



Power Quality Solutions

Active Harmonic Filter PQSine™ S Series

Series/Type: 3P4W floor-mounted / PQSF4300S310
Ordering code: B44066F4300S310
Date: August 2018
Version: 1

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Characteristics

- The active harmonic filter PQSine™ S Series system is designed to eliminate harmonic oscillations; it monitors the current permanently and compensates the unwanted elements of the measured current.
- 300A for 3P4W (3-phase/4-wire) device for phase and neutral wire current correction.

Features

- User-friendly menu operation via TFT color touch screen
- Harmonic compensation up to 50th harmonic
- Ultra-fast reactive power compensation
- Load balancing between phases and unloaded neutral wire
- Advanced digital control FFT Intelligent and instantaneous reactive power
- Ethernet system for interconnection and monitoring
- High performance and reliability
- Simple installation & commissioning

Typical applications

- Industries having variable frequency drives, inverters UPS, furnaces such as paper, steel rolling mills, textile, garment, software parks, automotive, battery manufacturing, continuous process plants, pharmaceutical industries, etc.
- Green power generation (e.g. photovoltaics and wind turbines)
- Data centers, hotels, hospitals, shopping malls and office buildings (3rd and triple harmonic cancellation and neutral conductor unloading)

Safety features

- Highest safety and reliability
- Overload protection
- Internal short-circuit protection
- Overheating protection
- Overvoltage and undervoltage protection
- Inverter bridge protection
- Resonance protection
- Fan fault alarm

Technical data and specifications AHF system

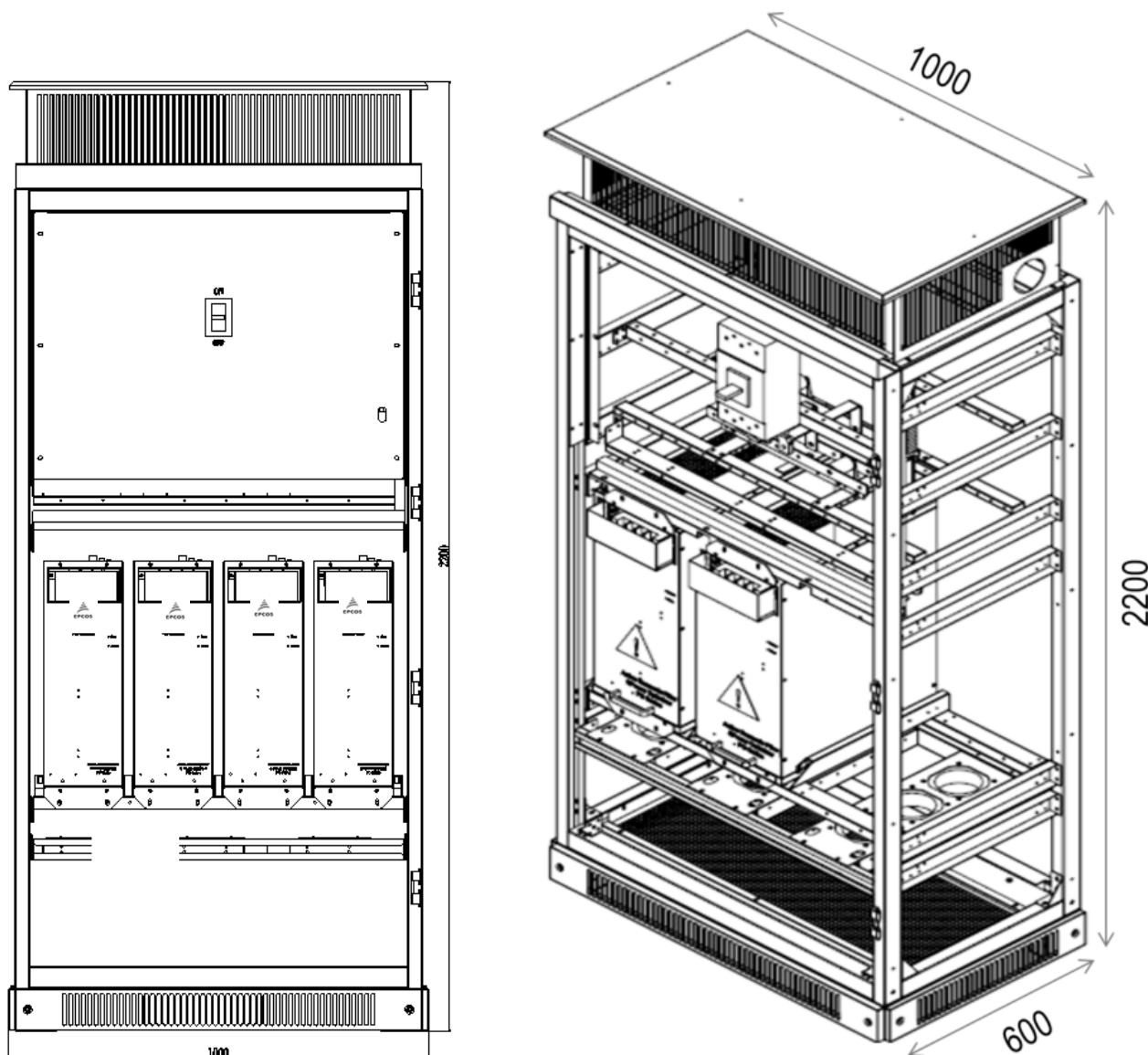
Type	PQSW4300S310
Ordering code	B44066F4300S310 (floor-mounted with vertical modules)
System input / number of phases	3-phase/4-wire
Phase compensation current	300 A
Neutral conductor compensation current	900 A
Frequency	45 Hz to 62 Hz
Input voltage (min. / max.)	228V...456V (132V-264V scope of input phase)
Inverter technology	12 IGBT three-level NPC topology
Process control	Three 32-bit DSP + CPLD
Reaction time	20 µs (immediate load change reaction)
Steady state response time	< 5 ms (steady state response time to full steady state compensation)
Switching / Control frequency	20 kHz
Signal processor	32 bit
Harmonic compensation	Up to 50th harmonic order, or specified harmonics 0-110%
Power factor correction	Fully inductive and capacitive current compensation from 0 ... 100%
Weight of a single AHF module	Approx. 48 kg (150A module). Two modules of 150A are mounted in the cabinet
Weight of the panel	Approx. 350 kg
Dimensions of the 300A panel	Approx. 1000 x 800 x 2200 mm (w x d x h)
Current transformer	3 CTs are needed. Source or load-side selectable, primary current range 150 A ... 10000 A, secondary current 5 A (see details of choosing the right CT in the manual) External current transformers are mandatory needed, but not included in the active filter delivery.
Efficiency	>97%

Technical data and specifications AHF system (cont.)

Recommended external AC mains protection (fuse or circuit breaker)	400 A (for details please see manual)
Mounting	Floor
Cooling	Forced cooling 961 L/sec
Interface	Modbus (RTU), TCP/IP (Ethernet),
Communication ports	RS485 and network port (RJ45)
Fault alarm	Available, max. 500 alarm records
Display	7-inch LCD touch color screen
Temperature	-10 ... +40 °C for operating temperature (may derate capacity if ambient temperature exceeds 40°C), -20...+70 °C for storage temperature
Protection class	IP20 according to IEC 529
Panel color	RAL7035 light grey
Humidity	5%~ 95%, non-condensing
Self-protection	Yes
Overheating protection	Yes
Overvoltage and undervoltage protection	Yes
Typical noise level	< 56 dB (depending on model and load conditions)
Altitude	1500 m; 1% up 1500 m. Between 1500 m to 4000 m, according to GB/T3859.2, the power decreases by 1% for every additional 100 m.
Standards / recommendations specifying limits for harmonics in networks or units	IEEE519, IEC 61000-3-6, ER G5/4
Design standards	IEC 61000-4-2, 4-3/4-4/4-5/4-6/4-8/4-11, IEC 60146, EN 55011 Class A, EN 50091-1, EN 50178 (type test report available upon request) after the standard EN 50178

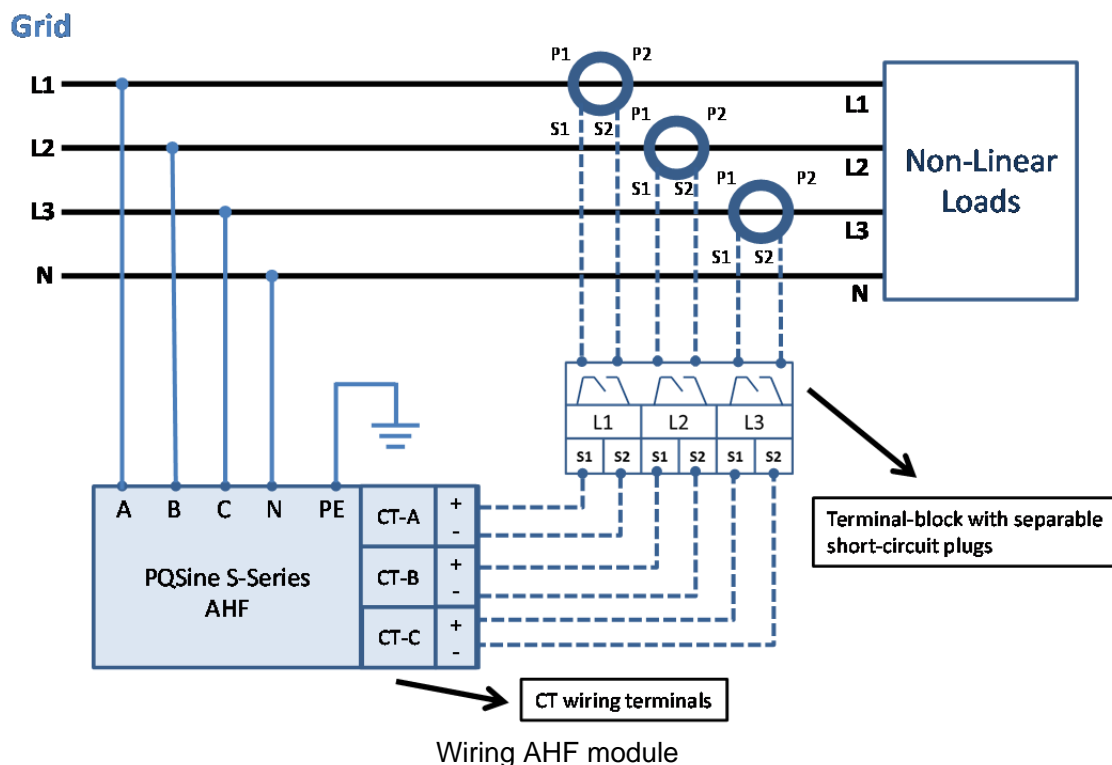
Dimensional drawing – 300 A floor-mounted system

Cabinet dimensional drawings



Indicative pictures to show the cabinet dimensions, the module arrangement inside may vary.

Connection diagram



Note: Current transformers are not included in the delivery and must be purchased separately.

Please also carefully read the cautions, notes and warnings in the AHF S Series operating and installation instructions manual!

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