



## Power Quality Solutions

### Active Harmonic Filter PQSine™ S Series

**Series/Type:** 3P4W wall-mounted / PQSW4035S344  
**Ordering code:** B44066F4035S344  
**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.
- 35 A 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 (3<sup>rd</sup> 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**

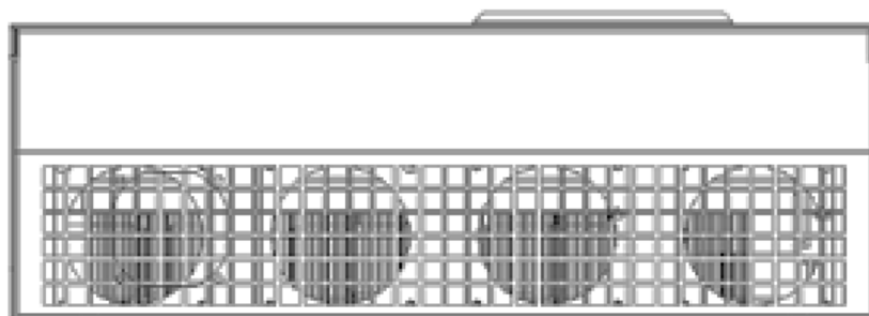
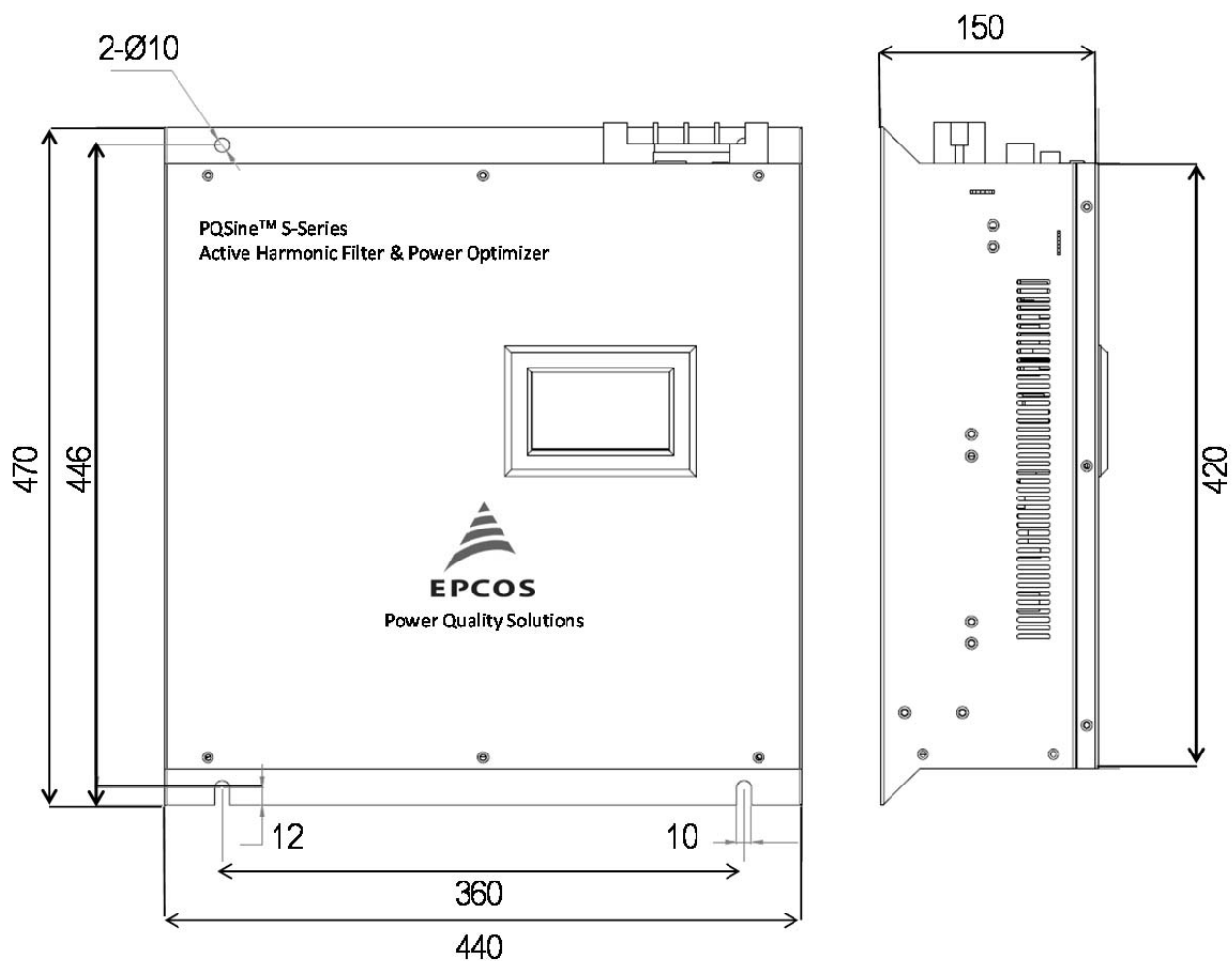
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| Type                                   | PQSW4035S344   |
| Ordering code                          | B44066F4035S344 (wall-mounted)   |
| System input / number of phases        | 3-phase/4-wire   |
| Phase compensation current             | 35 A   |
| Neutral conductor compensation current | 105 A  |
| Frequency (min. / max.)                | 45 / 62 Hz   |
| Input voltage (min. / max.)            | 228 V / 456 V  |
| Inverter technology                    | 12 IGBT three-level NPC topology   |
| Process control                        | Three 32-bit DSP + CPLD  |
| Reaction time                          | Approx. 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 50 <sup>th</sup> harmonic order, or specified harmonics 0 ... 110%   |
| Power factor correction                | Fully inductive and capacitive current compensation from 0 ... 100%  |
| Weight                                 | Approx. 18 kg  |
| Dimensions                             | Approx. 440 x 150 x 470 mm (w x d x h)   |
| Current transformer                    | 3 CTs are needed. Source or load-side selectable, primary current range 150 ... 10000 A, secondary current 5 A (see details of choosing the right CT in the manual)<br>External current transformers are mandatory needed, but not included in the active filter delivery. |
| Efficiency                             | > 97%*   |

\*for typical loads / harmonic order distortions

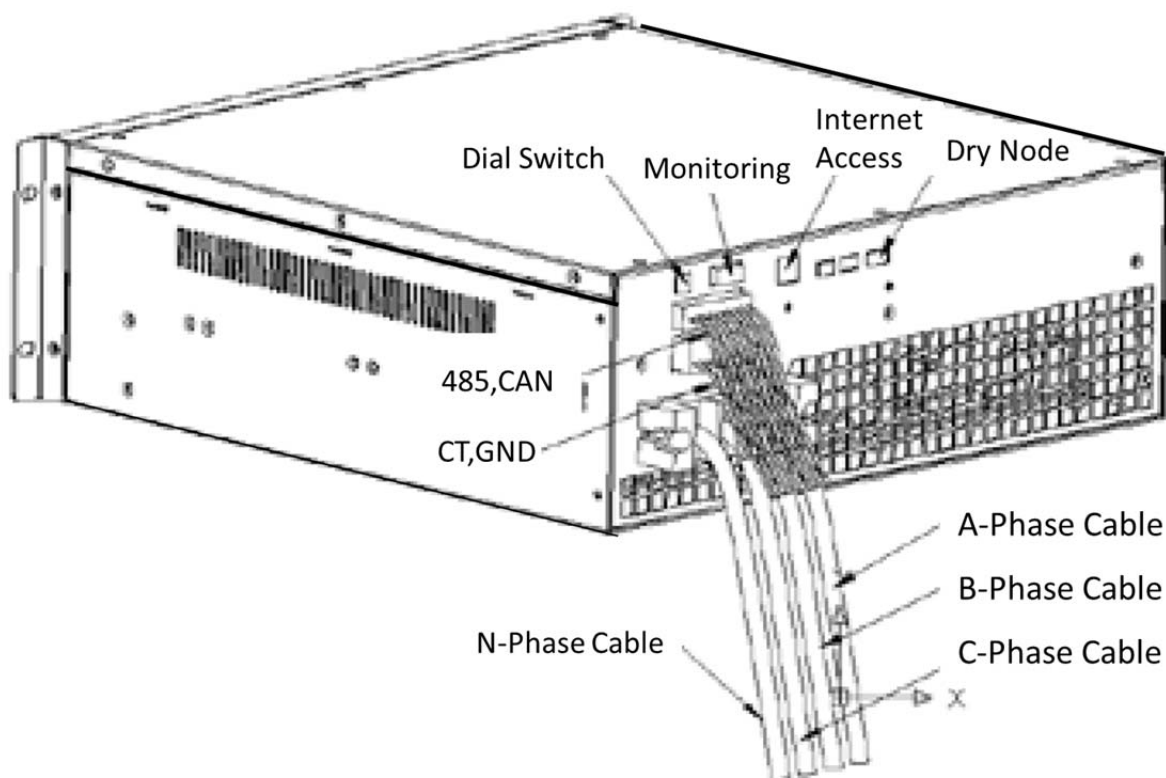
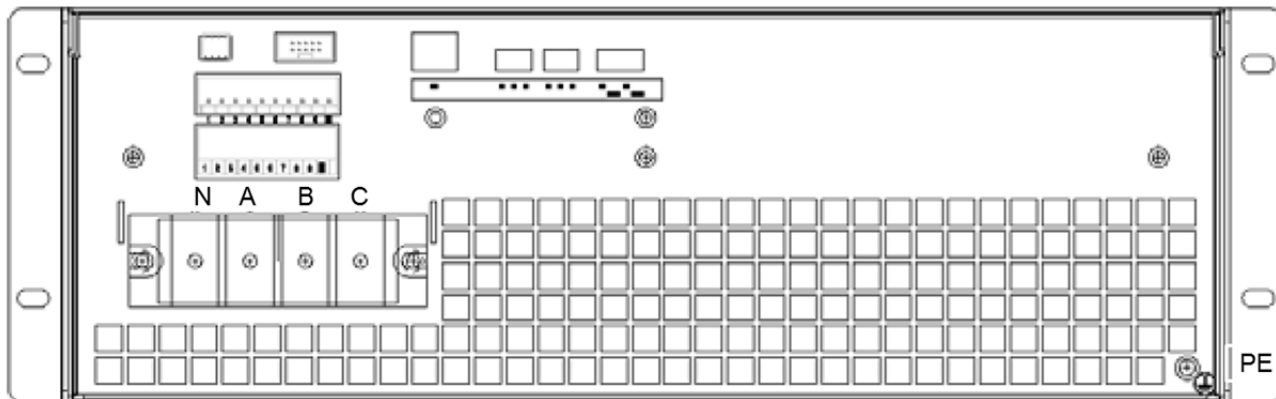
**Technical data and specifications AHF system (cont.)**

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|--|--|
| Recommended external AC mains protection (fuse or circuit breaker)               | 55 A (for details please see manual)   |
| Mounting   | Wall   |
| Cooling  | Forced cooling 75 L/sec  |
| Interface  | Modbus (RTU), TCP/IP(Ethernet)   |
| Communication ports  | RS485 and network port (RJ45)  |
| Fault alarm  | Available, max. 500 alarm records  |
| Display  | 4.3-inch LCD touch color screen; LED   |
| 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   | 1% up 1500 m. Between 1500 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 |

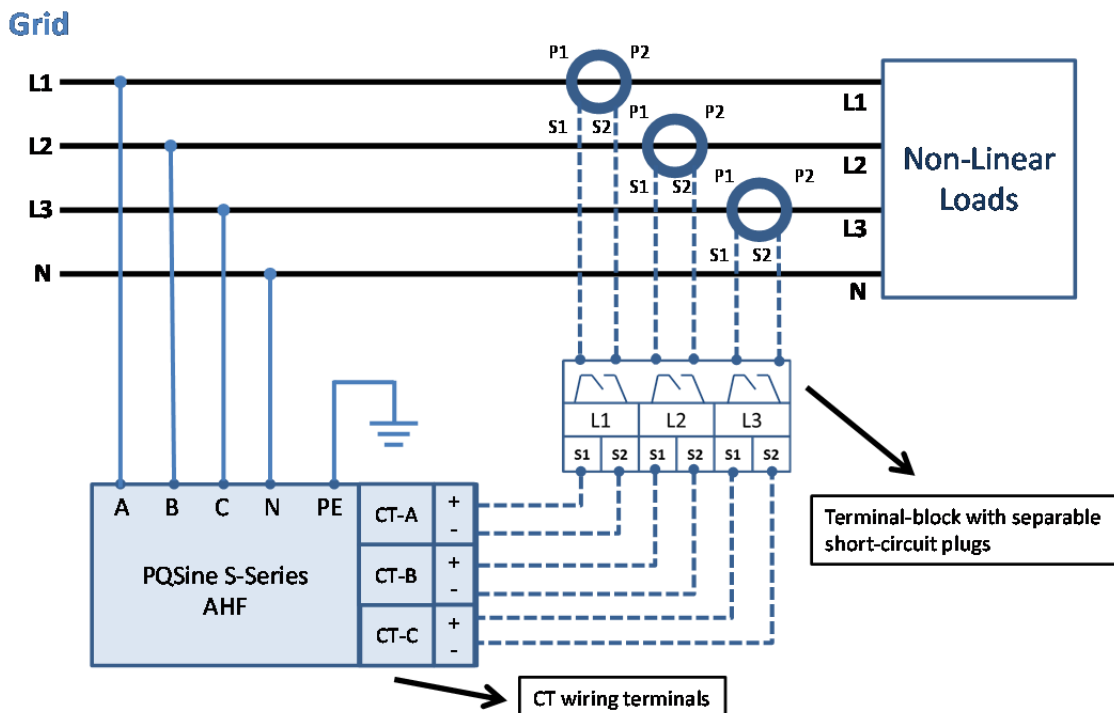
Dimensional drawings – 35 A wall-mounted systems



AC mains connection



Connection diagram



Wiring AHF module

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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## Important notes

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