Modbus Master Interface
Set up on cc200 Touch Screen
Engineering Manual

System Rev 18.6.1-135
Modbus Displayed Rev 7.4
Compatible with cc200 Rev : 18.6.0-53 and beyond

Title Page

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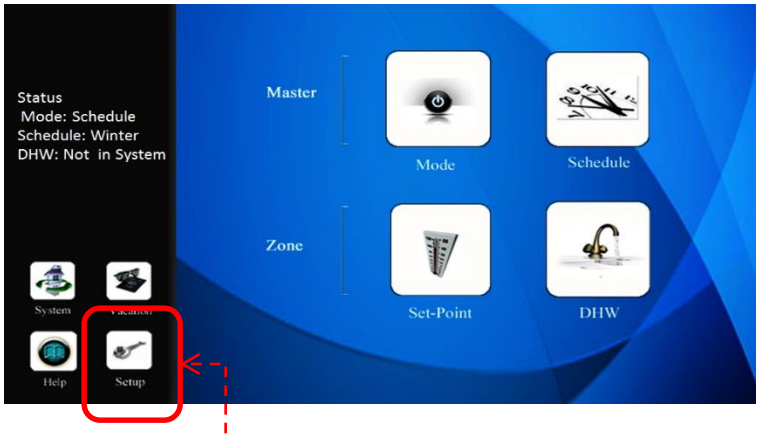
CC200 Modbus New Features : cc200 Rev : 18.6.1-106

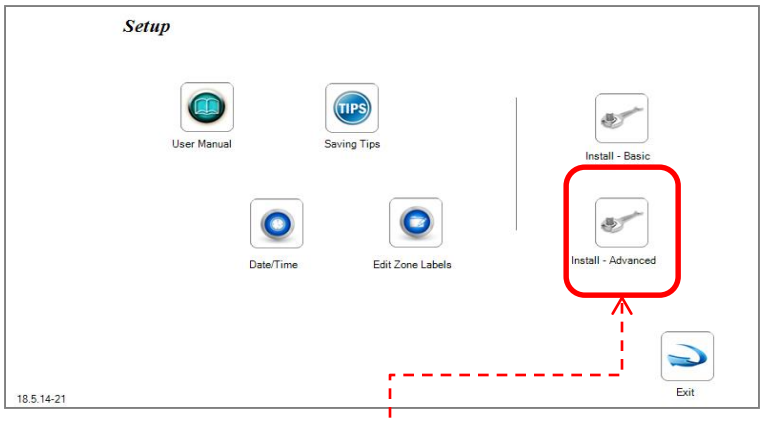
MODBUS Rev 7.1 (Zone Offset changed from 20 to 25 to enable more modifications) (Previous Rev 6)

MODBUS Master –Dakin: Register Off set by 1
Modbus Master Mitsubishi MelcoBEMS MINI Added
Modbus - Read Relays Reg 33000
Modbus - Ability to run Modbus Master & Slave at the same time
Modbus – AV Remote Access Control (DLL for John Corbin -4/5 Queen St)
Modbus DLL FOR Token Ring Sharing - Compass House
MODBUS Salve: Fault tolerant (Software Watchdog) If comms lost after 1 min close & re-opens port
MODBUS Master & Slave: Ability to adjust Parity, databits and Stop Bits
Modbus Monitor – Selectable Running in Background (Daedalus)
Modbus Master Token Ring Error Correction Improved
18.6.01.67 (Modbus Master Correct Reading 03 Results)
18.6.01.106 (Modbus error checking Added: Close Port 60 Sec & Watchdog Reset after 1hr)

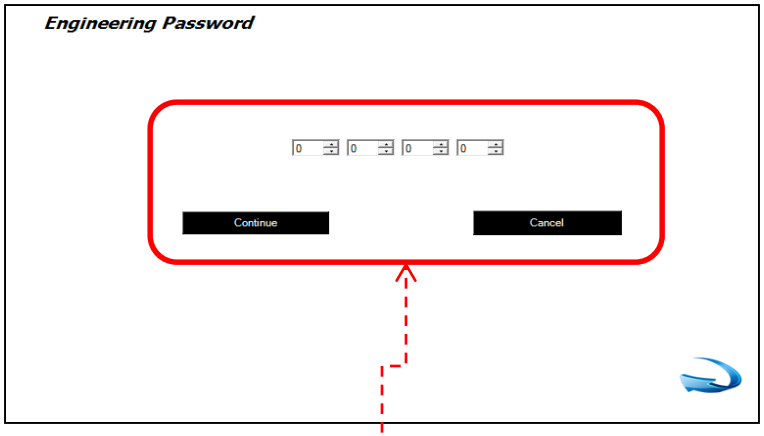
1.1 Access Engineering Menu



Step 1. Press Setup



Step 2. Press - Install Advanced



3. Enter code & Press Continue

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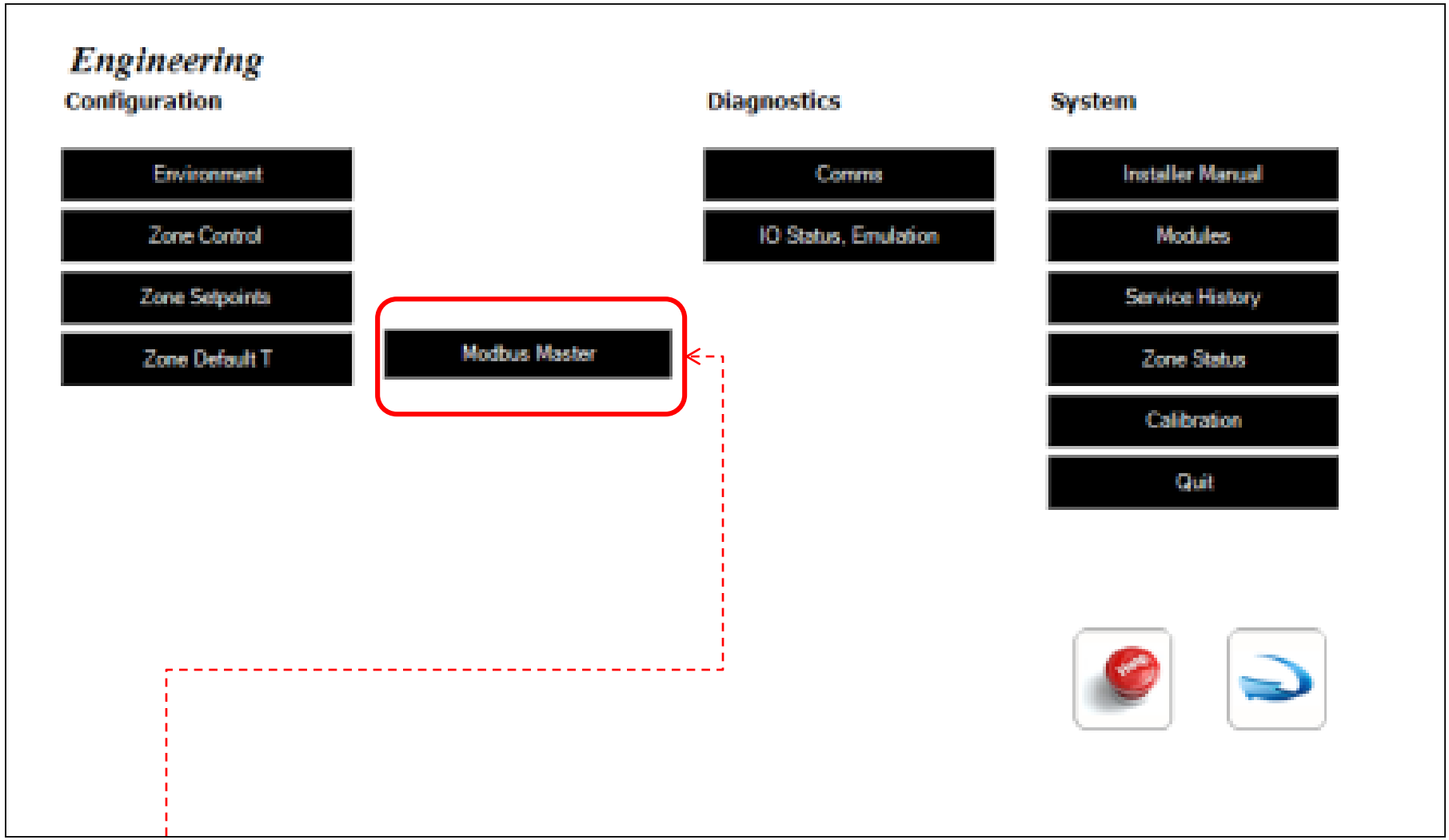
1.2 Select Modbus Master Module



Select MODBUS

Step: 1
Select Modbus
Master Module

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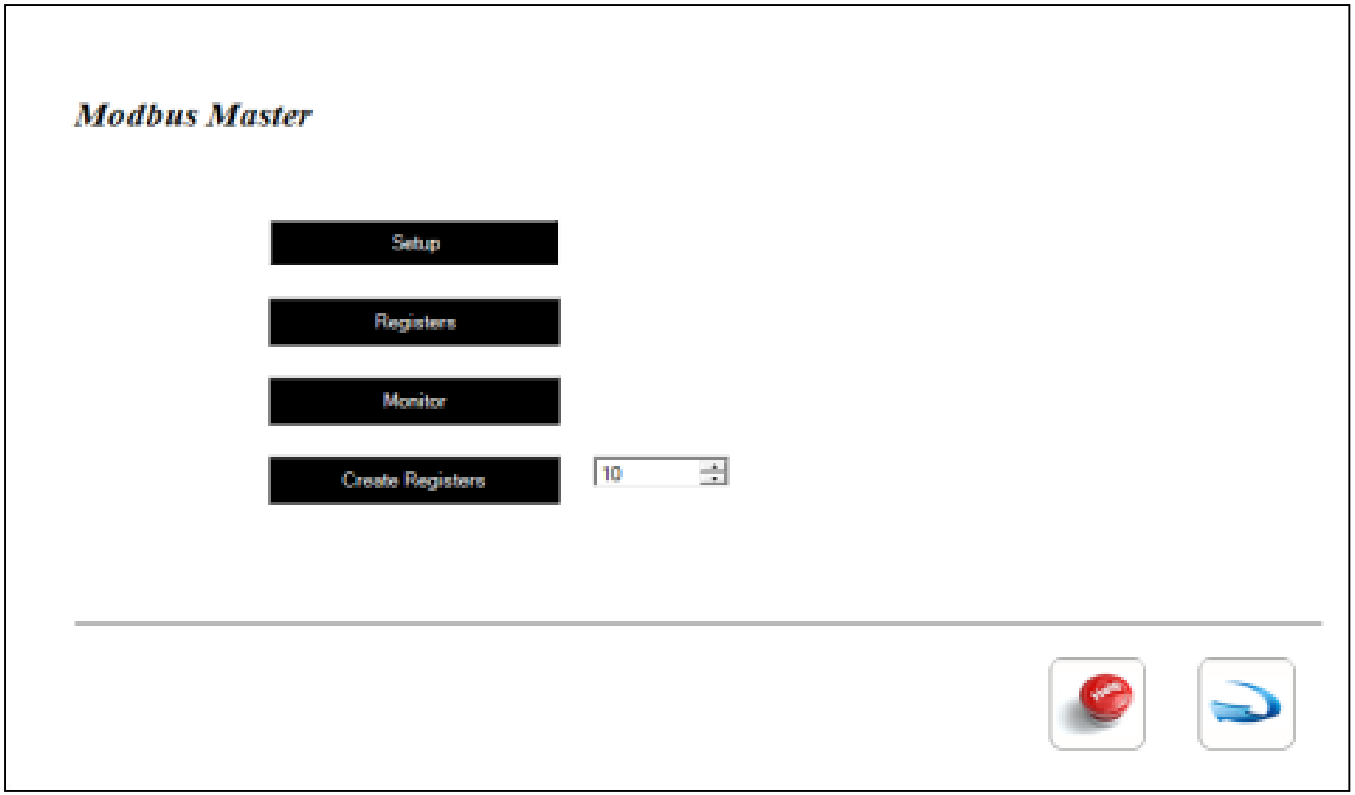
1.3 Enter the number of register required:

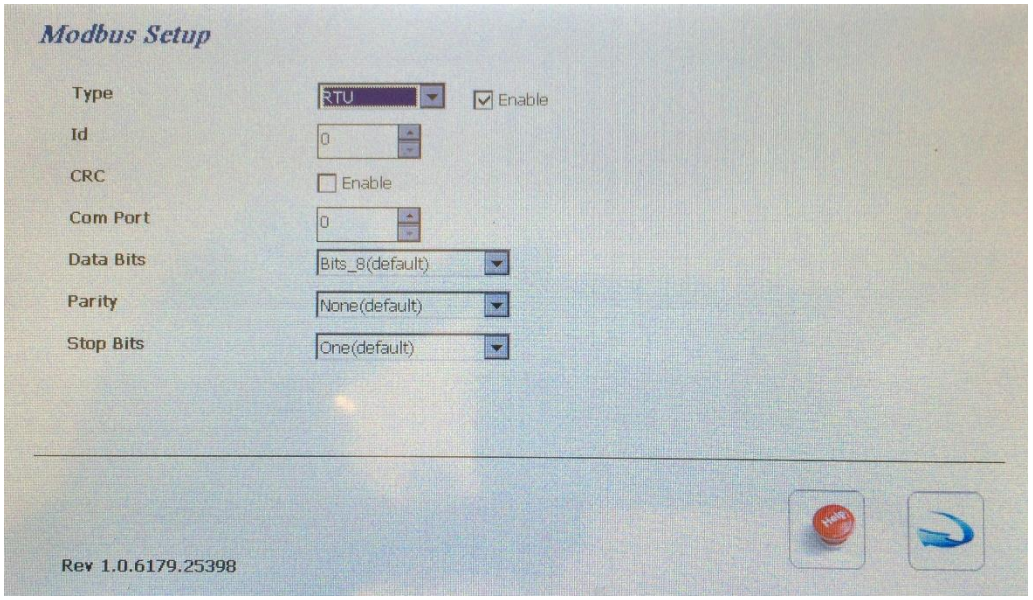


Step: 2
a) Enter the number of register required:
(Saves having to press NEW and awaiting for system to compile data each time)
b) Select Set Up

1.4 Modbus Setup

Overview:

Type:	RTU (Rs485) or TCPIP	
	RTU Port	(Remote Terminal Unit)
ID :	Set to 1	
	Console ID	Console number : As this console will be the Modus Master , the ID is set to 1
CRC :	Ask if required for client's modbus	
	CRC Enable	Included crc (cyclic redundancy check) in the transmissions
Port:	Use 0 for USB	
	Assign which port on the console used to link with the BMS	
	Typically assigned to 0 = USB Port	
Data Bits :	Option 7, 8(Default) , 9	
Parity:	None(Default) , ODD, Even, Mark, Space.	
Stop Bits:	One (Default) 2, 1.5	



Win CE6
If USB-RS485 Adaptor fitted, use Comm Port 0
If RS232-RS485 Adaptor fitted, use Comm Port 1

Win CE7 (up t0 2019)
If USB-RS485 Adaptor fitted, use Comm Port 6
If RS232-RS485 Adaptor fitted, use Comm Port 1

Win CE7 (up t0 2020)
If USB-RS485 Adaptor fitted, use Comm Port 0
If USB-RS485 Adaptor fitted, use Comm Port 5

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1.5 Modbus Port (2 x USB-RS485 Ports attached)

Overview:

Port: Use 0 for USB
Assign which port on the console used to link with the BMS

Win CE6
If USB-RS485 Adaptor fitted, use Comm Port 0
If RS232-RS485 Adaptor fitted, use Comm Port 1

Win CE7 (up t0 2019)
If USB-RS485 Adaptor fitted, use Comm Port 6
If RS232-RS485 Adaptor fitted, use Comm Port 1

Win CE7 (up t0 2020)
If USB-RS485 Adaptor fitted, use Comm Port 0
If USB-RS485 Adaptor fitted, use Comm Port 5

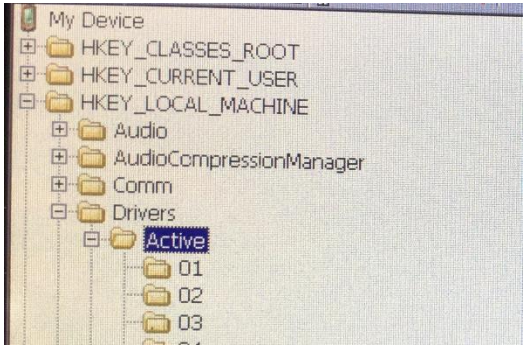
Port 0 (Top)

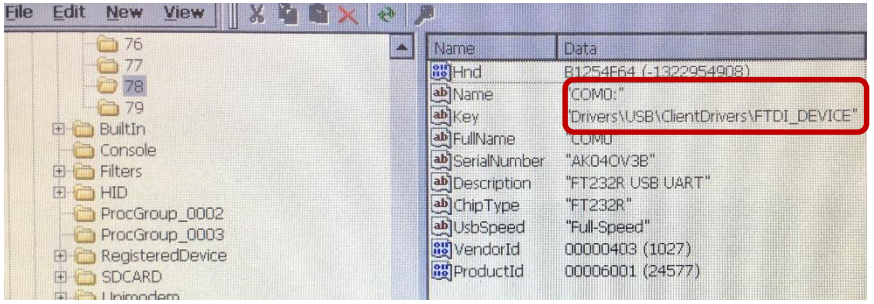
Port 5 (Bottom)

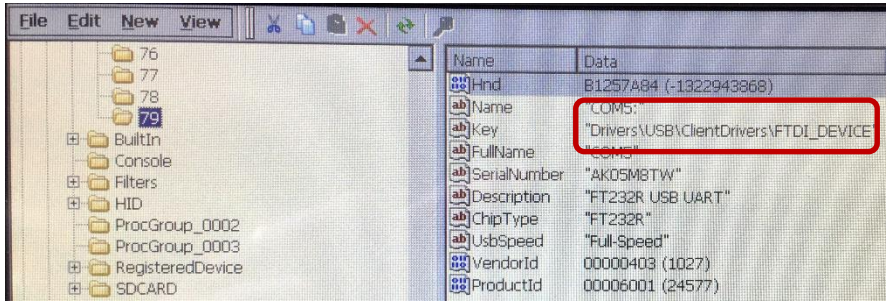
If 2 x USB –RS485 ATTACHED

Steps to check the port Number

1. **Both USB need to be plug in , then the cc200 will assign the port**
2. Press START Icon(Hidden at the bottom left of screen) (Use flat head to trigger display)
3. Select : Run
4. Enter “Regedit”
5. Select: HKEY_LOCAL_MACHINE
6. Select: Drivers
7. Select: Active
8. Go to the last two files e.g. 78 and 79







Example: Active Diver # 78
Look for FTDI

Example: Active Diver # 79
Look for FTDI

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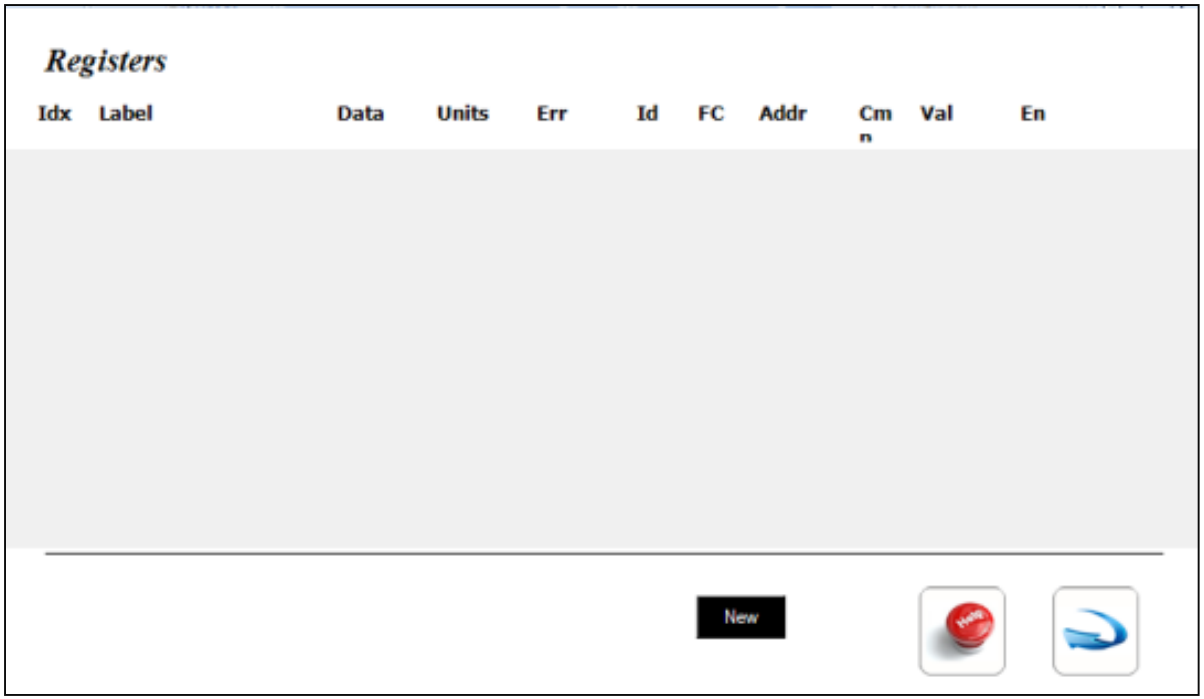
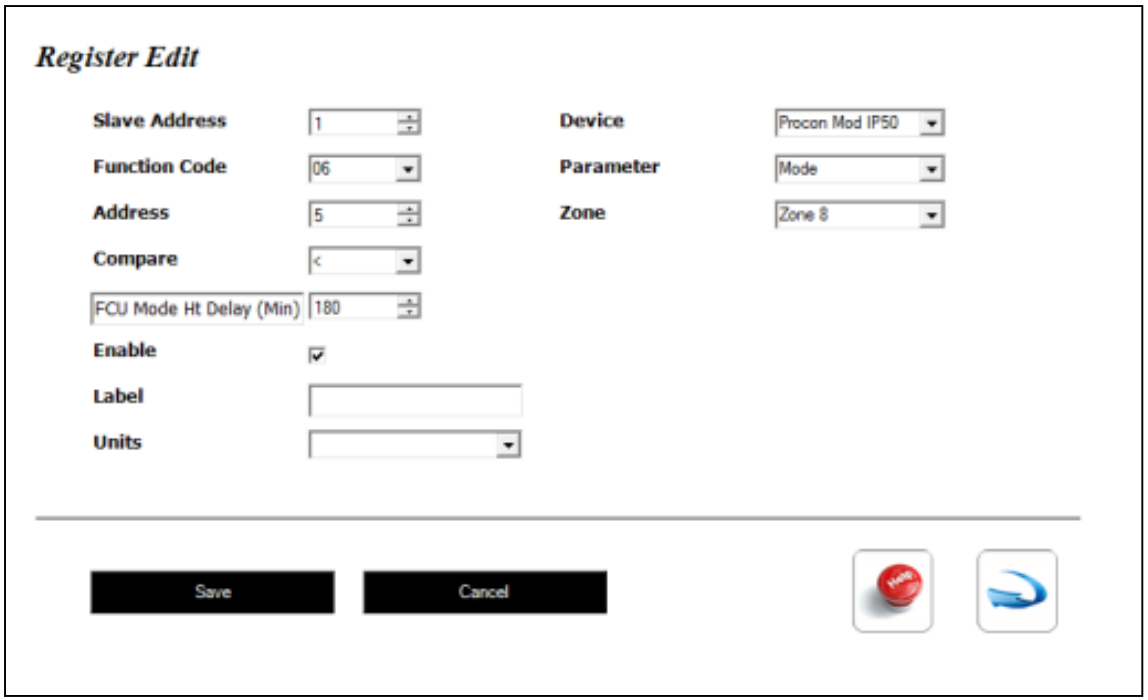
2.1 Setup Modbus New Registries



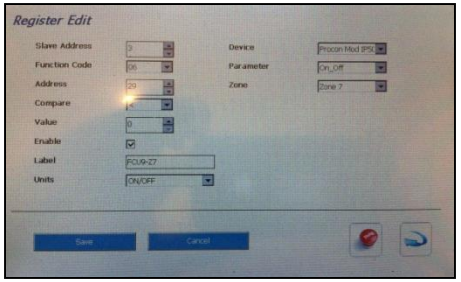
Select New Module

Example

2.2 Setup Modbus Registries



Slave Address:	Check with Slave unit manufacture
Function Code :	6 = Write
Address:	Register Address



Example Layout

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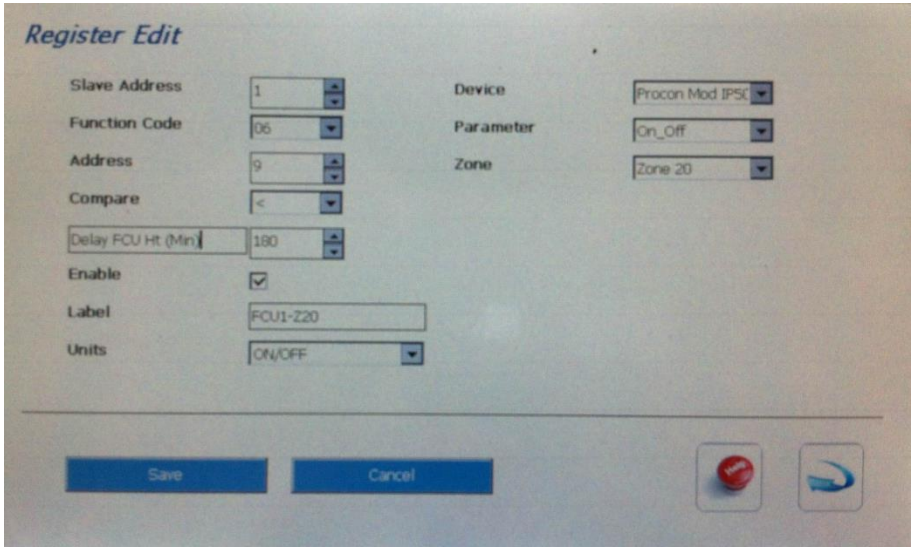
Shenfield Mill **Mitsubishi** MODBUS setup Example ON-OFF



Device:	Procon Mod IP or MelcoBEMS (Mitsubishi Interface kit)
Parameter	ON / OFF
Zone	The Zone number where FCU is fitted

Slave Address:	1 (FCU Group address)	Check with Slave unit manufacture
Function Code :	6 (Write Command)	
Address:	9 (Register Address for ON /OFF control for Procon Mod IP (Mitsubishi)	
Compare:	n/a	
Delay FCU Ht-min	180 : (3 Hr Delay) (Max setting is 333min) To avoid Heating set value to 400 If Heating SP not achieve by ufh after 180 min , then switch ON FCU	
Enable	✓ Enable this MODBUS string to be output	
Label	FCU 1 – Z20 (Just a label so engineer will know which FCU & ZONE)	
Units	ON/OFF(Just a label so engineer will know it's purpose)	

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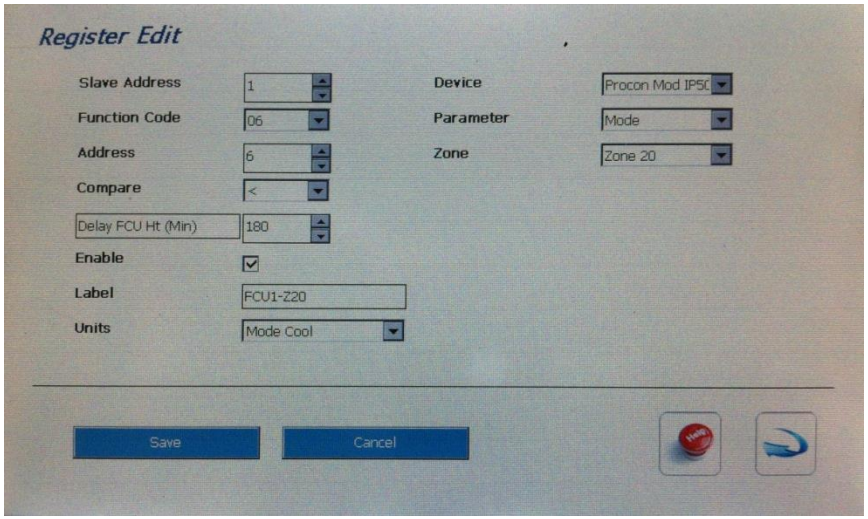
Shenfield Mill **Mitsubishi** MODBUS setup Example MODE



Device:	Procon Mod IP or MelcoBEMS (Mitsubishi Interface kit)
Parameter	Mode
Zone	The Zone number where FCU is fitted

Slave Address:	1 (FCU Group address) Check with Slave unit manufacture
Function Code :	6 (Write Command)
Address:	6 (Register Address for MODE control for Procon Mod IP (Mitsubishi)
Compare:	n/a
Delay FCU Ht-min	180 : (3 Hr Delay) (Max setting is 333min) To avoid Heating set value to 400 If Heating SP not achieve by ufh after 180 min , then witch FCU MODE to Heating
Enable	✓ Enable this MODBUS string to be output
Label	FCU 1 – Z20 (Just a label so engineer will know which FCU & ZONE)
Units	MODE(Just a label so engineer will know it's purpose)

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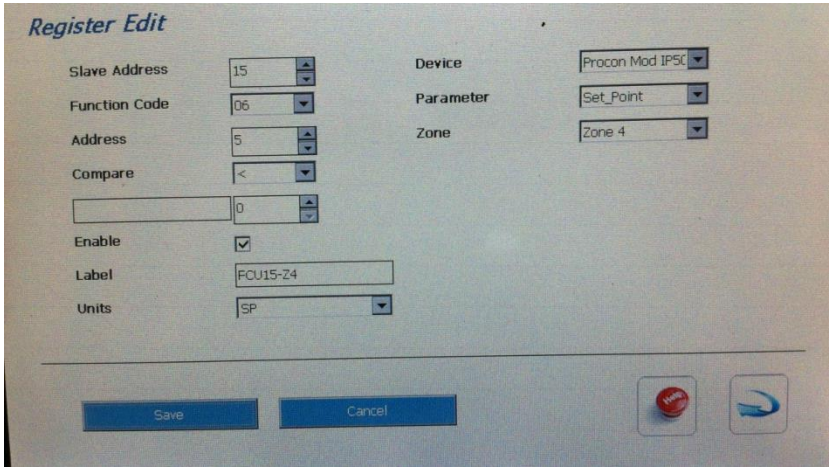
Shenfield Mill **Mitsubishi** MODBUS setup Example SP



Device:	Procon Mod IP or MelcoBEMS (Mitsubishi Interface kit)
Parameter	Set Point
Zone	The Zone number where FCU is fitted

Slave Address:	15 (FCU Group address)	Check with Slave unit manufacture
Function Code :	06 (Write Command)	
Address:	5 (Register Address for SP control for Procon Mod IP (Mitsubishi)	
Compare:	n/a	
	n/a (Value has no function)	
Enable	✓ Enable this MODBUS string to be output	
Label	FCU 5 – Z24 (Just a label so engineer will know which FCU & ZONE)	
Units	SP(Just a label so engineer will know it's purpose)	

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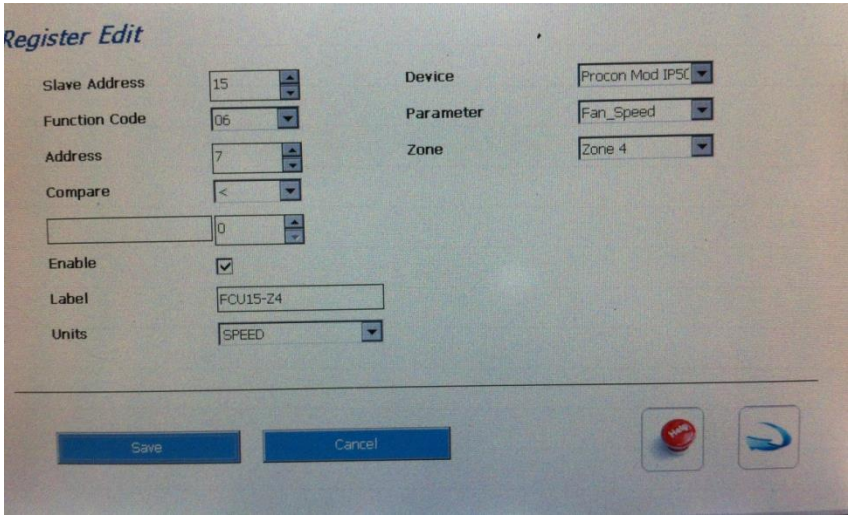
Shenfield Mill **Mitsubishi** MODBUS setup Example Fan Speed



Device:	Procon Mod IP or MelcoBEMS (Mitsubishi Interface kit)
Parameter	Fan Speed
Zone	The Zone number where FCU is fitted

Slave Address:	15 (FCU Group address)	Check with Slave unit manufacture
Function Code :	06 (Write Command)	
Address:	7 (Register Address for Fan Speed control for Procon Mod IP (Mitsubishi)	
Compare:	n/a	
	n/a (Value has no function)	
Enable	✓ Enable this MODBUS string to be output	
Label	FCU 5 – Z24 (Just a label so engineer will know which FCU & ZONE)	
Units	SPEED (Just a label so engineer will know it's purpose)	

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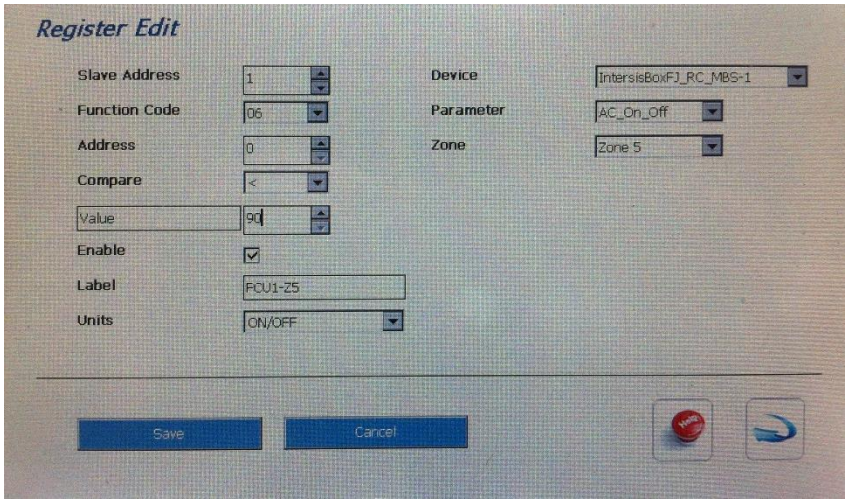
Tower Walk **Fujitsu** MODBUS setup Example ON-OFF



Device:	IntesisBox_FJ-RC-MBS-1 (**Fujitsu** Interface kit)
Parameter	ON / OFF
Zone	The Zone number where FCU is fitted

Slave Address:	1 (FCU Group address) Check with Slave unit manufacture
Function Code :	6 (Write Command)
Address:	9 (Register Address for ON /OFF control for IntesisBox_FJ-RC-MBS-1 (**Fujitsu)**
Compare:	n/a
Delay FCU Ht-min	90 :Uniquely set to for IntesisBox_FJ-RC-MBS-1 (**Fujitsu)** If Heating SP not achieve by ufh after 90 min , then switch ON FCU (Max setting is 333min) To avoid Heating set value to 400
Enable	✓ Enable this MODBUS string to be output
Label	FCU 1 – Z5 (Just a label so engineer will know which FCU & ZONE)
Units	ON/OFF(Just a label so engineer will know it's purpose)

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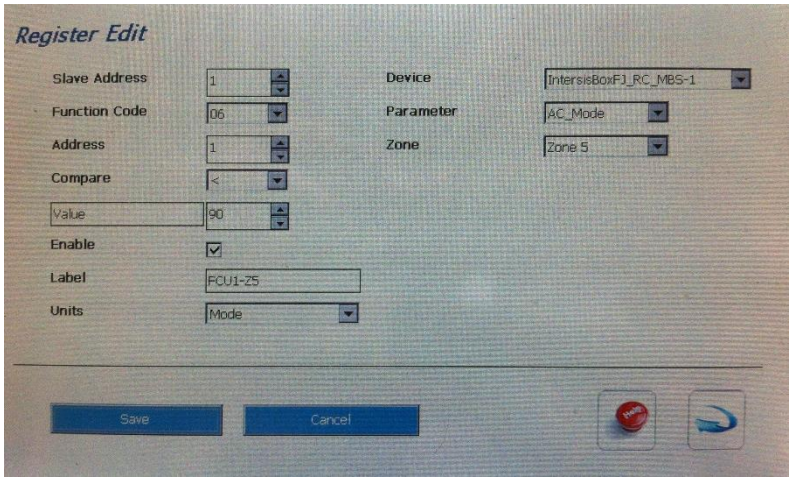
Tower Walk **Fujitsu** MODBUS setup Example MODE



Device:	IntesisBox_FJ-RC-MBS-1 (**Fujitsu** Interface kit)
Parameter	Mode
Zone	The Zone number where FCU is fitted

Slave Address:	1 (FCU Group address) Check with Slave unit manufacture
Function Code :	6 (Write Command)
Address:	1 (Register Address for MODE control for IntesisBox_FJ-RC-MBS-1 (**Fujitsu)**
Compare:	n/a
Delay FCU Ht-min	90 :Uniquely set to for IntesisBox_FJ-RC-MBS-1 (**Fujitsu)** If Heating SP not achieve by ufh after 90 min , then witch FCU MODE to Cooling (Max setting is 333min) To avoid Heating set value to 400
Enable	✓ Enable this MODBUS string to be output
Label	FCU 1 – Z5 (Just a label so engineer will know which FCU & ZONE)
Units	MODE(Just a label so engineer will know it's purpose)

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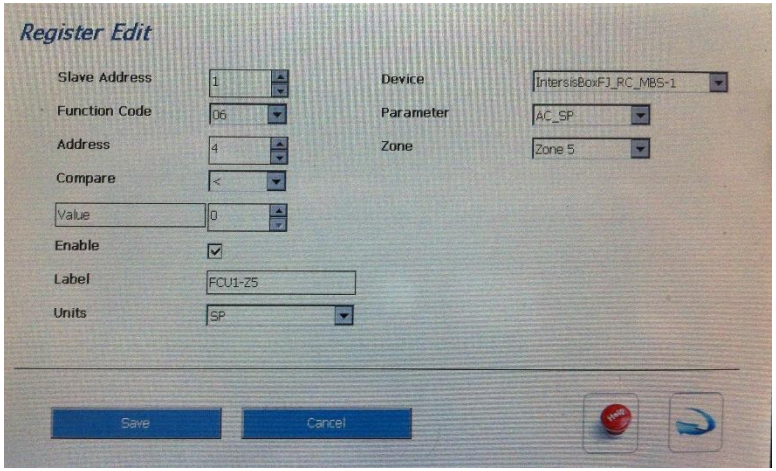
Tower Walk **Fujitsu** MODBUS setup Example SP



Device:	IntesisBox_FJ-RC-MBS-1 (**Fujitsu** Interface kit))
Parameter	Set Point
Zone	The Zone number where FCU is fitted

Slave Address:	1 (FCU Group address)	Check with Slave unit manufacture
Function Code :	06 (Write Command)	
Address:	4 (Register Address for SP control for IntesisBox_FJ-RC-MBS-1 (**Fujitsu**)	
Compare:	n/a	
	n/a (Value has no function)	
Enable	✓ Enable this MODBUS string to be output	
Label	FCU 1 – Z5 (Just a label so engineer will know which FCU & ZONE)	
Units	SP(Just a label so engineer will know it's purpose)	

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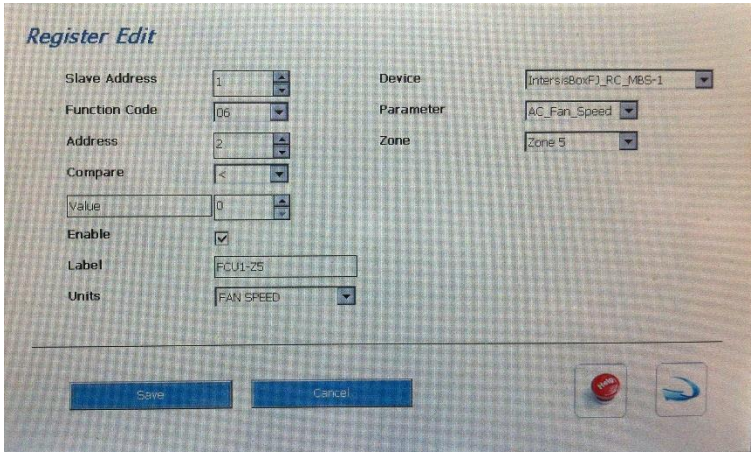
Tower Walk **Fujitsu** MODBUS setup Example Fan Speed



Device: IntesisBox_FJ-RC-MBS-1 (**Fujitsu** Interface kit)
Parameter Fan Speed
Zone The Zone number where FCU is fitted

Slave Address:	1 (FCU Group address)	Check with Slave unit manufacture
Function Code :	06 (Write Command)	
Address:	2 (Register Address for Fan Speed control for IntesisBox_FJ-RC-MBS-1	
Compare:	n/a	
	n/a (Value has no function)	
Enable	✓ Enable this MODBUS string to be output	
Label	FCU 1 – Z5 (Just a label so engineer will know which FCU & ZONE)	
Units	FAN SPEED (Just a label so engineer will know it's purpose)	

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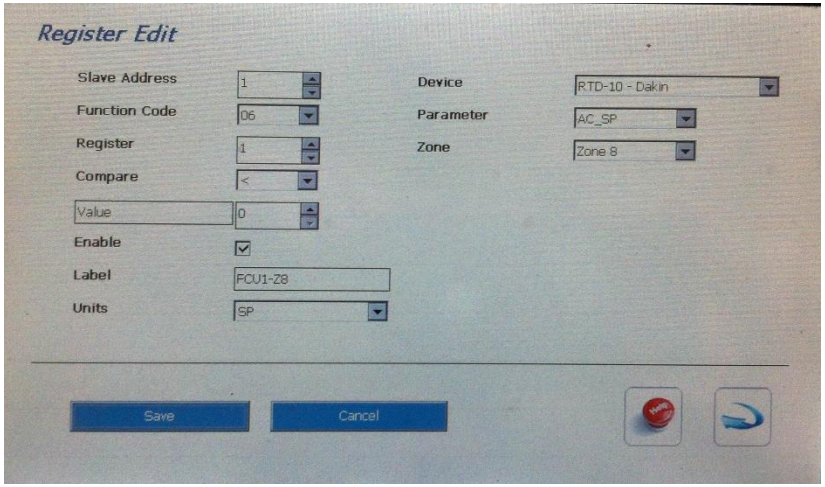
Charlotte Street **Dakin** MODBUS setup Example SP



Device:	RTD-10 (Dakin Interface kit)
Parameter	Set Point
Zone	The Zone number where FCU is fitted

Slave Address:	1 (FCU Group address)	Check with Slave unit manufacture
Function Code :	06 (Write Command)	
Address:	1 (Register Address for SP control for RTD-10 (Dakin Interface kit)	
Compare:	n/a	
Valve	n/a (Value has no function)	
Enable	✓ Enable this MODBUS string to be output	
Label	FCU 1 – Z8 (Just a label so engineer will know which FCU & ZONE)	
Units	SP(Just a label so engineer will know it's purpose)	

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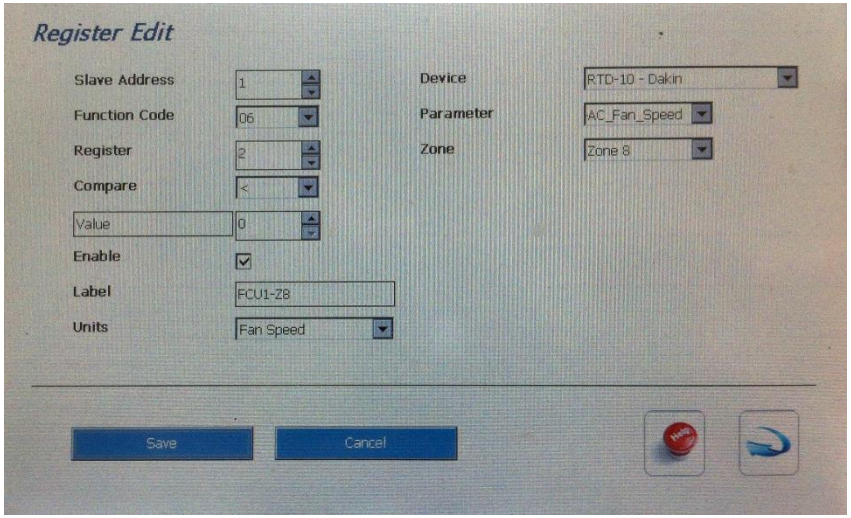
Charlotte Street **Dakin** MODBUS setup Example Fan Speed



Device:	RTD-10 (Dakin Interface kit)
Parameter	Fan Speed
Zone	The Zone number where FCU is fitted

Slave Address:	1 (FCU Group address)	Check with Slave unit manufacture
Function Code :	06 (Write Command)	
Address:	2 (Register Address for Fan Speed control for RTD-10 (Dakin Interface kit)	
Compare:	n/a	
Value	n/a (Value has no function)	
Enable	✓ Enable this MODBUS string to be output	
Label	FCU 1 – Z8 (Just a label so engineer will know which FCU & ZONE)	
Units	Fan Speed (Just a label so engineer will know it's purpose)	

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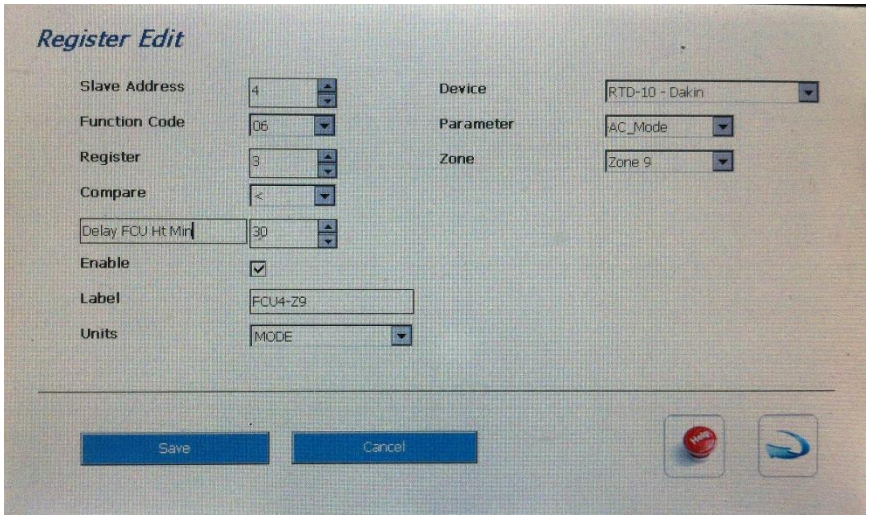
Charlotte Street **Dakin** MODBUS setup Example MODE



Device:	RTD-10 (Dakin Interface kit)
Parameter	Mode
Zone	The Zone number where FCU is fitted

Slave Address:	1 (FCU Group address) Check with Slave unit manufacture
Function Code :	6 (Write Command)
Address:	3 (Register Address for MODE control for RTD-10 (Dakin Interface kit))
Compare:	n/a
Delay FCU Ht-min	30 : If Heating SP not achieve by ufh after 30 min , then witch FCU MODE to Heating (Max setting is 333min) To avoid Heating set value to 400
Enable	✓ Enable this MODBUS string to be output
Label	FCU 1 – Z8 (Just a label so engineer will know which FCU & ZONE)
Units	MODE(Just a label so engineer will know it's purpose)

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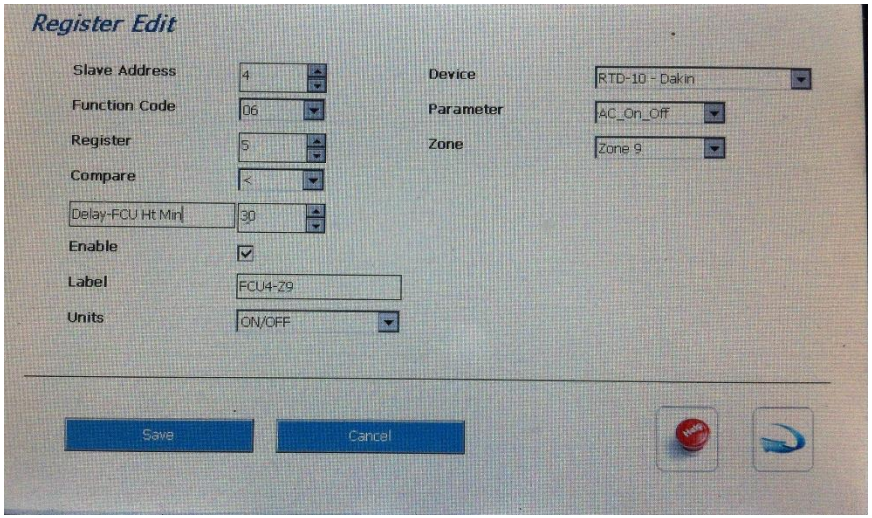
Charlotte Street **Dakin** MODBUS setup Example On/Off



Device:	RTD-10 (Dakin Interface kit)
Parameter	On/Off
Zone	The Zone number where FCU is fitted

Slave Address:	4 (FCU Group address) Check with Slave unit manufacture
Function Code :	6 (Write Command)
Address:	5 (Register Address for On/Off control for RTD-10 (Dakin Interface kit))
Compare:	n/a
Delay FCU Ht-min	30 : If Heating SP not achieve by ufh after 30 min , then witch FCU MODE to Heating (3 Hr Delay) (Max setting is 333min) To avoid Heating set value to 400
Enable	✓ Enable this MODBUS string to be output
Label	FCU 4 – Z9 (Just a label so engineer will know which FCU & ZONE)
Units	ON/OFF (Just a label so engineer will know it's purpose)

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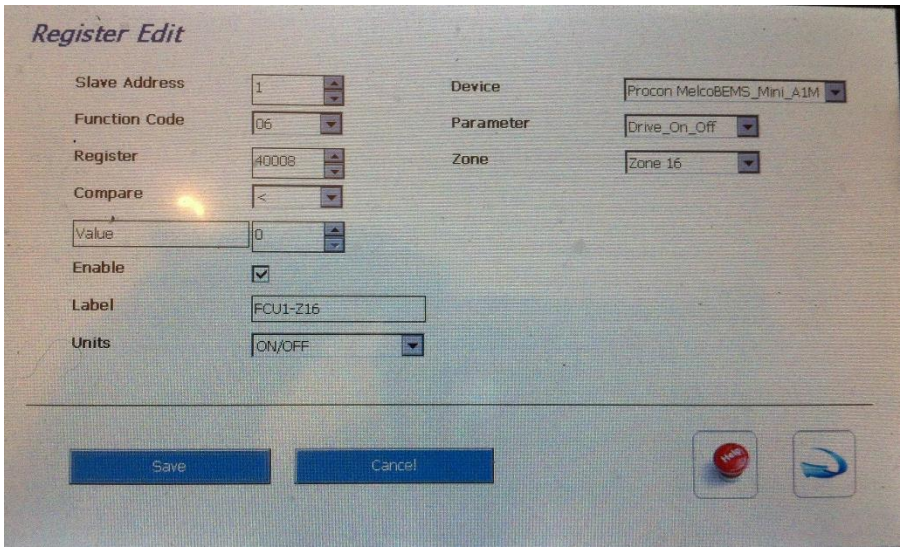
Corn Mill **Mitsubishi** MODBUS (MelcoBEMS MINI) setup Example ON-OFF



Device: MelcoBEMS MINI(Mitsubishi Interface kit)
Parameter ON / OFF
Zone The Zone number where FCU is fitted

Slave Address:	1 (FCU Group address)	Check with Slave unit manufacture
Function Code :	6 (Write Command)	
Address:	40008 (Register Address for ON /OFF control for MelcoBEMS MINI (Mitsubishi)	
Compare:	n/a	
Value	0 : Delay FCU Ht-min (Example: If Heating SP not achieve by ufh after 180 min , then witch FCU MODE to Heating) (3 Hr Delay) (Max setting is 333min) To avoid Heating set value to 400	
Enable	✓ Enable this MODBUS string to be output	
Label	FCU 1 – Z16 (Just a label so engineer will know which FCU & ZONE)	
Units	ON/OFF(Just a label so engineer will know it's purpose)	

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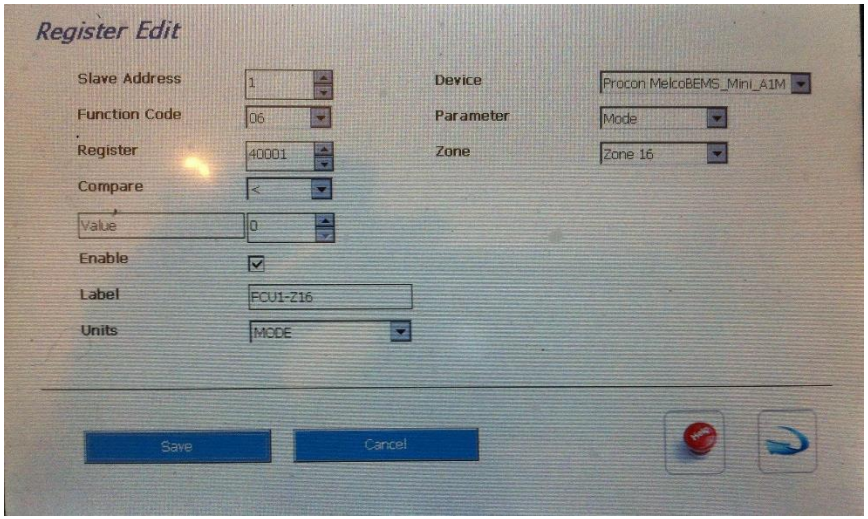
Corn Mill **Mitsubishi** MODBUS (MelcoBEMS MINI) setup Example MODE



Device: MelcoBEMS MINI(Mitsubishi Interface kit)
Parameter Mode
Zone The Zone number where FCU is fitted

Slave Address: 1 (FCU Group address) Check with Slave unit manufacture
Function Code : 6 (Write Command)
Address: 40001 (Register Address for MODE control for MelcoBEMS MINI (Mitsubishi)
Compare: n/a
Value 0 : Delay FCU Ht-min
(Example: If Heating SP not achieve by ufh after 180 min , then witch FCU MODE to Heating)
(Max setting is 333min) To avoid Heating set value to 400
Enable ✓ Enable this MODBUS string to be output
Label FCU 1 – Z16 (Just a label so engineer will know which FCU & ZONE)
Units MODE(Just a label so engineer will know it's purpose)

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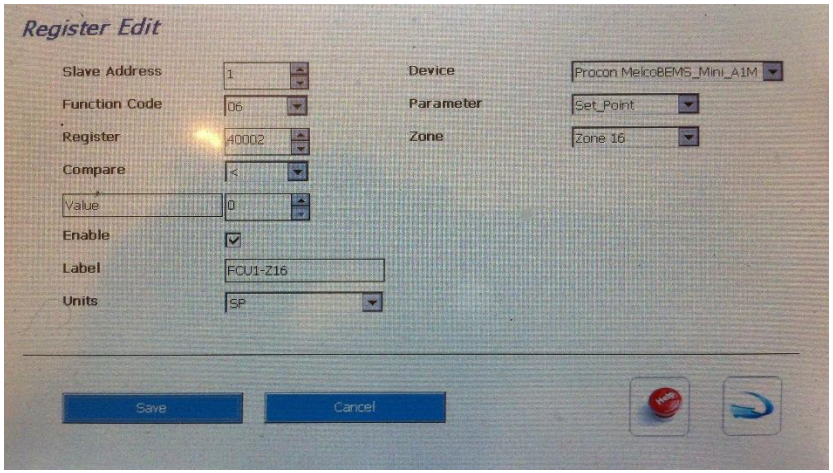
Corn Mill **Mitsubishi** MODBUS (MelcoBEMS MINI) setup Example SP



Device:	MelcoBEMS MINI(Mitsubishi Interface kit)
Parameter	Set Point
Zone	The Zone number where FCU is fitted

Slave Address:	1 (FCU Group address) Check with Slave unit manufacture
Function Code :	06 (Write Command)
Address:	40002 (Register Address for SP control for MelcoBEMS MINI (Mitsubishi)
Compare:	n/a
	n/a (Value has no function)
Enable	☑ Enable this MODBUS string to be output
Label	FCU 1 – Z16 (Just a label so engineer will know which FCU & ZONE)
Units	SP(Just a label so engineer will know it's purpose)

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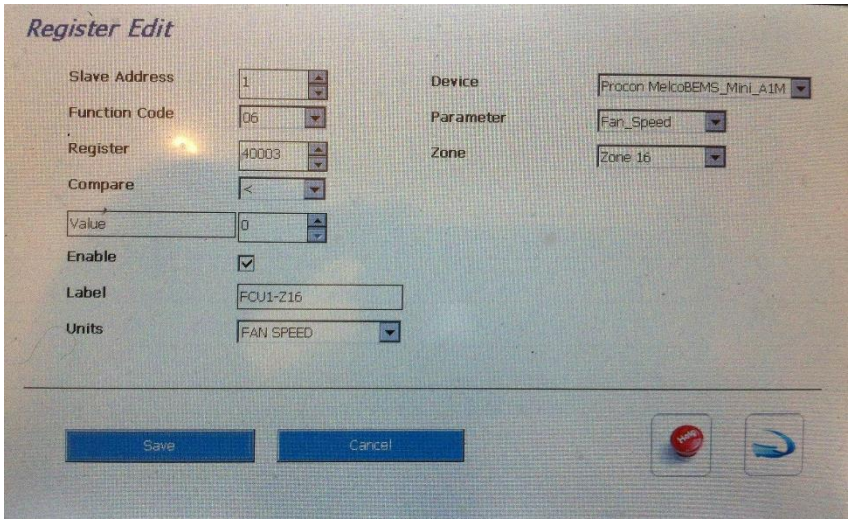
Corn Mill **Mitsubishi** MODBUS (MelcoBEMS MINI) setup Example Fan Speed



Device:	MelcoBEMS MINI(Mitsubishi Interface kit)
Parameter	Fan Speed
Zone	The Zone number where FCU is fitted

Slave Address:	1 (FCU Group address) Check with Slave unit manufacture
Function Code :	06 (Write Command)
Address:	40003 (Register Address for Fan Speed control for MelcoBEMS MINI (Mitsubishi)
Compare:	n/a
	n/a (Value has no function)
Enable	✓ Enable this MODBUS string to be output
Label	FCU 1 – Z16 (Just a label so engineer will know which FCU & ZONE)
Units	SPEED (Just a label so engineer will know it's purpose)

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3. 1 Multiple Master Setup using Token Ring - Overview

Modbus Rev 7.2

Zip File Ref: _Modbus Rev 18.06.01-59 - 1.0.6485.23063

_Modbus.dll

_Forms.DLL

Compatible with cc200 Rev : 18.6.0-53 or later

Note: *Modbus.Dat must be delete if present on c200*

Master Token Passing

1. Each Master must have a unique Id (1,2,3…). “0” is undefined

2. Device “1” boots with possession of the Token

3. The Token is passed using the “Master Token Passing” Command

a. “Master Token Passing” command is setup as follows:

- Slave Address 0
- Function Code 6
- Register 50
- Value ID of the Master to which the Token is being passed.

For Example, if the Token is being passed to Master Device with ID of “2” then the value is set to “2”

Device Generic

b. The “Master Token Passing” command MUST be the LAST programmed register.

4. Two error correction mechanisms are in place to recover token passing in the event of a failure.

3.2 Multiple Master Setup using Token Ring – Error Correction Mechanisms

5. **Error correction mechanism A: If a Master fails to pass the token.**

a. Each Master monitors the duration of the preceding Master's Modbus transaction.
This is labelled the "Monitored Duration"= Tick (Qty of Transmissions) .

b. A valid communication is required in order to establish this duration.
The duration is recalculated after every transaction.

c. If the token from the preceding Master is not received after a "Failed Token passing Timeout,"
then the Master will take control of the token.

d. The "Failed Token passing Timeout" is set as follows

- Failed Token passing Timeout = Monitored Duration + 20 seconds (e.g 2 FCU = 8 Tx + Token 1Tx = 9) (9+20=29)

e. The mechanism is limited to a single Master failure in a sequence. Recover is possible for the following:
i. 1 2 3 x 4 6 7
ii. 1 x 3 x 4 x 7
Recover is not possible for
i. 1 2 x x 4 6 7
ii. 1 x x x 4 x 7

6. **Error correction mechanism B**:
If NO token passing has taken place for an extended period of time then each Master will attempt to regain control of the token.

a. This is a mechanism to recover from the loss of token passing for an extended period of time (greater than 5 minutes)

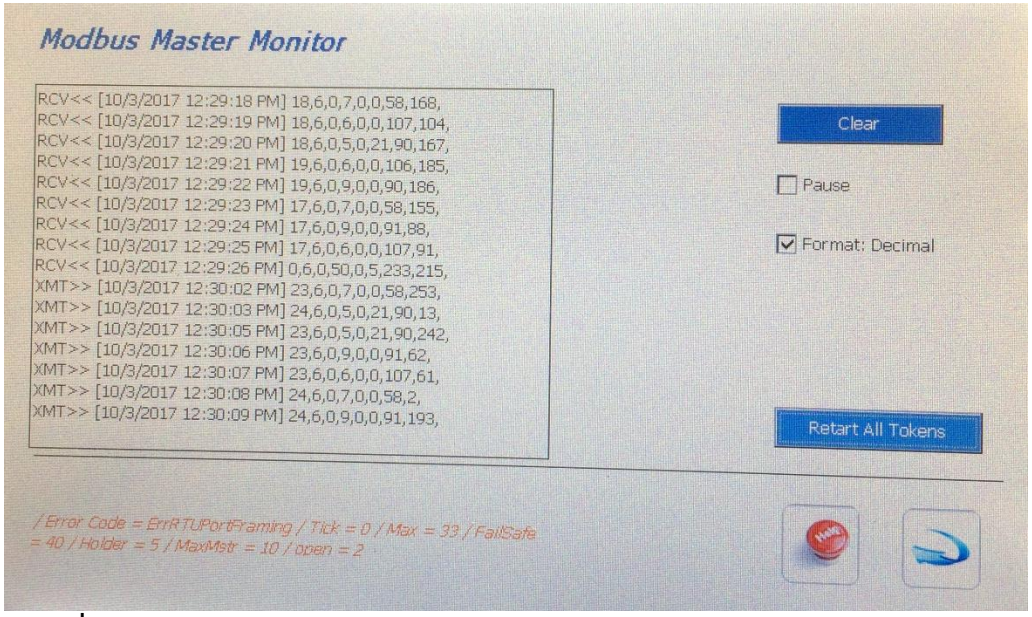
b. Each Master has a different timeout.

c. The timeout is for a Mater is set by:
Timeout = 5 minutes + Master Id*1 minutes
Example: With Master ID set to 3
Timeout = 5 + 3 *1
= 8 minutes

d. The monitor for "loss of token" is reset each time token passing is detected.

Note if the last Touch Screen Master Fails, Error correction mechanism B is always applied (Because it passes the token back to the start, therefore the token is lost) and all the master Time 0ut will start , but since Master #1 will kick in the fastest at 360sec (5+1*1=6 Min) they delay will be always 6 min until the last master has been fixed.

3.4 Multiple Master Setup using Token Ring – Error Correction Image



Overview:

Err Normal :
Monitor communications Errors
E.g. Framing Error = RS485 Collisions

Tick=9
Relates to the previous Touch Screen Master
Record the number of Tx (Transmissions)
(e.g 2 FCU = 8 Tx + Token 1Tx = 9)
Note Transmissions are very 1 Second

Max = 29
This take the Qty Tick (e.g 9) and add 20 seconds = 29 Seconds
If the proceeding TS fails , this value is use as a time tout to restart the token from here.

Failsafe:
An absolute max time out beyond which a Master will re-enable acquire of the token.
This is 5 min=300seconds + Master.Id * 60 (seconds). = 300+60 = 360 seconds (6 Min)
Token starts again at master no 1
All following Masters will see the token being passed from #1 and resent their Failsafe to 0

Holder
Identifies which Master currently holds the Token

Max Masters
Display the total number of master in the system after one complete token ring operation

Open
If the comms port fails (e.g. from a Framing Error= Collision) , the port resents it self and this will record the number of times the Port re=opens

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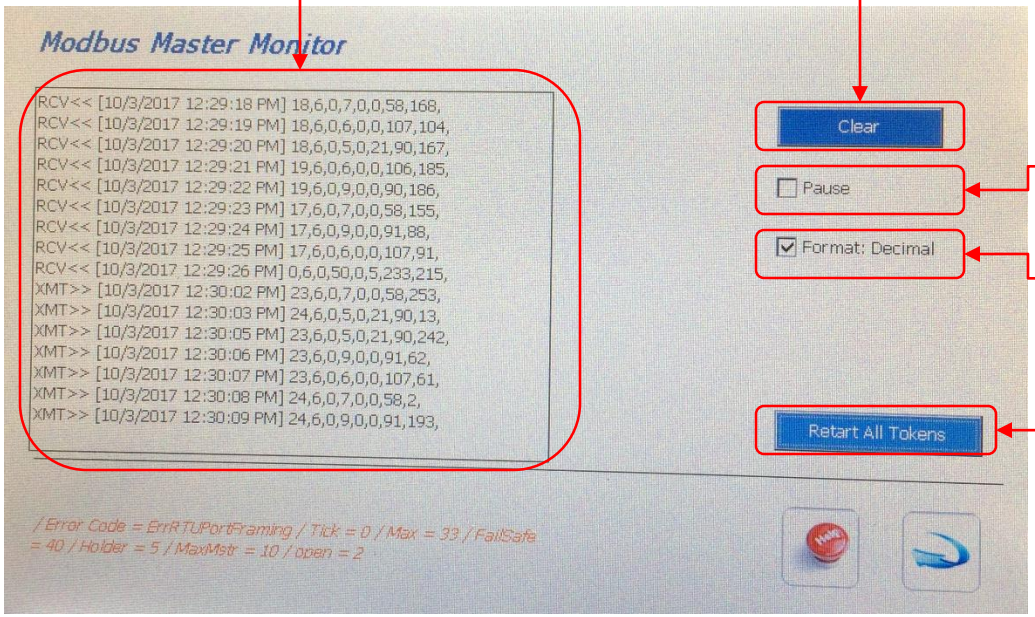
3.5 Multiple Master Setup using Token Ring – Buttons



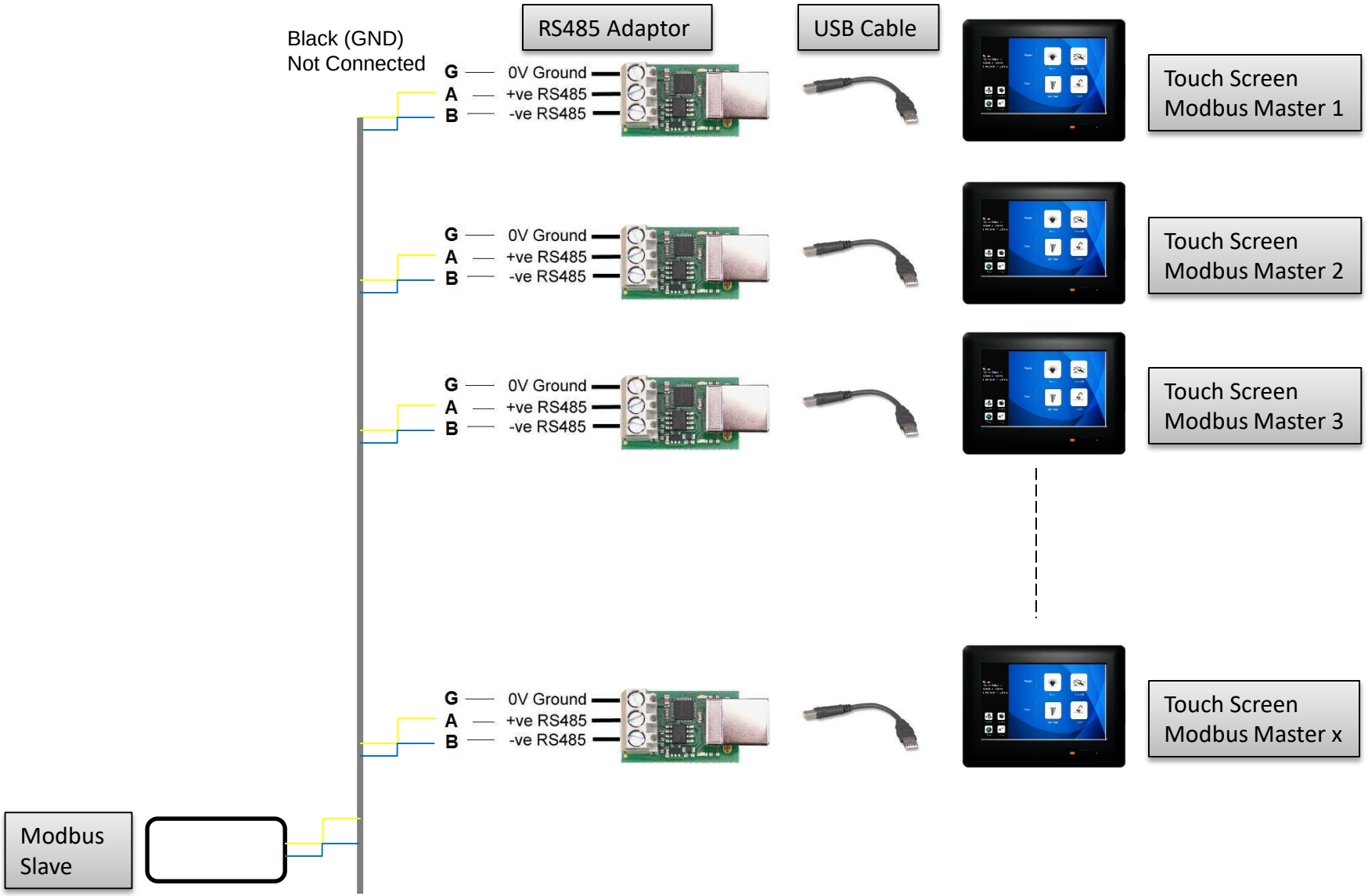
Clears the Monitor Screen

Pause: Will pause any Tx,
but Rx will still be displayed

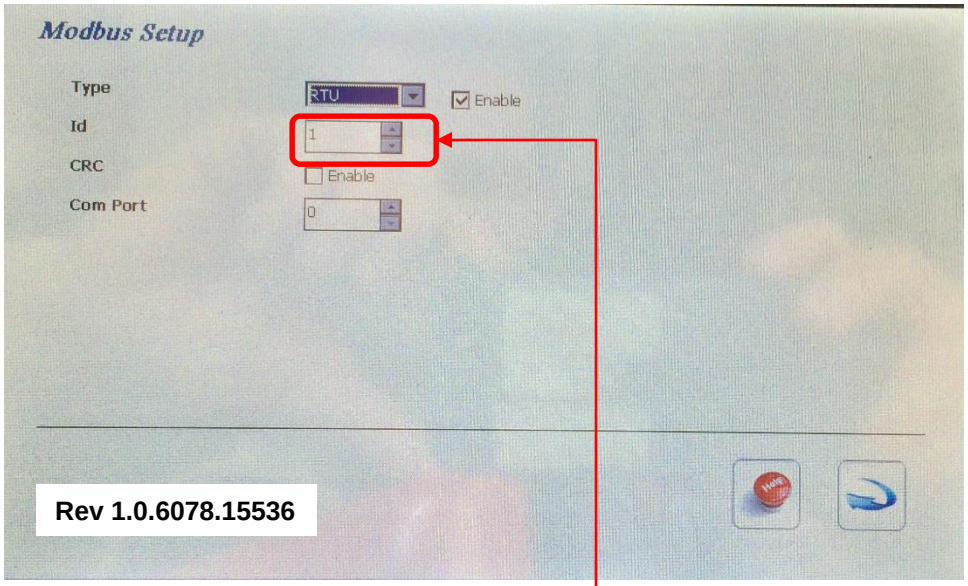
Display the transmissions in Decimal as oppose to Hex

Restart All Token
Send a command to restart the token from Touch Screen Master #1

3.6 Multiple Master Setup using Token Ring – Sample Wiring



3.7 Multiple Master Setup using Token Ring – Master ID

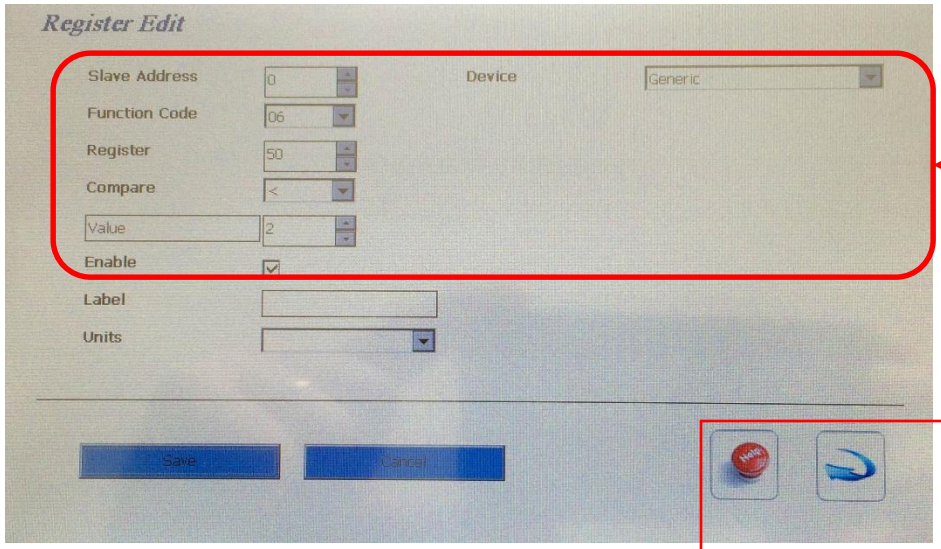


Each Master must have a unique Id (1,2,3…). “0” is undefined

Note:
- Device “1” boots with possession of the Token
- The Token is passed using the “Master Token Passing” Command

Note: Only One Master
If Token Ring Not required set the ID to “0”

3.8 Multiple Master Setup using Token Ring – Last Register



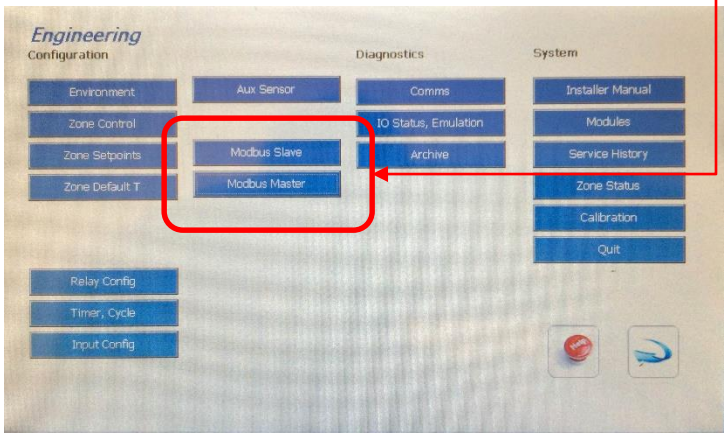
Last Register

Overview:
The last Register Must be set up a s follow on each Touch Screen Master

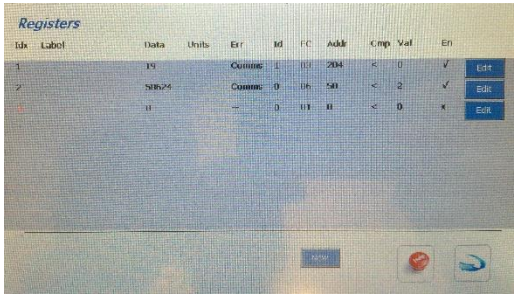
Slave Address	0
Function Code	6
Register	50
Value	ID of the Master to which the Token is being passed. **Note at last master, set this value to 1 , so it returns to the start**
Device :	Generic

4.1 Master & Slave (Port Settings)

Overview:
Master & Salve can operate at the same time
Example cc200 Master Controlling VRF – Via Comm Port 0
cc200 Slave to BMS or AV system Via Comm Port 6



Comm Port 6
The cc200 Touch Screen will assign the next available port on the system when a USB-RS485 adaptor is attached. ie. Comm Port 6 . This used the driver FTDI
To check if the post assigned is port 6, Access: Start / Run Regedit / HKEY_LOCAL_MACHINE/ Drivers/Active (Check the last file e.g. no 53or 54 and see which comport has the FTDI file assigned



Ignore Error
Err: Comms
Data: 65024
This anomaly is display when Mater and slave is in operation simultaneously. The system still operates correctly

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4.1 Hardware / Wiring

Modbus Interface Overview

Touch Screen HV2 (Housing Ver 2)

Communication:

Sensor & I/O Network : **RS485 Direct**

BMS (Modbus) Interface: **USB- RS485 Adaptor or RS232- RS485 Adaptor**

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4.2 Touch Screen –Wiring Detail

BMS (Modbus) Interface: RS232- RS485 Adaptor

Sensor & I/O Network : RS485 Direct

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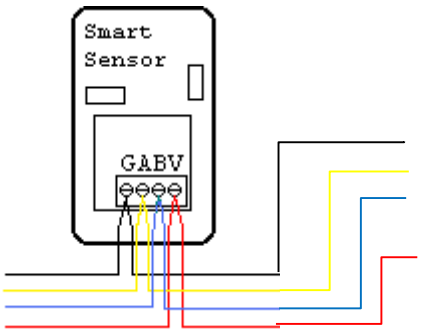
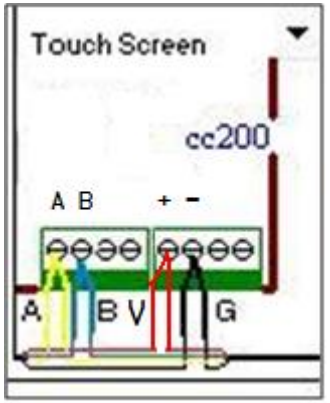
4.3 Sensor & I/O Network : RS485 Port Direct



Black : "-" 12v Gnd
Yellow: A
Blue : B
Red : "+" 12v Live

RS485



4 Core Comms Cable

Touch Screen Console

Termination at Touch Screen

Note:
Terminate cable at the RS485 Port
Select TS Port 2 (In Environment Settings)
Toggle Switch (Set to RS485)

Technical Note:
Set Toggle switch inside back of Unit to RS485
Toggle internal switch location : (Remove battery Cover)]
Note TS Port 2 can be used for a) RS232 Port 2 or b) RS485 Port

Toggle Switch

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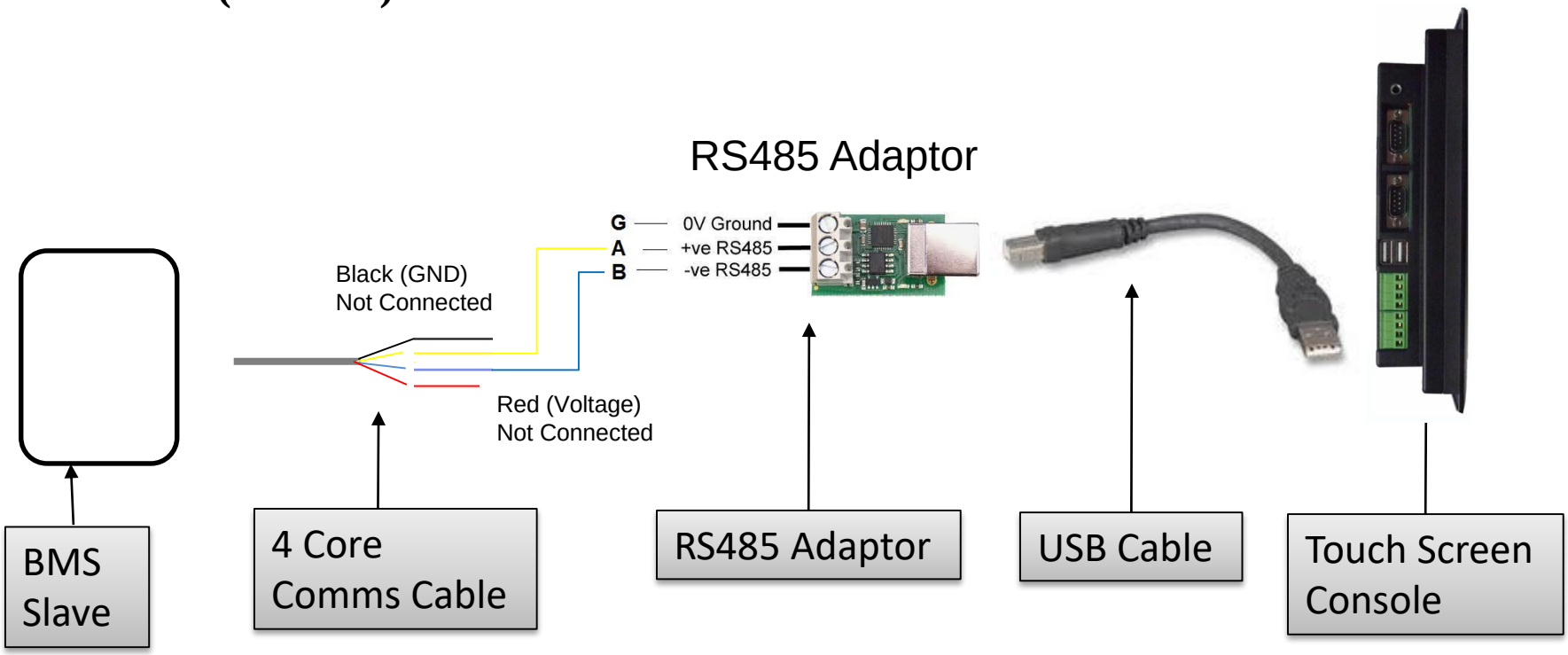
4.4. BMS (Modbus) Interface: USB – RS485 PCB



Mini RS485 Adaptor Layout

Warning !!! Power off Unit before Disconnection USB Cable

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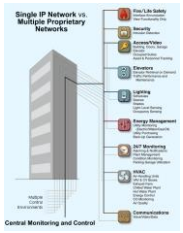
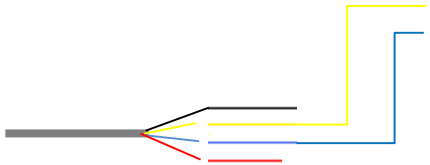
4.5 BMS (Modbus) Interface:

RS232 – RS485 Adaptor

RS485 Adaptor

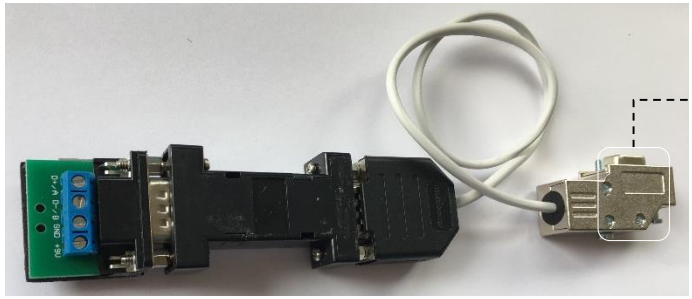


BMS



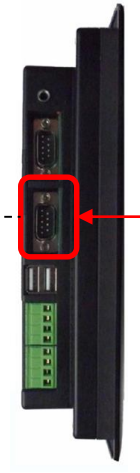
Red (Voltage)
Not Connected

4 Core
Comms Cable

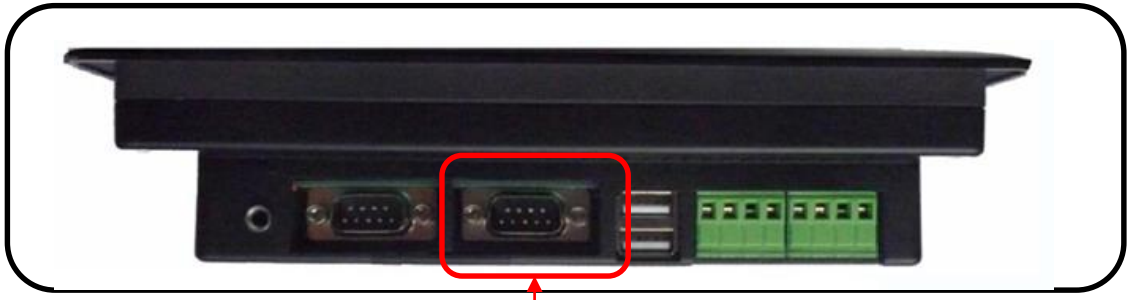


RS485 –RS232
Adaptor

9 Way RS232
90° Angle
Connector



Touch Screen
RS232 Port #1



Touch Screen – RS232 Port #1

Warning !!! Power off Unit before Disconnection Adatpor

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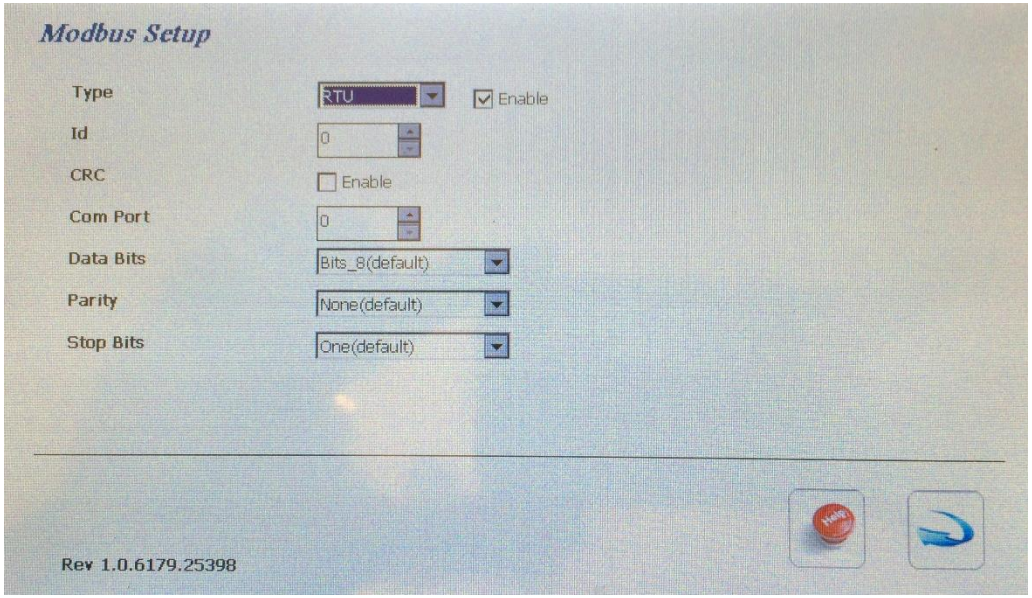
5.1 Modbus Slave Setup



Overview:

Type: RTU (Rs485) or TCPIP
Select: RTU Port (Remote Terminal Unit)

ID : Console ID Console number : As this console will be the Modus Master , the ID is set to 1
Set to 1

CRC : CRC Enable Included crc (cyclic redundancy check) in the transmissions
Ask if required for client's Modbus
Typically set to 0

Port: Assign which port on the console used to link with the BMS
Use 0 for USB , Use 1 for RS232, Use 2 for RS485
If RS232-RS485 Adaptors supplied : Use 1 for RS232

Data Bits : Option 7, 8(Default) , 9
Parity: None(Default) , ODD, Even, Mark, Space.
Stop Bits: One (Default) 2, 1.5