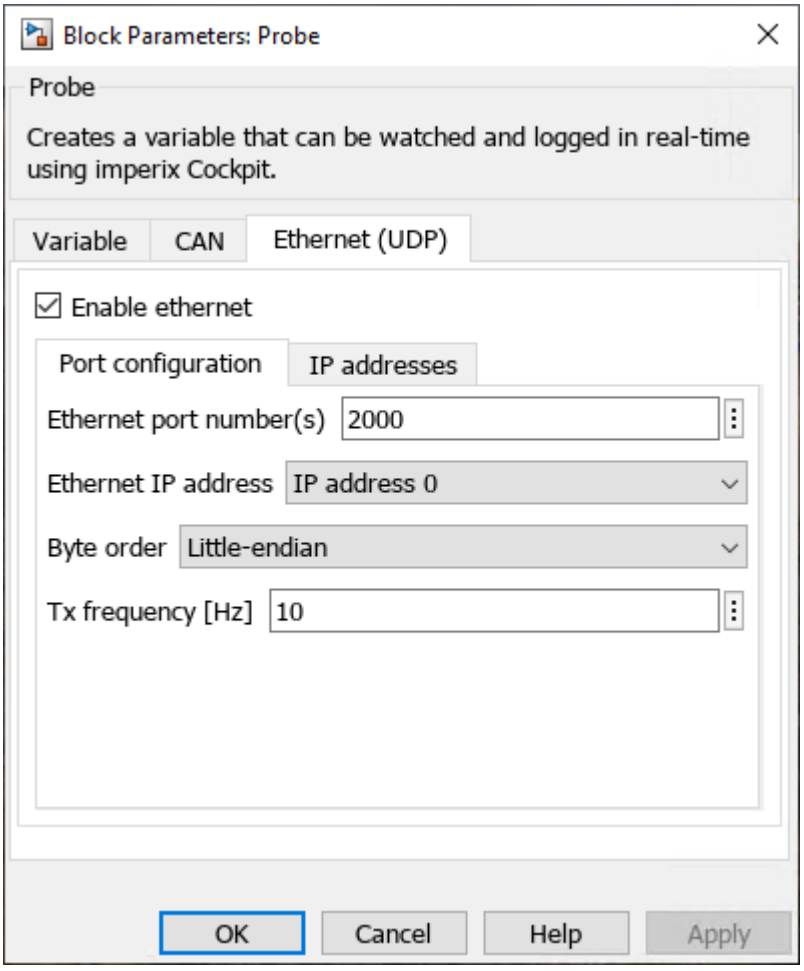
Parameters

- `Variable name` sets the variable name. This variable must start with a character and must not contain any spaces or special characters except for the "_" character.
- `Data type` sets the variable type. (*int32*, *uint32*, or *single*)
- `Name extension` when the probe is connected to a vector, *N* variables are created, where *N* is the vector size. In this case, the extension of the created variable names can be modified using this parameter.

The probe can be configured to periodically transmit CAN messages similar to a CAN output mailbox. or via UDP/IP similar to Ethernet output mailbox.




Block Parameters: Probe
Probe
Creates a variable that can be watched and logged in real-time using imperix Cockpit.
Variable
CAN
Ethernet (UDP)
Enable CAN
CAN address
0
Tx frequency [Hz]
10
Baud rate (bits/s)
1000000
Byte order
Little-endian
OK
Cancel
Help
Apply

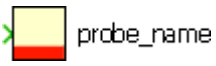

Block Parameters: Probe
Probe
Creates a variable that can be watched and logged in real-time using imperix Cockpit.
Variable
CAN
Ethernet (UDP)
Enable ethernet
Port configuration
IP addresses
Ethernet port number(s)
2000
Ethernet IP address
IP address 0
Byte order
Little-endian
Tx frequency [Hz]
10
OK
Cancel
Help
Apply

PLECS block

Signal specification

The data input port accepts either a single data or a vector of data.

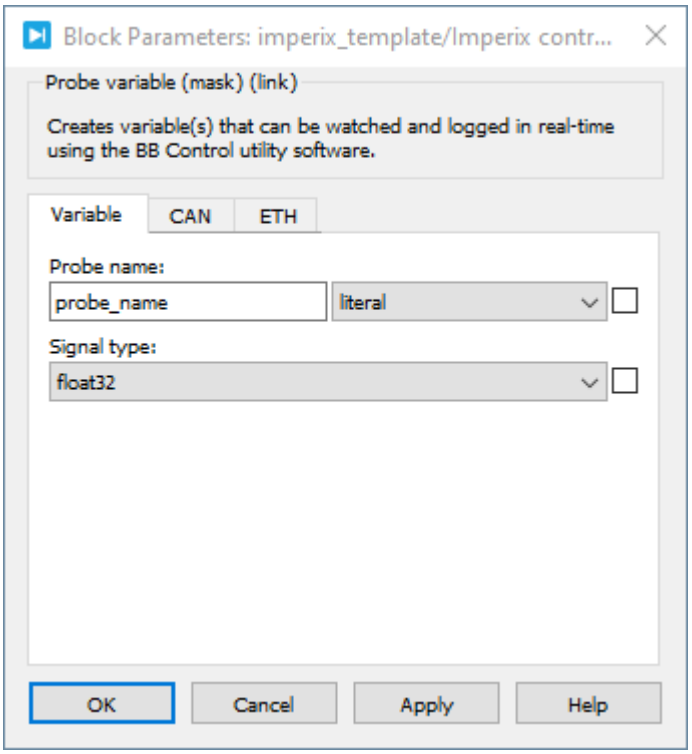
When connected to a vector, *N* variables are created where *N* is the vector size. For example, when a probe named `V_grid` is connected to a vector containing 3 values, 3 variables named `V_grid_0`, `V_grid_1` , and `V_grid_2` are created.

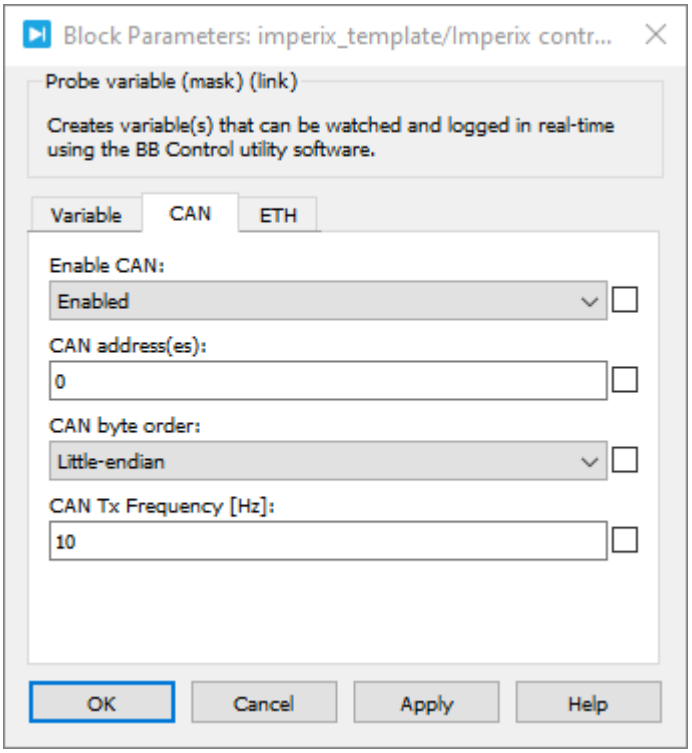


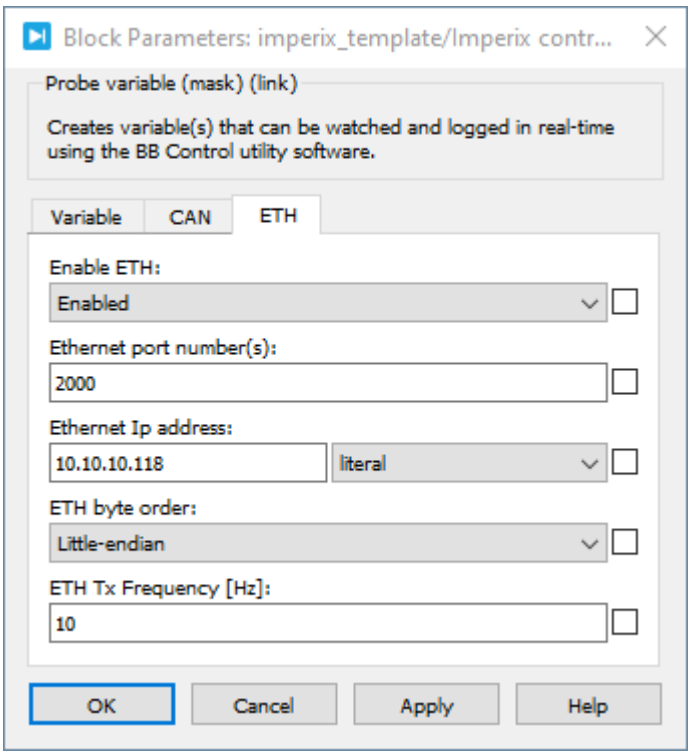
Parameters

- `Probe name` sets the variable name. This variable must start with a character and must not contain any spaces or special characters except for the "_" character.
- `Signal type` sets the variable type. (*int32*, *uint32*, or *float32*)

The probe can be configured to periodically transmit CAN messages similar to a CAN output mailbox. or via UDP/IP similar to Ethernet output mailbox.







C++ functions

All **global variables** of type `int`, `unsigned int`, or `float` can be scoped by the BB Control utility software.

Data can be sent using the CAN output mailbox or the Ethernet output mailbox.