

Title (en)  
METHOD AND SYSTEM FOR CONTROLLING AN ELECTRIC ARC FURNACE

Title (de)  
VERFAHREN UND SYSTEM ZUM STEUERN EINES ELEKTRISCHEN LICHTBOGENOFENS

Title (fr)  
PROCÉDÉ ET SYSTÈME DE COMMANDE D'UN FOUR À ARC ÉLECTRIQUE

Publication  
**EP 4307834 A1 20240117 (EN)**

Application  
**EP 22184832 A 20220713**

Priority  
EP 22184832 A 20220713

Abstract (en)  
The present disclosure relates to a method of operating an electric arc furnace by means of an electric arc furnace operation system connectable with the electric arc furnace to form an electric arc furnace system, and to a corresponding system. The electric arc furnace operation system comprises a converter device connectable with the AC grid for supplying the electric arc furnace with electric power, an electrode controller controlling electrodes of the electric arc furnace, and a converter controller. The method includes the following operations:- receiving, at the converter controller a reference impedance comprising a reference inductance and a reference resistance, a reference voltage, and an electrode voltage;- determining, by means of the converter controller, a converter reference voltage on basis of at least the reference voltage, the reference impedance, the electrode voltage, and a physical inductance of the electric arc furnace system; and- controlling the converter device to generate an output voltage on basis of the converter reference voltage.

IPC 8 full level  
**H05B 7/144** (2006.01)

CPC (source: EP)  
**H05B 7/144** (2013.01)

Citation (applicant)  
US 10470259 B2 20191105 - DOEBBELER ARNO [DE], et al

Citation (search report)  

- [I] FR 2926182 A1 20090710 - TOULOUSE INST NAT POLYTECH [FR]
- [AD] US 10470259 B2 20191105 - DOEBBELER ARNO [DE], et al
- [A] EP 3124903 A1 20170201 - DANIELI AUTOMATION SPA [IT]
- [A] US 2011176575 A1 20110721 - HOERGER WOLFGANG [DE], et al

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

Designated validation state (EPC)  
KH MA MD TN

DOCDB simple family (publication)  
**EP 4307834 A1 20240117**

DOCDB simple family (application)  
**EP 22184832 A 20220713**