

**BACnet Gateway for SPC5000,  
SPC7000, & SPC8000 Series  
Particle Counters**  
Operating Instructions

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# 1.0 Overview

This document is to be used as a supplement to the Setra Systems Particle Counter Operating Instructions for complete installation. This document covers the installation and configuration of the BACnet protocol gateway. The BACnet protocol gateway can be used with the Setra Systems SPC5000, SPC7000, or SPC8000 Series Particle Counters to provide BACnet communications via a Modbus to BACnet Gateway.

Refer to this document when connecting the gateway device to the Particle Counter and when loading the configuration file and setting network parameters (e.g. device instance, IP Address, etc). Instructions for both a BACnet IP network and a BACnet MS/TP network are included, please refer only to the instructions applicable to your network type.

Refer back to the Particle Counter Operating Instructions for complete installation guide.

# 2.0 Connecting the IP Gateway

1. Run one Cat-5 cable from the ethernet jack of the particle counter to your IP network hub or switch. (See IP hub or switch example below-right).
2. Run second cable from the ethernet jack of the Gateway to your ethernet hub.

**Note:** It is assumed that your IP hub is connected to your larger network and that you have open ports available.

The Gateway is now your "exit signal" from the particle counter and it is providing BACnet over IP.

Particle Counter



Gateway



IP Hub or Switch

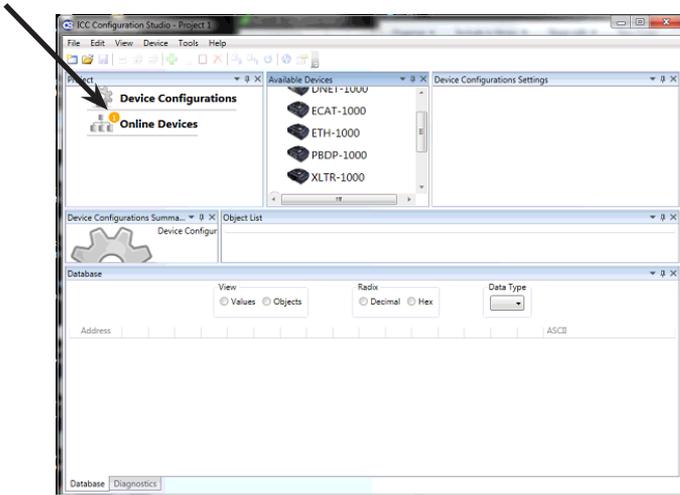


**Note:** The Gateway includes wall mount features as shown below.



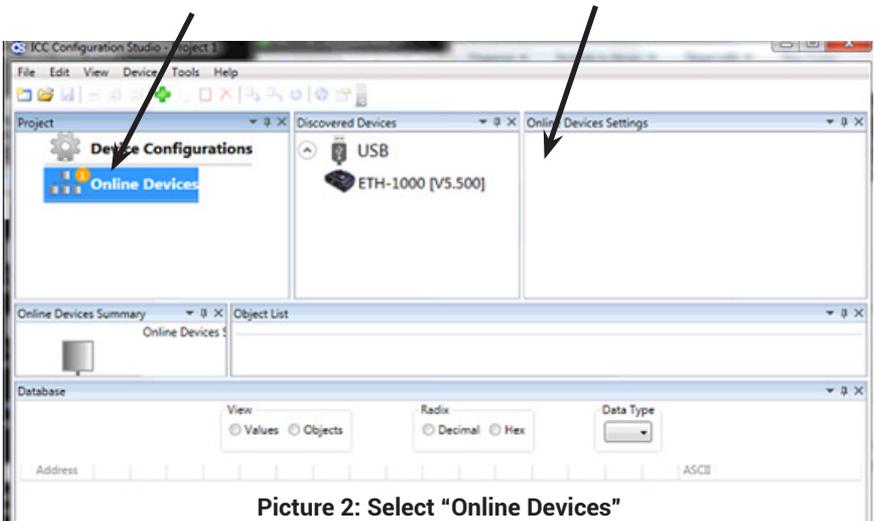
### 3.0 Configuring the IP Gateway

1. Download and install "ICC Configuration Studio" from:  
[www.iccdesigns.com/software/40-icc-configuration-studio.html](http://www.iccdesigns.com/software/40-icc-configuration-studio.html)
2. Connect gateway to computer with provided USB cable.
3. Open "ICC Configuration Studio".
4. Verify a Yellow dot as shown in Picture 1 is visible. If there is no yellow dot it means either the USB driver did not get installed or gateway is not connected. Re install the software and make sure USB cable is inserted all the way



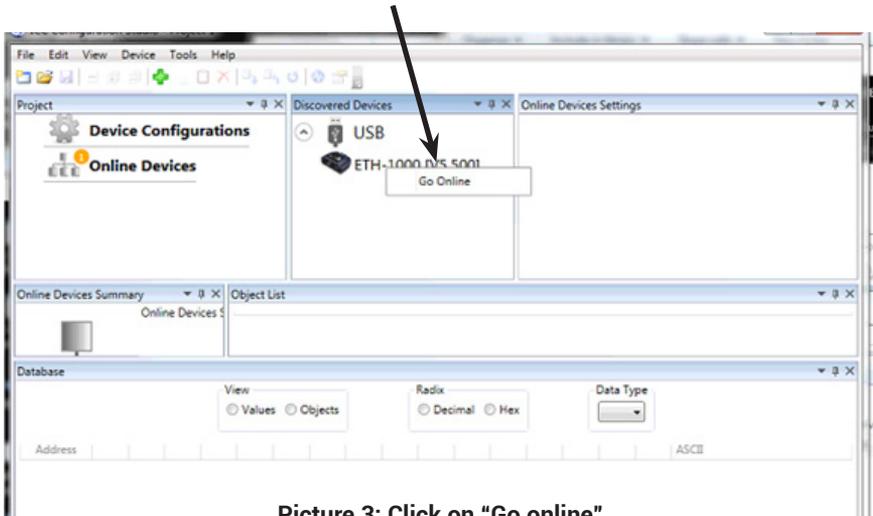
Picture 1: ICC gateway showing a device is available for going online

5. Select "Online Devices" and note the appearance of "ETH-1000".



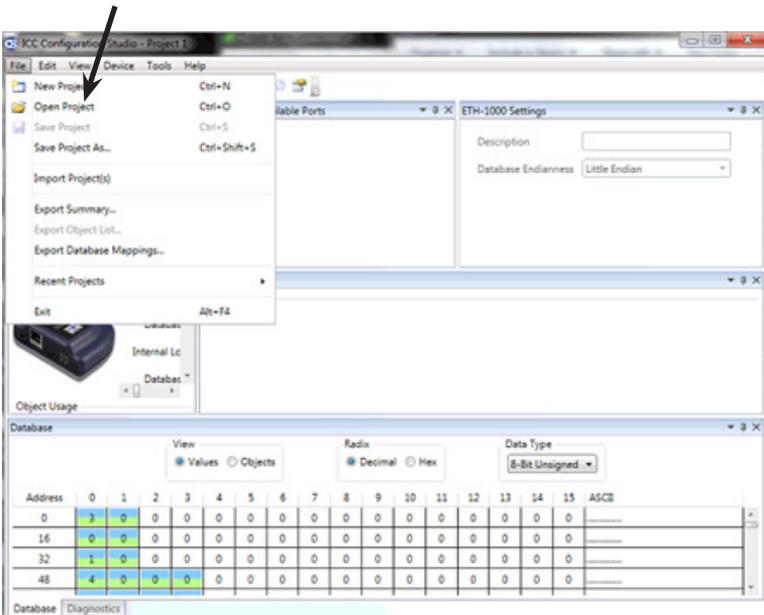
Picture 2: Select "Online Devices"

6. Right click on ETH-1000 and click "Go online"



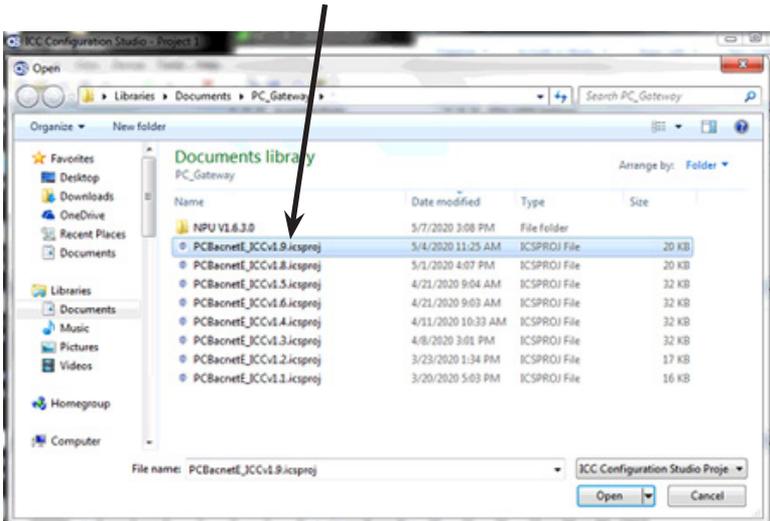
Picture 3: Click on "Go online"

7. Click on "Open Project" under File menu



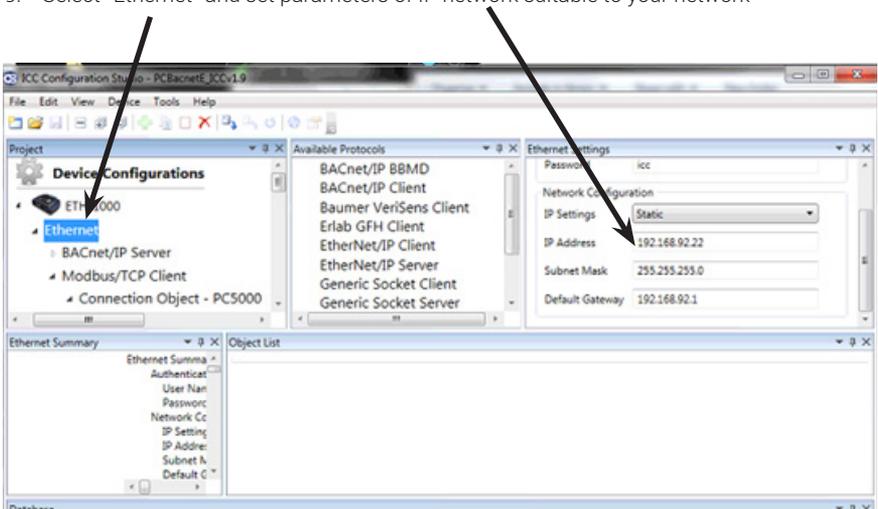
Picture 4: Click on "Open Project"

8. Browse to the configuration file provided with the package and click on it



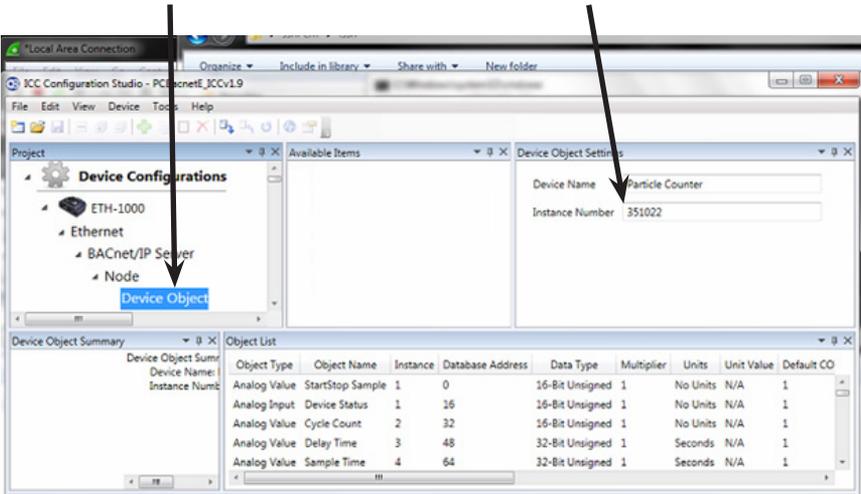
Picture 5: load configuration file

9. Select "Ethernet" and set parameters of IP network suitable to your network



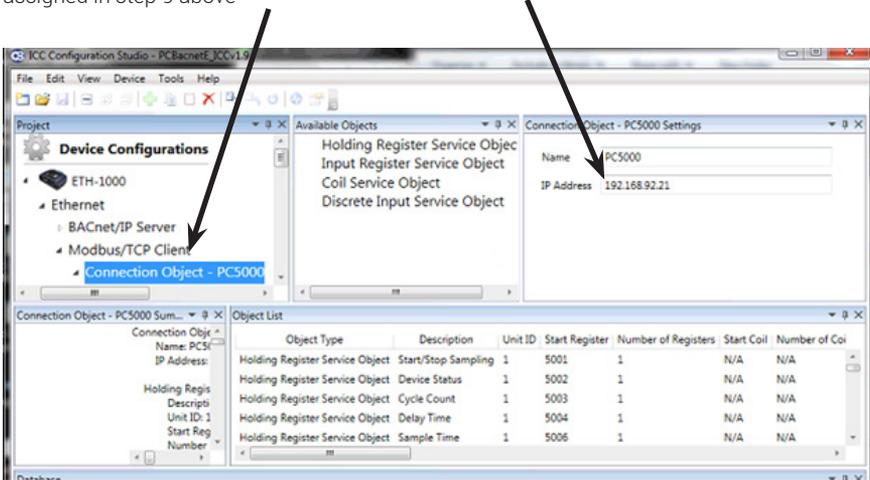
Picture 6: Set IP network parameters

10. Select "Device Object" Node and set the device instance number for the Gateway



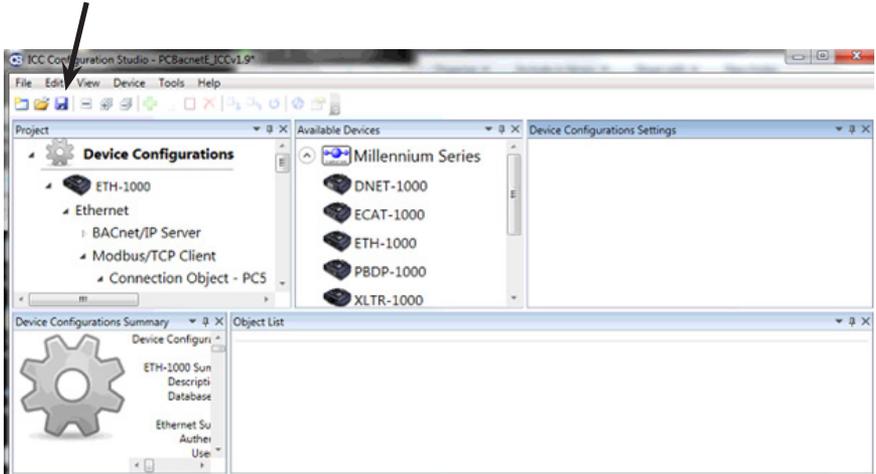
Picture 7: Set Device instance

11. Select "Connection object-PC5000" and set static IP address to particle counter. Make sure the address is not in use by any other device on the network and different from address assigned in step 9 above



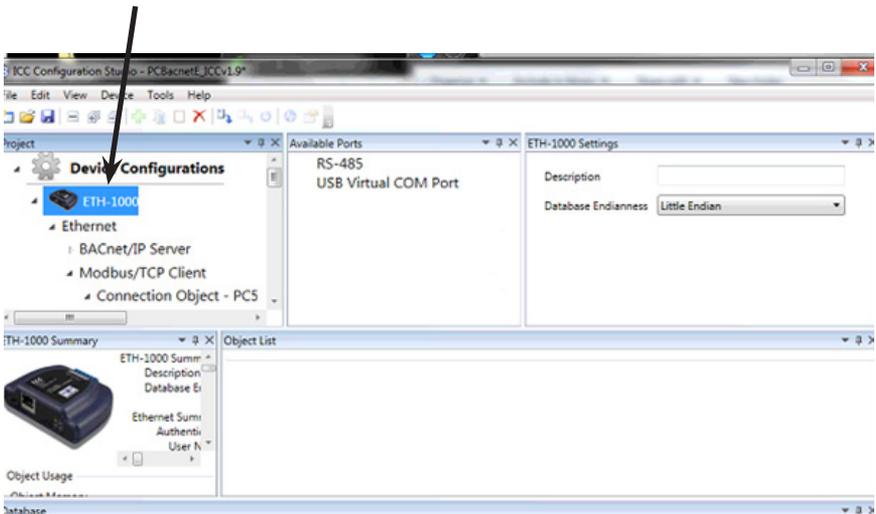
Picture 8: Set IP address for particle counter

12. Save configuration file by clicking on save button.



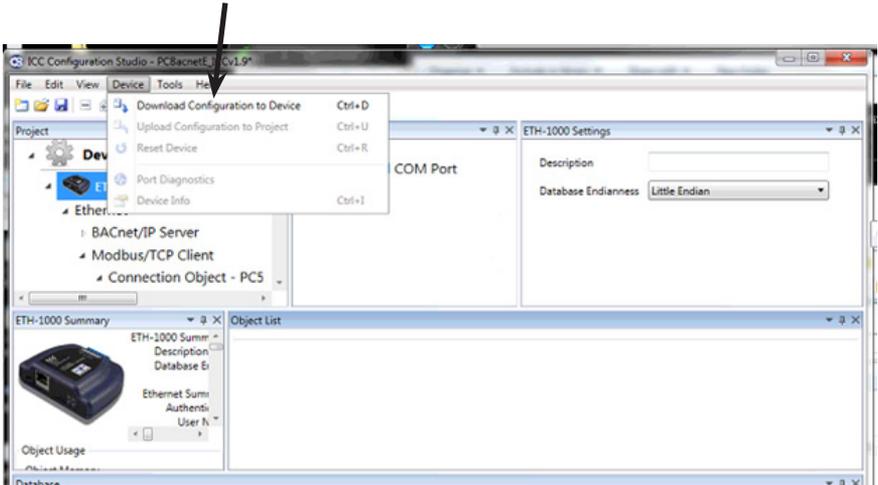
Picture 9: Save Configuration File

13. Select ETH-1000 under Device configurations



Picture 10: Select ETH-1000

14. Click on "Download Configuration in Device" under Device Menu



**Picture 11: Download Configuration File**

15. You may now disconnect the USB cable from both the gateway and the computer. The Gateway is ready to be used with the particle counter.

16. Installation of the gateway for use over a BACnet IP network is now complete. Return to the Particle Counter Operating Instructions.

## 4.0 Connecting the MS/TP Gateway

1. Run a Cat-5 cable from the ethernet jack of the particle counter directly to the gateway ethernet jack.

**Particle Counter**

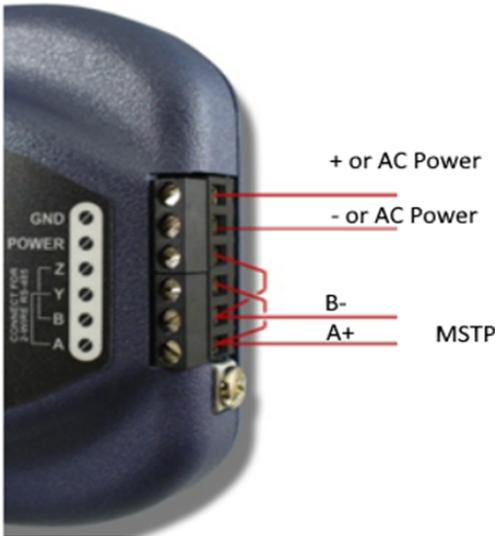


**Gateway**



2. Connect to your MS/TP network directly from the gateway using the stripped wire connection on the rear of the gateway. As shown in the image below.

### Rear of Gateway



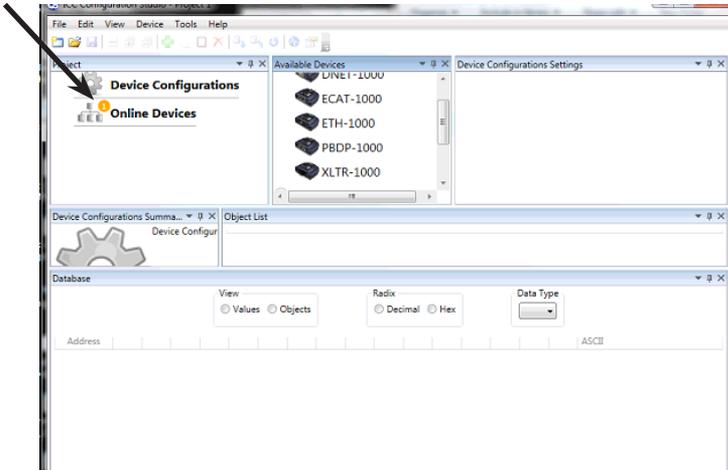
The Gateway is now your “exit signal” from the particle counter and it is providing BACnet over MS/TP.

**Note:** The Gateway includes wall mount features as shown below.



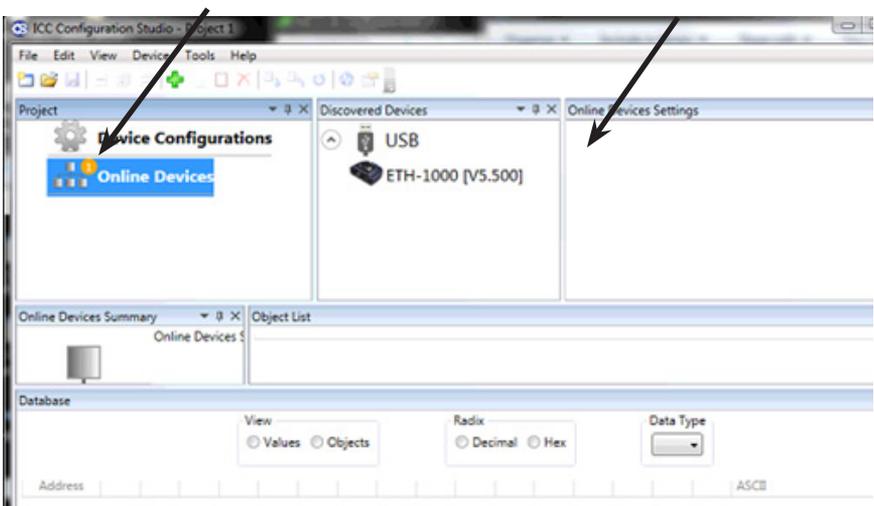
## 5.0 Configuring the MS/TP Gateway

1. Download and install "ICC Configuration Studio" from: [www.iccdesigns.com/software/40-icc-configuration-studio.html](http://www.iccdesigns.com/software/40-icc-configuration-studio.html)
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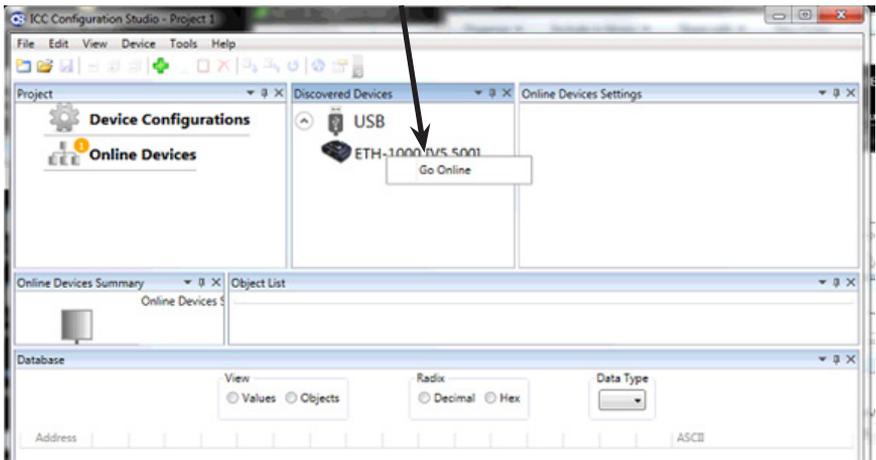
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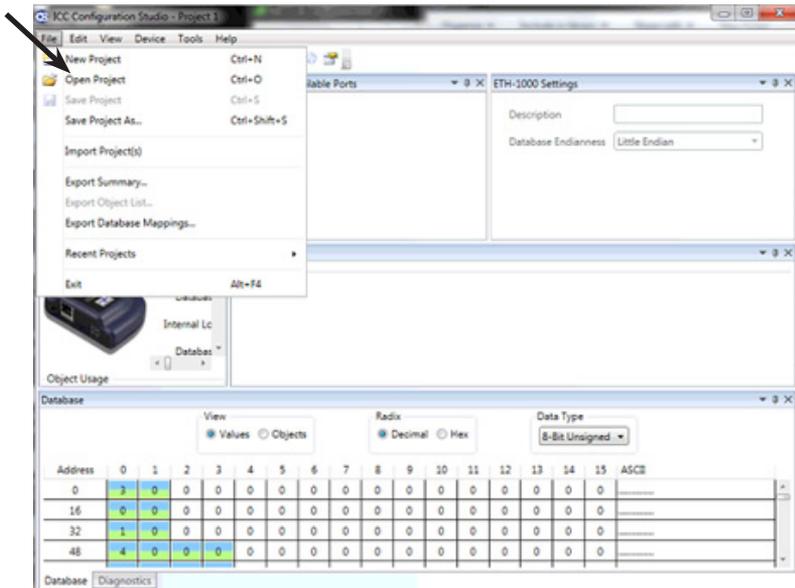
Picture 2: Select "Online Devices"

6. Right click on ETH-1000 and click "Go online"



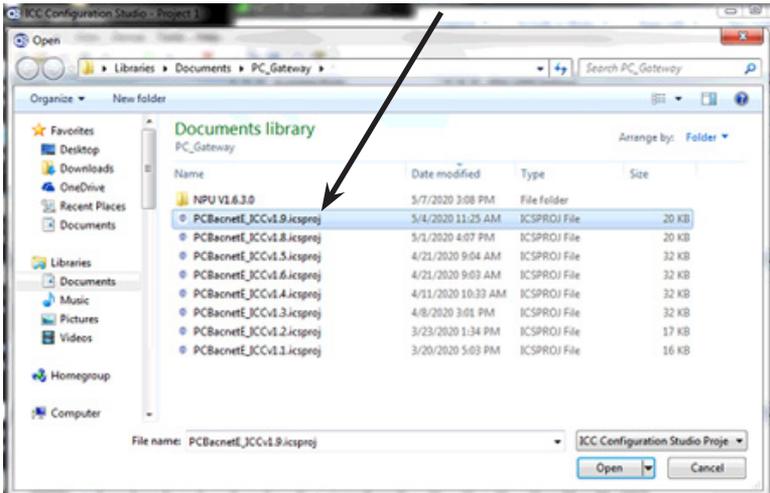
Picture 3: Click on "Go online"

7. Click on "Open Project" under File menu



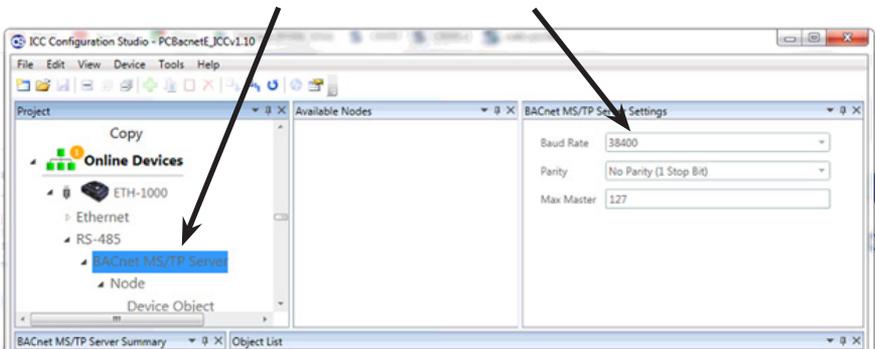
Picture 4: Click on "Go online"

8. Browse to the configuration file provided with the package and click on it.



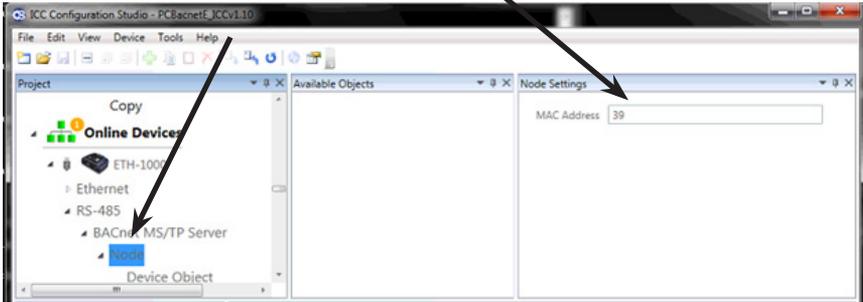
Picture 5: load configuration file

9. Select BACnet MS/TP server and set baud rate suitable to the MSTP network



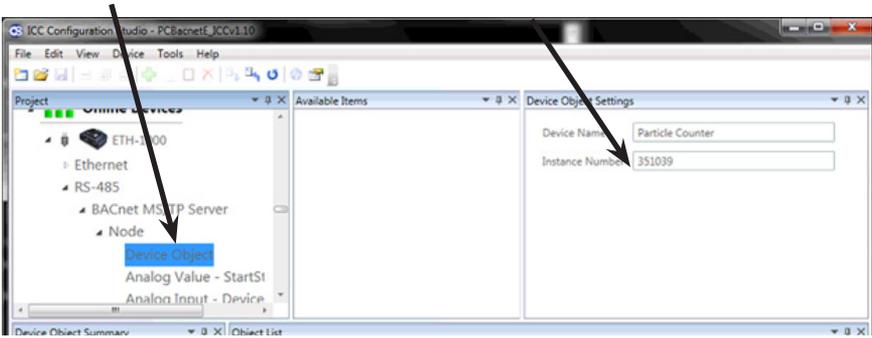
Picture 6: Set baud rate

10. Select Node and set a unique MAC address for particle counter for MSTP network



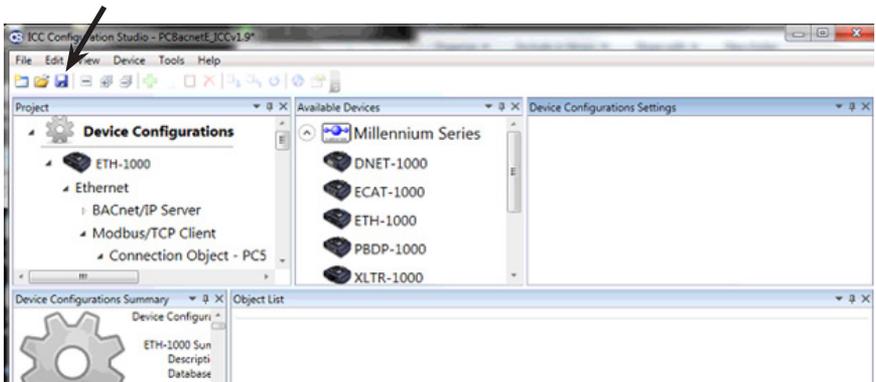
Picture 7: Set MAC address

11. Select Device object and set unique device instance for particle counter



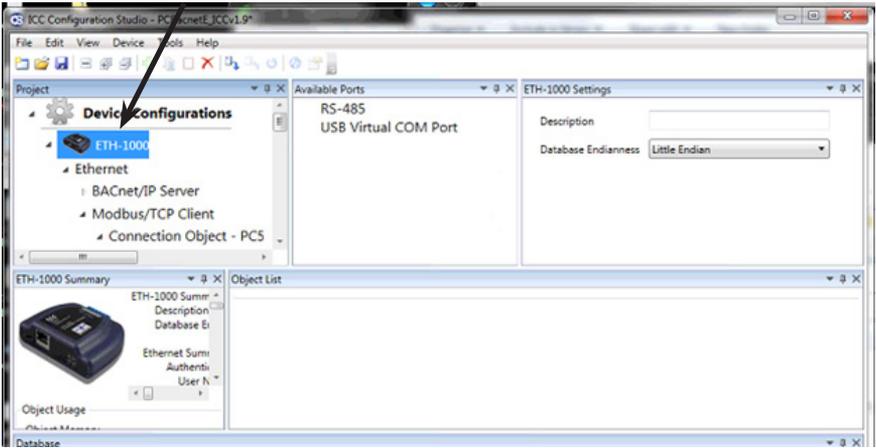
Picture 8: Set MAC address

12. Save configuration file by clicking on save button



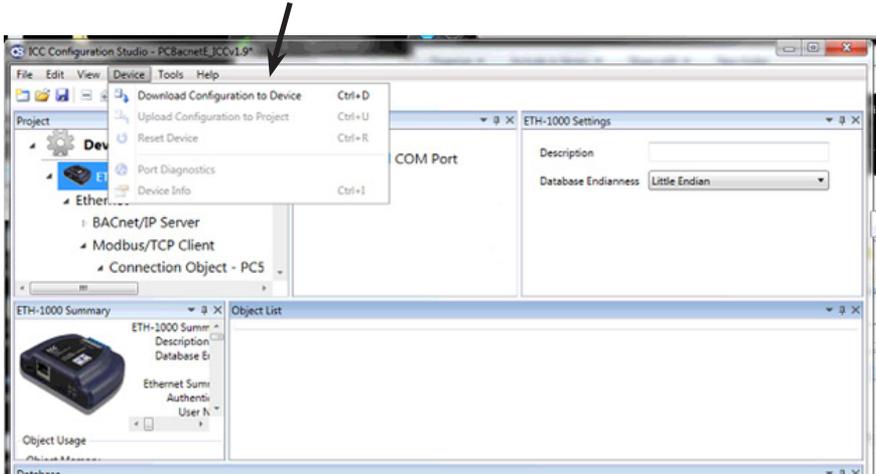
Picture 9: Save configuration file

13. Select ETH-1000 under Device configurations



**Picture 10: Select ETH-1000**

14. Click on "Download Configuration in Device" under Device Menu



**Picture 11: Download configuration file**

15. You may now disconnect the USB cable from both the gateway and the computer. The Gateway is ready to be used with the particle counter.

16. Installation of the gateway for use over a BACnet MS/TP network is now complete. Return to the Particle Counter Operating Instructions.



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