



User's Manual

**MOD9200LON LONWORKS® Transceiver
Configuration Software
Setup & Configuration**

MOD9200LON Transceiver Installation & Configuration

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 Available MOD9200LON models 32

I. Introduction

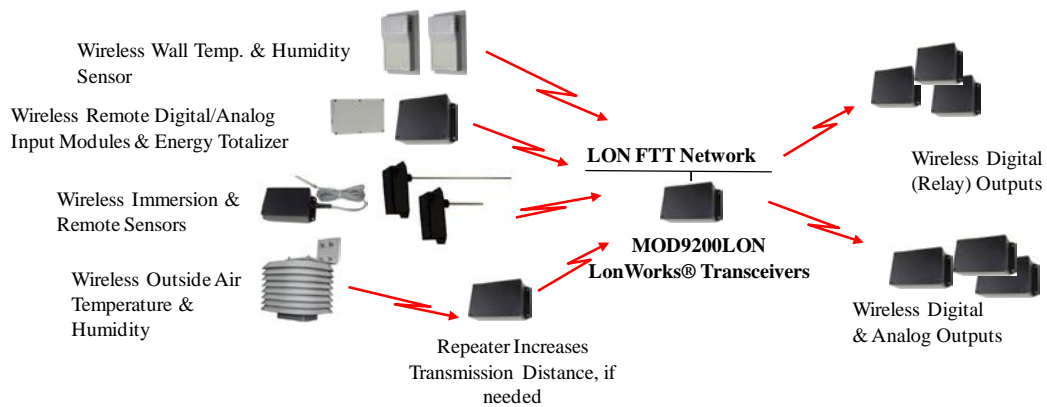


MOD9000LON
Wireless Transceiver

The ACI MOD9000LON LonWorks® network transceiver utilizes reliable Spread Spectrum Radio technology. When used with other ACI wireless sensors the system can transmit remote sensor readings, and status/alarm indications to a centralized networked monitoring station or controller without the need for extensive wiring. The MOD9000LON is compatible with any control panels or automation systems that utilize the LonWorks® communication protocol.

a. ACI MOD9200 Transceiver System

- MOD9200LON Network Transceiver
- Receives input from up to 50 remote wireless sensor modules and/or wireless output modules (RD2402 & RD2432) per Transceiver
- ACI signal repeater/router RR2552 can be used to extend the wireless sensor transmission distance if needed
- FTT-10 (Free Topology Twisted Pair) physical network connection
- MOD9200 Configuration Software



Sub-System Overview

II. LON Transceiver Installation & Network Setup

a. Transceiver Installation

- Choose a location close to the LonWorks® network connection away from the ground.
- Mount the Transceiver on the wall using four #8 screws.
- 24 VAC Input (500 mA nominal) - Connect 24VAC 60 Hz (no secondary ground) to the input terminals using 20 AWG wire as shown in the product data sheet.

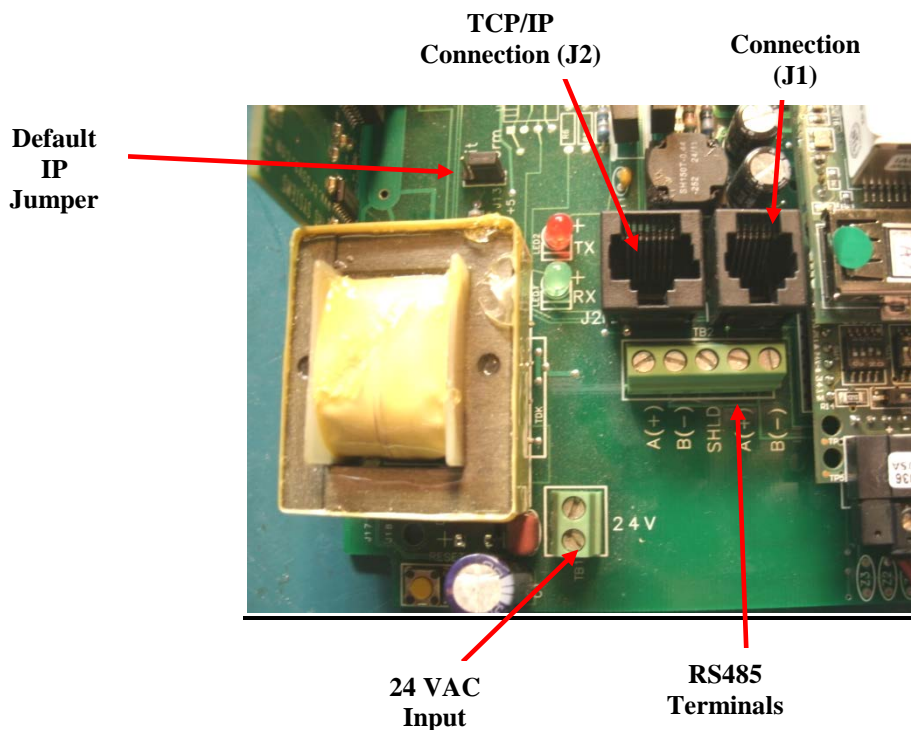


Figure 1

- FTT-10 - Use 20 or 22 gauge shielded twisted pair wire to connect the Transceiver(Terminals “A” & “B”) to the LonWorks network (See Figure 1). The connection of the FTT-10 network is not polarity sensitive and the designation (+) and (-) on the board is not relevant in this case. There are two sets of terminal “A” & “B”. The second set of terminals can be used to extend the FTT-10 network (if needed).

b. Network Setup for Transceiver Configuration

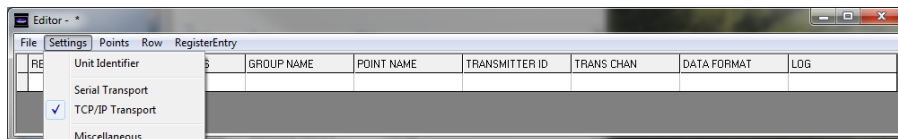
- A network connection using a crossover cable is required during the initial setup of the Transceiver for transporting the Transceiver Configuration File via FTP.
- Connect the MOD9200 Transceiver (J2) to a 10/100Base-T Ethernet network or use a crossover cable to connect directly to the PC.
- Apply 24 VAC 60 Hz power to the MOD9200 Transceiver.

c. Setting A New IP Address

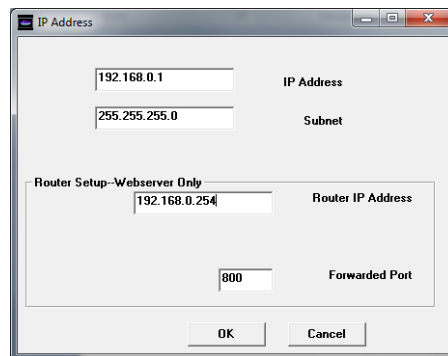
- The MOD9200 is shipped from the factory with an IP address of 192.168.0.1 and a subnet mask of 255.255.255.0 .

Note: To initially connect to the Transceiver the networked PC must have a static IP address in the form of 192.168.0.X where X is > 2 with a subnet mask of 255.255.255.0.

- The IP Address can be changed by changing the IP Address in the Transceiver Config File. Open either an existing config file or a new config file using the ACI Programmer Software.
- Click on Settings > TCP/IP Transport.



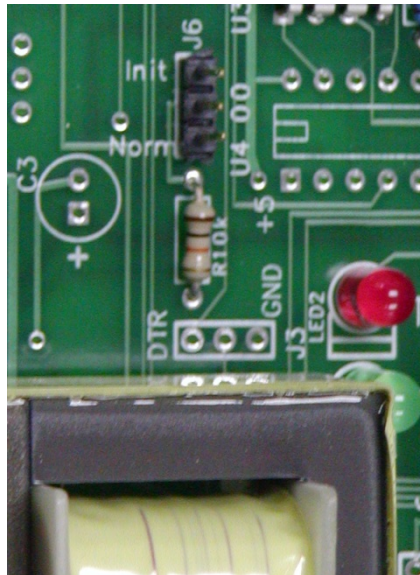
- Enter the new IP Address and Subnet Mask and click OK. The new IP Address will take affect when the Config File is downloaded to the Transceiver. Please note the “Router Setup-Webserver Only” window is not used by the MOD9200.



- Our recommendation is not to change the default factory IP address of the transceiver, since the Ethernet connection is used to configure the transceiver only and will not be required when the LON network is up and running.
- **Router Setup – Webserver Only – NOT USED.**

d. Manually Resetting The Factory Default IP Address

- The Transceiver can manually be reset to the default IP Address by moving the jumper (J6) from “Norm” to “Init”.
- Turn off the power to the Transceiver and move the jumper from “Norm” to “Init”. Turn on power and the Transceiver can be communicated with using the Factory Default IP Address 192.168.0.1 Subnet Mask 255.255.255.0. The Config File is no longer active while the jumper is in the “Init” position . A new Config File can be downloaded to the Transceiver if desired.
- To reactivate the Config File - turn off the power to the Transceiver and move the jumper back to “Norm”. Turn the power back on and the Config File will become active. The Transceiver will have the IP Address that was set in the Config File.



III. Configuration Software

a. Configuration Software Description

- The data registers of the Transceiver need to be configured prior to use.

The configuration program “Trs Programmer.exe” can be found on CD ROM in packaging, or can be downloaded from our website ‘www.workaci.com’. The download instructions are included in the shipping document of the MOD9200 Transceiver. The software will be used to configure the 3 different type of data registers as follows:

- Assign the Input Register function – Analog or Discrete
 - Assign wireless Digital Output (Coil) Register function
 - Assign wireless Analog Output (Holding) Register function
 - Assign the register address
 - Assign the Wireless Sensor ID and transmission channel
 - Assign the data type
- *The MOD9200LON Transceiver is pre-defined with fixed configurations. Please refer to Appendix A for configuration map and details of different transceiver models.*

b. System Requirements

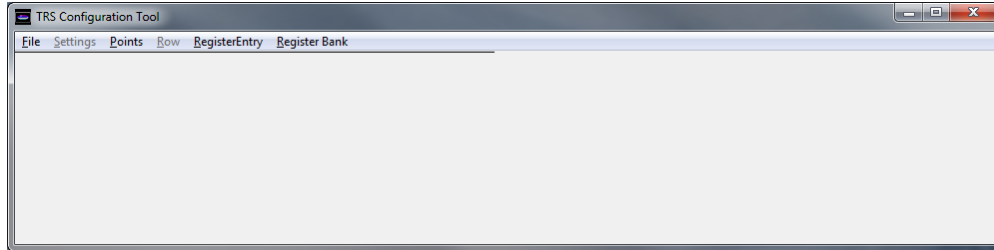
- PC (Notebook or desktop) with Windows 98, XP, Vista, Windows 7, or Windows 8
- Ethernet connection
- 10 MB of hard drive memory available

c. Configuration Software Installation

- Extract (or unzip) the Trs Programmer zip file and click start the ‘setup.exe’ program to install the program. Follow the on screen instructions to complete the installation.

d. Creating A MOD9200 Configuration File

- To create a new MOD9200 configuration file open the Trs Programmer by clicking on Start > Programs > Trs Programmer 6.XX.



- To open a new configuration table Click on File > New Transceiver Config File. A blank configuration table will open.

REG FUNCTION	REG ADDRESS	GROUP NAME	POINT NAME	TRANSMITTER ID	TRANS CHAN	DATA FORMAT	LOG

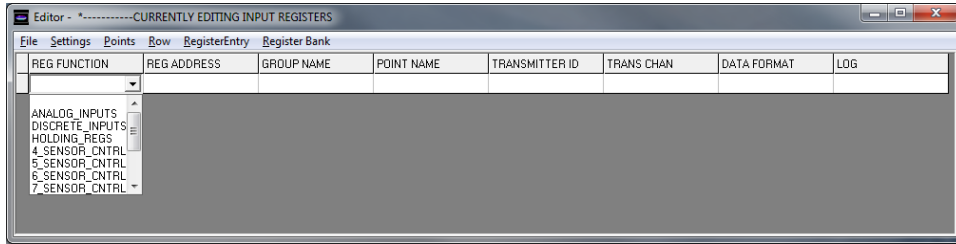
- The default startup is the Input Register configuration table and System Setup page.
- By clicking the “RegisterBank” tab, you can go to the Digital Output (Coil) register configuration table or Analog Output (Holding) Register configuration table.

e. Input Register Configuration

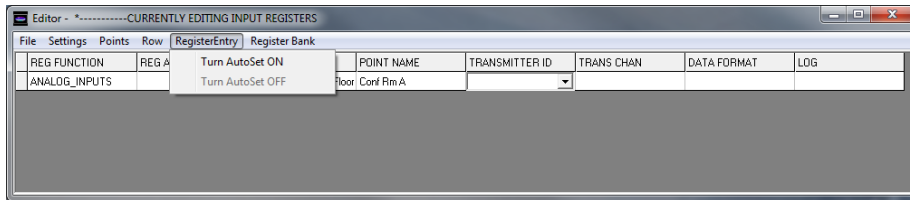
- Each row of the configuration table is a unique data register having eight special attributes.

REG FUNCTION	-- Identifies the function of the register – Analog or Digital (Discrete) Note: If selecting the Digital (Discrete) function, be sure to set the appropriate Digital Capture Time (Page 15)
REG ADDRESS	-- Assigns the address of the data register (0 to 99).
GROUP NAME	-- Assigns a group name to the data register (not used by LON). Multiple data registers can have the same group name. This is useful for monitoring and data logging programs.
POINT NAME	-- Assigns a unique name to the data register to help identify the location of the sensor/transmitter (Not used by LON). Multiple point names can have the same group name.
TRANSMITTER ID	-- Assigns a wireless sensor/transmitter address to the data register. Each wireless sensor is factory configured with a unique hexadecimal address.
TRANS CHAN	-- Assigns a wireless sensor/transmitter data channel to the data register. A wireless sensor/transmitter may have up to four (4) analog channels and (4) digital status/alarm channels.
DATA FORMAT	-- Assigns the data type to the register – temperature (RTD or Thermistor 20K), analog voltage, totalizer or humidity. This register is left blank if the REG FUNCTION is Digital (Discrete).
LOG	-- Not used for MOD9200LON

- First we will assign the REG FUNCTION by clicking in the REG FUNCTION cell to open a drop down menu. Select the appropriate function.

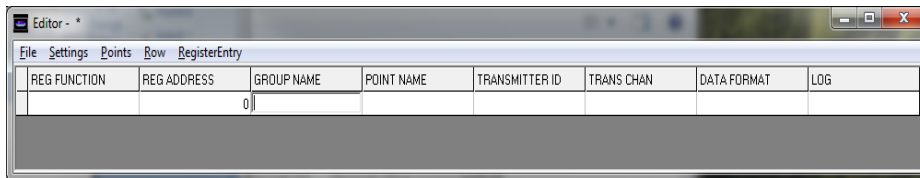


- Use the mouse to move to the next column to assign the REG ADDRESS by clicking in the cell. Before entering register addresses, ensure the “RegisterEntry” AutoSet is turned off as shown:



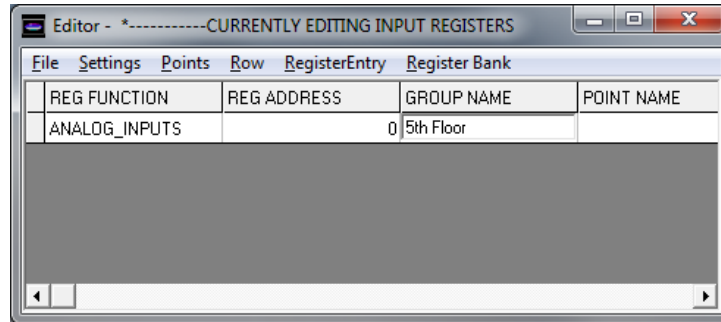
- **The data registers of the MOD9200 should be assigned non-consecutively based on the network variable maps in Appendix A.** User can assign specific data registers needed and skip to the next applicable data register using the Trs Programmer software setup tool.
- **Refer to Appendix A for REG ADDRESS to specific MO9200LON model.** Either scroll to the appropriate address using the scroll bar or type the address in the cell and the drop down menu will automatically scroll to that address.

Enter the Register address in the REG ADDRESS window and press down to enter.



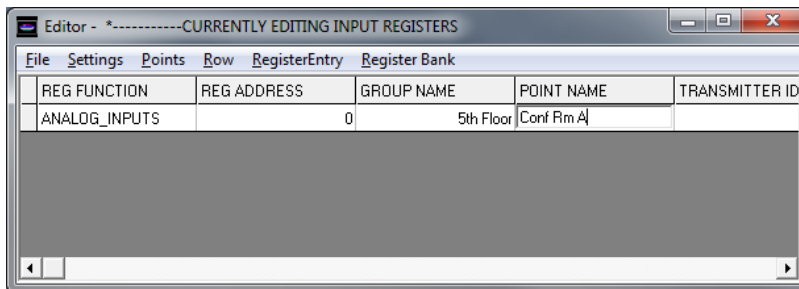
- Again use the mouse to move to the next column. Enter a GROUP NAME for the data set by typing the group name in the cell.
Enter the name in the cell by using the mouse to click on the next column.

Note: DO NOT use commas or semicolons in the Group Name.



- Enter a POINT NAME for the data point by typing the name in the cell.
Enter the name in the cell by using the mouse to click on the next column.

Note: DO NOT use commas or semicolons in the Point Name.



- Assign a sensor/transmitter to the data register by clicking in the TRANSMITTER ID cell to open a drop down menu. Use the scroll bar to scroll to the correct address or automatically scroll to the address by typing the hexadecimal address in the cell. To select the address, click on the appropriate ID in the drop down menu. Each ACI transmitter is factory configured with a unique ID – refer to the sensor product data sheet for the location of the transmitter ID.

POINT NAME	TRANSMITTER ID	TRANS CHAN	TR
Conf Rm A	3BE		

3BE	▲
3BF	
3C0	
3C1	
3C2	
3C3	
3C4	
3C5	▼

- Assign the appropriate sensor transmission channel to the data register by clicking in the cell to open a drop down menu. Click on the appropriate transmission channel (01 to 04) to select.

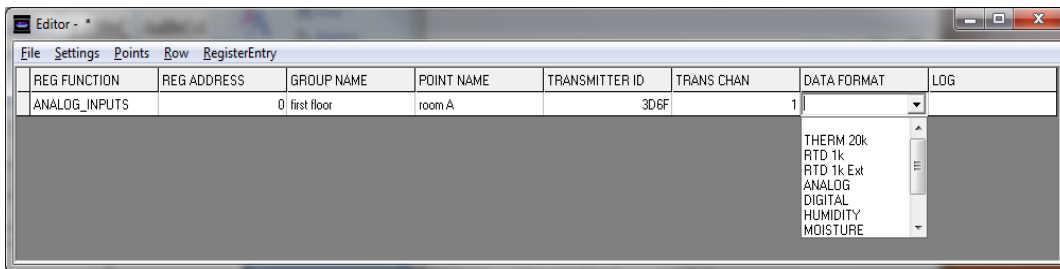
POINT NAME	TRANSMITTER ID	TRANS CHAN	TRANS TIMEOUT
Conf Rm A	3BE	01	

01	▲
02	
03	
04	▼

The active transmission channels are factory configured as follows:

Device	Analog CH-01	Analog CH-02	Digital CH-01
WT2630A	Space Temp (Therm 20K)		
WT2630B	Space Temp (Therm 20K)	SetPoint (Analog)	Override (Discrete) See page 15 to set the Digital Capture Time
WT2630C	Space Temp (Therm 20K)		Override (Discrete) See page 15 to set the Digital Capture Time
WH2630A	Humidity		
WH2630B	Space Temp (Therm 20K)	Humidity	
OA2630A	Outdoor Temp (Therm 20K)	Outdoor Humidity	
OST2630A	Outdoor Temp (Therm 20K)		
DT2630A	Duct Temperature (Therm 20K)		
DT2650A	Ave Temperature (Therm 20K)		
DH2630A	Duct Humidity		
DH2630B	Duct Temperature (Therm 20K)	Duct Humidity	
FT2630A	Fluid Temperature (Therm 20K)		
RT2630A,B,C	See Device Label for Analog (4) and Digital (4) Configuration		
RT2620A	See Device Label for Digital (4) Configuration		
RT2602B	Digital (2) Inputs		
SST2630A	Temperature (Therm 20K)		
SST5630AE	Temperature (RTD 1K)		

- Select the appropriate DATA FORMAT value by clicking in the cell to open a drop down menu.



- To create a new data register row click on Row > Append. Continue to do this for each row/data register that needs to be configured.

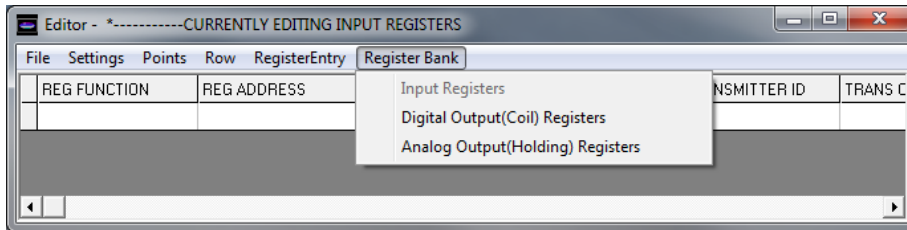
- The completed configuration example for an office building is as follows:

REG FUNCTION	REG ADDRESS	GROUP NAME	POINT NAME	TRANSMITTER ID	TRANS CHAN	DATA FORMAT	LOG
ANALOG_INPUTS	0	First Floor	VP Office	1FE	1	THERM 20k	
ANALOG_INPUTS	1	First Floor	VP Office	1FE	2	HUMIDITY	
ANALOG_INPUTS	2	First Floor	general Office	1FC	1	THERM 20k	
ANALOG_INPUTS	3	Warehouse	North	223	1	THERM 20k	
ANALOG_INPUTS	4	Warehouse	West	224	1	THERM 20k	
ANALOG_INPUTS	5	Warehouse	East	225	1	THERM 20k	

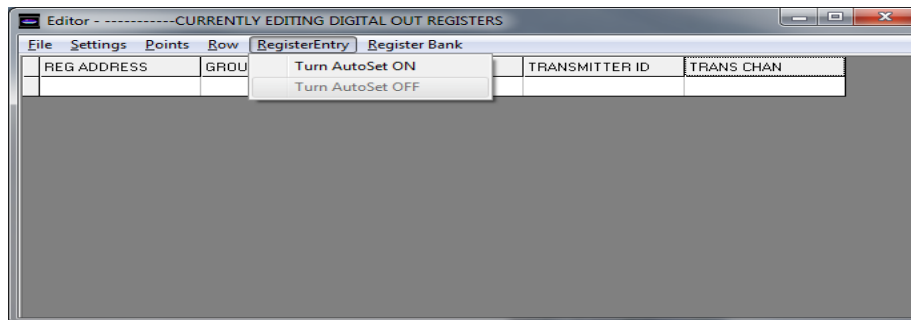
- The columns may be resized by placing the cursor over one side of the column. When the cursor changes to two arrows, hold down the left mouse button and drag the side of the column to resize it.

f. Digital Output (Coil) Register Configuration

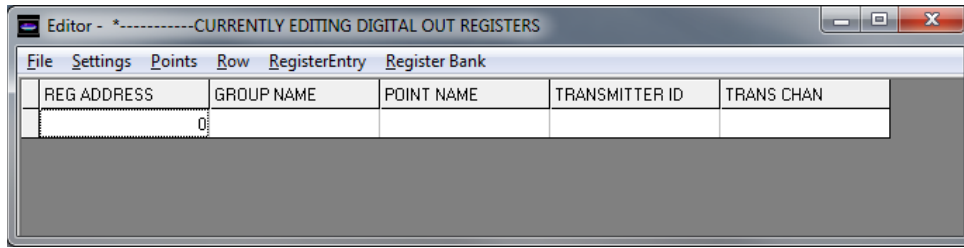
- Select the Digital Output (Coil) Register table by clicking the “RegisterBank” tab.



- First we will assign the REG ADDRESS by clicking in the cell. Before entering register addresses, ensure the “RegisterEntry” AutoSet is turned off as shown:

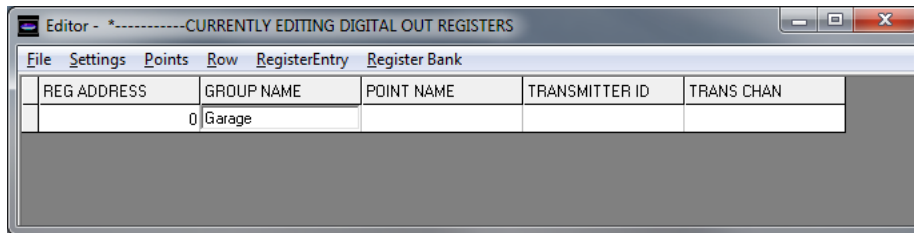


- Enter the Register address in the REG ADDRESS window. The valid range is 0 to 49.



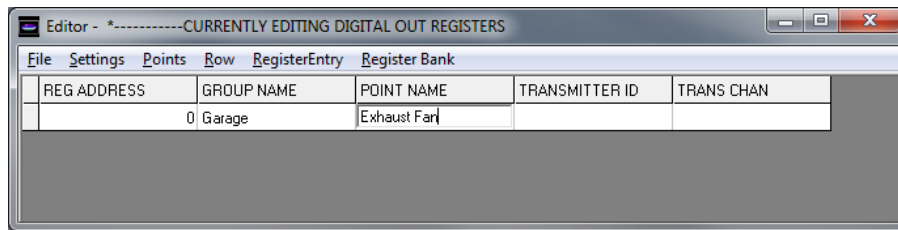
- Again use the mouse to move to the next column. Enter a GROUP NAME, if desired, for the data set by typing the group name in the cell. Enter the name in the cell by using the mouse to click on the next column.

Note: DO NOT use commas or semicolons in the Group Name.

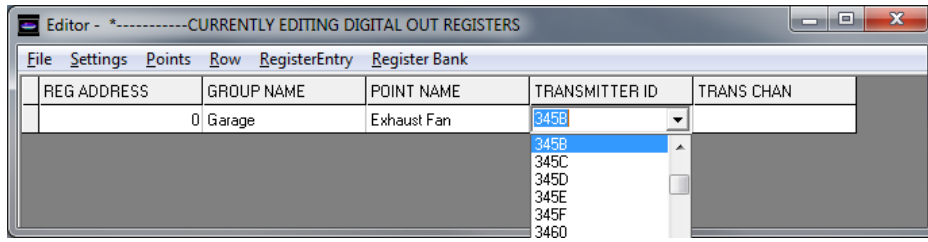


- Enter a POINT NAME, if desired, for the data point by typing the name in the cell. Enter the name in the cell by using the mouse to click on the next column.

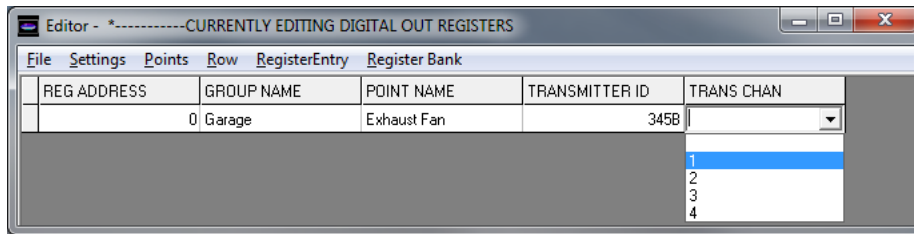
Note: DO NOT use commas or semicolons in the Point Name.



- Assign a sensor/transmitter to the data register by clicking in the TRANSMITTER ID cell to open a drop down menu. This is the device ID of the remote output devices (RD2402 & RD2432). Use the scroll bar to scroll to the correct address or automatically scroll to the address by typing the hexadecimal address in the cell. To select the address click on the appropriate ID in the drop down menu.



- Assign the appropriate digital or relay output “TRANS CHAN” to the data register by clicking in the cell to open a drop down menu. Click on the appropriate transmission channel (01 to 04) to select.

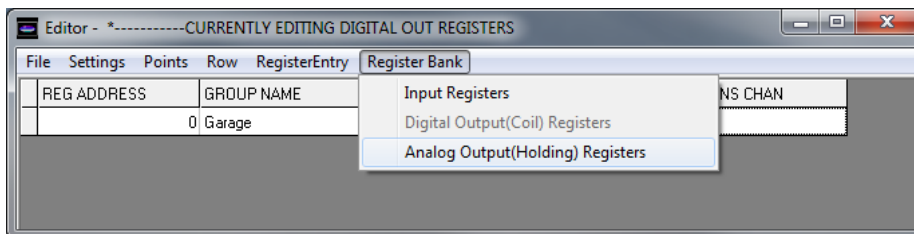


- The active transmission channels or output number are factory set as follows:

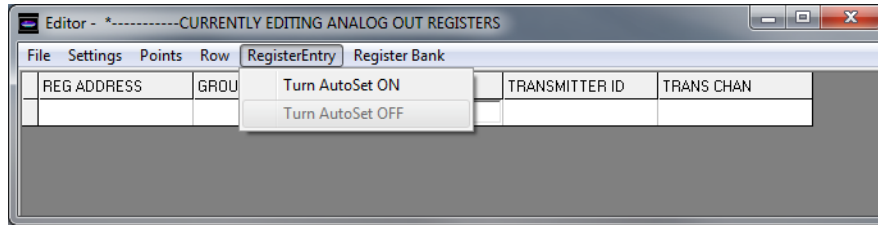
Device	Digital	Analog	
RD2402	1 to 2 for relay #1 and relay #2	NA	Wireless relay output module
RD2432	1 to 4 for relay #1 to relay #4	1 to 4 for analog output 1 to 4	Wireless digital & analog output module

g. Analog Output (Holding) Register Configuration

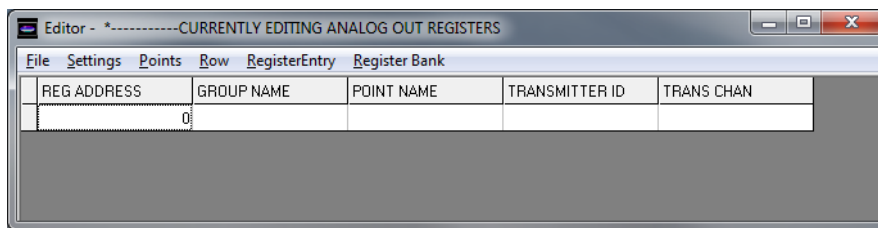
- Select the Analog Output (Holding) Register table by clicking the “RegisterBank” tab.



- First we will assign the REG ADDRESS by clicking in the cell. Before entering register addresses, ensure the “RegisterEntry” AutoSet is turned off as shown:

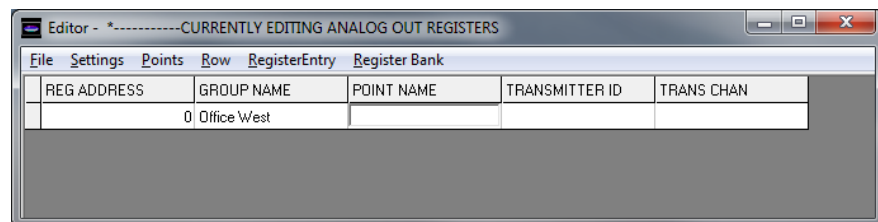


- Enter the Register address in the REG ADDRESS window. The valid range is 0 to 49.



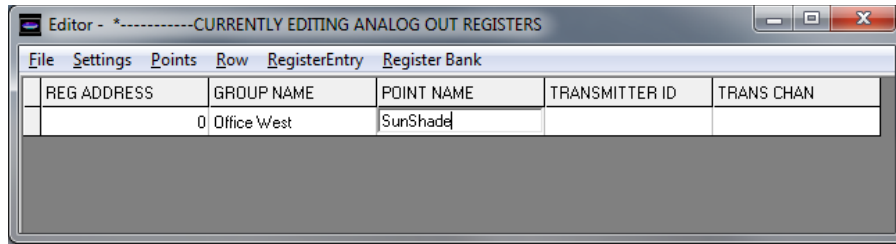
- Again use the mouse to move to the next column. Enter a GROUP NAME, if desired, for the data set by typing the group name in the cell. Enter the name in the cell by using the mouse to click on the next column.

Note: DO NOT use commas or semicolons in the Group Name.

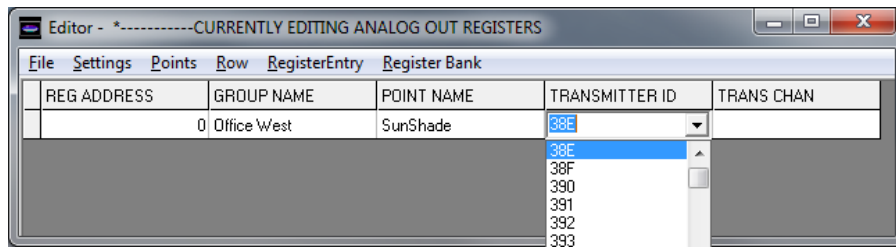


- Enter a POINT NAME, if desired, for the data point by typing the name in the cell. Enter the name in the cell by using the mouse to click on the next column.

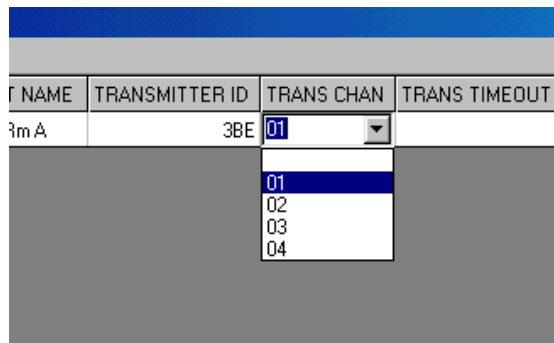
Note: DO NOT use commas or semicolons in the Point Name.



- Assign a sensor/transmitter to the data register by clicking in the TRANSMITTER ID cell to open a drop down menu. This is the device ID of the remote output devices (RD2432). Use the scroll bar to scroll to the correct address or automatically scroll to the address by typing the hexadecimal address in the cell. To select the address click on the appropriate ID in the drop down menu.



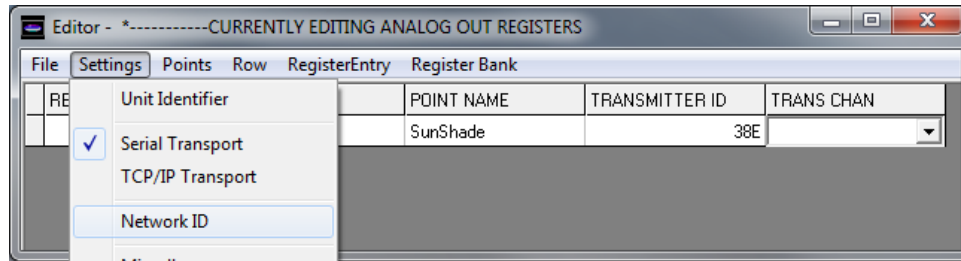
- Assign the appropriate digital or relay output “TRANS CHAN” to the data register by clicking in the cell to open a drop down menu. Click on the appropriate transmission channel (01 to 04) to select.



- The active transmission channels or output number are factory set as follows:

Device	Digital	Analog	
RD2402	1 to 2 for relay #1 and relay #2	NA	Wireless relay output module
RD2432	1 to 4 for relay #1 to relay #4	1 to 4 for analog output 1 to 4	Wireless digital & analog output module

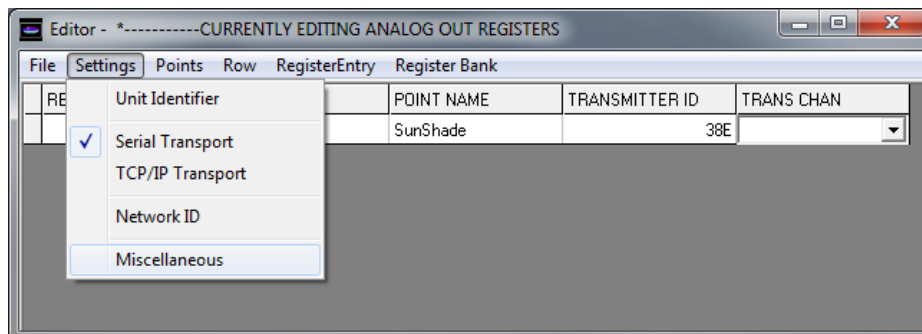
h. Setting the Mesh Network ID for the repeater/router devices



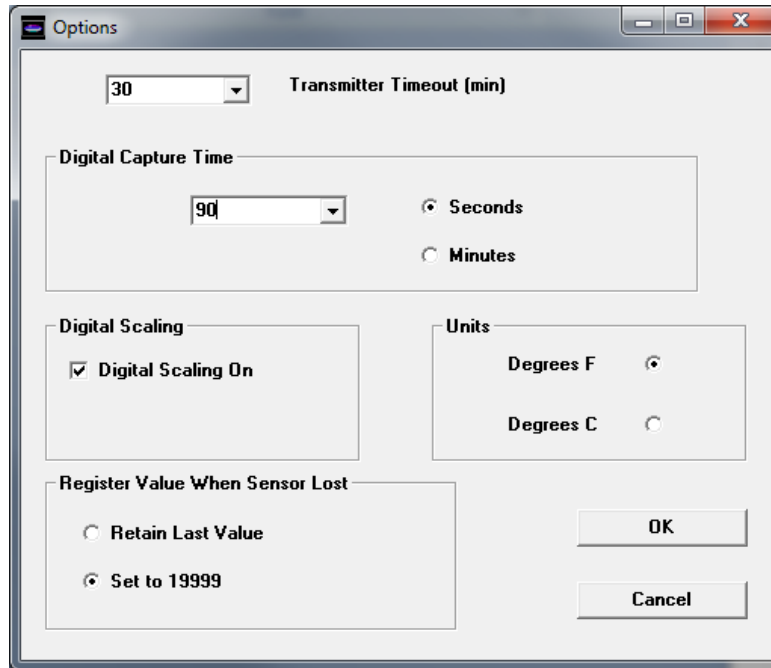
- The mesh network ID of the MOD9200 Gateway can be set to specific network # from 1 to 64. The MOD9200 functions as a network coordinator. Any repeater/router that has the same network ID will be able to communicate and channel sensor information to the MOD9200

i. Miscellaneous Menu

- The transmitter timeout interval, default temperature degrees (C/F), and Digital Input Capture Time are set globally for all sensors using the Miscellaneous Dialog Screen.
- Click on Settings > Miscellaneous



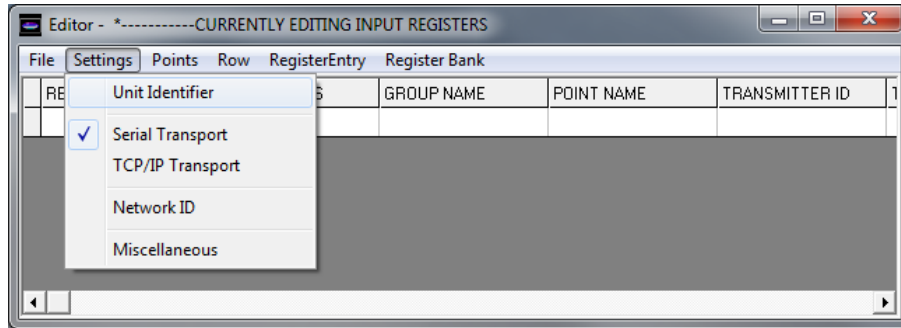
- Set the **transmitter transmission timeout interval** (*requires a minimum of 30 min.*) by clicking in the Transmitter Timeout cell to open a drop down menu. Use the scroll bar to scroll down to the appropriate value (1 to 60 min.) or type the value in the cell to automatically scroll to the appropriate value. This will be used to generate an error message if the transmitter fails to transmit in the specified time interval.



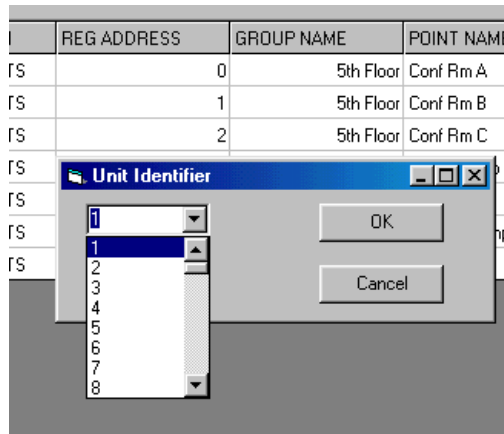
- To select the timeout interval click on the appropriate value in the drop down menu.
- The **Digital Input Capture Time** can be set to hold a momentary contact closure such as the override button on the WT2630B/C for a period of time (Default is 0 min. & recommended value is 1 min.) so the controller has time to recognize the contact closure.
- **The Digital Capture Time can be set up to 240 minutes (4 hours) in applications where an extended period of time is needed such as “unoccupied period by-pass”.**
- Set the Digital Capture Time interval (seconds or minutes) by clicking on “Seconds” or “Minutes”. Click in the Digital Capture Time cell to open a drop down menu. Use the scroll bar to scroll down to the appropriate value (0 to 240) or type the value in the cell to automatically scroll to the appropriate value. To select the timeout interval click on the appropriate value in the drop down menu.
- **Digital Scaling On** check box – Should be checked when configuring the MOD9200BNT BACnet® transceiver or the MOD9200LON LonWorks® Transceiver.
- **Units** - Select the appropriate default temperature scale F/C.
- **Register Value When Sensor Lost** – The user has the options to select whether the sensor value should remain unchanged or set to 19999 when the communication link is lost with the sensor (after the transmitter timeout period).

j. Configuring The Transceiver For Internal Network

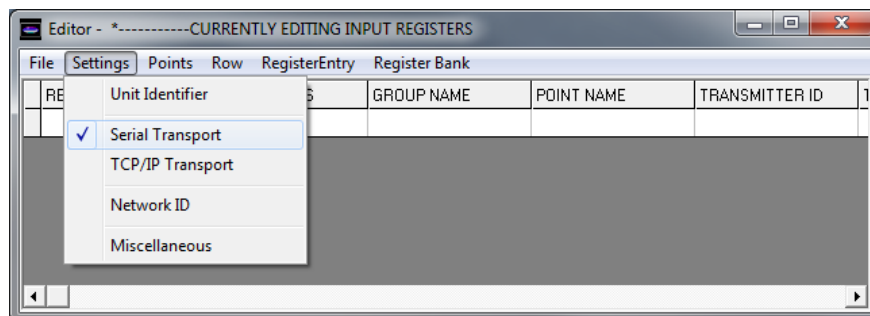
- The Transceiver needs to be assigned an Identifier Address for device internal use. To enter the Transceiver Unit ID into the Configuration File click on the Menu Comm > Unit Identifier.



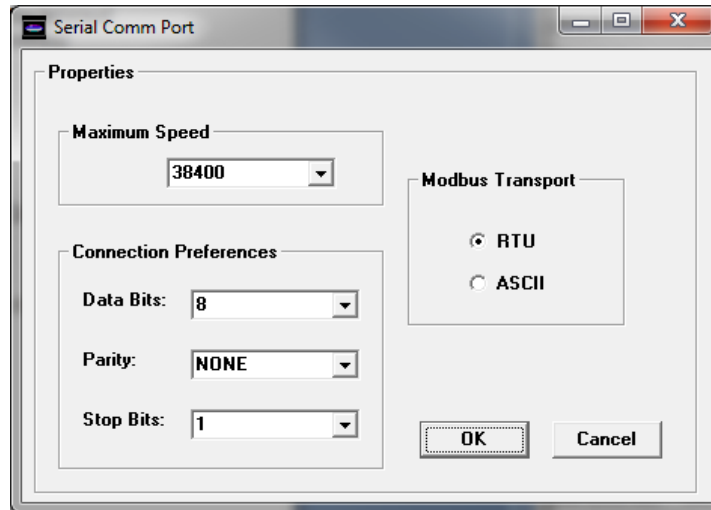
- Click on the drop down menu arrow and select the Transceiver Unit Default ID of “1” from the drop down menu and click “OK”.



- Click on Menu - Comm > Serial Transport to activate the Serial Comm Port dialog box.



- Use the Serial Comm Port configuration dialog box to select the appropriate internal communication parameters (Connect Speed, Connect Preferences, and Transport Mode) for the Transceiver.



- **The MOD9200LON requires internal communication parameters to be set as follows:**

Maximum Speed = 38400 BPS (**This communication speed is set for internal use by the MOD9200LON Transceiver and it will not change the external LonWorks communication speed of 78 KBPS**)

Data Bits = 8

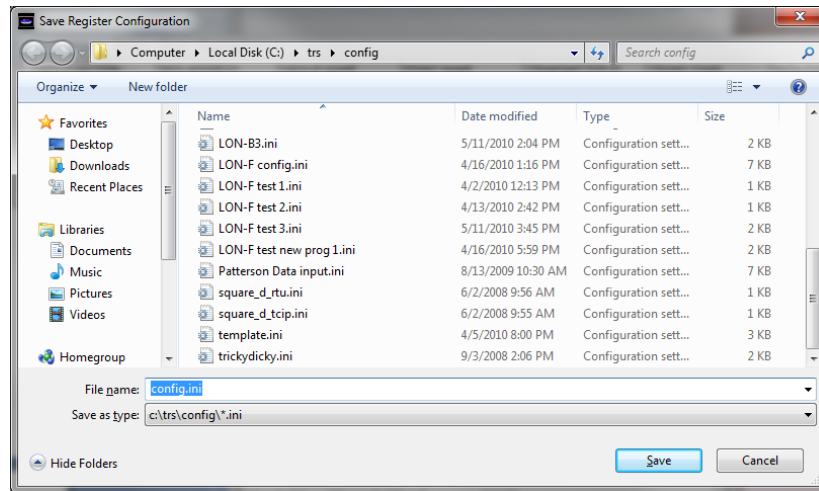
Parity = none

Stop Bit = 1

Modbus Transport = RTU

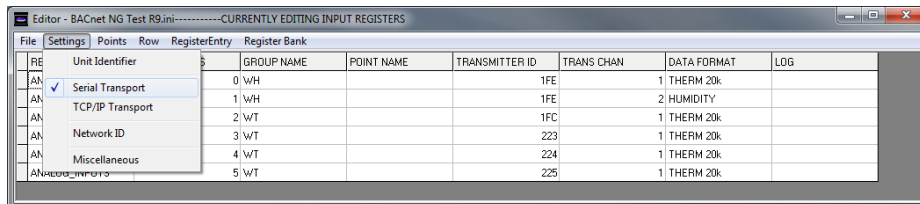
The MOD9200LON Transceiver transmission mode and serial port parameters need to be exactly the same as shown above.

- To Save the configuration file click on File > Save. It is recommended that the .ini file be saved in the Trs folder already setup. i.e. C:\trs\config

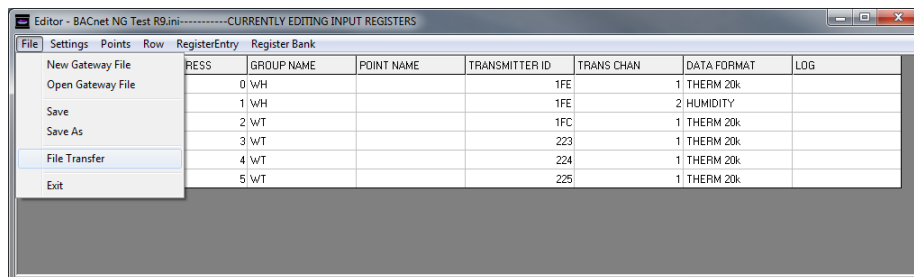


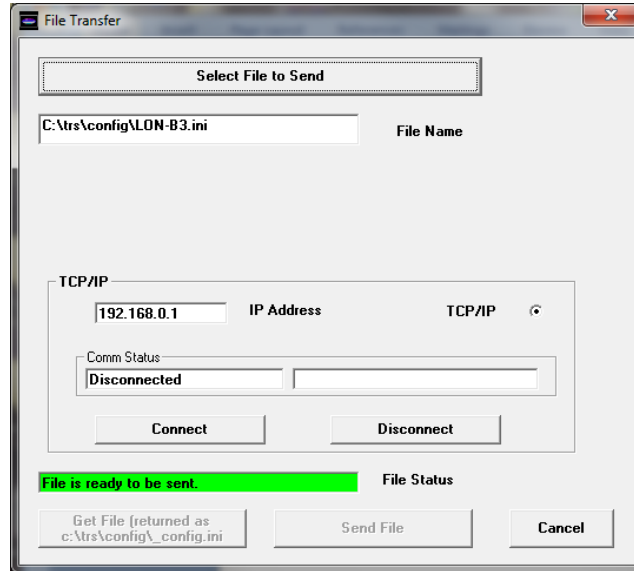
k. Sending The Configuration File To The MOD9200

- Before sending the file to the MOD9200, it is *important* to ensure that the “Serial Transport” setting is checked as shown:

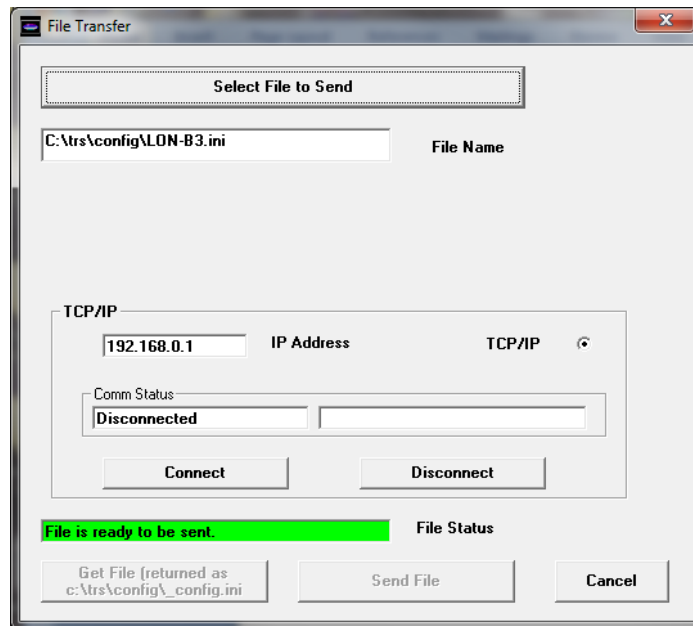


- Always save the configuration file to the folder “trs” before sending it to the MOD9200 Transceiver.
- To send the new configuration file to the MOD9200 Transceiver click on File > File Transfer and a dialog box will appear.





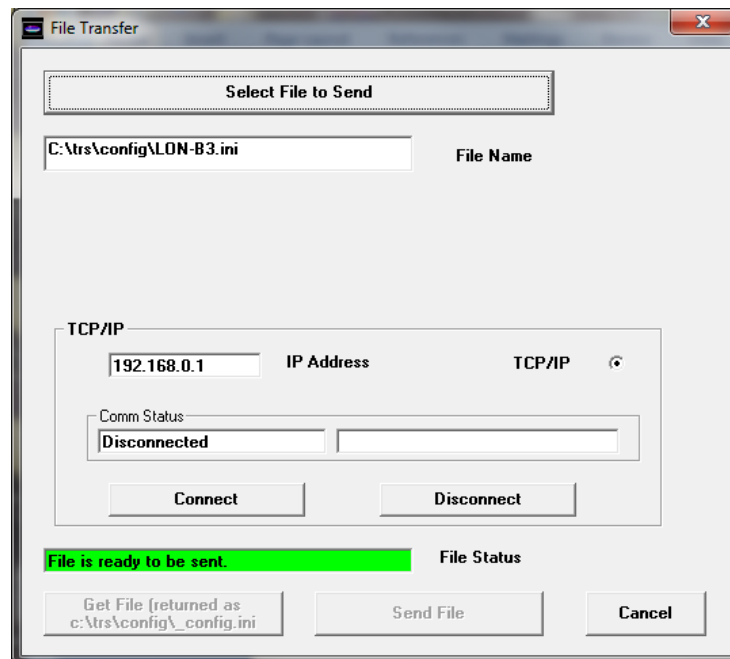
- Click on “Select File” and a window will open. Move to the Trs directory and select the appropriate file from the list.
- Click on “Open” to automatically enter the selected file path as the File Name.
- Enter the current IP Address of the Transceiver (Note: This can be different than the IP Address entered into the configuration file.)



- Click on “Connect” and the status of the connection will be displayed in the Comm Status window. When the Transceiver is connected click on “Send File” to the send the config file to the Transceiver.

I. Activating The Config File

- Once the config file has been sent to the Transceiver it will become active immediately. If you have changed the IP Address in the config file you will lose your connection and have to reconnect using the IP Address and Subnet Mask that was sent in the **new config file**.



- To confirm that the appropriate configuration file is saved on the Transceiver – reopen the File Transfer Dialog and click on “Get File” to retrieve a copy of the active configuration file from the Transceiver. The Editor will automatically save this file in the folder “trs” with the file name of “_config.ini”.
- Click on File > Open Config File and select the “_config.ini” file. Click on “Open” to open the file in the Editor. Confirm that the file is the same as the original configuration file. Since the “Group Name” and the “Point Name” fields are not used by the MOD9200 transceiver, these fields will now be blank. All the other fields and settings should be the same as the original ,ini file.

REG FUNCTION	REG ADDRESS	GROUP NAME	POINT NAME	TRANSMITTER ID	TRANS CHAN	DATA FORMAT	LOG
ANALOG_INPUTS	0	WH		1FE	1	THERM 20k	
ANALOG_INPUTS	1	WH		1FE	2	HUMIDITY	
ANALOG_INPUTS	2	WT		1FC	1	THERM 20k	
ANALOG_INPUTS	3	WT		223	1	THERM 20k	
ANALOG_INPUTS	4	WT		224	1	THERM 20k	
ANALOG_INPUTS	5	WT		225	1	THERM 20k	

NOTE: The “_config.ini” file is a dynamic file. If multiple MOD9200 Transceivers are being administered from the same PC the “_config.ini” file will be a copy of the configuration file from the last Transceiver administered.

IV. Data Acquisition

a. LONWORKS Protocol

- The LonWorks protocol, also known as LonTalk protocol and the ANSI/EIA 709.1 Control Networking Standard, is developed and maintained by Echelon Corporation.
- The protocol provides a set of communication services that allow the application program in a device to send and receive information from other devices over the network over the network without needing to know the topology of the network or the names, address or functions of the other devices.

b. MOD9200LON LonWorks Transceiver Parameters

- The MOD9200LON Transceiver is an application specific FTT-10 (Free Topology Twisted-Pair) network device communicating at 78 KBPS. It receives data from up to fifty (50) wireless sensors and updates its data registers on a real time basis.
- *Different functional profiles is available for different applications. Please refer to Appendix A for specific models.*
- The NVO (Output Network Variable) names will correspond to the MOD9200 Input Register 0 through 199, Digital Output Register 100 to 149 and Analog Output Register 100 to 149. The NVI (Input Network Variable) names will correspond to the Output Register 0 to 49 and Analog Output Register 0 to 49.
- The data registers of the MOD9200 can be assigned non-consecutively based on the network variable maps in **Appendix A**. User can assign specific data registers needed and skip to the next applicable data register using the Trs Programmer software setup tool.

- Input/Output Types Supported:
 - Analog and Digital Inputs – Input Register 01 to 100 (NVOs)
 - Digital (Relay) Outputs – Digital Output (Coil) register 01 to 50 (NVIs)
 - Analog Outputs – Analog Output (Holding) register 01 to 50 (NVIs)

- **The Input Registers**
 - All digital status/alarms will be received and stored by MOD9200 based on the SVNTs Type used (refer to Appendix A). The Digital Capture Time can be adjusted to “hold” momentary contact closures long enough to be “picked up by the system”.
 - All analog data will be received and stored as floating point values. Refer to Appendix A for SVNTs Type used.
 - For the data type TOTALIZER, the data will be display as floating point values. When the count reaches 16,777,215 (24 bits) the count value rolls over to 0 and begins again.
 - The Digital Capture Time can be set up to 240 minutes (4 hours) in applications where an extended period of time is needed such as “unoccupied period by-pass”.

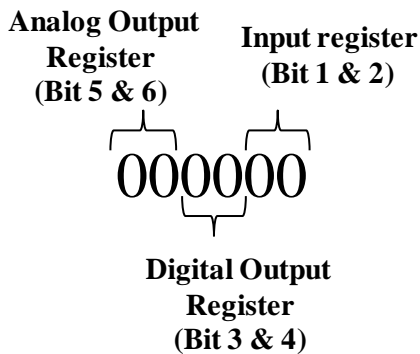
- **The Digital Output (Coil) Registers**
 - The nviDigitalOut01 to nviDigitalOut50 are used for command remote wireless digital outputs (relays) module i.e. RD2402D & the RD2432D devices. Values to be entered (or sent) is 1=on and 0=off.
 - The nvoDOstatus01 through nvoDOstatus50 will be automatically assigned by the MOD9200LON. These 50 registers/nvos will display the status of the relays commanded via the previous nviDigitalOutXX objects. After the remote unit executed the command issued by the MOD9200, It will send a feedback status of the relays to the MOD9200.

- **The Analog Output (Holding) Registers**
 - The nviAnalogOut01 to nviAnalogOut50 are used to command remote wireless analog outputs (0-10VDC or 0-5VDC) module such as the SD2432D devices. Value to be entered (or sent) is from 1.0 to 100.0 representing the percentage of full output range.
 - The nvoAOfstatus01 through nvoAOfstatus50 will be automatically assigned by the MOD9200LON. These 50 registers/nvos will display the status of the analog output commanded via the previous nviAnalogOutXX objects. After the remote unit

executed the command issued by the MOD9200, It will send a feedback status of the analog output value to the MOD9200.

- **The Alarm Registers**

- The nvoAlm01 through nvoAlm100 are the alarm registers for all the input and output data points. Each point utilizes 6 binary bits of information representing the alarm conditions of the “Input Registers/nvo’s”, “Digital Output (Coil) Register/nvi’s” and “Analog Output (Holding) Register/nvi’s”.



- The value of each variable displays a decimal value representing the alarm status of all 3 point types. Each point type returns an individual alarm value in decimal format. All 3 point types decimal values are added together to represent the status of the 3 alarm status.
- The decimal values of different point types are:
 - The Input Register/sensor nvo alarm
 - “0”= Normal
 - “1”= Low Battery Alarm (Bit 1 set)
 - “2”= Lost Communication Alarm (Bit 2 set)
 - The Digital Output (Coil) Register/DO nvi alarm
 - “0” Normal
 - “8”= Lost Communication Alarm (Bit 4 set)
 - The Analog Output (Holding) Register/AO nvi alarm
 - “0” Normal
 - “32”= Lost Communication Alarm (Bit 6 set)
- Alarm Status Examples:

- Example 1 – nvoAlm08 returns a value of 33 representing Input Register 08 (Low Battery Alarm), Digital Output 08 (Normal) & Analog Output 08 (Lost Communication).
- Example 2 – nvoAlm08 returns a value of 40 representing Input Register 08 (Normal), Digital Output 08 (Lost Communication) & Analog Output 08 (Lost Communication).
- Example 3 – nvoAlm28 returns a value of 42 representing Input Register 28 (Lost Communication), Digital Output 28 (Lost Communication) & Analog Output 28 (Lost Communication).
- Example 4 – nvoAlm28 returns a value of 9 representing Input Register 28 (Low Battery Alarm), Digital Output 28 (Lost Communication) & Analog Output 28 (Normal).

For more implementation information please refer to the Echelon Corporation website www.echelon.com or the LonMark International association website www.lonmark.org.

V. Quick Setup Instructions

a. Configuration of the MOD9200LON

1. Connect the Transceiver to the TCP/IP network using RJ45 Category 5 Ethernet cable or a crossover cable (see Fig. 1 page 4) to a notebook or a desktop PC.
2. Apply 24 VAC 60 Hz power to the input terminals of the Transceiver. The Transceiver current draw is less than 0.3 Amp.
3. The Transceiver is shipped with an IP address of 192.168.0.1 and a subnet mask of 255.255.255.0 (see page 8 for instructions on changing the IP address).
4. **To initially connect to the Transceiver, the networked PC must have a static IP address in the form of 192.168.0.X where X is > 2 with a subnet mask of 255.255.255.0.**
5. Installing The MOD9200 Configuration Software
6. Configure the MOD9200LON Transceiver (see Appendix A)

b. Installing the FTT-10 Network

1. Choose a location close to the LonWorks® network connection and away from the ground.
2. Mount the Transceiver on the wall using four #8 screws.
3. 24 VAC Input - Connect 24VAC 60 Hz and earth ground to the input terminals using 20 AWG wire as shown in the product data sheet.
4. FTT-10 - Use 20 or 22 gauge shielded twisted pair wire to connect the Transceiver(Terminals “A” & “B”) to the LonWorks network (See Figure 1). The connection of the FTT-10 network is not polarity sensitive and the designation (+) and (-) on the board is not relevant in this case. There are two sets of terminal “A” & “B”. The second set of terminals can be used to extend the FTT-10 network (if needed).
5. Power up the MOD9200 Transceiver with the LON network.
6. Use any LonWorks network management tool to setup the network, devices, functional blocks, input and output variables (please refer to appendix A for nvo/nvi names and SNVT types used).
7. When setting up the MOD9200LON, the **Neuron ID** number is located on the label inside of the device.

APPENDIX A

Available MOD9200LON models

- MOD9200LON-A Up to 30 wireless wall temperature sensors (WT2630A,B&C, FT2630A, DT2630A, & OST2630) with setpoint adjustments and/or push button override switches, up to 6 humidity sensors and up to 4 digital status inputs.
Up to 50 wireless remote digital outputs and 50 wireless remote analog outputs.
- MOD9200LON-B Up to 50 wireless temperature sensors (wall, duct, water or outside air sensors). This model does not support setpoint adjustment or digital input devices.
Up to 50 wireless remote digital outputs and 50 wireless remote analog outputs.
- MOD9200LON-C Up to 50 wireless sensors (temperature and /or humidity combinations) This model does not support setpoint adjustment or digital input devices.
Up to 50 wireless remote digital outputs and 50 wireless remote analog outputs.
- MOD9200LON-D Up to 50 wireless sensors/transmitters (support up to 40 “RT2630B” 0-10VDC point types, 40 RT2630/2620 digital input point types, 10 temperature & 10 humidity point types).
Up to 50 wireless remote digital outputs and 50 wireless remote analog outputs.
- MOD9200LON-E Up to 50 wireless sensors/transmitters (26 temperature points, 26 setpoint adjustments, 26 push button override switches, 12 CO2 PPM inputs, 6 humidity points and 4 digital status inputs).
Up to 50 wireless remote digital outputs and 50 wireless remote analog outputs.
- MOD9200LONF Up to 50 wireless sensors/transmitters (40 temperature points, 20 humidity points and 40 digital status inputs). This model does not support setpoint adjustment.
Up to 50 wireless remote digital outputs and 50 wireless remote analog outputs.

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