

## 1 DESCRIPTION

This FieldServer driver can be used to poll a Siemens Fire Safety MXL or XLS system or to emulate a Siemens Fire Safety MXL or XLS system with attached modules. Either configuration supports remote monitoring as well as selected command and control functions. Note that this driver does not support MXL and XLS networked panels together.

Fieldserver Mode	Nodes	Comments
Client	1 (Only 1 Client allowed. As a Client, the FieldServer can poll panel addresses 1-999).	Only 1 client node allowed on multidrop systems
Server	1-99	Panel numbers from 1 to 99 may be emulated

## 2 FORMAL DRIVER TYPE

Serial  
Client or Server

## 3 COMPATIBILITY MATRIX

FieldServer Model	Compatible with this driver
FS-x2010	Yes
FS-x2011	Yes
FSx25	Yes
FS-x30	Yes
FS-x40	Yes
SlotServer	Yes
ProtoCessor	Yes
ProtoNode	Yes

## 4 CONNECTION INFORMATION

Connection type: MXL: RS-232 with NIM-1R<sup>1</sup> configured for Foreign System Interface (FSI) by setting all the switches in SW2 to open (or OFF)  
 RS-485 when using NIM-1W  
 XLS: Connection to RPM module

Baud Rates: 19200 (Vendor limitation)

Data Bits: 7

Stop Bits: 1

Parity: Even

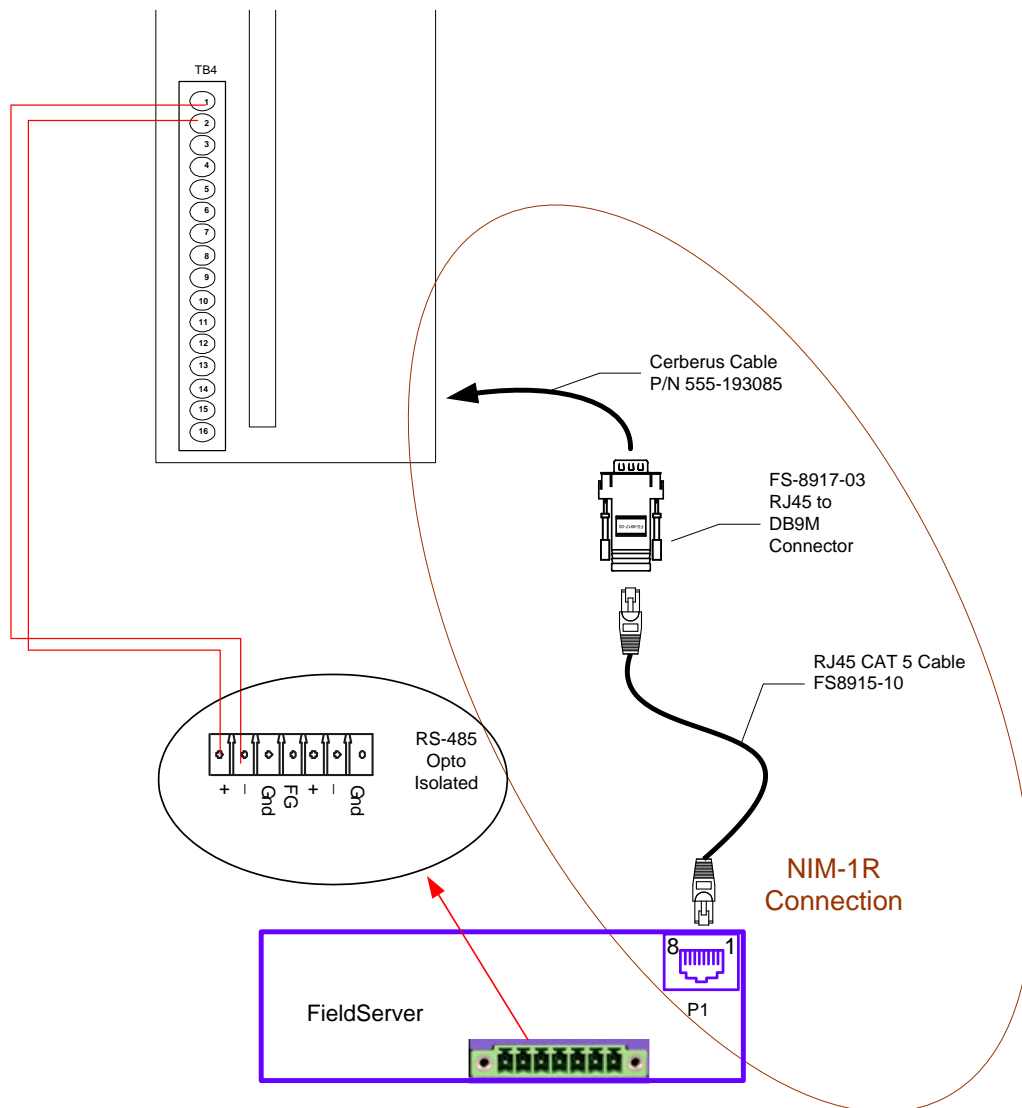
Multidrop Capability Yes

<sup>1</sup> Note that NIM-1R is no longer supported by Siemens and is therefore considered to be legacy while NIM-1W is common.

**5 CONNECTION CONFIGURATIONS: (NOTE, ONLY MXL CONNECTION SHOWN)**

**5.1 Using the NIM-1R or NIM-1W for MXL**

- Configure the NIM-1R<sup>2</sup> or NIM-1W for Foreign System Interface (FSI) by setting all of the switches in SW2 to open (or OFF). See connection diagram below:
- Connect the NIM-1R to an RS-232 port on the Fieldserver as depicted in the diagram below (brown circle)
- Connect the NIM-W to an RS-485 port on the FieldServer as depicted in the diagram below.



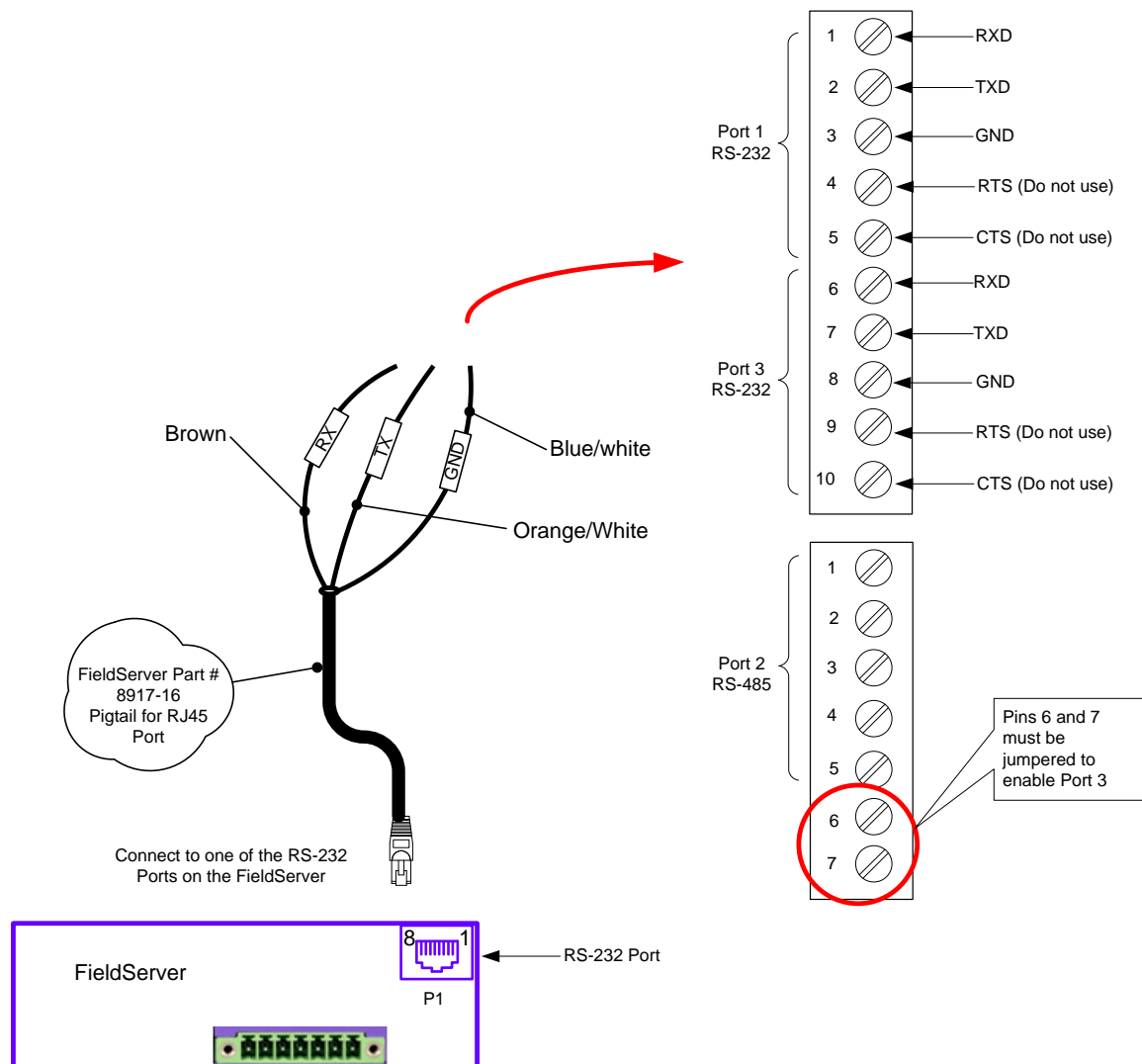
<sup>2</sup> Note that NIM-1R is no longer supported by Siemens and is therefore considered to be legacy while NIM-1W is common.

**Pinouts**

<b>FS Function</b>	<b>RJ45 Pin#</b>	<b>DB9F Pin#</b>	<b>Cerberus Cable Pin</b>	<b>Color</b>
RX	1	2	14	Red
GND	4	5	16	Black
TX	8	3	13	Green
RTS		7	12	Brown
CTS		8	15	White

## 5.2 RS-232 Connection to the XLS Panel

- Configure the NIM-1R<sup>3</sup> or NIM-1W for Foreign System Interface (FSI) by setting all of the switches in SW2 to open (or OFF).
- The ports on the RPM can be configured for either RS-232 or RS-485, but not both together. Connection to the RS-485 port of the RPM has not been tested and is not supported.
- The FieldServer can be connected to either Port 1 or Port 3 on the XLS Panel as described in the connection drawing. Pins 6 and 7 on the Port 2 Connector must be jumpered to enable RS-232 Port 3.



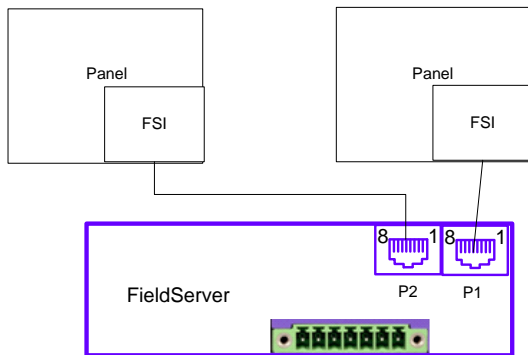
<sup>3</sup> Note that NIM-1R is no longer supported by Siemens and is therefore considered to be legacy while NIM-1W is common.

**Connector Pinouts for RS-232 Ports**

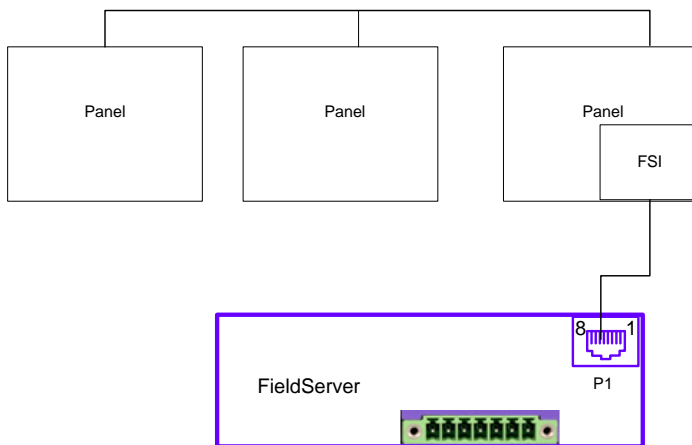
Wire Color	RJ-45		XLS Panel Port 1 (3)	
	Pin	Signal	Signal	Pin
Brown	1	Rx	TXD	2 (7)
White/Orange	8	Tx	RXD	1 (6)
Blue/white	4	GND	GND	3 (8)

**5.3 FSI Connection Notes**

- It is possible to connect a MXL/XLS device to any RS-232 or RS-485 port. These ports simply need to be configured for MXL/XLS in the configuration file.
- The driver does not support MXL and XLS panels networked together.
- One FSI panel may be connected per FieldServer port, but multiple panels may be connected per FSI. The following diagram illustrates two possible connection configurations.



Configuration 1 – One FSI Panel per FieldServer per port, one Panel per FSI



Configuration 2 – One FSI Panel per FieldServer port, 3 panels connected in series to the FSI

**6 COMMUNICATIONS FUNCTIONS - SUPPORTED FUNCTIONS AT A GLANCE:**

**6.1 Client Configuration File Structure**

In FSI mode, the NIM-1R or RPM allows the FieldServer to gather data from up to 63 Siemens Panels connected on an MXL or XLS network. When configured according to the default, the FieldServer will monitor two panels (1 and 2) with 8 modules (1 to 8) each.

Two sets of data are collected by the driver. The first is a collection of 14 counters per panel. Each 16-bit counter is incremented whenever the corresponding event occurs. These counters can be read to determine if a new event has been reported to the server. The counters occur in the following order:

Event	Offset
Fire Alarm In	0
Fire Alarm Out	1
Fire Alarm Acknowledge	2
Trouble In	3
Trouble Out	4
Trouble Acknowledge	5
Supervisory In	6
Supervisory Out	7
Supervisory Acknowledge	8
Security Alarm In	9

Event	Offset
Security Alarm Out	10
Security Alarm Acknowledge	11
Status In	12
Status Out	13
Test In	14
Test Out	15
Audible Silenced	16
Audible Unsilenced	17
System Reset	18

The second is a collection of bit maps that can be queried to determine which device has reported the event. When an alarm from a device is received, two arrays are updated – one indicating the alarm and the other indicating that the alarm has not been acknowledged. An alarm clear will clear the bit in the alarm array, and an alarm acknowledge will clear the bit in the un-acknowledged array. Each of these arrays is optional. To enable one, a Map Descriptor needs to be configured with a message type corresponding to the array as shown in this table:

Array	Msg_Type
Fire Alarm	Fire
Fire Alarm Un-Acknowledged	Fire_Ack
Trouble Alarm	Trouble
Trouble Un-Acknowledged	Trouble_Ack
Supervisory Alarm	Super
Supervisory Un-Acknowledge	Super_Ack
Security Alarm	Secur
Security Alarm Un-Acknowledged	Secur_Ack
Status	Status
Test	Test

## 6.2 Server Configuration File Structure

The driver can also be used to emulate a MXL or XLS server. Other protocol drivers could then poll remote devices and access the local MXL or XLS server data to set or clear events. In this configuration an existing Siemens Fire Safety MXL or XLS panel could be replaced with an emulation. Existing clients could poll the emulation driver on the FieldServer to get the same data as from a conventional MXL or XLS server.

Up to 100 panels can be emulated with the driver. Each panel has to be on a unique port and have a unique Node\_ID assigned. A Map Descriptor has to be defined for each type of remote device. The following types can be used:

Device Type
Fire Alarm In
Fire Alarm Out
Fire Alarm Acknowledge
Trouble In
Trouble Out
Trouble Acknowledge
Supervisory In
Supervisory Out
Supervisory Acknowledge
Security Alarm In
Security Alarm Out

Device Type
Security Alarm Acknowledge
Status In
Status Out
Test In
Test Out
Audible
System Reset
System Date and Time
Analog Volts
Analog Sensitivity
Analog Threshold

## 6.3 Command and Control Functions

Function
Un(Silence) Audible
System Reset
Set Date and Time
Acknowledge Fire Alarm Event
Acknowledge Trouble Event
Acknowledge Security Event
Acknowledge Supervisory Event

## 6.4 Analog Functions

Function	Description
Request Analog Data	Requests the present value of analog data from a loop of analog devices. The available data is limited to analog voltage, sensitivity voltage and alarm threshold voltage.