A Sierra Monitor Company

Driver Manual

(Supplement to the FieldServer Instruction Manual)

FS-8700-23 Cleaver Brooks Hawk

APPLICABILITY & EFFECTIVITY

Effective for all systems manufactured after April 2011

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1 CB-LINK 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

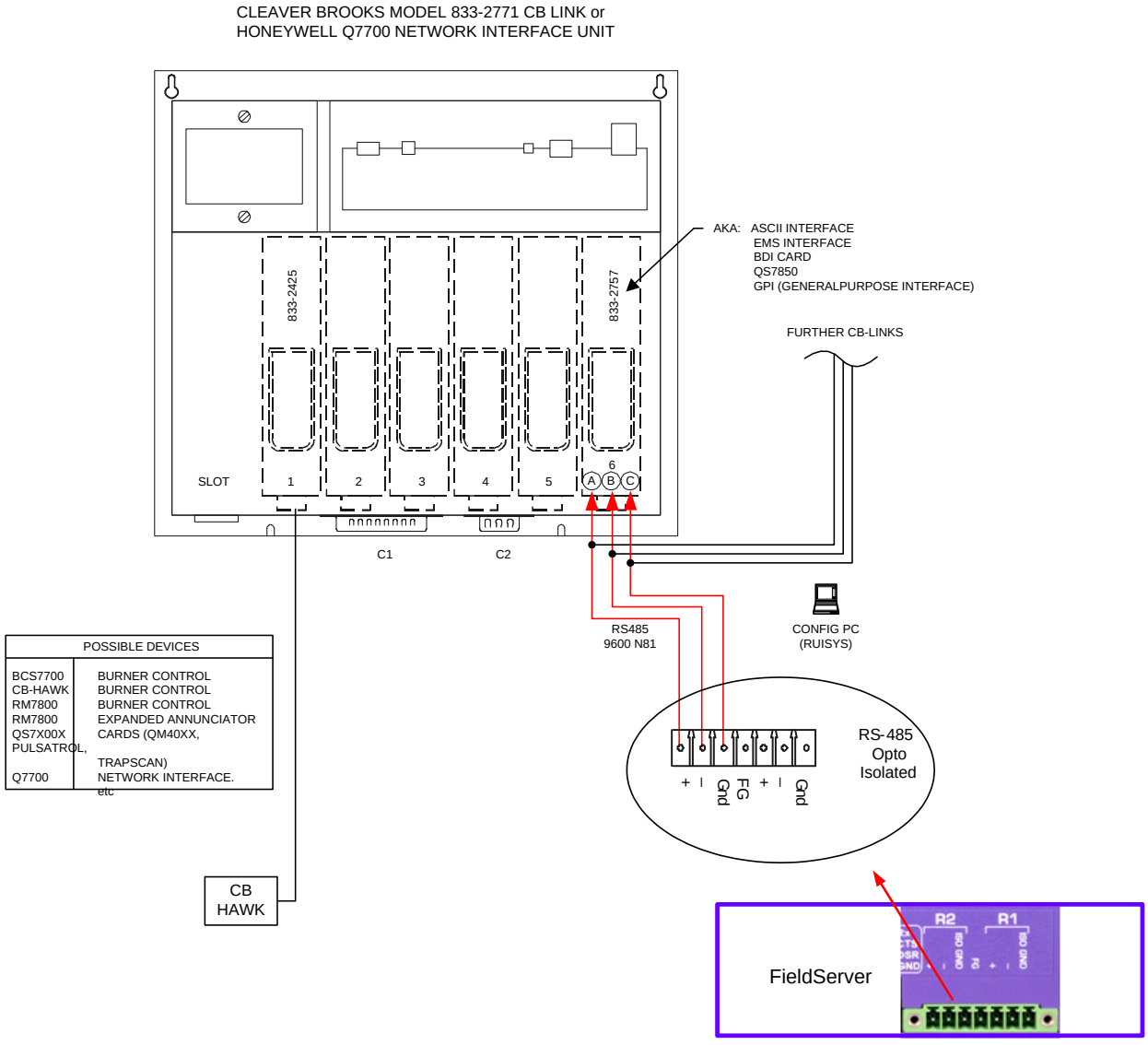
2.1 Provided by the Supplier of 3rd Party Equipment

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_Array_Format	Provide data format. Each Data Array can only take on one format.	FLOAT, BIT, Int16, Int32,
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.	1-10, 000

Example

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

5 CONFIGURING THE FIELDSERVER AS A CHB-LINK CLIENT

For a detailed discussion on FieldServer configuration, please 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 ChB-Link Server

Note that * indicates an optional parameter, with the **bold** legal value being the 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 Descriptions

Section Title
Connections

Column Title	**Function**	**Legal Values**
Port	Specify which port the device is connected to the FieldServer	R1-R2
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
```

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    , CBlink_ID    , Protocol    , Port    , Node_Type
CBH1         , 0 1 20       , CB_Link     , R1      , Hawk
```

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 Appendix A.1

5.4 Client Side Map Descriptors

5.4.1 FieldServer Related 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 "Data Array" section above
Data_Array_Offset	Starting location in Data Array	0 to maximum specified in "Data Array" section above
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

5.4.4 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
```

Appendix A. Reference

Appendix A.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*	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	

Appendix A.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 (Appendix A.1) are preloaded onto the FieldServer when delivered. Other property files may be available upon request.

* This is the chassis that the above modules plug into

Appendix A.1.2. Configuration Files

Each Controller has an associated configuration file as shown in the device information table (Appendix A.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

Appendix A.2. Driver Compatibility Matrix

FieldServer Model	Compatible with this driver
FS-x2010	Yes
FS-x2011	Yes
FSx25	No
FS-x30	Yes
FS-x40	Yes
SlotServer	No
ProtoNode	No
ProtoCessor FPC-FO2	No
ProtoCessor FPC-FD2	No
QuickServer FS-QS-1010	No
QuickServer FS-QS-1011	No