

Search query (1): [SP]: A fire suppression system comprising: a centralized controller: and a plurality of modules, each module including: a housing; a printed circuit board with a microprocessor mounted to the printed circuit board; a first connector including a first pair of data wires mounted to the board; and a second connector including a second pair of data wires mounted to the board, the printed circuit board electrically connecting the first and second pairs of data wires; the plurality of modules being interconnected with the central controller to define at least one data bus for centralized fire detection and system response, the at least one data bus having a first end module with its first connector connected to the centralized controller and a second end module with its second connector for connection to another module, the printed circuit board of each module interconnecting the plurality of modules in series to the central controller. 2. The system of claim 1, wherein the at least one data bus is any one of a user interface bus, a fire detection bus for detecting a fire or a release bus for releasing a suppressant to suppress a fire. 3. The system of claim 2, wherein the at least one data bus is a user interface bus, and the plurality of modules include at least one display module having a user interface display mounted within the housing. 4. The system of claim 3, wherein, the at least one display module includes an LCD display and a switch membrane coupled with the microprocessor of the module. 5. The system of claim 3, wherein the at least one display module includes a plurality of display modules, and the user interface bus defines a maximum bus length ranging from 1000 feet to 4000 feet. 6. The system of claim 3, wherein the at least one display module includes a USB port for connecting to a device to any one of upload a program or download a history log. 7. The system of claim 2, wherein the at least one data bus is a fire detection bus, wherein at least one module includes one of an optical sensor or an infrared sensor. 8. The system of claim 7, wherein the sensor is mounted within the housing. 9. The system of claim 7, wherein the at least one module is serially connected with a module coupled to an analog sensor being any one of a thermal detector or manual actuation device. 10. The system of claim 2, wherein the at least one data bus is a fire detection bus, wherein at least one module is coupled with an analog sensor being any one of a thermal detector or manual actuation device. 11. The system of claim 2, wherein the fire detection bus defines a maximum bus length that ranges from 750 feet to 1500 feet. 12. The system of claim 2, wherein the at least one data bus is a release bus, the plurality of modules including at least one release module coupled to at least one actuation assembly coupled to a supply of fire suppression agent, the at least one module providing for electrical actuation of the actuation assembly to release the fire suppression agent. 13. The system of claim 12, wherein the at least one actuation assembly includes at least one electric-pneumatic actuator. 14. The system of claim 13, wherein the at least one electric-pneumatic actuator includes a protruding actuation device coupled to the at least one release module. 15. The system of claim 13, wherein the at least one electric-pneumatic actuator includes a maximum of ten (10) electric-pneumatic actuators. 16. The system of claim 12, wherein the at least one actuation assembly includes a pressure switch for feedback to the central controller through the at least one release module. 17. The system of claim 12, wherein the at least one release module is coupled to a relay module for interfacing the central controller with another system. 18. The system of claim 12, wherein the release bus defines a bus length from the central controller to the at least one release module or from the at least one release module to the at least one actuation assembly ranges up to a maximum of 250 feet. 19. The system of any one of the above claims, wherein the first and second connectors include a male connector and a female connector. 20. The system of any one of the above claims, wherein the plurality of modules are interconnected by serial connection cable extending between the first and second connectors. 21. The system of claim 20, wherein the serial connection cables are RS-485 serial connection cables. 22. The system of claim 21, wherein the first connectors, second connectors and serial connection cables are connected by threaded circular connectors. 23. The system of any one of the above claims, wherein the first pair of wires defines a first mounting pad on the printed circuit board having a center, and the second pair of wires defines a second mounting pad on the printed circuit board having a center, the first and second mounting pads defining a center-to-center spacing of 0.125 inch. 24. The system of any one of the above claims, wherein at least one of the first and second pairs of wires are solder mounted to a pair of wire through holes on the printed circuit board, the pair of through holes defining a center-to-center spacing therebetween ranging from 0.070 inch to 0.090 inch. 25. The system of claim 24, wherein the center-to-center spacing defined by the pair of through holes is no less than 0.085 inch. 26. The system of claim 2.5, wherein at least one of the first and second pairs of data wires extends from the module housing and defines a minimum bend radius of two and one-half inches (2-1/2 in.). 27. The system of any one of the above claims, further comprising a power module interconnected with the central controller to power the at least one data bus, wherein in each of the plurality of modules of the at least one data bus, the first connector includes a first pair of power wires mounted to the board, and the second connector includes a second pair of power wires mounted to the board, the printed circuit board electrically connecting the first and second pairs of power wires, and the at least one data bus including a power bus with the printed circuit board of each module, interconnecting the modules in series to the power module. 28. The system of claim 27, wherein the first and second pairs of power wires define a twist rate of one inch per twist (1 in./twist). 29. The system of claim 27, wherein the power module is coupled to a battery to power the system. 30. The system of claim 27, wherein the first pair of power wires defines a first power mounting pad on the printed circuit board having a center, and the second pair of power wires defines a second power mounting pad on the printed circuit board having a center, the first and second power mounting pads defining a center-to-center spacing of 0.125 inch. 31. The system of any one of the above claims, wherein the centralized controller is integrated with a battery back-up. 32. The system of claim 31, wherein the battery back-up includes two batteries. 33. The system of any one of the above claims, wherein the central controller is coupled to an auxiliary device being any one of an alarm or detector. 34. The system of any one of the above claims, wherein the at least one bus includes a display bus, a detection bus and a release bus for centralized selective fire protection of a plurality of hazard areas, each of the detection and releasing buses defining a first detection circuit and a releasing circuit interconnected with the central controller to protect a first hazard area and at least a second detection circuit and a second release circuit interconnected with the central controller to protect a second hazard area different than the first hazard area, the display bus including a first display and a second display for monitoring each of the first and second detection and releasing circuits. 35. The system of any one of the above claims, wherein the at least one data bus includes a monitoring circuit having a variable resistance to determine a status of the system being any one of: fault condition, normal condition, alarm condition, manual release condition, or an open circuit fault condition. 36. The system of claim 35, wherein the monitoring circuit includes a pair of terminals having a variable resistance value across the terminals to define the signal type, the variable resistance value including the following ranges: (i) 350-500 ohms to indicate a fault condition type signal; (ii) 700-10,000 ohms to indicate a normal state for a ready condition signal; (iii) 0-350 ohms to indicate a fire detected condition for an alarm condition signal; (iv) 500-700 ohms to indicate a manual release detection state (manual actuation); and (v) greater than (>) 10,000 ohms to indicate an open circuit for a fault condition type signal. 37. The system, of any one of the above claims, wherein at least one of the first and second pairs of data wires defines a twist rate of one inch per twist (1 in./twist).

Results: 6

Search history

Search [SP]: A fire suppression system comprising: a centralized controller: and a plurality of modules, each module including: a housing; a printed circuit board with a microprocessor mounted to the printed circuit board; a first connector including a first pair of data wires mounted to the board; and a second connector including a second pair of data wires mounted to the board, the printed circuit board electrically connecting the first and second pairs of data wires; the plurality of modules being interconnected with the central controller to define at least one data bus for centralized fire detection and system response, the at least one data bus having a first end module with its first connector connected to the centralized controller and a second end module with its second connector for connection to another module, the printed circuit board of each module interconnecting the plurality of modules in series to the central controller. 2. The system of claim 1, wherein the at least one data bus is any one of a user interface bus, a fire detection bus for detecting a fire or a release bus for releasing a suppressant to suppress a fire. 3. The system of claim 2, wherein the at least one data bus is a user interface bus, and the plurality of modules include at least one display module having a user interface display mounted within the housing. 4. The system of claim 3, wherein, the at least one display module includes an LCD display and a switch membrane coupled with the microprocessor of the module. 5. The system of claim 3, wherein the at least one display module includes a plurality of display modules, and the user interface bus defines a maximum bus length ranging from 1000 feet to 4000 feet. 6. The system of claim 3, wherein the at least one display module includes a USB port for connecting to a device to any one of upload a program or download a history log. 7. The system of claim 2, wherein the at least one data bus is a fire detection bus, wherein at least one module includes one of an optical sensor or an infrared sensor. 8. The system of claim 7, wherein the sensor is mounted within the housing. 9. The system of claim 7, wherein the at least one module is serially connected with a module coupled to an analog sensor being any one of a thermal detector or manual actuation device. 10. The system of claim 2, wherein the at least one data bus is a fire detection bus, wherein at least one module is coupled with an analog sensor being any one of a thermal detector or manual actuation device. 11. The system of claim 2, wherein the fire detection bus defines a maximum bus length that ranges from 750 feet to 1500 feet. 12. The system of claim 2, wherein the at least one data bus is a release bus, the plurality of modules including at least one release module coupled to at least one actuation assembly coupled to a supply of fire suppression agent, the at least one module providing for electrical actuation of the actuation assembly to release the fire suppression agent. 13. The system of claim 12, wherein the at least one actuation assembly includes at least one electric-pneumatic actuator. 14. The system of claim 13, wherein the at least one electric-pneumatic actuator includes a protruding actuation device coupled to the at least one release module. 15. The system of claim 13, wherein the at least one electric-pneumatic actuator includes a maximum of ten (10) electric-pneumatic actuators. 16. The system of claim 12, wherein the at least one actuation assembly includes a pressure switch for feedback to the central controller through the at least one release module. 17. The system of claim 12, wherein the at least one release module is coupled to a relay module for interfacing the central controller with another system. 18. The system of claim 12, wherein the release bus defines a bus length from the central controller to the at least one release module or from the at least one release module to the at least one actuation assembly ranges up to a maximum of 250 feet. 19. The system of any one of the above claims, wherein the first and second connectors include a male connector and a female connector. 20. The system of any one of the above claims, wherein the plurality of modules are interconnected by serial connection cable extending between the first and second connectors. 21. The system of claim 20, wherein the serial connection cables are RS-485 serial connection cables. 22. The system of claim 21, wherein the first connectors, second connectors and serial connection cables are connected by threaded circular connectors. 23. The system of any one of the above claims, wherein the first pair of wires defines a first

mounting pad on the printed circuit board having a center, and the second pair of wires defines a second mounting pad on the printed circuit board having a center, the first and second mounting pads defining a center-to-center spacing of 0.125 inch. 24. The system of any one of the above claims, wherein at least one of the first and second pairs of wires are solder mounted to a pair of wire through holes on the printed circuit board, the pair of through holes defining a center-to-center spacing therebetween ranging from 0.070 inch to 0.090 inch, 25. The system of claim 24, wherein the center-to-center spacing defined by the pair of through holes is no less than 0.085 inch. 26. The system of claim 2.5, wherein at least one of the first and second pairs of data wires extends from the module housing and defines a minimum bend radius of two and one-half inches (2-1/2 in.). 27. The system of any one of the above claims, further comprising a power module interconnected with the central controller to power the at least one data bus, wherein in each of the plurality of modules of the at least one data bus, the first connector includes a first pair of power wires mounted to the board, and the second connector includes a second pair of power wires mounted to the board, the printed circuit board electrically connecting the first and second pairs of power wires, and the at least one data bus including a power bus with the printed circuit board of each module, interconnecting the modules in series to the power module. 28. The system of claim 27, wherein the first and second pairs of power wires define a twist rate of one inch per twist (1 in./twist). 29. The system of claim 27, wherein the power module is coupled to a battery to power the system, 30. The system of claim 27, wherein the first pair of power wires defines a first power mounting pad on the printed circuit board having a center, and the second pair of power wires defines a second power mounting pad on the printed circuit board having a center, the first and second power mounting pads defining a center-to-center spacing of 0.125 inch. 31. The system of any one of the above claims, wherein the centralized controller is integrated with a battery back-up. 32. The system of claim 31, wherein the battery back-up includes two batteries. 33. The system of any one of the above claims, wherein the central controller is coupled to an auxiliary device being any one of an alarm or detector. 34. The system of any one of the above claims, wherein the at least one bus includes a display bus, a detection bus and a release bus for centralized selective fire protection of a plurality of hazard areas, each of the detection and releasing buses defining a first detection circuit and a releasing circuit interconnected with the central controller to protect a first hazard area and at least a second detection circuit and a second release circuit interconnected with the central controller to protect a second hazard area different than the first hazard area, the display bus including a first display and a second display for monitoring each of the first and second detection and releasing circuits. 35. The system of any one of the above claims, wherein the at least one data bus includes a monitoring circuit having a variable resistance to determine a status of the system being any one of: fault condition, normal condition, alarm condition, manual release condition, or an open circuit fault condition. 36. The system of claim 35, wherein the monitoring circuit includes a pair of terminals having a variable resistance value across the terminals to define the signal type, the variable resistance value including the following ranges: i) 350-500 ohms to indicate a fault condition type signal; (ii) 700-10,000 ohms to indicate a normal state for a ready condition signal; (in) 0-350 ohms to indicate a fire detected condition for an alarm condition signal; (iv) 500-700 ohms to indicate a manual release detection state (manual actuation); and (v) greater than (>) 10,000 ohms to indicate an open circuit for a fault condition type signal. 37. The system, of any one of the above claims, wherein at least one of the first and second pairs of data wires defines a twist rate of one inch per twist (1 m./twist). (Results 6)

1) Family number: 43256144 (US2009128353A)

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Title: ALARM ORIGATION LATCHING SYSTEM AND METHOD

Abstract: An embodiment of the invention provides a method including detecting a select hazardous condition by at least one triggering alarm unit of a plurality of interconnected hazardous condition alarm units. An actuatable latch in the triggering alarm unit is switched from an unlatched state to a latched state. An audible alert is generated in all of the interconnected alarm units. A test switch is actuated to identify the triggering alarm unit. Actuating the test switch disables the audible alert in each alarm unit having an actuatable latch in the unlatched state. A reset switch is actuated in only one of the alarm units to reset the actuatable latch in each of the alarm units to the unlatched state.

Classifications:

International (IPC 8-9): G08B29/00 G08B3/00

G08B7/00 (Advanced/Invention);

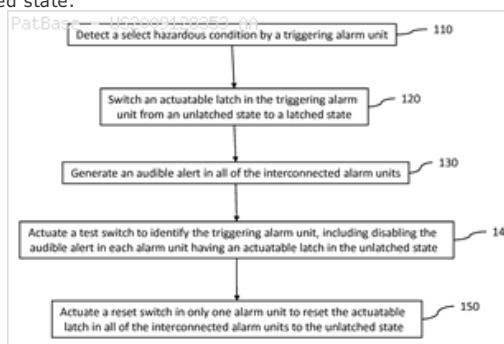
G08B3/00 G08B7/00 (Core/Invention)

CPC: G08B25/04

European: G08B25/04

US: 340/506 340/517 340/521 340/522 340/628 340/632 340/691.5

340/691.500P 340/691.8 340/691.800S 340/692 340/692S



Family:

Publication number	Publication date	Application number	Application date
US2009128353 AA	20090521	US20080274010	20081119
US7893825 BB	20110222	US20080274010	20081119

Priority:

US20070989369P 20071120

US20080274010 20081119

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Inventor(s): (std): GONZALES ERIC V

Agent(s): CAHN AND SAMUELS LLP

2) Family number: 11169203 (US5815074A)

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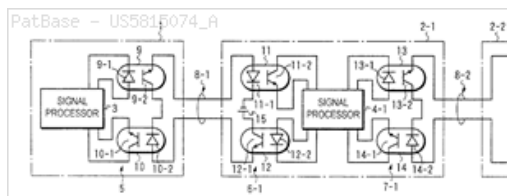
Title: SIGNAL TRANSMISSION APPARATUS

Abstract: A signal transmission apparatus including a main unit having a signal transmission terminal, and one or more sub units (or repeaters) each having first and second signal transmission terminals. A loop connection line is provided between the main unit and a first sub unit, and additional loop connection lines are provided between subsequent pairs of sub units to convey signals from the main unit to each of the sub units, and from each of the sub units to the main unit. The main unit includes a controller, a signal generator for generating and sending a first signal to one of the sub units, and a signal processor for processing a second signal returned from one of the sub units in response to the first signal. Each of the sub units includes a controller, a destination signal determination section, and a signal transfer section for selectively capturing and transferring a signal according to its destination address.

Classifications:

International (IPC 8-9): G08B13/22 G08B25/01 G08B25/04

G08C23/04 H04B10/04 H04B10/06 H04B10/12 H04B10/13
H04B10/135 H04B10/14 H04B10/25 H04B10/26 H04B10/28
H04B10/40 H04B10/50 H04B10/60 H04B10/80 (Advanced/Invention);
G08B13/22 G08B25/01 G08C23/00 H04B10/04 H04B10/06
H04B10/12 H04B10/13 H04B10/135 H04B10/14 H04B10/26
H04B10/28 (Core/Invention)
International (IPC 1-7): G08B13/22 G08B25/01 G08B26/00
G08C19/36 G08C23/04 H04B10/04 H04B10/06 H04B10/12
H04B10/13 H04B10/135 H04B10/14 H04B10/26 H04B10/28
CPC: G08B25/04 G08C23/04 G08C2201/40
European: G08B25/04 G08C23/04 S08C201/400
US: 340/505 340/531 340/533 340/568 340/568.2



Family:

Publication number	Publication date	Application number	Application date
DE19616411 A1	19961031	DE19961016411	19960424
JP8298487 A2	19961112	JP19950102412	19950426
US5815074 A	19980929	US19960626788	19960402

Priority:

JP19950102412 19950426

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Inventor(s): SASAGAWA SHINICHI FURUKAWA MIYAGI JP ; ICHIMIYA NOBUYUKI MIYAGI JP ; KINOUCHI SHIN MIYAGI JP ; NAMIOKA SEISHI FURUKAWA MIYAGI JP

3) Family number: 54505244 (US8502420B)

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Title: POWER SUPPLY ARCHITECTURE FOR CONTROLLING AND MONITORING ISOLATED OUTPUT MODULES

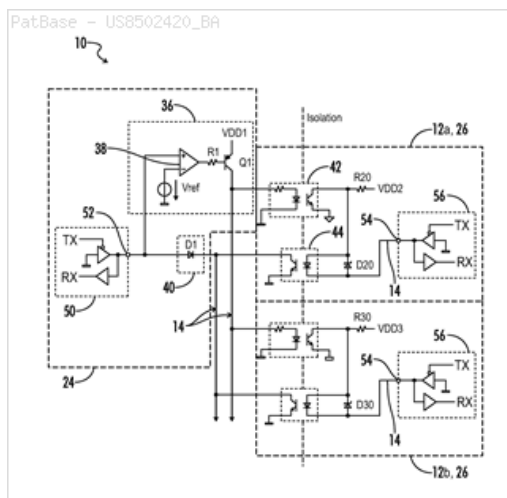
Abstract: A modular power supply and power control system includes a digital controller coupled to each of a plurality of output modules via a single wire serial data bus having a default high logic state. A plurality of isolation transformers are each coupled on a primary side to receive an intermediate bus voltage, and further coupled on a secondary side to one of the output modules. Galvanic isolation circuits provide galvanic isolation on the serial data bus between each of the output modules and the digital controller. The digital controller further includes circuitry effective to pull a bus logic state from high to low for generating data transmission to the plurality of isolated modules. Each of the plurality of isolated modules further include circuitry effective to independently pull the bus logic state from high to low for generating data transmission to the digital controller.

Classifications:

International (IPC 8-9): G05F3/06 (Advanced/Invention)

CPC: H02M3/33561 H02M3/33592 H02M2001/0003 Y02B70/1475

US: 307/151



Family:

Publication number	Publication date	Application number	Application date
US8502420 BA	20130806	US20100905693	20101015

Priority:

US20090252067P 20091015 US20100905693 20101015

Probable Assignee: BEL POWER SOLUTIONS INC

Assignee(s): (std): MOGILEVSKI IGOR ; POWER ONE INC

Assignee(s): PAI CAPITAL LLC ; BANK OF AMERICA NA ; BEL POWER SOLUTIONS INC

Inventor(s): (std): MOGILEVSKI IGOR

Agent(s): WADDEY AND PATTERSON PC; GARY L; MARK J

4) Family number: 56090291 (US2015231431A)

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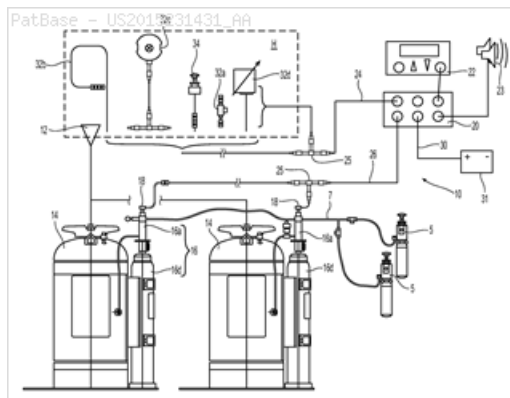
Title: FIRE SUPPRESSION SYSTEMS AND METHODS

Abstract: Fire suppression systems for vehicles and industrial applications including arrangements of an input bus and output bus coupled to a centralized controller to provide for automatic and manual detection of a fire and manual and

automatic system actuation in response to the fire. The arrangements further provide for system information regarding the status and operation of the system components. Additionally, the arrangement of system components provide for expandability and programmability to configure the system for the protection of multiple and variable hazards using customized or programmed detection and/or actuation. The systems include configured connectors and color coded schemes to facilitate system installation.

Classifications:

International (IPC 8-9): A62C A62C27/00 A62C3/07 A62C35/02 A62C35/64 A62C37/00 A62C37/10 A62C37/36 B60R B60R16/02 B60R16/03 G05B G05B15/02 G05B19/042 G05D7/06 (Advanced/Invention); A62C3/07 B60R16/03 (Advanced/Non-invention); A62C B60R G05B (Subclass/Invention)
CPC: A62C3/07 A62C35/023 A62C37/36 B60R16/02 A62C37/10 A62C35/64 A62C37/00 G05B15/02 G05D7/0635
US: 1/1 169/62 700/283 D10/106.95
Locarno class: 14/03 10/05



Family:

Publication number	Publication date	Application number	Application date
AU2013317755 AA	20150409	AU20130317755	20130923
AU2013317755 AH	20150430	AU20130317755	20130923
AU2013317760 AA	20150430	AU20130317760	20130923
AU2017248579 AA	20171109	AU20170248579	20171023
AU2017248579 BB	20191031	AU20170248579	20171023
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CA2885226 AA	20150317	CA20132885226	20130923
CA2885299 AA	20150317	CA20132885299	20130923
CL2015000726 A1	20150807	CL20150000726	20150323
CL2015000728 A1	20150807	CL20150000728	20150323
CN104780981 A	20150715	CN201380059187	20130923
CN104780981 B	20181023	CN201380059187	20130923
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EP2897698 B1	20200108	EP20130774305	20130923
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RU2673623 C2	20181128	RU20150115204	20130923
US2015231431 AA	20150820	US20130430188	20130923
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WO14047579 A1	20140327	WO2013US61219	20130923

Priority:

US20120704551P	20120923	US20130449818F	20130315	US20130499818F	20130315
US20130794105P	20130315	AU20130317755	20130923	AU20130317760	20130923
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AU20170248579	20171023	AU20170249290	20171023	US20180056009	20180806
US20180112373	20180824				

Probable Assignee: TYCO FIRE PRODUCTS LP

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Inventor(s): (std): STREHLOW DAVID R ; BUSHERT JOHN S ; LILLEY GREGORY J ; SANDAHL DEREK M ; WERTH JOHN T ; THORELL MARVIN D ; HACKL RICHARD J ; MYERS THOMAS JOHN ; FERNSTRUM MARVIN B ; ESCALANTE ORTIZ SAUL ; COUNTS BRIAN L ; KREFT ANTHONY J ; RYCZEK CHAD ; COUNTS BRIAN I ; FERSTRUM MARVIN B ; DAVID R STREHLOW ; THOMAS JOHN MYERS ; CHAD RYCZEK ; GREGORY J LILLEY ; MARVIN D THORELL ; RICHARD J HACKL ; BRIAN L COUNTS ; JOHN T WERTH ; DEREK M SANDAHL ; ANTHONY J KREFT ; SAUL ESCALANTE ORTIZ ; JOHN S BUSHERT ; MARVIN B FERNSTRUM ; FREFT ANTHONY J ; RYCZEK CHAD L ; SENDEL DEREK M ; KAUNTS BRAJAN L ; RICHEK CHAD ; ESKALANTE ORTIS SOL ; VERT DZHON T ; LILLI GREGORI DZH ; STRELOV DEJVID R ; KREFT ENTONI DZH ; MAJERS TOMAS DZHON ; BASHERT DZHON S ; KHEKL RICHARD DZH ; TORELL MARVIN D

Inventor(s): BUSHERT JOHN ; MARVIN B FERSTRUM

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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 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 IS IT JP KE KG KM KN KP KR 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

5) Family number: 34620556 (US2008246600A) © PatBase

Title: WARNING SYSTEM

Abstract: The invention proposes a hazard alarm system for buildings, said system having evaluation units, which are in the form of freely programmable control units, and a building management system. As a result of being connected in series, the evaluation units are connected to the building management system by means of a fast data link.

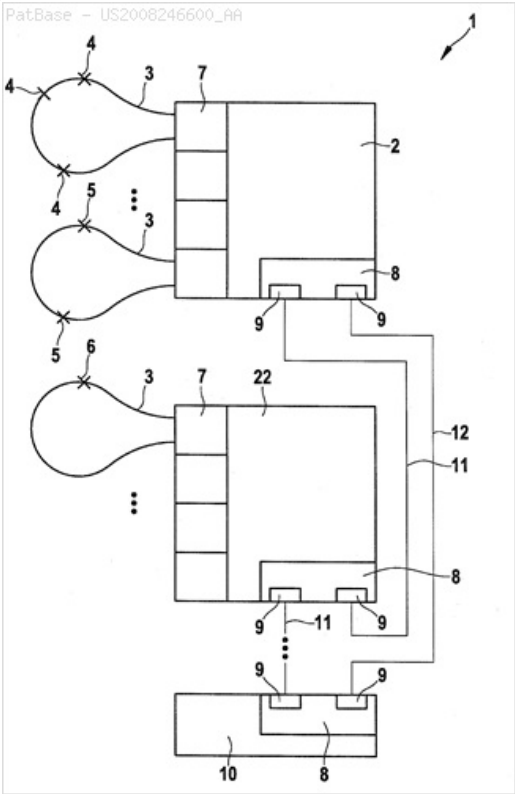
Classifications:

International (IPC 8-9): G05B23/02 G08B1/00 G08B23/00 G08B25/00 G08B25/04 G08B25/14 G08B26/00 G08B9/00 H04Q1/30 (Advanced/Invention); G08B25/04 (Advanced/Non-invention); G05B23/02 G08B1/00 G08B23/00 G08B25/00 G08B25/14 G08B26/00 G08B9/00 H04Q1/30 (Core/Invention)

CPC: G08B25/009 G08B25/04

European: G08B25/00S G08B25/04

US: 340/286.02 340/506 340/531 340/534 340/540



Family:

Publication number	Publication date	Application number	Application date
DE102005062129 A1	20070628	DE200510062129	20051223
DE502006013285 D1	20131212	DE200650013285T	20061117
EP1966776 A1	20080910	EP20060819588	20061117
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US7671731 BB	20100302	US20060908561	20061117
WO07073991 A1	20070705	WO2006EP68620	20061117

Priority: DE200510062129 20051223 EP20060819588 20061117 WO2006EP68620 20061117

Probable Assignee: ROBERT BOSCH GMBH

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Agent(s): MICHAEL J STRIKER; MICHAEL J

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ

DE DK DM 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 IS IT
JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MY MZ NA
NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM
TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

6) Family number: 67178992 (US2019091501A)

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Title: MODULAR AND EXPANDABLE FIRE SUPPRESSION SYSTEM

Abstract: A tire suppression system includes a centralized controller and a plurality of modules (14). Each module includes a housing (30), a printed circuit board (32) with a mounted microprocessor (34), a first connector (36) including a first pair of data wires (38) mounted to the board; and a second connector (40) including a second pair of data wires (42) mounted to the board so that the printed circuit board electrically connects the first and second pairs of data wires. The modules are interconnected with the central controller to define data buses for centralized fire detection, user interface and system response. The connectors of each module interconnect the plurality of modules in series to the central controller.

Classifications:

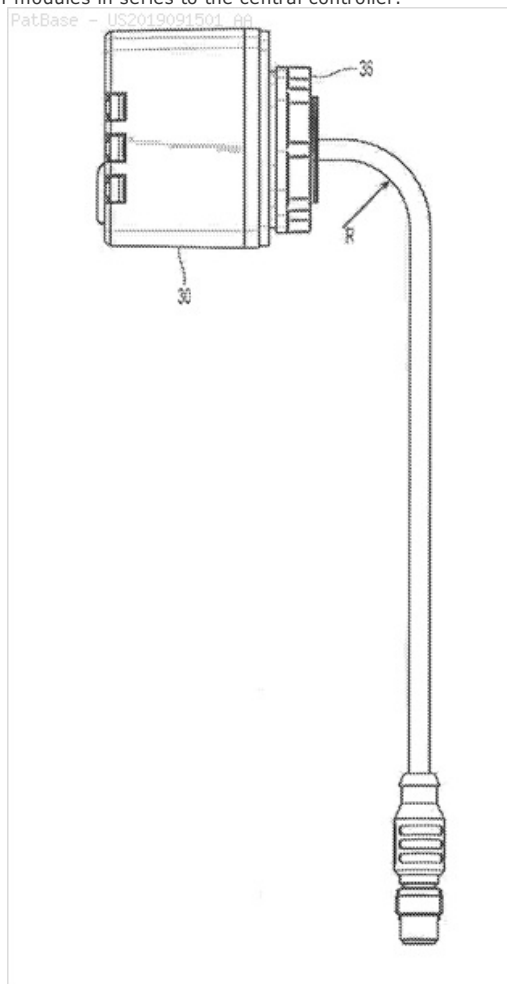
International (IPC 8-9): A62C37/36 G08B17/06 G08B17/12

G08B25/04 G08B5/36 (Advanced/Invention)

International (IPC 1-7): G08B25/04

CPC: G08B25/009 G08B25/04 A62C37/04 G08B5/36 G08B17/06 G08B17/12

US: 1/1



Family:

Publication number	Publication date	Application number	Application date
AU2017248279 AA	20181018	AU20170248279	20170406
BR112018070375 A2	20190205	BR20181170375	20170406
CA3020331 AA	20181005	CA20173020331	20170406
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IN201847040923 A	20181109	IN201847040923	20181030
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US2019091501 AA	20190328	US20170091952	20170406
WO17177031 A1	20171012	WO2017US26394	20170406

Priority:

US20160320407P 20160408 US20170091952 20170406 WO2017US26394 20170406

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Agent(s): SPRUSON AND FERGUSON; KIRBY EADES GALE BAKER; ESTUDIO VILLASECA Y CIA; GRAY JAMES;
GEORGE WIDJOJO; BALTAZAR DAVID J

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 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
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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