PLC-ANALYZER pro 6

PLC-Logic analysis in no time

Driver Addendum

PLC-driver

Siemens LOGO!

Ethernet TCP/IP / PG-Interface

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

Siemens LOGO! - Ethernet TCP/IP / programming interface

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

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Signal source

Siemens LOGO!

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

- Siemens LOGO! – Ethernet TCP/IP / programming interface

With the PLC driver Siemens LOGO! – Ethernet TCP/IP / programming interface PLC signals can be acquired via Industrial Ethernet (TCP/IP) or through the serial communication port of the PLC.

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 with the LOGO! using LOGO! (USB) PC cable or an Ethernet TCP/IP connection, usually nothing else must be done. Otherwise establish this connection.

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.

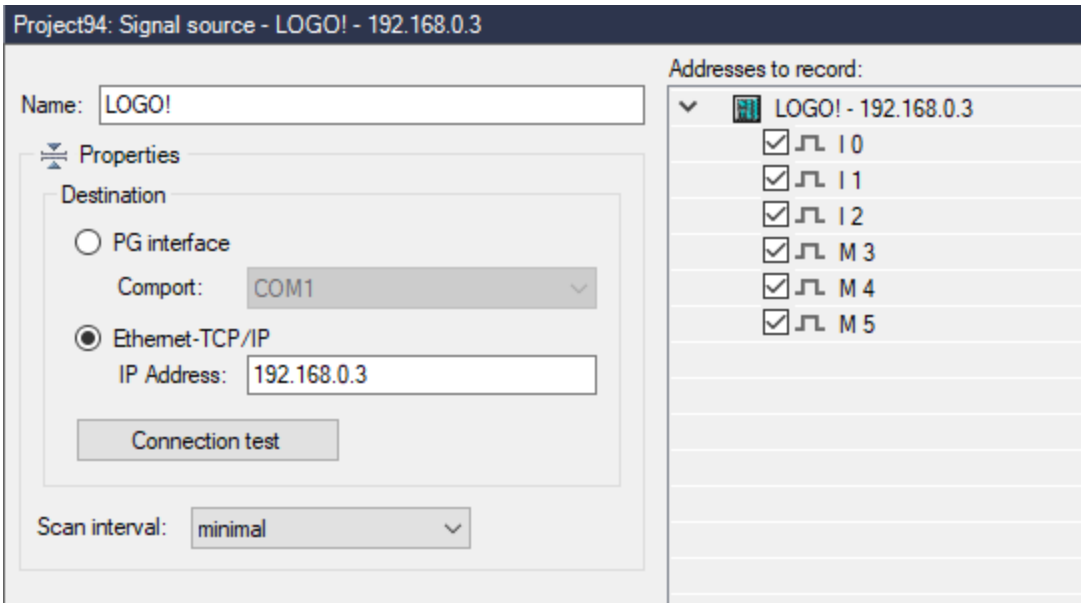

Fig. 1-1 Settings Siemens LOGO!

Choose a meaningful *Name* for the driver first, then specify under *Destination*, if you want to establish a connection via the *PG interface* or via an *Ethernet TCP/IP* connection. For a serial connection select the *comport* (serial interface) of the PC, which is connected by a cable to the PLC. If you want to use an Ethernet TCP/IP connection, enter the *IP-Address* of the CPU. 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.

After setting the communication properties, add the PLC signals to be recorded.

Data acquistion

Supported PLC models and CPUs

All Siemens LOGO! PLCs in version “0BA4” and higher are supported. LOGO! PLCs with version “0BA7” and higher supports data acquisition via Ethernet TCP/IP.

Recordable PLC addresses

The following table shows the recordable addresses and the corresponding address syntax:

Syntax	Address type	Example
I x	Input bit x	I 4
Q x	Output bit x	Q 5
M x	Flag bit x	M 12
C x	Cursor key x	C 3
F x	Function key[1] x	F 4
S x	Shift register bit[1] x	S 7
V x.y	Variable memory bit y from byte x	V 3.2
VB x	Variable memory byte x	VB 421
VW x	Variable memory word x	VW 12
VD x	Variable memory double word x	VD 32
AI x	Analog input x	AI 6
AQ x	Analog output x	AQ 4
AM x	Analog flag x	AM 5
B x;TEV	Timer: On-Delay[1] x	B 4;TEV
B x;TAV	Timer: Off-Delay[1] x	B 23;TAV
B x;TEAV	Timer: On-/Off-Delay[1] x	B 11;TEAV
B x;TSEV	Timer: Retentive On-Delay[1] x	B 21;TSEV
B x;TWI	Timer: Wiping relay/pulse output[1] x	B 7;TWI
B x;TWF	Timer: Edge triggered wiping relay[1] x	B 8;TWF
B x;TIG	Timer: Asynchronous pulse generator[1] x	B 1;TIG
B x;TZG	Timer: Random generator[1] x	B 5;TZG
B x;TTS	Timer: Stairway lighting switch[1] x	B 22;TTS
B x;TKS	Timer: Multiple function switch[1] x	B 1;TKS
B x;ZVR	Counter: Up/Down counter[1] x	B 5;ZVR
B x;ZBS	Counter: Hours counter[1] x	B 17;ZBS
B x;AK	Analog comparator[1] x	B 19;AK
B x;AMUX	Analog multiplexer[1] x	B 5;AMUX
B x;AR	Analog ramp[1] x	B 11;AR
B x;API	PI controller[1] x	B 2;API

Table 1-1 Address-Syntax Siemens LOGO!

[1] These addresses couldn’t recorded via Ethernet TCP/IP directly. Use the programming software LOGO!Soft to map these addresses to the variable memory area (VM)

Number of recordable addresses

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

Time behaviour and particularities

NOTE

Acquiring data with PLC-ANALYZER pro results in a small increase in cycle time in the PLC to the same manner as it happens with programming software in the online-mode.

The intervals between scan transfers from LOGO! PLC to the PC are depending on the following items:

- CPU type
- cycle time of PLC
- number of recorded addresses
- Type of connection

If you use a serial connection, then the data of the inputs and outputs and words, cursor and functions keys are read from the PLC as a block. The scan interval for this block is approximately 190 ms, i.e. for a cycle time of 190 ms there is one scan for each cycle. A longer PLC cycle time results in more than one scan for each 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.

If you record data via Ethernet TCP/IP, the scan interval for one recorded byte is approximately 1 ms and increase only slightly, if more data will be recorded.