

SITOP library for SIMATIC PCS 7

24 V DC power supply concepts
for the process industry

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SITOP – reliable power supply for SIMATIC PCS 7

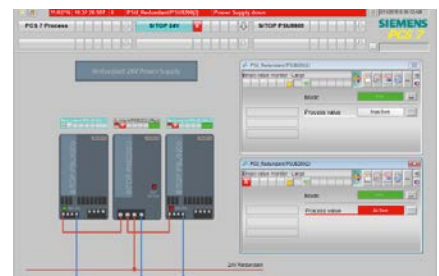
A reliable 24 V DC supply is of the greatest importance for ensuring a high level of availability of your plant. To support this, SITOP offers you single-phase or 3-phase basic power supply units with different output power ratings up to 1,000 W and comprehensive certifications such as ATEX or IECEx, as well as MTBF values of up to 1 million hours in 24-hour continuous operation.

You can customize these power supplies according to your plant configuration and required degree of reliability: they are scalable from redundant power supply, through redundant power supply with selective monitoring of the 24 V DC feeders, to power supply with redundant buffering.

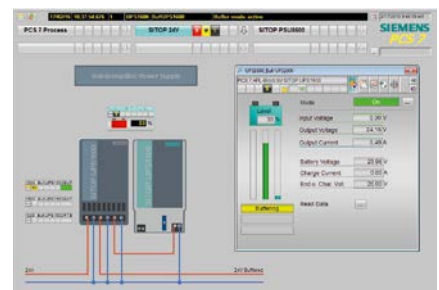
For preferred power supply concepts

For preferred power supply concepts, the SITOP library provides you with modules and faceplates for direct integration in SIMATIC PCS 7 (from version V8.0 SP2 upwards). The SW modules in the SIMATIC S7 generate messages and supply the faceplate on the user interface of the process control system with operating and diagnostics data.

This ensures constant transparency of the 24 V DC supply in the control system and automatically provides you with information about operating states (e.g. buffer operation), maintenance requirements (e.g. replacing batteries), and faults (e.g. short-circuit or overload in 24 V DC circuits). Critical plant states are detected quickly, which avoids costs due to downtimes. The result is a lasting increase in plant availability.



PCS 7 process display for a redundant 24 V DC power supply: fault information as overview and in detail



DC-UPS faceplate in PCS 7: transparent display of operating states or maintenance requirements

SITOP library for versatile power supply concepts

Redundant power supply

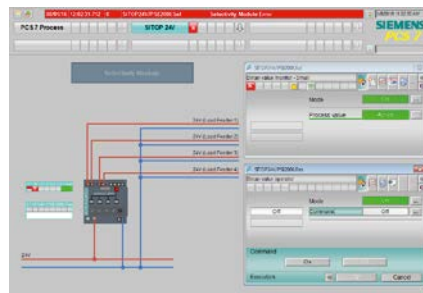
A SITOP redundancy module continuously monitors two identical SITOP power supply units. If one unit fails, the other automatically takes over the power supply. In addition, this is signaled via signaling contacts that are evaluated in the control system.

Uninterruptible power supply

In the event of a power outage, the uninterruptible power supply SITOP UPS1600 continues to supply the automation system with 24 V DC for a period of hours. Depending on the design of the DC-UPS, it is integrated into the control system via digital input/outputs or via PROFINET. The smart battery management of the UPS1600 ensures optimal charging and continuous monitoring of the UPS1100 battery modules.

Selective monitoring of 24 V DC feeders

SITOP selectivity modules are the optimal addition for all 24 V DC power supplies for distributing and monitoring the load current between several feeders. They detect an overload or short-circuit in one or more feeders and disconnect these selectively – even on high-resistance lines and in the event of “creeping” short-circuits. The intact feeders continue to be supplied with 24 V DC by the modules without interruption and with no system disturbance. Their signaling contact can be looped through via several selectivity modules and can be evaluated as a common signal in SIMATIC PCS 7.



Power supply system SITOP PSU8600

With the SITOP PSU8600, the power supply becomes an integral part of the automation system. The basic unit with Ethernet/PROFINET interface and one or four selectively monitored outputs can be expanded individually thanks to the modular system without any wiring effort. Up to four expansion modules (up to 16 additional DC outputs) and max. two buffer modules (buffer time up to seconds) can be added. The power supply system is integrated into the control system via PROFINET and delivers comprehensive operating and diagnostics information such as output currents, voltages, overload or short-circuit.

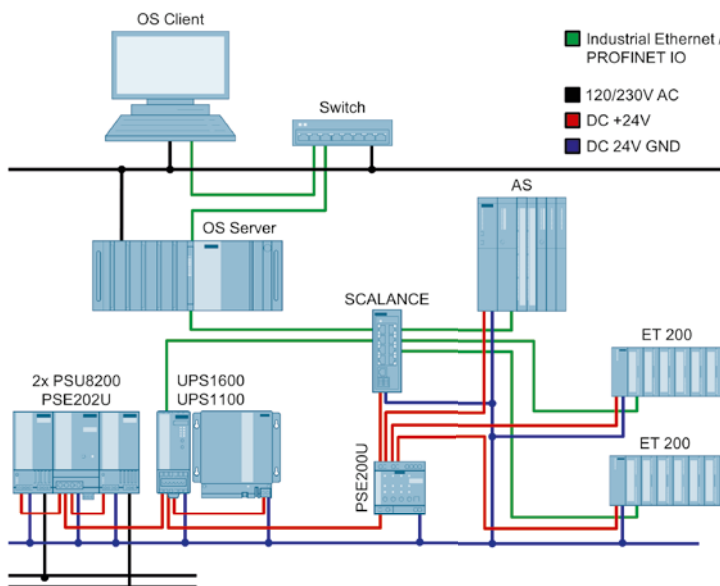
Further information on

- 24 V DC power supply concepts
- SITOP library for SIMATIC PCS 7 (free download)
- Sample application for SIMATIC PCS 7 (free download)

can be found here:



Scalable expansion of the 24 V DC supply possible up to all-round protection:



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