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A Sierra Monitor Company

**Driver Manual**  
(Supplement to the FieldServer Instruction Manual)

**FS-8700-37 Metasys DX9100**

A Sierra Monitor Company

**APPLICABILITY & EFFECTIVITY**

**Effective for all systems manufactured after May 1, 2001**

Instruction Manual Part Number FS-8700-37

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## 1. Metasys DX9100 Description

The Metasys DX9100 driver allows the FieldServer to transfer data to and from devices over either RS232 or RS485 using Metasys DX9100 protocol. There are eight RS232 and two RS485 ports standard on the FieldServer. The FieldServer can emulate either a Server or Client.

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

<b>FIELDSEVER TECHNOLOGIES PART #</b>	<b>DESCRIPTION</b>
FS-8915-10	UTP cable (7 foot) for RS232 use
FS-8915-10	UTP cable (7 foot) for Ethernet connection
FS-8917-01	RJ45 to DB25M connector adapter
FS-8917-02	RJ45 to DB9F connector adapter
FS-59132	RS485 connector adapter

#### Provided by user

<b>PART #</b>	<b>DESCRIPTION</b>
	List items to interface to the FieldServer
	Metasys DX9100 Client Server, e.g. Wonderware, Intellution FIX, GE Cimplicity, etc

**2. FieldServer as a Metasys DX9100 Client**

**2.1 Hardware Connections**

It is possible to connect a Metasys DX9100 device to any of the eight RS232 ports or two RS485 ports. These ports just need to be configured for Metasys DX9100 in the configuration file.

Configure the PLC according to manufacturer’s instructions

**2.2 Configuration File Structure**

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 15 alphanumeric characters
Data_Format	Provides data format	INT16
Data_Array_Length	Number of Data Objects	2384

**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	<b>9600</b>
Parity *	Specify parity	<b>None</b>
Data_Bits	Specify data bits	<b>8</b>
Stop_Bits	Specify stop bits	<b>1</b>
Handshaking	Specify hardware handshaking	RTS, RTS/CTS, <b>None</b>

**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	0-255
Protocol	Specify protocol used	Metasys DX9100

## 2.2.4 Client Map Descriptors

Section Title		
Map_Descriptors		
Column Title	Function	Legal Values
Map_Descriptor_Name	Name of this Map Descriptor	Up to 32 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_Offset	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
Address	Starting address of read block	0-2384 See "All Item List" in Metasys DX9100 Protocol Specification Rev 2.0.
Length	Consecutive Items	See "All Item List"
Data_Array_Low_Scale*	Scaling zero in Data Array	-32767 to 32767, <b>default 0</b>
Data_Array_High_Scale*	Scaling max in Data Array	-32767 to 32767, <b>default 100</b>
Node_Low_Scale*	Scaling zero in Connected Node	-32767 to 32767, <b>default 0</b>
Node_High_Scale*	Scaling max in Connected Node	-32767 to 32767, <b>default 100</b>

### 3. FieldServer as a Metasys DX9100 Server

#### 3.1 Hardware Connections

It is possible to connect a Metasys DX9100 device to any of the eight RS232 ports or two RS485 ports. These ports just need to be configured for Metasys DX9100 in the configuration file.

Configure the PLC according to manufacturer's instructions

#### 3.2 Configuration File Structure

##### 3.2.1 Data Arrays

Section Title		
Data_Arrays		
Column Title	Function	Legal Values
Data_Array_Name	Provide name for Data Array	Up to 15 alphanumeric characters
Data_Format	Provides data format	INT16
Data_Array_Length	Number of Data Objects	2384

##### 3.2.2 Server 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	<b>9600</b>
Parity*	Specify parity	<b>None</b>
Data_Bits*	Specify data bits	<b>8</b>
Handshaking*	Specify hardware handshaking	<b>None</b>

##### 3.2.3 Server 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	1-255
Protocol	Specify protocol used	Metasys DX9100

### 3.2.4 Map Descriptors

Section Title		
Map_Descriptors		
Column Title	Function	Legal Values
Map_Descriptor_Name	Name of this Map Descriptor	Up to 32 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_Offset	Starting location in Data Array	
Function	Function of Client Map Descriptor	Server
Node_Name	Name of Node to fetch data from	One of the node names specified in "Client Node Descriptor" above
Address	Starting address of read block	0
Data_Array_Low_Scale*	Scaling zero in Data Array	-32767 to 32767, <b>default 0</b>
Data_Array_High_Scale*	Scaling max in Data Array	-32767 to 32767, <b>default 100</b>
Node_Low_Scale*	Scaling zero in Connected Node	-32767 to 32767, <b>default 0</b>
Node_High_Scale*	Scaling max in Connected Node	-32767 to 32767, <b>default 100</b>