



# HIGH CURRENT AC GENERATOR POC-3000-C



## PERFORMANCES

- Wide current range
- Dynamics 50 dB
- Signal / Noise Ratio 80 dB
- Open loop protection
- Stability < 0,1%
- Very low distortion THD < 0,3%
- External synchronization
- Current setting time less than 1 ms



## APPLICATIONS

- Normative tests of circuit breakers
- Endurance tests
- Current relay test
- Current and Wattmeter Sensor Calibration
- Magnetic field generation

## DESCRIPTION

- The POC-3000-C is an AC generator. Thanks to linear current-controlled technology, this type of generator is particularly suitable for any application requiring a precise and stable current, even when there is variation in the load impedance.
- It has a synchronization input and can be combined with other POC-3000-C to form a three-phase network or a voltage generator to produce a single-phase or three phase fictional power generator.
- The output of the current is placed on the rear side in the form of copper bars of dimensions 30 x 5 mm with hole for M8 bolt.
- Equipped with Ethernet and RS232 interfaces, this generator easily fits into a PC or PLC environment.

## COMMERCIAL REFERENCE

- **POC-3000-C/640A-4V**
- **Option « POC-400V »:** Input voltage adapter for powered networks under 400 VRMS between phases

### CHARACTERISTICS OF THE EQUIPMENT

SORTIE	<b>Power</b>	
	Nominal power	2700 VA
	Output type	On transformer
	<b>Load impedance (1)</b>	
	Minimum value	1 mΩ
	<b>Compliance voltage</b>	
	Max	4,20 VRMS
	<b>Current</b>	
	Ranges	One
	Maximal current	640 ARMS
	Frequency	40 à 70 Hz
	<b>Current accuracy</b>	
	Typical	0,25% of range + 0,25% of programmed value
	<b>Current distortion at full power</b>	
	Max	< 0,3%
	<b>Current regulation for mains variation of +6% -10%</b>	
	Max	< 0,1% of nominal current
	<b>Residual noise</b>	
	Max RMS	0,02% of nominal current
	Max peak to peak	0,2% of nominal current
	<b>Duration required to obtain a stabilized current amplitude</b>	
	Max	½ period
	<b>Variation as a function of temperature</b>	
	Max	50 ppm/°C
	<b>Stability after 15 minutes of operation</b>	
	Max	0,1% of nominal current
	<b>Insulation of the output from the chassis</b>	
	Measured at 500 VDC	> 100 MΩ
	<b>Accuracy of measurements displayed on the touchscreen</b>	
	Voltage measurement	0,3% of full scale + 0,3% of measurement
	Current measurement	0,3% of full scale + 0,3% of measurement
	<b>Synchronization input(2)</b>	
	Voltage (full scale output)	7,07 VRMS / ± 10V peak
Delay	0 à 360°	
Input impedance	10 kΩ	
<b>Synchronization output (3)</b>		
Type	Copy of the output frequency	
Max voltage	± 10 V	
Max current	10 mA	



Note (1) : The load resistance of the current generator must under no circumstances be lower than this value, as the risk of deterioration of the equipment.

Note (2) : The POC-3000 has two synchronization modes::

**Internal synchronization**

The current frequency is programmed on the touchscreen of the equipment.

**External Synchronization**

The frequency of the current is identical to that of the synchronization signal. However, a phase is programmable between the synchronization signal and the output current.

Note (3) : Whether the synchronization is internal or external, the POC-3000 generator outputs a square signal in phase with the output current..

### CHARACTERISTICS OF THE EQUIPMENT (continued)

<b>SUPPLY</b>	<b>Power supply</b>	
	Number of phases	3 Phases + Terre sans Neutre
	Voltage between phases	<b>200 VRMS</b> -10% +6%
	Frequency	47 - 63 Hz
	<b>Input current at full power output</b>	
	Max per phase	15 ARMS
	Protection	Magneto thermal circuit breaker
	Inrush current	Limitation by varistors
	<b>Dielectric strength from the mains input to the output and to the chassis</b>	
	Measured at 1500 VRMS / 50Hz	Current < 5 mA
	<b>Connecteur d'alimentation</b>	
	Power Connector	MARECHAL 01N401710
	Connector cover	MARECHAL 01NA313

<b>MECANIQUE ET ENVIRONNEMENT</b>	<b>Surface Treatments</b>	
	Front panel	Aluminum painted RAL7035
	Backside	Aluminum treatment SURTEC650
	<b>Dimensions and Weight</b>	
	Width	483 mm (19 inches)
	Height	222 mm (5U)
	Depth (without connectors)	620 mm
	Weight	64 kg
	<b>Temperature et humidity</b>	
	Storage temperature	-10°C à +85°C
	Operating Temperature	+0°C à +50°C
	Relative humidity	10% - 90% non-condensing
	<b>Marking</b>	
	Marking	CE
	Protection class	IP30
	<b>Protections</b>	
	Against overvoltage	Switch-off of power stage (4)
Against overheating	Switch-off of power stage (5)	

Note (4) : If the output voltage of the generator exceeds the maximum permissible value, the output is instantly switched off. It must be reactivated by a local or remote manual command.

Note (5) : A temperature sensor is disposed on each power element. It cuts off the generator output in case of overheating. It must be reactivated by a local or remote manual command.

### OPTION "POC-400V"

This option is necessary to use this generator on a network whose phase voltage is 400 VRMS. It is in the form of a rack of height 3U comprising a transformer and its safety devices.

### OPS SOFTWARE SUPPORT CONTROL

The OPS software suite, developed by Power +, allows easy control of equipment. The OPS3 software communicates with the equipment using an ETHERNET or RS232 link.

The OPS3 software allows you to send simple commands:

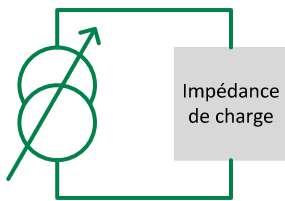
- Output ON / OFF,
- Frequency
- Phase
- INTERNAL / EXTERNAL Synchronization.

It allows to read and to display the status of the device as well as the measurements of voltage and current carried out by the generator:

- RMS value of the voltage
- RMS value of the current
- Faults Overvoltage and thermal

### APPLICATIONS

#### Single phase operation

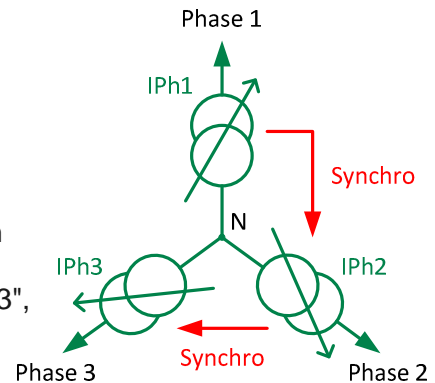


The POC-3000 can be used alone to test any type of receiver: fuse, relay contact, circuit breaker pole ...

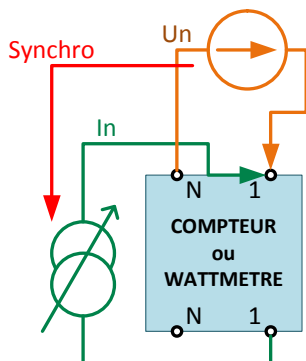
#### Three-phase balanced installation (test of differential circuit breakers, three-pole, four-pole )

Several POC-3000 generators can be combined to create a three-phase current generator:

- The "cold" poles are connected together.
- The POC-3000 "Phase 1" ensures the synchronization of the POC-3000 "phase 2", the POC-3000 "Phase 2" ensures the synchronization of the POC-3000 "phase 3", to ensure a phase shift of 120 ° between phases.



#### Installation in single-phase fictitious power generator



Together with a voltage source, the POC-3000 current generator allows the control and calibration of meters or wattmeters.

The isolation of its output with respect to earth allows to apply a voltage of 350 VRMS between the output of the POC-3000 and the ground (or the mechanical ground).

The programming of the phase, in use "external sync", allows to realize a power factor ranging from -1 to +1.

Document reference : FT-POC-3000-EN-V1.DOCX