



**Zonex  
GenX and RM  
FS-8705-120**

Chipkin - Enabling Integration

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## 1 Zonex Description

The Zonex Driver allows the FieldServer to poll and set data from Zonex devices over Ethernet using the HTTP protocol. The Zonex Driver uses HTTP request.

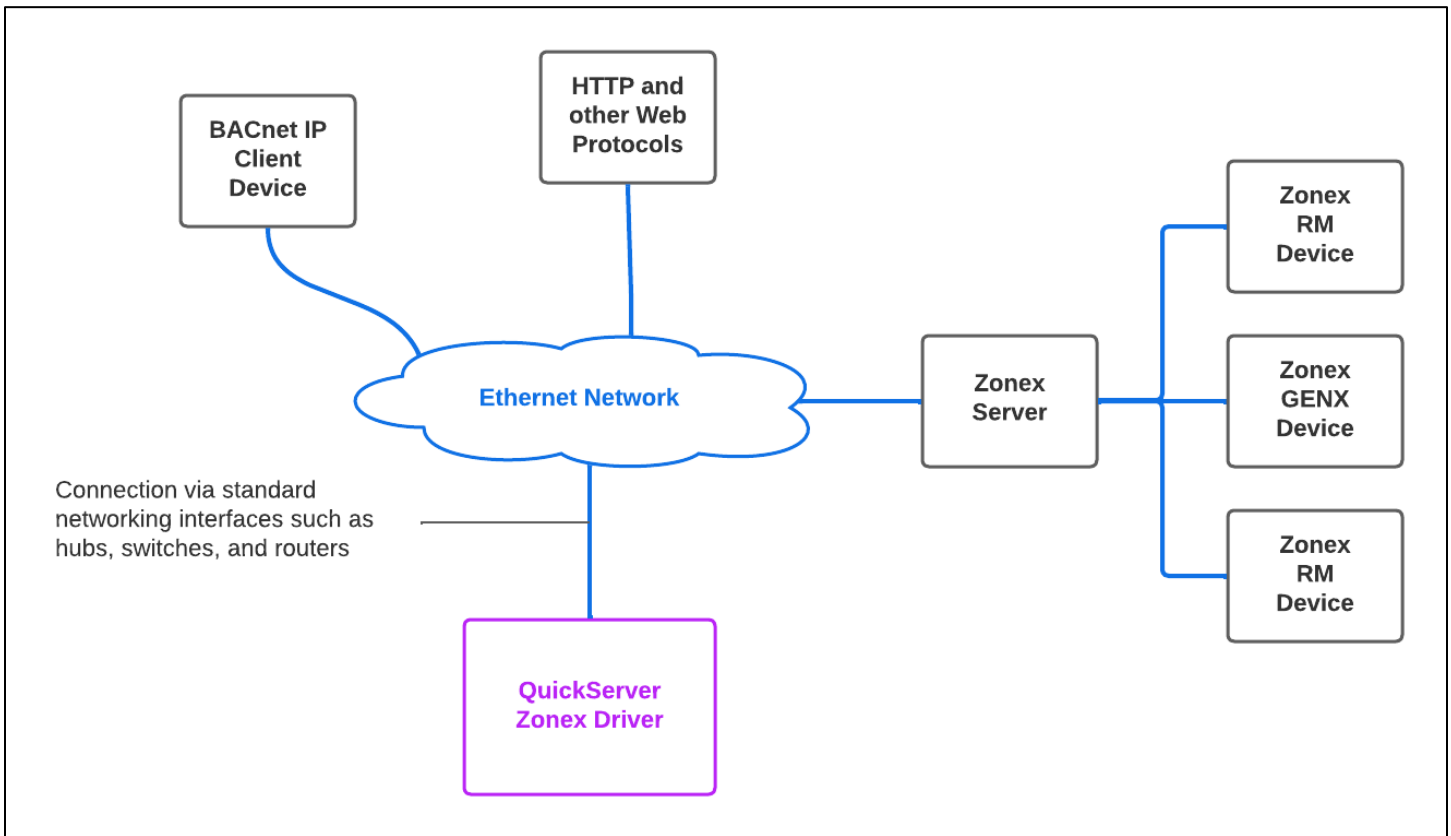
The driver was developed to communicate with Zonex web-server enabled devices, specifically GenX and RM devices.

The FieldServer acts as an HTTP Client. When configured the FieldServer polls for data from Zonex GenX and RM devices. This data is stored on the FieldServer to be mapped to BACnet IP or simply to be viewed. The Zonex driver will also periodically attempt to write any changes that were made to writable BACnet IP objects.

The information that follows describes how to expand upon the factory defaults provided in the configuration files included with the FieldServer.

## 2 Connection Diagram

This block diagram lists describes how the FieldServer connects to Zonex devices and makes the data available over BACnet IP

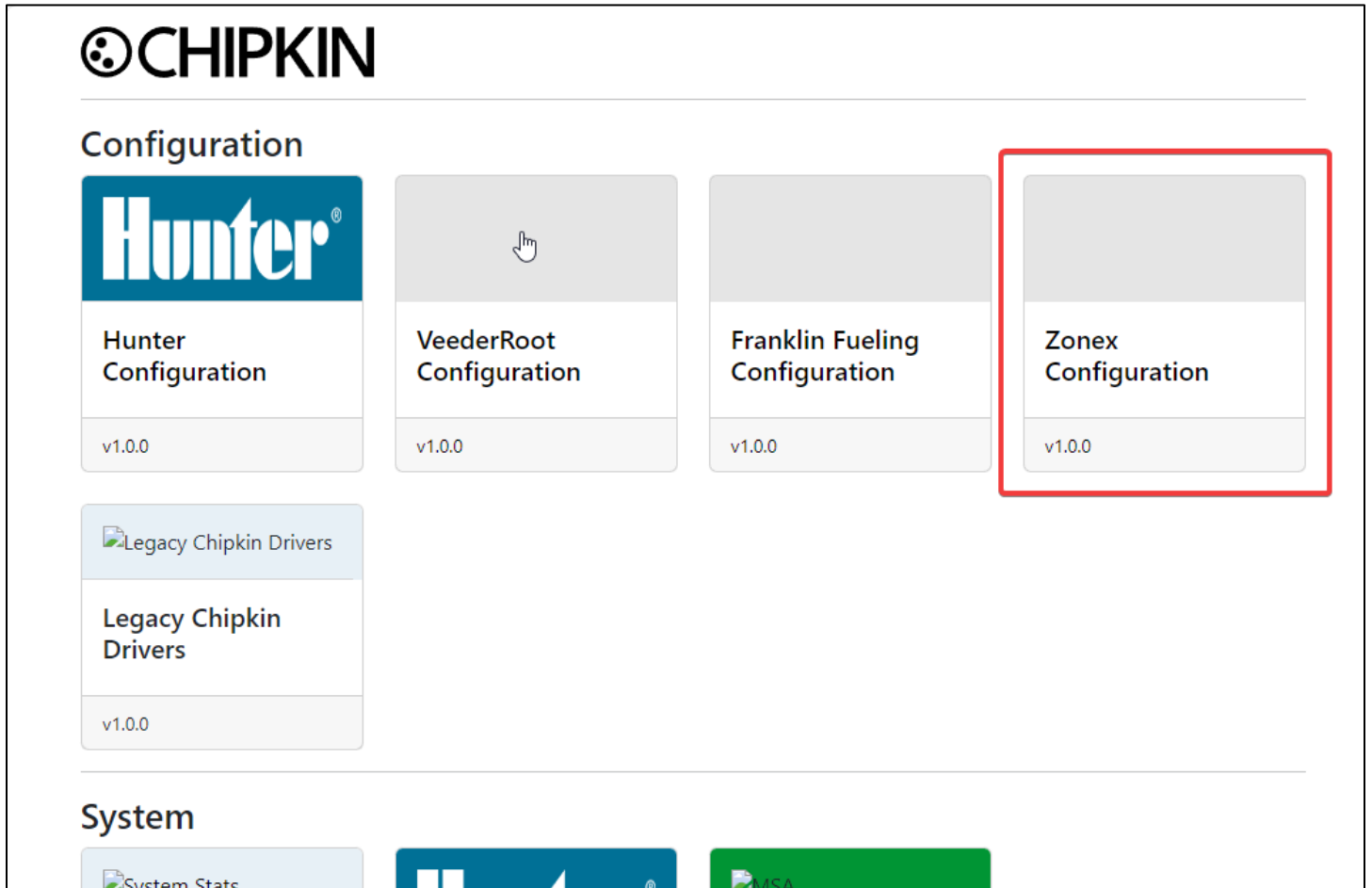


### 3 Zonex Configuration

To configure the Zonex driver, from the home page, either visit the following link:

[http://{IP\\_ADDRESS}/chipkinCore/ui/#/driver/zonex](http://{IP_ADDRESS}/chipkinCore/ui/#/driver/zonex)

Or click on the Zonex Configuration Card from the main menu at [http://{IP\\_ADDRESS}/chipkinCore/ui/](http://{IP_ADDRESS}/chipkinCore/ui/)



To configure the FieldServer, follow the instructions below to auto-generate the Zonex polling and write tasks as well as the BACnet IP Server configuration

#### 3.1 Meta-Configurer

On the Zonex Configuration page, use the form to fill out the details required to connect to the Zonex web server as the general BACnet information to assign to the FieldServer.



## Zonex Configuration

### Zonex Parameters

Url   
 Read Interval   
 Write Interval

### BACnetIP Configuration

Adapter   
 Port   
 Node ID   
 COV Enable

Save Configuration

### 3.1.1 Zonex Parameters

Name	Function	Legal Values
Url	The url of the Zonex web server	Text, must be a valid Url (include the http://)
Read Interval	How often to poll the Zonex web server for data (in seconds)	1-3600, <b>30</b>
Write Interval	How often to write values to the Zonex web server when data has changed via BACnet (in seconds)	1-3600, <b>5</b>

\* Bolded values are defaults

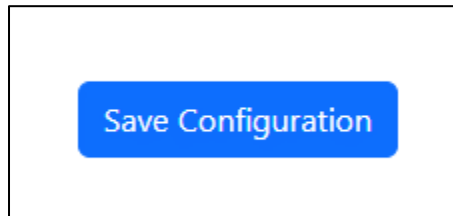
### 3.1.2 BACnet IP Configuration

Name	Function	Legal Values
Adapter	The FieldServer network adapter to use for BACnet IP Communication	<b>N1</b> (or N2 if using a 2 port FieldServer)
Port	The UDP port to use for BACnet IP	Any legal IP port value (1 - 65535); <b>47808</b>
Node ID	The BACnet Device Identifier to assign to this FieldServer acting as a BACnet Server device	0-4194302; <b>389001</b>
COV Enable	Enables or disables COV (Change of Value) for this BACnet device	Checked = enabled, <b>Unchecked = disabled</b>

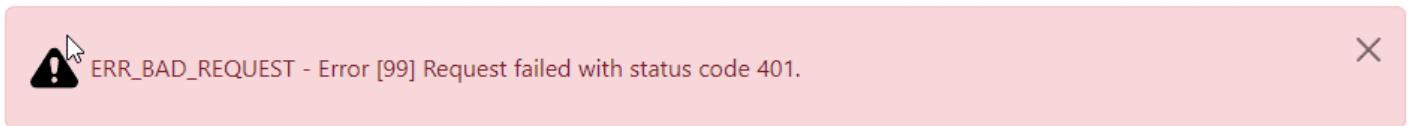
\* Bolded values are defaults

### 3.2 Saving the Server Configuration

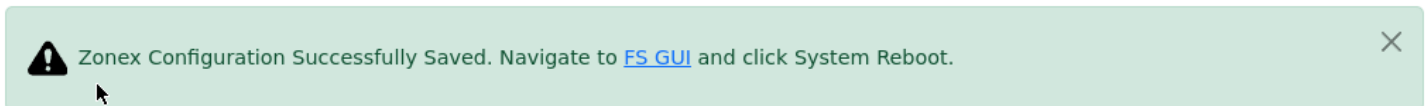
When the configuration is complete, click on the “Save Configuration” button to save. The FieldServer will query the Zonex web server and build both the Zonex Configurtion as well as the BACnetIP Server Configuration based on the findings.



If an error occurs, an error message will appear at the top of the web page in a red banner. For example:



If the configuration was generated successfully, a success message will appear at the top of the web page in a green banner, prompting the user to return to the MSA Diagnostic (<http://{IPAddress}/htm/fsgui.htm>) page to perform a System Reboot for the changes to take effect.



Click on the link to return to the FS GUI page and click the System Reboot:

The screenshot shows the MSA FieldServer Manager interface. On the left is a navigation menu with 'Zonex - BACnetIP' selected. The main content area displays the 'Zonex - BACnetIP' status page, which includes a table of system parameters and a row of action buttons. The 'System Reboot' button is highlighted with a red border.

**MSA** gr FieldServer Manager

**Navigation**

- ✓ Zonex - BACnetIP
  - About
  - › Setup
  - › View
  - User Messages
  - Diagnostics

Home    HELP (?)

**Zonex - BACnetIP**

Status    Settings    Info Stats

**Status**

Name	Value
Driver_Configuration	DCC000
DCC_Version	V6.05p (A)
Kernel_Version	V6.51c (D)
Release_Status	Normal
Build_Revision	6.5.6
Build_Date	2023-05-02 09:09:26 -0400
BIOS_Version	4.1.2
FieldServer_Model	FS-QS-2010-F
Serial_Number	2107000169VZL

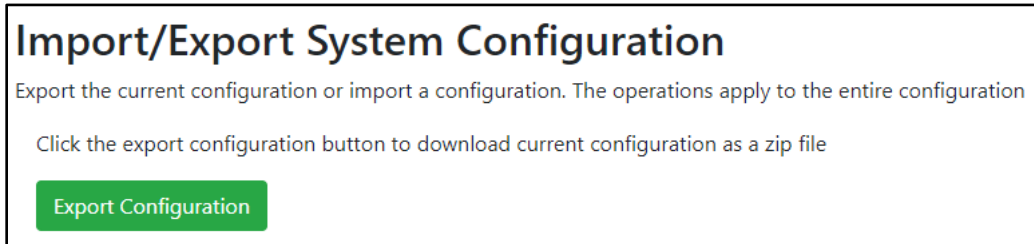
System Restart    **System Reboot**    System Time Synch    Reset Cycle Times    Logout    dserve

## 4 Importing and Exporting Configurations

It is possible to export the current configuration to back it up or simply to make some edits.

### 4.1 How to Export the Configuration

1. Goto the system configuration page [http://{IP\\_ADDRESS}/chipkin/ui/#/chipkinConfiguration](http://{IP_ADDRESS}/chipkin/ui/#/chipkinConfiguration)
2. Click the Export Configuration button.



### 4.2 How to Import the Configuration

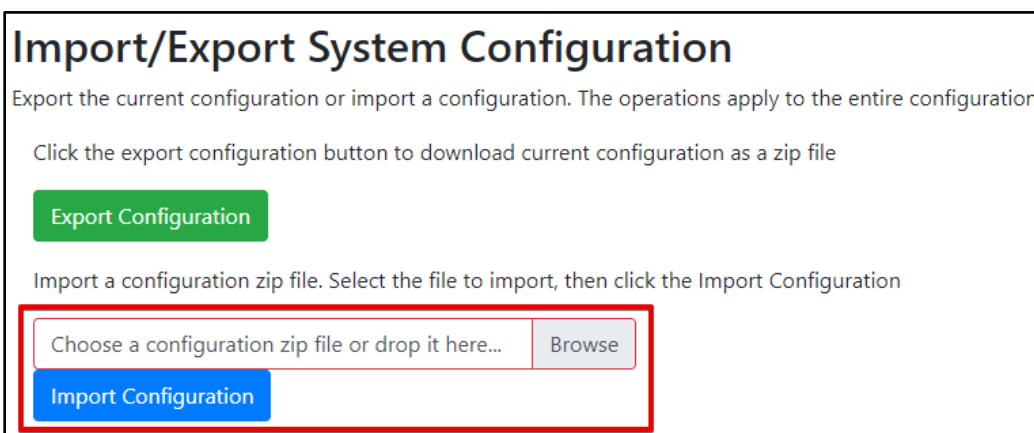
The file to import the configuration must be a zip file. The zip file should contain the following folders:

- ae - this folder contains any configuration files for the Zonex configuration
- pe - this folder contains one config.csv file for the pe configuration.

To make sure the folder directory is correct, do an Export first, then extract the files, edit them, then zip them up again.

To import the configuration:

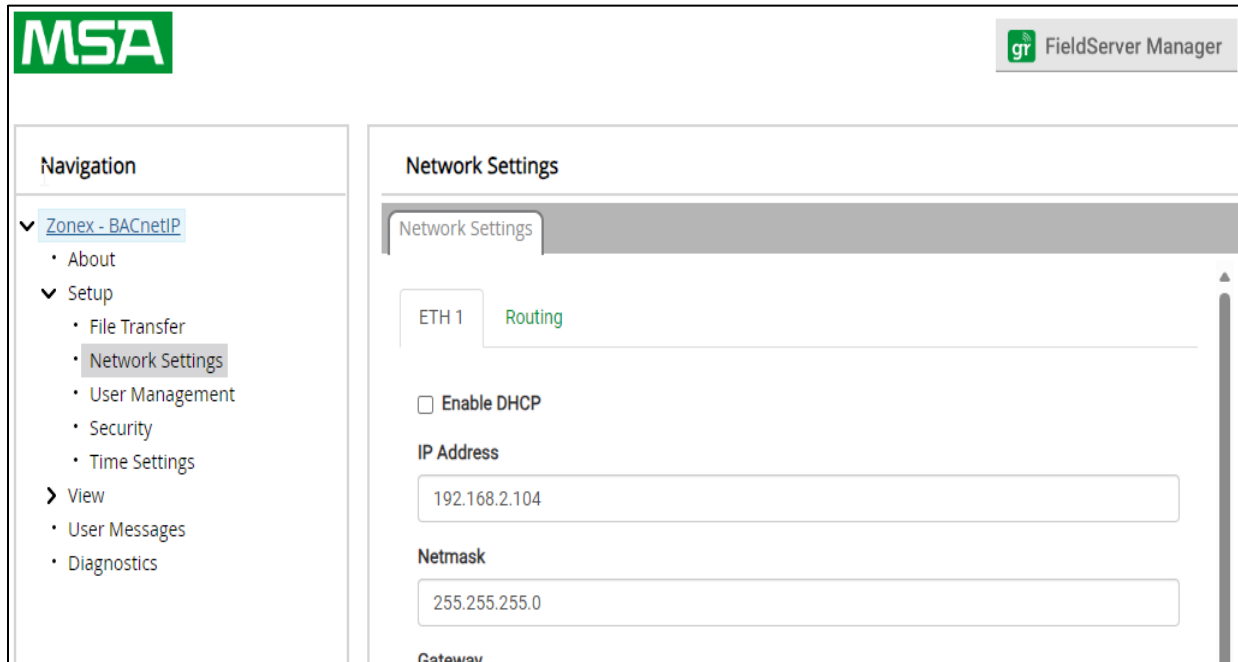
1. Goto the system configuration page [http://{IP\\_ADDRESS}/chipkin/ui/#/chipkinConfiguration](http://{IP_ADDRESS}/chipkin/ui/#/chipkinConfiguration)
2. Click the "Browse" button in the "Import/Export System Configuration" section and select the zip file containing the configuration to import.
3. Click the "Import Configuration" button and wait for the configuration to finish importing.
4. If successful, a success message will appear prompting a reboot of the Fieldserver for the changes to take effect.



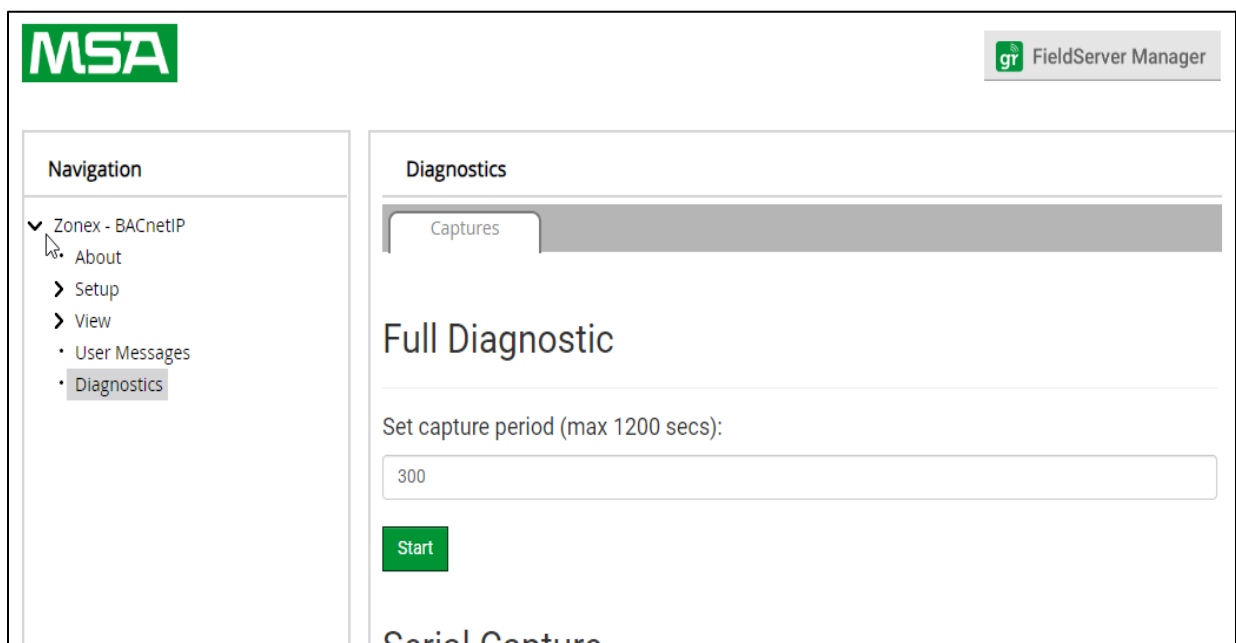
## 5 Appendix A - Troubleshooting

### 5.1 Appendix A.1 - Debugging a Zonex Connection

- If the FieldServer is not receiving any data, verify the URL of the Zonex web server.
- Verify the network and ensure that the FieldServer has direct access to the Zonex web server (either both devices are on the same subnet, or the network has been setup to allow for proper routing)
- Double check the FieldServer Network settings in the FS GUI (MSA Diagnostics page)



- Verify comms by taking a wireshark log or a FieldServer diagnostics log.



## 6 Appendix B - Example Configurations

```
{
  "Zonex": {
    "connections": [
      {
        "type": "ethernet",
        "name": "Ethernet",
        "parameters": {
          "port": "n1"
        }
      }
    ],
    "nodes": [
      {
        "connection": "Ethernet",
        "name": "GET_Status",
        "url": "http://127.0.0.1:8081/status.xml",
        "type": "Read",
        "cacheData": true,
        "scanInterval": "30"
      },
      {
        "connection": "Ethernet",
        "name": "POST_Status",
        "url": "http://127.0.0.1:8081/post.htm",
        "type": "Write",
        "scanInterval": "5"
      }
    ],
    "tasks": [
      {
        "node": "GET_Status",
        "databroker": {
          "pe": {
```

```
    "name": "DA_GENX_SYS_DIA",
    "offset": 0,
    "length": 28
  }
},
"name": "SysDiagnosticID",
"type": "Diagnostic",
"writeNode": ""
},
{
  "node": "GET_Status",
  "databroker": {
    "pe": {
      "name": "DA_GENX_STAT_1",
      "offset": 0,
      "length": 61
    }
  },
  "name": "StatDataID1",
  "type": "StatData",
  "writeNode": "POST_Status"
}
]
}
}
```

## 7 Appendix C – BACnet IP Objects

The following table contains the BACnet IP Objects generated in the Meta-Configurer. The configuration uses the BACnet Object Instance of the objects to sort the objects.

**\*Note:** Depending on the configuration of the Zonex devices, there can be a large amount of generated BACnet objects which could cause the discovery of this BACnet device to take a long time.

### Supported Object Types:

- AI = Analog Input
- AV = Analog Value
- BI = Binary Input
- BV = Binary Value
- MI = Multi-State Input
- MV = Multi-State Value

Name	Object Type	Object Instance	Notes
<b>SysDiagnostic Data Points</b>			
Genx_SysDiag_Leaving Air	AI	0	
Genx_SysDiag_Return Air	AI	1	
Genx_SysDiag_Outside Air	AI	2	
Genx_SysDiag_AC Status	MI	3	Off = 1, Vent = 2, Cool = 3, Heat = 4, Changeover = 5, Air balance = 6, Abort to reset = 7
Genx_SysDiag_FDD/ADR	MI	4	No alert = 1, FDD alert = 2, ADR = 3 FDD & ADR = 4
<b>SysConfig Data Points</b>			
GenX_SysCon_Fan Mode	BV	30	Active = On, Inactive = Auto
<b>StatDataID Data Points</b>			
# represents the Damper number attached to GENX (1-20)			
Genx_StatDataID#_LockStatus	MV	#000	Unlock = 1,

			Lock 2 Degrees = 2, Lock = 3
Genx_StatDataID#_CurrentRoomTemperature	AI	#001	
Genx_StatDataID#_OccupiedCool	AV	#002	
Genx_StatDataID#_OccupiedHeat	AV	#003	
Genx_StatDataID#_PriorityVote	AV	#004	
Genx_StatDataID#_ZoneStatus	MV	#005	Off = 1, Vent = 2 Cool = 3 Heat = 4
Genx_StatDataID#_ZoneCall	MV	#006	Off = 1, Vent = 2 Cool = 3 Heat = 4
Genx_StatDataID#_AutoMode	MV	#007	Off = 1, Auto on (heat/cool) = 2, Cool only = 3, Heat only = 4
Genx_StatDataID#_StatType	MI	#008	Wireless = 1, Wire = 2, Stand Alone(wire) = 3 WUC = 4, EztouchX = 5, SATouch = 6, BLE = 7
Genx_StatDataID#_LeavingAir	AI	#009	
Genx_StatDataID#_ReturnAir	AI	#010	
Genx_StatDataID#_Humidity	AI	#011	
Genx_StatDataID#_OccupiedMode	BI	#012	Active = Occupied Inactive = Unoccupied
Genx_StatDataID#_ADR	BV	#013	Active = Enable Inactive = Disabled

<b>RMD Data Points</b>			
# represents the RM number (1-20)			
RM#_RMD_Leaving Air	AI	#00000	
RM#_RMD_Return Air	AI	#00001	
RM#_RMD_AC Status	MI	#00002	Off = 1, Vent = 2, Cool =3, Heat = 4, Changeover = 5,  Air balance = 6,  Abort to reset = 7
RM#_RMD_FDD/ADR	MI	#00003	No alert = 1,  FDD alert = 2,  ADR = 3  FDD & ADR = 4
<b>RMC Data Points</b>			
# represents the RM number (1-20)			
RM#_RMC_Fan Mode	BV	#00030	Active = On,  Inactive = Auto
<b>RMS Data Points</b>			
# represents the RM (1-20)			
\$\$ represents the Damper number attached to RM # (01-20)			
RM#_RMS\$\$_LockStatus	MV	#\$000	Unlock = 1,  Lock 2 Degrees = 2,  Lock = 3
RM#_RMS\$\$_CurrentRoomTemperature	AI	#\$001	
RM#_RMS\$\$_OccupiedCool	AV	#\$002	
RM#_RMS\$\$_OccupiedHeat	AV	#\$003	
RM#_RMS\$\$_PriorityVote	AV	#\$004	
RM#_RMS\$\$_ZoneStatus	MV	#\$005	Off = 1,  Vent = 2  Cool = 3  Heat = 4

RM#_RMS\$\$_ZoneCall	MV	#\$006	Off = 1, Vent = 2 Cool = 3 Heat = 4
RM#_RMS\$\$_AutoMode	MV	#\$007	Off = 1, Auto on (heat/cool) = 2, Cool only = 3, Heat only = 4
RM#_RMS\$\$_StatType	MI	#\$008	Wireless = 1, Wire = 2, Stand Alone(wire) = 3 WUC = 4, EztouchX = 5, SATouch = 6, BLE = 7
RM#_RMS\$\$_LeavingAir	AI	#\$009	
RM#_RMS\$\$_ReturnAir	AI	#\$010	
RM#_RMS\$\$_Humidity	AI	#\$011	
RM#_RMS\$\$_OccupiedMode	BI	#\$012	Active = Occupied Inactive = Unoccupied
RM#_RMS\$\$_ADR	BV	#\$013	Active = Enable Inactive = Disabled

## 8 Revision History

This table summarizes the update history for this document. Please contact Chipkin for an updated version of this document if required.

DATE	RESP	DOC. REV.	COMMENT
21 Feb 2024	AF	1	Created initial document
05 Mar 2024	AF	2	Fixed Import/Export configuration url
18 Apr 2024	AF	3	Removed Schedule data points Added Fan Mode point for RM