Fuji Electric

Ethernet Module Modbus TCP/IP ERW 700

Operating Manual

Ethernet

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ERW 700 Ethernet module

Version of: 2013-09-30

Changes
2011/11/30:
- Modbus TCP/IP added

2013/09/30:
- Standard Module removed

Contents

1 General

1.1 General information about Ethernet

Ethernet is a technology for wired data network that was originally designed for local area networks (LAN) and is therefore also referred to as a LAN technology. It enables the exchange of data in the form of data packets between in a local area network (LAN) connected devices (computers, printers and the like). Ethernet includes specifications for cable types and connector types as well as for transmission (signals at the physical layer, packet formats). Ethernet has largely replaced competing wired LAN technologies. Ethernet is the basis for network protocols such as Form TCP/IP.

1.2 Connecting the flow computer

The flow computer has a serial port (RS232), which supports the Modbus ASCII and Modbus RTU protocol. To connect the computer to an Ethernet a module is used, which automatically handles the Ethernet protocol and passes the data transparently to the serial port. On the other side also a network adapter must be available and a corresponding driver software (virtual COM port, Winsock), which allows the application software (eg. METROKON) a transparent access. The tight tolerances of Modbus RTU can’t be met; therefore Modbus ASCII should be used.

To support the Modbus TCP/IP, a special Ethernet module is used; this manages the Ethernet protocol independently and converts the data from Modbus TCP/IP to Modbus ASCII.

2 Installation

2.1 Documentation

To connect the computer to the Ethernet a XPort module from LANTRONIX is used. Detailed information about the module can be found on the website of www.LANTRONIX.com

Documents at LANTRONIX (as of 7/2010)

XPort Quick Start Guide
XPort User Guide

2.2 Preparation

Prior to installation you should contact the IT department. You need the allowed network settings for the module. If necessary, you may also need the support of the IT department to install the PC software.

Needed:

- IP Address
- Subnet Mask
- Gateway

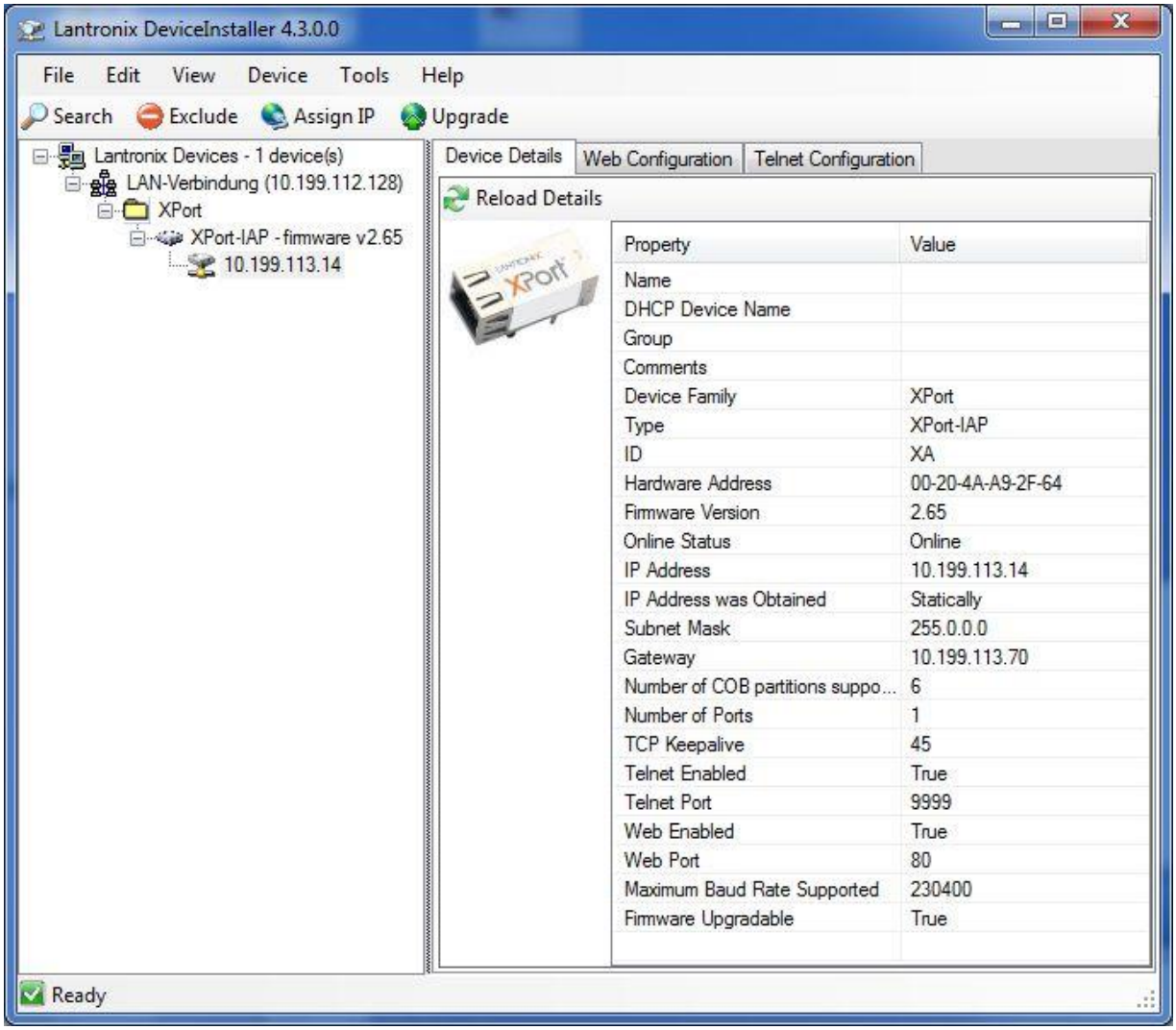
To transmit the parameters to the network module, there are various ways. We recommend using the software LANTRONIX "Device Installer". Other methods are described in the XPort User Guide.

To install the software run the setup program and follow the instructions.

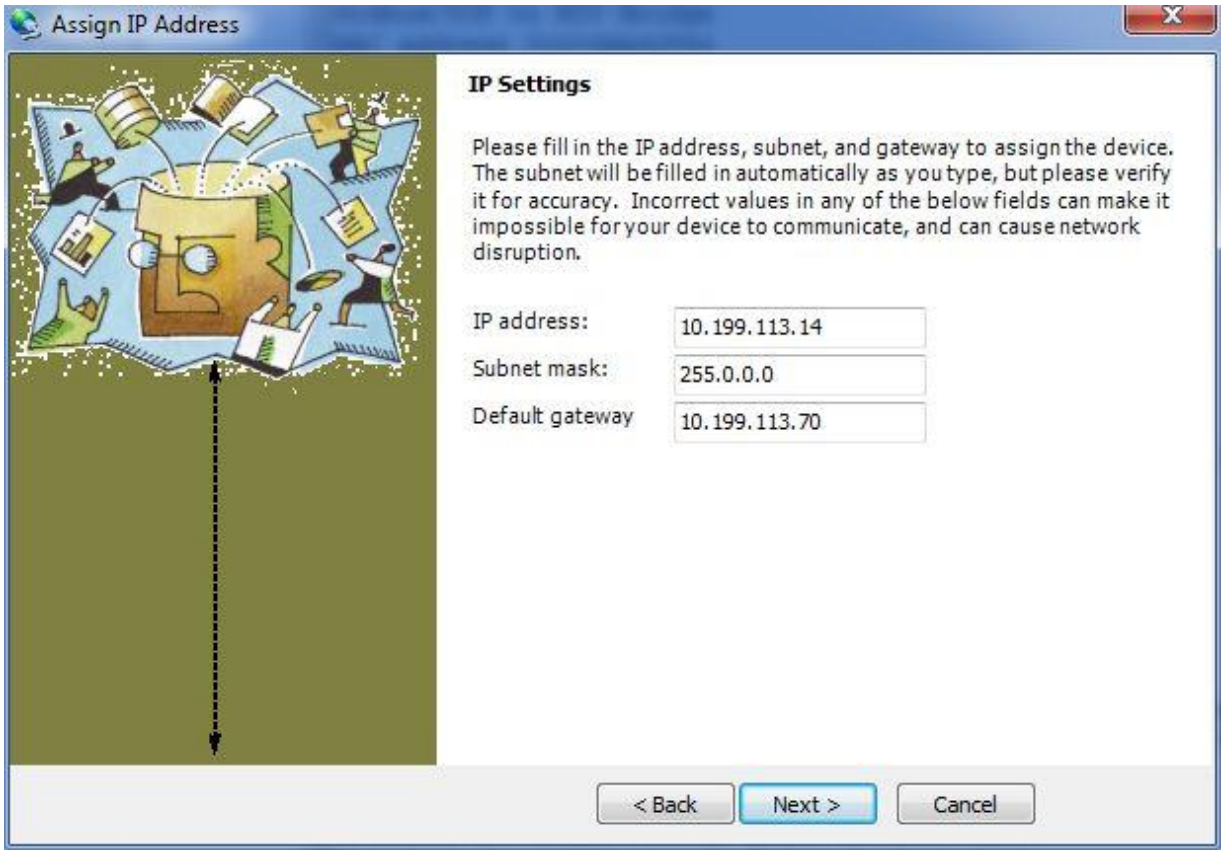
Connect the XPort with your network or to your PC directly (cross-over cable needed).

2.3 Setup the Modbus TCP/IP module

Start the software Device Installer and search for XPort devices.



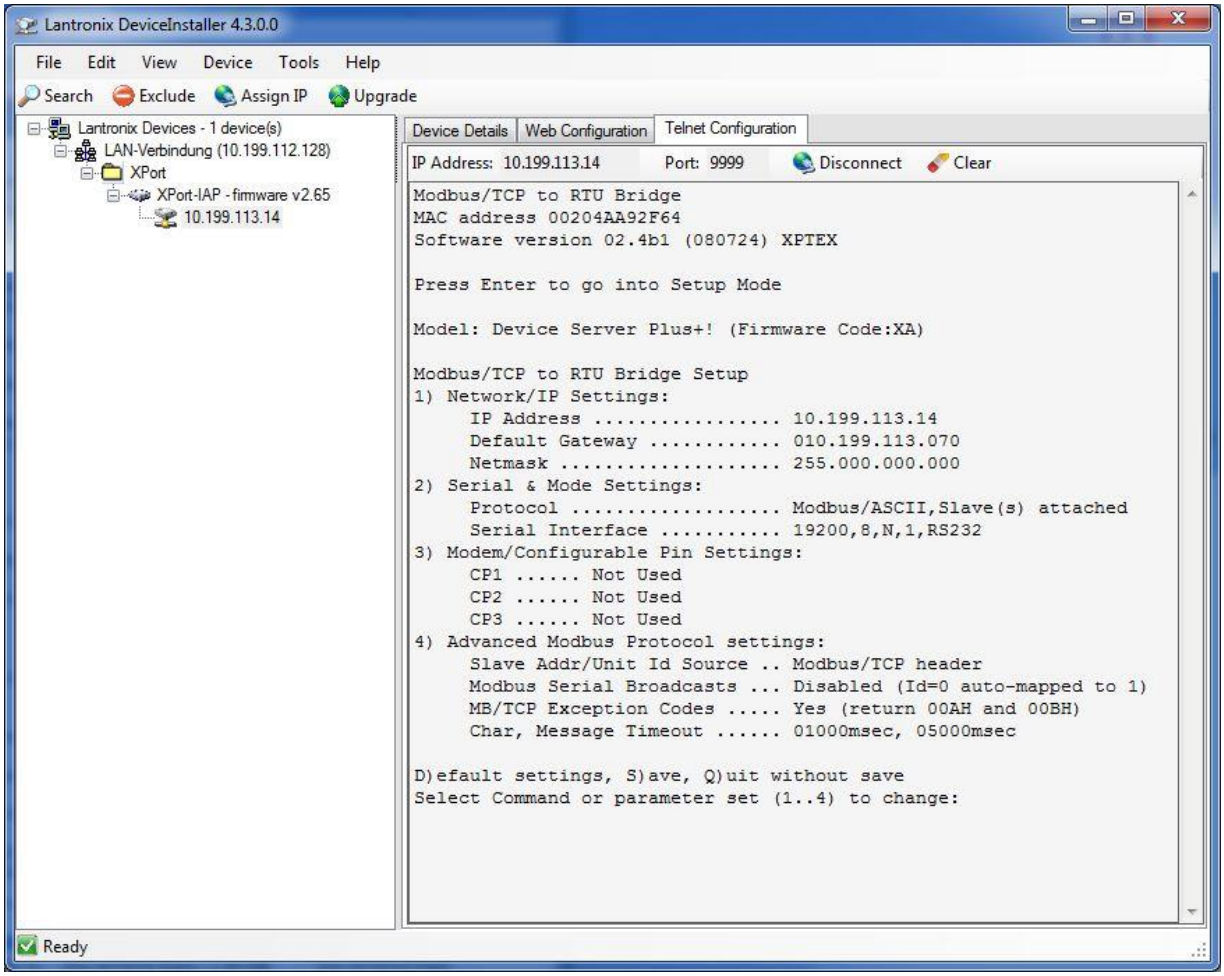
Assign IP address, subnet mask and default gateway.



Setup the XPort module using Telnet

Changed from the factory setting you should adjust the following parameters:

- Protocol: Modbus/ASCII, Slave(s) attached
- Serial Interface: 19200, 8, N, 1, RS232



3 Technical data

3.1 Modbus via Ethernet

Communication protocol	Modbus ASCII
Connection	Ethernet
Galvanic Isolation	Yes
Baud rate Bit / s	19200
Date bits	8
Parity	No
Physical layer	Ethernet

3.2 XPort module

The XPort module is available in 2 versions. The standard version allows for transparent data transmission via a virtual COM port. The second version supports the Modbus TCP/IP protocol.

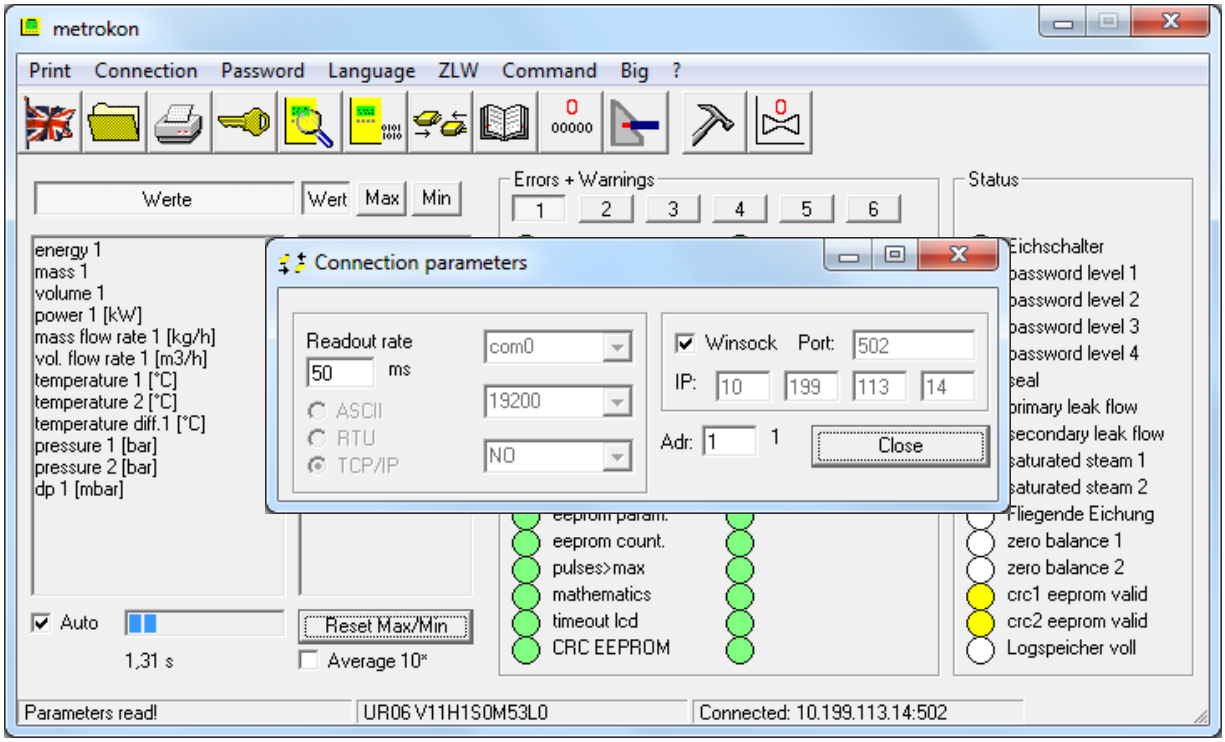
Labeling of the XPort modules:
The labeling may vary depending on the delivery lot. Current information can be found on the homepage of Lantronix.

Model	Part Number	Description
XPort XE	XP1001000-03R (04R)	XPort RoHS Extended Temperature
	XP1001001-03R (04R)	XPort RoHS Commercial Temperature
	XP1001000M-03R (04R)	XPort XE RoHS Extended Temperature, **Modbus**
XPort SE	XP1002000-03R (04R)	XPort RoHS Extended Temperature, with Encryption
	XP1002001-03R (04R)	XPort RoHS Commercial Temperature, with Encryption

4 Metrokon via Winsock

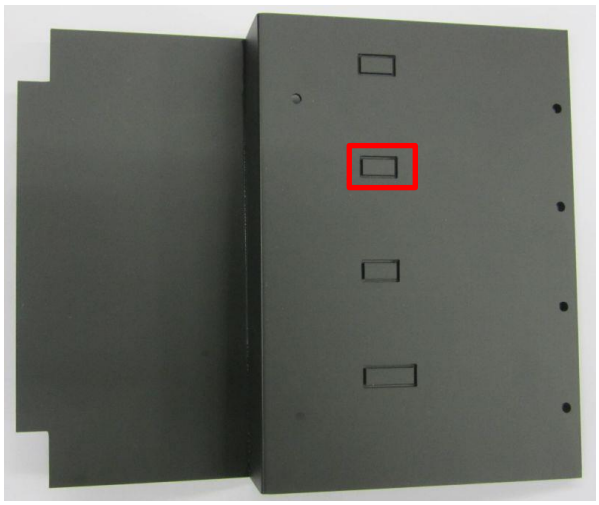
The operation, configuration and service software "metrokon" provides access to the flow computer through Winsock and Modbus TCP/IP.
The IP address and the port number must be set and Winsock must be enabled.

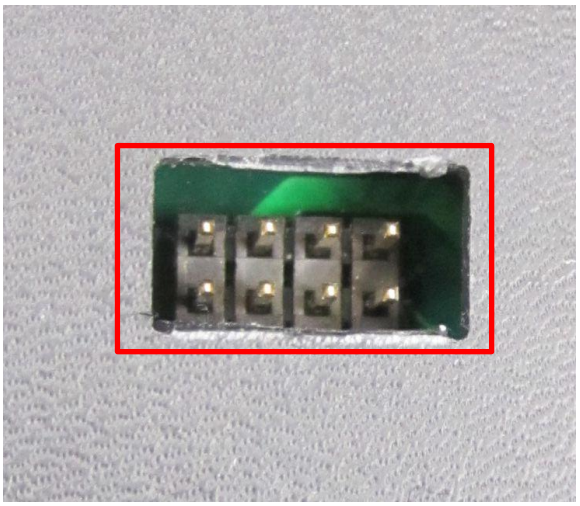
Connection parameters for Modbus TCP/IP.
Default port for Modbus TCP/IP is 502 and can't be changed.

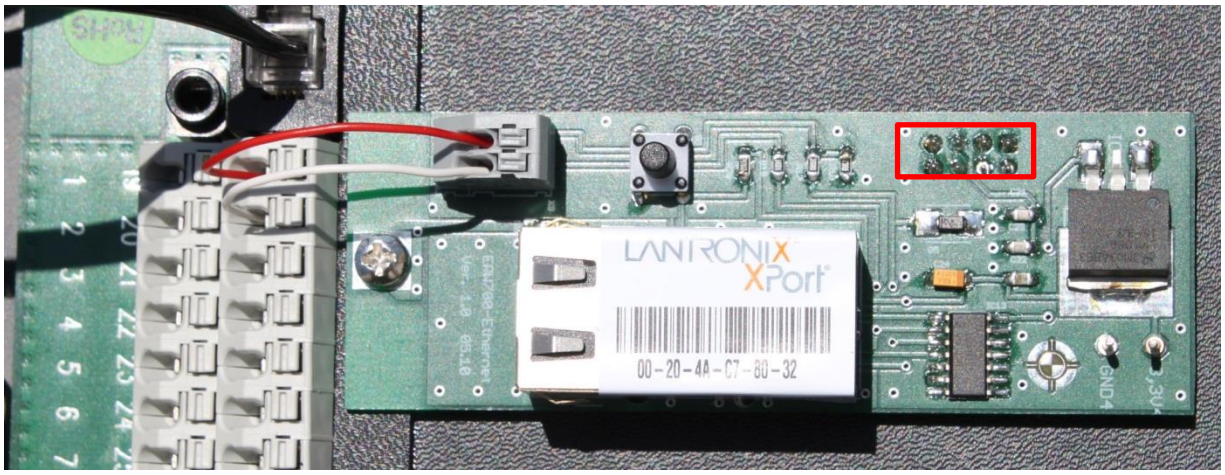


5 Assembling the Ethernet module

The module uses the serial interface (RS232) and hence the test connector on the motherboard. To configure the ERW700 the test plug can then be used on the display. The cover at the proposed site must be broken for assembly.







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