

ENERGY
EFFICIENCY
IN FOOD PRODUCTION

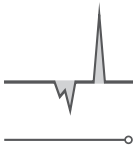
FOOD & BEVERAGE

Brief information

Janitza

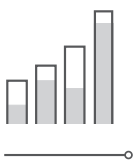
ENERGY AS A CRITICAL FACTOR FOR SUCCESS

Whether it's processing, cooling, filling, or cleaning: stable processes and the highest quality standards matter in the food industry – and so does efficient energy usage. This is because rising energy costs, stricter regulatory guidelines, and the pressure to become more sustainable present businesses with major challenges.



PREVENT PRODUCTION DOWNTIMES

A stable power supply is the basis for smooth-running processes in food and beverage production. Through continuous power quality monitoring, fluctuations, downtimes, and faults can be detected early before they affect the business.



CREATE TRANSPARENCY – USE ENERGY EFFICIENTLY

Cause-based consumption recording on a line and system level enables well-founded decisions to optimize energy-intensive processes such as cooling, filling, or cleaning. Continuous monitoring makes saving potential visible, inefficient areas can be detected and improved in a targeted manner. This also targets and combats rising energy costs.

Modern measurement technology provides the necessary transparency: It makes energy flows visible, detects faults early, and enables intelligent load and energy management. This helps to reduce operational costs, increase supply safety and, at the same time, achieve ESG targets. Janitza will support you in this with comprehensive solutions, from individual measurement to an integrated energy management system.



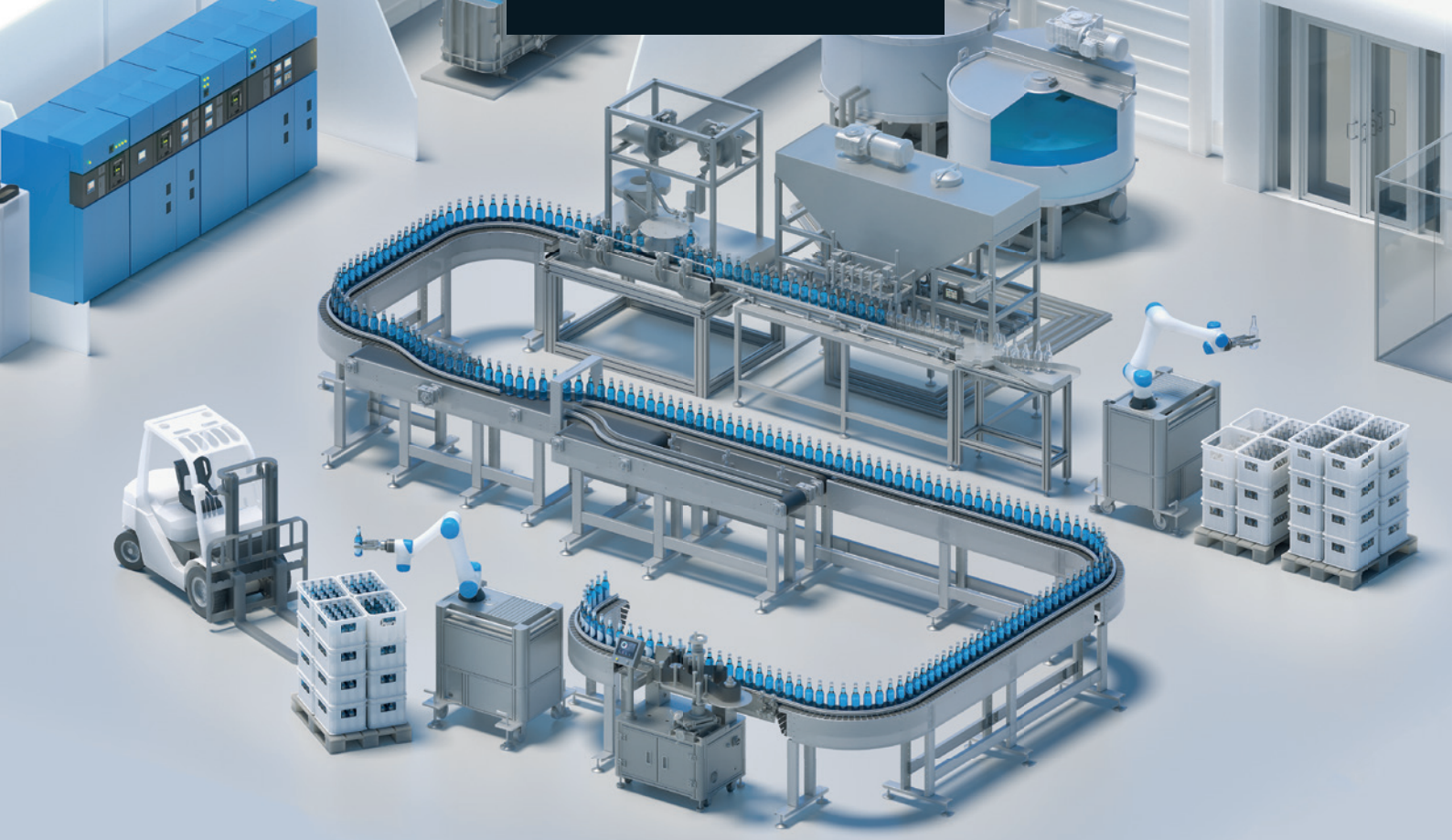
GROWING REGULATORY REQUIREMENTS

Laws such as the Energy Efficiency Act (EnEfG) and standards such as ISO 50001 demand genuine saving measures and transparent documentation. Without digital, measurement-based systems, implementation becomes a challenge and leads to potential money losses.



MAKE SUSTAINABILITY MEASURABLE

The food industry is one of the sectors with the largest impact on the environment and resources – especially due to energy consumption, water demands, and emissions throughout the entire value-added chain. Customers and markets expect increasingly transparent sustainability strategies, robust CO₂ balances, and measurable advances in climate protection and conservation of resources.



AVAILABILITY IS ESSENTIAL

Availability is the decisive factor for success in the food industry. Every unplanned interruption – be it due to power grid fluctuations, system downtime, or energy shortages – immediately leads to production downtime, quality risks, and high costs.

Modern measurement technology and energy management solutions therefore ensure continuous supply, monitor power quality and system statuses in realtime, and detect faults early. This helps prevent breakdowns, keeps processes stable, and guarantees the highest product quality.

HOW MUCH DOES DOWNTIME COST?

For a brewery, production downtime causes significant costs per hour:

Goods not produced:	20.000 – 100.000 €
Personnel:	500 – 1.000 €
Energy:	5.000 – 9.000 €
Total	25.500 – 110.000 €

In addition, there are also indirect costs such as contractual penalties for supply delays, image damage, additional shifts, loss of quality due to spoiled brewing processes or interrupted cooling chains.

ENERGY EFFICIENCY IN THE FOOD INDUSTRY PAYS OFF

- Measurement on a mechanical level to identify inefficient consumers
- Better system availability by means of connecting energy and production data for real process optimization
- Competitive advantage due to sustainable and economic production and future security with rising electricity prices and supply shortages
- Eligibility due to documented increased efficiency, reports, and alarms for audits, evidence, and quick response times
- Reduction of CO₂ emissions to fulfill ESG criteria
- Falling energy costs due to optimized energy usage

MEASUREMENT TECHNOLOGY FOR MORE EFFICIENCY, SAFETY, AND SUSTAINABILITY IN FOOD PRODUCTION

Reliable measurement technology is essential in the food industry: It forms the technical basis for effective energy management – from processing raw materials to filling, cooling, and cleaning. Janitza offers an extensive solution of accurate hardware and intelligent software for this.

With our measurement devices and the ISO 50001-certified GridVis® energy management software*, you'll create transparency across all energy flows and can flexibly adjust your system to fit changing production conditions.

Optimize energy usage – Ensure quality

As a manufacturer of measurement devices and energy monitoring software, Janitza supports food businesses in monitoring power quality in a targeted manner, and optimizing energy usage per process, line, or batch. This reduces operational costs and increases system availability

Make sustainability measurable

In accordance with the GHG protocol, when recording emission date, Janitza supports:

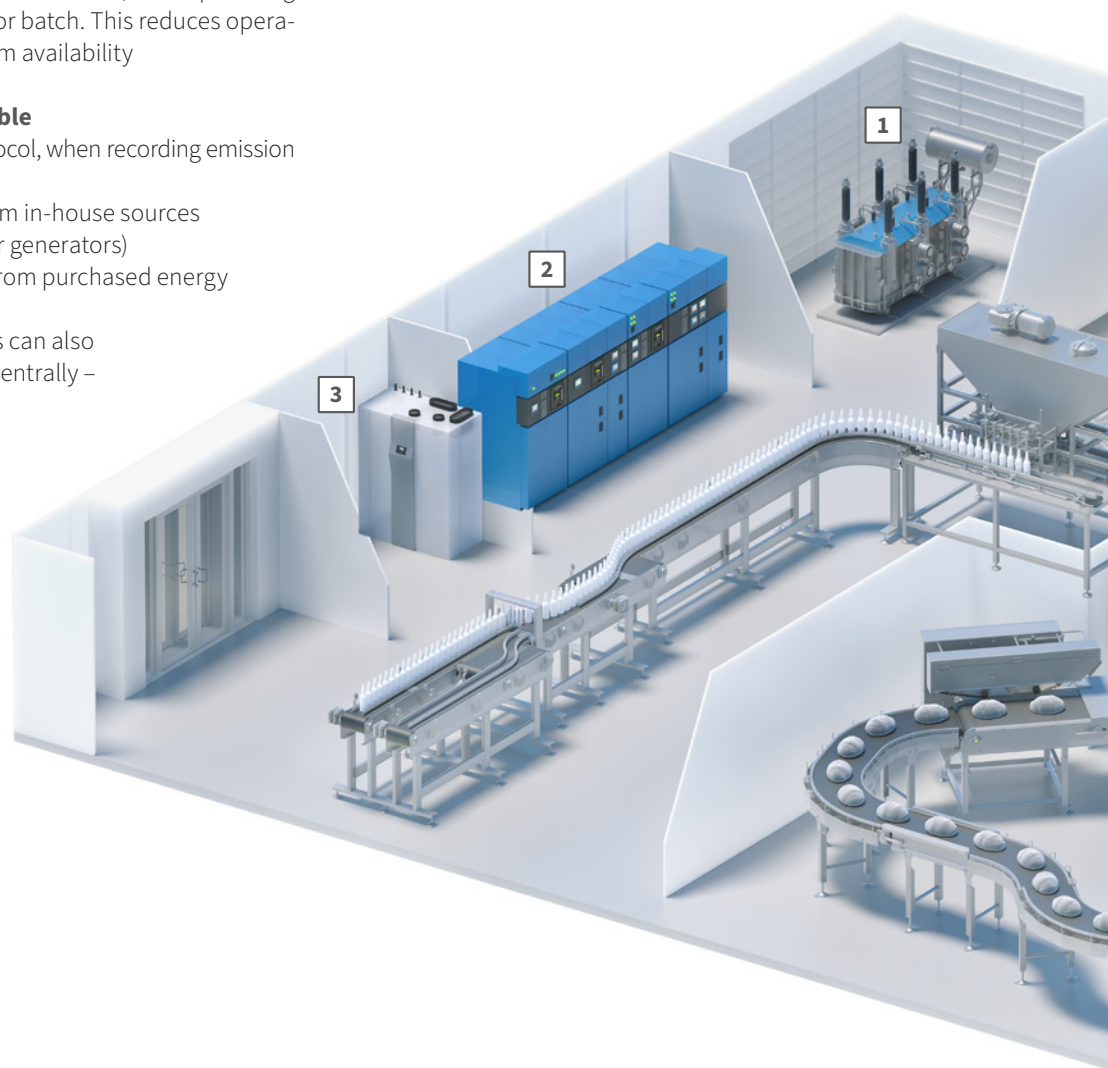
- Scope 1: Direct emissions from in-house sources (e.g. boiler, emergency power generators)
- Scope 2: Indirect emissions from purchased energy (e.g. electricity, steam, heat)
- Water, gas, and steam meters can also be integrated and recorded centrally – for a standardized overview of your resource usage.

Technology that meets your requirements

Janitza meets the specifications ISO 50001 and ISO 14001 and supports companies in the food sector with introducing, implementing, and continuing to develop an energy management system that complies with standards – with clear processes and continuous improvement.

Power supply always in view

You will receive a detailed view of your energy supply with the intelligent network analyzers by Janitza. They detect critical deviations early and ensure compliance with important standards such as IEC 61000-2-4 or IEEE 519 – for stable processes, high supply safety, and reliable quality at each level of production.



**GridVis® Standard and Expert editions
are certified according to ISO 50001*

1 TRANSFORMER SUPPLY

- PQ Monitoring Level 1
- Recording load currents

2 LV MDB

- PQ Monitoring Level 2
- Detailed measurement of individual outgoing circuits
- RCM for preventive maintenance and fire safety

3 TECHNICAL AREA

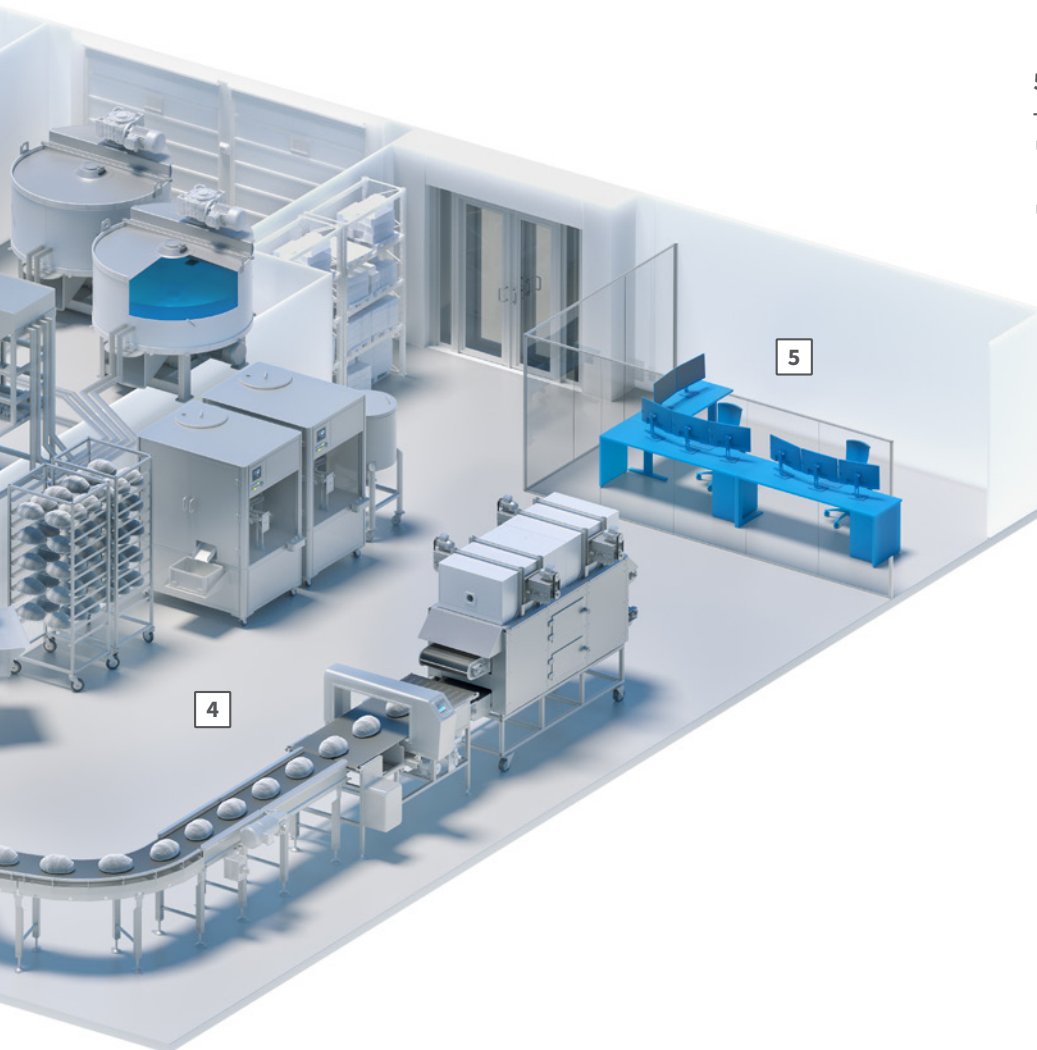
- Detailed gas, water, and heat consumption recording

4 PRODUCTION HALL

- Measurement of individual consumers at the machine and/or
- Measurement at the busbar
- Subdistribution panels for subfields, etc.

5 CONTROL CENTER

- Data recording, analysis, visualization, and alarms
- Connection to building management systems (BMS) and process control engineering (PCE)



PRODUCTS:



Part number: 5217003 48... 110 V AC / 24... 150 V DC*
5217011 95... 240 V AC / 80... 300 V DC*

UMG 512-PRO CERTIFIED POWER QUALITY ANALYZER (CLASS A)

- Class A-certified according to IEC 61000-4-30
- Standard-compliant monitoring, e.g. 50160 and 61000-2-4
- Holistic appraisal of power quality, energy consumption, and total residual current
- Monitoring and central storage of all relevant electrical energy and network data
- Integration via Ethernet, master function for Modbus RTU



Part number: 52.31.003 External 24 V DC, PELV*

UMG 801 MODULARLY EXPANDABLE POWER ANALYZER

- Continuous power quality monitoring pursuant to EN 50160 and EN 61000-2-4
- Modular expandability to max. 22 three-phase current measurements, including neutral conductor + 4 multifunction channels (RCM/temperature)
- Integration via Ethernet (OPC UA and Modbus TCP), master function for Modbus RTU
- Low power module variants possible



Part number: 5236021 (Class S) 90... 277 V AC / 90... 250 V DC*
5236022 (Class S) 24... 90 V AC / 24... 90 V DC*

UMG 96 PQ-L MODULARLY EXPANDABLE POWER ANALYZER

- Comprehensive measurement of power quality, residual current, and temperature
- Class S certified according to IEC 61000-4-30 (activation)
- Comprehensive transparency of power quality at all levels
- Display of full-wave events directly on the color display
- Retrofittable module and firmware packages
- Low-power variants with direct operation of passive Rogowski coils, as well as variants for IT networks, are available



Part number: 5238001 (UL) External 24 V DC, PELV*
5238002 External 24 V DC, PELV*

UMG 800 - MODULARLY EXPANDABLE ENERGY ANALYZER

- Transparency of costs down to the machine level
- Compact basic device with 2 sub-units and expansion modules with 1-4 sub-units, perfect for retrofit solutions
- Can be expanded by up to 96 current measurement inputs
- Integrated web server for simple commissioning, configuration, and monitoring
- OPC UA, RS485, Modbus TCP/IP Gateway
- Cost effective expansion of an energy management system, e.g. pursuant to ISO 50001

* Supply voltage

These products represent only a selection. For a full overview of our measurement technology, please visit www.janitza.com or contact us.

GRIDVIS® – POWER GRID MONITORING SOFTWARE

Today, manufacturing companies face numerous challenges. GridVis® power grid monitoring software helps tackle these. With numerous functions for the visualization and analysis of your energy data, you will receive an overview of all key information at all times. Standardized reports comply with numerous standards and make documentation and analysis easier. This not only ensures energy management that complies with standards and a secure power supply, but also significantly reduces your energy costs.

ADVANTAGES

OBLIGATION TO PROVIDE VERIFICATION

EN 50160 Power quality report

AVAILABILITY & SAFETY

Alarm management, limit value monitoring

ENERGY MANAGEMENT*

pursuant to DIN ISO 50001, contract management

KEY PERFORMANCE INDICATORS ANALYSIS

KPI manager, KPI dashboards & diagrams

CONNECTIVITY

OPC UA, CSV, REST API, M-Bus, Modbus

VISUALIZATION & DOCUMENTATION

Report editor, dashboards, reporting

NETWORK ANALYSIS & EVALUATION

Event browser, utilization, and high availability reports, RCM reporting

**GridVis® Standard and Expert editions are certified according to ISO 50001*



ABOUT JANITZA

Janitza develops complete solutions for energy measurement technology that ensure transparent energy flows and monitor the quality of the energy supply. The global company, with headquarters in Germany, offers individual solutions for customers from a range of industrial sectors, such as data centers, the manufacturing industry, construction and infrastructure, energy supply companies, and renewable energies.

PORTFOLIO

The Janitza product portfolio consists of innovative measurement devices and the perfectly matched GridVis® power grid monitoring software, complemented by high-quality components. Janitza customers worldwide benefit from solutions for energy data management, power quality monitoring, load management, and residual current monitoring in a system environment – Made in Germany.

HEADQUARTERS

Janitza | Deutschland

Vor dem Polstück 6
35633 Lahnau
Telephone: +49 6441 9642-0
E-Mail: anfragen@janitza.de

www.janitza.com

GLOBAL

Janitza | USA

Telephone: +1 888 526 4892
Email: sales-us@janitza.com

Janitza | Austria

Telephone: +43 7942 214 966 194
Email: anfragen-at@janitza.com

Janitza | Mexico

Telephone: +52 (0) 56 6674 4808
Email: info@janitza.com

Janitza | Australia

Telephone: +61 411 544 114
Email: sales-au@janitza.com

Janitza | UK

Telephone: +44 7939 697 434
Email: sales-uk@janitza.com

Janitza | India

Telephone: +91 900 387 6980
Email: sales-in@janitza.com

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