

1 DESCRIPTION

The GE-SNP Serial driver allows the FieldServer to transfer data to and from devices over either RS-232 or RS-485 using GE-SNP Serial protocol. The FieldServer can emulate either a Server or Client.

The FieldServer provides functions to read and write PLC memory and change the privilege level. Standard SNP mailbox messages are used. The driver does not support Datagram messages and cannot parse them. These messages are defined by the SNP protocol to allow multiple data types to be packed into one message. They are not commonly used by the HMI and 3rd party applications and are inconsistent with the FieldServer's *Write Through and Port Expander* capabilities.

The driver can expose communications statistics in a Data Array so that downstream devices can monitor them.

Fieldserver Mode	Nodes	Comments
Client	1	Only 1 Client node allowed on Multidrop systems
Server		

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
QuickServer	Yes

4 CONNECTION INFORMATION

Connection type:	RS-232 or RS-485 (Two wire, Half-Duplex)
Baud Rates:	110 – 19200, standard baud rates only (Vendor limitation), 19200
Data Bits:	7,8
Stop Bits:	1,2
Parity:	Odd, Even, None
Multidrop Capability	Yes

5 DEVICES TESTED

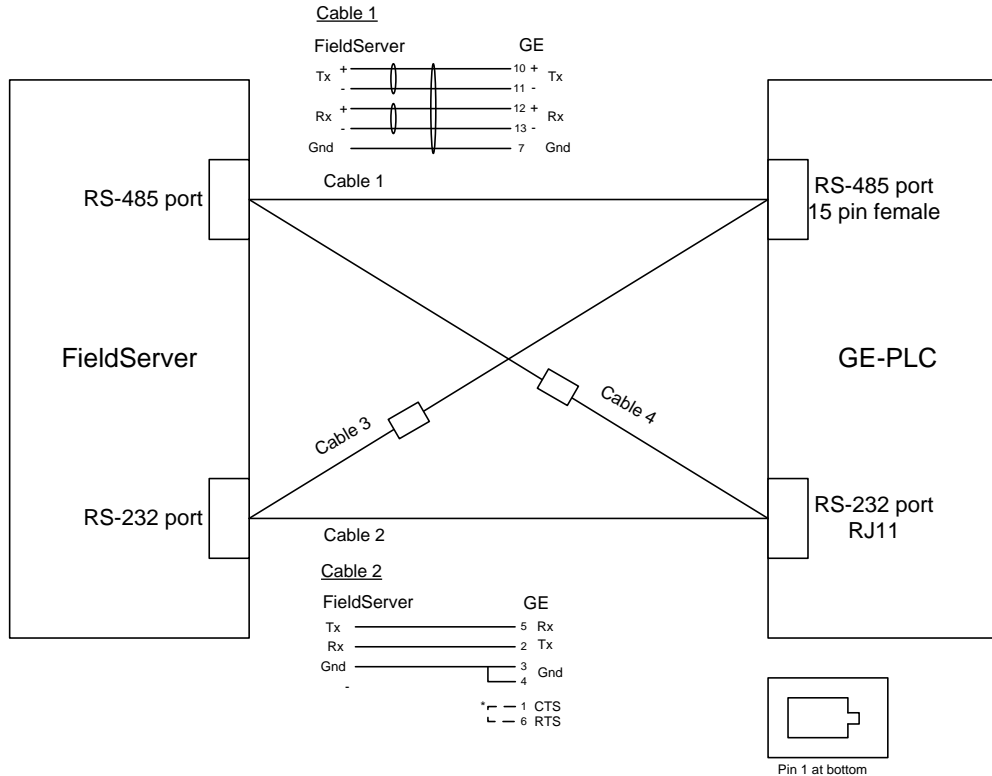
Device	Tested (FACTORY, SITE)
Series 90-30 CPU 364	Factory & Site
Intellution FIX32's SNP device driver.	Site

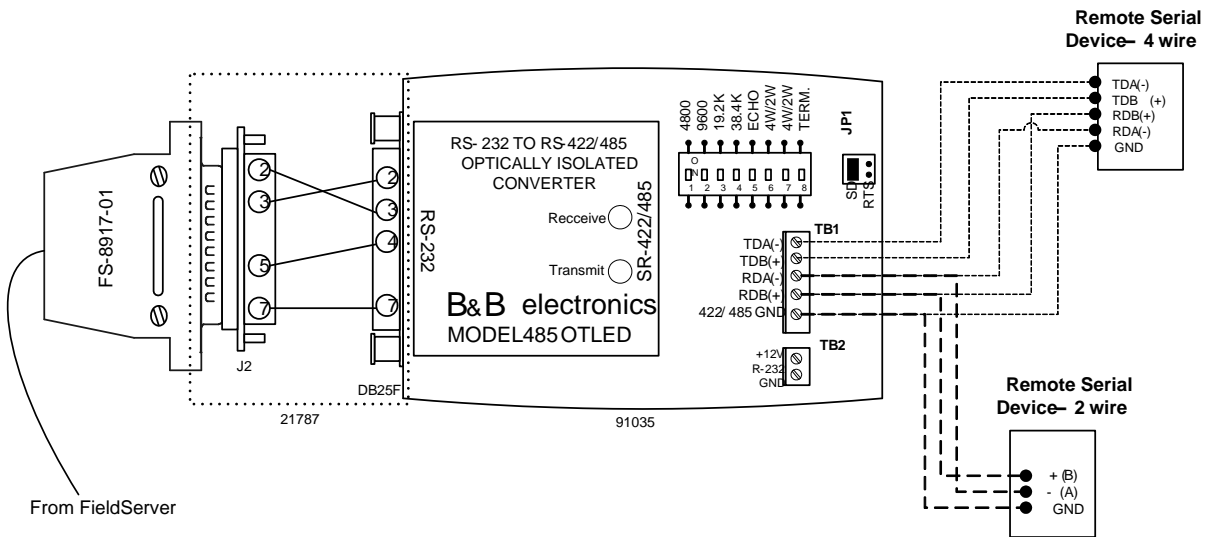
6 CONNECTION CONFIGURATIONS

The FieldServer is connected to the GE PLC in one of two ways.

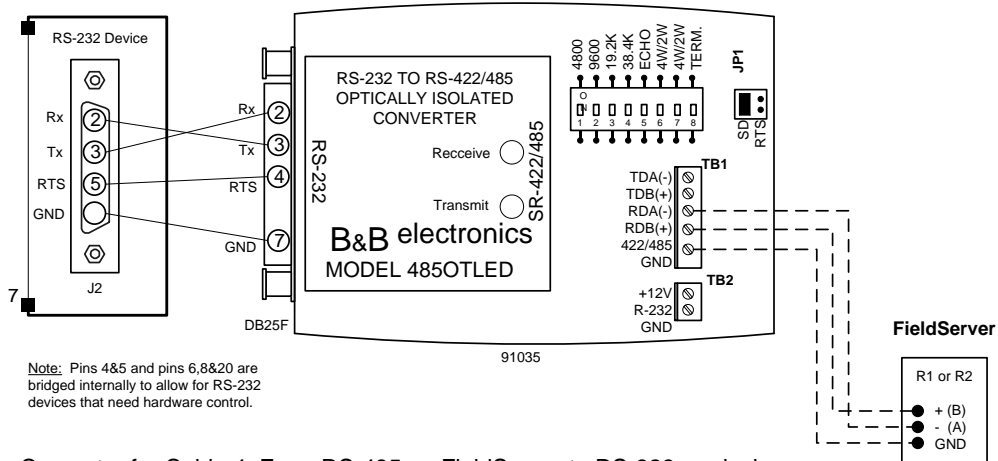
Almost every GE PLC has a RS-232 and RS-485 port. Possible cable configurations are illustrated below.

A converter is required to connect between RS-232 and RS-485. An example of connection configurations for the Model480TLED connector is depicted overleaf. Any equivalent connector can be used.



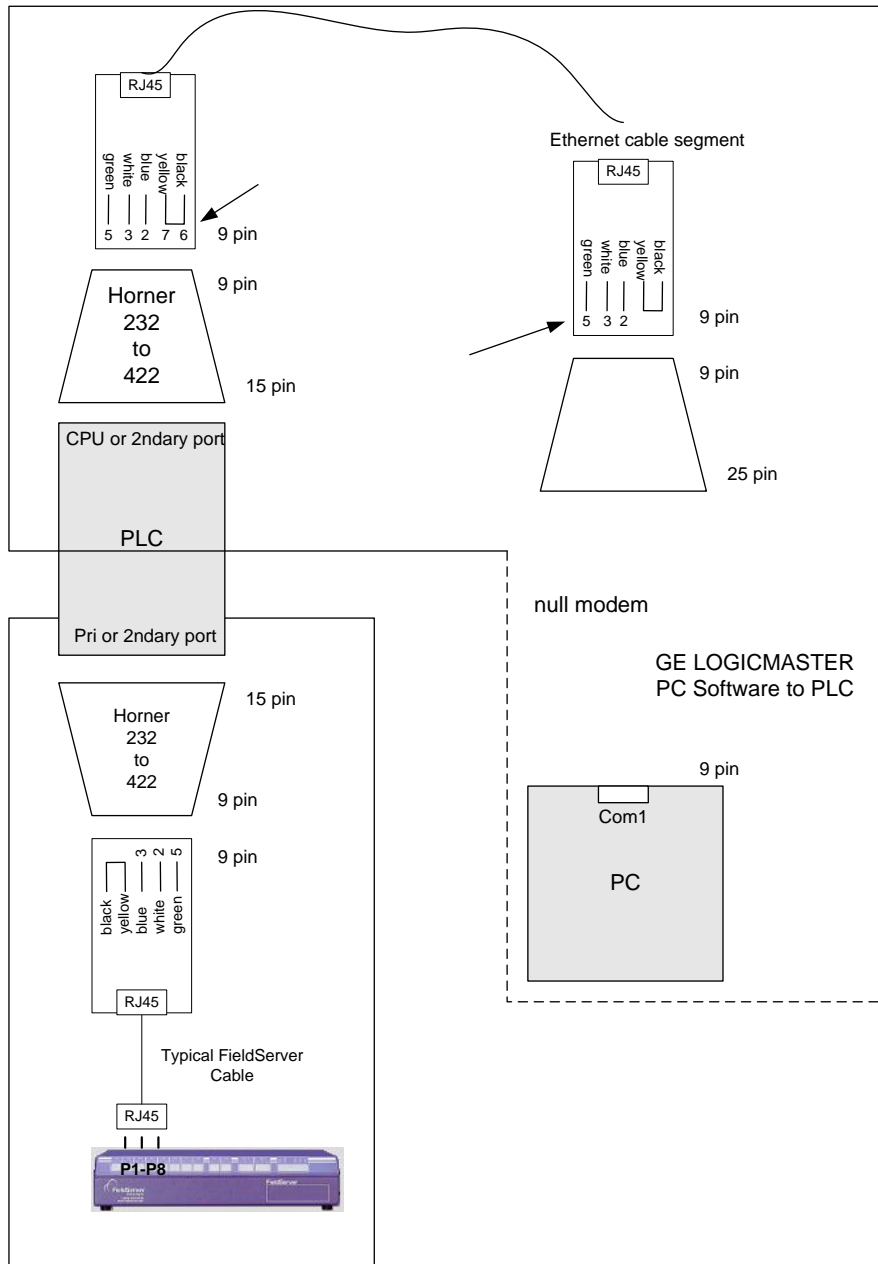


Converter for Cable 3: From RS-232 on FieldServer to RS-485 on device.



Converter for Cable 4: From RS-485 on FieldServer to RS-232 on device.

Note: Pins 4&5 and pins 6,8&20 are bridged internally to allow for RS-232 devices that need hardware control.



6.1 Connection Notes

- The SNP driver is capable of acting as a client or server.
- The SNP driver can read and write system memory and change privilege levels of a SNP device.
- The SNP driver supports the Mailbox communication method of the SNP protocol. The Datagram method is unsupported.
- The SNP driver can expose its communication statistics so that they can be monitored by a downstream device.
- Up to 4096 bytes of data can be handled in a single transaction.

7 COMMUNICATIONS FUNCTIONS - SUPPORTED FUNCTIONS AT A GLANCE:

7.1 Data Types Supported

FieldServer Data Type	Description (or Device Data Type)
Analog Input	
Digital Input	
Analog Register	
Digital Register	
Analog Output	
Digital Output	

7.2 Read Operations supported

FieldServer as a Client	FieldServer as a Server
Discrete Inputs (%I)	Discrete Inputs (%I)
Discrete Outputs (%Q)	Discrete Outputs (%Q)
Discrete Temporaries (%T)	Discrete Temporaries (%T)
Discrete Internals (%M)	Discrete Internals (%M)
Genius Global Data (%G)	Genius Global Data (%G)
Analog Inputs (%AI)	Analog Inputs (%AI)
Analog Outputs (%AQ)	Analog Outputs (%AQ)
Registers (%R)	Registers (%R)
%SA Discrete	%SA Discrete
%SB Discrete	%SB Discrete
%SC Discrete	%SC Discrete
%S Discrete (%S)	%S Discrete (%S)

7.3 Unsupported Functions and Data Types

Function	Reason
Programming messages	FieldServer is a data transfer device, and as such, programming messages are not required
Datagram messages	These messages are defined by the SNP protocol to allow multiple data types to be packed into one message. They are not commonly used by the HMI and 3 rd party applications and are inconsistent with the FieldServer's <i>Write Through and Port Expander</i> capabilities