User Manual for GW BMS Ax Protocol Gateway

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Revision History

Version	Date	Description	Prepared By	Reviewed By
V1.0	23-12-2020	Draft Document	Sagar	Santosh P

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1 Overview

GW BMS Ax is protocol gateways specifically designed for Advanced fire panel Axis AX and Axis EN MxPro 5. Gateway connects to printer port of Advanced fire panel and provides MODBUS RTU / MODBUS TCP or BACnet interface for integration of Axis AX and Axis EN MxPro into any third party SCADA or BMS systems.

The gateway is based on protocessor module by Fieldserver Inc. and has suitable browser-based user interface to configure the gateway. Each site specific configuration file has to be generated and downloaded in to the gateway before it is commissioned. Field engineer must collect all site specific data of Axis AX and Axis EN MxPro 5 and generate this configuration file. Configuration Manual of GW BMS Ax has all the specific details of generating this configuration file. This manual is applicable for GW BMS A and GW BMS A2 models, mentioned together as GW BMS Ax.

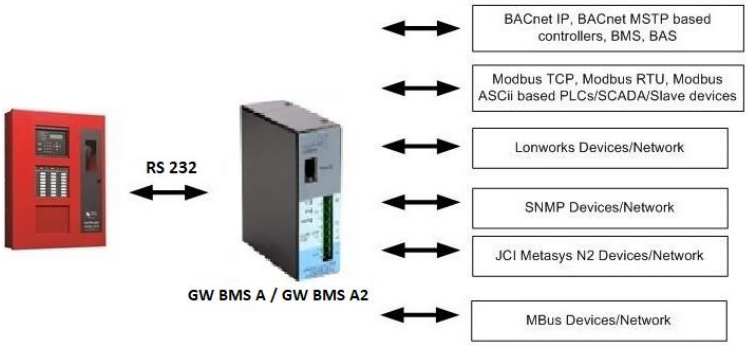


Fig 1: Various BMS protocol solution for Fire Panels

As above figure shows that GW BMS Ax support RS232 Interface from fire alarm Panel and converting Fire alarm Panel data in Various BMS/SCADA protocols.

1.1 Specification

Interfaces:

Serial Port 1	: RS-232, 3 Wire, 3 Pin Screw type terminals
Serial Port 2	: RS-485, 2 Wire, 2 Pin screw type terminals
Ethernet Port	: 10/100 Ethernet port with RJ45 connector

Indications : LED's for Power, FACP, RS485 and Status

Power Supply:

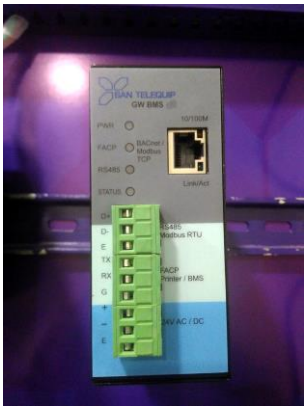
Power supply	: 24V DC, Range 18 to 30 VDC, 100mA
Connector	: 3 Pin Screw type

Environmental:

Operating Temp.	: -40°C to 85°C
Relative Humidity	: 5-90% RH, non-condensing

Dimensions : L x W x H: 46.5 x 84.5x106.5 mm

2 Connecting to a GW BMS Ax



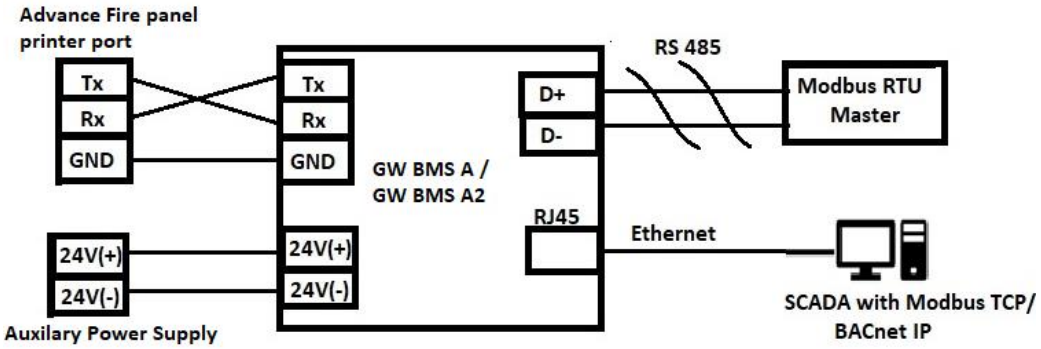


Fig 2: Wiring Connection of GW BMS Ax

2.1 Power up the Device

Apply power to the device. The gateway can take power from auxiliary power source of Advanced Fire Panel.

2.2 Connect the PC to the GW BMS Ax over the Ethernet Port

Connect an Ethernet cable between the PC and GW BMS Ax or connect the GW BMS Ax and the PC to the Hub/switch using a straight CAT5 cable so that PC and GW BMS Ax are on same network.

The Default IP Address of the GW BMS Ax is 192.168.1.200, Subnet Mask is 255.255.255.0. If the PC and the GW BMS Ax are on different IP Networks, change the IP Address to the PC on the same network with any IP other than 192.168.1.200. (e.g. 192.168.1.10)

2.3 Connecting to the GW BMS Ax

2.3.1 Using Browser

Type the default IP address of gateway into the URL bar of browser. The default screen as shown in Figure 4 should open in browser.

2.3.2 Using the FieldServer Toolbox

If browser is not able to connect to the gateway, use FS toolbox. Install FS Toolbox software utility on this PC. Refer below link to download FS Tool box.
http://www.santelequip.com/download/BMS%20gateway/Fieldserver%20toolbox/FieldServer-Toolbox-1.05aA-Setup.zip

Use the FS Toolbox to find the FieldServer, and launch the GUI. FS tool box will automatically discover the gateway on the network and show below screen.

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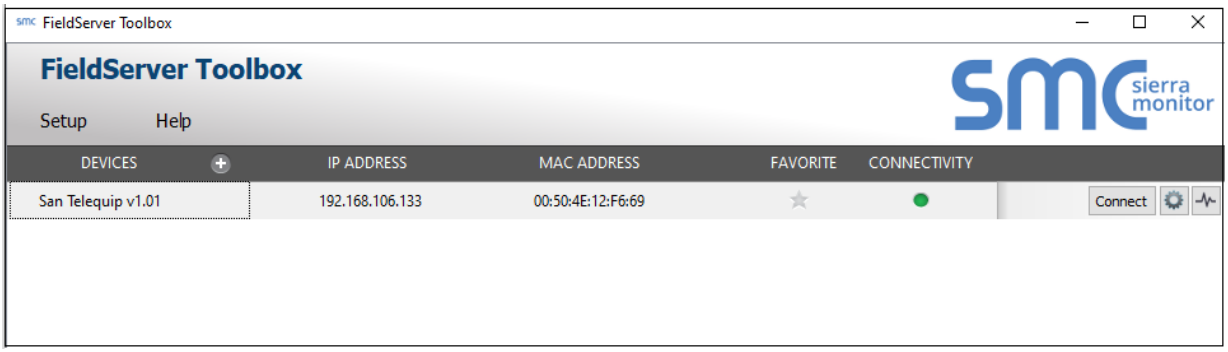


Fig 3: FS Tool Box

NOTE: If the connect button is greyed out, the gateway IP Address must be set to be on the same network as the PC. Use settings icon to change the IP address of gateway.

Press connect and then the browser window will open with discovered IP address.

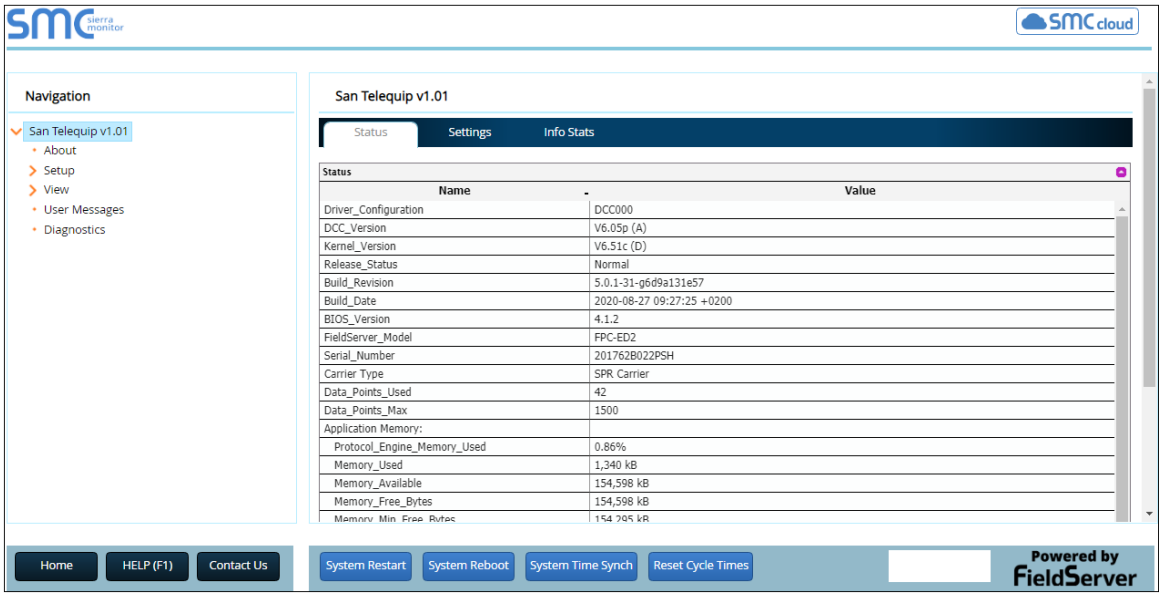


Fig 4: GUI Landing Page

The GUI for gateway is a web-browser based User Interface and GUI allows the user to:

1. Check the status and diagnostics of a gateway including such information as network settings, connection info, node information, map descriptors, and error messages.
2. Monitor a working gateway's internal data and parameters
3. Change or update a gateway internal data and parameters.
4. Transfer files to and from a gateway
5. Delete files on a gateway.
6. Change the gateway IP Address.
7. Set Admin and User Passwords for security.
8. Restart the gateway.

3 THE NAVIGATION TREE

3.1 Root

The root of the navigation tree allows the user to check the status of the BMS gateway, including the configuration code, version, memory, gateway type and more. Under "Settings" the user has access to important network information. The name of the root is specified in the BMS Configuration file under the Title Keyword and is therefore completely user definable.

3.2 About

Allows the user to check current firmware of the BMS gateway plus version identification of the interface and skin, plus contact information. Skin is either the default BMS template or it can be a specific template specified by the owner.

3.3 Setup

3.3.1 File Transfer

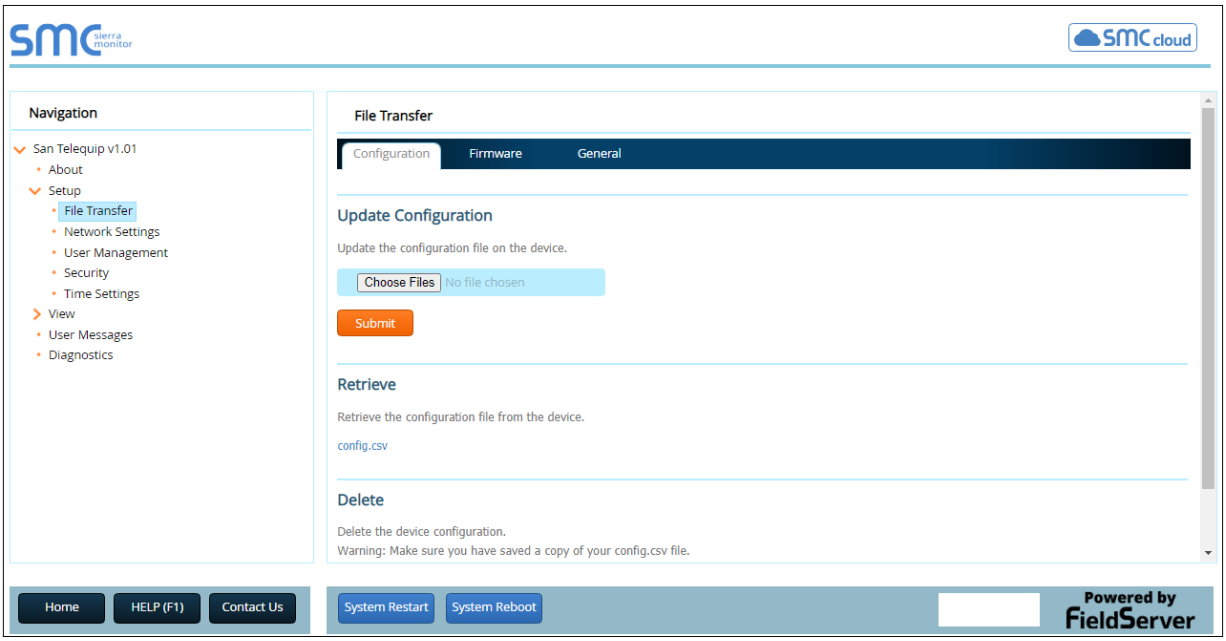


Fig 5: File Transfer

3.3.1.1 Configuration Files

Configuration files have a .CSV extension and are used to configure the GW BMS Ax gateway for its specific application. See the Configuration Manual of Gateway to generate CSV file.

Update the configuration file:
To update the GW BMS Ax configuration file, click the browse button and select the configuration file (.csv). Click open and submit. Wait until the message “Configuration update complete” appears and click the System Restart button to activate the new configuration file.

Retrieve the configuration file: For making changes to the configuration file – Retrieve the file, edit it, save the updated file and update the file again.

Delete the configuration file: To temporarily disable the GW BMS Ax ’s protocol communications, the configuration can be deleted. The GW BMS Ax’s needs to be restarted to activate the changes. This action cannot be undone make sure to create a backup copy of the configuration file before taking this action.

3.3.1.2 Firmware Files & General (Other) Files
Not Applicable.

3.3.2 Network Settings
On the Network Settings Page, the Ethernet adaptor settings of the GW BMS Ax can be changed. The N1 adaptor IP Address, Netmask, two Domain Name Servers and default Gateway can be changed by entering values in the applicable fields and clicking on the Update IP settings Button.

The GW BMS Ax built-in DHCP server can be enabled to establish easy connection for Support purposes. Set the laptop or computer to automatically obtain an IP Address to use this feature.

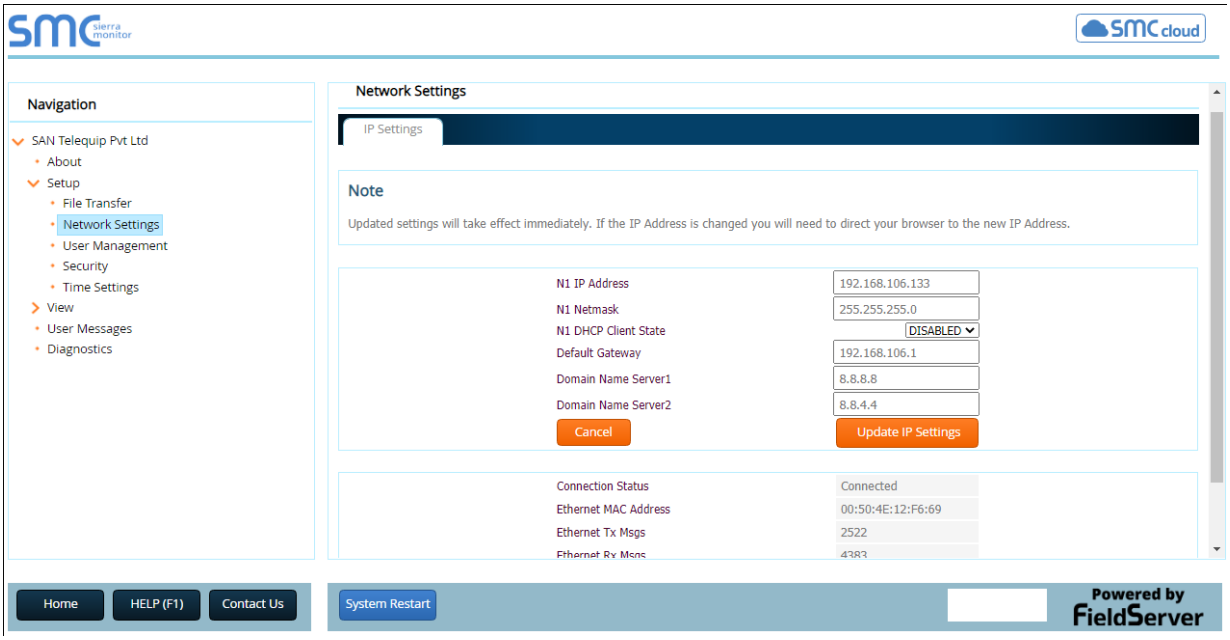


Fig 6: Network Setting

3.3.3 Passwords

Not Applicable

3.3.4 Setting Time Zone

The time zone of the GW BMS Ax should be set to generate accurate data.

1 Click Setup on the navigation tree.

2. Click “Time Settings”.

3. Select the appropriate time zone then click Submit.

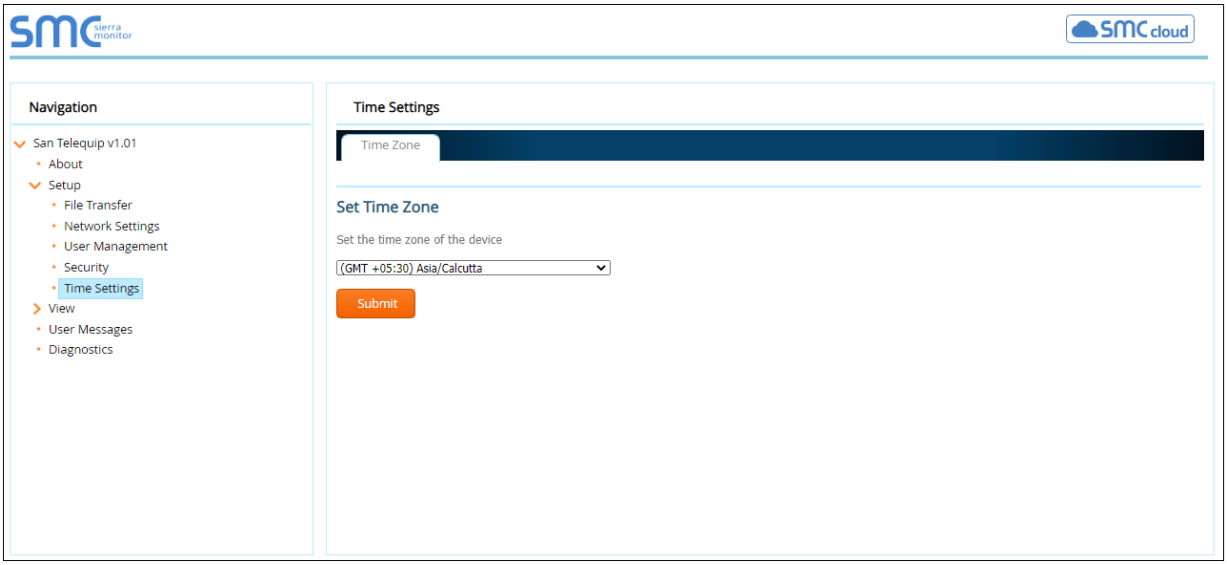


Fig 7: Time setting Page

3.4 View

3.4.1 Connections

The Connections screen supplies information on communication between the Gateway and remote devices. A number of aspect screens are available, including settings, info stats and error stats. The information on these screens cannot be changed, and is for viewing only.

3.4.2 Data Arrays

The Data Arrays screens can be used to view the values in Data Arrays.

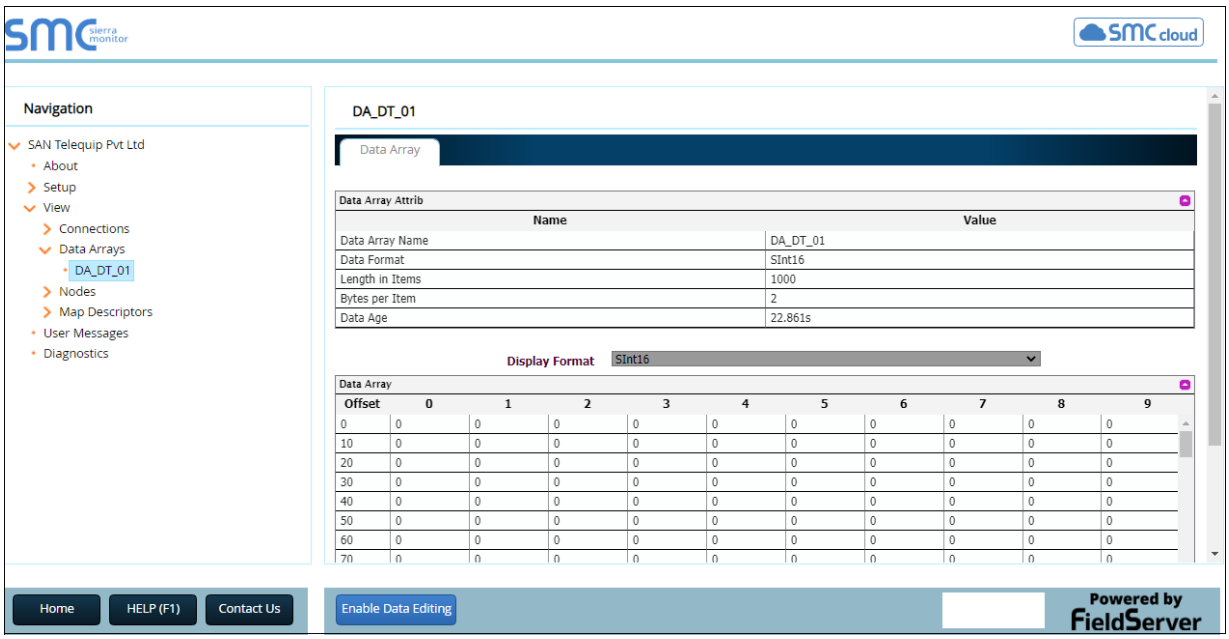


Fig 8: Data Arrays

The FSGUI show us data arrays which are defined in configuration file.

3.4.3 Node

On the Nodes screens information about the remote devices on each connection can be viewed. A number of aspect screens are available, including settings, status, info stats and error stats. The information on these screens cannot be changed, and is for viewing only.

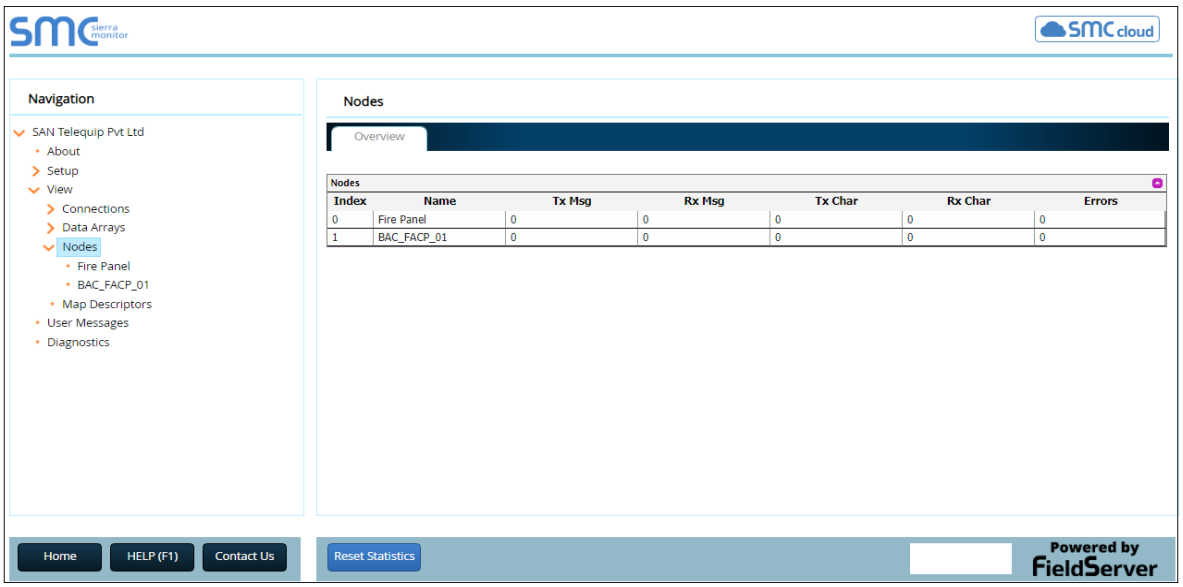


Fig 9: Nodes

3.4.4 Map Descriptors

On the Map Descriptors screens information on each individual Map Descriptor can be viewed. A number of aspect screens are available, including settings, status, info stats and error stats. The information on these screens cannot be changed, and is for viewing only.

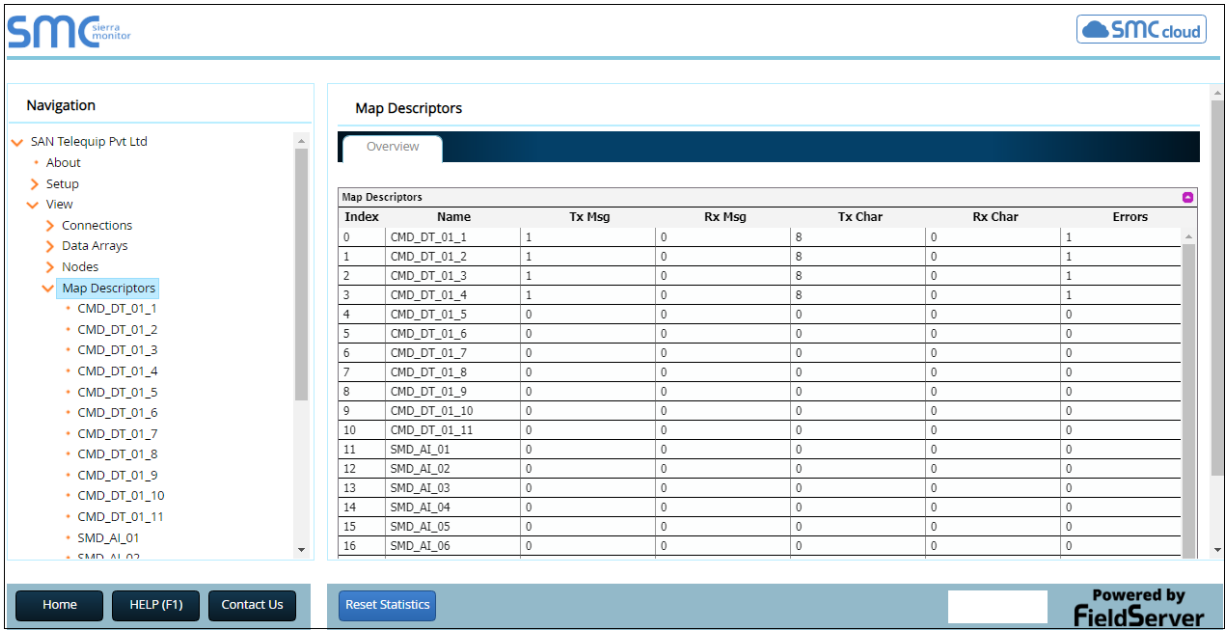
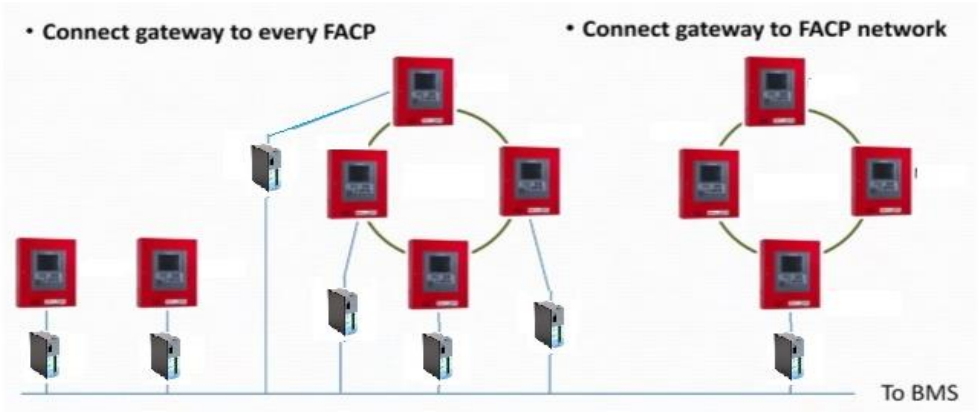


Fig 10: Map Descriptor

4 Configuration use cases for GW BMS Ax



- The gateway can be connected each FACP or FACP network.

The gateway is connected to the RS232 serial port of Advanced Fire Panel.

It is possible to connect the gateway to every FACP and the network. When the gateway is connected to every FACP, only the data of the connected FACP is sent to the BMS network. In this case, each gateway needs only the configuration data of the connected FACP.

When the gateway is connected to the FACP network, which outputs all the information of the FACP network

4.2 LED Indication

LED Name	Meaning
POWER	Unit is powered on.
FACP	FACP Panel Connect Indication.
RS 485	Blinks when RS485 receives data
STATUS	Gateway scanning indication at power ON. ON during scanning, OFF after scan complete
LINK/ACT	ON- Network Connected OFF- No network connected Blinking- Activity on the Ethernet port

4.3 Related Documents

a. Configuration Manual for GW BMS Ax
b. GW BMS Ax Site Configuration worksheet