Title (en)
ELECTRONIC CIRCUIT AND METHOD FOR ELECTRIC POWER SUPPLY TO AN ALTERNATIVE CURRENT ELECTRIC FURNACE

Title (de)
ELEKTRONISCHER SCHALTKREIS UND VERFAHREN ZUM EINSPEISEN VON ELEKTRISCHER ENERGIE IN EINEN WECHSELSTROM-ELEKTROOFEN

Title (fr)
CIRCUIT ELECTRONIQUE ET PROCEDE POUR ALIMENTER EN ENERGIE ELECTRIQUE UN FOUR ELECTRIQUE A COURANT ALTERNATIF

Publication
EP 1915889 A1 20080430 (DE)

Application
EP 06776359 A 20060724

Priority
• EP 2006007247 W 20060724
• DE 102005038702 A 20050815

Abstract (en)
[origin: US2008123714A1] The invention relates to an electronic circuit and a method for feeding power to at least one electrode of an alternating-current electric-arc furnace, particularly for melting metal. Known circuits of this type typically comprise a series connection with a transformer for providing a supply voltage for the electric-arc furnace from a power grid (1) and a AC power controller (8) connected between the transformer (6) and the electrode (11) for regulating the current through the electrode (11). According to the invention, a further development for such electronic circuits is proposed, which development has a simple design, is inexpensive and prevents overload of the AC power controller (8) even in operating modes of the electric-arc furnaces at high electrode currents. This further development provides to bypass the AC power controller with a bypass switch (9) that is opened or closed with the help of a controller as a function of the amount of current flowing through the electrode (11).

IPC 8 full level
H05B 7/02 (2006.01); **H05B 7/00** (2006.01)

CPC (source: EP KR US)
H05B 6/30 (2013.01 - KR); **H05B 7/005** (2013.01 - EP US); **H05B 7/18** (2013.01 - KR)

Citation (search report)
See references of WO 2007019943A1

Cited by
US9417321B2; US9417322B2

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
US 2008123714 A1 20080529; **US 8665924 B2 20140304**; AT E412333 T1 20081115; CA 2583481 A1 20070222; CA 2583481 C 20110607; CN 101091416 A 20071219; CN 101091416 B 20100721; DE 102005038702 A1 20070222; DE 502006001904 D1 20081204; EP 1915889 A1 20080430; EP 1915889 B1 20081022; ES 2314935 T3 20090316; JP 2008522375 A 20080626; JP 4729582 B2 20110720; KR 100848863 B1 20080729; KR 20070088525 A 20070829; RU 2331991 C1 20080820; TW 200711541 A 20070316; TW I413455 B 20131021; UA 86999 C2 20090610; WO 2007019943 A1 20070222; ZA 200701679 B 20080430

DOCDB simple family (application)
US 66543506 A 20060724; AT 06776359 T 20060724; CA 2583481 A 20060724; CN 200680001470 A 20060724; DE 102005038702 A 20050815; DE 502006001904 T 20060724; EP 06776359 A 20060724; EP 2006007247 W 20060724; ES 06776359 T 20060724; JP 2007543867 A 20060724; KR 20077006349 A 20070320; RU 2007114727 A 20060724; TW 95126467 A 20060720; UA A200705126 A 20060724; ZA 200701679 A 20070226