



Driver Version:	1.01
Document Revision:	1

## FieldServer Driver - Ethernet FS-8704-03 Modbus TCP

### Description

The Modbus TCP driver allows the FieldServer to transfer data to and from devices over Ethernet using Modbus/TCP protocol. The FieldServer can emulate either a Server or Client. Up to 200 simultaneous Modbus connections are possible.

The information that follows describes how to expand upon the factory defaults provided in the configuration files included with the FieldServer.

There are various register mapping models being followed by various vendors  
To cover all these models FieldServer uses the following three Models

- **Modicon\_5digit** – Use this format where addresses are defined in 0xxxx, 1xxxx, 3xxxx or 4xxxx format. A maximum of 9999 registers can be mapped of each type. This is FieldServer driver's default format.
- **ADU** –Application Data Unit address. Use this format where addresses of each type are defined in the range 1-65536
- **PDU** –Protocol Data unit address. Use this format where addresses of each type are defined in the range 0-65535.

The key difference between ADU and PDU is for example if Address\_Type is ADU and address is 1, the driver will poll for register 0. If Address\_Type is PDU, the driver will poll for address 1.

Note 1: If vendor document shows addresses in extended Modicon (i.e. 6 digit) format like 4xxxxx then consider these addresses as xxxxx (just omit the first digit) and use either ADU or PDU

Note 2: The purpose of providing 3 different ways of addressing the Modbus registers is to allow the user to choose the addressing system most compatible with the address list being used. At the protocol level, the same protocol specification is used for all three with the exception of the limited address range for Modicon\_5digit

Fieldserver Mode	Nodes	Comments
Client	1	Only 1 client node allowed on Multidrop systems
Server	255	Actual electrical loading may reduce number of usable server nodes



## Formal Driver Type

Ethernet  
Client or Server

## Compatibility Matrix

FieldServer Model	Compatible with this driver
FS-x2010	Yes
FS-x2011	Yes
FS-x40	Yes

## Connection Information

**Connection type:** Ethernet  
**Ethernet Speeds Supported** 10Base-T, 100Base-T<sup>1</sup>

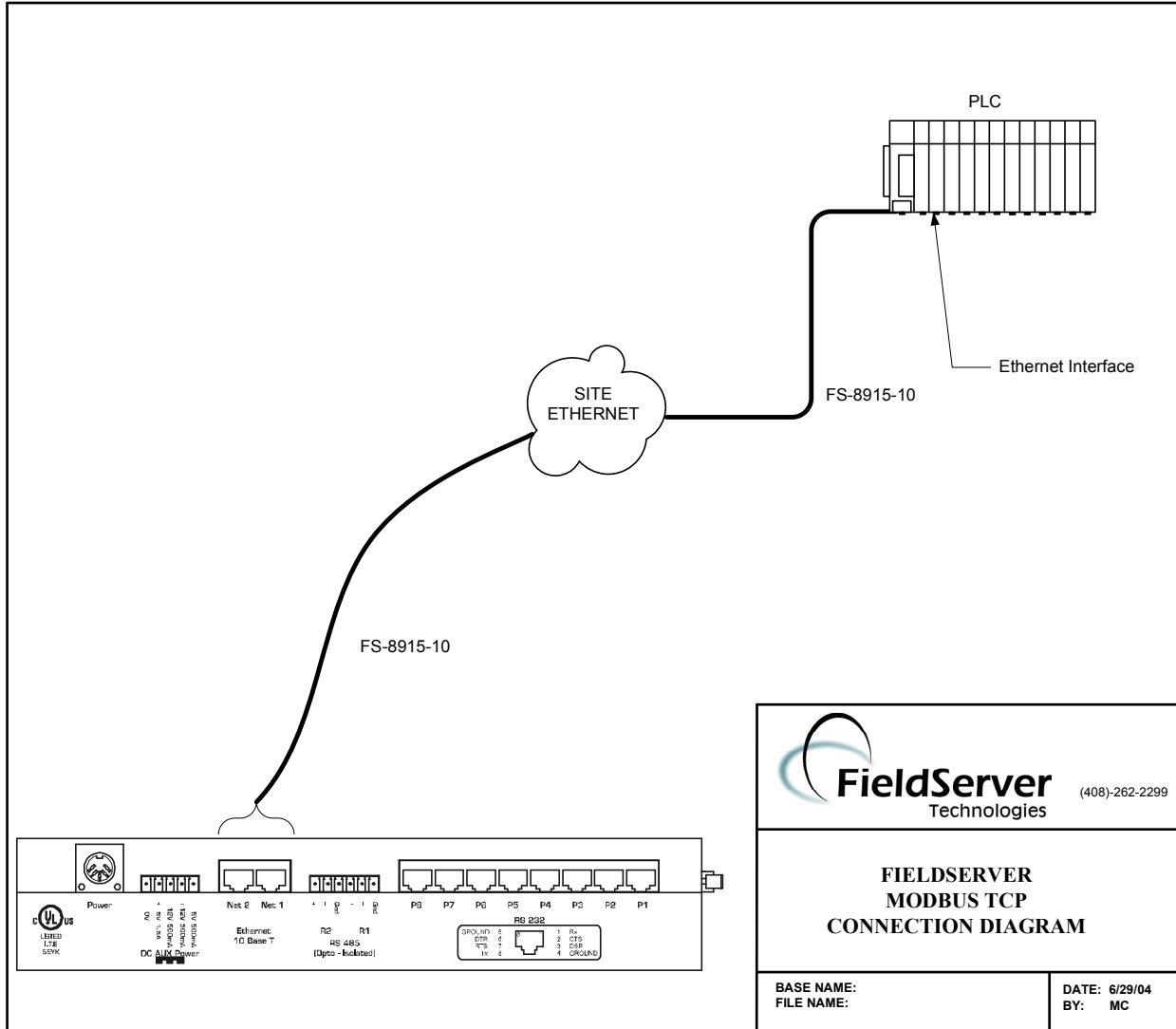
## Devices tested

Device	Tested (FACTORY, SITE)
Quantum PLCs	Customer
Fix Intellution	Factory
Wonderware Intouch	Factory
GE Simplicity	Customer
Others	Please contact Factory

<sup>1</sup> Not all FieldServer models support 100BaseT. Consult the appropriate instruction manual for details of the Ethernet speed supported by specific hardware.



Connection configurations



FieldServer Technologies (408)-262-2299

**FIELDSEVER  
MODBUS TCP  
CONNECTION DIAGRAM**

BASE NAME:	DATE: 6/29/04
FILE NAME:	BY: MC



**Communications functions - Supported functions at a glance:**

**Data Types Supported**

<b>Command</b>	<b>Description</b>
01	Read Discrete Output Status (0xxxx)
02	Read Discrete Input Status (1xxxx)
03	Read Output Registers (4xxxx)
04	Read Input Registers (3xxxx)
05	Force Single Coil (0xxxx)
06	Preset Single Register (4xxxx)
15	Force Multiple Coils (0xxxx)
16	Preset Multiple Registers (4xxxx)
EX	Exception Status
FF	FIFO

<b>Data Type</b>	<b>Comments</b>
ASCII	8-bit character
Digital	Digital
Float	32-bit IEEE floating point
Long	Unsigned 32-bit integer
Signed	Signed 16-bit integer
Slong	Signed 32-bit integer
Unsigned	Unsigned 16-bit integer



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