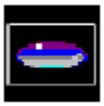
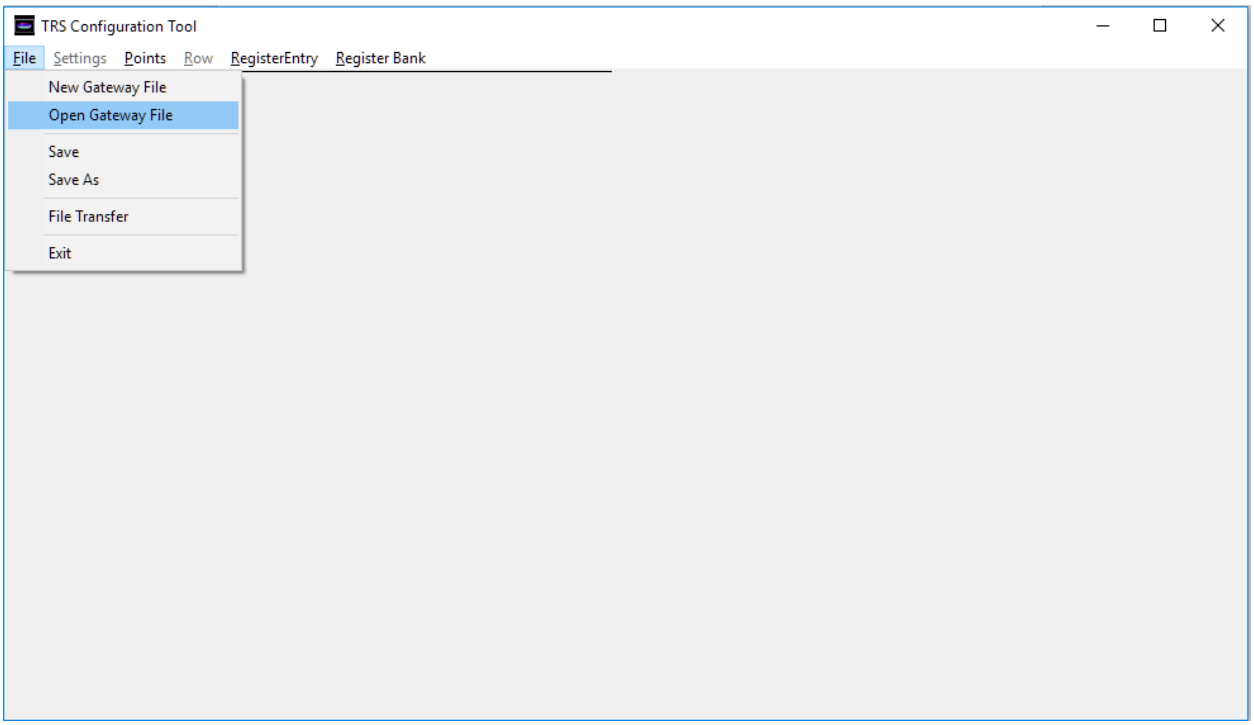
Programming a Wireless Monitoring Site

Run the TRS Configuration Tool:



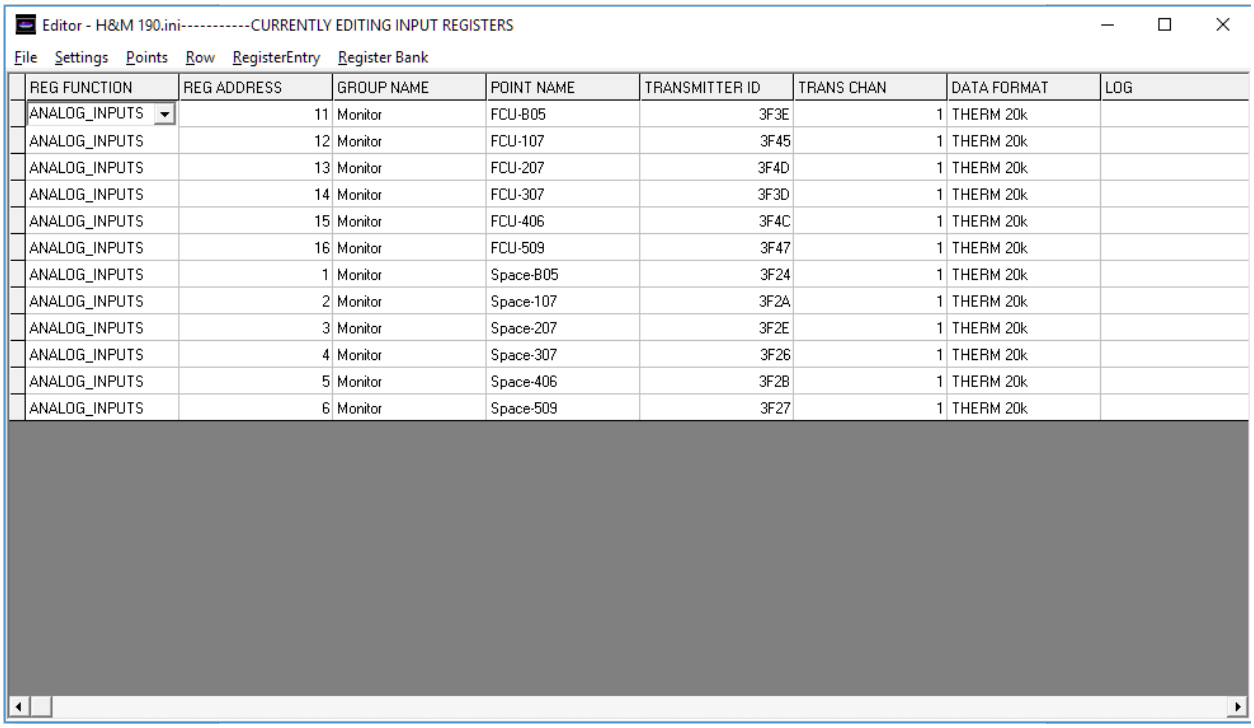
The program will take quite a few seconds to become responsive.

Press File | Open Gateway File:



Copy the most recent project and rename it to the new site.

Open the new file.



REG FUNCTION	REG ADDRESS	GROUP NAME	POINT NAME	TRANSMITTER ID	TRANS CHAN	DATA FORMAT	LOG
ANALOG_INPUTS	11	Monitor	FCU-B05	3F3E	1	THERM 20k	
ANALOG_INPUTS	12	Monitor	FCU-107	3F45	1	THERM 20k	
ANALOG_INPUTS	13	Monitor	FCU-207	3F4D	1	THERM 20k	
ANALOG_INPUTS	14	Monitor	FCU-307	3F3D	1	THERM 20k	
ANALOG_INPUTS	15	Monitor	FCU-406	3F4C	1	THERM 20k	
ANALOG_INPUTS	16	Monitor	FCU-509	3F47	1	THERM 20k	
ANALOG_INPUTS	1	Monitor	Space-B05	3F24	1	THERM 20k	
ANALOG_INPUTS	2	Monitor	Space-107	3F2A	1	THERM 20k	
ANALOG_INPUTS	3	Monitor	Space-207	3F2E	1	THERM 20k	
ANALOG_INPUTS	4	Monitor	Space-307	3F26	1	THERM 20k	
ANALOG_INPUTS	5	Monitor	Space-406	3F2B	1	THERM 20k	
ANALOG_INPUTS	6	Monitor	Space-509	3F27	1	THERM 20k	

We can either delete the rows or delete the information on them.

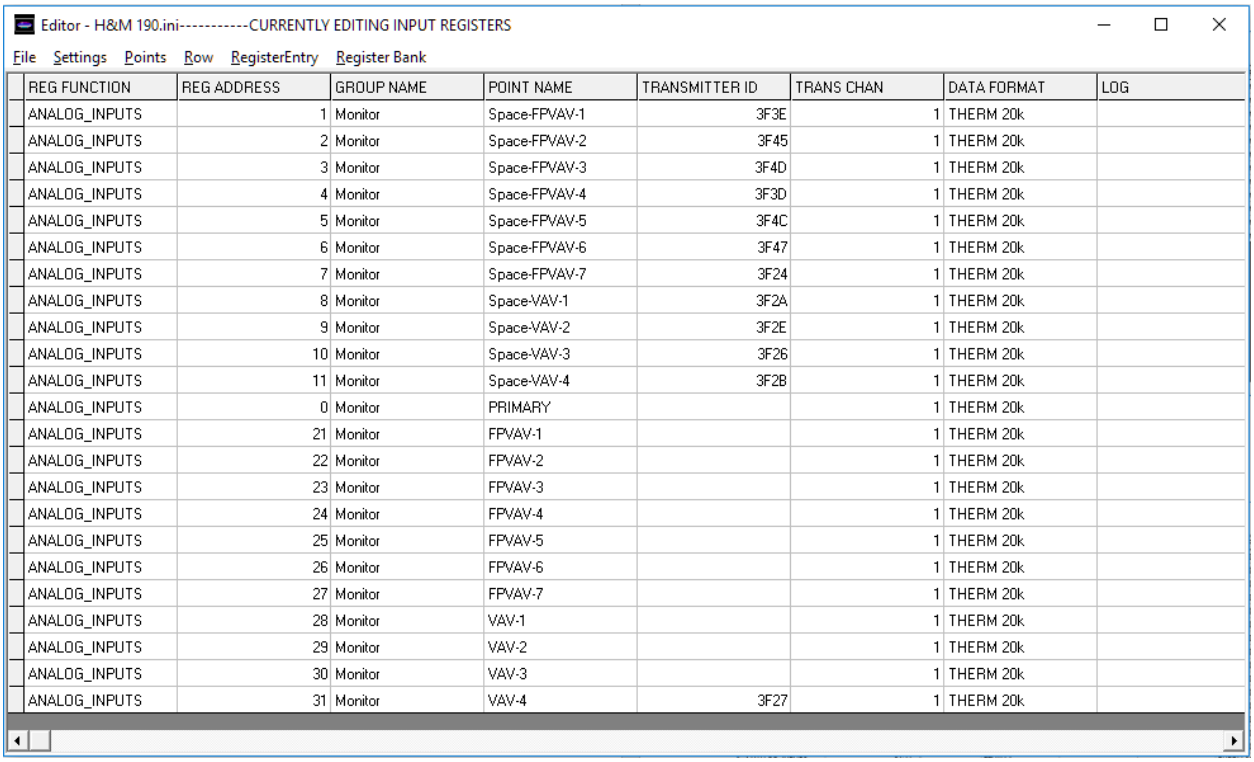
In this case we need far more rows than the previous project. The Row menu allows us to Insert before, Append after, or Delete the current row.

Point Names and Register Address must be unique. All information other than the name must be input using drop-down menus—which can be inconvenient, especially for the Transmitter ID. UPDATE: type the address and press the down-arrow.

The file created is comma-delimited.

The program will save (and even pretend that it successfully transfers) a file with commas in the point names, but it cannot reopen it! (Fortunately, Notepad++ was able to remedy the situation.)

The expanded file, ready for the Transmitter IDs.

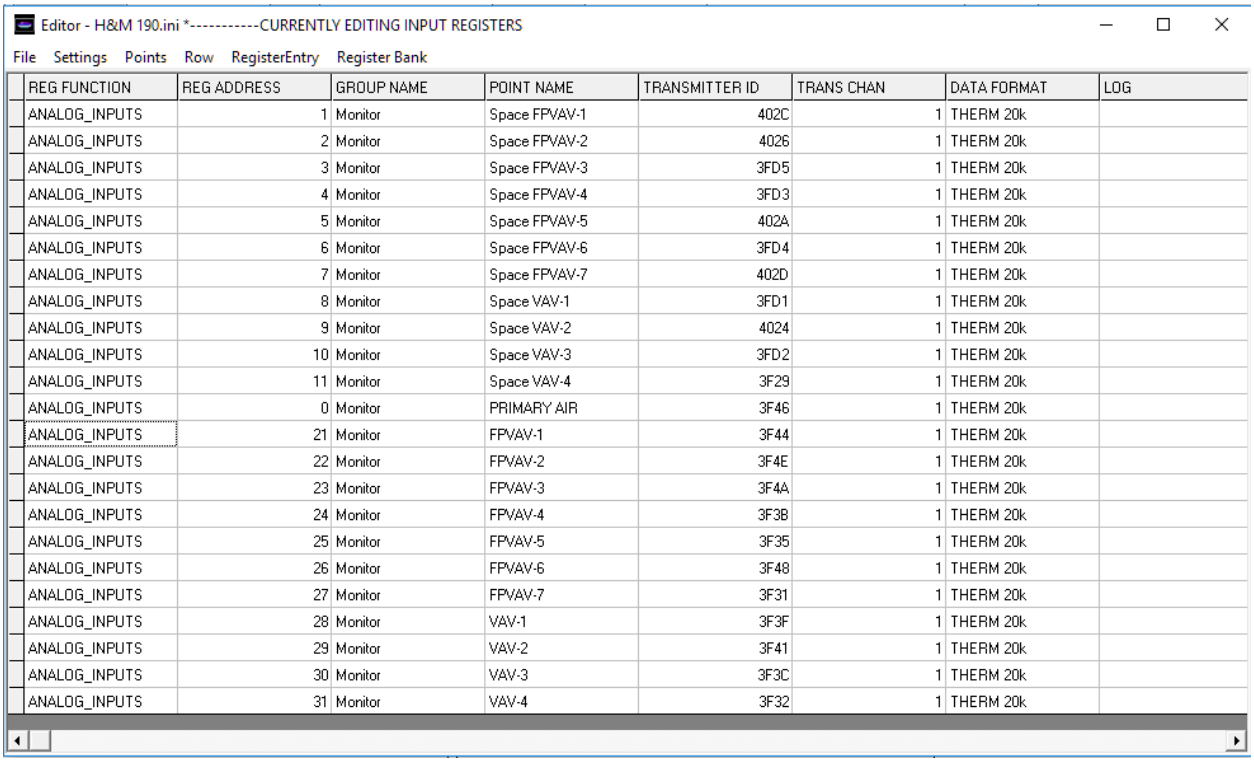


Editor - H&M 190.ini----------CURRENTLY EDITING INPUT REGISTERS

File Settings Points Row RegisterEntry Register Bank

REG FUNCTION	REG ADDRESS	GROUP NAME	POINT NAME	TRANSMITTER ID	TRANS CHAN	DATA FORMAT	LOG
ANALOG_INPUTS	1	Monitor	Space-FPVAV-1	3F3E	1	THERM 20k	
ANALOG_INPUTS	2	Monitor	Space-FPVAV-2	3F45	1	THERM 20k	
ANALOG_INPUTS	3	Monitor	Space-FPVAV-3	3F4D	1	THERM 20k	
ANALOG_INPUTS	4	Monitor	Space-FPVAV-4	3F3D	1	THERM 20k	
ANALOG_INPUTS	5	Monitor	Space-FPVAV-5	3F4C	1	THERM 20k	
ANALOG_INPUTS	6	Monitor	Space-FPVAV-6	3F47	1	THERM 20k	
ANALOG_INPUTS	7	Monitor	Space-FPVAV-7	3F24	1	THERM 20k	
ANALOG_INPUTS	8	Monitor	Space-VAV-1	3F2A	1	THERM 20k	
ANALOG_INPUTS	9	Monitor	Space-VAV-2	3F2E	1	THERM 20k	
ANALOG_INPUTS	10	Monitor	Space-VAV-3	3F26	1	THERM 20k	
ANALOG_INPUTS	11	Monitor	Space-VAV-4	3F2B	1	THERM 20k	
ANALOG_INPUTS	0	Monitor	PRIMARY		1	THERM 20k	
ANALOG_INPUTS	21	Monitor	FPVAV-1		1	THERM 20k	
ANALOG_INPUTS	22	Monitor	FPVAV-2		1	THERM 20k	
ANALOG_INPUTS	23	Monitor	FPVAV-3		1	THERM 20k	
ANALOG_INPUTS	24	Monitor	FPVAV-4		1	THERM 20k	
ANALOG_INPUTS	25	Monitor	FPVAV-5		1	THERM 20k	
ANALOG_INPUTS	26	Monitor	FPVAV-6		1	THERM 20k	
ANALOG_INPUTS	27	Monitor	FPVAV-7		1	THERM 20k	
ANALOG_INPUTS	28	Monitor	VAV-1		1	THERM 20k	
ANALOG_INPUTS	29	Monitor	VAV-2		1	THERM 20k	
ANALOG_INPUTS	30	Monitor	VAV-3		1	THERM 20k	
ANALOG_INPUTS	31	Monitor	VAV-4	3F27	1	THERM 20k	

The finished Gateway File:



Editor - H&M 190.ini *----------CURRENTLY EDITING INPUT REGISTERS

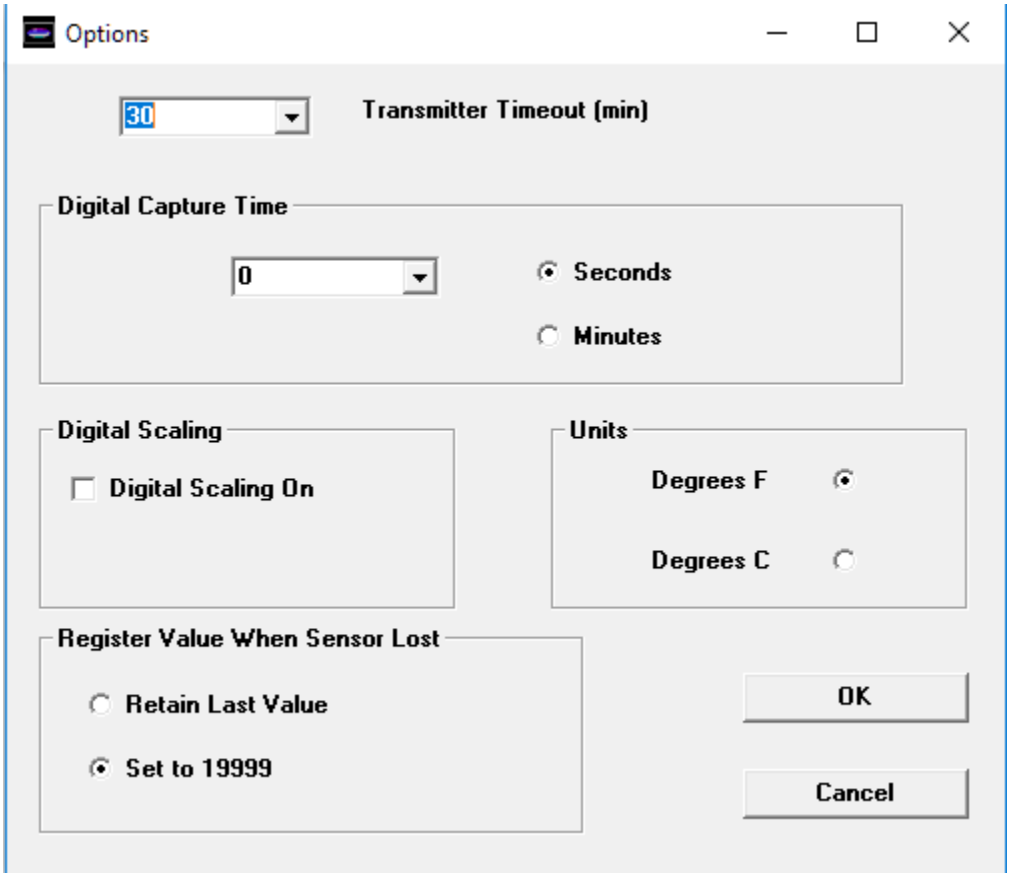
File Settings Points Row RegisterEntry Register Bank

REG FUNCTION	REG ADDRESS	GROUP NAME	POINT NAME	TRANSMITTER ID	TRANS CHAN	DATA FORMAT	LOG
ANALOG_INPUTS	1	Monitor	Space FPVAV-1	402C	1	THERM 20k	
ANALOG_INPUTS	2	Monitor	Space FPVAV-2	4026	1	THERM 20k	
ANALOG_INPUTS	3	Monitor	Space FPVAV-3	3FD5	1	THERM 20k	
ANALOG_INPUTS	4	Monitor	Space FPVAV-4	3FD3	1	THERM 20k	
ANALOG_INPUTS	5	Monitor	Space FPVAV-5	402A	1	THERM 20k	
ANALOG_INPUTS	6	Monitor	Space FPVAV-6	3FD4	1	THERM 20k	
ANALOG_INPUTS	7	Monitor	Space FPVAV-7	402D	1	THERM 20k	
ANALOG_INPUTS	8	Monitor	Space VAV-1	3FD1	1	THERM 20k	
ANALOG_INPUTS	9	Monitor	Space VAV-2	4024	1	THERM 20k	
ANALOG_INPUTS	10	Monitor	Space VAV-3	3FD2	1	THERM 20k	
ANALOG_INPUTS	11	Monitor	Space VAV-4	3F29	1	THERM 20k	
ANALOG_INPUTS	0	Monitor	PRIMARY AIR	3F46	1	THERM 20k	
ANALOG_INPUTS	21	Monitor	FPVAV-1	3F44	1	THERM 20k	
ANALOG_INPUTS	22	Monitor	FPVAV-2	3F4E	1	THERM 20k	
ANALOG_INPUTS	23	Monitor	FPVAV-3	3F4A	1	THERM 20k	
ANALOG_INPUTS	24	Monitor	FPVAV-4	3F3B	1	THERM 20k	
ANALOG_INPUTS	25	Monitor	FPVAV-5	3F35	1	THERM 20k	
ANALOG_INPUTS	26	Monitor	FPVAV-6	3F48	1	THERM 20k	
ANALOG_INPUTS	27	Monitor	FPVAV-7	3F31	1	THERM 20k	
ANALOG_INPUTS	28	Monitor	VAV-1	3F3F	1	THERM 20k	
ANALOG_INPUTS	29	Monitor	VAV-2	3F41	1	THERM 20k	
ANALOG_INPUTS	30	Monitor	VAV-3	3F3C	1	THERM 20k	
ANALOG_INPUTS	31	Monitor	VAV-4	3F32	1	THERM 20k	

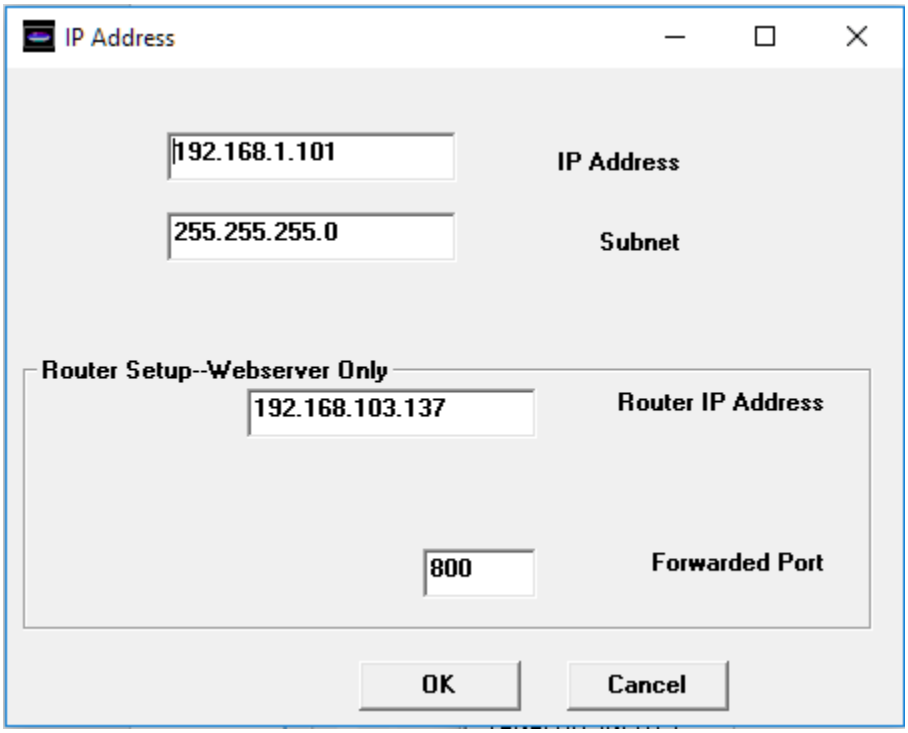
LABEL EACH SENSOR IMMEDIATELY!

AND LABEL THE BOXES FOR EACH SENSOR!

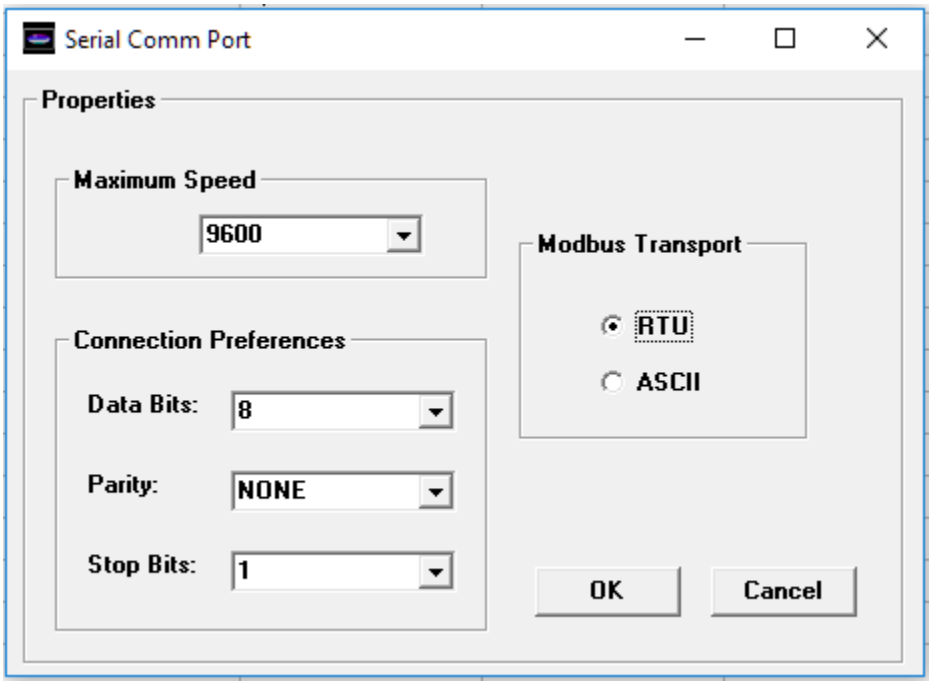
In Settings | Miscellaneous, set the Units and Register Value When Sensor Lost:



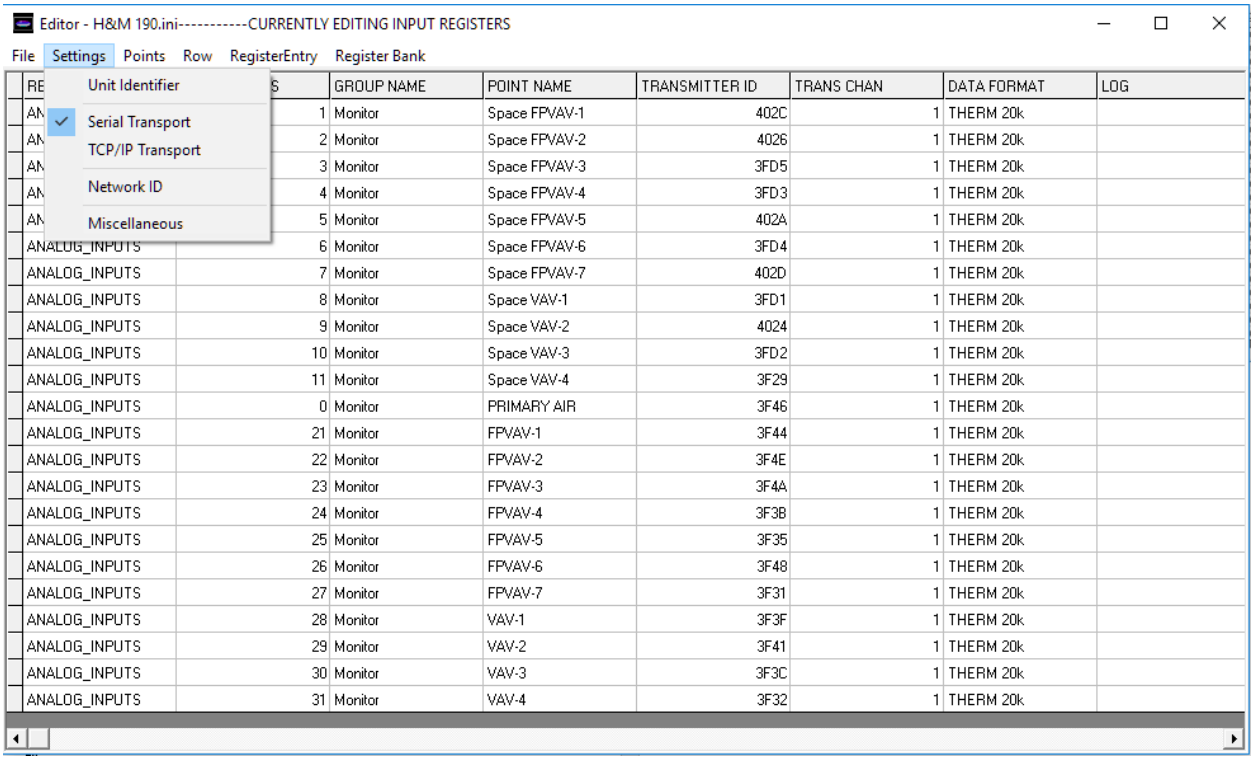
Settings | TCP/IP Transport, set the desired IP Address and Subnet:



In Settings | Serial Transport, select RTU Modbus Transport:

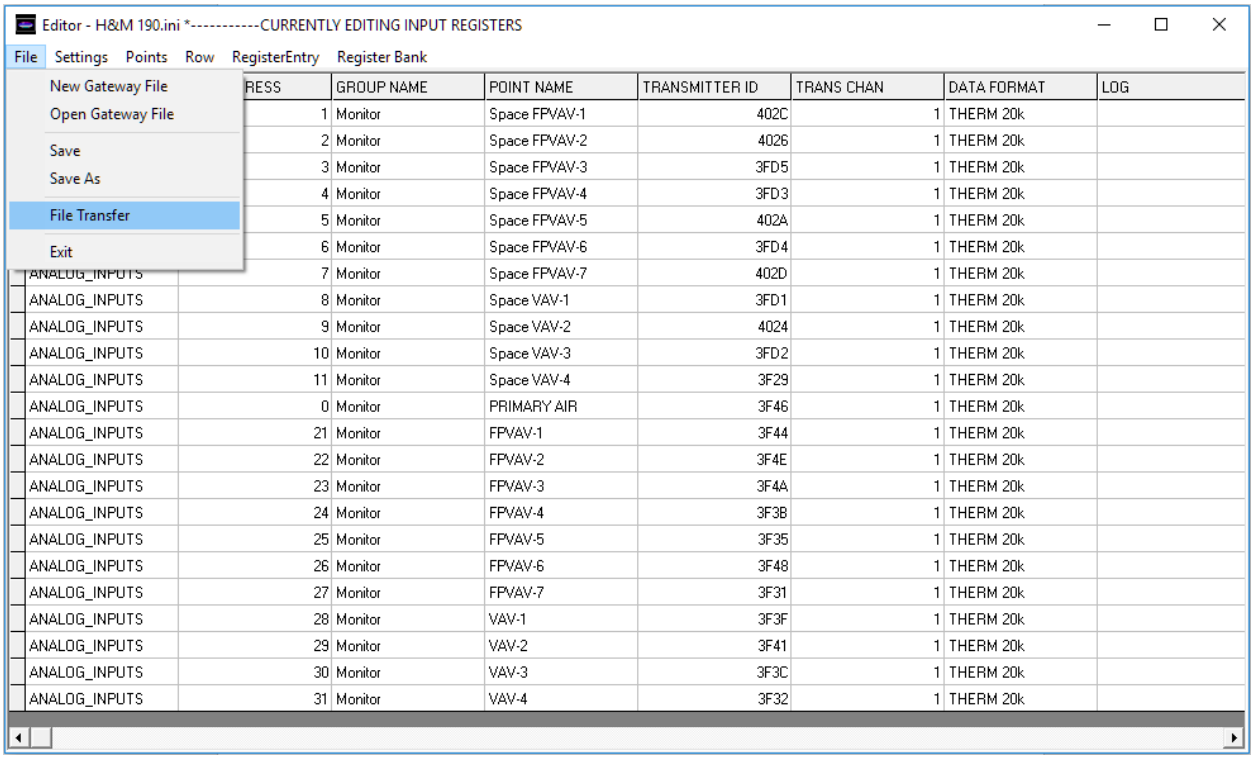


Serial Transport will now be checked in the Settings menu:



RE	S	GROUP NAME	POINT NAME	TRANSMITTER ID	TRANS CHAN	DATA FORMAT	LOG
AN	1	Monitor	Space FPVAV-1	402C	1	THERM 20k	
AN	2	Monitor	Space FPVAV-2	4026	1	THERM 20k	
AN	3	Monitor	Space FPVAV-3	3FD5	1	THERM 20k	
AN	4	Monitor	Space FPVAV-4	3FD3	1	THERM 20k	
AN	5	Monitor	Space FPVAV-5	402A	1	THERM 20k	
ANALOG_INPUTS	6	Monitor	Space FPVAV-6	3FD4	1	THERM 20k	
ANALOG_INPUTS	7	Monitor	Space FPVAV-7	402D	1	THERM 20k	
ANALOG_INPUTS	8	Monitor	Space VAV-1	3FD1	1	THERM 20k	
ANALOG_INPUTS	9	Monitor	Space VAV-2	4024	1	THERM 20k	
ANALOG_INPUTS	10	Monitor	Space VAV-3	3FD2	1	THERM 20k	
ANALOG_INPUTS	11	Monitor	Space VAV-4	3F29	1	THERM 20k	
ANALOG_INPUTS	0	Monitor	PRIMARY AIR	3F46	1	THERM 20k	
ANALOG_INPUTS	21	Monitor	FPVAV-1	3F44	1	THERM 20k	
ANALOG_INPUTS	22	Monitor	FPVAV-2	3F4E	1	THERM 20k	
ANALOG_INPUTS	23	Monitor	FPVAV-3	3F4A	1	THERM 20k	
ANALOG_INPUTS	24	Monitor	FPVAV-4	3F3B	1	THERM 20k	
ANALOG_INPUTS	25	Monitor	FPVAV-5	3F35	1	THERM 20k	
ANALOG_INPUTS	26	Monitor	FPVAV-6	3F48	1	THERM 20k	
ANALOG_INPUTS	27	Monitor	FPVAV-7	3F31	1	THERM 20k	
ANALOG_INPUTS	28	Monitor	VAV-1	3F3F	1	THERM 20k	
ANALOG_INPUTS	29	Monitor	VAV-2	3F41	1	THERM 20k	
ANALOG_INPUTS	30	Monitor	VAV-3	3F3C	1	THERM 20k	
ANALOG_INPUTS	31	Monitor	VAV-4	3F32	1	THERM 20k	

Save the configuration file and select File | Transfer to send it to the wireless receiver:



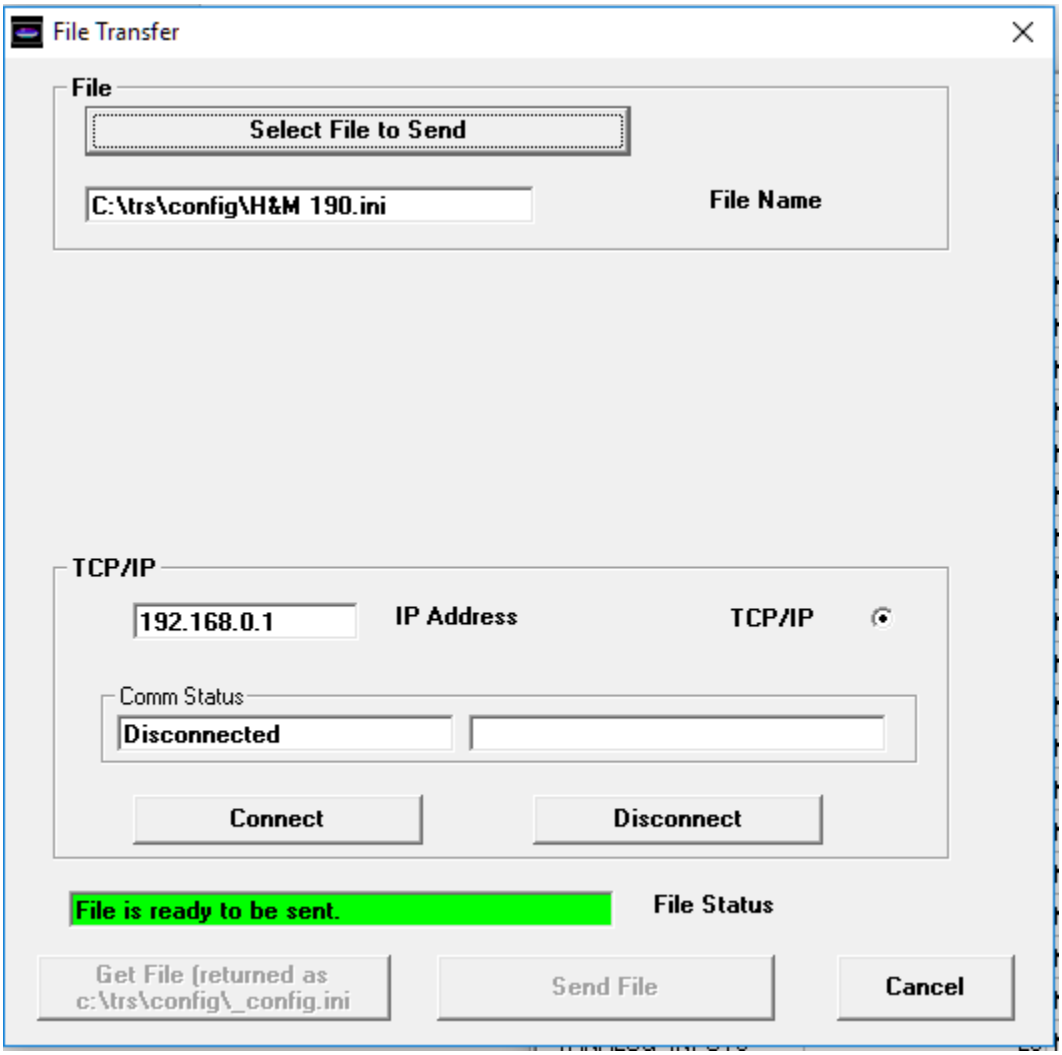
RESS	GROUP NAME	POINT NAME	TRANSMITTER ID	TRANS CHAN	DATA FORMAT	LOG
1	Monitor	Space FPVAV-1	402C	1	THERM 20k	
2	Monitor	Space FPVAV-2	4026	1	THERM 20k	
3	Monitor	Space FPVAV-3	3FD5	1	THERM 20k	
4	Monitor	Space FPVAV-4	3FD3	1	THERM 20k	
5	Monitor	Space FPVAV-5	402A	1	THERM 20k	
6	Monitor	Space FPVAV-6	3FD4	1	THERM 20k	
7	Monitor	Space FPVAV-7	402D	1	THERM 20k	
8	Monitor	Space VAV-1	3FD1	1	THERM 20k	
9	Monitor	Space VAV-2	4024	1	THERM 20k	
10	Monitor	Space VAV-3	3FD2	1	THERM 20k	
11	Monitor	Space VAV-4	3F29	1	THERM 20k	
0	Monitor	PRIMARY AIR	3F46	1	THERM 20k	
21	Monitor	FPVAV-1	3F44	1	THERM 20k	
22	Monitor	FPVAV-2	3F4E	1	THERM 20k	
23	Monitor	FPVAV-3	3F4A	1	THERM 20k	
24	Monitor	FPVAV-4	3F3B	1	THERM 20k	
25	Monitor	FPVAV-5	3F35	1	THERM 20k	
26	Monitor	FPVAV-6	3F48	1	THERM 20k	
27	Monitor	FPVAV-7	3F31	1	THERM 20k	
28	Monitor	VAV-1	3F3F	1	THERM 20k	
29	Monitor	VAV-2	3F41	1	THERM 20k	
30	Monitor	VAV-3	3F3C	1	THERM 20k	
31	Monitor	VAV-4	3F32	1	THERM 20k	

The wireless transceiver has an initial IP address of 192.168.0.1 and subnet 255.255.255.0.

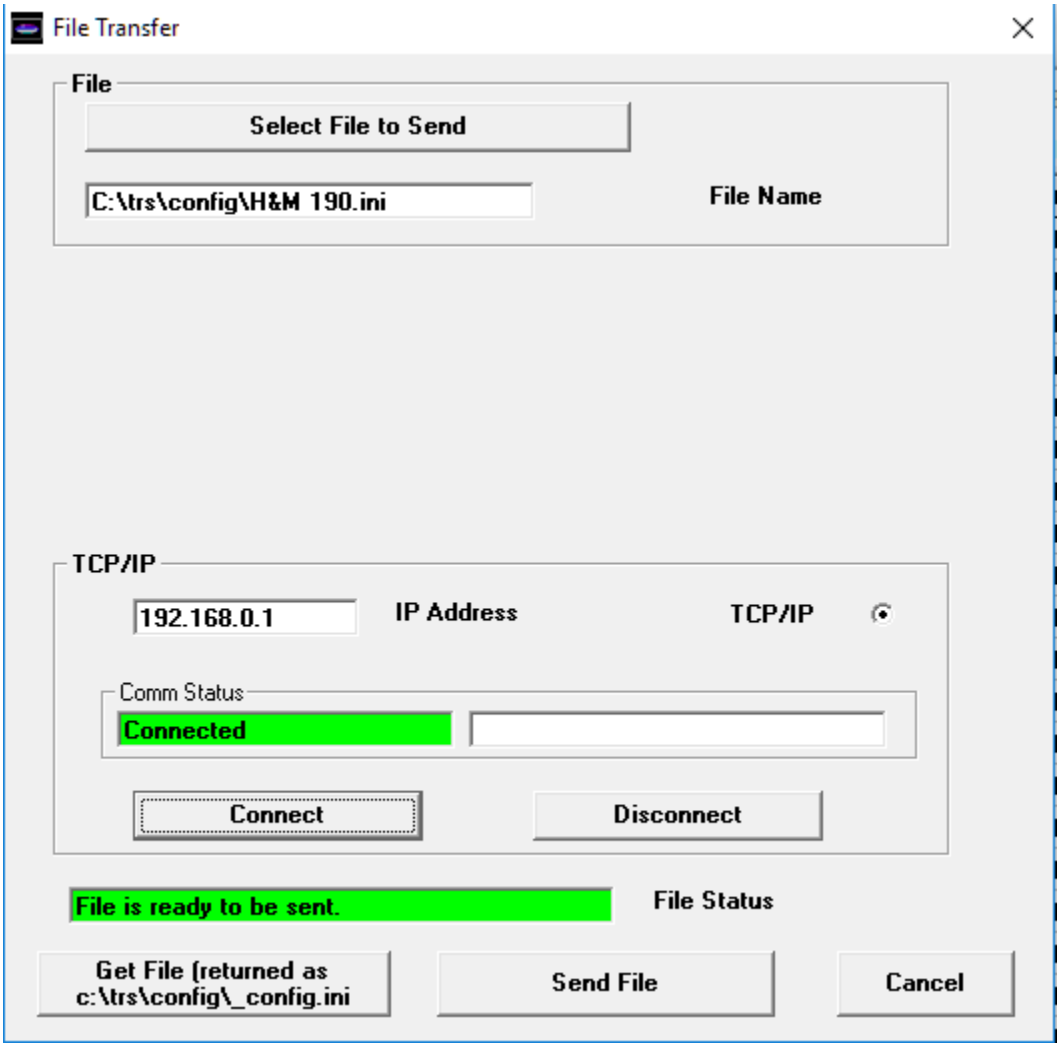
The computer's Ethernet port needs to be configured accordingly.

Select the correct file to send. Set the receiver's IP address.

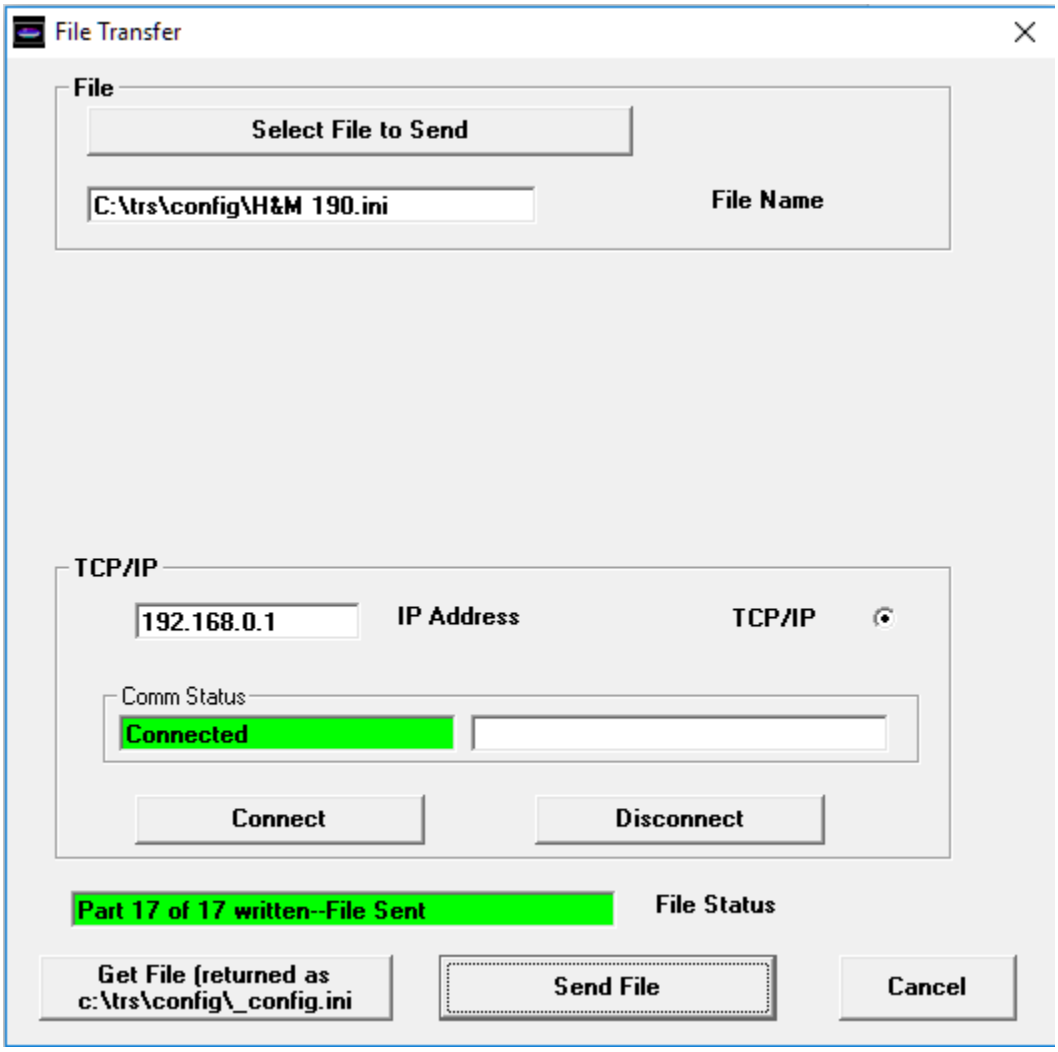
(Note: if the file has already been transferred and now updates have been made, then the transceiver's IP address will no longer be 192.168.0.1; use the address entered in Settings | TCP/IP.)



Press Connect.



Press Send File.



Press Disconnect and Cancel.

The station template name is “HandMWirelessMonitoringTemplateNov112017” (the date may be later).

Setup the station as usual except for the central controller app.

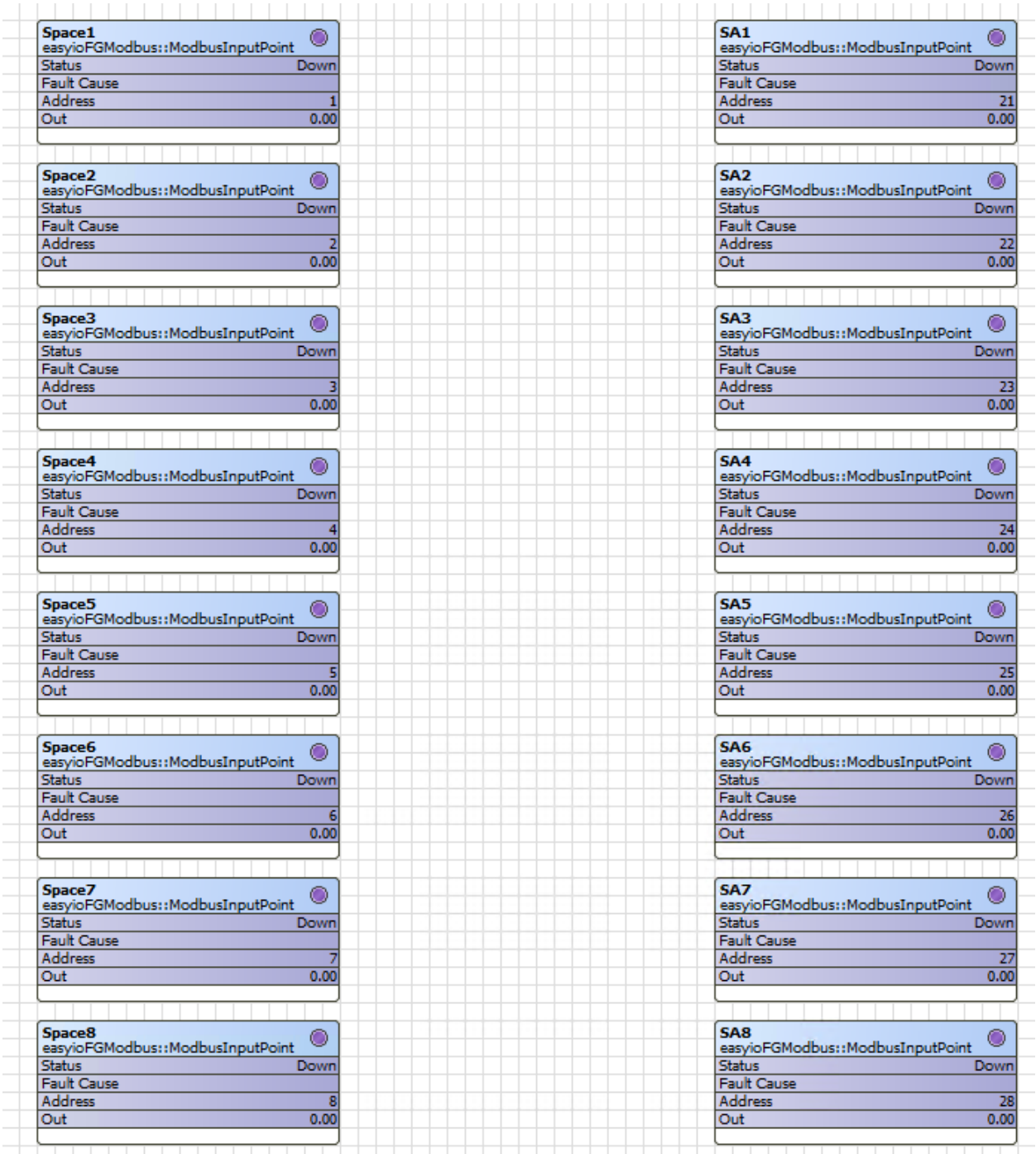
For the central controller restore the file “HMLightingACIWirelessMonitoringNov222017” (or later).

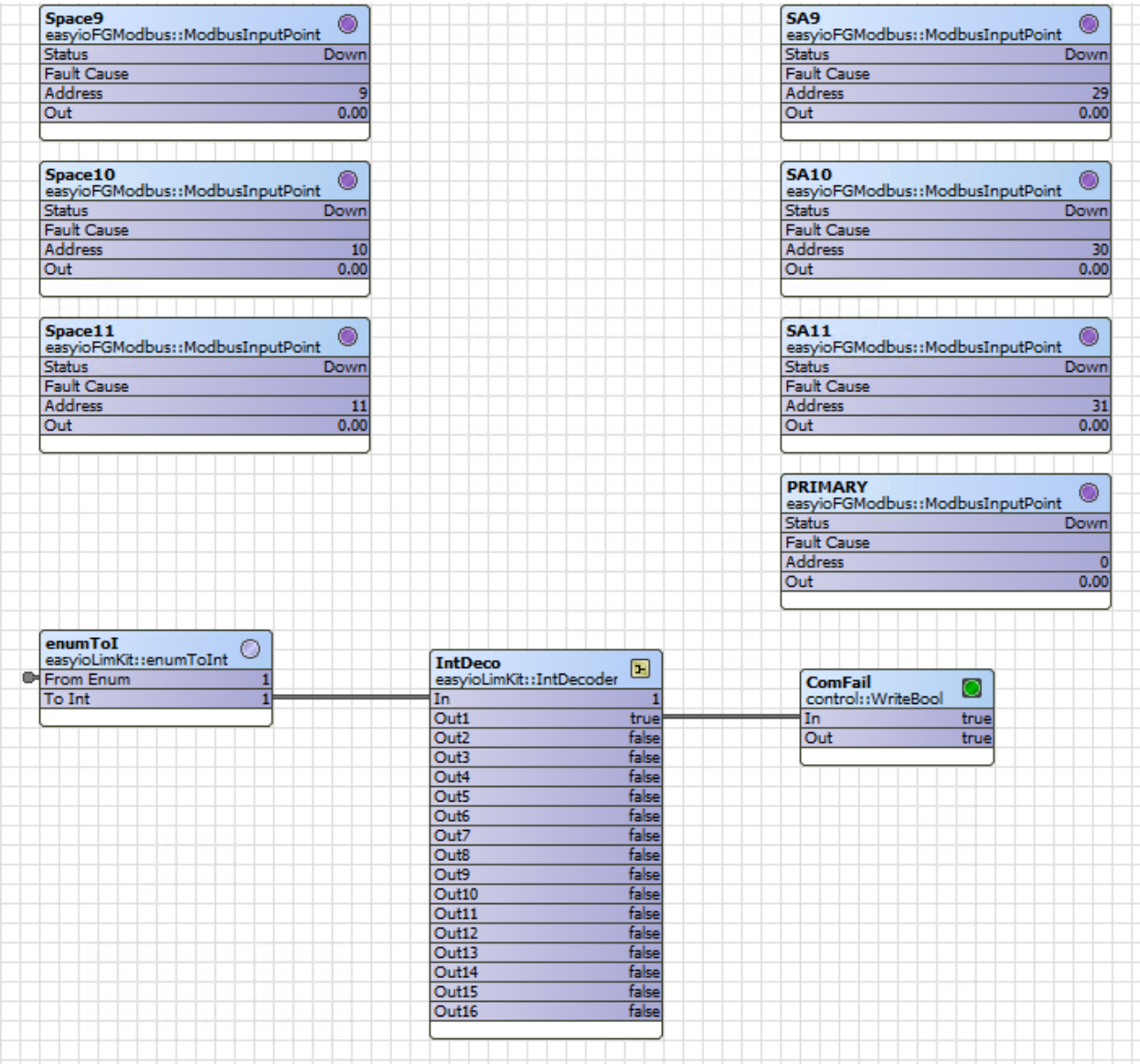
The Wire Sheet of App / EasyIO / ModbusS / Gateway will look initially like this:

The controller is limited to 32 points, and with enough sensors there is no way to use the space and supply alarms. For that reason they were deleted from this site.

(The alarm points are automatically generated … see the manual included with the transceiver.)

This is the wire sheet of the Gateway after editing it for a specific site and removing the alarm points:





BACKUP THE CENTRAL CONTROLLER when all the points are defined and time zone is set.

In the station, the addresses need to match the central controller's app.

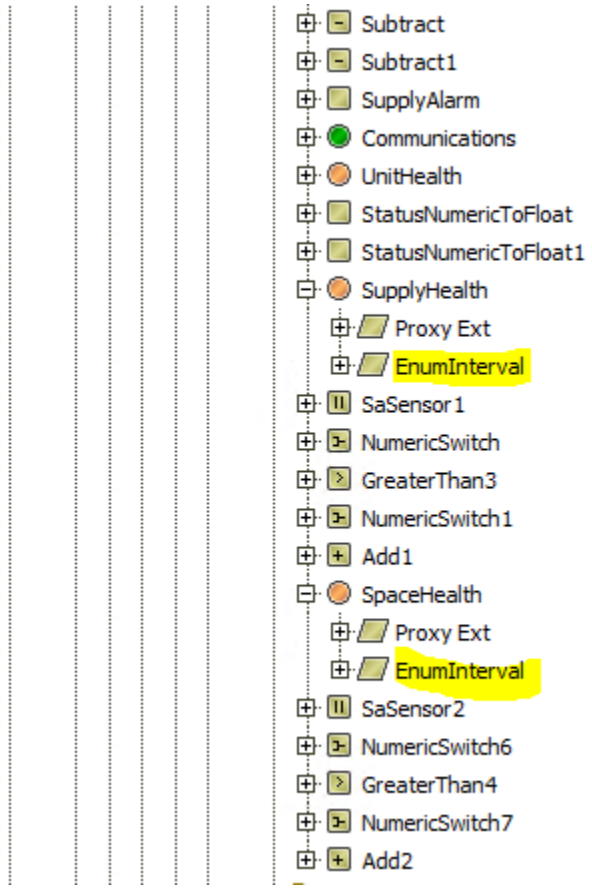
Health points can be deleted if unused.

about.html | Platform | HP01

Database

Name	Type	Out	Address	Access	Tuning Policy Name	Fault Cause
SaTemp	Numeric Point	0.0 °F {down,stale}	12.12	readOnly	COV	
SpaceTemp	Numeric Point	0.0 °F {down,stale}	18.12	readOnly	COV	
SpcHealth	Numeric Point	0.0 {down,stale}	20.12	readOnly	FastPoll	
SAHealth	Numeric Point	0.0 {down,stale}	16.12	readOnly	FastPoll	

If there are no health points then two histories will need to be pruned:



If the central controller has V2.0b50a or higher, kits will need to be upgraded before the backup.

Otherwise all values will be zero.

This can be tedious because of dependencies.