

# PLC-ANALYZER pro 6

PLC-Logic analysis in no time

NEW: Videotrack 

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

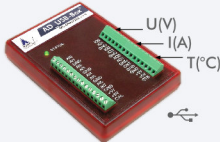
S7

CoDeSys

OPC UA

TwinCAT

Allen-Bradley



AD\_USB-Box<sup>®</sup>  
External measured values via USB

compatible with  
**TIA-Portal**

SIMATIC  
**cycle precise\***

S7-1200 / 1500  
**optimized data block access**

PLC's of different manufacturers  
**also simultaneously recording uses existing PLC connection**

**Failure diagnosis** ✓

**Long term recording** ✓

**System documentation** ✓

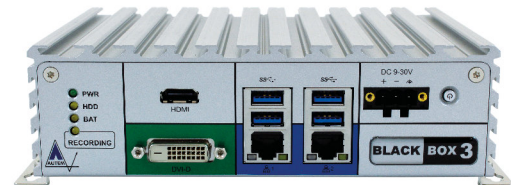
**Installation / Service** ✓

**Predictive maintenance** ✓

**Condition monitoring** ✓

**Cycle-time optimisation** ✓

**BLACKBOX 3**



or

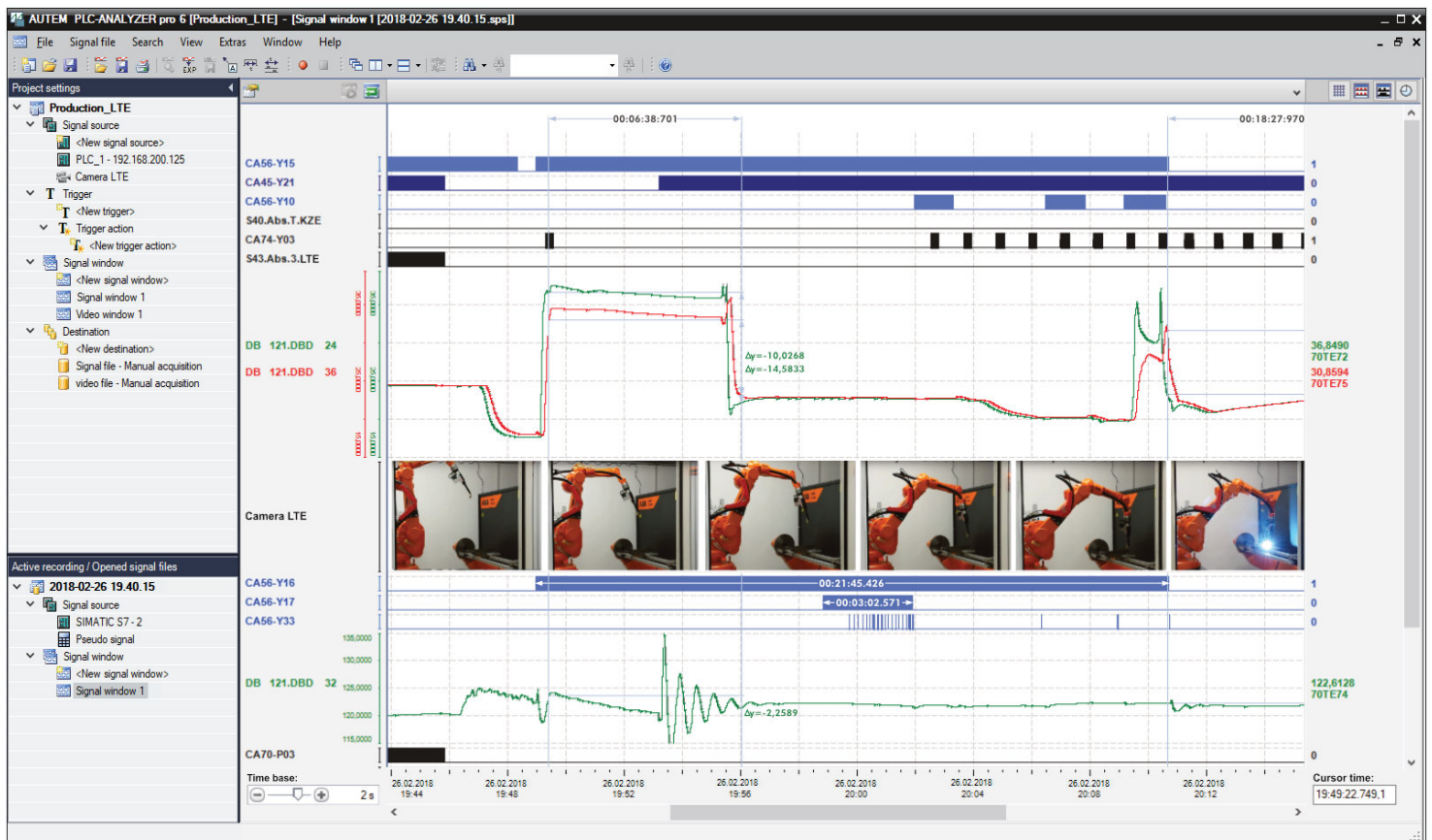
Easy and intuitive to use

Complex failures rapidly analysed



SIMATIC, SIMATIC FIELD PG, SINUMERIK, SIMOTION, LOGO!, S7-PLCSIM, S5, S7, S7-1200, S7-1500, C7, M7, TIA-Portal are trademarks of Siemens AG. All mentioned product- and company names are trademarks of their respective owners. \*depending on PLC type

# PLC-ANALYZER pro 6



## Fields of application

- Failure diagnosis in PLC systems
- Detecting and localizing of sporadic errors
- Analysis and optimization / cycle time reduction
- Long-term recording of measured values
- QA and documentation, TPM/OEE, EU-Machinery directive
- Installation, development, maintenance

**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, 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 a 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.

It is possible to capture PLC signals synchronously with a video camera (**Videotrack module**).

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.

**PLC-ANALYZER pro 6** makes it easier for the signal selection by supporting symbolic address names and comments from the PLC programming software, such as STEP7 or TIA-Portal. Recurring measurement sequences can be saved and automated by means of "projects".

For a direct integration of **PLC-ANALYZER pro 6** in the facility, 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 - (3G/4G) Modem, WAN, LAN - the **BLACKBOX** is ideally suitable for machine remote service.

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

AUTEM offers an inexpensive licensing model with primary and additional licenses for one or more than one workstations. For prices and part-numbers please refer to our current price list.

# PLC-ANALYZER pro 6

## Technical Features

- Pure software solution: No special additional hardware required
- No need to make any changes in the PLC program
- 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 (S7 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 external box connected via USB
- **Videotrack module** (optional): The Videotrack module enables video recording time-synchronous to PLC signal capturing.
- **BLACKBOX** (optional): Ultra-compact industrial PC for control cabinet; long-term process data recording, monitoring, remote maintenance

## PLC-Driver



### Siemens SIMATIC S7 \*

Ethernet TCP/IP / PROFINET (cycle precise\*\*)

### Siemens SIMATIC S7 \*

MPI/PPI + 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 (BUEP19E)

### GE Fanuc Serie 90 / VersaMax / Nano / Micro

Programming interface (SNP)

### GE Fanuc CNC / PMC

HSSB / Ethernet TCP/IP

### Fanuc R-30i / R-J3i

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 TSX Quantum / Momentum

Compact - Modbus I / Modbus Plus

### Schneider Modicon TSX Quantum / Momentum

Compact / M - Modbus TCP/IP

### Schneider Modicon TSX 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/USB cameras

### AUTEM AD\_USB-Box®

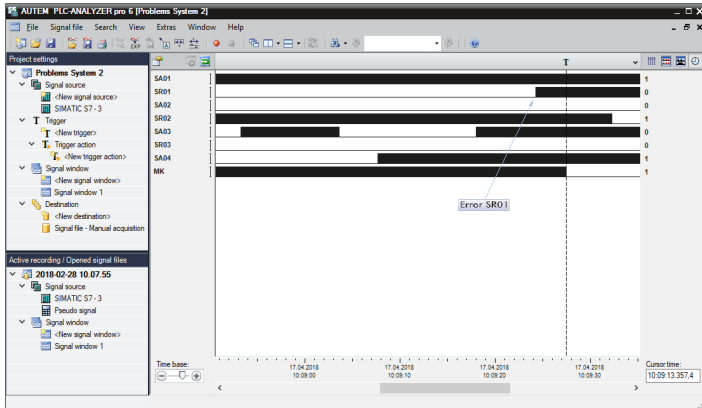
USB-Port (recording of ext. voltage and current)

\* TIA-Portal compatible, also for SIMATIC C7, M7, SINUMERIK (S7), SAIA xx7, VIPA S7 and S7-PLCSIM

\*\* depending on PLC type

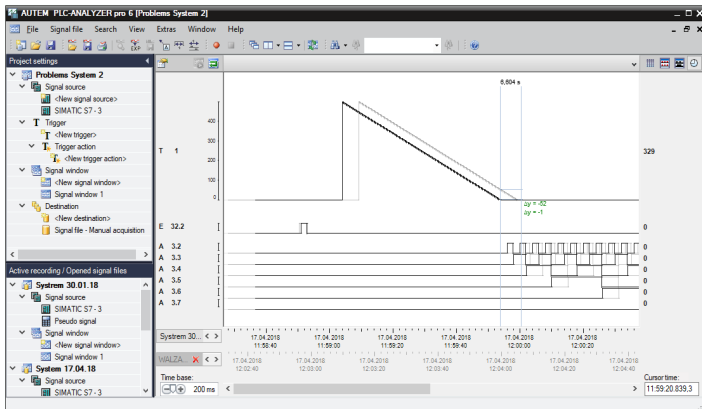
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## Typical fields of application



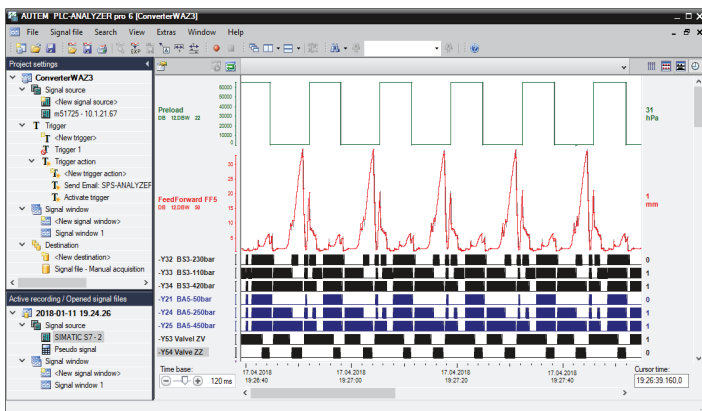
## Diagnosis of sporadic faults

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



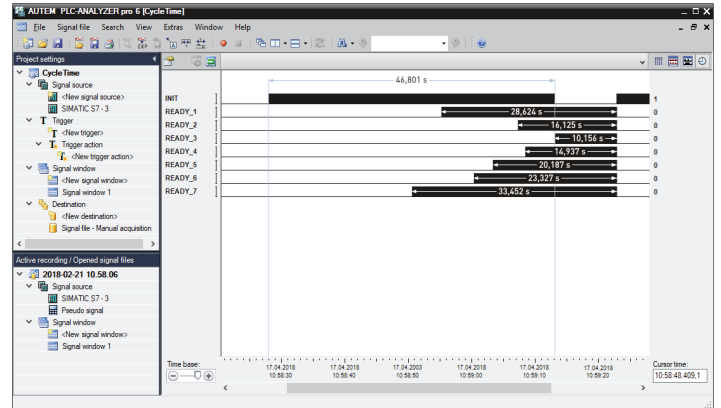
## Condition monitoring

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.



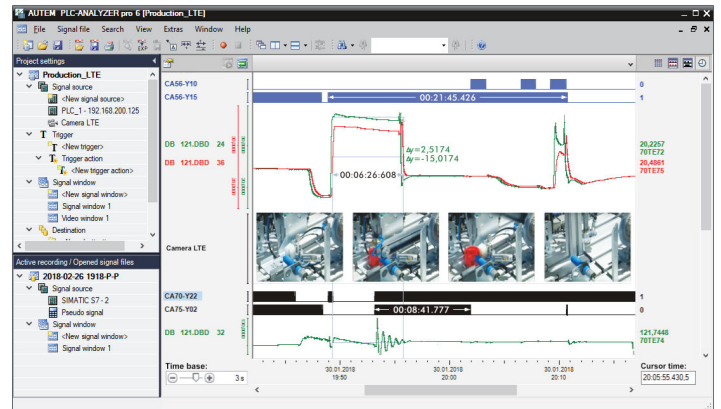
## Machine documentation

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



## 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.



## Troubleshooting with video support

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



## Warranty questions

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