SIMATIC SIS Compact

The world's first stand-alone, safety PLC certified for industrial security and process safety

Regardless of plant complexity or size, safety and security are of paramount importance for the process industry. Siemens latest development for small to medium sized process safety applications is the SIMATIC SIS Compact, a standalone solution that leverages years of proven automation technology experience.

SIMATIC SIS Compact was designed for use in safety-critical applications for the process industry. Examples include:

- Burner Management Systems (BMS)
- Emergency Shutdown Systems (ESD)
- Fire & Gas (F&G) applications
- High Integrity Pressure Protection Systems (HIPPS)

SIMATIC SIS Compact is comprised of field proven, SIMATIC hardware and software components and permits easy setup of dedicated Safety Instrumented Systems (SIS). The SIS monitors critical processes, and performs immediate and automatic responses to the process when a problem occurs, thus reducing the level of risk associated with a potentially hazardous situation.

Siemens has taken advantage of over 30 years of functional safety development and applied this experience to develop the new SIMATIC SIS Compact. Your plant will benefit from the low risk, reliable and flexible safety system solution that's specifically designed to protect people, the environment and your critical assets against damage and harm!

Highlights at a glance

- Dedicated SIS without the overhead and complexity of an integrated DCS solution
- Based on proven SIMATIC hardware
- Independently certified for safety and security (IEC 61508, IEC 62443)
- High system availability with optional fault tolerant designs
- Simple configuration and operation with safety life-cycle tools
- Includes a process control library capable of handling simple control functions
- Available in four competitively priced bundles to meet your requirements
- Expandable to support future SIS projects

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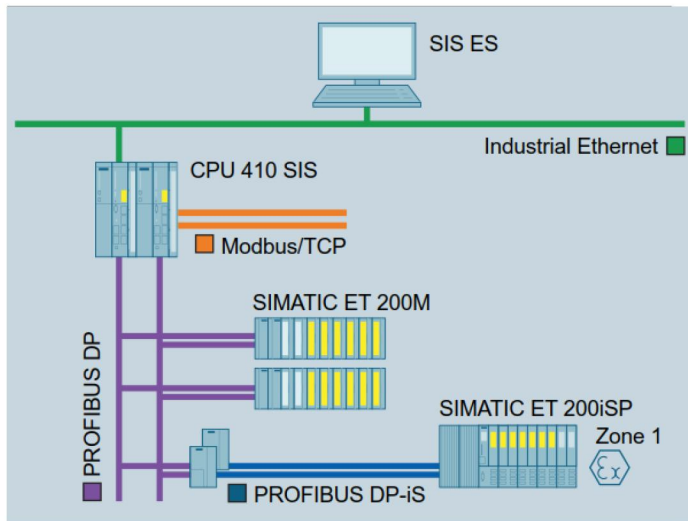
Example: SIMATIC SIS compact Basic Package Redundancy

CPU 410SIS

Reliable hardware base

The base hardware for SIMATIC SIS Compact is the CPU 410SIS controller. It has a retentive memory to protect your configuration due to power issues, along with 4 MB of main memory with no limitations cycle times to handle extremely fast process safety times. The controller supports the Syslog network protocol for transmitting log messages. The hardware is well suited for some of the harshest environments via conformal coating, and an operating temperature range of 0 to +70°C.

Engineering included

Each of the four (4) SIMATIC SIS Compact bundles include certified safety engineering software combined with specific system hardware components selected from the comprehensive SIMATIC safety portfolio. The SIS Compact software package (based on SIMATIC S7 F-System technology) ensures that safety-related, as well as standard programs are capable to coexist within the same CPU without any interference of the safety functions. This unique capability will reduce costs and complexity when it is impractical to physically separate control and safety hardware. The configuration of the system is easy and straight forward with either a simple function block logic program, or the award winning safety life-cycle tool SIMATIC Safety Matrix, which provides an intuitive cause and effect environment.

SIMATIC SIS Compact can be used for safety applications up to SIL 3, as per IEC 61508. In addition to the engineering tools, the SIMATIC SIS Compact also offers an optional operator package to provide an integrated HMI to operate, monitor and maintain your SIS.

Redundancy? HMI functions? It's your choice!

We offer SIMATIC SIS Compact in four standard pre-configured bundles, depending on the requirements of your safety system:

- SIMATIC SIS Compact Basic Package Single
- SIMATIC SIS Compact Basic Package Redundancy
- SIMATIC SIS Compact Extended Package Single
- SIMATIC SIS Compact Extended Package Redundancy

In each case, SIMATIC SIS Compact can be used as an independent safety system along with the ability to connect to any process control system via Modbus/TCP. The Extended Packages provide the OS (operator station) software for integrated HMI functions. The Redundancy Packages provides the hardware along with the infrastructure necessary to create a fully fault tolerant system architecture necessary for high-availability requirements.

SIMATIC SIS Compact allows the integration of all safety I/O architectures, from 1oo1, 1oo2, 2oo3, 2oo4 and up to NooM, so it can be applied based on whatever architecture your solution requires.

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