

1 DESCRIPTION

ProtoCessor Simple Protocol (PSP) is an ASCII based protocol which provides a simple way to communicate with ProtoCessor. The Serial PSP driver allows the FieldServer to transfer data to and from devices over RS-232 or RS-485 using PSP protocol. The FieldServer can emulate either a Server or Client. The Client side has been developed primarily to test the Server side driver as part of FieldServer's QA program.

As a Server, the Driver responds to read/write requests and can update remote device configurations. The Server can accept or serve data values in decimal or hex format as determined by the Client. The Server responds with an error number when for any reason it is unable to successfully respond to a valid request.

As a Client, the driver polls to read or write data. The Driver can receive or send data values in decimal or in hex format. The Driver can also poll the Server to change upstream node or connection parameters such as Node_ID or Baud rate.

FieldServer Mode	Nodes	Comments
Client	1	Single client per port.
Server	0	Protocol is Node-less. Server serves ports.

2 FORMAL DRIVER TYPE

Serial

Client or Server

3 COMPATIBILITY MATRIX

FieldServer Model	Compatible with this driver
FS-x2010	Yes
FS-x2011	Yes
FS-x30	Yes
FS-x40	Yes
SlotServer	Yes
ProtoNode	Yes
QuickServer FS-QS-10xx	Yes
QuickServer FS-QS-12xx	Yes
ProtoCessor FPC-ED2	Yes
ProtoCessor FPC-ED4	Yes

4 CONNECTION INFORMATION

Connection type: RS-232 or RS-485 (Two wire, Half-Duplex)

Baud Rates: 38400 (Protocol Limitation) - FieldServer supports 300- 115200 Standard Baud rates only.

Data Bits: 7,8

Stop Bits: 1,2

Parity: Odd, Even, None

Multidrop Capability: No

5 DEVICES TESTED

Device	Tested (FACTORY, SITE)
None	

6 COMMUNICATIONS FUNCTIONS - SUPPORTED FUNCTIONS AT A GLANCE:

6.1 Data Types Supported

The driver does not type data. All data is transferred as ASCII string representations of real numbers.

6.2 Read Operations supported

FieldServer as a Client	FieldServer as a Server
Read any value (in decimal, hex or float format)	Provide any value (in decimal, hex or float format)
Selectively read changed or updated data	Accept ACK messages from Client.

6.3 Write (Control) Operations supported

FieldServer as a Client	FieldServer as a Server
Write any value (in decimal, hex or float format)	Accept any value (in decimal, hex or float format)

6.4 Configuration (Control) Operations supported

FieldServer as a Client	FieldServer as a Server
Send command to change Node_ID or Baud Rate of upstream device.	Accept command to change the baud rate of an upstream connection and to change the Node_ID of the upstream server node. There are limitations to this capability: See the driver manual for more information.
Send command to Enable/Disable ProtoCessor nodes	
Send command to get ProtoCessor Status	
Send command to get ProtoCessor Mac Address	