

Driver Manual

FS-8700-23 Cleaver Brooks Hawk

APPLICABILITY & EFFECTIVITY

Effective for all systems manufactured after March 2021.



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fieldserver

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1 Description

The CB-Link driver allows the FieldServer to transfer data to and from devices over RS-485 using CB-Link protocol. The information that follows describes how to expand upon the factory defaults provided in the configuration files included with the FieldServer.

Refer to “Model 833-2771 CB-Link” Manual #65-0216 and “Model 833-2757 General Purpose Interface ControlBus Module” Manual #65-0220 from Cleaver Brooks.

2 Driver Scope of Supply

2.1 Provided by the Supplier of 3rd Party Equipment

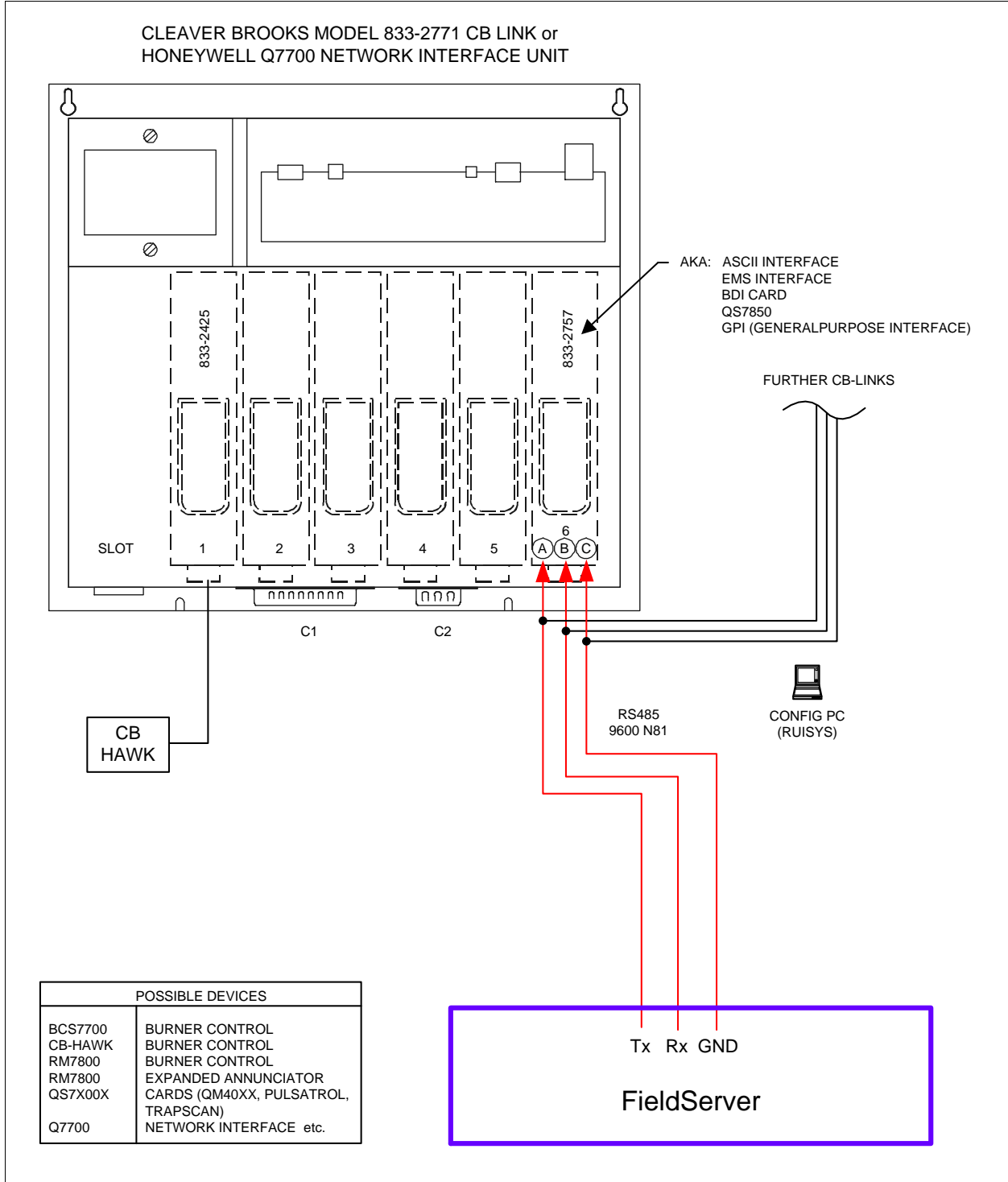
2.1.1 Required 3rd Party Hardware

Part #	Description
	CB-Link Controller

3 Hardware Connections

The FieldServer can be connected to the CB – Link device as shown below.

Configure the PLC according to manufacturer’s instructions.



4 Data Array Parameters

Data Arrays are “protocol neutral” data buffers for storage of data to be passed between protocols. It is necessary to declare the data format of each of the Data Arrays to facilitate correct storage of the relevant data.

Section Title		
Data_Arrays		
Column Title	Function	Legal Values
Data_Array_Name	Provide name for Data Array.	Up to 15 alphanumeric characters
Data_Format	Provide data format. Each Data Array can only take on one format.	Float, Bit, Byte, Uint16, Uint32, Sint16, Sint32
Data_Array_Length	Number of Data Objects. Must be larger than the data storage area required by the Map Descriptors for the data being placed in this array.	1-10000

Example

```
// Data Arrays
Data_Arrays
Data_Array_Name      ,
DA_AI_01             , Float      , 200
```

5 Client Side Configuration

For detailed information on FieldServer configuration, refer to the FieldServer Configuration Manual. The information that follows describes how to expand upon the factory defaults provided in the configuration files included with the FieldServer (see “.csv” sample files provided with the FieldServer).

This section documents and describes the parameters necessary for configuring the FieldServer to communicate with a CB-Link Server.

NOTE: In the following tables, * indicates an optional parameter and bold legal values are default.

5.1 FieldServer

Section Title		
Bridge		
Column Title	Function	Legal Values
Title	Title for CSV file.	Any text, Maximum 32 characters
System_Node_ID	Node ID of the FieldServer.	8 – 254

Example

```
// Common Information

Bridge
Title           , System_Node_ID
CB_Link client  , 11
```

5.2 Client Side Connection Parameters

Section Title		
Connections		
Column Title	Function	Legal Values
Port	Specify which port the device is connected to the FieldServer.	P1-P2, R1-R2 ¹
Baud	Specify baud rate.	9600
Parity*	Specify parity.	None
IC_Timeout	Inter-Character Timeout.	≥10 s
Squelch_Timer	Squelch suppression time.	≥0.02 s
Poll_Delay*	Minimum time between polls.	0.6

Example

```
// Client Side Connections

Connections
Port           , Baud   , Parity  , IC_Timeout  , Squelch_Timer  , Poll_Delay
R1             , 9600  , None   , 10          , 0.02           , 0.6
```

¹ Not all ports shown are necessarily supported by the hardware. Consult the appropriate Instruction manual for details of the ports available on specific hardware.

5.3 Client Side Node Descriptors

Section Title		
Nodes		
Column Title	Function	Legal Values
Node_Name	Provide name for node.	Up to 32 alphanumeric characters
CB Link_ID	Device address.	Refer to Section 5.3.1
Protocol	Specify protocol used.	CB_Link
Port	Port connection.	R1-R2
Node_Type	Specify controller connected to CB-Link.	See Section 5.3.2

Example

```
// Client Side Nodes
Nodes
Node_Name      , Node_ID      , Protocol      , Connection
PLC 1          , 1          , Modbus_Daniels , R1
```

5.3.1 CB Link_ID

The CB Link ID is declared in the format A B C where:

A: describes the number of CB-Link units attached. Legal values **0** (1 Link Attached - default), 8-24 (Multiple Links Attached)

B: describes the slot the device is attached to in the PC Link 1-5, default **1**

C: describes the Device type (Declare Device Type Code from the following table):

Device Description	Device Type Code
Auxenh	26
Ec78xx	32
Efenh	26
Hawk	20
Llenh	26
Orenh	26
Pulsa	19
Q7700	1
Qm40xx	17
Rm78xx	32
S7800	36
S7830	34
Tdenh	26
Testcard	99
Trapscan	18

5.3.2 Node_Type

Hawk, EC78XX. Others by request (refer to **Section 6.1**).

5.4 Client Side Map Descriptor Parameters

5.4.1 FieldServer Specific Map Descriptor Parameters

Column Title	Function	Legal Values
Map_Descriptor_Name	Name of this Map Descriptor. This Name refers to the variable in the related .bp2 property file.	Any of the variable names in the related .bp2 property file
Data_Array_Name	Name of Data Array where data is to be stored in the FieldServer.	One of the Data Array names from Section 4
Data_Array_Offset	Starting location in Data Array.	0 to (Data_Array_Length-1) as specified in Section 4
Function	Function of Client Map Descriptor.	RDBC

5.4.2 Driver Related Map Descriptor Parameters

Column Title	Function	Legal Values
Node_Name	Name of Node to fetch data from.	One of the node names specified in "Client Node Descriptor" above
Scan_Interval	Specify poll rate.	>1.0s

5.4.3 Timing Parameters

Column Title	Function	Legal Values
Timeout	Specify maximum response time.	>30.0s

5.5 Map Descriptor Example

```
// Client Side Map Descriptors

Map_Descriptors
Map_Descriptor_Name , Data_Array_Name , Data_Array_Offset , Function , Node_Name , Scan_Interval , Timeout
Control_Source      , DA_AI_01      , 1      , RDBC , CBH1      , 10      , 30
Oper_Pressure       , DA_AI_01      , 2      , RDBC , CBH1      , 10      , 30
```

6 Reference

6.1 Device Information Table

NETWORK INTERFACE UNIT		
MAKE	MODEL	NAME
Honeywell	Q7700	Network Interface Unit
Cleaver Brooks	833-2771	CB-Link

CONTROL MODULES					
MAKE	MODEL No. OF MODULE	MODULE NAME	PROPERTY FILE NAME (.BP1; .BP2)	CONFIGURATION FILE NAME (.CSV)	NOTES
Honeywell	QS7700A	BCS7700	N/A	N/A	
Honeywell	QS7800A	7800 SERIES Control	N/A	N/A	
Honeywell	QS7800C	QM40XX Data Acquisition Module	ON REQUEST	QM40XX	Data Acquisition Modules
Armstrong	QS7800D	Trapscan System	ON REQUEST	ON REQUEST	
Honeywell	QS7800E	PulsaFeeder PULSAtrol	PULSA	PULSA	
Honeywell	QS7800A	S7830 Expanded Annunciator	S7830	S7830	Expanded Annunciator
Honeywell	QS7800A	S7800 Keyboard/Display Module	S7800	S7800	
Honeywell	QS7800A	ST7800 Relay Module	ST7800		Requires S7800 module
Honeywell		RM7800E,G,L,M Relay Modules	RM78XX	RM78XX	
Honeywell		RM7840E,G,L,M Relay Modules	RM78XX	RM78XX	
Honeywell	N/A ²	Q7700A,B			
CB-Link	833-2727	Display Module	N/A	N/A	
CB-Link	833-2729	Data Control Bus Module	N/A	N/A	
CB-Link	833-2734	CB 783	ON REQUEST	ON REQUEST	Requires 833-2727 or 833-2729 on module
CB-Link	833-2734	CB 780	ON REQUEST	ON REQUEST	
CB-Link	833-2734	CB 784	ON REQUEST	ON REQUEST	

6.1.1 Property Files

Each Controller interfacing to the FieldServer requires associated property files (denoted by file extensions .bp1 and .bp2) to be loaded into the FieldServer. The property files listed in the device information table (**Section 6.1**) are preloaded onto the FieldServer when delivered. Other property files may be available upon request.

6.1.2 Configuration Files

Each Controller has an associated configuration file as shown in the device information table (**Section 6.1**). This configuration file contains the mapping for the related module and can be used as a basis for building a configuration for the FieldServer.

NOTE: SYSNet is the generic name for networks of the listed modules. Controlbus is the generic name for the networks in a NIM/CBLink configuration.

² This is the chassis that the above modules plug into.