FS-8705-40 – Vaisala Weather Ascii Serial Driver

DATASHEET – Rev 1

DESCRIPTION

This serial driver connects to a trunk of 1 or more Vaisala Weather Transmitters that support the Vaisala Ascii Protocol like the WXT530 transmitter. It is capable of reading operational and status data from each transmitter as well as send reset commands.

The driver is capable of being linked with other FieldServer drivers to form regular FieldServer firmware that can be installed on QuickServer and other FieldServer gateways. Other drivers can access the EKM Meter data and serve using other protocols such as BACnet and Modbus.

The driver is an active client driver in that it poll's for data – reading or writing data from meters. It cannot be used to simulate a Vaisala transmitter. Because only the client side of the protocol is implemented.

QS-1XX0

QS-2XX0

QS-3XX0

CONNECTION FACTS

FIELDSERVER MODE	NODES	COMMENTS
Client	Many	Number of Transmitters is determined by vendor and RS485 limitations. Trunks of dozens of devices supported.
Server	0	Not supported or documented.

FORMAL DRIVER TYPE

Serial RS485 OR RS232
Passive Client

COMPATIBILITY

FIELDSERVER MODEL	COMPATIBLE
FS-2010/2011/4010 (Legacy)	Yes
FS-35 Series	Yes
FS-QS Series	Yes

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CONNECTION INFORMATION

Connection Type:	RS485 or RS232
Baud Rates:	Driver Supports: 9600; 19200; 28800; 38400; 57600 Baud.
Data Bits:	Driver Supports: 7,**8**
Stop Bits:	Driver Supports: **1**,2
Parity:	Driver Supports: Odd, Even, **None**
Hardware Interface:	N/A There is no flow control
Multidrop Capability:	Yes

DEVICES TESTED

DEVICE	TESTED (FACTORY, SITE)
None	2019Oct Chipkin Offices. Tested against data stream captured from site. (This section of the manual may be obsolete. This driver might have field experience by now because it was ordered for a project. Ask our sales department.

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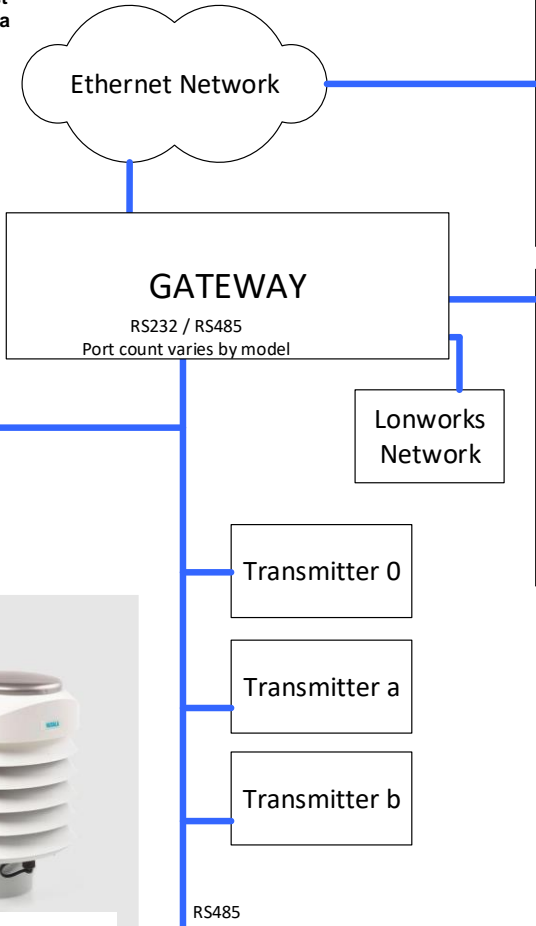
CONNECTION CONFIGURATIONS

Multiple upstream protocols and connection supported. See list of FieldServer Drivers.

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Confidently test the BACnet interface. Discover devices and their objects. Test and document them. Arm yourself with a powerful field tool. Full license.

Ethernet Network

Other ethernet protocols such as
- HTTP, XML
- BACnet IP or Eth
- Modbus TCP
- AB-CSP
- Ethernet/IP
- SNMP, Telnet
- GE-EGD, GE-SRTP
- Omron FINS
- DNP3
    And more…

Other serial protocols such as
- Bacnet MSTP
- Modbus RTU, ASCII, and other flavors
- Rockwell DF1
- GE-SNP
- JCI Metasys N2
    And more…

GATEWAY

RS232 / RS485
Port count varies by model

Lonworks Network

Other bus protocols such as
- Profibus
- DeviceNet
- DH+
- Modbus+
- ControlNet
- BACnet Arcnet

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Transmitter 0

Transmitter a

Transmitter b

RS485

Bluetooth Wireless Cell

Vaisala Weather Ascii

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PROTOCOL SERVICES SUPPORTED / NOT SUPPORTED

PROTOCOL SERVICE	SUPPORTED
Reset This command performs software reset on the device.	Yes
Precipitation Counter Reset This command resets the rain and hail accumulation and duration parameters Rc, Rd, Hc, and Hd.	Yes
Precipitation Intensity Reset This command resets the rain and hail intensity parameters Ri, Rp, Hi, and Hp	Yes
Measurement Reset This command interrupts all ongoing measurements except rain measurement and restarts them	Yes
Combined Data Message This command requests all individual messages aR1, aR2, aR3, and aR5 with one command.	Yes
Wind Data Message	Yes as part of the combined data message
Pressure, Temperature and Humidity Data Message	Yes as part of the combined data message
Precipitation Data Messag	Yes as part of the combined data message Note 1
Composite Data Message Query	No. Use Combined Data Message Instead
Automatic Mode	Not supported. If you need this feature ask our sales dept.

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AVAILABLE DATA

The 'Info' field data is not available.

Sn	Wind speed minimum
Sm	Wind speed average
Sx	Wind speed maximum
Dn	Wind direction minimum
Dm	Wind direction average
Dx	Wind direction maximum
Pa	Air pressure
Ta	Air temperature
Tp	Internal temperature
Ua	Relative humidity
Rc	Rain accumulation
Rd	Rain duration
Ri	Rain intensity
Rp	Rain peak intensity
Hd	Hail duration
Hp	Hail peak intensity hits/cm2h
Th	Heating temperature °C
Vs	Supply voltage V V
Vr	3.5 V ref. voltage V V
Hp	Hail peak intensity hits/cm2h
Th	Heating temperature
Vs	Supply voltage
Vr	3.5 V ref. voltage

HOW DATA IS STORED

When a driver task is executed, it will result in a response from the Meter. This data in the responses in extracted and is stored in the gateways internal Data Arrays. Any item in any Data Array can be mapped onto a data object of another protocol.
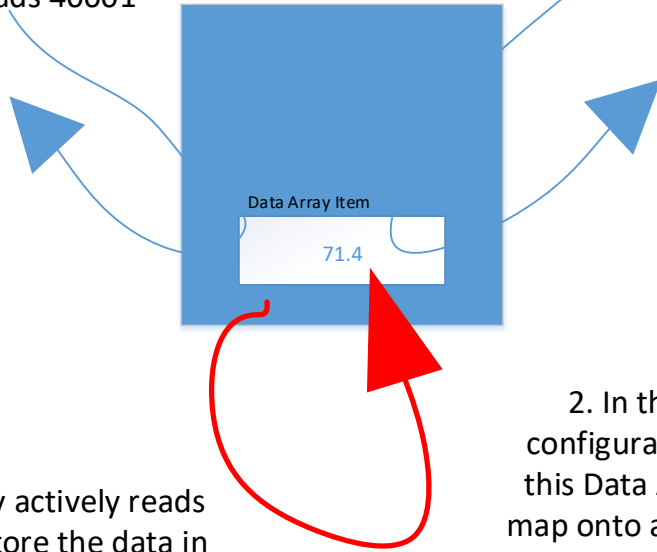
Most of the protocol services result in responses which contain a number of data items and thus this data is stored in a number of consecutive locations in a Data Array. The exact mapping and storage is documented in the driver manual.

If any of the data set is not required in the other protocol, then do not connect it to a data object in the other protocol.

Data can be scaled, manipulated, converted using internal gateway functions.

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3. Other protocol reads data.
EG. Modbus Reads 40001

3. Other protocol reads data.
EG. BACnet Reads Ai(1)

Data Array Item

71.4

1. Gateway actively reads data and store the data in Data Arrays

2. In the gateway configuration we mapp this Data Array item we map onto an object of the 'other' protocol.
Eg. 40001 for Modbus
Eg. Ai(1) for BACnet

SENDING COMMANDS TO THE METER
These commands can be triggered.

CUSTOMER SUPPORT

Vaisala Weather Driver for FieldServer was developed by Chipkin, and we are proud to provide support for our products. For technical support, sales and customer service, please call us at 1 (866) 383-1657.

Thanks for choosing Chipkin's products and integration services to meet your building and industrial automation requirements!

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 and other tools ensure your success; and our customer support via phone, email and remote desktop tools means that we are 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

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REVISION HISTORY

DATE	RESP.	DRIVER VERSION	DOCUMENT REVISION	COMMENTS
Oct 2019	PMC	0.00	0	Created
16 Jun 2021	YC	0.00	1	Updated to latest template