CAS-2700-39
Franklin Fueling Gateway
Modbus (RTU and TCP) and BACnet IP and
Web (HTML, REST, JSON, XML, CSV, COSM)

Description

The Franklin Fueling Gateway uses the Veeder Root TLS 350 protocol to poll for status, real time and configuration data. Thus the driver can be used to read Tank Inventory, System Status, Tank Alarms, Sensor Alarms and more.

The Franklin Fueling Gateway serves data from a Franklin Fueling Fuel Management System panel as Modbus, BACnet or Web data. The gateway supports all these options simultaneously. Use the data you want and ignore the other.

The Gateway connects to the Fuel Management System, reads data and stores it internally. When a remote system requests data, this data is served in a form that is appropriate to the protocol. In the event that the connection to the Fuel Management System is lost, or data cannot be read, the Gateway can signal this to the remote data client.

The Gateway requires minimal configuration and can be considered a plug and play component of a system, in that it is ready to operate out of the box with the default configuration.

The driver is a serial driver using a RS232 serial port to connect between the Gateway and the Franklin Fueling Fuel Management System. The Fuel Management System must have a suitable RS232 card installed that can support the Veeder Root TLS 350 protocol. The Gateway also provides support for more specific data points using the Franklin Fueling TSA XML protocol. Supported functions will be listed in a later section of this document.

Specs

- **UL and ULc approved**
- 10/100BaseT with RJ-45 connector
- 1x RS232 Port
- 1x RS485 Port (Different Models have additional ports)
- 2MBytes flash memory, 8MBytes of SDRAM
- Power: 5-24VDC
- Operating Temperature: 0 to 70 C
- Dimensions: 4.2" x 3.25" x 1"
- LEDs: Link, Speed/Data, Power

Max Nodes Supported

Gateway Mode	Nodes	Comments
Client	1	*Only 1 Fuel Management System per connection*
Server	0	*Not supported or documented.*

Connection Information - Port 1: Veeder Root TLS 350 Port

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

Connection Information - Port 0: Modbus RTU Server Port

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

Devices tested

Device	Tested (FACTORY, SITE)
TS-5	Tested
TS-550 & TS-5000	Tested
TS-1001	Tested

Connection configurations

Monitor and Control Franklin Fueling Fuel Management Systems using BACnet, Modbus or Web

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.

BACnet
IP

REST
Requests:
JSON, XML

Data Push
to
Web Server

Modbus
TCP

Ethernet Network

HTTP
and other
web

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

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

CAS 2700-39
Franklin Fueling Gateway

TSA XML
Requests

RS232

RS485

Modbus
RTU
Slave
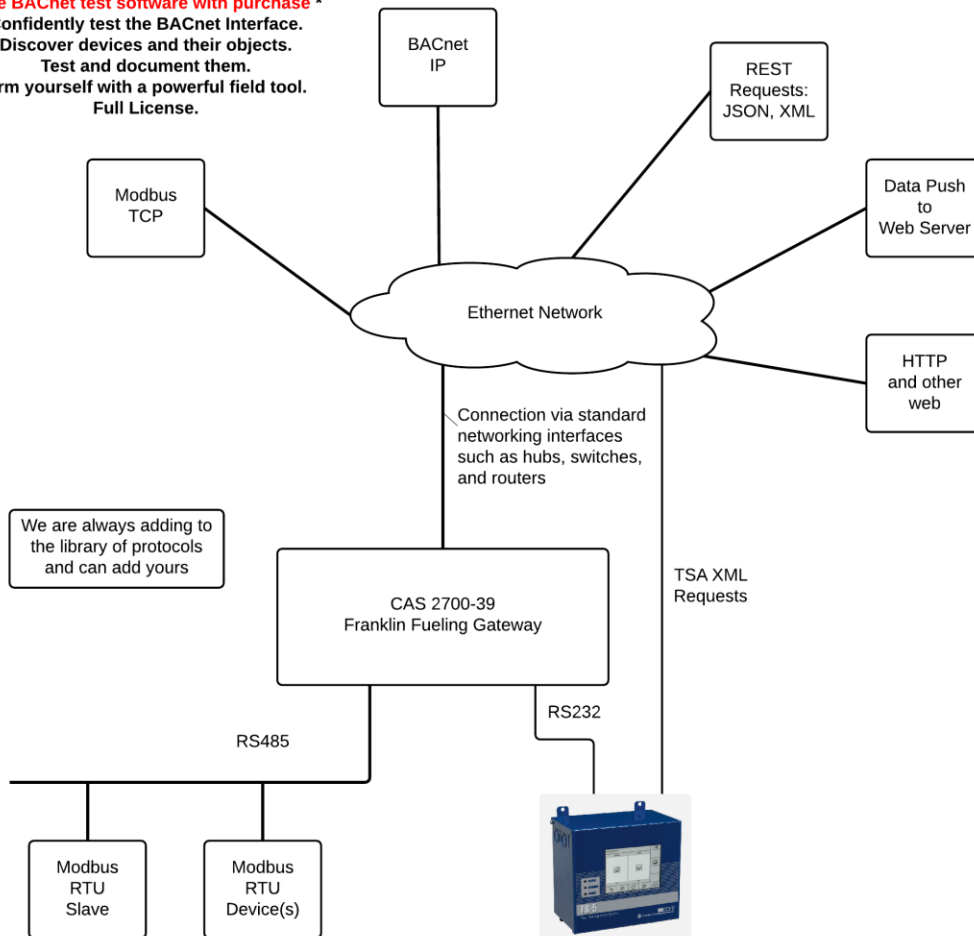
Modbus
RTU
Device(s)

Driver Operation

The driver can be configured to execute any of the commands in the 'supported function' list. The data sent is stored internally in the Gateway and is made available to other protocols (Modbus RTU, Modbus TCP, BACnet IP and HTML) .

The frequency with each data point is read is configurable. The driver retries on errors or timeouts. If the data cannot be read then after some configurable time it is marked as out of service.

The driver reports operating stats and issues on a web page, maintains a log that can be uploaded by HTTP or ftp.

Configuration

Via Web Page. Configure IP settings, Node ID's, Baud Rate and other parameters.

Users are able to select
Up to 10 Tanks – specify the number and name of each
Up to 10 Sensors – specify the number and name of each
Up to 1 Vacuum Sensor – specify the number and name of each

The names are used to form the names of the BACnet objects and populate the web page showing current values.

Use can specify:
ModbusTCP: Node_ID, Port
ModbusRTU: Node_ID, Baud, Parity, Data bits, Stop bits
BACnet: Device instance number, Device name, Port.
TLS 350:   Baud, Parity, Data bits, Stop bits
TSA XML: IP Address, Port

To pre-configure the Gateway before shipping, you must provide the Setup Report that contains the list of Tanks and Sensors installed on the Fuel Management System. Also provide the Product Number of the Fuel Management System. (e.g. TS-1001 or TS-5)

Communications functions

Supported functions

Not all of the Veeder Root TLS 350 communication functions are supported. The following functions are supported by the Web based configuration. Additional functions are supported but must be configured manually.

TLS 350		
COMMAND		
101	System Status Report	
201	In-Tank Inventory Report	
202	In-Tank Delivery Report	
203	In-Tank Leak Detect Report	
406	Relay Status Report	
B38	Vacuum Sensor Report	

TSA XML	
COMMAND	
cmdAppTpiGetControllerState	Returns the current status of the controller associated to the specified pump
cmdAppTpiGetControllerStatusFaults	Returns the current fault status from the controller associated to the specified pump

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

Support

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

Revision History

Date	Resp	Driver Ver.	Doc. Rev.	Comment
2014Oct02	ACF	0.15/0.04	0	Created