



ROBUST AND POWERFUL PROCESS I/O

SIMATIC ET 200SP HA

The future-proof solution for the process industry

The versatile SIMATIC ET 200SP HA perfectly meets the requirements of the process industry, offering clear advantages for all applications, including in the manufacturing industry, where robustness and maximum availability are demanded – both today and in the modern plants of the future. Redundantly designed components, online module replacement and system modifications during operation using CiR (Configuration in Run)* as well as online firmware updates increase the availability of the systems enormously. In addition, the innovative backplane bus concept without active components reduces the system failure rate.

The compact and modular setup of the system with integrated tool-free push-in terminals of the field cables ensure an efficient installation and ideal maintainability due to an online module replacement without coming into contact with the cabling.

* supported for SIMATIC PCS 7 and SIMATIC PCS neo

Advantages at a glance

Maximum availability and easy maintenance during operation

- Redundant PROFINET interface (R1)
- I/O redundancy
- Hot swapping
- Channel-specific diagnostic functions
- Module replacement during operation

Maximum robustness under extreme environmental conditions

- Extended temperature range: -40°C to $+70^{\circ}\text{C}$
- Installation up to Ex Zone 2
- Enhanced interference immunity according to NAMUR recommendation NE21

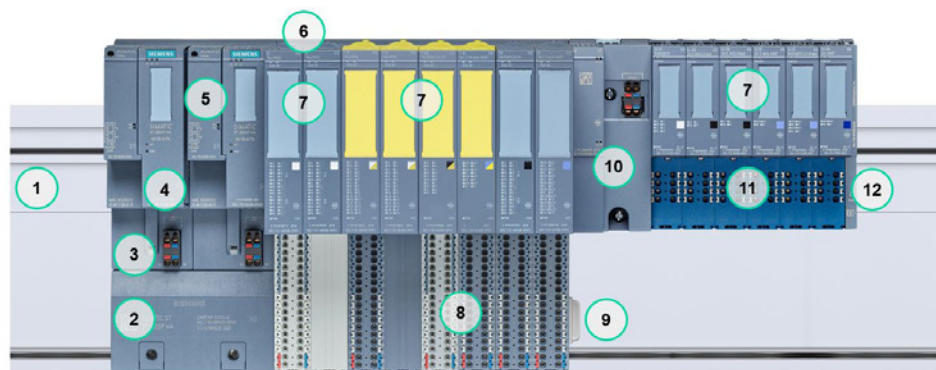
Flexibility and scalability

- One I/O system for every application
- Standard, failsafe (SIL 3 certified) and Ex modules in a single station
- Expansion during operation – CiR
- Compact, space-saving design
- Quick and easy wiring reduces installation time and project costs: flexible connection of the sensors using push-in terminals or D-SUB connectors
- Up to 32 channels per module and 56 channels per station

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- 1 Profile rail
- 2 Carrier module for interface modules
- 3 Interface module power supply
- 4 Interface module
- 5 Bus adapter
- 6 Carrier module for I/O modules
- 7 I/O module (Fail Safe & Ex(i))
- 8 Terminal block
- 9 Powerbus cover
- 10 Ex Power module
- 11 Ex Base unit
- 12 Server module



Perfectly scalable for each application

The broad **portfolio of the SIMATIC ET 200SP HA** enables users to take advantage of the powerful I/O system in a wide range of high-value applications.

Intrinsically safe I/O modules for use in hazardous areas and applications consist of 2-channel HART analog inputs and outputs, as well as 4-channel TC/2xRTD 2-/3-/4-wire and 4-channel digital inputs and outputs, with a variety of characteristics. Separate Ex barriers with a corresponding demand for wiring and space are no longer necessary with the new Ex modules. The modules can be installed in environments up to ATEX Zone 2 and connected to field devices up to Zone 0 via intrinsically safe circuits.

Failsafe I/O modules facilitate safety-related monitoring and thus, safe shutdown of the system should the case arise. The proven SIMATIC Safety Integrated technology facilitates the communication and integration into the process control system. The safety modules offer 16 channels for digital inputs, ten for digital outputs and eight for analog HART inputs. They are certified up to SIL 3 per channel and support I/O redundancy.

The galvanically-isolated HART AI/AQ modules provide parallel A/D and D/A conversions for high-speed signal processing and robustness that ensure the availability and accuracy of measurements. The new modules for SIMATIC ET 200SP HA are equipped with four channels for

analog inputs and four channels for analog outputs. They also feature a transmitter power supply with short-circuit protection and diagnostics that eliminate the need for external disconnectors and additional wiring and allows voltages of up to 125 V AC/150 V DC between channels.

The Fast I/O and Counter Technology Module is particularly suitable for high-speed processes such as manufacturing, filling, sorting and packaging systems. The technology module has a total of 22 analog and digital inputs and outputs, four of which are specifically parameterizable for speed measurements and counter functionalities in a selectable measuring range of 0.1 Hz up to 70 kHz.

The Vibration Protection Technology Module is used on assets with turbines, pumps, rotating rollers, motors and compressors to protect plant units and the production process from irreparable damage. This version of the technology module has an additional parameterization option for four vibration sensors with a sampling frequency ranging from 1.6 kHz to 102.4 kHz with a 24 bit resolution and pre-fabricated software modules for vibration protection, which can be interconnected by the user.

Overall, this combination of standard, failsafe or Ex I/O modules in the peripheral system SIMATIC ET 200SP HA offers maximum flexibility for any application.

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Security information

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