How to read max. 120 Words or max. 60 Long-Integers or max. 60 Real value from Modbus RTU/ ASCII devices by using MBUS_XR or MBUS_XR1 function block (for WP-8xx7/ 8xx6 and VP-25W7/23W7/25W6/23W6 and Wincon-8xx7/ 8xx6 and XP-8xx7-CE6)?

Download FAQ-101 Demo

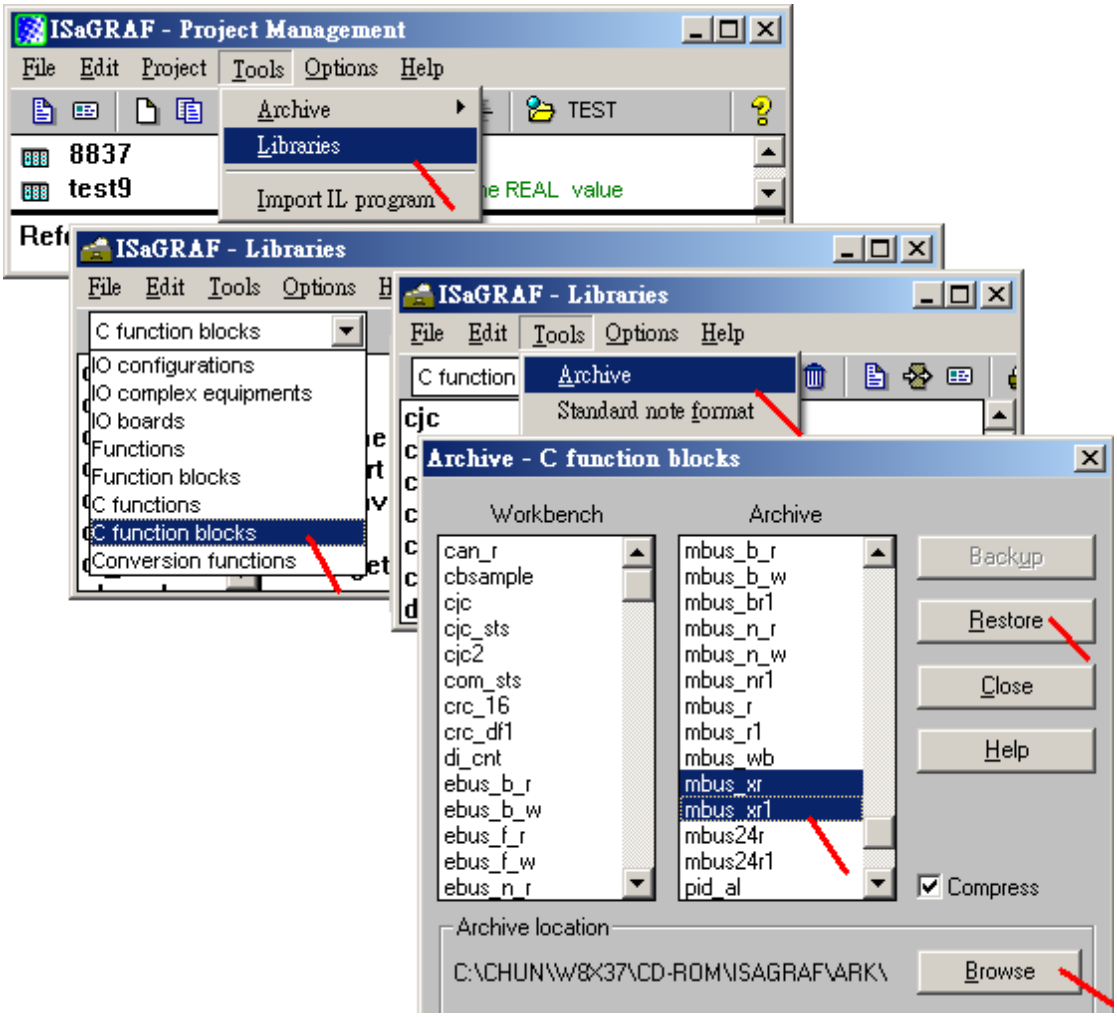
Please refer to more information about connecting Modbus RTU Slave (or Modbus ASCII Slave) in the chapter 8 of " ISaGRAF User's Manual " or " User_Manual_I_8xx7.pdf " at
http://www.icpdas.com/en/download/show.php?num=333&nation=US&kind1=&model=&kw=isagraf

The Wincon-8xx7/ 8xx6 ISaGRAF driver since 4.07 version and the WP-8xx7/ 8xx6 and XP-8xx7-CE6 and VP-25W7/23W7/25W6/23W6 since released support "MBUS_XR" and "MBUS_XR1". These two function blocks can read max. 120 Words (-32768 ~ +32767) or max. 60 Long-integers (-2,147,483,648 ~ +2,147,483,647) or max. 60 floating point values (32-bit IEEE format) at once from Modbus RTU slave devices. While only max. 60 Word or 30 Long-integers or 30 floating point values for Modbus ASCII devices.

Recent ISaGRAF driver is at
http://www.icpdas.com/en/download/show.php?num=368&nation=US&kind1=&model=&kw=isagraf

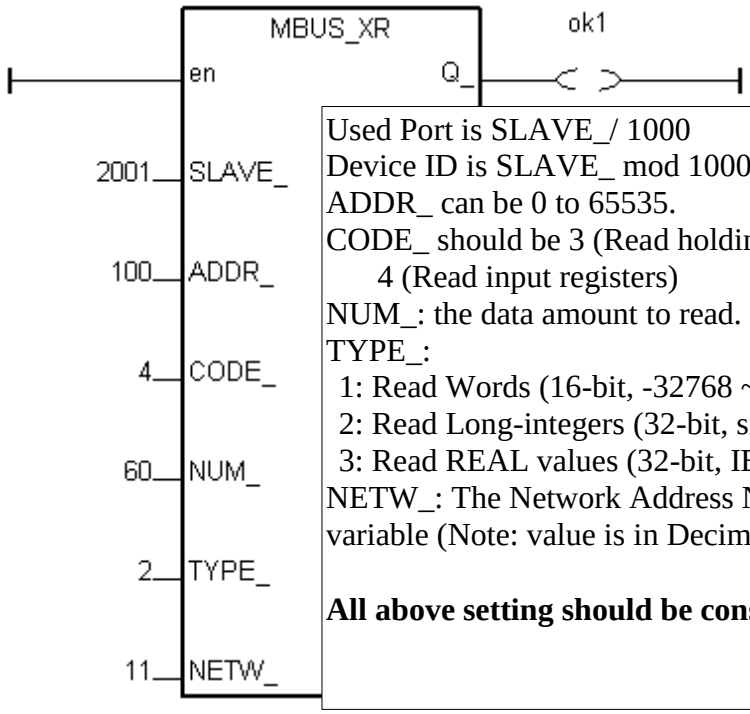
If your PC/ ISaGRAF find no "MBUS_XR" and "MBUS_XR1", please download them at
http://www.icpdas.com/en/faq/index.php?kind=280#751 >FAQ-101 > to get "faq101_demo.zip" or to get "mbus_xr.fia" and "mbus_xr1.fia". Then restore them to your PC/ ISaGRAF as below.

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The following sample is for reading 60 Long-integers (TYPE_ = 2) from the device ID 1 via COM2. It reads device Modbus address starting from 100 by using Modbus function call 4 (Read input register). The data will be stored in an ISaGRAF Integer type array variable which assigned with a Network Address “B” (that is 11 in Decimal format).



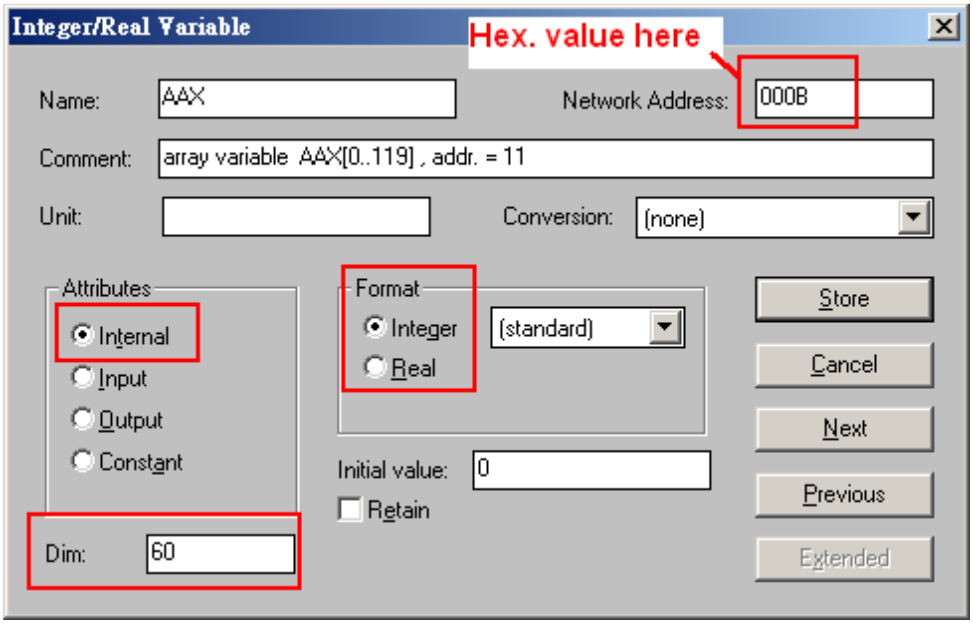
Used Port is SLAVE_/ 1000
Device ID is SLAVE_ mod 1000
ADDR_ can be 0 to 65535.
CODE_ should be 3 (Read holding registers) or
4 (Read input registers)
NUM_: the data amount to read. (1 ~ 120)
TYPE_:
1: Read Words (16-bit, -32768 ~ +32767)
2: Read Long-integers (32-bit, signed)
3: Read REAL values (32-bit, IEEE format)
NETW_: The Network Address No. assigned to the related array variable (Note: value is in Decimal)

All above setting should be constant value, no variable value.

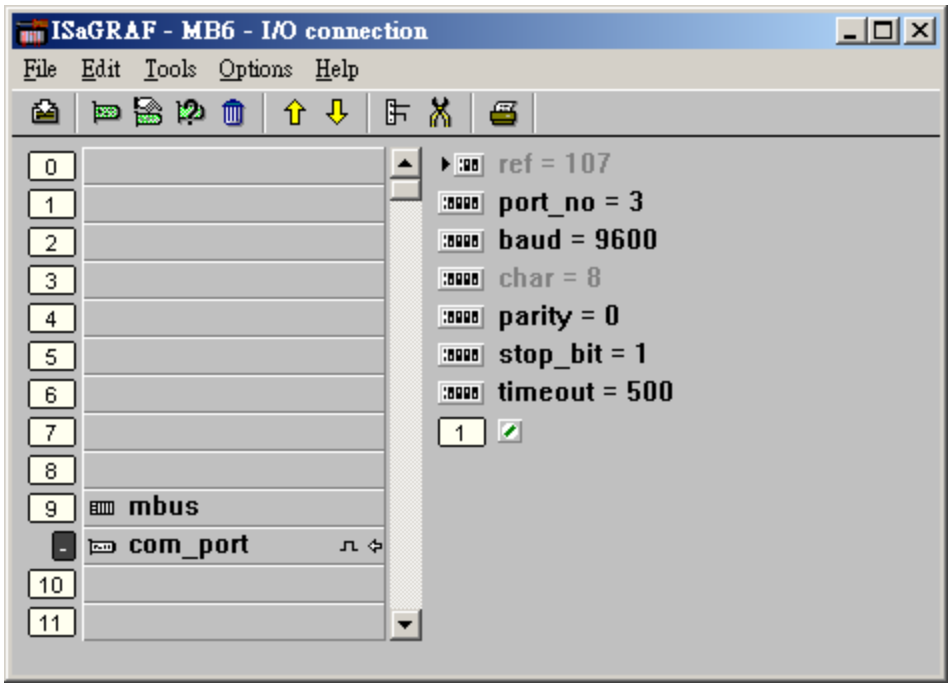
Note:

1. For connecting **Modbus RTU** slave devices, the “MBUS_XR” and “MBUS_XR1” can read max. 120 Words or 60 Long-integer or 60 Reals (32-bit IEEE format). While for connecting **Modbus ASCII** slave devices, can only read max. 60 Words or 30 Long-integer or 30 Reals.
2. Please declare the exact correct type for the array variable. The **TYPE_ = 1 and 2 is for ISaGRAF integer variable**, while **TYPE_ = 3 is for REAL variable**. And please also specify the correct Network Address number for this array variable (The number specified in the “NETW_” parameter). And the “Dim” setting should be equal to or larger than the value set in “NUM_“.
3. Please refer to the FAQ-039 or section 2.6.2 of the ISaGRAF user's manual for more information about array variables.
4. One controller can use max. 128 such function blocks. (MBUS_XR + MBUS_XR1 < = 128)

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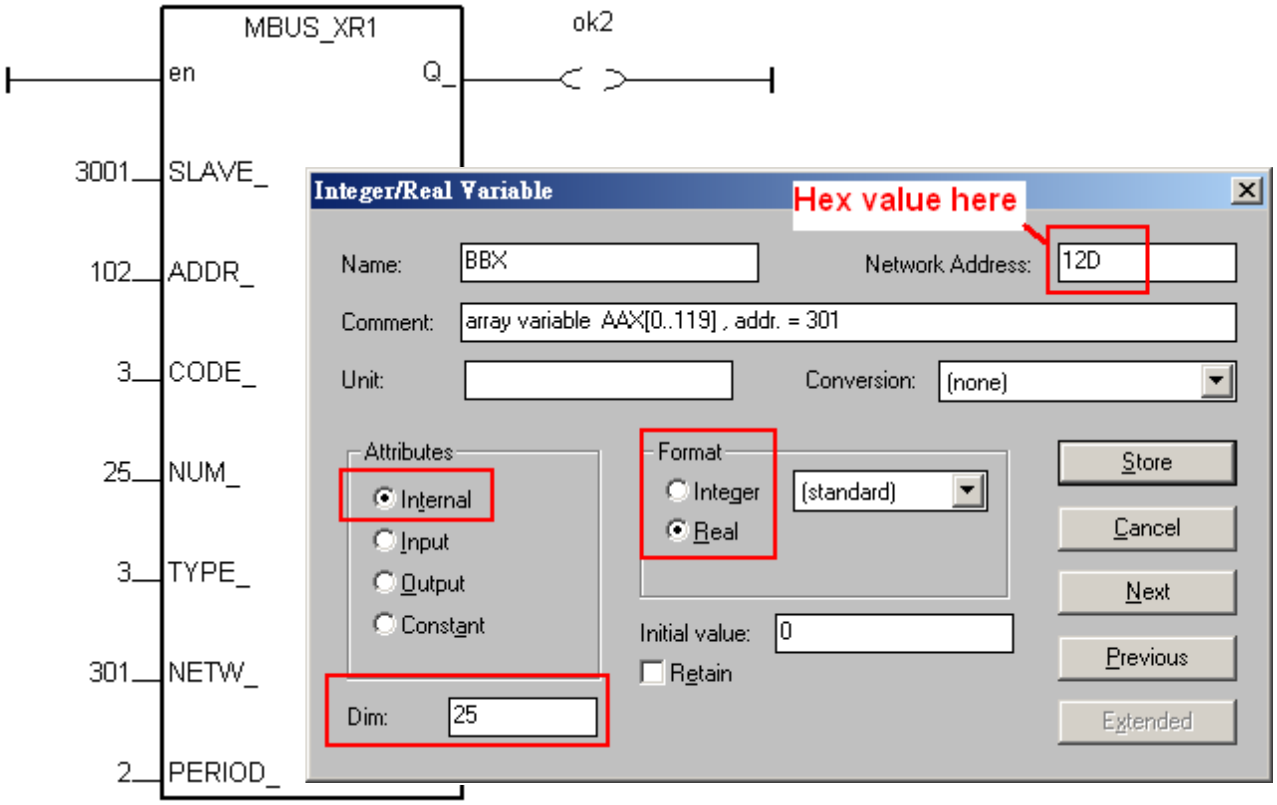


Please connect the “mbus” in the ISaGRAF I/O connection window for connecting Modbus RTU slave devices. Then set proper setting for it. (For Modbus ASCII Slave devices, please use “mbus_asc”). (Please refer to Chapter 8 of the ISaGRAF user's manual for more about “mbus” and “mbus_asc”)



The following sample is for reading 25 REALs (TYPE_ = 3) from the device ID 1 via COM3. It reads device Modbus address starting from 102 by using Modbus function call 3 (Read holding registers). The data will be stored in an ISaGRAF REAL type array variable which assigned with a Network Address “12D” (that is 301 in Decimal format)
MBUS_XR1's “PERIOD_” defines the interval to read. Unit is second, can be 1 to 600.

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(Please refer to the FAQ-039 or section 2.6.2 of the ISaGRAF user's manual for more information about array variables)

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