Using ModbusTCP and ModbusRTU and the CommStats Function Block

Abstract

Why and how you would want to use this functionality of Red Lion Work BenchHow you get the CommStats UDFB in your program easily.

Products

Any product either Red Lion or another company that uses ModbusTCP or ModbusRTU and you are trying to talk to it with one of the RTUs, either the ST-IPm-8460/VT-mIPm-248-D/VT-mIPm-138-D.

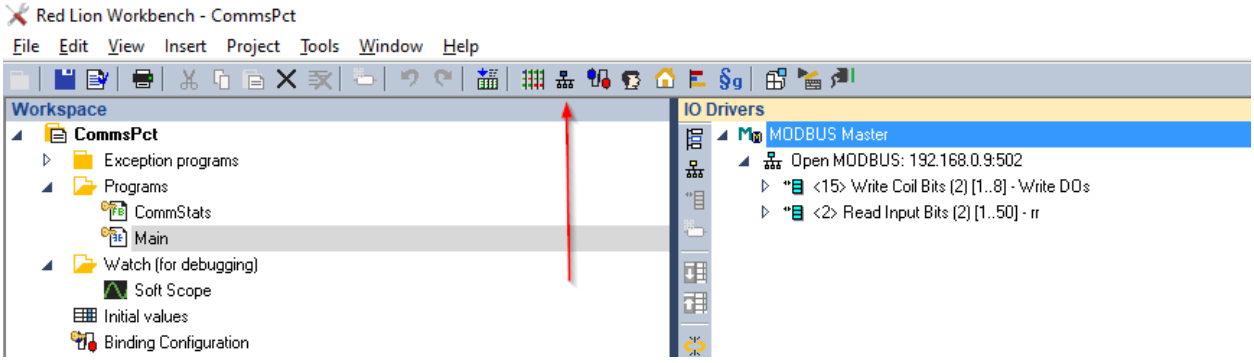
Use Case: If you are wanting to keep track of your communication performance

Required Software

Red Lion Work Bench

Using Red Lion Work Bench & CommStats Function Block

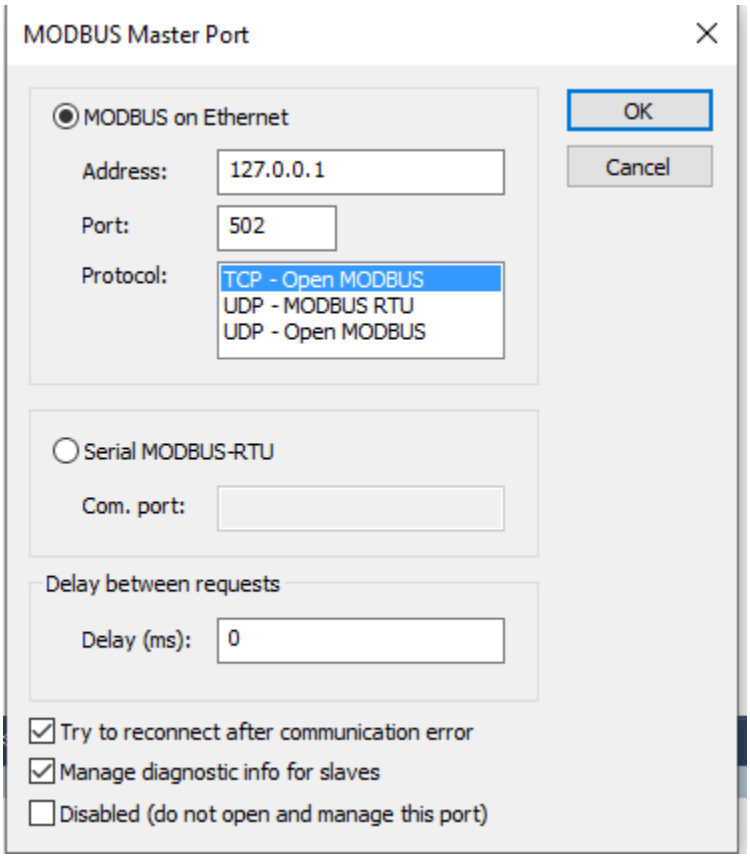
Setting up the Open Fieldbus Configurator



Click on the Icon pointed at below to open up the Open Fieldbus Configurator.

This box pops up.

Choose TCP-Open Modbus

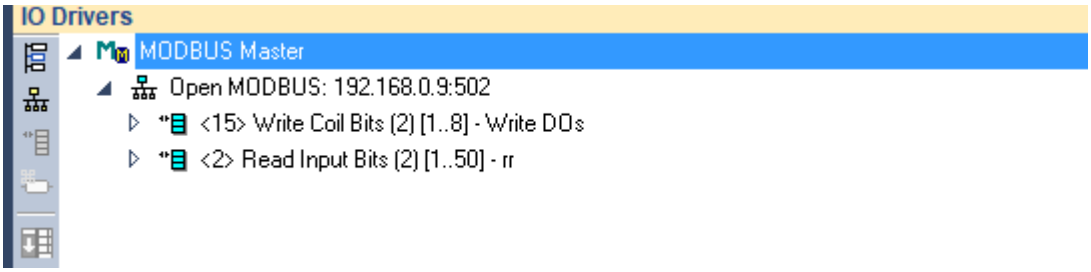


Put in the IP address of the unit

Put in the port number if different than 502

Put in the delay between requests, this is the actual polling speed for this port

Building Comms to your remote device

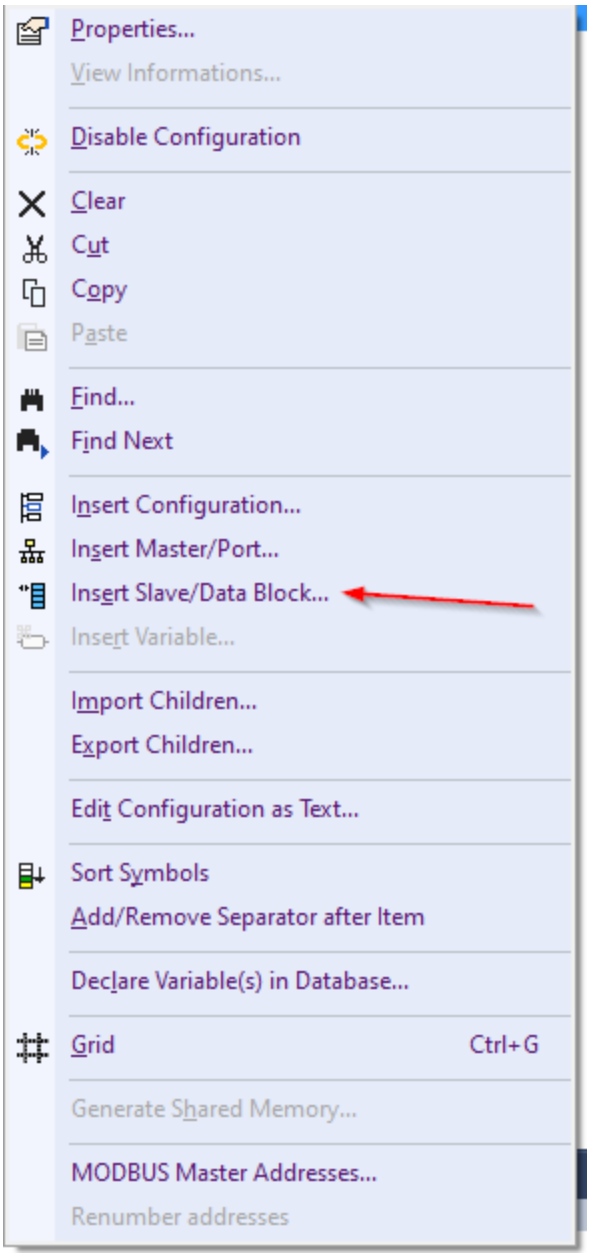


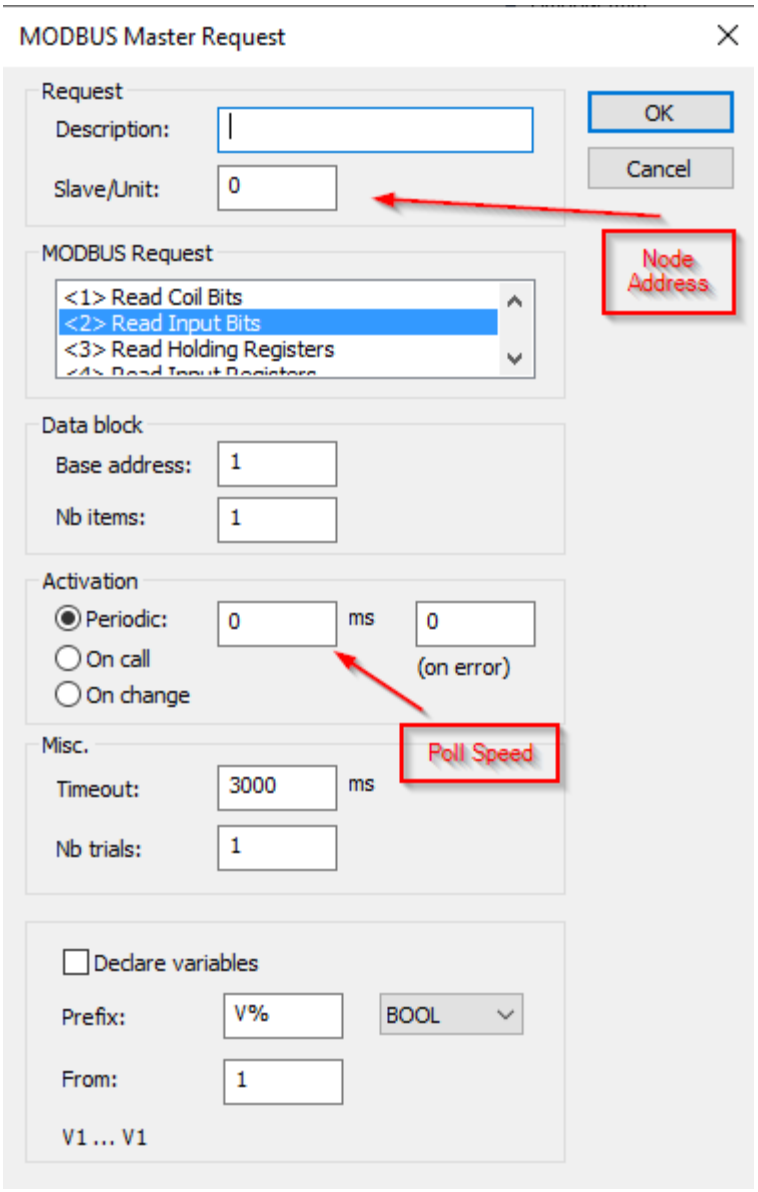
As of right now we have the Modbus Master Driver selected

The IP address and port number of the device set

Now we set up the registers we wish to poll…

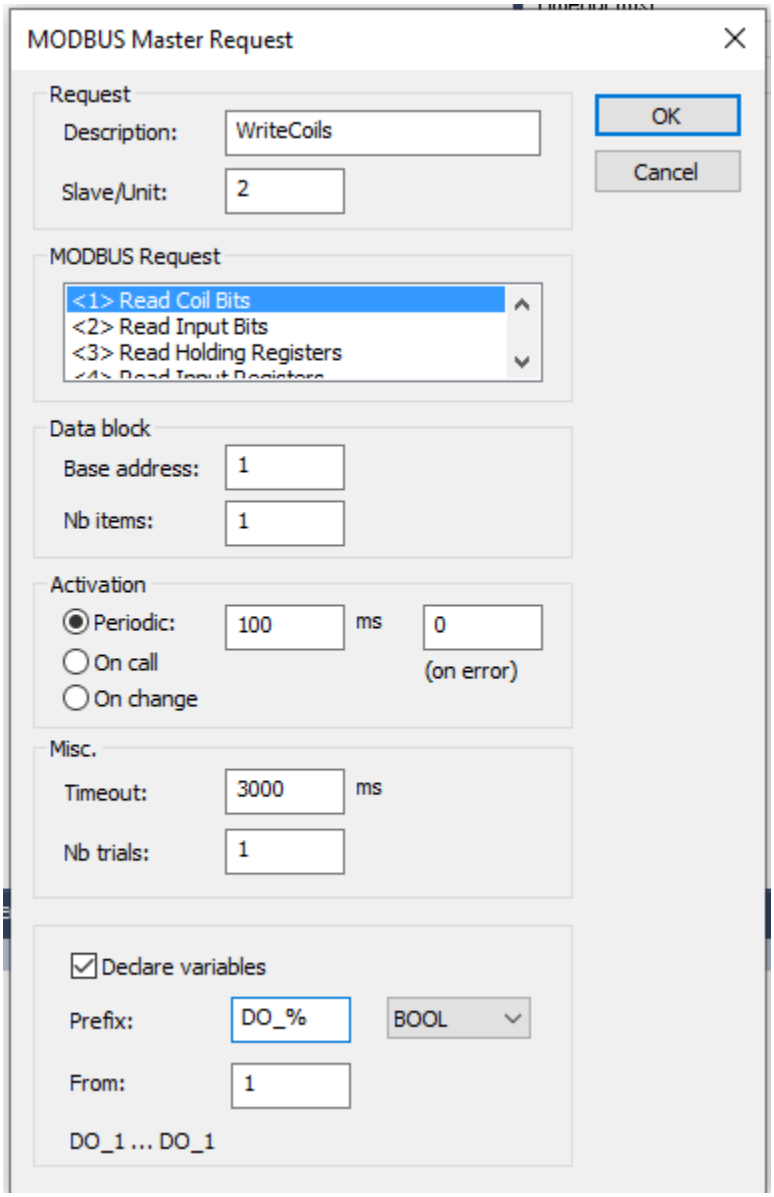
After double clicking on the “Open MODBUS” connector like what is shown above, the box below will pop up and, in that drop, down list you will select what the arrow is point too.





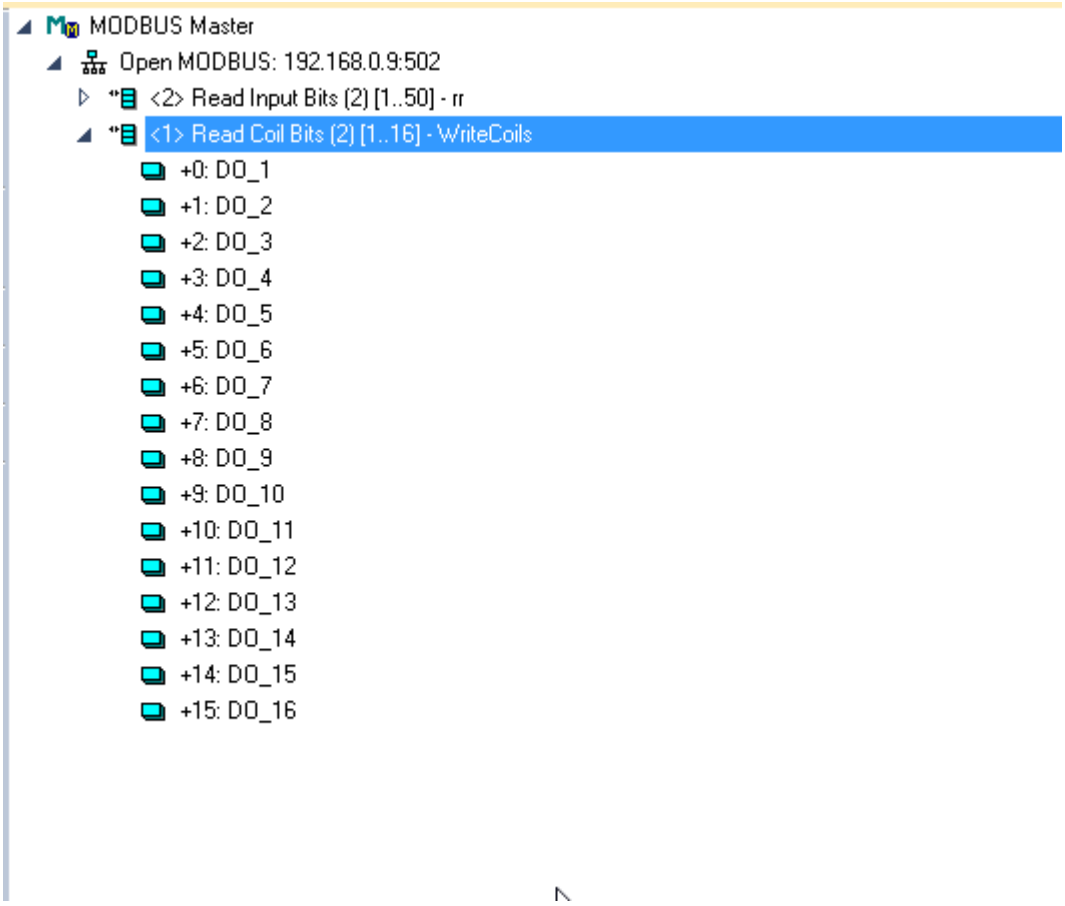
1. **Put in a description**
2. **Select your data type**
3. **Select if you are using a 0 or 1 as your base address**
4. **Activation**
    a. **Periodic- typical poll/write speed in milliseconds**
    b. **On call-using a triggered read**
    c. **On change-report by exception**
        i. **Do not recommend On change unless you are sure this will work for your application.**

This is a typical setup screen.



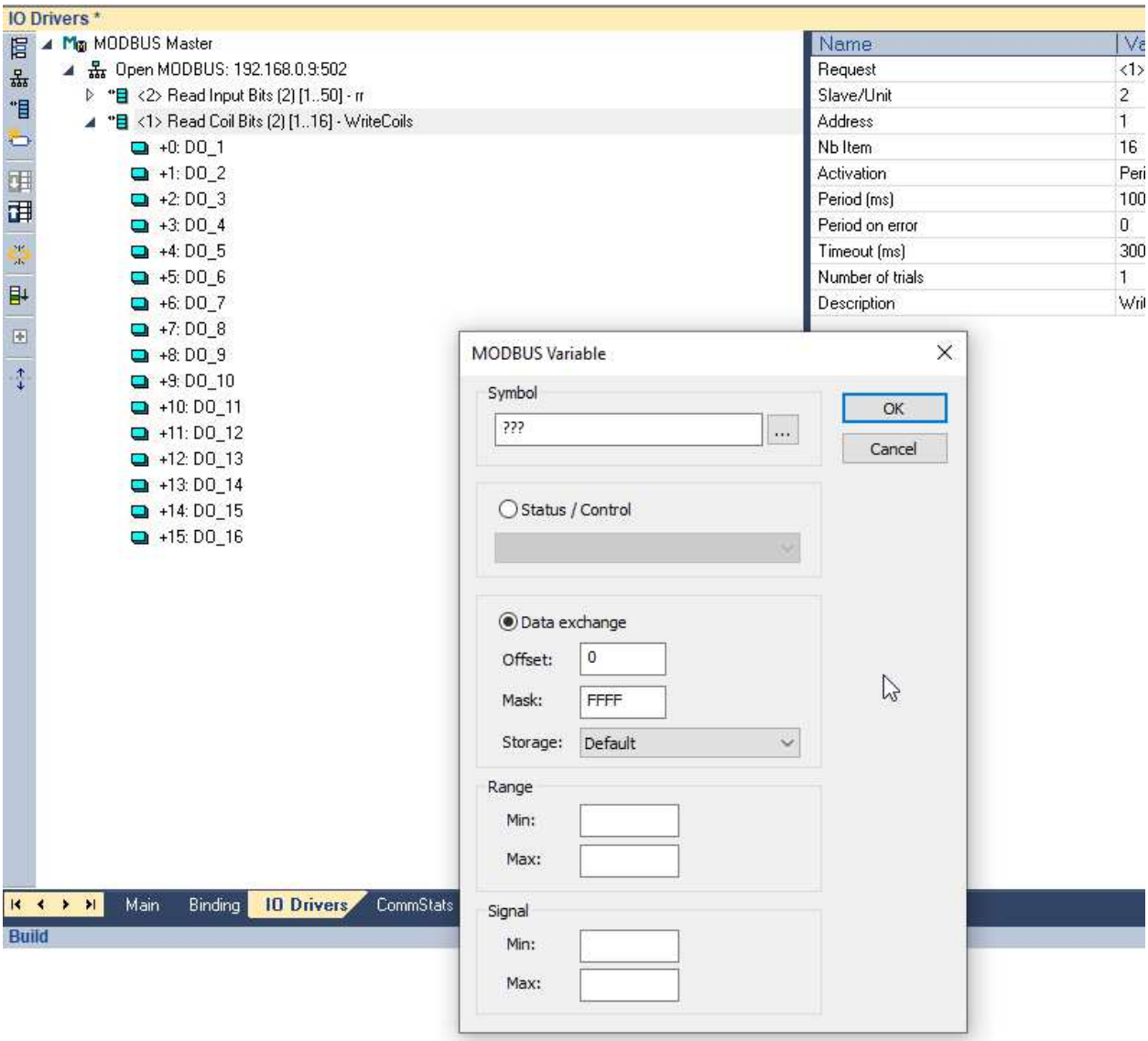
You can see right here that by using the % mark the software will automatically create the IO point number for you. You have to supply the nomenclature before the % mark for this to work.

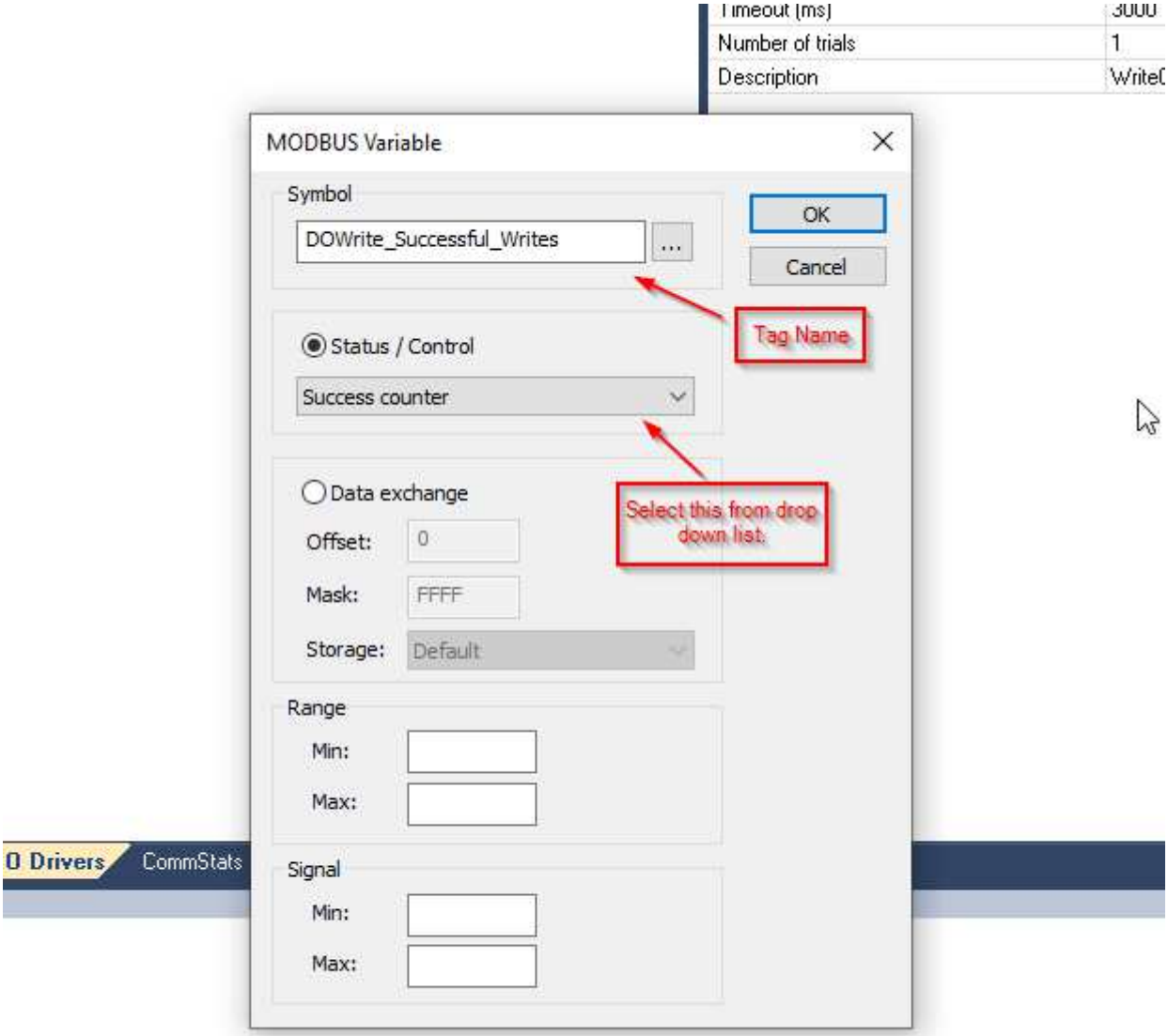
This I show it shows up once things are filled out.



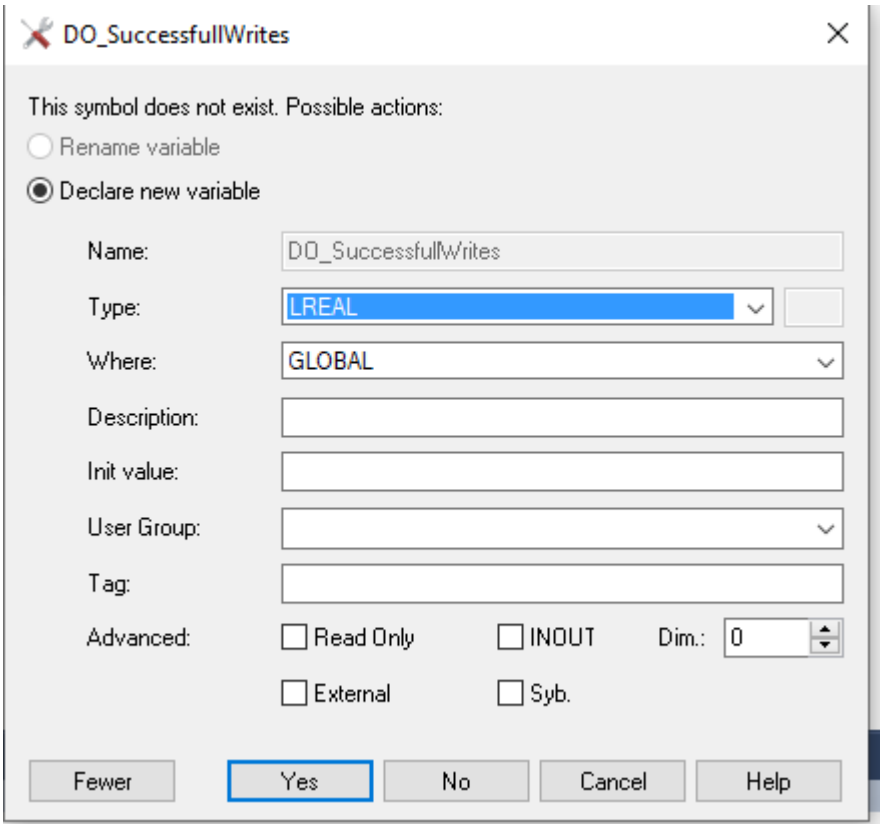
Now comes the part where we put in the communication statistics tags.

Right click on the communications poll/write you wish to monitor and this box will appear.





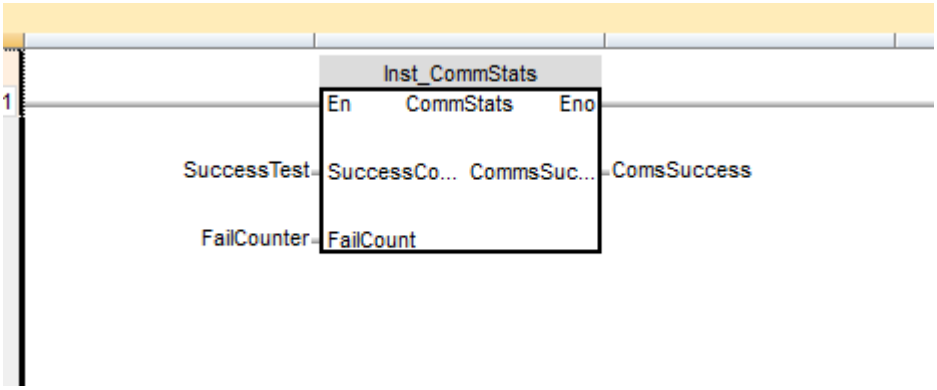
You have just created your successful writes monitoring tag, be sure to make this a float so it can work with our CommStats block as there is internal floating-point math involved.



Make this tag global and an LReal or Long Real/64bit real also known as a "double precision float".

Now do the same for the Write Fails

Now go out and download off of our website the User Defined Function Block (UDFB) CommStats. Attach these two tags to it and one more for the output. Now you have the comms stats reporting back in a percentage basis…



Why would you use this block?

- **You want to monitor the comms to all remote devices from the processor**
- **You want to generate alarms based on the success percentages**
- **You are having issues with your overall connections and want to know which remote devices might be causing it.**

Disclaimer

It is the customer's responsibility to review the advice provided herein and its applicability to the system. Red Lion makes no representation about specific knowledge of the customer's system or the specific performance of the system. Red Lion is not responsible for any damage to equipment or connected systems. The use of this document is at your own risk. Red Lion standard product warranty applies.

Red Lion Technical Support

If you have any questions or trouble contact Red Lion Technical Support by clicking here or calling 1-877-432-9908.

For more information: http://www.redlion.net/support/policies-statements/warranty-statement