KOENIG & BAUER

VisuEnergy X:

Overview of Functions of the Cloud Solution

(VisuEnergy X Version 1.46, Stand 07.02.2023)

Presentation

- Dashboards with freely positionable elements for individual design requirements
- Unlimited number of dashboards per user with optional sharing with other users/ user groups
- Elements in dashboards: tables and graphical charts (interactive live previews of all charts), single values, text elements (headings, text fields), image files, website embeddings, RSS feeds, news, wizards). Each element has numerous options for display configuration
- Value status display with many display options: Numerical value, percentage, replacement text, traffic light, symbol images, fill bar, speedometer
- Value ranges/states can be visualised using images that you have entered yourself.
- Linking option between dashboards
- Function to duplicate dashboards and dashboard layouts
- Convert dashboards to PDF
- Automated sending of dashboard PDFs by e-mail in selectable cycles to selectable recipients (groups).
- Function menu can be folded in, full screen view
- Automatic web slideshows from dashboards (can also be displayed without a session), optionally also with sharing function via e-mail and with regularly sent invitation
- Group-based selectable start dashboards

- Possibility for automated creation of dashboards
- Adding switches (actuators) to dashboards

Analysis and Visualisation

- Visualisation of the production speed possible
- Numerous types of diagrams (charts) for displaying time series: State diagrams, 15-minute curve, duration curve, counter reading curve, scatter diagram, grid diagram, Sankey flow diagram, ABC analysis, pie chart.
- Comparative reports on average days of the week, months, etc.
- Reports with comparison to fixed reference values (e.g. base years)
- All diagram types can be displayed graphically and/or in tabular form.
- Technical indicators (Bollinger Bands, Momentum, Relative Strength Index and MACD) can be displayed in state/progression charts
- Automatic conversion between consumption and history
- Diagrams for the representation of states: Picture reports (any background pictures)
- Interactive and extensively configurable map reports with OpenStreetMap, freely definable IoT states and data-dependent map markers. Dynamic positioning via sensor data.
- Traffic light display of IoT sensors and data points with freely definable colour limits
- Action report
- Automatic or controllable scaling of the measuring unit
- Interactive measuring points (data via Mouse Over)
- Display of up to 16 data points per diagram, also different measured variables (Y-axes), separate or joint display of measured variables
- Comparison of up to three different time periods per chart, can be displayed within or among each other.
- Flexible time selection: absolute or relative (e.g. current week) time span. Grid unit, pre-offset and post-offset.
- Consideration of gas consumption over gas day (6:00 a.m. daily limit)
- Fast charging of producers with consumers (negated summands)
- Different compression methods can be selected for summands/variables, e.g. to use maximum/minimum values for calculations.
- Interactive selection of time: zoom in/out, scrolling (12 jump widths selectable)
- Numerous display parameters can be controlled: grid, colour inversion, interpolation, fill area, separate or joint display of measured variables, axis dimensions, insertion of measures and threshold violations, insertion of minimum, maximum and average lines, insertion of target values, colour control (centrally and, if necessary, individually per chart).
- Transpose tables and raster charts
- Colour limit setting for raster diagrams
- Drag & Drop modification for Sankey flow diagrams
- Controllable point consolidation for regression diagrams
- Export as high-resolution PNG graphic (e.g. for print products)
- Display of real-time data (flowing progression curve)
- Limitation of the visualised data to weekly schedules (e.g. shift times) and calendars (e.g. „only working days“)
- Formation of any number of hierarchical data point structures as a tree
- Generation and display of any number of virtual (arithmetic) data points. These can be formed from sums (with additional difference data points) or from almost any formula (e.g. arithmetic operators, trigonometric operators, IF-THEN conditions ...). Formula editor with interactive user interface

Energy Management According to ISO 50001

- Documentation of measures and notes on measurement data
- Reminder function for future actions (notification to selectable user (groups)
- Any number of file attachments (per upload) per measure/note
- Displayable as chart and/or table
- Any number of freely definable conversion factors (e.g. tariffs)
- Conversions dynamically as time series
- Any number of freely definable weekly schedules (for performance mapping, e.g. shift schedules, working times, machine operating times, ...).
- Any number of freely definable calendars (e.g. company days, holidays, ...)
- Import calendars via iCal file
- Formation of any key figures via virtual data points
- Comparison of non-periodic key figures
- Function for duplicating data point structures including existing substructures
- Dating of implemented measures

Monitoring and Control

- At import level: automatic checking of incoming measurement data for plausibility/gaps incl. alerting of definable users (groups) and the possibility of automated measurement value correction.
- Regular analysis of the data completeness check with graphical preparation of all measurement series at a glance and export function for all measurement gaps
- At analysis level: Free definition of upper and/or lower thresholds, test for static limit or for excessive percentage growth (dynamic thresholds).
- Notification of threshold violations with definable texts to selectable users (groups)
- List of all threshold violations
- Import function for lists with threshold monitoring for multiple data points
- Control option by switching actuators and writing registers with data sources such as Modbus, Bacnet, OPC UA and LoRaWAN®.
- Limitation of threshold monitoring to fixed times, weekly schedules or calendars
- Coupling with dibalog® load management
- Correction of incorrect/missing measured values incl. automatic documentation (note function).
- Correction options: ignore, replace with static value, take over from existing metering point (also the same) and/or previous period, linear interpolation between meter readings, mark as „meter change“ and delete calculated consumption when changing, multiply values with fixed factor, import values from CSV, delete values
- Automated measured value corrections after plausibility check

Data Collection

- Measured variables: the time series can be created for practically all common and uncommon physical units in various scalings for consumption or condition. In addition to current-related measurands, this includes e.g. temperature, pressure, volume, volume change, speed, frequency, heat quantity, output, lighting, costs, ...
- Definition of own measured variables (incl. scaling) possible
- Manual input of data via input fields and upload interfaces, optionally also with conversion factors
- Upload formats: CSV, MSCONS, XLSX
- MSCONS connections with extended possibilities (e.g. alternative counting point identification)
- Extended configuration options for MSCONS CONTROL messages

- Transfer of any CSV structures, adaptation via format editor
- Splitting of measurement series over several data points at plannable times, robust even with subsequently supplied measurement data and corrections
- Definable sequences and reading intervals for meters and data to be read manually („meter lists"), incl. illustration, reminder function and plausibility check.
- Free description fields for data sources

Mobile App for Meter Reading

- The VisuEnergy X app for data collection and meter reading is available for smartphones (Android & iOS) via the app stores.
- Confusion-free allocation of the counters/data points via QR code
- Automatic synchronisation of the counter lists
- Reminder function for reading
- Recording of meter exchanges
- Automatic transmission of read meter readings
- Simple and secure login of own smartphones to the system
- QR code print templates for label sheets

Data Connections

- Interface to the Koenig & Bauer LogoTronic and various control consoles of Koenig & Bauer machines
- Automated reading of meters, data loggers, interfaces, IoT clouds and sensors via interfaces
- Minimum time interval for measured values: 1 minute. (visualisation only: < 1 second)
- Driver concept for easy expansion with new connections
- Direct connection of TCP-based systems such as Modbus-TCP, OPC UA, SNMP, FTP, SFTP, KNX, BACnet Web Services , MQTT, Homematic IP ... (please ask for current list or specific driver)
- Function for duplicating (S)FTP data sources
- Connection to APIs and backends of IoT clouds: The Things Network (TTN), The Things Stack (TTS), The Things Industrie (TTI) in version 3, Actility, Loriot, NB-IoT, Sigfox, Chirpstack, ELEMENT IoT, niota ... (please ask for current list or specific driver)
- Real manufacturer-independent LoRaWAN® integration through own LoRaWAN® payload editor for dynamic and static LoRa® payloads. This ensures compatibility with almost all available LoRaWAN sensors.
- Switching actuators via LoRaWAN® (LoRa data sink)
- Import/export of LoRa® payloads
- Input option for diverse metadata (images, documents, websites) for LoRa® payload descriptionsConnection of specific devices/data loggers: Janitza ProData2, EMU M-Bus-Center, Harting SmartPN, ... (please ask for current list or specific driver
- Configurable FTP server (e.g. for data loggers with FTP delivery)
- Direct import of data sent by e-mail from SMTP mailboxes with post-processing
- Automatic homogenisation of the measuring intervals
- Measuring device catalogue to create templates for frequently used devices/ interfaces
- Intermediaries for scalable connection of numerous, globally distributed locations
- Optional, per project order: Connection to a variety of CRM systems

Other Functions and Features

- Dialogue language can be selected per user
- Message of Day: Definition of internal messages that are displayed to the user

after login or sent by e-mail
- Works Council-compliant user tracking for support purposes
- Adaptive web interface (Responsive Design)
- Integrated digital user manual

The specification „unlimited number“ or „unlimited“ means a non-limited number of objects for normal, intended use. To maintain the stability of the overall system, there are technically determined upper limits for users, dashboards, etc., which are far above any usual demand limit.

Koenig & Bauer AG
Friedrich-Koenig-Str. 4
97080 Würzburg, Germany
koenig-bauer.com

we’re on it.