PLC-ANALYZER pro 6

PLC-Logic analysis in no time

Driver Addendum

PLC-driver

GE Fanuc

Serie 90/VersaMax/Nano/Micro - programming interface (SNP)

AUTEM
www.autem.de

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

GE Fanuc Series 90 / VersaMax / Nano / Micro - PG interface (SNP)

AUTEM GmbH
Dithmarscher Straße 29
26723 Emden
Germany

+49 4921 9610 0
info@autem.de
www.autem.de

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

1st Edition 2022

Table of Contents

Signal source

GE Fanuc Serie 90 / VersaMax / Nano / Micro

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

- GE Fanuc Serie 90 / VersaMax / Nano / Micro

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 programming unit (or your PC) with a serial cable (RS-485) for programming the Fanuc PLC, then you normally must do nothing else.

Otherwise connect a free COM port (serial connection) of your programming unit (or PC) via RS422/485 converter with the PG interface of the automation device.

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.

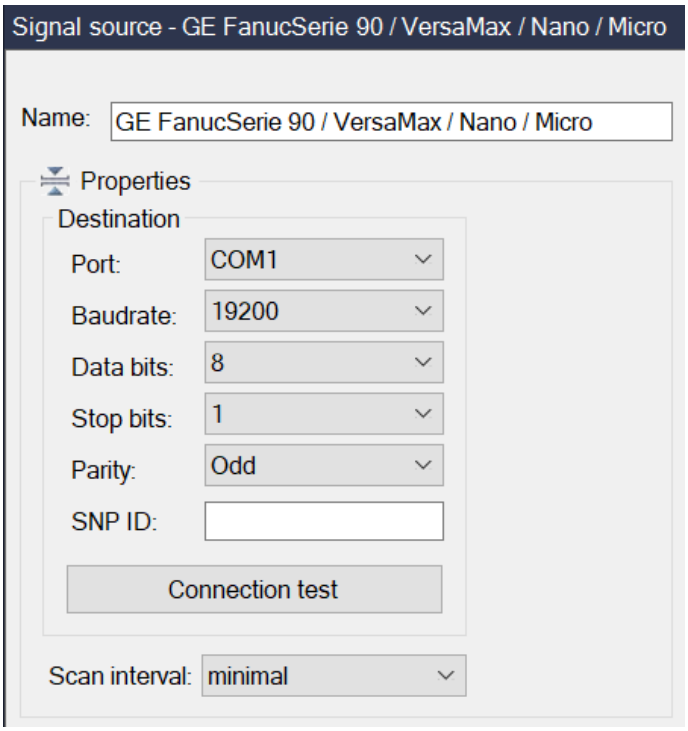

Fig. 1-1 Settings GE Fanuc

First enter a meaningful name. Then select under *Port* the PC COM port, where the connection cable is connected.

Set *Baudrate, Databits, Stopbits* and *Parity.* The parameters have to agree with the attitudes of the PLC.

If the PC is connected with more than one PLC, please set the *SNP ID* of the CPU you want to communicate with. Otherwise you omit this entry.

With *Connection test* you check whether a connection to the PLC can be established with the set parameters.

Scan interval lays down the interval between reading data from the PLC. For time insensitive applications e.g. temperatures a generous probe interval can be chosen. The signal files resulting is smaller.

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

Data acquistion

Supported PLC models and CPUs

The following models of the BOSCH CL family are supported by the driver:

- Fanuc Series 90-70 CPU 731, 732, 771, 772, 780, 781, 782, 788, 789, 914 and 924.
- Fanuc Series 90-30 CPU 311, 321, 313, 323, 331, 341, 351 and 352.
- VersaMax, VersaMax Nano and VersaMax Micro

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

Recordable PLC addresses

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

Syntax	Address type	Example
%Ix	Input bit	%I0001
%Ox	Output bit x	%O0123
%Tx	Temporary value x	%T00014
%Fx	Flag x	%F00454
%SAx	SA-Flag bit x	%SA00112
%SBx	SB-Flag bit x	%SB00432
%SCx	SC-Flag bit x	%SC00119
%Sx	System bit x	%S00921
%Gx	Global flag x	%G00221
%Rx	Register x	%R00234
%AIx	Analog Input x	%AI00124
%AOx	Analog Output x	%AO00003

Table 1-1 Address syntax GE Fanuc

Number of recordable addresses

Up to 100 addresses can be recorded. An address is a bit- or word address.

Time behaviour and particularities

The intervals between scan transfers from the Fanuc-PLC to the computer depend on the speed of the data transfer (baudrate), the set min. of transmit data TXD-T1 and the number of recorded signals.

With the following formula you can approximately calculate the scan intervals using a 19.200 baud connection:

Scan-distance = 53 ms + 6 * TXD-T1 + n * 0,5 ms

n = number of recorded signal bytes or signal words

The following table shows typical approximately scan times for GE Fanuc Series 90-30 for different transmit data (TXD-T1 = 1 ms):

Scandata	9600 Baud	19200 Baud
1 bit	111 ms	59 ms
1 word	112 ms	60 ms
20 bit	121 ms	69 ms
20 words	131 ms	79 ms
100 bit	161 ms	109 ms
100 words	211 ms	159 ms

Table 1-2 Recording time GE Fanuc Series 90-30