

CAS-2700-15
Danfoss AK-SC-255 XML Interface
Modbus (RTU and TCP) and BACnet and HTML
Gateway

Description

The Danfoss XML Rest Driver allows the Gateway connect to a Danfoss systems and poll for real time data.

The CAS Gateway serves data from a Danfoss system 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 Danfoss 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.

The driver is a Ethernet driver that uses Ethernet cables and a hub or a switch to connect between the Gateway and the Danfoss system. The Danfoss system must enable and support the XML Interface.

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	<i>Only 1 Sunny Webbox system per connection</i>
Server	0	<i>Not supported or documented.</i>

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

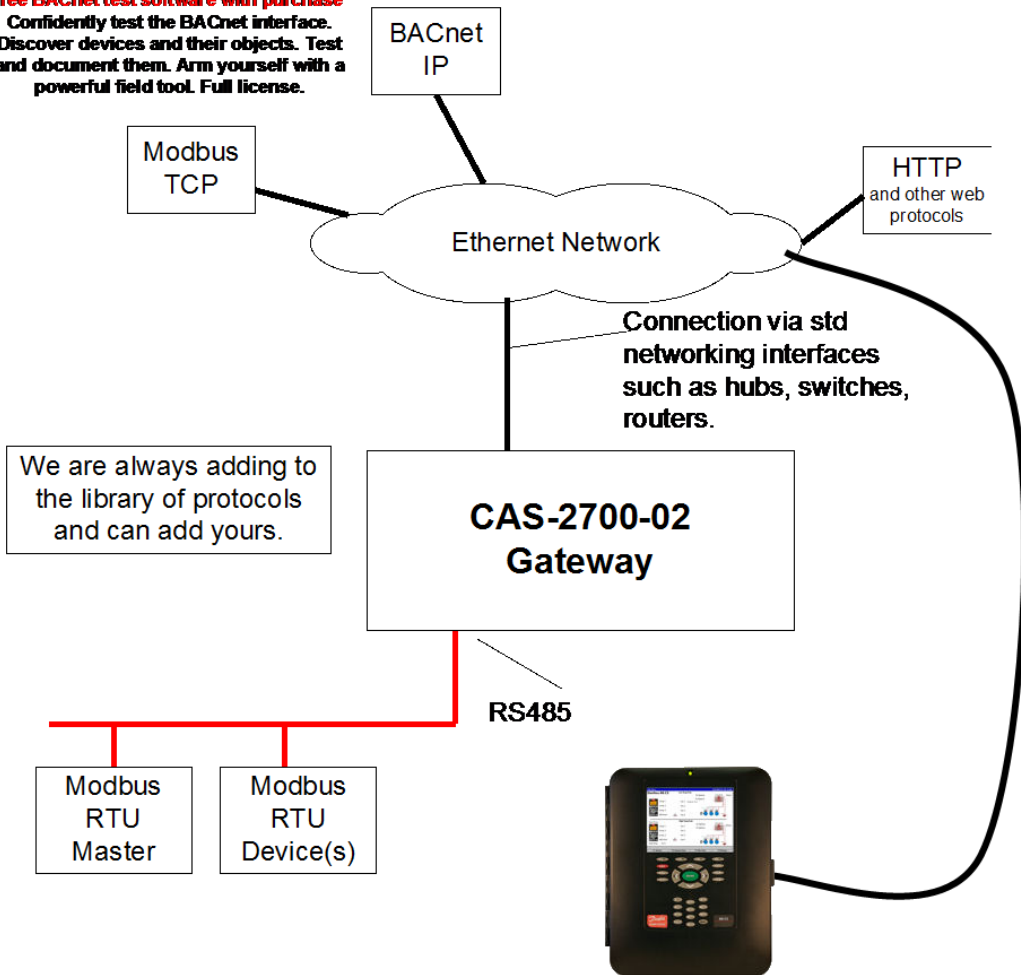
Devices tested

Device	Tested (FACTORY, SITE)
Danfoss ADAP-Kool (AK-SC255) v2.045	Tested

Connection configurations

Monitor and Control Danfoss AK-SC255 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.



Danfoss AK-SC255

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.

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. 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

ModbusRTU: Node_ID, baud, parity, data length, stop bits

BACnet: Device instance number, device name.

Communications functions

Supported functions.

Not all Danfoss communication functions are supported. The following functions are supported by the Web based configuration. Additional functions are supported but must be configured manually.

- **read_val** - This command returns the value or field for each of a list of variables that are identified by node type, node, and either cid and vid, or tag In an EKC device the vid is the PNU number and the cid is zero. A variable in an AK2 device is identified using both the cid and vid. Use the read_parm_info command to get cid and vid values. Variables may be read using tags instead of cid,vid identifiers. The read_parm_info command provides tag, cid, vid, information
- **read_device** - Read detailed information about a specific device
- **read_input** - Read the value (On or Off) of the digital ON/OFF inputs (node type = 0))
- **read_relay** - Read the value of the digital Relay outputs (node type = 1).
- **read_sensor** - Read the value of the analog sensor inputs (node type = 2)
- **read_var_out** - Read the value of the analog variable outputs (node type = 3)

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

Supported Devices

The following is a list of the devices that this driver supports:

- AK-SC255
- SM-850

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	Format	Driver Ver.	Doc. Rev.	Comment
18. Sep. 2012	SWS		0.07	0	Created
31. Oct. 2013	ACF		0.14	1	Updated supported devices section