

Freelance

The hybrid process control system

With Freelance you'll be right on target ...

Freelance, the hybrid process control system combines the best of both worlds, DCS and PLC. It offers PLC size and price with functionality of a DCS. The integrated environment facilitates engineering, commissioning, maintenance and fieldbus management. The intuitive operator interface enables easy operation and diagnostics of the entire system.

The objective of process industry companies today is clearly defined: increased automation at lower cost. Based on this principle, ABB has redefined compact, scalable control systems, and is today viewed by many as a trend-setter in this industry.

Today, people are impressed by the global success story of Freelance, with more than ten thousand applications covering all sectors of industry.

Freelance provides powerful automation that is not only cost-effective in terms of hardware and software, but is also very easy to use. The advanced design of Freelance makes the system ideal for numerous applications in power, process or environmental technology plants.

AC 700F Controller



AC 800F Controller



... with minimum engineering and maximum automation



The control system Freelance combines easy engineering with an open, modern system architecture. In detail, this means:

- Only one tool for engineering, commissioning and diagnostics
- Fieldbus management completely integrated into control system engineering
- Integration of process automation and process electrification
- Potential savings in engineering, commissioning, testing, service and maintenance
- Assembly close to the field and thus reduction of field wiring and space requirements

Pre-engineered components for the operator level

The engineering of the operator level DigiVis is rather easy. Some of the pre-engineered visualization components are:

- Faceplates
- Module diagnostics
- Extended troubleshooting capabilities
- Automatically generated sequence diagrams
- Ready-made system communication
- Event list and alarm line
- Trend displays

These components can be used straight out of the box, eliminating time-consuming, manual configuration.

Scalable controllers

The two controllers AC 700F and AC 800F are the core of the Freelance system.

AC 700F is a controller in a small footprint with direct S700 I/O supporting Profibus Master. The AC 800F controller can be equipped with up to four fieldbus modules. If required, these can also be of different type.

AC 700F widens the scalability of Freelance for small applications in the process industry. The Freelance controller offering allows for optimized scalability. Applications can range from only a few to several thousand signals. Both controllers can be used together within a project.

The Freelance controllers AC 700F and AC 800F are suitable both for installation in the control room and for use in junction boxes directly in the field.



Easy Engineering

Freelance provides a single software tool – Control Builder F – for consistent configuration of the automation functions, the operator interface with displays and logs, and fieldbus management. All five programming languages specified in IEC 61131-3 are available. Users especially appreciate how quickly they are able to familiarize themselves with the tool. Supported by a uniform data basis throughout the system as well as cross reference functions, the Control Builder F enables you to conduct the entire configuration quickly and easily – including:

- Configuring and parameterizing the field devices and I/Os
- Setting the bus topology and parameters such as transmission rates and addresses

Control Builder F works in the same way with both controller types, AC 700F and AC 800F.

Freelance supports FDT/DTM and also templates for efficient configuration or maintenance of field devices. This eliminates time-consuming tasks of integrating device GSD files. A DTM provides much more than only a graphical, intuitive parameterization dialog, but also comprehensive diagnostic functions allowing for efficient maintenance.

The structure of the field level

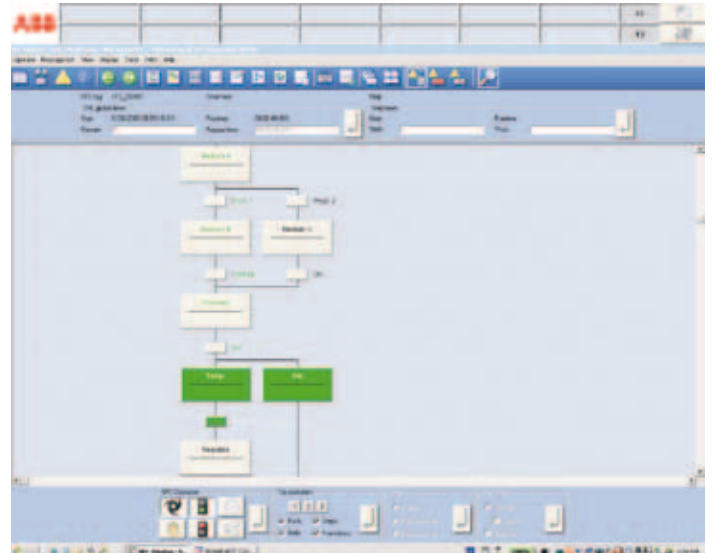
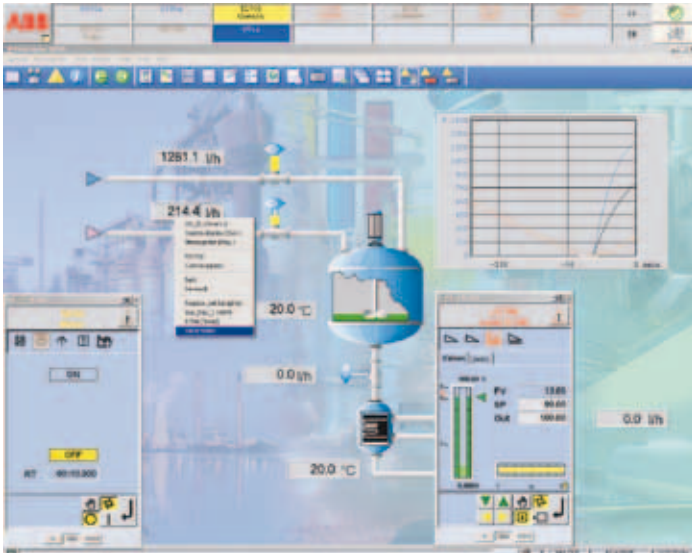
For the field level, ABB offers an extensive selection of devices that are fine-tuned to meet the needs of the relevant area of use. Thanks to established communication standards, integration into the process level is quite simple. Using Profibus connected with the AC 700F or AC 800F controller, it is also possible to implement remote I/Os or to connect intelligent field devices directly to the fieldbus.

The choice of fieldbus type

In accordance with the concept of plug & produce, exchangeable fieldbus modules make it easier to implement quick adjustments. Freelance allows the integration of all important fieldbuses – leaving the user free to choose.

Bus Type	AC 700F	AC 800F
PROFIBUS-DPV1	yes	yes
FOUNDATION Fieldbus	no	yes
HART via remote I/O	yes	yes
MODBUS Master and Slave	yes	yes
CAN for Freelance Rack I/O	no	yes
Telecontrol protocol IEC870-5-101	no	yes

Various types of fieldbus can even be operated in parallel in a single controller. This proves to be a real advantage if the task at hand specifies, which fieldbus type is to be used.



The DigiVis Operator Interface

DigiVis meets all standard requirements relating to process operation and observation at an attractive price. Amongst other things, DigiVis offers the following visualization options:

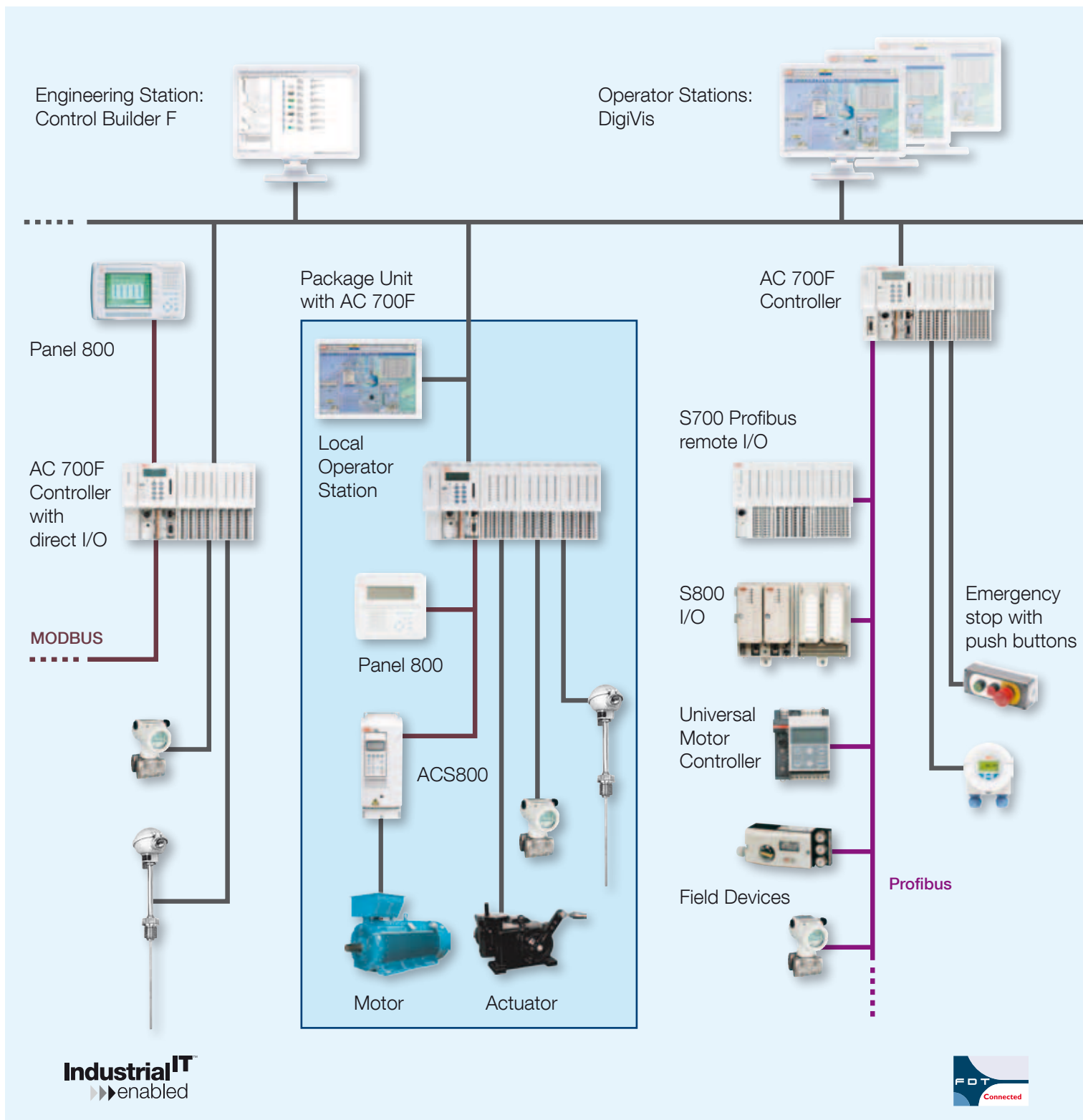
- Clearly structured faceplates for operator interventions (including group displays)
- Trend displays including historian
- Alarm pages for specific plant areas, sequence control displays, shift logs, event logs and data archiving
- An automatically generated system display for hardware diagnostics
- Free graphic displays that besides standard graphic elements support Bitmaps and 3D macro library
- Dualmonitor operation

DigiVis configuration is fully integrated in the engineering tool Control Builder F. An optional batch package based on System 800xA can also be integrated. Advanced Information Management functions are available when using PGIM 800F.

System overview

Freelance provides an operator level and a process level. The operator level contains the functions for operation and observation, archives and logs, trends and alarms.

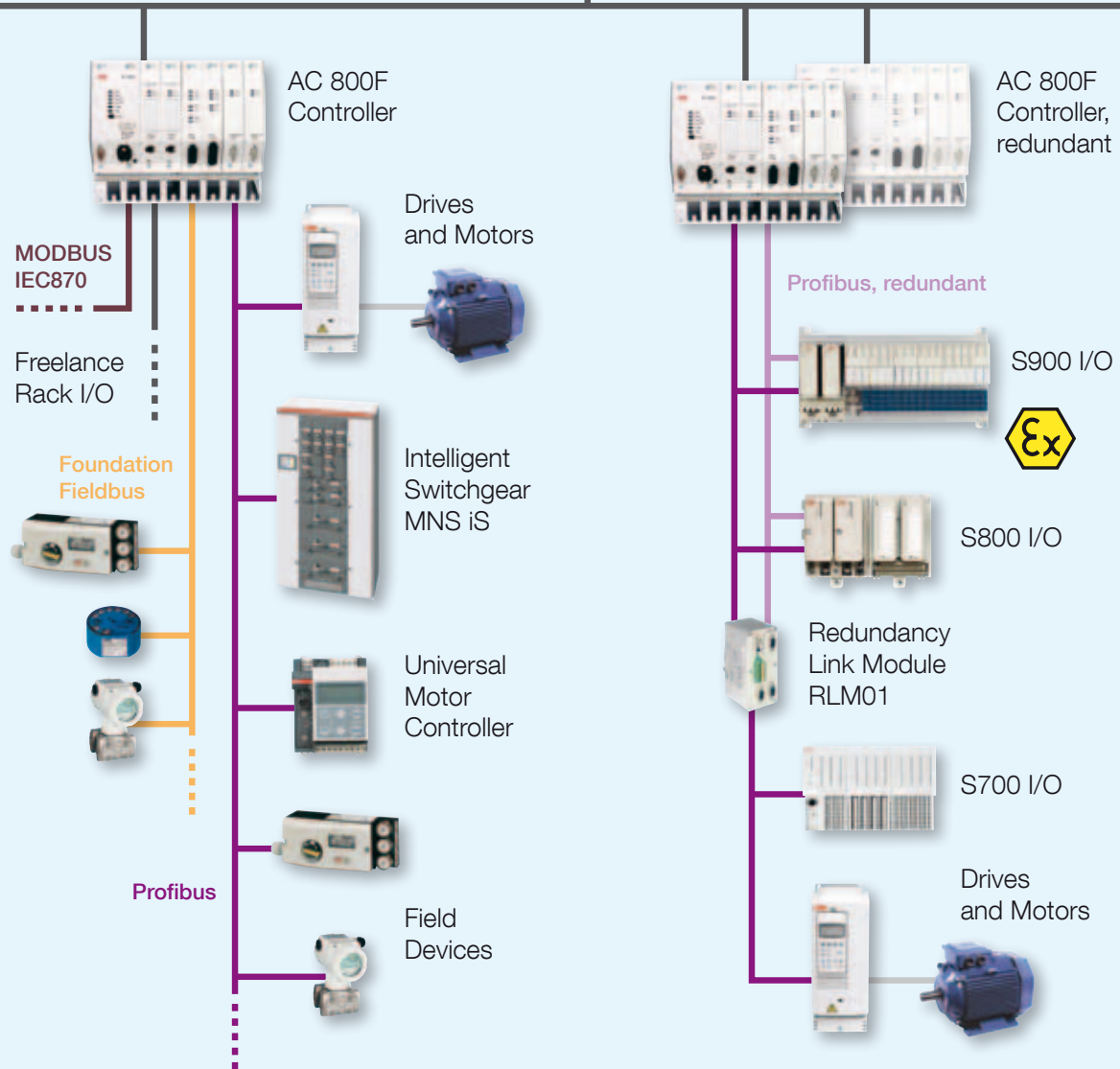
Open-loop and closed-loop control functions are processed in the controllers, and exchange data with actors and sensors in the field.



Operator Stations:
800xA Operations



Industrial ethernet (optionally redundant)





You get technology that lasts



High availability

The technology has proven its worth in industrial use over several years and meets the toughest requirements regarding availability. The hardware can be structured redundantly at all levels – including redundant fieldbus device modules, fieldbus lines, network redundancy, controller redundancy.

Scalability

From small units with 8 signals to major systems with more than 10,000 signals: Freelance grows with your plant and can be extended to meet requirements at any time.

Versatile communication

You can use the following as required: OPC, Ethernet, TCP/IP, PROFIBUS, FOUNDATION Fieldbus, MODBUS, HART, voice output for instructions in the event of an alarm, video integration or Internet connection.

Regulatory compliance

With a view to meeting the requirements of regulatory authorities such as the American FDA (Food and Drug Administration) or the EFSA (European Food Safety Authority), Freelance provides a series of features that facilitate the validation procedure. Examples include:

- Encrypted log and trend data
- Audit trail functions
- Access rights and user administration (security lock)

Lifecycle Management

With the Automation Sentinel Program you can keep control software up-to-date and maintain a flexible path forward to new system software technology. Automation Sentinel helps manage automation software assets with timely delivery of the latest system software releases, thus providing you better productivity, lower support cost and simpler software management. Evolution from traditional control systems to Freelance enables ease-of-use and lower maintenance cost.

Asset Management

If companies want to guarantee their ability to operate in the long term, they need information about the availability and degree of wear and tear of their equipment. All of the information necessary for this is available in the control system and the associated databases. In case of some customers, this data provided proof that investments, which appeared essential were in fact unnecessary. Freelance allows to utilize modern asset management methods for efficient maintenance and optimization – helping for instance to make better use of capacity.

You get a comprehensive customer service

It's worth its weight in gold

Service means a profitable investment in continually maximizing and optimizing the availability, performance, quality and security of a plant. ABB's support offers the following areas:

- Customer Support Services
- Training
- Spare Parts & Logistics, Repair Shops
- Process, Application & Consulting Services

Through the resulting specialization of our employees, we provide maximum competence for each task we perform. Whether it's more traditional service support such as commissioning and maintenance or individual consulting services – the result is efficient and measurable customer benefit.

Our comprehensive Life Cycle Services enable us to increase the value of your plant over its entire lifetime. The conventional, reactive service can reduce production downtimes, while the use of new technologies offers an increased number of capabilities for preventive service measures to identify and avoid cost-intensive faults at an early stage. Proactive service, such as asset management or ongoing modernization, increases the value of our customers' plants and gives them a distinct competitive edge.

Are you interested? Then get in touch with us to obtain more information about Freelance and the associated components.



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