

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
14 December 2006 (14.12.2006)

PCT

(10) International Publication Number
WO 2006/133168 A3

(51) International Patent Classification:
H05B 37/02 (2006.01) **H05B 39/08** (2006.01)

(74) Agents: **WEINER, Samuel H.** et al.; Ostrolenk, Faber, Gerb & Soffen, LLP, 1180 Avenue Of The Americas, New York, New York 10036 (US).

(21) International Application Number:
PCT/US2006/021883

(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.

(22) International Filing Date: 6 June 2006 (06.06.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/687,690 6 June 2005 (06.06.2005) US

(71) Applicant (*for all designated States except US*): **LUTRON ELECTRONICS CO., INC.** [US/US]; 7200 Suter Road, Coopersburg, Pennsylvania 18036-1299 (US).

(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).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **MOSEBROOK, Donald** [US/US]; 3276 Bingen Road, Bethlehem, Pennsylvania 18015 (US). **ROGAN, Christopher** [US/US]; 1832 Kings Court, State College, Pennsylvania 18601 (US). **STEFFIE, Jamie** [US/US]; 1330 N. 14th Street, Apt. V26, Whitehall, Pennsylvania 18052 (US). **KEAGY, Jon** [US/US]; 29 Endsloew Lane, Perkasio, Pennsylvania 18944 (US). **DETMER, Steven** [US/US]; 4326 Lower Saucon Road, Hellertown, Pennsylvania 18055 (US).

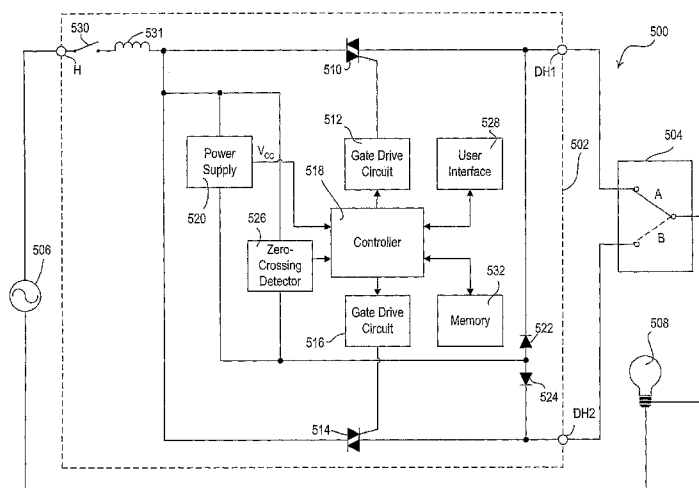
Published:

— with international search report

(88) Date of publication of the international search report:
8 February 2007

[Continued on next page]

(54) Title: DIMMER SWITCH FOR USE WITH LIGHTING CIRCUITS HAVING THREE-WAY SWITCHES



(57) Abstract: A smart dimmer switch for control of a lighting load from an AC voltage source can replace any switch in a three-way or four-way lighting control system. The smart dimmer switch can be connected on the line-side or the load-side of a three-way system with a standard three-way switch in the other location. Further, the dimmer switch can replace a four-way switch in a four-way system and is operable to be coupled to two standard three-way switches. The dimmer switch includes either one or two semiconductor switches to control the intensity of the connected lighting load. The dimmer switch preferably includes a sensing circuit for detecting an electrical characteristic (i.e., either a voltage or a current) at a terminal of the dimmer to determine the state of the connected three-way switch(s) or four-way switch. The dimmer switch preferably controls the state of the semiconductor switch in response to either a toggle of any of the other switches in the system or an actuation of a toggle button of the dimmer switch.

WO 2006/133168 A3



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.