PLC-ANALYZER pro 6

PLC-Logic analysis in no time

Driver Addendum

PLC-driver

Jetter

JetControl / DELTA / NANO

Ethernet TCP-IP / Serial / Jetway / PC-PPLC

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PLC-ANALYZER pro **6 - Driver Addendum**

Jetter JetControl / Delta / Nano - Serial / Jetway / PC-PPLC / TCP/IP

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For references, suggestions and improvement suggestions we are always grateful. Please send these to AUTEM.

1st Edition 2022

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Signal source

Jetter JetControl / Delta / Nano

This driver addendum describes the particularities of the following PLC drivers and gives you hints on using them.

- Jetter JetControl / Delta / Nano - Ethernet TCP/IP
- Jetter JetControl / DELTA / NANO - Serial / Jetway / PC-PPLC

„Jetter JetControl / DELTA / NANO - Serial / Jetway / PC-PPLC“ makes it possible to acquire PLC signals via the programming interface of the PLC as well as via the automation networks Jetway and PC-PPLC. „Jetter JetControl - Ethernet TCP/IP” makes it possible to acquire PLC signals via Ethernet (TCP/IP).

It is important that you read through the driver addendum before using a PLC driver. Please pay attention to the WARNINGS that advise you on possible dangers when using PLC-ANALYZER pro.

> **!** **WARNING**
>
> Errors that may occur in the automated facility, endangering humans or causing large-scale material damage, must be prevented by additional precautions. These precautions (e.g. independent limit monitors, mechanical interlocks) must guarantee safe operation, even in case of dangerous errors.

Installation

The PLC driver can be added to the project as a new signal source. If the driver you want is not yet in the list of available signal sources, you must first activate the license for the PLC-driver with the AUTEM LicenseManager on your computer.

Installing additional hardware

If you have already connected your PC via JetSym with the PLC, then you normally must do nothing else.

Otherwise connect via serial interface or connect your PC with the TCP/IP network to which the PLC is connected.

Installing additional software

No software is required in addition to the PLC-ANALYZER pro basic module and the PLC driver.

Configuration

Open driver settings to set important parameters for data recording. If you have added the driver to the project several times, you can set the properties individually for each individual driver.

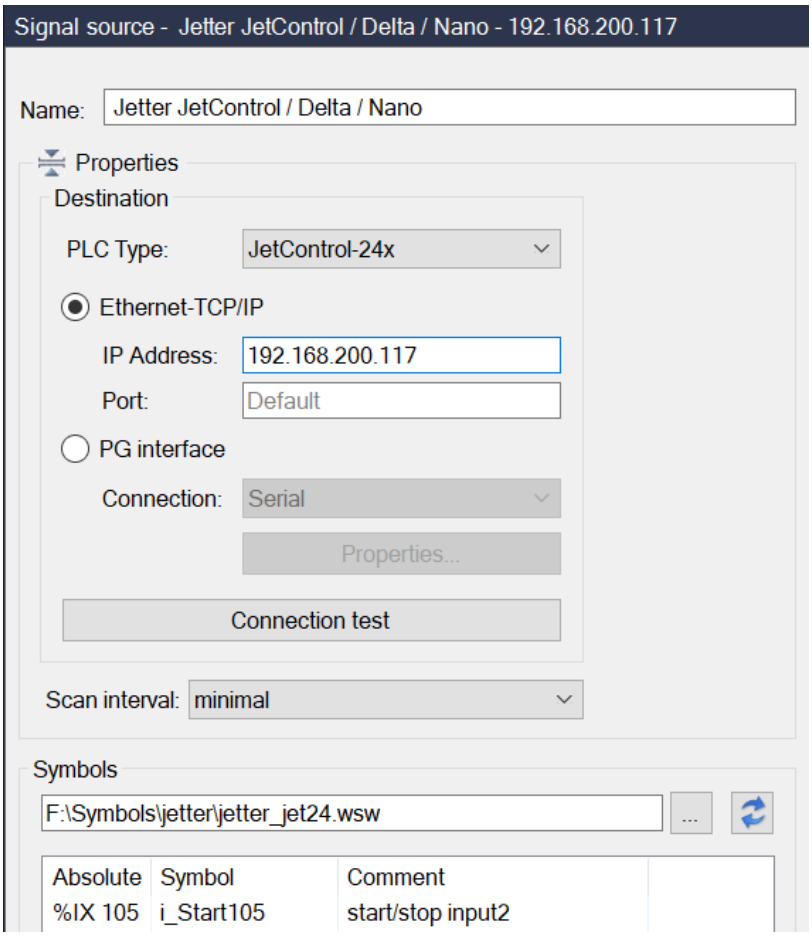

Fig. 1-1 Settings Jetter

First enter a meaningful name. Then enter the *IP-Adresse* of the CPU. Press *Connection test* to check, whether a connection to the PLC can be established.Then set the PLC parameters under *Destination.*

Choose *PLC Type* and set the *connection*. If you use the Ethernet-TCP/IP-driver set the *IP Address* of the PLC. If you used the programming software JetSym to set a specific port number TCP/IP communication, enter that one under *Port*. Otherwise choose „Default“. If you use a serial connection, insert under *Properties* the specific parameters for the connection.

Press *Connection test* to check, whether a connection to the PLC can be established.

Under *Scan interval* you specify the time interval at which measured values are read out from the PLC. A longer sampling interval can be selected for signal paths that are not time-critical, e. g. temperature. As a result, the generated signal files become smaller.

Under *Symbols you* select a symbol file, to make the symbols of this file available for address selection. A selected symbol file makes it possible to use symbolic identifiers when entering addresses. In addition to the absolute address, the symbolic identifier and comment are also displayed and stored in a signal- or project file. After setting the communication properties, add the PLC signals to be recorded.

Data acquistion

Supported PLC models and CPUs

The following models are supported:

JetControl64x, JetControl24x, DELTA, NANO A, NANO B, NANO C, NANO D, PASE-E+ and PC-PPLC.

Not listed automation instruments and CPUs of the Jetter-family are normally compatible, but not explicit tested for it.

Recordable PLC addresses

The following table shows the addresses possible and the appropriate syntax:

Syntax	Address type	Example
%IX x	Input bit x	%IX 35
%QX x	Output bit x	%QX 107
%MX x	Flag bit x	%MX 55
%XL x.z	Register bit z of register x	%XL 42.12
%VL x	Register (32 bit double word)	%VL 1234

Table 1-1 Address syntax Jetter

Number of recordable addresses

A maximum of 16 million addresses can be acquired from up to 250 signal sources.

Time behaviour and particularities

The intervals between scan transfers from the Jetter-PLC to the computer depend on following items:

- PLC-Typ
- Kind of the and speed of the data transfer
- Quantitiy and combination of the required addresses. Transfer blocks will be created from the requried addresses. Each block causes additional time.

If you use a JetControl 24x via Ethernet TCP/IP, the scan interval for one register is nearly 2 ms, i. e. if the cycle time is > 2 ms you get a scan for each cycle. If the PLC cycle time is larger, the data transfer is synchronizing with the PLC cycle. For a shorter cycle time the computer does not obtain a scan for each cycle, resulting in a partial loss of information. This loss can be compensated by repeated measurements of the interesting signals.

The scan distance will increase by nearly 0.2 ms for each register. If you record more than one register a block will be created beginning with the lowest address up to the highest address. E.g. if you want to record %VL100, %VL110 and %VL114, a block will be 15 register (%VL100 bis %VL114). The scan distance will increase by about 3 ms.

Recording bit addresses increases the scan distance for each bit address nearly 2 ms.

The following table shows typical approx. scan times:

Required data	Serial - 9600 Baud	TCP/IP
1 Register	26 ms	2 ms
10 Input bit and 10 Output bit	320 ms	40 ms
50 Register	300 ms	20 ms

Table 1-2 Scan times Jetter JetControl 24x

There is a minimal influence on the cycle time of the PLC. The more addresses are recorded the longer the cycle time will be. This is the same effect using the variable monitoring of the programming software JetSym.