SIEMENS



ENERGY AUTOMATION

SICAM Operating Plan

Integrated Time-Based Control on the SICAM 8 Power Automation Platform

SICAM Operating Plan automates the generation of controller output values based on predefined, time-driven operating plans.

Challenge: Managing complex time-based operations

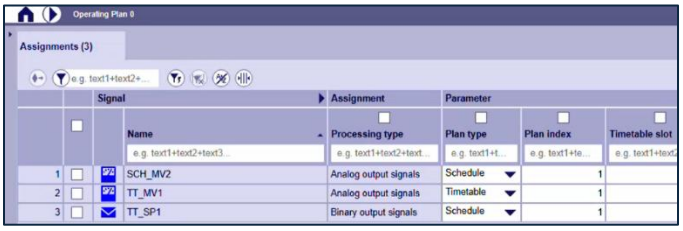
In industrial and energy automation, precise time-dependent control is crucial, yet operators and engineers face significant challenges. Primarily, manual intervention for adjusting settings and operational changes leads to errors and inefficiencies. This is compounded by a lack of automation for recurring processes and abrupt system changes, which can cause mechanical stress, process instability, and inefficient energy consumption. These issues, along with the operational complexity of managing numerous schedules across different systems, result in poor control performance, high operational costs, and low system reliability.

Solution: Automated & precise control

SICAM Operating Plan offers an integrated, automated, and highly configurable platform for time-based control.
It empowers users to define and execute complex operational strategies with precision and reliability.

Your benefits

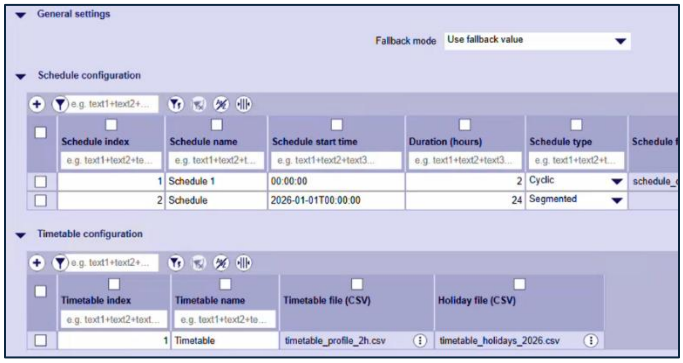
By centralizing timetable and schedule management, SICAM Operating Plan ensures precise, timely execution of control actions, minimizing manual effort and maximizing operational efficiency.
With SICAM Operating Plan, two planning methods operate independently and can be deployed separately or in combination: Timetable-based operation and Schedule-based operation, complemented by additional features to enhance operational control and efficiency.



Features & capabilities of SICAM Operating Plan

Timetable-based operation

- Calendar-Driven Activation: Provides calendar-based activation for control actions tied to specific dates, times, and recurring patterns, integrating with weekdays, holidays, and defined periods.
- Configurable Instances: Supports up to 10 timetable instances, each containing up to 55 periods with up to 10 non-overlapping sequences per period.
- Multi-Signal Output: Each sequence provides five fixed output slots (Slot 1 to Slot 5), enabling control of up to 5 output signals per timetable.
- Holiday Handling: Integrates holiday schedules via dedicated CSV files, supporting up to 50 holiday entries per holiday file.
- CSV Import: Supports CSV import for timetable and holiday data.



Schedule-Based Operation

- Time-Series Profiles: Executes time-series value profiles with both segmented and cyclic planning options.
- Capacity: Supports up to 10 schedules, each containing up to 10,080 entries — equivalent to 1-minute intervals over a 7-day period.
- CSV Import: Supports CSV-based data import for schedule profiles.

Additional Features

- Signal Ramping: Transitions analog output values gradually to their new setpoint, preventing abrupt changes and supporting process stability.
- Fallback Handling: Defines how an assigned output signal behaves when no valid timetable or schedule value is available, ensuring predictable system behavior.
- Parallel Execution: Both schedule and timetable engines can run independently on separate worker threads within the same application instance, ensuring robust operation.
- Shared Output Assignment: Both planning methods publish values through a common assignment model and dispatcher infrastructure, ensuring seamless integration.

Operational Management & User Interface



- Real-Time Monitoring: Active schedules and timetables are accessible via the SICAM Web interface for real-time monitoring.
- Dynamic Configuration: Supports import and export of CSV configurations directly from the dashboard at runtime - no Device Manager access or application restart required.
- Role-Based Access Control (RBAC): Manages user access to monitoring and configuration functionalities based on assigned roles.

SICAM 8 Power Automation Platform Advantages

- Modularity: integrates seamlessly with other SICAM 8 control applications, like SICAM Power Control, SICAM Dynamic Load Management or SICAM Energy Control, enabling comprehensive and scalable automation solutions.
- Security: leverages SICAM 8's built-in cybersecurity framework (IPSec, NERC CIP, ISO/IEC 27001, IEC 62443, IEC 62351).
- Communication: applies robust SICAM 8 communication capabilities for reliable data exchange, supporting standard protocols (IEC 61850, IEC 60870-5-104/101, Modbus TCP, MQTT, RestAPI).

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