

# 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) ?

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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

W-8xx7 CD-ROM:\napdos\isagraf\wincon\english\_manu\ or

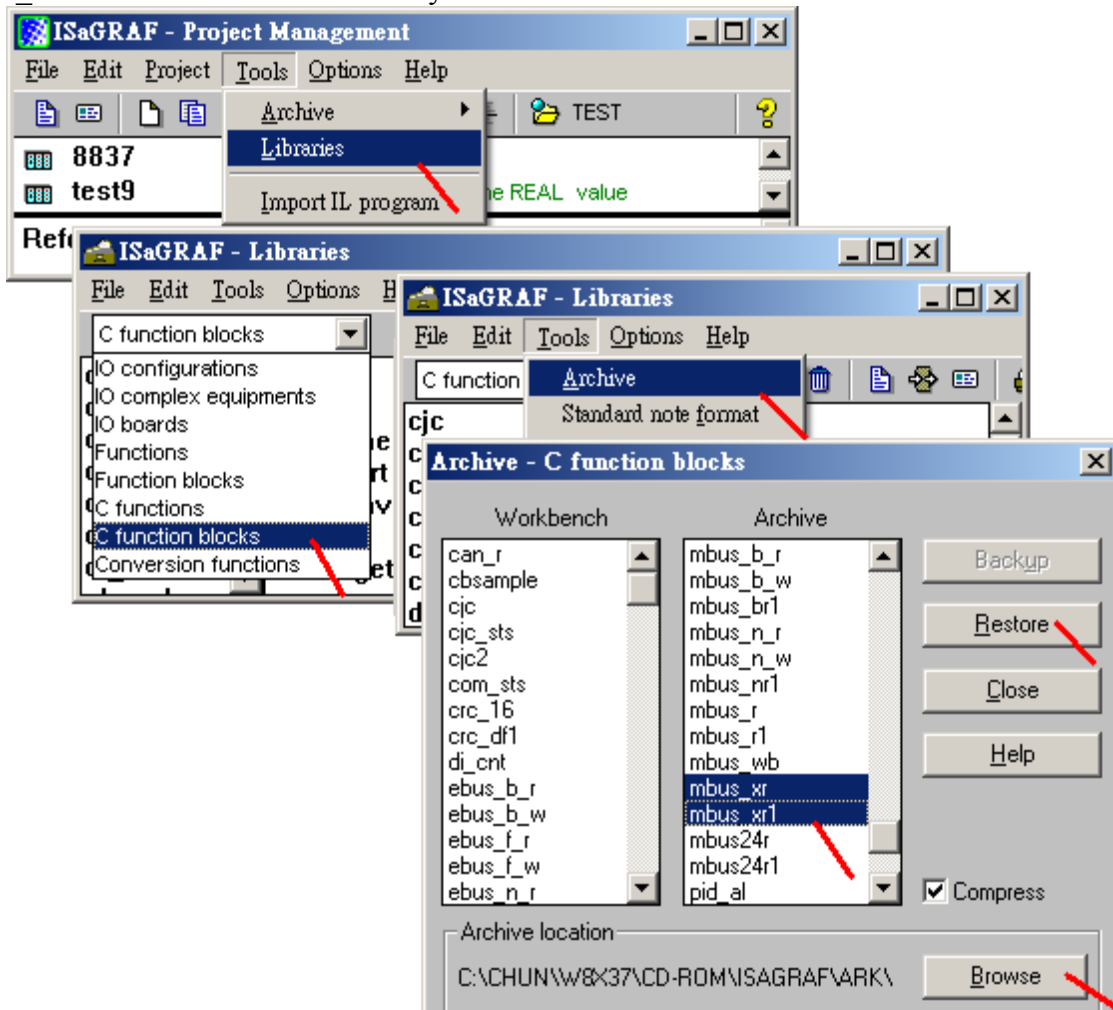
[ftp://ftp.icpdas.com/pub/cd/wincon\\_isagraf/napdos/isagraf/wincon/english\\_manu/](ftp://ftp.icpdas.com/pub/cd/wincon_isagraf/napdos/isagraf/wincon/english_manu/)

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.

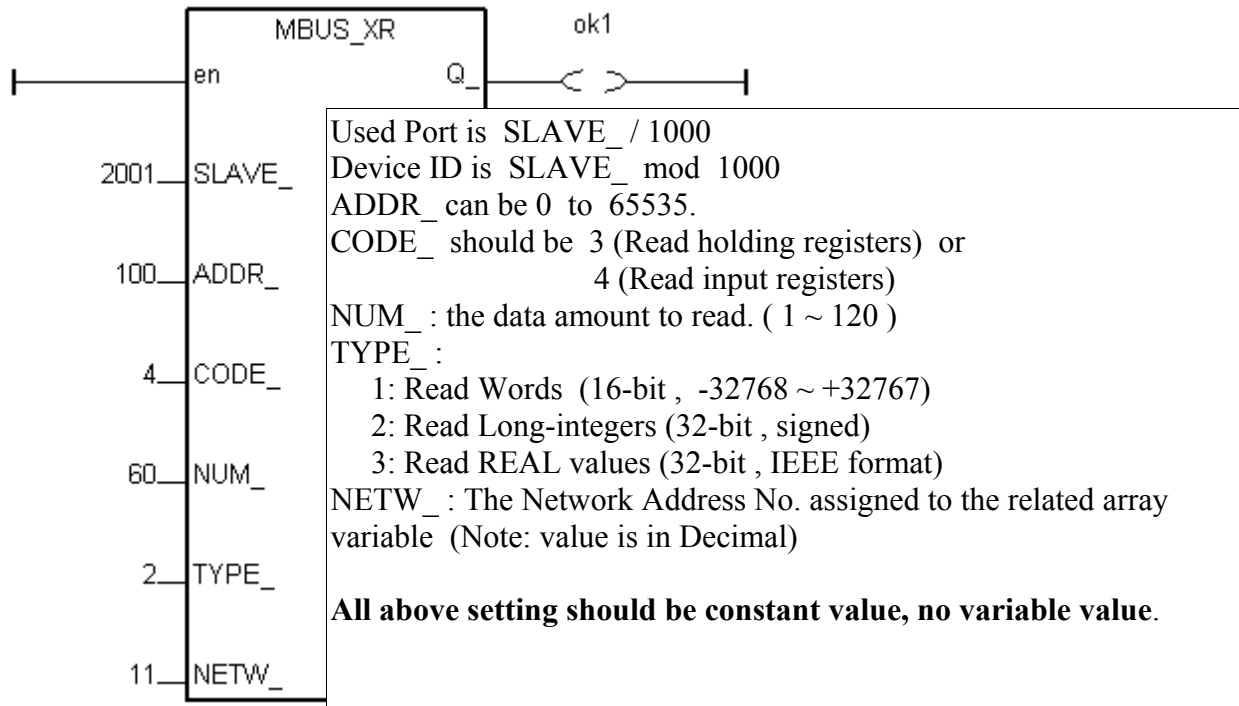
Recent ISaGRAF driver is at <http://www.icpdas.com/products/PAC/i-8000/isagraf-link.htm>

If your PC / ISaGRAF find no “MBUS\_XR” and “MBUS\_XR1”, please download them at <http://www.icpdas.com/faq/isagraf.htm> > 101 > to get “faq101\_demo.zip”

or [ftp://ftp.icpdas.com/pub/cd/wincon\\_isagraf/napdos/isagraf/ark/](ftp://ftp.icpdas.com/pub/cd/wincon_isagraf/napdos/isagraf/ark/) to get “mbus\_xr.fia” and “mbus\_xr1.fia”. Then restore them to your PC / ISaGRAF as below.

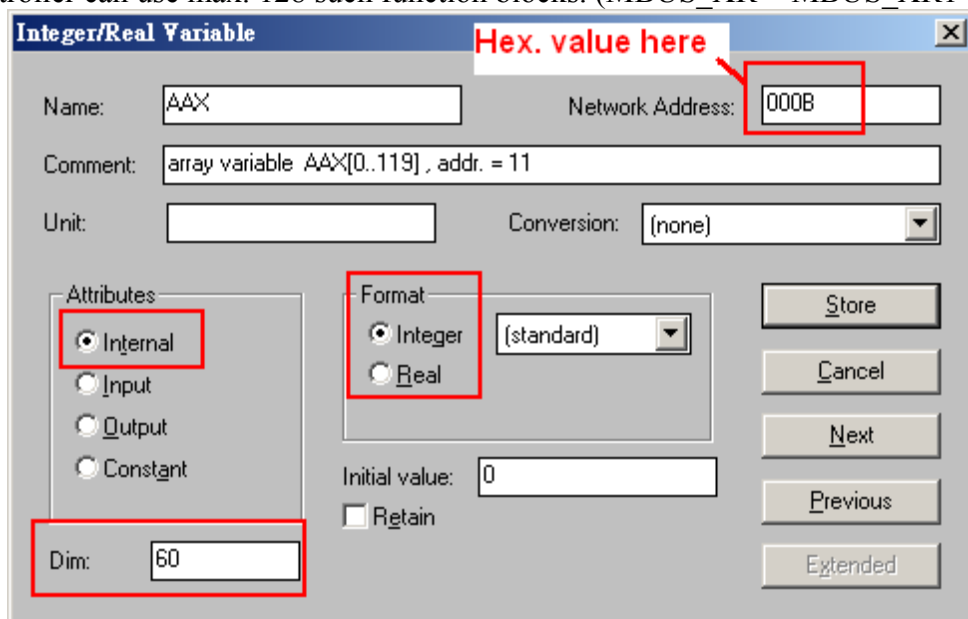


The following sample is for reading 60 Long-integers (TYPE\_ = 2) from the device ID 1 via COM2. It reads device Modbus address starting from 100 by using Modbus function call 4 (Read input register) . The data will be stored in an ISaGRAF Integer type array variable which assigned with a Network Address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

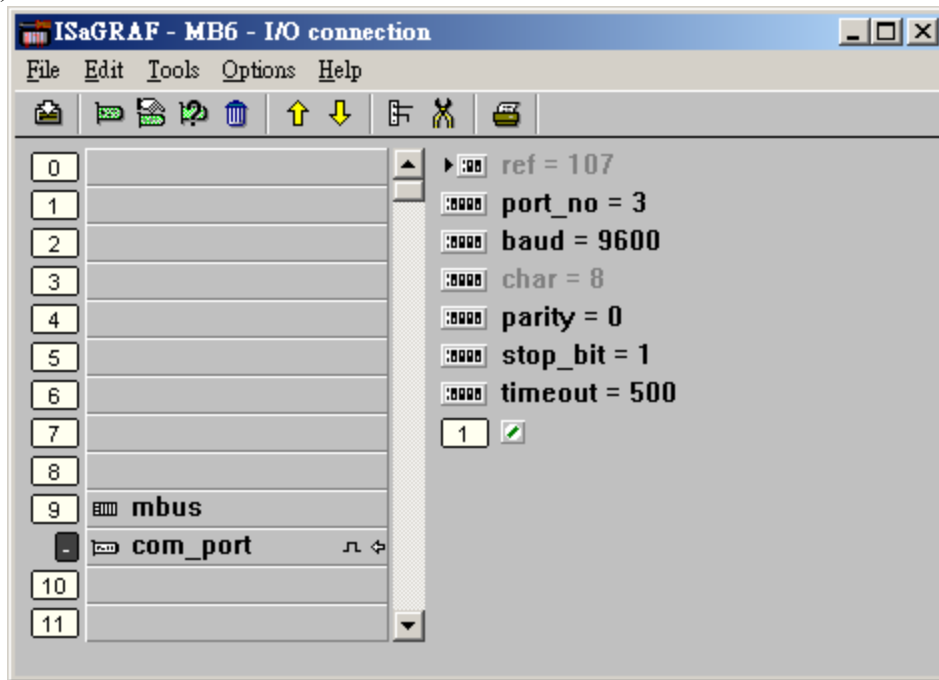


**Note:**

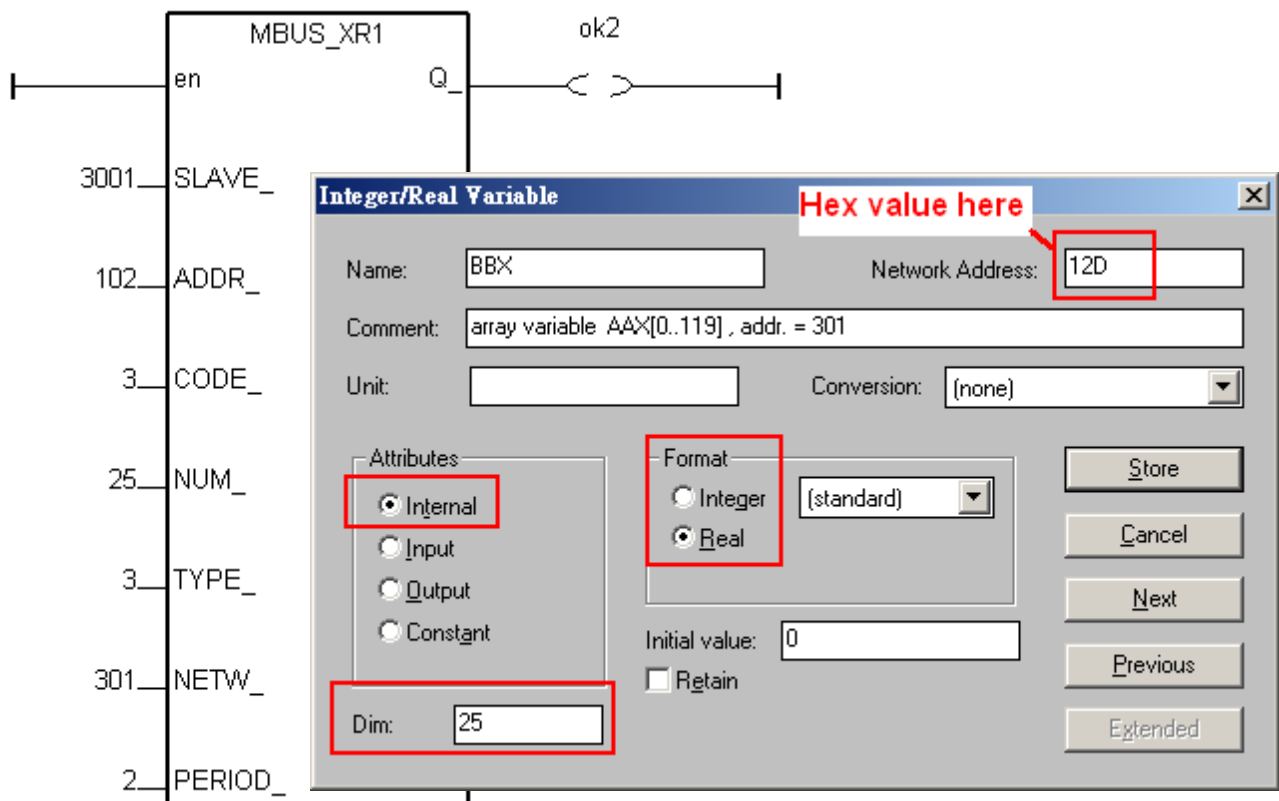
1. For connecting **Modbus RTU** slave devices, the “MBUS\_XR” and “MBUS\_XR1” can read max. 120 Words or 60 Long-integer or 60 Reals (32-bit IEEE format). Whiel for connecting **Modbus ASCII** slave devices, can only read max. 60 Words or 30 Long-integer or 30 Reals.
2. Please declare the exact correct 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 )



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.



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