

1) Family number: 63760786 (WO18006769 A1)

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Title: HYSTERESIS POWER SUPPLY CIRCUIT

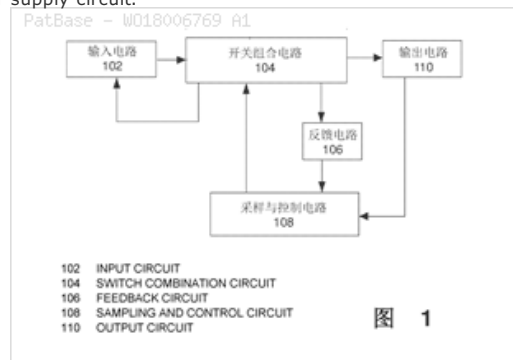
Abstract: A hysteresis power supply circuit, comprising: an input circuit (102), a switch combination circuit (104), a sampling and control circuit (108), a feedback circuit (106) and an output circuit (110). The input circuit (102) is connected to a power supply input terminal, rectifies a power supply input and provides isolation protection for the input terminal. The switch combination circuit (104) is connected to the input circuit (102), and is turned on or turned off for controlling an output power of a power supply output terminal. The sampling and control circuit (108) samples an output voltage, compares the output voltage with a reference voltage, and according to a comparison result, controls the switch combination circuit (104) to be turned on or turned off. The feedback circuit (106) is connected between the switch combination circuit (104) and the sampling and control circuit (108), and the switch combination circuit (104) outputs a positive feedback signal to the sampling and control circuit (108) via the feedback circuit (106), wherein the positive feedback signal causes a comparison action of a reference power supply chip to generate a hysteresis effect. The output circuit (110) is connected to the switch combination circuit (104), filters an output of the switch combination circuit (104) and provides isolation protection for the output terminal, wherein the output thereof serves as an output of a hysteresis power supply circuit.

Classifications:

International (IPC 8-9): H02H1/06 H02M3/145 H02M3/158

International (IPC 1-7): H02M3/158

CPC: H02H1/066 H02M3/145 H02M3/158



Family:

Publication number	Publication date	Application number	Application date
BR112019000283 A2	20190416	BR20191100283	20170703
CL2019000021 A1	20190517	CL20190000021	20190104
CN106026656 A	20161012	CN201610536928	20160708
CN106026656 B	20190125	CN201610536928	20160708
CN205864260 U	20170104	CN201620718741U	20160708
CO20190000048 A2	20190329	CO20190000048	20190104
EP3484035 A1	20190515	EP20170823581	20170703
EP3484035 A4	20200226	EP20170823581	20170703
MX2019000229 A1	20190906	MX20190000229	20170703
PE20190461 A1	20190403	PE20180003342	20170703
WO18006769 A1	20180111	WO2017CN091418	20170703

Priority:

CN201610536928 20160708 CN201620718741U 20160708 WO2017CN091418 20170703

Probable Assignee: SEARI ELECTRICAL APPARATUS TECHNOLOGY CO LTD

Assignee(s): (std): SEARI ELECTRIC TECH CO LTD ; SEARI ELECTRIC TECHNOLOGY CO LTD ; SEARI ELECTRICAL APPARATUS TECH CO LTD ; SEARI ELECTRICAL APPARATUS TECHNOLOGY CO LTD ; SHANGHAI NOARK ELECTRIC CO LTD ; ZHEJIANG CHINT ELECTRIC APPLIANCE CO LTD ; ZHEJIANG CHINT ELECTRICS CO LTD

Assignee(s): SEARI ELECTRIC TECHNOLOGY CO ; SEARI ELECTRICAL APPARATUS TECHNOLOGY CO ; SHANGHAI NOARK ELECTRIC CO ; ZHEJIANG CHINT ELECTRIC APPLIANCE CO ; ZHEJIANG CHINT ELECTRICS CO

Inventor(s): (std): CHEN LIJUN ; LIJUN CHEN ; XIANJUN YI ; YI XIANJUN ; YIN YINGJUN ; YINGJUN YIN

Agent(s): ESTUDIO CLARKE MODET AND CO CHILE LIMITADA; OSHA LIANG; SHANGHAI PATENT AND TRADEMARK LAW OFFICE LLC

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

2) Family number: 48988134 (CN201846066 U)

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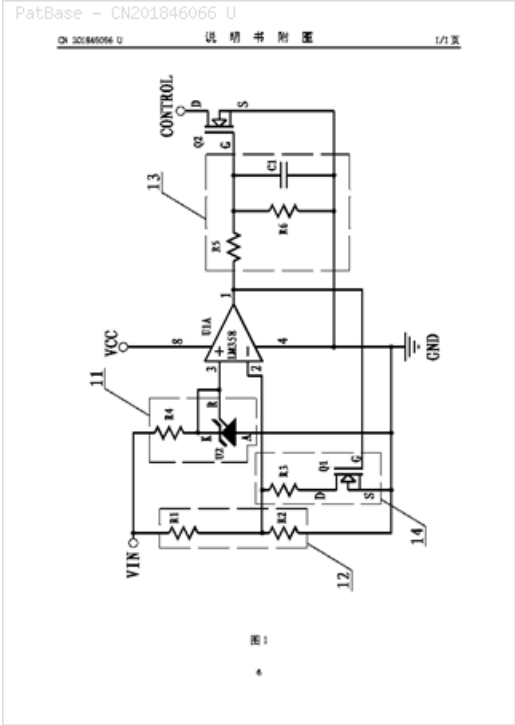
Title: Undervoltage protective circuit with delaying function

Abstract: The utility model relates to the technical field of undervoltage protective circuits, in particular to an undervoltage protective circuit with a delaying function. The undervoltage protective circuit comprises a comparison circuit, an output unit circuit, a reference unit circuit, an input voltage detection unit circuit, a switching tube Q2 and a delaying unit circuit, wherein the input voltage detection unit circuit comprises a resistor R1 and a resistor R2; one end of the resistor R1 is connected with

the input voltage end of a switch power supply; the other end of the resistor R1 is connected with one end of the resistor R2 and the detection voltage input end of the comparison circuit; the other end of the resistor R2 is grounded; the delaying unit circuit comprises a resistor R3 and a filed-effect tube Q1; one end of the resistor R3 is connected with one end of the resistor R2; the other end of the resistor R3 is connected with a drain electrode of the filed-effect tube Q1; and the grid electrode of the filed-effect tube Q1 is connected with the output end of the comparison circuit. The undervoltage protective circuit with the delaying function can avoid the frequent switch on or off of the switch power supply when the input voltage of the switch power supply fluctuates near the set voltage for the undervoltage protection.

Classifications:

International (IPC 8-9): H02H3/24 H02H7/10



Family:

Publication number	Publication date	Application number	Application date
CN201846066 U	20110525	CN201020615559U	20101119

Priority:

CN201020615559U 20101119

Probable Assignee: DONGGUAN AUYUAN ELECTRONICS TECH CO LTD

Assignee(s): (std): DONGGUAN AUYUAN ELECTRONIC TECHNOLOGY CO LTD ; DONGGUAN AUYUAN ELECTRONICS TECH CO LTD

Assignee(s): DONGGUAN AUYUAN ELECTRONICS TECH CO

Inventor(s): (std): LAIYUAN LI ; SHUANGXIU CAO ; XINGDE ZHANG

Inventor(s): CAO SHUANGXIU ; LI LAIYUAN ; ZHANG XINGDE

3) Family number: 2467254 (US4567540 A)

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Title: POWER SUPPLY FOR A CIRCUIT INTERRUPTER

Abstract: A power supply is provided for energizing a trip signal generator and for selectively operating a device in response to the detection by the trip signal generator of overcurrent in a alternating current line. The power supply receives input of full-wave rectified current that is directly proportional to the alternating current in the line. A regulator circuit is also provided to power the trip signal generator and other circuitry. When current initially flows in the line the regulator rapidly produces an output voltage approximately equal to the input voltage up to a first voltage level. When the input voltage exceeds that level, the output voltage of the regulator increases at a slower rate than the input voltage to permit regulation of the output voltage. When energized, the output voltage is regulated at a predetermined constant level. The power supply also includes an energy storage circuit for supplying the input voltage to the regulator and to a circuit interrupter when desired. A control portion in conjunction with a switch portion alternately shunts current away from or permits current to flow to the energy storage portion and regulator portion to maintain the voltage across the energy storage circuit within a predetermined range. The predetermined voltage range of the energy storage circuit is shifted higher upon receipt of a signal from the trip signal generator to increase the amount of energy stored in the energy storage circuit for interrupting the circuit in the line.

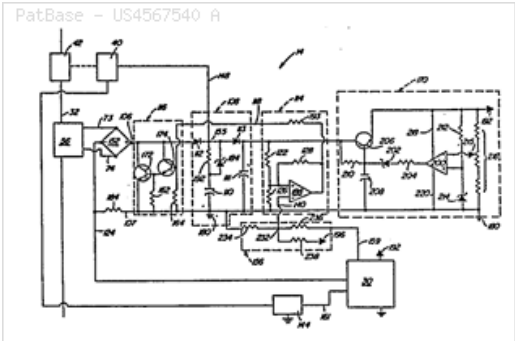
Classifications:

International (IPC 8-9): H02H1/00 H02H1/06 H02H3/08

International (IPC 1-7): H02H1/06 H02H3/08

CPC: H02H1/066

US: 361/93 361/93.6 361/98



Family:

Publication number	Publication date	Application number	Application date
AT37253 E	19880915	AT19830305994T	19831003
CA1214540 A1	19861125	CA19830441633	19831122
DE3378007 D1	19881020	DE19833378007T	19831003
EP0130254 A1	19850109	EP19830305994	19831003
EP0130254 B1	19880914	EP19830305994	19831003
US4567540 A	19860128	US19830506944	19830622

Priority:

US19830506944 19830622 EP19830305994 19831003 CA19830441633 19831122

Probable Assignee: S AND C ELECTRIC CO

Assignee(s): (std): S AND C ELECTRIC CO

Assignee(s): RUTA JOSEPH W ; S AND C ELECTRIC COMPANY

Inventor(s): (std): RUTA JOSEPH W

Agent(s): OSLER HOSKIN AND HARCOURT LLP

Designated states: AT BE CH DE FR GB IT LI LU NL SE

4) Family number: 58311214 (CN104300520 A)

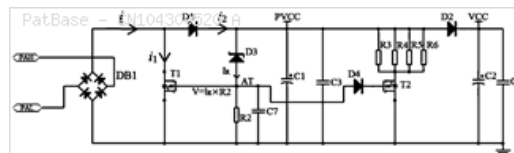
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Title: POWER SUPPLY ENERGY DISCHARGE SIMULATION LOAD CIRCUIT OF ELECTRONIC RELEASE AND DISCHARGE MANAGEMENT CIRCUIT

Abstract: The invention discloses a power supply energy discharge simulation load circuit of an electronic release and a discharge management circuit, and belongs to the technical field of low-voltage power distribution systems. The discharge simulation load circuit comprises a simulation load discharge resistor, a discharge power transistor T2 and an isolation diode D4, wherein one end of the simulation load discharge resistor is connected with a drain electrode of the discharge power transistor T2; a grid electrode of the discharge power transistor T2 is connected with a negative electrode of the isolation diode D4; a source electrode of the discharge power transistor T2 is grounded. The power supply energy discharge simulation load circuit of the electronic release can meet the requirement on a lower current starting point of the electronic release; meanwhile, under the condition that energy supplied by a current transformer is sufficient, a secondary side current output of the current transformer is reduced, heating of the current transformer is avoided, and normal work of the electronic release is protected.

Classifications:

International (IPC 8-9): H02H9/02



Family:

Publication number	Publication date	Application number	Application date
CN104300520 A	20150121	CN201410620481	20141106
CN104300520 B	20170616	CN201410620481	20141106
CN204118721 U	20150121	CN201420660851U	20141106

Priority:

CN201410620481 20141106 CN201420660851U 20141106

Probable Assignee: DAQO GROUP CO LTD

Assignee(s): (std): DAQO GROUP CO LTD ; NANJING DAQUAN ELECTRIC RESEARCH INST CO LTD

Assignee(s): DAQO GROUP CO

Inventor(s): (std): LIU BIN ; TANG FEITING

5) Family number: 46694776 (CN101808447 A)

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Title: INPUT OVERVOLTAGE DELAY PROTECTION CIRCUIT, LED CONTROL CIRCUIT AND LED LAMP

Abstract: The invention relates to an input overvoltage delay protection circuit, an LED control circuit and an LED lamp. The input overvoltage delay protection circuit comprises a voltage sampling unit, a protection signal generating unit, and a delay generating unit. The voltage sampling unit is used for sampling DC voltage to be detected to acquire sampling voltage; the protection signal generating unit comprises a three-end adjustable shunt reference source and is used for comparing the sampling voltage with voltage at the reference end of the three-end adjustable shunt reference source to generate a protection control signal; and the delay generating unit is used for adding positive feedback to the comparison side of the sampling voltage and the reference end of the three-end adjustable shunt reference source according to the change of the DC voltage to be detected, so that the sampling voltage changes along with the change of the DC voltage to be detected. Due to the adoption of the three-end adjustable shunt reference source, the input overvoltage delay protection circuit is formed. Therefore, the overvoltage protection control is realized, the precision of the protection voltage is better controlled, the delay voltage range is better set, the cost is low, and the occupied space is small.

Classifications:

International (IPC 8-9): F21S2/00 F21V23/00 F21Y101/02 H02H3/20 H05B37/02

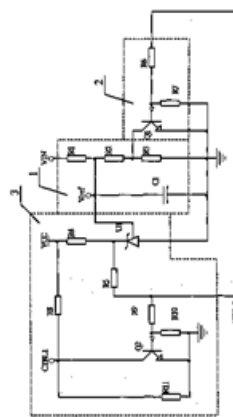


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Family:

Publication number	Publication date	Application number	Application date
CN101808447 A	20100818	CN201010105354	20100129
CN101808447 B	20130327	CN201010105354	20100129

Priority:

CN201010105354 20100129

Probable Assignee: SHENZHEN OCEAN S KING LIGHTING SCIENCE AND TECHNOLOGY CO LTD

Assignee(s): (std): OCEAN S KING LIGHTING SCIENCE AND TECHNOLOGY CO LT ; OCEAN S KING LIGHTING SCIENCE AND TECHNOLOGY CO LTD ; OCEANS KING LIGHTING SCIENCE ; SHENZHEN OCEAN S KING LIGHTING ENGINEERING CO LTD ; SHENZHEN OCEAN S KING LIGHTING SCIENCE AND TECHNOLOGY CO LTD

Assignee(s): OCEAN S KING LIGHTING SCIENCE AND TECHNOLOGY CO ; SHENZHEN OCEAN S KING LIGHTING SCIENCE AND TECHNOLOGY CO

Inventor(s): (std): LI YONG ; MINGJIE ZHOU ; YONG LI ; ZHOU MINGJIE

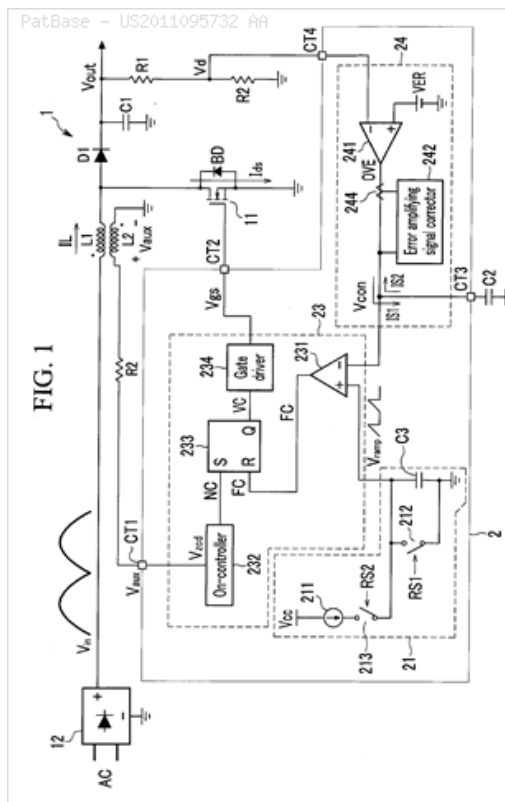
6) Family number: 48790240 (US2011095732 AA)

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Title: POWER FACTOR CORRECTION CIRCUIT AND DRIVING METHOD THEREOF

Abstract: The present invention relates to a power factor correction circuit and a driving method thereof. The power factor correction circuit receives an input voltage and maintains an output voltage at a constant level by controlling switching operation of a power switch connected to an inductor that supplies the output voltage. In this case, the power factor correction circuit controls switching operation of the power switch by differentiating a control structure for an output voltage respectively according to a stabilization period during which the output voltage is constantly maintained and a start-up period during which the output voltage is increased before being stabilized. In addition, the power factor correction circuit controls the switching operation of the power switch according to the control structure of the start-up period during a predetermined correction delay period from a time that the stabilization period starts.

Classifications:**International (IPC 8-9):** G05F1/70 G05F5/00 H02M1/42 H02M3/155**CPC:** G05F1/70**US:** 323/207 323/207P 363/49 363/89 363/90 363/97



Family:

Publication number	Publication date	Application number	Application date
CN204481570 U	20150715	CN201520073323U	20150202

Priority:

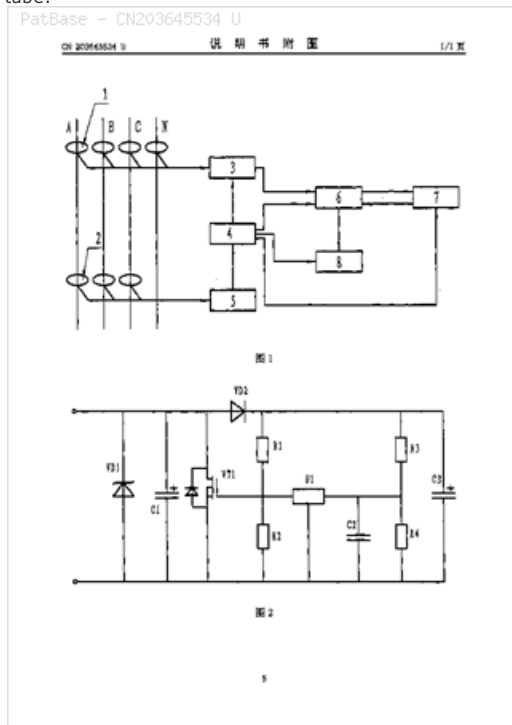
CN201520073323U 20150202

Probable Assignee: ZHEJIANG CHINA ELEC APPLIANCE**Assignee(s):** (std): ZHEJIANG CHINA ELEC APPLIANCE ; ZHEJIANG CHINT ELECTRICS CO LTD**Assignee(s):** ZHEJIANG CHINT ELECTRIC APPLIANCE CO**Inventor(s):** (std): CHEN JIANYU ; MA SHIGANG ; XIAO LEI ; ZHANG LONG**8) Family number: 56642406** (CN203645534 U)

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Title: POWER SUPPLY CIRCUIT OF CONTROL SYSTEM OF INTELLIGENT CIRCUIT BREAKER WITH PLASTIC SHELL

Abstract: The utility model discloses a power supply circuit of a control system for an intelligent circuit breaker with a plastic shell. The defects of high working temperature rise and large power consumption due to high regulating frequency of a regulation tube are effectively overcome. An input power supply is connected with an output power supply via the regulation tube, the regulation tube is driven by a voltage measuring and controlling unit, the voltage measuring and controlling unit is composed of a voltage detector and two voltage-dividing resistors, the two voltage-dividing resistors are connected between the output power supply and the ground, the intermediate output of the resistors is connected with the input of the voltage detector, and the output of the voltage detector drives the regulation tube.

Classifications:**International (IPC 8-9):** H02M1/32**Family:**

Publication number	Publication date	Application number	Application date
CN203645534 U	20140611	CN201320894665U	20131227

Priority:

CN201320894665U 20131227

Probable Assignee: TIANSHUI GREAT WALL ELECTRICITY SCIENCE AND TECHNOLOGY DEV CO LTD**Assignee(s):** (std): TIANSHUI GREAT WALL ELECTRICITY SCIENCE AND TECHNOLOGY DEV CO LTD**Assignee(s):** TIANSHUI GREAT WALL ELECTRIC TECHNOLOGY DEVELOPMENT CO LTD ; TIANSHUI GREAT WALL ELECTRICITY SCIENCE AND TECHNOLOGY DEVELOPMENT CO**Inventor(s):** (std): LIU YONGGE ; LONG HONGLIN ; SONG BAOYAN ; ZHANG HONG**9) Family number: 53562638** (CN103051185 A)

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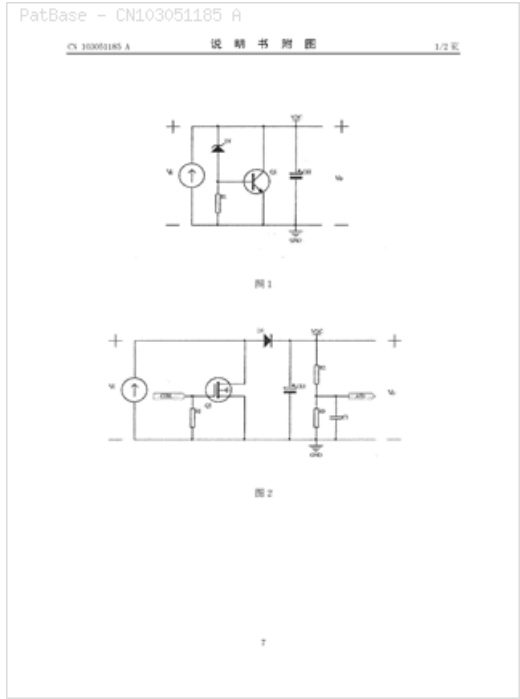
Title: LOW-POWER-CONSUMPTION CONTROLLABLE REGULATED POWER SUPPLY CIRCUIT

Abstract: The invention relates to a low-power-consumption controllable regulated power supply circuit, which consists of a voltage-controlled PWM (Pulse-Width Modulation) circuit, a sampling feedback circuit, a driving synthetic circuit, a microprocessor and a regulating circuit, wherein the voltage-controlled PWM circuit consists of a capacitor C1, a capacitor C2, a resistor R4, a resistor R5, a voltage stabilizing diode D2, a voltage stabilizing diode D3 and an operational amplifier U2; the sampling feedback circuit consists of a resistor R6, a resistor R7 and a sampling capacitor C3; the driving synthetic circuit consists of a single OR gate U1A, a resistor R2 and a resistor R3; and the regulating circuit consists of a switching tube Q1, a diode D1, a capacitor CE1 and a resistor R1. The change of a system power supply is monitored in real time by using the microprocessor and a hardware circuit, the voltage is stabilized by performing real-time PWM accurate control, and dual management is performed, so that the controllability of the voltage of the system power supply is ensured, and the stability and reliability of the power supply are enhanced. The regulating switching tube works in an on-off state, so that the thermal loss is extremely small, the power consumption of the power supply is lowered, and meanwhile, the temperature rise of the

circuit is improved, and the working stability of the power supply circuit is ensured.

Classifications:

International (IPC 8-9): H02M3/156



Family:

Publication number	Publication date	Application number	Application date
CN103051185 A	20130417	CN201210596912	20121231
CN103051185 B	20150617	CN201210596912	20121231
CN203193508 U	20130911	CN201220755422U	20121231

Priority:

CN201210596912 20121231 CN201220755422U 20121231

Probable Assignee: ZHEJIANG DELING SCIENCE AND TECHNOLOGY CO LTD

Assignee(s): (std): ZHEJIANG DELING SCIENCE AND TECHNOLOGY CO LTD ; ZHEJIANG DELING TECHNOLOGY CO LTD

Assignee(s): ZHEJIANG DELING SCIENCE AND TECHNOLOGY CO

Inventor(s): (std): CHEN CHONG ; HUANG FENGYONG ; YE PENG ; ZHANG TENGXIANG

10) Family number: 62033736 (CN205141657 U)

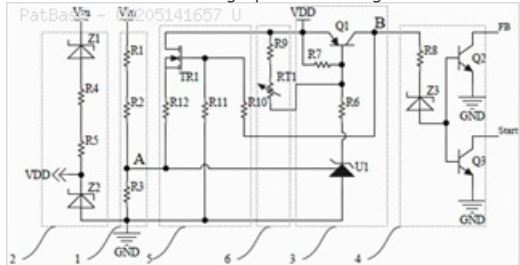
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Title: INPUT OVERVOLTAGE CROWBAR

Abstract: The utility model provides an input overvoltage crowbar, includes sampling circuit and switch circuit, still including telegram in reply way and the control circuit of stagnating, stagnant telegram in reply way is connected between sampling circuit and control circuit, control circuit connects between sampling circuit and switch circuit, when busbar voltage is higher than overvoltage protection voltage point, switch circuit is given to the control circuit output high level for the control source gets into input overvoltage protection state, telegram in reply way formation positive feedback circuit stagnates to raise sampling circuit's output voltage, the control circuit's that further rises output voltage, when busbar voltage is less than overvoltage protection voltage point, by the poor DELTA V of stagnant telegram in reply way stagnant back pressure of formation, make control circuit reach at busbar voltage's decline pressure differential could turn -off during the poor DELTA V of the back pressure that stagnates, switch circuit just can withdraw from input overvoltage protection state for let the power resume work. Compared with the prior art, the utility model discloses in can being applied to AC -DC, DC -DC switching power supply, it is high to have the protection precision, and the stagnant telegram in reply that the realization can set up is pressed, and temperature characteristic is good, loss advantage such as little under certain high pressure range.

Classifications:

International (IPC 8-9): H02H11/00



Family:

Publication number	Publication date	Application number	Application date
CN205141657 U	20160406	CN201520882472U	20151105

Priority:

CN201520882472U 20151105

Probable Assignee: GUANGZHOU MORNSUN SCI AND TECH

Assignee(s): (std): GUANGZHOU MORNSUN SCI AND TECH ; GUANGZHOU MORNSUN SCIENCE AND TECH LTD ; MORNSUN GUANGZHOU SCIENCE AND TECHNOLOGY CO LTD

Assignee(s): GUANGZHOU MORNSUN SCIENCE AND TECHNOLOGY LTD

Title: OVERCURRENT PROTECTION APPARATUS

Abstract: A current of an alternating current electric line is detected by a current transformer, the output of the current transformer is rectified by a rectifier, a series connection of a switching means and a resistor is coupled across the output terminals of the rectifier, a control circuit composed of a capacitor, a comparator and a reference voltage generator is coupled in parallel to the switching means through a diode, when the DC output voltage exceeds a predetermined voltage based on the reference voltage of the reference voltage generator, the comparator outputs a signal for closing the switching means, and the voltage which is applied to the control circuit is limited to a predetermined value.

Classifications:

International (IPC 8-9): H02H1/06 H02H3/08 H02H3/087 H02H3/093

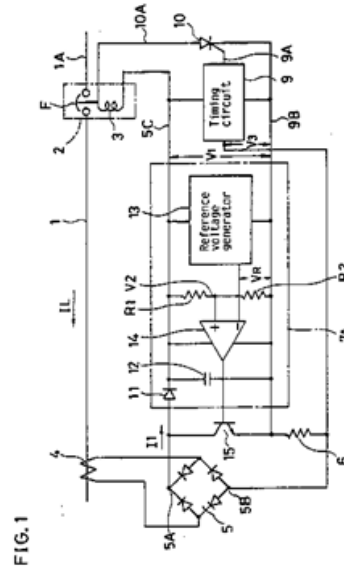
International (IPC 1-7): H02H1/06 H02H3/08 H02H3/087 H02H3/093

H02H3/26

CPC: H02H1/066

US: 361/42 361/45 361/93 361/93.5 361/94

U.S. Patent June 23, 1992 Sheet 1 of 7 5,124,875



Family:

Publication number	Publication date	Application number	Application date
DE69028171 D1	19960926	DE19906028171T	19900920
DE69028171 T2	19970123	DE19906028171T	19900920
EP0421204 A2	19910410	EP19900118133	19900920
EP0421204 A3	19920408	EP19900118133	19900920
EP0421204 B1	19960821	EP19900118133	19900920
EP0687050 A2	19951213	EP19950113775	19900920
EP0687050 A3	19960522	EP19950113775	19900920
JP2133569 C3	19971128	JP19890257876	19891004
JP3124215 A2	19910527	JP19890257876	19891004
JP7010145 B4	19950201	JP19890257876	19891004
KR19910008905 A	19910531	KR19900011162	19900723
KR930006942 Y1	19931009	KR19930007559U	19930507
US5124875 A	19920623	US19900568863	19900817
ZA9006490 A	19910626	ZA19900006490	19900816

Priority:

JP19890257876 19891004 KR19900011162 19900723 EP19900118133 19900920
KR19930007559U 19930507

Probable Assignee: MITSUBISHI ELECTRIC CORP

Assignee(s): (std): MITSUBISHI ELECTRIC CORP

Assignee(s): MITSUBISHI DENKI K K ; MITSUBISHI DENKI K K TOKIO TOKYO JP ; MITSUBISHI DENKI KABUSHIKI KAISHA

Inventor(s): (std): HIROTSUNE KOJI ; HIROTSUNE KOUJI ; HIROTSUNE KOUJI C O FUKUYAMA S ; ISHI KAZUHIRO ; ISHI KAZUHIRO C O FUKUYAMA SEI ; ISHII KATSUHIRO ; ISHII KAZUHIRO ; KAZUHIRO ISHII ; KOUJI HIROTSUNE

Inventor(s): HIROTSUNE KOUJI 1 8 MIDORIMACHI FUKUYAMA SHI 720 JP ; HIROTSUNE KOUJI C O FUKUYAMA SEISAKUSHO ; HIROTSUNE KOUJIUSHO ; ISHI KAZUHIRO 1 8 MIDORIMACHI FUKUYAMA SHI 720 JP ; ISHI KAZUHIRO C O FUKUYAMA SEISAKUSHO

Designated states: CH DE FR GB IT LI