ADDRESSING THE FANS USING EC CONTROL SOFTWARE

REVISION 5.0   220201

This documents implements the following settings:

	Fan Number	PKV1400 / PKV2000
Indoor Fans	1	2591-xxx-101*
	2	2591-xxx-201*
	3	2591-xxx-301*
	4	2591-xxx-401*

	Fan Number	PKV1400 / PKV2000
Outdoor Fans	1	2506-138-101
	2	2506-138-201
	3	2506-138-301
	4	2506-138-401

*For Indoor Fans, 2590-011 / 2590-014 / 2590-019 may be used, check actual motor installed.

- 2590-011 fans uses 2591-011-XXX.
- both 2590-014 and 2590-019 fans uses 2591-014-XXX .

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1.0 SAFETY PRECAUTIONS

- Only licensed HVAC technicians* should install and service this air conditioning equipment. Improper service or alteration by an unqualified technician could result in significant and major damage to the product or property which may render your warranty null and void. Such unqualified service could also lead to severe physical injury or death. Follow all safety instructions in this literature and all warning labels that are attached to the equipment.
- Prevailing WH&S regulations must be observed and will take precedence to the safety instructions contained on this manual. Safe work practices and environment must be the paramount importance in the performance of all the service procedures.
- Ensure that unit installation complies with relevant council regulations and building code standards.
- All electrical wiring must be in accordance with current electrical authority regulations and all wiring connections to be as per electrical diagram provided.
- Secure the fans against accidental contact. Beware of pinch point and sharp edges which can cause cutting injury.
- Always wear appropriate PPE, remove any dangling jewelery and protect long hair by wearing a cap.
- Make sure that safety guards and panel covers are always firmly secured and not damaged before and during operation of unit.
- This appliance is not intended for use by young children or infirm persons unless they have been adequately supervised by a responsible person to ensure that they can use the appliance safely. Young children should be supervised to ensure that they do not play with the appliance.
- Installer must incorporate a means of electrical disconnection (isolator) in the sub mains fixed wiring in accordance with the latest edition of the AS/NZS 3000 (also known as Australian Wiring Rules).
- Secure the power cords and control cables that goes in/out the unit. Use the cable ties provided in the control box.
- This unit is designed for use with R-410A refrigerant only.

  *Qualifications required will be appropriate Electrical, Refrigeration and Refrigerant Handling License and Training dependent on local State/Territory regulations.

⚠ **DANGER**

Hazardous Voltage - Risk of Electrocution.
TURN-OFF the power from main isolator before proceeding with any service work of the unit. Observe proper LOCK-OUT/TAG-OUT (LOTO) procedures for electrical appliances in order to prevent accidental switching-on of the power supply. Extreme care and caution must be observed should there be a need to work on live circuit.

⚠ **WARNING**

EC Motors and compressor variable drives are fitted with high power capacitors and can have dangerous residual voltages at motor terminals after power has been isolated.
Wait at least 5 minutes after power isolation and test for any voltage before beginning service work.

⚠ **CAUTION**

Beware of Rotating Fans!
Ensure that indoor and outdoor fans are isolated and have come to a complete stand still before servicing the equipment. Beware of pinch point and sharp edges which can cause cutting injury. Secure the fans against accidental contact.
Always wear appropriate PPE and remove any dangling jewellery and protect long hair by wearing a cap. Ensure that no loose clothing can be caught / entangled in moving parts.

⚠ **CAUTION**

Potential Confined Space !
Be aware of potential confined space condition in the internal sections of the unit. WH&S Confined Space regulations and safety procedures should always take precedence when working in these environment.

VISUAL INSPECTION AND WORK ASSESSMENT

Work areas and conditions must first be assessed and evaluated for any potential hazardous conditions. It is also important to be familiar with the unit parts and components before proceeding with any service task.

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2.0 BACKGROUND:

As situation dictates, you will be required to assign correct address to EBM EC Indoor and Outdoor Fans. The procedures described in this manual will assist you in this situation. Please read this manual thoroughly and follow the procedures to correctly address the fans using the EBM EC Control software.

The procedure described in this manual will guide you on how to assign address to your fans.

3.0 TOOLS AND ACCESSORIES:

EBM Bus Cable

PC (Laptop) with EBM EC-Control software and instructions

4.0 EBM EC-CONTROL SOFTWARE

The EBM EC-Control software will need to be downloaded first into your PC (Laptop) prior to proceeding with fan configuration. Ensure that you have the latest version, which can be downloaded from "R and D" drive:

R:\Software\EBM\EC_Control_2.10.zip

The software can also be downloaded from EBM website:

http://info.ebmpapst.us/ec-control-version-2-1-download

Screens on this section may vary pending on EBM software version used.

4.01 Connect the EBM Bus Cable to your PC (Laptop) with EBM EC-Control software and instructions and check the COM port.

PC (Laptop) with EBM EC-Control software and instructions

Connect EBM Bus Cable to PC
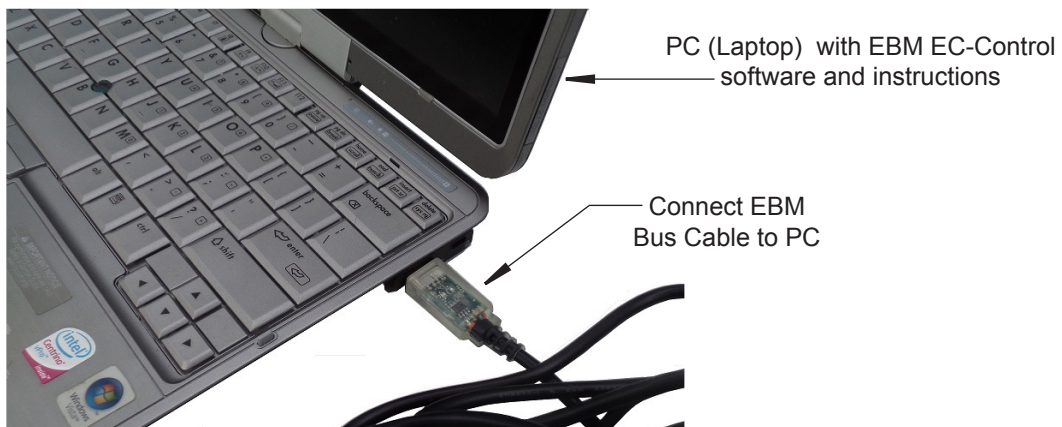
4.02 Turn-Off the power supply to the unit through the main isolator.
Alternatively, turn-off all the circuit breakers (MSCB 1,2,3,4,5,6,7,8,9 and 10).

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4.03 Disconnect the unit's J9 FBus 1 Terminal from CM100 Controller.

Disconnect J9 FBus 1 Terminal

CM100 J9 FBus 1 Receptacle
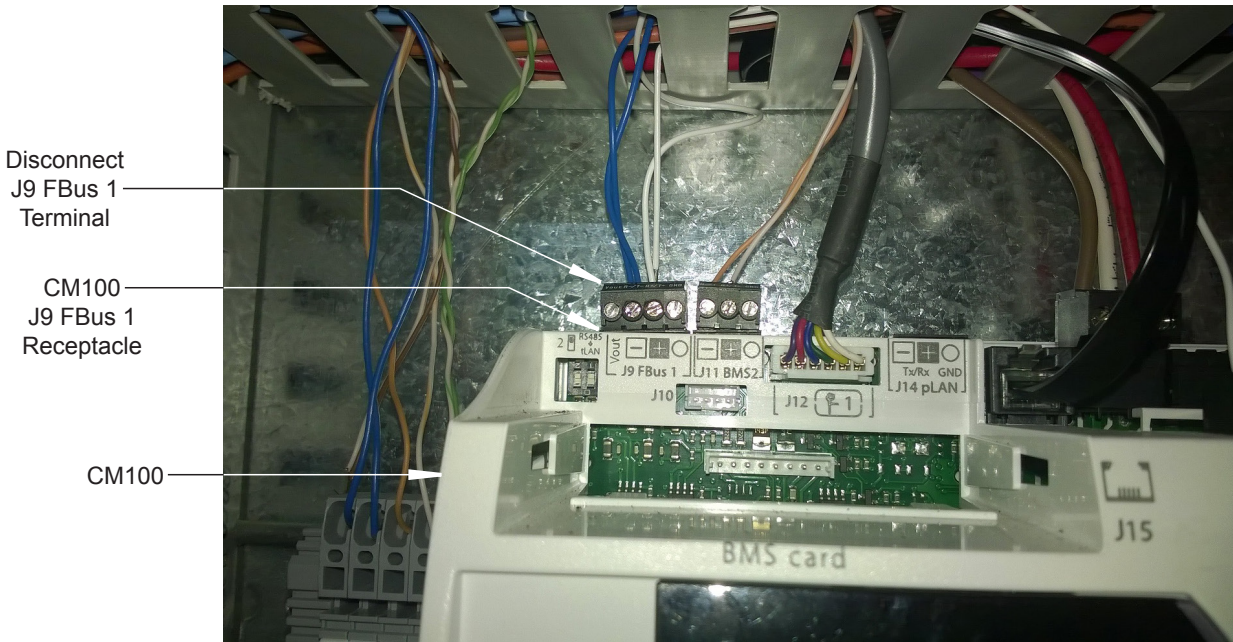
CM100

4.04 Connect the other ends of the EBM Bus Cable between the disconnected J9 FBus 1 Terminal and the CM100 J9 FBus 1 Receptacle.

Unit J9 FBus 1 Terminal

EBM Bus Cable J9 FBus 1 Terminal

EBM Bus Cable J9 FBus 1 Receptacle

CM100 J9 FBus 1 Receptacle

CM100
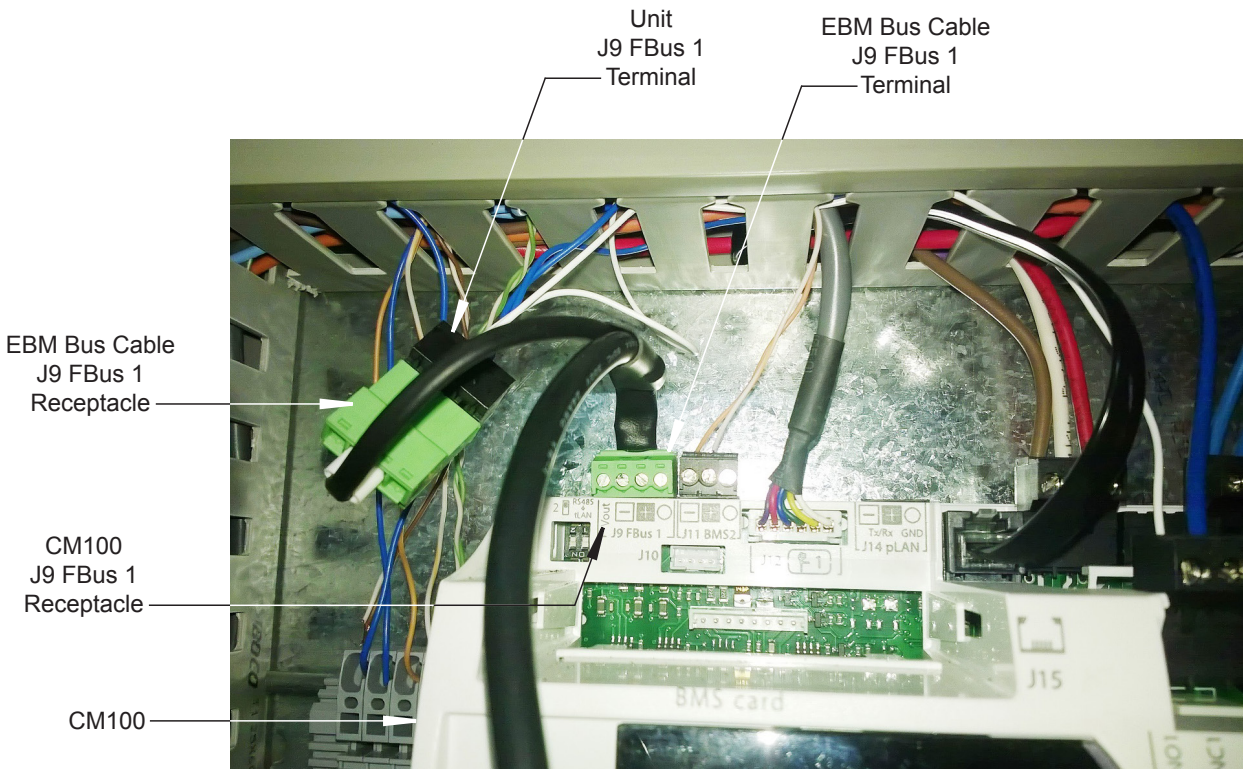
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4.05 Open the EC Control Application on the desktop. (If not on desktop, the application can be found at the location you specified during the software installation process).

The following screen will be displayed:
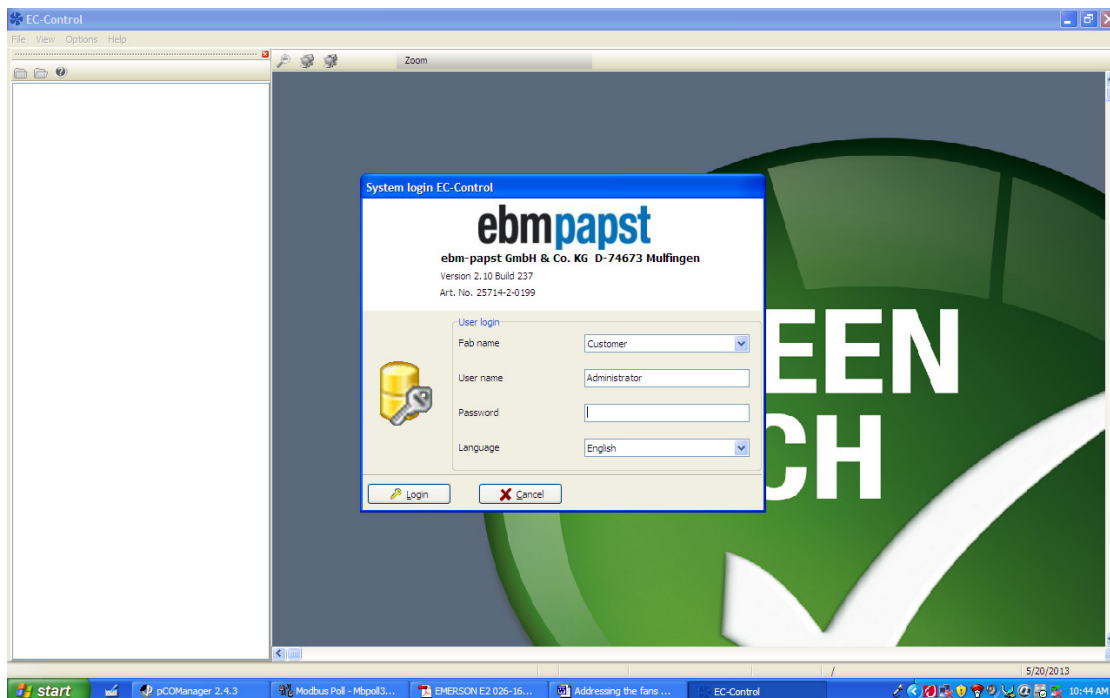
4.06 Make sure the Fab Name is "Customer", User name is "Administrator" and Language is "English":

4.07 Enter the password as "topsecret" and click on "Login".
NOTE: The password is case sensitive.

The following screen will be displayed:

Hercules Units w/ CM100- Addressing the Fans Using EC Control Software
9590-7005 Rev. 5.0 220201
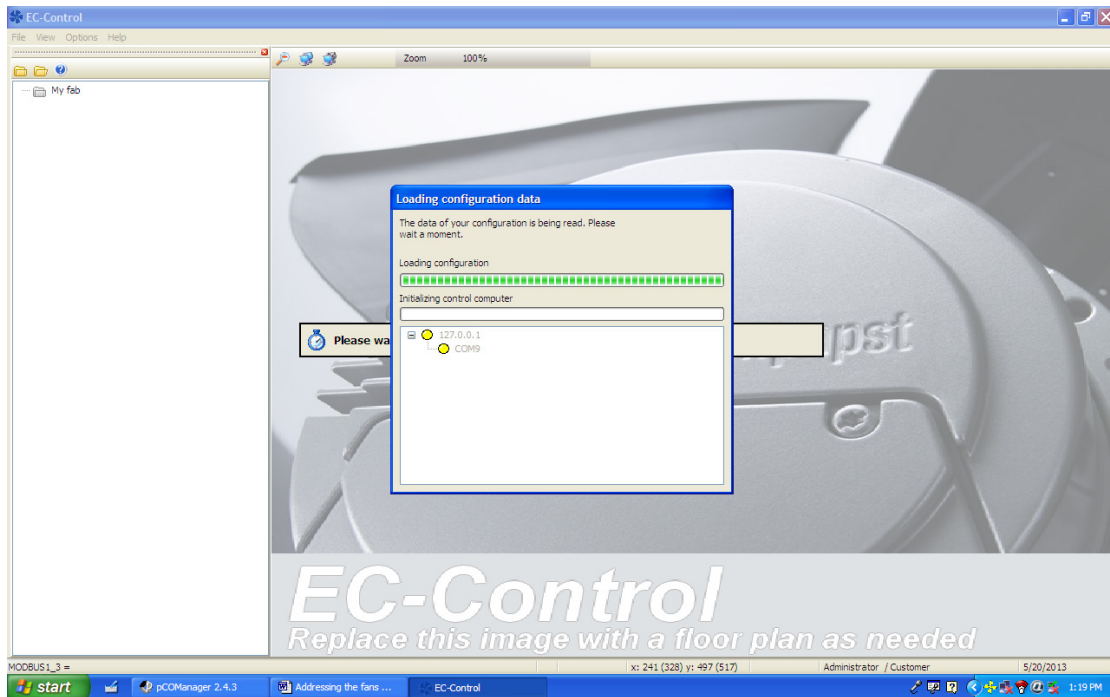
4.08 Note:- Make sure the COM port is detected correctly without any error, when in error the colour of the port setting goes red with an error message. In case of failure of communication with the interface following screen will be displayed. Try closing and starting the Application in this case.
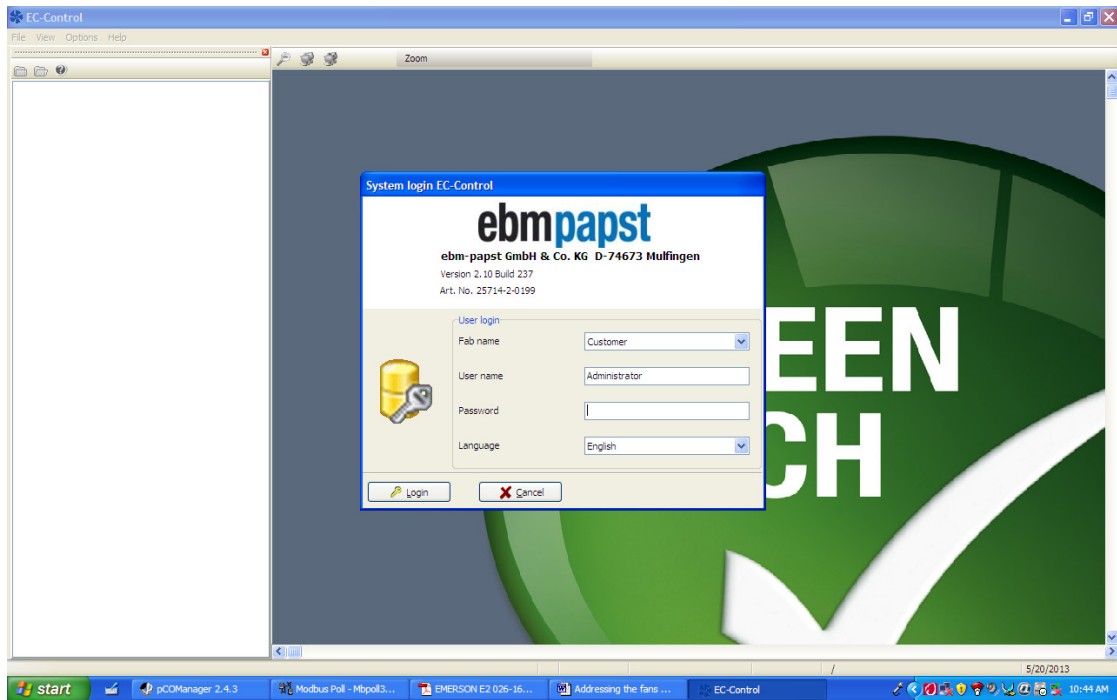
If the Communication is correct following screen will be displayed:
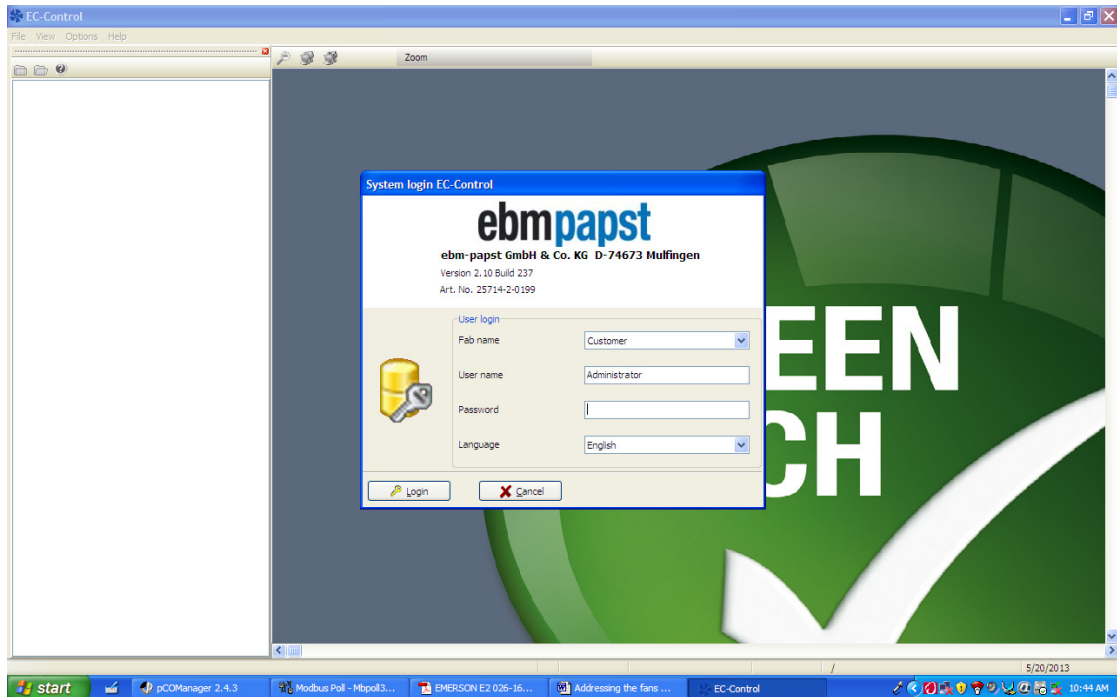
4.09 Turn ON the circuit breaker for the fan you wish to program, keeping all the others OFF.

4.10 Click on "File".

4.11 Click on "Configuration Assistant".

4.12 Click on "Small Size Fab".
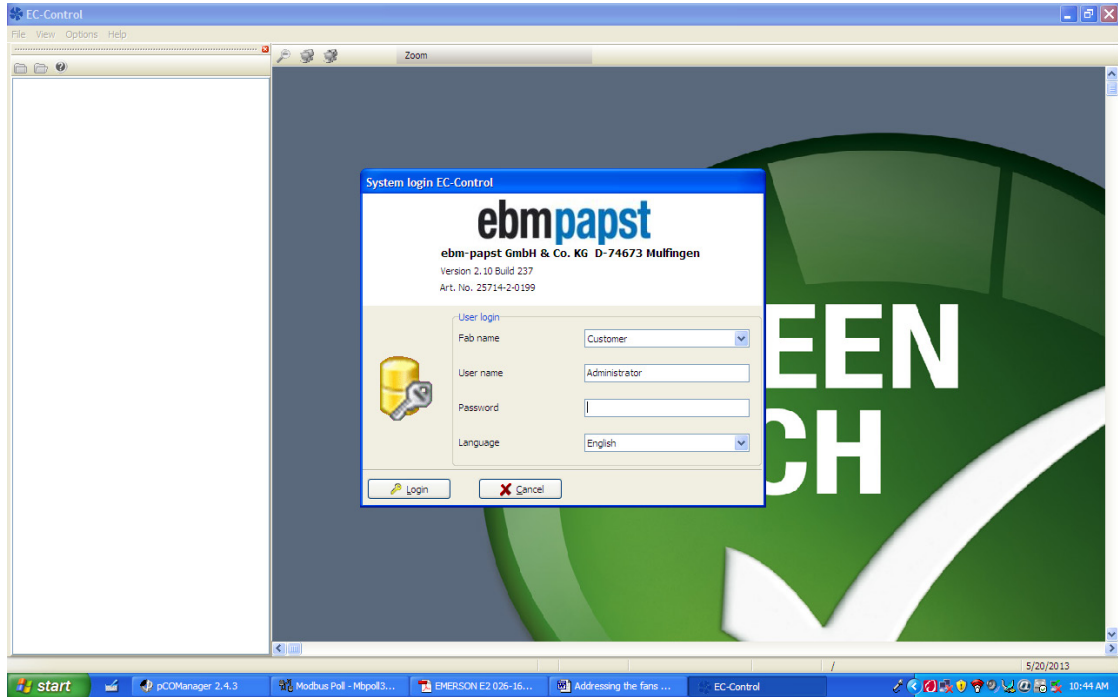
4.13 Click on "I have connected single Fan" and then click "Continue".
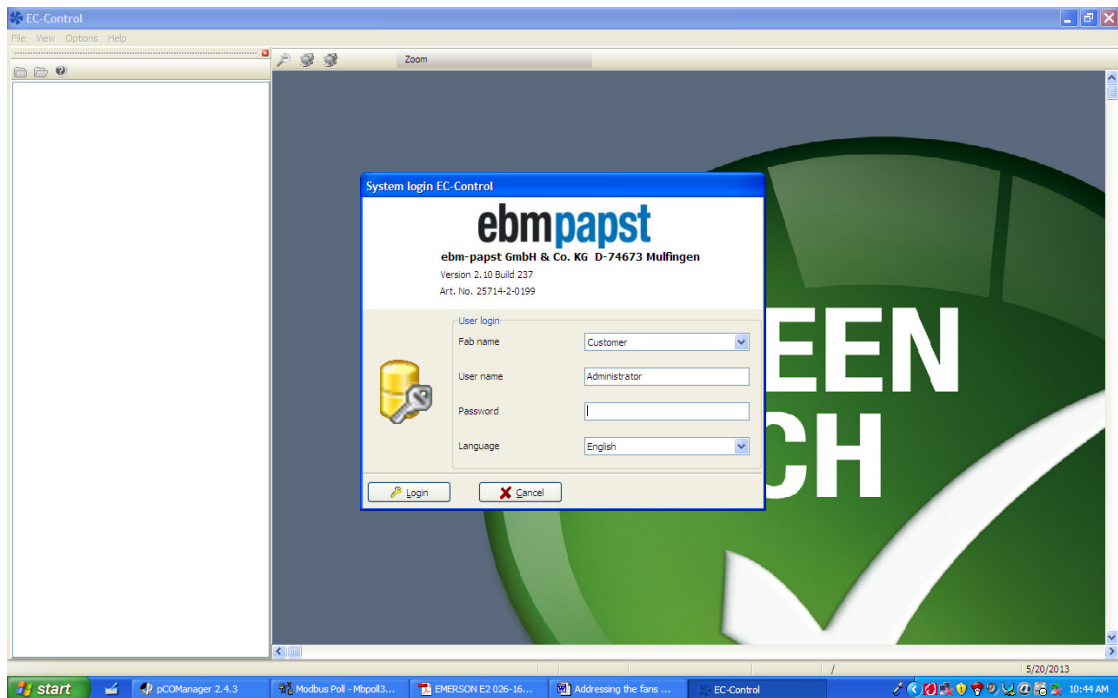
4.14 Click on "Start Search".
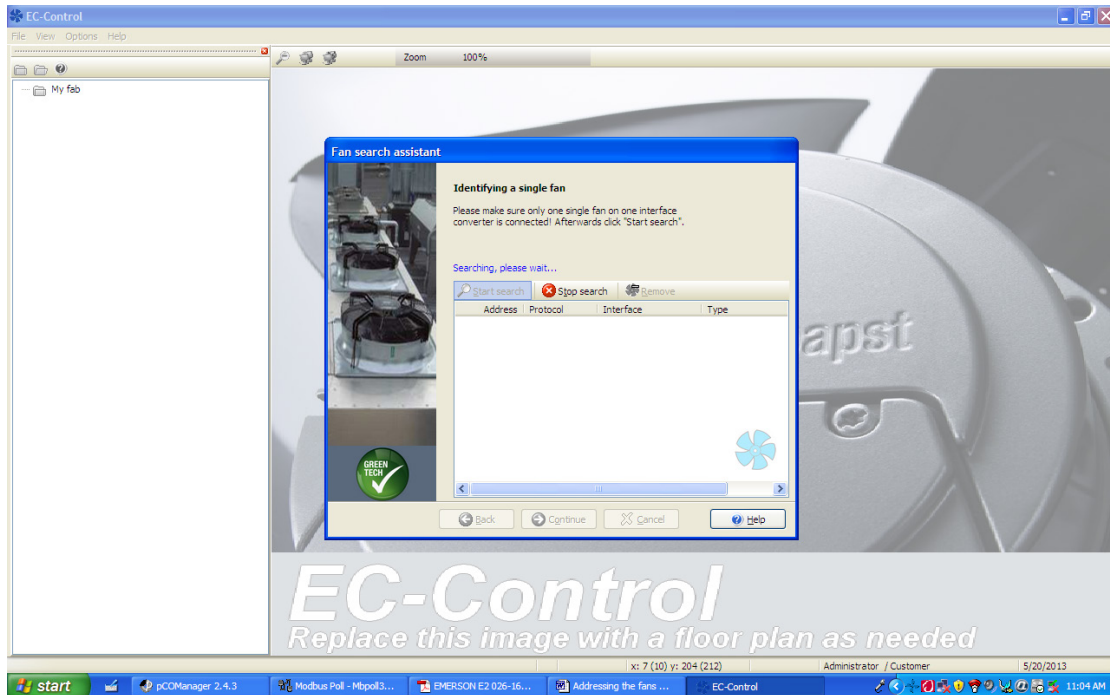
4.15 When the search is complete, the fan you wish to program will be displayed. Check whether the type is displayed as "MODBUS-ebm papst". Then click on "Continue".
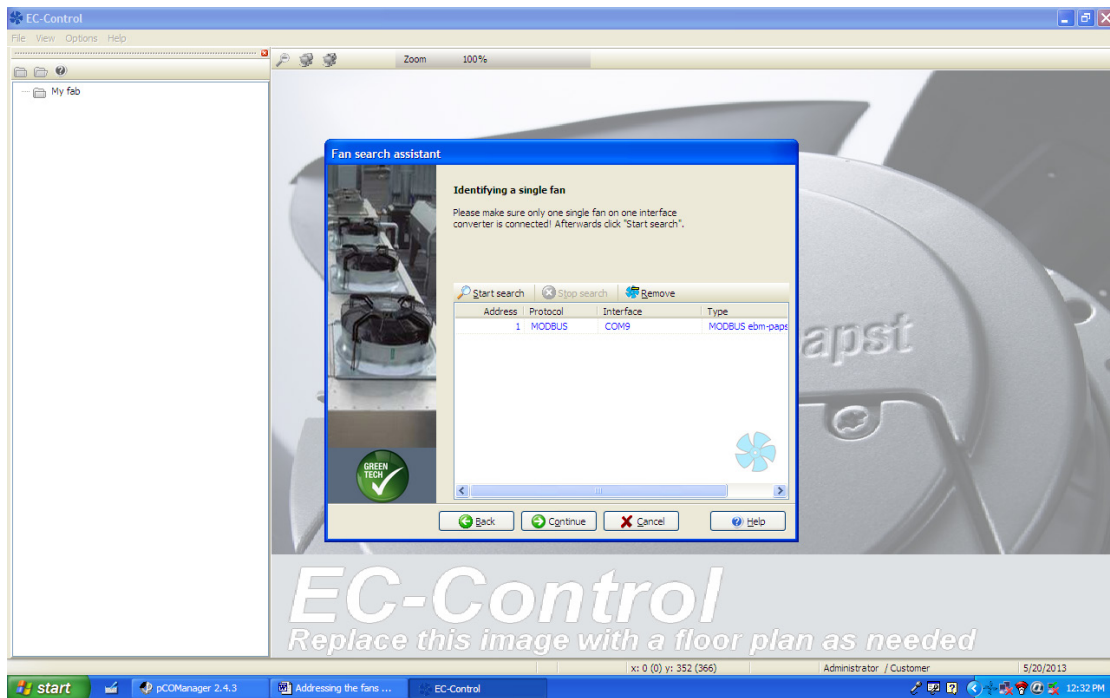
4.16 The following screen will be displayed. Click on "Save".
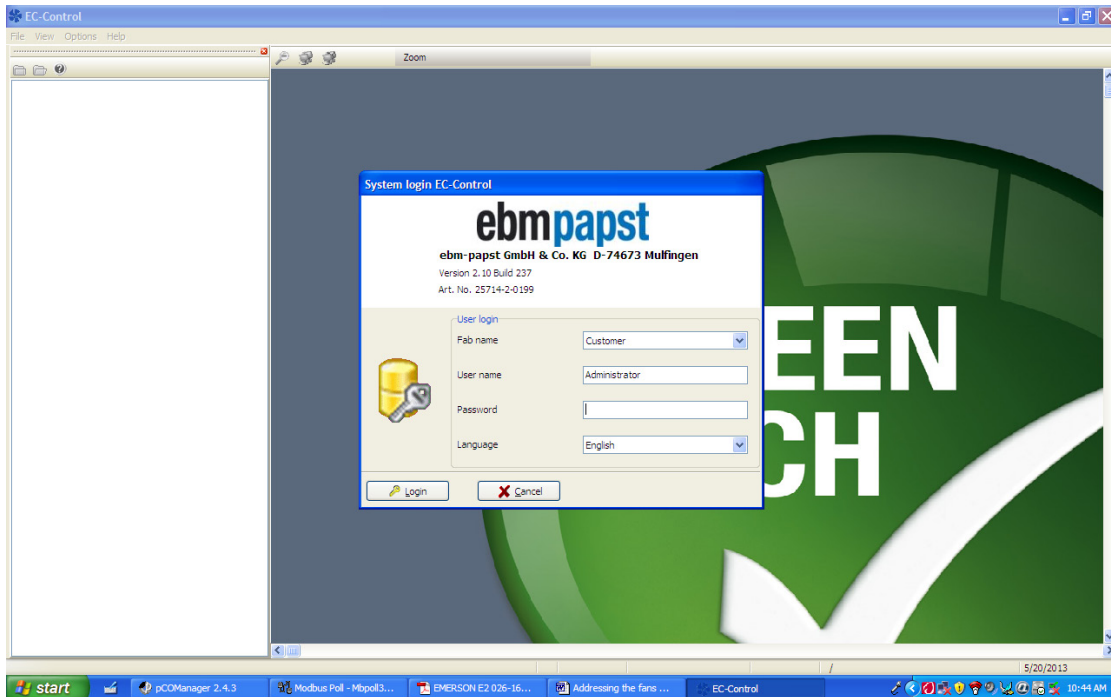
4.17 The following screen will be displayed. Click on "Finish".
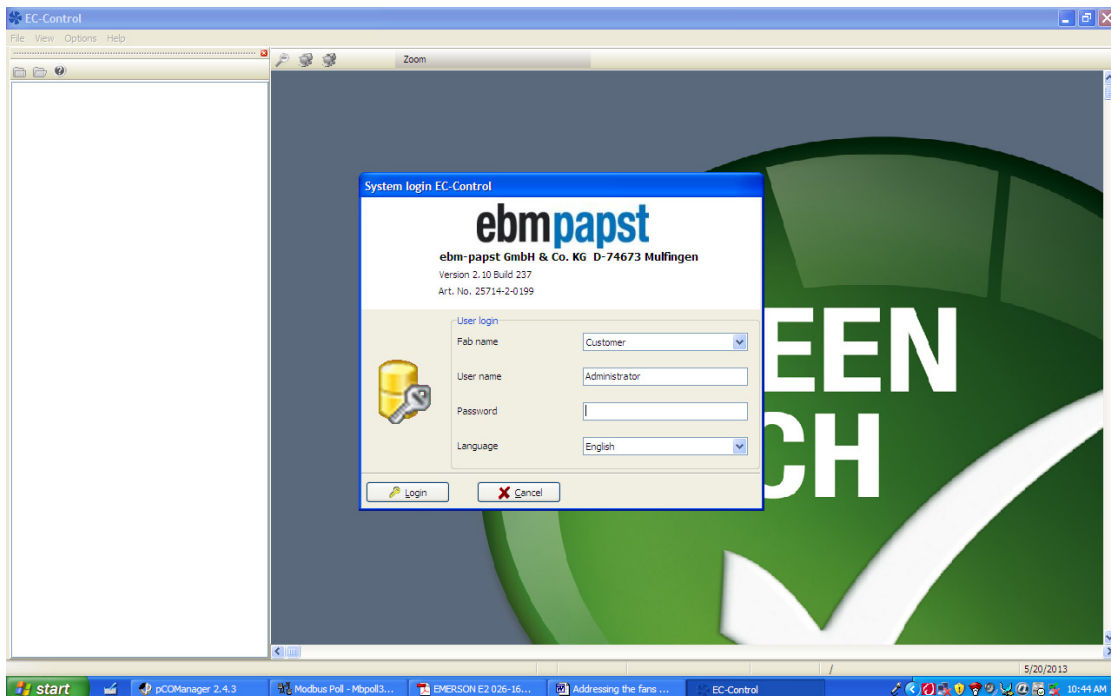
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The following screen will be displayed and the configuration data will start loading:
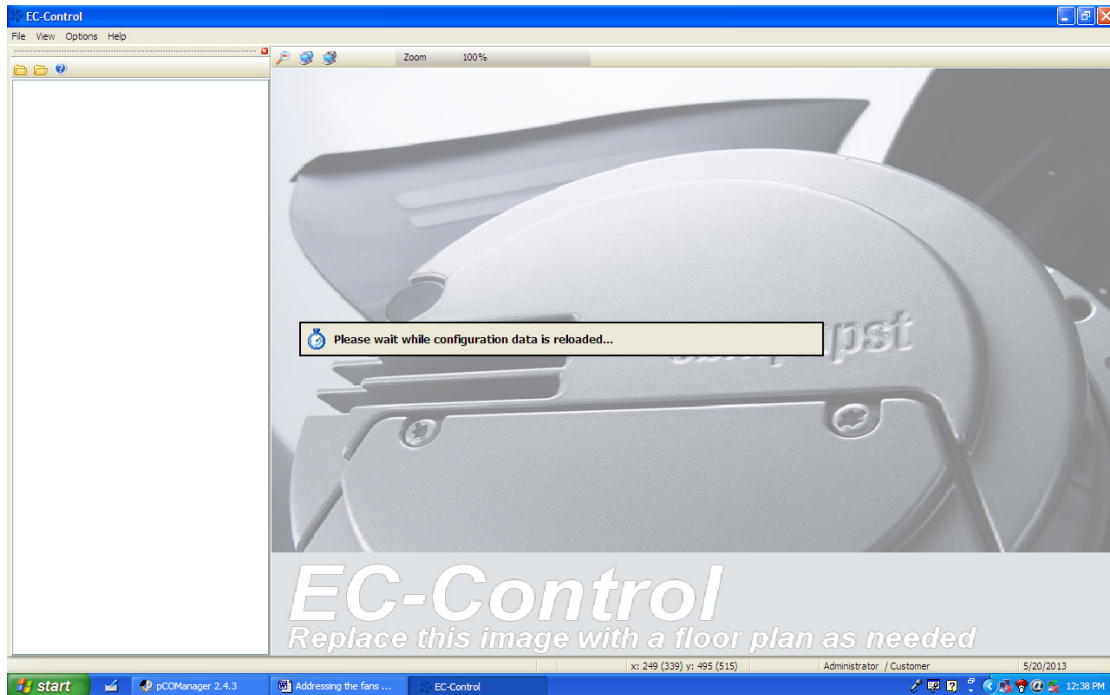
4.18 After the config data is loaded the following screen is displayed with "My Fab" in green.
Click on the dropdown "⊞" sign beside the "My Fab" menu.

4.19 The following screen will be displayed. Right click on the fan showing "MODBUS1_1".
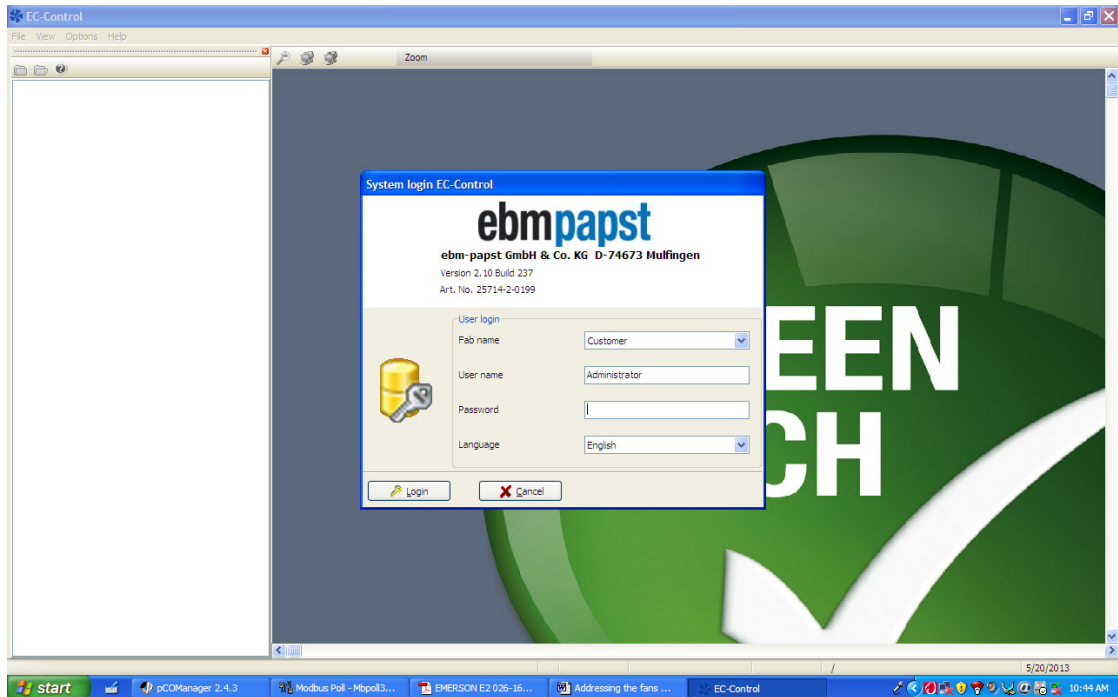
The following screen will be displayed:
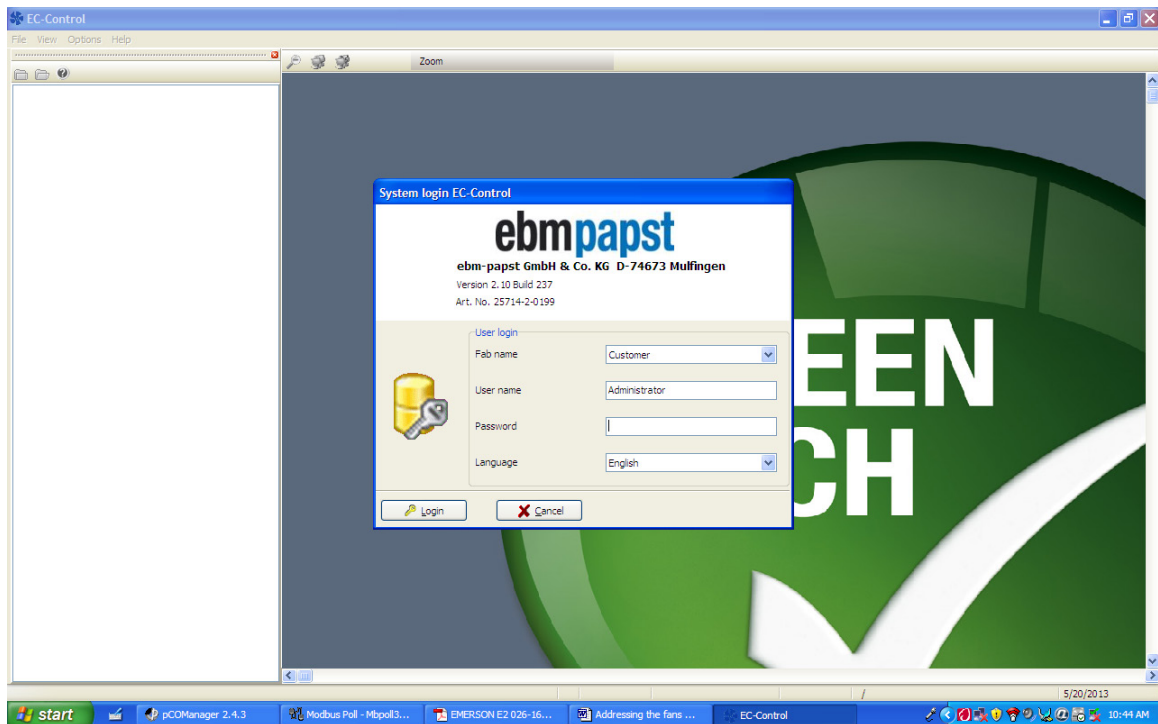
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4.20 Click on "Set up fan parameters".
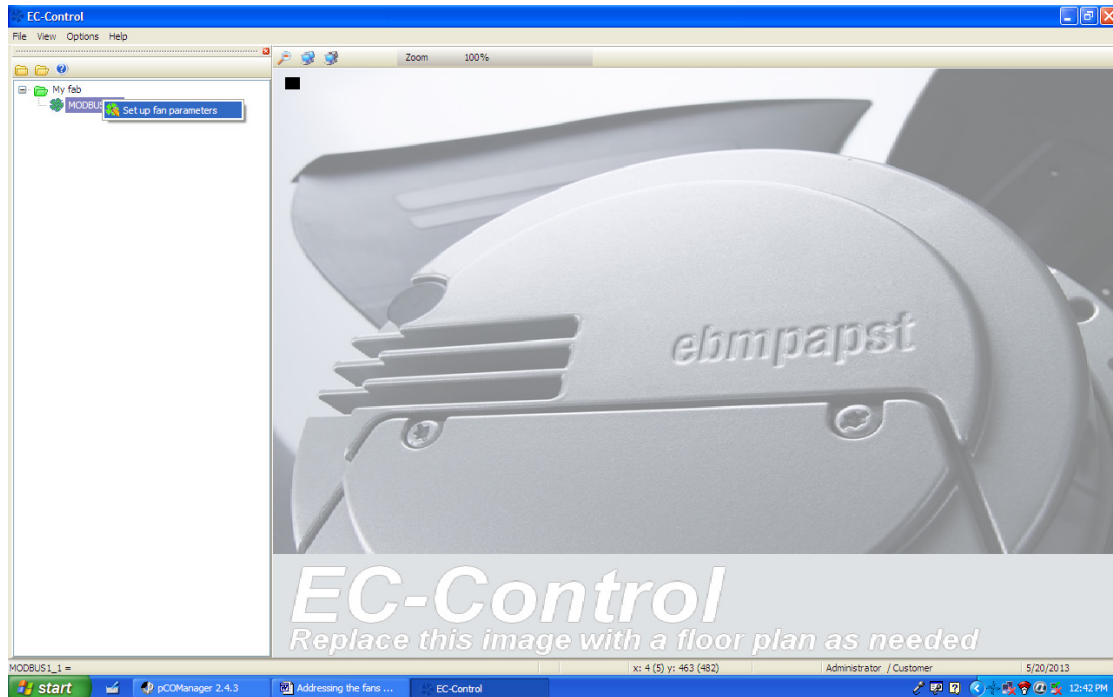
4.21 Following screen will be displayed. Make sure the status shows "Fan OK".
Change "Source of set value" from "Ain1" to "RS485/Bus".

4.22 Click on "Parameter set 1".
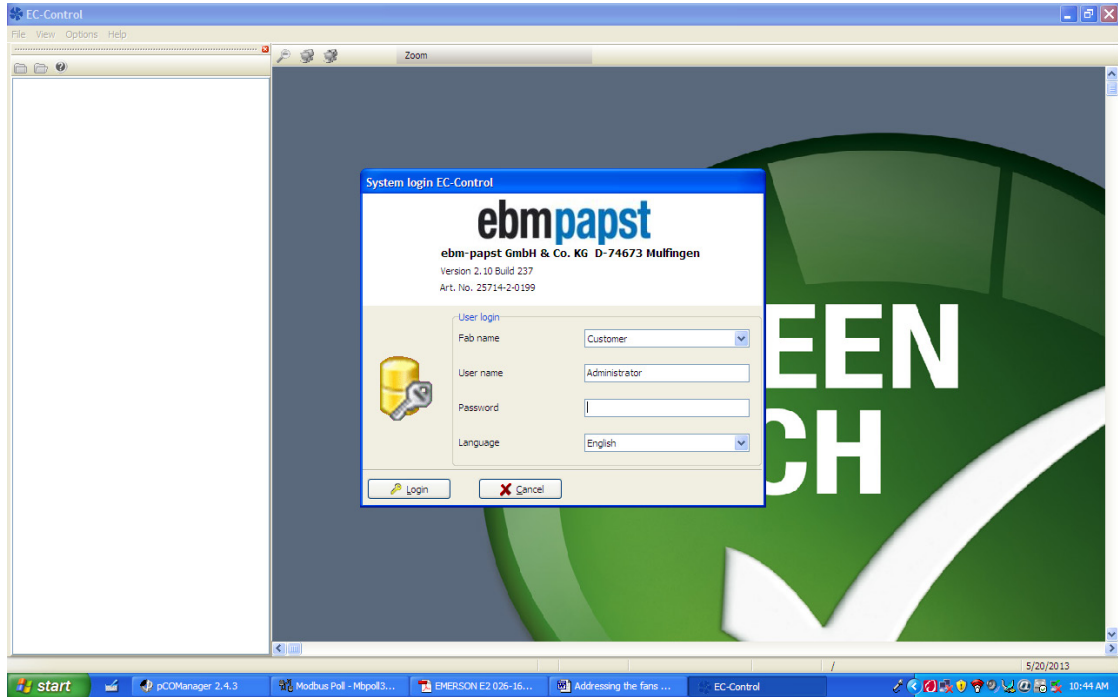
4.23 Select "Source of Parameter set switch" as "RS485/Bus"

The following screen will be displayed:

4.24 Select "Control Mode" as "Closed Loop Speed Control".
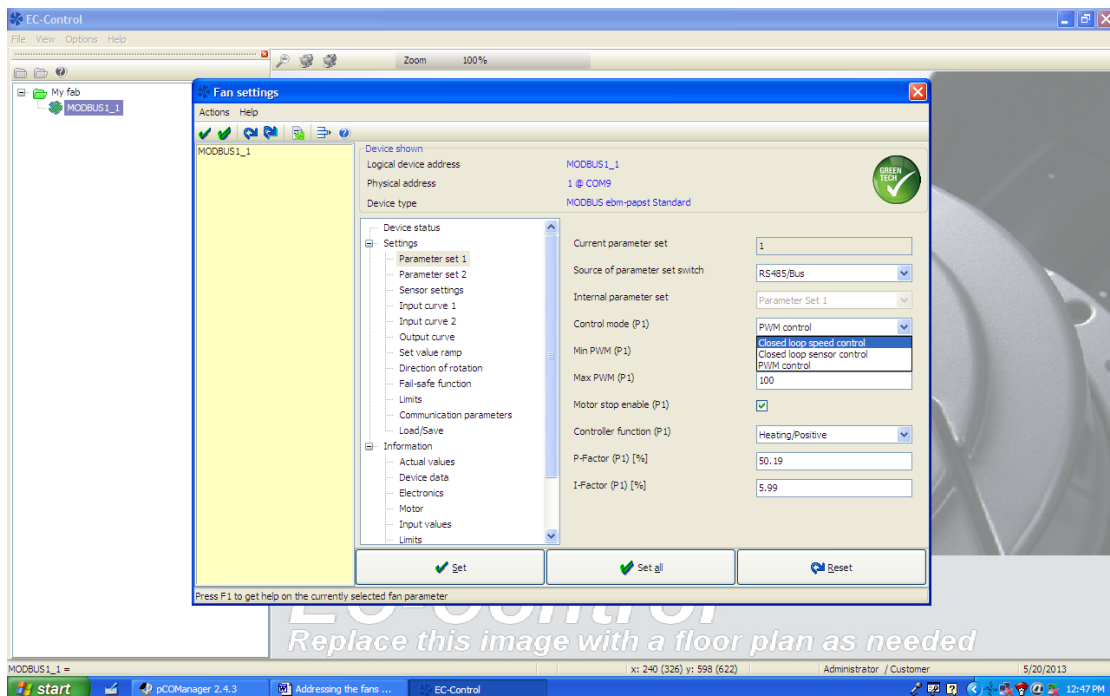
4.25 Then click on "Set"

The following screen will be displayed:
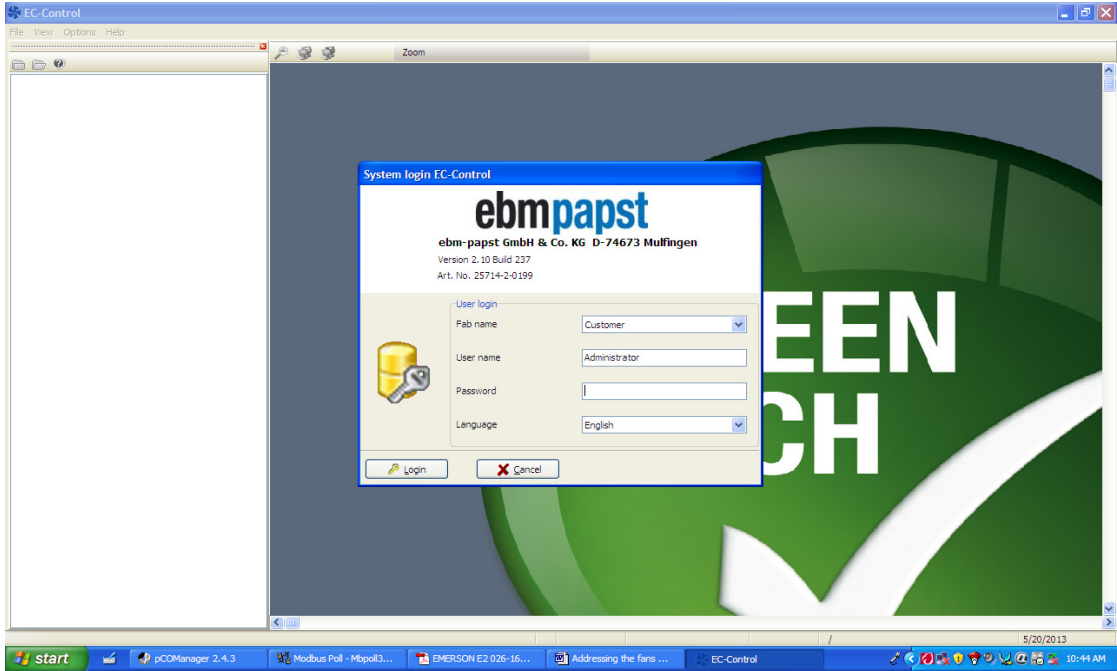
4.26 Click on "Communication Parameters".
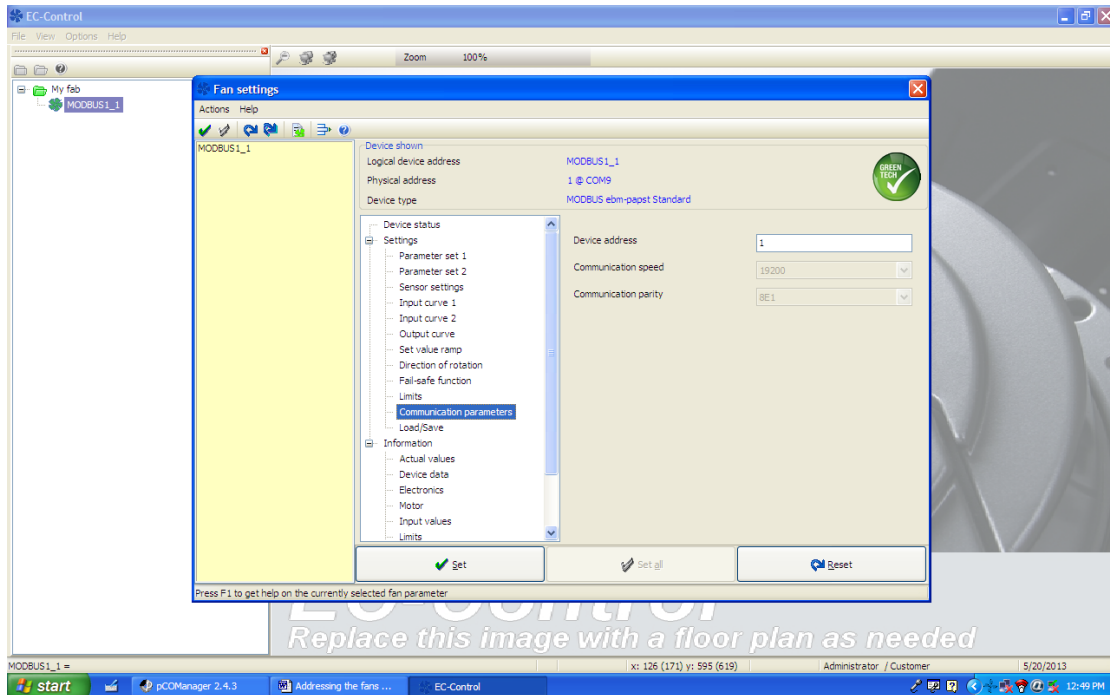
4.27 Click on the number of the "Device Address".
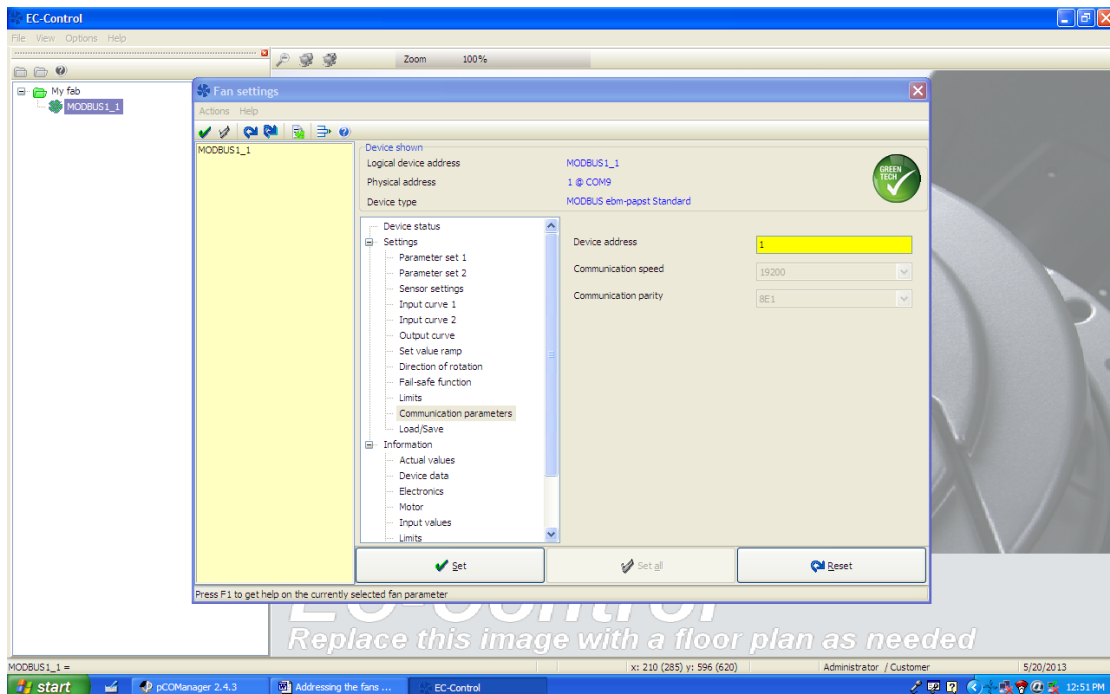
4.28 Change the address to "2". Refer to Fans addressing chart (see page 22) and then click on "Set" to lock the fan address.

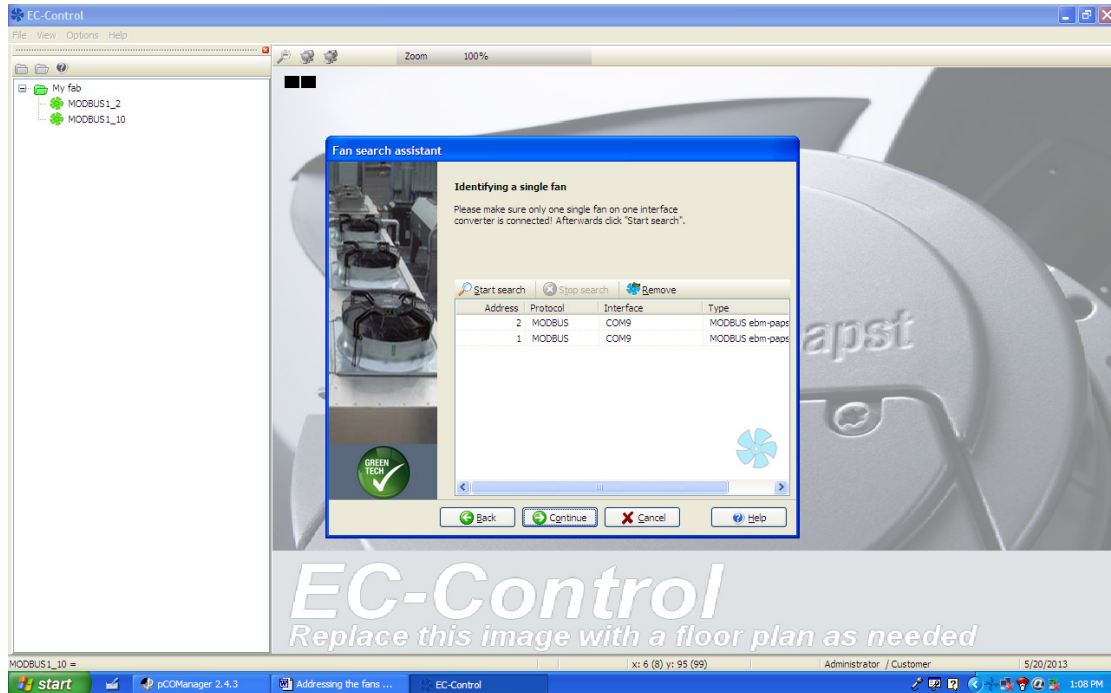The following screen will be displayed:
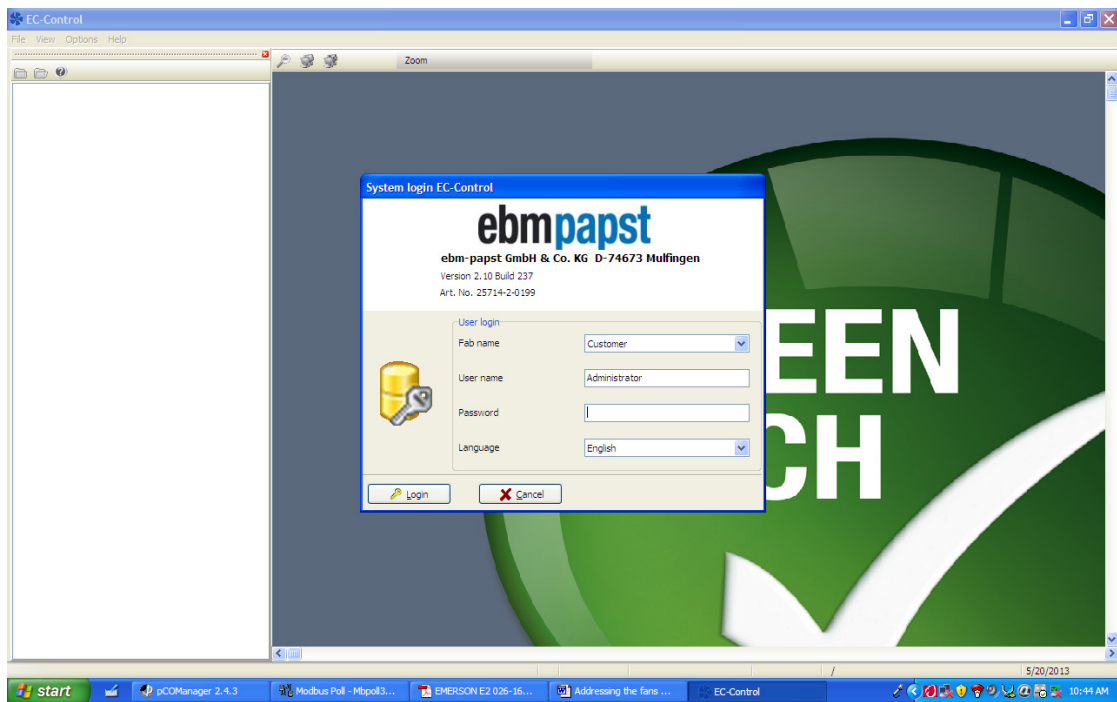
4.29 Close the window.

4.30 Switch ON the next Fan.

4.31 Follow procedures **4.10** to **4.29**.

4.32 When searched for the next fan is completed, the next screen will be displayed:
Note that every new fan will have an initial address as 1.

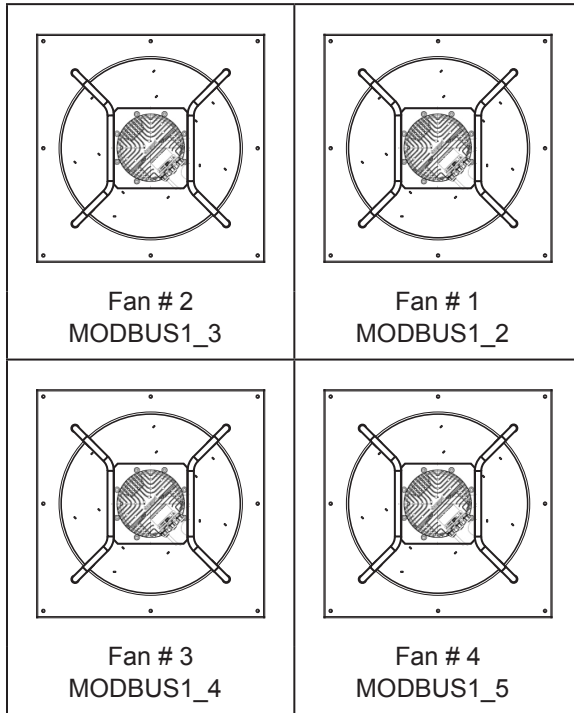**4.33** When the first two fans are configured the following screen will be displayed.

4.34 Follow the same procedures above to address the rest of the fans.

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5.0 INDOOR FANS ADDRESSES

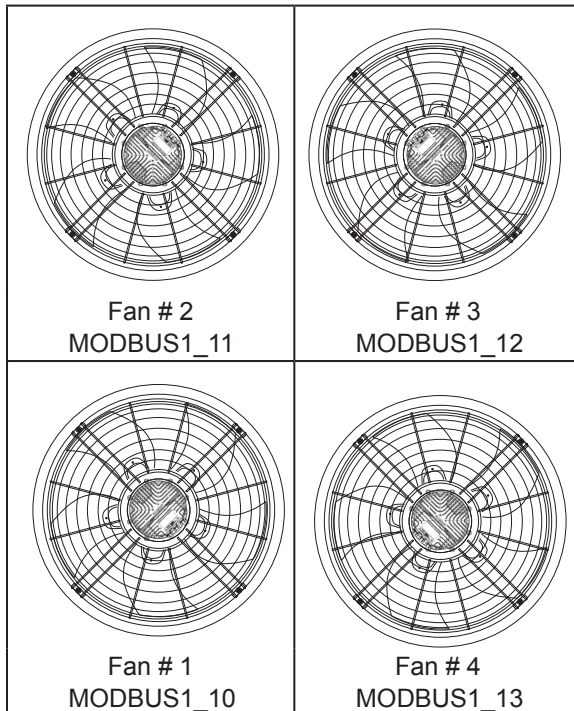**Indoor Fans Number and Address** (Front View)

Fan # 2	Fan # 1
MODBUS1_3	MODBUS1_2
Fan # 3	Fan # 4
MODBUS1_4	MODBUS1_5

Bottom of the Unit

Fan Number	1	2	3	4
Address	2	3	4	5

6.0 OUTDOOR FANS ADDRESSES

Outdoor Fans Number and Address (Top View)

Fan # 2	Fan # 3
MODBUS1_11	MODBUS1_12
Fan # 1	Fan # 4
MODBUS1_10	MODBUS1_13

Compressor Section End

Fan Number	1	2	3	4
Address	10	11	12	13

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