PLC-ANALYZER pro 6
PLC-Logic analysis in no time

SIMATIC S7
SIMATIC S5
SINUMERIK
SIMOTION
CoDeSys
Allen-Bradley
TwinCAT
BOSCH Rexroth
SELECTRON
MITSUBISHI
SCHNEIDER
MODICON
PHOENIX
OMRON
FANUC
PILZ
ABB
B&R

S7 TIA Videotrack
CoDeSys
OPC UA
TwinCAT
Allen-Bradley

compatible with
TIA-Portal
SIMATIC
cycle precise
S7-1200 / 1500
optimized data block access

Supports all common PLC systems
uses existing PLC connection
simultaneous recording possible

Failure diagnosis
Long term recording
System documentation
Installation / Service
Predictive maintenance
Condition monitoring
Cycle-time optimisation

BLACKBOX 3

Easy and intuitive to use
Complex failures rapidly analysed

AD_USB-Box®
External measured values via USB

www.autem.de
PLC-ANALYZER pro 6 is a software system for logic analysis and recording of measured values in PLC-controlled facilities. Acquisition, representation and evaluation of PLC signals such as input, output, flags, timer, counter and data of data blocks, is now very easy.

Live display allows the observation of the signal waveform in real time. Analysis and evaluation can already be carried out at the time of recording. In addition to long-term recording, trigger conditions can be specified for the acquisition of particular events. This allows rarely occurring sporadic errors to be specifically recorded for later analysis.

PLC-ANALYZER pro 6 has the decisive advantage of recording process data via standardized PLC interfaces. For example, for SIMATIC S7 signals can be acquired using MPI/PPI, PROFIBUS or TCP/IP PROFINET. All CoDeSys communication paths and many other PLC connections of various manufacturers are supported. A programming device or notebook, that is connected for the purpose of programming the PLC, can be used for recording process data without modification. By means of high-performance PLC drivers (in-house development) the PLC-ANALYZER pro 6 achieves sampling rates, which would not be possible with an OPC-UA-based solution.

The tiresome process of hooking up monitoring cables is now a thing of the past. Cycle-precise recording is attractive because of the complete acquisition of measured values in each PLC cycle. Up to 16 million signals from 250 signal sources can be recorded simultaneously.

PLC-ANALYZER pro 6 simplifies the signal selection by using symbol files or projects of the PLC programming software. Loading a TIA / STEP 7 project makes all settings and variables immediately available.

The Videotrack module provides additional visual support for troubleshooting by video recording synchronous to the PLC signal acquisition. This is a great help for error analysis on machines and systems, since the mechanical situation can be viewed synchronously with the process data using the video frame.

The Virtual HMI module helps to clarify plant accidents when human operators are involved. The subsequent HMI visualization from recorded process data makes it easier to detect possible operating errors.

By using the measurement interface AD_USB-Box external voltage and current signals, which are not available in the PLC, can also be recorded. This is also very helpful in case of the demand of capturing I/Os from PLCs, for which a specific PLC driver is not available.

For a direct PLC-ANALYZER pro 6 integration in the plant, AUTEM offers the ultra compact BLACKBOX. This mini industrial PC allows autarkic process data archiving over long periods of time. Thanks to numerous remote connection possibilities - 4G LTE-Modem, WAN, LAN - the BLACKBOX is perfectly suitable for machine remote service.

PLC-ANALYZER pro 6 is an indispensable tool for PLC software development, construction, installation, maintenance and training.

AUTEM offers a customer-friendly licensing concept (incl. maintenance & support) with primary and additional licenses for the equipment of one or more workstations. For prices and part-numbers please refer to our current price list.
Technical Features

- Pure software solution: No special additional hardware required
- No changes in the PLC program necessary
- Data recording via existing connection to the PLC (Ethernet TCP/IP, serial, Fieldbus, ...)
- High-performance sampling by specific PLC drivers
- Recording of input, output, flag, timer, counter, peripheral, data of data blocks and other PLC variables
- Optimized data blocks [57 1200/1500]: Variables direct readable
- bit-, byte-, word-, double- or quad-word format
- Pseudo signals: generating of virtual signals by [complex] calculation from recorded signals
- Simultaneous acquisition from several PLC systems / also different manufactures (e.g. SIMATIC S7 + CoDeSys)
- Up to 250 signal sources / 16 million PLC signals
- Videotrack: Camera recording synchronous with PLC signal capturing
- Cycle precise recording for different PLC systems
- Supports PC based PLC (e.g. Beckhoff TwinCAT) and PLC simulators (e.g. S7-PLCSIM)
- Recording modes: continuous recording, trigger-, time-controlled
- Enable/Disable of addresses and triggers during recording
- Real-time live display of signals
- Comfortable PLC signal selection for online window by drag & drop
- Analysis of signal data possible while recording
- Highly accurate display of signals with short-term fluctuations of measured values (spikes)
- Comfortable trigger definition by drag & drop
- Trigger on binary and register values with AND/OR/XOR/RS and cascading
- Pre- and post-trigger time freely selectable
- Extensive trigger actions: Notification [E-Mail, SMS, acoustic announcement, pop-up-window], any PC-commands
- Comparing of signal files
- Search function: search for trigger, edge, bit pattern, register values, time and notes - even across several signal files
- Time difference measurement and automatic bit measurement
- Relative and absolute data-time
- Flexible signal scaling and normalization - e.g. conversion in physical units or min-max-adjustment of measured value
- Number format: decimal, hexadecimal, binary, ASCII, REAL [floating point], S5-TIME, TIME, DATE, DATETIME
- Use of symbolic address names and comments from PLC programming software - e.g. TIA-Portal
- Projects for pre-configuring and automating data acquisition runs
- Extreme robust and compact file format
- Multiple data targets at the same time: simultaneous writing of e.g. signal file and CSV file
- Export of signal files: PDF, CSV, Excel, HTML, graphic formats
- Import of CSV files: visualisation of other measure values
- Printing of signal files and measurement configuration
- Multilingual user interface: German / English
- System requirements: PC with 1.2 GHz, 2 GB RAM, 2 GB available hard disk space, Microsoft® Windows 7/8/10 [32/64-Bit]

AD_USB-Box® [optional]: Recording of external voltage and current with current external box connected via USB

Videotrack module [optional]: The Videotrack module enables video recording time-synchronous to PLC signal capturing.

Virtual HMI module [optional]: Subsequent HMI visualization from recorded process data

BLACKBOX [optional]: Ultra-compact industrial PC for control cabinet; long-term process data recording, monitoring, remote maintenance

PLC-Driver

Siemens SIMATIC S7 / TIA *
Ethernet TCP/IP / PROFINET [cycle precise**]

Siemens SIMATIC S7 / TIA *
MPI/PP/ + PROFIBUS [cycle precise**]

Siemens SIMATIC S5 / SINUMERIK
Progr. Interface [cycle precise**] / Ethernet TCP/IP

Siemens LOGO!
Programming interface / Ethernet TCP/IP

Siemens SIMOTION C/P/D
MPI / PROFIBUS / Ethernet TCP/IP [servo cycle p.]

CoDeSys
Ethernet TCP/IP

BECKHOFF TwinCAT
Recording of TwinCAT-variables

OPC UA
Recording of data from OPC UA servers

B&R
Serial / Ethernet TCP/IP

PILZ PSS / PNOZ
Programming interface

PILZ PSS / PNOZ
Ethernet TCP/IP

Allen-Bradley ControlLogix / PLC / SLC
DF1 / DH+ / DH-485

Allen-Bradley Compact/ControlLogix / PLC / SLC
Ethernet TCP/IP

PHOENIX
Ethernet TCP/IP [cycle precise**]

BOSCH CL
Programming interface [BUP19E]

GE Fanuc Serie 90 / VersaMax / Nano / Micro
Programming interface [SNP]

GE Fanuc CNC / PMC
HSSB / Ethernet TCP/IP

Fanuc R-30i / R-Ji
Ethernet TCP/IP

OMRON C / CV / CS1 / NJ / NX / NY / CJ2
Programming interface [Host Link] / Ethernet TCP/IP

MITSUBISHI MELSEC Q / L / A / FX
Programming interface

MITSUBISHI MELSEC Q / L / A / FX
Ethernet TCP/IP

Schneider Modicon TXS Quantum / Momentum Compact - Modbus I / Modbus Plus

Schneider Modicon TXS Quantum / Momentum Compact - M - Modbus TCP/IP

Schneider Modicon TXS Premium / Atrium Micro / Nano - Uni-Telway / TCP/IP

Schneider AEG TSX A250 / A120 / Micro
Programming interface [KS]

Selectron
Ethernet TCP/IP

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

HITACHI H / EH-150 / Micro-EH
Programming interface / Ethernet TCP/IP

Videotrack module
Software driver for IP / GigE Vision / USB cameras

Virtual HMI module
Subsequent HMI visualization from process data

AD_USB-Box®
USB-Port [recording of ext. voltage and current]

* TIA-Portal compatible, also for SIMATIC C7, M7, SINUMERIK [S7], S400 / x7, XIPA S7 and S7-PLCSIM
** depending on PLC type
Typical fields of application

Diagnosis of sporadic faults
By focused monitoring of relevant signals, the sporadic error can be captured and the associated components are effectively isolated.

Cycle time optimization
The investigation of delay times of a production system, e.g. by exact measurement of acknowledgement signals, supports actions to optimize the machine.

Condition monitoring
The target/actual comparison of the runtime behavior of the system allows to draw conclusions regarding possible failures and serves as a basis for preventive maintenance.

Troubleshooting with video support
With the time-synchronous video track - in addition to the PLC process signals - troubleshooting is meaningful supported in many cases.

Machine documentation
Machine manufacturers and customers can document the runtime behavior of the system down to the finest detail and check or verify specifications.

Warranty questions
The objective measurement and recording of the process signals allows unambiguous clarification of responsibility in warranty issues.