CAS-2700-58
Functional Devices Wi-Fi RIB to BACnet IP Gateway

Key Features

- The CAS2700-58 BACnet/IP Gateway offers the ability to implement a wide variety of wireless solutions from a BACnet/IP network in Building Automation, otherwise by utilizing the powerful and flexible WiFi RIB technology
- With the Chipkin WiFi RIB Gateway, the opportunity is there to turn loads on/off (DO – HTTP Commands) while monitoring with 2 Universal Inputs (0-5Vdc, 0-10Vdc, 4-20ma, thermistors), including a separate single DI for additional monitoring, if required.
- Our Chipkin Gateway allows for collection and logging of data when using the Functional Devices WiFi RIB wireless solution (XML Status reporting).
- The CAS2700-58 Gateway will allow you to view logs and current data using the onboard webserver.
- The Chipkin Gateway will also serve data to other applications over BACnet/IP, if desired.
- The network can be existing, new, parallel or standalone; large or small.

Product Description

The CAS2700-58 connects to the Functional Devices WiFi RIB (HTTP/XML) enabled devices via network, turning loads on & off, offering system monitoring, while being logged into the gateway device.

Typically, this information is processed through a controller where logic is derived from the data collected. These log files are available and can be transferred to other computers or just monitored by remote systems over BACnet/IP.

This data is also available using an Internet Browser such as Internet Explorer or Google Chrome. Connection parameters, device parameters and data parameters are configurable.

RIBTW2401B-WIUI-N4

On/Off control throughout network
- Air Handling Units
- Unit Ventilators
- Parking Lot Lights

Monitor Control with results throughout network
- Temperature
- Humidity
- Current
- Flow
- Pressure
- Level
- Proximity

NEMA 4 Enclosed I/O Device: One Discrete Output (20 Amp Relay SPDT + Override), One Discrete Input (Dry Contact, Class2); Two Universal Inputs; 24 Vac/dc, 120 Vac Power

As technology continues to move forward in the wireless applications of Building Automation, Energy Management and Lighting Control Systems, the more reason to use a Functional Devices wireless solution is evident.

By using a Wi-Fi network, setup can become easier and less expensive than the traditional hard wire used in previous networks.

By incorporating the CAS2700-58 & the RIBTW2401B-WIUI-N4 RIB into your network, devices can easily be installed into those hard to get to places—especially for new & retrofit applications.

Max Nodes Supported (If Applicable)

Gateway Mode	Nodes	Comments
Client	*	Connect up to 25 Wi-Fi RIB devices using configuration forms.
Server	*	The Gateway can serve data to multiple BACnet IP Clients

Connection Information - Port 0: Modbus RTU (Not Used)

Connection type:	**RS485** (Jumper change to RS232)
Baud Rates:	**9600**; 19200 Baud
Data Bits:	**8**
Stop Bits:	**1**
Parity:	**None**
Hardware interface:	N/A
Multidrop Capability	Yes

Connection Information - Port 1: Not Used

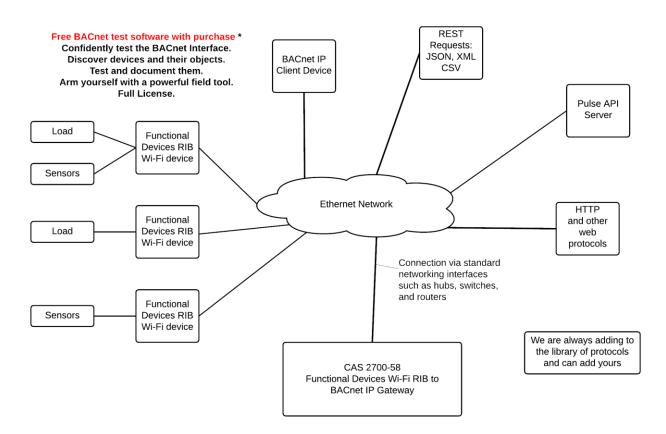|	
Connection type:	**RS232**
Baud Rates:	Driver Supports : 1200, 2400, 4800, **9600**; 19200Baud
Data Bits:	Driver Supports : 7,**8**
Stop Bits:	Driver Supports : **1**,2
Parity:	Driver Supports : Odd, Even, **None**
Hardware interface:	N/A
Multidrop Capability	No

Devices Tested

Device	Tested (FACTORY, SITE)
RIBTW2401B-WIUI-N4	Tested

Connection Diagram

Monitor Functional Devices RIB Wi-Fi devices Using BACnet IP

Free BACnet test software with purchase *
Confidently test the BACnet Interface.
Discover devices and their objects.
Test and document them.
Arm yourself with a powerful field tool.
Full License.

Load

Sensors

Functional Devices RIB Wi-Fi device

Load

Functional Devices RIB Wi-Fi device

Sensors

Functional Devices RIB Wi-Fi device

BACnet IP Client Device

REST Requests: JSON, XML CSV

Pulse API Server

Ethernet Network

HTTP and other web protocols

Connection via standard networking interfaces such as hubs, switches, and routers

We are always adding to the library of protocols and can add yours

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Logging

The Gateway can be configured to log data. Some of the logging features are
- Polled data and timestamps are stored in an internal database and are archived to the file system.
- Log files are csv formatted.
- Log files can be downloaded from the Gateway using a remote PC via HTTP.
- When file space runs low, the Gateway overwrites older files (may want to extract the log files quickly).

Configuration

Via Web Page. Configure IP settings, Node ID's, and other parameters. The names are used to form the names of the BACnet objects and populate the web page showing current values.

Use can specify
BACnet: Device instance number, device name.

Communications functions

Supported functions

The Gateway uses the following functions to interact with the Wi-Fi RIB device:
- Status – Gets the current data
- Ribon or riboff – Commands the Wi-Fi RIB relay
- Pwr=off, on, or last – Commands the Power On State
- Dry=off or on – Commands the Binding State

The driver will not send the next command until a response has been received from the previous or until a timeout has expired.

Supported Devices

The following is a list of the devices that this driver supports:
- RIBTW2401B-WIUI-N4
- RIBTW24B-WI-N4

Hardware Specifications
Compliance
- **CE, FCC UL and ULc approved**
- RoHS, Lead-Free

Environmental Parameters
- Operating Temperature: 0 to 70 C
- Humidity: 5% to 95% (non-condensing)

Dimensions
- 4.2" x 3.25" x 1"

Power Supply
- 7V-24V DC
- 12V @ 90mA

Interfaces
- 10/100BaseT with RJ-45 connector
- 1x RS232 Port
- 1x RS485 Port

Memory / Operation
- 2MBytes flash memory, 8MBytes of SDRAM
- LEDs: Link, Speed/Data, Power

Support

This driver was developed by Chipkin Automation Systems (CAS). CAS is proud to provide support for the driver. For support please call CAS at (866) 383-1657.

Revision History

Date	Resp	Format	Driver Ver.	Doc. Rev.	Comment
2015 Dec 03	ACF		0.01	0	Updated from older document
2015 Dec 16	ACF		0.01	1	Added additional information