leenhoo

LED-T SERIES / PRODUCT BROCHURE

Rack-Mounted ASVG

Advanced Static Var Generator

Dynamic reactive-power compensation, harmonic suppression and three-phase unbalance regulation in one rack platform.



30 / 50 / 75 / 100 kvar

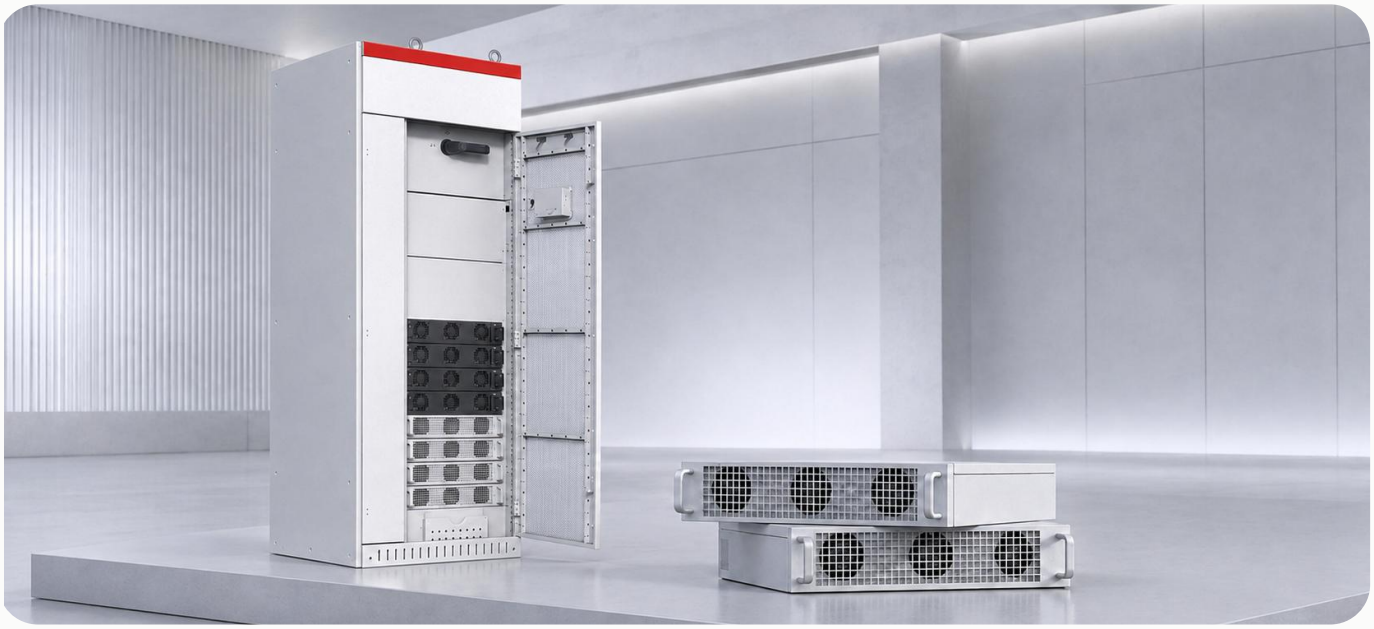
3P3W + 3P4W

RS485 / Modbus

PRODUCT OVERVIEW

One platform. Three power-quality functions.

The ASVG separates reactive, harmonic and unbalanced components from load current, then actively injects controlled compensation current for dynamic tracking.



01 Reactive power

Configurable target power factor from -1 to 1.

02 Harmonics

Compensation coverage from the 2nd to the 13th harmonic.

03 Unbalance

Three-phase unbalance regulation for 3P3W and 3P4W systems.

CONTROL LOOP

Detect, calculate, compensate - in milliseconds.

External CT signals are sampled, the relevant current components are separated, and the module outputs a controlled current to offset the load component.

01

Sample

Acquire load current through external current transformers.

02

Extract

Separate reactive, harmonic and unbalanced components.

03

Calculate

Determine compensation magnitude, frequency and phase.

04

Inject

Output current in the opposing phase for dynamic tracking.

<50 us

Fast response time

<15 ms

Full response time

>=97%

Whole-unit efficiency

Dynamic tracking, not fixed-step switching

The power-electronic output follows changes in the measured load current and adjusts compensation continuously within the configured operating mode.

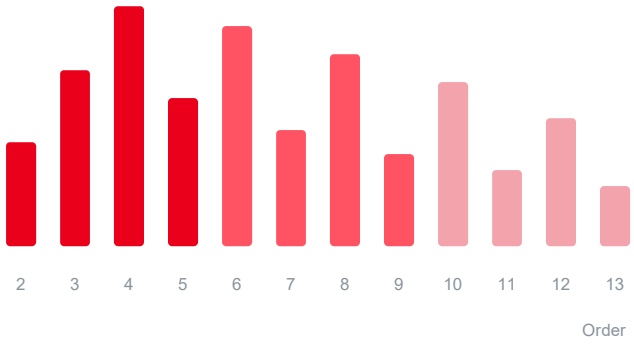
HARMONIC COMPENSATION

Target harmonics from the 2nd to the 13th.

The LED-T ASVG supports harmonic compensation across twelve consecutive orders, with per-order compensation settings available through the monitoring interface.

2-13

SUPPORTED HARMONIC ORDERS

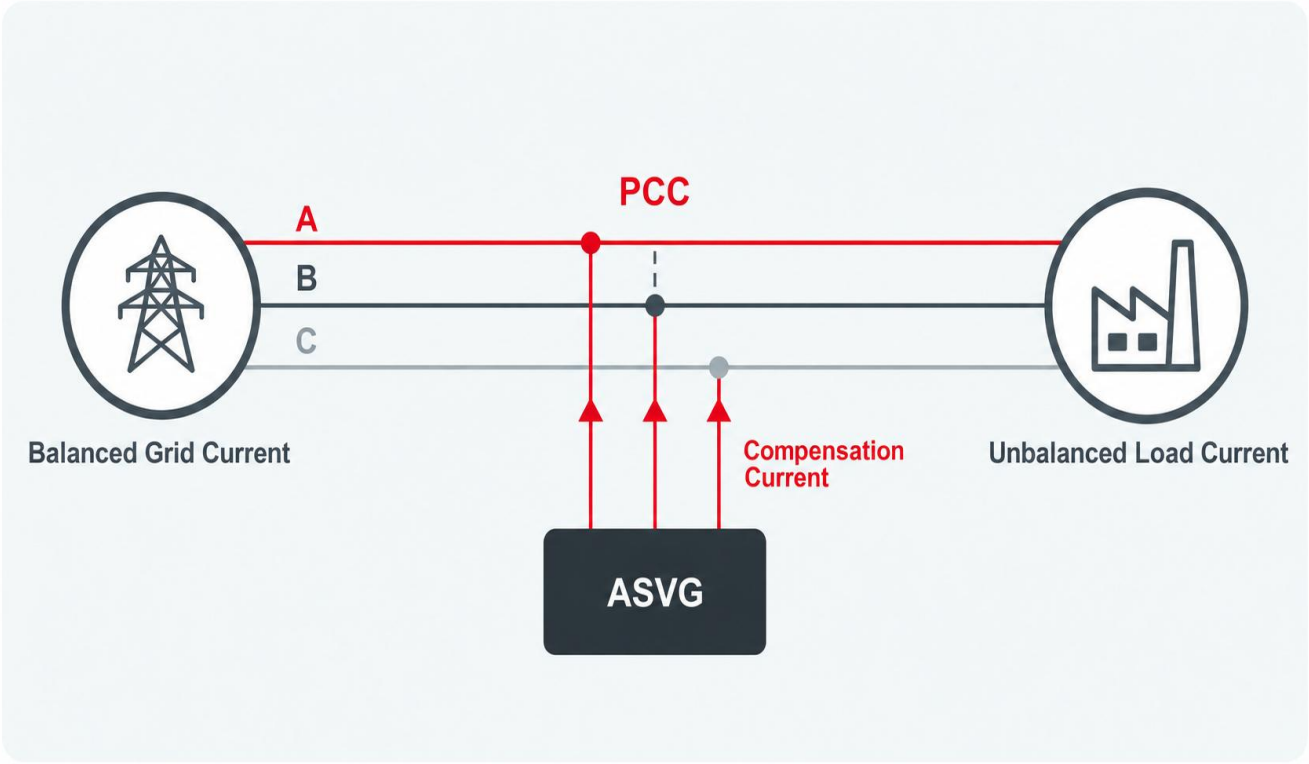


- **Configurable** — Set compensation rate for individual harmonic orders.
- **Measured** — Monitor grid and load current THDi in real time.
- **Coordinated** — Combine harmonics with reactive-power and unbalance control.

THREE-PHASE REGULATION

Bring three-phase currents back into balance.

The ASVG can regulate three-phase unbalance while coordinating reactive-power and harmonic compensation within the selected operating mode.



01 Flexible modes

Select combinations of reactive power, unbalance and harmonic compensation.

02 System fit

Available for both three-phase three-wire and three-phase four-wire systems.

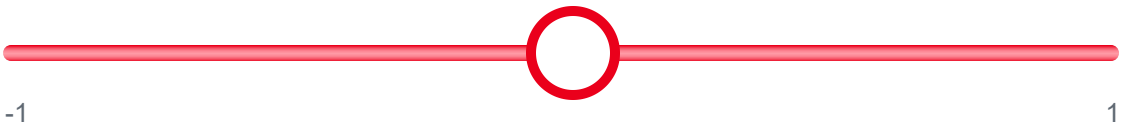
REACTIVE-POWER CONTROL

Set the target power factor for the application.

The target power factor is configurable across the full -1 to 1 range. CT placement can be set on either the load side or grid side according to the system design.

-1 to 1

CONFIGURABLE TARGET POWER FACTOR



01 CT ratio range

Supports external CT ratios from 150:5 to 30000:5.

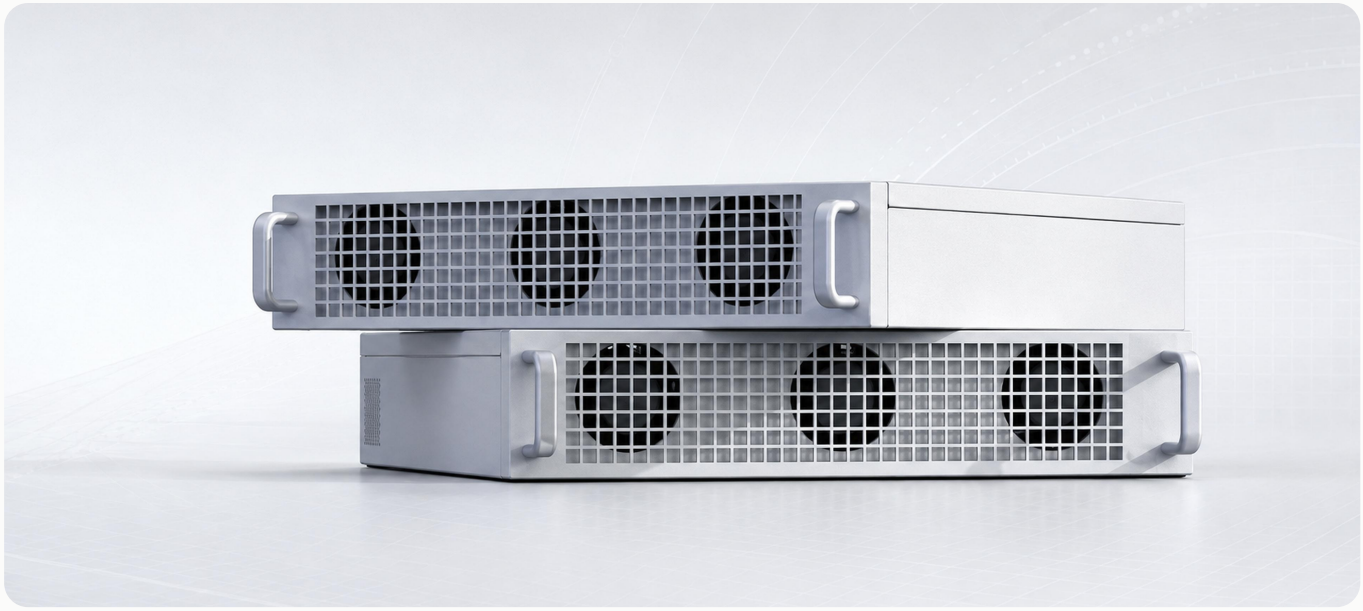
02 Configurable CT location

Set the current transformer on the load side or grid side in system parameters.

RACK PLATFORM

A compact platform across four power ratings.

The LED-T series uses a rack-mounted module with front status indicators and centralized monitoring through the cabinet-level interface.



30 kvar	50 kvar	75 kvar	100 kvar
350 x 465 x 88 mm	500 x 500 x 88 mm	500 x 500 x 88 mm	500 x 520 x 100 mm
14 kg	18 kg	18 kg	25 kg

Rack mounted | Forced-air cooling | IP20

SYSTEM ARCHITECTURE

Centralized monitoring. Scalable parallel operation.

A 7-inch color display provides centralized monitoring of grid, load and ASVG operating data. Multiple modules communicate over RS485 for parallel operation.





8
Maximum modules per monitoring unit

Modbus
Communication protocol

PROTECTION & VISIBILITY

Protection and operating visibility built in.

Core protection functions, alarm history and environmental limits are presented through the centralized monitoring system for day-to-day operation.

OK **Overvoltage**

OK **Undervoltage**

OK **Short circuit**

OK **Overcompensation**

500
Maximum stored alarm records

<65 dB
Rated noise level

IP20
Ingress protection

OPERATING ENVELOPE

Temperature	Humidity	Altitude
-10°C to 40°C*	**Up to 95%, non-condensing**	**<=1500 m without derating**

*Automatic derating above 40°C. For 1500-4000 m altitude, derate 1% for every additional 100 m.

SELECTION OVERVIEW

Model & installation selection

Eight models cover four power ratings and both three-phase three-wire and three-phase four-wire architectures.

MODEL MATRIX

Model	System	Dimensions (W x D x H)	Net weight
ASVG-30K-43L-RE	3P3W	350 x 465 x 88 mm	14 kg
ASVG-30K-44L-RE	3P4W	350 x 465 x 88 mm	14 kg
ASVG-50K-43L-RE	3P3W	500 x 500 x 88 mm	18 kg
ASVG-50K-44L-RE	3P4W	500 x 500 x 88 mm	18 kg
ASVG-75K-43L-RE	3P3W	500 x 500 x 88 mm	18 kg
ASVG-75K-44L-RE	3P4W	500 x 500 x 88 mm	18 kg
ASVG-100K-43L-RE	3P3W	500 x 520 x 100 mm	25 kg
ASVG-100K-44L-RE	3P4W	500 x 520 x 100 mm	25 kg

RECOMMENDED INSTALLATION ITEMS

Rated capacity	30 kvar	50 kvar	75 kvar	100 kvar
Phase cable	16 mm²	35 mm²	35 mm²	50 mm²
Neutral cable	2 x 16 mm²	2 x 35 mm²	2 x 35 mm²	2 x 50 mm²
PE cable	10 mm²	16 mm²	16 mm²	25 mm²
Breaker rating	100 A	160 A	225 A	250 A

Cable selection must be verified against local standards, ambient temperature, routing and installation conditions.

REFERENCE DATA

Technical specifications

Product data reproduced from the rack-mounted LED-T ASVG user manual.

Parameter	Specification
Rated capacity	**30 / 50 / 75 / 100 kvar**
Grid voltage	380 V (80%-120%)
Grid frequency	50 Hz +/-5%
Grid structure	Three-phase three-wire / three-phase four-wire
Parallel operation	Up to 8 modules per monitoring unit; system supports parallel expansion
CT ratio range	150:5 to 30000:5
Efficiency	**>=97%**
Harmonic range	2nd to 13th
Fast response	<50 us
Full response	<15 ms
Target power factor	-1 to 1
Cooling	Forced-air cooling
Noise	<65 dB
Interface	**RS485**
Protocol	Modbus
Monitoring	Centralized monitoring
Protection functions	**Overvoltage, undervoltage, short circuit, overcompensation**
Alarm records	Up to 500 records
Installation	**Rack mounted**
Finish	Black fine-texture finish (customizable)
Protection rating	IP20
Altitude	**<=1500 m; 1% derating per 100 m from 1500 to 4000 m**
Operating temperature	-10°C to 40°C; automatic derating above 40°C
Storage temperature	-20°C to 70°C
Relative humidity	Up to 95%, non-condensing

Specifications are subject to change without notice. Confirm final model data before ordering.

ADVANCED STATIC VAR GENERATOR

Cleaner current. Better control.

Rack-mounted LED-T ASVG

Reactive power / Harmonics / Unbalance

30 / 50 / 75 / 100 kvar

3P3W + 3P4W

RS485 / Modbus

Specifications subject to change without notice.
Confirm final configuration and local compliance requirements before ordering.