



SIEMENS

SIMOCODE ES
in the
TIA Portal

Keeps an eye on the motor. And your system running.

SIMOCODE pro: The motor management system for increased transparency –
and improved process quality



Intuitive, efficient, proven:
TIA Portal sets new engineering standards.

[siemens.com/simocode](https://www.siemens.com/simocode)

Is always curious. And keeps nothing to itself.

The risk of extremely cost-intensive plant downtimes represents the biggest problem for automated processes. Yet, the corresponding costs could be easily reduced or avoided completely. How? By preventing faults from the start, by localizing faults in the system before they can cause any damage and by rectifying faults rapidly when it comes to worst – with the help of intelligent technology. SIMOCODE pro represents the best example in this context: The world's leading motor management system provides comprehensive motor data which allow for increased process control quality.

Clear advantages in terms of process control

For more than 25 years, SIMOCODE pro has been ensuring the optimum operation of constant-speed motors in the low voltage range in countless plants around the globe. The flexible, efficient and modular motor management system combines all necessary protection, monitoring, safety and control functions for every motor feeder in a single compact enclosure. It can be easily connected to the automation system via PROFIBUS, PROFINET or Modbus RTU.

The resulting data transparency facilitates improved process control quality coupled with reduced costs – from plant planning to mounting and operation, right down to maintenance.

The motor management system for all requirements

SIMOCODE pro covers all functional requirements between motor feeder and automation system.

The product range permanently sets new standards on the market for motor management devices: The SIMOCODE pro S device range recently supplemented the segment of simple and advanced standard applications. Frequently required functions such as ground fault and temperature monitoring as well as the connection of 230 V inputs are

already available in the entry-level class of SIMOCODE pro S. With SIMOCODE pro V, the motor management range completes the portfolio for more complex tasks. Further motor protection, motor control and monitoring functions can be individually supplemented for further increased plant availability.

Besides powerful hardware, SIMOCODE pro also stands for user-friendly software: SIMOCODE ES, the central software for commissioning, operation and diagnostics of SIMOCODE pro – also integrated in the TIA Portal.

Comprehensive motor feeder features

- Multifunctional, electronic full motor protection, independent of the automation system
- Safe motor disconnection
- Integrated control functions
- Detailed operating, service and diagnostics data
- Open communication via PROFIBUS, PROFINET or Modbus RTU
- Flexible, convenient motor control software



Ensures extremely easy engineering. And rapid commissioning.

Ease of planning, high configuration reliability, rapid commissioning as well as parameterization, diagnostics and maintenance-relevant monitoring functions: All those are characteristics of convenient engineering with SIMOCODE ES, the central software for configuration, commissioning, operation and diagnostics of SIMOCODE pro. Integrated in the uniform engineering framework of the Totally Integrated Automation Portal (TIA Portal), SIMOCODE ES represents the efficient and intuitive solution for all automation tasks.

SIMOCODE ES V13 in the TIA Portal **Intuitive engineering right from the start**

Uniform, central and innovative engineering

- Transparent, convenient configuration in the device view
- Centralization of an entire plant's configuration
- Management of user-created templates for SIMOCODE pro device configurations in global or project libraries for rapid reusability

Graphical parameterization and commissioning via the integrated graphics editor

- Control and protection functions as well as control circuit wiring are realized by means of integrated control functions and can be parameterized in a user-friendly and rapid manner
- Device parameterization via drag & drop using the graphics editor, based on Continuous Function Chart (CFC), facilitates the extremely compact documentation of all set parameters as well as the graphical online representation, including all state signals, during ongoing operation

Easy diagnostics and maintenance

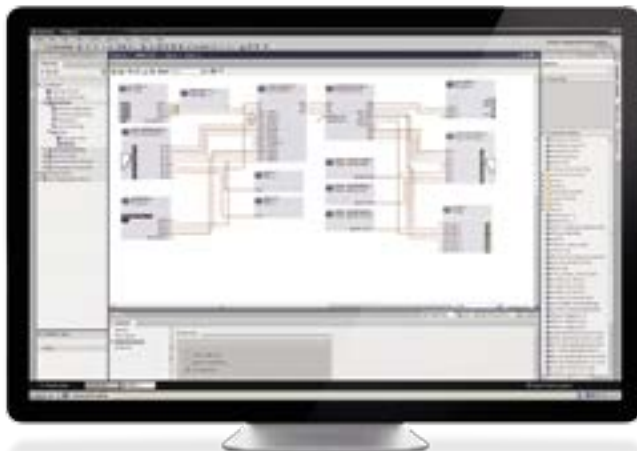
- Convenient central parameterization and diagnostics via PROFIBUS / PROFINET or directly on the control cabinet
- Avoidance of unnecessary plant downtimes thanks to optional online parameterization – also during ongoing operation
- Representation of manifold information in the form of transparent dialogs, including:
 - Warnings, faults, messages
 - Motor operating hours, motor starts
 - Fault log / fault history
 - Trends and measuring curves

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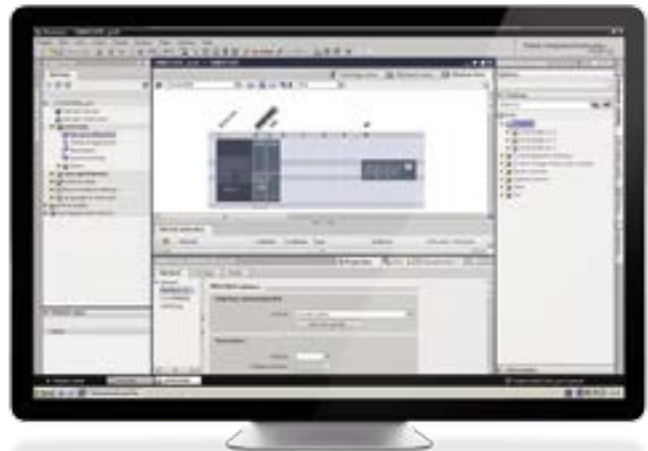
STEP 7 software with SIMOCODE basic integration

It is already possible to configure and commission SIMOCODE pro in the TIA Portal using STEP 7 (no additional software is needed).

Configurations created with STEP 7 are downloaded to the control system and transferred automatically from there to the SIMOCODE pro devices connected via PROFIBUS / PROFINET.



SIMOCODE ES with integrated graphics editor



Configuration in the TIA Portal – device view

Easily integrated into the control system and speaks all languages. For optimum process control.

Thanks to the connection of SIMOCODE pro to PROFIBUS, PROFINET or Modbus RTU, all required data from the motor feeder are available for process and plant operation – anywhere and everywhere. This ensures increased transparency and information density throughout the process. Ethernet (PROFINET) offers special advantages: Diagnostics messages can be conveniently accessed via a standard web browser. No special software is required. Moreover, measured values and data can be individually accessed via HMI panels or SCADA systems by means of the integrated manufacturer-independent OPC UA interface.

Convenient integration in the process control system: Integration in SIMATIC PCS 7 and SIMATIC PDM

- Integration via standardized motor blocks and face-plates for motor control, operation and monitoring
- System-wide device parameterization and diagnostics thanks to integration in SIMATIC PDM (Process Device Manager)

Further information on integration in SIMATIC PCS 7 and SIMATIC PDM is available in the brochure:

“Optimum process control:
the PCS 7 library SIMOCODE pro”

Integrated web diagnostics: Online access to diagnostics data, measured values, service and statistical data without additional software

- Online access to all important information for diagnostics and service – 24/7, worldwide
- Clearly structured display of detailed motor status information, current measured values, fault memories as well as service and statistical data via device-integrated websites

Open, manufacturer-independent communication via OPC UA: Direct data exchange with HMI panels or SCADA systems

- Flexible and powerful communication interface for automation as well as operating and monitoring systems – acting as OPC UA client, these systems can in turn access all important operating, service and diagnostics data of SIMOCODE pro for PROFINET and transfer control commands



SIMOCODE pro libraries for PCS 7

SIMOCODE pro provides all required data for process and plant operation. These data are available in the power distribution board as well as in the control system. In addition to numerous process parameters, your maintenance and service staff is particularly supported by service and diagnostics data. SIMOCODE pro facilitates the detection of pending faults and their avoidance by means of preventive measures. If a fault does occur, it can be rapidly localized and rectified. Downtimes are thus reduced to a minimum or completely avoided.



All you need for industrial motor management. Our product portfolio.

SIMOCODE pro is a lot of things – but above all, it is flexible. The key word: Functionality as required.

To be able to fully exploit its benefits in absolutely all areas of the process industry or power plant engineering, we offer two functionally graded device series: SIMOCODE pro S and SIMOCODE pro V.

Smart and compact: SIMOCODE pro S

The SIMOCODE pro S motor management system, in its modern, slim-line titanium-gray enclosure with a width of just 22.5 mm, redefines the concept of an efficient, extremely compact, entry-level motor management device: The basic unit and multifunction module meet all the main industry demands with regard to the control, monitoring and protection of motors.

Whether for the most basic of requirements, such as overload protection, or for motor feeders with direct-on-line starting, reversing starting, or star-delta (wye-delta) starting as well as thermistor motor protection and ground-fault monitoring, SIMOCODE pro S provides tailor-made solutions!

SIMOCODE pro S is able to be connected to the controller simply via PROFIBUS.



Versatile and intelligent: SIMOCODE pro V

The SIMOCODE pro V motor management system offers a more diverse range of functions than the SIMOCODE pro S system, and you can choose the functions that you need for your motor feeder.

In addition to the full range of functions available with SIMOCODE pro S, the SIMOCODE pro V basic unit offers numerous other useful functions when combined with up to five expansion modules, including voltage and active power detection, fail-safe shutdown and connection to PROFIBUS, PROFINET or Modbus RTU.



System redundancy with SIMOCODE pro

PROFINET users in the process industry enjoy a number of clear advantages, including increased plant availability and enhanced productivity, with SIMOCODE pro supporting the PROFINET system redundancy function.

- SIMOCODE pro motor management devices can be directly connected to high-availability systems (like SIMATIC S7-400 H, for example).
- Both subsystems communicate with the I/Os via PROFINET and exchange data with SIMOCODE pro.
- Plant operation is not interrupted by cable breaks or by component or subsystem failures as the control system has continuous access to the SIMOCODE pro field device.

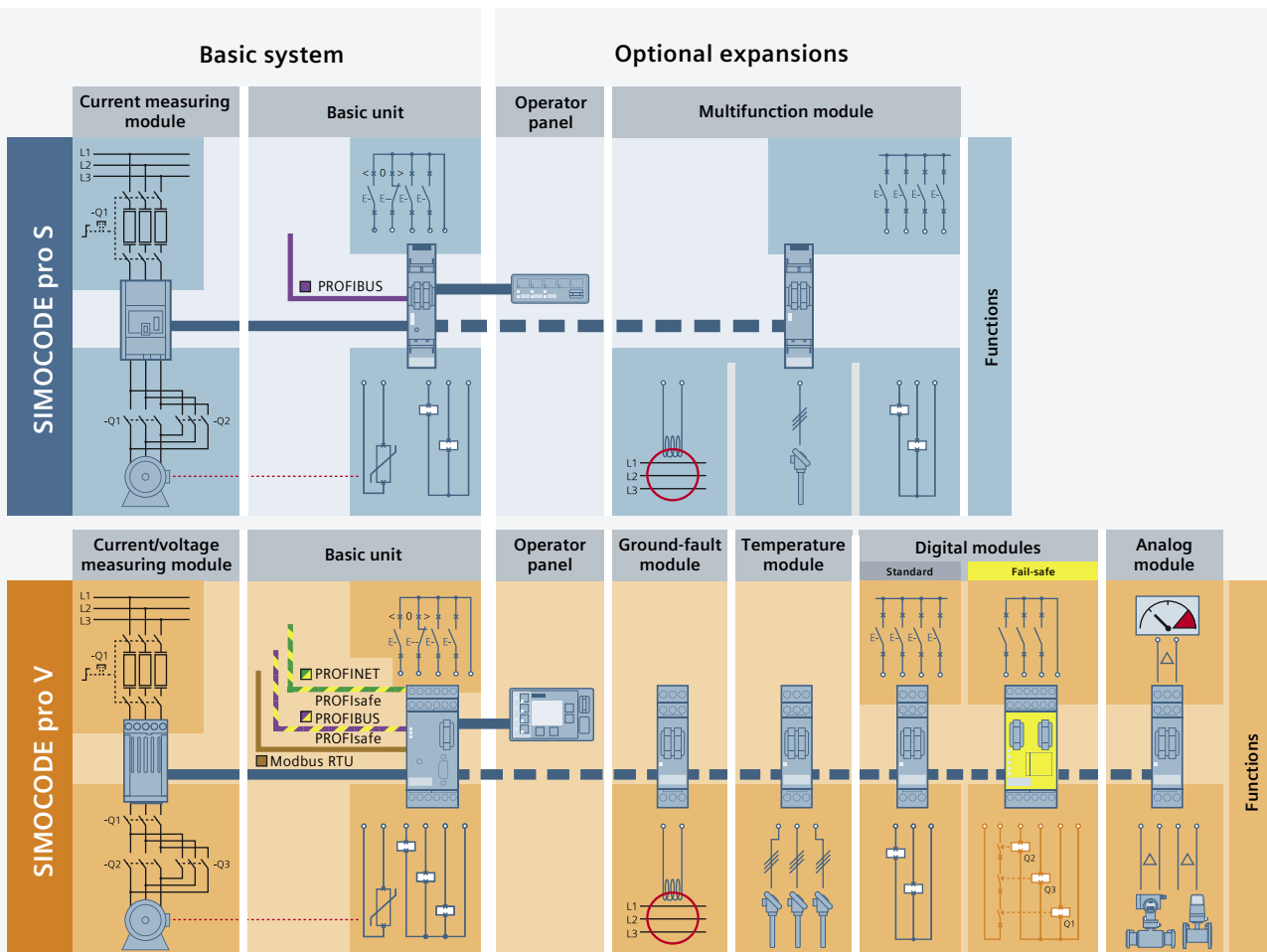
Video -
see SIMOCODE
pro system
redundancy in
action!



SIMOCODE pro - extensive range of functions, simple design

SIMOCODE pro S	Functions		SIMOCODE pro V
●	Simple control functions (e.g. overload relay, direct-on-line start and reversing start, soft start*, star-delta*)		●
●	Protection functions (e.g. thermistor, overload, phase unbalance)		●
●	Basic monitoring functions (e.g. current limits, internal ground fault, downtimes)		●
●	Basic unit 4 inputs/2 outputs	Basic unit 4 inputs/3 outputs	●
	Basic unit with multifunction modules max. 8 inputs/4 outputs	Basic unit with digital modules max. 12 inputs/7 outputs	
●	Current measurement		●
●	External ground-fault monitoring		●
●	Temperature monitoring		●
●	I/O expansion, input voltage 24 V DC, 110–240 V AC/DC, monostable relay outputs		●
	Expanded control functions (e.g. pole-changing starter, positioner)		●
	Voltage / power measurement		●
	Analog value monitoring		●
	Safety-related shutdown		●
	I/O expansion, input voltage 24 V DC, 110–240 V AC/DC, bistable relay outputs		●

*) with multifunction module for SIMOCODE pro S



Perfectly coordinated. Convenient and safe to integrate in SIVACON switchboards.

The solution for safe, flexible and efficient power supply is simple: Take two pros. The SIVACON S8 low-voltage power distribution board sets new standards as energy distribution board or motor control center (MCC) for industrial applications or for infrastructure applications up to 7,000 A. SIMOCODE pro provides you with a variable, powerful and communication-capable motor management system for the low-voltage power distribution board.

SIMOCODE pro and SIVACON for increased performance

SIMOCODE pro is employed in SIVACON S8 boards in universal mounting, fixed-mounted, plug-in or withdrawable design and facilitates the assembly of powerful and extremely space-saving, communication-capable load feeders. Thanks to the initialization module for SIMOCODE pro, power distribution board and motor management system grow together even more closely.

With the withdrawable design frequently employed in motor control centers, the initialization module is permanently integrated in the power distribution board. As a result, feeder-related parameter and address data are precisely assigned to the respective feeder. When replacing the withdrawable module with SIMOCODE pro, the new component is automatically initialized with the correct parameters. This makes manual programming after device replacement a thing of the past.

www.siemens.com/sivacon



SIVACON S8 power distribution board:
Communication-capable, safe, flexible and efficient



SIVACON withdrawable design with integrated SIMOCODE pro

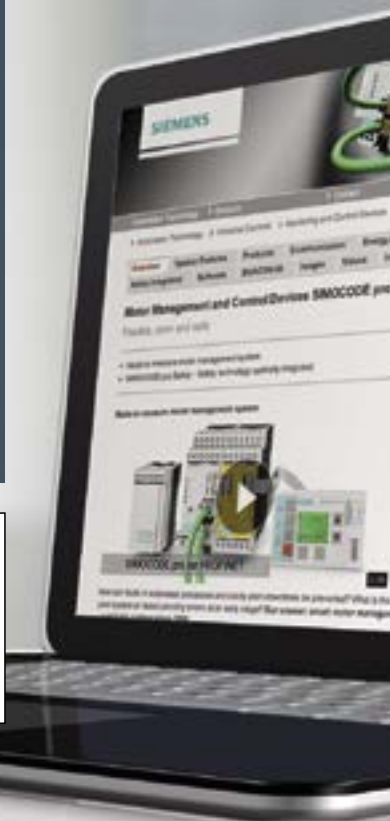
Find out more:

www.siemens.com/simocode

Experience modern motor management with SIMOCODE pro

- › Detailed information on the SIMOCODE pro system
- › As video:
 - Safety functions PROFINET connection
 - Functionality of the initialization module in the MCC
 - Application of SIMOCODE ES in the TIA Portal

**SIMOCODE
pro
at a
glance!**



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