

Tailor-made automation solutions For maximum efficiency in biogas plants



The rapid development of industrial biogas production continues to raise the standards in automation technology and metrology at biogas plants.

For any biogas plant to be commercially profitable, it has to operate with maximum efficiency for maximum output over the long haul.

Any process that's inefficient or interrupted can seriously impact operating results. Even at small plants with a capacity of 500 kW or less, any downtime easily ensues several thousand Euros a day in losses.

ABB provides biogas plant operators with cutting-edge automation solutions.

The cutting-edge standard in industrial automation

Industrial plants rely on ABB for services shaped by decades of experience in process automation. Complex systems benefit in particular from our services, but so do smaller plants, because at ABB, we believe in scalable solutions.

Our system solutions are based on cutting-edge know-how of biogas systems, which comes as a result of our work with highly esteemed research institutes.

ABB boasts a comprehensive portfolio of products and systems specifically geared to process automation, as well as solutions for the automation and safe handling of all the aspects that define biogas production. Systems for the utilization of energy, like cogeneration plants, or drying, pelletizing, and gas transfer systems, make the list as well.

Process automation – simple and cost-effective

ABB's core element of automation is its highly cost-effective and user-friendly process control system called Freelance. Designed for complex automation tasks, many biogas plants are already profiting from its use.

Tailor-made solutions for optimized operation

Process control system Freelance

Maximum productivity and safety

- Reliable and highly available
- Simple and user-friendly
- Compliant with safety and environmental standards
- Flexibly designed to handle any future requirements or extensions of your production system

Perfectly equipped for control and operation

- Scalable and compact design
- Smooth integration of sub-systems
- Truly integrated engineering from field devices to operator panels
- Standardized libraries and pre-assembled modules
- Remote diagnostics & maintenance
- Conventional I/O, remote I/O, or field bus solutions
- Optional redundancy

User-friendly interface

Freelance comes with a user interface typical for control systems, its functions designed for quick navigation and control in emergency situations. It automatically saves events while clearly displaying them to users from pre-settings in its alarm bar and entry lists.

Biogas-specific graphics and extendable library software further facilitate configuration settings as well as everyday operation.

User-friendly graphics configuration

Freelance offers integrated graphics configuration for automation programs, including function modules, user graphics, and alarm lists for field-applied equipment. It automatically generates screen graphics and images for system diagnostics and application programs. Plus, its engineering program is very easy to understand and maintain.

Integrated process know-how

Special automation strategies can be realized via typical or user-defined function modules, which are tested, password protected, and compatible with different versions ready for download.

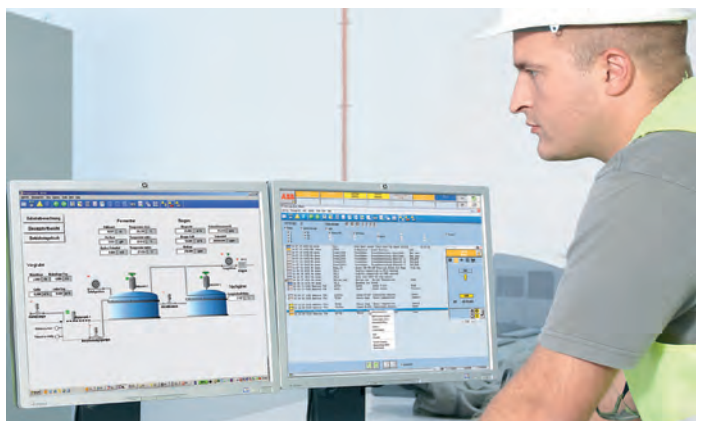
Further included are a host of specific process and computation models co-developed with research scientists, along with the option of optimizing these models for your system.

Easy-to-use network structure

Freelance features peer-to-peer architecture based on standard Ethernet. The result is an easily extendable network that automatically establishes communication between individual system components. This saves the hassle of building complex communication structures or server overhead, in the case of smaller plants using only one or two fermenters.

Integrated archiving

The Freelance automation solution also comes standard with process data archiving for convenient readouts in Excel. There's no need for complex server set-ups, including events, alarms, manual operations, as well as system events.



Improve flexibility, diagnostics, and predictable output

ABB Freelance integrates the following features typically required by customers:

Clearly visible system status information

Freelance automatically generates diagnostic images of your system.

Flexible design for handling operational and other basic changes, such as capacity and use of substrates

Freelance automatically calculates gas yield potential to optimize feed and to minimize gas loss resulting from planned or unplanned deactivation.

Minimized in-house energy consumption and demand

Freelance ensures perfect use of substrates for optimal utilization of energy and heat at your plant.

Remote diagnostics & maintenance

Facilitate monitoring and control of your system via Ethernet. Freelance makes remote control of your system as safe as on-site control by including graphic control code analyses and monitoring maintenance and calibration in-intervals.

Emergency and service management

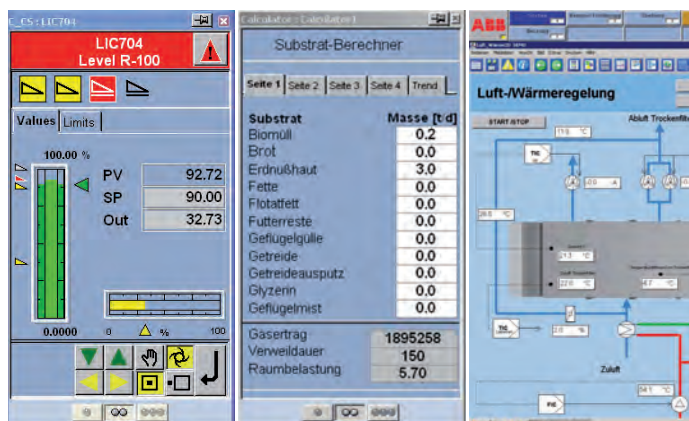
The integrated alarm management of Freelance promptly detects emergencies, usually before a situation becomes critical. With easy-to-use sequential control programming, activating and deactivating your system becomes a long-term dependable process without any need for operator intervention.

Production management

Freelance utilizes numerical models to project gas yield based on the use of feed material. In addition, it ensures any output reduction necessary as well as subsequent reactivation with minimum loss of yield.

Operation log

Freelance comes with regulatory-compliant operation log in the form of MS Excel templates for easy use and adaptation.



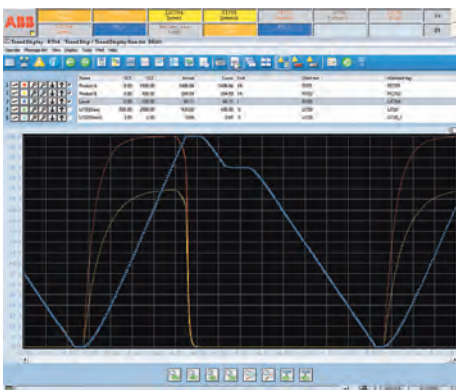


ABB portfolio for biogas plants

- Automation technology
- Drives
- Analytical systems
- Instrumentation
- Installation technology
- Low voltage switchgear
- Interconnection technology

Don't hesitate to contact us – we look forward to being your partner in enhancing your system and your success. Let's talk!

For more information please contact:

ABB Automation GmbH
Chemicals, Oil & Gas
 Stierstädter Strasse 5
 60488 Frankfurt am Main, Germany
 Phone: +49 69 7930-4142
 Fax: +49 69 7930-4499
 E-Mail: process.automation@de.abb.com

www.abb.com/chemicals

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