

FAQ-041: How to connect PC / HMI to a Redundancy system with a single IP address ?

Two Wincon-8347/8747 & Wincon-8346/8746 can setup as one redundancy system. The PC / HMI / SCADA software can connect to one I-7188EX-MTCP to convert Modbus TCP/IP to become Modbus RTU RS-485 protocol and then to these two redundancy controllers as below figures. Then the HMI software running on PC can use only one target IP address (7188EX-MTCP's IP) to link to the redundancy system.

Related link:

[I-7188EX-MTCP](http://www.icpdas.com/products/PAC/i-7188_7186/Modbus_PAC.htm) : http://www.icpdas.com/products/PAC/i-7188_7186/Modbus_PAC.htm

[Redundancy system](http://www.icpdas.com/faq/isagraf/036.htm) : <http://www.icpdas.com/faq/isagraf/036.htm>

[NS-205 / NS-208](http://www.icpdas.com/products/Switch/industrial/ethernet_switch.htm) : http://www.icpdas.com/products/Switch/industrial/ethernet_switch.htm

[M-7000 I/O](http://www.icpdas.com/products/Remote_IO/m-7000/m-7000_list.htm) : http://www.icpdas.com/products/Remote_IO/m-7000/m-7000_list.htm

Figure 1:

PC / HMI Connecting to a Redundancy system with a single IP address

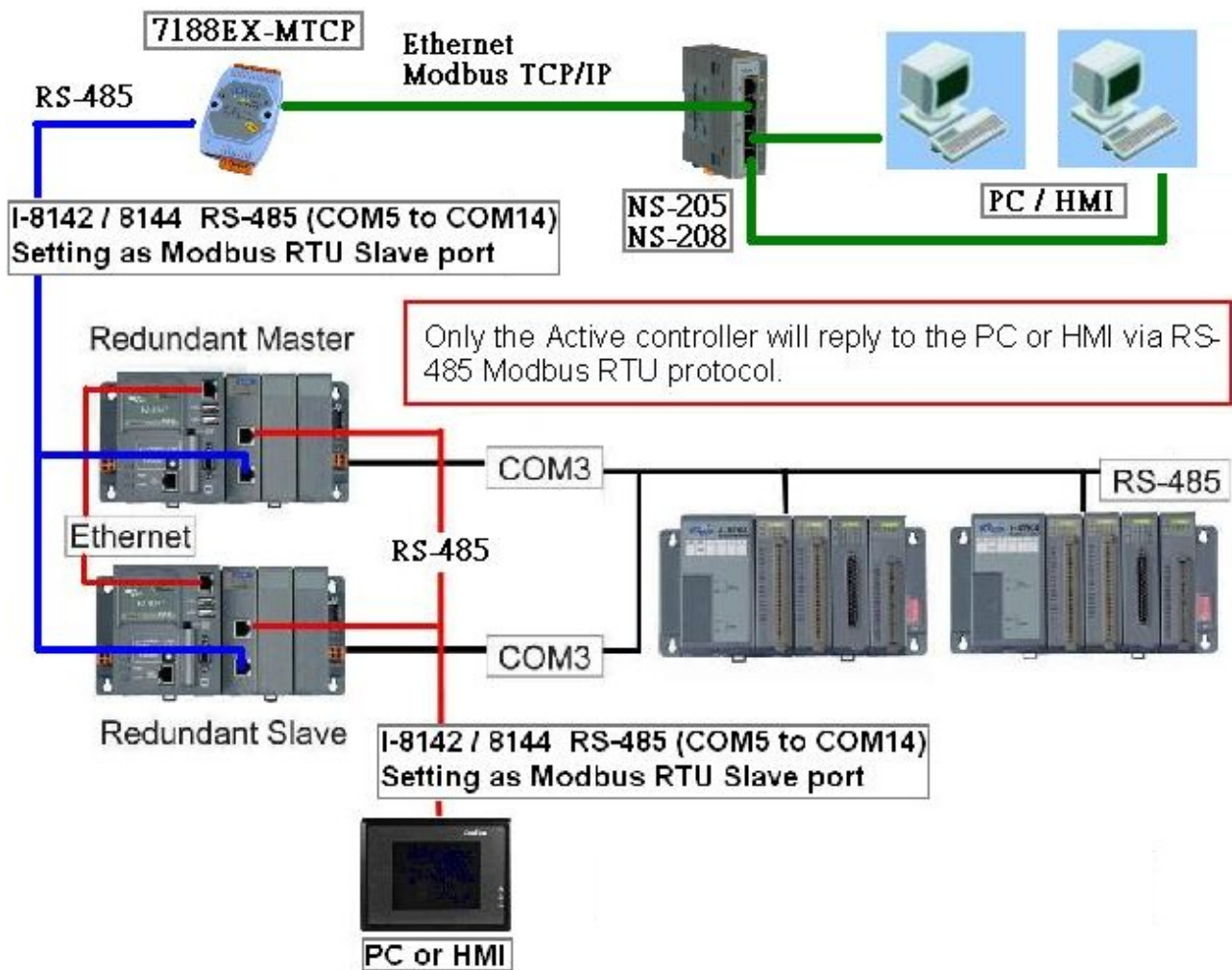
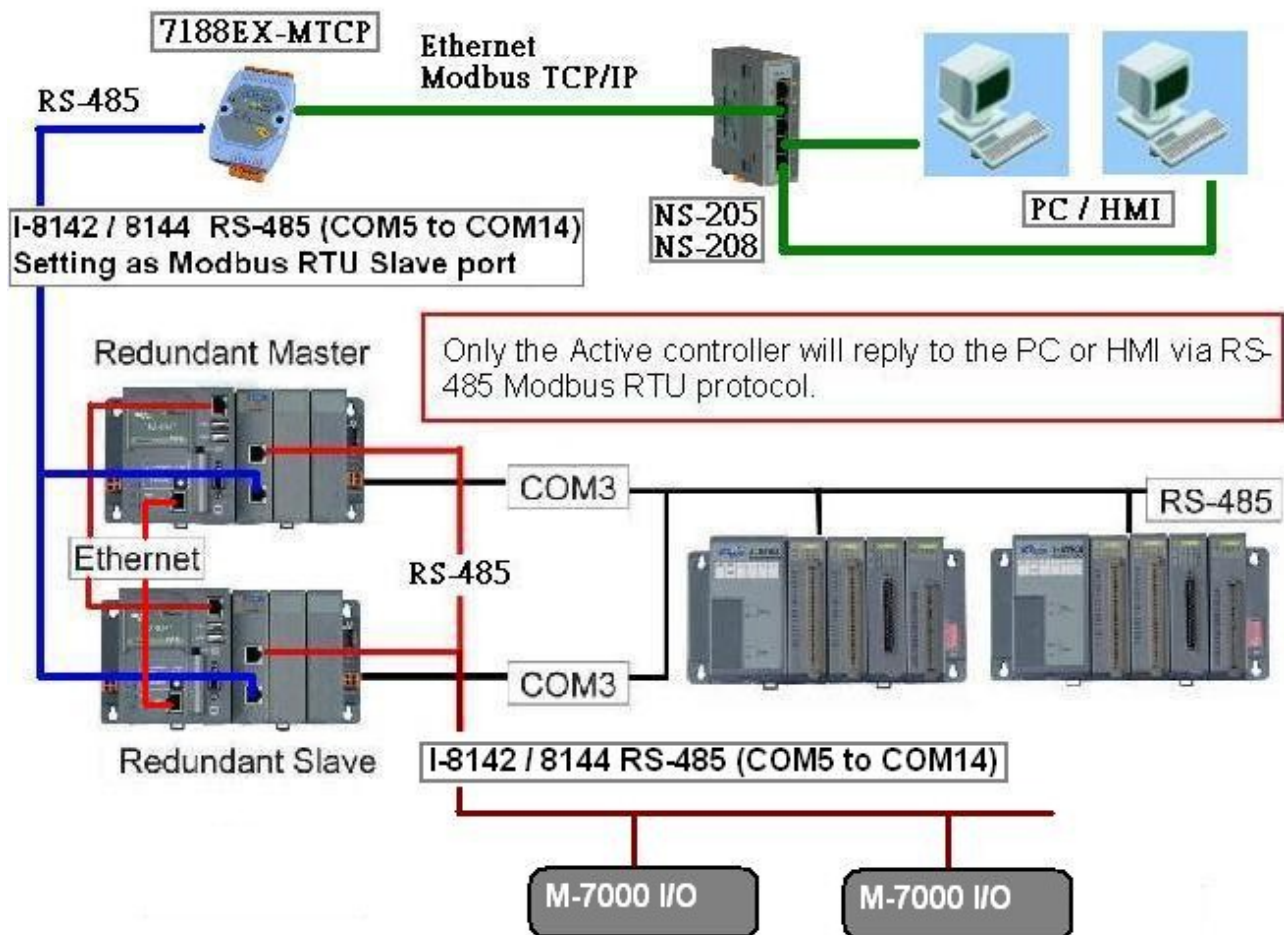


Figure 2:

The redundancy system supports not only I-87K I/O in I-87K4/5/8/9 base, but also M-7000 series I/O modules. http://www.icpdas.com/products/Remote_IO/m-7000/m-7000_list.htm

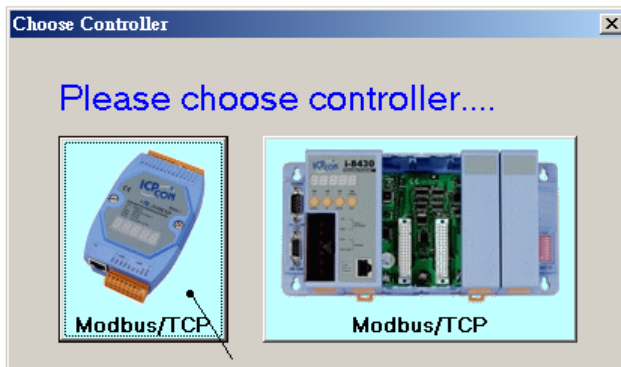
Two redundancy Wincon-8x47 / Wincon-8x46 can connect their LAN1 to LAN1 and also LAN2 to LAN2. If one cable is damaged, the other one still works.

PC / HMI Connecting to a Redundancy system with a single IP address

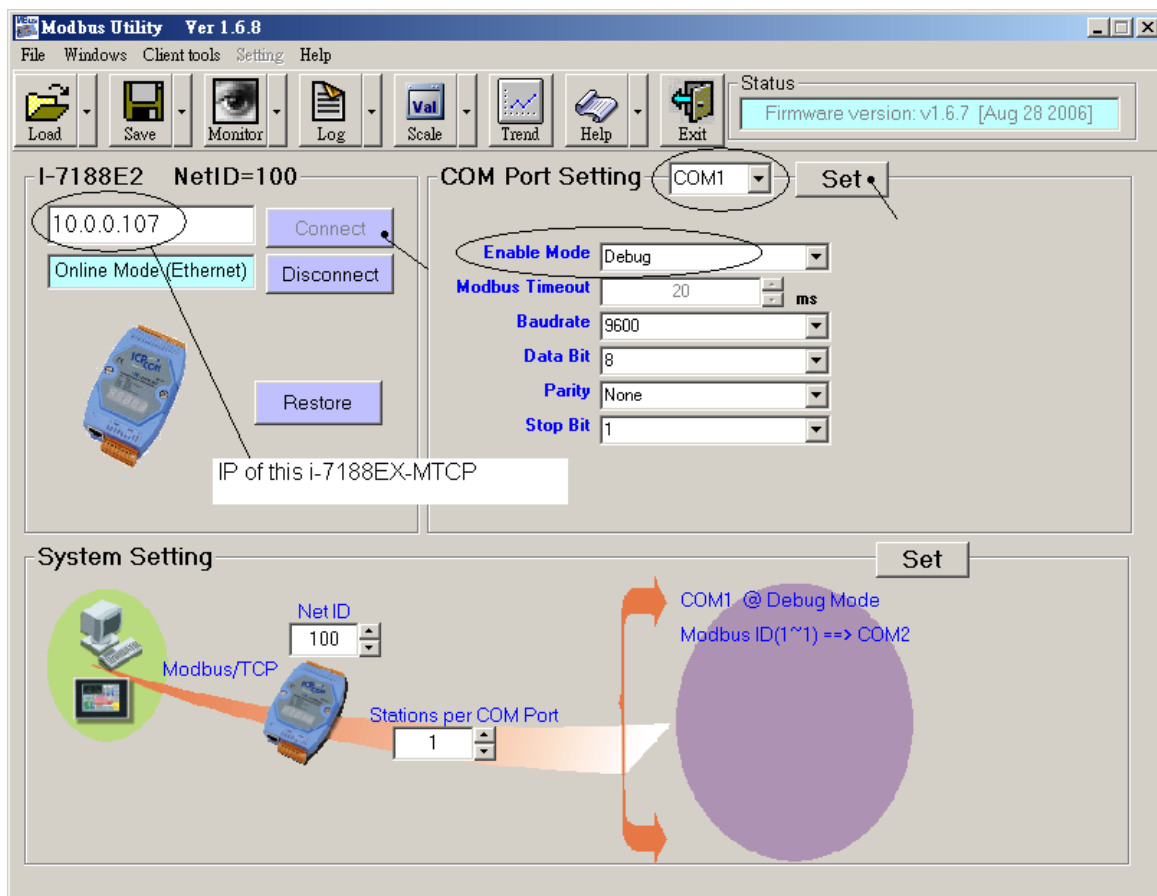


If you have installed i-7188EX-MTCP in this example, please set a fixed IP to it by the “7188xw.exe” utility. (Power off 7188EX-MTCP, short its “INIT*” pin to “GND”, power it up, connecting one RS232 cable from i-7188EX-MTCP ‘s COM1 to PC ‘s COM1, PC running “7188xw.exe”, key-in, for ex, “ip=10.0.0.107” to set ip address and “mask=255.255.255.0” to set mask address)

After i-7188EX-MTCP ‘s IP and Mask is well set. Please run “Modbus utility” to configure this i-7188EX-MTCP to become a Modbus TCP/IP to Modbus RTU Gateway as below steps.



Please set its COM1 as “Debug” mode.



Then please set COM2 to “Modbus/RTU Gateway”, a proper timeout (250 ms), other parameters as 19200,8,None,1 . then Click on “Set”

In the “System Setting” area, please set this i-7188EX-MTCP ‘s Net-ID to a value not equal to 1, for example, 100. And “Stations per COM Port as 1”, then click on “Set”.
If it display “Modbus ID (1 ~ 1) ==> COM2”, the configuration is well done.

Note: If i-7188EX-MTCP ‘s COM1 is not set as “Debug” mode in the former page, the setting will become “Modbus ID (1 ~ 1) ==> COM1” . **That is not correct**, because here we want it send to i-7188EX-MTCP ‘ s COM2:RS-485.

Then when this i-7188EX-MTCP receives Modbus TCP/IP protocol to request Net-ID: 1, it will send this request to its COM2:RS-485 . And then if controller reply, it will reply back to the Ethernet port.

