

Search strategy

Query

(+CONTROL+ AND LOAD)/TI/AB/CLMS

(+CONTROL+ AND LOAD)/TI/AB/CLMS AND (WO2016164568)/PN

..SIMILARITY REFINE SS 2 RANKED 1

..SIMILARITY SS 3 RANKED 1

1 AND 4

5 AND PD < 2015-04-07

20 Documents

Publication numbers	Title	Current assignees
EP2805573 A1	Digital load control system providing power and communication via existing power wiring	LUTRON TECHNOLOGY
WO2014158731 A1	Digital load control system providing power and communication via existing power wiring	LUTRON TECHNOLOGY
WO2013149499 A1	Led lighting control system and control method thereof	JIN DEKUI
WO200634323 A2	Communication and ac power system	USRG HOLDCO IX, ...
EP3223587 A2	Power control methods and apparatus	SIGNIFY
EP1984667 A2	Methods and apparatus for high power factor controlled power delivery using a single switching stage per load	SIGNIFY
EP2446713 A1	Method and device for programming a microcontroller	SIGNIFY HOLDING
EP2429265 A2	Method and system for communicating over a load line	ABB
EP2972635 A1	Controller for automatic control of duty cycled hvac&r equipment, and systems and methods using same	PACECONTROLS
EP1894446 A2	Dimmer switch for use with lighting circuits having three-way switches	LUTRON ELECTRONICS
EP1066690 A2	Method for controlling at least one electric consumer connected to a control device, and a corresponding circuit	CEAG NOTLICHTSYSTEME
EP-359178 A2	Load control system	MITSUBISHI ELECTRIC
EP3588232 A1	Optimizing and controlling the energy consumption of a building	EARTH NETWORKS, ...
EP2404484 A1	Multi-stage power supply for a load control device having a low-power mode	LUTRON TECHNOLOGY
EP--62871 A1	Load management terminal	ABB POWER T & D
EP2923532 A2	Signal-level based control of power grid load systems	SIGNIFY HOLDING
EP2477461 A1	Illumination unit control system	ABB SCHWEIZ
US4328482 A	Remote AC power control with control pulses at the zero crossing of the AC wave	CONSUMER ELECTRIC PRODUCTS
EP2417832 A2	Intelligent lighting control system	PHILIPS ELECTRONICS, ...
EP1134910 A2	Zero crossing data transmission for power line system	HIERZER ANDREAS

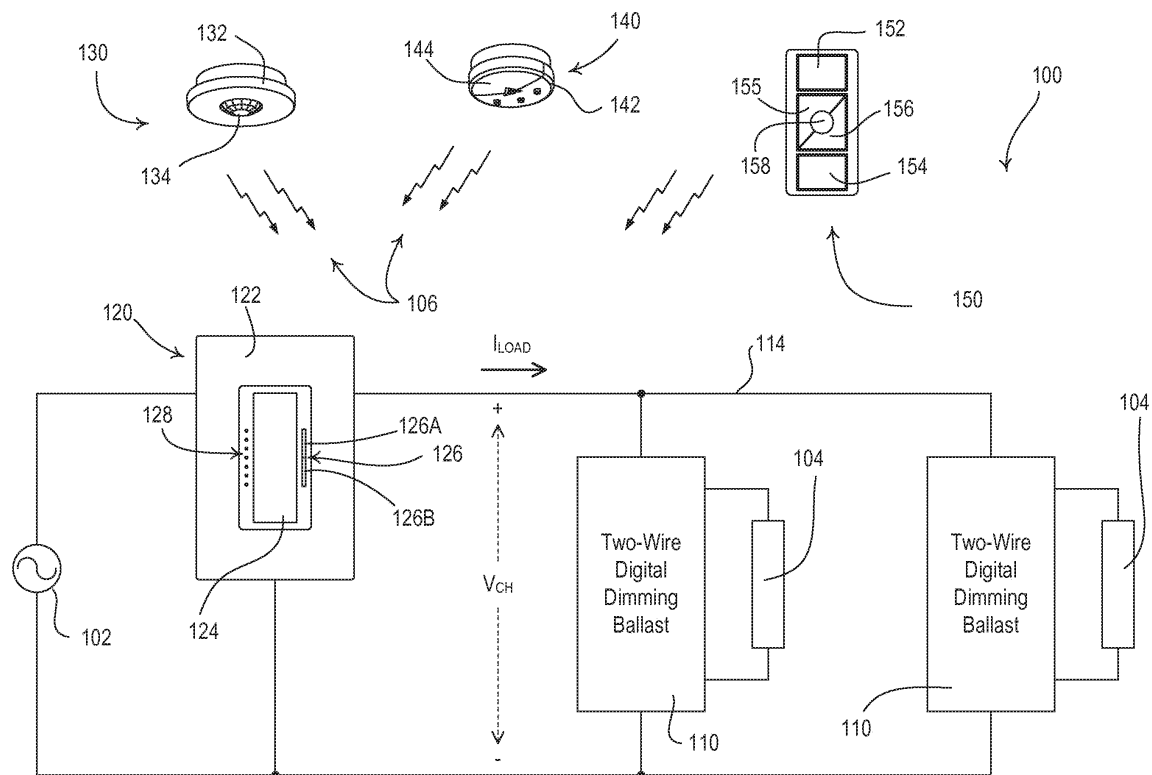
Family 1/20 - FAMPAT - ©Questel

Title

(EP2805573)

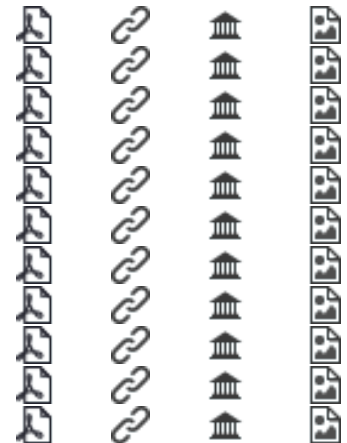
Digital load control system providing power and communication via existing power wiring

Images



Publication numbers with kind code & date

US20200214115	A1	2020-07-02	US20200214115
US10609792	B2	2020-03-31	US10609792
US20190182937	A1	2019-06-13	US20190182937
US10231317	B2	2019-03-12	US10231317
EP2805573	B1	2019-02-27	EP2805573
US20170245353	A1	2017-08-24	US20170245353
US9736911	B2	2017-08-15	US9736911
WO2013/109518	A9	2015-02-05	WO2013109518
EP2805573	A1	2014-11-26	EP2805573
WO2013/109518	A1	2013-07-25	WO2013109518
US20130181630	A1	2013-07-18	US20130181630



Abstract

(EP2805573)

A load control system comprises a load control device for controlling an electrical load receiving power from an AC power source, and a controller adapted to be coupled in series between the source and the load control device. The load control system may be installed without requiring any additional wires to be run, and is easily configured without the need for a computer or an advanced commissioning procedure. The load control device receives both power and communication over two wires, and the controller generates a phase-control voltage that has at least one timing edge in each half-cycle, and transmits digital messages by modulating a timing edge of the phase-control voltage relative to a reference edge. The controller may be operable to receive inputs from a plurality of different input devices, and the load control device may be operable to control a plurality of different loads.

Inventors

TAIPALE MARK S

STEINER JAMES P

ZAHARCHUCK WALTER S

PESSINA MICHAEL W

Latest standardized assignees - inventors removed

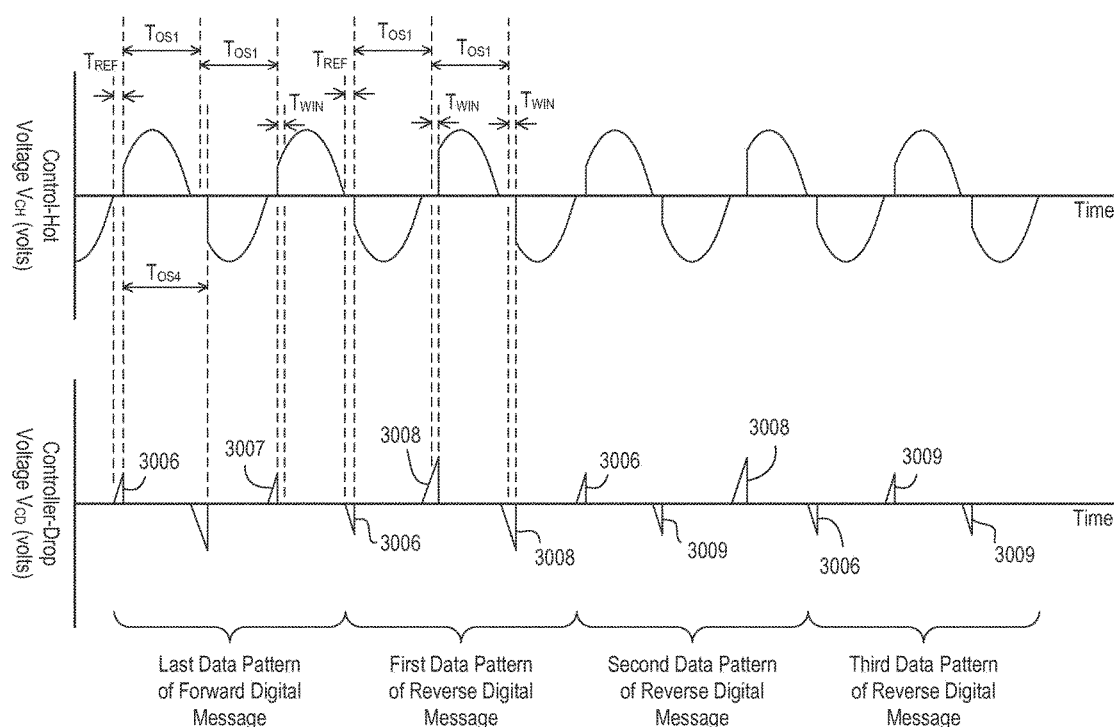
LUTRON TECHNOLOGY

Family 2/20 - FAMPAT - ©Questel

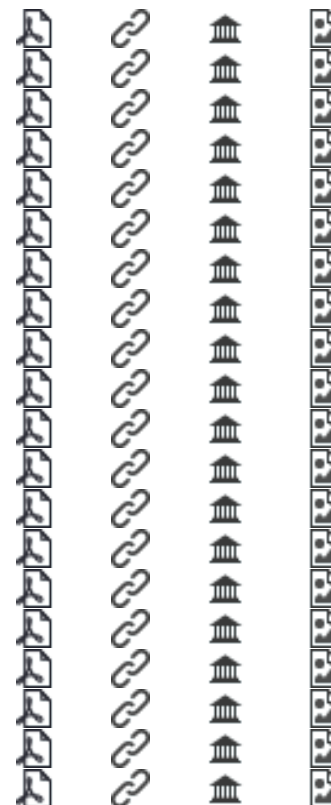
Title

(WO2014158731)

Digital load control system providing power and communication via existing power wiring

Images**Publication numbers with kind code & date**

US20200229292	A1	2020-07-16	US20200229292
US10624194	B1	2020-04-14	US10624194
US20200113031	A1	2020-04-09	US20200113031
US10506689	B2	2019-12-10	US10506689
US20190239320	A1	2019-08-01	US20190239320
US10292245	B2	2019-05-14	US10292245
US20190104599	A1	2019-04-04	US20190104599
US10159139	B2	2018-12-18	US10159139
US20180242431	A1	2018-08-23	US20180242431
US10004127	B2	2018-06-19	US10004127
US9999115	B2	2018-06-12	US9999115
US20180070427	A1	2018-03-08	US20180070427
US20170215257	A1	2017-07-27	US20170215257
US9642226	B2	2017-05-02	US9642226
US20170079123	A1	2017-03-16	US20170079123
US9538618	B2	2017-01-03	US9538618
US20160295670	A1	2016-10-06	US20160295670
US9392675	B2	2016-07-12	US9392675
WO2014/158731	A1	2014-10-02	WO2014158731
US20140265880	A1	2014-09-18	US20140265880

**Abstract**

(WO2014/158731)

A two-way load control system (100) comprises a power device (110), such as a load control device for controlling an electrical load (104) receiving power from an AC power source (102), and a controller (120) adapted to be coupled in series

between the source and the power device (110). The load control system (100) may be installed without requiring any additional wires to be run, and is easily configured without the need for a computer or an advanced commissioning procedure. The power device (110) receives both power and communication over two wires. The controller (120) generates a phase-control voltage and transmits a forward digital message to the power device by encoding digital information in timing edges of the phase-control voltage. The power device transmits a reverse digital message to the controller via the power wiring.

Inventors

TAIPALE MARK

GREDLER TIMOTHY P

BHAT AKSHAY

Latest standardized assignees - inventors removed

LUTRON TECHNOLOGY

Title

(WO2013149499)

Led lighting control system and control method thereof

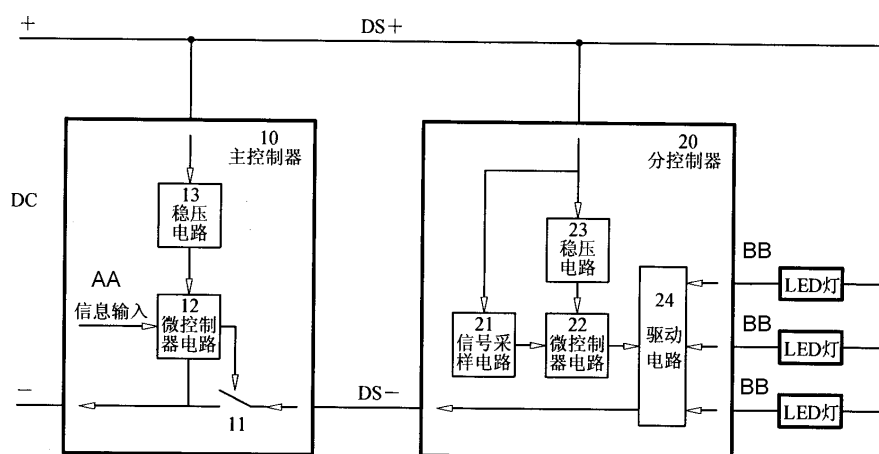
Images

图1 / FIG. 1

10 MASTER CONTROLLER
 12 MICRO-CONTROLLER CIRCUIT
 13 VOLTAGE REGULATOR CIRCUIT
 20 SUB-CONTROLLER
 21 SIGNAL SAMPLING CIRCUIT
 22 MICRO-CONTROLLER CIRCUIT
 23 VOLTAGE REGULATOR CIRCUIT
 24 DRIVE CIRCUIT
 AA INFORMATION INPUT
 BB LED LAMP

Publication numbers with kind code & date[WO2013/149499](#)

A1 2013-10-10

WO2013149499

**Abstract**

(WO2013/149499)

An LED lighting control system comprises a master controller (10) and a sub-controller (20). The master controller (10) comprises a switch tube (11) and a micro-controller circuit (12). The sub-controller (20) comprises a signal sampling circuit (21), a micro-controller circuit (22), a voltage regulator circuit (23) and a drive circuit (24). An output end of the switch tube (11) of the master controller (10) is connected in series between direct current transmission lines/signal lines, through which a direct current goes to the sub-controller (20), and a control end of the switch tube (11) is connected to a signal output end of the micro-controller circuit (12) of the master controller (10). A signal input end of the signal sampling circuit (21) of the sub-controller (20) is connected to a power input end of the voltage regulator circuit (23) and the direct current transmission line/signal line, and a signal output end of the signal sampling circuit (21) is connected to a signal input end of the micro-controller circuit (22). A signal output end of the micro-controller circuit (22) is connected to a signal input end of the drive circuit (24). A control output end of the drive circuit (24) is connected to a load, and the other end of the load is connected to the direct current transmission line/signal line. The system uses two transmission lines/signal lines to enable the master controller (10) to supply power to and control the sub-controller (20) and the load, thereby solving the problem in the prior art of incapability of being used directly in a dual-line lighting circuit that is already laid.

Inventors

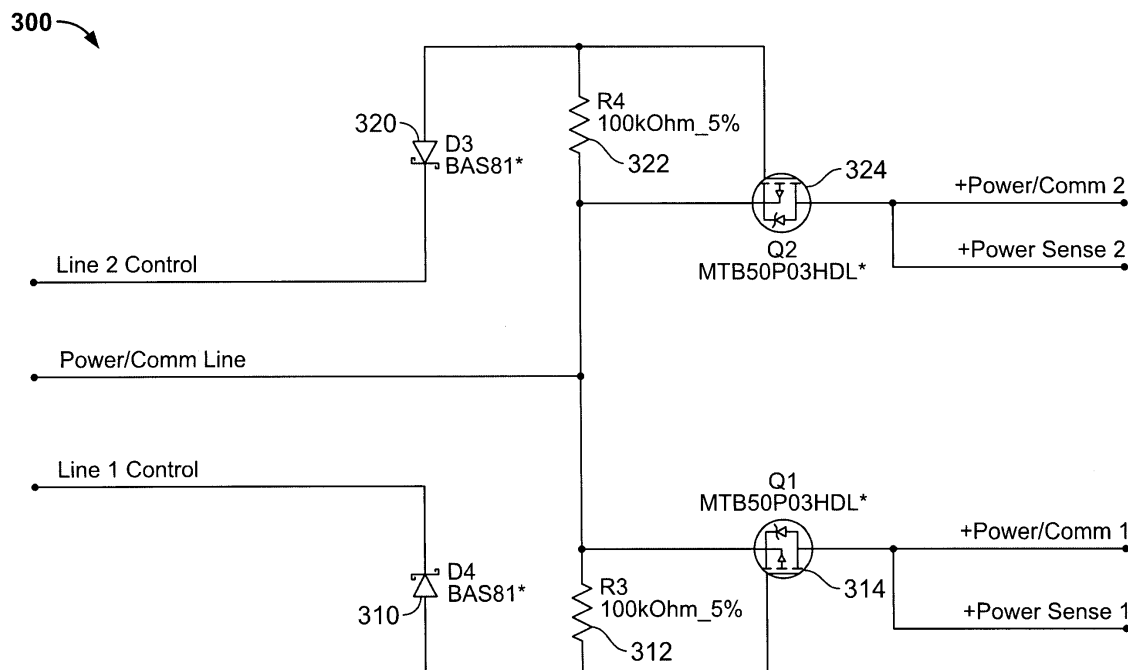
JIN DEKUI

Family 4/20 - FAMPAT - ©Questel

Title

(WO200634323)

Communication and ac power system

Images**Publication numbers with kind code & date**

US7405652	B2	2008-07-29	US7405652
WO2006/034323	A3	2007-12-27	WO200634323
WO2006/034323	A9	2007-11-08	WO200634323
US20060076830	A1	2006-04-13	US20060076830
WO2006/034323	A2	2006-03-30	WO200634323

**Abstract**

(WO2006/034323)

A system for bidirectional data and power transmission is shown and described. In one embodiment, a network power controller (100) provides power to a node and communicates bidirectionally with the node. In another embodiment, the network power controller is coupled to an AC power source and provides both AC and DC power to the node. In further embodiment, the network power controller and node are coupled via a conduit comprising three wires, wherein the first wire carries DC power and communications, the second wire carries AC power, and the third wire is the neutral/ground line. In another embodiment, the network power controller and node are coupled via a conduit comprising two wires, wherein the first wire carries AC power and communications and the second wire is the neutral/ground line. In an embodiment, AC power having one phase or more can be controlled at the network power controller and the node.

Inventors

HAIR JAMES M III

GREENE DANIEL L

Latest standardized assignees - inventors removed

USRG HOLDCO IX

ABET TECHNOLOGIES

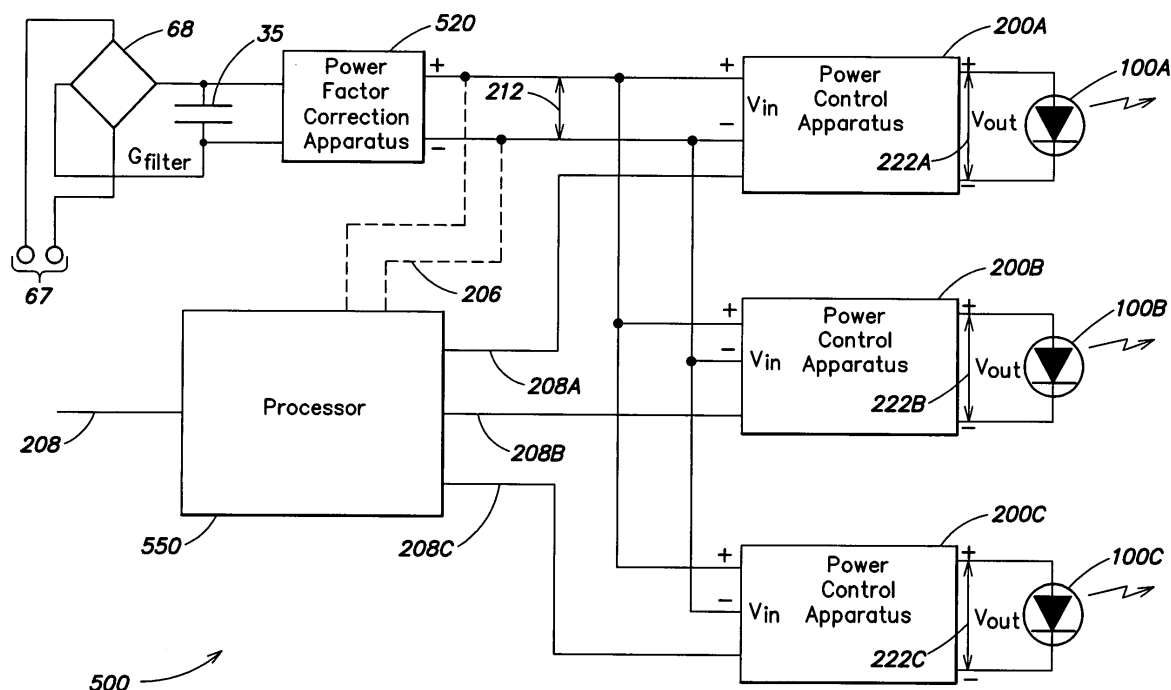
Family 5/20 - FAMPAT - ©Questel

Title

(EP3223587)

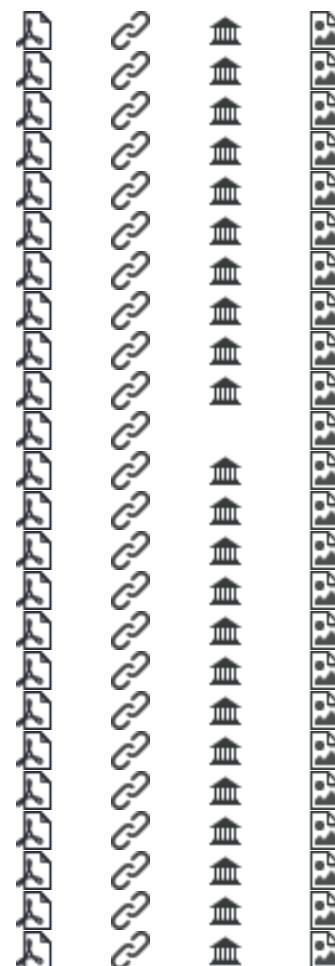
Power control methods and apparatus

Images



Publication numbers with kind code & date

EP3589081	A1	2020-01-01	EP3589081
EP3223587	A3	2017-11-08	EP3223587
EP3223587	A2	2017-09-27	EP3223587
EP1731004	B1	2017-05-17	EP1731004
CA2730210	C	2015-05-05	CA2730210
JP5735073	B2	2015-04-24	JP5735073
JP2014017518	A	2014-01-30	JP2014017518
JP5419918	B2	2013-11-29	JP5419918
EP1731004	A4	2013-07-10	EP1731004
JP5198057	B2	2013-02-15	JP5198057
KR101182674	B1	2012-09-14	KR101182674
CA2559718	C	2012-05-22	CA2559718
JP2011188738	A	2011-09-22	JP2011188738
US7737643	B2	2010-06-15	US7737643
US7659673	B2	2010-02-09	US7659673
AU2005222987	B9	2009-10-22	AU2005222987
AU2005222987	B2	2009-07-23	AU2005222987
US7557521	B2	2009-07-07	US7557521
US7459864	B2	2008-12-02	US7459864
US7358706	B2	2008-04-15	US7358706
US20080012502	A1	2008-01-17	US20080012502
JP2007529872	A	2007-10-25	JP2007529872
US7256554	B2	2007-08-14	US7256554
US7233115	B2	2007-06-19	US7233115



KR20060131985	A	2006-12-20	KR20060131985				
EP1731004	A2	2006-12-13	EP1731004				
WO2005/089309	A3	2005-12-22	WO200589309				
US20050231133	A1	2005-10-20	US20050231133				
US20050218838	A1	2005-10-06	US20050218838				
US20050218870	A1	2005-10-06	US20050218870				
US20050219872	A1	2005-10-06	US20050219872				
AU2005222987	A1	2005-09-29	AU2005222987				
CA2559718	A1	2005-09-29	CA2559718				
CA2730210	A1	2005-09-29	CA2730210				
US20050213352	A1	2005-09-29	US20050213352				
US20050213353	A1	2005-09-29	US20050213353				
WO2005/089309	A2	2005-09-29	WO200589309				

Abstract

(EP3223587)

The invention provides a network (400) for receiving a single DC input voltage (212). The network (400) comprises a plurality of loads (100A, 100B, 100C) and a plurality of power control apparatus (200A, 200B, 200C). Each power control apparatus (200A, 200B, 200C) comprises a first input for receiving the single DC input voltage (212), a DC-DC converter for converting the single DC input voltage (212) into a DC output voltage (216A, 216B, 216C), an output for providing the DC output voltage (216A, 216B, 216C) to a corresponding one of the plurality of loads and a second input for receiving input information to control a first power to the corresponding one of the plurality of loads (100A, 100B, 100C). The network (400) further comprises a network controller (425) for providing the input information to each of the power control apparatus (200A, 200B, 200C).

Inventors

LYS IHOR A

Latest standardized assignees - inventors removed

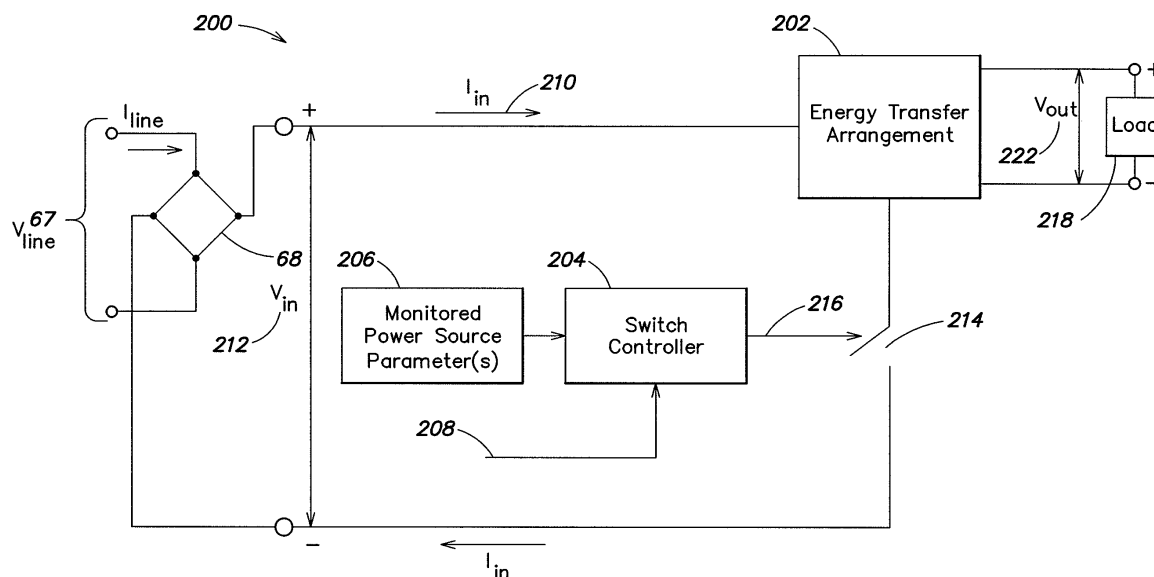
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Family 6/20 - FAMPAT - ©Questel

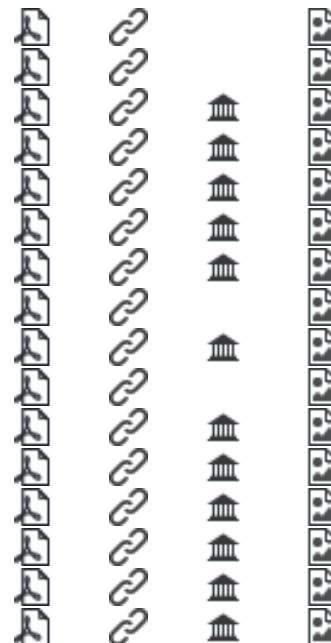
Title

(EP1984667)

Methods and apparatus for high power factor controlled power delivery using a single switching stage per load

Images**Publication numbers with kind code & date**

SI1984667	T1	2018-07-31	SI1984667T
HUE036754	T2	2018-07-30	HUE036754
PT1984667	T	2018-01-03	PT1984667T
ES2647096	T3	2017-12-19	ES2647096
EP1984667	B1	2017-08-23	EP1984667
EP1984667	A4	2014-04-16	EP1984667
CA2642028	C	2013-12-10	CA2642028
KR101300007	B1	2013-08-27	KR101300007
JP2009526365	A	2009-07-16	JP2009526365
KR20090077872	A	2009-07-16	KR20090077872
US7511437	B2	2009-03-31	US7511437
EP1984667	A2	2008-10-29	EP1984667
WO2007/094810	A3	2007-11-01	WO200794810
CA2642028	A1	2007-08-23	CA2642028
WO2007/094810	A2	2007-08-23	WO200794810
US20070188114	A1	2007-08-16	US20070188114

**Abstract**

(EP1984667)

Methods and apparatus for high power factor power transfer to a load using a single switching stage. In exemplary implementations, a controllable variable power may be delivered to a load using a single switching stage while maintaining high power factor, in some cases without requiring any feedback information relating to the load conditions (i.e., without monitoring load voltage and/or current) to control normal switching operations in the single switching stage, and without requiring regulation of load voltage and/or load current. In one example, a single stage high power factor driver is used to control power delivery to an LED-based light source.

Inventors

LYS IHOR A

SHIKH IGOR

RABINER MARK DAVID

Latest standardized assignees - inventors removed

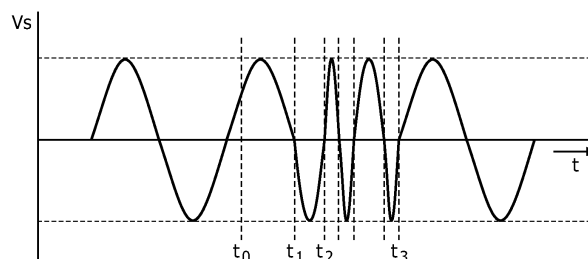
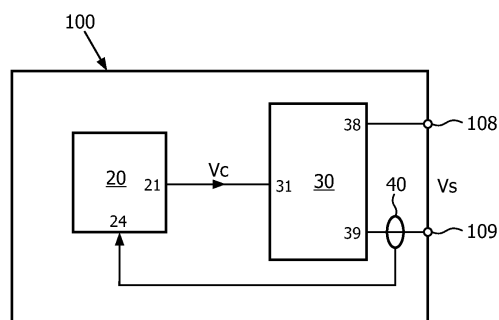
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Family 7/20 - FAMPAT - ©Questel

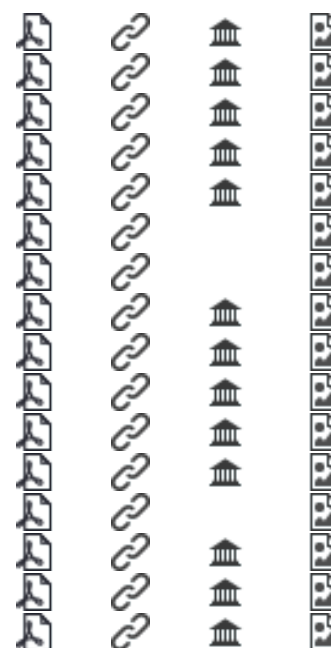
Title

(EP2446713)

Method and device for programming a microcontroller

Images**Publication numbers with kind code & date**

US9345113	B2	2016-05-17	US9345113
BRPI1010137	A2	2016-03-15	BR201010137
EP2446713	B1	2015-10-21	EP2446713
JP5762404	B2	2015-06-19	JP5762404
CN102804925	B	2014-11-26	CN102804925B
RU2531639	C2	2014-10-27	RU2531639
RU2012102274	A	2013-07-27	RU2012102274
IN0385/CHENP/2012	A	2013-06-21	IN2012CN00385
JP2012531702	A	2012-12-10	JP2012531702
CN102804925	A	2012-11-28	CN102804925
BRPI1010137	A1	2012-11-27	BR201010137
EP2446713	A1	2012-05-02	EP2446713
KR20120039658	A	2012-04-25	KR20120039658
US20120091909	A1	2012-04-19	US20120091909
CA2766342	A1	2010-12-29	CA2766342
WO2010/150169	A1	2010-12-29	WO2010150169

**Abstract**

(EP2446713)

A programming device (100) for programming a controller (10) in an electronic driver (200) comprises a controllable voltage supply (30) for generating an AC supply voltage suitable for supplying the electronic driver (200) and a programming controller (20) for controlling the voltage supply (30). The programming device (100) is designed to modulate the supply frequency in order to both feed the electronic driver (200) and send programming data to the electronic driver (200).

Inventors

WERNARS JOHANNES PETRUS

MAYR VICTOR

Latest standardized assignees - inventors removed

SIGNIFY HOLDING

CZIMMECK FRANK

RUEMENAPF PETER

LINDE HOLGER DR

MADONNA GIAN-LUIGI DR

CIMINO MIKAEL DR

RUSCHIVAL THOMAS

BLOCH RICHARD

ECKLEBE ANDREAS DR

Latest standardized assignees - inventors removed

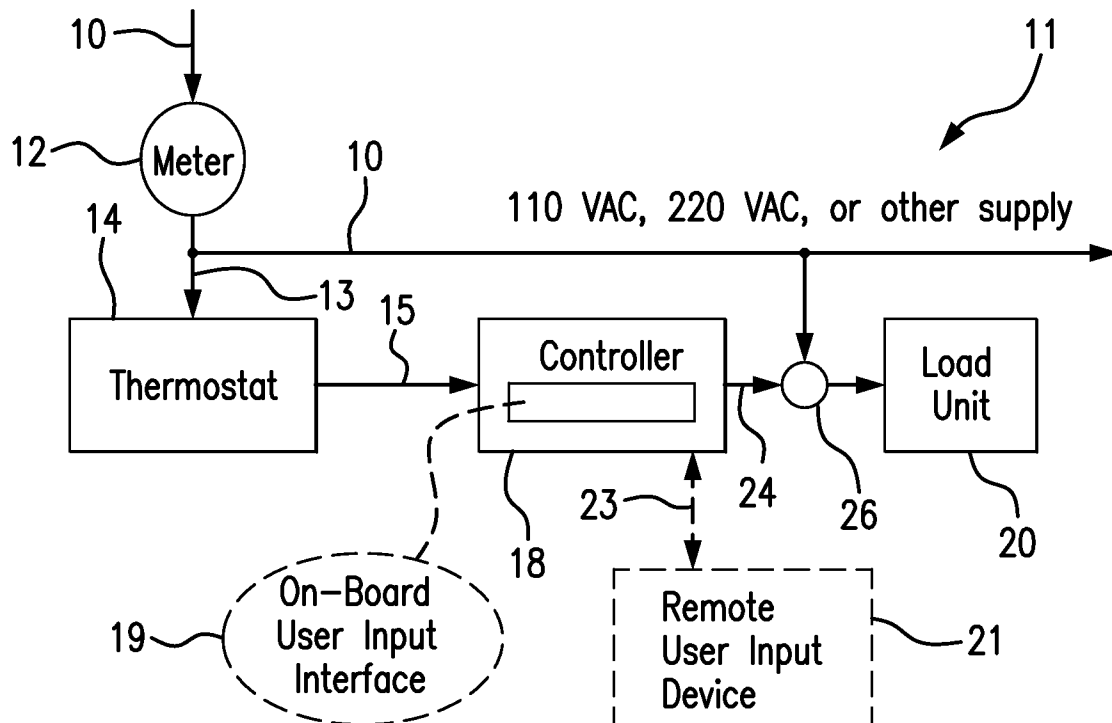
ABB

Family 9/20 - FAMPAT - ©Questel

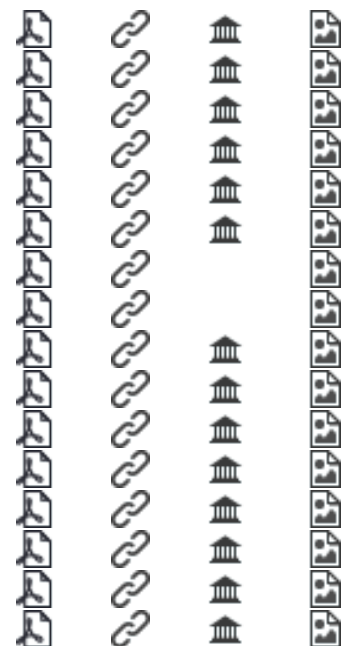
Title

(EP2972635)

Controller for automatic control of duty cycled hvac&r equipment, and systems and methods using same

Images**Publication numbers with kind code & date**

CN105393182	B	2020-04-14	CN105393182B
JP6532453	B2	2019-06-19	JP6532453
AU2014240001	B2	2017-07-27	AU2014240001
BR112015023182	A2	2017-07-18	BR112015023182
EP2972635	A4	2016-11-23	EP2972635
JP2016521341	A	2016-07-21	JP2016521341
KR20160042810	A	2016-04-20	KR20160042810
MX2015012279	A	2016-04-15	MX2015012279
CN105393182	A	2016-03-09	CN105393182
IN9306/DELNP/2015	A	2016-02-12	IN2015DN09306
US20160018126	A1	2016-01-21	US20160018126
EP2972635	A1	2016-01-20	EP2972635
BR112015023182	A1	2015-12-08	BR112015023182
AU2014240001	A1	2015-11-05	AU2014240001
CA2910248	A1	2014-09-25	CA2910248
WO2014/152276	A1	2014-09-25	WO2014152276

**Abstract**

(EP2972635)

An electronic controller device for automatic control of a heating, ventilating, air conditioning or refrigeration (HVAC&R) system, which has at least a delayed start controller that is capable of delaying sending of a signal to power on a load unit and achieve a selected conditioned space temperature variation, and a demand regulator controller that is capable of

calculating on times and off times to obtain a selected electrical demand. The electronic controller device can include a computer-readable storage medium that comprises programs to implement the delayed start and demand regulator controllers, and optionally other controller modules, can delay OEM ON signals and/or adjust the "on" and "off" states, and/or provide other load unit control, to manage and reduce energy consumption and/or demand.

Inventors

KOLK RICHARD

Latest standardized assignees - inventors removed

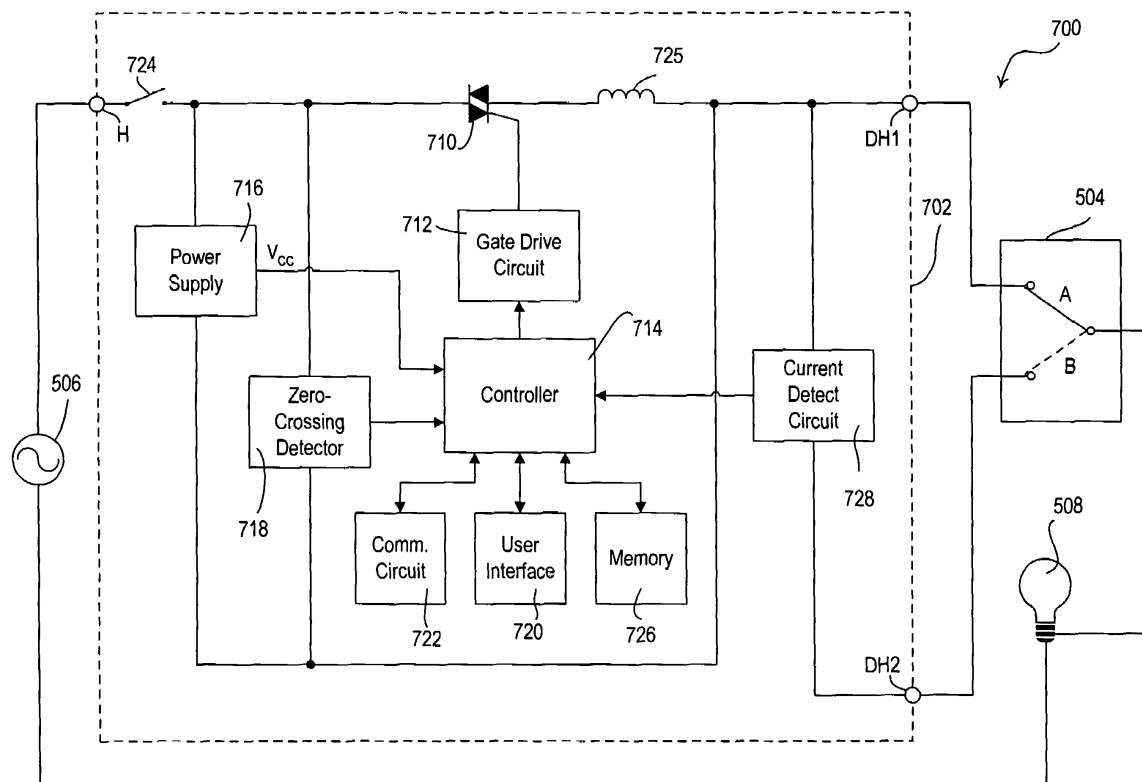
PACECONTROLS

Family 10/20 - FAMPAT - ©Questel

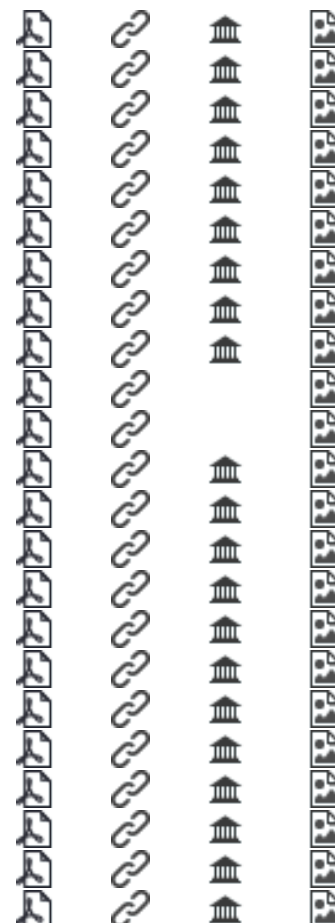
Title

(EP1894446)

Dimmer switch for use with lighting circuits having three-way switches

Images**Publication numbers with kind code & date**

EP1894446	B1	2019-08-28	EP1894446
CA2611589	C	2014-08-12	CA2611589
BRPI0613238	A2	2012-12-04	BR200613238
IL187941	B	2012-07-31	IL-187941
US8212424	B2	2012-07-03	US8212424
US8212425	B2	2012-07-03	US8212425
CN101496449	B	2012-04-25	CN101496449B
ES2375514	T3	2012-03-01	ES2375514
ES2375025	T3	2012-02-24	ES2375025
ATE528967	T	2011-10-15	ATE528967
ATE528968	T	2011-10-15	ATE528968
EP2177090	B1	2011-10-12	EP2177090
EP2214458	B1	2011-10-12	EP2214458
US7847440	B2	2010-12-07	US7847440
US7830042	B2	2010-11-09	US7830042
AU2006255105	C1	2010-10-21	AU2006255105
CN101822128	A	2010-09-01	CN101822128
US7772724	B2	2010-08-10	US7772724
IN0769/CHENP/2010	A	2010-08-06	IN2010CN00769
EP2214458	A1	2010-08-04	EP2214458
US20100145545	A1	2010-06-10	US20100145545
US20100138067	A1	2010-06-03	US20100138067
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MX2010001522	A	2010-04-27	MX2010001522				
EP2177090	A2	2010-04-21	EP2177090				
US7687940	B2	2010-03-30	US7687940				
AU2006255105	B2	2010-01-21	AU2006255105				
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JP2009510667	A	2009-03-12	JP2009510667				
CA2695744	A1	2009-02-19	CA2695744				
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WO2006/133168	A3	2007-02-08	WO2006133168				
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WO2006/133168	A2	2006-12-14	WO2006133168				

Abstract

(EP1894446)

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.

Inventors

MOSEBROOK DONALD

ROGAN CHRISTOPHER

STEFFIE JAMIE

KEAGY JON

DETMER STEVEN

Latest standardized assignees - inventors removed

LUTRON ELECTRONICS

Family 11/20 - FAMPAT - ©Questel

Title

(EP1066690)

Method for controlling at least one electric consumer connected to a control device, and a corresponding circuit

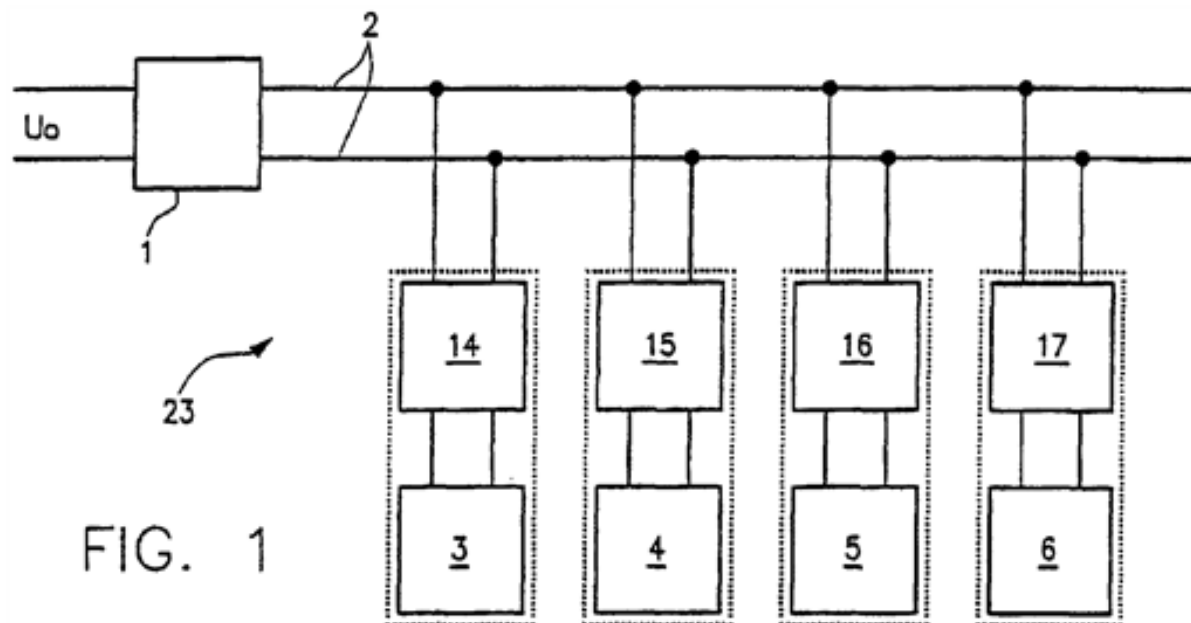
Images

FIG. 1

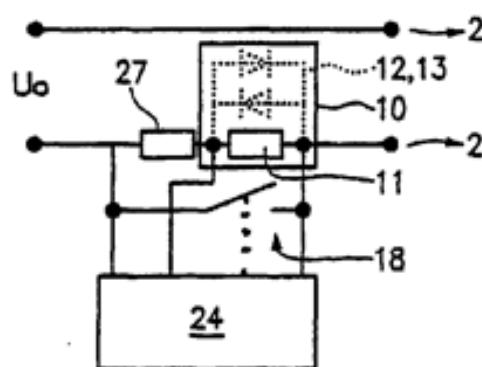


FIG. 2

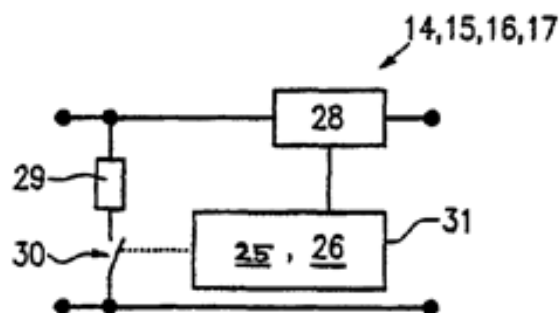
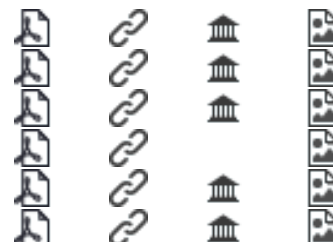


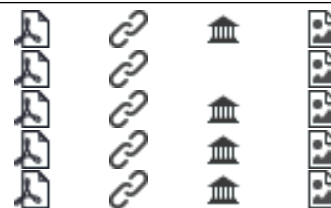
FIG. 3

Publication numbers with kind code & date

NO334860	B1	2014-06-23	NO-334860
DE59906006	C5	2012-12-13	DE59906006
DE59906006	D1	2003-07-24	DE59906006
AT243392	T	2003-07-15	ATE243392
EP1066690	B1	2003-06-18	EP1066690
EP1066690	A2	2001-01-10	EP1066690



NO20004584	L	2000-11-13	NO20004584
NO20004584	D0	2000-09-14	NO200004584
WO99/50971	B1	2000-02-03	WO9950971
DE19814366	A1	1999-10-07	DE19814366
WO99/50971	A1	1999-10-07	WO9950971

**Abstract**

(EP1066690)

The invention relates to a method for controlling at least one electric consumer which is connected to a control device via electric power lines. A control signal is transmitted to the electric consumers over the electric power lines. The invention provides a method and a more economical corresponding circuit having a simplified construction which make it possible to carry out a data or signal transfer in a secured and simple manner and also over large distances. To this end, the supply voltages transmitted to the electric consumers over the electric power lines are altered for a determined duration by the control device provided for coding the control signal. In the corresponding circuit, at least one element which reduces voltage and/or one switching device is assigned at least to the control device. Said element or switching device is provided for temporarily altering a maximal value of the supply voltage and/or for temporarily interrupting the supply voltage.

Inventors

PRASUHN JUERGEN

Latest standardized assignees - inventors removed

CEAG NOTLICHTSYSTEME

Family 12/20 - FAMPAT - ©Questel

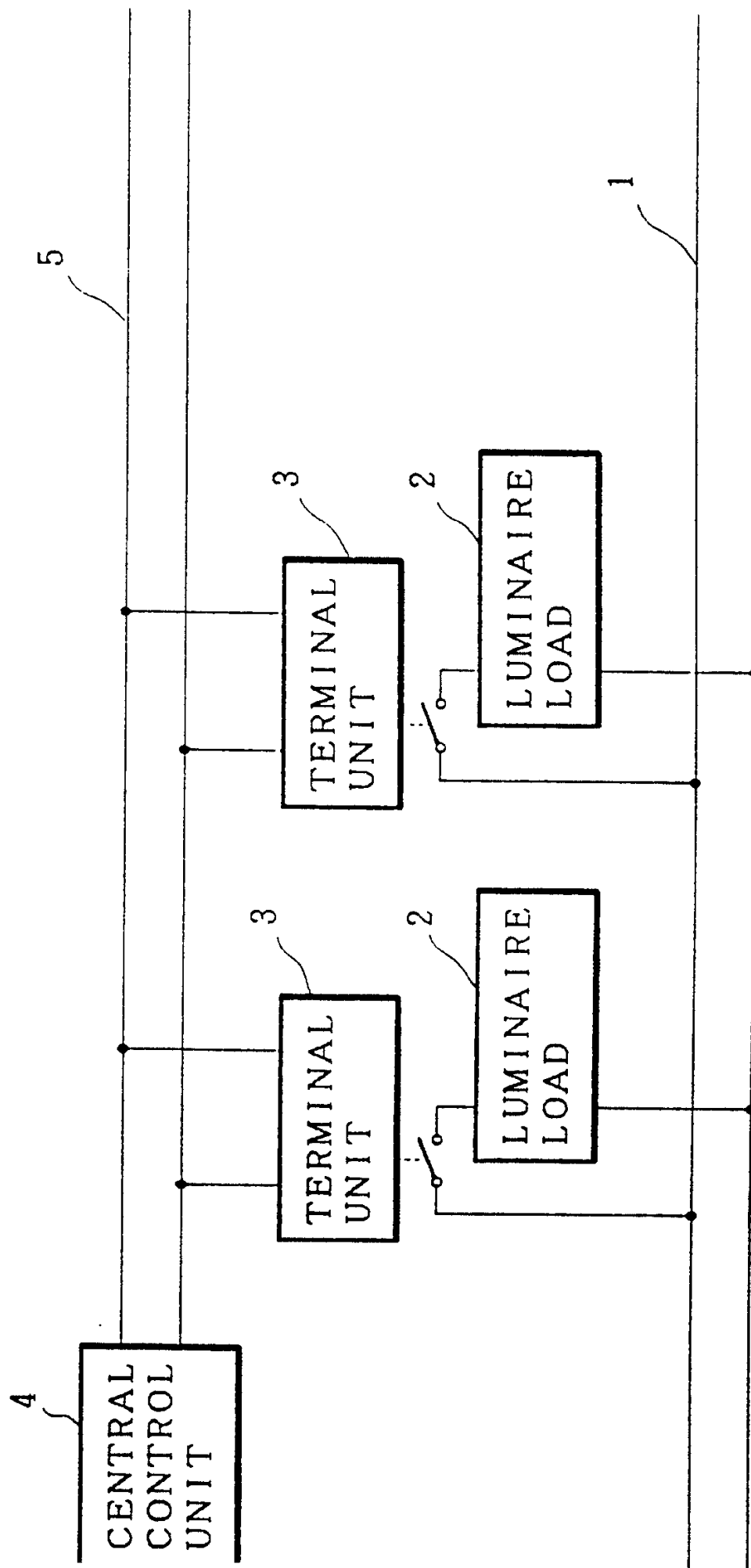
Title

(EP-359178)

Load control system

Images

FIG. 1
PRIOR ART



HK1006766	A1	1999-03-12	HK1006766				
JP2087144	C	1996-09-02	JP2087144				
DE68925085	T2	1996-08-22	DE68925085				
CA1338477	C	1996-07-23	CA1338477				
US5495406	A	1996-02-27	US5495406				
JP8008519	B2	1996-01-29	JP96008519				
DE68925085	D1	1996-01-25	DE68925085				
EP0359178	B1	1995-12-13	EP-359178				
US5455761	A	1995-10-03	US5455761				
US5175677	A	1992-12-29	US5175677				
EP0359178	A3	1991-04-10	EP-359178				
JP02285726	A	1990-11-26	JP02285726				
JP02281821	A	1990-11-19	JP02281821				
EP0359178	A2	1990-03-21	EP-359178				
JP02079593	A	1990-03-20	JP02079593				

Abstract

(EP0359178)

In a luminaire load control system control signals are converted into power line carrier communication signals which are transmitted through branch power lines (1a, 1b) to terminal units (3) for controlling a plurality of loads (2), in particular luminaire loads, without causing any significant interference to power line installation. The conversion of the control signals is done respectively at a plurality of gate way units (8a, 8b) mounted on each branch power line (1a, 1b). Each gate way unit (8a, 8b) includes a memory unit for storing the information regarding the connecting status of the terminal unit (3) for sending back the stored information to a central control unit (4) upon receipt of a send-back command therefrom.

Inventors

KUSHIRO NORIYUKI C O MITSUBISHI

IGARASHI KAZUYUKI C O MITSUBISHI

Latest standardized assignees - inventors removed

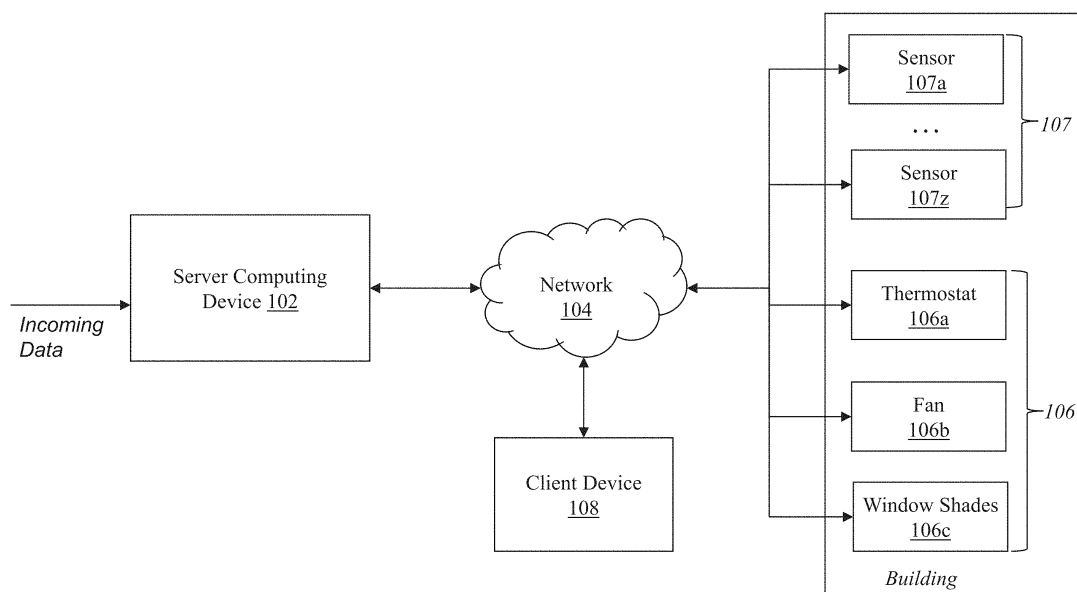
MITSUBISHI ELECTRIC

Family 13/20 - FAMPAT - ©Questel

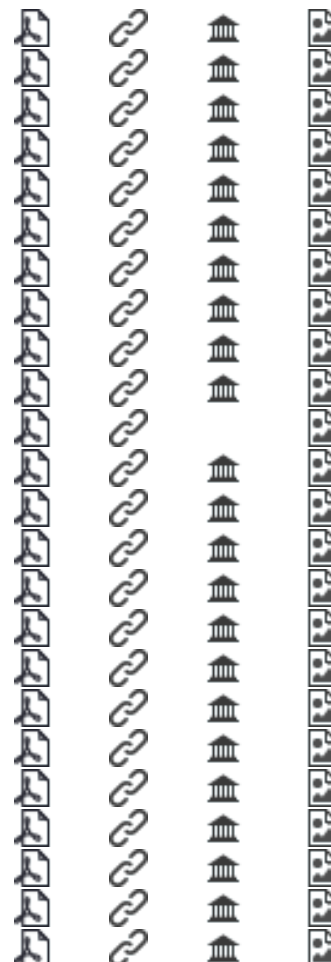
Title

(EP3588232)

Optimizing and controlling the energy consumption of a building

Images100**Publication numbers with kind code & date**

EP3241079	B1	2020-03-18	EP3241079
EP3588232	A1	2020-01-01	EP3588232
JP2019190823	A	2019-10-31	JP2019190823
EP2807527	B1	2019-08-21	EP2807527
CN104303125	B	2019-08-20	CN104303125B
US10354345	B2	2019-07-16	US10354345
EP3241079	A4	2018-11-21	EP3241079
JP2018506689	A	2018-03-08	JP2018506689
BR112017014292	A2	2018-03-06	BR112017014292
JP2018013329	A	2018-01-25	JP2018013329
KR20170134321	A	2017-12-06	KR20170134321
EP3241079	A1	2017-11-08	EP3241079
AU2017245429	A1	2017-11-02	AU2017245429
JP6215843	B2	2017-10-18	JP6215843
CN107250928	A	2017-10-13	CN107250928
IN201737020667	A	2017-09-15	IN201737020667
BR112017014292	A1	2017-08-29	BR112017014292
US20170206615	A1	2017-07-20	US20170206615
AU2015373896	A1	2017-06-29	AU2015373896
US9612591	B2	2017-04-04	US9612591
US9471082	B2	2016-10-18	US9471082
CA2969915	A1	2016-07-07	CA2969915
WO2016/109843	A1	2016-07-07	WO2016/109843
IN5942/CHENP/2014	A	2016-07-01	IN2014CN05942



US20160154417	A1	2016-06-02	US20160154417				
US9261863	B2	2016-02-16	US9261863				
EP2807527	A4	2015-12-16	EP2807527				
US20150192911	A1	2015-07-09	US20150192911				
JP2015505030	A	2015-02-16	JP2015505030				
CN104303125	A	2015-01-21	CN104303125				
KR20140148370	A	2014-12-31	KR20140148370				
EP2807527	A1	2014-12-03	EP2807527				
BR112014017966	A1	2014-08-26	BR112014017966				
AU2013212256	A1	2014-08-14	AU2013212256				
CA2862119	A1	2013-08-01	CA2862119				
WO2013/112574	A1	2013-08-01	WO2013112574				
US20130190940	A1	2013-07-25	US20130190940				

Abstract

(EP3588232)

Described herein are methods and systems, including computer program products, for optimizing and controlling the energy consumption of a building. A first computing device generates a set of thermal response coefficients for the building based on energy characteristics of the building and weather data associated with the location of the building. The first computing device predicts an energy response of the building based on the set of thermal response coefficients and forecasted weather associated with the location of the building. The first computing device selects minimal energy requirements of the building based on an energy consumption cost associated with the building. The first computing device determines one or more temperature set points for the building based on the energy response and the minimal energy requirements. The first computing device transmits the one or more temperature set points to a thermostat of the building.

Inventors

SLOOP CHRISTOPHER DALE

OBERHOLZER DAVID

MARSHALL ROBERT S

KIM JUNGHO

SIEMANN MICHAEL

Latest standardized assignees - inventors removed

EARTH NETWORKS

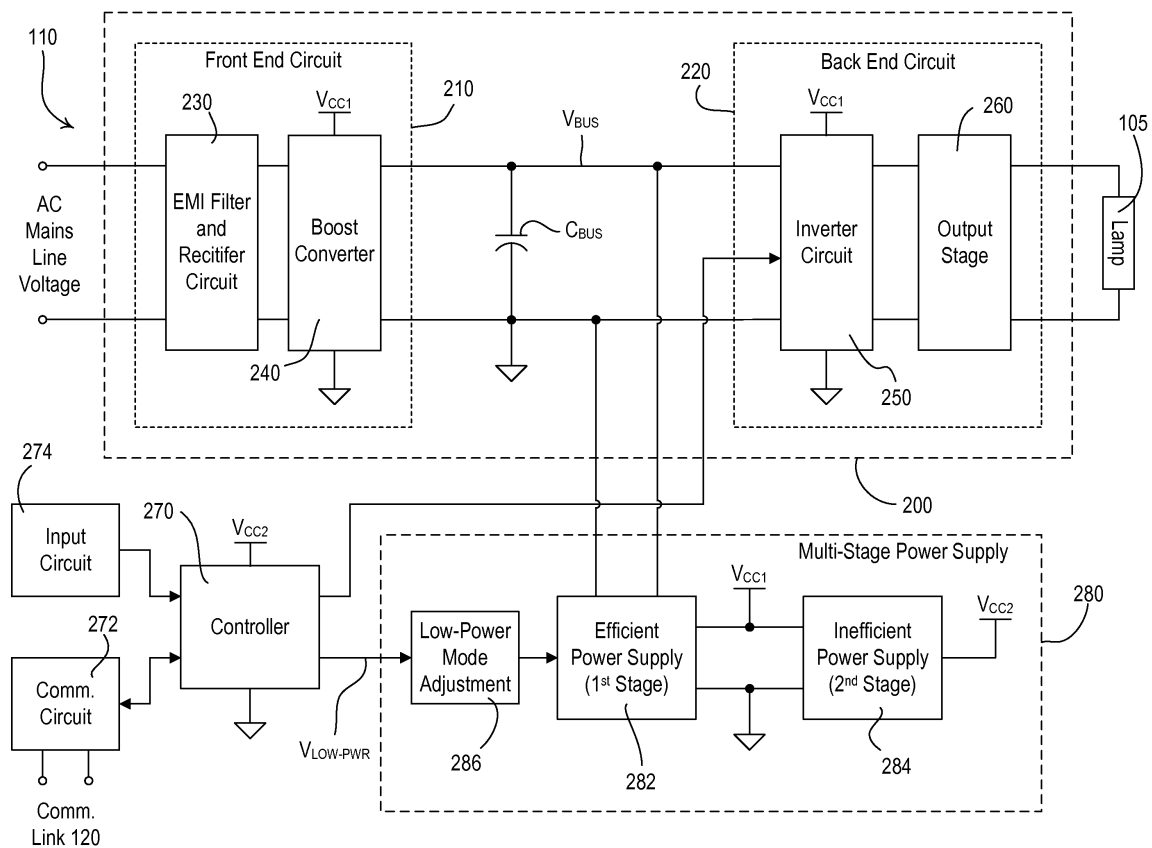
UNIVERSITY OF MARYLAND

Family 14/20 - FAMPAT - ©Questel

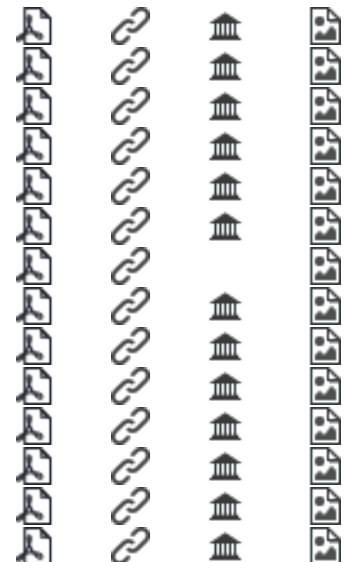
Title

(EP2404484)

Multi-stage power supply for a load control device having a low-power mode

Images**Publication numbers with kind code & date**

EP2477460	B1	2016-06-29	EP2477460
CN102342181	B	2015-06-17	CN102342181B
CA2754022	C	2015-05-26	CA2754022
US8866401	B2	2014-10-21	US8866401
EP2404484	B1	2013-12-04	EP2404484
EP2477460	A1	2012-07-18	EP2477460
MX2011009209	A	2012-02-28	MX2011009209
IN3239/KOLNP/2011	A	2012-02-24	IN2011KN03239
CN102342181	A	2012-02-01	CN102342181
EP2404484	A1	2012-01-11	EP2404484
WO2010/101900	A8	2011-04-28	WO2010101900
CA2754022	A1	2010-09-10	CA2754022
WO2010/101900	A1	2010-09-10	WO2010101900
US20100225240	A1	2010-09-09	US20100225240

**Abstract**

(EP2404484)

A multi-stage power supply for a load control device is able to operate in a low-power mode in which the power supply has a decreased power consumption when an electrical load controlled by the load control device is off. The load control device comprises a load control circuit and a controller, which operate to control the amount of power delivered to the load. The power supply comprises a first efficient power supply (e.g., a switching power supply) operable to generate a first DC

supply voltage. The power supply further comprises a second inefficient power supply (e.g., a linear power supply) operable to receive the first DC supply voltage and to generate a second DC supply voltage for powering the controller. The controller controls the multi-stage power supply to the low-power mode when the electrical load is off, such that the magnitude of the first DC supply voltage decreases to a decreased magnitude and the inefficient power supply continues to generate the second DC supply voltage.

Inventors

SHEARER THOMAS M

OZBEK MEHMET

Latest standardized assignees - inventors removed

LUTRON TECHNOLOGY

Family 15/20 - FAMPAT - ©Questel

Title

(EP--62871)

Load management terminal

Images

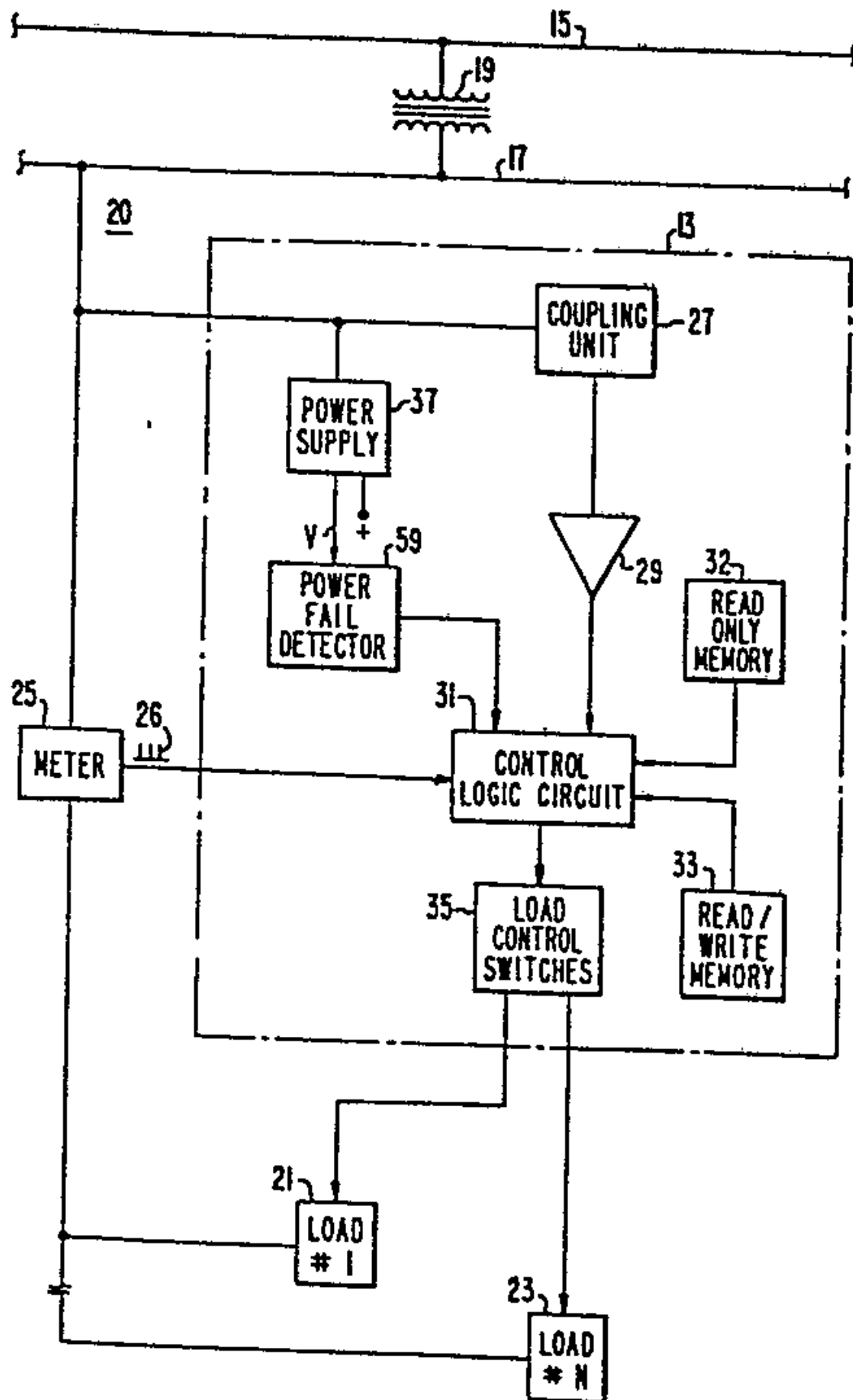


FIG. 1



AU555426	B2	1986-09-25	AU-555426				
DE3265175	D1	1985-09-12	DE3265175				
EP0062871	B1	1985-08-07	EP--62871				
CA1177927	A	1984-11-13	CA1177927				
US4429366	A	1984-01-31	US4429366				
KR840000093	A	1984-01-30	KR19840000093				
ZA822314	B	1983-05-25	ZA-822314				
BR8201998	A	1983-03-15	BR8201998				
JPS57180338	A	1982-11-06	JP57180338				
EP0062871	A1	1982-10-20	EP--62871				
AU8219582	A	1982-10-14	AU8282195				
FI821239	L	1982-10-10	FI8201239				
FI821239	A0	1982-04-07	FI8201239				

Abstract

(EP0062871)

The invention provides a load management terminal control logic circuit which is utilized as an end device in a utility's distribution network communication system. The distribution network carries electrical power as well as communication signals. The load management terminal is comprised of a power line coupling unit (27) for connecting the load management terminal to the power distribution network. A signal receiver and conditioning unit (29) produces a command signal in response to a received communication signal. A solid state memory (32) contains preprogrammed instructions and data, and a microprocessor (31) performs load control functions in response to the command signal. The microprocessor additionally produces a diagnostic signal being in a low state in response to one of the preprogrammed instructions and being in a high state in response to another of the preprogrammed instructions. A reset circuit monitors the diagnostic signal and resets the microprocessor in response to irregularities in the diagnostic signal thereby greatly increasing the reliability of the load management terminal.

Inventors

KENNON, JERRY MEADOR

Latest standardized assignees - inventors removed

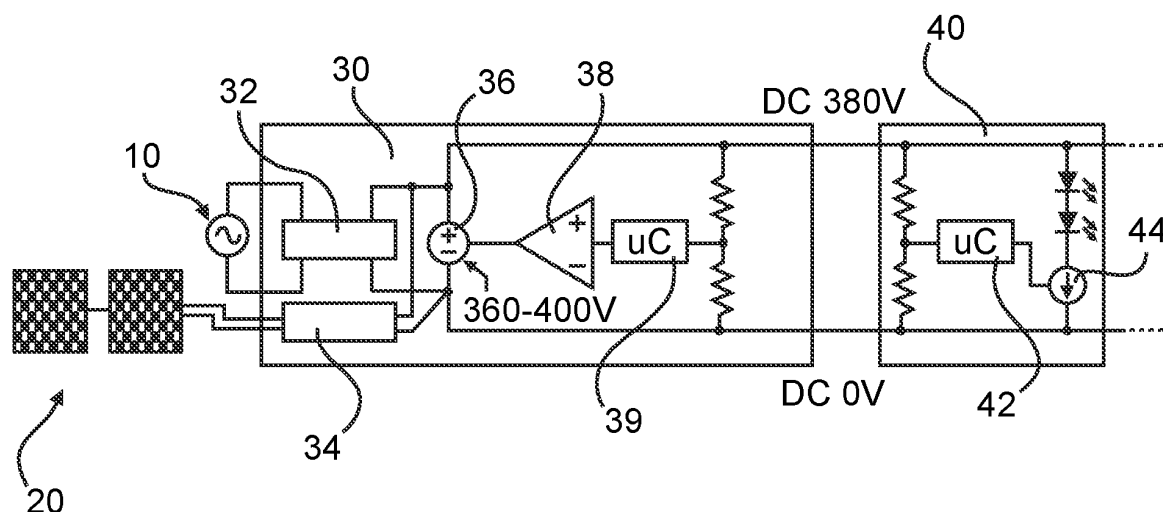
ABB POWER T & D

Family 16/20 - FAMPAT - ©Questel

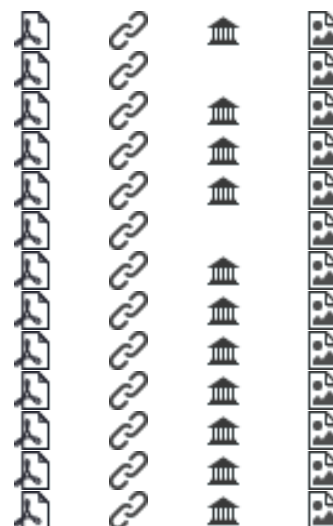
Title

(EP2923532)

Signal-level based control of power grid load systems

Images**Publication numbers with kind code & date**

EP2923532	B1	2018-07-25	EP2923532
RU2662231	C2	2018-07-25	RU2662231
JP6342412	B2	2018-06-13	JP6342412
US9831667	B2	2017-11-28	US9831667
CN104823525	B	2017-07-28	CN104823525B
RU2015125308	A	2017-01-10	RU2015125308
IN3431/CHENP/2015	A	2016-07-01	IN2015CN03431
JP2016506708	A	2016-03-03	JP2016506708
US20150303687	A1	2015-10-22	US20150303687
EP2923532	A2	2015-09-30	EP2923532
CN104823525	A	2015-08-05	CN104823525
WO2014/080337	A3	2014-07-17	WO201480337
WO2014/080337	A2	2014-05-30	WO201480337

**Abstract**

(EP2923532)

The present invention relates to a load control system in which a power cable of a DC or AC is used for on/off control and dimming of connected load devices without adding significant hardware structure. The control is achieved through a change in the DC or AC bus voltage. A grid controller can perform on/off control and dimming for an entire group of connected load devices by changing the bus voltage. Connected load devices that do understand or want to make use of this feature will be unaffected. In order to reduce the effects of voltage drop, a calibration procedure is provided. The calibration procedure first triggers the connected load devices into a calibration mode and then initiates a number of predefined output level commands that allow the load devices to build an individual correction for the undesired voltage drop.

Inventors

YSEBOODT LENNART

WENDT MATTHIAS

BOEKE ULRICH

Latest standardized assignees - inventors removed

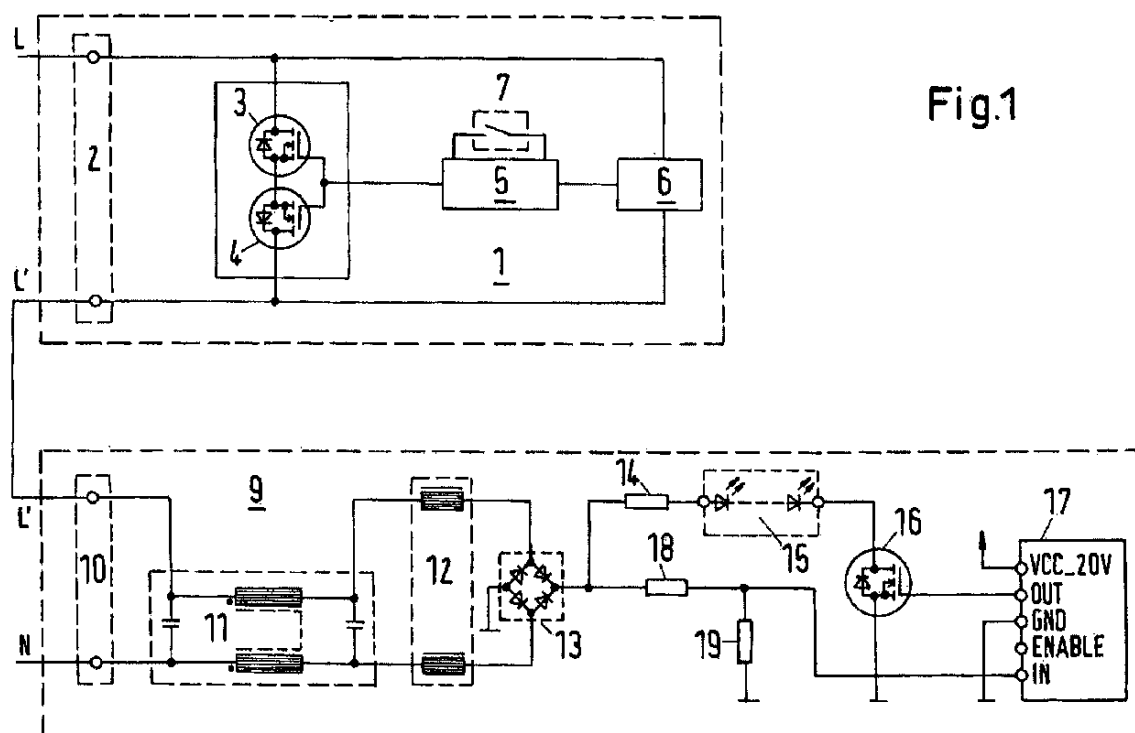
SIGNIFY HOLDING

Family 17/20 - FAMPAT - ©Questel

Title

(EP2477461)

Illumination unit control system

Images**Fig.1****Publication numbers with kind code & date**

CN102595690	B	2016-05-25	CN102595690B
DE102011008503	A1	2012-07-19	DE102011008503
CN102595690	A	2012-07-18	CN102595690
EP2477461	A1	2012-07-18	EP2477461

**Abstract**

(EP2477461)

The drive system has flush-mounted installation unit controller (1) which is connected to phase conductor (L) of alternating current (AC) voltage system and a load conductor (L') through a terminal block (2). A lighting system (9) is connected to the phase conductor and load conductor through terminal block (10). The controller is operated as a coder for luminance information by setting brightness value at load. The RF PWM signal from output AC voltage of load controller is decoded by RF PWM microcontroller (17).

(From EP2477461 A1)

Inventors

GOLDYN DIRK
CZIMMECK FRANK
CLEVER GERHARD
LINDE HOLGER

Latest standardized assignees - inventors removed

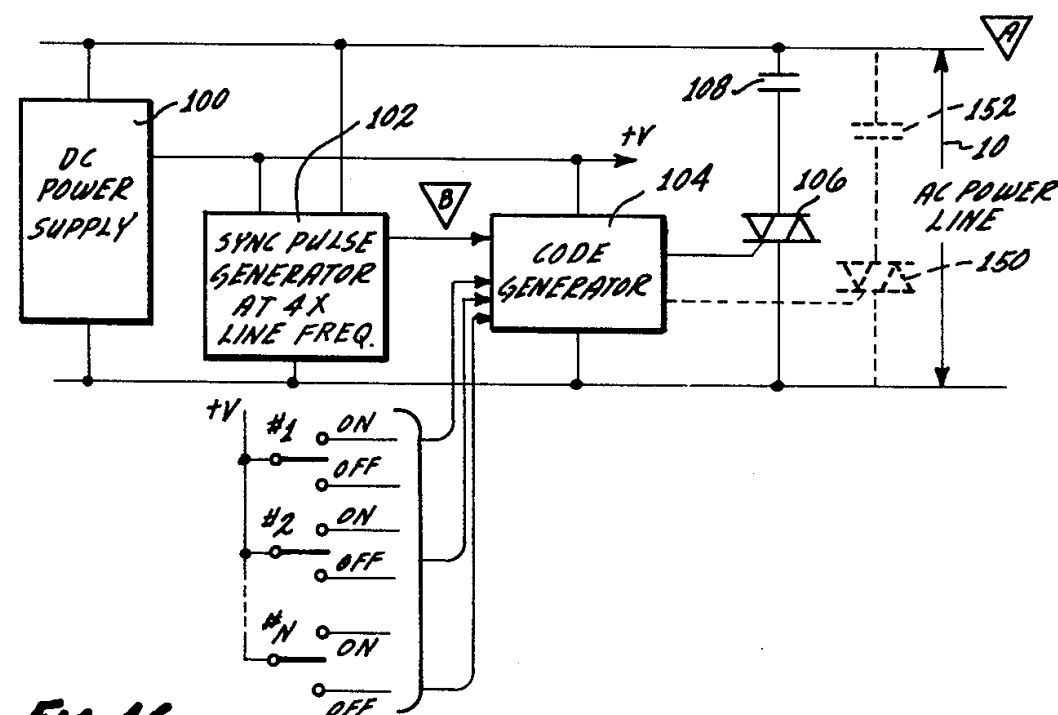
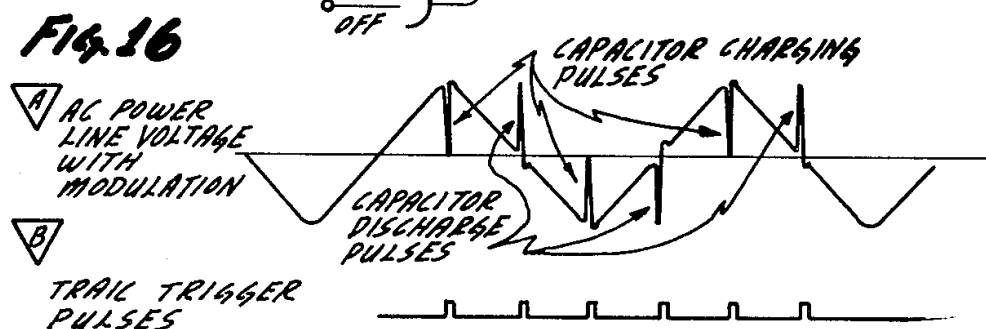
ABB SCHWEIZ

Family 18/20 - FAMPAT - ©Questel

Title

(US4328482)

Remote AC power control with control pulses at the zero crossing of the AC wave

Images**Fig. 16****Publication numbers with kind code & date**

CA1128162	A	1982-07-20	CA1128162
US4328482	A	1982-05-04	US4328482
GB2008299	B	1982-01-27	GB2008299
GB2008299	A	1979-05-31	GB2008299

**Abstract**

(US4328482)

A remote control for the control of AC power uses the AC power wave of an existing AC power line for the transmitting control signals from a control location to a remote location. A transmitter at the control location provides a predetermined number of control pulses to the AC power line and includes at least one breakdown device and at least one capacitor in series across the AC power line. The actuation of the transmitter provides triggering of the one or more breakdown devices at at least one peak point of the AC power wave and with the triggering corresponding to the predetermined number of control pulses for providing a charging of the one or more capacitors substantially to one half of the peak to peak value of the AC power wave at the predetermined number of points and triggering of the one or more breakdown devices at the zero crossing points of the AC power wave to discharge the one or more capacitors to provide high frequency pulses having amplitudes substantially equal to one half of the peak to peak value of the AC power wave. A receiver at the remote location includes a detector which is enabled only at the zero crossing points so as to detect the presence of the control

pulses only at that time.

Inventors

BELCHER PAUL E

HOBEL DANIEL

Latest standardized assignees - inventors removed

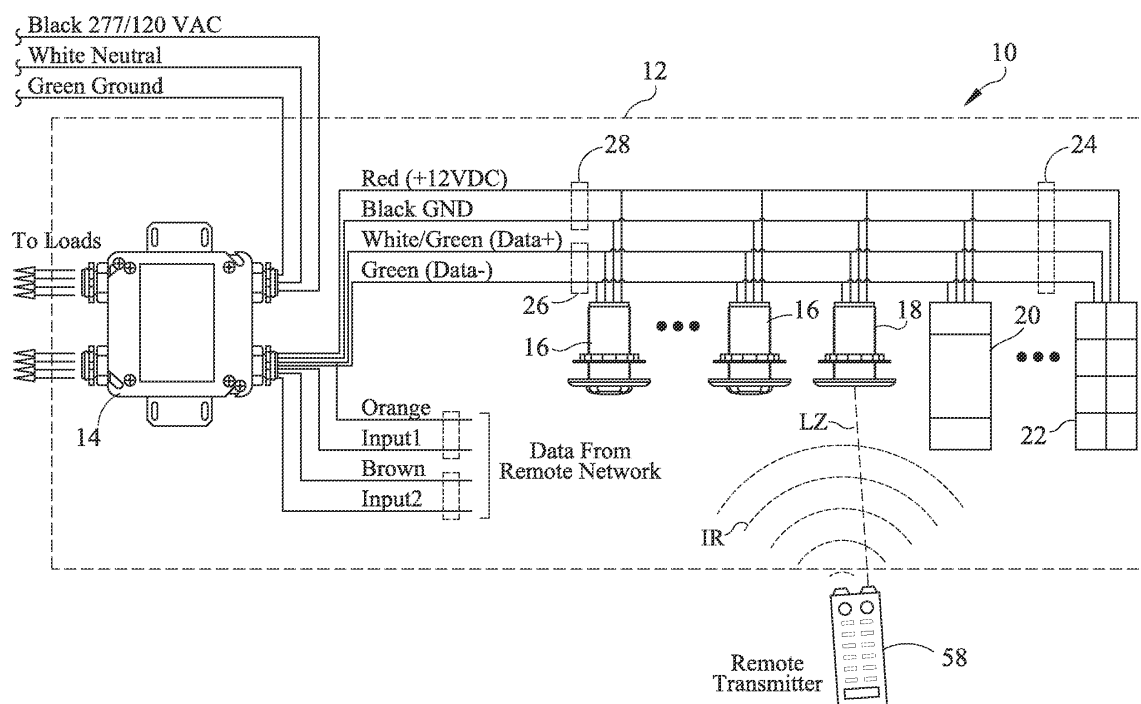
CONSUMER ELECTRIC PRODUCTS

Family 19/20 - FAMPAT - ©Questel

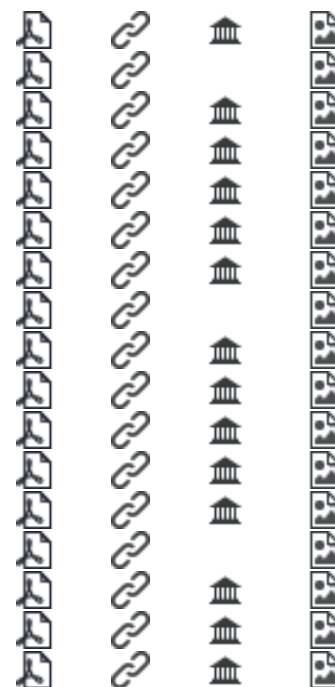
Title

(EP2417832)

Intelligent lighting control system

Images**Publication numbers with kind code & date**

JP5813178	B2	2015-10-02	JP5813178
RU2561494	C2	2015-08-27	RU2561494
US9049756	B2	2015-06-02	US9049756
EP2417832	B1	2015-02-25	EP2417832
JP2014207241	A	2014-10-30	JP2014207241
JP5565915	B2	2014-06-27	JP5565915
IN8129/CHENP/2011	A	2013-06-28	IN2011CN08129
RU2011145306	A	2013-05-20	RU2011145306
BRPI1006725	A1	2012-11-20	BR201006725
JP2012523658	A	2012-10-04	JP2012523658
CN102388678	A	2012-03-21	CN102388678
EP2417832	A2	2012-02-15	EP2417832
US20120025717	A1	2012-02-02	US20120025717
KR20110136897	A	2011-12-21	KR20110136897
WO2010/116283	A3	2011-04-21	WO2010116283
CA2758017	A1	2010-10-14	CA2758017
WO2010/116283	A2	2010-10-14	WO2010116283

**Abstract**

(EP2417832)

Multiple control modules (14, 16, 18) provide various power control functions including occupancy sensing, ambient light level sensing, manual touch switch (push button) preset stations, light dimming and power control relay switching. The control modules (14, 16, 18) are interconnected in a conventional four-wire local area network for executing different power control functions in response to remote wireless commands as well as preset manual switch commands at the wall box level. The local area network (12) supplies DC operating power and communicates programming command and control module status information signals to all network control modules (14, 16, 18). One or more control modules (14, 16, 18) include an infrared signal sensor, a laser signal sensor, a signal decoder, a data microcontroller, a parameter lookup table

and multiple light emitting diodes (LEDs). The LED diodes are used individually or in combination, in one or more colors and blink rate, to indicate the programming mode, or provide sensor feedback, or indicate device status, according to information contained in a command signal transmitted by a remote programming unit (58).

Inventors

KLUSMANN DONALD LOUIS

MURPHY MICHAEL SHAWN

Latest standardized assignees - inventors removed

PHILIPS ELECTRONICS

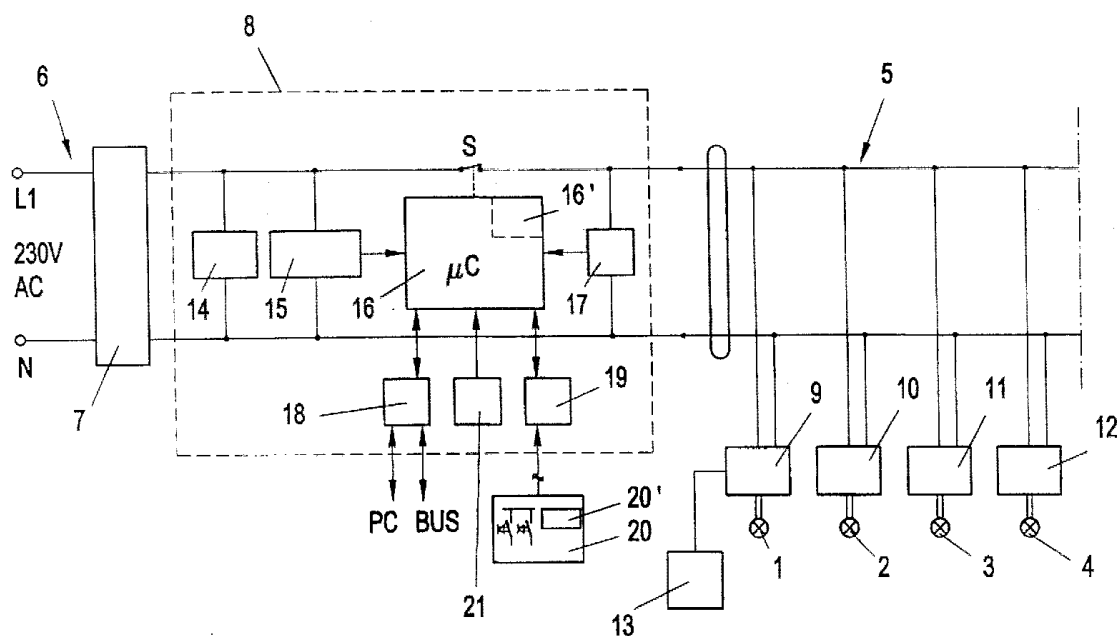
PHILIPS LIGHTING HOLDING

Family 20/20 - FAMPAT - ©Questel

Title

(EP1134910)

Zero crossing data transmission for power line system

Images**FIG. 1****Publication numbers with kind code & date**

EP1134910	A3	2003-12-10	EP1134910
EP1134910	A2	2001-09-19	EP1134910
AT407809	B	2001-06-25	AT-407809
ATA4132000	A	2000-10-15	AT200000413

**Abstract**

(EP1134910)

The system has a common control part with an input unit (18-21), a memory (16') and a control transmitter (8) and individual load or group receivers (9-12) with a memory for associated addresses. The control transmitter controls a switch (S) in the supply line to loads (1-4) to switch the ac voltage to null at null crossings, whereby different null durations are used for different bits.

Inventors

HIERZER ANDREAS

Latest standardized assignees - inventors removed

HIERZER ANDREAS