FS-8705-45 – HACH Ultra Met One R4800 Particle Counter Serial Driver

DATASHEET – Rev 1

DESCRIPTION

This serial driver connects to a trunk of 1 or more R4800 Counters that support the R4800 protocol as defined in the R4800 Operator Manual. It is capable of reading log records and status data from each transmitter as well as being able to send commands to the counter,

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 R4800 Counter's data and serve using other protocols such as BACnet and Modbus .

QS-1XX0

QS-2XX0

QS-3XX0

The driver is an active client driver in that it poll's for data – reading or writing data from counters. It cannot be used to simulate a R4800. Because only the client side of the protocol is implemented.

CONNECTION FACTS

FIELDSERVER MODE	NODES	COMMENTS
Client	Many	Number of Counters 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: 110; 300; 600; 1200; 2400; 4800; **9600**; 19200; 28800; 38400; 57600 Baud
	Counter supports 1200, **9600**
Data Bits:	Driver Supports: 7,**8**
	Counter supports: 8
Stop Bits:	Driver Supports: **1**,2
	Counter supports: 1
Parity:	Driver Supports: Odd, Even, **None**
	Counter supports: None
Hardware Interface:	N/A There is no flow control
Multidrop Capability:	Yes

DEVICES TESTED

DEVICE	TESTED (FACTORY, SITE)
None	2019Dec Customer Lab (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.

CONNECTION CONFIGURATIONS

Multiple upstream protocols and connection supported. See list of FieldServer Drivers.
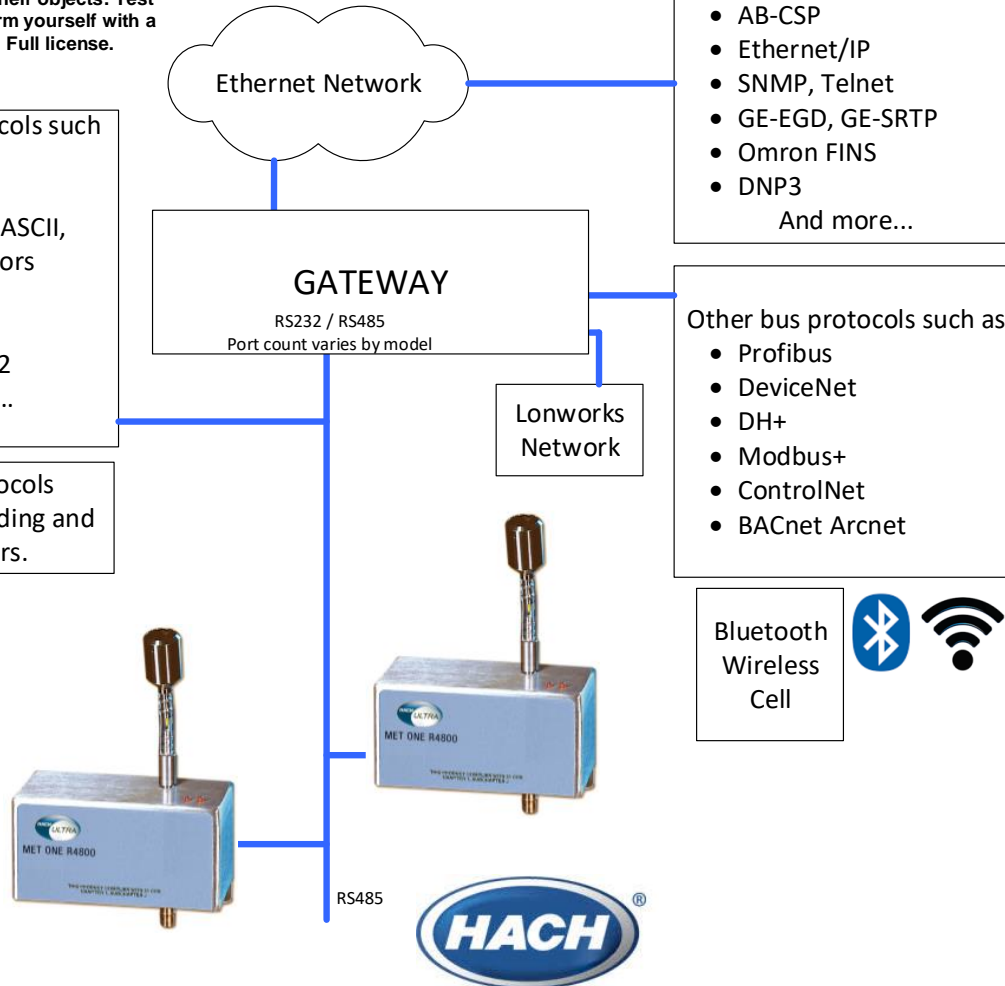
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Other ethernet protocols such as
- HTTP, XML
- BACnet IP or Eth
- Modbus TCP
- AB-CSP
- Ethernet/IP
- SNMP, Telnet
- GE-EGD, GE-SRTP
- Omron FINS
- DNP3
  And more…

Ethernet Network

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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Met One R4800 SeRieS

Protocol Services Supported / Not Supported

Services	
send buffered record	Supported
send current record	Supported
Clear buffer	Supported
number of records	Supported
Hold time	Supported
Sample period	Supported
Mode request	Supported
Device select	Supported
Auto	Supported
Manual	Supported
Start counting by computer	Supported
Start counting by counter	Supported
Stop counting	Supported
Active mode	Supported
Standby mode	Supported
Eprom Version	Not supported. Ask. It can be.
Retransmit Record	Not supported. Ask. It can be.
Identify Model	Not supported. Ask. It can be.
Universal Device Select	Not supported. Ask. It can be.
Protocol Version	Not supported. Ask. It can be.
Universal Action Cmds	Not supported. Ask. It can be.

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AVAILABLE DATA

Each **record** contains the following Fields

status indicator
month
day
year
hour
minute
second
period
ch1_size
ch1_count
ch2_size
Ch2_count
location

Counter **mode** reports

No alarms
Check Sensor
Alarm/count alarm
Check Sensor and alarm

Hold Time and Sample Frequency have the following fields

hour
minute
second

HOW THE DRIVER WORKS

Each counter must be selected before other services to read or write to the counter can be used. Selection requires that a message is sent for the appropriate counter. The driver takes care of this. If the next task to be executed is for a different counter than the previous one then the driver automatically does a counter selection – sending the select message, waiting for the response. Only then will it execute the task.

Thus, it is not necessary to configure tasks for device selection in the gateway configuration.

SENDING COMMANDS TO THE METER

These commands can be triggered.

CUSTOMER SUPPORT

Hach Ultra Met One R4800 Counter 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!

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Sales and Customer Service

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REVISION HISTORY

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