

Supported by:



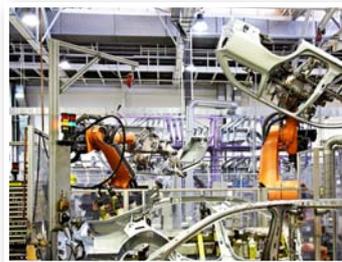
Federal Ministry
for Economic Affairs
and Energy

on the basis of a decision
by the German Bundestag

SCHAEFER

Active Harmonic Filters

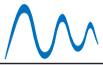
Innovation made in Germany



POWER BALANCE

 active filter technology

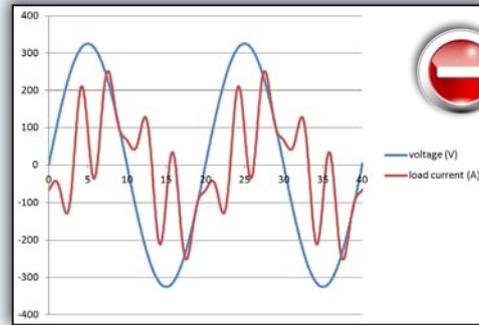
www.schaeferpower.de



Power Balance Series

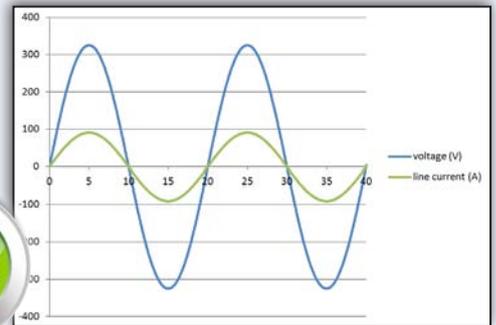
Features

The PB-SERIES is an active harmonic filter system for tower buildings as well as automation, windturbine and various other industrial applications eliminating harmonic oscillations and consequently costs for reactive energy. The filter monitors the current signal and compensates for the unwanted elements of the measured current. Thus, the filter ensures a harmonic suppression independently of the number of loads. Furthermore the filter corrects the power factor, improving the systems' efficiency while reducing harmonic distortion.



Without POWER BALANCE:
Harmonic disturbances caused by e.g. non-linear loads.

With POWER BALANCE:
Reactive power & harmonic oscillations are actively compensated.

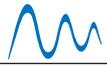


Specifications

Input & Output Parameters

Connectivity	3 wire: 3 phase 4 wire: 3 phase + neutral load
Phase compensation current	60A 120A 180A 240A 300A
Neutral lead compensation current	180A 360A 540A 720A 900A
Input voltage	3-wire: 200 V - 480 V ± 10% 4-wire: 200 V - 400 V ± 10%
Frequency	50/60 Hz ± 3 Hz
Response time max.	< 21 µs
Switching frequency	24 kHz
Control frequency	48 kHz
Harmonic compensation	Up to 50th harmonic, 50 active harmonic orders simultaneous selectable
Power factor correction	Fully inductive and reactive current compensation from 0 to 100%
Features	- Load balancing - Flicker compensation (caused by reactive current) - Reactive power compensation - Modular design - Parallel operation

Overload current	150A @cf2.5	300A @cf2.5	450A @cf2.5	600A @cf2.5	750A @cf2.5
Current transformer	Source or Load side selectable, Primary current range 100 A – 10000 A, secondary current 1 A				
Maximum power losses (W)	450	900	1350	1800	2250
Weight 19" single unit	60 kg				
Dimensions 19" single unit	482 x 678 x 222 mm (W x D x H)				
Weight wall mount unit (60Amps)	96 kg				
Dimensions wall mount unit (60Amps)	504 x 290.5 x 979.5 mm (W x D x H)				
Weight wall mount unit (120Amps)	160 kg				
Dimensions wall mount unit (120Amps)	504 x 514.5 x 979.5 mm (W x D x H)				
Air flow rate	470 cfm	940 cfm	1410 cfm	1880 cfm	2350 cfm
Interface	Ethercat 100 Mbit/s, USB, Active sensor bus, Display bus				
Ambient temperature	-10°C to +40°C full performance, up to +55°C derating 2% / K				
Humidity	95% non condensing				



Modular System



60 Amps Rack

consisting of one module, 1 sensor unit & 1 display (optional)

120 Amp Rack

consisting of two modules, 1 sensor unit & 1 display (optional)

180 Amps Rack

consisting of three modules, 1 sensor unit & 1 display (optional)

240 Amps Rack

consisting of four modules, 1 sensor unit & 1 display (optional)

300 Amps Rack

consisting of five modules, 1 sensor unit & 1 display (optional)



Wall mount System

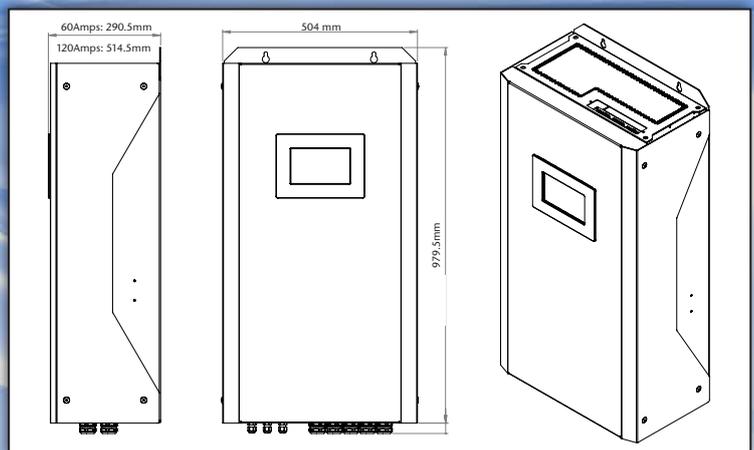


60 Amps Module (dimensional drawing below)

consisting of 1 module, 1 sensor unit & 1 display (optional)

120 Amps Module

consisting of 1 module, 1 sensor unit & 1 display (optional)



Harmonic Filters

Control & Monitoring Accessories



7" or 12" service box



7" or 12" TFT display



Active sensor unit

SCHÄFER Elektronik GmbH

Oststrasse 17, Gamshurst

D - 77855 Achern

Tel: +49 (0) 7841 - 2052-0

Fax: +49 (0) 7841 - 2052-52

www.schaeferpower.de