AC CURRENT GENERATOR
ONE TO THREE OUTPUTS - 100 VA

SPHEREA
PUISSANCE PLUS

APPLICATIONS

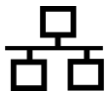
- Grid emulation
- Sensors test

PERFORMANCES

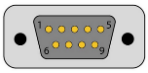
- One insulated output:
  - From mains
  - From analogic input
- Includes an AF synthetizer from 40 to 1050 Hz
- Large bandwidth 25 kHz at -3dB
- Very low distortion < 0.3%
- Very low internal resistance
- Low noise S/B > 70 dB
- High accuracy < 0.2%
- High stability < 0.1%

Non-contractual picture

TOUCHSCREEN



ETHERNET



RS232

DESCRIPTION

The generator is a rack equipped with a command and control board with a touchscreen, of one to three current amplifier modules (factory setting) and a small signal synthetizer (optional).

Each amplifier operates in current regulation:

- Its analogic input receives a “Pilot” signal with amplitude 0±~10V peak (7.07 VRMS sine) coming from the internal synthetizer or from an external device.

The linear technology of these amplifiers allows a large bandwidth and a very low distortion.

Thanks to the linear technology, it generates almost no electrical pollution and can be used in anechoic chamber.

Entirely self-sufficient thanks to its touch-screen control / command card, the rack can be remotely controlled for an easy integration into an automatic system using its Ethernet or RS232 link.

CE

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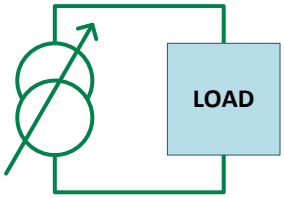
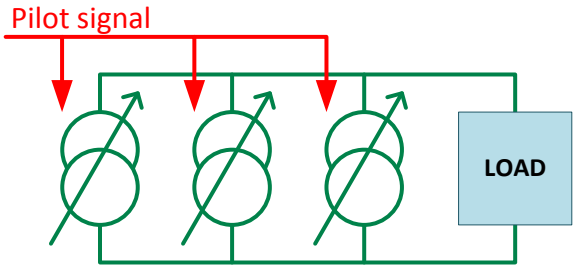
APPLICATIONS

Single-phase use



The “POC-1200” generator can be used alone to test all kind of loads like fuse, relay contact, circuit-breaker pole…

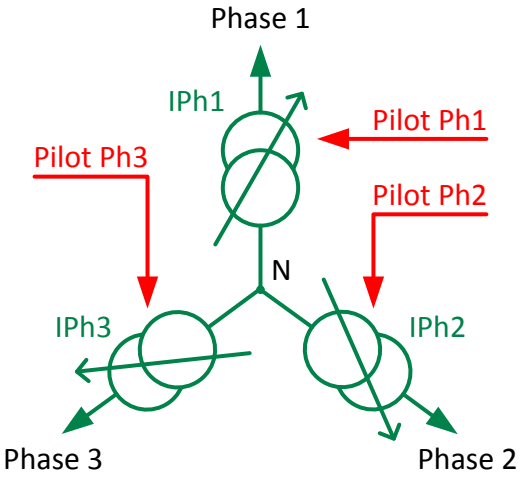
Up to three “POC-1200” can be connected in parallel to increase the current up to 360 A.



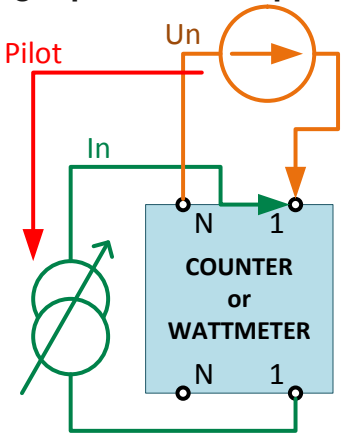
Balanced three-phase use: test of differential, three-pole and four-pole breakers

Three generators “POC-1200” can be associated to create a three-phase current generator:

- The “cold poles” are connected to each other
- The internal synthetizer generates “Pilot” signals for the three modules.
  Dephasing can be fixed to 120° between phases or modified to create unbalanced systems



Single-phase fictive power generator



Used with a voltage source, the POC-1200 allows to control and calibrate electric meter and wattmeter.

Its output is isolated from ground, which allows a 350 VRMS voltage between the output and ground (or mechanical grounding).

LOCAL OR REMOTE CONTROL

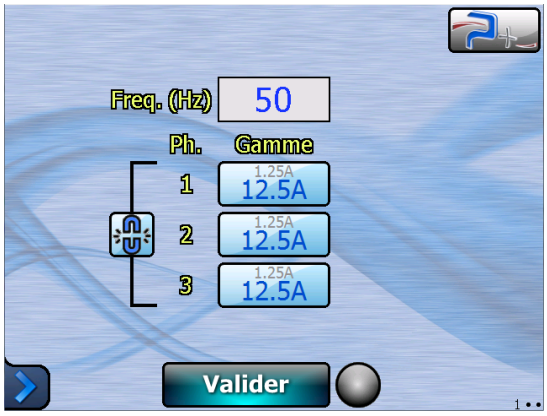
The current generator has two operating modes:

- **Local control:**
  The control/command card with touchscreen on front panel allows access to all the commands and display of the measurements.

- **Remote control through communication protocol:**
  An Ethernet TCP/IP interface and a RS232 interface allow the remote control with a PC or a PLC. The generator can be directly controlled via TCP/IP or ASCII instructions or using our OPS software.

CONTROLE LOCAL D'UN GENERATEUR

On main screen, graphical objects allows to set up amplitude, phase and waveform.

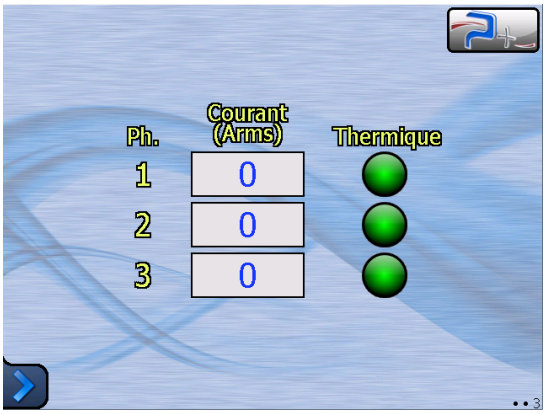


A second screen selects:

- The frequency, same frequency for all the modules,
- The current range, each module is able to operate on a different range.

Other fields display instantaneous value of the current.

Lights show an overtemperature.



Other screens are used to set-up communications links.

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FEATURES

OUTPUT: POWER		
Power		
Rated power	100 VA	
Regulation	Current only	
Output features		
Ranges	1.25 A	12.5 A
Current	0-1.25 ARMS	0-12.5 ARMS
Voltage	Max 8 VRMS	Max 8 VRMS
Current regulation		
Accuracy	0.1% of range + 0.1% of programmed value	
Resolution	12 bits	
Distortion at full power		
Typical	< 0.3%	
Max	< 0.7%	
Noise		
Max RMS	0.02% of rated voltage or current	
Max peak to peak	0.2% of rated voltage or current	
Variation regarding temperature		
Typical	50 ppm/°C	
Max	100 ppm/°C	
Stability after 15 minutes of operation		
Max	< 0.05% of rated current	
Insulation of output versus case ground		
Measured at 500 VDC	> 100 MΩ	

OUTPUT: TIME AND FREQUENCY	
Bandwidth	
Full scale	40 Hz to 1050 Hz
Small signals at -3 dB	25 kHz
Variation time of full scale using a square pilot signal	
Rise time 10% / 90%	< 100 µs (current regulation)
Fall time 10% / 90%	< 100 µs (current regulation)
Transfer time	< 100 µs (current regulation)

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OUTPUT: IMAGES AND MEASURES	
Typical accuracy of measurement on touchscreen	
Voltage measure	0.3% of range + 0.3% of measured value
Current measure	0.3% of range + 0.3% of measured value

INPUT: AMPLITUDE AND FREQUENCY	
Input signal amplitude (external generator)	
Insulation (1)	> 10 MΩ
Voltage (full output scale)	7,07 VRMS / ± 10V peak
Max voltage	± 15 V peak
Input impedance	10 kΩ
Input signal frequency	
Fundamental	40 to 10000 Hz
Harmonics (small signals)	Max 50 kHz

Notes:

(1) "Pilot" analog inputs are insulated from power outputs.

MAINS POWER SUPPLY	
Mains network	
Number of phases	Single-Phase + Neutral + Earth
Voltage	230 VRMS ±10%
Frequency	47 - 63 Hz
Input current	
Max at full output power	3 ARMS
Protection	Magneto-thermal breaker
Dielectric strength mains input versus outputs connected to case ground	
Measured at 2500 VRMS / 50Hz	Current < 10 mA

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MECANICAL	
Material and surface treatment	
Front panel	Aluminum painted RAL7021
Rear panel	Aluminum anodized black
Dimensions and weight	
Width	483 mm (19 inches)
Depth	600 mm
Height	133 mm (3U)
Weight	11 kg (frame) + 7 kg / module
Temperature and humidity	
Stockage temperature	-10°C à +85°C
Operation temperature	+0°C à +40°C
Humidity	10% - 90% non-condensing
Noise (fans at full speed)	
Measured at 1 m	< 70 dBA
Marking	
Marking	CE
Protection	IP20

ORDER INFORMATION

POC-2x100-AC-8V-12.5A-2G

Generator 2x100 VA (two modules): max voltage 8 VRMS, max current 12,5 ARMS, two ranges, equipped with synthetizer

POC-3x100-AC-8V-12.5A-2G

Generator 3x100 VA (three modules): max voltage 8 VRMS, max current 12,5 ARMS, two ranges, equipped with synthetizer

OPTIONS (to order separately)

POC-100-AC-DC-8V-12.5A-2G Additional module

DELIVERIES

The generator is delivered with its mains cable, its user manual, its performances list (acceptance test report), its UE declaration.

Specification may change without notice