AC CURRENT GENERATORS
1500VA - 100 A, 200 A and 650 A

SPHEREA
PUISSANCE PLUS

APPLICATIONS

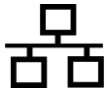
- Normative tests of breakers
- Endurance tests
- Current relays tests
- Calibration of current sensors and wattmeter
- Generation of magnetic field

PERFORMANCES

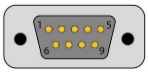
- Wide range of current AC
- Parallel connection allowed
- One insulated output:
  - From mains
  - From analogic input
- 50 dB dynamic range
- Build-up time of the current < 1 ms
- “Open loop” protection
- Very low distortion < 0.3%
- Low noise S/B > 80 dB
- High accuracy < 0.2%
- High stability < 0.1%

Non-contractual picture

TOUCHSCREEN



ETHERNET



RS232

DESCRIPTION

- The AC current generator “POC-1500” is built using a power bloc in linear technology and a **current regulation**. It is suitable for any application that requires an accurate and stable output, including when there is a load impedance variation.
- It includes a “Pilot” signal input and can be used as an amplifier operating in current regulation.
- Thanks to the linear technology, it generates almost no electrical pollution and can be used in anechoic chamber.
- Several generators can be connected in parallel to increase the output current.
- Entirely self-sufficient thanks to its touch-screen control / command card, it also can be remotely controlled for an easy integration into an automatic system using the TCP/IP Protocol on an Ethernet link, or ASCII on a RS232 link.

CE

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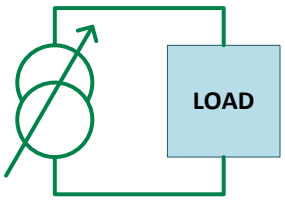
APPLICATIONS

Single-phase use

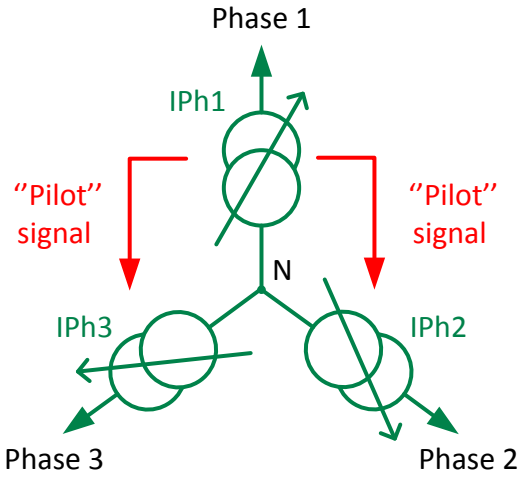


The “POC-1500” generator can be used alone to test all kind of loads like fuse, relay contact, circuit-breaker pole…

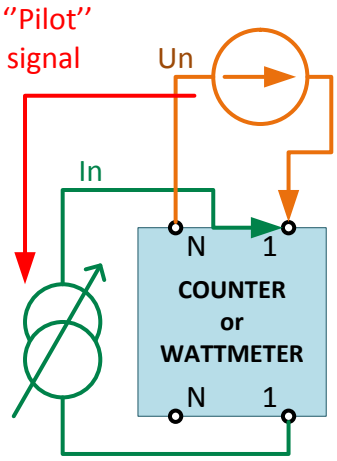
Balanced three-phase use: test of differential, three-pole and four-pole breakers

Three generators “POC-1500” can be associated to create a three-phase current generator:

- The “cold poles” are connected to each other
- The POC-1500 “Phase 1” generate “Pilot” signals for POC-1500 “phase 2” and POC-1500 “phase 3”. 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-1500 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).

HOW TO PILOT THE GENERATOR

The current generator is equipped with a control/command card with touchscreen.
It has two operating modes:

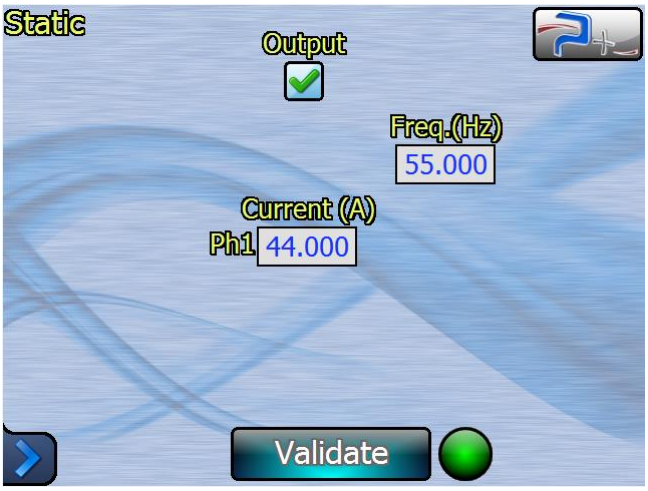
- **Local control:**
  The control/command card with touchscreen on front panel allows access to all the commands and display of the measurements.

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

SOFTWARE POSSIBILITIES

On touchscreen in local control, user can select the output range, set the amplitude and the frequency and put the output ON or OFF.

Other fields display instantaneous value of the current and the status of the generator.



Example of a setup part

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FEATURES

OUTPUT: POWER			
Power			
Rated power	1500 VA		
Output	Using a current transformer		
Regulation	Current selectable on front panel		
Load impedance			
Minimum value (1)	1 mΩ		
Ranges Voltage-Current	15V-100A	7V-200A	2V-650A
Max voltage	15 VRMS	7 VRMS	2 VRMS
Ranges	4 - 20 -100 ARMS	8 - 40 - 200 ARMS	650 ARMS
Current	0-100 ARMS	0-200 ARMS	0-650 ARMS
Current frequency			
Frequency range	45 to 65 Hz		
Resolution	0.1 Hz		
Current accuracy			
Typical	0.1% of range + 0.1% of programmed value		
Distortion at full power			
Max	< 0.3%		
Output regulation for a mains variation of +6% -10%			
Max	< 0.1% of rated current		
Noise			
Max RMS	0.02% of rated current		
Max peak to peak	0.2% of rated current		
Time necessary to obtain a stabilized current amplitude			
Max	½ period		
Variation regarding temperature			
Typical	50 ppm/°C		
Stability after 15 minutes of operation			
Max	< 0.1% of rated current		
Insulation of output versus case ground			
Measured at 500 VDC	> 100 MΩ		

Notes:

(1) Using current regulation, in no way the load resistance of the current generator shall be less than this value, otherwise the device could be damaged.

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OUTPUT: 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

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	13 ARMS
Protection	Magneto-thermal breaker
Dielectric strength mains input versus outputs connected to case ground	
Measured at 2500 VRMS / 50Hz	Current < 10 mA

MECANICAL AND ENVIRONMENTAL	
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	222 mm (5U)
Weight	60 kg
Power connections	
Mains on amplifier rack	Plug MARECHAL 01N8017 (provided)
	Cover MARECHAL 01NA401710 (provided)
Current output	Copper bars
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

PROTECTIONS

Against overvoltage: automatic output switch-off

If output voltage exceeds the max available value, output is switched off and must be reactivated using touchscreen or an external command.

Against overtemperature: automatic output switch-off

A temperature sensor is installed on each power part. It switches off output in case of overheating. After cooling, output must be reactivated using touchscreen or an external command.

WARNING

When using generator with high output current, user must beforehand calculate the impedance of the load including the impedance of the cables.
For example, a common cable may have an inductance of 10 µH / m.

At 50 Hz, it means an impedance of: 10.10^{-6} x 2 x π x 50 = 3.14 mΩ / m

At high current, we recommend to use cables with very low inductance and wired using a specific way. Please consult us for recommendations.

ORDER INFORMATION

POC-1500-AC-15V-100A

Current generator 100A, max voltage 15V

POC-1500-AC-7V-200A

Current generator 200A, max voltage 7V

POC-1500-AC-2V-650A

Current generator 650A, max voltage 2V

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