(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 4 January 2007 (04.01.2007)

(10) International Publication Number WO 2007/001584 A3

- (51) International Patent Classification: *G06F 1/26* (2006.01)
- (21) International Application Number:

PCT/US2006/012831

- (22) International Filing Date: 7 April 2006 (07.04.2006)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:

11/165,798 24 June 2005 (24.06.2005)

- (71) Applicant (for all designated States except US): POWER-ONE, INC. [US/US]; 740 Calle Plano, Camarillo, California 93012 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): CHAPUIS, Alain [CH/CH]; Reidikerstrasse 86a, CH-8616 Riedikon (CH). GUZ, Mikhail [US/US]; 15 Lakemont Drive, Daly City, California 94015 (US). ROARK, Dennis, R. [US/US]; 4003 Huntclub Court, Agoura, California 91301 (US).
- (74) Agent: BERLINER, Brian, M.; O'MELVENY & MY-ERS LLP, 400 South Hope Street, Los Angeles, CA 90071-2899 (US).

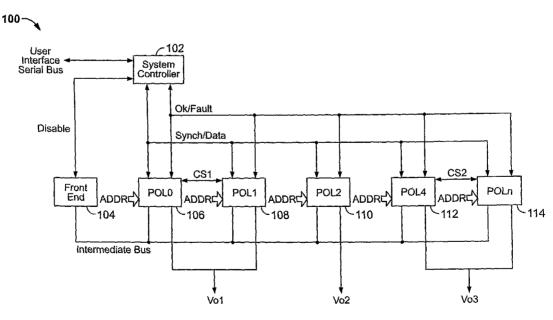
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- (88) Date of publication of the international search report: 12 April 2007

[Continued on next page]

(54) Title: METHOD AND SYSTEM FOR CONTROLLING AND MONITORING AN ARRAY OF POINT-OF-LOAD REGULATORS



(57) Abstract: A power control system comprises a plurality of POL regulators, at least one serial data bus operatively connecting the plurality of POL regulators, and a system controller connected to the serial data bus and adapted to send and receive digital data to and from the plurality of POL regulators. The serial data bus further comprises a first data bus carrying programming and control information between the system controller and the plurality of POL regulators. The serial data bus may also include a second data bus carrying fault management information between the system controller and the plurality of POL regulators. The power control may also include a front-end regulator providing an intermediate voltage to the plurality of POL regulators on an intermediate voltage bus.



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US06/12831

A. CLAS	SIFICATION OF SUBJECT MATTER G06F 1/26(2006.01)			
USPC: 713/300 According to International Patent Classification (IPC) or to both national classification and IPC				
B. FIELI	DS SEARCHED			
Minimum doo U.S. : 71	cumentation searched (classification system followed b 300/300, 310, 330, 340; 323/266-269, 271, 272, 283	y classification symbols)		
Documentation NONE	on searched other than minimum documentation to the	extent that such documents are included in	the fields searched	
Electronic dat	ta base consulted during the international search (name	of data base and, where practicable, search	n terms used)	
C. DOCI	JMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where ap	opropriate, of the relevant passages	Relevant to claim No.	
X	WO 02/31951 A2 (GOODFELLOW et al) 18 April 2		1	
х	US 6,563,294 B2 (DUFFY et al) 13 May 2003 (13.05	5.2003), see entire document.	1	
x	US 2003/0006650 A1 (TANG et al) 09 January 2003	(09.01.2003), see entire document.	1	
Х	US 2002/0144163 A1 (GOODFELLOW et al) 03 Oc document.	tober 2002 (03.10.2002), see entire	·· - 1	
А,Е	US 7,080,265 B2 (THAKER et al) 18 July 2006 (18.0		1	
A,P	A,P US 6,936,999 B2 (CHAPUIS) 30 August 2005 (30.08.2005), see entire document.		1	
A,P	US 6,949,916 B2 (CHAPUIS) 27 September 2005 (2	7.09.2005), see entire document.	1	
Further	documents are listed in the continuation of Box C.	See patent family annex.		
* Special categories of cited documents: "T" later document published after the international filing date or priorit date and not in conflict with the application but cited to understand				
"A" document defining the general state of the art which is not considered to be of particular relevance		principle or theory underlying the invention		
•	plication or patent published on or after the international filing date	"X" document of particular relevance; the cl considered novel or cannot be consider when the document is taken alone	ed to involve an inventive step	
establish t specified)		"Y" document of particular relevance; the c considered to involve an inventive step with one or more other such documents obvious to a person skilled in the art	whenthe document is combined	
"O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later tharthe		"&" document member of the same patent family		
priority date claimed			h report	
	ctual completion of the international search	23 JAN 2007		
06 January 2007 (06.01.2007) Name and mailing address of the ISA/US Authorized officer				
Mail Stop PCT, Attn: ISA/US				
Commissioner for Patents		JOSE G. DEES		
P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201		Telephone No. (571) 272-1569	Kone the	

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US06/12831

ategory *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
A,P	US 7,000,125 B2 (CHAPUIS et al) 14 February 2006 (14.02.2006), see entire document.	1
A,P	US 7,049,798 B2 (CHAPUIS et al) 23 May 2006 (23.05.2006), see entire document.	1
A,E	US 7,068,021 B2 (CHAPUIS) 27 June 2006 (27.06.2006), see entire document.	1
		ļ
:		