SIEMENS

Engineered with TIA Portal

siemens.com/et200

SIMATIC ET 200SP and ET 200MP

Simple to use, smaller in size, stronger in performance

Intuitive, efficient, proven –
TIA Portal redefines engineering

Answers for industry.

The SIMATIC ET 200 distributed I/O

Do you need your distributed I/O to suit your requirements? With SIMATIC ET 200, we offer you a multifunctional, modular, finely scalable system for distributed automation: for solutions in the control cabinet (IP20), without a control cabinet (IP65/67), directly at the machine and for applications in hazardous areas.

The SIMATIC ET 200SP and ET 200MP key highlights

SP

The scalable SIMATIC ET 200SP I/O system is characterized by a variable station configuration and an extremely compact design.

MP

The modular SIMATIC ET 200MP I/O system is configured with the IO modules of the SIMATIC S7-1500 and features low parts variance.

Simple to use

- Station set-up with compact modules and fixed wiring
- Wiring with push-in terminal

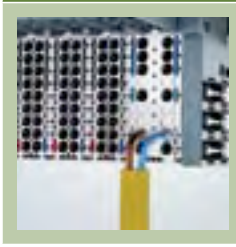
- Station set-up with IO modules of SIMATIC S7-1500
- Uniform 40-pole front connector simplifies logistics. Screw terminal available, Push-in available soon.

Smaller in size

- Small dimensions and highly versatile due to scalability (4, 8, or 16 channels per module)

- High channel density (8, 16, or 32 channels per module)

Stronger in performance



- With PROFINET isochronous communication on the backplane bus and PROFIsafe and PROFIenergy profiles
- Communication via IO-Link, AS-Interface, and PROFIBUS

- With PROFINET isochronous communication on the backplane bus and the PROFIsafe profile (available soon)
- Communication via PROFIBUS

SIMATIC ET 200SP

Simple wiring without tools using push-in terminal connection technology

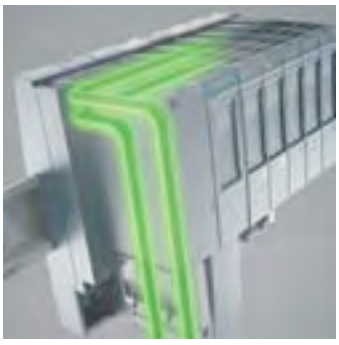
Simple

- Wiring is possible without tools due to the arrangement of the push-in terminals on the SIMATIC ET 200SP. Only a screwdriver is needed to disconnect conductors. With much smaller dimensions, the SIMATIC ET 200SP has conductor cross-sections from 0.14 mm² to 2.5 mm².
- The station is quick to configure simply by joining modules. A module or terminal box can be replaced during operation without taking the station out of use. Automatic mechanical coding on the Base Unit prevents modules being mixed up during configuration.
- Diagnosis is performed for each channel via red and green signal LEDs on the I/O module – without additional engineering.
- With the bus adapters (BA), SIMATIC ET 200SP allows free selection of the connection method to PROFINET. Choice of BA 2xRJ45 and BA 2xFC for the best possible availability in case of vibrations and high levels of electromagnetic interference.

Integrated power modules make the station slimmer and save space in the control cabinet

Smaller

- SIMATIC ET 200SP is about 50% narrower than comparable distributed I/O systems. With a height of approx. 117 mm, the system provides space for 16 channels with a single-conductor connection (without AUX terminals). Due to its small depth of 75 mm, the SIMATIC ET 200SP always leaves sufficient space from the cabinet door and complies with standard bending radii even in cabinets that are only 80 mm deep.
- To keep dimensions to a minimum, the power module for load group formation is integrated into the system.
- The innovative labeling system, which contains information about the module, wiring, and the channels, makes for maximum clarity in a very small space.
- Thanks to the way options are handled, complex automation projects only need to be configured once for the maximum configuration.



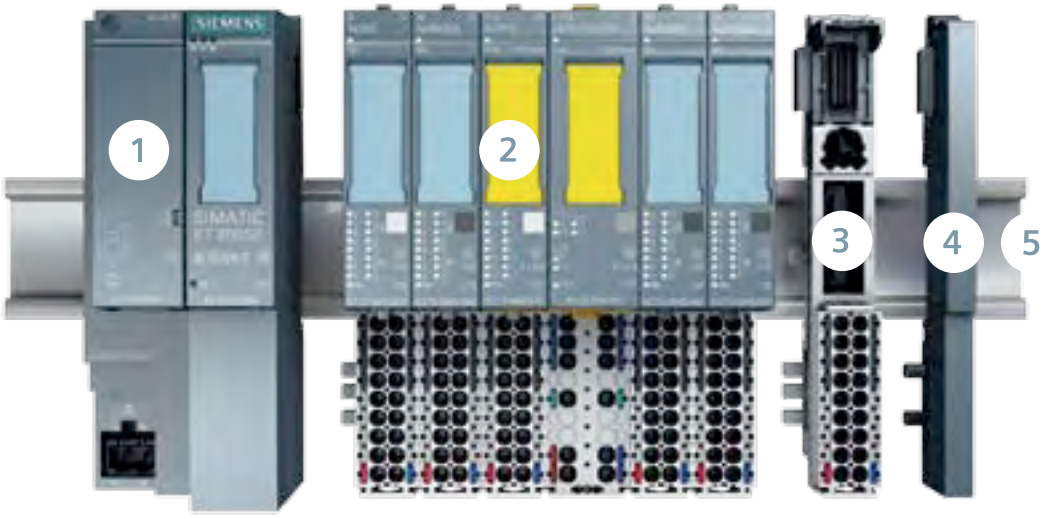
High system performance due to the isochronous backplane bus to PROFINET

Stronger

- SIMATIC ET 200SP communication is via PROFINET, the leading Ethernet standard for automation. The isochronous nature of the backplane bus permits smooth data transmission, thus enabling maximum precision.
- SIMATIC ET 200SP ensures high system performance by hot swapping: replacement of modules during ongoing operation is also possible for multiple modules (multi hot swapping).
- The safety modules are the same size as the standard modules, which gives you more safety in the same amount of space. The modules are easy to handle: addresses can now be assigned via the engineering and no longer have to be set on the module with the DIL switch.
- It is possible to use other communication standards such as AS-Interface, IO-Link and PROFIBUS or profiles via PROFINET such as PROFIenergy.
- High EMC compatibility due to an ingenious shielding concept.

The structure of the SIMATIC ET 200

SP



1 Interface module

- Head module of the IO station and connection to the PLC

BusAdapter:

- Removable part of the interface module that defines the method of connection to PROFINET (BusAdapters: BA 2xRJ45 and BA 2xFC)

2 Modules

I/O modules:

- Determination of terminal functions
- Digital and analog input and outputs (modules: DI, DQ, AI, and AQ)
- Simple integration of fail-safe modules based on the Safety Integrated principle (modules: F-DI, F-DQ, and F-PM-E)
- Energy meter (module: AI Energy Meter)

Technology modules:

- Modules for functions such as weighing, counting, positioning, and measuring electrical characteristic values (available soon)

Communication modules:

- Integration of simple field devices via AS-i or IO-Link (modules: AS-i Master, IO-Link Master) and point-to-point wiring (RS232, RS485)

3 Base Unit (= self-assembling backplane bus and terminal box)

- Self-assembling backplane bus for electrical and mechanical connection of the modules
- Conductors connected to terminal box with push-in terminals
- Modules can be replaced without rewiring

4 Server module

- Terminates the station configuration

5 Mounting rail

- Mounting on standard DIN rail

SIMATIC & SIPLUS

The ET 200SP is also available as a SIPLUS extreme version for use in particularly tough industrial conditions (e.g. extended temperature range).
www.siemens.com/siplus-extreme

SIMATIC ET 200SP – take a look!

stations at a glance

MP

■ Head module of the IO station and connection to the PLC

I/O modules:

■ Determination of terminal functions
■ Digital and analog input and outputs (modules: DI, DQ, AI, and AQ)
■ Simple integration of fail-safe modules based on the Safety Integrated principle (available soon)

Technology modules:

■ Modules for functions, such as weighing, counting, positioning, and measuring electrical characteristic values (modules: TM PosInput 2, TM Count 2x24 V)

Communication modules:

■ Integration of simple field devices by point-to-point wiring (RS232, RS485)

Backplane U-connector and front connector

■ Self-assembling backplane bus for electrical and mechanical connection of the modules
■ Conductor connection via front connector with screw-type or push-in terminals (available soon)
■ Module replacement possible without rewiring after removing front connector
■ Same pinning for same module types facilitates wiring and permits re-use of cabinet macros

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■ Mounting on S7-1500 mounting rail with integrated DIN rail

The ET 200MP is also available as a SIPLUS extreme version for use in particularly tough industrial conditions (e.g. extended temperature range).
www.siemens.com/siplus-extreme

SIMATIC ET 200MP – take a look!

SIMATIC ET 200MP

Simple

- SIMATIC ET 200MP has a distributed configuration with IO modules of the SIMATIC S7-1500. The modules feature low parts variance. The front connector is also standard for all 35-mm wide modules. This considerably simplifies mounting, ordering, logistics, and spare part management.
- When wiring the station, the prelatch position of the front connector acts as a "third helping hand," enabling convenient pre-wiring of the front connectors. The expandable cable storage space permits simple closure of the front panel cover even with larger conductor cross-sections (up to 2.5 mm²).
- Diagnostics for each individual channel via the familiar, standard LEDs permits fast and unequivocal identification of process errors.

Identical front connector for all modules

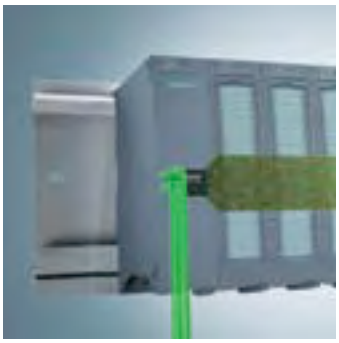
Smaller

- The compact design of the SIMATIC ET 200MP is achieved by the high channel density. Each module can contain up to 32 channels. Even with a maximum configuration of 30 modules, clarity is ensured at all times.
- SIMATIC ET 200MP can be flexibly scaled. Mechanical slot coding ensures unique assignment of modules and front connectors. In this way, errors can be avoided during configuration and module replacement.
- The 1:1 assignment of the terminal to the status LED together with the labeling permits unique and fast checking of the wiring during commissioning.
- Thanks to the way options are handled, complex automation projects only need to be configured once for the maximum configuration.

Compact design due to high channel density

Stronger

- The strong performance is due to the PROFINET Ethernet standard. The optimally equipped backplane bus is designed for communicative interaction via PROFINET and permits fast response times (approx. 40 times faster than SIMATIC S7-400). Connection to PROFIBUS is possible.
- Direct shielding of the analog signals on the module considerably increases resilience to external interference. The necessary shielding elements are included with the SIMATIC ET 200MP module and do not need to be ordered separately.
- Safe and simple cabling: SIMATIC TOP connect, the preassembled system cabling for digital and analog signals, is available to ensure fast assembly and prevent wiring errors.

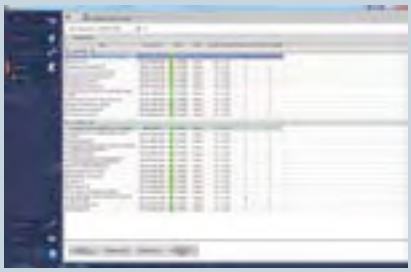


Isochronous backplane bus communicates via PROFINET

My SIMATIC ET 200 –

simple configuration, user-friendly engineering

Choice of modules and SIMATIC ET 200MP station configuration in the TIA Selection Tool



Generated ordering list of the configured stations in the TIA Selection Tool

Simple configuration and ordering – with the TIA Selection Tool

Both SIMATIC ET 200SP and ET 200MP are easy to configure and order using the TIA Selection Tool (which can be downloaded license-free from the Industry Mall or directly at www.siemens.com/tia-selection-tool). Six configuration steps make selecting and compiling parts lists easy and convenient:

- General: Station data as well as a graphical presentation of the configured station
- Module selection: Guided module selection with suggestions for choice
- System data: Display of station size, weight, number of modules, load voltage, parameters, etc.
- Accessories: Guided selection of the required accessories (module-specific or station-wide)
- Load group distribution: Graphical representation of the potentials within a SIMATIC ET 200SP station
- Parts list: Automatic generation of a parts list makes ordering easier

www.siemens.com/tia-selection-tool

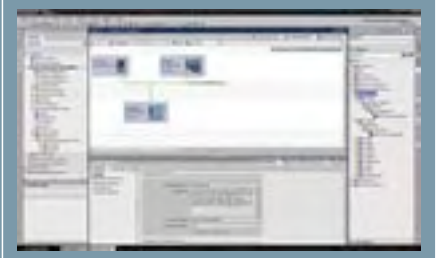
Engineering and configuration in the TIA Portal

The SIMATIC ET 200SP and ET 200MP can be integrated into the TIA Portal (Totally Integrated Automation Portal) for engineering. This enables you to benefit not only from maximum efficiency in engineering, commissioning and diagnostics, but also from the greatest possible investment protection. All future software developments can be integrated seamlessly into the TIA Portal.

All the hardware is configured and networked in the fully graphical Device and Network View. You can configure your SIMATIC ET 200SP and ET 200MP stations in the device view. In the network view, the controllers, HMI devices, PCs, and drives can all be networked by simple graphical configuration of the connections. Functions such as Drag&Drop for tags or hardware components and simple Copy&Paste of program parts make the application very convenient to use. With the GSDML file, SIMATIC ET 200SP and ET 200MP can also be integrated into other engineering systems.

www.siemens.com/tia-portal

Configuration of a SIMATIC ET 200SP station in the device view of the TIA Portal



Networking of the devices via PROFINET in the network view of the TIA Portal

Discover more

www.siemens.com/et200

Discover everything about SIMATIC ET 200:

- Illustrative 3D animations of the SIMATIC ET 200SP and ET 200MP functions
- Current movies and podcasts
- Module overview

SIMATIC ET 200 – take a look!

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