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# (12) United States Patent

Ewing et al.

### (54) ELECTRICAL POWER DISTRIBUTION DEVICE HAVING A CURRENT DISPLAY

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(\*) Notice: Subject to any disclaimer, the term of this

patent is extended or adjusted under 35 U.S.C. 154(b) by 278 days.

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This patent is subject to a terminal dis-

claimer.

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(56) References Cited

U.S. PATENT DOCUMENTS

4,638,175 A 1/1987 Bradford et al.

(Continued)

#### OTHER PUBLICATIONS

"TPC 4000/MTD: World's First 1U, 3Ø, 16A or 32A Distribution Unit," Pulizzi Engineering Inc., 2 pp. (1999).

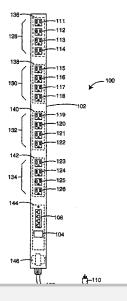
(Continued)

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(57) ABSTRACT

An electrical power distribution unit can include a power distribution unit enclosure, a power input associated with the power distribution unit enclosure, and a plurality of power outputs associated with the power distribution unit enclosure. At least certain power outputs can be connectable to one or more electrical loads external to the power distribution unit enclosure and to the power input. In some embodiments, an intelligent power section can communicate with at least one of the power outputs and can connect to a communications network external to the power distribution unit enclosure.

## 23 Claims, 8 Drawing Sheets



Paritan v. Sarvar Tachnolog



#### U.S. PATENT DOCUMENTS

4,644,320	A	2/1987	Carr et al.
4,674,031	Α	6/1987	Siska, Jr.
4,719,364	Α	1/1988	Pequet et al.
4,769,555	Α	9/1988	Pequet et al.
4,918,562	Α	4/1990	Pulizzi et al.
5,424,903	Α	6/1995	Schreiber
5,506,573	Α	4/1996	Ewing et al.
5,534,734	Α	7/1996	Pugh et al.
5,642,002	Α	6/1997	Mekanik et al.
5,650,771	A	7/1997	Lee
5,736,847	Α	4/1998	Van Doorn et al.
5,923,103	A	7/1999	Pulizzi et al.
5,949,974	A	9/1999	Ewing et al.
5,995,911	A	11/1999	Hart
6,008,805	A	12/1999	Land et al.
6,011,329	A	1/2000	McGovern
6,160,873	A	12/2000	Truong et al.
6,229,691	В1	5/2001	Tanzer et al.
6,381,700	В1	4/2002	Yoshida
6,388,854	В1	5/2002	Berstis et al.
6,408,334	В1	6/2002	Bassman et al.
6,476,729	В1	11/2002	Liu
6,507,273	В1	1/2003	Chang et al.
6,628,009	В1	9/2003	Chapel
6,684,343	В1	1/2004	Bouchier et al.
6,711,613	В1	3/2004	Ewing et al.
6,741,442	В1	5/2004	McNally et al.
6,826,036	B2	11/2004	Pereira
6,968,465	B2	11/2005	Freevol et al.
7,010,589	B2	3/2006	Ewing et al.
7,043,543	B2	5/2006	Ewing et al.
7,099,934	BI	8/2006	Ewing et al.
7,119,676	BI	10/2006	Silverstrim et al.
7,141,891	B2	11/2006	McNally et al.
7,162,521	B2	1/2007	Ewing et al.
7,102,321	B2	1/2007	Ewing et al.
	B2	3/2008	Anderson et al.
7,349,956		1/2002	
2002/0004913	Al		Fung
2002/0120676	Al	8/2002	Biondi et al.
2005/0203987	A1	9/2005	Ewing et al.
2005/0223090	Al	10/2005	Ewing et al.
2006/0031453	Al	2/2006	Ewing et al.
2006/0031454	A1	2/2006	Ewing et al.
2006/0072531	A1	4/2006	Ewing et al.
2006/0186739	A1	8/2006	Grolnic et al.
2006/0259538	A1	11/2006	Maskaly et al.
2007/0016664	A1	1/2007	Ewing et al.
2007/0050443	A1	3/2007	Maskaly et al.
2007/0130243	A1	6/2007	Ewing et al.
2007/0136453	A1	6/2007	Ewing et al.
2007/0140238	A1	6/2007	Ewing et al.

## OTHER PUBLICATIONS

"PC 5585: Voltage Selectable for 120V~ or 240V~,  $1\emptyset$ ,  $50/60~{\rm Hz}~{\rm Up}$ to 30A," Pulizzi Engineering Inc., 3 pp. (1999).

"Complaint for Patent Infringement," Server Technology, Inc. v. American Power Conversion Corporation, Case No. 3:06-CV-, 58 pp. (Dec. 18, 2006).

"First Amended Complaint for Patent Infringement," Server Technology, Inc. v. American Power Conversion Corporation, Case No. 3:06-CV-00698-LRH-VPC, 83 pp. (Feb. 20, 2007)

"Defendant's Answer and Affirmative Defenses to Plaintiff's Complaint for Patent Infringement; Counterclaims for Declaratory Judgment of Patent Noninfringement and Patent Invalidity; and Patent Infringement," Case No. 3:06-CV-00698-LRH-(VPC), 37 pp. (Apr.

Declaratory Judgment of Patent Noninfringement and Patent Invalidity; and Patent Infringement," Case No. 3:06-CV-00698-LRH-(VPC), 36 pp. (Apr. 13, 2007).

"Plaintiff Server Technology Inc.'s Reply to Defendant's First Amended Counterclaims for Declaratory Judgment of Patent Noninfringement and Patent Invalidity; and Patent Infringement," Case No. 3:06-CV-00698-LRH-VPC, 8 pp. (Apr. 30, 2007)

"Server Technology's Proposed Order on Claim Construction," Server Technology, Inc. v. American Power Conversion Corporation, Case No. 3:06-CV-00698-LRH-VPC, 22 pp. (Dec. 05, 2008).

"American Power Conversion Corp.'s Proposed Order on Claim Construction," Server Technology, Inc. v. American Power Conversion Corporation, Case No. 3:06-CV-00698-LRH-VPC, 24 pp. (Dec. 05, 2008)

"Continuation of Server Technology's Reply to American Power Conversion Corp.'s Response to Opening Claim Construction Brief," Server Technology, Inc. v. American Power Conversion Corporation, Case No. 3:06-CV-00698-LRH-VPC, 94 pp. (Aug. 11, 2008)

Systems Enhancement Corporation, "Power Administrator 800 User Manual," Oct. 1, 1996, Systems Enhancement Corporation, Chesterfield, MO, USA

American Power Conversion Corporation, "MasterSwitch VM Power Distribution Unit User Guide," Dec. 1999, American Power Conversion Corporation, W. Kingston, RI, USA.

American Power Conversion Corporation, "MasterSwitch VM Power Distribution Unit Installation and Quick Start Manual," Dec. 1999, American Power Conversion Corporation, W. Kingston, RI, USA.

American Power Conversion Corporation, "PowerNet SNMP Management Information Base v3.1.0 Reference Guide," Nov. 1999, American Power Conversion Corporation, W. Kingston, RI, USA.

"Server Technology, Inc.'s Fifth Amended Disclosure of Asserted Claims and Preliminary Infringement Contentions With Exhibits," Server Technology, Inc. v. American Power Conversion Corporation, Case No. 3:06-CV-00698-LRH-VPC, 30 pp. (Sep. 29, 2007).

"American Power Conversion Corporation's Preliminary Invalidity Contentions," Server Technology, Inc. v. American Power Conversion Corporation, Case No. 3:06-CV-00698-LRH-VPC, 89 pp. (Oct. 12, 2007).

"American Power Conversion Corporation's Preliminary Claim Constructions and Extrinsic Evidence (Patent Local Rule 4-2), Server Technology, Inc. v. American Power Conversion Corporation, Case No. 3:06-CV-00698-LRH-VPC, 8 pp. (Jan. 21, 2008).

Plaintiff and Counterdefendent Server Technology, Inc.'s Preliminary Claim Constructions and Extrinsic Evidence (Patent Local Rule 4-2), Server Technology, Inc. v. American Power Conversion Corporation, Case No. 3:06-CV-00698-LRH-VPC, 7 pp. (Jan. 29, 2008). "Joint Claim Construction Chart and Prehearing Statement (Patent Rule 4.3)," Server Technology, Inc. v. American Power Conversion Corporation, Case No. 3:06-CV-00698-LRH-VPC, 77 pp. (Feb. 22, 2008).

"Plaintiff and Counterdefendent Server Technology, Inc.'s Opening Claim Construction Brief," Server Technology, Inc. v. American Power Conversion Corporation, Case No. 3:06-CV-00698-LRH-VPC, 206 pp. (May 19, 2008).

"American Power Conversion Corp.'s Response to Plaintiff and Counterdefendant Server Technology, Inc.'s Opening Claim Construction Brief," Server Technology, Inc. v. American Power Conversion Corporation, Case No. 3:06-CV-00698-LRH-VPC, 279 pp. (Jul. 25, 2008).

"Plaintiff and Counterdefendant Server Technology, Inc.'s Reply to APC's Response to STI's Opening Claim Construction Brief," Server Technology, Inc. v. American Power Conversion Corporation, Case No. 3:06-CV-00698-LRH-VPC, 287 pp. (Aug. 8, 2008)

"American Power Conversion Corporation's Response to Server Technology's Proposed Order on Claim Construction," Server Technology, Inc. v. American Power Conversion Corporation, Case No. 3:06-CV-00698-LRH-VPC, 24 pp. (Jan. 5, 2009).

"Server Technology's Corrected Response in Opposition to APC's Proposed Order on Claim Construction," Server Technology, Inc. v.



"American Power Conversion Corporation's Reply Regarding Server Tech.'s Proposed Order on Claim Construction," *Server Technology, Inc. v. American Power Conversion Corporation*, Case No. 3:06-CV-00698-LRH-VPC, 13 pp. (Jan. 12, 2009).

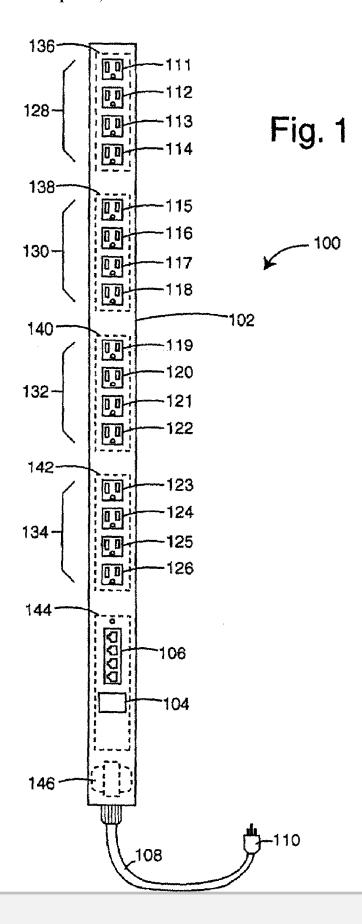
"Server Technology's Reply to APC's Response to Server Technology's Proposed Order on Claim Construction," *Server Technology, Inc. v. American Power Conversion Corporation*, Case No. 3:06-CV-00698-LRH-VPC, 13 pp. (Jan. 12, 2009).

"American Power Conversion Corporation's Motion for Leave to File a Surreply to Server Tech.'s Reply Brief on Claim Construction," Server Technology, Inc. v. American Power Conversion Corporation, Case No. 3:06-CV-00698-LRH-VPC, 3 pp. (Jan. 22, 2009). "Server Technology's Response in Opposition to APC's Motion to File a Surreply to Server Technology's Reply Brief on Claim Construction," *Server Technology, Inc.* v. *American Power Conversion Corporation*, Case No. 3:06-CV-00698-LRH-VPC, 9 pp. (Feb. 7, 2009).

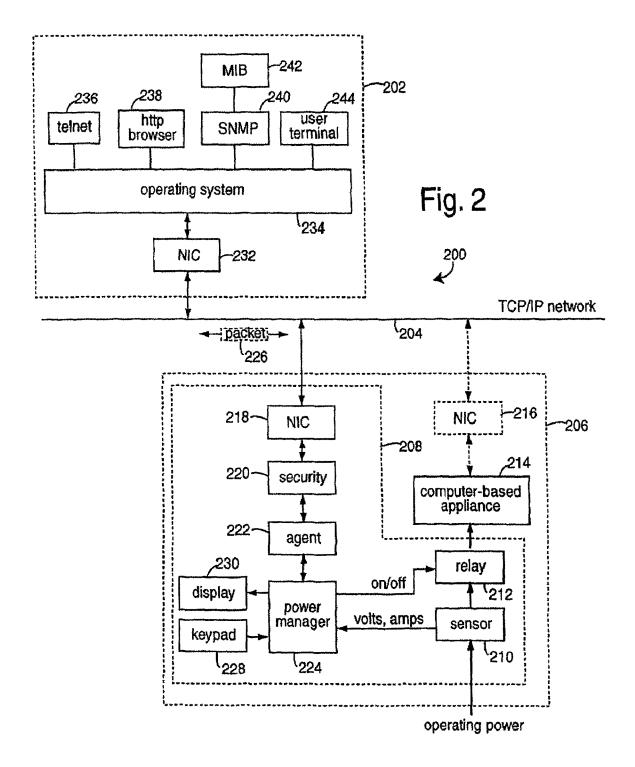
"Server Technology's Response in Opposition to APC's Proposed Order on Claim Construction," Server Technology, Inc. v. American Power Conversion Corporation, Case No. 3:06-CV-00698-LRH-VPC, 23 pp. (Jan. 6, 2009).

"American Power Conversion Corporation's Surreply to Server Tech.'s Reply Brief on Claim Construction," Server Technology, Inc. v. American Power Conversion Corporation, Case No. 3:06-CV-00698-LRH-VPC, 5 pp. (Jan. 22, 2009).











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