



Power Quality Solutions

Active Harmonic Filter PQSine™ S Series

Series/Type: 3P3W Module / PQSM3025S300

Ordering code: B44066F3025S300

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.
- 25 A for 3P3W (3-phase/3-wire) device for phase current correction

Features

- Harmonic compensation up to 50th harmonic
- Ultra-fast reactive power compensation
- Load balancing between phases
- Advanced digital control
- Ethernet system for interconnection and monitoring
- High performance and reliability
- Simple installation and 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

Safety features

- High 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

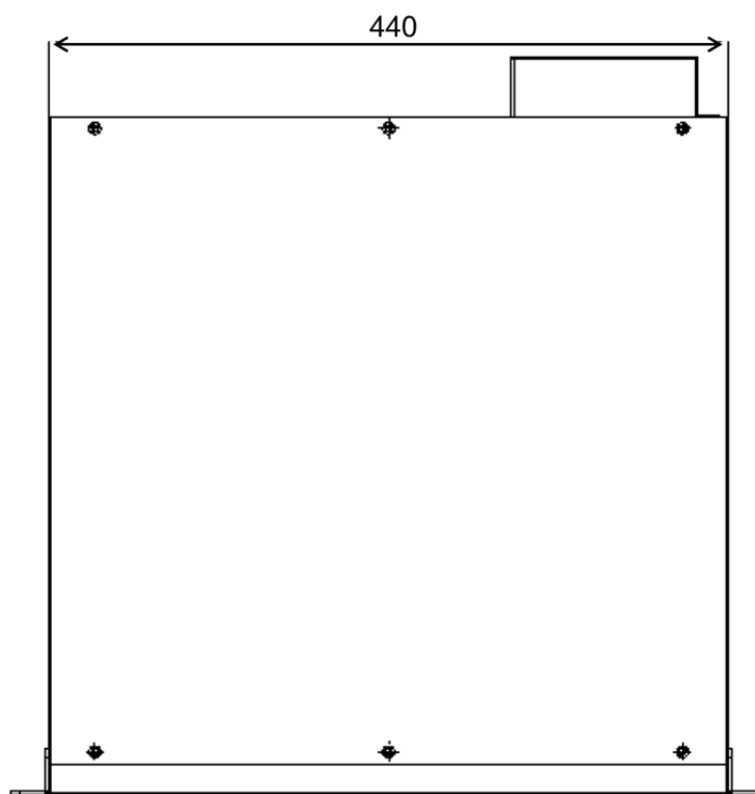
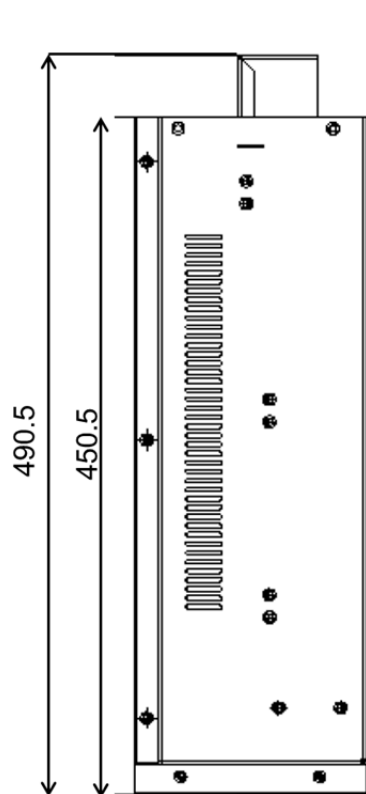
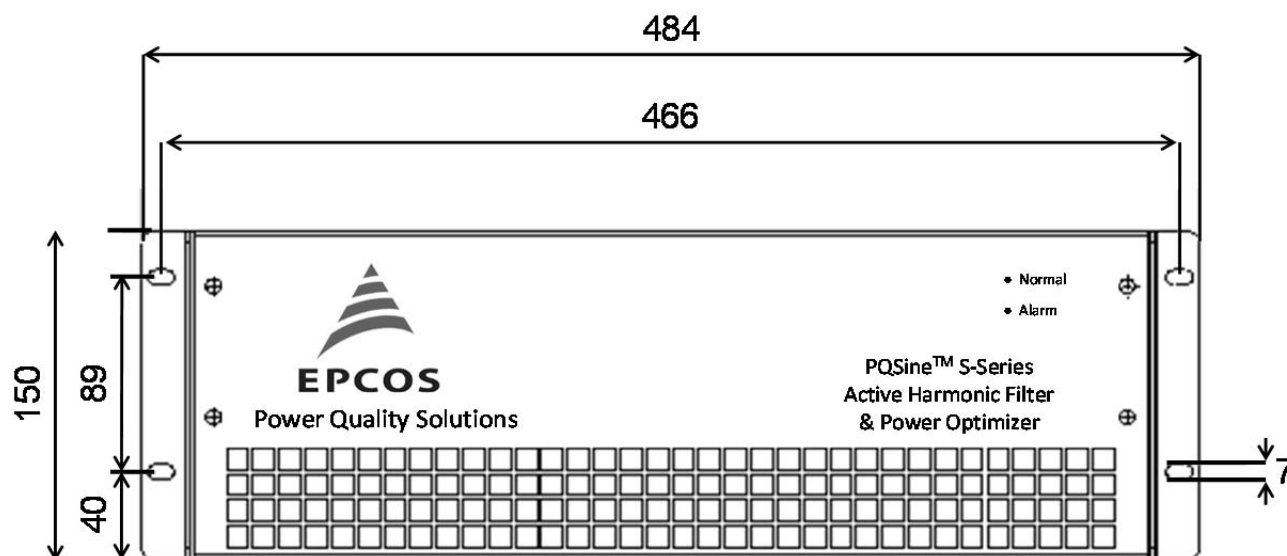
Type	PQSM3025S300
Ordering code	B44066F3025S300 (module)
System input / number of phases	3-phase/3-wire
Phase compensation current	25 A
Neutral conductor compensation current	0 A
Frequency (min. / max.)	45 / 62 Hz
Input voltage (min. / max.)	228 / 456 V
Inverter technology	12 IGBT three-level NPC topology
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 th harmonic order (selectable)
Power factor correction	Fully inductive and capacitive current compensation from 0 ... 100%
Weight	Approx. 18 kg
Dimensions	Approx. 484 x 490.5 x 150 mm (w x d x h)
Current transformer	2 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) External current transformers are mandatory needed, but not included in the active filter delivery.
Efficiency	> 97%*

*for typical loads / harmonic order distortions

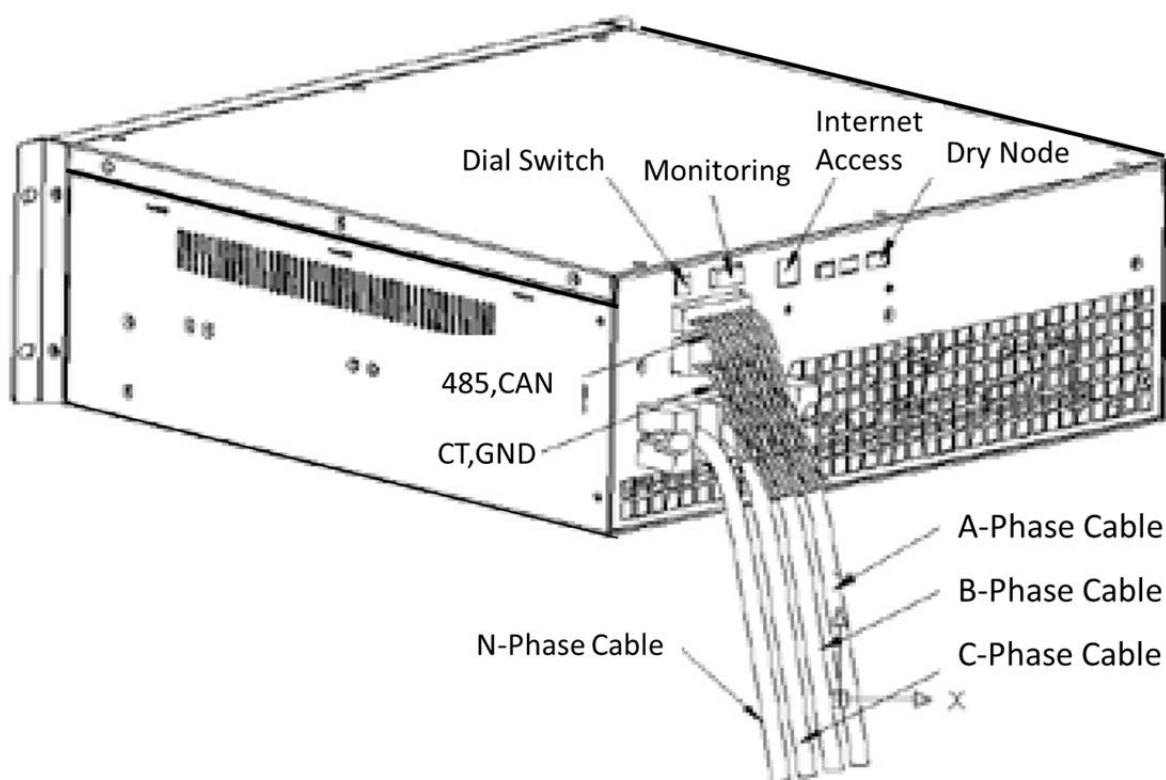
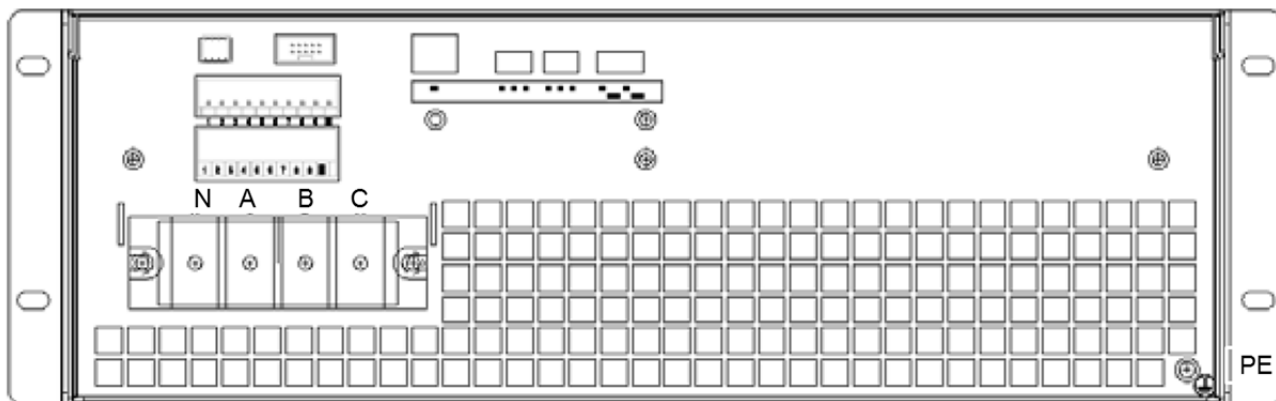
Technical data and specifications AHF system (cont.)

Recommended external AC mains protection (fuse or circuit breaker)	45 A (for details please see manual)
Mounting	Rack
Cooling	Forced cooling 75 L/sec
Interface	Modbus (RTU), TCP/IP(Ethernet)
Communication ports	RS485 and network port (RJ45)
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

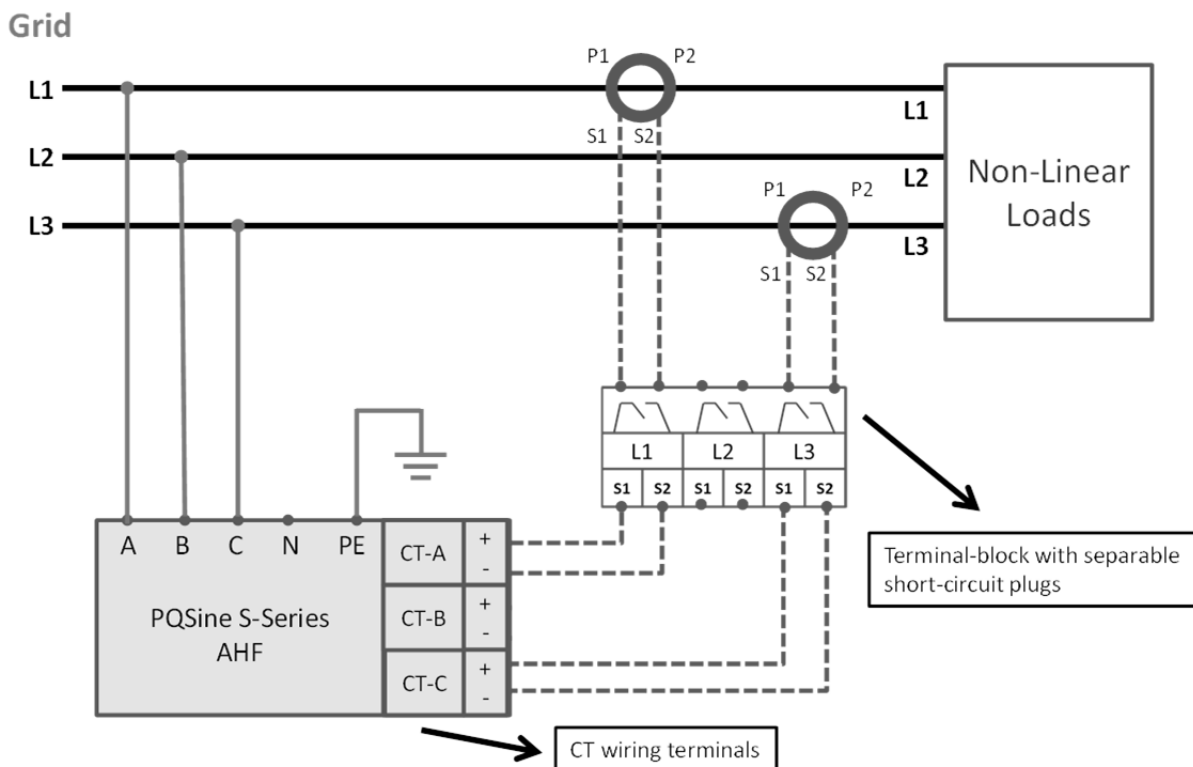
Dimensional drawings – 25 A module system



AC mains connection



Connection diagram



Wiring single power 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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Release 2018-06



Power Quality Solutions

PQvar Series Static Var Generator (SVG)

Series/Type: PQSWF6030V344/ 3P3W wall-mounted

Ordering code: B44066F6030V344

Date: August 2018

Version: 1

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Characteristics

- The SVG PQVar series is a Static Var Generator (SVG) system designed to eliminate reactive power produced by non-linear loads; it monitors the current permanently and compensates the unwanted elements of the measured current.
- 30 kvar 3P3W (3-phase/3-wire) device for phase and neutral wire current correction

Features

- User-friendly menu operation via TFT color touch screen
- Reactive power compensation $\cos \varphi \leq 0.99$
- Ultra-fast reactive power compensation
- Load balancing between phases
- Power factor correction fully inductive and capacitive current compensation from 0 ... 100%
- 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

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 SVG system

Type	PQSWF6030V344
Ordering code	B44066F6030V344
System input / number of phases	3-phase/3-wire
Compensation capacity	30 kvar
Frequency	45 ... 62Hz
Input voltage (min. / max.)	400V(-40% ... +20%)
Inverter technology	12 IGBT three-level topology
Steady state response time	< 5 ms (steady state response time to full steady state compensation)
Power factor correction	Fully inductive and capacitive current compensation from 0 ... 100%
Weight of a single unit	Approx. 35 kg
Dimensions of a single unit	Approx. 440x150x445 mm (w x d x h)
Current transformer	2 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 SVG delivery.
Efficiency	> 97%
Cabinet mounting	Wall
Cooling	Smart air cooling 220L/sec
Communication ports	RS485, CAN, and network port
Communication protocols	Modbus and PMBus
Operating temperature	-10 ... +40 °C
Protection class	IP20 (other IP classes are customizable)
Panel color	RAL7035 light grey

Technical data and specifications SVG system (cont.)

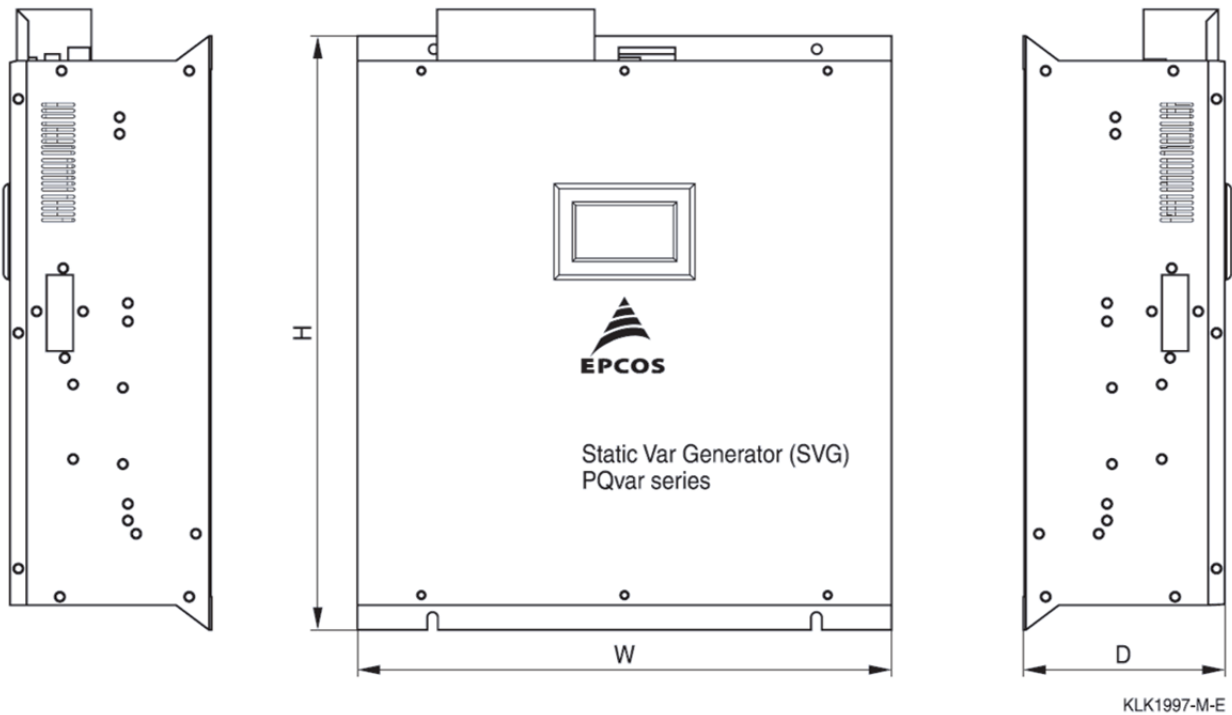
Humidity	5 ... 95%, non-condensing
Self-protection	Yes
Overheating protection	Yes
Overvoltage and undervoltage protection	Yes
Typical noise level	< 65 dB (depending on model and load conditions)
Altitude	1% up 1500 m. Between 1500 m to 4000 m, according to GB/T3859.2, the power decreases by 1% for every additional 100 m.
General safety requirements for SVG use and operation area	EN 50178:1997/IEC 50178:1997
SVG EMC requirements	EN 61000_6_2(2005)/EN55011, GROUP1, CLASS A IEC 61000_6_2(1999)/CISPR11, GROUP1, CLASS A
SVG performance requirements	EN 50091-3/IEC 62040-3/AS 62040-3(VFI SS 111)

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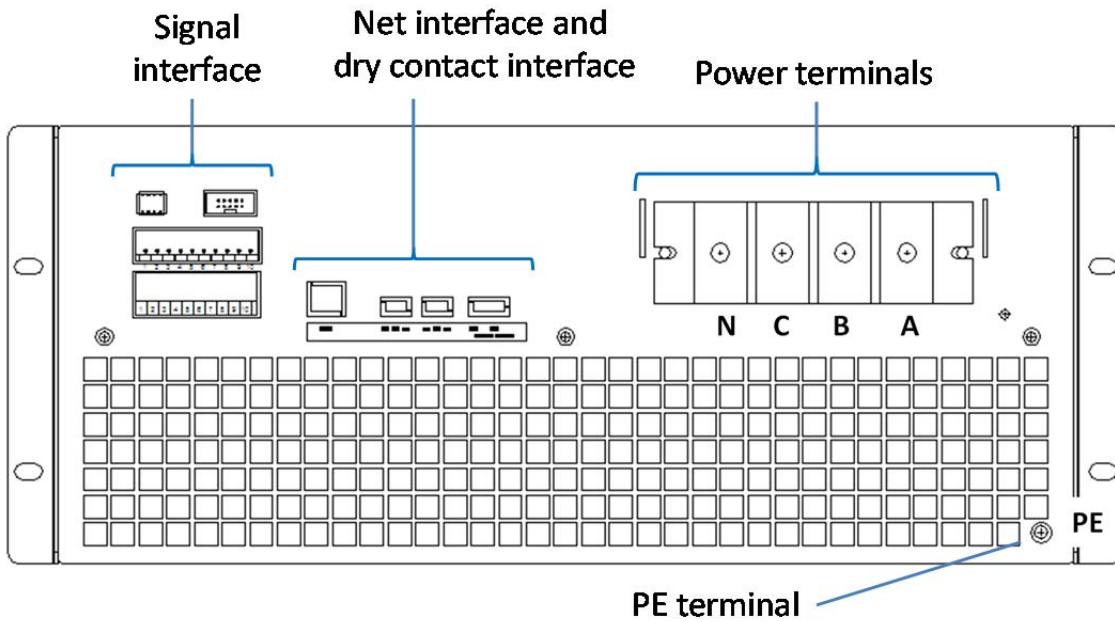
Dimensional drawing – 30 kvar Wall-Mounted system

Outside cabinet dimensional drawings

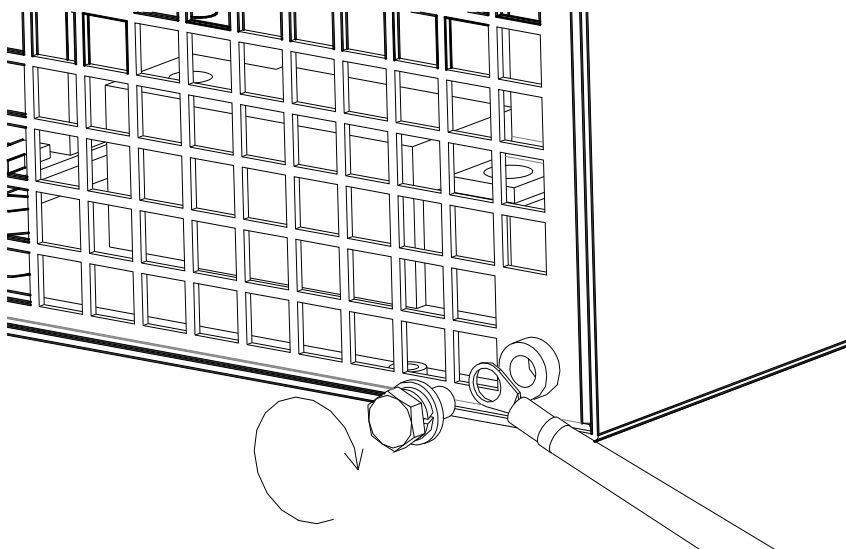


Model	W (width) mm	D (depth) mm	H (high) mm
30 kvar wall-mounted	440	150	445

AC mains connection

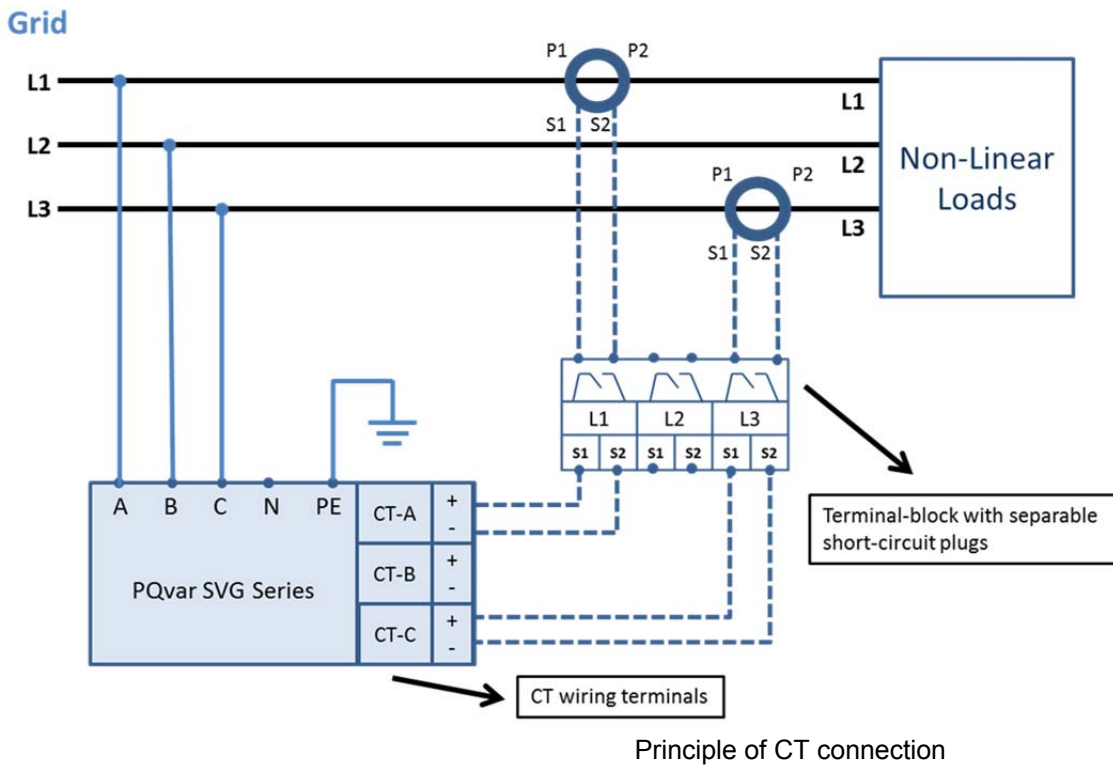


Wiring terminal



Installation of ground wire

Connection Diagram



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