Public Abstract

Deliverable D3.4
HV power conversion prototype

This document shows the final result of the development of the DC/AC converter. The realization has been done by MICROPI, a third party, under the direction of UNISA. The document gives a glance to the final structure of the power topology, which includes three stages, and of the internal controllers, especially of the one used for applying the EIS disturbance to the converter's input current. It is also shown the way in which the DC/AC converter has to be connected to the stack, at its input, and to the AC grid, at its output. The front panel commands and the indications given to the users through some displays are also described. The communication protocols allowing the interaction between the DC/AC converter and the EIS board, in terms of stimulus settings and stack current and voltage waveforms acquisition at the stack terminals, has been kept unchanged with respect to the one used for the DC/DC converter used in the EPS application in order to ensure the full compatibility of the EIS board with both the systems.

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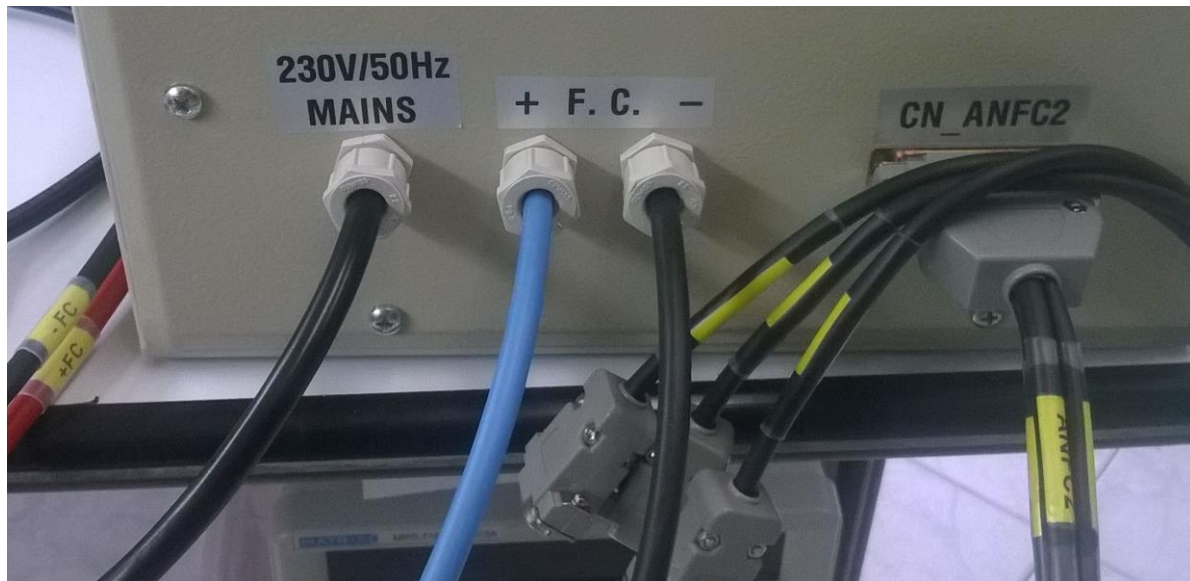Main figures appearing in the deliverable:

Figure 1: connection cables to the AC mains for auxiliaries supply, to the stack terminals and to the EIS board through the CAN bus.
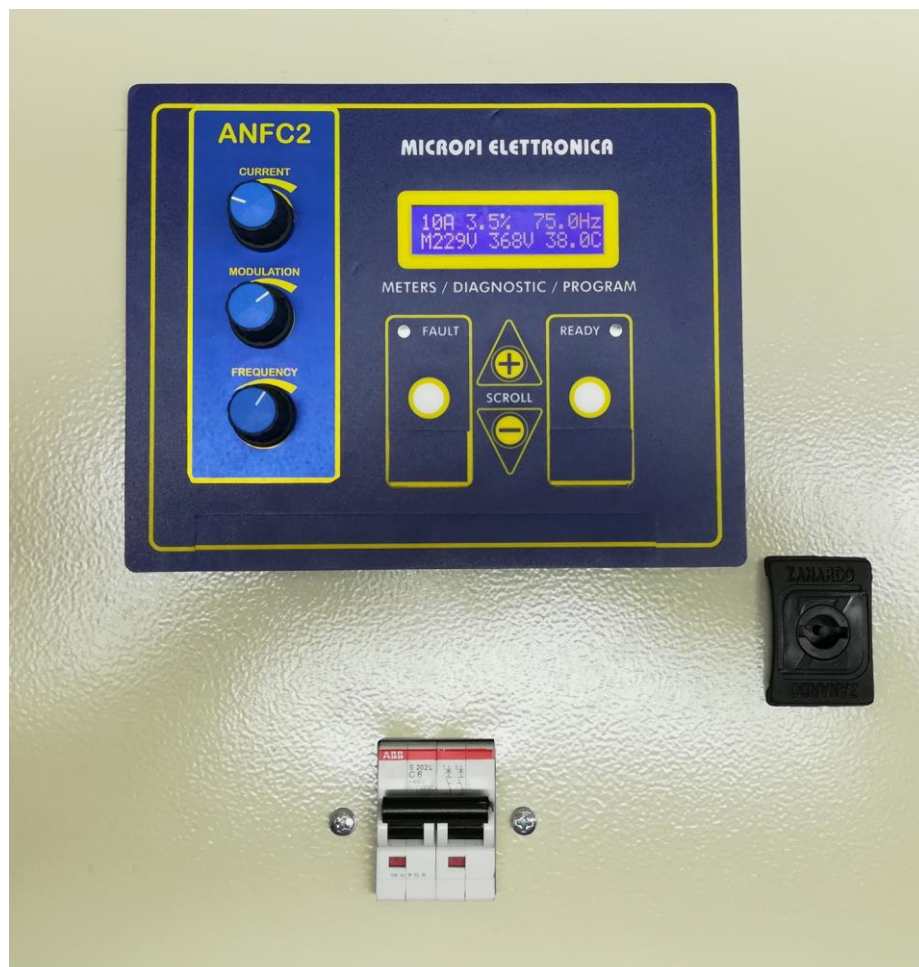

Figure 2: front panel.