

Safety

Integrated safety technology for the most demanding requirements.





INTEGRATED SAFETY TECHNOLOGY

Safety

Safety – for man as well as machine – plays a role that is becoming ever more important: Machines and plants are becoming increasingly complex and the requirements imposed on functional safety are continuously increasing.

Bachmann electronic offers a safety package that is consistently integrated in the M1 automation system that is designed for the most rigorous safety requirements.

The safety package consists of

- the safety processor module SLC284
- the safety counter module SCT202
- the digital I/O modules
- the Safety Developer

and it can be extended to meet individual requirements and in accordance with the latest safety standards (PL e, SIL3, Cat 4).

And best of all: In addition to safety, efficiency is also increased; the intelligent safety technology helps to significantly lower engineering costs. Through specific diagnostic possibilities and the fastest possible intervention, availability of the machine/system is increased and downtimes are reduced.

With the implementation of the safety module as a ColdClimate version, Bachmann is setting new standards in terms of robustness and functional safety.

All-in-one solution

Seamless and reliable solutions from a single source – safety competency in hardware and software as well as in project-orientated and individual consulting.

Maximum flexibility

The freely configurable safety concept enables distributed operation of safety modules in the network.

Full compatibility

Full integration of the hardware and software safety solutions into the existing automation system.

Economical

Minimized wiring and assembling costs, reduced training efforts and shorter downtimes.

MACHINE SAFETY

Re-defined

Whether you require a simple emergency-stop function at the control desk of your machine or distributed safety technology with optical sensors, redundant cabling and the activation of emergency-stop categories in state-of-the-art servos: The programmable safety module SLC284 and the safety-orientated digital I/O modules from Bachmann electronic offer a safety solution which can be fully integrated in the Bachmann automation system and can be expanded to individual requirements, in compliance with the latest safety standards (PL e, SIL3, Cat 4).

The safety modules are integrated dual-channel modules, enabling input and output channels to be connected redundantly in pairs. The modules can also be operated remotely in the network without configuration. The configuration and programming of the new safety functions are integrated in the all-in-one engineering tool SolutionCenter, thus enabling standard PLC tasks to be linked seamlessly with the requirements of functional safety.

Simply safe

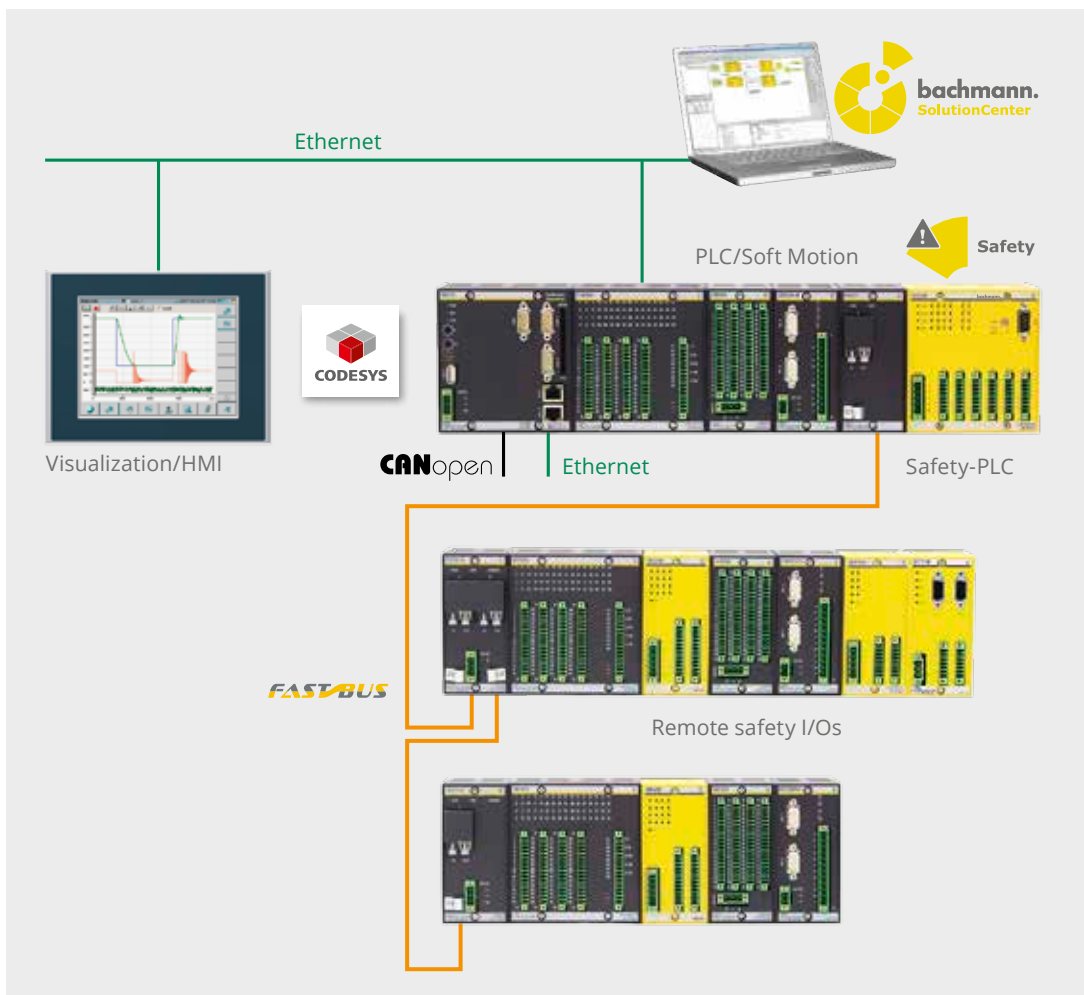
Regardless of the automation field in which you wish to evolve, our innovative automation solutions provide you with a host of possibilities. Controllers with integrated safety as well as operating devices and drives are all perfectly matched and allow open communication.

The people are the focus

Fast reaction times, intuitive operation and extensive diagnostics options are therefore key priorities in Bachmann safety solutions. The user obtains an optimum level of safety: Established standards such as ISO 13849, IEC 62061, EN 61511, IEC 61508, PLCopen Safety and IEC 61131 are used and proprietary solutions are consistently avoided.

Integrated safety solution

Intelligent safety solutions in control technology allow the reduction of engineering costs and keep wiring requirements down to a minimum. Using the SolutionCenter considerably increases efficiency during start up and operation. Selective diagnostics and fast intervention options increase the reliability and reduce downtimes of the machine.



▲ Safety solution fully integrated into Bachmann M1 automation system



Safety standards and regulations

- ISO 13849
- IEC 62061
- EN 61511
- IEC 61508

THE SOLUTION

Safety Modules, Safety Developer, Safety Control

The safety modules from Bachmann electronic for implementing the new Machine Directive 2006/42/EC, set a clear standard in holistic and integrated automation solutions. The system solutions presented not only offer optimum safety, but guarantee continuity and investment protection. The extended operating temperature range (-30 ... +60 °C) guarantees safe operation, even under the hardest environmental conditions.



SLC284

- Programmable safety module / controller
- 16 digital inputs / 8 digital outputs – can be used redundantly in pairs (PL e, SIL3, Cat 4)
- Programmable using the functional block diagram language according to IEC 61131-3
- Programming, configuration & monitoring with SolutionCenter
- Access protection via configurable user schemes with access and function restrictions
- Adjustable cycle time – up to 5 ms



SDI208

- Digital input module with two electrically isolated input groups
- 16 digital input channels – can be used redundantly in pairs (PL e, SIL3, Cat 4)
- Each channel can be tested as required with a test pulse
- Cross-circuit detection
- Autonomous safety – not susceptible to network failures



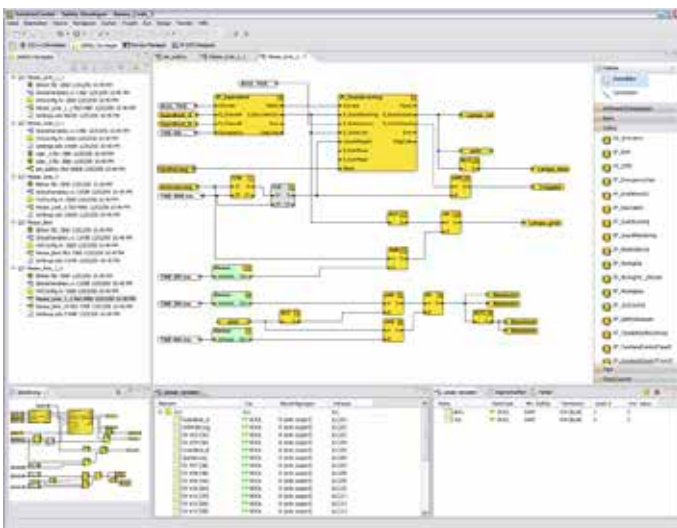
SDO204

- Digital output module with two electrically isolated output groups
- 8 digital output channels – can be used redundantly in pairs (PL e, SIL3, Cat 4)
- Autonomous safety – not susceptible to network failures
- Output voltage range + 18 ... 34 V DC
- 2 A per channel



SCT202

- Safety module for measuring speed, rotation angles and positions
- 2 input channels each for incremental encoders and counters as well as 2 digital inputs and outputs (PL d, SIL2, Cat 3)
- Instantaneous safety reaction within 1 ms
- Wide range of homing options
- Speed measurement for highly dynamic control systems



Safety Developer

- Integrated in the all-in-one engineering tool SolutionCenter
- Safety programming in the Safety Editor:
 - Function block diagram (FBD)
 - Library of PLCopen Safety function blocks
 - User-specific function blocks
 - Standard function blocks
- Automatic protocol reports
- Support for designing modular/linked machines
- Support for series production of machines and facilities
- Engineering support for maintenance and repair
- Configuration, monitoring, diagnostics support
- Debugging, version managed project data

Safety Control

One engineering tool – the Bachmann SolutionCenter – covers all aspects in the engineering process: Configuring, programming, closed-loop control, motion, communication, visualization, test and commissioning.

By integrating the Safety Developer into the SolutionCenter Bachmann has considerably simplified safety programming for the user – naturally based on standards such as IEC 61131-3 and PLCopen Safety.

Highest safety standards

The certification of »Safety Control Solution« in compliance with all relevant safety standards (PL e, SIL3, Cat 4) for machine and facility building, guarantees safe and trouble free usage every day.



