FS-8700-07 – MITSUBISHI CHC-MF

DATASHEET – Rev 4

DESCRIPTION

This driver is used to exchange data between a FieldServer and a Mitsubishi Heavy Industries Air Conditioning System communication interface known as a CHC-MF

The driver is a serial driver using a RS232 serial port to connect between the FieldServer and the CHC-MF. An RS485 port together with a converter can also be used for the connection.

The driver provides client and server functionality.

As a client the driver can poll for data from Air Conditioning Units via the CHC-MF interface as well as writing some control and set points.

Server functionality is provided only to support our ongoing quality assurance program by facilitating automated testing of the driver. It is not documented or supported. If required please contact the sales group to discuss your requirements.

QS-1XX0

QS-2XX0

QS-3XX0

CONNECTION FACTS

This table summarizes the number of connections this driver supports for each of its modes.

FIELDSERVER MODE	NODES	COMMENTS
Client	1	A maximum of 1 Mitsubishi CHC-MF device per FieldServer Port. UP to 100 Air Conditioning Groups can be connected to a CHC.
Server	1	A maximum of 1 Mitsubishi CHC-MF device per FieldServer Port.

FORMAL DRIVER TYPE

Serial
Client or Server

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COMPATIBILITY

| FIELDSERVER MODEL	COMPATIBLE
FS-x2010	No
FS-x2011	No
FS-x40	No

CONNECTION INFORMATION

Connection Type: EIA232

Baud Rates: Driver Supports: 110; 300; 600; 1200; 2400; 4800; **9600**; 19200; 28800; 38400; 57600; 115200 Baud
Vendor Equipment Supports: 4800 Baud

Data Bits: Driver Supports: 7,**8**
Vendor Equipment Supports: 7

Stop Bits: Driver Supports: 1,2
Vendor Equipment Supports: 1

Parity: Driver Supports: Odd, **Even**, None
Vendor Equipment Supports: Even

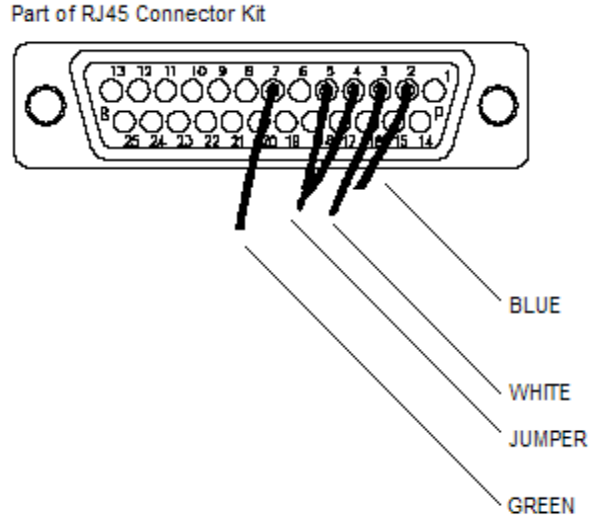Hardware Interface: N/A

Multidrop Capability: No

DEVICES TESTED

DEVICE	TESTED (FACTORY, SITE)
Mitsubishi CHC system with 54 air conditioning groups.	Site (Costa Rica)

CONNECTION CONFIGURATIONS

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CONNECTION NOTES

Part of RJ45 Connector Kit
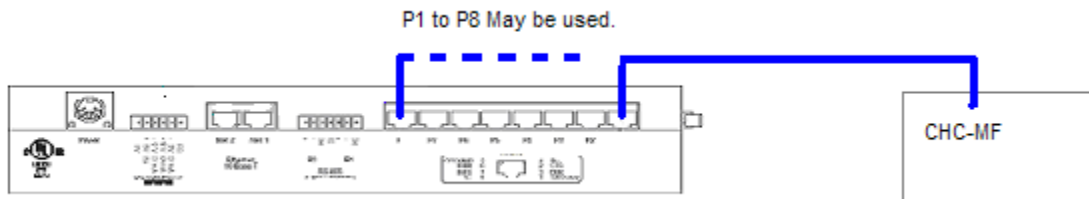
The CHC appears to require wiring as if it were a DTE device. As the FieldServer is A DTE device this implies the cable is NULL Modem like.

Pins 4 & 5 are connected internally in the CHC end. This is used to defeat the CTS/RTS Handshaking.

COMMUNICATION FUNCTIONS

Read / Write Operations supported

FIELDSERVER AS A CLIENT	FIELDSERVER AS A SERVER
• Start / Stop Operation	• Digital Start/Stop Response
• One Point Request	• Digital Start/Stop Point
• Parameter Setting Operation	• Start / Stop Operation
	• Analog Point Response
	• Parameter Point Response
	• Add Up Point Response

When the connection is first opened to the CHC unit or when the driver is recovering a connection (after a loss of connection) then the driver will wait for an Initial Data Request and respond appropriately. Thereafter, normal polling will occur. In the event that the driver does not receive the Initial Data Request from the CHC within a specified time it will default to normal polling behavior.

Unsupported Functions and Data Types

FUNCTION	REASON
• Initial Data Request Processing	• Completion of parameter Setting operation
• Forced Shutdown in a Fire	• System Clock Time Notification

Data Points

The following Data can be read and/or written from the FieldServer to the Air Conditioning Units attached to the CHC-MF.

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Point Number	Point	Read/ Write	Notes
1	Start/Stop	RW	
2	Temp. Setting	R	
3	Automatic temperature control mode setting	RW	
4	Temperature control mode setting	RW	
5	Room Temperature	R	
6	Remote control mode, setting 1	RW	
7	Remote control mode, setting 2	RW	
8	Remote control mode, setting 3	RW	
9	Filter sign reset	RW	
10	Forced Thermo off	RW	
20	Electrical Energy	R	

Unsupported Devices or Protocol Options

Device	Details

CUSTOMER SUPPORT

Mitsubishi CHC-MF 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.

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Sales and Customer Service

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REVISION HISTORY

This table summarizes the update history for this protocol data sheet. Please contact Chipkin by phone or email for an updated version of this document.

DATE	RESP.	DRIVER VERSION	DOCUMENT REVISION	COMMENTS
25 Apr 2004	PMC	0.00	0	Initial Draft issued for customer review.
			1	Notes about server side not being supported or documented.
20 Oct. 2020	PMC	0.00dA	2	Removed note on auto configuration. Moved some functions to the unsupported function list.
24 Dec 2020	PMC	1.00aA	3	Minor corrections
4 Jun 2021	YC	1.00aA	4	Updated to new template