FieldServer Driver - Serial
FS-8700-53
EasyLink

Driver Code:	**Easylink**
Version:	**1.00e**

Devices Supported:	External Devices
Interface:	RS-232 or RS-485

This protocol is intended for use with simple devices with limited arithmetic and formatting capabilities, and yet is able to poll all types of data that can be collected by FieldServer.

The FieldServer can act as either a Client or Server device (Master or Slave). This allows the 3rd party device to receive data from the FieldServer as a 'Write' from the FieldServer, or to poll data from the FieldServer as a 'Read'.

In the either mode it is possible to configure the driver so that it does not expect/supply a response.

It assumes that
- Decimal notation is preferred for numeric values
- Comma separation AND position dependence is preferred for any message sent by the FieldServer.
- Comma separation, but not position dependence is preferred for any message sent to the FieldServer.
- Checksums are optional
- Station numbers are optional
- Control character allowed is 'Carriage Return', and this indicates termination of message
- Backspaces in messages are interpreted by the FieldServer (allows terminal emulation polls)
- All other control characters must be IGNORED by the FieldServer, and must never be sent by the FieldServer.
- Start of message is a unique character
- The response repeats the poll as much as possible.
- Protocol is case sensitive.
- Spaces in messages are ignored by the FieldServer.

Poll (read)

: Node, Function, Data Array Name, Offset, Length, Format, Checksum, C/R

Response (read)

: Node, Function, Data Array Name, Offset, Length, Format, Data1, Data2, … DataN, Checksum, C/R

Poll (write)

: Node, Function, Data Array Name, Offset, Length, Format, Data1, Data2, … DataN, Checksum, C/R

Response (write)

: Node, Function, Data Array Name, Offset, Length, Format, Data1, Data2, … DataN, Checksum, C/R

Description of fields

Name	Description	Example, Client to FieldServer	Example, FieldServer to Client
Node	Node ID, 1-255. A node address of 0 means not used.	1,	001,
Function	Read or write. R for Read, W for write	R,	W,
Data Array Name	Data Array Name of the data array that the data needs to be read from. Only 16 characters required for match. 16 characters always echoed by the FieldServer.	Joe,	" Joe",
Offset	Offset into data array	12,	0012,
Length	Number of data items to read	3,	03,
Format	Data format. F, B, I, A (Float, Binary, Integer, Ascii)	4. 5.08 21424.324 1, Abcdef -345, 87,	4.000000, 5.080000, 21424.32 1, (binary) " Abcdef" (This is space justified to the length of the request.) -00345, (integer) +00087,
Data	See format		
Checksum	The checksum is a 2 digit decimal sum of the binary values of all characters including he ':', excluding the C/R, modulo 99. If a value of 00 is used, the checksum is ignored and parity error detection is relied on.	98	98

Example. Simplest read from data array in FieldServer

Poll

: R,DA1,0,1,I C/R

 (Note station number is left out, and so is the checksum, also additional ignored spaces).

Response

:000,R,   DA1,000,01,I,+00001,00c/r