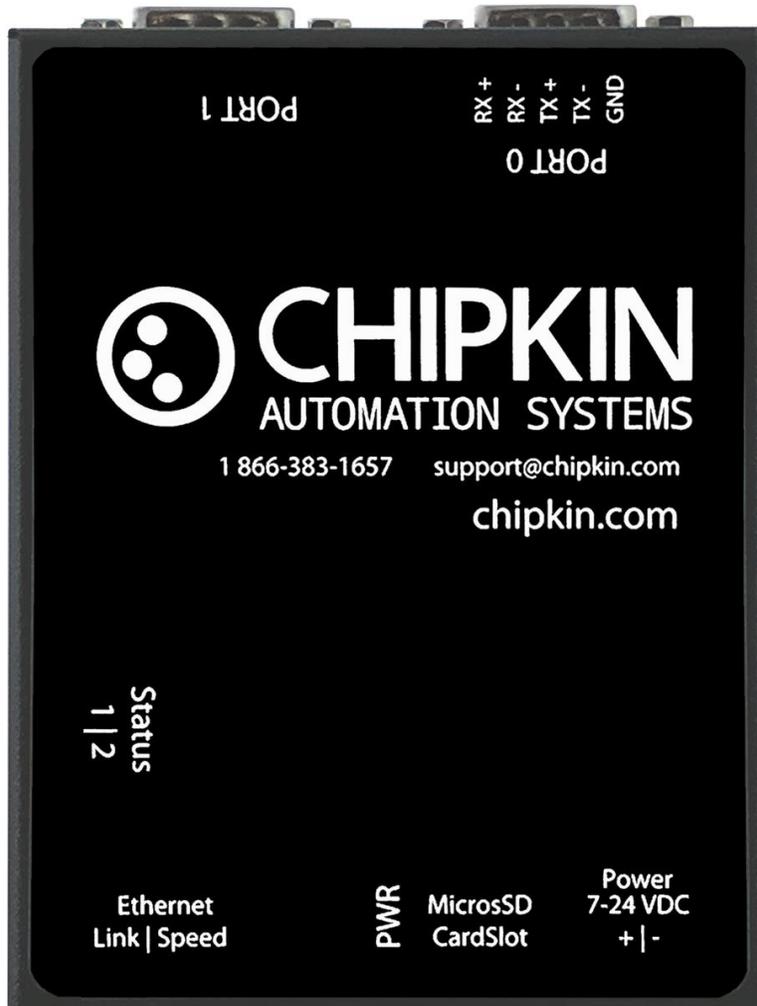


Chipkin™ BEST Gateway USER MANUAL



VERSION: 0.14

PRODUCT NUMBER: CAS 2700-74

DOCUMENT REVISION: 3

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DOCUMENT REVISION HISTORY

REVISION	DATE	AUTHOR	NOTE
1	2018-May-10	ACF	- Created document
2	2018-May-11	ACF	- Updated description and block diagram
3	2018-June-11	ACF	- Added Appendix D with example of using CAS BACnet Explorer to help configure the driver

Table 1-1 - Document Revision History

1. PREFACE

1.1 WELCOME

As a new owner of Chipkin Automation Systems'™ (CAS) Gateway you have joined thousands of satisfied customers who use Chipkin's protocol gateways, data clients and integration services to meet their building and industrial automation requirements. Our configuration expertise in this field combined with free BACnet and other tools ensure your success; and our customer support via phone, email and remote desktop tools means that we're there when you need us. Thank you for choosing Chipkin's products.

1.2 CHIPKIN

Chipkin offers expert solutions for your building and industrial automation requirements. We develop, configure, install and support gateways (protocol converters), data loggers, and remote monitor and controlling applications. Founded in October 2000, Chipkin provides expert solutions for converting BACnet®, Modbus®, and Lonworks®—to name just a few—and enabling interfaces for HVAC, fire, siren, intercom, lighting, transportation and fuel systems. The high-quality products we offer (including those from other vendors) interface with Simplex™, Notifier™, McQuay™, GE™ and many others—so you can rest assured that Chipkin will select the most appropriate solution for your application.

1.3 SAFETY WARNINGS

The CAS Gateway User Manual provides information on how to install and configure the gateway and is intended for engineers, project management consultants and building management services. Before you install the device, please observe the safety warnings described in in this manual.

1.4 CUSTOMER SUPPORT

Chipkin is a small responsive company, and we live or die by the quality of our service—and with offices in two time-zones—we can provide support when you need it. For information on sales, service, obtaining documentation or submitting a service request, please call us toll free at 1-866-383-1657. Thanks for choosing Chipkin's protocol gateways, data clients and integration services to meet your building and industrial automation requirements.



SALES AND CUSTOMER SUPPORT

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GENERAL

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2. OVERVIEW

2.1 PRODUCT SUMMARY

The BEST Eniscope to BACnet IP and HTTP gateway is a protocol converter for the BEST Eniscope Power Meter system. The gateway operates by receiving data from the Eniscope system and storing the parse values internally. These values can then be read using BACnet® and via the web page. The gateway also allows users to read data from other BACnet Power Meters and serve the data using HTTP POSTs to a BEST Cloud Server for further analysis.

The gateway requires minimal configuration and can be considered a 'plug and play' component of any network system. It's ready to operate 'out of the box' and can be installed without an engineer's approval.

2.2 SYSTEM OVERVIEW

The BEST Gateway is a protocol converter that converts data from one protocol and makes it available to devices that support a different protocol. The gateway typically sends polling messages, extracts any data values, and stores the values in an internal database. The data is then made available via other protocol specific formats.

2.3 OPTIONAL EXPANSION MODULES

The BEST Gateway does not have any optional expansion modules.

2.4 INSTALLATION AND CONFIGURATION SUMMARY

For more information on how to install and setup the BEST Gateway please refer to the CAS Gateway Quick Start Guide. For instructions on configuring this device, please refer to [Configuration and Settings Section](#) of this document. Configuration of the device is completed primarily through a web interface.

2.5 DEVICE WIRING REQUIREMENTS

For more information on how to wire up the BEST Gateway, please refer to the Connections section of this document. The [Connections Section](#) contains wiring pictures and diagrams (if applicable) as well as port pin-outs.

3. CONNECTIONS

3.1 NETWORK CONNECTIONS

This block diagram lists common network connections that can monitor BEST Eniscope Power Meters using BACnet IP and can read BACnet IP Power Meters and push the data to a BEST cloud server.

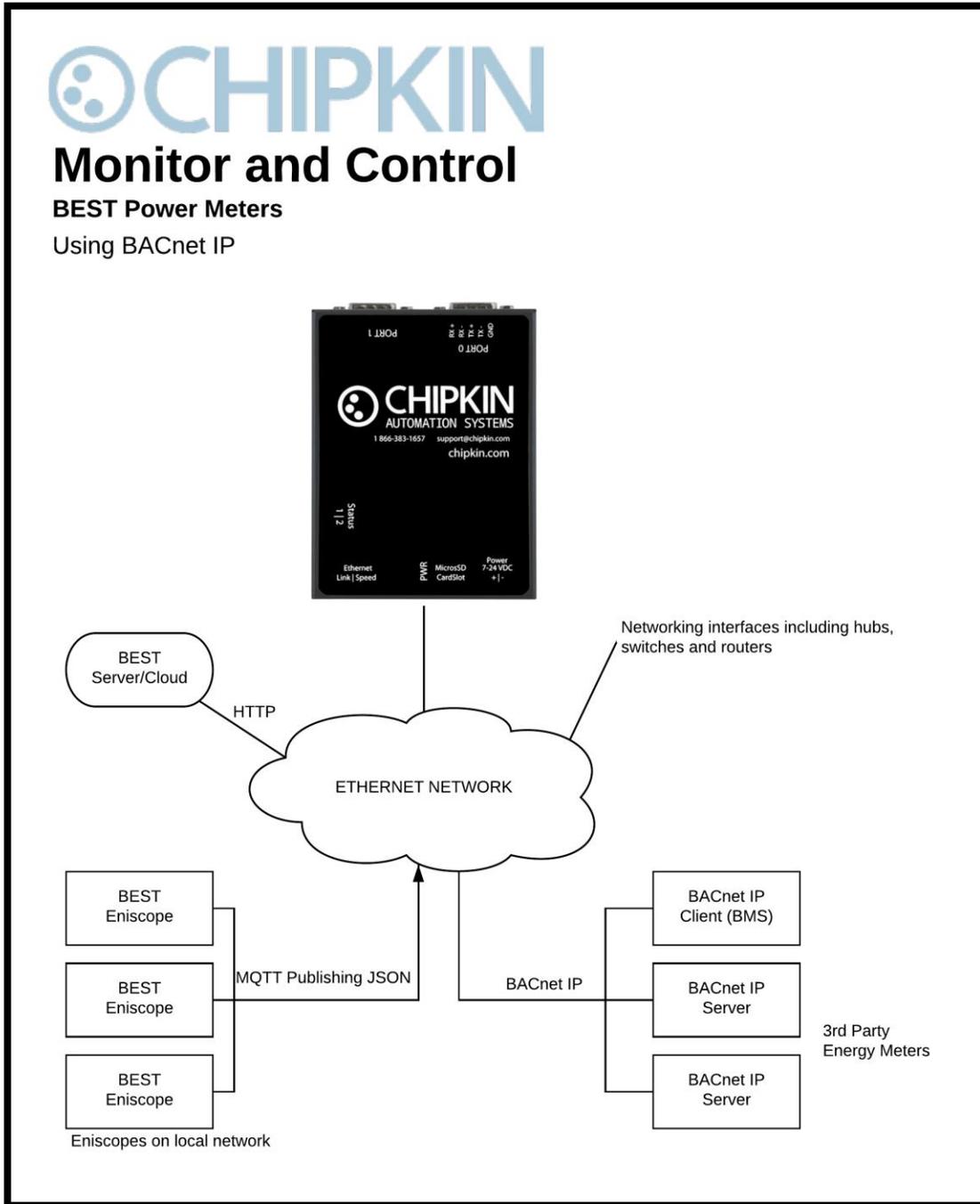


Figure 3.1-1. Network Connections Block Diagram

3.2 COMUNICATION PORTS

The Gateway uses the following ports for communication over the ethernet port.

Protocol	Port	Notes
HTTP	TCP 80	Web server, not configurable.
Syslog	UDP 514	Can be disabled.
FTP	TCP 21	Can be disabled, requires Firmware Update
MQTT	TCP 1883	Configurable.
BACnet IP	UDP 47808	Configurable.

Table 3-1 - Communication Ports

3.3 WIRING CONNECTIONS

The BEST Gateway only uses the ethernet port for communication. Use a standard ethernet patch cable to connect the gateway to the network. For more information on changing the IP Address of the gateway, please refer to section [6.5 Change the Gateway IP Address](#).

4. CONFIGURATION AND SETTINGS

This section contains instructions and screenshots on how to configure this device

4.1 Eniscope MQTT Configuration

Follow these steps to setup the BEST Gateway to receive data from Eniscope Power Meters.

First, browse to the configuration page by clicking on the 'BEST Config' link as shown in the image below:

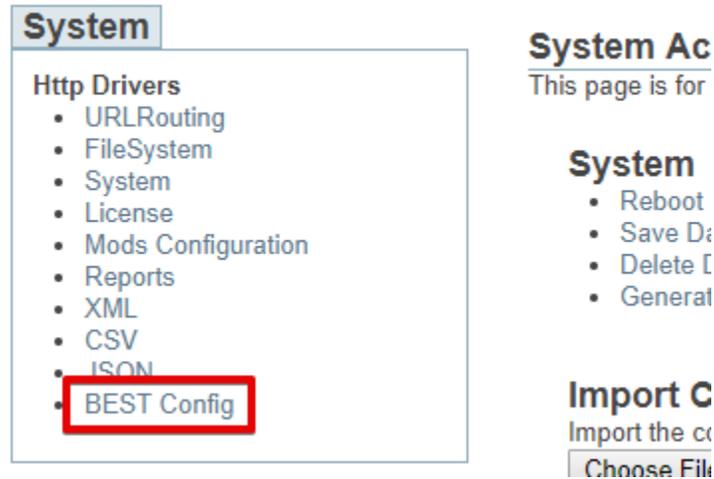


Figure 4.1-1 - BEST Config Link

Or type the following url into the address bar of a web browser: <http://{ipAddress}/bin/best/config> where {ipAddress} is the IP Address of the BEST Gateway.

On the BEST Config page, you will see the following form:

Eniscope Configuration
Configure the CAS Gateway to receive MQTT messages from Eniscope and map the data to BACnet objects

MQTT Settings

Setting	Value	Description
MQTT Port	<input type="text" value="1883"/>	The MQTT listen port for receiving incoming messages. Default: 1883

BACnet Server Settings

Setting	Value	Description
Port	<input type="text" value="47808"/>	The port for the BACnet IP connection. Default: 47808
Device Instance	<input type="text" value="389001"/>	The Device instance for this BACnet server object
Device Name	<input type="text" value="BEST Eniscope Gateway"/>	The Device name this BACnet server object

Figure 4.1-2 - Eniscope Configuration Form

The form has the following fields:

MQTT Settings

- **MQTT Port** – The MQTT listen port for receiving incoming messages. Default: 1883.

BACnet Server Settings

- **Port** – The port for the BACnet IP connection. Default: 47808
- **Device Instance** – The Device instance for this BACnet server object.
- **Device Name** – The Device name for this BACnet server object.

Fill out the fields and click the ‘Save’ button to save the settings.

Note: If either the MQTT Port or BACnet Port settings were changes, please reboot the gateway for the changes to take effect. For more information on how to reboot the gateway, please refer to section [4.3 Completing the Configuration](#).

After saving the settings and possibly rebooting the device, the gateway is ready to accept Eniscope data. As the gateway received data, it will auto-configure the mapped BACnet objects. You can view the full list of BACnet objects in the reports page. For more information about the reports page, please refer to section [5.1 Reading Data Using HTML/Web Browser](#)

Use the reports page to confirm that the expected data points exist. Finally save the configuration and reboot the gateway.

4.2 3rd Party BACnet Power Meter Configuration

Follow these steps to configure the BEST Gateway to read data from other BACnet IP Power Meters and push the data to a BEST Cloud Server.

First, browse to the Other BACnet Meter Configuration page by clicking on the link as show in the image below:

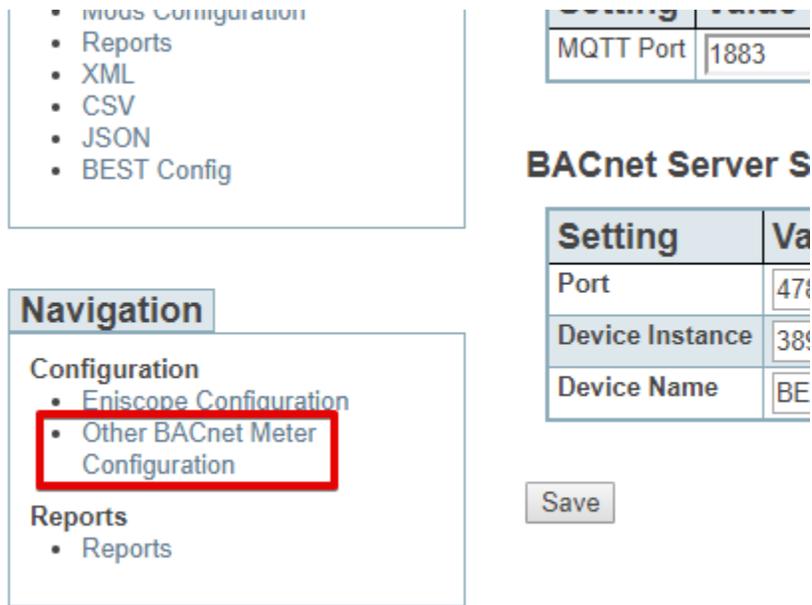


Figure 4.2-1 - Other BACnet Meter Configuration Link

Or type the following url into the address bar of a web browser:

<http://{ipAddress}/bin/best/bacnetconfig> where {ipAddress} is the IP Address of the BEST Gateway.

You will see the following form:

Other BACnet Meter Configuration

Use the form below to add 3rd party Power Meters and specify the data points to push to BEST cloud servers.

BEST Cloud Server Settings

Setting	Value	Description
Host	<input type="text"/>	The host for the cloud server.
Port	<input type="text" value="80"/>	The port for the cloud server. Default: 80
Post url	<input type="text"/>	The url to send the HTTP POST containing the meter data.
Post Interval	<input type="text" value="60"/>	How often to send the HTTP POST in seconds. Default: 60

Add 3rd Party BACnet Power Meter

BACnetIP_devices

Actions: Insert| Download as CSV

Error: Table is empty

Add Task to Read a Data Point from a 3rd Party BACnet Power Meter

BACnetIP_tasks

Actions: Insert| Download as CSV

Error: Table is empty

Figure 4.2-2 - Other BACnet Meter Configuration Form

4.2.1 BEST Cloud Server Settings

The first part of the form is used to set the cloud server settings. The fields are:

- **Host** – The host for the cloud server.
- **Port** – The port for the cloud server. Default: 80, use 443 for https.
- **Post url** – The url to send the HTTP POST containing the meter data.
- **Post Interval** – How often to send the HTTP POST in seconds. Default: 60

Click the 'Save Cloud Server Settings' button to save the cloud server settings.

4.2.2 Add 3rd Party BACnet Power Meter

Next, add the BACnet Power Meter device information. Before doing this, please contact BEST with a list of the BACnet Device Instances that these power meters have, and BEST will provide UIDs to assign to each one of them.

To add a power meter, first click on the 'Insert' link as shown in the image below:



Figure 4.2-3 - Add 3rd Party BACnet Power Meter Link

You will see this form:

Add 3rd Party BACnet Power Meter Insert new record in to 'BACnetIP_devices'

Name	Value	Description
Assigned UID	<input type="text"/>	The UID provided by BEST to represent this BACnet Power Meter
IP Address	<input type="text" value="0.0.0.0"/>	The IP Address of the BACnet Power Meter
Port	<input type="text" value="47808"/>	The BACnet Port of the BACnet Power Meter. Default: 47808
BACnet Device Instance	<input type="text"/>	The Device Instance of the BACnet Power Meter
BACnet Network	<input type="text" value="0"/>	The BACnet network that this device is on. Default: 0 (Local Network). Note: Network will only be non-zero if the device is on the other side of a BACnet Router.
BACnet Device SADR	<input type="text"/>	The Source Address of the device. Only provide this if the network is not 0

Figure 4.2-4 - Add 3rd Party BACnet Power Meter Form

Fill out the fields as follows:

- **Assigned UID** – The UID provided by BEST to represent this BACnet Power Meter.
- **IP Address** – The IP Address of the BACnet Power Meter.
- **Port** – The BACnet Port of the BACnet Power Meter. **Default: 47808**
- **BACnet Device Instance** – The Device Instance of the BACnet Power Meter
- **BACnet Network** – The BACnet network that this device is on. **Default: 0 (Local Network).**
- **BACnet Device SADR** – The Source Address of the device. Only provide this if the network is not zero.

Once the fields are filled out, click the 'insert' button. You will see the entry in the table if successful, otherwise, any errors will be displayed at the top of the page.

Add 3rd Party BACnet Power Meter

Success, Record #2 has been added

BACnetIP_devices

Actions: [Insert](#) | [Download as CSV](#)

Displaying 30 records from 0-1 of a total 1

Action	BACnet Device Instance	IP Address	BACnet Network	Assigned UID	Port	BACnet Device SADR
Edit Delete	12345	192.168.1.123	0	123456789	47808	

Figure 4.2-5 - Added 3rd Party BACnet Power Meter

Repeat these steps for each power meter.

Refer to [Appendix D: Using CAS BACnet EXPLORER](#) for information on how to use the CAS BACnet Explorer to get the data to input into the configuration fields when adding a 3rd party BACnet Power Meter.

4.2.3 Add Task to Read a Data Point from a 3rd Party BACnet Power Meter

Finally, add the data points to push to the BEST Cloud Server.

Click on the 'Insert' link as show in the image below:

Add Task to Read a Data Point from a 3rd Party BACnet Power Meter

BACnetIP_tasks

Actions: [Insert](#) | [Download as CSV](#)

Error: Table is empty

Figure 4.2-6 - Add Data Point Link

You will see this form:

Add Task to Read a Data Point from a 3rd Party BACnet Power Meter

Insert new record in to 'BACnetIP_tasks'

Name	Value	Description
UID	123456789 ▾	The UID that represents the device this object is from. See above table for list of UIDs and BACnet devices
Data Type	Energy ▾	The type of data point this task will read
BACnet Object Type	Analog Input ▾	The BACnet Object type for this data point
BACnet Object Instance	<input type="text"/>	The BACnet Object instance for this data point
Scan Interval	30	How often to poll for the data point in seconds. Default: 30

Figure 4.2-7 - Add Data Point Form

Fill out the fields as follows:

- **UID** – The UID that represents the device this object is from. The drop-down menu contains the list of UIDs that were added in section [4.2.2](#).
- **Data Type** – The type of data point this task will read.
- **BACnet Object Type** – The BACnet Object type for this data point.

- **BACnet Object Instance** – The BACnet Object instance for this data point.
- **Scan Interval** – How often to poll for the data point in seconds. Default: 30.

Click the ‘insert’ button once the fields have been filled out. You will see the entry in the table if successful. Otherwise, any errors will be displayed at the top of the page.

Success, Record #1 has been added

BACnetIP_tasks

Actions: Insert| Download as CSV

Displaying 30 records from 0-1 of a total 1

Action	Data Type	BACnet Object Instance	BACnet Object Type	UID	Scan Interval
Edit Delete	Energy	1	analog_input	123456789	30

Figure 4.2-8 - Added Data Point

Refer to [Appendix D: Using CAS BACnet EXPLORER](#) for information on how to use the CAS BACnet Explorer to get the data to input into the configuration fields when adding a data point for a 3rd party BACnet Power Meter.

4.3 Completing the Configuration

Once the configuration process has finished, you will need to reboot the system for the new configuration to take effect.

First, return to the main system page by typing in the follow URL into a web browser:

- <http://{ipAddress}/bin/system/> where {ipAddress} is the IP Address of the gateway.

From this page, under the System actions, first click the “Save Database” link to save all changes.

System Actions

This page is for system wide actions that effect all the drivers.

System

- [Reboot System](#) - Use this link to send a reboot REST request to the system.
- [Save Database](#) - Use this link to send a save database REST request to the system.
- [Delete Database](#) - Use this link to send a delete database REST request to the system.
- [Generate Configuration File](#) - Use this link to generate a configuration file.

Figure 4.3-1 - Save Database Link

Click “Ok” when prompted and you will see the following XML, check that the response status is OK.

```

▼<HttpXML rest_version="0.20" version="0.09">
  ▼<query>
    ▼<Accept>
      text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8
    </Accept>
    <Accept-Encoding>gzip, deflate</Accept-Encoding>
    <Accept-Language>en-US,en;q=0.9</Accept-Language>
    <Connection>keep-alive</Connection>
    <Host>192.168.1.202</Host>
    <Referer>http://192.168.1.202/bin/system/</Referer>
    <Upgrade-Insecure-Requests>1</Upgrade-Insecure-Requests>
    ▼<User-Agent>
      Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/63.0.3239.132 Safari/537.36
    </User-Agent>
    <act>set</act>
    <query_string>act=set&save=1</query_string>
    <save>1</save>
    <uri>bin/xml/</uri>
  </query>
  ▼<response status="OK" count="1">
    <save>OK</save>
  </response>
</HttpXML>

```

Figure 4.3-2 - Save Database Successful

Click the back button in your web browser and then click the “Reboot System” link:

System Actions

This page is for system wide actions that effect all the drivers.

System

- **Reboot System** - Use this link to send a reboot REST request to the system.
- Save Database - Use this link to send a save database REST request to the system.
- Delete Database - Use this link to send a delete database REST request to the system.
- Generate Configuration File - Use this link to generate a configuration file.

Figure 4.3-3 - Reboot System Link

Click “Ok” when prompted and you will see the following screen with a timer counting up:

Restarting device

The device is restarting, this may take a few minutes.

Status: Checking ... 2

Figure 4.3-4 - Reboot System Count

The system page will refresh once the device has been properly rebooted.

4.4 Resetting the Gateway or Deleting the Configuration

Sometimes you want to delete the entire configuration and begin again. To do this, return to the system page as described in the [Completing the Configuration](#) section above. Then click on the “Delete Database” Link:

System Actions

This page is for system wide actions that effect all the drivers.

System

- [Reboot System](#) - Use this link to send a reboot REST request to the system.
- [Save Database](#) - Use this link to send a save database REST request to the system.
- **[Delete Database](#)** - Use this link to send a delete database REST request to the system.
- [Generate Configuration File](#) - Use this link to generate a configuration file.

Figure 4.4-1 - Delete Database Link

Click “Ok” when prompted and verify that the result XML has a response status of OK:

```

▼<HttpXML rest_version="0.20" version="0.09">
  ▼<query>
    ▼<Accept>
      text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8
    </Accept>
    <Accept-Encoding>gzip, deflate</Accept-Encoding>
    <Accept-Language>en-US,en;q=0.9</Accept-Language>
    <Connection>keep-alive</Connection>
    <Host>192.168.1.202</Host>
    <Referer>http://192.168.1.202/bin/system/</Referer>
    <Upgrade-Insecure-Requests>1</Upgrade-Insecure-Requests>
    ▼<User-Agent>
      Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/63.0.3239.132 Safari/537.36
    </User-Agent>
    <act>set</act>
    <delete_database>1</delete_database>
    <query_string>act=set&delete_database=1</query_string>
    <uri>bin/xml/</uri>
  </query>
  ▼<response status="OK" count="1">
    <delete_database>OK</delete_database>
  </response>
</HttpXML>
    
```

Figure 4.4-2 - Delete Database Successful

Click the back button in the web browser and then follow the instructions in the [Completing the Configuration](#) section.

4.5 Exporting the Configuration

To save a copy of the configuration, return to the system page as described in the [Completing the Configuration](#) section above. Then click on the “Generate Configuration File” Link:

System Actions

This page is for system wide actions that effect all the drivers.

System

- [Reboot System](#) - Use this link to send a reboot REST request to the system.
- [Save Database](#) - Use this link to send a save database REST request to the system.
- [Delete Database](#) - Use this link to send a delete database REST request to the system.
- [Generate Configuration File](#) - Use this link to generate a configuration file.

Figure 4.5-1 - Generate Configuration File Link

After a while, a link to “Export Configuration” will appear. Click on the link to download the config.csv file which is the configuration of the gateway.

4.6 Importing the Configuration

Sometimes Chipkin will send you a configuration file to load onto the Gateway, or you would like to load an older configuration file that you may have saved. To do this, return to the system page as described in the [Completing the Configuration](#) section above.

Then find the section titled “Import Configuration”:

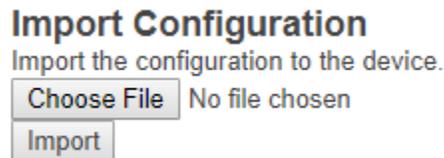


Figure 4.6-1 - Import Configuration

Click the “Choose File” button to open a file browser. Browse to the csv configuration file you wish to import and Click “Open”.

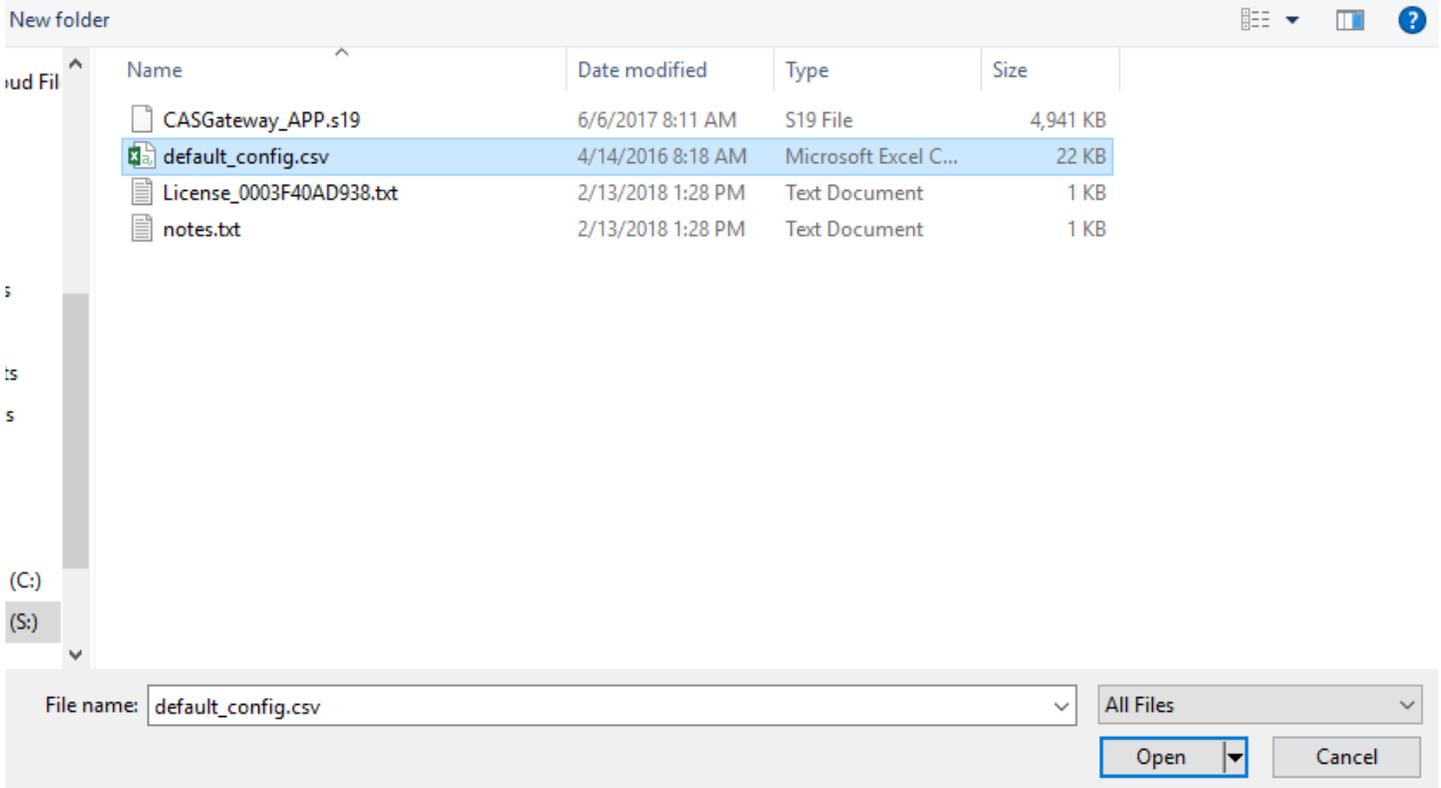


Figure 4.6-2 - Import File Browser

The file should now be displayed next to the “Choose File” button.

Import Configuration

Import the configuration to the device.



Figure 4.6-3 - Configuration File Ready for Import

Finally, click the “Import” Button. The file will be parse and the output will be displayed. Here is an example of the output:

Importing configuration

```
Starting import... ~tmp\default_config.csv
Opening the config file... OK
Get the database... OK
Deleting old tables... OK
Creating mods tables... OK
Creating configuration table... OK
```

Starting to parse the configuration file

```
Parsing line: table_name=da_data_mod
New table found: Table name=da_data_mod
```

Figure 4.6-4 - Importing the Configuration File

Scroll to the bottom of the page to see the if the Import was successful. You should see the following:

Parsing line: 02,64,32,210,da_data,1,8,,Tank03_TankAlarms,1,03,passive
Importing data in to table. Table=[VeederRoot_tasks]... OK

Parsing line: 02,96,32,310,da_data,1,9,,Tank04_TankAlarms,1,04,passive
Importing data in to table. Table=[VeederRoot_tasks]... OK
Finished parsing the configuration file
Saving the database...OK

Import Successful - Please restart the Gateway

Figure 4.6-5 - Import Successful

After this, return to the system page and follow the instruction in the [Completing the Configuration](#) section to finish and apply the new configuration.

Generating Configuration File

The configuration file is currently being generated. This may take some time.

Status: Generate Config File has completed.

Elapsed Time: 3

Please download the configuration file from the following link: [Export Configuration](#)

Figure 4.6-6 - Export Configuration

5. READING DATA AND TEST PROCEDURE

5.1 READING DATA USING HTML / WEB Browser

To view the data on the device’s webpage, enter the following URL into a web browser:

<http://{ipaddress}/bin/best/report>

or by clicking on the link as shown in the image below:

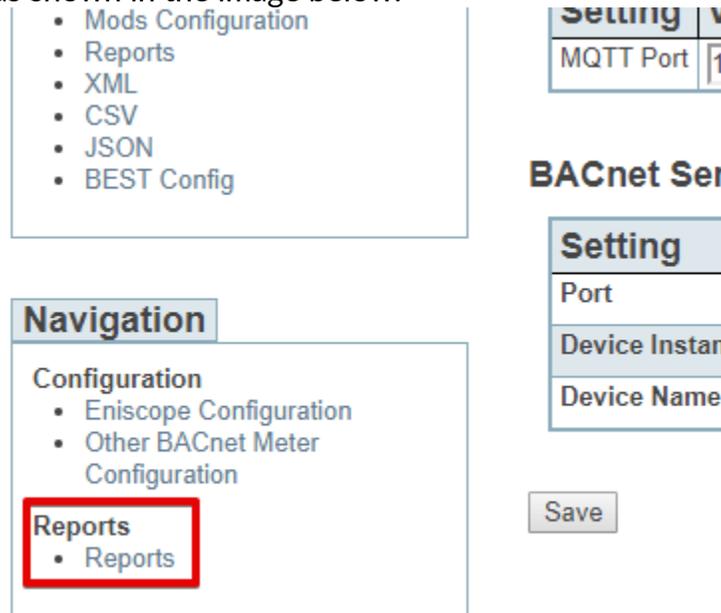


Figure 5.1-1 - Reports Link

The link will open a web page containing a table of the stored values as well as the tasks that are acting upon that data value. The report page contains a list of the configured UIDs. Click on each UID to see the current values of each of the configured data points for that UID. See the image below for an example of the data.

Reports

The following table contains the list of configured data points from the Eniscope Meters.

#	Name	Mapped BACnet Object	Value	Units	Last Updated
1	S1	analog_input 1	12.219	volt_amperes	2018-05-10T15:05:46 -0700
2	S	analog_input 2	35.911	volt_amperes	2018-05-10T15:05:46 -0700
3	A1	analog_input 3	0	degrees_angular	2018-05-10T15:05:46 -0700
4	V3	analog_input 4	242.97	volts	2018-05-10T15:05:46 -0700
5	P2	analog_input 5	5.1596	watts	2018-05-10T15:05:46 -0700
6	RE3	analog_input 6	0.000426691	volt_ampere_hours_reactive	2018-05-10T15:05:46 -0700
7	Q3	analog_input 7	-2.3108	volt_amperes_reactive	2018-05-10T15:05:46 -0700
8	A2	analog_input 8	359.99	degrees_angular	2018-05-10T15:05:46 -0700
9	E	analog_input 9	3957.03	watt_hours	2018-05-10T15:05:46 -0700
10	U3	analog_input 10	0.088388	volts	2018-05-10T15:05:46 -0700
11	D3	analog_input 11	5.1215	watts	2018-05-10T15:05:46 -0700

Figure 5.1-2 - Reports Page

5.2 READING BACNET DATA

You can access BACnet report data from the Eniscope Meters device by using discover to detect gateway objects and their properties. Although each BACnet device (including the gateway) needs to have a unique instance number, discovery does not require the number to be known in advance. Discovery will not occur if the device or application reading the data is on another subnet. This can be resolved by changing the gateway’s IP address to match the subnet or by installing BBMD. It’s the responsibility of the company installing the BAS system to provide BBMD. For more information about reading BACnet data or installing BBMD, please refer to these guides:

- <http://www.chipkin.com/bacnet-solutions>
- <http://www.chipkin.com/articles/bacnet-bbmd>

You can discover the device and poll for values using the CAS BACnet Explorer. For more information about the CAS BACnet Explorer, please visit: <http://store.chipkin.com/products/tools/cas-bacnet-explorer>

5.2.1 Interpreting BACnet Data

BACnet has a mechanism for reporting the validity of data. If the gateway loses its connection to the Veeder-Root device (or a data point cannot be read), the data object’s out of service property is set to true and it will disregard previous data as unreliable. The value of the present value property is not changed, so the last good value will be shown.

5.2.2 BACnet Object List

The Object list is dynamic based on the data that the gateway receives from the Eniscope. The following is an example of a small object list of one meter. **Note:** To view the full object list please refer to section [5.1 Read Data Using HTML/Web Browser](#)

#	Name	Mapped BACnet Object	Value	Units
1	S1	analog_input 1	12.219	volt_amperes
2	S	analog_input 2	35.911	volt_amperes
3	A1	analog_input 3	0	degrees_angular
4	V3	analog_input 4	242.97	volts
5	P2	analog_input 5	5.1596	watts
6	RE3	analog_input 6	0.000426691	volt_ampere_hours_reactive
7	Q3	analog_input 7	-2.3108	volt_amperes_reactive
8	A2	analog_input 8	359.99	degrees_angular
9	E	analog_input 9	3957.03	watt_hours
10	U3	analog_input 10	0.088388	volts
11	P3	analog_input 11	5.1316	watts
12	REx	analog_input 12	1504.11	volt_ampere_hours_reactive
13	U1	analog_input 13	0	volts
14	V1	analog_input 14	243	volts
15	RE2	analog_input 15	0.000392932	volt_ampere_hours_reactive
16	ts	positive_integer_value 16	1525253685	seconds
17	Ex3	analog_input 17	0.0074871	watt_hours
18	AE2	analog_input 18	3005.62	volt_ampere_hours
19	RE	analog_input 19	0.00190142	volt_ampere_hours_reactive
20	I2	analog_input 20	0.04933	amperes
21	A3	analog_input 21	359.99	degrees_angular
22	E2	analog_input 22	1317.93	watt_hours

#	Name	Mapped BACnet Object	Value	Units
23	D	analog_input 23	185.25	no_units
24	REx1	analog_input 24	501.127	volt_ampere_hours_reactive
25	I	analog_input 25	0.049267	amperes
26	In	analog_input 26	0.14896	amperes
27	S3	analog_input 27	11.963	volt_amperes
28	U	analog_input 28	0.029463	volts
29	F	analog_input 29	49.887	hertz
30	D2	analog_input 30	185.17	no_units
31	D3	analog_input 31	185.54	no_units
32	RE1	analog_input 32	0.00446151	volt_ampere_hours_reactive
33	P1	analog_input 33	5.279	watts
34	E1	analog_input 34	1320.72	watt_hours
35	PF	analog_input 35	0.43042	no_units
36	REx3	analog_input 36	502.784	volt_ampere_hours_reactive
37	AE3	analog_input 37	3007.27	volt_ampere_hours
38	V	analog_input 38	242.97	volts
39	Ex	analog_input 39	0.0224556	watt_hours
40	Q	analog_input 40	-6.9105	volt_amperes_reactive
41	S2	analog_input 41	11.985	volt_amperes
42	REx2	analog_input 42	500.2	volt_ampere_hours_reactive
43	PF3	analog_input 43	0.42951	no_units
44	PF2	analog_input 44	0.43113	no_units
45	E3	analog_input 45	1318.38	watt_hours
46	I3	analog_input 46	0.049234	amperes

#	Name	Mapped BACnet Object	Value	Units
47	PF1	analog_input 47	0.43118	no_units
48	P	analog_input 48	15.438	watts
49	U2	analog_input 49	0	volts
50	V2	analog_input 50	242.96	volts
51	D1	analog_input 51	184.84	no_units
52	Q2	analog_input 52	-2.2932	volt_amperes_reactive
53	Q1	analog_input 53	-2.3437	volt_amperes_reactive
54	AE1	analog_input 54	3004.7	volt_ampere_hours
55	Ex2	analog_input 55	0.00749668	watt_hours
56	Ex1	analog_input 56	0.00804077	watt_hours
57	AE	analog_input 57	9017.6	volt_ampere_hours
58	I1	analog_input 58	0.050286	amperes

Table 5-1 - Sample BACnet Object List

5.2.3 BACnet Test Procedure

CAS BACnet Explorer is a software application that can discover, test and document objects and properties on a network system. You can download the software at http://www.chipkin.com/files/resources/Installer_CAS%20BACnet%20Explorer.exe and use the USB key to activate the application. If you don't have a key, the software can also be activated through an internet connection.

Perform the set-up procedure below, or refer to the video and these articles for more information:

- <http://store.chipkin.com/articles/cas-bacnet-explorer-software-activation>
- <http://store.chipkin.com/articles/bacnet-how-to-overcome-cas-bacnet-explorer-usbsoftware-activation-problems>
- <http://store.chipkin.com/products/tools/cas-bacnet-explorer/license-agreement>

To Set-up BACnet Explorer:

1. Start the application
2. Click **Settings**
3. Check **IP** and uncheck **MSTP and Ethernet**
4. Click on the network card you will use
5. Click **OK**
6. Click **Discover**

7. Click **Send**



Figure 5.2-1 – CAS BACnet Explorer - Devices were discovered.

8. Click on the '+' icon to see the list of discovered devices.



Figure 5.2-2- CAS BACnet Explorer – Device Selection

9. Select the device you wish to further discover and click the **Discover** button.

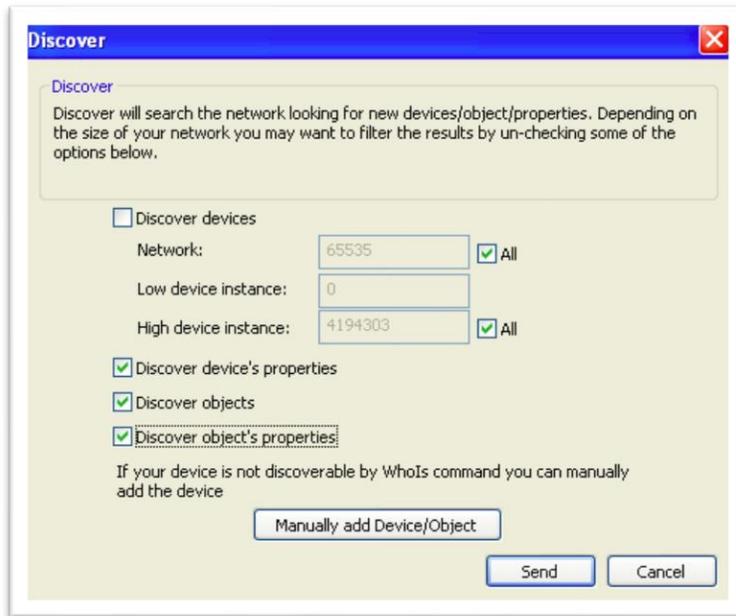


Figure 5.2-3 - CAS BACnet Explorer - Discover Dialogue

10. Check the **Discover device's properties**, **Discover object**, and **Discover object's properties** check boxes and click the **Send** button.

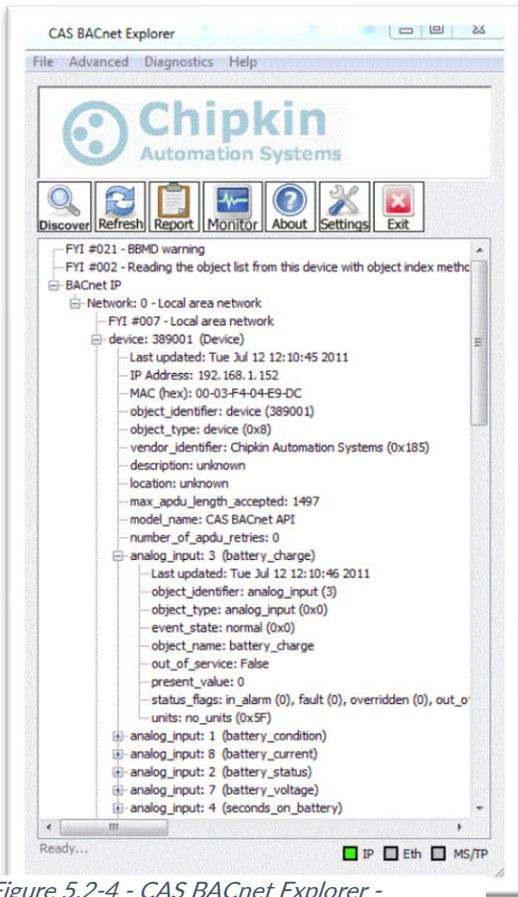


Figure 5.2-4 - CAS BACnet Explorer - Discovered Objects

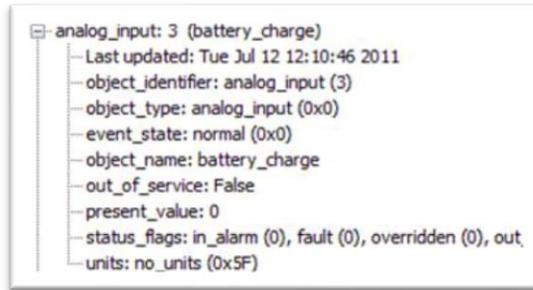


Figure 5.2-5 - CAS BACnet Explorer - Single Object

11. **Read** the BACnet object properties Present-Value is the current value of the data point. Here is a list of some the important properties:

- **Present Value:** The current value of the object
- **Reliability:** On the CAS Gateway or Data Client, represents the validity of the data
- **Status Flags:** Various flags that show the state of the object.
- **Units:** If the object has units, this will show the unit type.

6. COMMISSIONING, DIAGNOSTICS, AND TROUBLE-SHOOTING

6.1 WHAT TO TAKE TO SITE FOR COMMISSIONING

Below is a list of software and hardware tools that should be taken to site for the install installation. Some of these tools are depend on the type of installation and drivers on the gateway. Most of the software tools can be found on the included USB drive.

6.1.1 Software

- **IP Setup Tool** - Used to update the IP address of the CAS Gateway. Free <http://www.chipkin.com/cas-gateway-ip-address-tool>
- **Auto Update Tool** - Used to update the firmware on the CAS Gateway. Free <http://www.chipkin.com/cas-gateway-firmware-download-tool/>
- **Wireshark** - Used to capture and log network traffic. Free <https://www.wireshark.org/>
- **CAS BACnet Explorer** – Used to test BACnet IP configurations. Trial <http://www.chipkin.com/products/software/bacnet-software/cas-bacnet-explorer/>
- **CAS Modbus Scanner** – Used to test Modbus TCP and Modbus RTU configurations. Free <http://store.chipkin.com/articles/modbus-scanner-what-is-the-cas-modbus-scanner>

6.1.2 Hardware

- **A laptop** –Used to configure and diagnose the gateway. The laptop should include a ethernet port.
- **RS232 to USB converter** – Used when communicating with drivers that use RS232 such as VeederRoot serial.
- **RS485 to USB converter** – Used when communicating with drivers that use RS485 such as Modbus RTU or BACnet MSTP.
- **Ethernet patch cable** – Useful for connecting the gateway to your laptop or into a local switch. Included in the accessory kit.
- **Micro screw driver set** – Useful for securing wires into screw terminals. Included in the accessory kit.
- **Ethernet hub** - Use a hub (and not a switch) as a last resort for troubleshooting problems with Modbus TCP or BACnet IP. A **hub is not a switch**, that most switches are not supervised and that only a supervised switch can be used as an alternative. For more information about hubs and switches, please refer to this article: <http://www.chipkin.com/articles/hubs-vs-switches-using-wireshark-to-sniff-networkpackets>
- **Db9 gender changer** - Connector make-up kits are always useful but not required if you have tested your cable prior to attending the site.



Figure 6.1-1 - DB9 Gender Changers

- **Serial RS232 mini-tester** – Useful for testing to ensure that a serial cable has the correct pinout.



Figure 6.1-2 - RS232 Mini-Tester

- **Serial cable** – A Null modem or crossover serial cable can be useful when communicating with drives that use serial connections such as Modbus RTU and VeederRoot serial

6.2 DISCOVER GATEWAY'S IP ADDRESS

By default, the gateway is shipped with an IP address of 192.168.1.113. The IP address may have been changed since being installed on site. The following techniques can be used to discover the new gateway's IP address.

6.2.1 Setup reference card

By default, the gateways are shipped with a setup reference card attached to the bottom of the gateway. This setup reference card will show the configured IP address as well as the job reference number.



Figure 6.2-1 Setup reference card

6.2.2 Using the IP Setup tool

1. Download the IP Setup tool from chipkin’s website <http://www.chipkin.com/cas-gateway-ip-address-tool>
2. Run the IP Setup Tool application and you will see the following window

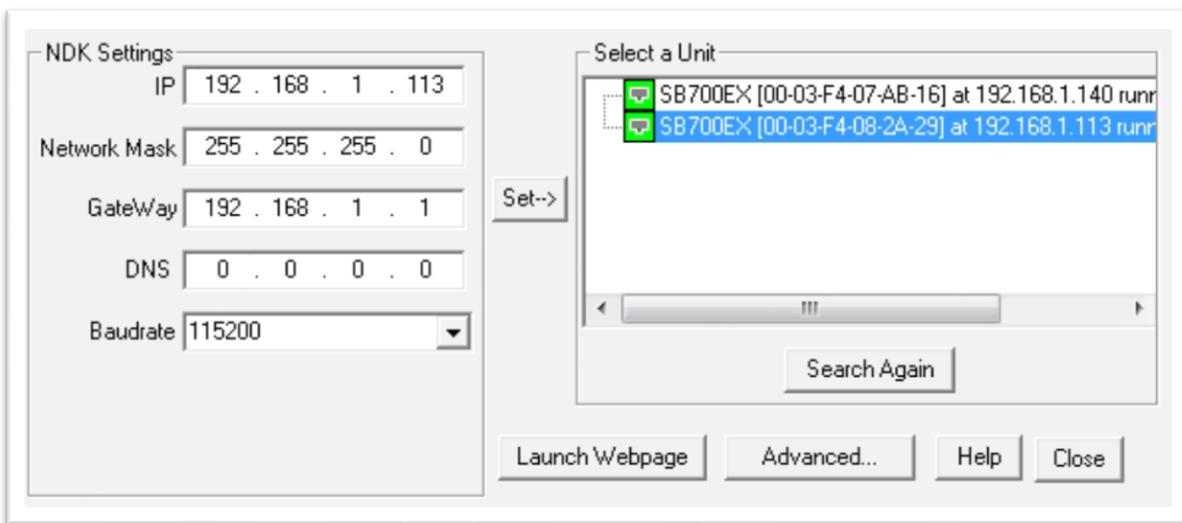


Figure 6.2-2 IP Setup tool

3. The IP address of the CAS Gateway will be shown on the right-hand side.

6.3 DEFAULT USERNAME AND PASSWORD

To view or change the settings on the gateway, a username and password will need to be entered. By default, the username and passwords are

Username: admin

Password: admin

The default password can be changed on the system page. <http://<IPAddress>/bin/system>

6.4 DEBUG LOG OR WIRESHARK LOG

If a problem is discovered on site, you may be asked to take a debug log, or a Wireshark log.

6.4.1 Debug logging

By default, the gateway has a debug logging level of 10 (important messages only) and logs messages to the syslog port (514). These settings can be changed on the system page.

<http://<IPAddress>/bin/system>

Settings

- **Log to file** - Logs the system and driver messages to a log file on the SD card of the gateway. This log file can be viewed and downloaded by going to “log messages” page <http://<IPAddress>/bin/system/log>. The log file will automatically be disabled if the free space on the SD card is less than 10% of the total. **Default:** Disabled.
- **Log to Syslog** – Sends syslog (UDP 514) message for each system and driver log message. These log messages can be viewed by taking a Wireshark log. **Default:** Enabled.
- **Logging level** – The logging level that messages will be created. The higher the number the more messages that will be created. Logging levels higher than NORMAL (50) may impact the performance of the gateway. **Default:** IMPORTANT (10)

6.4.2 Wireshark log

Wireshark is a free utility used for capturing and logging network traffic. This tool can be instrumental in resolving local network issues. Wireshark can be downloaded for free from

<https://www.wireshark.org/>

6.5 CHANGE THE GATEWAY IP ADDRESS

By default, the gateway is shipped with a static IP address of 192.168.1.113. The default IP address can be changed using the IP setup tool.

4. Download the IP Setup tool from Chipkin’s website <http://www.chipkin.com/cas-gateway-ip-address-tool>

5. Run the IP Setup Tool application and you will see the following window

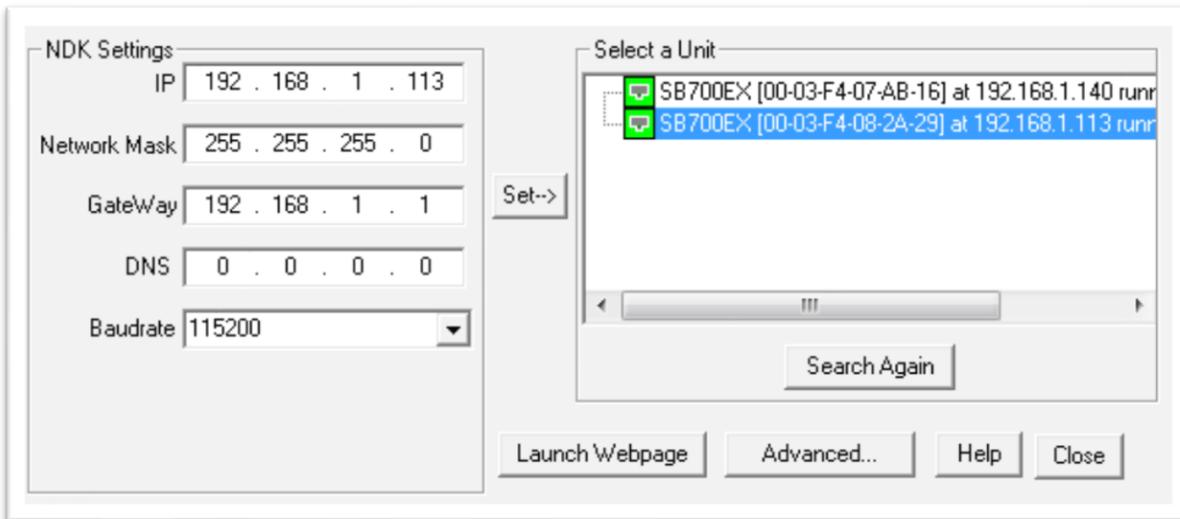


Figure 6.5-1 IP Setup tool

6. Select the Gateway from the list on the left.
7. Change the “NDK Settings” as required.
Note: Please do **NOT** change the Baudrate value.
8. Click the “Set -->” button to apply the new changes to the CAS Gateway. The gateway will automatically reboot with the new assigned IP address.

6.6 UPDATE FIRMWARE

This document assumes that you have successfully connected to the gateway and can see the gateway in the IP Setup Tool.



Note: Usually, the firmware is already loaded on the CAS Gateway when it is shipped. However, if there was a specific requirement that was developed or a bug fix, you may have to download an updated firmware which you will receive from Chipkin Automation Systems (CAS). All updated firmware files should come from CAS.

Do Not upload any other firmware files with this tool unless CAS specifically advises to do so.

To download the firmware to the gateway, follow the steps below:

1. Download the CAS Gateway AutoUpdate tool from the following link:
<http://www.chipkin.com/cas-gateway-firmware-download-tool/>

2. Running the AutoUpdate application will display the following window:

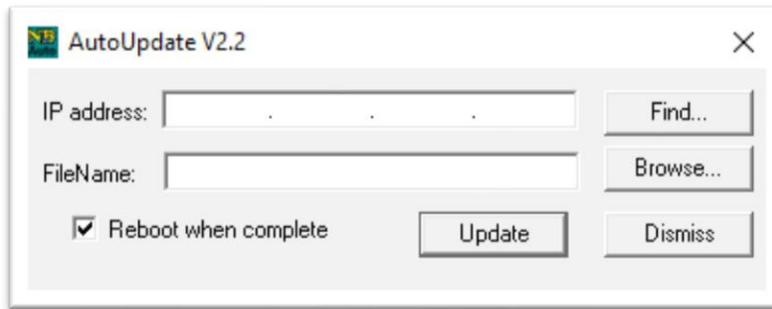


Figure 6.6-1 AutoUpdate tool window

The IP Address of the gateway should be filled out in the “**IP address**” section. If not, or if the IP address is wrong, then click the “**Find**” button and it will display the IP addresses of gateways on the network. Select the IP address of the gateway to download the firmware.

3. Click the “**Browse...**” button. This will open a file explorer. Navigate to the firmware file and click the “**Open**” button. The file path will be inserted into the “**FileName**” field.

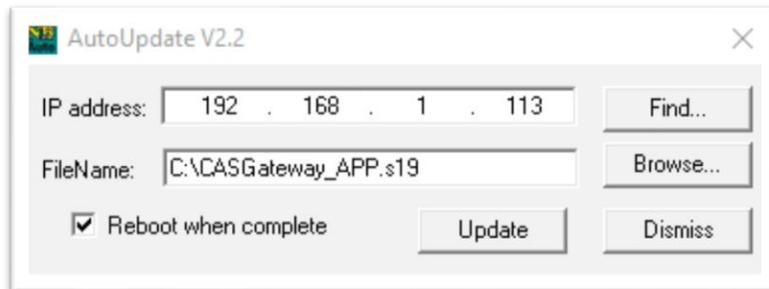


Figure 6.6-2 AutoUpdate tool window

Image 2 – AutoUpdate tool with firmware file name

4. Verify that “**Reboot when complete**” is checked, as shown above.

5. **Before** pressing the “**Update**”, disconnect the Power from the gateway. Then reconnect the power.

6. As the gateway is booting, press the “**Update**” button. You will see a progress bar begin to fill up.

Note: If the progress bar does not fill after 60 seconds, there may be an issue with other Network adapters being enabled. Go to the Network and Sharing Center and disable all network adapters except for the Local Area Connection.

7. If the update was successful, you will see the following message:

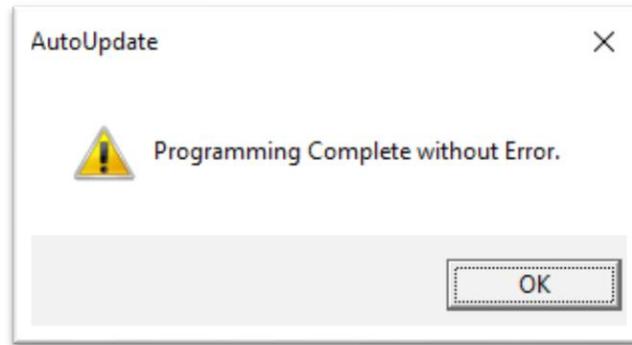


Figure 6.6-3 Firmware update success

If the update fails, you will see either “Update Failed” or “Updated Timeout”. If either of these messages appear, please contact us for support.

If a message appears stating that “The Gateway does not have enough RAM”, please return to step 5 and repeat.

LIMITATIONS AND BEST PRACTICES

The BEST Gateway has the following limitations:



Important: The gateway has a soft limit of 1000 data points. It is possible to configure more than 1000 data points; however, performance will degrade at higher point counts.

APPENDIX A: SAFETY WARNINGS

BEFORE YOU INSTALL THE DEVICE, OBSERVE THE IMPORTANT SAFETY INSTRUCTIONS IN THIS SECTION.



This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Save these instructions.



WARNING: Ultimate disposal of this product should be handled according to all national laws and regulations



WARNING: Read and understand all instructions in the documentation that comes with the gateway before connecting it to a power source.



WARNING: Do not install or use this gateway near water or when you are wet



WARNING: Install the gateway securely on a stable surface.



WARNING: Install the gateway in a protected location where no one can step or trip over the connecting cables or power cords.



WARNING: Install the Gateway where the cables and power cords can't be damaged.



WARNING: There are no user serviceable parts inside. Refer servicing to qualified servicing personnel.



IMPORTANT: If the gateway doesn't operate normally, please contact Chipkin's Engineer Services, Development and Support

APPENDIX B: HARDWARE SPECIFICATIONS

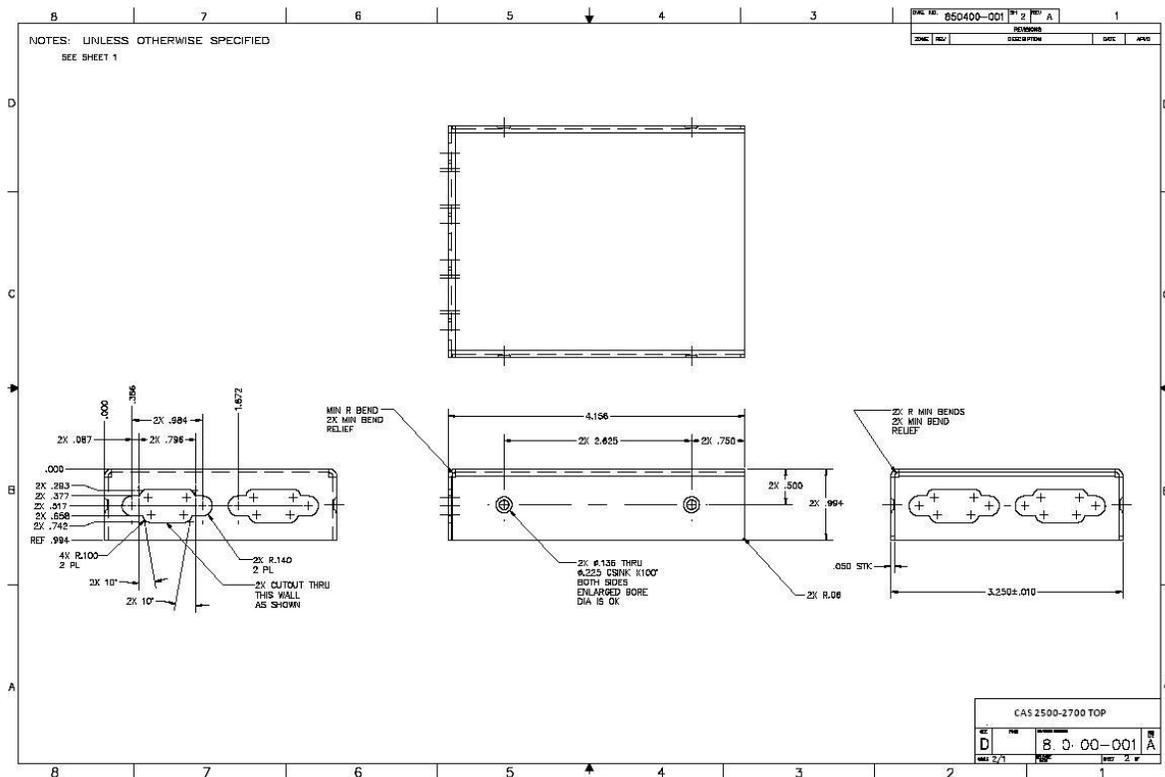
The following specifications for the CAS gateway are common to all Chipkin Gateways.

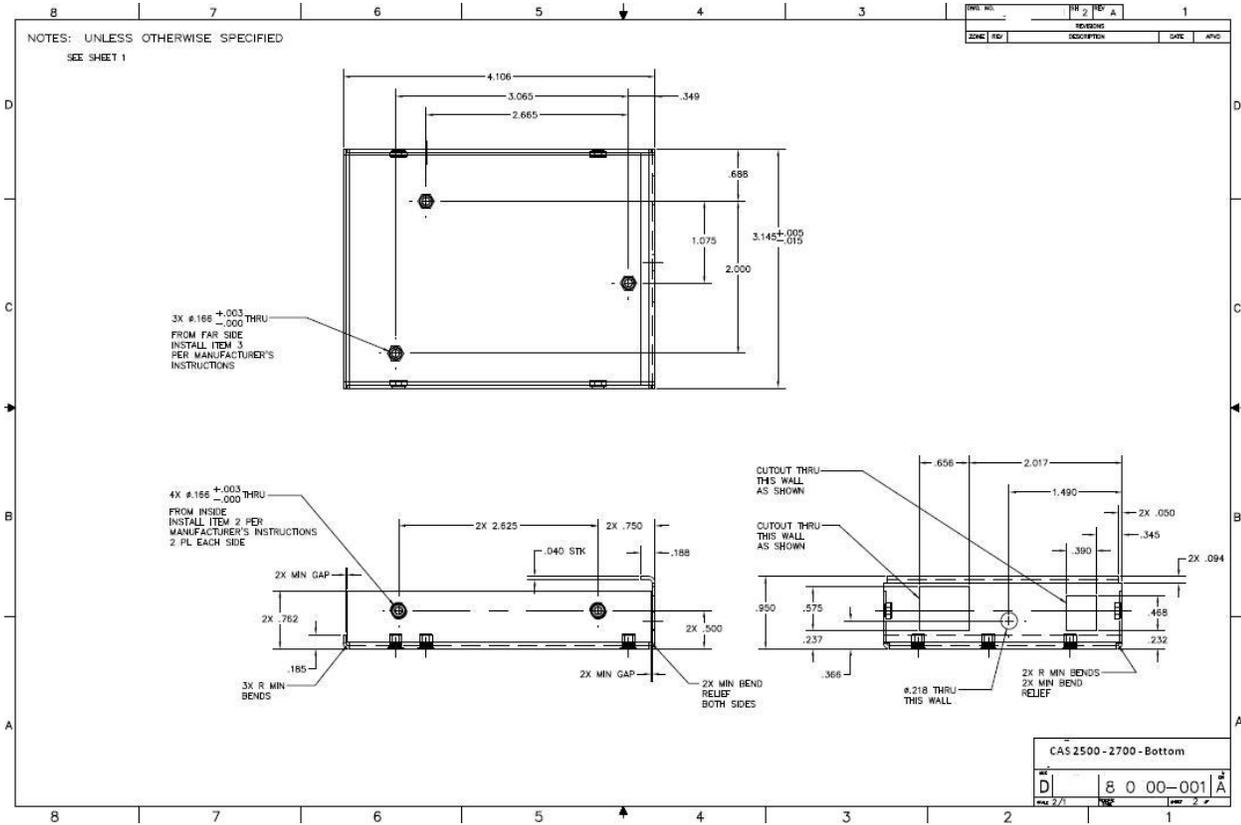
- UL, C/UL, CE, FCC approved
- 10/100BASE-T with RJ-45 connector
- 1x RS232 port
- 1x RS485 port (different models have additional ports)
- Power: 7 – 24 VDC @90 mA
- Operating temperature: 0 – 70 °C (32 – 158 °F)
- LEDs: link, speed/data, power
- Dimensions (LxWxH): 107 x 83 x 25 mm (4.2 x 3.25 x 1 in.)

MECHANICAL DRAWINGS

Applies to all CAS2500 and CAS2700 products.

Top View





Front Panel



Back Panel

Serial Protocols Supported

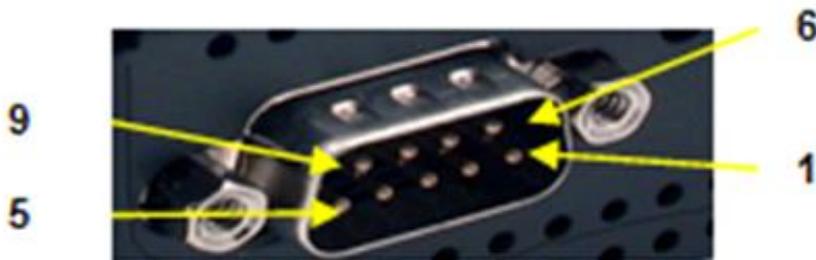
RS-232, RS-422, and RS-485

Serial Configurations

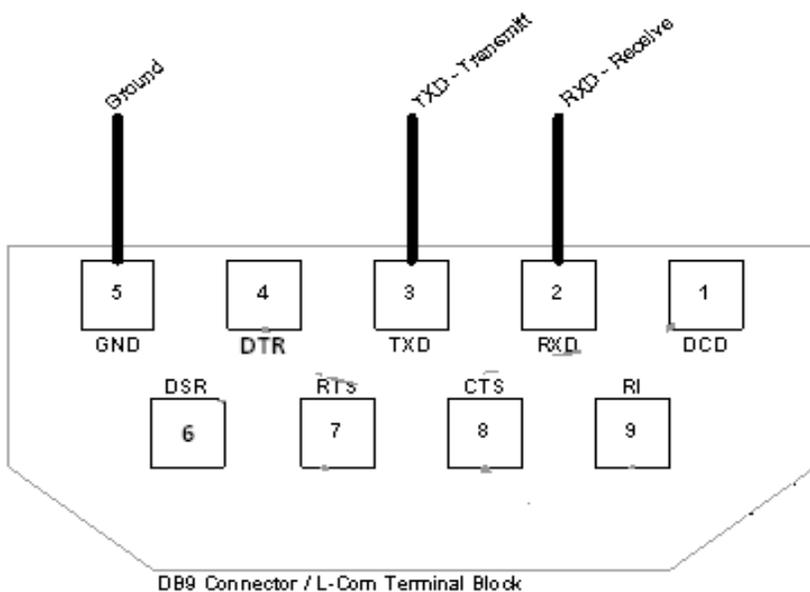
The two UARTs can be configured in the following ways:

- Two RS-232 ports
- One RS-232 port, one RS-485/422 port

DB9 Pinout

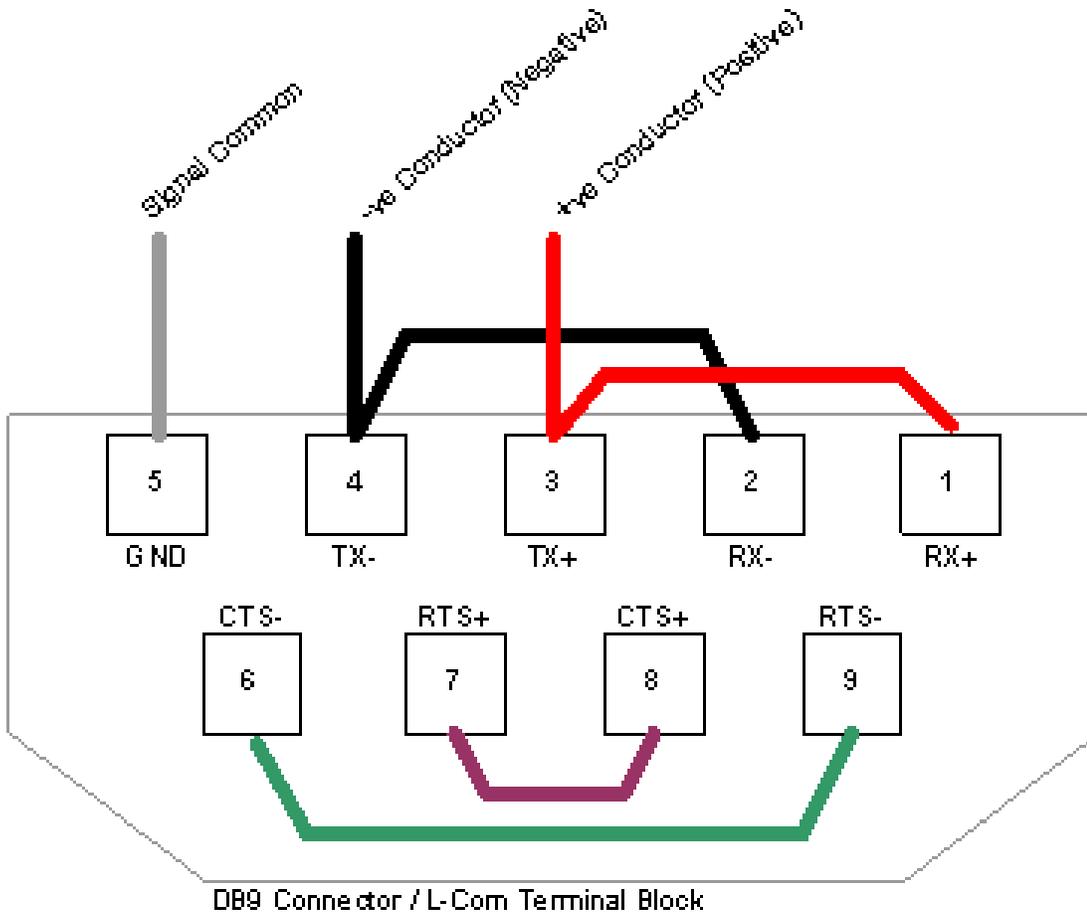


RS232- 3 Wire [No Handshaking]



RS485 – Half Duplex also known as 2 Wire

All 4 jumpers required for 2 wire operation.
 CAS recommends the use of 3 conductors for so called 2-Wire RS485.
 The signal common is there for purpose.



APPENDIX C: LIMITED WARRANTY

LIMITED WARRANTY

Chipkin Automation Systems provides a 30-Day Return Window (see Return of Non-Defective Products below) and the following limited warranty. This limited warranty extends only to the original purchaser.

Please note that any warranty services or questions must be accompanied by the order number from the transaction through which the warranted product was purchased. ***The order number serves as your warranty number and must be retained.*** Chipkin Automation Systems will offer no warranty service without this number.

Chipkin Automation Systems warrants this product and its parts against defects in materials or workmanship for *three years labor and one year parts* from the original ship date. During this period, Chipkin Automation Systems will repair or replace defective parts with new or reconditioned parts at Chipkin Automations Systems option, without charge to you. Shipping fees incurred from returns for under-warranty service in the first 30-days will be paid by Chipkin Automation Systems. All shipping fees both to and from Chipkin Automation Systems following this 30-day period must be paid by the customer. All returns, both during and following the 30-day period, must be affected via the Procedures for Obtaining Warranty Service described below.

All original parts (parts installed by Chipkin Automation Systems at the original system build) replaced by Chipkin Automation Systems or its authorized service center, become the property of Chipkin Automation Systems. Any after-market additions or modifications will not be warranted. The gateway system owner is responsible for the payment, at current rates, for any service or repair outside the scope of this limited warranty.

Chipkin Automation Systems makes no other warranty, either express or implied, including but not limited to implied warranties of merchantability, fitness for a particular purpose, or conformity to any representation or description, with respect to this computer other than as set forth below. Chipkin Automation Systems makes no warranty or representation, either express or implied, with respect to any other manufacturer's product or documentation, its quality, performance, merchantability, fitness for a particular purpose, or conformity to any representation or description.

Except as provided below, Chipkin Automation Systems is not liable for any loss, cost, expense, inconvenience or damage that may result from use or inability to use the gateway. Under no circumstances shall Chipkin Automation Systems be liable for any loss, cost, expense, inconvenience or damage exceeding the purchase price of the gateway.

The warranty and remedies set forth below are exclusive and in lieu of all others, oral or written, expressed or implied. No reseller, agent or employee is authorized to make any modification, extension or addition to this warranty.

WARRANTY CONDITIONS

The above Limited Warranty is subject to the following conditions:

1. This warranty extends only to products distributed and/or sold by Chipkin Automation Systems. It is effective only if the products are purchased and operated in Canada or the USA. (Within the USA including US 48 States, Alaska and Hawaii.)
2. This warranty covers only normal use of the gateway. Chipkin Automation Systems shall not be liable under this warranty if any damage or defect results from (i) misuse, abuse, neglect, improper shipping or installation; (ii) disasters such as fire, flood, lightning or improper electric current; or (iii) service or alteration by anyone other than an authorized Chipkin Automation Systems' representative; (iv) damages incurred through irresponsible use, including those resulting from viruses or spyware, overclocking, or other non-recommended practices.
3. You must retain your bill of sale or other proof of purchase to receive warranty service.
4. No warranty extension will be granted for any replacement part(s) furnished to the purchaser in fulfillment of this warranty.
5. Chipkin Automation Systems and its Authorized Service Center accepts no responsibility for any software programs, data or information stored on any media or any parts of any products returned for repair to Chipkin Automation Systems.
6. All pre-installed software programs are licensed to customers under non-Chipkin Automation Systems software vendor's term and conditions provided with the packages.
7. This warranty does not cover any third party software or virus related problems.
8. Chipkin Automation Systems makes no warranty either expressed or implied regarding third-party (non-Chipkin Automation System) software.
9. Thirty-day Return Window does not include opened software, parts, special order merchandise and shipping and handling fees.

RETURN OF NON-DEFECTIVE PRODUCTS

A non-defective product may be returned to Chipkin Automation Systems within thirty (30) days of the invoice date for a refund of the original purchase price with the following amendments/fees:

1. Chipkin Automation Systems will refund neither the original shipping cost nor the shipping and handling fees incurred from the products return. If the original purchase was made under a "Free Shipping" promotion then a standard \$40 fee will be deducted from any return in counter to that offer.
2. No refund will be granted for software which has been opened, used, or tampered with in any way which jeopardized Chipkin Automation Systems ability to remarket or resell the product. Chipkin Automation Systems maintains full discretion in decisions regarding a products fitness for return.
3. Any non-defective returns are subject to a 15% restocking fee, which percentage is taken from the final purchase price less any shipping or handling charges.
4. Quantity purchases of five systems or more are not eligible for return.

To return a defective product, please contact our Customer Service Department for a Return Merchandise Authorization (RMA) number and follow the Return of Products Instructions below. The RMA is valid for 10 days from date of issuance. **Returns will not be accepted without an RMA.** Manufacturer restrictions do apply. Any item missing the UPC on the original packaging may not be returned.

PROCEDURES FOR OBTAINING WARRANTY SERVICE

RMA (Returning Merchandise Authorization) Policy:

If repairs are required, the customer must obtain an RMA number and provide proof of purchase. RMA and services are rendered by Chipkin Automation Systems only. Any shipping costs after 30 days (starting from the original date of purchase) on any item returned for repair is the customers' responsibility. All returned parts must have an RMA number written clearly on the outside of the package along with a letter detailing the problems and a copy of the original proof of purchase. No COD packages will be accepted. No package will be accepted without an RMA number written on the outside of the package. RMA numbers are only valid for 30 days from the date of issue.

Should you have any problems with your gateway, please follow these procedures to obtain the service:

1. If you have purchased our on-site warranty, please find your warranty# (the order number from the transaction through which the warranted product was originally purchased) and contact Chipkin Automation Systems Customer Service by phone at 1-866-383-1657 (Toll free) or 1-647-557-3330.
2. If the gateway must be repaired, an RMA number (Return Merchandise Authorization Number) will be issued for shipment to our repair department. Please follow the instructions given by Chipkin Automation Systems technical support staff to ship your gateway. Chipkin Automation Systems will not accept any shipments without an RMA number.
3. Pack the gateway in its original box or a well-protected box, as outlined in the Return Shipping Instructions. Chipkin Automation Systems will not be responsible for shipping damage/loss of any product outside the original 30-day Chipkin Automation Systems-paid service period. It is very important that you write the RMA number clearly on the outside of the package. Ship the gateway with a copy of your bill of sale or other proof of purchase, your name, address, phone number, description of the problem(s), and the RMA number you have obtained to:

Chipkin Automation Systems RMA# _____
3381 Cambie St., #211
Vancouver, B.C. Canada, V5Z 4R3

4. Upon receiving the gateway, Chipkin Automation Systems will repair or replace your gateway (at Chipkin Automation Systems discretion) and will ship it back to you within 2 weeks (dependent on parts availability) via UPS.

5. Cross-exchange (Parts only): You will need to provide a valid credit card number as a deposit guarantee when the RMA number is issued. Once approval has been obtained on your credit card, the part(s) will be shipped UPS. You will need to ship defective part(s) back to Chipkin Automation Systems within 15 days to avoid charges to your credit card. If such charges are incurred, the shipped part(s) will be billed at the then current price.
6. Chipkin Automation Systems will pay for shipping to and from the customer only within the first thirty days following the original product ship date. Following this 30-day period all shipping fees both for under warranty and post warranty repairs are the sole responsibility of the customer. The customer also assumes full liability for losses or damages resulting from shipping as well as all responsibility to pursue remuneration for such issues with their selected carrier.

AFTER ONE-YEAR WARRANTY – POST WARRANTY REPAIR

For post warranty repair, the procedure is the same as outlined above for RMA and shipping. However, you are responsible for shipping charges both ways, current labor (\$75 per hour if not under warranty), and the current price of part(s) used in repair.

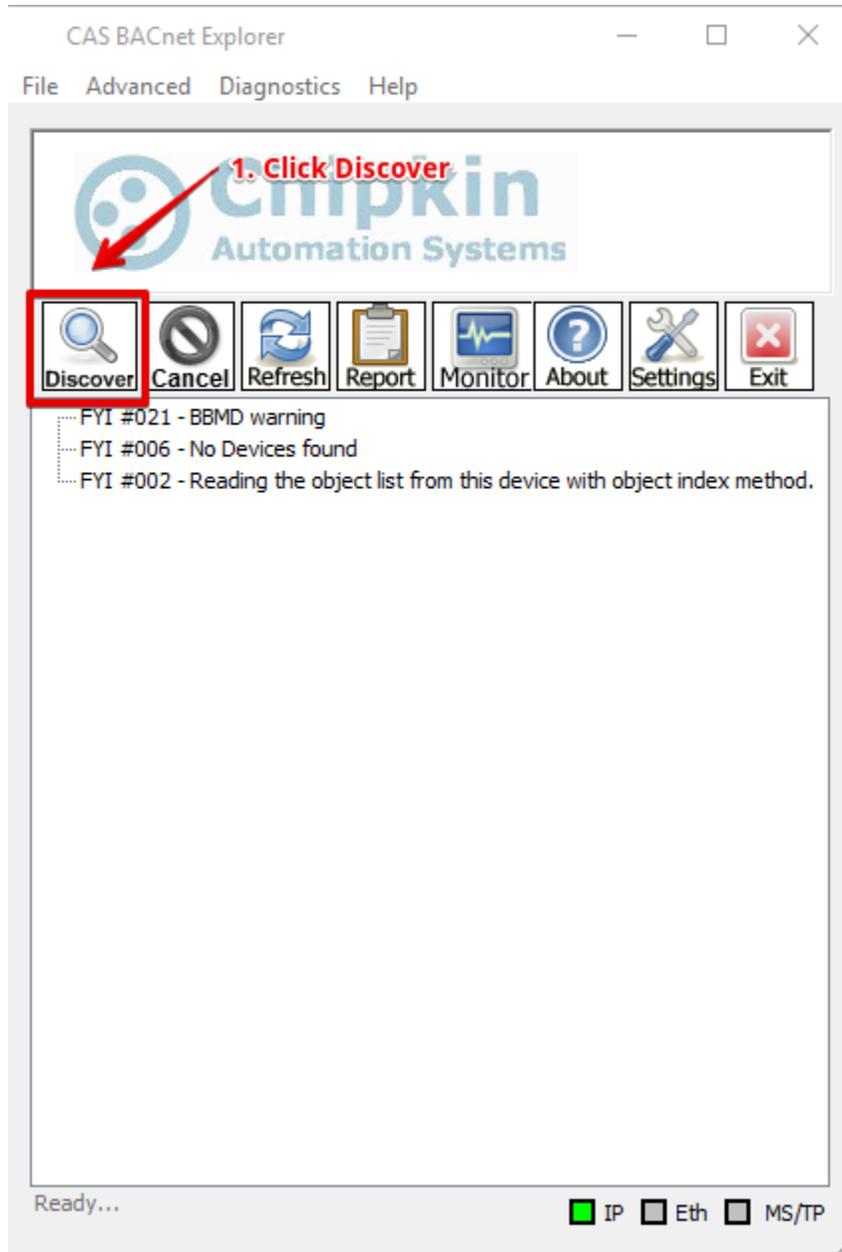
APPENDIX D: USING CAS BACNET EXPLORER

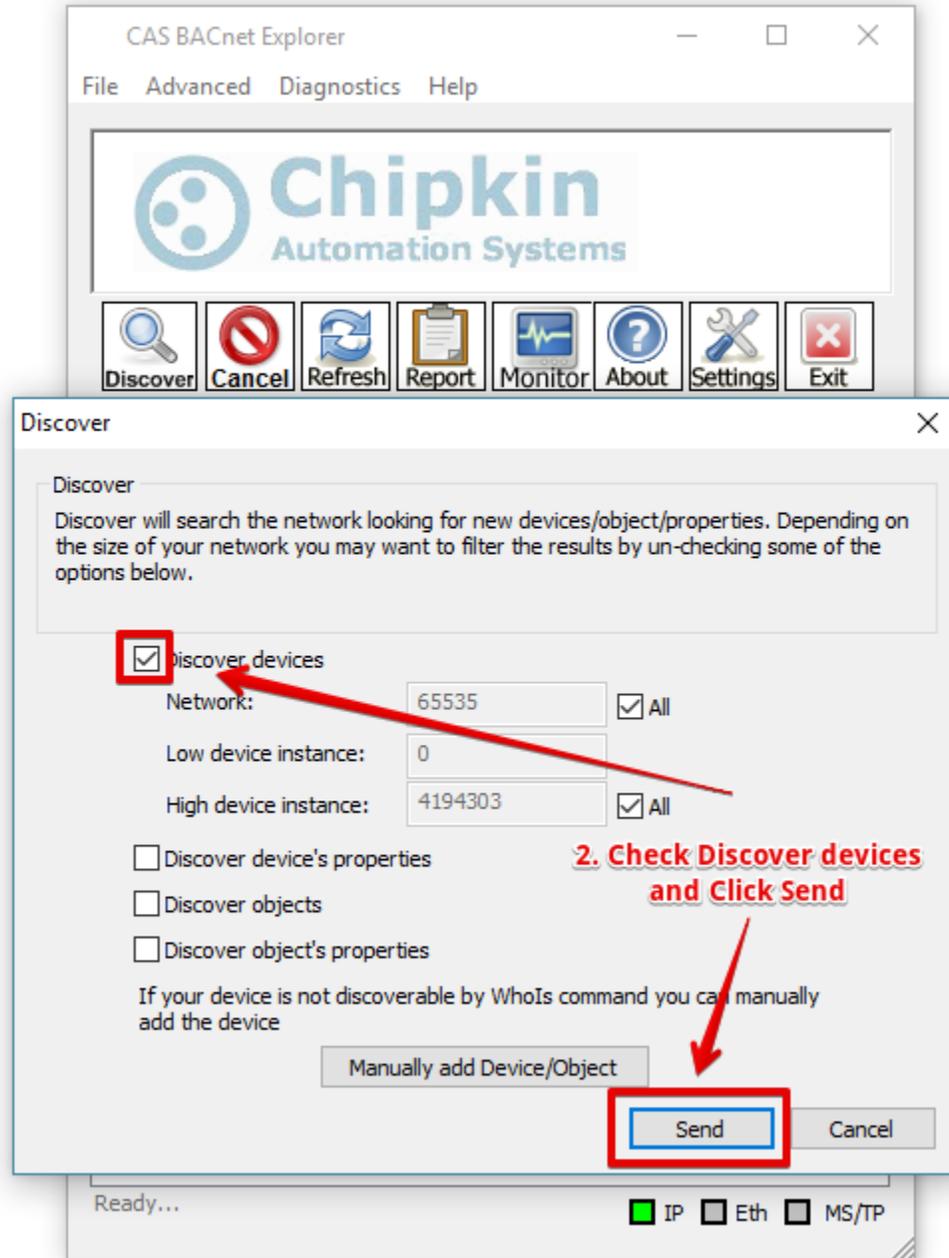
This section contains information on how to use the CAS BACnet Explorer to discover 3rd party BACnet Power Meters and use that data to configure the BEST driver.

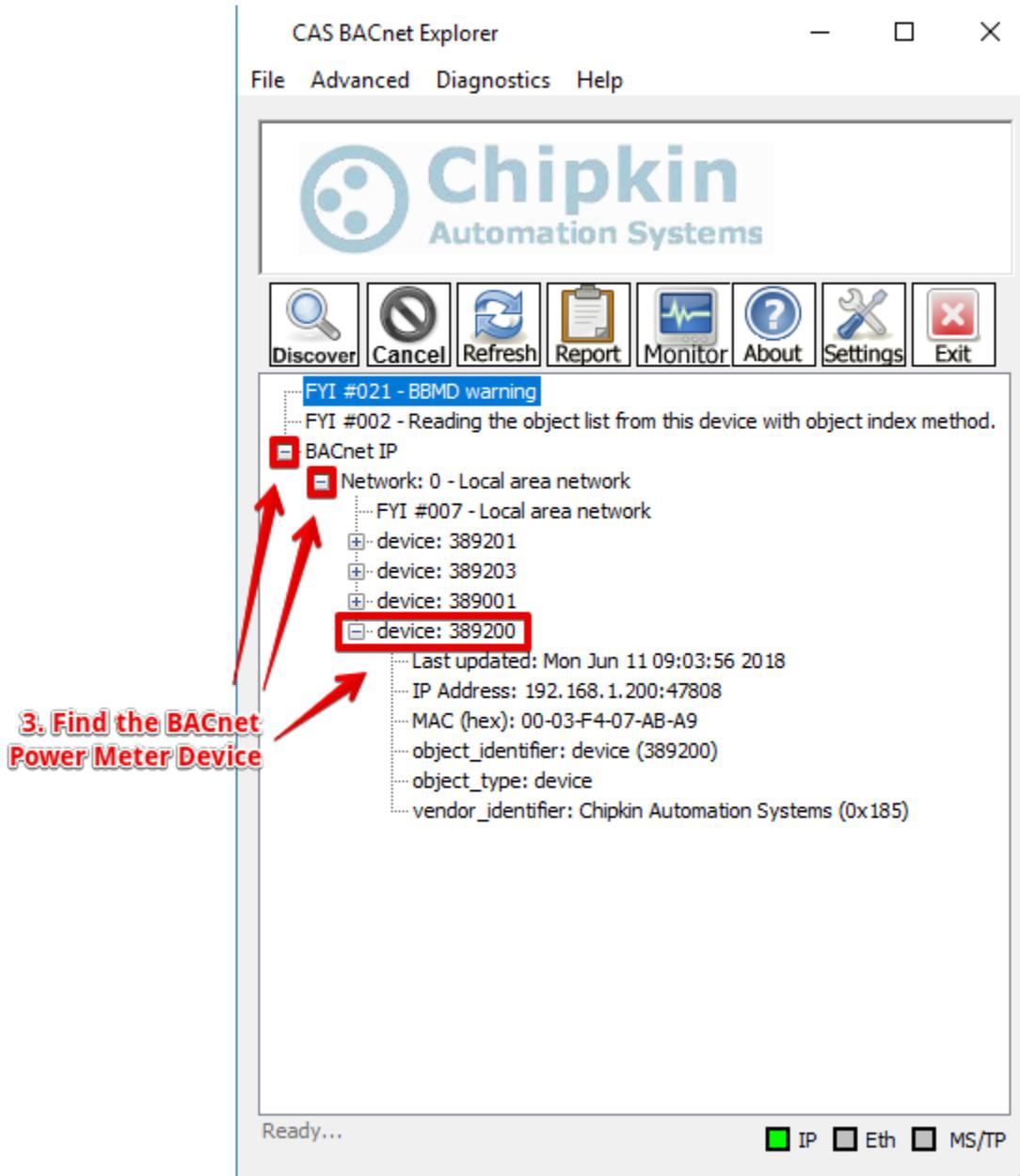
Use the following link to download the CAS BACnet Explorer:

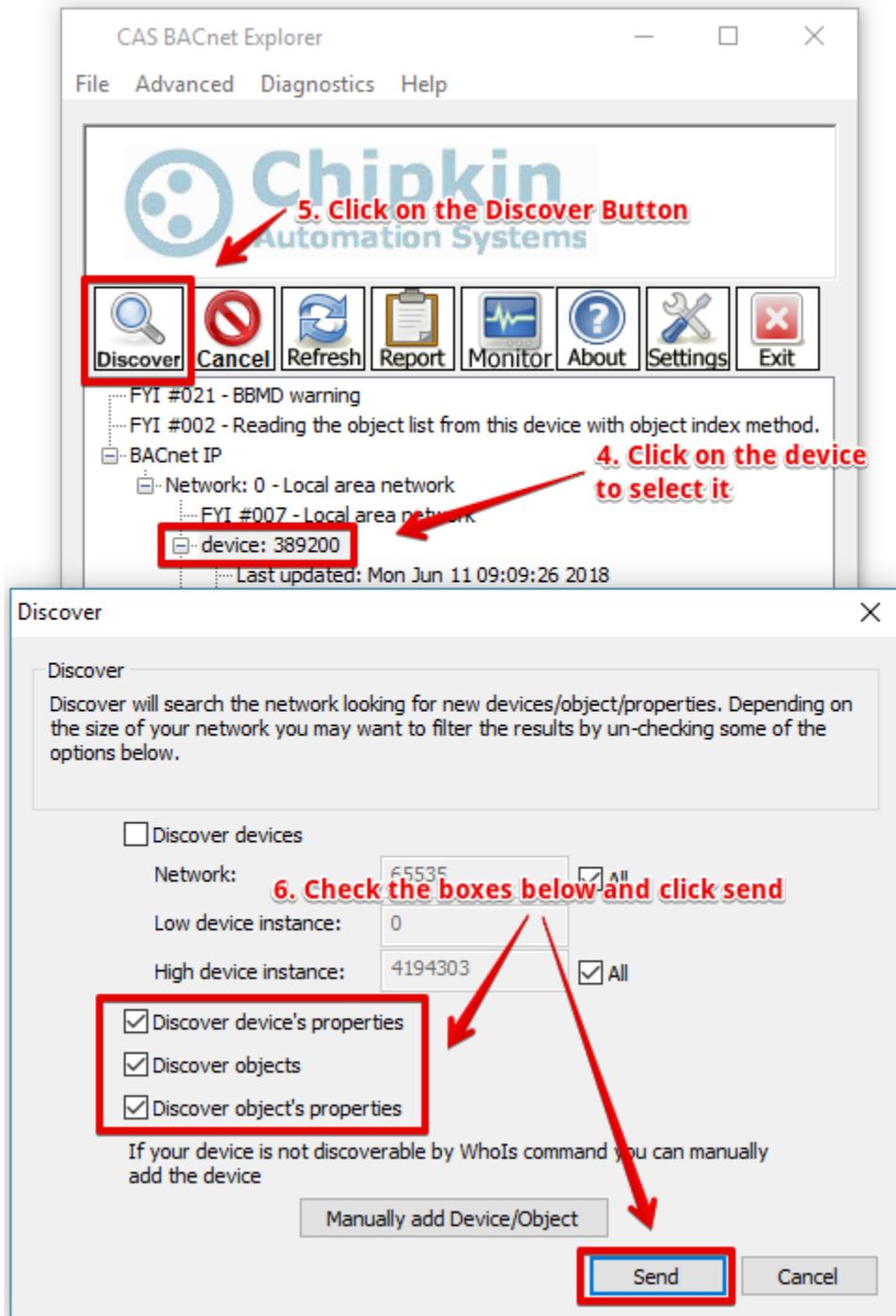
<http://store.chipkin.com/products/tools/cas-bacnet-explorer>

Once the CAS BACnet Explorer has been installed, follow these steps:









Other BACnet Meter Configuration

Use the form below to add 3rd party Power Meters and specify the data points to push to BEST cloud servers.

BEST Cloud Server Settings

Setting	Value	Description
Endpoint	<input type="text" value="in.eniscope.com/gateway"/>	The cloud server end point to POST the data. Example: <i>eniscope.com/gateway</i>
Port	<input type="text" value="80"/>	The port for the cloud server. Default: 80
Username	<input type="text" value="gateway_user"/>	The username for authentication
Password	<input type="password" value="*****"/>	The password for authentication
Post Interval	<input type="text" value="60"/>	How often to send the HTTP POST in seconds. Default: 60

7. Click insert to add 3rd Party BACnet Power Meter to the Gateway

Add 3rd Party BACnet Power Meter

BACnetIP_devices
 Actions: Download as CSV
 Error: Table is empty

Add Task to Read a Data Point from a 3rd Party BACnet Power Meter

BACnetIP_tasks
 Actions: Download as CSV
 Error: Table is empty

Other BACnet Meter Configuration

Use the form below to add 3rd party Power Meters and specify the data points to push to BEST cloud servers.

BEST Cloud Server Settings

Setting	Value	Description
Endpoint	in.eniscope.com/gateway	The cloud server end point to POST the data. Example: <i>eniscope.com/gateway</i>
Port	80	The port for the cloud server. Default: 80
Username	gateway_user	The username for authentication
Password	*****	The password for authentication
Post Interval	60	How often to send the HTTP POST in seconds. Default: 60

Save Cloud Server Settings

8. Fill out the form based on the data in the CAS BACnet Explorer

Add 3rd Party BACnet Meter

Insert new record in to 'BACnetIP_devices'

Name	Value	Description
Assigned UID	123456789	The UID provided by BEST to represent this BACnet Power Meter
IP Address	192.168.1.200	The IP Address of the BACnet Power Meter
Port	47808	The BACnet Port of the BACnet Power Meter. Default: 47808
BACnet Device Instance	389200	The Device Instance of the BACnet Power Meter
BACnet Network	0	The BACnet network that this device is on. Default: 0 (Local Network). Note: Network will only be non-zero if the device is on the other side of a BACnet Router.
BACnet Device SADR		The Source Address of the device. Only provide this if the network is not 0

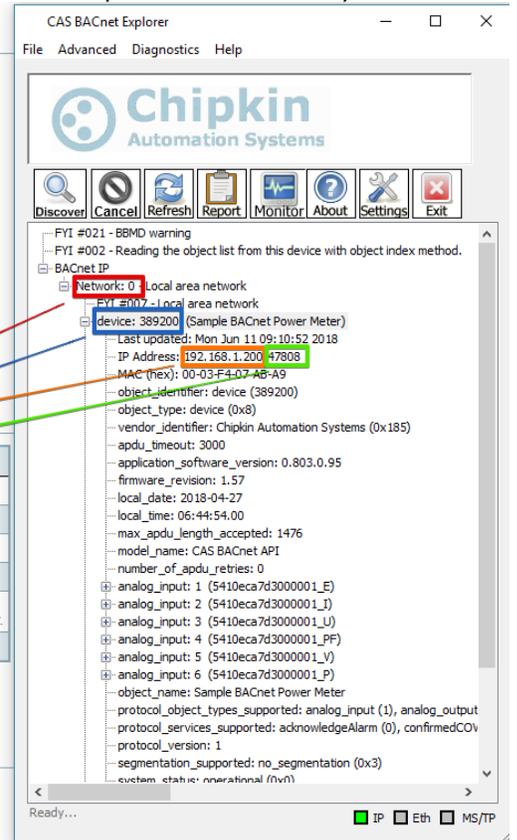
insert

If the BACnet Power Meter is behind a BACnet Router, the network will be non-zero and the device in the CAS BACnet Explorer will have a SADR field

Add Task to Read a Data Point from a 3rd Party BACnet Power Meter

BACnetIP_tasks

Actions: Insert | Download as CSV
Error: Table is empty



Other BACnet Meter Configuration

Use the form below to add 3rd party Power Meters and specify the data points to push to BEST cloud servers.

BEST Cloud Server Settings

Setting	Value	Description
Endpoint	in.eniscope.com/gateway	The cloud server end point to POST the data. Example: <i>eniscope.com/gateway</i>
Port	80	The port for the cloud server. Default: 80
Username	gateway_user	The username for authentication
Password	*****	The password for authentication
Post Interval	60	How often to send the HTTP POST in seconds. Default: 60

Save Cloud Server Settings

9. Fill out field to add a data point to read from the BACnet Power Meter based on the data in the CAS BACnet Explorer

Add 3rd Party BACnet Power Meter

BACnetIP_devices

Actions: Insert | Download as CSV
Displaying 30 records from 0-1 of a total 1

Action	BACnet Device Instance	IP Address	BACnet Network	Assigned UID	Port	BACnet Device SADR
Edit Delete	389200	192.168.1.200	0	123456789	47808	

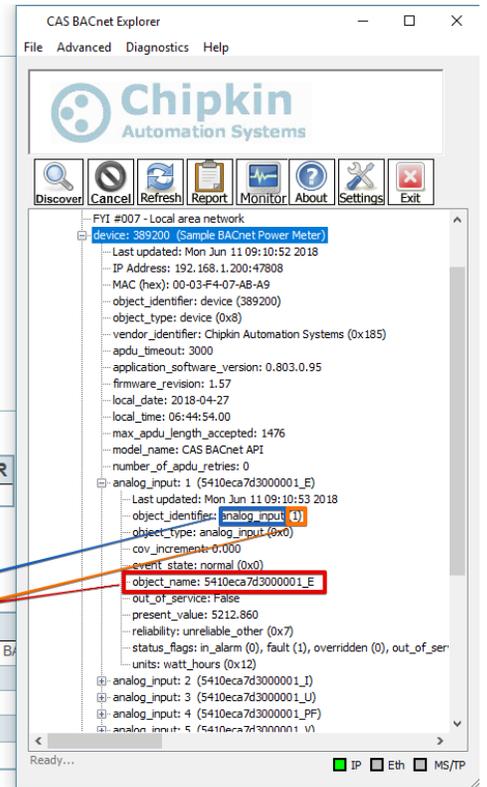
Add Task to Read a Data Point from a 3rd Party BACnet Power Meter

Insert new record in to 'BACnetIP_tasks'

Name	Value	Description
UID	123456789	The UID that represents the device this object is from. See above table for list of UIDs and BA
Data Type	Energy - System(E)	The type of data point this task will read
BACnet Object Type	Analog Input	The BACnet Object type for this data point
BACnet Object Instance	1	The BACnet Object instance for this data point
Scan Interval	30	How often to poll for the data point in seconds. Default: 30

insert

10. Click insert to add the point. Repeat multiple times for each data point required



THANK YOU

Thanks for choosing Chipkin's protocol gateways, data clients and integration services to meet your building and industrial automation requirements!

Chipkin Automation Systems™ (Chipkin) is a building and industrial automation protocol expert. We develop, configure, install and support gateways (protocol converters), data loggers and remote monitor and controlling applications.

Founded in October 2000, Chipkin provides expert solutions for converting BACnet®, Modbus®, and Lonworks®—to name just a few—and enabling interfaces for HVAC, fire, siren, intercom, lighting, transportation and fuel systems. The high-quality products we offer (including those from other vendors) interface with Simplex™, Notifier™, McQuay™, GE™ and many others—so you can rest assured that we will select the most appropriate solution for your application.

With Chipkin you are buying a solution. Our configuration expertise in this field combined with free BACnet tools and other tools ensure your success; and our customer support via phone, email and remote desktop tools means that we're there when you need us. Chipkin is a small responsive company, and we live or die by the quality of our service—and with offices in two-time zones—we can provide support when you need it. Give us a call now!

Sales and Customer Service

Toll free: 1-866-383-1657

Email: salesgroup1@chipkin.com