A Sierra Monitor Company

Driver Manual
(Supplement to the FieldServer Instruction Manual)

FS-8700-54 MDA CM4

APPLICABILITY & EFFECTIVITY

Effective for all systems manufactured after May 1, 2001

Instruction Manual Part Number FS-8700-54

Version: 1.00fL

9/19/2000

Table of Contents

1. Zellweger CM4 Description

The Zellweger CM4 driver allows the FieldServer to transfer data to and from devices over either RS232 or RS485 using Zellweger CM4 protocol.
The information that follows describes how to expand upon the factory defaults provided in the configuration files included with the FieldServer.

1.1 Hardware/Software

Supplied by FieldServer Technologies.

FieldServer Technologies PART #	DESCRIPTION
8915-10	UTP cable (7 foot) for RS232 use
8917-02	RJ45 to DB9F connector adapter

2. FieldServer as a Zellweger CM4 Client

2.1 Hardware Connections

Refer to the Drawings in section 4
Configure the CM4 according to manufacturer's instructions

2.2 Configuration File Structure

The following tables describe parameters that need to be filled out in the configuration file. For convenience, a few example parameters already exist in the supplied PRIMSERV.CSV and SECDSERV.CSV files.

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

2.2.1 Data Arrays

Section Title
Data_Arrays

Column Title	Function	Legal Values
Data_Array_Name	Provide name for Data Array	Up to 32 alphanumeric characters
Data_Format	Provides data format	INT16, INT32, BIT, FLOAT
Data_Array_Length	Number of Data Objects	1-10,000

Example:

```
Data_Arrays
Data_Array_Name,  Data_Format,      Data_Array_Length
DA_AI_01,         Uint16,           100
DA_AI_02,         Uint16,           100
DA_AI_03,         Uint16,           100
DA_AI_04,         Uint16,           100
DA_AI_11,         Uint16,           100
DA_AI_21,         Uint16,           100
```

2.2.2 Client Side Connections

Section Title
Connections

Column Title	Function	Legal Values
Port	Specify which port the device is connected to the FieldServer	P1-P8, R1-R2
Baud *	Specify baud rate	300-**9600**-38400
Parity *	Specify parity	Even, Odd, **None**
Data_Bits *	Specify data bits	7, **8**
Stop_Bits *	Specify stop bits	1, **2**
Handshaking *	Specify hardware handshaking	RTS, RTS/CTS, **None**

Example:

```
//    Client Side Connections
//

Connections
Port,       Baud,       Parity,     Data_Bits,  Stop_Bits,  Protocol
P8,         9600,       None,       8,          1,          CM4
```

2.2.3 Client Side Nodes

Section Title
Nodes

Column Title	Function	Legal Values
Node_Name	Provide name for node	Up to 32 alphanumeric characters
Node_ID	Node ID of physical server node (PLC or Slave Device)	1-255
Protocol	Specify protocol used	Modbus/TCP, Modbus RTU, etc

Example:

```
//    Client Side Nodes
//

Nodes
Node_Name,    Node_ID,   Protocol,   Connection
CN_CM4_1,     1,         CM4,        P8
```

2.2.4 Client Side Map Descriptors

Section Title
Map_Descriptros

Column Title	Function	Legal Values
Map_Descriptor_Name	Name of this Map Descriptor	Up to 15 alphanumeric characters
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_Location	Starting location in Data Array	0 to maximum specified in "Data Array" section above
Function	Function of Client Map Descriptor	RDBC, WRBC, WRBX
Node_Name	Name of Node to fetch data from	One of the node names specified in "Client Node Descriptor" above
Data_Type	Data type	Current Point Status, Unit Status, System Information
Length	Length of Map Descriptor	1 - 100
Address	Starting address of read block	0, 1, 2, 3 *
Scaling	If scaling is required	
Data_Array_Low_Scale*	Scaling zero in Data Array	-32767 to 32767, **default 0**
Data_Array_High_Scale*	Scaling max in Data Array	-32767 to 32767, **default 100**
Node_Low_Scale*	Scaling zero in Connected Node	-32767 to 32767, **default 0**
Node_High_Scale*	Scaling max in Connected Node	-32767 to 32767, **default 100**

* 0 If Unit Status, System Information.
0, 1, 2, 3 If Current Point Status.

Example:

```
//    Client Side Map Descriptors
//

Map_Descriptors
Map_Descriptor_Name, Data_Array_Name, Data_Array_Offset, Function, Node_Name, Data_Type, Address
CMD_AI_01,           DA_AI_01,        0,                 RDBC,     CN_CM4_1,  CPS*,        0
CMD_AI_02,           DA_AI_02,        0,                 RDBC,     CN_CM4_1,  CPS*,        1
CMD_AI_03,           DA_AI_03,        0,                 RDBC,     CN_CM4_1,  CPS*,        2
CMD_AI_04,           DA_AI_04,        0,                 RDBC,     CN_CM4_1,  CPS*,        3
CMD_AI_11,           DA_AI_11,        0,                 RDBC,     CN_CM4_1,  Unit Status, 0
CMD_AI_21,           DA_AI_21,        0,                 RDBC,     CN_CM4_1,  SI**,        0
```

```
*->     Current Point Status
**->    System Information
```

2.3 Troubleshooting Data Array Maps

Current Point Status

Data Array Offset	Function
0	Function Code always 55
1	Current Date: Year
2	Current Date: Month
3	Current Date: Day
4	Current Time: Hour
5	Current Time: Minute
6	Current Time: Second
7	Gas Abbreviation Code
8	Gas Abbreviation Code
9	Gas Abbreviation Code
10	Gas Abbreviation Code
11	Gas Abbreviation Code
12	Gas Abbreviation Code
13	Gas Abbreviation Code
14	Gas Abbreviation Code
15	Gas Abbreviation Code
16	Gas Abbreviation Code
17	Gas Abbreviation Code
18	Gas Abbreviation Code
19	Format Code
20	Current Flow
21	Time and Date TWA Start Current Date: Year
22	Time and Date TWA Start Current Date: Month
23	Time and Date TWA Start Current Date: Day
24	Time and Date TWA Start Current Time: Hour
25	Time and Date TWA Start Current Time: Minute
26	Time and Date TWA Start Current Time: Second
27	Time and Date TWA End Current Date: Year
28	Time and Date TWA End Current Date: Month
29	Time and Date TWA End Current Date: Day
30	Time and Date TWA End Current Time: Hour
31	Time and Date TWA End Current Time: Minute
32	Time and Date TWA End Current Time: Second
33	TWA Concentration
34	Last Concentration
35	Alarm Status
36	Status
37	

Unit Status

Data Array Offset	Function
0	Function Code always 55
1	Current Date: Year
2	Current Date: Month
3	Current Date: Day
4	Current Time: Hour
5	Current Time: Minute
6	Current Time: Second
7	General Status
8	New Events
9	Concentration Summary
10	Chem Casette Remaining Window
11	Chem Casette Remaining Day
12	Internal Filter
13	External Filter
14	Flow Rate Point 1
15	Flow Rate Point 2
16	Flow Rate Point 3
17	Flow Rate Point 4
18	Optics Cal Status
19	Maintenance Status