

# SIEMENS

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## SIPROTEC 6MD86

Bay Controllers

[www.siemens.com/siprotec](http://www.siemens.com/siprotec)

### Description

The SIPROTEC 6MD86 bay controller is a general-purpose control and automation device with protection function. It is designed for use in all voltage levels from distribution to transmission. As part of the SIPROTEC 5 family, it enables a wealth of protection functions from the SIPROTEC library. Adapt the hardware and the IO quantity structure exactly to your requirements and rely on future-oriented system solutions with high investment security and low operating costs.

Main function	Bay controller for medium voltage and high to extra-high voltage switchgear with integrated operation and comprehensive protection functions. Powerful automation, simple configuration with DIGSI 5
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Inputs and outputs	6 predefined standard variants with 8 current transformers, 8 voltage transformers, 11 to 75 binary inputs, 9 to 41 binary outputs
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Hardware flexibility	Flexible adjustable and expandable I/O quantity structure within the scope of the SIPROTEC 5 modular system. For great requirements placed on the quantity structure, the device can be extended in the 2nd row. For example, 240 (and more) binary inputs are possible with the IO230 (see Hardware section)
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Housing width	1/3 × 19" to 2/1 × 19"
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### Functions

DIGSI 5 permits all functions to be configured and combined as required.

- Integrated bay controller with versatile protection function from medium to extra-high voltage
- Control of switching devices



SIPROTEC 6MD86 (1/3 Device with 1/6 Expansion Module with Key Switch Operation Panel)

- Synchrocheck, switchgear interlocking protection and switchrelated protection functions, such as circuit-breaker failure protection and automatic reclosing
- Integrated electrical Ethernet RJ45 for DIGSI 5 and IEC 61850 (reporting and GOOSE)
- Up to 4 pluggable communication modules, usable for different and redundant protocols (IEC 61850, IEC 60870-5-103, IEC 60870-5-104, Modbus TCP, DNP3 serial and TCP, PROFINET IO)
- Reliable data transmission via PRP and HSR redundancy protocols
- Extensive cyber security functionality, such as role-based access control (RBAC), protocoling security-related events or signed firmware

# Modular and flexible

- Simple, quick and secure access to device data via a standard Web browser - without additional software
- Arc protection
- Graphical logic editor to create powerful automation functions in the device
- Optional overcurrent protection with 3-pole tripping
- Also used in switchgear with breaker-and-a-half layout
- Overcurrent protection also configurable as emergency mode
- Secure serial protection data communication, also over great distances and all available physical media (optical fiber, twowire connections and communication networks)
- Capturing operational measured variables and protection function measured values for the evaluation of the systems, to support commissioning, and to analyze faults
- Synchrophasor measured values with the IEEE C37.118 protocol integrated (PMU)
- Powerful fault recording (buffer for a max. record time of 80 sec. at 8 kHz or 320 sec. at 2 kHz)
- Auxiliary functions for simple tests and commissioning
- Flexibly adjustable I/O quantity structure within the scope of the SIPROTEC 5 modular system
- Cyber security in accordance with NERC CIP and BDEW Whitepaper requirements
- Highest availability even under extreme environmental conditions by "conformal coating" of electronic boards
- Powerful communication components warrant safe and effective solutions
- High investment security and low operating costs due to future-oriented system solutions

## Applications

The SIPROTEC 6MD86 bay controller is a general-purpose control and automation device with a protection function on the basis of the SIPROTEC 5 system. The standard variants of the SIPROTEC 6MD86 device are delivered with instrument transformers. Furthermore, protection-class current transformers are also possible in SIPROTEC 6MD86 devices, allowing protection functions to be used. Due to its high flexibility, it is suitable as selective protection equipment for overhead lines and cables with single-ended and multi-ended infeeds when protection communication is used. The device supports all SIPROTEC 5 system characteristics. It enables upgradeable system solutions with high investment security and low operating costs.

## Benefits

- Safe and reliable automation and control of your systems
- Purposeful and easy handling of devices and software thanks to a user-friendly design



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