

Modular software for security control, door monitoring, access control and time attendance

RT-Time is the synonym for real-time applications of acquisition and processing of time-related information. The basic idea of *RT-Time* is the integration of security control and data acquisition within one system, which covers all tasks connecting commercial EDP with the peripheral devices (subsystems).

The single modules are basically independent but work with the same common database. There all master data can be used by different applications without the need of interfaces between them. Subsequently data of different modules can be linked and interpreted.

RT-Time has been designed as an efficient real-time system which has been realised with modern IT-standards. Due to open interfaces the optimal integration in existing technical environments as well as user software can be accomplished.

The following table gives an overview of the *RT-Time* modules.

Module	Description
Basic package KERNEL	Basic package with embedded database, real time core, device driver and interfaces
Access control ACCESS	Input masks, evaluations and processing for sophisticated access control
Control module LOGIC	Logic module for the integration of individual control and linkage procedures
Security control desk ADZ	Integrated security control desk for the security staff – everything on one workstation
Intrusion alarm module ALARM	Integration and control of intrusion alarm systems in conjunction with the access control
Personnel time attendance PZE	Personnel time attendance, gross wage determination and data interfaces to wage and absence systems
Order time registration AZE	Update of orders, working steps and evaluation of working time, interfaces to BDE
Visitor module VISIT	Convenient issue, withdrawal and evaluation of visitor ID-cards

RT-Time basic package

The basic package contains all basic functions for the RT-Time applications. Due to the used tools a variety of interesting features are available to all RT-Time applications, as there are:

- Operating system Unix, Win NT, 2000, XP
- Embedded ORACLE database
- ODBC database interface
- Data import and export using csv format
- RTA Real Time Architecture
- Redundant system configuration
- Multi-client capable
- Multi-user capable
- WEB and client/server architecture
- Remote control via ISDN/LAN
- Devices connected via RS232 or LAN
- Support of dial-line
- Monitoring of all system components
- Automated data distribution (download)
- Convenient issuing of substitute ID-cards
- Administration of multiple locations
- Location related exemptions

Because of the open csv data-interface RT-Time can be easily integrated in existing IT-topologies. Csv is a standard used by all conventional programs (such as SAP, Microsoft Excel, DPW, le salaire, aso) to exchange data.

The interface for data acquisition devices (or subsystems) is of open design, at present the following devices are in use:

- NexTIME series time attendance and data acquisition terminals
- NexACCESS security controller
- Benzing BEDAS 9xxx
- Benzing BEDAS 9290 access control manager
- Burr Brown TM2700 entry terminal
- ORIS 50/100/200/300 series
- biometric fingerprint reader TopSec
- Print Page textpager driver
- Optomux digital IN/OUT 4/8/16
- Westinghouse 80xS, 81xS, SX, SXT, SC
- Westinghouse NexSentry 4100

RT-Time records all data acquired by the subsystems and stores them as process variables in the real-time database.

These variables contain up to date values at any time and their functionality can be configured by the assignment of processing channels. This assignment distributes the events to the respective modules.

Configuration of processing channels: How are the acquired data processed?

- 1 Data archive
- 2 Logprinterqueue 1 (printer or window)
- 3 Logprinterqueue 2 (printer or window)
- 4 Alarm visualisation - *RT-Time ADZ*
- 5 Control module - *RT-Time LOGIC*
- 6 Not in use, free
- 7 Not in use, free
- 8 ID-card bookings
RT-Time ACCESS, PZE, AZE

RT-Time access control ACCESS

The access control provides administration, processing and evaluation of admittance data. The system is multi-client capable and allows the definition of global as well as company-specific objects. The definition and assignment of admittance authorisations is of multiple level design, so a clear definition of the authorisations is possible independent of the facility size. *RT-Time ACCESS* calculates automatically all necessary combinations and distributes them to the connected access control equipment.

Features of the access control

- Extensive zone definition
- Zone monitoring and -balance
- ON-Line testing possibility
- Passback
- PIN- and alarm code
- Master/slave assignment
- PO-Box- and elevator/floor control
- Multiple access rights per person
- Multiple ID-cards per person
- Holiday regulations per location
- Zone analyses
- Evacuation analyses (very quick)

RT-Time control module LOGIC

This module provides the freely programmable logical operations of process variables. The result of an operation is stored in another variable. This variable corresponds either with a digital output, or represents an internal variable which is used for log- and protocol purposes.

At the moment *RT-Time LOGIC* supports the following logical operations:

- AND, NAND (logical AND)
- OR, NOR (logical OR)
- NOT (logical negation)
- PULS (on/off, pulse duration)
- DELAY (on/off, delay)
- SQUARE (rectangle T1, T2)
- TIMEZONE (time zone on yes/no)
- COMPARE (person, site, process variable)
- DOOR (door control and door monitoring)

RT-Time security control desk ADZ

The integration of all security-related information into one workstation – that is the philosophy of *RT-Time ADZ*.

Whether it is about audio, video, or acquisition and control of digital information, the control desk offers their integration. Also all necessary actions and reactions due to arriving information are driven by the control desk. At the same time the process can be intervened as well as information can be handed over via ISDN, Pager, SMS, e-mail or alarm-forwarding to higher or parallel systems.

Because of the open system design and the use of standards, the possibility of integration of all conventional subsystems by using network connections can be guaranteed.

Parametrization of automation eases the users work and initiates actions even if the control desk has been left unattended. This guarantees the execution of basic security-relevant functions in correct sequence at any time.

The following functions are essential features of *RT-Time ADZ*:

- Processing of elevator-, technical alarms
- Processing of fire alarms (including forewarnings)
- Processing of admittance requests
- Automated camera activation
- Automated pager call, SMS, e-mail
- Automated graphic and intervention texts
- Display of the intervention texts
- Semiautomatic pager call, door release
- Manual pager call, door release
- Control/receipt of collective alarm
- Administration of alerting plans
- Remote control desks day/night operated (ISDN/LAN/WAN)
- Timed alarm-forwarding
- Timed and manual alarm inhibition
- Storage of comments into alarm-log
- Log-file transfer into report system

All alarms and their procession are archived in a log-file and can be evaluated from there

RT-Time visitor module VISIT

The visitor module allows the convenient administration of visitor ID-cards. Visitors can be pre-registered from any workstation and are already known at the reception when they arrive. The assignment and activation of a visitors ID-card is done by presenting it at the validation-reader. Also non-registered visitors can be supplied with an ID-card immediately by using the same procedure due to possible post-entry of the visitors data. Optionally a customised visitors ID-card can be printed from the program. The return and check out of the visitors ID-card is done manually or by booking at a badge reader intended for this purpose, which possibly captures the ID-card automatically.

Features of RT-Time VISIT:

- Administration of pre-registered visitors
- Administration of non-registered visitors
- Administration of multiple-day visitors
- Extensive copy capabilities (e.g. visits for 4 weeks every Monday)
- Print of visitor ID-cards
- Assignment of ID-cards by validation-reader
- Return, check-out by card capture reader
- Permanent overview of present visitors

- Integration into ACCESS (zone balance)
- Integration into attendance-evaluation
- Daily visitor report

RT-Time time attendance PZE

The module time attendance covers the whole range from time booking to gross wage determination. The acquisition of booking data happens by presentation of ID-media (badge, card) or by input in an EDP-system (e.g. login into the network, activation of a symbol or by using the virtual booking-terminal).

The acquired data are stored in the database and are available there for correction and completion. In such case the original data are left unchanged, and any amendment is registered by recording time and user.

RT-Time PZE is of relational design. There are no logical restrictions referring amount of bookings, time accounts, rules, constants and schedules.

The calculation of the time accounts is done by activation of formulas within the data base. The extensible formula library allows customised adaptations.

All calculated time accounts are managed as up to date accounts as well as difference per day within the data base. This enables the exact reconstruction of the account balance. These values are also available for individual evaluations at any time.

- Bookings
come / go bookings,
status bookings (all-day and part time presence/absence),
balance bookings and corrections,
time model bookings for individual day calculations.
- Status determination and rating
- Free definition of time rules, time constants and time ranges
- Calculation period up to 52 weeks
- Individual standard working hours as average from come /go
- Free definition of day types, multiple holidays, special days

- Time models with unlimited time rules, time constants and week schedules.
- Definition of time rules and time constants on multiple levels (person, day model, time model and for the entire system)
- Sequence- and week plans of any duration (controllable by time model/company schedule)
- day time models (controllable by week plan/schedule) for flexible- and fixed working hours (part-time), shift (shift schedule) and variable shift (automatic recognition)
- Part-time by simple specification of percentage
- Administration of overlapping pay-off days (controllable by time rule)
- Full- and part-time administration
- Day-, week-, month-, year accounts, current balances
- Wage interface with differential procedure and receipt possibility

Available adaptation masks

- Administration of time rules, time constants, time ranges
- Administration of user and user-groups
- Administration of time types and booking codes
- Day time models, week plans, time models
- Person specific rules and constants
- Company wide rules and time constants
- Time booking corrections and additions
- Information about booking errors
- Up to date balances
- Absence planning
- rebooking

Standard time ranges

- Overtime ranges for working days
- Overtime ranges for special days, Saturdays, Sundays
- Standard work time
- Rounding ranges for come / go times
- Break ranges
- Absence ranges
- Core time ranges

Standard time constants

All of the following time constants can be defined system wide, company specific, time model specific, day model specific and person specific. System wide low priority definitions can serve as default values, and higher priority definitions can be used for exceptions.

- Allocated time
- Allocated time for absences type 1 and 2
- Average allocated time
- Break time (3 breaks)
- Holiday entitlement
- Rounding for come / go times
- max. daily working time
- max. overtime (day, week, month)
- max. and min. flexible work time balance
- min. working time for break time subtraction
- Tolerance of working time infringement

Standard time rules

- Calculation of breaks
- Rounding type come / go
- Rounding type for time accounts
- Type of shift determination
- Type of overtime calculation
- Type of allowance calculation
- Type of absence calculation

Standard time types and groups (all as daily and monthly total)

The given time constants are stored in the database for several years. The monthly reports and time-statistics are online available within this period.

- Several absences
- Allocated time
- Standard working time
- Overtime
- Extra pay
- Flexible work time balances
- Holiday balances
- Balance allocated time/average allocated time
- Acknowledged overtime for wage system

Reporting Tools

The program provides standard reports representing the results of time attendance and time calculation. Additionally special reports can be generated by means of desktop tools and the integrated data-interface.

Standard Reports

- Time booking
- Booking errors
 - >violation of time ranges
 - >Excess of max. time limits
- Absences
- monthly employee evaluation
- monthly overtime evaluation
- Time statistics
- Annual working card
- Day model and absence plan
- Time models
- Week plans
- Day models
- Employee details

RT-Time order time registration AZE

By means of *RT-Time AZE* time- and quantity-feedback of the production can be assigned to orders and projects. The data are captured with FDC-terminals or at the EDP-workstation.

The capture can be simplified by the usage of machine-readable ID-cards of cost location, employees (from PZE) as well as barcodes for order numbers etc.

RT-Time AZE can also be used to manage the basic data (projects, job steps, assignment of employees to projects).

- Bookings
 - Start and end of work, change of order
 - Quantity feedback with quality information
- Booking entry and correction at workstation
- Administration of orders, job steps, batch production, charging types
- Administration of cost locations and fabrication groups
- Administration of FDC-rights
- Data synchronisation with PZE (time attendance)