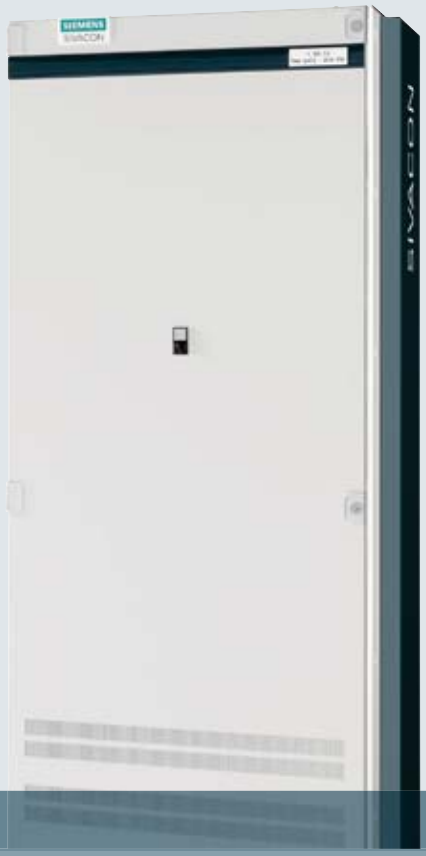
SIEMENS



SIVACON

Reactive-Power Compensation and Active Filter

Lower power costs with the intelligent SIVACON technology

Built-in savings potential

The cubicles of SIVACON S8 for central reactive-power compensation relieve transformers and cables, reduce transmission losses, and therefore save energy. A new active filter module has been integrated into the SIVACON S8 low-voltage switchboard for power and network quality enhancement.

Optimized network quality

Reactive power in a network is caused by inductive linear loads, such as motors, transformers or UPS systems. Active harmonic filters negate harmonic components as well as expensive reactive power and thus guarantee optimum network quality and sustainable reduction in energy costs.

Active filters

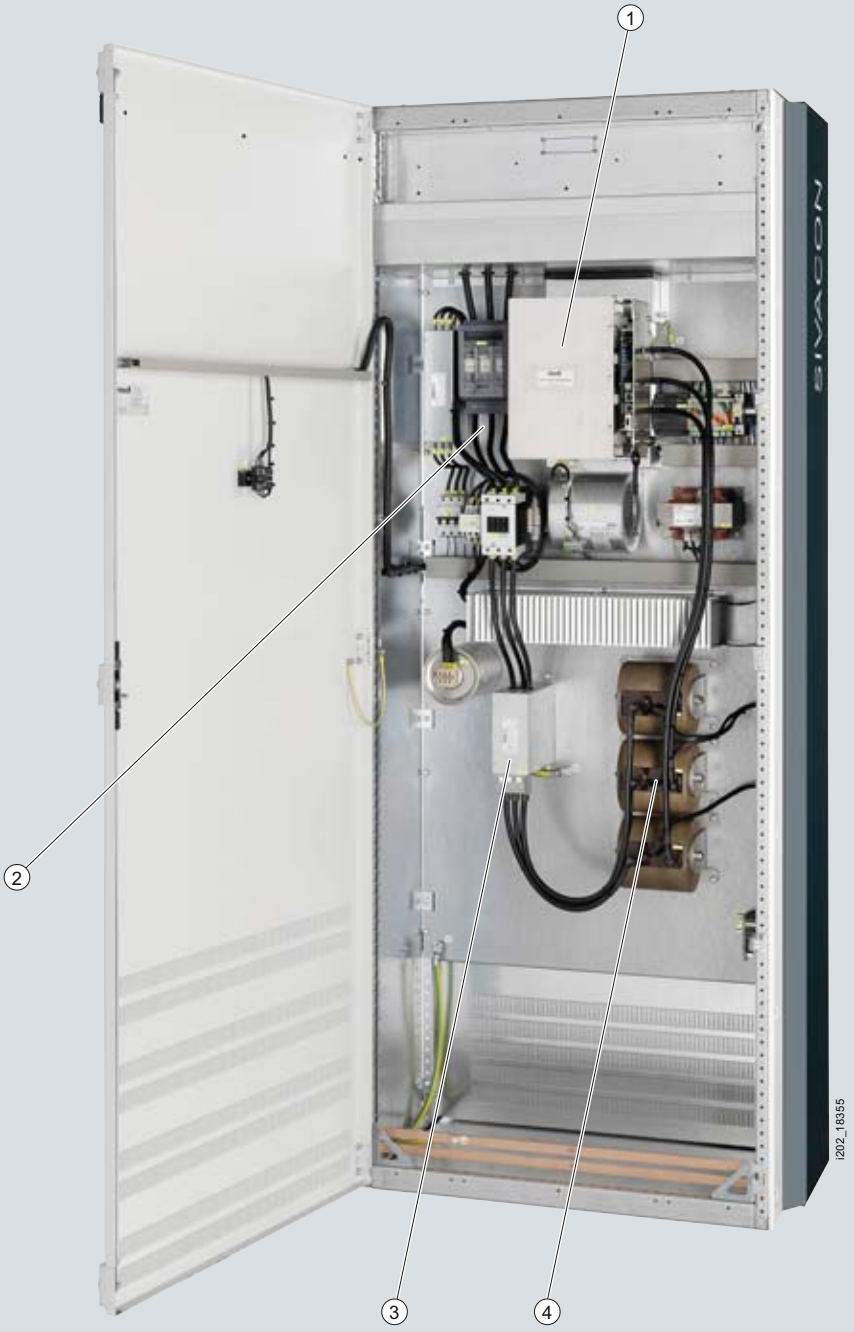
This new active filter offers a number of functions that negate harmonic components up to 4 kHz, feedback of the absorbed energy into the net at 50 Hz, and is the quickest active filter on the market right now with a CPU time of < 25 µs.

Highlights

- Greater efficiency by creating sustainable reduction of energy costs
- Efficient network dimensioning thanks to low reactive power

Answers for infrastructure.

Overview



1 Power section
2 Feeder unit, load contactor, charge contactor, control power supplies, line filter for ripple filter
3 Ripple filter
4 Reactors

Filter module 4RF1010-3PB0

Reactive-power compensation and active filters

Safety, cost-efficiency and the fault-free operation of machinery, production facilities and devices are key requirements for any enterprise.

If, however, despite UPS protection and emergency generators problems arise, such as:

- Cables and networks cannot work to capacity
- Frequent significant energy losses in power networks
- Increased wear and limited availability of equipment
- Device and equipment outages

and for no apparent reason, they are often caused by Power Quality problems in the internal energy network. These can be identified by taking measurements and making network analyses.

Active harmonic filters can be integrated as early as in the planning and implementation phase when constructing new systems. They are also an intelligent solution for existing systems and facilities prone to experiencing Power Quality problems.

All key product features at a glance

- Complete description of filter function with analogue, time-continuous models: no FFT, no FIR filters
- CPU time < 25 µs, making it the fastest active filter on the market
- Completely freely programmable filters up to the 16th order
- Any number of time-continuous frequency and phase bands can be realized
- Harmonic currents compensated by load current specification via transformers
- Intermediate harmonics can be handled in the same way as harmonics
- Reactive-power compensation with load current specifications via transformers, adjustable cos φ
- Attenuation function: freely programmable absorption circuit
- A hybrid filter with active low-pass filter is easy to implement
- Ideally suited for applications that require a low THDI (e. g. the automotive industry)
- Network resonances can be actively dampened, even if their frequency behaviour depends on load or time of day
- Frequencies up to 4 kHz
- Absorbed energy is fed back into the network at 50 Hz
- Efficient, low-noise ventilation concept

Application

Elevators, automobile industry, data and computer centres, frequency converters, building management systems, HLK installations, mechanical and automation engineering, oil and gas transportation systems, paper mills, ship propulsion systems, steel industry, welding systems, tunnel ventilation, UPS, water/wastewater treatment systems, wind turbines, cement industry.

Technical specifications

	Filter module 4RF1010-3PB0
Rated voltage	400 V (380 - 480 V) 50/60 Hz
Connection	Three-phase, without neutral conductor (TN, TT, IT)
Rated current	100 A rms, 200 A Pk
CPU time	25 µs
Sampling rate	192 kHz
Filter effect	> 95 %, THD i < 3 %
Fuse protection	125 A NH00 uR internal
Degree of protection	IP30
Power loss	< 1200 W
Noise generation	< 60 dB (A)
Ambient temperature	0° … 40 °C, no condensation (opt. -25 … +40 °C with control cabinet heating)
Cooling	Air cooling
Dimensions (HxWxD)	2200 x 800 x 600 mm
Weight	approx. 250 kg

More information

www.siemens.com/sivacon

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