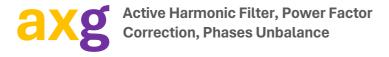
AHF / PFC / UNBALANCE data sheet



450 A / Tower

The combined systems of the AXG series have a sophisticated power quality control capability.

AXG collects the current trends in real time, sending them to an internal control circuit, via n. 3 CTs installed on the loading side.

Through integrated FPGA technology, the fundamental components of the currents, the harmonic components, the reactive currents and the components responsible for the imbalance are extracted; the needed currents for compensation and the compensation currents emitted by the AXG system are compared, and the difference is calculated.

In order to allow the IGTB inverter to be able to inject the necessary currents into the electrical network, input signals are emitted to the driving circuit, so as to achieve closed-loop control and complete the compensation function, both in terms of filtering and of power factor correction.

The operating modes operate according to the priority principle (selectable), to be chosen between Active Filter (AHF), Power Factor Correction (PFC) and Phase Balancing (UNBALANCE)

AHF, Active Harmonic Filter mode

AXG is able to filter harmonic currents (THDi) up to the 50th order and significantly reduce the THDv components. Applicable in any condition in both the industrial and civil sectors, they represent the ideal solution for the treatment of non-linear three-phase loads, with or without neutral

PFC, Power Factor Correction mode

Code

AXG, thanks to its electronic operation, is able to operate where a traditional power factor correction system could not do the same with the appropriate reliability over time.

For example, all applications - mainly in heavy industries - with prohibitive harmonic contents - both current and voltage - also for power factor correction systems with detuning inductors..



Rated voltage $400 - 415 \text{ V} \pm 10\%$ (3-Ph or 3-Ph +N, to be specified)

Rated frequency $50/60 \text{ Hz} \pm 3\text{Hz}$

Rated Current in AHF mode 450

Rated Power in PFC mode 315 kVAr (inductive or capacitive)

Inverter 3-level typology, IGBT

Mitigation of harmonic content fom 2nd to 50th order (even and odd)

Harmonic residue < 5 % (with load > 50 %)

Non-linear loads All 3Ph loads, with or without Neutral
Current transformers n. 3 CTs installed on load side

Display

Display LCD 7-10"

Oscilloscope for monitoring main parameters.

Protection for, overvoltage, low voltage, short circuit, inverter protection, overcompensation

RS485 Modbus protocol interface, for remote management (Ethernet optional)

 Internal configuration
 AXG modular rack, connected with copper busbar system

 Protection
 3-pole Switch disconnector with 100 kA, properly sized

 Each AXG racks its equipped with internal fuses

Cable entry Each AXG racks its equipped with internal From the bottom (from the top on request)

Ventilation Natural, each AXG rack has itw own forced ventilation on board

Noise < 60 db

Altitude < 2000 m (with higher altitude until 4000 m max, derating 1 % every 100 m)

Working temperature and environmental 10°/+50°C (until 55°C with derating 3% per Celsius) **conditions** Humidity < 95 % not condensing, degree of dustiness 2

Max storage temperature 55°C, Max transport temperature -25°C a 75 °C

Losses < 3 %
Color RA7035

Dimensions / Weight (W*H*D) 600*2200*600 mm / 270 Kg

Degree of protection IP20

Reference standards IEC 61000-4-2, 4-4, 4-5, 4-6

EN 61000-3-11, 3-12, EN 61000-6-2, EN 62477-1, EN 61800-3, EN 50160

