

BLACKBOX 4 Edge with PLC-ANALYZER pro 6

PLC process data recording,
monitoring and remote maintenance



Fields of application

- Long term recording
- Failure diagnosis
- Objective control of operating parameters
- Warranty: incorruptible clarification
- Clarification of plant shutdowns
- Condition monitoring
- Quality assurance
- Batch control
- Remote maintenance

With the **BLACKBOX 4 Edge**, AUTEM offers an ultra-compact system for PLC process data recording, monitoring and remote maintenance of machines and systems based on the **PLC-ANALYZER pro 6**. The industrial PC can be easily integrated thanks to its small dimensions.

The **BLACKBOX 4 Edge** can continuously record and archive process data over a very long period of time. In addition, video data can also be recorded synchronously with the PLC process data (**Videotrack module**).

After power-on, the **BLACKBOX 4 Edge** automatically starts signal recording and then runs autonomously.

For manufacturers and users of machines and plants this form of continuous recording is very advantageous. It is used in particular for troubleshooting and for documenting the operating behaviour and running of the plant. Maintenance, construction and quality assurance receive valuable information.

The stored data also serve as incorruptible evidence in the investigation of causes and analysis of malfunctions and the clarification of warranty issues.

Ideally, the machine manufacturer equips his system with **BLACKBOX 4 Edge** right from the factory in order to have immediate access to all important process data in the event of a fault.

The **BLACKBOX 4 Edge** can also be used as a condition monitoring system for predictive maintenance.

Communication with the PLC is via the paths supported by the **PLC-ANALYZER pro 6**, e.g. TCP/IP PROFINET, PROFIBUS, PG interface, Modbus+ or OPC UA.

Process data can be acquired simultaneously from several PLCs.

The optionally available **AD_USB-Box®** also allows the acquisition of external electrical measured values that are not available in the PLC.

The **BLACKBOX 4 Edge** can be installed permanently or temporarily in the system. Locally or remotely, you can access the recorded data for further analysis at any time - even during ongoing recording.

The **BLACKBOX 4 Edge** is optimized for self-sufficient operation. An integrated watchdog ensures that the system automatically reboots in case of recording errors and continues recording. The operating status can be queried externally via potential-free contacts ("POWER-INDICATOR", "LIFE-INDICATOR", "ACTION-CONTACT"). Status messages can be transmitted automatically via SMS or e-mail.

The autarkic operation allows the uninterrupted signal recording over several years. When the SSD memory capacity is reached, the oldest signal file is automatically deleted to create storage space for new signal data (FIFO).

If required, a keyboard, mouse and display can be connected to the **BLACKBOX 4 Edge**. The multi connective system has connections for 2 x USB 3.0 and 2 x USB 2.0 as well as 2 x LAN port (Gigabit Ethernet). In addition, 2 x RS232 and 2 x DP display port are on board. Remote access via LAN connection from any PC is also particularly elegant. The necessary remote software and a suitable 3 m patch cable for direct connection are included in delivery. For remote access via the mobile network, the **BLACKBOX 4 Edge** can be equipped with an internal 4G LTE modem.

The **BLACKBOX 4 Edge** requires 24 Volt DC. The included power supply unit also allows operation at 100-240 Volt AC

The system is delivered ready-to-use with the software license **PLC-ANALYZER pro 6** for **BLACKBOX 4 Edge** (basic module + PLC driver). Bundles for different PLC systems are available.



✓ compact ✓ autarkic ✓ incorruptible ► **BLACKBOX 4 Edge**

BLACKBOX 4 Edge with PLC-ANALYZER pro 6

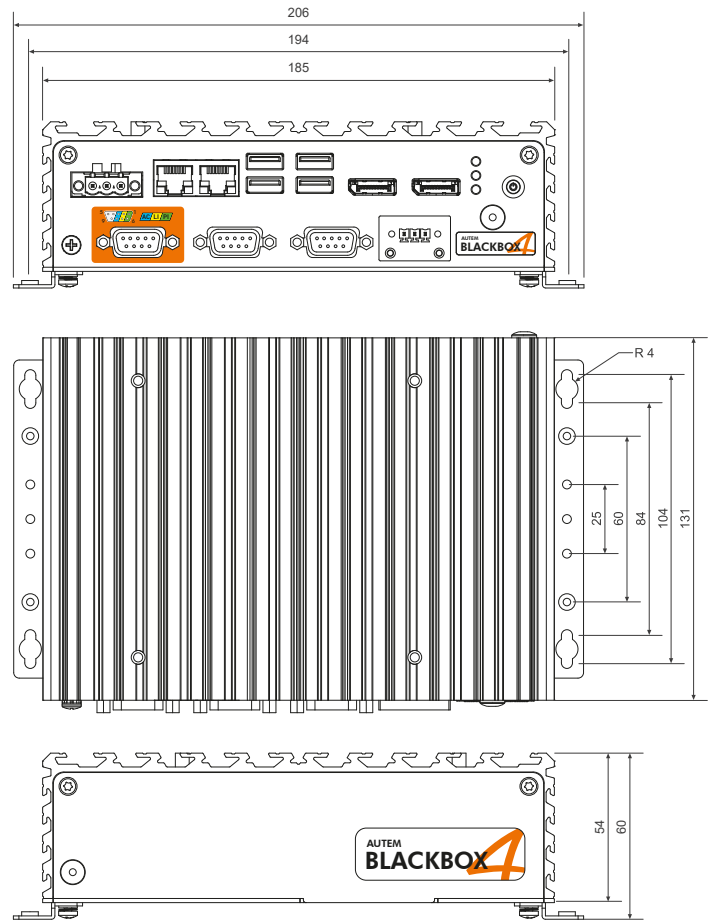
Technical Features

- Massive aluminium case
- Mini-PC (FANless) with Intel® Celeron® Quad-Core 1.5 GHz
- 1 TB SSD / 8 GB RAM
- Control-LEDs for RECORDING, PWR, HDD, LAN
- 2 x USB 3.0 (each 900 mA load-bearing)
- 2 x USB 2.0 (each 500 mA load-bearing)
- 2 x GbE LAN Port (Gigabit Ethernet)
- 2 x DP-Display Port Video output
- 2 x 9 pol. D-Sub RS232 (COM1/COM2)
- Mini-PCIe slot for opt. Wi-Fi / 3G/4G-Modem
- 2 x Antenna connection
- Power supply 24 V DC / 2,5 A
- Plug with cable for ext. DC power supply is scope of delivery
- Ext. power supply 100 ~ 240 V AC / 60 W
- Plug for remote PWR-ON/OFF is scope of delivery
- Adapter DP-Display Port to HDMI is scope of delivery
- 3 potential-free contacts led out:
 - POWER-INDICATOR: Signaling BLACKBOX 4 operating state
 - LIFE-INDICATOR: Signaling PLC-ANALYZER operating state
 - ACTION-CONTACT: Signaling trigger actionPlug is scope of delivery
- Watchdog monitoring
- Status messages via E-mail or SMS (opt.)
- Remote control via LAN, WAN, (Radio-) Modem/Internet (VPN) possible
- Signal recording capacity typ. Ø 3 years*
- BLACKBOX-license PLC-ANALYZER pro 6 with desired PLC-driver incl. documentation
- Environment: -5°C ~ 55°C operating temperature (ambient with air flow / according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14), 10 % ~ 95 % rel. humidity – non-condensing
- Dimensions (WxDxH): 185 x 131 x 54 mm / 1,35 kg
- DIN rail mounting / Adapter scope of delivery
- Windows 10 pro (64-Bit) (multi-language)
- System completely installed („ready-to-use“)
- CE, FCC Class A
- 48 hour Burn-In, 12 months warranty

Accessories (optional)

- Special-UPS 24 V DC (maintenance free) for BLACKBOX 4 (UPS24MF)
- 4G LTE-Modem for BLACKBOX 4 (LTE1000E)
- WLAN-AC USB Nano Adapter (WIF1010E)
- Highspeed USB - S7 Adapter (ANA1600E)
- USB - S5 Adapter (ANA1530E)
- S7 LAN (Ethernet-Gateway MPI/PROFIBUS) (ANA1650E)
- AD_USB-Box® (ANA6510E)
- Videotrack module (ANA6600E)
- Virtual HMI module (ANA6800E)

Dimensions



Order

Please refer to our current price list for prices and order numbers.

* significantly shorter for video recording

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