



# BACnet/IP Gateways

## *FAQ for GW-549x*

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# 1. How to manipulate GW-549x via ICDT BACnet Pioneer?

ICDT BACnet Pioneer is a free BACnet software and developed by ICDT Tech. Co. Ltd. The following example is how to switch on the DO[0] and read DI[0] back on the ICPDAS M-7055D, a Modbus/RTU Slave, connected to GW-5492 via ICDT BACnet Pioneer, and you can test GW-5493 in the similar way.

(1) Install the ICDT BACnet Pioneer

<http://www.icdt.com.tw/main/index.php/2013-07-09-05-16-50/2013-07-18-14-43-35/file/24-bacnetpioneerv1001>

Refer to the ICDT website for the details: <http://www.icdt.com.tw>

(2) M-7055D Setup as follows, DO.PWR wire to **Power Supply +24VDC**, GND to **Power Supply Ground**, and DO0 to DI0. Power up M-7055D and GW-5492 which LAN1 connects to the internet.

(3) GW-5492 is configured that **BO0** is mapping to DO0 of M-7055D and **BI0** is mapping to DI0 of M-7055D

The screenshot shows the configuration window for device M-7055D. The 'Modbus' section has ID 'M-7055D' and Type 'TCP'. The 'Communication' section has Port 'COM1'. The 'Point' section contains the following table:

| ID  | Address | Count | Type           | Type Define | Sampling(ms) | TimeOut(ms) | ScaleFactor | Intercept | Low | Hi | Read/Write | Del |
|-----|---------|-------|----------------|-------------|--------------|-------------|-------------|-----------|-----|----|------------|-----|
| DI0 | 0       | 1     | DISCRETE INPUT | BIT         | 1000         | 7000        | 1           | 0         |     |    | Read       | Del |
| DO0 | 0       | 1     | COIL           | BIT         | 1000         | 7000        | 1           | 0         |     |    | Write      | Del |

The screenshot shows the 'Mapping' configuration window for BinaryInput. The 'Object Type' is 'BinaryInput'. The 'BACnet Object Mapping' table is as follows:

| Object Identifier | Device  | Point | Index | Object Name | COV Increment | COVPeriod(sec) | Unit     | Relinquish De |
|-------------------|---------|-------|-------|-------------|---------------|----------------|----------|---------------|
| BI0               | M-7055D | DI0   | 0     | BI0         | 0             | 0              | NO UNITS | 0             |

The screenshot shows the 'Mapping' configuration window for BinaryOutput. The 'Object Type' is 'BinaryOutput'. The 'BACnet Object Mapping' table is as follows:

| Object Identifier | Device  | Point | Index | Object Name | COV Increment | COVPeriod(sec) | Unit     | Relinquish De |
|-------------------|---------|-------|-------|-------------|---------------|----------------|----------|---------------|
| BO0               | M-7055D | DO0   | 0     | BO0         | 0             | 0              | NO UNITS | 0             |

Refer to the websites for details:

GW-549x :

[http://www.icpdas.com/root/product/solutions/industrial\\_communication/fieldbus/bacnet\\_ip/gateway/gw-5492.html](http://www.icpdas.com/root/product/solutions/industrial_communication/fieldbus/bacnet_ip/gateway/gw-5492.html)

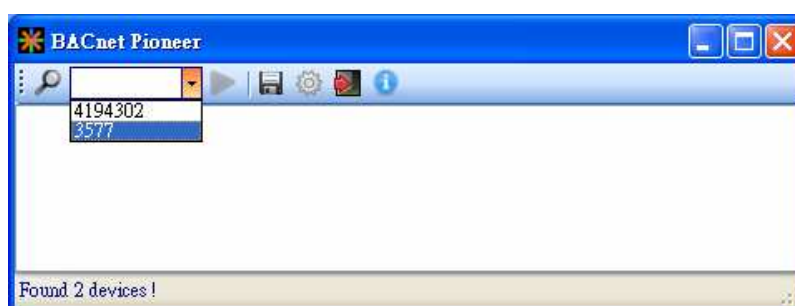
[ftp://ftp.icpdas.com.tw/pub/cd/fieldbus\\_cd/bacnet/gateway/gw-5493/manual](ftp://ftp.icpdas.com.tw/pub/cd/fieldbus_cd/bacnet/gateway/gw-5493/manual)

M-7055D :

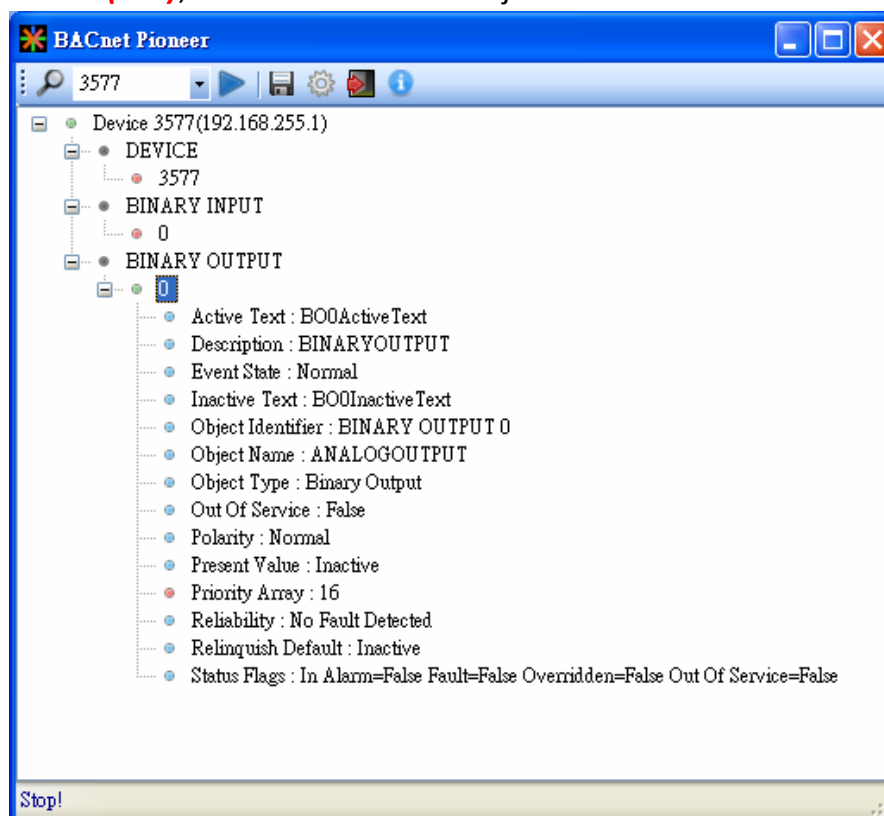
[http://www.icpdas.com/root/product/solutions/remote\\_io/rs-485/i-7000\\_m-7000/i-7055.html](http://www.icpdas.com/root/product/solutions/remote_io/rs-485/i-7000_m-7000/i-7055.html)

<http://ftp.icpdas.com/pub/cd/8000cd/napdos/7000/manual/7000dio.pdf>

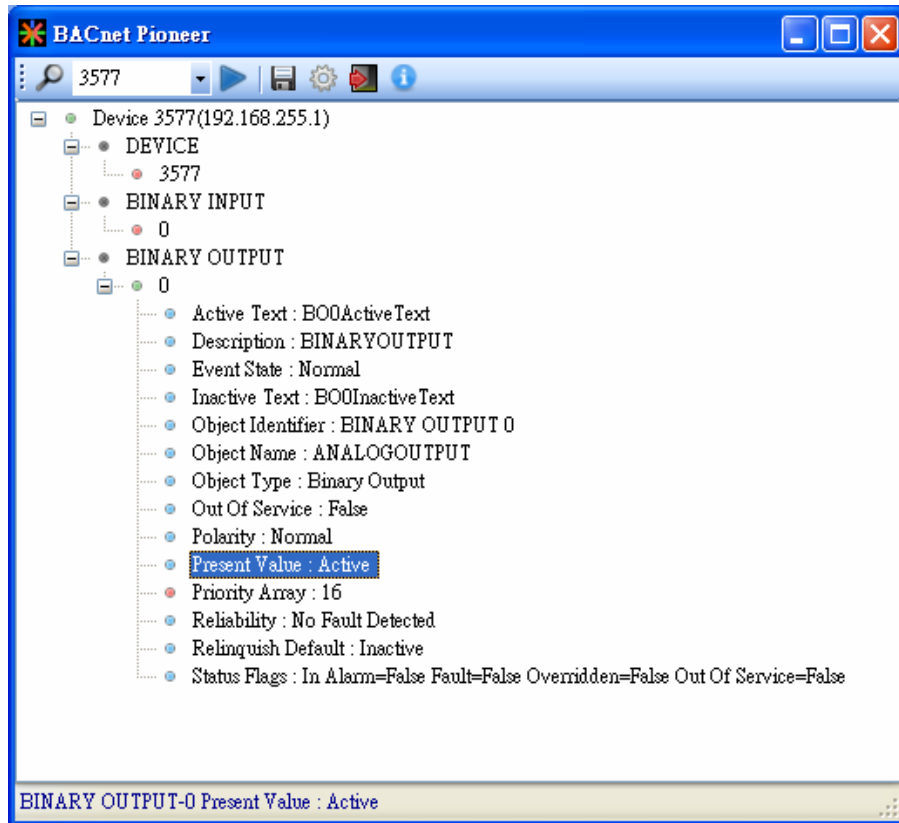
- (4) Execute  to get the Device ID/Instance of your computer and GW-5492 (default 3577). Choose **3577**,



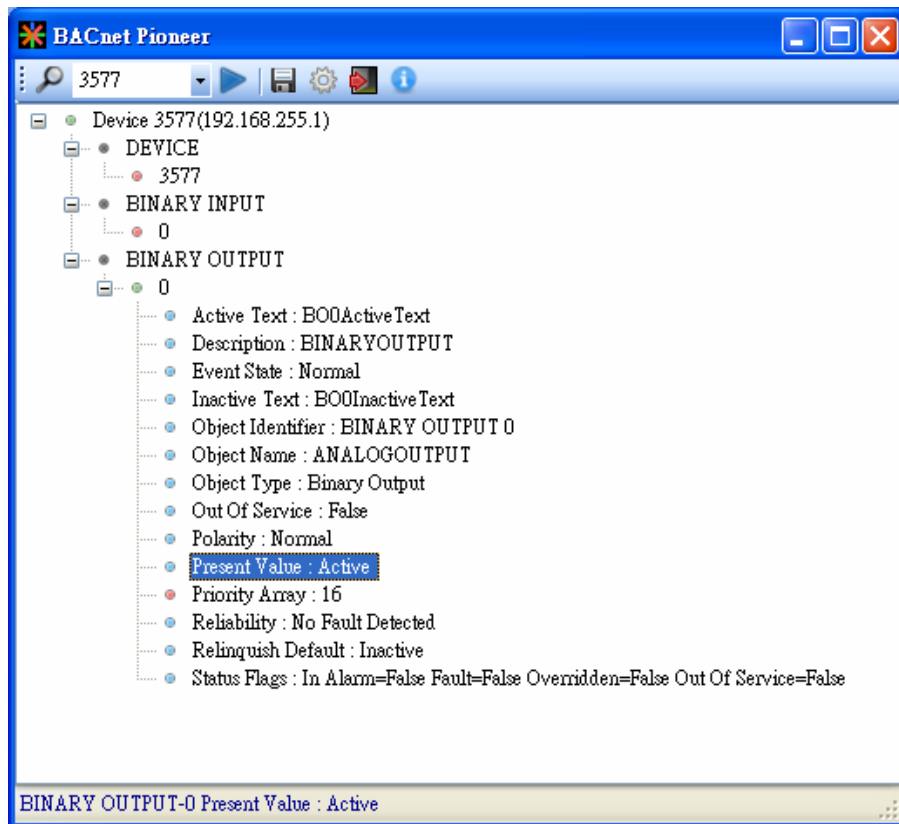
- (5) Click on **Device 3577(.....)**, and it will scan the objects of GW-5492.



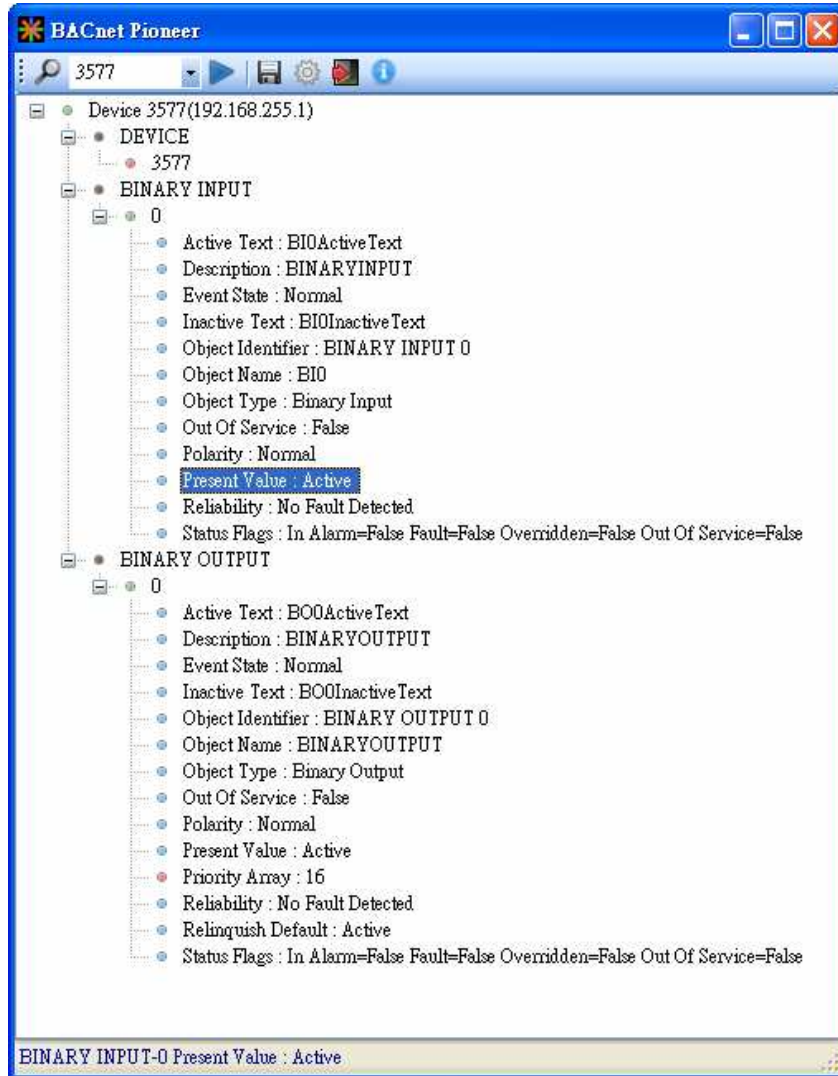
(6) Click on **BINARY OUTPUT**→**0**, and it will scan the properties and values of **BO0**. Notice **Out Of Service** is **False**.



(7) Double Click on the item **Present Value**, and set BO0 to **Active**.



- (8) Click on **BINARY INPUT**→**0**→**Present Value**, and check the status of BIO is **Active**.
- Notice **Out Of Service** is **False**
  - In the ICDT Pioneer, the data will be updated while you click and stay on the item.



## 2. How to manipulate GW-549x via BACnet VTS?

This part is The following example is how to switch on the DO[0] and read DI[0] back on ICPDAS M-7055D, a Modbus/RTU Slave, connected to GW-5492 via Visual Test Shell (VTS), and you can test GW-5493 with Modbus/TCP Slave in the similar way.

(1) Get Visual Test Shell (VTS). Refer to the websites,

<http://vts.sourceforge.net/> or <http://sourceforge.net/projects/vts>

(2) M-7055D Setup as follows, DO.PWR wire to **Power Supply +24VDC**, GND to **Power Supply Ground**, and DO0 to DI0. Power up M-7055D and GW-5492 which LAN1 connects to the internet.

(3) GW-5492 is configured that **B00** is mapping to DO0 of M-7055D and **B10** is mapping to DI0 of M-7055D

Modbus

ID: M-7055D Type: TCP

Communication

TCP Address: Port: COM1 Unit:

Point

| ID  | Address | Count | Type           | Type Define | Sampling(ms) | TimeOut(ms) | ScaleFactor | Intercept | Low | Hi | Read/Write | Del |
|-----|---------|-------|----------------|-------------|--------------|-------------|-------------|-----------|-----|----|------------|-----|
| DIO | 0       | 1     | DISCRETE INPUT | BIT         | 1000         | 7000        | 1           | 0         |     |    | Read       | Del |
| DO0 | 0       | 1     | COIL           | BIT         | 1000         | 7000        | 1           | 0         |     |    | Write      | Del |

Save Delete

Mapping

Object Type: BinaryInput Save

BACnet Object Mapping

| Object Identifier | Device  | Point | Index | Object Name | COV Increment | COVPeriod(sec) | Unit     | Relinquish De |
|-------------------|---------|-------|-------|-------------|---------------|----------------|----------|---------------|
| BID               | M-7055D | DIO   | 0     | BID         | 0             | 0              | NO UNITS | 0             |

Mapping

Object Type: BinaryOutput Save

BACnet Object Mapping

| Object Identifier | Device  | Point | Index | Object Name | COV Increment | COVPeriod(sec) | Unit     | Relinquish De |
|-------------------|---------|-------|-------|-------------|---------------|----------------|----------|---------------|
| B00               | M-7055D | DO0   | 0     | B00         | 0             | 0              | NO UNITS | 0             |

Refer to the websites for details:

GW-549x :


[http://www.icpdas.com/root/product/solutions/industrial\\_communication/fieldbus/bacnet\\_ip/gateway/gw-5492.html](http://www.icpdas.com/root/product/solutions/industrial_communication/fieldbus/bacnet_ip/gateway/gw-5492.html)

[ftp://ftp.icpdas.com.tw/pub/cd/fieldbus\\_cd/bacnet/gateway/gw-5493/manual](ftp://ftp.icpdas.com.tw/pub/cd/fieldbus_cd/bacnet/gateway/gw-5493/manual)

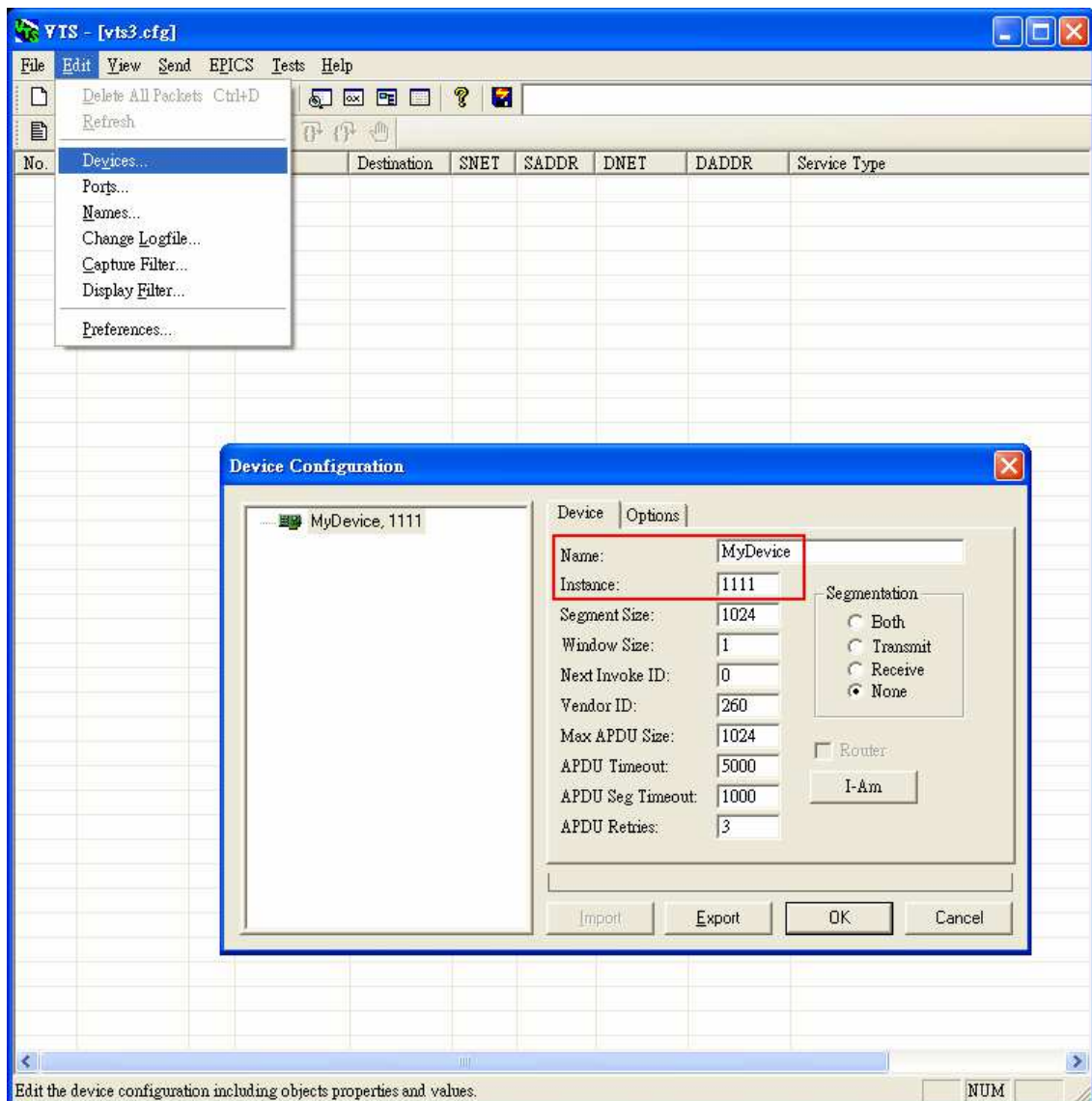
M-7055D :

[http://www.icpdas.com/root/product/solutions/remote\\_io/rs-485/i-7000\\_m-7000/i-7055.html](http://www.icpdas.com/root/product/solutions/remote_io/rs-485/i-7000_m-7000/i-7055.html)

<http://ftp.icpdas.com/pub/cd/8000cd/napdos/7000/manual/7000dio.pdf>

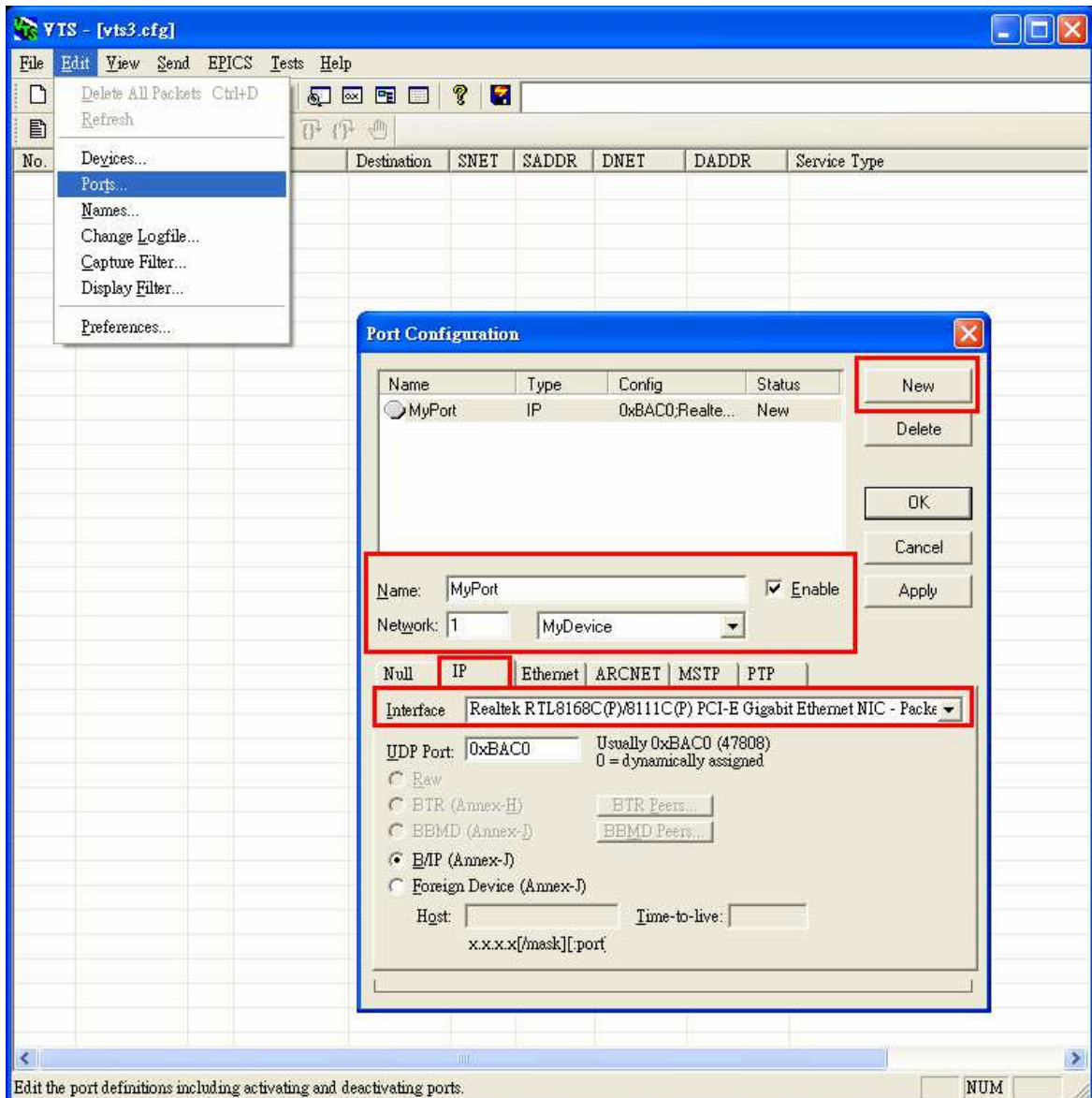
(4) Execute  **VTS.exe** Visual Test Shell for BACnet . If you've configured the Devices, Ports and Names in VTS, you can jump to step(8).

(5) Click on **Edit→Devices...**, set the Name to **MyDevice**, Instance to **1111**, and push **OK**.



(6) Click on **Edit** → **Ports...**, push **New** button and configure as follows,

- Name set to **MyPort**. Check on **Enable**
- Network set to **1**. Choose **MyDevice**
- On **IP** Page, **Interface** choose one network device which can communicate with GW-5492
- Push **OK** or **Apply** to continue

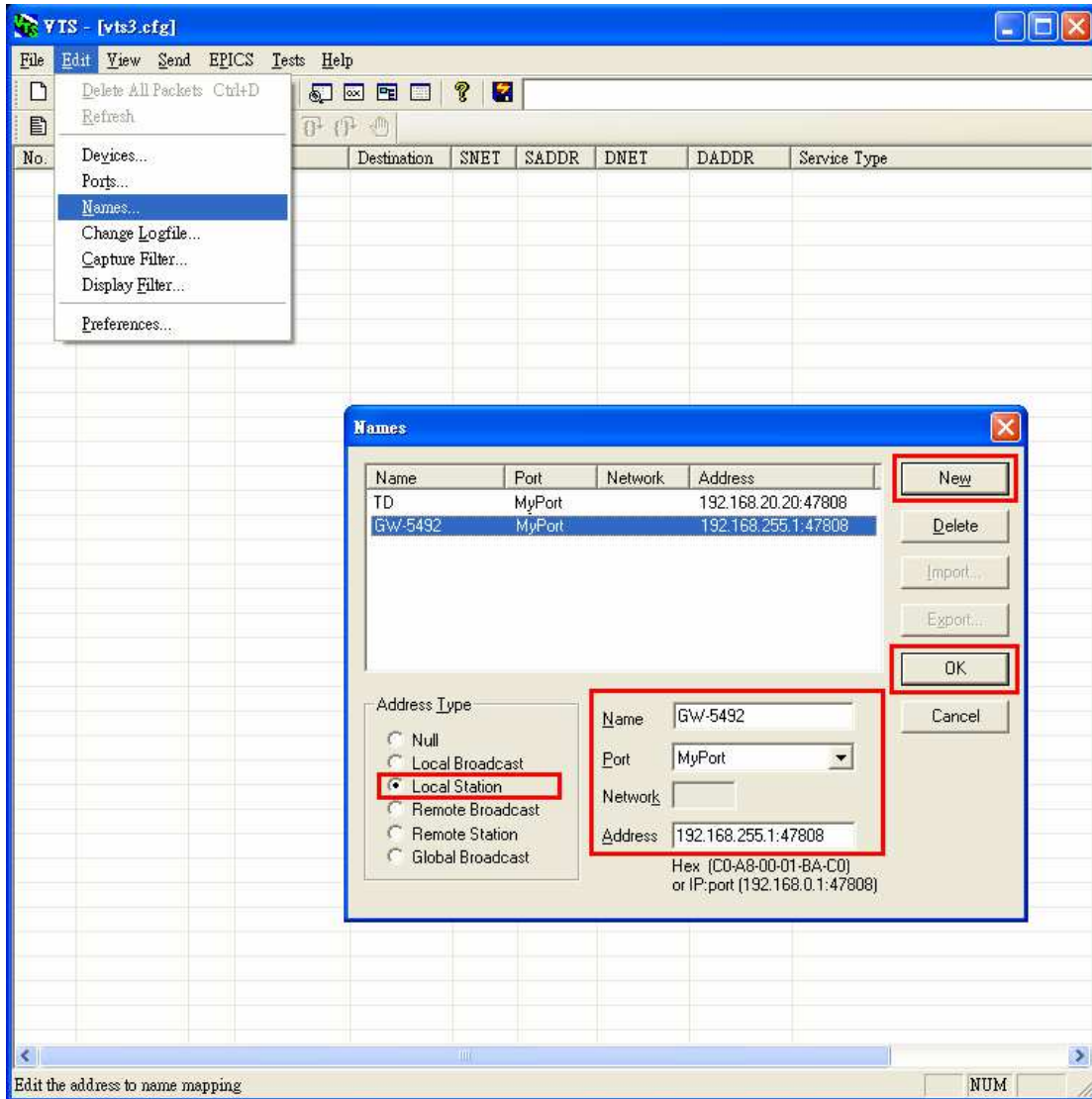




(7) Click **Edit**→**Names...** , Push **New** button and the configuration as follows,

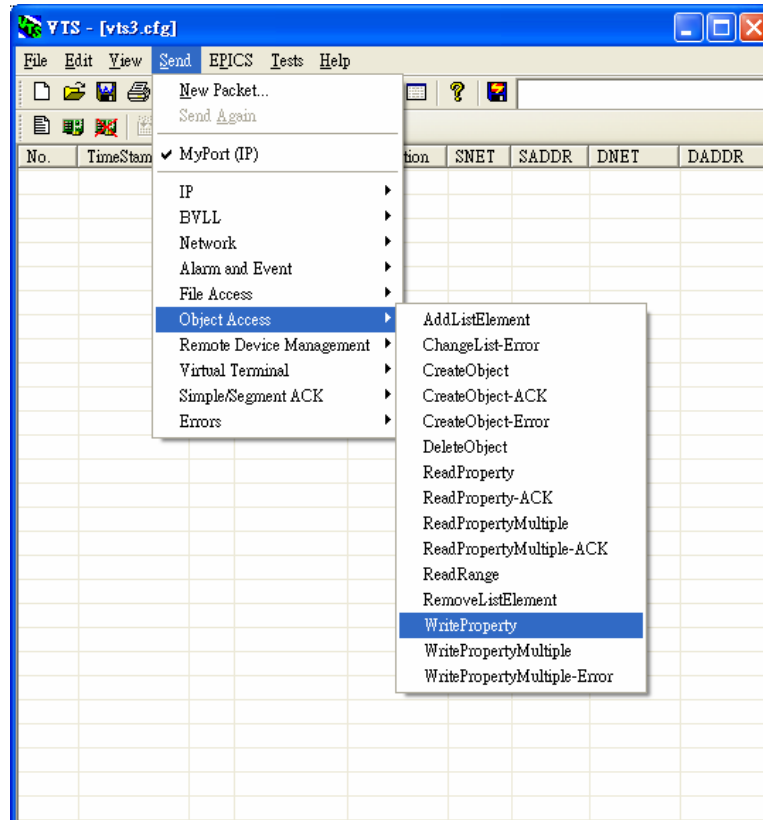
- Address Type choose **Local Station**
- Name is **GW-5492**
- Port choose **MyPort**
- Address set the IP of GW-5492: **192.168.255.1:47808 (GW-5492's default setting)**
- Push **OK** and continue

Notice: TD is for your computer, and do not remove it.

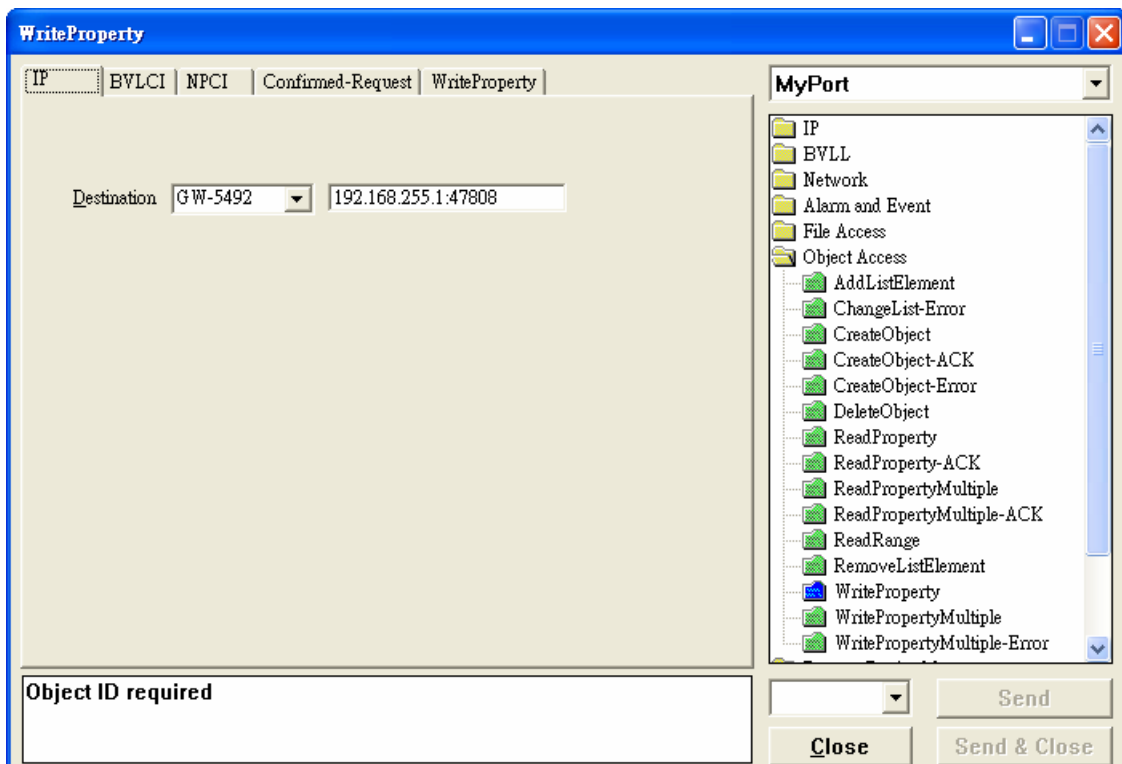


**Activate DOO**

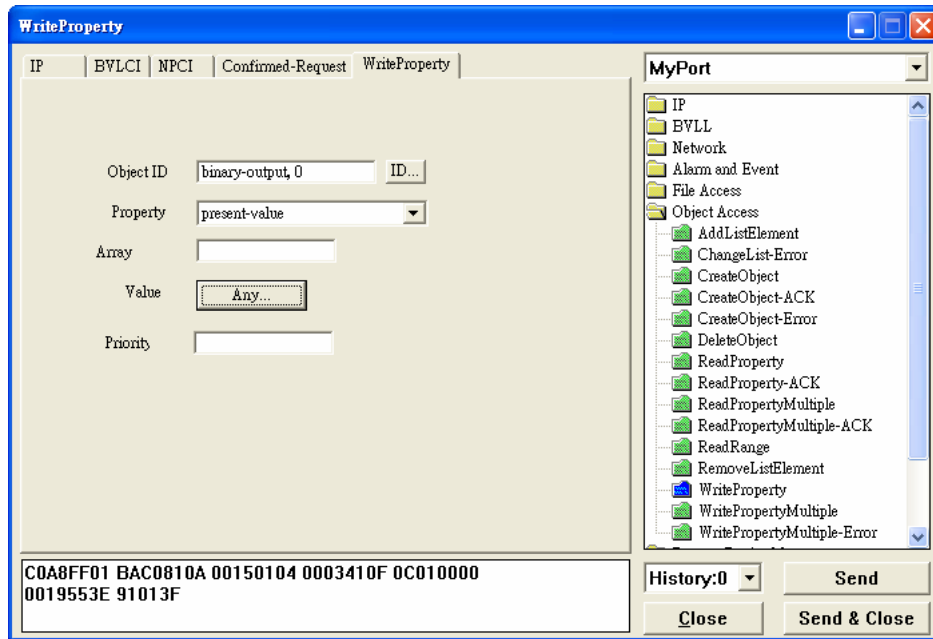
(8) Click on **Send** → **Object Access** → **WriteProperty**, and WriteProperty window shows up.



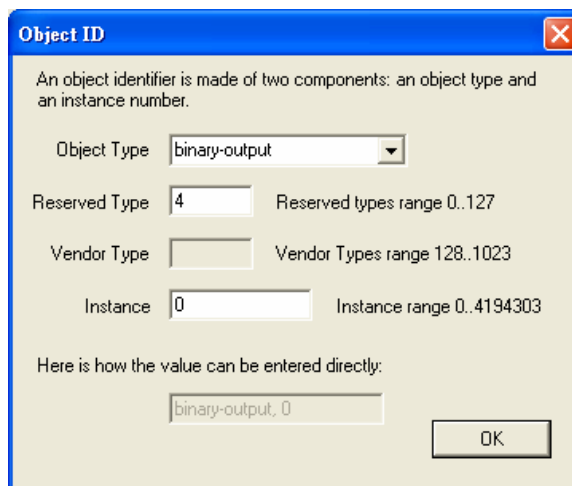
(9) WriteProperty → **IP** Page : Destination chooses **GW-5492**



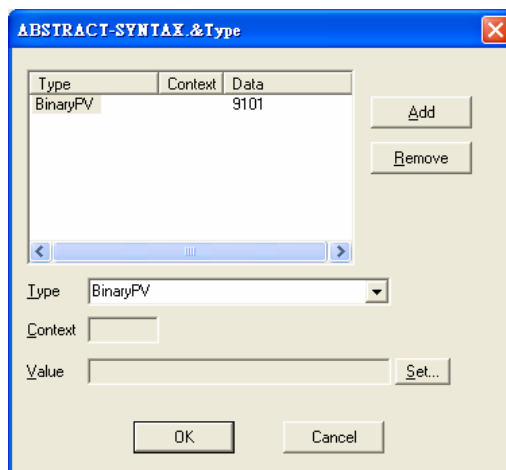
(10) WriteProperty → **WriteProperty** Page, set **binary-output, 0, present-value**, **BinaryPV(active)**, and push **Send & Close** button. The steps are described as follows,



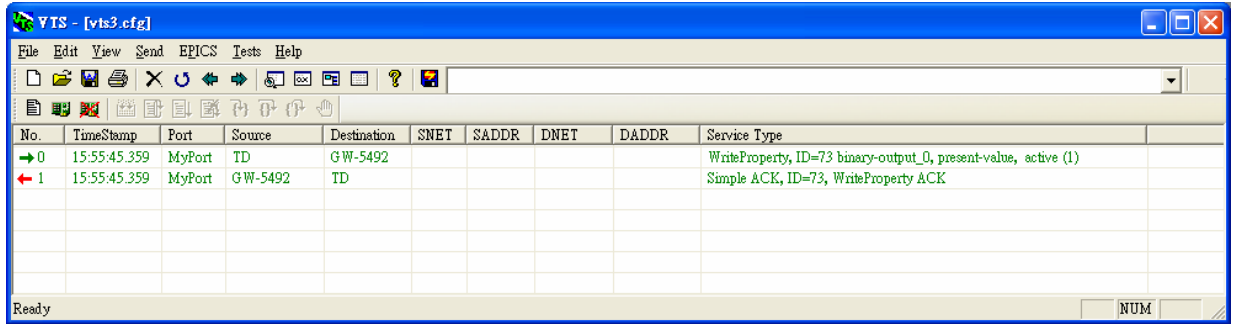
- Object ID: Push **ID...** button, and choose **binary-output**, and instance is **0** while **BO0**.



- Property choose **Present-Value**
- Value: Push **Any...** button, and a window shows up. Choose **BinaryPV** and push **Set...** and set **active**.

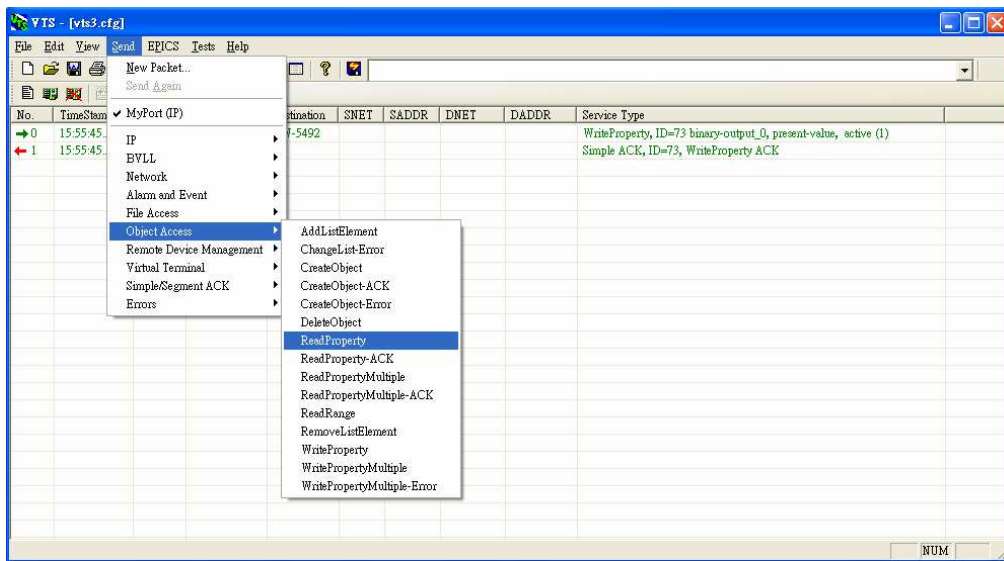


- Push **Send & Close** button, and VTS will show the transmit packets and receive the GW-5492 feedback one.

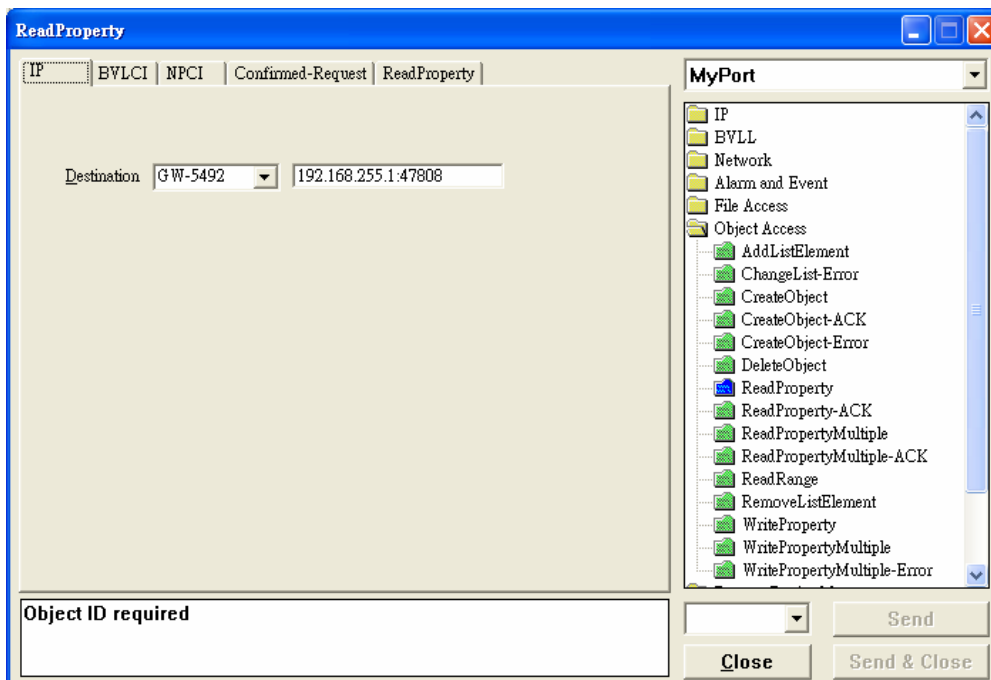


Get DIO status (**Active**)

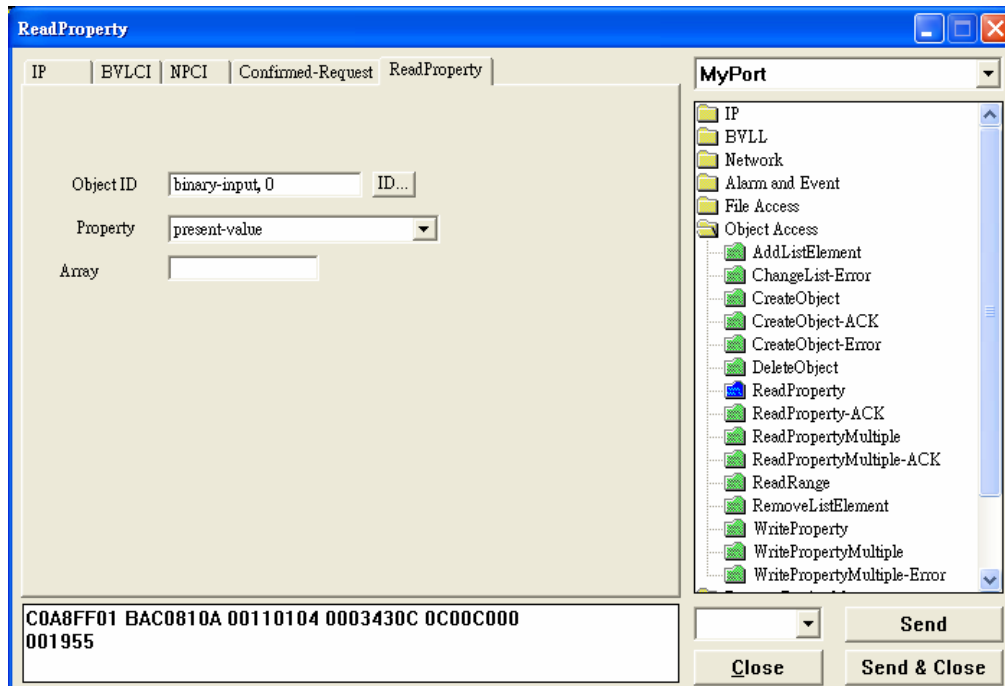
- (11) Click **Send** → **Object Access** → **ReadProperty**, and ReadProperty window will show up.



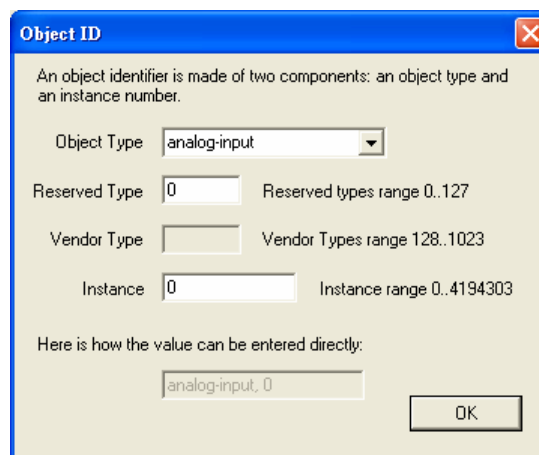
- (12) ReadProperty → **IP** Page: Destination chooses **GW-5492**



- (13) ReadProperty → **ReadProperty** Page, set **binary-input, 0, present-value**, and push **Send & Close** button. The steps are described as follows,



- Object ID: Push **ID...** button and choose **binary-input**, and instance is **0** while BOO.



- Property: choose **Present-Value**
- Push **Send & Close** button, and VTS transmits packet and you can confirm that GW-5492's DIO is **Active**.

