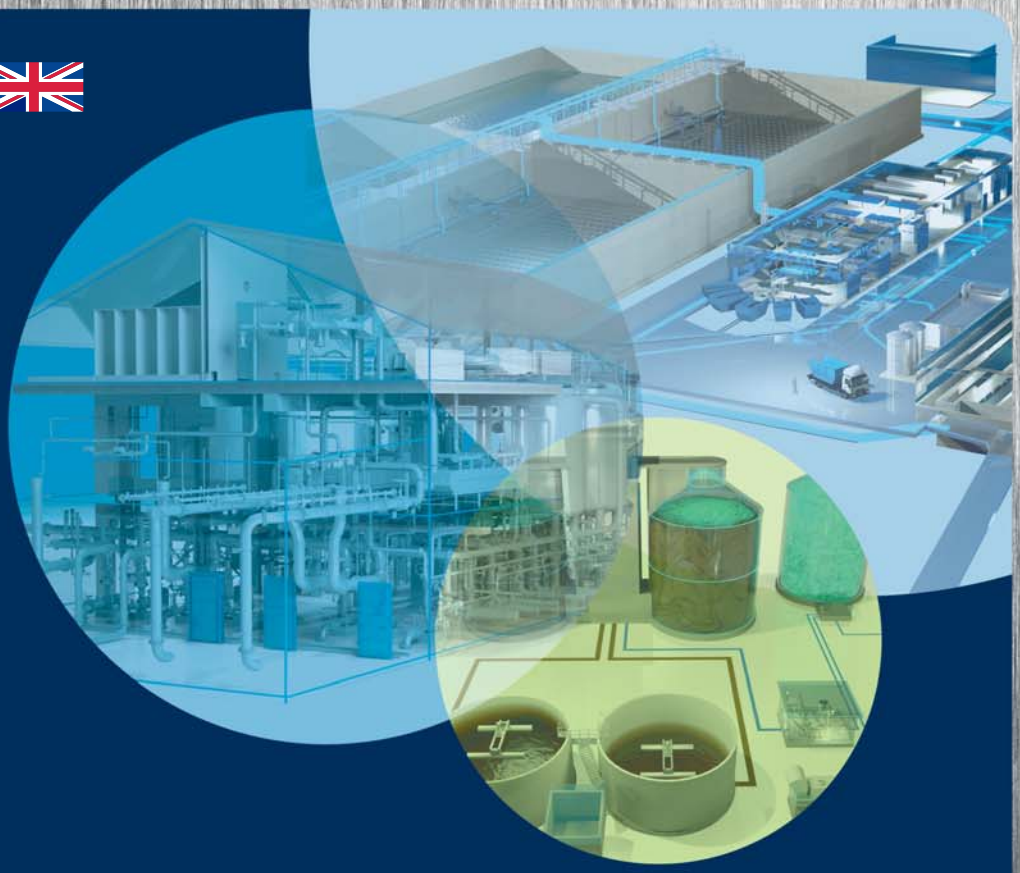
wks group
WATER.WASTEWATER.ENERGY



WATER

STORM WATER

WASTE WATER

ENERGY

PROCESS ENGINEERING

MECHANICAL ENGINEERING

AUTO-MATION

MUNICIPAL-ITIES

INDUSTRY

Automation Business Unit
Technologies and Products

CONSULTING & PLANNING

PROCESS ENGINEERING

MECHANICAL ENGINEERING

AUTOMATION

PRODUCT DEVELOPMENT

MANUFACTURING OF PRODUCT COMPONENTS

OPTIMISATION

INSTALLATION

COMMISSIONING

TRAINING

MAINTENANCE & SERVICE

TURNKEY PLANT CONSTRUCTION

CONSTRUCTION WORK

BUSINESS UNIT

AUTOMATION

CONTROL OF PROCESSES, DATA ACQUISITION , DATA PROCESSING, STORAGE AND VISUALISATION OF INFORMATION

PROCESS CONTROL SYSTEMS

EQUIPMENT SYSTEMS

PRODUCTS

APPLICATIONS

CAD-SYSTEMS

We network and control the water cycle with modern and intelligent automation processes. We connect precise fitting integration of hardware and software components to form complex systems.

AUTO-MATION

SCADA V10 PROCESS CONTROL SYSTEM

Process control system for acquisition/evaluation of process engineering data of different types of plants

APPLICATIONS

- Drinking water and wastewater treatment plants
- Biogas and industrial plants
- approx. 150 HydroDat/SCADA projects completed

PRODUCT DESCRIPTION

The HydroDat®-V8 process control system and its successor SCADA-V10® were developed especially to acquire, visualise, further process, log and evaluate process data. The software enables all centralised and decentralised connected equipment to be controlled in automated systems.

Supported protocols/systems:

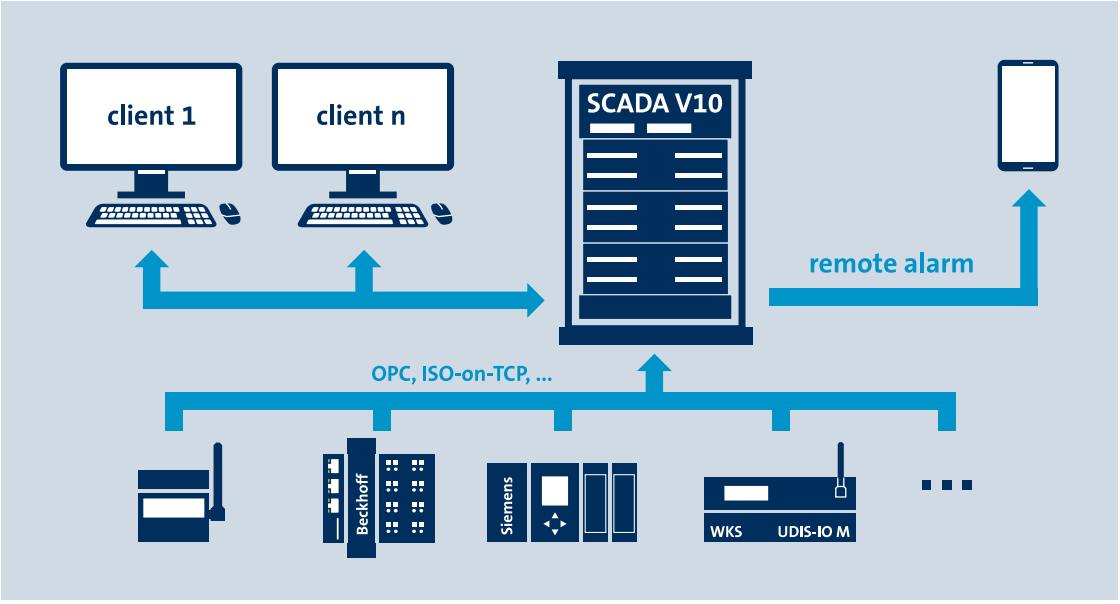
- OPC DA, OPC UA
- S7-ISO on TCP, S7-MPI, S7 communication
- AS511, 3964R
- Beckhoff, Telematic, SAE, Phoenix Contact, PANASONIC, others

FEATURES

- Modular and scalable
- Database system: Microsoft SQL
- Modern user interface
- Scalable visualisation
- Connectivity – linkage of functions and modules
- Alerting via ISDN, GSM, email, VOIP
- iPhone app for standby call-out service
- Recording/logging according to DWA M260, special records, e.g. for stormwater overflow tanks
- Interface with Microsoft Excel
- Extensive options for analysing load curves/ trends
- WebNavigator for operation via the internet
- Fast setup due to object-orientated configuration

ADVANTAGES

- All modules (visualisation, evaluation, logging, alerting) from a single source
- Intuitive operation of system
- Highly integrated: No duplicate configuration



WINCC & PCS7 PROCESS CONTROL SYSTEM

Process control systems for acquisition/evaluation of process engineering data of different types of plants

APPLICATIONS

- Kassel-Calden and Kasel-Golzig wastewater treatment plants
- Heltersberg drinking water purification plant
- Belgorod biogas plant
- Infineon industrial plant, Dresden
- Industrial wastewater treatment plant Naabtal

PRODUCT DESCRIPTION

Siemens' WinCC & PCS7 process control systems are used to acquire, visualise, process and evaluate process data. These are freely-scalable process visualisation systems with powerful functions for monitoring of automated processes. WinCC & PCS7 offer complete SCADA functionality under Windows for all industries – from standalone to distributed multi-user systems with redundant servers and cross-location solutions using Web clients.

Supported protocols/systems:

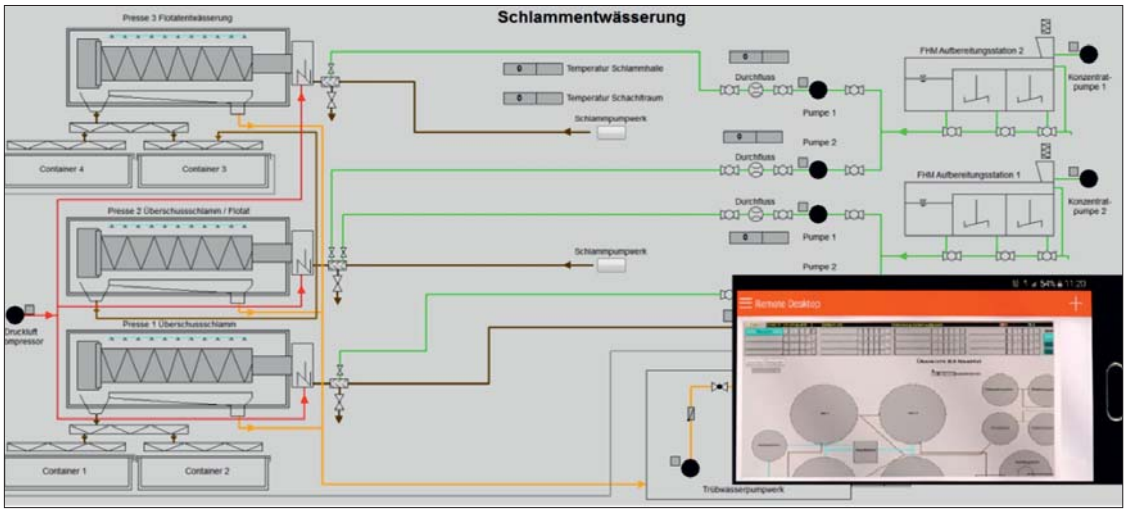
- S7-Ethernet, S7-MPI, S7-Profinet, SINAUT
- OPC Classic, OPC UA
- S5, 3964R

FEATURES

- Database system: Microsoft SQL
- Alerting via ISDN, GSM, internet, VOIP
- iPhone app for standby call-out service
- Interface with Microsoft Excel
- Options for analysing load curves/trends
- Vector-orientated visualisation
- WebNavigator for operation via the internet
- Link to databases and IT systems
- Extendable via options and add-ons
- Supports the integration of the client's own technology-specific XAML and .NET controls via a .NET container

ADVANTAGES

- Standalone system
- Intuitively operable
- High availability system
- Supports redundancy



INTOUCH PROCESS CONTROL SYSTEM

Process control system for visualisation of process engineering data of different types of plants

APPLICATIONS

- Eforie, Tambach, Westerland and Ohrdruf wastewater treatment plants
- Radeberg organic recycling company

PRODUCT DESCRIPTION

With InTouch HMI the firm Wonderware offers a flexible and powerful process control system.

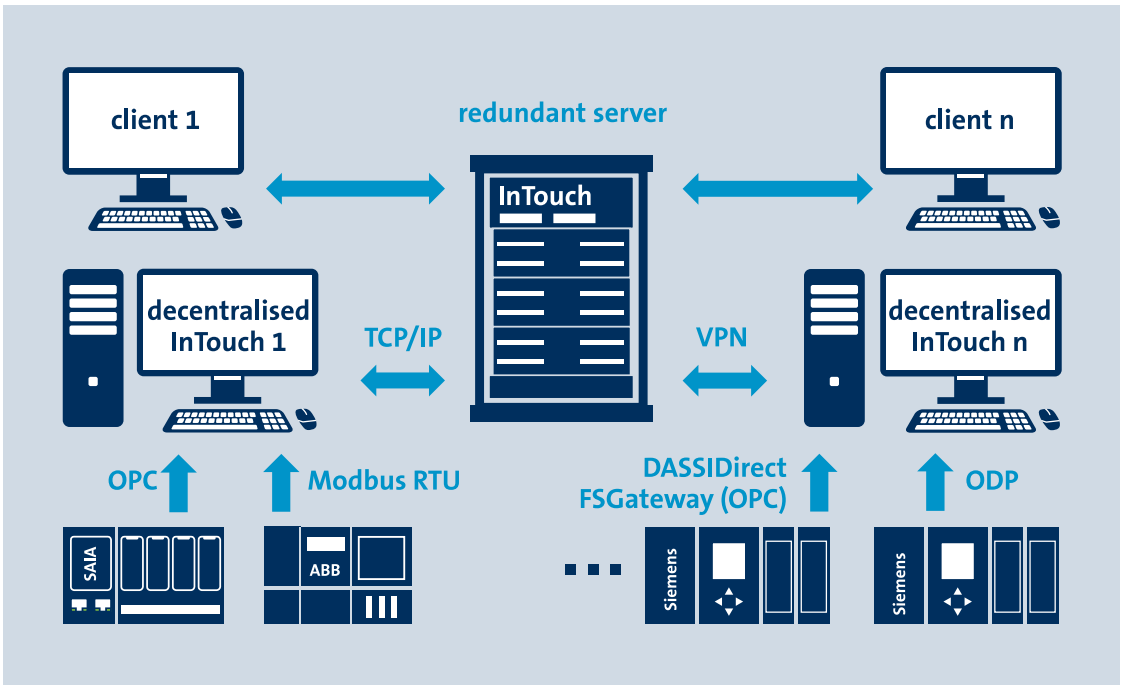
Thanks to a large number of different drivers for coupling controls, extensive possibilities are available for linking data to the process control system. The easy and intuitive user prompting displays this data to the operator in a clear and manageable way. InTouch is mostly used in combination with VIDEC's Acron for comprehensive evaluations and records. Remote alerting is frequently implemented via VIDEC's Melsys or AIP.

FEATURES

- Standalone or client-server system
- Database system: Microsoft SQL server
- Modular expansion capability
- User and rights/permissions management
- Flexible and reliable architecture
- Highly developed script language
- Data management and data control in real-time
- Open and expandable structures
- Template-based development and management
- Large number of drivers available, e.g. S7 communication, OPC Classic and UA, Modbus TCP
- Multi-lingual, e.g. German, English, French

ADVANTAGES

- Intuitive operation
- Supports redundancy
- Use of Microsoft ActiveX and .NET
- Object-based implementation



ATVISE PROCESS CONTROL SYSTEM

Flexible HMI/SCADA system: pure web technology

APPLICATIONS

- Wolfsgrün wastewater treatment plant
- Grünhain wastewater treatment plant
- Aue-Eichert water purification plant
- Pumping stations

PRODUCT DESCRIPTION

The atvise process control system is the latest generation of SCADA/HMI system, which is based on pure web technology. It is characterised by client-server architecture, in which several users can work simultaneously. atvise is device and operating system-independent, as it is used with a simple standard browser as the visualisation interface. The necessary data is integrated in the system by means of an OPC server.

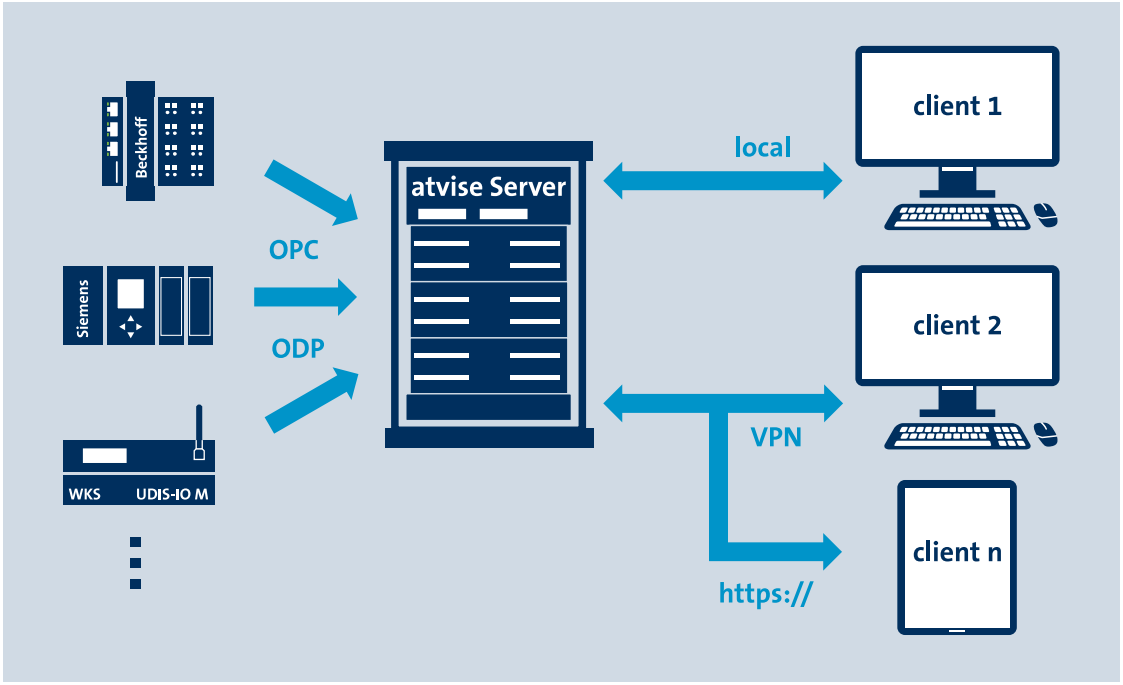
atvise is mostly used in combination with VIDEC's Acron for comprehensive evaluations and recording. The remote alerting is implemented via VIDEC's Melsys or AIP.

FEATURES

- Client-server architecture
- Data link by means of OPC-UA or OPC Classic
- Web server for visualisation
- Preparation of scalable vector graphics
- Specific user management and access security
- Alarm management through OPC UA data access and alarms & conditions
- Pre-configured dynamisation and objects to choose from
- Multilingual

ADVANTAGES

- Device and operating system-independent
- Intuitive system operation
- Object-orientated
- Creation of user-specific object libraries
- Server and client-side scripts
- Licence according to currently displayed data points



iFIX PROCESS CONTROL SYSTEM

Process control system for visualisation of process engineering data of different types of plants

APPLICATIONS

- Wastewater treatment plants, e.g. Wippra wastewater treatment plant
- Drinking water purification plants
- Pumping stations
- Biogas plants
- Industrial plants

PRODUCT DESCRIPTION

The iFIX process control system is a SCADA system with extensive functions, which can be used not only for standalone solutions but also for networked plants.

The convincing features of the system are its fast implementation and individual adaptations by means of scripts if VBA is used.

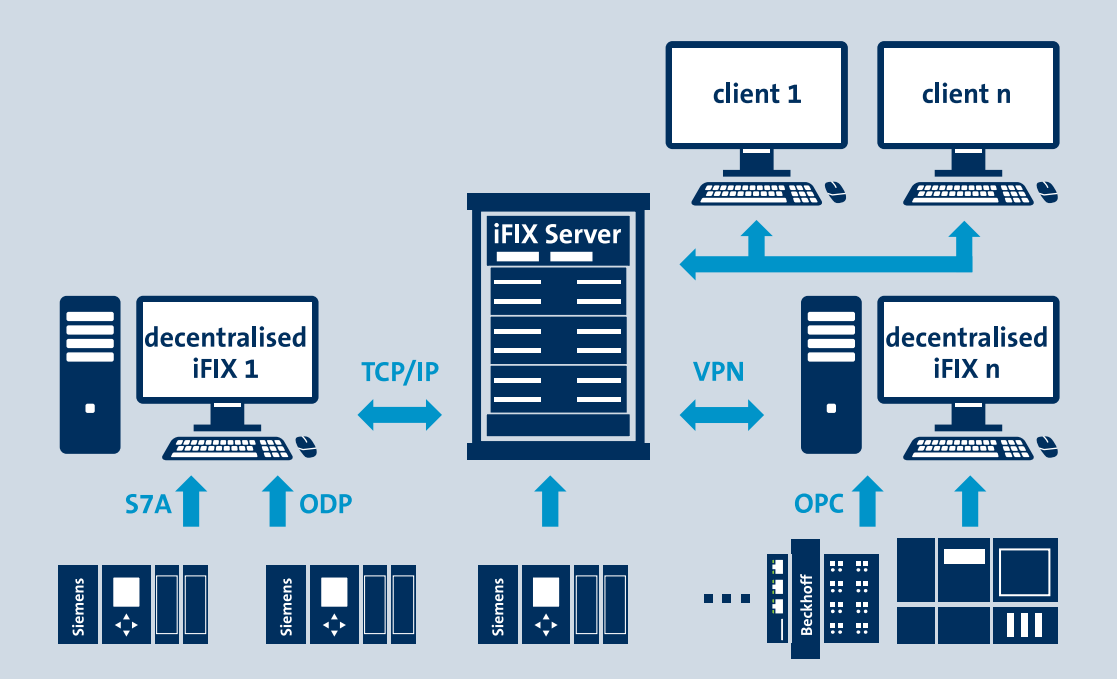
In conjunction with VIDEC's Acron, user-specific evaluations and reports can be created. AIP or Melsys, both produced by VIDEC, are often used for additional remote alerting.

FEATURES

- Standalone or client-server system
- User-specific management and access security
- Flexible and reliable
- Realtime data management and data control
- Integration of interfaces with other systems
- Large number of drivers available, e.g. S7 TCP/IP, Modbus Ethernet, OPC
- Supports different languages, e.g. German, English, French

ADVANTAGES

- Highly integrated: no duplicate configuration
- Intuitive system operation
- Supports redundancy
- Networking with over 200 iFIX servers possible



PROCOS PROCESS CONTROL SYSTEM

Process control system for acquisition/evaluation and visualisation of the process engineering data of different types of plants

APPLICATIONS

- Tambach wastewater treatment plant
- Heide wastewater treatment plant

PRODUCT DESCRIPTION

The ProCos process control system was developed specially to acquire, visualise, further process, log and evaluate process data. The software enables all centralised and decentralised connected equipment to be controlled in automated systems.

Supported protocols/systems:

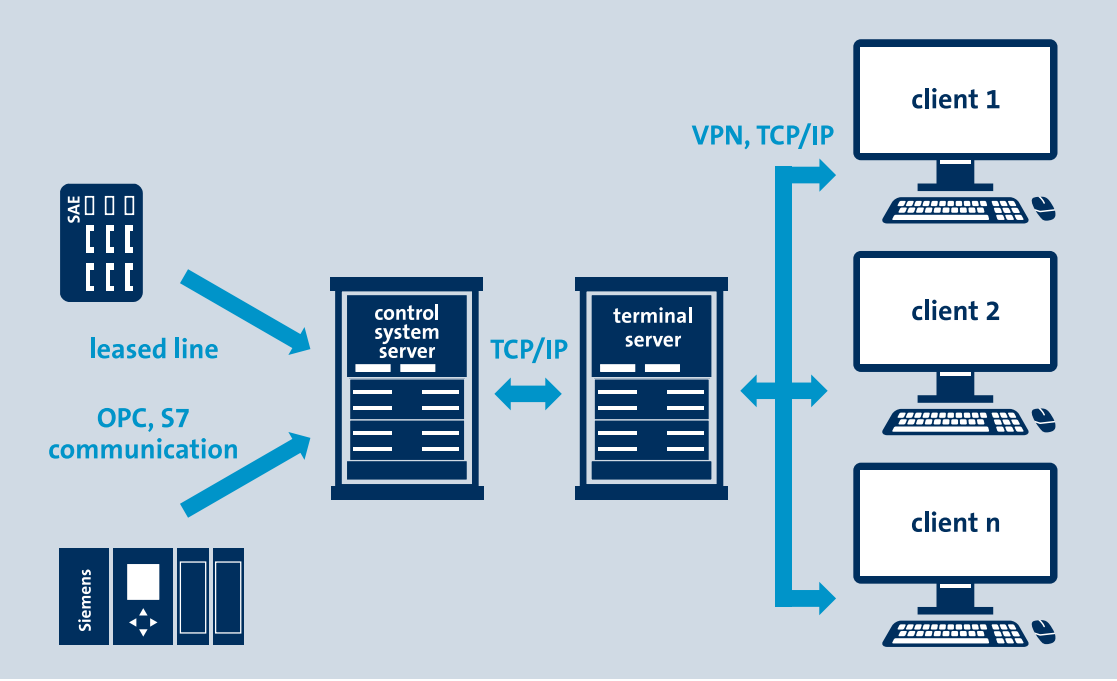
- OPC DA
- SAE
- RK512
- IEC 60870-5-104 protocol
- IEC 1107
- Modbus RTU, Modbus TCP
- Profibus
- Many proprietary protocols

FEATURES

- Modular and scalable
- Alerting via ISDN, GSM, SMS, etc.
- Memory-storing delta event archiving
- Interface with Microsoft Excel
- Support for redundant operation
- Extensive analysis options with load curves/trends/archive graphics
- Vector-orientated visualisation
- Web visualisation for operation over the internet
- Multi-monitor support

ADVANTAGES

- All modules (visualisation, evaluation, logging, alerting) from a single source
- Configuration and evaluation with the help of Excel
- Highly integrated: no duplicate configuration



IDS HIGH-LEIT PROCESS CONTROL SYSTEM

Control system for the acquisition/evaluation/visualisation of the process engineering data of different types of plants

APPLICATIONS

- Wastewater treatment plants
- Drinking water purification plants
- Biogas plants
- Industrial plants

PRODUCT DESCRIPTION

The IDS HIGH-LEIT control system has been developed for applications in the environmental sector (energy, water supply and wastewater) and can support certain tasks in the industrial sector.

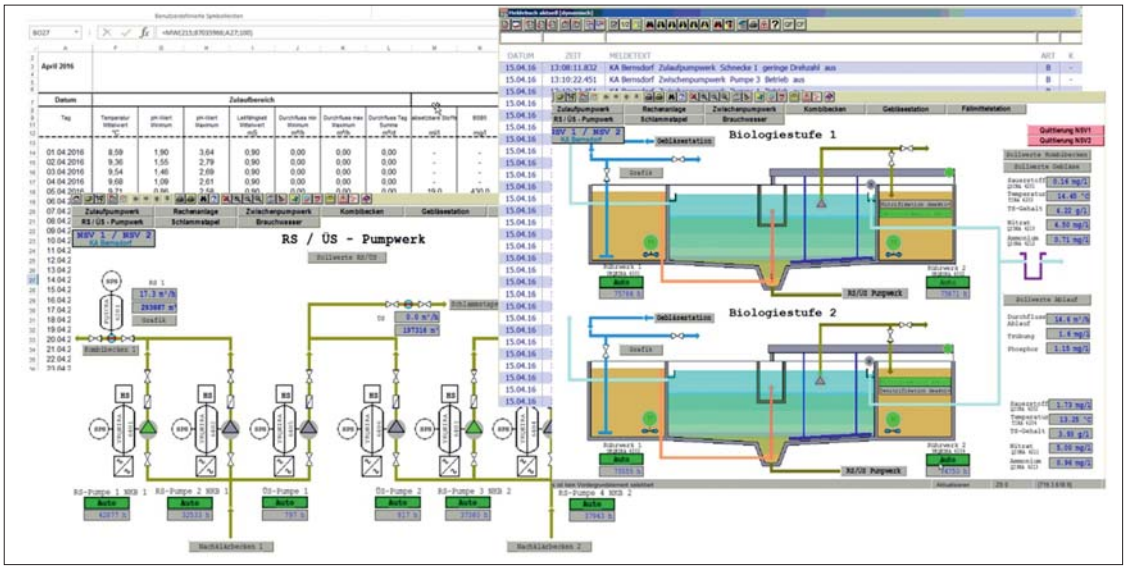
Independent from the hardware platform and operating system used, the system offers user-friendly solutions for all process visualisation, monitoring, control and automation tasks.

FEATURES

- Open system, scalable
- Client – server architecture
- Object-orientated configuration
- Alerting via SMS, voice output, email, fax, VoIP
- Multi-client capability
- Extensive evaluation and display options, load curves, trends
- Integrated Excel reports
- Connectivity – functional interactions
- Additional application-based function modules, e.g. leak monitoring, water demand forecast
- Integration of interfaces with other systems

ADVANTAGES

- All modules (evaluation, logging, alerting) from a single source
- Intuitive system operation
- Any remote control or automation systems can be coupled



SIEMENS S7 AUTOMATION

For the composition of user software and for coupling of Siemens S7 systems to higher-level process control systems and other automation systems

APPLICATIONS

- approx. 200 wastewater treatment plants (worldwide)
- approx. 100 pumping stations, stormwater overflow tanks
- approx. 50 other plants (drinking water purification, wastewater, biogas)

PRODUCT DESCRIPTION

Siemens offers a large number of coupling options. Both the hardware topology and the protocol used can be adapted to relevant requirements.

Solution Partner
Automation Drives
SIEMENS

HARDWARE TOPOLOGY

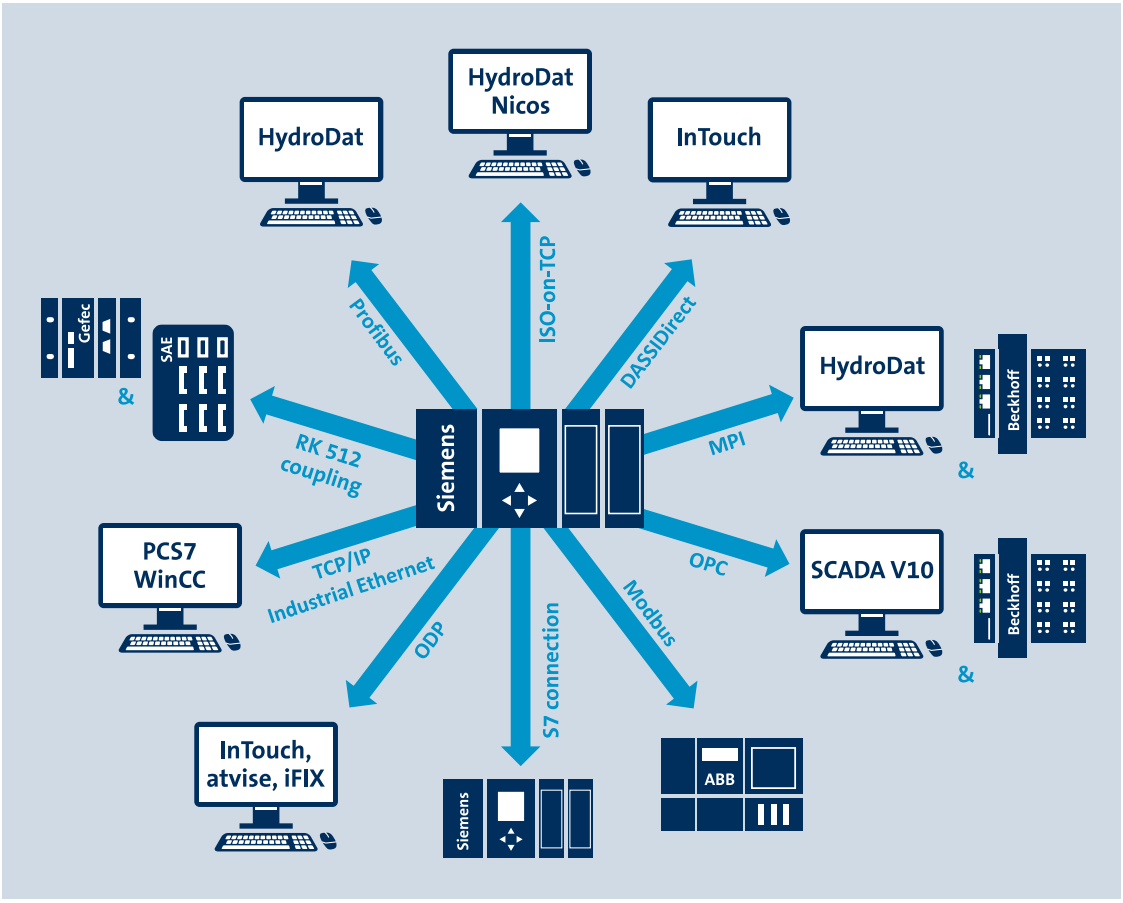
- Ethernet/wireless LAN
- Two-wire bus system
- Serial connection

PROTOCOLS (SELECTION)

- Profinet/ISO-on-TCP/Modbus-TCP
- Profibus DP/MPI/M-Bus/Modbus-RTU
- RK512

ADVANTAGES

- Platform independent as far as the communication partner is concerned
- Standardised protocols
- Extensive areas of use



BECKHOFF AUTOMATION

Coupling of Beckhoff systems to higher-level process control systems and other automation systems

APPLICATIONS

- approx. 150 pumping stations
- approx. 50 wastewater treatment plants
- other plants, e.g. elevated tanks, booster systems and stormwater overflow tanks

PRODUCT DESCRIPTION

Beckhoff offers a large number of different coupling options. Both the hardware topology and the protocol used can be adapted to the relevant requirements. Additionally the controls can be extended by adding modules, according to circumstances.

Many other additional options become possible when using the Soft-PLC technology in conjunction with Windows. These include, local visualisation, integrated VPN solution and the use of Windows-based diagnostic tools such as remote access applications, Wireshark, and others.

HARDWARE TOPOLOGY

- Ethernet/wireless LAN
- Two-wire bus system
- Serial connection

PROTOCOLS (SELECTION)

- EtherCAT
- ADS communication
- OPC-UA/OPC-Classic
- ProfinetIO/Profibus DP
- Modbus-TCP/Modbus-RTU
- M-Bus
- RK512

ADVANTAGES

- Platform independent as far as the communication partner is concerned
- Standardised protocols
- Windows-based
- Modular expansion capability
- Diverse possible applications
- Local visualisation

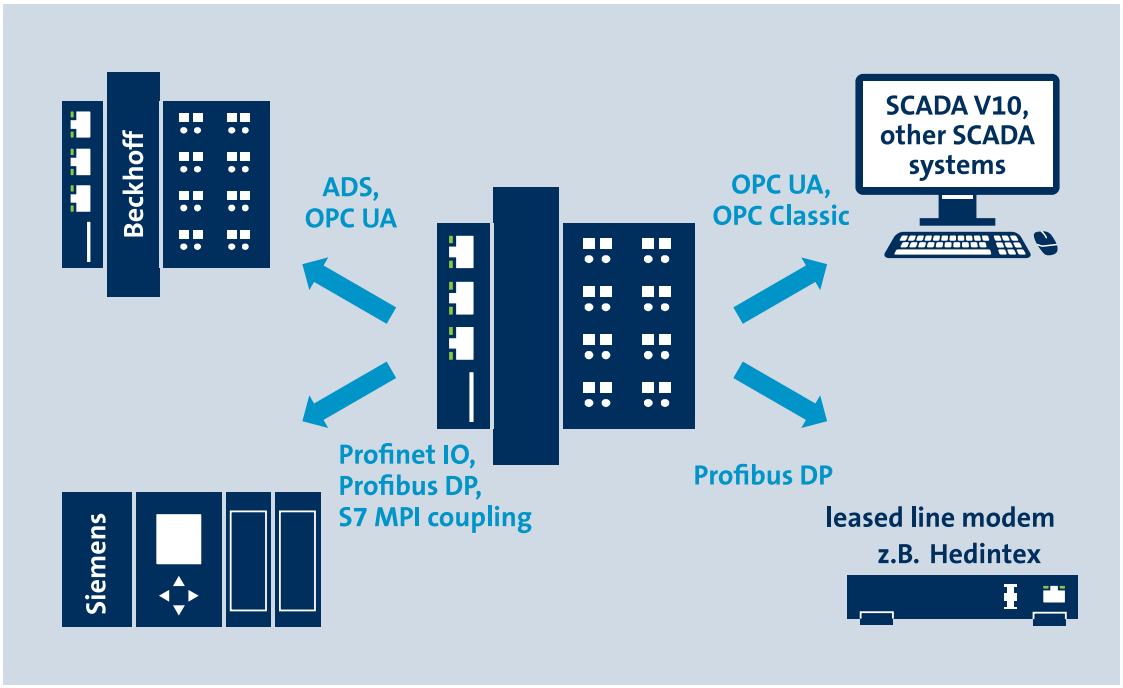


ABB AUTOMATION

Coupling of ABB systems to higher-level process control systems and other automation systems

APPLICATIONS

- Westerland wastewater treatment plant
- Radeberg organic recycling company
- Fehrow and Burg water purification plants
- Potsdam stormwater overflow tank

PRODUCT DESCRIPTION

ABB offers programmable logic controls of different performance levels. These can be extended by adding modules and thus adapted to requirements. For example, the firm Matrikon provides the "Universal connectivity server" for the OPC couplings (Classic and UA).
It handles Modbus and numerous other protocols and thus enables flexible coupling to control systems.

HARDWARE TOPOLOGY

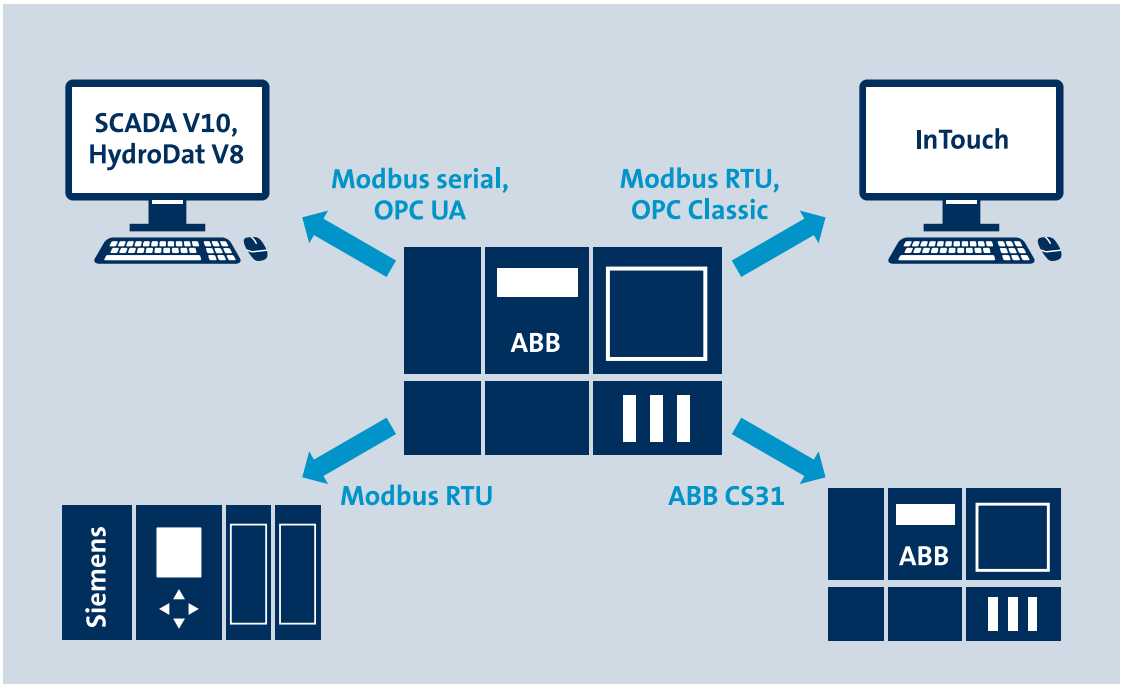
- Ethernet/wireless LAN
- Two-wire bus system
- Serial connection

PROTOCOLS (SELECTION)

- Modbus-TCP
- Profibus DP/CS31/Modbus-RTU
- OPC Classic/OPC UA

ADVANTAGES

- Platform independent as far as communication partners are concerned
- Standardised protocols



AUTO-MATION

SAE & GEFEC REMOTE-CONTROL TECHNOLOGY

Coupling of peripheral stations and data transmission with intermediary archive storage

APPLICATIONS

- Communal association for drinking water and wastewater Oderaue (Eisenhüttenstadt)
- Communal association for wastewater Radeberg
- Communal association for wastewater Leisnig
- Communal association for wastewater Muldental (Hohentanne)
- Pumping stations/raised tanks/ booster systems

FEATURES

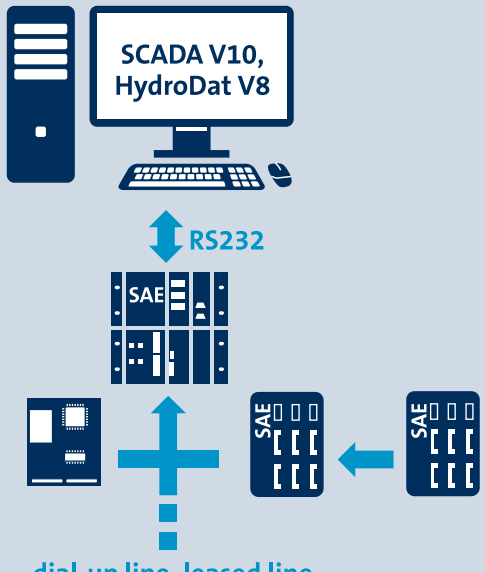
- Compact stations with little space and integrated UPS
- Modular stations with flexible I/O structure
- Coupling of different PLCs via bus protocol, e.g. RK 512
- Cascading of substations is possible
- Temporary archive storage within the substation
- Different communication channels (leased line, dial-up line, GMS)
- Coupling with Hydrodat V8/SCADA V10

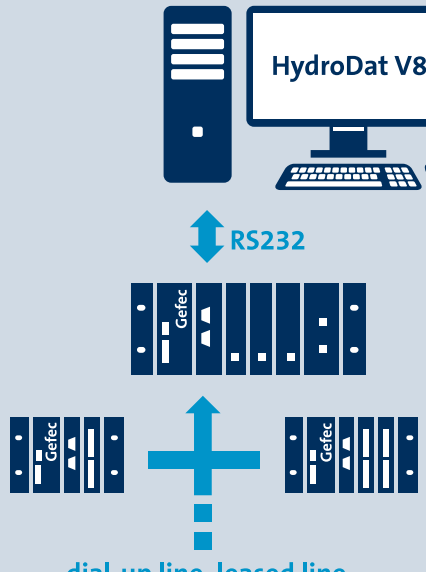
PRODUCT DESCRIPTION

The remote-control technology of SAE or Gefec can be used to record analog and digital data of small plants and store it temporarily on site. It is also possible to couple PLCs via a bus protocol. The data is continuously and cyclically transmitted to the control centre. Stations can transmit their data to the data centre via other stations, according to existing communication structures. Visualisation, evaluation and logging take place within the control system.

ADVANTAGES

- Information about peripheral stations is available within the central control system
- Central alerting and alarming configuration possible
- Continuous archiving of the data for evaluation and logging





SAIA PCD® AUTOMATION

Automation controls with integrated web server, Bacnet® enabled for industrial use

APPLICATIONS

- BER linkage of drinking water shafts, wastewater pumping stations and transformer stations to process control system by means of BACnet®
- Cunewalde and Klipphausen water purification plants
- Großschweidnitz wastewater treatment plant

PRODUCT DESCRIPTION

The Saia PCD® controls unite a large number of standardised technologies, for example, Profibus, Modbus, M-Bus, S-Bus, FTP, Http and Ethernet TCP/IP, RS485. A web server is installed on the device for visualisation of the plant. As an example BACnet® can be used for coupling to a control system. This is done using the Saia PG5® Controls Suite software program, in which the individual BACnet® objects can be freely programmed.

FEATURES

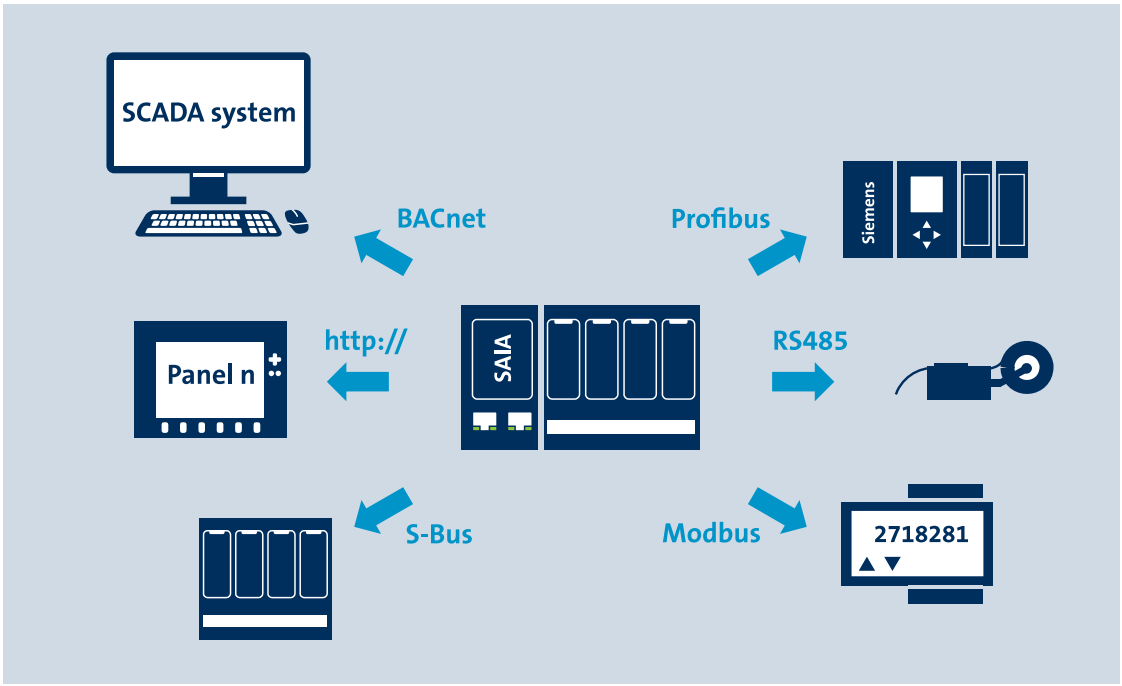
- S-Net for communication (inter-comms)
- Data provision using BACnet® is possible
- Inclusion of an automation server with interfaces open to applications and data

PROTOCOLS (SELECTION)

- S-Bus
- Ethernet TCP/IP
- Modbus/Profibus/M-Bus
- CAN/MPI/DP/LON

ADVANTAGES

- Easy extension through modular assemblies
- BACnet® capable
- Automation server with standard web/IT technologies (e.g. web server for visualisation)



EES REMOTE-CONTROL SYSTEM

Wireless/wired data transmission, remote monitoring and remote-control

APPLICATIONS

- Decentralised plants
- Plants without DSL/radio reception
- Plants without fixed power supply
- Pößneck drinking water purification/wastewater treatment plant
- Waldheim association for wastewater
- Niesky municipal works

FEATURES

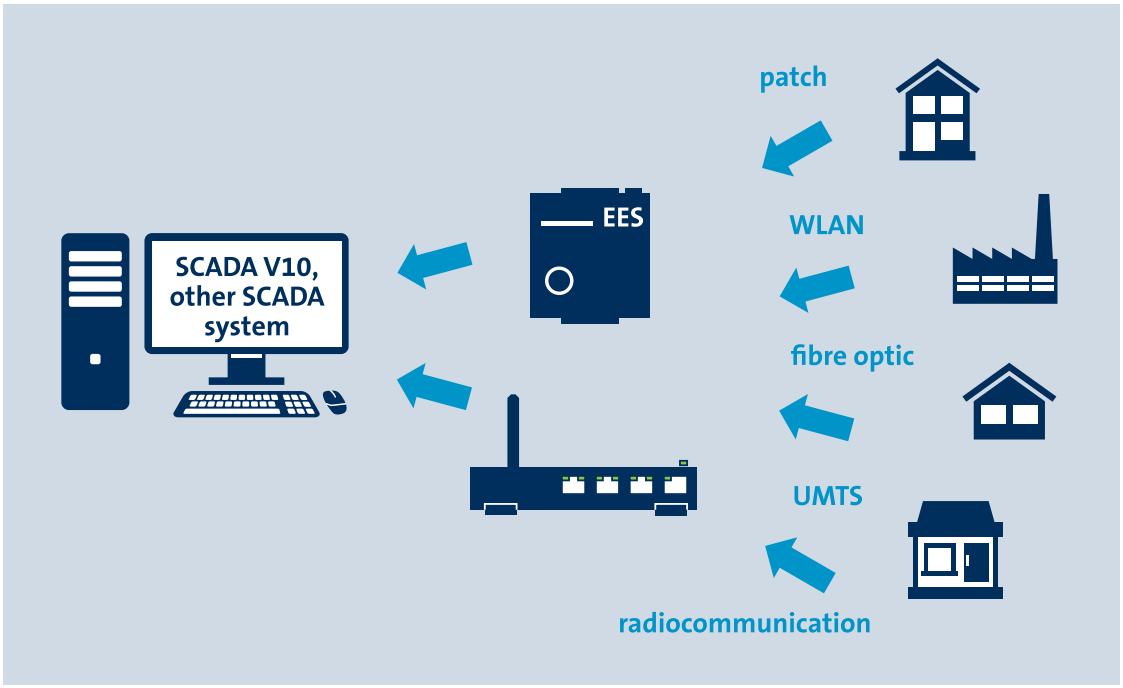
- Time slot wireless method
- Radio transmission in the 70-cm ISM band
- GSM/GPRS/DSL transmission
- Classic 2-wire leased line transmission
- Powerline (data transmission via electricity cables)
- Fibre optic transmission
- SCADA interface: OPC/ethernet/RS232/USB

PRODUCT DESCRIPTION

The EES remote-control systems were especially conceived for linking distributed external plants to a central unit and can be used for different transmission media (two-wire, Powerline, fibre optic, GSM, GPRS, ethernet).
A system consists of a central unit and up to 32 substations; each substation consists of a base module with a maximum of 512 add-on modules (I/O modules).
Coupling with the process control system HydroDat/ SCADA-V10 is achieved via OPC.

ADVANTAGES

- Inexpensive data transmission independent of leased lines/mobile providers
- Stable data transmission
- Low power consumption
- Easy configuration



RUDOLPH & DECKER

Wireless data transmission, remote monitoring and remote-control

APPLICATIONS

- Decentralised plants
- Plants without DSL/radio reception
- Plants without fixed power supply
- Pößneck drinking water purification plant
- Friedrichswerth wastewater treatment plant
- Freiberg association for water treatment

PRODUCT DESCRIPTION

The Rudolph & Decker remote-control technology was especially developed for the wireless transmission of process data.

Use of wireless data transmission is advantagous for plants which do not have a cable connection or whose installation can only be implemented at high cost. Wireless/radio applications also often offer an inexpensive alternative for replacement of old, dilapidated cables.

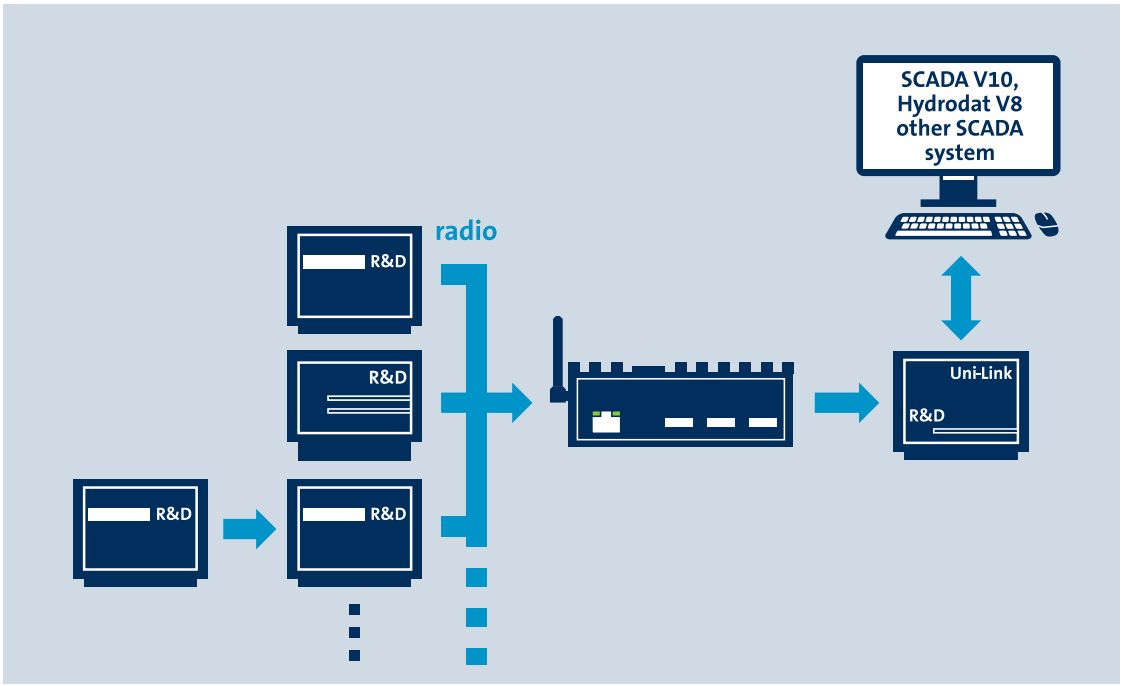
Coupling with the process control system HydroDat/SCADA-V10 is achieved via OPC.

FEATURES

- Time slot wireless method
- Radio transmission in the 25 kHz range
- Ambient temperature –40°C to +70°C
- 256 AES encryption
- Web interface
- SCADA protocols: Modbus, IEC101, DNP3, Comli, DF1, Profibus, IEC104

ADVANTAGES

- Low-cost data transmission independent of leased lines/mobile providers
- Stable data transmission
- Low power consumption



SCHNEIDER

Coupling of Schneider systems with higher-ranking process control systems and other automation systems

APPLICATIONS

- Coschütz water purification plant
- Kunnersdorf water purification plant

PRODUCT DESCRIPTION

Schneider Electrics offers a multitude of different coupling variants in conjunction with its PLC automation solutions. Both the hardware topology and protocol can be adapted according to requirements. The open Modbus protocol makes it possible to have a variety of different communication partners. Programming is carried out according to IEC 61131-3 via function block diagram (FBD) or structured text (ST). For this, the PLC is recorded via USB or the network using the programming environment unity Pro L.

FEATURES

Hardware topology:

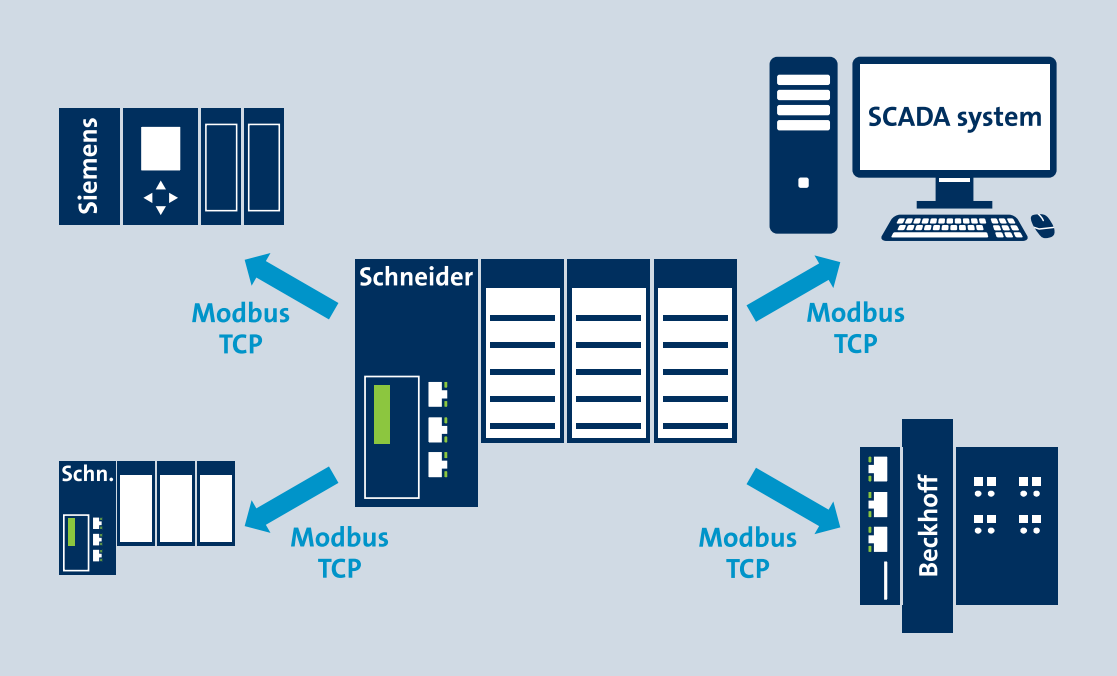
- Ethernet/Wireless LAN
- Two-wire bus system
- Serial connection

Protocols:

- Modbus TCP
- EtherNet IP
- SNMP
- NTP

ADVANTAGES

- Platform independent of communication partner
- Standardised protocols
- Modular expansion
- Versatile applications



PHOENIX CONTACT

Coupling of Phoenix systems with superordinate process control systems and other automation systems

APPLICATIONS

- Lowering of groundwater at Halle-Neustadt

PRODUCT DESCRIPTION

Phoenix Contact offers a wide range of different coupling variants in conjunction with its PLC automation solutions. In this case, both the hardware topology and the used protocol can be adapted according to requirements. The open Modbus protocol makes it possible to have a variety of different communication partners. Programming is carried out according to IEC 61131-3 via the function block diagram (FBD) or structured text (ST). For this, the PLC is recorded via the network using the programming environment PC Worx. The local HTML5 visualisation is drawn using WebVisit.

FEATURES

Hardware topology:

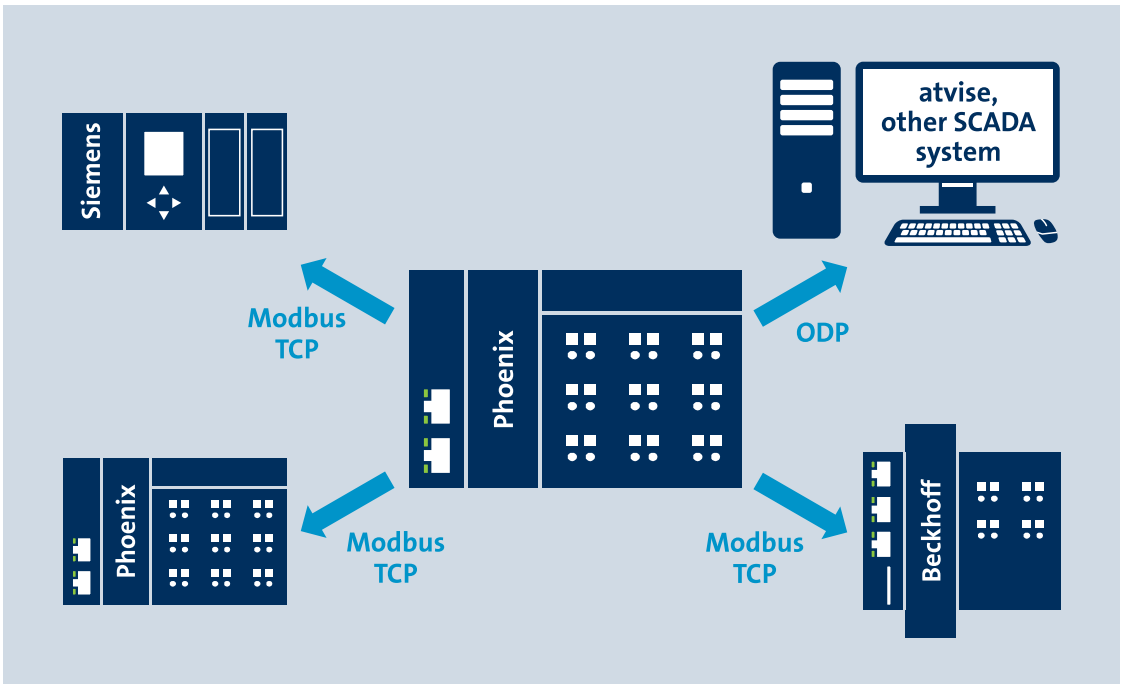
- Ethernet/Wireless LAN
- Two-wire bus system
- Serial connection

Protocols:

- Modbus TCP, OPC
- Profinet, ODP
- SNMP, SNTP, SQL
- HTML 5

ADVANTAGES

- Platform independent of communication partner
- Standardised protocols
- Modularly expandable
- Versatile applications
- Local visualisation



WAGO

Coupling of Wago systems with superordinate process control systems and other automation systems

APPLICATIONS

- Altenburg wastewater treatment plant

PRODUCT DESCRIPTION

Wago offers a multitude of different coupling variants in conjunction with its PLC automation solutions. Both the hardware topology and the protocol can be adapted to the respective requirements. The open Modbus protocol makes it possible to have a variety of different communication partners.

Programming is carried out according to IEC 61131-3 via the function block diagram (FBD) or structured text (ST). For this, the PLC is recorded serially or via the network using the programming environment CoDeSys V2.3. Local HTML5 visualisation can also be drawn in the same manner.

FEATURES

Hardware topology:

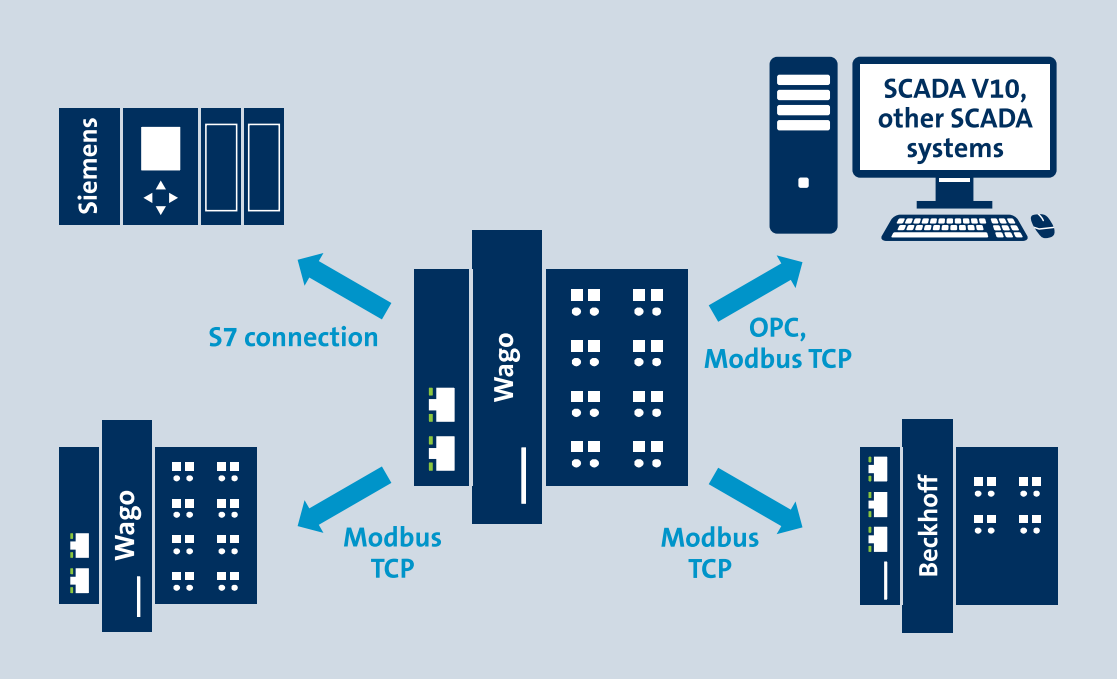
- Ethernet/Wireless LAN
- Two-wire bus system
- Serial connection

Protocols (selection):

- UDP, OPC, Modbus TCP
- S7 connection
- SNMP, SNTP
- HTML 5

ADVANTAGES

- Platform independent of communication partner
- Standardised protocols
- Expandable with modules
- Versatile applications
- Local visualisation
- Wago runs on Linux



OPERATIONAL DIARY to M260

Operational diary for acquisition/evaluation of process engineering data of different types of plants

APPLICATIONS

- Wastewater treatment plants
- Drinking water treatment plants
- Biogas and industrial plants
- approx. 80 projects completed

PRODUCT DESCRIPTION

The operational diary of wks Automation was especially developed for wastewater treatment plants on the basis of Microsoft Excel and the Excel interface with the HydroDat/SCADA V10 PCS – but due to its modular design and diverse functions it is ideally suited for use in other areas.

Modules:

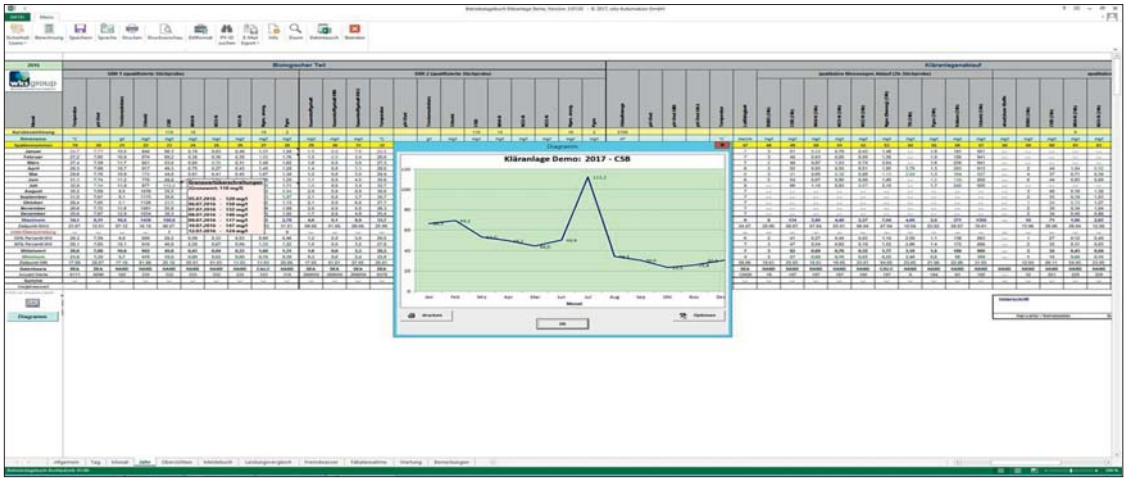
- Daily, monthly and yearly report
- Overviews (daily, monthly and yearly report)
- Event log calculation
- Performance comparison
- Infiltration report
- Faecal obtention report
- Maintenance report
- Logbook for special events

FEATURES

- Password-protected access (2 password levels for calculation/configuration)
- Easy configuration – can also easily be carried out by the end user
- Export of individual modules to Excel or PDF (e.g. according to EKVO) and integrated email dispatch
- Automatic functions: Calculation/printout/email dispatch with scheduler
- Language changeover: German/English – three other languages importable by means of the translation table
- Maintenance report: Master data maintenance/maintenance progress/forecast aggregates, overviews for current maintenance work
- Extensive log functions for analysis of calculation errors/implausible data

ADVANTAGES

- Complex functionally reliable solution
- Clear layout/operation/configuration
- Continuous further development



UDIS

Transmission of signals from outside structures to the control system via a standardised interface

APPLICATIONS

- Monitoring of very small plants
- Autonomous stations
- Recording of meter readings
- Offline data logging

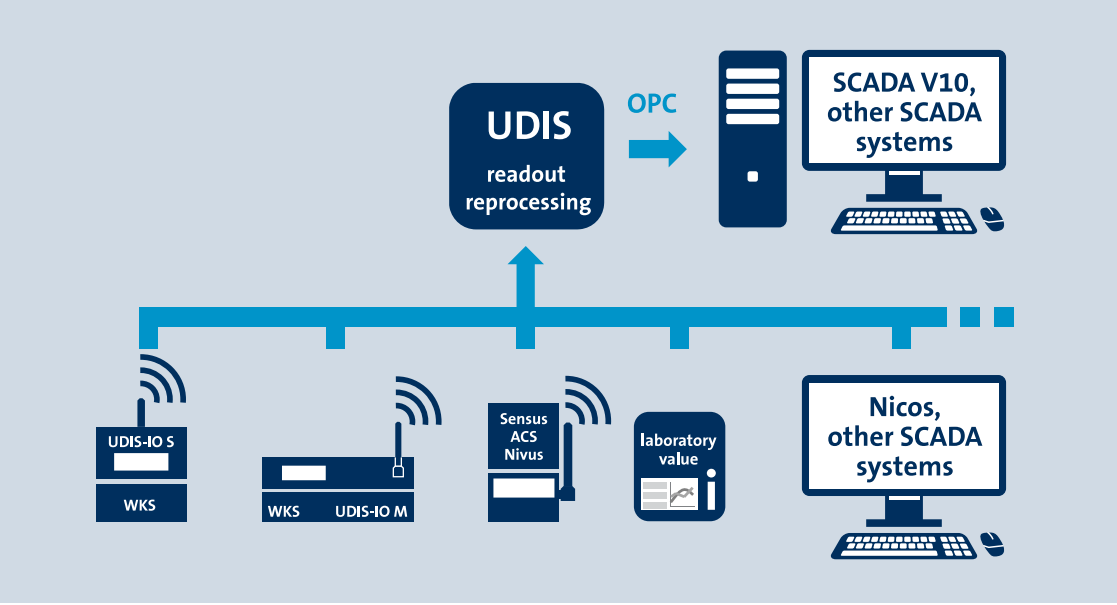
PRODUCT DESCRIPTION

The UDIS software prepares incoming data from different remote-control devices by means of SMS, modem, GPRS or FTP connection and, with the help of the OPC technology, makes it available for the control system, e.g. SCADA V10. The data sent is set to an uniform state and is forwarded to the process control system, e.g. SCADA V10, for evaluation, processing and logging.

- UDIS – Inventia
- UDIS – SNMP
- UDIS – FW
- UDIS – IO
- UDIS – ODP (Open Data Port)
- UDIS – D2W (Device to Web)
- UDIS – Sensus
- UDIS – ACS-Control
- UDIS – Nicos

ADVANTAGES

- Provides a unified basis for pre-processing and provision of process data
- Universal application with various remote-controlled devices and stations
- Compatible with different control systems
- More efficient and higher quality data processing, does not hinder any of the advantages offered by the control system
- Data is concentrated within a control system, operation of other software unnecessary
- Easy administration
- Cost-effective solution for very small plants
- Reduction of personnel and operating costs
- Permanent further development to support other devices



UDIS-INVENTIA

Coupling systems of device with a wide spectrum of minor-applications

APPLICATIONS

- Monitoring and data connection of different systems
- Devices for online and archive data transmission
- Depending on the application, individual number of analog and digital inputs and outputs on the device
- Devices with top-hat rail mounting
- Devices with protection up to IP68
- Devices with variable voltage supply between 9 and 36 V, rechargeable battery

TECHNOLOGY

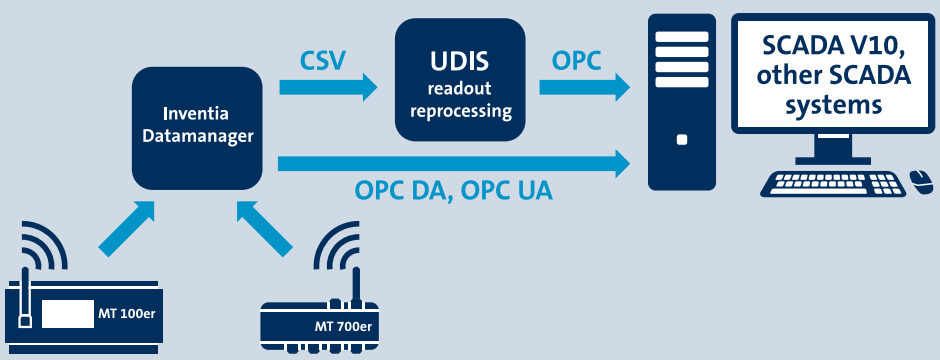
- GPRS/UMTS transmission
- Permanent online devices with variable voltage supply and control functions (programmable)
- Energy self-sufficient data collection modules with cyclic CSV data transmission
- Online data transmission via OPC DA/ OPC UA
- Archive data generation via CSV data and import into the control system via UDIS

PRODUCT DESCRIPTION

Inventia remote-control devices cover a wide range of applications. The energy autonomous devices are used for data collection and archiving with systems such as elevated tanks. The transmission takes place cyclically. Devices with voltage supply are used for data collection, online data transmission, and as simple control units, for example, for pumping stations.

ADVANTAGES

- Wide variety of devices for various applications
- Implementation of internal control functions within devices possible
- Devices with battery supply



UDIS-SNMP

Combined automation and information systems

APPLICATIONS

- Continuous data monitoring and connection to network components
- Transfer of current data to the control system and device configuration

PRODUCT DESCRIPTION

The network management protocol (SNMP) facilitates smooth communication between network participants. This protocol is a widely used industry standard not likely to become obsolete. UDIS uses SNMP to provide the data system control and automation processes. This means that network components can be centrally managed, monitored and logged. In the event of an error, the control system generates alarms for all available devices.

FEATURES

Software environment:

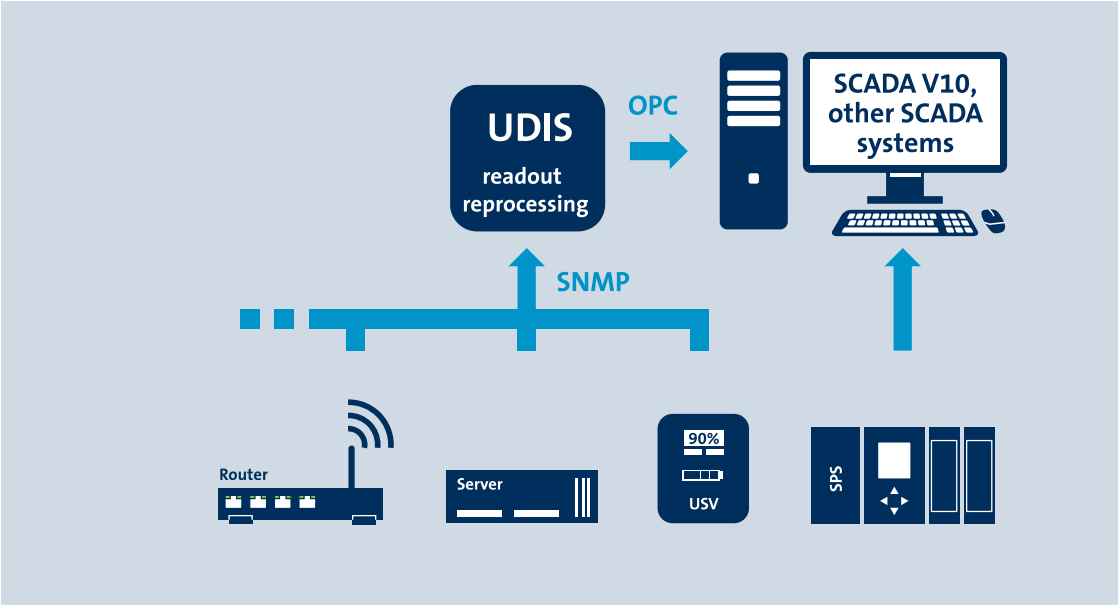
- SNMP: system-independent
- UDIS: Windows-based application
- Optimisation for SCADA control system

Relevant network components:

- UPS (e.g. state of charge, remaining runtime)
- Server (e.g. working order, capacity use, ...)
- Rooter/switch (e.g. network monitoring)

ADVANTAGES

- Monitoring of network components
- Central access to the current status of network components and control system generated error alarms
- Quick detection and elimination of errors
- SNMP protocols are supported by many network-compatible elements (standardised protocol)



UDIS-FW

Signal transmission and remote monitoring of small stations via IP communication

APPLICATIONS

- Pumping stations
- Small wastewater treatment plants
- Elevated tanks
- Pressure booster systems

PRODUCT DESCRIPTION

With the help of the new UDIS-FW series, it is possible to transmit signals easily, securely and efficiently via mobile radio and DSL. For this, the UDIS-FW station has digital and analogue inputs as well as digital outputs. By using the housing of the previously used remote-control stations with an analogue dial-up modem, stations can be easily adapted with UDIS-FW.

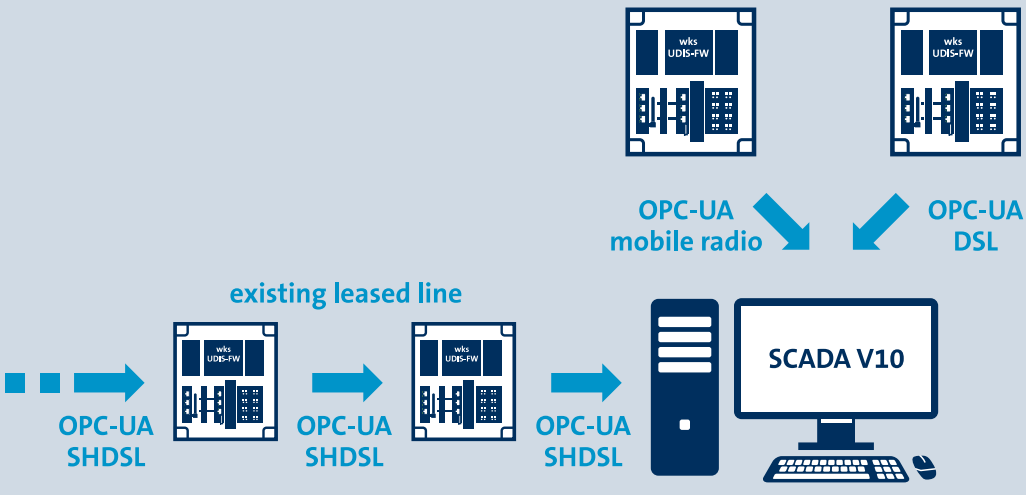
An uninterruptible power supply should be installed to bridge any short-term power failures. In the event of a connection failure, no incoming data is lost. The backup of data is made via the OPC-UA internal standard Historical Access on a non-ephemeral storage medium within the control unit. When the connection is re-established, missing archive data is automatically transferred to the control system via UDIS-SHA. Other functions include the 230 V overvoltage protection, the compact IP-66 housing, burglar alarm, a fixed standardised quantity structure and communication via the current OPC-UA standard.

TECHNOLOGY

- OPC Unified Architecture
- 2G, 3G, 4G mobile radio
- Landline cable via SHDSL
- DSL fixed line
- Archive data via OPC UA Historical Access

ADVANTAGES

- Standardised transmission protocol
- Compact
- No data loss
- Data security
- Easy configuration
- Easy replacement of existing remote-control stations
- Preferred data communication protocol for Industry 4.0 applications



UDIS-IO

Transmission of signals from external structures to the control system via a standardised interface

APPLICATIONS

- approx. 40 small wastewater treatment plants
- approx. 45 wastewater pumping stations
- approx. 5 booster stations
- approx. 10 elevated tanks
- Other "very small plants"

TECHNOLOGY

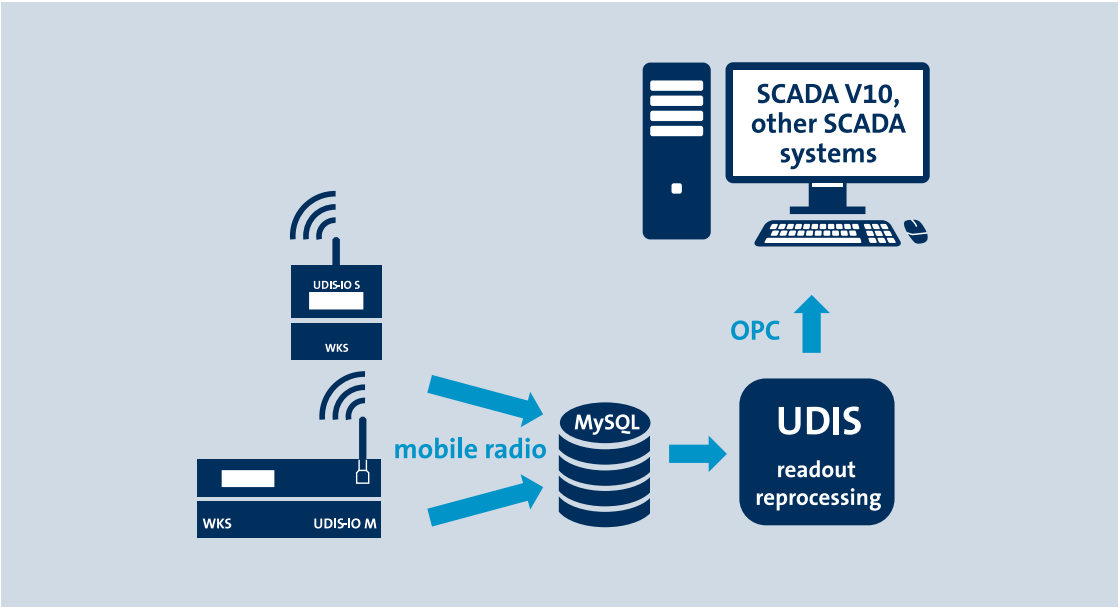
- Devices with 4, 8 and 16 inputs
- Transmission via GPRS, GSM modem, SMS
- Cyclical and event-orientated transmission of the current process state
- Remote reconfiguration possible
- Variable supply voltage

PRODUCT DESCRIPTION

The UDIS-IO devices can record up to 16 signals from external structures and transmit them to the control system. This means that the devices are ideally suited for monitoring very small plants. By cancelling analog telephone connections, existing plants with automatic dialing and transmission can be quickly and cost-effectively converted to UDIS-IO devices.

ADVANTAGES

- Cost-effective solution
- Standardised OPC interface through UDIS for many different control systems
- Variably configurable inputs
- Rechargeable battery buffering in case of grid power failure
- Easy replacement of automatic dialing and transmission devices with UDIS-IO devices



UDIS-ODP (OPEN DATA PORT)

Transmission of online and archive data and spontaneous transmission of alarms

APPLICATIONS

- Elevated tank
- Pumping stations (e.g. Wolkenstein)
- Stormwater overflow tanks
- Wastewater treatment plants (e.g. Großrückerswalde)

PRODUCT DESCRIPTION

Open data port of VIDEC used for data transmission from controls to the control system. Online data is transmitted cyclically and alarm messages are transmitted according to settings. In addition, archives are generated within the control system by means of OPC. The UDIS-ODP server receives all this data and makes it available to the control systems by means of OPC.

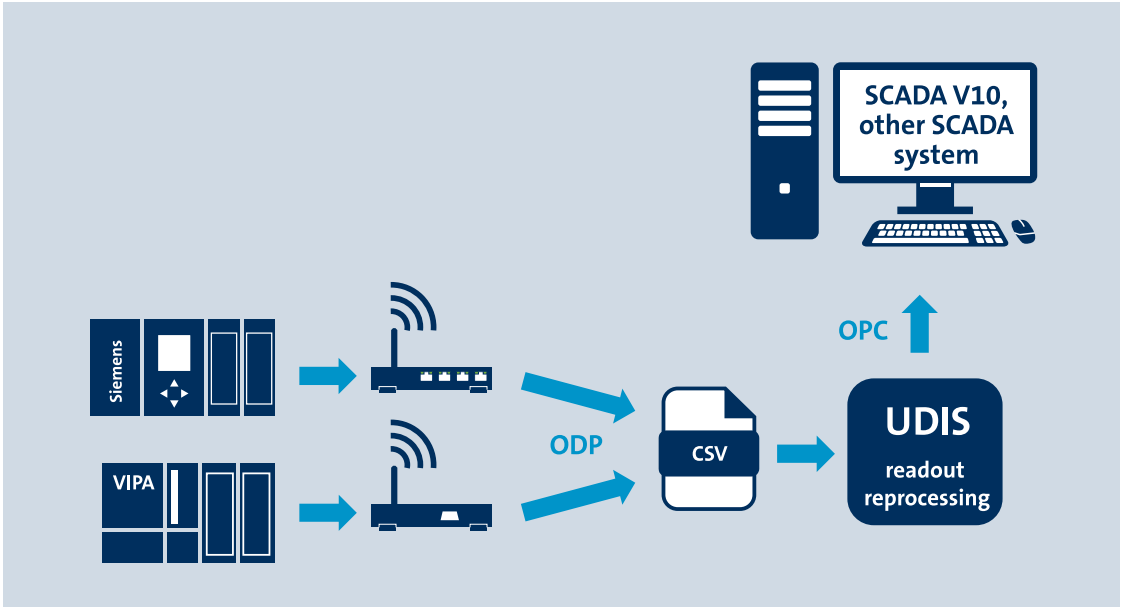
UDIS enables the historical data to be made available to SCADA V10 in the event of connection failure. Thus continuous archiving in the control system is guaranteed.

TECHNOLOGY

- Transmission of online and archive data by GPRS, UMTS, LTE, DSL, and others
- Cyclical and event-oriented transmission of the current process state
- Recording of archives within the control system
- Automatic provision of the data for the control system

ADVANTAGES

- Support for many different control systems
- Encrypted communication via VPN possible
- Standardised OPC interface for diverse control systems
- Continuous archives within the control system



AUTO-MATION

UDIS-D2W (DEVICE TO WEB)

Transmission of recorded signals on Nivus NivuLog devices

APPLICATIONS

- Groundwater level measurements
- Level measurements
- Hydrogen sulphide measurements
- Elevated tanks
- Floodwater retention tank (Ottendorf)
- Stormwater overflow tank (Frankenberg)

TECHNOLOGY

- Transmission of online and archive data signals by GPRS
- Cyclical and event-orientated transmission of the current process state
- Data storage on Nivus server
- Automatic control system data provision

PRODUCT DESCRIPTION

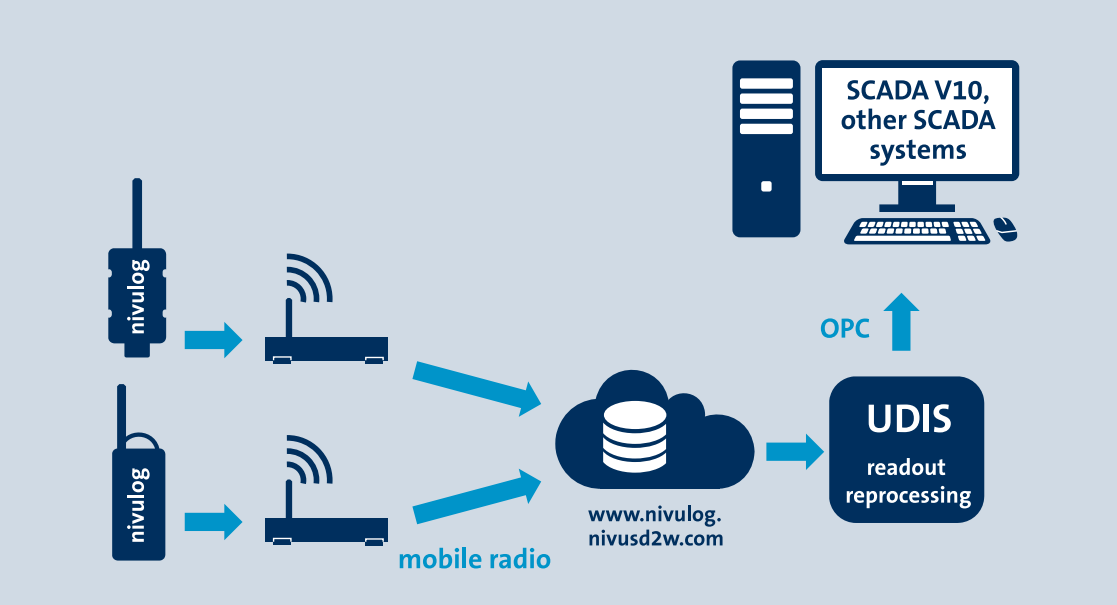
The "NivuLog" device series made by Nivus records signals and saves them in the internal data memory. The recorded data is transferred to the Nivus data server at defined intervals.

UDIS reads out the transferred data and transfer it to the control system via OPC.

This enables the user to access all data via the control system. As a result the user no longer has to call up the Nivus website to view their measured data.

ADVANTAGES

- Energy autonomy exceeding 5 years
- Standardised OPC interface through UDIS for many different control systems
- Central data acquisition within the control system



UDIS-SENSUS

Transmission of data from Sensus-Xenon water meters to a control system

APPLICATIONS

- Elevated tanks (e.g. Niesky)
- Pumping stations (e.g. Niesky)
- Inline water meters (e.g. Niesky)

PRODUCT DESCRIPTION

Sensus Xenon devices are suitable for connecting to mechanical water meters with reed contact or minibus connection. They can record 2 water meter readings.

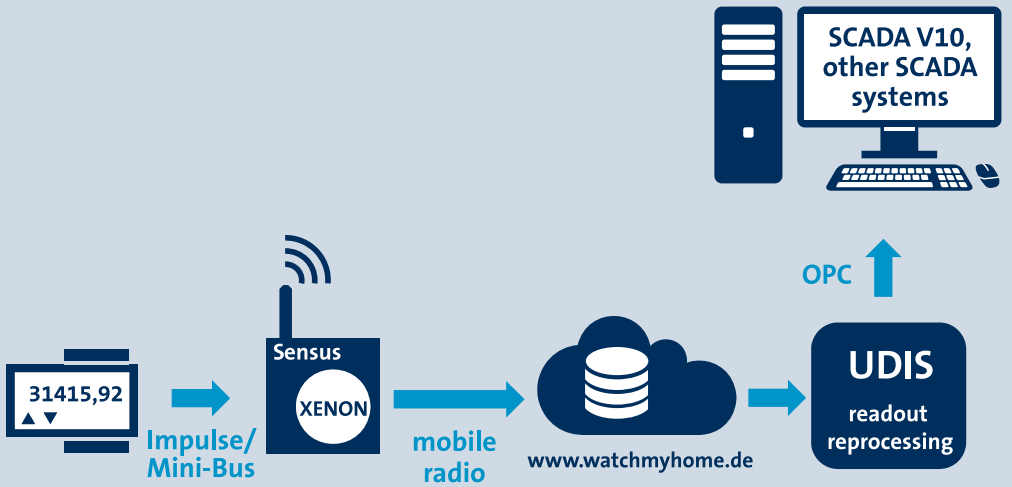
These are transmitted to the "watchmyhome.de" data server. By configuring quantity limits, automated alarms for pipe burst/leakage are generated and transmitted. These data are made available to UDIS control systems by means of OPC.

TECHNOLOGY

- Transmission of 2 meter readings with online and archive data by GPRS
- Cyclical and event-orientated transmission of the current process state
- Remote configuration possible
- Automatic control system provision data

ADVANTAGES

- Energy autonomy for 10 years
- Standardised OPC interface through UDIS for diverse control systems
- Central meter data acquisition within the control system
- Manual measured value reading no longer necessary



AUTO-MATION

UDIS-ACS-CONTROL

Autonomous transmission of fill levels to a control system

APPLICATIONS

- Elevated tanks (e.g. HB Arnsdorf)
- Groundwater level measurements (e.g. Schwarze Pumpe)
- Level measurements

PRODUCT DESCRIPTION

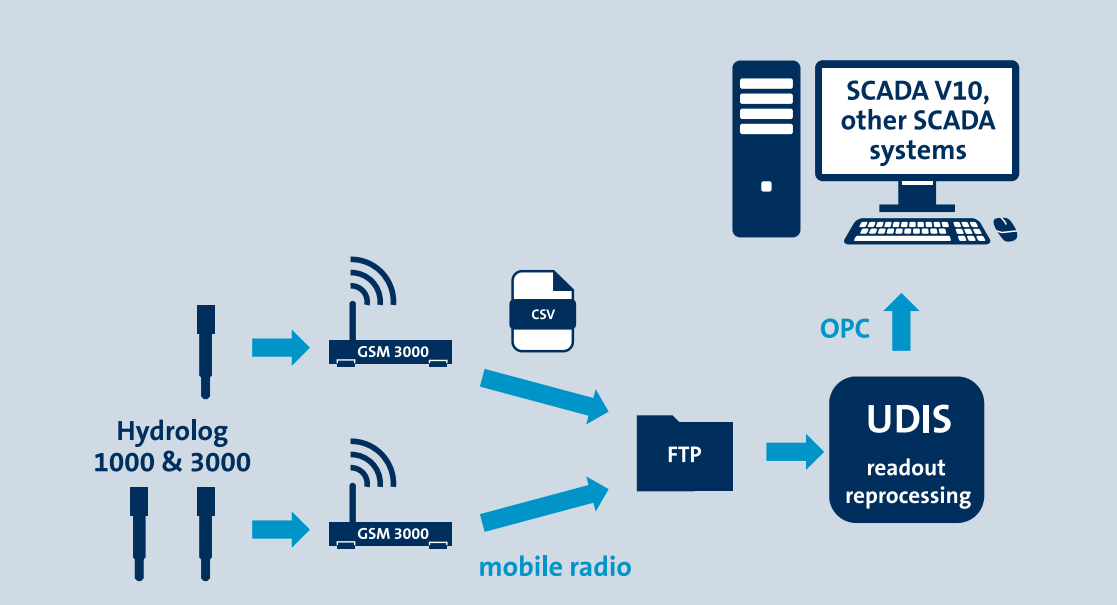
The "GSM-3000" module made by "ACS Control System" is used for autonomous remote data transmission of recorded levels from Hydrolog 1000 and 3000 level probes. The levels recorded (autonomous system) are transferred to an FTP server where they are saved as an archive file. These archives are decompressed by UDIS, prepared and the measured data relayed to control systems by means of OPC.

TECHNOLOGY

- Transmission of levels with online and archive data by GPRS
- Cyclical and event-orientated transmission of the current process state
- Data storage on FTP server
- Automatic control system data provision

ADVANTAGES

- Energy autonomy for more than 5 years
- Standardised OPC interface through UDIS for diverse control systems
- Central level recording in the control system
- No need for manual recording of the levels necessary



UDIS-NICOS

Transmission of archives from the Nicos process control system into SCADA V10

APPLICATIONS

- Stormwater over-flow tanks (e.g. Plauen)
- Pumping stations (e.g. Plauen)

PRODUCT DESCRIPTION

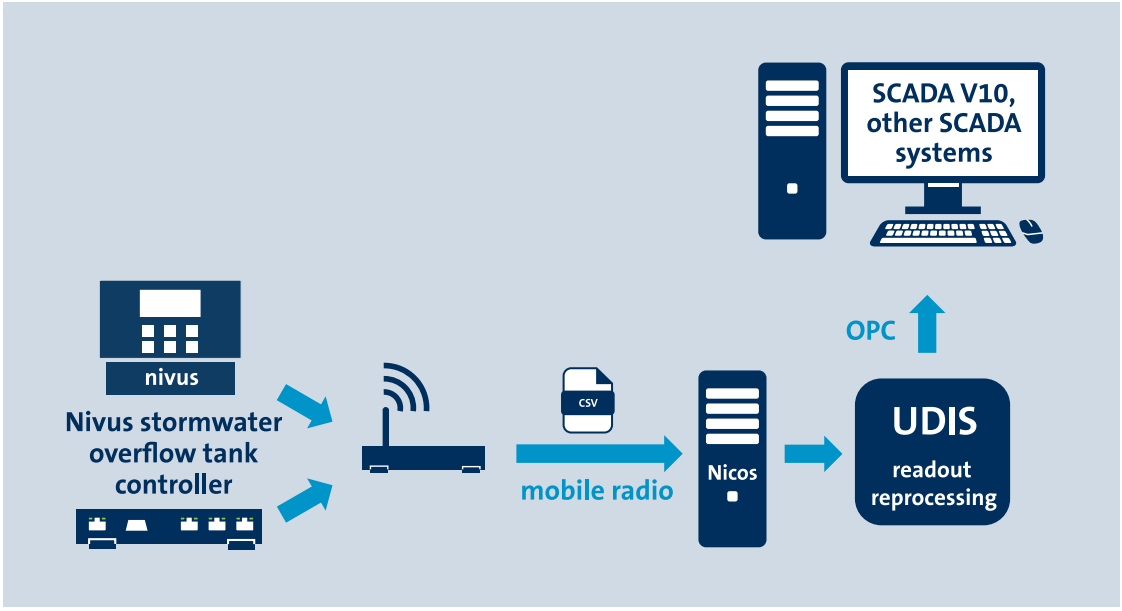
The Nicos control system is used, among other things, for coupling to Nivus DataCont devices and stormwater overflow tank controller. Once a day, these devices transmit a status message together with the archives of the last 24 hours. If a fault occurs, further data transfer is initialized in addition to the routine message, in order to transmit the fault. The Nicos system receives this data and stores it in its archive. In addition, the archives are available as CSV data format. This is read in by UDIS and transferred to the SCADA V10 control system.

TECHNOLOGY

- Transmission of the process image with online and archive data by dial-up or GSM modem
- Cyclical and event-oriented transmission of the current process state
- Automatic control system data provision

ADVANTAGES

- Standardised OPC interface through UDIS for diverse control systems
- Central data acquisition within a control system
- No additional control systems required

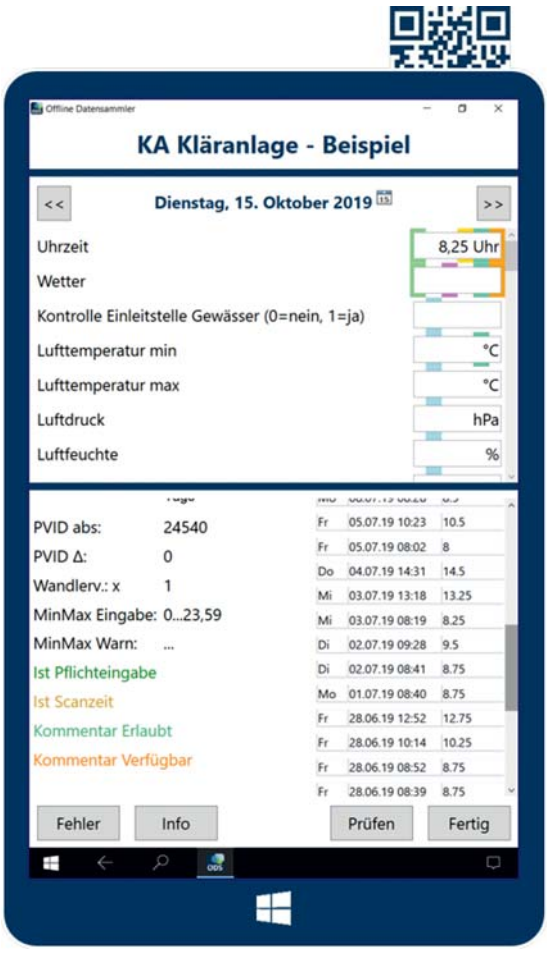


OFFLINE DATA LOGGER

Digital logging of system operating data without field communication infrastructure

APPLICATIONS

- Can be used in any industry where measured data needs to be recorded manually
- In small offline systems: recording of energy, water, consumption metres
- In automated systems: recording of laboratory values
- Developed in collaboration with communal association for wastewater Mittleres Erzgebirgsvorland, Eigenbetrieb Hainichen



PRODUCT DESCRIPTION

At present, various systems and measuring points cannot be equipped with networked automation technology resulting in long-range remote data recording not being possible. This is where the Offline Data Logger (ODL) comes in to assist. The ODL is designed for the easy and convenient logging of measured data and it replaces handwritten notes. The system is conveniently identified by a QR code and measured data is displayed on a touchscreen user interface, with which, the user can enter and save current or time-delayed measured data. In addition, archive data for each data point is displayed graphically and in tabular form.

An archive-supported plausibility check (also available offline) supports the operator and points out system/plant problems. This plausibility test can be maintained, optimised and expanded by the customer in an Excel configuration file.

Excel formulas can also be used to generate complex connections between different data points and dynamic message texts. The measured data will then be synchronized with the server as a csv file with an existing network connection and be automatically entered into the database by the wks UDIS software. Next, a database excerpt will be compiled with the measurements from the previous day and synchronized on all tablets.

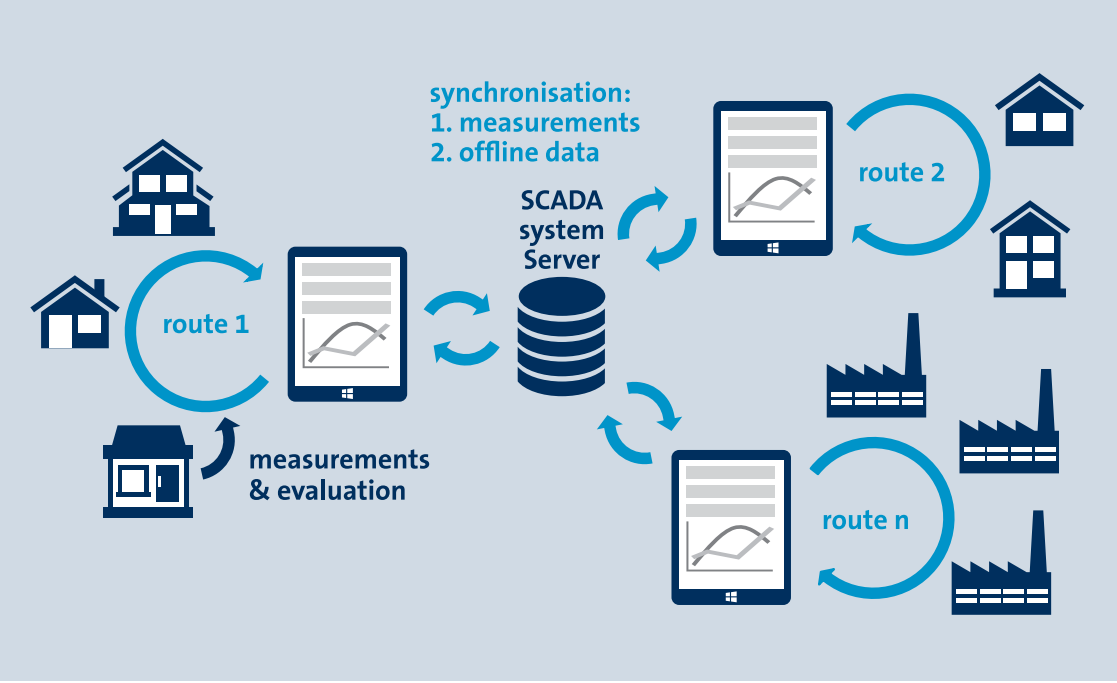
New: With the appropriate configuration, measured data can also be entered retrospectively. In addition, text comments can be added (see configuration colour strips in illustration on this padge).

SOFTWARE ENVIRONMENT

- Windows-based application
- Can be used as a standalone solution or in conjunction with third-party programs (e.g. UDIS, SCADA)
- Tablets are identical (except for the computer name) → after one tablet is set up (ODS, Kanio, Lovion, Office or others), the system can then be mirrored on the other tablets
- Windows Group Policy can be used to administrate tablets, e.g. allowed settings, programs or network connections for the user → protects the system integrity against misbehavior or external users
- Synchronisation through the Windows task control is possible, or with the wks FileSyncer

ADVANTAGES

- Quick logging of offline data
- Handwritten notes susceptible to errors are no longer necessary
- Offline plausibility check on-site → repeated site visits unnecessary
- Automatic data maintenance in the SCADA V10 database → prompt data availability for the operating log and energy management
- Powerful, customisable analysis functions
- Easy tablet setup



M-BUS & OPC-UA

Transmission of water, electricity, heat and gas meter readings

APPLICATIONS

- Water purification plants
- Inline meters
- Elevated tanks
- Pumping stations
- Wastewater treatment plants (e.g. Mittweida wastewater treatment plant)
- Heat supply (e.g. Heide wastewater treatment plant)

TECHNOLOGY

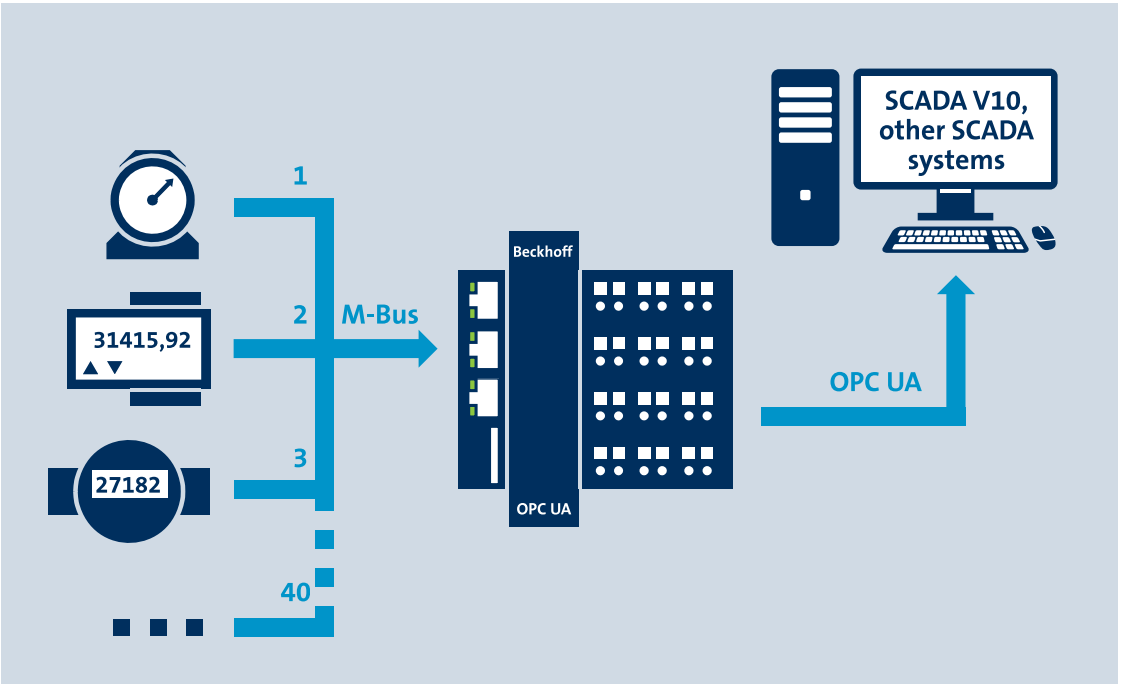
- Readings are read out by means of M-Bus
- Data provision via OPC-UA
- Manufacturer-independent
- Up to 40 devices at one M-Bus terminal
- Automatic configuration
- Star, tree and linear structure possible

PRODUCT DESCRIPTION

A combination of established M-Bus standards together with OPC-UA seminal communication allowing, up to 80 meters (from diverse manufacturers) to be read out simultaneously (a maximum 40 meters in standard configuration), and their data to be reliably transmitted to the control system. At the same time it is possible to operate a large number of meters and topology types simultaneously with a Beckhoff control unit.

ADVANTAGES

- M-Bus connection protected against polarity reversal
- Easy configuration
- Supports more than 80 different meters
- Transmission of absolute meter reading, no pulse evaluation
- Up to 4 km cable length possible



OPC-UA-TECHNOLOGY

Transmission of online and offline data by OPC-UA (Unified Architecture)

APPLICATIONS

- Data links between controls and control systems (various industries), e.g. wastewater treatment plants, pumping stations, elevated tanks, water purification plants, etc.

PRODUCT DESCRIPTION

Based on the established OPC-Classic standard, OPC unified architecture was extended by the OPC Foundation with many additional useful functions. These include, among other things:

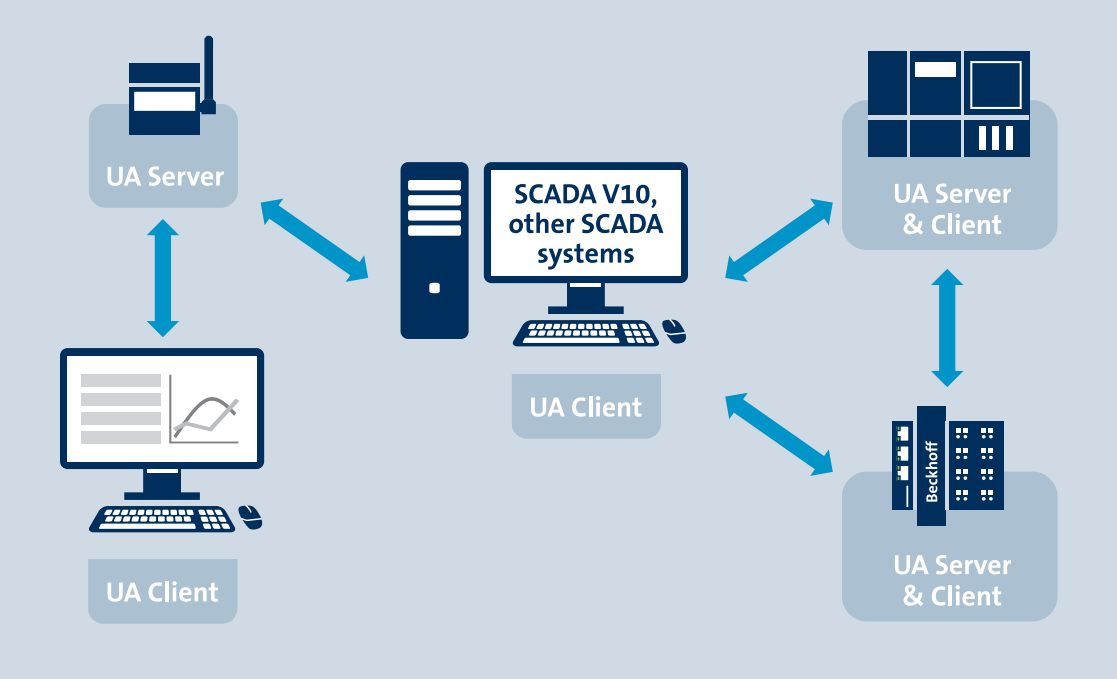
- buffering data, which can be transmitted following a connection failure
- the new security model, with which an encrypted connection can be set up
- historical access, enables working with historical data directly within the control system

TECHNOLOGY

- Online value transmission
- Data buffering
- Manufacturer-independent
- Security model
- Historical access

ADVANTAGES

- Cross-firewall communication
- Operating system-independent
- No data loss
- Data security
- OPC Foundation standard
- Easy configuration
- Preferred data communication protocol for industrial 4.0 applications



REMOTE MAINTENANCE CENTRE

Secure support system via the wks remote maintenance centre

APPLICATIONS

- Control systems
- PLC control units

PRODUCT DESCRIPTION

Remote maintenance access for support and optimisation is often necessary for operating an automation system. In order to authorise controlled and secure remote access for wks group employees to customer systems, wks group has set up a remote maintenance centre at its company headquarters. If required and approved, this centre allows remote access to control systems, control units (PLCs) and other network devices in the customer network. In order that the employee can access the system during a service/support call, the customer must set up a communication connection (VPN tunnel) to the remote maintenance centre.

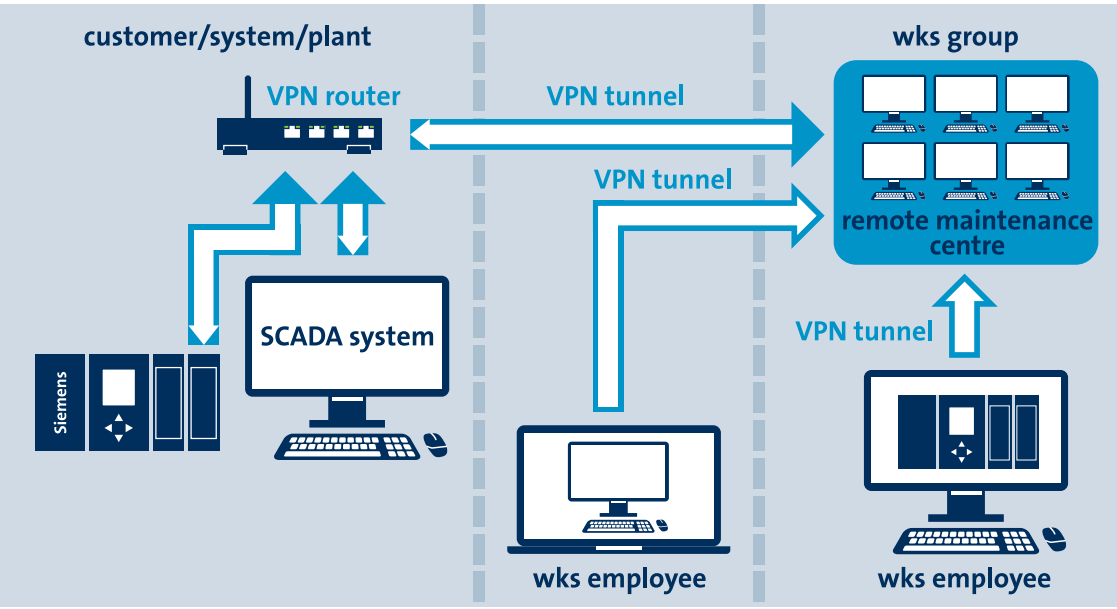
The employee performing the support/optimisation task also dials into the remote maintenance centre and connects to the plant's system. This allows the employee to carry out the work securely and in a location-independent manner.

TECHNOLOGIES | FEATURES

- Secure dial-up with IPSec/Open VPN tunnels and certificates
- Remote station maintenance access is always possible via wks group's maintenance centre
- Logging of remote maintenance sessions (plant system, time period, employee)
- Only one user account (wks group) administered by the customer´s system administrator
- Setting of access rights via user administration in the remote maintenance centre
- Central, secure management of customer dial-up data (employees cannot see it)
- The remote maintenance centre is physically isolated from the wks office network

ADVANTAGES

- Secure connection dial-up
- Controlled remote access
- No administration of wks personnel by the customer
- No third-party provided involved (cloud)



PHOENIX CONTACT mGUARD

Secure connections for operators and remote stations

APPLICATIONS

- On-call service
- External constructions
- Remote maintenance

PRODUCT DESCRIPTION

mGuard is a router for secure data connections (VPN) with a firewall that can provide detailed adjustment. With the help of this router, the control system/control network (PLC) can be specifically isolated from the Internet. Accesses to public domains of the Internet from inside and outside are blocked. This protects the critical infrastructure. Secure communication connections (VPN tunnels) are used to ensure that the on-call service personnel can access the system. The VPN tunnel for the on-call service is permanently available, while the VPN tunnel to the remote maintenance centre of the wks group is opened by the operator when required.
It can be switched on and off using a:

- button in the visualisation system or in the control panel
- hardware switch
- script in the computer

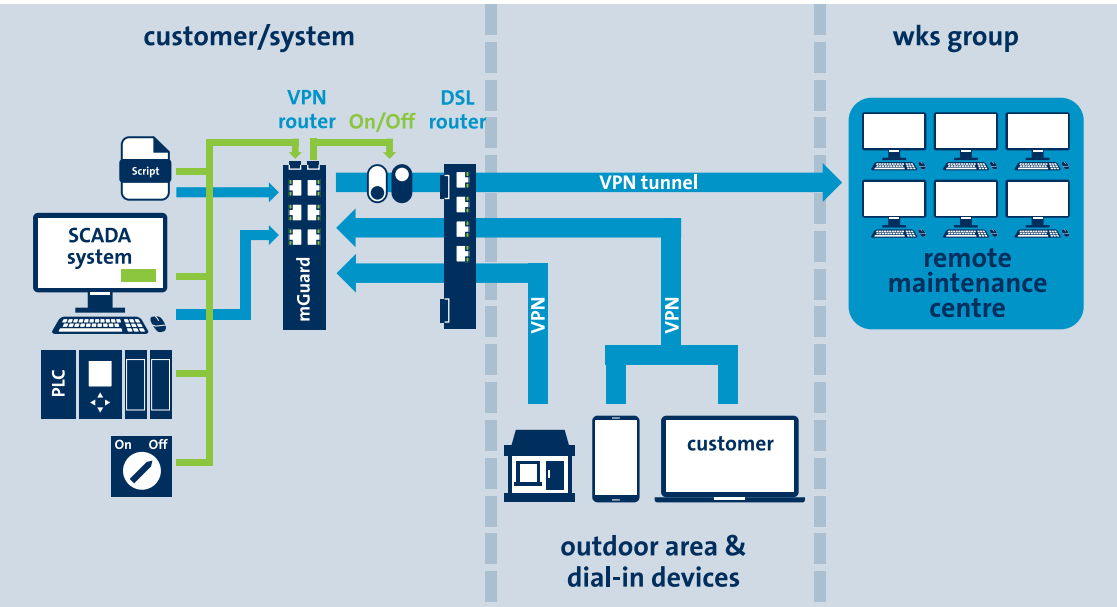
Furthermore, mGuard can also check the system integrity. In this process, all files which may potentially contain viruses are checked for changes and, if necessary, an alarm is issued to the system administrator.

TECHNOLOGIES | FEATURES

- Accesses to/from the control system network can be configured via a firewall
- Secure dial-up with IPSec VPN tunnels
- Only one fixed IP in the customer network with remote stations necessary
- Extension of up to 250 VPN tunnels simultaneously possible
- Encryption certificates
- wks group remote maintenance access can be switched by the operator
- Access to remote maintenance is always conducted by wks group

ADVANTAGES

- Protection of critical infrastructure
- Controlled, switchable remote access
- Secure data connection to remote stations
- Industrial design
- Testing of system integrity



CAD-SYSTEMS

For the creation, evaluation and documentation of electrical projects

APPLICATIONS

- E-Plan P8
- E-Plan Pre-planning
- WSCAD Suite
- ELCAD
- ABB e-design DOC, CURVES
- ProDoc

PRODUCT DESCRIPTION

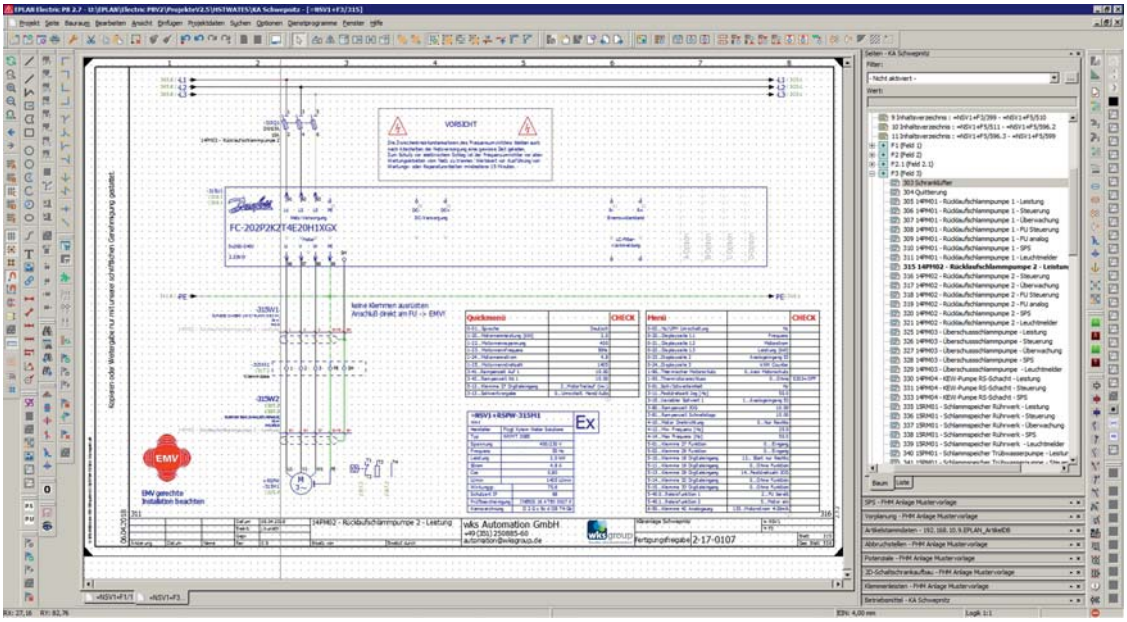
State-of-the-art CAD systems are used when planning electro-technical systems. We rely on the latest software from leading software companies to visualise complicated correlations. The combination of the three tools E-Plan, Preplannig and ProDoc enables us to create a piping and instrumentation diagrams, circuit diagrams as well as the automatic creation of device documentation.
We make use of the database system consistency for the automatic generation of test reports for units and measurement points. wks Automation has six employees working in this area.

SERVICES

- Creation of circuit diagrams for new systems in the business unit of the wks group
- Creation of circuit diagrams as a service for system manufacturers
- Transfer of circuit diagrams to other CAD systems
- Selectivity and load-flow calculations using ABB DOC
- Creation of multilingual documentation
- Implementation of technologies and documentation of the piping and instrumentation diagram with Pre-planning

ADVANTAGES

- Creation of circuit diagrams in the corporate group enables a high degree of flexibility
- The collaborative work of technicians and project engineers on a system enables a high degree of efficiency



THE CHALLENGES OF TODAY AND TOMORROW AND
OUR ACTIONS ARE CHARACTERISED BY
EFFICIENCY – INTELLIGENCE – SUSTAINABILITY – SECURITY.

THE OBJECTIVE: TO BE YOUR NUMBER 1!

Innovative products, integrated technologies and intelligently networked systems for municipalities and industries

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Group memberships/partnerships

SIEMENS

DWA

DVGW

Member of German Water Partnership