

## What is Sampling on Demand?

Sample on Demand allows a host system to send a Modbus command to any register and require the Node's inputs to immediately sample the sensor and report readings back to the host system. Sampling on demand can be used between the normal periodic reporting.

To use the Sample on Demand feature requires using a host-controlled system capable of sending Modbus commands to the Gateway.

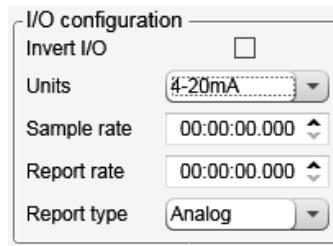
## Configure for Sample on Demand

To configure a Node to use Sample on Demand, use the User Configuration Tool (UCT) to change the Sample Rate of each I/O point to 0.

Changing the sample rate to 0 shuts off the periodic sampling and configures the I/O point to only sample when the host system demands a sampling.

Setting the sample rate set to a non-zero value configures the input to sample the inputs periodically or when the host system demands a sampling.

1. Connect the Gateway to a computer with the UCT software installed and launch the UCT software.
2. On the **Configuration > Device Configuration** screen, click on the arrow next to the Node you'd like to sample on demand.
3. Click on the arrow next to that Node's input number to expand the input's parameters.
4. Change the **Sample rate** to zero (00:00:00.000).



5. Click **SEND** to send the changes to the network.  
This input will now only report sensor readings when demanded to by the host system.

## Sample an Input Using a Host System

To sample the input, have the Host System write to the Node's register 15. To calculate which register this is for your Node, use this equation:  $15 + (\text{Node \#} \times 16)$ .

1. From the host system, write 0x13xx to the Node's register 15, where xx defines the input you want to sample.

For Input	Write Value (in hex)	Write Value (in decimal)
1	0x1301	4865
2	0x1302	4866
3	0x1304	4868
4	0x1308	4872
5	0x1310	4880
6	0x1320	4896
All Inputs	0x133F	4927

2. To send the Sample on Demand command to more than one input, add together the binary representation values.  
For example, to demand a sampling of inputs 1, 2, and 3, the Hex command is 0x1307.