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FS-8705-48 – Lutron Integration Protocol Ethernet Driver Using Telnet as Transport Layer

DATASHEET – Rev 1

DESCRIPTION

This is an Ethernet Driver that establishes a telnet connection to the Lutron controllers and devices. Using this connection commands to the lighting system can be issued and status and monitoring data can be read from the Lutron lighting system.

QS-1XX0

QS-2XX0


QS-3XX0

This driver does not support the Lutron serial interface for 3rd Party Integration. If you need it talk to our sales department.

The driver is an active client driver. It initiates communication transactions. Data sent to the Lutron system can be connected to data objects of other protocols such as BACnet, Modbus and over 120 more protocols. Data read from Lutron is exposed to remote clients such as BMS or CMS using data objects of protocols like BACnet, Modbus and over 120 more.

The driver cannot be used to simulate a Lutron controller because only the client side has been implemented.

CONNECTION FACTS

FIELDSERVER MODE	NODES	COMMENTS
Active Client	10	A max of 10 Lutron connections per gateway

FORMAL DRIVER TYPE

Ethernet using Telnet to transport Lutron protocol.
Active Client

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COMPATIBILITY

FIELDSERVER MODEL	COMPATIBLE
All legacy products (FS2010/4010/3510)	Yes
All current products as at July 2020	Yes
EZ Gateways, QuickServer, Quickserver classic, Multiport Gateways	Yes

Compatibility Matrix

Integration Access Point Compatibility Matrix

	QS Standalone	Quantum	RadioRA 2	HomeWorks QS	myRoom plus
QS Network Interface	✓	✓		✓	
RadioRA 2 Main Repeater			✓		
HomeWorks QS Processor				✓	
myRoom (GCU-HOSP) Processor					✓

Device Compatibility Matrix

	QS Standalone	Quantum	RadioRA 2	HomeWorks QS	myRoom plus
GRAFIK Eye QS	✓	✓	✓	✓	✓
Energi Savr Node QS/DALI®	✓	✓		✓	✓
Energi Savr Node QS/ EcoSystem	✓	✓			
Energi Savr Node QS/ EcoSystem (Int'l)	✓	✓		✓	✓
Energi Savr Node QS/0–10 V/ Softswitch (Int'l)	✓	✓		✓	✓
Energi Savr Node QS/ Phase-Adaptive (Int'l)	✓	✓		✓	✓
Energi Savr Node QS/0–10 V/ Softswitch	✓	✓			
Energi Savr Node QS/ Motor Module (Int'l)	✓			✓	✓
Remote Power Module		✓		✓	
Low-Capacity Switching DIN Power Module (1A/output)				✓	✓
Low-Capacity Phase-Adaptive DIN Power Module (1A/output)				✓	✓
Palladiom Keypad		✓		✓	✓
Palladiom Thermostat					✓
Architrave Keypad	✓	✓		✓	✓
Signature Series Keypad	✓	✓		✓	✓
seeTouch Keypad	✓	✓	✓	✓	✓
seeTouch QS Keypad (Int'l)	✓	✓		✓	✓
Tabletop seeTouch Keypad			✓	✓	✓
Pico Wireless Control	✓	✓	✓	✓	✓
Hybrid Keypad			✓	✓	✓
Dynamic Keypad				✓	✓
Wallbox Input Closure Interface	✓	✓		✓	✓
Sivoia QS Shade	✓	✓	✓	✓	✓
Sivoia QS Wireless Shade					✓
Sivoia QS Venetian Blind	✓		✓	✓	✓
Sivoia QS Wireless Venetian Blind				✓	✓
Maestro Dimmer and Plug-In Module			✓	✓	✓
Maestro Fan Speed Control			✓	✓	✓
Visor Control Receiver			✓	✓	✓
Radio Powr Savr Sensor			✓	✓	✓
HVAC Controller			✓	✓	✓
Wireless Temperature Sensor			✓	✓	
QS Input/Output Control Interface	✓	✓		✓	✓
QS Sensor Module	✓			✓	✓

DEVICES TESTED

DEVICE	TESTED (FACTORY, SITE)
	2020 July, USA location with Lutron present at the site.

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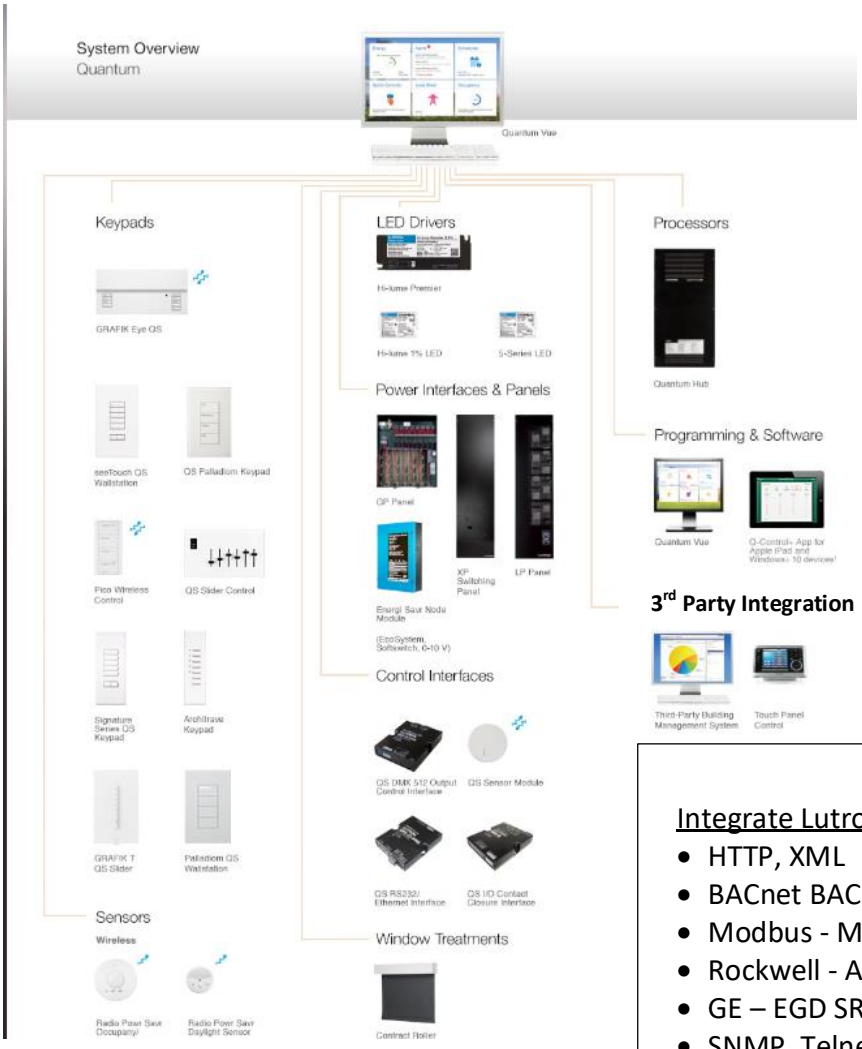
CONNECTION CONFIGURATIONS

LUTRON

Lutron Quantum System Overview



Integrate Lutron with FieldServer

- HTTP, XML
- BACnet BACnet IP MSTP Eth
- Modbus - Modbus TCP / RTU / Jbus
- Rockwell - AB-CSP, Ethernet/IP, DF1
- GE – EGD SRTP SNP SNPx
- SNMP, Telnet
- Omron FINS
- DNP3 – Ethernet and Serial
- Mbus, KNX, Profibus
- **Over 120 Protocols.**

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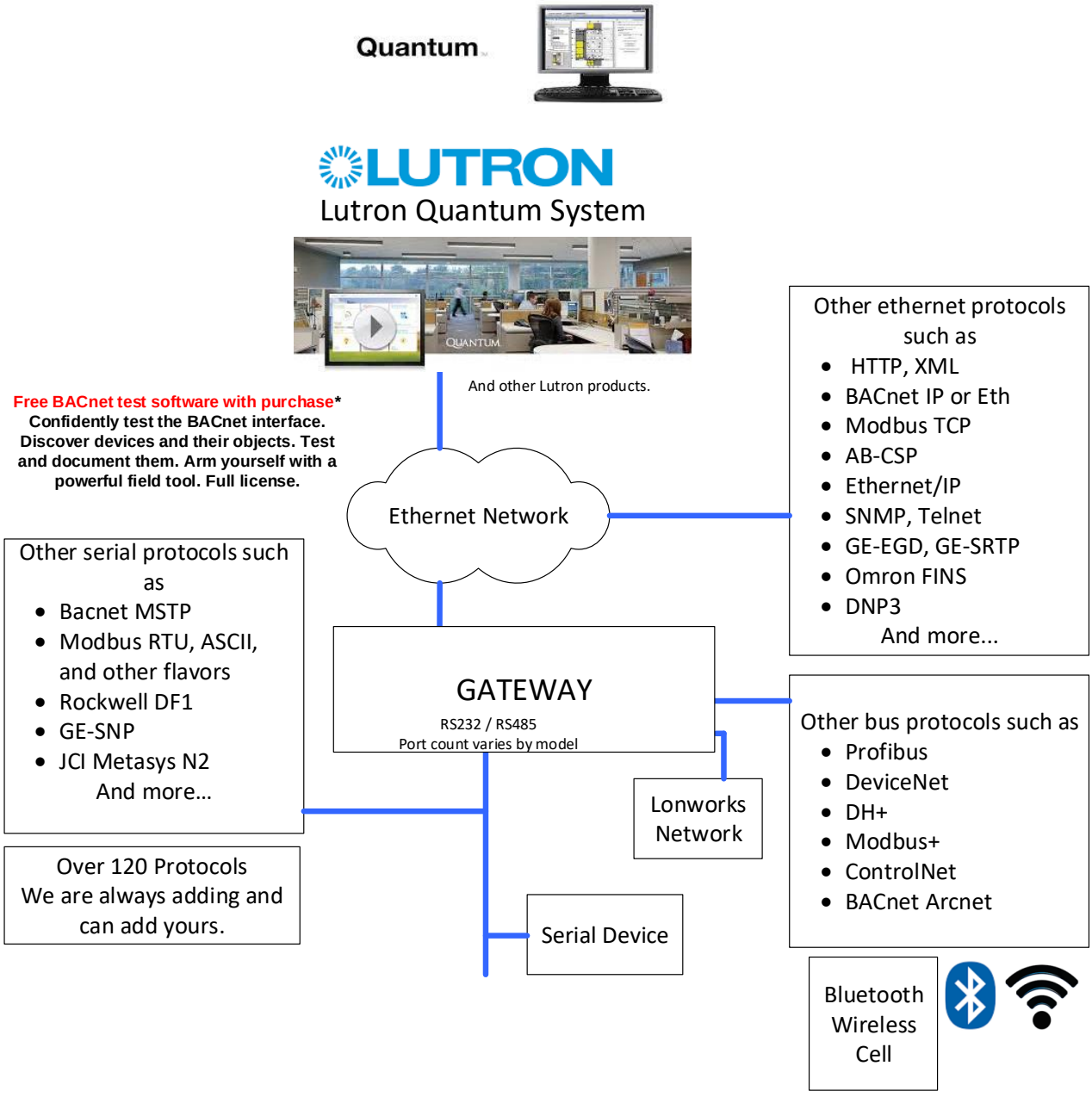
BLOCK DIAGRAM

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



NOT SUPPORTED-DRIVER IS FUTURE PROOF

This driver has been written in such a way that should Lutron add new servicers, the driver will be capable of supporting them. The only changes required will be confirmation ones. The driver is capable of sending almost all asci strings and can load some or all of the string with live data.

If a response contains non numeric data the driver does not store the non-numeric field.

~Help is not supported

SERVICES SUPPORTED

All options of Command, Query and Responses of each service supported

SERVICE
device
error
output
system
Integrationid
details
programming
group
timeclock
monitoring
area
Shadegrp
ethernet
sysvar
Hvac
reset

COMMUNICATION SETTINGS

Default destination port is 23. May be changed by means of configuration.
Driver expects telnet server to be

- Require authentication – user and password
- Not be encrypted
- Must return a prompt after it has accepted a command or after it has sent a response.
- The prompt must be alphanumeric and may contain some human reasable symbols eg. QEST>

HOW THE DRIVER WORKS

The driver allows you to configure multiple tasks.
Each task may have one service specified.

In specifying the service a place holder for live data can be specified.
The service terminating chars can be specified. Normally they are CRLF

Example 1 -fixed definition

Task is defined as: ?output,100123
Driver sends ?output,100123CRLF
Controller responds: ~output,11,22,33
Driver stores 11 22 and 33 in 3 consecutive location specified in the configuration. These locations are typically mapped onto the 'other' protocol such as a set of BACNet objects or Modbus registers.

Example 2 – use live data

Task is defined as: ?output,<DA_Int_Ids[0]>
Driver replaces <…> with the value it extarcts from the Dasta Array named 'DA_Int_Ids' at location 0. Lets say it find the value 555.

Driver sends ?output,**555**CRLF
Controller responds: ~output,11,22,33
Driver stores 11 22 and 33 in 3 consecutive location specified in the configuration. These locations are typically mapped onto the 'other' protocol such as a set of BACNet objects or Modbus registers.

A task may use multiple live data points.

Example 3 -

Task is defined as '#device 1,2,3
Driver sends that string with the terminator. If data is returned then each field separated by a comma is stored in consecutive locations

Eg driver sends #device 1,2,3CRLF
Lighting Controller responds ~ERROR,999
Driver stores 999 in configured location.

HOW THE DRIVER WORKS – MULTINODE VERSION

This version is only capable of sending #device constant,other constant,live data value

Eg. #device 1,2,x where x is the value found in configured data location.

Example : Device command.

The driver expects the IntegrationID and component numbers for each target of the command to be constant and part of the configuration. The action number is live data. The action number is connected to the other protocol such as Modbus or BACnet. When they update the data in the gateway, the gateway takes the updated value, uses it as the action number in sending the #device command.

DEVICE: Command Summary

Device integration commands allow the user to access components of the system such as a physical device. The user can activate programming via button presses, releases, etc., as well as monitor those same events as they occur in the system.

DEVICE Command Formats

Operation *Integration ID (example)*

#DEVICE, 5, Component Number, Action Number, Parameters

Command *Use "DEVICE Command-specific fields" tables to complete these command fields.*

DEVICE Command-specific fields

Component Numbers:

Refer to device specific tables for lists of Component Numbers.

Action number is connected to the other protocol such as BACnet or Modbus

Action Numbers and **Parameters:**

Action	Action Number	Parameters
Set (#) Enable [1]	1	None
Set (#) Disable [1]	2	None
Set (#) Press, Close, or Occupied	3	None
Set (#) Release, Open, or Unoccupied	4	None
Set (#) Hold [2]	5	None
Set (#) Double-tap [2]	6	None
Set (#) or Get (?) Current Scene [1,2]	7	Scene
Set (#) or Get (?) LED State	9	0 = Off 1 = On 2 = Normal Flash [2] 3 = Rapid Flash [2]
Set (#) or Get (?) Light Level [3]	14	0–100 or 0.00–100.00
		SS.ss, SS, MM:SS, or HH:MM:SS
		SS.ss, SS, MM:SS, or HH:MM:SS

CUSTOMER SUPPORT

Lutron Integration over Telnet 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
Jul 2020	PMC	0.00	0	Created
17 Jun 2021	YC	0.00	1	Updated to latest template