Smart Energy & Power Quality Solutions

Tap-off unit for busbar trunking – AKM

MAXIMUM TRANSPARENCY FOR BUSBAR TRUNKING SYSTEMS

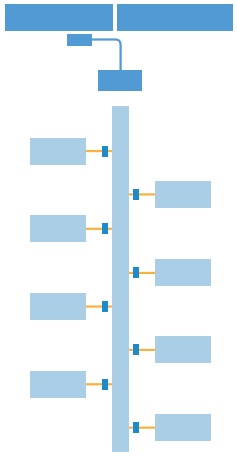
Plug & Play Energy Monitoring For Busbar Systems

Janitza®

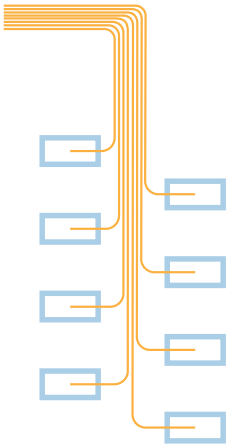
MAXIMUM TRANSPARENCY ON BUSBARS

Busbar systems for power distribution in manufacturing plants, large buildings, and data centers offer the following advantages:

- Simple and flexible planning with a modular system
- Early planning without precise knowledge of load locations
- Time and cost savings during installation
- Speed and flexibility for expansions and changes of machine locations
- Changes and expansions also possible with system alive
- Type-approved safety
- High short-circuit rating
- Low fire load
- Good EMC properties



Busbar trunking installation



Cable installation

Tap-off units with integrated measurement technology offer additional features:

- Maximum energy transparency at the machine level (foundational technology for Energy 4.0)
- Optimized plant availability through continuous monitoring of the energy supply quality.

Busbar tap-off units (AKM) from Janitza:

- Tap-off unit for BD2 busbar trunking system, other busbar systems on request
- Proven and powerful Janitza energy measuring technology
- Compact design with optimized temperature behavior
- Pre-assembled systems for Plug & Play installation
- Versions with up to 125 A fuse protection per feeder, higher currents on request
- Tap-off unit dimensions (for 125 A size): approx. 530 x 310 x 100 mm³.

ADVANTAGES OF THE AKM BUSBAR TAP-OFF UNIT

ENERGY EFFICIENCY ANALYSIS

Measuring the energy consumption of each connected consumer enables evaluation and improvement of the energy efficiency as well as comparative evaluation of different consumers.

TRANSPARENCY OVER THE ENTIRE BUSBAR

Monitoring of the entire busbar forms an important basis for the planning of changes and expansions. The measured values enable simple determination of key performance indicators, benchmarks and reports.

SIMPLE PLUG & PLAY SETUP WITH NO MANIPULATION OF THE MACHINE

Enables time-saving installation of an energy monitoring system with pre-assembled tap-off units.

CONTINUOUS MEASUREMENT OF ALL CURRENTS

The measurement of all phase currents and continuous measurement of the neutral conductor current enable high measuring resolution as well as early detection of overloads caused by unbalances and harmonics.

POWER QUALITY MONITORING

Continuous measurement of the power quality. Avoidance of plant downtimes through continuous analysis and warning of deviations.

TEMPERATURE MONITORING

Direct measurement with a temperature sensor in the unit allows early detection of overloads.

MEASUREMENT OF RESIDUAL CURRENT

Continuous measurement of the residual current: Early detection of failures in the electrical installation.

ADVANCED RESIDUAL CURRENT MEASUREMENT (OPTIONAL)

Enhancement of RCM measurement for pulsating alternating currents up to 20 kHz (Type B+) for standard-compliant measurement and monitoring according to IEC 62020.

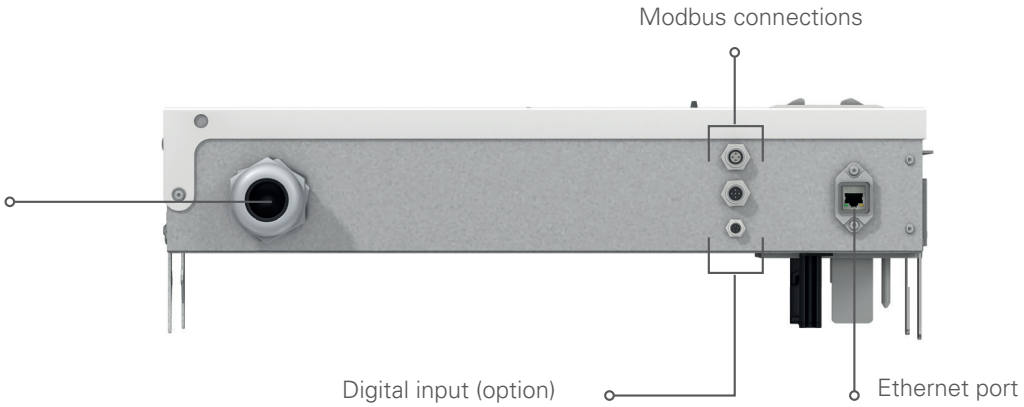
DIGITAL INPUT (OPTIONAL)

For recording additional measured values, e.g. compressed-air or coolant consumption.

Tap-off unit with integrated measurement technology

BOTTOM VIEW:

Cable gland for power feeder



1. **Power fuses**
   Easily accessible fuses for the load side

2. **Transformer for operating current measurement**
   Measurement of phase currents L1, L2 and L3 and direct measurement of the neutral current

3. **Sensor for temperature measurement**
   Measurement of the internal tap-off unit temperature

4. **Residual current transformer for RCM measurement**
   Measurement of residual currents

5. **Power connections**
   Generously dimensioned connection compartment for easy connection of loads

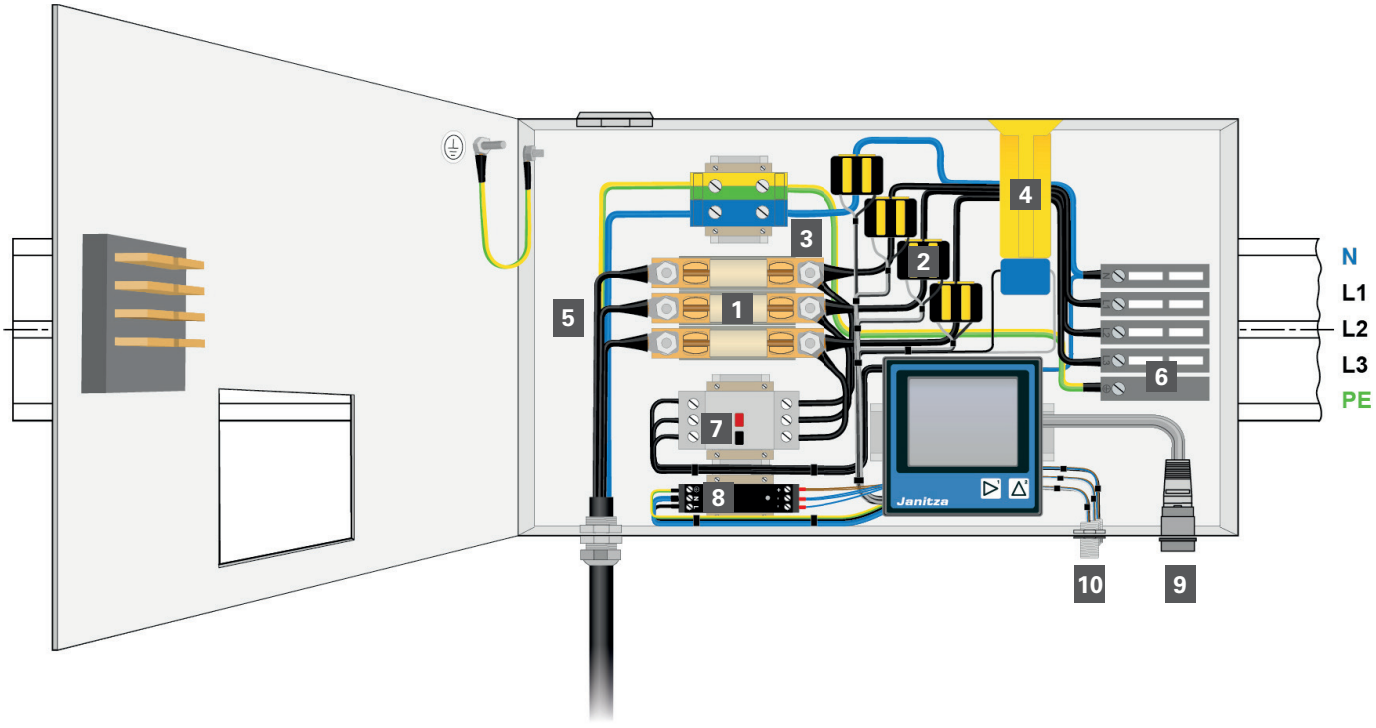
6. **Contact block**
   The connection to the busbar is automatically disconnected when the unit is opened

7. **Measurement device protection**

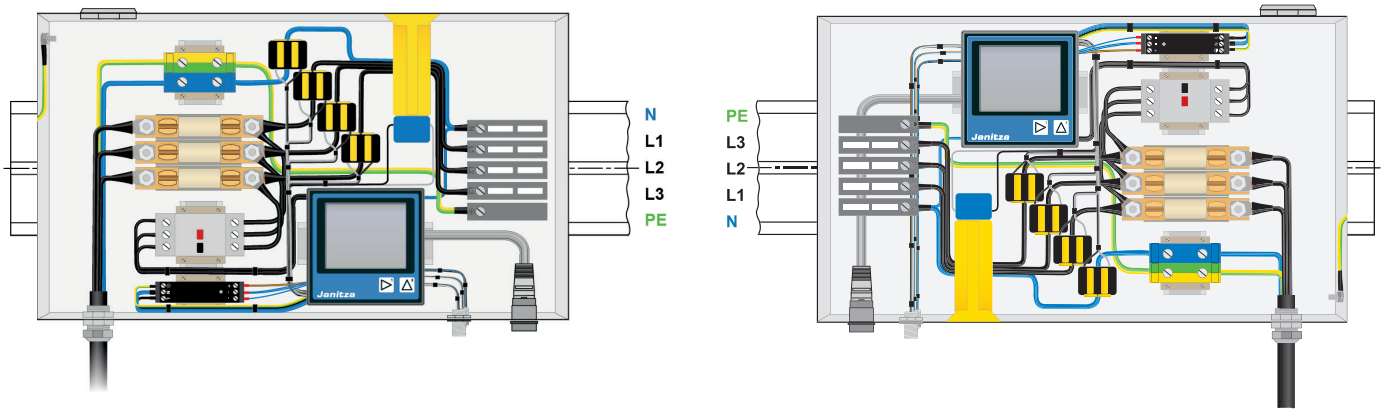
8. **Optional:**
   24 V power supply unit and digital input

9. **Ethernet port**

10. **RS485 connections**

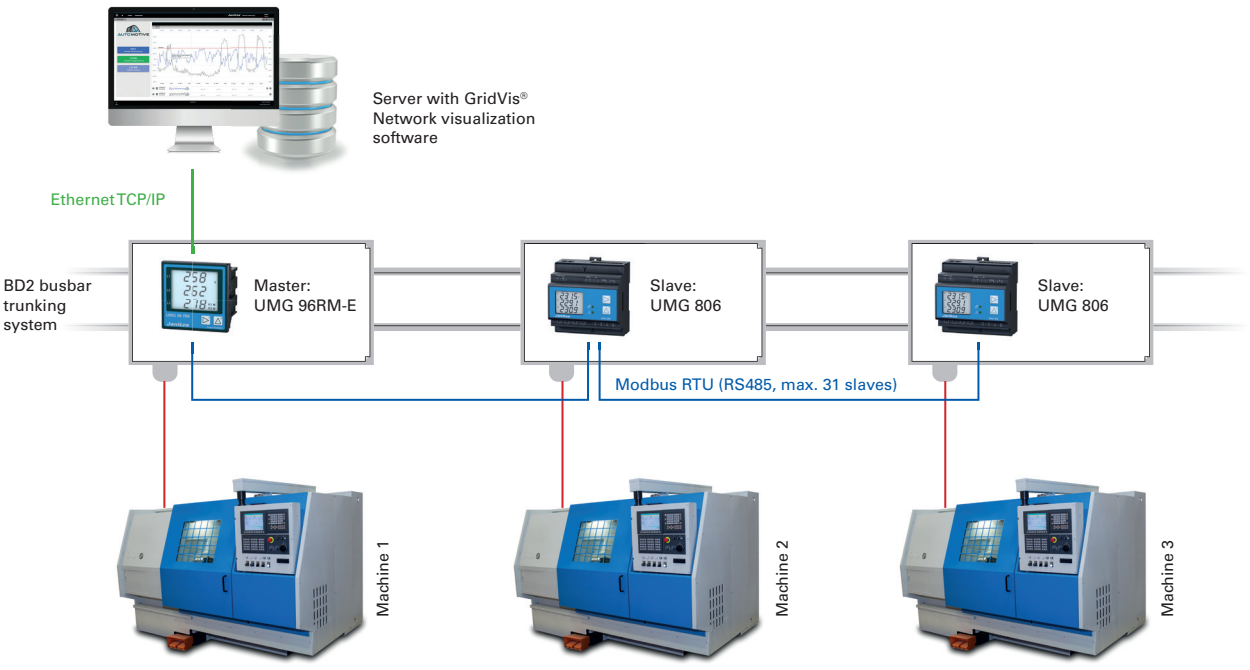


FREELY SELECTABLE CABLE OUTLET ORIENTATION SIMPLIFIES INSTALLATION



A choice of two possible cable outlets allows easy adaptation to the installation situation. In the version with a display, the measurement device can be rotated by 180° to enable correct display orientation.

EASY BUS INSTALLATION BY SETTING UP MASTER-SLAVE STRUCTURES



The busbar tap-off units (AKM) can be linked via Ethernet or RS485 and have an integrated Ethernet RS485 gateway. When the first AKM is connected directly to the Ethernet, as shown in the example, and the integrated gateway function is used, all subsequent AKMs can be linked via RS485, saving costs and IP addresses. Two connection sockets each enable the bus connection to be simply looped from one busbar tap-off unit to the next.

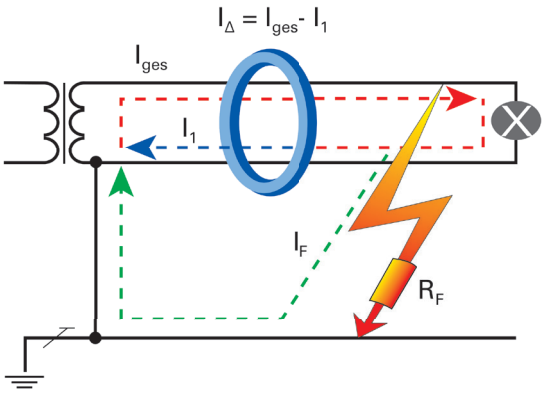
VERSIONS AND OPTIONS

Pulse input for additional measurements (option DI)

- Optional digital input for recording any process variables (e.g. compressed air or water)
- Measured values are standardized and temporarily stored in the AKM

Enhanced residual current detection (option RCM plus)

- Recording of pulsating residual currents of up to 20 kHz (Type B+) according to IEC 62020
- An alternative to insulation measurement in TN-S systems and thus reduced test effort on stationary electrical installations within the scope of German Social Accident Insurance (DGUV) Regulation 3



Versions with and without display

Depending on whether the AKM is to be operated locally or a display is required, a version with or without an external display can be selected.

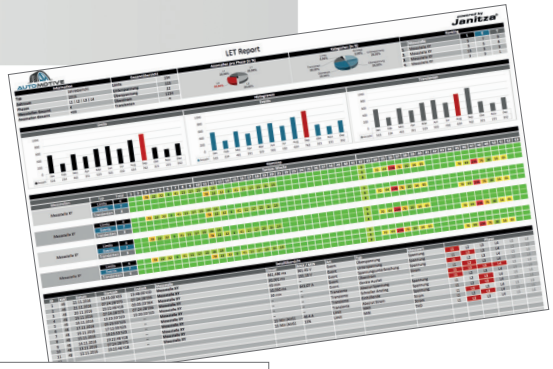
AKM with display in the front panel

AKM without display in the front panel

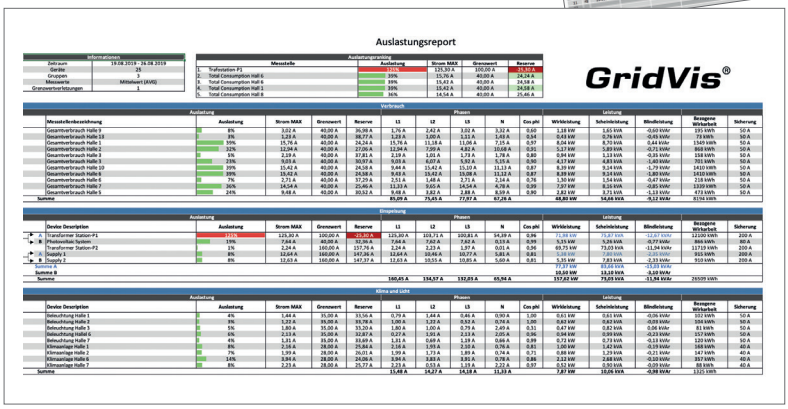
VISUALIZATION AND EVALUATION

PERFECT OUTLINE AND EVALUATION OF MEASURED VALUES IN GridVis®

*Freely configurable dashboards**



Keep track of system utilization: The report shows the utilization of all selected measurement points as a percentage and as an absolute value in the selected time period. Limit violations, excessive utilization, and reserves can be seen at a glance.*



Automated reporting, e.g. availability, events, transients and limit violations*

** The availability of individual functions depends on the selected GridVis® edition*

Smart Energy & Power Quality Solutions

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