

## 1 DESCRIPTION

The serial GPA (General Purpose ASCII) Driver allows the FieldServer to accept data from remote devices which produce an ASCII byte stream. A typical example of such a device is an electronic scale producing an output similar to the one below.

```
:weight 0.57 Kg Tare 44.3 Kg 1 2 3 4 -5 -6.7
```

The driver waits passively for messages. When a message is received the driver converts each space delimited string of characters/numbers into a number. The numbers so formed are stored in consecutive elements of a Data Array. Referring to the example above, the driver will store the value .57 in the 1<sup>st</sup> element of the Data Array (DA), the value 44.3 in the next element, the value 1 in the next, the value 2 in the next etc.

The driver is also capable of sending custom poll message to a remote device. Some devices may require a character or stream of characters sent to it before it will output its data on a serial port.

The Driver can extract up to 100 values from an ASCII message and can process an ASCII string of up to 1000 characters. .

The driver can process negative numbers.

### 1.1 Driver Limitations

- Only one data stream per connection - if two different streams of string data are sent to the same port, the data from the one will overwrite data from the other.
- The driver can only process numbers that are presented in a simple numeric form. Hexadecimal, Exponent-mantissa and other complex forms cannot be processed.
- The driver will overwrite the existing values with the new values. Values will be appended only if the new message has more values than the previous message, e.g. if a message with 5 values follows a message with 3 values, the first 3 values will be overwritten and the last two values will be appended.

#### Max Nodes Supported

| FieldServer Mode | Nodes | Comments                     |
|------------------|-------|------------------------------|
| Client           | 1     | Only 1 node per port.        |
| Server           |       | The driver cannot serve data |

## 2 FORMAL DRIVER TYPE

Serial

Passive Client

## 3 COMPATIBILITY MATRIX

| FieldServer Model      | Compatible with this driver |
|------------------------|-----------------------------|
| FS-x2010               | Yes                         |
| FS-x2011               | Yes                         |
| FSx25                  | No                          |
| FS-x30                 | Yes                         |
| FS-x40                 | Yes                         |
| SlotServer             | No                          |
| ProtoNode              | No                          |
| QuickServer FS-QS-1010 | Yes                         |
| QuickServer FS-QS-1011 | Yes                         |
| ProtoCessor FPC-FO2    | No                          |
| ProtoCessor FPC-FD2    | No                          |

## 4 CONNECTION INFORMATION

Connection type: RS-232  
Baud Rates: 110; 300; 600; 1200; 2400; 4800; **9600**; 19200; 28800; 38400; 57600; 115200 Baud  
Data Bits: 7,8  
Stop Bits: 1,2  
Parity: Odd, **Even**, None  
Multidrop Capability No

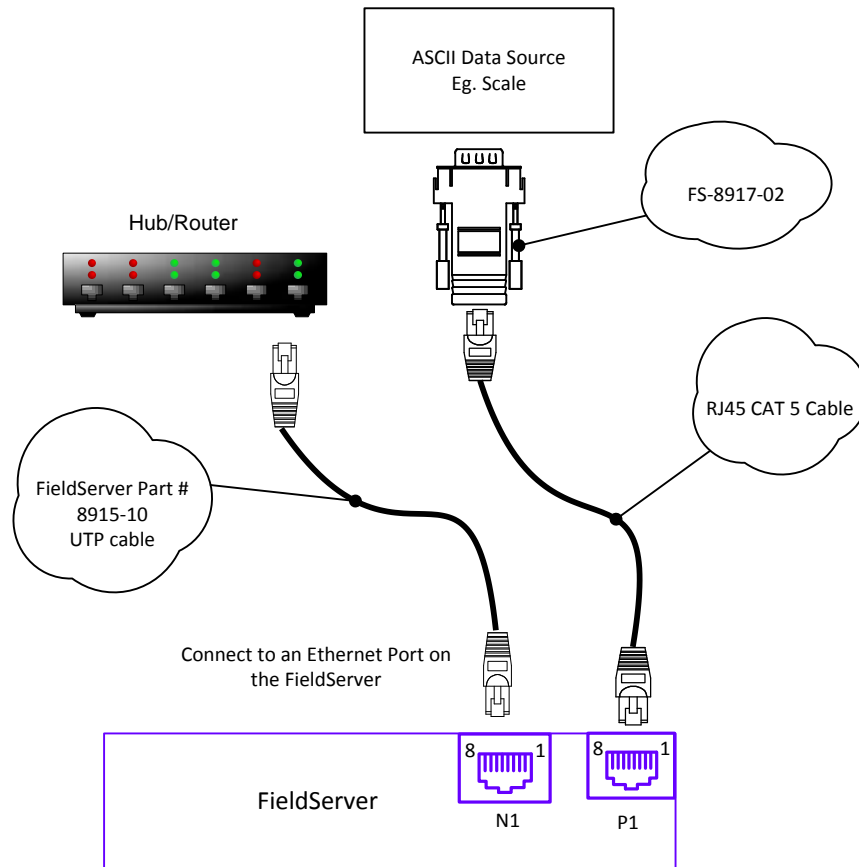
## 5 DEVICES TESTED

| Device        | Tested (FACTORY, SITE) |
|---------------|------------------------|
| HyperTerminal | Factory                |

## 6 CONNECTION CONFIGURATIONS

The FieldServer is connected to the vendor device as shown in connection drawing.

Configure the ASCII Passive Client according to manufacturer's instructions



### FS-8917-02 Pinouts

| FS Function | RJ45 Pin# | DB9F Pin# | Color |
|-------------|-----------|-----------|-------|
| RX          | 1         | 3         | White |
| GND         | 4         | 5         | Green |
| TX          | 8         | 2         | Blue  |

## 7 COMMUNICATIONS FUNCTIONS - SUPPORTED FUNCTIONS AT A GLANCE:

### 7.1 Data Types Supported

| FieldServer Data Type | Description (or Device Data Type) |
|-----------------------|-----------------------------------|
| Analog Input          | To store any number as an Integer |
| Digital Input         | To store any number as a Bit      |
| Register              | To store any number as an Integer |
| Float Register        | To store any number as a Float    |
| Analog Output         | To store any number as an Integer |
| Digital Output        | To store any number as a Bit      |

### 7.2 Read Operations supported

None. This is a passive driver, which can not poll.

### 7.3 Write (Control) Operations supported

The driver is capable of sending custom poll message to a remote device. Some devices may require a character or stream of characters sent to it before it will output its data on a serial port..

### 7.4 Unsupported Functions and Data Types

| Function                  | Reason                 |
|---------------------------|------------------------|
| Hexadecimal Numbers       | Simplicity of Protocol |
| Exponent-mantissa Numbers | Simplicity of Protocol |
| Complex Number            | Simplicity of Protocol |