

Building Management System (BMS) installation guidance

The CHEMTROL[®] programmable controller range supports communication through various open protocol languages. The most commonly used protocols today include Modbus IP, Modbus RTU, BACnet IP, BACnet MSTP, and LonWorks. The controller can be configured with any of these languages.

To establish this connection, our BMS electronics module must be installed within the controller cabinet. This intelligent module converts the controller's digital outputs into the required protocol language.

Installation of the BMS electronics module:

1. 24vDC Power Connection:

Run the two-wire cables (Red & Black) from the BMS module to the main power board terminal block. Connect the Red cable to the 24v terminal and the Black cable to the GND terminal.

2. Modbus/BACNet IP, Cat-5/6 Connection: Plug in your customer cable connection to the designated port on the BMS module.

3. Modbus/BACNet MSTP Connection:

Utilize the 3-wire connection port for Modbus/BACNet MSTP.

4. Grey Cable Connection:

- a. The grey wire comes pre-connected on the BMS module when shipped. Connect the other end of this wire to the CPU board at JP5/Comm3.
- b. Pin 1 on each side of the cable is marked with white ink or a red line.
 When connecting the grey wire to the CPU board, ensure that this white ink or red line is connected to <u>Pin 1</u> on the CPU board.

Note: Please refer to the attached picture for a visual guide on connecting the grey cable.





If any issues arise during installation, refer to the product manual or contact our customer support for assistance.



Network setup

1. For Win 10 user, go to "Control panel -> network and internet -> network connections" Double click the "Ethernet" and you will get the below screen.



For Win 11 user, go to "Network & Internet", click "Advanced network settings" and you'll get the below screen.

Networ	k adapters			
Ç	Ethernet 2 CHEMTROL 2.4 Ler	novo USB Btherret	Disable	
	Media state: Bytes sent: Bytes received: Link speed: Duration:	Enabled 102.701.8888 1.506.498.600 (Mpsa) 03.09.02		
	Rename this adap	ster	Rename	
	View additional p	roperties		
	More adapter op	tions	Edit	

2. For Win 10 click "Properties" like in the image below.



For win 11 click "More adapter options" edit button (in blue in the image below).

Netwo	ork adapters			
Ģ	Ethernet 2 CHEMTROL 2.4 Le	novo USB Ethernet	Disable	
	Media state: Bytes sent: Bytes received: Link speed: Duration:	Enabled 102,781,888 1,506,458,906 1000 (Mbps) 03:09:02		
	Rename this ada	pter	Rename	
	View additional p	properties		
	More adapter op	otions	Edit	



 In both Win 10 and 11 you will get the below screen, double click "Internet Protocol Version 4 (TCP/IPv4)"



4. Change the IP setting from "Obtain an IP address automatically" to "Use the following IP address". Configure your laptop's Ethernet adapter with an IP address in the same class.

Internet	Protocol Version 4 (TCP/II	Pv4) Pr	opertie	5			×
General	Alternate Configuration						
You car this cap for the	n get IP settings assigned a pability. Otherwise, you nee appropriate IP settings.	utomati d to as	cally if cyour i	your ne networ	etwork k admi	supports nistrator	
00	btain an IP address automa	tically					. 1
-00	se the following IP address:						11
IΡa	ddress:						
Subr	iet mask:						Н
Defa	ult gateway:						Н
00	btain DNS server address a	utomati	ally				1
0.	se the following DNS server	addres	es:				
Pref	erred DNS server:						
Alter	mate DNS server:						
	alidate settings upon exit				Adv	anced	
				ОК		Cancel	

And enter the below details:

- IP Address: your current IP address (usually 192.168.1.x)
- Subnet Mask: 255.255.255.0
- Default Gateway: keep blank

u can get IP settings assigne is capability. Otherwise, you r the appropriate IP settings	ed automatically if your network supports need to ask your network administrator .
🔿 Obtain an IP address auti	omatically
Use the following IP address	155:
IP address:	192.168.1.
Subnet mask:	255.255.255.0
Default gateway:	
Obtain DNS server addres	as automatically
Use the following DNS ser	ver addresses:
Preferred DNS server:	
Alternate DNS server:	· · · ·
Ualidate settings upon e	it Advanced

Click "Ok" on all above screens so your changes will be saved.



- 5. Make sure that the BMS unit is connected to your laptop via RJ45.
- 6. Open your desktop's browser and enter "192.168.1.24", you will receive a message that this page is not secure like in the image below.



Click "advanced" to proceed to the next screen.

7. You will receive another message asking if to continue unsafe, click on it like in the below image.



- 8. You will forward to the BMS log in page, enter the username and the password
 - Username: admin
 - Password: A sticker with the password is located on the BMS unit.



It looks like that:



9. You will get the below screen Click "Diagnostics & Debugging"



10. In the below screen you can see the device status and you know it's connected. Go to, "Setup" -> "File Transfer"

Navigation	CN0275 Santa Barbara Con	itrols
 CN0275 Santa Barbara Controls About 	Status Setting	gs Info Stats
✓ Setup	Status	
File Transfer	Name	Value
Network Settings User Management	Driver_Configuration	DCC000
	DCC_Version	V6.05p (A)
Security	Kernel_Version	V6.51c (D)
- Time Cettings	Release_Status	Normal
· Time Secongs	Build_Revision	6.5.6
> view	Build_Date	2023-05-02 09:09:26 -0400
User Messages	BIOS_Version	4.2.0
Diagnostics	FieldServer_Model	FPC-ED2
	Serial_Number	231642A178PJR
	Carrier Type	SPR Carrier
	Data Points Used	180

11. And upload the file that support the protocol that you would like to work with. Simply click "Choose Files" and choose a CSV file, then click "Submit".





- 12. After uploading the file, click "system Restart" at the bottom. It will take up to 1 minute to reload.
- 13. Go to "View" -> "Connections", and validate that the module is communicating in both ways, 'Tx Msg', and 'Rx Msg' as well as 'Tx Char', and 'Rx Char'. If you see data there than all good. You also will have approximately 2% of Errors, this is also normal.

Note – the name you'll have in the "Name" column is based on the protocol that you are using which based on the CSV file you uploaded.

Navigation	Co	nnections					
CN0275 Santa Barbara Controls About Setup	Г	Overview					
File Transfer	Conne	ections		.	Tricher	By Char	Errore
Network Settings User Management	Inde 0	S1 - MODBUS RTU	7,682	7,082	61,456	54,187	600
Security	1	R1 - MODBUS RTU	0	0	0	0	0
Time Settings View	2	ETH1 - Modbus/TCP	0	0	.0	0	0
Connections Data Arrays Nodes Map Descriptors User Messages							

The above steps provide a clear and concise guide for configuring, and connecting with the SMC module.

If you have any questions, feel free to reach out to our support team for further assistance at any time.