

87045 LIMOGES Cedex

Telephone: 05 55 06 87 87 - Fax: 05 55 06 88 88

Harmonic analysis module for 4 120 53

Cat. Nº: 4 120 61



Contents	Pages
1. Description - Use	1
2. Range	1
3. Overall dimensions	1
4. Preparation - Connection	1
5. General characteristics	2
6. Compliance and approvals	3

1. DESCRIPTION - USE

Harmonic analysis module.

Allows the analysis of the harmonic spectrum for voltages and currents.

Adding the RS485 module (cat. nos. 4 120 55 or 4 120 56), data of harmonic analysis are also available in communication.

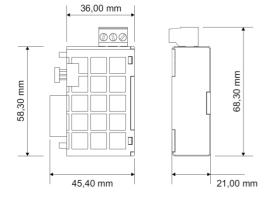
2. RANGE

- . Cat. n° 4 120 61: Harmonic analysis module; associable only to multifunction measuring device 4 120 53.
- . It is possible to connect only one module 4 120 61.

Auxiliary supply:

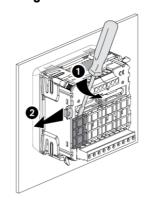
. Supplied by the multifunction measuring device 4 120 53

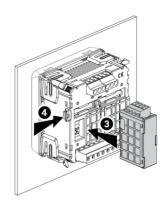
3. OVERALL DIMENSIONS



4. FIXING - CONNECTION

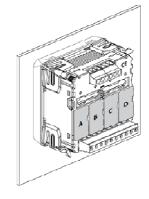
Fixing:





Note: modules must be connected with the device 4 120 53 not supplied.

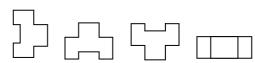
Associability table:



	Α	В	С	D	
4 120 55	✓	×	×	×	max. 1
4 120 56	✓	×	×	×	max. 1
4 120 57	×	×	✓	✓	max. 2
4 120 58	×	×	×	✓	max. 1
4 120 59	✓	✓	✓	✓	max. 2
4 120 60	×	×	✓	✓	max. 2
4 120 61	×	✓	×	×	max. 1

Operating position:

. Vertical Horizontal Upside down On the side



Technical data sheet: F02176EN/00 Updated: - Created: 18/09/2015

Harmonic analysis module for 4 120 53

Cat. Nº: 4 120 61

4. FIXING - CONNECTION (continued)

Screw terminals:

- . Terminal depth: 8 mm.
- . Stripping length: 8 mm

Screw head:

Screw slotted.

Recommended tightening torque:

. 0,6 Nm.

Tools required:

- . For terminals: flat screwdriver 3,5 mm
- . For fixing the modules to the measuring device: flat screwdriver max 5 mm

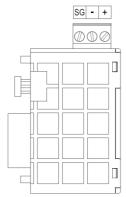
Connectable section:

. Copper cables.

	Without ferrule	With ferrule
Rigid cable	0,05 to 4,5 mm²	-
Flexible cable	0,05 to 2,5 mm²	0,05 to 2,5 mm²

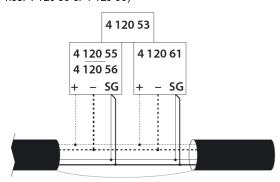
Wiring diagrams:

. Terminals identifications



Wiring diagrams (continued)

. To transmit in communication data related to harmonic analysis, terminals of the 4 120 61 module must be connected to the RS485 bus with the same rules applied to the communication modules (cat. nos. 4 120 55 or 4 120 56)

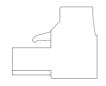


. **Note:** connection is not required if you don't want to refer measurements performed by the module 4 120 61 to a supervision system.

5. GENERAL CHARACTERISTICS

Terminals marking:

. By permanent ink pad printing.





Harmonic spectrum analysis:

With the 4 120 61 module only installed, the 4 120 53 displays:

- odd harmonics of phase voltages (V₁, V₂, V₃) or chained voltages (V₁₂, V₂₃, V₃₁), from 3^{rd} to 9^{th} expressed as a percentage of the fundamental.
- odd harmonics of phase currents (I $_1,$ I $_2,$ I $_3),$ from 3^{rd} to 9^{th} expressed as a percentage of the fundamental .
- crest factor of voltages and currents.
- phase angle between voltages and the between currents.
- . Installing the RS485 module (cat. no 4 120 55 or 4 120 56), following data are available in communication:
- harmonics (odd and even) of phase voltages (V_1 , V_2 , V_3) or chained voltages (V_{12} , V_{23} , V_{31}), from 2^{nd} to 50^{th} , expressed as a percentage of the fundamental.
- harmonics (odd and even) of phase currents (I1, I2, I3) , from 2^{nd} to $50^{th},$ expressed as a percentage of the fundamental.
- crest factor of voltages and currents.
- phase angle between voltages and the between currents.

Plastic material:

. Self-extinguishing polycarbonate.

Ambient operating temperature:

. Min. = - 5 °C Max. = + 55 °C.

Ambient storage temperature:

. Min. = - 25 °C Max. = + 70 °C.

Impulse withstand voltage:

. Measuring inputs / All circuits alternate current 50 Hz / 1 min.: 2 kV

Note: values referred to combination measuring device + add-on module.

Average weight per device:

. 0,030 kg.

Volume when packed:

 $.0,30 \ dm^{3}$

Consumption:

- . Module 4 120 61: ≤ 1 VA
- . Measuring device 4 120 53 + 1 Module 4 120 61: ≤ 5 VA

Harmonic analysis module for 4 120 53

Cat. Nº: 4 120 61

6. COMPLIANCE AND APPROVALS

Compliance to standards:

- . Compliance with Directive on electromagnetic compatibility (EMC) n° 2004/108/EC
- . Compliance with low voltage directive no. 73/23/CEE dated 19 February 1973, modified by directive no. 93/68/CEE dated 22 July 1993, modified by directive n° 2006/95/CE.
- . IEC/EN 60751

Technical data sheet: F02176EN/00

Updated: -

Created: 18/09/2015

