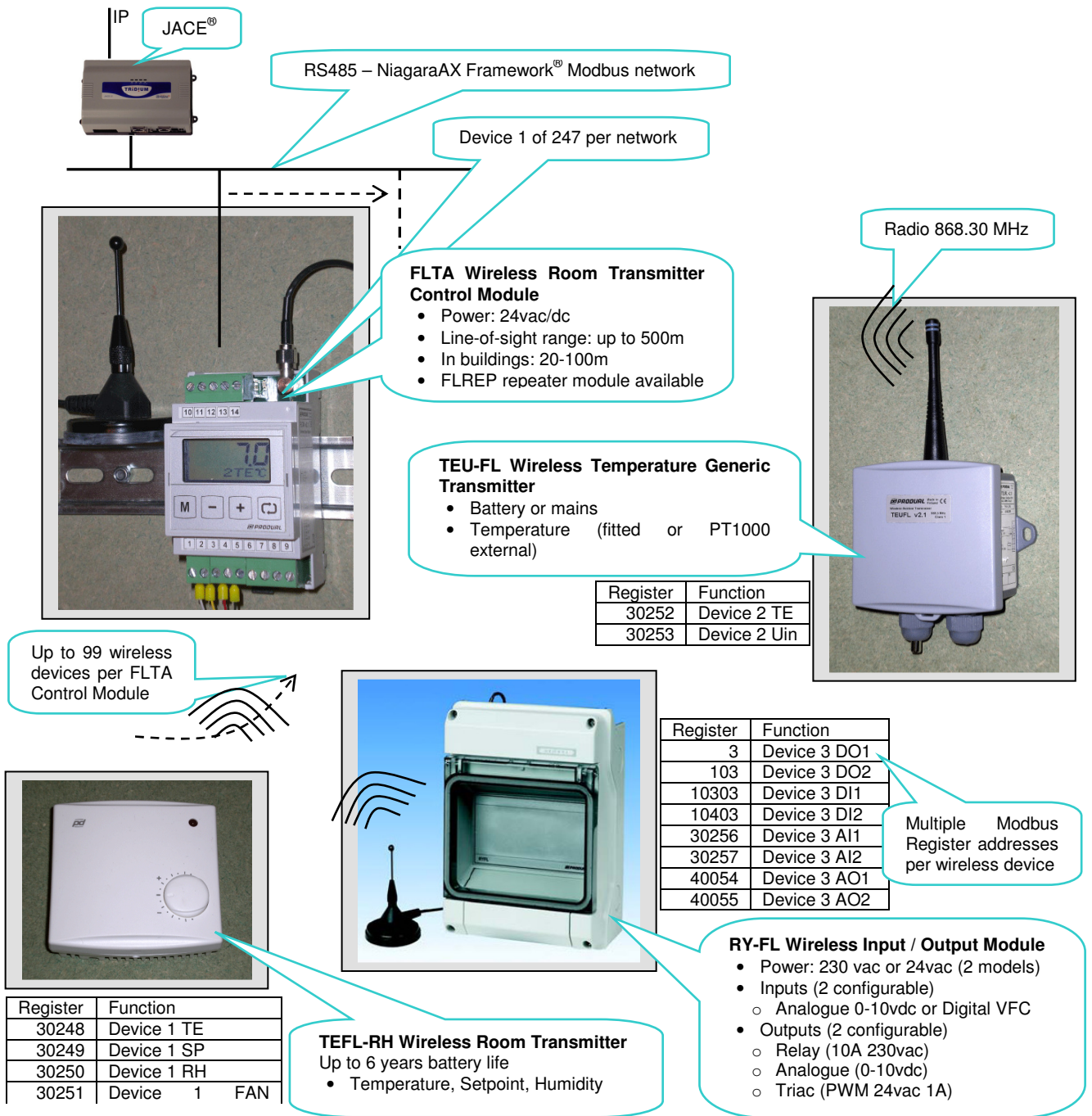


EN-24: An application using wireless sensors

- This engineering note describes an example application using wireless sensors connected to the JACE® via RS485 Modbus Asynchronous Remote Terminal Unit (RTU) mode with their values linked into the Vykon HVAC applications
- An RS485 adapter card (Tridium part number NPB-2X-485) is fitted in one of the two communications slots in the JACE to provide another communications port which is used for the ModbusAsyncNetworkCOM3
- All the devices in this wireless sensor system are manufactured by *Produal* and they are available from *SyxtSense* (www.syxtsense.com)



Add the ModbusAysncNetwork to Station...Config...Drivers

Module	Description
IonYork	York LonDevices
IonZytron	Zytron LonDevices
IonhoneywellAXWizards	Module for wizard based configuration of
Ionunnel	Lonworks Tunneling Service
Ionworks	Niagara Lonworks Module
modbusAsync	Modbus Async Driver
modbusSlave	Modbus Slave Driver
modbusTcp	ModbusTcp Driver
modbusTcpSlave	ModbusTcp Slave Driver
ndio	Ndio Driver
...	...

Give the network a name, and add the ModbusAsyncDevice...

FLTA Wireless Room Transmitter Control Module

Add the Numeric Points

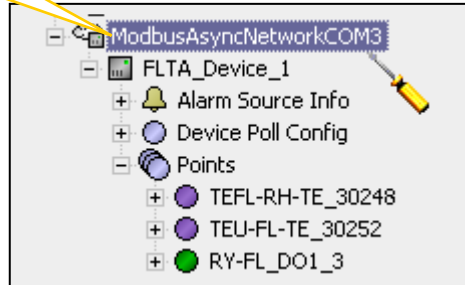
TEFL-RH Wireless Room Transmitter
TE=Temperature Modbus register 30248

TEU-FL Wireless Temperature Generic Transmitter
TE=Temperature Modbus register 30252

RY-FL Wireless Input / Output module
DO1=Digital Output 1 Modbus register 3

And add the Boolean Writeable Points

Configure the **Property** view of the ModbusAsyncNetwork



ModbusAsyncNetworkCOM3 (Modbus Async Network)

<input type="checkbox"/> Status	{ok}
<input type="checkbox"/> Enabled	<input checked="" type="radio"/> true
<input type="checkbox"/> Fault Cause	
<input checked="" type="checkbox"/> Health	Ok [02-Apr-09 2:19 PM BST]
<input checked="" type="checkbox"/> Alarm Source Info	Alarm Source Info
<input checked="" type="checkbox"/> Monitor	Ping Monitor
<input checked="" type="checkbox"/> Tuning Policies	Tuning Policy Map
<input checked="" type="checkbox"/> Poll Scheduler	Basic Poll Scheduler
<input type="checkbox"/> Retry Count	1
<input type="checkbox"/> Response Timeout	+000000h 00m 01.000s
<input type="checkbox"/> Float Byte Order	Order3210
<input type="checkbox"/> Long Byte Order	Order3210
<input type="checkbox"/> Use Preset Multiple Register	<input type="radio"/> false
<input type="checkbox"/> Use Force Multiple Coil	<input type="radio"/> false
<input type="checkbox"/> Max Fails Until Device Down	2 [0 - max]
<input type="checkbox"/> Inter Message Delay	000000h 00m 00.000s [0ms - 1sec]
<input checked="" type="checkbox"/> Serial Port Config	Serial Helper
<input type="checkbox"/> Status	{ok}
<input type="checkbox"/> Port Name	COM3
<input type="checkbox"/> Baud Rate	Baud19200
<input type="checkbox"/> Data Bits	Data Bits8
<input type="checkbox"/> Stop Bits	Stop Bit1
<input type="checkbox"/> Parity	None
<input type="checkbox"/> Flow Control Mode	<input type="checkbox"/> RtsCtsOnInput <input type="checkbox"/> RtsCtsOnOutput <input type="checkbox"/> XonXoffOnInput <input type="checkbox"/> XonXoffOnOutput

Tip:
You **must** ensure that the Port Name is exactly in this format and not entered as for example – “Com 3”

Configure the Points

- Default
- Linear
- Reverse Polarity
- Thermistor Type 3
- Tabular Thermistor
- Shunt500 Ohm Conversion
- Tabular Thermistor Conversion
- Thermistor Type3 Conversion

- ModbusAsyncNetworkCOM3
 - FLTA_Device_1
 - Alarm Source Info
 - Device Poll Config
 - Points
 - TEFL-RH-TE_30248
 - TEU-FL-TE_30252
 - RY-FL_DO1_3

Tip:
You can convert the read value with a linear conversion at a scale of 0.1

TEFL-RH-TE_30248 (Numeric Point)

Facets units=null,precision=1,min=-inf,max=+inf

Proxy Ext Modbus Client Numeric Proxy Ext

Status {ok}

Fault Cause

Enabled true

Device Facets units=null,precision=1,min=-inf,max=+inf

Conversion Linear Scale 0.1 Offset 0

Tuning Policy Name Default Policy

Read Value 213.0 {ok}

Write Value 0.0 {ok}

Poll Frequency Normal

Data Address modbus:30248

Address Format Modbus

Address 30248

Absolute Address modbus:30248

Data Source Point Poll

Reg Type Input

Data Type Integer Type

Out 21.3 {ok}

Poll Frequency Normal

Data Address Fast

Address Format Normal

Address Slow

30036

Data Address modbus:30248

Address Format Modbus

Address Hex

Absolute Address Decimal

Data Source Modbus

Point Poll

Reg Type Input

Data Type Holding

Input

Out 21.3 {ok}

Data Type Integer Type

Out 21.3 {ok}

Integer Type

Long Type

Float Type

Signed Integer

Add a new folder

Use the ObjectCreator to create the objects for Vykon HVAC in the Wire sheet view

Add links between the Points and objects

Space air temperature sensor	
Name	Wireless space temperature sensor
Tag code	TEFL-RH-TE
Out	22.8 °C {ok}
Status	Automatic
In	22.8 °C {ok}

Outside air temperature sensor	
Name	Wireless Outside air sensor
Tag code	TEU-FL-TE
Out	14.6 °C {ok}
Status	Automatic
In	14.6 °C {ok}

Radiator circulation pump	
Name	Wireless DO Radiator Pump
Tag code	RY-FL-DO1
In	On {ok}
Status	Automatic
Out	On {ok}
Feedback alarm time	0ms

And...finally make the **mappings** in the Vykon HVAC applications

Radiators

Occupancy

14.8 °C

22.5 °C

32.1 °C

30.0 °C

31.9 %

Overview Configure

Outside temperature

Outside air temperature 4-1

Wireless Outside air sensor TEU-FL-TE

<<< Create new >>>

Space temperature

Wireless space temperature sensor

Space air temperature 4-4

Wireless space temperature sensor TEFL-RH-TE

<<< Create new >>>

Circulation pump

Radiator circulation pump 1-2

Radiator circulation pump 1-2

Wireless DO Radiator Pump RY-FL-DO1

<<< Create new >>>

