



A Sierra Monitor Company

Driver Manual
(Supplement to the FieldServer Instruction Manual)

FS-8700-87 SDD16

APPLICABILITY & EFFECTIVITY

Effective for all systems manufactured after May 1, 2001

Driver Version:	1.03
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1. SDD16 Description

The SDD16 driver allows the FieldServer to transfer data to and from devices over RS-485 using SDD16 protocol. The FieldServer can only emulate a Client.

The SDD16 driver is used to communicate with a digital I/O module model 485SDD16. The current driver only supports reading the status of all sixteen digital input lines. The SDD16 driver in conjunction with the 485SDD16 module allows the FieldServer to sense external On/Off conditions and to control a variety of devices.

The SDD16 driver makes use of the data complement mode feature of the 485SDD16 module. In data complement mode the driver and module communicates with double the amount of data bytes to enable better error detection in noisy electrical environments.

2. Driver Scope of Supply

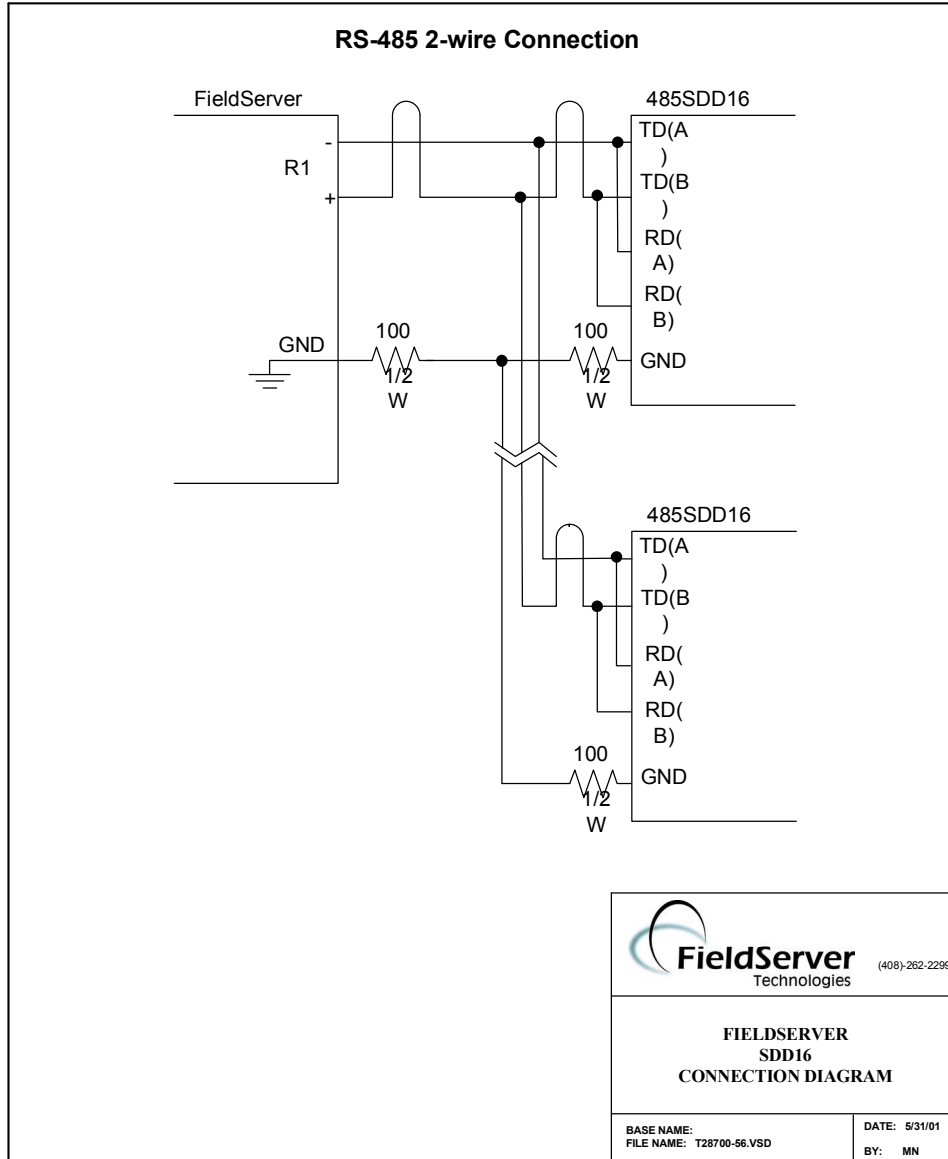
2.1. Supplied by FieldServer Technologies for this driver

FieldServer Technologies PART #	Description
FS-8700-87	Driver Manual.

3. Hardware Connections

The FieldServer is connected to the RS-485 SDD16 module as shown below.

Configure the RS-485 SDD16 module according to manufacturer's instructions. Note that the module auto-detects valid baud rates as defined in the client side connections.



4. Configuring the FieldServer as a SDD16 Client

For a detailed discussion on FieldServer configuration, please refer to the configuration manual for the FieldServer. 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 SDD16 Server.

The configuration file tells the FieldServer about its interfaces, and the routing of data required. In order to enable the FieldServer for SDD16 communications, the driver independent FieldServer buffers need to be declared in the “Data Arrays” section, the destination device addresses need to be declared in the “Client Side Nodes” section, and the data required from the servers needs to be mapped in the “Client Side Map Descriptors” section. Details on how to do this can be found below.

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

4.1. 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	Provide data format. Each data array can only take on one format.	FLOAT, BIT, UInt16, SInt16, Packed_Bit, Byte, Packed_Byte, Swapped_Byte
Data_Array_Length	Number of Data Objects. Must be larger than the data storage area required for the data being placed in this array.	1-10,000

Example

//Data Arrays		
//		
Data_Arrays		
Data_Array_Name,	Data_Format,	Data_Array_Length
Digitals_01,	Bit,	16

4.2. Client Side Connection Descriptors

Section Title		
Connections		
Column Title	Function	Legal Values
Port	Specify which port the device is connected to the FieldServer	R1-R2 FSx40 Servers FSx20 Servers
Baud	Specify baud rate	1200, 2400, 4800, 9600
Parity*	Specify parity	None
Data_Bits*	Specify data bits	8
Stop_Bits*	Specify stop bits	1
Protocol	Specify protocol used	SDD16
Handshaking*	Specify hardware handshaking	None
Line_Drive_On	Time to wait before driving line	0.001s
Line_Drive_Off	Time to wait before releasing line	0s
Poll_Delay*	Time between internal polls	0-32000 seconds, 1 second

Example

```
// Client Side Connections

Connections
Port, Baud, Parity, Protocol, Handshaking, Poll_Delay, Line_Drive_On, Line_Drive_Off
R1, 9600, None, SDD16, None, 0.100s, 0.001s, 0s
```

4.3. Client Side Node Descriptors

Section Title		
Nodes		
Column Title	Function	Legal Values
Node_Name	Provide name for node	Up to 32 alphanumeric characters
Node_ID	Module address	0-255 (48 is default address on module)
Protocol	Specify protocol used	SDD16
Port	Specify which port the device is connected to the FieldServer	R1-R2

Example

```
// Client Side Nodes

Nodes
Node_Name, Node_ID, Protocol, Port
Module_1, 48, SDD16, R1
```

4.4. Client Side Map Descriptors

4.4.1. FieldServer Related Map Descriptor Parameters

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_Location	Starting location in Data Array	0 to maximum specified in "Data Array" section above
Function	Function of Client Map Descriptor	RDBC

4.4.2. 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
Data_Type*	Data type	Flag
Length	Length of Map Descriptor	1-16
Address	Starting digital line number	0 – 15

4.4.3. Timing Parameters

Column Title	Function	Legal Values
Scan_Interval	Rate at which data is polled	>0.1s

4.4.4. Map Descriptor Example.

