

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
JOHNSON CONTROLS TYCO IP HOLDINGS LLP	02/01/2024
RECEIVING PARTY DATA	
Company Name:	TYCO FIRE & SECURITY GMBH
Street Address:	Victor von Bruns-Strasse 21
City:	Neuhausen am Rheinfall
State/Country:	SWITZERLAND
Postal Code:	8212
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	15979136
CORRESPONDENCE DATA	
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ATTORNEY DOCKET NUMBER:	DX-17BE469-US2-CON
NAME OF SUBMITTER:	Sarah Skiebe
SIGNATURE:	Sarah Skiebe
DATE SIGNED:	06/21/2024
Total Attachments: 134	
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INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT

This INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT (this “IP Assignment”) is made and entered into as of February 1, 2024 (the “Effective Date”), by and among JOHNSON CONTROLS TYCO IP HOLDINGS LLP, a limited liability partnership existing under the laws of Wisconsin having its primary office located at 5757 N. Green Bay Avenue, Glendale, Wisconsin 53209, U.S.A. (the “Partnership”, US1270), and TYCO FIRE & SECURITY GMBH, a limited liability company existing under the laws of Switzerland having its primary office located at Victor von Bruns-Strasse 21, 8212 Neuhausen am Rheinfall, Schaffhausen, Switzerland (“TFSG”, CH1014).

WHEREAS, TFSG is the acquirer of certain assets of the Partnership (the “Distributed Assets”) pursuant to the Distribution Agreement, dated as of the date hereof, by and among the Partnership, TFSG, and Tyco Technology GmbH, a limited liability company existing under the laws of Switzerland (the “Distribution Agreement”); and

WHEREAS, under the terms of the Distribution Agreement, the Partnership has conveyed, transferred, and assigned certain intellectual property among the Distributed Assets for acquisition by TFSG, and the parties have agreed to execute and deliver this IP Assignment, for recording with the United States Patent and Trademark Office, the United States Copyright Office, and corresponding entities or agencies in any applicable jurisdictions;

NOW THEREFORE, the parties agree as follows:

1. Assignment.

(a) For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Partnership hereby irrevocably conveys, transfers, and assigns to TFSG, and TFSG hereby accepts, all of the Partnership’s right, title, and interest in and to the following (the “Assigned IP”):

(i) all patents and patent applications (including design patents, design registrations, and other industrial design rights) set forth on Schedule 1 hereto, including any and all divisions, continuations, continuation-in-part, extensions, substitutions, renewals, registrations, revalidations, reissues, reexaminations, and the like, or foreign counterparts of or to any of the aforesaid patents and patent applications, including without limitation, all issued patents that have been or may be granted thereon and any other patents and patent applications claiming priority to or the benefit of the foregoing (the “Patents”);

(ii) all copyright registrations and copyright applications set forth on Error! Reference source not found.2 hereto and all issuances, extensions, and renewals thereof (the “Copyrights”);

(iii) all royalties, fees, income, payments and other proceeds now or hereafter due or payable with respect to any and all of the foregoing; and

(iv) all rights to any actions or claims of any nature related to the foregoing, whether accruing before, on or after the date hereof, including all rights

to and claims for damages, restitution and injunctive relief for infringement, dilution, misappropriation, violation, misuse, breach or default, with the right but no obligation to sue for such legal and equitable relief, and to collect, or otherwise recover, any such damages.

(b) Terms of the Distribution Agreement. The Partnership and TFSG acknowledge and agree that this IP Assignment is entered into pursuant to the Distribution Agreement, to which reference is made for a further statement of the rights and obligations of the Partnership and TFSG with respect to the Assigned IP. The representations, warranties, covenants, agreements, and indemnities contained in the Distribution Agreement shall not be superseded hereby, but shall remain in full force and effect to the full extent provided therein. In the event of any conflict or inconsistency between the terms of the Distribution Agreement and the terms hereof, the terms of the Distribution Agreement shall govern.

2. Recordation and Further Actions. The parties to this IP Assignment hereby authorize the Commissioner for Patents in the United States Patent and Trademark Office, and the Register of Copyrights in the United States Copyright Office, and the officials of corresponding entities or agencies in any applicable jurisdictions to record and register this IP Assignment upon request by TFSG. Following the date hereof, upon TFSG's reasonable request, the Partnership shall take such steps and actions, and provide such cooperation and assistance to TFSG and its successors, assigns, and legal representatives, including the execution and delivery of any affidavits, declarations, oaths, exhibits, assignments, powers of attorney, or other documents, as may be necessary to effect, evidence, or perfect the assignment of the Assigned IP to TFSG, or any successor thereto.

3. Counterparts; Electronic Signatures. This IP Assignment may be executed and delivered by facsimile, portable document format (.pdf), or other electronic signature pages, which shall be deemed originals, and in any number of counterparts, which shall have the same effect as if the signatures on the counterparts were on a single copy of this IP Assignment. Any electronic signatures appearing on this IP Assignment are the same as handwritten signatures for the purposes of validity, enforceability, and admissibility to the fullest extent permitted by applicable law.

4. Successors and Assigns. This IP Assignment shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns.

5. Governing Law. This IP Assignment shall be construed and interpreted according to the laws of the State of Wisconsin, U.S.A., excluding any choice of law rules that may direct the application of the laws of another jurisdiction.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the parties hereto have caused this IP Assignment to be executed on their behalf by their respective duly authorized representatives on the date first written above and effective as of the Effective Date.

JOHNSON CONTROLS TYCO IP
HOLDINGS LLP

TYCO FIRE & SECURITY GMBH

By 

Name: Mark Albert Hill

Title: Vice President

By 

Name: Sébastien Vitali

Title: Chairman of the Management

SCHEDULE 1
ASSIGNED PATENTS

[Attached]

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
1 CA	2721627	4/16/2009	CA2721627	2/9/2016	High-speed permanent magnet motor and generator with low-loss metal rotor
2 CA	CA2766145	6/23/2010	2766145	7/4/2017	Systems, Devices, and/or Methods for Managing Magnetic Bearings
3 CA	3,045,285	10/23/2017	3045285	8/24/2021	BALANCED SWITCHING AMPLIFIER FOR A MAGNETIC BEARING ASSEMBLY
4 CN	202010084454.7	2/20/2015	ZL 202010084454.7	5/5/2023	Method for Operating A Chiller
5 CN	201780061781.7	10/5/2017	ZL 201780061781.7	11/10/2023	HVAC&R System and Method with Variable Speed Drive
6 CN	201880093961.8	5/30/2018	ZL 201880093961.8	11/10/2023	Chiller Suction Flow Limiting With Input Power of Motor Current Control
7 CN	2023115177910	5/30/2018			Chiller Suction Flow Limiting With Input Power of Motor Current Control
8 CN	202211055935.0	9/21/2018			Compact Variable Geometry Diffuser Mechanism
9 CN	201880078279.1	10/4/2018	111433534	9/1/2023	Activation and Deactivation of a Purge Unit of a Vapor Compression System Based At Least In Part On Conditions Within A Condenser Of The Vapor Compression System
10 CN	202310990098.9	10/4/2018			Activation and Deactivation of a Purge Unit of a Vapor Compression System Based At Least In Part On Conditions Within a Condenser of the Vapor Compression System
11 CN	202211491863.4	3/7/2019			Vapor Compression System
12 CN	201980062692.3	7/29/2019	ZL 201980062692.3	6/30/2023	Active Bearing Temperature Control
13 CN	202080097237.X	2/21/2020			Logic Board for Variable Speed Drive
14 CN	202080031179.0	3/27/2020	ZL 202080031179.0	5/5/2023	A Heating, Ventilation, Air Conditioner And/Or Refrigeration System With A Compressor Motor Cooling System
15 CN	18786152.1	3/27/2020	ZL 202080031179.0	5/5/2023	A Heating, Ventilation, Air Conditioner And/Or Refrigeration System With A Compressor Motor Cooling System
16 CN	202080064446.4	8/11/2020			Compressor With Optimized Interstage Flow Inlet
17 CN	202080092762.2	12/18/2020			Hybrid Cooling Systems For Hermetic Motors
18 CN	202180097135.2	3/18/2021			ADAPTIVE LOGIC BOARD FOR VARIABLE SPEED DRIVE FOR HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION SYSTEM
19 CN	202180056107.6	7/30/2021			System And Method For Directing Fluid Flow In A Compressor
20 CN	202180054038.5	8/11/2021			Cooling System With Intermediate Chamber
21 CN	202180063123.8	8/31/2021			Electrical Endcure For HVAC System
22 CN	202180066502.2	9/1/2021			Electrical Endcure Assembly For HVAC System
23 CN	202180064631.8	9/21/2021			Free Cooling Operation Of A Chiller
24 CN	202180069437.9	9/30/2021			HVAC System With Bypass Conduit
25 CN	202280019951.6	1/11/2022			Condenser Subcooler For A Chiller
26 CN	202280019949.9	2/18/2022			Systems And Methods For Monitoring Electrical Components Of A Chiller System

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
27 CN	202280041799.1	5/12/2022			Mechanical-Cooling, Free-Cooling, And Hybrid-Cooling Operation Of A Chiller
28 CN	202211072595.2	9/2/2022	ZL 202211072595.2	1/16/2024	Control Method for Concentration of Lubricating Oil in Centrifugal Compressor
29 CN	202211079385.6	9/5/2022	ZL 202211079385.6	11/28/2023	Generator
30 CN	202211111179.9	9/13/2022	ZL 202211111179.9	10/13/2023	Heat Pump System
31 CN	202211164367.8	9/23/2022			A Flash Tank For An Hvac System
32 CN	202310094722.7	2/9/2023			Valve Seat
33 CN	202310335910.4	3/31/2023			Chiller Rating Engine Digital Twin & Energy Balance Model
34 CN	202311278191.3	9/29/2023			VSD Logic Board
35 EP	14870590.8	12/12/2014	3080527	5/4/2022	Steam Turbine Driven Centrifugal Heat Pump
36 EP	16204340.0	10/5/2017			Variable Speed Drive For A HVAC&R System
37 EP	22188996.7	10/20/2017			Falling Film Heat Exchanger
38 EP	18716854.7	3/23/2018	3601804	8/3/2022	Magnetic Bearing Motor Compressor
39 EP	18786513.4	9/21/2018			Two Step Oil Motive Eductor System
40 EP	19708756.2	2/19/2019	3755952	10/18/2023	Adaptive Logic Board For Variable Speed Drive
41 EP	18163626.7	2/19/2019	3755952	10/18/2023	Adaptive Logic Board For Variable Speed Drive
42 EP	19722844.8	5/3/2019			Control System for a Vapor Compression System
43 EP	19908893.1	8/20/2019			Screw Compressor and Control Method Therefor
44 EP	20920402.3	2/21/2020			Logic Board for Variable Speed Drive
45 EP	20750978.7	7/14/2020			Chiller System With Multiple Compressors
46 EP	20871878.3	9/25/2020			Load Balancing Method for Two Compressors
47 EP	18792792.6	9/25/2020			Load Balancing Method for Two Compressors
48 EP	20870899.0	9/29/2020			Oil Separation Device, Condenser, and Refrigeration System Using Oil Separation Device or Condenser
49 EP	18792790.0	10/23/2020			Centrifugal Flash Tank
50 EP	22186643.7	1/7/2021			Volume Ratio Control System For A Compressor
51 EP	18834293.5	2/10/2021			A SYSTEM WITH AUTOMATIC CHILLER ANTI-SURGE AND METHODS OF OPERATING A CHILLER TO AVOID FUTURE SURGE EVENTS
52 EP	21719845.6	3/18/2021			ADAPTIVE LOGIC BOARD FOR VARIABLE SPEED DRIVE FOR HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION SYSTEM
53 EP	21856656.0	8/11/2021			Cooling System With Intermediate Chamber
54 EP	21864997.8	8/31/2021			Electrical Endcure For HVAC System
55 EP	21865217.0	9/3/2021			Expansion Valve Control System
56 EP	22808366.3	5/12/2022			Mechanical-Cooling, Free-Cooling, And Hybrid-Cooling Operation Of A Chiller
57 FR	09790134.2	7/8/2009	2313924	2/17/2021	Grounding System And Apparatus
58 FR	20168370.3	2/9/2017	3699514	11/9/2022	Systems And Methods For Controlling A Refrigeration System
59 FR	17711415.4	2/28/2017	3423771	4/13/2022	Heat Exchange Device Suitable for Low Pressure Refrigerant

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
60 FR	17758783.9	8/22/2017	3500805	3/9/2022	Systems And Methods For Controlling A Refrigeration System
61 FR	19712447.2	3/7/2019	3821179	5/3/2023	Vapor Compression System
62 IN	202217044447	1/7/2021			LUME RATIO CONTROL SYSTEM FOR A COMPRESSOR
63 IN	202217044442	1/7/2021			VOLUME RATIO CONTROL SYSTEM FOR A COMPRESSOR
64 IN	202217045271	1/8/2021			ECONOMIZER CONTROL SYSTEMS AND METHODS
					SCREW COMPRESSOR, REFRIGERATION SYSTEM, AND METHOD FOR CONTROLLING REFRIGERATION SYSTEM
65 IN	202217063900	4/6/2021			ECONOMIZER PORT VALVE
66 IN	202317029595	9/29/2021			Two-stage oil-powered ejector system
67 JP	2020517153	9/21/2018	7353275	9/21/2023	HERMETIC MOTOR COOLING SYSTEM
68 JP	2023-064061	9/26/2018			A Slide Valve For A Twin-Screw Compressor
69 JP	2021540142	8/20/2019			A Screw Compressor and A Control Method Thereof
70 JP	2022-550126	2/21/2020			Logic Board for Variable Speed Drive
					A HEATING, VENTILATION, AIR CONDITIONING AND/OR REFRIGERATION SYSTEM WITH A COMPRESSOR MOTOR COOLING SYSTEM
71 JP	2021557930	3/27/2020	7407836	1/4/2024	FLUID FLOW CONTROL FOR A COMPRESSOR LUBRICATION SYSTEM
72 JP	2021561647	4/16/2020			HERMETIC MOTOR COOLING SYSTEM
73 JP	2021563235	4/23/2020	7373586	11/2/2023	COMPRESSOR WITH OPTIMIZED INTERSTAGE FLOW INLET
74 JP	2022-509105	8/11/2020			HYBRID COOLING SYSTEMS FOR HERMETIC MOTORS
75 JP	2022-538104	12/18/2020			ADAPTIVE LOGIC BOARD FOR VARIABLE SPEED DRIVE FOR HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION SYSTEM
76 JP	2023-556993	3/18/2021			SYSTEM AND METHOD FOR DIRECTING FLUID FLOW IN A COMPRESSOR
77 JP	2023-506228	7/30/2021			COOLING SYSTEM WITH INTERMEDIATE CHAMBER
78 JP	2023-510400	8/11/2021			HVAC SYSTEM WITH BYPASS CONDUIT
79 JP	2023-519835	9/30/2021			Chiller Suction Flow Limiting With Input Power or Motor Current Control
80 KR	10-2020-7036407	5/30/2018	102578745	9/15/2023	A Screw Compressor and A Control Method Thereof
81 KR	10-2021-7024960	8/20/2019			A Screw Compressor and A Control Method Thereof
82 KR	18716857.0	8/20/2019			Condenser unit for chiller
83 KR	10-2021-7030823	2/27/2020	10-2545184	6/14/2023	A Heating, Ventilation, Air Conditioning And/Or Refrigeration System With A Compressor Motor Cooling System
84 KR	10-2021-7034962	3/27/2020			Fluid flow control for compressor lubrication systems
85 KR	10-2021-7037132	4/16/2020			Hermetic Motor Cooling System
86 KR	10-2021-7038160	4/23/2020			BRAKE SYSTEM FOR A COMPRESSOR
87 KR	10-2022-7014771	10/1/2020			HYBRID COOLING SYSTEMS FOR HERMETIC MOTORS
88 KR	10-2022-7025298	12/18/2020			A SYSTEM WITH AUTOMATIC CHILLER ANTI-SURGE AND METHODS OF OPERATING A CHILLER TO AVOID FUTURE SURGE EVENTS
89 KR	10-2022-7033605	2/10/2021			

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
90 KR	10-2022-7033427	2/26/2021			System And Method For Operation Of Variable Geometry Diffuser As Check Valve
91 KR	10-2022-7033428	2/26/2021			Water Box Mixing Manifold
92 KR	10-2023-7007011	7/30/2021			SYSTEM AND METHOD FOR DIRECTING FLUID FLOW IN A COMPRESSOR
93 KR	10-2023-7013030	9/21/2021			FREE COOLING OPERATION OF A CHILLER
94 KR	10-2023-7014033	9/30/2021			HVAC SYSTEM WITH BYPASS CONDUIT
95 KR	10-2023-7027312	1/11/2022			CONDENSER SUBCOOLER FOR A CHILLER
96 TW	111107487	9/26/2018	802303	5/11/2023	A Slide Valve for a Twin-Screw Compressor
97 TW	108127572	8/2/2019	1803677	6/1/2023	Refrigeration System
98 TW	108134462	9/24/2019	1821411	11/11/2023	Blades and Axial Flow Impeller Using the Blades
99 TW	110122806	6/22/2021	1804896	6/11/2023	Evaporator
100 TW	110128187	7/30/2021			System And Method For Directing Fluid Flow In A Compressor
101 TW	110149157	12/28/2021			Pipeline Having Sound Elimination Structure
102 TW	111106084	2/18/2022			Systems and Methods for Monitoring Electrical Components of a Chiller System
103 TW	111140714	10/26/2022			An Economizer for a Chiller
104 TW	112112711	3/31/2023			Chiller Access Manager - Generating dynamic access codes to unlock chiller control panels
105 TW	112118177	5/16/2023			SYSTEM AND METHOD FOR ADJUSTING POSITION OF A COMPRESSOR
106 TW	112121265	6/7/2023			Chiller Purge Systems and Methods
107 TW	112122052	6/13/2023			Pre-Subcooler for a Condenser
108 TW	112126561	7/17/2023			COMPRESSOR SYSTEM FOR HEATING, VENTILATION, AIR CONDITIONING & REFRIGERATION SYSTEM
109 TW	112130360	8/11/2023			Heat Exchanger for HVAC&R System
110 TW	112131170	8/18/2023			Evaporator Assembly
111 TW	112134372	9/8/2023			Lubricant Separation System for HVAC&R System
112 TW	112136367	9/22/2023			A Flash Tank for an HVAC System
113 TW	112136469	9/23/2023			Heat Exchanger for HVAC&R System
114 TW	112136468	9/23/2023			Heat Exchanger for HVAC&R System
115 TW	112138362	10/5/2023			HEATING, VENTILATION, AIR CONDITIONING, AND/OR REFRIGERATION SYSTEM WITH HEATING AND COOLING OPERATIONS
116 TW	112150145	12/21/2023			COMPRESSOR FOR HVAC&R SYSTEM
117 TW	112150144	12/21/2023			SYSTEMS AND METHODS FOR OPERATING A COMPRESSOR OF AN HVAC&R SYSTEM
118 US	10/277,008	10/21/2002	7,005,864	2/28/2006	Capacitive position sensing system with resonant amplification
119 US	10/313,364	12/6/2002	6,872,050	3/29/2005	Variable Geometry Diffuser Mechanism
120 US	10/632,610	8/1/2003	6,826,917	12/7/2004	Initial Pull Down Control For A Multiple Compressor Refrigeration System

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
121 US	10/633,844	8/4/2003	6,910,349	6/28/2005	Suction Connection For Dual Centrifugal Compressor Refrigeration Systems
122 US	10/641,277	8/14/2003	6,857,845	2/22/2005	System And Method For Detecting Rotating Stall In A Centrifugal Compressor
123 US	10/683,772	10/10/2003	7,356,999	4/15/2008	System And Method For Stability Control In A Centrifugal Compressor
124 US	10/789,632	2/27/2004	7,075,268	7/11/2006	System And Method For Increasing Output Horsepower And Efficiency In A Motor
125 US	10/788,723	2/27/2004	7,096,681	8/29/2006	System And Method For Variable Speed Operation Of A Screw Compressor
126 US	10/789,327	2/27/2004	7,193,826	3/20/2007	Motor Disconnect Arrangement For A Variable Speed Drive
127 US	10/788,994	2/27/2004	7,164,242	1/16/2007	Variable Speed Drive For Multiple Loads
128 US	10/822,489	4/12/2004	7,425,806	9/16/2008	System And Method For Controlling A Variable Speed Drive
129 US	10/822,492	4/12/2004	7,207,183	4/24/2007	System And Method For Capacity Control In A Multiple Compressor Chiller System
130 US	10/822,357	4/12/2004	7,231,773	6/19/2007	Startup Control System And Method For A Multiple Compressor Chiller System
131 US	10/822,460	4/12/2004	7,003,971	2/28/2006	Electronic Component Cooling System For An Air-Cooled Chiller
132 US	10/842,272	5/10/2004	6,973,797	12/13/2005	Capacity Control For Economizer Refrigeration Systems
133 US	10/855,821	5/27/2004	7,250,734	7/31/2007	High performance switched reluctance machine
134 US	10/879,384	6/29/2004	7,181,928	2/27/2007	System And Method For Cooling A Compressor Motor
135 US	10/895,204	7/20/2004	7,413,413	8/19/2008	System And Method To Reduce Acoustic Noise In Screw Compressors
136 US	10/912,955	8/6/2004	7,250,704	7/31/2007	High temperature electrical coil
137 US	10/917,035	8/12/2004	7,434,089	10/7/2008	System And Method For Loading Software Into A Control Panel For A Chiller System
138 US	11/016,222	12/17/2004	7,421,854	9/9/2008	Automatic Start/Stop Sequencing Controls For A Steam Turbine Powered Chiller Unit
139 US	11/016,113	12/17/2004	7,421,853	9/9/2008	Enhanced manual start/stop sequencing controls for a stream turbine powered chiller unit
140 US	11/104,079	4/12/2005	7,743,617	6/29/2010	Chiller Sound Reduction Control System And Method
141 US	11/123,685	5/6/2005	7,208,891	4/24/2007	Variable Speed Drive For A Chiller System
142 US	11/123,756	5/6/2005	7,202,626	4/10/2007	Variable Speed Drive For A Chiller System With A Switched Reluctance Motor
143 US	11/140,635	5/27/2005	7,353,659	4/8/2008	System And Method For Controlling An Economizer Circuit
144 US	11/217,566	9/1/2005	7,537,084	5/26/2009	Discharge Gas Check Valve Integral With Muffler
145 US	11/218,757	9/2/2005	7,081,734	7/25/2006	Ride-through method and system for HVACandR chillers
146 US	11/232,265	9/21/2005	7,621,141	11/24/2009	Two-Zone Fuzzy Logic Liquid Level Control
147 US	11/248,652	10/12/2005	7,849,710	12/14/2010	Falling Film Evaporator
148 US	11/273,991	11/15/2005	7,439,702	10/21/2008	Application Of A Switched Reluctance Motion Control System In A Chiller System

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
149 US	11/314,148	12/21/2005	7,353,662	4/8/2008	Medium Voltage Starter For A Chiller Unit
150 US	11/342,787	1/30/2006	7,235,986	6/26/2007	Capacitive position sensing system with resonant amplification
151 US	11/375,621	3/14/2006	7,908,881	3/22/2011	Hvac System With Powered Subcooler
152 US	11/442,829	5/30/2006	7,629,715	12/8/2009	SYSTEMS, DEVICES, AND METHODS FOR DRIVING MACHINERY
153 US	11/421,078	5/31/2006	8,826,680	9/9/2014	Pressure Ratio Unload Logic For A Compressor
154 US	11/422,668	6/7/2006	7,332,885	2/19/2008	Ride-through method and system for HVAC&R chillers
155 US	11/422,762	6/7/2006	8,079,227	12/20/2011	Reduced compressor capacity controls
156 US	11/422,964	6/8/2006	7,640,767	1/5/2010	Low Voltage Variable Speed Drive For Application On Medium/High Voltage Mains
157 US	11/525,398	9/22/2006	7,471,022	12/30/2008	MAGNETIC BEARING
158 US	11/556,426	11/3/2006	7,793,509	9/14/2010	System And Method For Capacity Control In A Multiple Compressor Chiller System
159 US	11/612,242	12/18/2006	7,661,274	2/16/2010	System And Method Of Operation Of Multiple Screw Compressors With Continuously Variable Speed To Provide Noise Cancellation
160 US	11/626,482	1/24/2007	7,854,596	12/21/2010	System And Method For Cooling A Compressor Motor
161 US	11/679,220	2/27/2007	8,021,127	9/20/2011	Method For Detecting Rotating Stall In A Compressor
162 US	11/690,222	3/23/2007	7,905,702	3/15/2011	Drainage Mechanism For A Flooded Evaporator
163 US	11/759,608	6/7/2007	7,707,850	5/4/2010	Economized Refrigeration System
164 US	11/848,297	8/31/2007	9,746,218	8/29/2017	Variable Speed Drive
165 US	11/978,939	10/30/2007	7,957,166	6/7/2011	Common Mode & Differential Mode Filter For Variable Speed Drive
166 US	11/931,993	10/31/2007	7,746,020	6/29/2010	Variable Speed Drive With Integral Bypass Contactor
167 US	11/932,054	10/31/2007	8,014,110	9/6/2011	System And Method To Extend Synchronous Operation Of An Active Converter In A Variable Speed Drive
168 US	11/932,280	10/31/2007	7,764,041	7/27/2010	Cooling Systems For Variable Speed Drives And Inductors
169 US	11/932,479	10/31/2007	7,876,561	1/25/2011	Compact Evaporator For Chiller Application
170 US	12/018,321	1/23/2008	7,587,911	9/15/2009	Medium Voltage Starter For A Chiller Unit
171 US	12/040,063	2/29/2008	7,918,099	4/5/2011	Multichannel Evaporator With Flow Mixing Manifold
172 US	12/040,501	2/29/2008	7,895,860	3/1/2011	Multichannel Heat Exchanger With Dissimilar Multichannel Tubes
173 US	12/040,612	2/29/2008	7,757,753	7/20/2010	Multichannel Heat Exchanger With Dissimilar Tube Spacing
174 US	12/040,661	2/29/2008	7,677,057	3/16/2010	Cooling Member
175 US	12/057,787	3/28/2008	8,149,579	4/3/2012	Multichannel condenser coil with refrigerant storage receiver
176 US	12/594,730	4/4/2008	9,410,709	8/9/2016	System And Method For Controlling An Economizer Circuit
177 US	12/098,726	4/7/2008	7,895,852	3/1/2011	Oil Separator
178 US	12/102,459	4/14/2008	7,905,102	3/15/2011	System And Method For Lowering A Temperature Of Liquid Exiting A Heat Exchanger In A Vapor Compression System
179 US	12/667,233	7/11/2008	8,429,930	4/30/2013	Auxiliary Cooling System
180 US	12/175,123	7/17/2008	7,856,292	12/21/2010	
181 US	12/670,276	7/17/2008	8,413,461	4/9/2013	

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182 US	12/180,017	7/25/2008	8,166,776	5/1/2012	Multichannel Heat Exchanger
183 US	12/179,984	7/25/2008	8,844,306	9/30/2014	Heat Exchanger Support
					Method Of Positioning Seals In Turbomachinery Utilizing Electromagnetic Bearings
184 US	12/189,471	8/11/2008	8,092,158	1/10/2012	Bearings
185 US	12/200,504	8/28/2008	7,942,020	5/17/2011	Mult-Slab Multichannel Heat Exchanger
186 US	12/200,471	8/28/2008	8,234,881	8/7/2012	Multichannel Heat Exchanger With Dissimilar Flow
187 US	12/254,887	10/21/2008	7,687,948	3/30/2010	MAGNETIC BEARING
188 US	90/013,160	10/30/2008	8,567,207C1	10/2/2014	Compressor Control System Using A Variable Geometry Diffuser
189 US	12/681,686	10/30/2008	8,567,207	10/29/2013	Compressor Control System Using A Variable Geometry Diffuser
190 US	12/810,411	12/29/2008	8,511,103	8/20/2013	Vapor Compression System
191 US	12/745,593	12/30/2008	8,424,339	4/23/2013	Method And System For Rotor Cooling
192 US	12/809,839	1/2/2009	9,212,836	12/15/2015	Heat Exchanger
193 US	12/747,286	1/9/2009	9,347,715	5/24/2016	Vapor Compression System
194 US	12/746,858	1/9/2009	8,863,551	10/21/2014	Heat Exchanger
195 US	12/398,015	3/4/2009	7,980,094	7/19/2011	Multichannel Heat Exchanger With Dissimilar Tube Spacing
196 US	12/424,869	4/16/2009	8,330,311	12/11/2012	Magnetic Thrust Bearing with Integrated Electronics
					High-speed permanent magnet motor and generator with low-loss metal rotor
197 US	12/424,600	4/16/2009	8,698,367	4/15/2014	
198 US	12/999,818	7/8/2009	8,735,955	5/27/2014	Grounding System And Apparatus
199 US	12/501,628	7/13/2009	8,516,850	8/27/2013	Motor Cooling Applications
200 US	12/572,947	10/2/2009	8,258,664	9/4/2012	Permanent Magnet Synchronous Motor And Drive System
201 US	12/572,975	10/2/2009	8,353,174	1/15/2013	Control Method For Vapor Compression System
202 US	12/572,864	10/2/2009	8,193,756	6/5/2012	Variable Speed Drive For Permanent Magnet Motor
203 US	12/572,883	10/2/2009	8,286,439	10/16/2012	Variable Speed Drive For Permanent Magnet Motor
204 US	12/572,915	10/2/2009	8,336,323	12/25/2012	Variable Speed Drive With Pulse-Width Modulated Speed Control
205 US	12/575,177	10/7/2009	7,891,202	2/22/2011	Absorption System
206 US	12/577,353	10/12/2009	7,784,295	8/31/2010	Two-Zone Fuzzy Logic Liquid Level Control
207 US	12/580,397	10/16/2009	8,439,104	5/14/2013	Multichannel Heat Exchanger With Improved Flow Distribution
208 US	12/629,523	12/2/2009	8,495,890	7/30/2013	Cooling Member
209 US	12/748,285	3/26/2010	8,475,151	7/2/2013	Compressor
210 US	13/258,494	3/26/2010	9,850,902	12/26/2017	Compressor With A Bypass Port
211 US	12/751,475	3/31/2010	8,813,511	8/26/2014	Control System For Operating Condenser Fans
212 US	13/640,322	5/4/2010	9,024,559	5/5/2015	Variable Speed Drive
213 US	13/375,986	6/4/2010	11,378,088	7/5/2022	Control System
214 US	12/796,434	6/8/2010	8,302,426	11/6/2012	Heat Exchanger
215 US	13/381,341	6/9/2010	8,739,562	6/3/2014	System For Limiting Pressure Differences In Dual Compressor Chillers
216 US	12/820,698	6/22/2010	9,583,991	2/28/2017	Systems, Devices, and/or Methods for Managing Magnetic Bearings
217 US	12/839,658	7/20/2010	8,944,152	2/3/2015	Compact Evaporator For Chillers
218 US	12/846,959	7/30/2010	9,657,978	5/23/2017	Refrigerant control system for a Flash tank

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219 US	13/388,262	8/12/2010	11,199,356	12/14/2021	Free Cooling Refrigeration System
220 US	12/855,281	8/12/2010	8,539,789	9/24/2013	Heat-Pump Chiller With Improved Heat Recovery Features
221 US	12/960,024	12/3/2010	8,337,144	12/25/2012	Method For Detecting Rotating Stall In A Compressor
222 US	13/520,469	1/12/2011	8,624,213	1/7/2014	Optocoupler Circuit For Gate Driver
223 US	13/009,406	1/19/2011	8,650,905	2/18/2014	Falling Film Evaporator
224 US	13/016,461	1/28/2011	8,281,615	10/9/2012	Multichannel Evaporator With Flow Mixing Manifold
225 US	13/025,907	2/11/2011	9,869,487	1/16/2018	Heat Exchanger Having Stacked Coil Sections
226 US	13/579,464	2/24/2011	9,490,733	11/8/2016	Method And System For Controlling A Permanent Magnet Synchronous Motor
227 US	13/034,308	2/24/2011	8,174,853	5/8/2012	Variable Speed Drive
228 US	13/078,317	4/1/2011	8,544,290	10/1/2013	Medium Voltage Variable Speed Drive For A Chiller Unit
229 US	13/088,932	4/18/2011	8,561,427	10/22/2013	Mult-Slab Multichannel Heat Exchanger
230 US	13/167,106	6/23/2011	8,987,959	3/24/2015	Split Magnetic Thrust Bearing
231 US	13/208,728	8/12/2011	8,465,265	6/18/2013	System And Method For Cooling A Compressor Motor
232 US	13/640,748	9/7/2011	8,444,397	5/21/2013	Manual Selective Attenuator
233 US	13/820,639	9/14/2011	9,121,627	9/1/2015	System And Method For Controlling An Economizer Circuit
234 US	13/817,717	9/14/2011	8,899,942	12/2/2014	Volume Ratio Control System And Method
235 US	13/296,279	11/15/2011	9,217,592	12/22/2015	Method And Apparatus For Variable Refrigerant Chiller Operation
236 US	13/880,465	12/12/2011	9,291,166	3/22/2016	Motor Cooling System
237 US	13/358,070	1/25/2012	9,816,402	11/14/2017	Heat Recovery System Series Arrangements
238 US	13/367,444	2/7/2012	9,631,620	4/25/2017	Stationary Volume Ratio Adjustment Mechanism
239 US	13/454,308	4/24/2012	8,888,466	11/18/2014	Compressor
240 US	13/479,722	5/24/2012	8,713,963	5/6/2014	Economized Vapor Compression Circuit
241 US	13/491,120	6/7/2012	8,590,329	11/26/2013	Medium Voltage Power Controller
242 US	13/541,392	7/3/2012	8,938,988	1/27/2015	Multichannel Heat Exchanger With Dissimilar Flow
243 US	14/238,340	8/31/2012	9,759,469	9/12/2017	System And Method For Controlling A Variable Speed Drive Of A Compressor Motor
244 US	13/649,405	10/11/2012	9,032,750	5/19/2015	Manual VI Adjustment Mechanism For Screw Compressors
245 US	14/357,534	11/29/2012	9,754,574	9/5/2017	System And Method For Reducing Noise Within A Refrigeration System
246 US	14/369,015	2/4/2013	9,291,167	3/22/2016	Hermetic Motor Cooling And Control
247 US	14/389,488	4/26/2013	10,458,690	10/29/2019	Control System
248 US	13/912,634	6/7/2013	10,209,013	2/19/2019	Vapor Compression System
249 US	14/421,058	8/21/2013	10,337,781	7/2/2019	Variable Speed Drive Control For Chiller Coast-Through
250 US	14/026,574	9/13/2013	9,429,345	8/30/2016	Heat-Pump Chiller With Improved Heat Recovery Features
251 US	14/423,472	10/23/2013	9,395,111	7/19/2016	Motor Cooling Method For A Compressor
252 US	14/368,330	11/4/2013	10,378,553	8/13/2019	Variable Geometry Diffuser Having Extended Travel And Control Method Thereof
253 US	14/443,292	11/15/2013	10,132,542	11/20/2018	Pressure Control For Refrigerant System
254 US	14/088,003	11/22/2013	8,820,105	9/2/2014	Medium Voltage Power Controller

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255 US	14/655,583	1/14/2014	10,401,068	9/3/2019	Air Cooled Chiller With Heat Recovery
256 US	14/649,052	1/28/2014	9,590,540	3/7/2017	Hybrid Pulse Width Modulation Method For Variable Speed Drive
257 US	14/768,489	2/19/2014	10,197,316	2/5/2019	Lubrication And Cooling System
258 US	14/771,325	3/4/2014	11,079,122	8/3/2021	Modular liquid based heating and cooling system
					Infinitely Variable VI In Screw Compressors Using Proportional Valve Control
259 US	14/197,395	3/5/2014	9,664,418	5/30/2017	
260 US	14/203,251	3/10/2014	9,733,005	8/15/2017	Subcooling System With Thermal Storage
261 US	14/204,593	3/11/2014	9,631,852	4/25/2017	System And Method For Controlling Compressor Motor Voltage
262 US	14/205,829	3/12/2014	9,581,364	2/28/2017	Refrigeration System With Free-Cooling
263 US	14/494,967	9/24/2014	9,857,109	1/2/2018	Heat Exchanger
264 US	15/026,547	9/24/2014	9,574,805	2/21/2017	Motor Housing Temperature Control System
265 US	14/650,598	12/12/2014	10,704,810	7/7/2020	Steam Turbine Driven Centrifugal Heat Pump
					Multi-Pulse Constant Voltage Transformer For A Variable Speed Drive In Chiller Applications
266 US	15/031,785	1/21/2015	10,075,117	9/11/2018	
267 US	15/304,042	2/20/2015	10,451,326	10/22/2019	Method For Operating A Chiller
268 US	14/674,811	3/31/2015	10,317,112	6/11/2019	Heat Pump System With Multiple Operating Modes
269 US	14/706,284	5/7/2015	9,698,591	7/4/2017	Over-Current Protection Method And Circuit For A DC Inverter
270 US	14/797,324	7/13/2015	9,970,440	5/15/2018	Screw Compressor With Adjustable Internal Volume Ratio
					System And Method For Detecting Low Refrigerant Charge In A Refrigeration System
271 US	14/800,080	7/15/2015	9,829,229	11/28/2017	
272 US	14/808,405	7/24/2015	10,018,393	7/10/2018	Method For Controlling An Economizer Circuit
273 US	14/827,399	8/17/2015	10,125,780	11/13/2018	Battery Monitoring System
274 US	14/949,609	11/23/2015	10,047,985	8/14/2018	Subcooling System With Thermal Energy Storage
275 US	14/962,394	12/8/2015	9,621,101	4/11/2017	Electromagnetic Compatibility Filter
276 US	14/962,148	12/8/2015	9,654,017	5/16/2017	Structural Frame Cooling Manifold
277 US	15/071,413	3/16/2016	10,288,329	5/14/2019	Condensation and Falling Film Evaporation Hybrid Heat Exchanger
					Method Control System and Method With Adaptive Flux Linkage Estimation
278 US	15/088,092	3/31/2016	9,941,825	4/10/2018	
					Motor Control System and Method With Flux Linkage Estimation Error Compensation
279 US	15/088,095	3/31/2016	9,979,332	5/22/2018	
					Motor Control System And Method With Predictive Motor Current Estimation
280 US	15/088,096	3/31/2016	9,923,497	3/20/2018	
281 US	15/137,759	4/25/2016	10,317,117	6/11/2019	Vapor Compression System
282 US	15/148,451	5/6/2016	10,187,000	1/22/2019	Variable Speed Drive With Active Converter
283 US	15/195,860	6/28/2016	10,203,140	2/12/2019	Refrigerant control system for a flash tank
					Capacity Control System And Method For Multi-Stage Centrifugal Compressor
284 US	15/202,093	7/5/2016	10,184,482	1/22/2019	
285 US	15/385,668	12/20/2016	10,830,510	11/10/2020	Heat Exchanger For a Vapor Compression System
286 US	15/385,676	12/20/2016	10,508,843	12/17/2019	Heat Exchanger with Water Box

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287 US	15/399,601	1/5/2017	10,088,208	10/2/2018	Vapor Compression System
288 US	15/399,602	1/5/2017	10,458,687	10/29/2019	Vapor Compression System
289 US	15/414,439	1/24/2017	9,885,503	2/6/2018	Refrigeration System With Free-Cooling
290 US	15/414,444	1/24/2017	9,874,378	1/23/2018	Refrigeration System With Free-Cooling
291 US	15/427,953	2/8/2017	10,739,045	8/11/2020	Systems And Methods For Controlling A Refrigeration System
292 US	15/436,145	2/17/2017	11,274,705	3/15/2022	Vapor Compression System and Method of Extending Service Life of Same
293 US	15/436,157	2/17/2017	10,267,547	4/23/2019	Falling-Film Evaporator Suitable for Low Pressure Refrigerant
294 US	15/436,164	2/17/2017	10,295,234	5/21/2019	Heat Exchange Device Suitable for Low Pressure Refrigerant
295 US	16/081,007	2/28/2017	10,739,047	8/11/2020	Heat Exchange Device Suitable for Low Pressure Refrigerant
296 US	16/088,790	3/29/2017	11,162,726	11/2/2021	Liquid Detection System
297 US	15/592,018	5/10/2017	10,462,942	10/29/2019	Structural Frame Cooling Manifold
298 US	16/312,929	6/1/2017	11,035,600	6/15/2021	Capacity Control For Chillers Having Screw Compressors
299 US	15/649,556	7/13/2017	10,677,246	6/9/2020	Variable Volume Ratio Compressor
300 US	15/654,457	7/19/2017	10,426,058	9/24/2019	Cold Plate Assembly For Electrical Cabinet
301 US	16/322,448	8/1/2017	11,725,658	8/15/2023	A Screw Compressor With Male And Female Rotors
302 US	15/676,646	8/14/2017	10,371,428	8/6/2019	Subcooling System With Thermal Storage
303 US	16/325,685	8/16/2017	11,293,590	4/5/2022	Oil Flow Switch And Lubrication System With The Same For A Refrigeration System
304 US	16/326,895	8/22/2017	11,359,847	6/14/2022	Systems And Methods For Controlling A Refrigeration System
305 US	16/338,974	10/5/2017	11,512,885	11/29/2022	Variable Speed Drive With Secondary Windings
306 US	16/338,973	10/5/2017	11,486,612	11/1/2022	HEAT PUMP FOR A HVAC&R SYSTEM
307 US	16/339,328	10/5/2017	11,592,224	2/28/2023	System And Method For Determining Efficiency Of Chillers
308 US	16/339,329	10/5/2017	10,812,005	10/20/2020	Variable Speed Drive With A Battery
309 US	16/339,332	10/5/2017	10,859,300	12/8/2020	Variable speed drive for a HVAC&R system
310 US	16/757,337	10/20/2017			Falling Film Heat Exchanger
311 US	16/461,872	10/23/2017	10,704,599	7/7/2020	BALANCED SWITCHING AMPLIFIER FOR A MAGNETIC BEARING ASSEMBLY
312 US	15/796,483	10/27/2017	11,175,076	11/16/2021	Free Cooling Refrigeration System
313 US	15/852,789	12/22/2017	10,677,503	6/9/2020	Heat Exchanger
314 US	15/871,826	1/15/2018	10,215,444	2/26/2019	Heat Exchanger Having Stacked Coil Sections
315 US	16/484,493	1/15/2018	11,421,734	8/23/2022	ACTIVE RADIAL MAGNETIC BEARING ASSEMBLY WITH INTERNAL SENSORS
316 US	16/491,469	3/8/2018	11,293,554	4/5/2022	Back To Back Bearing Sealing Systems
317 US	15/921,347	3/14/2018	10,578,331	3/3/2020	Control Structure Of An Air Conditioning System And Control Method Of The Same
318 US	16/495,772	3/23/2018			Pressure Dam Bearing
319 US	15/934,687	3/23/2018	11,022,355	6/1/2021	Converging Suction Line For Compressor
320 US	16/495,776	3/23/2018	11,609,030	3/21/2023	Chiller Motor with Cooling Flow Path

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321 US	17/059,963	5/30/2018	11,499,768	11/15/2022	Chiller Suction Flow Limiting With Input Power Or Motor Current Control
322 US	16/612,584	7/10/2018	11,480,215	10/25/2022	Self-Centering Auxiliary Bearings in a Magnetic Bearing Cartridge
323 US	16/102,491	8/13/2018	11,320,183	5/3/2022	Subcooling System With Thermal Energy Storage
					Multi-Pulse Constant Voltage Transformer For A Variable Speed Drive In Chiller Applications
324 US	16/126,814	9/10/2018	10,707,800	7/7/2020	
325 US	16/650,229	9/21/2018	11,435,116	9/6/2022	Two Step Oil Motive Eductor System
326 US	16/649,863	9/21/2018	11,680,582	6/20/2023	Two Piece Split Scroll for Centrifugal Compressor
327 US	16/650,277	9/21/2018	11,421,699	8/23/2022	Compact Variable Geometry Diffuser Mechanism
328 US	16/649,852	9/24/2018	11,644,226	5/9/2023	Variable Speed Drive Input Current Control
329 US	16/650,360	9/25/2018	11,549,604	1/10/2023	Systems And Methods For Venting Enclosure
330 US	16/652,378	9/26/2018			A Slide Valve for a Twin-Screw Compressor
331 US	16/650,349	9/26/2018	11,738,298	8/29/2023	Emission Canister System For A HVAC&R System
332 US	16/650,362	9/26/2018	11,241,650	2/8/2022	EMISSION CANISTER SYSTEM FOR A HVAC&R SYSTEM
333 US	16/650,351	9/26/2018	11,413,566	8/16/2022	Emission Canister System For A HVAC&R System
334 US	16/650,353	9/27/2018	11,371,526	6/28/2022	Keyless Impeller System And Method
					Systems And Methods For Controlling A Purge Unit Of A Vapor Compression System
335 US	16/652,581	10/4/2018	11,635,238	4/25/2023	Compression System
					Activation And Deactivation Of A Purge Unit Of A Vapor Compression System Based At Least In Part On Conditions Within A Condenser Of The
336 US	16/652,587	10/4/2018	11,466,912	10/11/2022	Vapor Compression System
337 US	16/755,061	10/10/2018	11,280,524	3/22/2022	Systems For A Chiller Electrical Enclosure
338 US	16/755,108	10/10/2018			Hermetic Motor Cooling System
339 US	16/755,109	10/10/2018	11,515,825	11/29/2022	Systems And Methods For A Dual-Supply Variable Speed Drive
340 US	16/171,145	10/25/2018	10,697,674	6/30/2020	Bypass Line For Refrigerant
341 US	16/762,094	11/6/2018			Variable Compressor Housing
342 US	16/182,410	11/6/2018	10,666,113	5/26/2020	Magnetic Bearing Motor Compressor
343 US	16/768,830	12/4/2018	11,340,002	5/24/2022	Control System For HVAC Unit
					Redistributing Refrigerant Between An Evaporator And A Condenser Of A Vapor Compression System
344 US	16/225,865	12/19/2018	10,955,179	3/23/2021	
345 US	16/234,549	12/27/2018	10,782,057	9/22/2020	Motor Temperature Control Technique With Temperature Override
346 US	16/234,444	12/27/2018	11,073,319	7/27/2021	Capacity Control Technique With Motor Temperature Override
347 US	16/253,054	1/21/2019	10,693,406	6/23/2020	Variable Speed Drive With Active Converter
348 US	16/263,676	1/31/2019	10,941,967	3/9/2021	Lubrication And Cooling System
349 US	16/970,606	2/9/2019			Adaptive Logic Board For Variable Speed Drive
350 US	13808292.0	2/9/2019			Adaptive Logic Board For Variable Speed Drive
351 US	17/258,728	3/17/2019	11,592,212	2/28/2023	Bypass Line For Refrigerant
352 US	16/387,364	4/17/2019	10,982,885	4/20/2021	Falling-Film Evaporator Suitable For Low Pressure Refrigerant
353 US	17/054,146	5/8/2019	11,519,422	12/6/2022	Blade And Axial Flow Impeller Using Same

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354 US	16/433,840	6/6/2019	10,830,503	11/10/2020	Heat Pump System With Multiple Operating Modes
355 US	16/459,432	7/1/2019	11,480,373	10/25/2022	Variable Speed Drive Control For Chiller Coast-Through
					Variable Geometry Diffuser Having Extended Travel And Control Method Thereof
356 US	16/510,622	7/12/2019	11,092,166	8/17/2021	Condenser
357 US	17/263,844	7/26/2019			Active Bearing Temperature Control
358 US	17/264,659	7/29/2019			Refrigeration System
359 US	17/311,276	8/1/2019			Refrigeration System
360 US	18786514.2	8/1/2019			FALLING FILM EVAPORATOR
361 US	17/268,385	8/13/2019	11,644,223	5/9/2023	FALLING FILM EVAPORATOR
362 US	18783345.4	8/13/2019	11,644,223	5/9/2023	Screw Compressor And Control Method Therefor
363 US	17/421,699	8/20/2019			Screw Compressor And Control Method Therefor
364 US	18716859.6	8/20/2019			Screw Compressor And Control Method Therefor
365 US	EP18716859.6A	8/20/2019			Variable Speed Motor Drive With Integrated Motor Heating Systems And Methods
366 US	16/549,181	8/23/2019	11,699,972	7/11/2023	Air Cooled Chiller With Heat Recovery
367 US	16/554,429	8/28/2019	11,378,314	7/5/2022	Liquid Injection Nozzles for Chiller Motor
368 US	16/495,766	9/19/2019			Blade And Axial Flow Impeller Using Same
369 US	17/280,111	9/24/2019	11,572,890	2/7/2023	Blade And Axial Flow Impeller Using Same
370 US	18796237.8	9/24/2019	11,572,890	2/7/2023	Brake System For A Compressor
371 US	16/591,275	10/2/2019	11,531,307	12/20/2022	Method For Operating A Chiller
372 US	16/598,543	10/10/2019	10,883,749	1/5/2021	Microchannel Heat Exchanger With Varying Fin Density
373 US	17/311,256	12/4/2019			Microchannel Heat Exchanger With Varying Fin Density
374 US	16826267.3	12/4/2019			Hybrid Cooling Systems For Hermetic Motors
375 US	16/723,400	12/20/2019			Economizer Control Systems And Methods
376 US	16/739,308	1/10/2020	11,629,894	4/18/2023	Condenser Arrangement For A Chiller
377 US	17/434,346	2/27/2020			Building System With Automatic Chiller Anti-Surge Control
378 US	16/805,365	2/28/2020	11,732,942	8/22/2023	A Heating, Ventilation, Air Conditioning And/Or Refrigeration System With A Compressor Motor Cooling System
379 US	17/598,813	3/27/2020			A Heating, Ventilation, Air Conditioning And/Or Refrigeration System With A Compressor Motor Cooling System
380 US	18711802.1	3/27/2020			Hermetic Motor Cooling System
381 US	17/605,195	4/23/2020			Magnetic Bearing Motor Compressor
382 US	16/861,865	4/29/2020	11,757,328	9/12/2023	Lubrication System For A Compressor
383 US	17/619,555	6/11/2020			Lubrication System For A Compressor
384 US	18786512.6	6/11/2020			Series Flow Chiller System
385 US	17/627,095	7/14/2020			Compressor With Optimized Interstage Flow Inlet
386 US	17/634,517	8/11/2020			Motor Temperature Control Technique With Temperature Override
387 US	17/000,717	8/24/2020	11,686,511	6/27/2023	Load Balancing Method for Two Compressors
388 US	17/764,952	9/25/2020			

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
389 US	18796240.2	9/25/2020			Load Balancing Method for Two Compressors
390 US	17/764,945	9/29/2020			Oil Separation Device, Condenser, and Refrigeration System Using Oil Separation Device or Condenser
391 US	18834309.9	9/29/2020			Oil Separation Device, Condenser, and Refrigeration System Using Oil Separation Device or Condenser
392 US	17/770,964	10/23/2020			CENTRIFUGAL FLASH TANK
393 US	17/787,556	12/18/2020			Heat Exchanger Built With Additive Manufacturing
394 US	17/141,952	1/5/2021	11,441,828	9/13/2022	Method For Operating A Chiller
395 US	17/791,180	1/7/2021			VOLUME RATIO CONTROL SYSTEM FOR A COMPRESSOR
396 US	17/800,783	2/26/2021			FREE COOLING SYSTEM FOR HVAC SYSTEM
397 US	17/802,484	2/26/2021			SYSTEM AND METHOD FOR OPERATION OF VARIABLE GEOMETRY DIFFUSER AS CHECK VALVE
398 US	17/802,489	2/26/2021			WATER BOX MIXING MANIFOLD
399 US	18/282,746	3/18/2021			ADAPTIVE LOGIC BOARD FOR VARIABLE SPEED DRIVE FOR HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION SYSTEM
400 US	17/917,535	4/6/2021			SCREW COMPRESSOR, REFRIGERATION SYSTEM, AND METHOD FOR CONTROLLING REFRIGERATION SYSTEM
401 US	17/225,819	4/8/2021	11,441,826	9/13/2022	Condenser With External Subcooler
402 US	17/229,662	4/13/2021	11,608,835	3/21/2023	Blade And Axial Flow Impeller Using Same
403 US	21760185.5	4/13/2021	11,608,835	3/21/2023	Blade And Axial Flow Impeller Using Same
404 US	17/321,098	5/14/2021			Mechanical-Cooling, Free-Cooling, And Hybrid-Cooling Operation Of A Chiller
405 US	18/007,937	5/31/2021			GAS-LIQUID SEPARATOR
406 US	18/018,247	6/17/2021			Evaporator
407 US	18/014,710	7/5/2021			HEAT PUMP SYSTEM
408 US	17/791,183	7/6/2021			VOLUME RATIO CONTROL SYSTEM FOR A COMPRESSOR
409 US	18/016,500	7/7/2021			GAS-LIQUID SEPARATOR
410 US	18/016,016	7/16/2021			HEAT PUMP SYSTEM
411 US	18/019,579	7/23/2021			Fan
412 US	18/018,235	7/30/2021			SYSTEM AND METHOD FOR DIRECTING FLUID FLOW IN A COMPRESSOR
413 US	18/020,410	8/11/2021			COOLING SYSTEM WITH INTERMEDIATE CHAMBER
414 US	17/399,956	8/11/2021			Variable Geometry Diffuser Having Extended Travel And Control Method Thereof
415 US	18786556.3	8/11/2021			COOLING SYSTEM WITH INTERMEDIATE CHAMBER
416 US	18/024,234	8/31/2021			ELECTRICAL ENCLOSURE FOR HVAC SYSTEM
417 US	18/024,233	9/1/2021			ELECTRICAL ENCLOSURE ASSEMBLY FOR HVAC SYSTEM
418 US	18/024,469	9/3/2021			EXPANSION VALVE CONTROL SYSTEM
419 US	18/027,901	9/21/2021			FREE COOLING OPERATION OF A CHILLER

	Country	Application Number	Filing Date	Patent Number	Issue Date	Title
	420 US	18/028,189	9/23/2021			CONDENSER ARRANGEMENT FOR HVAC SYSTEM
	421 US	20793898.6	9/23/2021			CONDENSER ARRANGEMENT FOR HVAC SYSTEM
	422 US	110135182	9/23/2021			CONDENSER ARRANGEMENT FOR HVAC SYSTEM
	423 US	18/028,181	9/24/2021			MICROCHANNEL HEAT EXCHANGER
	424 US	18/029,061	9/29/2021			ECONOMIZER PORT VALVE
	425 US	18/034,018	10/28/2021			CHILLER SYSTEM WITH SERIAL FLOW EVAPORATORS
	426 US	18/029,530	10/28/2021			CHILLER SYSTEM WITH SERIAL FLOW EVAPORATORS
	427 US	17/608,448	11/2/2021			Control System For A Vapor Compression System
	428 US	18/272,058	1/6/2022			PIPELINE PROVIDED WITH SILENCING STRUCTURE
	429 US	18/271,633	1/11/2022			CONDENSER SUBCOOLER FOR A CHILLER
	430 US	18/277,556	2/18/2022			SYSTEMS AND METHODS FOR MONITORING ELECTRICAL COMPONENTS OF A CHILLER SYSTEM
	431 US	17/800,501	2/21/2022			LOGIC BOARD FOR VARIABLE SPEED DRIVE
	432 US	17/694,410	3/14/2022			Vapor Compression System And Method Of Extending Service Life Of Same
	433 US	17/839,137	6/13/2022	11,774,154	10/3/2023	SYSTEMS AND METHODS FOR CONTROLLING A REFRIGERATION SYSTEM
	434 US	17/893,009	8/22/2022			COMPACT VARIABLE GEOMETRY DIFFUSER MECHANISM
	435 US	17/986,666	11/14/2022			CHILLER SUCTION FLOW LIMITING WITH INPUT POWER OR MOTOR CURRENT CONTROL
	436 US	63/443,921	2/7/2023			BEARING SYSTEM FOR HVAC&R SYSTEM
	437 US	18/109,725	2/14/2023			CONDUIT SUPPORT ASSEMBLY FOR HVAC&R SYSTEM
	438 US	18/114,873	2/27/2023			SYSTEM AND METHOD FOR DETERMINING EFFICIENCY OF CHILLERS
	439 US	18/176,036	2/28/2023			BYPASS LINE FOR REFRIGERANT
	440 US	63/448,944	2/28/2023			OIL CONDUIT SYSTEM FOR HVAC&R SYSTEM
	441 US	63/451,852	3/13/2023			ELECTRICAL AND LIQUID FEEDTHROUGH FOR COMPRESSOR
	442 US	63/453,211	3/20/2023			VARIABLE GEOMETRY REGULATION SYSTEM OF A COMPRESSOR FOR A HEATING, VENTILATION, AIR CONDITIONING, AND/OR REFRIGERATION SYSTEM
	443 US	63/453,409	3/20/2023			COMBINED CHILLER AND ORGANIC RANKINE CYCLE SYSTEM
	444 US	63/454,246	3/23/2023			HEATING, VENTILATION, AIR CONDITIONING, AND REFRIGERATION SYSTEM TUBE SUPPORT AND GASKET
	445 US	18/189,055	3/23/2023			SYSTEMS AND METHODS FOR CONTROLLING A PURGE UNIT OF A VAPOR COMPRESSION SYSTEM
	446 US	63/454,367	3/24/2023			COMPACT VARIABLE GEOMETRY REGULATION SYSTEM OF A COMPRESSOR FOR A HEATING, VENTILATION, AIR CONDITIONING, AND/OR REFRIGERATION SYSTEM
	447 US	63453682	3/28/2023			Standby Hermetic system for Water Heat Pump
	448 US	18/128,659	3/30/2023			Chiller Rating Engine Digital Twin & Energy Balance Model

	Country	Application Number	Filing Date	Patent Number	Issue Date	Title
	449 US	63/456,206	3/31/2023			FREE COOLING SYSTEM AND FLUID FOR HVAC&R SYSTEM
	450 US	63/460,227	4/18/2023			BACKUP BEARINGS FOR COMPRESSOR
	451 US	63/465,167	5/9/2023			A HEAT EXCHANGER FOR AN HVAC&R SYSTEM
	452 US	63/471,449	6/6/2023			AXIAL FLUX MOTOR FOR HVAC&R SYSTEM
	453 US	63/521,301	6/15/2023			INTEGRATED ACCUMULATOR AND SUBCOOLER
	454 US	63/521,761	6/19/2023			RETAINING ARRANGEMENT FOR ROTATING SHAFT
	455 US	18/212,050	6/20/2023			TWO PIECE SPLIT SCROLL FOR CENTRIFUGAL COMPRESSOR
	456 US	63/522,641	6/22/2023			A COMPRESSOR WITH OIL DIVERSION FEATURES
	457 US	63/525550	7/7/2023			COOLING FOR HIGH CAPACITY CHILLER
	458 US	63/526,369	7/12/2023			SYSTEMS AND METHODS FOR CONTROLLING A MULTISTAGE CENTRIFUGAL COMPRESSOR
	459 US	63/527,454	7/18/2023			WATER DISTILLATION SYSTEM FOR HVAC&R SYSTEM
						CAPACITY CONTROL FOR HEATING, VENTILATION, AIR CONDITIONING, AND/OR REFRIGERATION SYSTEM OPERATING IN FREE COOLING/HEATING MODE
	460 US	63/529,112	7/26/2023			PRESSURE ACCUMULATOR FOR HVAC&R SYSTEM
	461 US	63/529,974	7/31/2023			AN INTAKE ARRANGEMENT FOR A COMPRESSOR
	462 US	63/530,445	8/2/2023			SYSTEMS AND METHODS FOR CONTROLLING OPERATION OF AN HVAC&R SYSTEM
	463 US	63/531,513	8/8/2023			EMISSION CANISTER SYSTEM FOR A HVAC&R SYSTEM
	464 US	18/234,823	8/16/2023			BUILDING SYSTEM WITH AUTOMATIC CHILLER ANTI-SURGE CONTROL
	465 US	18/236,286	8/21/2023			COMPACT HYDRAULIC VARIABLE GEOMETRY REGULATION SYSTEM OF A COMPRESSOR FOR A HEATING, VENTILATION, AIR CONDITIONING, AND/OR REFRIGERATION SYSTEM
	466 US	63/536,644	9/5/2023			REFRIGERATION SYSTEM
	467 US	63/541,201	9/28/2023			PUMP FOR HVAC&R SYSTEM
	468 US	63/604,662	11/30/2023			Linear Actuation Mechanism of a Variable Geometry Diffuser Assembly
	469 US	63/614,031	12/22/2023			INFLATABLE SEALING SYSTEM FOR HVAC&R SYSTEM
	470 WO	PCT/CN2021/085653	4/6/2021			Screw Compressor, Refrigerating System and Control Method for Refrigerating System
	471 WO	PCT/CN2021/097159	5/31/2021			Gas-Liquid Separator
	472 WO	PCT/CN2021/100572	6/17/2021			Evaporator
	473 WO	PCT/CN2021/104465	7/5/2021			Heat Pump System
	474 WO	PCT/CN2021/104975	7/7/2021			Gas-Liquid Separator
	475 WO	PCT/CN2021/106901	7/16/2021			Heat Pump System
	476 WO	PCT/CN2021/108184	7/23/2021			Fan
	477 WO	PCT/US2021/044013	7/30/2021			System And Method For Directing Fluid Flow In A Compressor
	478 WO	PCT/US2021/045587	8/11/2021			Cooling System With Intermediate Chamber
	479 WO	PCT/US2021/048527	8/31/2021			Electrical Enclosure For HVAC System

	Country	Application Number	Filing Date	Patent Number	Issue Date	Title
480	WO	PCT/US2021/049120	9/3/2021			Expansion Valve Control System
481	WO	17179442.3	9/3/2021			Expansion Valve Control System
482	WO	PCT/US2021/051774	9/23/2021			Condenser Arrangement For HVAC System
483	WO	17/626,792	9/23/2021			Condenser Arrangement For HVAC System
484	WO	PCT/US2021/057099	10/28/2021			Chiller System With Serial Flow Evaporators
485	WO	110136573	10/28/2021			Chiller System With Serial Flow Evaporators
486	WO	PCT/CN2022/070482	1/6/2022			Pipeline Provided with Silencing Structure
487	WO	PCT/US2022/029049	5/12/2022			Mechanical-Cooling, Free-Cooling, And Hybrid-Cooling Operation Of A Chiller
488	WO	PCT/US2022/047906	10/26/2022			AN ECONOMIZER FOR A CHILLER
489	WO	PCT/US2023/016879	3/30/2023			Chiller Access Manager - Generating dynamic access codes to unlock chiller control panels
490	WO	PCT/US2023/022352	5/16/2023			SYSTEM AND METHOD FOR ADJUSTING POSITION OF A COMPRESSOR
491	WO	PCT/US2023/024740	6/7/2023			COMPRESSOR ARRANGEMENT FOR HVAC&R SYSTEM
492	WO	PCT/US2023/024710	6/7/2023			CHILLER PURGE SYSTEMS AND METHODS
493	WO	PCT/US2023/024861	6/8/2023			SYSTEMS AND METHODS FOR CONTROLLING A CHILLER
494	WO	PCT/US2023/025310	6/14/2023			SYSTEMS AND METHODS FOR CONTROLLING OPERATION OF A CHILLER
495	WO	PCT/US2023/025211	6/16/2023			PRE-SUBCOOLER FOR A CONDENSER
496	WO	PCT/US2023/025616	6/16/2023			COMPRESSOR SYSTEM FOR HEATING, VENTILATION, AIR CONDITIONING, AND/OR REFRIGERATION SYSTEM
497	WO	PCT/US2023/025596	6/16/2023			COMPRESSOR SYSTEM FOR HVAC&R SYSTEM
498	WO	PCT/US2023/028010	7/18/2023			COMPRESSOR SYSTEM FOR HEATING, VENTILATION, AIR CONDITIONING & REFRIGERATION SYSTEM
499	WO	PCT/US2023/030075	8/11/2023			HEAT EXCHANGER FOR HVAC&R SYSTEM
500	WO	PCT/CN2023/113660	8/18/2023			Evaporator Assembly
501	WO	PCT/CN2023/116563	9/1/2023			Generator
502	WO	PCT/US2023/032198	9/7/2023			LUBRICANT SEPARATION SYSTEM FOR HVAC&R SYSTEM
503	WO	PCT/US2023/033403	9/21/2023			A FLASH TANK FOR AN HVAC SYSTEM
504	WO	PCT/US2023/033543	9/22/2023			HEAT EXCHANGER FOR HVAC&R SYSTEM
505	WO	PCT/US2023/033542	9/22/2023			HEAT EXCHANGER FOR HVAC&R SYSTEM
506	WO	PCT/US2023/034597	10/5/2023			HEATING, VENTILATION, AIR CONDITIONING, AND/OR REFRIGERATION SYSTEM WITH HEATING AND COOLING OPERATIONS
507	WO	PCT/US2023/076180	10/6/2023			Free-Cooling System Suitable for Chillers
508	WO	PCT/US2023/076259	10/6/2023			Refrigeration System with Reduced Compressor Thrust Load
509	WO	PCT/US2023/085413	12/21/2023			COMPRESSOR FOR HVAC&R SYSTEM
510	WO	PCT/US2023/085406	12/21/2023			SYSTEMS AND METHODS FOR OPERATING A COMPRESSOR OF AN HVAC&R SYSTEM

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511 CN	201710151811.5	3/15/2017	ZL201710151811.5	10/22/2021	(In English) A Control Structure and a Control Method for an Air Conditioning System (In Chinese) 一种空调系统的控制结构以及控制方法
512 CN	202010092409.6	2/14/2020	ZL202010092409.6	9/2/2022	Filter fixing apparatus and air conditioning unit using same
513 CN	202110613847.7	6/2/2021			Heat Exchanger and Fin Thereof
514 CN	202110638009.5	6/8/2021			Airflow System and Electric Motor Assembly and Control Method Thereof
515 CN	202110861791.7	7/29/2021			Fan blade
516 CN	202110885583.0	8/3/2021			Heat Exchanger and Fin Thereof
517 CN	202121869390.8	8/11/2021	216159306	4/1/2022	Thermal Insulation Panel for Air Treatment Unit and Air Treatment Unit Using the Same Thereof
518 CN	202110975986.4	8/24/2021			Blade and Axial-Flow Fan Using the Blade
519 CN	202111021012.9	9/1/2021			Blade and Axial-Flow Fan Using the Blade
520 CN	202111048668	9/8/2021			Evaporator
521 CN	202111078331.3	9/15/2021			Method for Processing Data of Operating Parameters of Air Conditioning Unit
522 CN	202111079245.4	9/15/2021			Methods and Apparatus for Acquiring Building Heat/Cold Loads
523 CN	202122239015.1	9/15/2021	ZL 202122239015.1	3/8/2022	Connecting Member and Case
524 CN	202130610695.6	9/15/2021	ZL 202130610695.6	1/21/2022	Water Pump
525 CN	202111098490.X	9/18/2021			Compressor
526 CN	202111126753.3	9/26/2021	ZL 202111126753.3	11/7/2023	Falling-Film Evaporator
527 CN	202111128036.4	9/26/2021			Vibration Frequency Adjustment System
528 CN	202122373480.4	9/28/2021	216204239	4/5/2022	Air Conditioning Case Plate Assembly
529 CN	202111139701.X	9/28/2021	ZL202111139701.X	12/2/2022	Economizer and Refrigeration System Comprising the Same
530 CN	202130683722.2	10/19/2021	ZL 202130683722.2	2/25/2022	Thermostat
531 CN	202111489026.3	12/8/2021	ZL202111489026.3	7/4/2023	Fan Coil
532 CN	202210087883.9	1/25/2022	ZL 202210087883.9	8/8/2023	Water Tray
533 CN	202210097330.1	1/27/2022			Flow Equalization Apparatus and Flow Divider Apparatus
534 CN	CN215672865U	1/28/2022			Fan blade
535 CN	202210108943.0	1/28/2022			Water-receiving-tray Pipe Coupler and Water-receiving-tray Assembly Including Water-receiving-tray Pipe Coupler
536 CN	202210221925.3	3/9/2022			Screw Compressor
537 CN	202210312515.X	3/28/2022			Vane, Impeller and Backward Centrifugal Fan
538 CN	202230168593.8	3/29/2022	ZL 202230168593.8	9/30/2022	Thermostat with Air Parameter Control Graphical User Interface
539 CN	202210592428.4	5/27/2022	ZL 202210592428.4	11/28/2023	Method and Device for Predicting the Performance of Air Conditioning
540 CN	202210607500.6	5/31/2022			Valve
541 CN	202210670138.7	6/14/2022			Condensing Device And Heat Pump System Including The Same
542 CN	202210741756.6	6/27/2022			Blade and Axial-flow Impeller Using the Same

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543 CN	202210743225.0	6/27/2022			Guide Ring and Axial Fan Comprising Same
544 CN	202210834871.8	7/15/2022			Muffling Unit and Muffling Structure
545 CN	202210861114.X	7/20/2022	ZL 202210861114.X	9/15/2023	Absorption Heat Exchange System
546 CN	202210982105.6	8/16/2022			Screw Compressor
					An air conditioning system for automatically regulating water temperature and control method thereof
547 CN	202211000651.1	8/19/2022			Compressor Control System and Control Method Thereof
548 CN	202211011998.6	8/23/2022			Muffler and Refrigeration System Having Same
549 CN	202211031804.9	8/26/2022			Air Conditioning System Having a Controllable Air Compensating Valve and Control Method Therefor
550 CN	202211066183.8	9/1/2022			Suction Pipe of Centrifugal Compressor
551 CN	202211077011.0	9/5/2022			Volute Assembly
552 CN	202211613728.2	12/15/2022			Fastener and Air Conditioning System Having Fastener
553 CN	202223426372.X	12/20/2022	ZL 202223426372.X	6/16/2023	Display Screen with Graphical User Interface for Constant Temperature and Humidity
554 CN	202230850049.1	12/20/2022	ZL 202230850049.1	8/8/2023	Diffuser Used for Centrifugal Compressor
555 CN	202211659191.3	12/22/2022			Method and Apparatus for Controlling Compressor in the Air Conditioning System
556 CN	202310088771.X	1/20/2023			Display Screen Panel with Graphical User Interface for Whole-House Air Conditioning Hot Water and Air Quality System
557 CN	202330126980.X	3/17/2023	ZL 202330126980.X	9/22/2023	Heat Pump System
558 CN	202310327692.X	3/29/2023			Compressor and Sealing Apparatus for Compressor
559 CN	202320663632.0	3/29/2023	ZL 202320663632.0	11/17/2023	Condenser with Internal Oil Separation Structure
560 CN	202310330795.1	3/30/2023			Flow Regulating Method for Refrigerant in Refrigeration System and Refrigeration System
561 CN	202310340063.0	3/31/2023			Condenser
562 CN	202310335321.6	3/31/2023			Compressor System and Control Method Therefor
563 CN	202310349248.8	4/3/2023			Flow Equalization Cover Assembly and Air Conditioning Unit
564 CN	202310369298.2	4/7/2023			Display Screen Panel with Graphical User Interface for Intelligent Management System for Industrial Rotary Dehumidification
565 CN	202330185414.6	4/7/2023	ZL 202330185414.6	1/12/2024	Screw Compressor
566 CN	202310534737.0	5/12/2023			An Air-conditioning System that Automatically Adjusts Water Pump and Control Method thereof
567 CN	202310573031.5	5/19/2023			Pre-heating Device and Preheating Method for Compressor
568 CN	202310580116.6	5/22/2023			Evaporator
569 CN	202310610353.2	5/26/2023			Heat Exchanger
570 CN	202310670526.X	6/7/2023			Flooded Heat Exchanger and Marine Lithium Bromide Refrigeration Unit
571 CN	202310727661.3	6/16/2023			Comprising the Flooded Heat Exchanger
572 CN	202310717849.X	6/16/2023			Refrigeration System and Control Method for Refrigeration System

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573	CN	202310779073.4	6/28/2023			Heat Exchanger and Marine Refrigeration Unit Comprising the Same
574	CN	202310828581.7	7/6/2023			Absorption Unit and Control Method of the Absorption Unit
575	CN	202310837791.2	7/7/2023			Damping Device and Valve including the Damping Device
576	CN	202310842688.7	7/10/2023			Pressure Vessel Installation Assembly
577	CN	202310970030.4	8/2/2023			Compressor
578	CN	202310971441.5	8/2/2023			Falling Film Evaporator and Refrigeration System Comprising Same
579	CN	202311004721.5	8/9/2023			Refrigeration System
580	CN	202322172636.1	8/11/2023			Air Handling Unit for Accommodating Coil
581	CN	202311018671.6	8/14/2023			Control Method for Cooling Motor of Compressor of Refrigeration Unit and Refrigeration Unit
582	CN	202311032102.7	8/15/2023			Fan Coil Unit
583	CN	202311069031.8	8/23/2023			Valve
584	CN	202311083165.5	8/25/2023			Evaporator
585	CN	202311095587.4	8/28/2023			Liquid Density Detection Device for Evaporator
586	CN	202311150593.5	9/6/2023			Method and Device for Air Conditioning Unit Selection
587	CN	202322505402.4	9/14/2023			Air-Conditioning Cabinet
588	CN	2023112532215	9/26/2023			Compressor and System Comprising Same
589	CN	202311300477.7	10/9/2023			End Insulating Part of Electrostatic Filter and Electrostatic Filter
590	CN	2023114164148	10/27/2023			Water-Cooled Air-Conditioning System and Control Method Thereof
591	CN	202311413113X	10/27/2023			Lithium Bromide Air Conditioning System
592	CN	2023114254303	10/30/2023			Evaporator
593	CN	2023114252789	10/30/2023			Air Conditioning System and Method for Adjusting System Load by Means of Hot Gas Bypass
594	CN	202311544886.1	11/17/2023			Current Output Circuits
595	CN	202311703033.8	12/11/2023			Shaft Seal Structure
596	CN	202311694428.6	12/11/2023			Method for Performance Testing of Centrifugal Compressors and Air Conditioning System
597	CN	202330853989.0	12/26/2023			Fan Coil
598	CN	2023118220594	12/27/2023			Centrifugal Compressor Unit and Control Method Therefor
599	CN	2024100147921	1/4/2024			Condenser and Absorption Refrigeration Unit Comprising Same
600	EM	111106603	4/25/2017	003871441-0010	4/25/2017	Air Conditioners
601	EM	003871441-0001	4/25/2017	003871441-0001	4/25/2017	Air Conditioners
602	EP	22758875.3	2/23/2022			Condenser
603	EP	22794815.5	4/24/2022			Heat Pump System
604	KR	10-2023-7027060	1/6/2022			Evaporator
605	KR	10-2023-7027061	1/6/2022			Measurement Apparatus And Refrigeration System Comprising Same
606	KR	10-2023-7030500	2/23/2022			Condenser
607	TW	110149156	12/28/2021			Evaporator
608	TW	111100299	1/4/2022			A Detection Device and Refrigeration System Comprising Same

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609 TW	111133594	9/5/2022			An Evaporator and A Refrigeration Systems Comprising Same
610 TW	111133597	9/5/2022			Compressor
611 TW	111133596	9/5/2022			Falling-Film Evaporator
612 TW	111134141	9/8/2022			Economizer and refrigeration system comprising the economizer
613 TW	111134972	9/15/2022			Vibration Frequency Adjustment System
614 TW	112108799	3/9/2023			Screw Compressor
615 TW	112126437	7/14/2023			Muffling Unit and Muffling Structure
616 TW	112126774	7/18/2023			Valve
617 TW	112129791	8/8/2023			Muffler and Refrigeration System Having Same
618 TW	112129790	8/8/2023			Screw Compressor
619 TW	112131194	8/18/2023			Compressor Control System and Control Method Thereof
620 TW	112133508	9/4/2023			Suction of Centrifugal Compressor
621 TW	112149120	12/15/2023			Volute Assembly
622 US	13/050,116	3/17/2011	8,959,947	2/24/2015	Oil Balance Device, A Compressor Unit And A Method For Performing An Oil Balance Operation Between A Plurality Of Compressor Units
623 US	17/231,938	4/15/2021	11,761,714	9/19/2023	Heat Exchanger And Fin Thereof
624 US	18/272,037	1/6/2022			EVAPORATOR
625 US	18/272,039	1/6/2022			MEASUREMENT APPARATUS AND REFRIGERATION SYSTEM COMPRISING SAME
626 US	18/278,804	2/23/2022			Condenser
627 US	18/446,309	8/8/2023			Filter Frame Assembly
628 WO	PCT/CN2022/070481	1/6/2022			Evaporator
629 WO	PCT/CN2022/070483	1/6/2022			Measurement Apparatus and Refrigeration System Comprising Same
630 WO	PCT/CN2022/077360	2/23/2022			Condenser
631 WO	PCT/CN2022/088780	4/24/2022			Heat Pump System
632 WO	PCT/CN2022/115500	8/29/2022			An Evaporator and A Refrigeration Systems Comprising Same
633 WO	PCT/CN2022/115501	8/29/2022			Compressor
634 WO	PCT/CN2022/115502	8/29/2022			Falling-Film Evaporator
635 WO	PCT/CN2022/116990	9/5/2022			Economizer and Refrigeration System Comprising the Same
636 WO	PCT/CN2022/117739	9/8/2022			Vibration Frequency Adjustment System
637 WO	PCT/CN2022/142273	12/27/2022			Flow Equalizing Device and Diverting Device
638 WO	PCT/US2023/014847	3/8/2023			SCREW COMPRESSOR
639 WO	PCT/CN2023/098032	6/2/2023			Condensing Device And Heat Pump System Comprising Same
640 WO	PCT/CN2023/099661	6/12/2023			Blade and Axial Impeller Using Same
641 WO	PCT/US2023/026364	6/27/2023			AIR GUIDE RING AND AXIAL FLOW FAN COMPRISING SAME
642 WO	PCT/US2023/027812	7/14/2023			SILENCING UNIT AND SILENCING STRUCTURE
643 WO	PCT/CN2023/107710	7/17/2023			Valve
644 WO	PCT/CN2023/110530	8/1/2023			Muffler and Refrigeration System Having Same
645 WO	PCT/CN2023/110529	8/1/2023			Screw Compressor

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646 WO	PCT/CN2023/112173	8/10/2023			Compressor Control System and Control Method Thereof
647 WO	PCT/CN2023/116564	9/1/2023			Suction Pipe of Centrifugal Compressor
648 WO	PCT/CN2023/125355	10/19/2023			Heat Pump System
649 WO	PCT/US2023/084279	12/15/2023			Volute Assembly
					Method and Apparatus for Controlling Compressor in the Air Conditioning System
650 WO	PCT/CN2024/073001	1/18/2024			
651 CA	2,632,195	10/12/2006	2632195	2/18/2014	Converting Existing Prior Art Fume Hoods Into High Performance Low Airflow Stable Vortex Fume Hoods
652 CA	2217772.5	10/12/2006	2632195	2/18/2014	Converting Existing Prior Art Fume Hoods Into High Performance Low Airflow Stable Vortex Fume Hoods
653 CA	173,304	3/1/2017	173304	6/4/2019	Thermostat
654 CA	179,625	3/1/2017	179625	6/4/2019	Thermostat
655 CA	179,106	1/11/2018	179106	12/23/2019	Thermostat
656 CN	201980018253.2	1/17/2019	ZL 201980018253.2	5/5/2023	Air Damper
657 CN	202310483974.9	1/17/2019			Air Damper
					HVAC System With Design And Operational Tool For Building Infection Control
658 CN	202080061895.3	7/13/2020			
659 CN	202180072632.7	9/15/2021			Systems And Methods To Mitigate Infection Risk Using Air Purification
660 CN	202130684390	10/19/2021			Electric Valve Actuator
					Systems And Methods For Controlling Super Capacitor Charge Voltage To Extend Super Capacitor Life
661 CN	202210111291.6	1/29/2022			
662 CN	202230065503.2	2/9/2022	ZL 202230065503.2	9/23/2022	Temperature & Humidity Sensor (Duct/Wall Mount)
663 CN	202230609653.5	2/9/2022	ZL 202230609653.5	7/7/2023	Temperature & Humidity Sensor (Duct/Wall Mount)
664 CN	202330190343.9	4/10/2023	ZL 202330190343.9	9/15/2023	Thermostat
665 DE	18165008.6	3/29/2018	602018041037.6	9/28/2022	Pressure Control Device
666 DE	19212807.2	12/2/2019	602019013370.7	4/6/2022	Actuator Assembly with Spacers
667 EM	008622112-0002	7/19/2021	008622112-0002	7/19/2021	Dampers
668 EM	008622112-0003	7/19/2021	008622112-0003	7/19/2021	Dampers
669 EM	008622112-0004	7/19/2021	008622112-0004	7/19/2021	Dampers
670 EM	008622112-0001	7/19/2021	008622112-0001	7/19/2021	Dampers
					User Control Device with Case Containing Circuit Board Extending Into Mounting Location
671 EP	16723886.4	5/4/2016	3292455	10/13/2021	
672 EP	19157918.4	8/24/2018			Temperature Control Valve
					HVAC System With Design And Operational Tool For Building Infection Control
673 EP	20750965.4	7/13/2020			
674 EP	21798485.5	9/15/2021			Systems And Methods To Mitigate Infection Risk Using Air Purification
					Systems And Methods For Controlling Super Capacitor Charge Voltage To Extend Super Capacitor Life
675 EP	22154414.1	2/1/2022			
676 EP	22158804.9	2/25/2022			Flowrate Determination System And Method For A Flow Control Valve

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677 EP	22213452.0	12/14/2022			Reprogrammable Smart Actuator Or Refrigerated Cabinet With Web Server
678 JP	2021-118668	5/15/2019			HVAC Control System With Model-Driven Deep Learning
679 JP	2023-125392	5/15/2019			HVAC Control System With Model-Driven Deep Learning
680 US	10/093,857	3/8/2002	7,505,877	3/17/2009	System And Method For Characterizing A System
					System And Method For Filling Gaps Of Missing Data Using Source Specified Data
681 US	10/396,953	3/25/2003	6,862,540	3/1/2005	Determining Amplitude Limits For Vibration Spectra
682 US	10/805,807	3/22/2004	7,124,637	10/24/2006	Method For Controlling A Discrete System
683 US	10/815,100	3/31/2004	7,024,254	4/4/2006	Method Of And Apparatus For Evaluating The Performance Of A Control System
684 US	10/844,663	5/13/2004	7,024,336	4/4/2006	Damper Actuator System
685 US	10/875,421	6/24/2004	7,025,328	4/11/2006	Method Of And Apparatus For Evaluating The Performance Of A Control System
686 US	10/876,854	6/25/2004	7,542,876	6/2/2009	Method Of And Apparatus For Evaluating The Performance Of A Control System
687 US	11/629,762	6/22/2005	7,865,334	1/4/2011	State-Based Method And Apparatus For Evaluating The Performance Of A Control System
688 US	11/348,522	2/6/2006	7,289,936	10/30/2007	Converting Existing Prior Art Fume Hoods Into High Performance Low
689 US	11/546,964	10/12/2006	7,470,176	12/30/2008	Airflow Stable Vortex Fume Hoods
690 US	16165681.4	10/12/2006	7,470,176	12/30/2008	Converting Existing Prior Art Fume Hoods Into High Performance Low
691 US	11/698,256	1/25/2007	7,496,472	2/24/2009	Method And System For Assessing Performance Of Control Systems
692 US	29/271,898	1/29/2007	D589,526	3/31/2009	Graphical User Interface For A Display Screen
693 US	11/699,860	1/30/2007	7,827,813	11/9/2010	Adaptive Real-Time Optimization Control
694 US	11/961,885	12/20/2007	7,881,678	2/1/2011	Wireless Device For Physical Coupling To Another Object
695 US	29/294,788	1/28/2008	D594,015	6/9/2009	Graphical User Interface For A Display Screen
696 US	29/294,785	1/28/2008	D594,013	6/9/2009	Graphical User Interface For A Display Screen
697 US	29/294,787	1/28/2008	D594,014	6/9/2009	Graphical User Interface For A Display Screen
698 US	12/040,172	2/29/2008	7,847,510	12/7/2010	Controlling Switching Of Thyristors To Reduce Power Loss In Variable Speed Motor
699 US	12/044,369	3/7/2008	7,986,540	7/26/2011	Controlling Switching Noise Of An Inductively Loaded Thyristor
700 US	12/054,228	3/24/2008	7,847,681	12/7/2010	Building Automation Systems And Methods
701 US	29/320,279	6/24/2008	D586,199	2/10/2009	Grab bar
702 US	12/181,253	7/28/2008	8,325,637	12/4/2012	Pairing Wireless Devices Of A Network Using Relative Gain Arrays
703 US	12/363,562	1/30/2009	7,729,882	6/1/2010	Method And System For Assessing Performance Of Control Systems
704 US	12/366,603	2/5/2009	8,255,085	8/28/2012	Asymmetrical Control System And Method For Energy Savings In Buildings
705 US	12/487,594	6/18/2009	8,239,168	8/7/2012	Systems And Methods For Fault Detection Of Air Handling Units

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706 US	29/345,218	10/12/2009	D637,196	5/3/2011	Display Screen Of A Communications Terminal With A User Interface
707 US	29/345,219	10/12/2009	D637,197	5/3/2011	Display Screen Of A Communications Terminal With A User Interface
708 US	29/345,220	10/12/2009	D629,410	12/21/2010	Display Screen With User Interface
709 US	12/697,896	2/1/2010	8,428,755	4/23/2013	Systems And Methods For Increasing Feedback Controller Response Times
710 US	12/847,436	7/30/2010	8,781,608	7/15/2014	Systems And Methods For Improved Start-Up In Feedback Controllers
711 US	12/907,778	10/19/2010	8,726,678	5/20/2014	Controllers And Methods For Providing Computerized Generation And Use Of A Three Dimensional Surge Map For Control Of Chillers
712 US	12/940,853	11/5/2010	8,655,830	2/18/2014	Systems And Methods For Reporting A Cause Of An Event Or Equipment State Using Causal Relationship Models In A Building Management System
713 US	29/380,485	12/6/2010	D696,263	12/24/2013	Display Screen With Graphical User Interface
714 US	12/984,480	1/4/2011	8,825,185	9/2/2014	Delay Compensation For Feedback Controllers
715 US	13/107,793	5/13/2011	9,062,893	6/23/2015	Speed Adjustment Of An Actuator For An Hvac System
716 US	29/393,841	6/9/2011	D695,757	12/17/2013	Display screen with a graphic user interface
717 US	13/252,105	10/3/2011	8,635,182	1/21/2014	Systems And Methods For Reporting A Cause Of An Event Or Equipment State Using Causal Relationship Models In A Building Management System
718 US	13/361,857	1/30/2012	9,348,325	5/24/2016	Systems And Methods For Detecting A Control Loop Interaction
719 US	13/485,682	5/31/2012	9,390,388	7/12/2016	Systems And Methods For Measuring And Verifying Energy Usage In A Building
720 US	13/539,077	6/29/2012	9,077,232	7/7/2015	Actuator Having A Brushed Dc Electric Motor And An Emi Reduction Circuit
721 US	13/558,165	7/25/2012	9,097,447	8/4/2015	Methods And Controllers For Providing A Surge Map For The Monitoring And Control Of Chillers
722 US	29/428,056	7/25/2012	D733,720	7/7/2015	Display Screen With Graphical User Interface
723 US	13/631,301	9/28/2012	9,354,968	5/31/2016	Systems And Methods For Data Quality Control And Cleansing
724 US	29/435,252	10/22/2012	D689,895	9/17/2013	LUX Animated thermostat panel for a display screen or a portion thereof
725 US	13/679,936	11/16/2012	9,152,610	10/6/2015	Systems And Methods For Generating An Energy Use Model For A Building
726 US	13/679,961	11/16/2012	9,135,667	9/15/2015	Systems And Methods For Building Energy Use Benchmarking
727 US	13/692,894	12/3/2012	8,705,423	4/22/2014	Pairing Wireless Devices Of A Network Using Relative Gain Arrays
728 US	13/759,933	2/5/2013	9,471,722	10/18/2016	Systems And Methods For Evaluating A Fault Condition In A Building
729 US	13/794,683	3/11/2013	9,395,708	7/19/2016	Systems And Methods For Adaptive Sampling Rate Adjustment
730 US	13/831,075	3/14/2013	9,279,596	3/8/2016	Systems And Methods For Damper Performance Diagnostics
731 US	14/179,672	2/13/2014	10,402,767	9/3/2019	Systems And Methods For Monetizing And Prioritizing Building Faults
732 US	14/186,999	2/21/2014	9,581,985	2/28/2017	Systems And Methods For Auto-Commissioning And Self-Diagnostics
733 US	14/251,414	4/11/2014	9,703,276	7/11/2017	Systems And Methods For Creating And Using Equipment Definitions

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734 US	14/263,639	4/28/2014	9,918,180	3/13/2018	Systems And Methods For Detecting And Using Occupant Location In A Building Management System
735 US	14/272,150	5/7/2014	9,571,986	2/14/2017	Systems And Methods For Detecting And Using Equipment Location In A Building Management System
736 US	14/475,141	9/2/2014	9,939,825	4/10/2018	HVAC Actuator With Line Voltage Input
737 US	14/475,288	9/2/2014	9,920,943	3/20/2018	Normalized Indices For Feedback Control Loops
738 US	14/508,925	10/7/2014	9,907,214	2/27/2018	Systems And Methods For Air Conditioning A Building Using An Energy Recovery Wheel
739 US	14/543,749	11/17/2014	9,509,243	11/29/2016	Automatic Actuator Calibration Using Back EMF
740 US	14/563,771	12/8/2014	9,835,347	12/5/2017	State-Based Control In An Air Handling Unit
741 US	14/572,375	12/16/2014	9,696,073	7/4/2017	Fault Detection And Diagnostic System For A Refrigeration Circuit
742 US	29/516,864	2/6/2015	D734,180	7/14/2015	Thermostat
					Systems And Methods For Retraining Outlier Detection Limits In A Building Management System
743 US	14/694,660	4/23/2015	10,120,375	11/6/2018	Thermostat Controller
744 US	29/525,150	4/27/2015	D772,085	11/22/2016	Thermostat
745 US	29/525,908	5/4/2015	D763,708	8/16/2016	Thermostat With Transparent Display Screen
746 US	29/525,907	5/4/2015	D763,707	8/16/2016	Thermostat With Transparent Display Screen
747 US	17/672,955	5/4/2015	D763,707	8/16/2016	Speed Adjustment Of An Actuator For An Hvac System
748 US	14/727,284	6/1/2015	10,203,671	2/12/2019	Building Automation System with Smart Communications Controller For Building Equipment
749 US	14/735,955	6/10/2015	9,960,962	5/1/2018	Building Management System With Voting-Based Fault Detection And Diagnostics
750 US	14/744,761	6/19/2015	10,401,262	9/3/2019	Actuator With Electric Motor And Emi Reduction Circuit
751 US	14/748,081	6/23/2015	9,941,773	4/10/2018	Actuator With Electric Motor And Emi Reduction Circuit
752 US	17/889,311	6/23/2015	9,941,773	4/10/2018	Systems and Methods For Determining Flow Rate Using Differential Pressure Measurements
753 US	14/788,681	6/30/2015	10,317,261	6/11/2019	Systems and Methods For Determining Flow Rate Using Differential Pressure Measurements
754 US	17/943,423	6/30/2015	10,317,261	6/11/2019	Display Screen With Graphical User Interface
755 US	29/532,374	7/6/2015	D801,981	11/7/2017	Systems And Methods For Implementing Energy Conservation Measures In A Building
756 US	14/853,957	9/14/2015	10,095,820	10/9/2018	Building Management System With NFC Tags For Monitoring And Controlling Building Equipment
757 US	14/863,219	9/23/2015	9,971,327	5/15/2018	Building Management System With Heuristics For Configuring Building Spaces
758 US	14/872,105	9/30/2015	10,139,792	11/27/2018	Feedback Control System With Normalized Performance Indices For Setpoint Alarming
759 US	14/961,747	12/7/2015	10,197,977	2/5/2019	Controller Housing
760 US	29/548,332	12/11/2015	D795,090	8/22/2017	

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761 US	29/548,334	12/11/2015	D790,369	6/27/2017	Thermostat
762 US	14/989,740	1/6/2016	10,042,340	8/7/2018	Systems And Methods For Extending The Battery Life Of A Wireless Sensor In A Building Control System
763 US	14/994,763	1/13/2016	9,955,296	4/24/2018	(LUX) Wireless Controlled Thermostat With Reduced Polling Communications During Predicted Periods Of Low Activity To Save Power
764 US	15/008,329	1/27/2016	10,545,469	1/28/2020	Systems and Methods for Self Provisioning Building Equipment
765 US	15/016,239	2/4/2016	10,620,616	4/14/2020	Systems And Methods For Damper Performance Diagnostics
766 US	15/047,601	2/18/2016	10,317,863	6/11/2019	HVAC and Building Management System with Deconstructed Media Flow Graphical User Interface
767 US	15/065,719	3/9/2016	10,389,208	8/20/2019	HVAC Actuator with One-Way Clutch Motor
768 US	15/080,441	3/24/2016	10,281,363	5/7/2019	Systems and Methods for Fault Detection and Handling by Assessing Building Equipment Performance
769 US	15/143,373	4/29/2016	11,216,020	1/4/2022	Mountable Touch Thermostat Using Transparent Screen Technology
770 US	29/563,447	5/4/2016	D810,591	2/20/2018	Thermostat
771 US	15/166,190	5/26/2016	10,886,715	1/5/2021	Actuator Conduit Adaptor
772 US	15/173,295	6/3/2016	10,324,424	6/18/2019	Control System with Response Time Estimation and Automatic Operating Parameter Adjustment
773 US	15/173,284	6/3/2016	10,317,856	6/11/2019	Control System with Response Time Estimation
774 US	15/179,894	6/10/2016	10,402,360	9/3/2019	Building Management System with Automatic Equipment Discovery and Equipment Model Distribution
775 US	15/188,824	6/21/2016	10,700,942	6/30/2020	Building Management System With Predictive Diagnostics
776 US	15/199,622	6/30/2016	10,325,331	6/18/2019	Systems And Methods For Measuring And Verifying Energy Usage In A Building
777 US	15/232,800	8/9/2016	10,528,020	1/7/2020	Building Control System With Adaptive User Interface
778 US	15/247,888	8/25/2016	11,085,832	8/10/2021	Mitigation of Fluid Ingress via Convection Venting on Electronic Devices
779 US	29/576,515	9/2/2016	D814,321	4/3/2018	Thermostat
780 US	15/258,854	9/7/2016			Systems and Methods for Visually Indicating Value Changes in a Building Management System
781 US	15/261,843	9/9/2016	10,419,243	9/17/2019	Smart Gateway Devices, Systems and Methods for Providing Communication Between HVAC System Networks
782 US	15/289,934	10/10/2016	10,401,810	9/3/2019	Performance Assessment Device for Monitoring and Comparing Attributes of a Building Management System Over Time
783 US	15/331,761	10/21/2016	10,571,304	2/25/2020	HVAC Actuator With Inductive Position Sensing
784 US	15/331,755	10/21/2016	10,372,146	8/6/2019	Systems and Methods for Creating and Using Combined Predictive Models to Control HVAC Equipment
785 US	15/331,795	10/21/2016	10,614,427	4/7/2020	Systems And Methods For Monetizing Building Management System Software Deployment

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786 US	15/375,064	12/9/2016	10,592,084	3/17/2020	Tools, Systems and Methods for Configuring a Building Management System
787 US	15/375,062	12/9/2016	10,627,123	4/21/2020	Thermostat With Master Control Features
788 US	29/737,947	12/9/2016	10,627,123	4/21/2020	Thermostat With Master Control Features
789 US	15/376,565	12/12/2016	10,411,984	9/10/2019	Systems And Methods Related To Diagnostics For Ethernet Rings Based On Media Redundancy Protocol
790 US	15/397,690	1/3/2017	11,533,195	12/20/2022	Building Management System with Automatic Equipment Discovery and Function Extension
791 US	29/590,757	1/12/2017	D844,570	4/2/2019	Building Automation Device
792 US	15/411,878	1/20/2017	9,982,903	5/29/2018	HVAC System with Predictive Free Cooling Control Based on the Cost of Transitioning into a Free Cooling State
793 US	29/592,010	1/25/2017	D837,666	1/8/2019	Control Device
794 US	15/422,422	2/1/2017	10,605,477	3/31/2020	HVAC System With Free Cooling Optimization Based on Coolant Flowrate
795 US	15/424,593	2/3/2017	10,564,615	2/18/2020	Building Management System With Dynamic Point List
796 US	15/437,318	2/20/2017	10,627,124	4/21/2020	Systems And Methods For Auto-Commissioning And Self-Diagnostics
797 US	15/444,034	2/27/2017	10,291,423	5/14/2019	Smart Communications Controller for Alternative Energy Systems
798 US	15/449,732	3/3/2017	10,495,334	12/3/2019	Systems and Methods for Steady State Detection
799 US	29/598,345	3/24/2017	D812,133	3/6/2018	LUX Numeric type font
800 US	15/473,142	3/29/2017	10,458,669	10/29/2019	Thermostat with Interactive Installation Features
801 US	15/476,465	3/31/2017	10,558,177	2/11/2020	Control System with Dimension Reduction for Multivariable Optimization
802 US	15/483,667	4/10/2017	10,698,399	6/30/2020	HVAC System With Equipment Failure Prediction
803 US	15/583,901	5/1/2017	10,116,517	10/30/2018	Systems and Methods for Determining a Topology of an Ethernet Ring in a Building Management System
804 US	15/584,996	5/2/2017	10,612,811	4/7/2020	Housing for Electronic Devices Including Air Outlet with Fluid Ingress Mitigation
805 US	15/584,931	5/2/2017	10,390,284	8/20/2019	Systems And Methods For Wireless Communication Of HVAC Devices
806 US	29/602,691	5/2/2017	D828,816	9/18/2018	Building Automation Device
807 US	29/602,634	5/2/2017	D851,146	6/11/2019	Actuator
808 US	29/602,639	5/2/2017	D837,158	1/1/2019	Connector for Wire Harness
809 US	19203206.8	5/2/2017	D851,146	6/11/2019	Actuator
810 US	29/603,189	5/8/2017	D832,121	10/30/2018	LUX Interchangeable thermostat cover
811 US	15/592,031	5/10/2017	10,558,183	2/11/2020	Systems And Methods For Creating And Using Equipment Definitions
812 US	15/599,046	5/18/2017	10,385,988	8/20/2019	Universal Remote Mount Damper Linkage
813 US	15/618,492	6/9/2017	10,739,028	8/11/2020	Thermostat with Efficient Wireless Data Transmission
814 US	15/619,203	6/9/2017	10,333,810	6/25/2019	Control System with Asynchronous Wireless Data Transmission
815 US	18793731.3	6/9/2017	10,739,028	8/11/2020	Thermostat with Efficient Wireless Data Transmission

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
816 US	15/625,605	6/16/2017	10,253,997	4/9/2019	Building Climate Control System with Decoupler for Independent Control of Interacting Feedback Loops
817 US	29/608,761	6/26/2017	D821,897	7/3/2018	Thermostat
818 US	29/609,893	7/6/2017	D842,712	3/12/2019	LUX Thermostat
819 US	15/656,021	7/21/2017	10,082,216	9/25/2018	Adaptive Valve Control System
820 US	29/617,389	9/13/2017	D852,067	6/25/2019	Thermostat
821 US	29/618,313	9/20/2017	D843,246	3/19/2019	Thermostat
822 US	29/618,404	9/21/2017	D843,247	3/19/2019	Thermostat
823 US	29/619,965	10/3/2017	D853,865	7/16/2019	Controller Housing
824 US	15/727,462	10/6/2017	10,760,312	9/1/2020	Refrigeration Control Unit with Three-Axis Hinge Assembly
825 US	15/794,582	10/26/2017	10,520,903	12/31/2019	Building management system with priority array preview interface
826 US	15/824,618	11/28/2017	10,838,440	11/17/2020	Multistage HVAC System with Discrete Device Selection Prioritization
827 US	15/824,706	11/28/2017	10,838,441	11/17/2020	Multistage HVAC System with Modulating Device Demand Control
					Building Management System with Malicious User Detection and Prevention
828 US	15/845,913	12/18/2017	10,909,240	2/2/2021	Building Management System with Delta View Mode
829 US	15/858,577	12/29/2017	10,599,108	3/24/2020	Systems and Methods for Enhancing Building Management System Interaction and Visualization
830 US	15/872,572	1/16/2018	10,278,048	4/30/2019	Systems and Methods for Enhancing Building Management System Interaction and Visualization
831 US	18765336.5	1/16/2018	10,278,048	4/30/2019	Systems and Methods for Enhancing Building Management System Interaction and Visualization
832 US	15/897,483	2/15/2018	10,823,444	11/3/2020	Pressure Control Device
833 US	15/897,987	2/15/2018	11,002,461	5/11/2021	System And Method For Output Compensation In Flow Sensors
834 US	15/899,188	2/19/2018	10,816,079	10/27/2020	Actuator with Stacked Gears and Bend Shaft
835 US	15/901,843	2/21/2018	11,042,171	6/22/2021	Integrated Smart Actuator Device
836 US	15/901,852	2/21/2018	11566805	1/31/2023	Integrated Smart Actuator And Valve Device Applications
837 US	15/908,041	2/28/2018	10,558,227	2/11/2020	System and Method for Output Compensation in Flow Sensors Using Pulse Width Modulation
838 US	29/639,009	3/2/2018	D889,493	7/7/2020	Display Screen or Portion Thereof with Graphical User Interface
839 US	29/639,248	3/5/2018	D849,569	5/28/2019	Thermostat
840 US	15/913,305	3/6/2018	10,648,691	5/12/2020	HVAC Actuator with Contactless Adjustable Settings
841 US	15/925,466	3/19/2018	10,288,306	5/14/2019	HVAC System With Predictive Free Cooling Control Based On The Cost Of Transitioning Into A Free Cooling State
842 US	15/944,560	4/3/2018	11,609,589	3/21/2023	HVAC Actuator with Automatic Line Voltage Input Selection
					Building Automation System with Smart Communications Controller for Building Equipment
843 US	15/945,260	4/4/2018	10,567,219	2/18/2020	Building Automation System with Smart Communications Controller for Building Equipment
844 US	15/949,233	4/10/2018	11,221,614	1/11/2022	Control System with Automated Control Sequence Verification
845 US	15/953,166	4/13/2018	11,162,698	11/2/2021	Thermostat with Exhaust Fan Control for Air Quality and Humidity Control

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846 US	15/953,228	4/13/2018	10,866,003	12/15/2020	Thermostat with preemptive heating, cooling, and ventilation in response to elevated occupancy detection via proxy
847 US	15/956,914	4/19/2018	10,908,570	2/2/2021	Building Devices With Communication Subsystems Independently Powered By Power Over Ethernet (Poe)
848 US	15/960,942	4/24/2018	10,754,623	8/25/2020	Building Management System with Graphical Programming Tool
849 US	15/962,239	4/25/2018	10,724,756	7/28/2020	Building Network Device for Generating Communication Models for Connecting Building Devices to a Network
850 US	15/963,868	4/26/2018	10,880,107	12/29/2020	Temporary Service And Equipment Installation Network For A Building
851 US	15/965,413	4/27/2018	11,273,335	3/15/2022	Fire Damper Actuator System
852 US	15/964,798	4/27/2018	10,619,880	4/14/2020	Masterless Air Handler Unit (AHU) Controller System
853 US	15/967,016	4/30/2018	11,092,356	8/17/2021	HVAC Actuator with Removable Cartridge
854 US	15/968,129	5/1/2018	10,802,512	10/13/2020	HVAC Device Controller With Integrated Refrigeration Controller Interface
855 US	15/968,566	5/1/2018	10,735,976	8/4/2020	Systems And Methods For Network Design, Monitoring And Visualization
856 US	15/968,710	5/1/2018	11,024,148	6/1/2021	Systems and Methods for Actuator Installation Auto-Verification
857 US	17/739,947	5/1/2018	11,024,148	6/1/2021	Systems and Methods for Actuator Installation Auto-Verification
858 US	15/979,867	5/15/2018	11,168,919	11/9/2021	Removable Dip Switch for Setting Address
859 US	15/995,745	6/1/2018	10,568,228	2/18/2020	Adapter Assembly for Field Controller Units
860 US	16/014,556	6/21/2018	10,969,775	4/6/2021	Predictive Diagnostics System with Fault Detector for Preventative Maintenance of Connected Equipment
861 US	16/036,640	7/16/2018	10,962,137	3/30/2021	Universal Adapter Assembly for Valve Actuator
862 US	19157221.3	7/16/2018	10,962,137	3/30/2021	Universal Adapter Assembly for Valve Actuator
863 US	29/657,047	7/18/2018	D875,110	2/11/2020	Display Screen or Portion Thereof with Graphical User Interface
864 US	16/051,384	7/31/2018	10,686,622	6/16/2020	Building Management System with Data Sharing Based on Use Identifiers
865 US	16/100,962	8/10/2018	11,206,153	12/21/2021	Building Management System with Advanced Search Actions and Bulk Commands
866 US	29/659,716	8/10/2018	D874,301	2/4/2020	Remote Sensor for Smart Thermostat
867 US	19157158.7	8/10/2018	11,206,153	12/21/2021	Building Management System with Advanced Search Actions and Bulk Commands
868 US	15/999,263	8/17/2018	10,441,832	10/15/2019	Systems And Methods For Building Fire Detection
869 US	17/683,161	8/17/2018	10,441,832	10/15/2019	Systems And Methods For Building Fire Detection
870 US	16/115,508	8/28/2018	11,226,053	1/18/2022	Valve Assembly With Pressure Disturbance Rejection And Fault Detection And Diagnosis
871 US	29/663,371	9/14/2018	D907,675	1/12/2021	Actuator
872 US	16/131,927	9/14/2018	10,983,486	4/20/2021	HVAC System With Self-Optimizing Control From Normal Operating Data
873 US	16/140,235	9/24/2018	11,480,356	10/25/2022	Thermostat with Startup Temperature Estimation

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874 US	16/139,882	9/24/2018	11604002	3/14/2023	Thermostat with Steady State Temperature Estimation
875 US	16/678,468	9/24/2018	11604002	3/14/2023	Thermostat with Steady State Temperature Estimation
876 US	16/147,349	9/28/2018	10,673,380	6/2/2020	PHOTOVOLTAIC ENERGY SYSTEM WITH STATIONARY ENERGY STORAGE CONTROL
877 US	17/714,277	9/28/2018	10,673,380	6/2/2020	PHOTOVOLTAIC ENERGY SYSTEM WITH STATIONARY ENERGY STORAGE CONTROL
878 US	16/153,690	10/5/2018			Building Management System with Adapting IOT Hub
879 US	16/153,475	10/5/2018	11,368,534	6/21/2022	Building Management System with Device Cloud Registration and Data Adaptor
880 US	16/153,591	10/5/2018	11,262,741	3/1/2022	Building Management System with Automatic Binding of Equipment Data
881 US	16/153,531	10/5/2018	11,360,468	6/14/2022	Building Management System with Alarm Generation, Cloud Storage, and Visualization
882 US	17/867,611	10/5/2018	11,368,534	6/21/2022	Building Management System with Device Cloud Registration and Data Adaptor
883 US	16/158,792	10/12/2018	11,133,000	9/28/2021	Systems and Methods for Voice Control Of BMS Devices
884 US	29/668,232	10/29/2018	D860,012	9/17/2019	LUX Interchangeable thermostat cover
885 US	16/192,226	11/15/2018	11,150,620	10/19/2021	Mobile Gateway Device for Controlling Building Equipment
886 US	16/195,225	11/19/2018	11,015,830	5/25/2021	Device Using Projector for Display
887 US	16/202,455	11/28/2018	10,915,078	2/9/2021	Building Management System with Priority Array Preview Interface
888 US	16/204,952	11/29/2018			HVAC System with Waterside and Airside Disturbance Rejection
889 US	16/204,926	11/29/2018	11,206,150	12/21/2021	Controller with Automatic Field Bus Protocol Detection
890 US	16/206,614	11/30/2018	RE48,443	2/16/2021	Systems and Methods for Determining a Topology of an Ethernet Ring in a Building Management System
891 US	16/207,332	12/3/2018	11,035,489	6/15/2021	Actuator Assembly with Spacers
892 US	16/230,795	12/21/2018	10,579,023	3/3/2020	Feedback Control System With Normalized Performance Indices For Setpoint Alarming
893 US	29/674,481	12/21/2018	D894,021	8/25/2020	Display Device
894 US	29/766,519	12/21/2018	D894,021	8/25/2020	Display Device
895 US	16/235,316	12/28/2018	11,105,527	8/31/2021	Building equipment controller with user-configurable inputs and outputs
896 US	16/244,717	1/10/2019	11768977	9/26/2023	Systems and Methods for Installing and Wiring Building Equipment
897 US	16/246,387	1/11/2019	10,808,963	10/20/2020	Electronic Devices With Modular Housings
898 US	16/246,080	1/11/2019	11671274	6/6/2023	Building With Wi-Fi Mesh Network
899 US	16/246,263	1/11/2019	10,866,007	12/15/2020	CASCADED INDOOR AIR QUALITY AND OUTDOOR AIR FLOW ECONOMIZER SYSTEM
900 US	16/246,290	1/11/2019	11639805	5/2/2023	Systems And Methods For Optimal Representation Of Setpoint Selection Via An Array Of Lights
901 US	29/676,543	1/11/2019	D898,074	10/6/2020	Display Screen Or Portion Thereof With Graphical User Interface

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902 US	29/677,057	1/16/2019	D875,569	2/18/2020	LUX THERMOSTAT
903 US	17189292.0	1/16/2019	D875,569	2/18/2020	LUX THERMOSTAT
904 US	16/251,016	1/17/2019	11,448,420	9/20/2022	Air Duct Damper
905 US	16/251,011	1/17/2019	10,768,031	9/8/2020	Air Duct Airflow Sensor
906 US	16/253,965	1/22/2019	10,914,480	2/9/2021	Building Control System With Decoupler For Independent Control Of Interacting Feedback Loops
907 US	16/254,514	1/22/2019	10,962,946	3/30/2021	Building Automation System With Microservice Architecture To Support Multi-Node On-Premise Bas Server
908 US	29/677,806	1/23/2019	D876,260	2/25/2020	Thermostat
909 US	16/261,472	1/29/2019	11561521	1/24/2023	Building Management System with Instant Feedback on Configuration
910 US	16/261,491	1/29/2019	11,275,349	3/15/2022	Building Automation Systems with Automatic Metadata Tagging
911 US	16/261,498	1/29/2019	11,041,652	6/22/2021	360 degree smart repositioning valve actuator
912 US	29/679,298	2/4/2019	D885,942	6/2/2020	Thermostat
913 US	16/270,531	2/7/2019	10,880,213	12/29/2020	Building Management System Network with Power Conservation Via Adaptive Use of Network Protocols
914 US	29/680,036	2/12/2019	D908,099	1/19/2021	Building Automation Device
915 US	29/680,613	2/18/2019	D876,971	3/3/2020	Thermostat
916 US	16/283,579	2/22/2019	11561018	1/24/2023	Central Plant Control System With Control Region Detection Based On Control Envelope Ray-Casting
917 US	16/292,020	3/4/2019	11,131,474	9/28/2021	Thermostat With User Interface Features
918 US	16/296,004	3/7/2019	10,985,986	4/20/2021	Systems and Methods for Interconnecting OT and IT Networks within a Building Automation System
919 US	18/195,687	3/7/2019	10,985,986	4/20/2021	Systems and Methods for Interconnecting OT and IT Networks within a Building Automation System
920 US	16/355,066	3/15/2019	11599071	3/7/2023	Systems And Methods For Adaptively Tuning Thresholds For Fault Detection In Buildings
921 US	16/361,931	3/22/2019			Temperature Sensor Calibration Using Recurrent Network
922 US	16/366,020	3/27/2019	10,904,030	1/26/2021	Building Management System With Bacnet Broadcast Management (BBMD) Device
923 US	16/372,145	4/1/2019	10,975,851	4/13/2021	Torque Box Actuator With Shape Memory Alloy
924 US	16/376,396	4/5/2019	11,002,460	5/11/2021	Building Control System with Oversized Equipment Control and Performance Display
925 US	16/379,742	4/9/2019	10,962,938	3/30/2021	Building Management System with Self-Optimizing Control, Performance Monitoring, and Fault Detection
926 US	17/888,368	4/9/2019	10,962,938	3/30/2021	Building Management System with Self-Optimizing Control, Performance Monitoring, and Fault Detection
927 US	16/381,851	4/11/2019	10,901,376	1/26/2021	Building Management System with Self-Optimizing Control Modeling Framework

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
928 US	16/387,296	4/17/2019			Systems And Methods For Reducing Smoke Release Of Printed Circuit Boards In Building Air Handling Space Products
929 US	29/688,078	4/18/2019	D892,184	8/4/2020	Actuator
930 US	29/634,248	4/18/2019	D892,184	8/4/2020	Actuator
					Systems And Methods For Configuring And Controlling Distributed Climate Control Devices
931 US	16/401,567	5/2/2019	10,778,460	9/15/2020	
932 US	16/402,437	5/3/2019	10,871,298	12/22/2020	HVAC System with Multi-State Predictive Free Cooling Control
933 US	18709848.8	5/3/2019	10,871,298	12/22/2020	HVAC System with Multi-State Predictive Free Cooling Control
					Building Management System With Apparent Indoor Temperature And Comfort Mapping
934 US	16/403,716	5/6/2019	11,268,729	3/8/2022	
935 US	16/405,294	5/7/2019	10,948,214	3/16/2021	HVAC System with Economizer Switchover Control
					Systems And Methods For Configuring And Operating Building Equipment Using Causal And Spatial Relationships
936 US	16/406,994	5/8/2019	11,362,852	6/14/2022	
937 US	16/408,657	5/10/2019	10,848,565	11/24/2020	Systems and Methods for Distributed Controls Via Edge Devices
938 US	16/413,946	5/16/2019	11,507,033	11/22/2022	HVAC Control System With Model Driven Deep Learning
939 US	16/415,144	5/17/2019	11,032,172	6/8/2021	Control System with Asynchronous Wireless Data Transmission
940 US	16/417,207	5/20/2019	11,421,904	8/23/2022	Systems And Methods For Smart Multi-Zone Control
941 US	16/417,368	5/20/2019	11,047,491	6/29/2021	Three Position 270 Degree Actuator
942 US	17/736,551	5/20/2019	11,047,491	6/29/2021	Three Position 270 Degree Actuator
					Systems and Methods for Flow Estimation Using Differential Pressure Sensor Across Valve
943 US	16/418,887	5/21/2019	11,274,850	3/15/2022	
944 US	16/429,795	6/3/2019	11,280,424	3/22/2022	Fail-safe System For A 270 Degree Actuator
					Building Management System With Equipment Schedule And Setpoint Synchronization And Control
945 US	16/429,600	6/3/2019	11,262,714	3/1/2022	
					Building Management System With Dynamic Control Sequence And Plug And Play Functionality
946 US	16/439,557	6/12/2019	11,139,998	10/5/2021	
947 US	16/447,783	6/20/2019	11,092,354	8/17/2021	Systems And Methods For Flow Control In An HVAC System
948 US	16/447,813	6/20/2019	11,149,976	10/19/2021	Systems And Methods For Flow Control In An HVAC System
949 US	29/696,157	6/25/2019	D888,589	6/30/2020	Controller Housing
					Actuator With Stroke Displacement Setting Via A Stroke Limiting Attachment
950 US	16/455,039	6/27/2019	10,921,013	2/16/2021	
					Modular Architecture For Control And Monitoring Of Edge Devices In A Building Management System
951 US	16/456,071	6/28/2019	10,956,348	3/23/2021	
					Valve Assembly with Delay Compensation for Proportional Variable Deadband Control
952 US	16/509,264	7/11/2019	11,068,000	7/20/2021	
					Building Sensor With Self-Configuring Analog Output Circuit With Fault Detection
953 US	16/508,891	7/11/2019			
					Variable Refrigerant Flow System With Zone Grouping Control Feasibility Estimation
954 US	16/512,712	7/16/2019			

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955 US	16/514,020	7/17/2019	11,187,427	11/30/2021	Reconfigurable Portable Device And System For HVACR Equipment Configuration Management
956 US	16/516,070	7/18/2019	11,415,335	8/16/2022	Valve Assembly With Low Flow Compensation For Proportional Variable Deadband Control
957 US	16/521,805	7/25/2019	10,747,187	8/18/2020	Building Management System With Voting-Based Fault Detection And Diagnostics
958 US	16/521,773	7/25/2019	11,277,279	3/15/2022	Systems and Methods for Incorporating a Single-Port Ethernet Device in a Media Protocol Ring
959 US	16/523,913	7/26/2019	11,199,336	12/14/2021	HVAC System with On-Off Control
960 US	PCT/US2022/040332	7/26/2019	11,199,336	12/14/2021	HVAC System with On-Off Control
961 US	16/529,652	8/1/2019	11614246	3/28/2023	Incremental Actuator With Feedback Control
962 US	20203208.2	8/1/2019	11614246	3/28/2023	Incremental Actuator With Feedback Control
963 US	16/530,976	8/2/2019	11,223,491	1/11/2022	Fire Alarm System Powering a Wireless Building Network
964 US	16/531,249	8/5/2019	11,057,244	7/6/2021	Smart Gateway Devices, Systems and Methods for Providing Communication Between HVAC System Networks
965 US	16/531,892	8/5/2019	11,137,160	10/5/2021	Thermostat With Estimation Of Run-Time Savings
966 US	16/538,411	8/12/2019	11,085,665	8/10/2021	Remote Sensor For Smart Thermostat
967 US	16/539,367	8/13/2019	11599078	3/7/2023	Self-Calibrating Universal Input Port
968 US	18/271,549	8/13/2019	11599078	3/7/2023	Self-Calibrating Universal Input Port
969 US	16/543,452	8/16/2019	11604443	3/14/2023	System And Method For Distributed Device Configuration And Authorization
970 US	16/546,076	8/20/2019	11449454	9/20/2022	Building Management System With Automatic Equipment Discovery And Equipment Model Distribution
971 US	16/553,830	8/28/2019	11,256,223	2/22/2022	Performance Assessment Device For Monitoring And Comparing Attributes Of A Building Management System Over Time
972 US	16/554,352	8/28/2019	11755742	9/12/2023	Building Management System With Cyber Health Dashboard
973 US	29/703,968	8/30/2019	D884,526	5/19/2020	Thermostat
974 US	16/560,769	9/4/2019	10,661,109	5/26/2020	Systems And Methods For Detecting Building Conditions Based On Wireless Signal Degradation
975 US	16/567,773	9/11/2019	11,137,159	10/5/2021	Fire Notification Device With Integrated Environmental Node Sensor
976 US	16/574,806	9/18/2019	11870280	1/9/2024	Systems And Methods For Controlling Super Capacitor Charge Voltage To Extend Super Capacitor Life
977 US	16/579,686	9/23/2019	11497144	11/8/2022	Optimized Thermal Control of Data Center
978 US	16/584,617	9/26/2019	11,274,847	3/15/2022	Thermostat with Least Squares Estimation of Power Savings
979 US	16/592,239	10/3/2019	11,269,300	3/8/2022	Building Management System With Wireless Power
980 US	16/598,635	10/10/2019	11,480,932	10/25/2022	Systems And Methods For Applying Semantic Information To Data In A Building Management System
981 US	16/601,251	10/14/2019	11,441,799	9/13/2022	Thermostat with Interactive Installation Features
982 US	18725092.3	10/14/2019	11,441,799	9/13/2022	Thermostat with Interactive Installation Features

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
983 US	16/657,514	10/18/2019	11,168,910	11/9/2021	Systems And Methods For Adjusting Operation Of A Building Management System Based On Determination Whether A Building Equipment Is In Steady State
984 US	16/660,596	10/22/2019	11619269	4/4/2023	Actuator Anti-Rotation Bracket Positioning Device
985 US	16/676,155	11/6/2019			Smart Vent System For Localized Air Quality Control
986 US	16/678,817	11/8/2019	11,473,797	10/18/2022	HVAC System With Headless Thermostat
987 US	16/678,787	11/8/2019	11867420	1/9/2024	Backup Control For HVAC System With Headless Thermostat
988 US	16/688,440	11/20/2019			Building Management System With Involvement User Interface
989 US	16/698,427	11/27/2019	11,782,397	10/10/2023	Operator Automation System
990 US	29/715,446	12/2/2019	D944,660	3/1/2022	Thermostat with trim plate
991 US	16/702,818	12/4/2019	11,391,480	7/19/2022	Systems And Methods For Freeze Protection Of A Coil In An HVAC System
992 US	16/705,079	12/5/2019	11,274,844	3/15/2022	Systems And Methods For Controlling A Single-Zone Climate Conditioning System In A Multi-Zoned Manner
993 US	16/709,542	12/10/2019	11,359,950	6/14/2022	Reduced Length Valve Assembly With Ultrasonic Flow Sensor
994 US	16/711,890	12/12/2019	11614247	3/28/2023	Self-Learning Wireless Thermostat That Minimizes Battery Drain
995 US	16/719,506	12/18/2019	11429077	8/30/2022	Building Control System With Adaptive User Interface
996 US	16/719,611	12/18/2019	11,409,253	8/9/2022	Systems And Methods For Commissioning Building Equipment With Mobile Server
997 US	16/719,638	12/18/2019	11,236,917	2/1/2022	Building Control System With Zone Grouping Based On Predictive Models
998 US	16/719,533	12/18/2019			Building Control System with Peer Analysis for Predictive Models
999 US	18182932.6	12/18/2019	11429077	8/30/2022	Building Control System With Adaptive User Interface
1000 US	20193175.5	12/18/2019	11,409,253	8/9/2022	Systems And Methods For Commissioning Building Equipment With Mobile Server
1001 US	PCT/US2022/012467	12/18/2019			Building Control System with Peer Analysis for Predictive Models
1002 US	16/724,035	12/20/2019	11,398,896	7/26/2022	Building Device With Blockchain Based Verification Of Building Device Files
1003 US	16/726,062	12/23/2019	11,817,801	11/14/2023	Motor Speed Controller And Speed Control System
1004 US	16/730,798	12/30/2019	11624524	4/11/2023	Systems And Methods For Expedited Flow Sensor Calibration
1005 US	16/733,135	1/2/2020	11,119,459	9/14/2021	SYSTEMS AND METHODS FOR CREATING AND USING EQUIPMENT DEFINITIONS
1006 US	16/735,528	1/6/2020	11487303	11/1/2022	Valve Assembly With Integrated Flow Sensor Controller
1007 US	16/735,947	1/7/2020	11649981	5/16/2023	Systems And Methods For Improving Building Control Systems Via Command Compensation
1008 US	16/740,279	1/10/2020			Systems And Methods For Integrating A Temporary Building Network Into A Permanent Building Network
1009 US	16/740,031	1/10/2020	11519631	12/6/2022	HVAC Control System With Adaptive Flow Limit Heat Exchanger Control

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
1010 US	16/749,900	1/22/2020	11,156,378	10/26/2021	PERSONAL HEALTH MONITORING USING SMART HOME DEVICES
1011 US	21168477.4	1/22/2020	11,156,378	10/26/2021	PERSONAL HEALTH MONITORING USING SMART HOME DEVICES
1012 US	16/773,203	1/27/2020			Systems And Methods For Determining A Topology Of An Ethernet Ring Of Devices In A Building Management System
1013 US	16/773,659	1/27/2020	11,404,171	8/2/2022	Building Alarm Management System With Integrated Operating Procedures
1014 US	16/774,513	1/28/2020	11,755,745	9/12/2023	SYSTEMS AND METHODS FOR MONITORING ATTACKS TO DEVICES
1015 US	29/722,254	1/28/2020	D950,575	5/3/2022	Display Screen Or Portion Thereof With Graphical User Interface
1016 US	16/777,406	1/30/2020	11,079,732	8/3/2021	Building Management System With Update Ecosystem
1017 US	16/788,798	2/12/2020	11,719,461	8/8/2023	THERMOSTATS USER CONTROLS
1018 US	16/795,197	2/19/2020	11,402,116	8/2/2022	Systems And Methods For Intervention Control In A Building Management System
1019 US	16/796,731	2/20/2020	11,536,478	12/27/2022	Systems And Methods For Optimizing Data Routing In HVAC Networks
1020 US	16/802,371	2/26/2020	11,235,187	2/1/2022	Systems And Methods For Detecting Building Conditions Based On Wireless Signal Degradation
1021 US	16/802,329	2/26/2020	11,188,042	11/30/2021	Building Management System With Space-Based And Equipment-Based Notification System
1022 US	16/805,117	2/28/2020	11,435,709	9/6/2022	BUILDING MANAGEMENT SYSTEM WITH EQUIPMENT SCHEDULE AND SETPOINT SYNCHRONIZATION AND CONTROL
1023 US	16/805,395	2/28/2020	11,725,843	8/15/2023	THERMOSTAT AND RELATED SYSTEMS
1024 US	16/805,598	2/28/2020			Vendor-Agnostic Attribute Cloning
1025 US	16/804,999	2/28/2020	11,415,955	8/16/2022	Vendor Agnostic Shareable Device Integration And Meta Data Tagging
1026 US	16/838,732	4/2/2020	11,466,887	10/11/2022	Masterless Building Equipment Controller System
1027 US	16/838,803	4/2/2020	11,725,838	8/15/2023	ENVIRONMENTAL CONTROL SYSTEM FOR REDUCED POWER CONSUMPTION THROUGH UTILIZATION OF WAKE-UP RADIOS
1028 US	16/849,748	4/15/2020			Flow Control Assembly With User Interface Features
1029 US	16/849,739	4/15/2020	11,630,019	4/18/2023	ECOAIR VALVE WITH PNEUMATIC SOLENOID TO PROVIDE AUTO ZERO FUNCTION FOR AIR VELOCITY PRESSURE SENSOR
1030 US	16/855,670	4/22/2020	11,709,920	7/25/2023	Facility Management Systems And Methods Thereof
1031 US	16/863,790	4/30/2020			Split Thermostat
1032 US	16/863,761	4/30/2020	11,692,724	7/4/2023	Smart Actuator With Fault Detection And Resolution
1033 US	17/393,138	4/30/2020			Split Thermostat
1034 US	16/879,397	5/20/2020			HVAC System With Equipment Failure Warning
1035 US	16/881,258	5/22/2020	11,550,379	1/10/2023	Power Over Ethernet (PoE) Adapter For Building Controllers
1036 US	16/884,952	5/27/2020	11,255,445	2/22/2022	High Resolution Ball Valve With 270 Degree Rotation
1037 US	16/890,808	6/2/2020	11,740,601	8/29/2023	Building Management System With Universal Serial Bus (USB) Building Devices
1038 US	16/927,063	7/13/2020	11,274,842	3/15/2022	Systems And Methods For Optimizing Ventilation, Filtration, And Conditioning Schemes For Buildings

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
1039 US	16/927,318	7/13/2020			Air Quality Control and Disinfection System
1040 US	16/927,759	7/13/2020	11,269,306	3/8/2022	HVAC System With Building Infection Control
1041 US	16/927,766	7/13/2020	11,131,473	9/28/2021	HVAC system design and operational tool for building infection control
1042 US	16/993,812	8/14/2020			Air Duct Airflow Sensor
1043 US	29/746,938	8/18/2020	D975039	1/10/2023	Display Device
1044 US	17/009,989	9/2/2020	11526303	12/13/2022	Systems And Methods For Multi-Tiered Data Storage Abstraction Layer
1045 US	17/061,860	10/2/2020	11,368,493	6/21/2022	System For And Method Of Detecting Communication Security In Building Automation And Control Networks
1046 US	17/065,327	10/7/2020			Air Duct Damper And Installation Components
1047 US	17/070,344	10/14/2020			Systems and Methods for Monitoring and Controlling Outlet Power
1048 US	21171196.5	10/14/2020			Systems and Methods for Monitoring and Controlling Outlet Power
1049 US	17/084,264	10/29/2020	11708989	7/25/2023	Building Management System With Graphic User Interface For Component Operational Efficiency
1050 US	17/108,750	12/1/2020	11519806	12/6/2022	System And Method For Indicating Air Pressure Within An Enclosed Space
1051 US	17/108,758	12/1/2020	11739965	8/29/2023	LUX Thermostat With Segmented Display
1052 US	17/121,299	12/14/2020	11,774,130	10/3/2023	Cascaded Indoor Air Quality And Outdoor Air Flow Economizer System
1053 US	17/131,441	12/22/2020			SYSTEMS AND METHODS FOR AUTOMATIC INTERACTION WITH A FLEXIBLE NUMBER OF DEVICES
1054 US	17/140,957	1/4/2021			Thermostat with Energy Modeling
1055 US	17/144,072	1/7/2021			THERMOSTAT AND RELATED SYSTEMS
1056 US	17/144,812	1/8/2021			Building Automation Systems With Automatic Metadata Tagging And Management
1057 US	29/766,545	1/15/2021	D949,803	4/26/2022	Building Automation Device
1058 US	17/741,769	1/15/2021	D949,803	4/26/2022	Building Automation Device
1059 US	29/767,086	1/20/2021			Damper
1060 US	17/743,640	2/15/2021			Damper
1061 US	17/180,315	2/19/2021			Air Duct Assembly With Field Accessible Ports
1062 US	17/180,354	2/19/2021			Systems And Methods For Control Of An Air Duct
1063 US	17/187,175	2/25/2021			Flowrate Determination System And Method For A Flow Control Valve
1064 US	17/941,869	2/25/2021			Flowrate Determination System And Method For A Flow Control Valve
1065 US	17/187,341	2/26/2021	11,474,963	10/18/2022	Modular Architecture For Control And Monitoring Of Edge Devices In A Building Management System
1066 US	17/193,233	3/5/2021			OPERATIONS AND MAINTENANCE DEVELOPMENT TOOL
1067 US	17/195,963	3/9/2021	11662701	5/30/2023	Building Automation System With Microservice Architecture To Support Multi-Node On-Premise BAS Server
1068 US	17/201,588	3/15/2021			Thermoelectric Tripping Device And Coupling Arrangement Thereof
1069 US	17/204,381	3/17/2021			System and Method for Determining and Predicting Vulnerability of Building Management Systems

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
1070 US	17/208,553	3/22/2021	11656591	5/23/2023	Systems And Methods For Virtual Commissioning Of Building Management Systems
1071 US	17/208,604	3/22/2021	11733664	8/22/2023	Systems And Methods For Building Management System Commissioning on an Application
1072 US	17/218,661	3/31/2021			Efficient Integration of Machine Learning Models In Building Management Systems
1073 US	17/222,337	4/5/2021	11835945	12/5/2023	Predictive Diagnostics System with Fault Detector for Preventative Maintenance of Connected Equipment
1074 US	17/222,243	4/5/2021	11,567,490	1/31/2023	Predictive Diagnostics System with Fault Detector for Preventative Maintenance of Connected Equipment
1075 US	17/318,877	5/12/2021	11859846	1/2/2024	Cost savings from fault prediction and diagnosis
1076 US	17/362,466	6/29/2021	11859848	1/2/2024	Building Control System Using A Control Device Position As A Proxy For Static Pressure In A Conduit
1077 US	17/587,869	6/29/2021	11859848	1/2/2024	Building Control System Using A Control Device Position As A Proxy For Static Pressure In A Conduit
1078 US	17/365,124	7/1/2021	11637720	4/25/2023	Smart Gateway Devices, Systems and Methods for Providing Communication Between HVAC System Networks
1079 US	17/372,214	7/9/2021			HVAC Actuator
1080 US	17/371,879	7/9/2021	11,739,962	8/29/2023	SYSTEMS AND METHODS FOR LEAK DETECTION AND MANAGEMENT IN HEATING, VENTILATING, AND AIR CONDITIONING (HVAC) SYSTEMS
1081 US	17/374,135	7/13/2021			Systems And Methods For Wireless Networking In A Building Network
1082 US	17/390,279	7/30/2021			Next Generation Touchless Building Controls
1083 US	17/395,762	8/6/2021	11,774,929	10/3/2023	Field Controller for a Building Management System
1084 US	17/403,586	8/16/2021			System And Method For Power Arbitration Of Devices Connected To A BUS
1085 US	17/403,669	8/16/2021			HVAC SYSTEM WITH BUILDING INFECTION CONTROL
1086 US	17/406,890	8/19/2021			Sensor System For Leak Detection And Management In Heating, Ventilating, And Air Conditioning (HVAC) Systems
1087 US	17/409,493	8/23/2021			Variable Air Volume Systems With Filtration And Air Quality Control
1088 US	17/900297	8/23/2021			Variable Air Volume Systems With Filtration And Air Quality Control
1089 US	17/459,963	8/27/2021			INFECTION CONTROL TOOL FOR HVAC SYSTEM
1090 US	17/464,294	9/1/2021			Incremental Actuator With Feedback Control Diagnostics
1091 US	17/470,568	9/9/2021	11714390	8/1/2023	Systems And Methods For Creating And Using Equipment Definitions
1092 US	17/476,351	9/15/2021	11885510	1/30/2024	Systems And Methods To Mitigate Infection Risk Using Air Purification
1093 US	PCT/US2023/020264	9/15/2021	11885510	1/30/2024	Systems And Methods To Mitigate Infection Risk Using Air Purification
1094 US	17/483,078	9/23/2021			HVAC SYSTEM WITH SUSTAINABILITY AND EMISSIONS CONTROLS
1095 US	17/494,279	10/5/2021	11644215	5/9/2023	Systems And Methods For Flow Control In An HVAC System
1096 US	17/496,101	10/7/2021	11747037	9/5/2023	Building System with an In-Zone Plume Control System
1097 US	17/496,910	10/8/2021	11747034	9/5/2023	Systems and Methods for Steady State Detection

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
1098 US	17/510,062	10/25/2021			Systems and Methods of Semantic Tagging
1099 US	17/514,529	10/29/2021			LUX Thermostat With Pre-Configured Profile Listing
1100 US	17/516,314	11/1/2021	11754987	9/12/2023	Building Management System With Space-Based And Equipment-Based Notification System
1101 US	17/525,291	11/12/2021	US11784680	10/10/2023	Controller Network with Break Warning Features
1102 US	17/531,474	11/19/2021			Building Management System With Expired Operational Certificate Recovery
1103 US	17/537,179	11/29/2021			Building Control System Using Reinforcement Learning
1104 US	18/266,164	12/8/2021			Air Quality Control System with Mobile Sensors
1105 US	17/547,510	12/10/2021			Fume Hood And Sash Control Device
1106 US	17/552,119	12/15/2021			REPROGRAMMABLE SMART ACTUATOR OR REFRIGERATED CABINET WITH WEB SERVER
1107 US	17/554,499	12/17/2021			VAV SELF COMMISSIONING IN A BUILDING AUTOMATION SYSTEM
1108 US	17/558,909	12/22/2021			Systems And Methods For Optimizing Ventilation, Filtration, And Conditioning Schemes For Buildings
1109 US	17/561,041	12/23/2021			Building Automation Systems With Metadata Customization
1110 US	29/770,658	12/23/2021			Building Automation Systems With Metadata Customization
1111 US	17/575,944	1/14/2022			Automated Cloud Hosted Bms Archive and Difference Engine
1112 US	17/677,684	2/22/2022			Modular Controller For A Building Management System
1113 US	29/828,689	2/28/2022	D987447	5/30/2023	LUX Thermostat
1114 US	17/684,246	3/1/2022			STABLE VORTEX FUME HOOD CONTROL DEVICE
1115 US	17/686,990	3/4/2022			CENTRAL PLANT WITH AUTOMATIC SUBPLANT MODELS
1116 US	17/695,385	3/15/2022			Tools, Systems and Methods for Configuring a Building Management System
1117 US	17/704,609	3/25/2022			SYSTEMS AND METHODS FOR IMPLEMENTING SECURITY PROTOCOLS IN A BUILDING MANAGEMENT SYSTEM
1118 US	17/709,252	3/30/2022			CRITICAL ENVIRONMENT FEEDFORWARD-FEEDBACK CONTROL SYSTEM WITH ROOM PRESSURE AND TEMPERATURE CONTROL
1119 US	17/716,668	4/8/2022			SOLENOID SYSTEMS AND METHODS FOR ACHIEVING LOWER COST
1120 US	17/716,149	4/8/2022			STABLE VORTEX FUME HOOD CONTROL DEVICE
1121 US	17/733,786	4/29/2022			CONTROL SYSTEM FOR BUILDING EQUIPMENT WITH DYNAMIC CAPACITY CONSTRAINTS
1122 US	29/837,482	5/2/2022	D997749	9/5/2023	Controller Housing
1123 US	17/742,963	5/12/2022			ACTUATOR WITH AUTOMATIC FORCE SETTING AND SELF-CALIBRATION
1124 US	17/826,916	5/27/2022			BUILDING CONTROL SYSTEM WITH PREDICTIVE CONTROL OF CARBON EMISSIONS USING MARGINAL OPERATING EMISSIONS RATE
1125 US	17/826,921	5/27/2022			BUILDING CONTROL SYSTEM WITH MULTI-OBJECTIVE CONTROL OF CARBON EMISSIONS AND OCCUPANT COMFORT

PATENT

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Country	Application Number	Filing Date	Patent Number	Issue Date	Title
1126 US	17/895,479	8/25/2022			BUILDING DATA PLATFORM WITH AIR QUALITY ANALYSIS BASED ON MOBILE AIR QUALITY SENSORS
1127 US	17/955,699	9/29/2022			SYSTEMS AND METHODS FOR COMBINED OUTDOOR AIR FRACTION AND VAV UNIT CONTROL
1128 US	17/980,833	11/4/2022			THERMAL CONTROL OF DATA CENTER
1129 US	17/986,775	11/14/2022			UNIVERSAL GATEWAY DEVICES, SYSTEMS AND METHODS FOR INTEGRATING DISPARATE PROTOCOLS
1130 US	17/991,438	11/21/2022			HVAC Control System With Model Driven Deep Learning
1131 US	18/073359	12/1/2022			Smart Vent System For Localized Air Quality Control
1132 US	18/078,698	12/9/2022			Systems And Methods For Multi-Tiered Data Storage Abstraction Layer
1133 US	18/088,163	12/23/2022			Systems And Methods For Optimizing Data Routing In HVAC Networks
1134 US	18/096301	1/12/2023			Building Management System with Instant Feedback on Configuration
1135 US	18/104,151	1/31/2023			Thermostat With Demand Controlled Indoor Air Quality
1136 US	18/104,152	1/31/2023			Thermostat With Epidemic Control Ventilation
1137 US	18/104,162	1/31/2023			THERMOSTAT WITH EXTERNAL INTERRUPT
1138 US	18/176,178	2/28/2023			Building Automation System with Cross-Site Device Status Monitoring
1139 US	18/115,675	2/28/2023			Building Automation System with Edge Device Local Configuration
1140 US	18/176,001	2/28/2023			Building Automation System With Edge Device Common Data Bus
1141 US	18/115,478	2/28/2023			Building Automation System With Edge Processing Diversity
1142 US	18/123,964	3/20/2023			MCU Platform
1143 US	18/126,111	3/24/2023			Self-learning Wireless Thermostat That Minimizes Battery Drain
1144 US	18/135,320	4/17/2023			ECOAIR VALVE WITH PNEUMATIC SOLENOID TO PROVIDE AUTO ZERO FUNCTION FOR AIR VELOCITY PRESSURE SENSOR
1145 US	18/138,541	4/25/2023			Smart Gateway Devices, Systems and Methods for Providing Communication Between HVAC System Networks
1146 US	18/308,418	4/27/2023			DIRECT EVAPORATIVE COOLING SYSTEM FOR DATA CENTER WITH FAULT DETECTION
1147 US	18/308,422	4/27/2023			DIRECT EVAPORATIVE COOLING OPTIMIZATION FOR DATA CENTER
1148 US	18/141,744	5/1/2023			Systems And Methods For Optimal Representation Of Setpoint Selection Via An Array Of Lights
1149 US	18/310,962	5/2/2023			Building Automation System With Microservice Architecture To Support Multi-Node On-Premise BAS Server
1150 US	18/199,261	5/18/2023			Systems And Methods For Virtual Commissioning Of Building Management Systems
1151 US	63/468,714	5/24/2023			Thermostat Mounting Plate - Multi-Innovations
1152 US	18/203,626	5/30/2023			System to Validate Cyber Posture of BAS devices
1153 US	18/212,582	6/21/2023			Building Automation Systems With Regional Intelligence
1154 US	18/339,877	6/22/2023			Systems And Methods For Creating And Using Equipment Definitions

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
1155 US	18/215,453	6/28/2023			SMART BUILDING SYSTEMS WITH AUTOMATED READINESS VERIFICATION
1156 US	18/215,760	6/28/2023			Optimization of digital twin using actual configuration data
1157 US	18/215990	6/29/2023			Virtualization of field controller by cultivating modular and scalable semiconductor farms
1158 US	18/219,008	7/6/2023			BUILDING SYSTEM WITH MULTI-SPACE AIR QUALITY AND ENERGY OPTIMIZATION
1159 US	29/897,103	7/11/2023			MCU Platform
1160 US	18/222,827	7/17/2023			BUILDING AUTOMATION SYSTEM WITH VALIDATED COMMISSIONING WORKFLOW AND DIGITAL TWIN POPULATION
1161 US	18/224,433	7/20/2023			SYSTEMS AND METHODS FOR LEAK DETECTION AND MANAGEMENT IN HEATING, VENTILATING, AND AIR CONDITIONING (HVAC) SYSTEMS
1162 US	29/898,838	8/1/2023			M4 Controller Terminal Puller
1163 US	63/530311	8/2/2023			BUILDING MANAGEMENT SYSTEM WITH BUILDING LIFECYCLE WORKFLOW APPLICATION
1164 US	18/231,213	8/7/2023			Building Management System With Universal Serial Bus (USB) Building Devices
1165 US	18/234,530	8/16/2023			Building Management System With Cyber Health Dashboard
1166 US	63/533,204	8/17/2023			BUILDING MANAGEMENT SYSTEM WITH CONTROL APPLICATION GENERATION
1167 US	18/236,376	8/21/2023			Systems And Methods For Building Management System Commissioning on an Application
1168 US	63/535,021	8/28/2023			COMPREHENSIVE SITE TIMELINE WITH OVERLAY OF INSTALL AND SERVICE ACTIVITIES
1169 US	18/239,930	8/30/2023			Systems And Methods For Configuring And Communicating With HVAC Devices
1170 US	18/242,976	9/6/2023			Cost savings from fault prediction and diagnosis
1171 US	18/243517	9/7/2023			Systems and Methods for Installing and Wiring Building Equipment
1172 US	18/367,347	9/12/2023			Controller Network with Break Warning Features
1173 US	63/537993	9/12/2023			Building System with Brokering and Distributed Control
1174 US	63/538,323	9/14/2023			BUILDING EQUIPMENT WITH PATTERN RECOGNITION ADAPTIVE CONTROLLER USING SYSTEM IDENTIFICATION
1175 US	63/583,998	9/20/2023			Integrated Service Platform
1176 US	63/540,713	9/27/2023			AerialaCon - using AI and satellite image data to identify target buildings with older and rival building systems equipment
1177 US	18/375,261	9/29/2023			Systems And Methods For Wireless Networking In A Building Network
1178 US	63/541,653	9/29/2023			BMS with self-identified telemetry non redundant data
1179 US	63/586,515	9/29/2023			Single Zone Filtration Estimation
1180 US	63/586877	9/29/2023			PoE Converter for use in Building Automation Systems

	Country	Application Number	Filing Date	Patent Number	Issue Date	Title
	1181 US	18/378,515	10/10/2023			AN ACTUATOR OF HVAC UNIT
	1182 US	18/379561	10/12/2023			TC2022 - BUILDING MANAGEMENT SYSTEM WITH CONTAINERIZED ENGINES
	1183 US	18/407,747	1/9/2024			VALVE ASSEMBLY WITH ADJUSTABLE SPACER AND NOISE REDUCTION
	1184 US	18/412,052	1/12/2024			Building Management System With Automatic Equipment Discovery And Equipment Model Distribution
	1185 WO	PCT/US2021/050529	9/15/2021			Systems And Methods To Mitigate Infection Risk Using Air Purification First Named
	1186 WO	PCT/US2021/062444	12/8/2021			Air Quality Control System with Mobile Sensors
	1187 AU	2016310529	8/29/2016	2016310529	12/17/2020	EDGE INTELLIGENCE PLATFORM, AND INTERNET OF THINGS SENSOR STREAMS SYSTEM
	1188 AU	2017238633	3/23/2017	2017238633	8/4/2022	EFFICIENT STATE MACHINES FOR REAL- TIME DATAFLOW PROGRAMMING
	1189 AU	2017238637	3/23/2017	2017238637	1/27/2022	Composition of Pattern-Driven Reactions in Real-Time Dataflow Programming
	1190 AU	2017238638	3/23/2017	2017238638	5/19/2022	TOOLS AND METHODS FOR REAL- TIME DATAFLOW PROGRAMMING LANGUAGE
	1191 AU	2022202972	3/23/2017			TOOLS AND METHODS FOR REAL- TIME DATAFLOW PROGRAMMING LANGUAGE
	1192 AU	2022237623	3/17/2022			Systems And Methods For Determining Equipment Energy Waste
	1193 CA	3158999	11/18/2020			Building Control System With Automatic Control Problem Formulation Using Building Information Model
	1194 CA	3106434	1/13/2021			Building Management System With Space Graphs
	1195 CA	3219213	5/11/2022			BUILDING MANAGEMENT SYSTEM WITH CODE BLUE INTEGRATION
	1196 CN	201780089444.9	9/18/2017	ZL 201780089444.9	8/8/2023	Building Management System with Declarative Views of Timeseries Data
	1197 CN	201880031653.2	3/7/2018	ZL 201880031653.2	9/22/2023	Building management system development and control platform
	1198 CN	202010156427.6	3/7/2018	ZL 202010156427.6	5/5/2023	Building automation system with an energy optimization builder and generic data model designer
	1199 CN	202080100503.X	3/12/2020			Systems and Methods For Controlling Variable Refrigerant Flow Systems and Equipment Using Artificial Intelligence Models
	1200 CN	202080049437.8	6/12/2020			Variable Refrigerant Flow System with Zone Grouping
	1201 CN	202080052236.3	6/12/2020	ZL 202080052236.3	11/24/2023	Predictive Heating Control System and Method
	1202 CN	112020005811.5	6/12/2020			Variable Refrigerant Flow System with Zone Grouping
	1203 CN	202280033905.1	3/17/2022			Systems And Methods For Determining Equipment Energy Waste
	1204 CN	202280034564.X	5/11/2022			BUILDING MANAGEMENT SYSTEM WITH CODE BLUE INTEGRATION
	1205 DE	17715337.6	3/21/2017	602017059213.7	7/6/2022	Virtual Panel for Access Control System
	1206 DE	18166329.5	4/9/2018	602018043537.9	11/30/2022	Extremum-Seeking Control System with Constraint Handling
	1207 DE	18190831.0	8/24/2018	602018049937.7	5/17/2023	Central Plant Control System with Equipment Maintenance Evaluation

	Country	Application Number	Filing Date	Patent Number	Issue Date	Title
1208	DE	112018004325.8	9/26/2018			Systems and Methods for Risk Analysis
1209	DE	17/940176	11/19/2020			Building Control System With Smart Edge Devices Having Embedded Model Predictive Control
1210	DE	17/364,638	11/23/2020			Systems And Methods For Maintaining Occupant Comfort For Various Environmental Conditions
1211	DE	102021112227.9	5/11/2021			Building System With Flexible Facility Operation
1212	DE	112021004364.1	8/17/2021			Building System With A Recommendation Interface
1213	DE	112021005718.9	10/29/2021			Systems And Methods Of Configuring A Building Management System
1214	EP	17777702.6	4/15/2016			HVAC Controller With Predictive Cost Optimization
1215	EP	18730157.7	3/7/2018			BUILDING MANAGEMENT SYSTEM DEVELOPMENT AND CONTROL PLATFORM
1216	EP	19712410.0	3/6/2019			Frictionless Access Control System for a Building
1217	EP	20758000.2	7/28/2020			Laboratory Utilization Monitoring And Analytics
1218	EP	22719063.4	3/17/2022			Systems And Methods For Determining Equipment Energy Waste
1219	EP	22732709.5	5/11/2022			BUILDING MANAGEMENT SYSTEM WITH CODE BLUE INTEGRATION
1220	EP	23162325.7	3/16/2023			Building Automation System with Remote Advisory Services
1221	EP	23165382.5	3/30/2023			PREDICTIVE MODELING AND CONTROL SYSTEM FOR BUILDING EQUIPMENT WITH GENERATIVE ADVERSARIAL NETWORK
1222	HK	18116255.6	8/29/2016	3342137	6/2/2021	EDGE INTELLIGENCE PLATFORM, AND INTERNET OF THINGS SENSOR STREAMS SYSTEM
1223	HK	19124684.2	3/23/2017			EFFICIENT STATE MACHINES FOR REAL-TIME DATAFLOW PROGRAMMING
1224	HK	19124687.5	3/23/2017			Composition of Pattern-Driven Reactions in Real-Time Dataflow Programming
1225	HK	19124690.9	3/23/2017			TOOLS AND METHODS FOR REAL- TIME DATAFLOW PROGRAMMING LANGUAGE
1226	JP	2022-554346	3/12/2020			SYSTEMS AND METHODS FOR CONTROLLING VARIABLE REFRIGERANT FLOW SYSTEMS AND EQUIPMENT USING ARTIFICIAL INTELLIGENCE MODELS
1227	JP	2023-556744	3/17/2022			Systems And Methods For Determining Equipment Energy Waste
1228	SG	11202307658P	3/17/2022			Systems And Methods For Determining Equipment Energy Waste
1229	US	12/036,053	2/22/2008	8,358,342	1/22/2013	Video Processing Systems And Methods
1230	US	12/323,293	11/25/2008	8,027,742	9/27/2011	Fault Detection Systems And Methods For Self-Optimizing Heating, Ventilation, And Air Conditioning Controls
1231	US	12/422,116	4/10/2009	8,270,767	9/18/2012	Systems And Methods For Providing Immersive Displays Of Video Camera Information From A Plurality Of Cameras
1232	US	12/650,366	12/30/2009	8,200,344	6/12/2012	Extremum Seeking Control With Reset Control
1233	US	12/683,883	1/7/2010	8,200,345	6/12/2012	Extremum Seeking Control With Actuator Saturation Control
1234	US	12/777,097	5/10/2010	8,473,080	6/25/2013	Control Of Cooling Towers For Chilled Fluid Systems

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1235 US	12/831,850	7/7/2010	8,516,016	8/20/2013	Systems And Methods For Facilitating Communication Between A Plurality Of Building Automation Subsystems
1236 US	12/831,866	7/7/2010	8,682,921	3/25/2014	Query Engine For Building Management Systems
1237 US	12/912,634	10/26/2010	8,096,140	1/17/2012	Adaptive Real-Time Optimization Control
1238 US	12/938,203	11/2/2010	8,567,204	10/29/2013	Sensor-Free Optimal Control Of Air-Side Economizer
1239 US	12/953,283	11/23/2010	8,412,357	4/2/2013	Process Control Systems And Methods Having Learning Features
1240 US	13/226,405	9/6/2011	8,478,433	7/2/2013	Fault Detection Systems And Methods For Self-Optimizing Heating, Ventilation, And Air Conditioning Controls
1241 US	13/325,971	12/14/2011	8,495,888	7/30/2013	Adaptive Real-Time Optimization Control
1242 US	13/484,121	5/30/2012	8,694,132	4/8/2014	Extremum Seeking Control With Actuator Saturation Control
1243 US	13/484,131	5/30/2012	8,666,517	3/4/2014	Extremum Seeking Control With Reset Control
1244 US	13/533,848	6/26/2012	9,002,532	4/7/2015	Systems And Methods For Controlling A Chiller Plant For A Building
1245 US	13/595,945	8/27/2012	9,411,327	8/9/2016	Systems And Methods For Classifying Data In Building Automation Systems
1246 US	13/619,671	9/14/2012	8,428,391	4/23/2013	Systems And Methods For Providing Immersive Displays Of Video Camera Information From A Plurality Of Cameras
1247 US	13/756,229	1/31/2013	9,568,204	2/14/2017	Systems And Methods For Rapid Disturbance Detection And Response
1248 US	13/797,806	3/12/2013	8,909,359	12/9/2014	Process Control Systems And Methods Having Learning Features
1249 US	13/802,279	3/13/2013	9,436,179	9/6/2016	Systems And Methods For Energy Cost Optimization In A Building System
1250 US	13/802,233	3/13/2013	9,235,657	1/12/2016	System Identification And Model Development
1251 US	13/970,400	8/19/2013	9,189,527	11/17/2015	Systems And Methods For Facilitating Communication Between A Plurality Of Building Automation Subsystems
1252 US	14/133,310	12/18/2013	9,256,702	2/9/2016	Systems And Methods For Determining An Appropriate Model Parameter Order
1253 US	14/137,627	12/20/2013	9,355,069	5/31/2016	Systems And Methods For Determining The Uncertainty In Parameters Of An Energy Use Model
1254 US	14/202,023	3/10/2014	9,466,189	10/11/2016	False Alarm Avoidance In Security Systems
1255 US	14/202,026	3/10/2014	9,384,656	7/5/2016	False Alarm Avoidance In Security Systems Filtering Low In Network
1256 US	14/204,907	3/11/2014	9,344,403	5/17/2016	Industrial Network Security
1257 US	14/221,114	3/20/2014	9,116,978	8/25/2015	Query Engine For Building Management Systems
1258 US	14/495,773	9/24/2014	9,835,349	12/5/2017	Extremum-Seeking Control For Airside Economizers
1259 US	14/579,736	12/22/2014	9,778,639	10/3/2017	Systems And Methods For Adaptively Updating Equipment Models
1260 US	14/599,306	1/16/2015	9,612,601	4/4/2017	Systems And Methods For Adaptive Capacity Constraint Management
1261 US	29/515,801	1/27/2015	D781,306	3/14/2017	Display screen or portion thereof with graphical user interface
1262 US	14/666,119	3/23/2015	9,696,054	7/4/2017	Systems And Methods For Controlling A Central Plant For A Building
1263 US	14/694,633	4/23/2015	10,761,547	9/1/2020	HVAC Controller With Predictive Cost Optimization
1264 US	14/694,675	4/23/2015	9,798,336	10/24/2017	Building Management System With Linked Thermodynamic Models For Hvac Equipment

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1265 US	19204033.5	4/23/2015	9,798,336	10/24/2017	Building Management System With Linked Thermodynamic Models For Hvac Equipment
1266 US	14/740,053	6/15/2015	9,300,635	3/29/2016	OVERLAY NETWORK WITH POSITION INDEPENDENT INSERTION AND TAP POINTS
1267 US	14/814,283	7/30/2015	9729580	8/8/2017	PERFORMING ACTIONS VIA DEVICES THAT ESTABLISH A SECURE, PRIVATE NETWORK
1268 US	14/872,074	9/30/2015	10,190,789	1/29/2019	Central Plant With Coordinated HVAC Equipment Staging Across Multiple Subplants
1269 US	14/970,187	12/15/2015	10,088,814	10/2/2018	System Identification And Model Development
1270 US	14/971,813	12/16/2015	10,452,034	10/22/2019	Central Plant Control System With Building Energy Load Estimation
1271 US	14/975,527	12/18/2015	10,209,684	2/19/2019	Self-Configuring Extremum-Seeking Control System
1272 US	14/977,594	12/21/2015	10,429,807	10/1/2019	Systems And Methods For Determining An Appropriate Model Parameter Order
1273 US	15/068,470	3/11/2016	10,007,259	6/26/2018	Systems And Methods For Energy Cost Optimization In A Building System
1274 US	15/080,435	3/24/2016	10,352,576	7/16/2019	Extremum-seeking control system for a chilled water plant
1275 US	15/083,214	3/28/2016	9,621,514	4/11/2017	OVERLAY NETWORK WITH POSITION INDEPENDENT INSERTION AND TAP POINTS
1276 US	15/144,795	5/2/2016	10,635,055	4/28/2020	Building Control System With Break Even Temperature Uncertainty Determination And Performance Analytics
1277 US	15/144,792	5/2/2016	10,558,180	2/11/2020	Building Control System With Empirical Uncertainty Determination For Energy Use Model Parameters
1278 US	15/156,254	5/16/2016	10,038,725	7/31/2018	Industrial Network Security
1279 US	15/201,063	7/1/2016	9,729,581	8/8/2017	HORIZONTAL SWITCH SCALABILITY VIA LOAD BALANCING
1280 US	15/207,376	7/11/2016	10,859,984	12/8/2020	Systems And Methods For Classifying Data In Building Automation Systems
1281 US	15/250,720	8/29/2016	10,007,513	6/26/2018	EDGE INTELLIGENCE PLATFORM, AND INTERNET OF THINGS SENSOR STREAMS SYSTEM
1282 US	15/284,468	10/3/2016	10,365,001	7/30/2019	HVAC System with Multivariable Optimization Using a Plurality of Single-Variable Extremum-Seeking Controllers
1283 US	15/342,079	11/2/2016	10,097,435	10/9/2018	Systems and Methods for Real-Time Detection and Communication of Health and Performance Degradation in a Distributed Building Automation Network
1284 US	15/387,512	12/21/2016	11,181,875	11/23/2021	Systems And Methods For Monitoring And Controlling A Central Plant
1285 US	15/400,926	1/6/2017	10,684,033	6/16/2020	HVAC System with Automated Device Pairing
1286 US	15/400,931	1/6/2017	10,704,796	7/7/2020	HVAC System With Timeseries Dimensional Mismatch Handling
1287 US	15/405,236	1/12/2017	10,282,796	5/7/2019	Building Energy Storage System With Multiple Demand Charge Cost Optimization

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	1288 US	15/405,234	1/12/2017	10,324,483	6/18/2019	Building Energy Storage System With Peak Load Contribution Cost Optimization
	1289 US	15/409,489	1/18/2017	10,480,804	11/19/2019	Building Management System With Distributed Data Storage and Processing
	1290 US	15/426,962	2/7/2017	10,359,748	7/23/2019	Building Energy Cost Optimization System With Asset Sizing
	1291 US	15/448,179	3/2/2017	10,364,997	7/30/2019	Control System with Maximum Time Constant Estimation
	1292 US	15/456,180	3/10/2017	11,042,924	6/22/2021	Building Controller for Optimizing Equipment Updates with Design of Experiments
	1293 US	15/461,222	3/16/2017	10,401,843	9/3/2019	Control System with Combined Extremum-Seeking Control and Feedforward Control
	1294 US	15/467,306	3/23/2017	10,572,230	2/25/2020	Efficient State Machines for Real-Time Dataflow Programming
	1295 US	15/467,313	3/23/2017	10,564,941	2/18/2020	Composition of Pattern-Driven Reactions in Real-Time Dataflow Programming
	1296 US	15/467,318	3/23/2017	10,127,022	11/13/2018	Tools and Methods for Real-Time Dataflow Programming Language
	1297 US	15/473,496	3/29/2017	10,706,375	7/7/2020	Central Plant with Asset Allocator
	1298 US	15/474,746	3/30/2017	11768004	9/26/2023	HVAC Device Registration in a Distributed Building Management System
	1299 US	15/494,403	4/21/2017	10,868,857	12/15/2020	Building Management System with Distributed Data Collection and Gateway Services
	1300 US	15/592,041	5/10/2017	10,788,229	9/29/2020	Building Management System with a Distributed Blockchain Database
	1301 US	18186143.6	5/10/2017	10,788,229	9/29/2020	Building Management System with a Distributed Blockchain Database
	1302 US	15/616,616	6/7/2017	10,949,777	3/16/2021	Building Energy Optimization System with Economic Load Demand Response (ELDR) Optimization
	1303 US	15/621,952	6/13/2017	10,386,086	8/20/2019	Building Management System With Central Plant Optimization User Interface
	1304 US	15/625,830	6/16/2017	10,146,237	12/4/2018	Smart Thermostat with Model Predictive Control
	1305 US	15/635,754	6/28/2017	10,564,612	2/18/2020	Variable Refrigerant Flow System With Multi-Level Model Predictive Control
	1306 US	16/314,277	6/29/2017	11669061	6/6/2023	Variable Refrigerant Flow System with Predictive Control
	1307 US	15/668,264	8/3/2017	11,237,576	2/1/2022	HVAC System with Data Driven User Interfaces for Equipment Commissioning and Operation
	1308 US	18733420.6	8/3/2017	11,237,576	2/1/2022	HVAC System with Data Driven User Interfaces for Equipment Commissioning and Operation
	1309 US	15/670,925	8/7/2017	10,178,133	1/8/2019	PERFORMING ACTIONS VIA DEVICES THAT ESTABLISH A SECURE, PRIVATE NETWORK
	1310 US	15/670,859	8/7/2017	10,326,799	6/18/2019	HORIZONTAL SWITCH SCALABILITY VIA LOAD BALANCING
	1311 US	15/694,033	9/1/2017	10,317,864	6/11/2019	Systems And Methods For Adaptively Updating Equipment Models
	1312 US	18713481.2	9/1/2017	10,317,864	6/11/2019	Systems And Methods For Adaptively Updating Equipment Models

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1313 US	15/887,575	2/2/2018			FREQUENCY RESPONSE CONTROL SYSTEM WITH CLIPPING PARAMETER DETERMINATION
1314 US	15/892,274	2/8/2018	11,422,516	8/23/2022	Building Management System with Dynamic Rules with Sub-Rule Reuse and Equation Driven Smart Diagnostics
1315 US	15/892,288	2/8/2018	11733663	8/22/2023	Building Management System with Dynamic Work Order Generation with Adaptive Diagnostic Task Details
1316 US	15/895,836	2/13/2018	11487277	11/1/2022	Model Predictive Maintenance System for Building Equipment
1317 US	15/896,413	2/14/2018	10,612,805	4/7/2020	Building Automation System with a Parallel Relationship Computation Engine
1318 US	15/896,694	2/14/2018	10,746,428	8/18/2020	Building Automation System With A Dynamic Cloud Based Control Framework
1319 US	15/896,726	2/14/2018	11,226,126	1/18/2022	Building Automation System With An Algorithmic Interface Application Designer
1320 US	15/896,633	2/14/2018	10,544,955	1/28/2020	Dynamically Updatable Building Management System Control Platform
1321 US	15/896,465	2/14/2018	11,041,653	6/22/2021	Building Automation System With Hybrid Disaster Recovery
1322 US	15/896,430	2/14/2018	11,029,053	6/8/2021	Building Automation System With Live Memory Management
1323 US	15/896,675	2/14/2018	10,648,688	5/12/2020	Building Automation System With A Verifiable Relationship Building Language
1324 US	15/896,745	2/14/2018	10,767,885	9/8/2020	Building Automation System With An Energy Optimization Builder And Generic Data Model Designer
1325 US	18755340.9	2/14/2018	10,746,428	8/18/2020	Building Automation System With A Dynamic Cloud Based Control Framework
1326 US	18186277.2	2/14/2018	11,226,126	1/18/2022	Building Automation System With An Algorithmic Interface Application Designer
1327 US	15/900,459	2/20/2018	10,767,886	9/8/2020	Building Management System With Saturation Detection And Removal For System Identification
1328 US	15/901,571	2/21/2018	10,712,032	7/14/2020	Building Automation System with Microservices Architecture
1329 US	15/920,077	3/13/2018			Variable Refrigerant Flow System with Electricity Consumption Apportionment
1330 US	15/921,955	3/15/2018	10,678,227	6/9/2020	Central Plant Control System with Plug and Play EMPC
1331 US	15/924,148	3/16/2018	10069726	9/4/2018	OVERLAY NETWORK IDENTITY-BASED RELAY
1332 US	15/934,593	3/23/2018	11,042,144	6/22/2021	Building Management System with Dynamic Channel Communication
1333 US	15/939,238	3/28/2018			SYSTEMS AND METHODS FOR MONITORING AND CONTROLLING AN ENERGY PLANT
1334 US	15/947,725	4/6/2018	10,832,564	11/10/2020	Building Security System with Event Data Analysis for Generating False Alarm Rules for False Alarm Reduction

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1335 US	15/947,722	4/6/2018	10,832,563	11/10/2020	Building Security System with False Alarm Reduction Recommendations and Automated Self-Healing for False Alarm Reduction
1336 US	15/947,727	4/6/2018	10,726,711	7/28/2020	Building Security System with User Presentation for False Alarm Reduction
1337 US	15/950,009	4/10/2018	10,627,786	4/21/2020	Extremum-Seeking Control System with Constraint Handling
1338 US	15/953,324	4/13/2018	10,718,542	7/21/2020	Building Management System With System Identification Using Multi-Step Ahead Error Prediction
1339 US	16/413,892	4/13/2018	10,718,542	7/21/2020	Building Management System With System Identification Using Multi-Step Ahead Error Prediction
1340 US	15/962,638	4/25/2018	10,948,884	3/16/2021	Building Control Based On Uneven Load Distribution
1341 US	15/963,860	4/26/2018	10,571,146	2/25/2020	Air Handling Unit And Rooftop Unit With Predictive Control
1342 US	15/963,857	4/26/2018	10,816,235	10/27/2020	Building energy system with predictive control of battery and green energy resources
1343 US	15/963,891	4/26/2018	10,739,742	8/11/2020	Building Energy System With Stochastic Model Predictive Control
1344 US	17/689,670	4/26/2018	10,571,146	2/25/2020	Air Handling Unit And Rooftop Unit With Predictive Control
1345 US	15/968,278	5/1/2018	10,739,029	8/11/2020	Systems and Methods for Intelligent Pic Valves with Agent Interaction
1346 US	15/974,443	5/8/2018	11,022,947	6/1/2021	Building energy optimization system with economic load demand response (ELDR) optimization and ELDR user interfaces
1347 US	15/974,411	5/8/2018	10,732,584	8/4/2020	Building Energy Optimization System With Automated And Dynamic Economic Load Demand Response (ELDR) Optimization
1348 US	15/980,547	5/15/2018	10,852,023	12/1/2020	Building Management Autonomous HVAC Control Using Reinforcement Learning with Occupant Feedback
1349 US	15/981,181	5/16/2018	10,845,081	11/24/2020	Building Management HVAC Control Using Human Sensors
1350 US	15/987,762	5/23/2018	10116539	10/30/2018	MULTI-LINK NETWORK GATEWAY WITH MONITORING AND DYNAMIC FAILOVER
1351 US	15/993,331	5/30/2018	11,070,389	7/20/2021	Building Management System with Automated Vibration Data Analysis
1352 US	15/994,760	5/31/2018	10,158,545	12/18/2018	MONITORING OVERLAY NETWORKS
1353 US	17/059,133	6/1/2018			Enterprise Platform For Enhancing Operational Performance
1354 US	16/013,638	6/20/2018	10,921,010	2/16/2021	Building Management System with Simulation and User Action Reinforcement Machine Learning
1355 US	16/013,853	6/20/2018	10,379,842	8/13/2019	Edge Computing Platform
1356 US	16/016,361	6/22/2018	11,346,572	5/31/2022	Building Equipment with Predictive Control
1357 US	16/027,132	7/3/2018	10,514,178	12/24/2019	Central Plant Control System With Computation Reduction Based On Graph Theory
1358 US	16/026,621	7/3/2018	11,105,528	8/31/2021	Building Management System with Automatic Synchronization of Point Read Frequency
1359 US	16/028,126	7/5/2018	11,264,020	3/1/2022	Systems and Methods for Conversational Interaction with a Building Automation System

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1360 US	16/028,155	7/5/2018	10,529,153	1/7/2020	Access Control and Smart Delivery of Product Information
1361 US	17/836,821	7/5/2018	11,264,020	3/1/2022	Systems and Methods for Conversational Interaction with a Building Automation System
1362 US	16/029,246	7/6/2018	10,895,393	1/19/2021	Variable Refrigerant Flow System With Pressure Optimization Using Extremum-Seeking Control
1363 US	16/029,255	7/6/2018	10,655,878	5/19/2020	Variable Refrigerant Flow System With Sub-Cooling Temperature Optimization Using Extremum-Seeking Control
1364 US	16/034,057	7/12/2018	11,703,815	7/18/2023	Building Control System with Predictive Maintenance Based on Time Series Analysis
1365 US	16/039,076	7/18/2018	10,558,178	2/11/2020	Central Plant Control System With Linear Solver For Computation Reduction
1366 US	16/040,698	7/20/2018	11,243,503	2/8/2022	Building Management System with Online Configurable System Identification
1367 US	16/044,390	7/24/2018	10,299,079	5/21/2019	Adaptive Inter-Ranging Network
1368 US	16/046,953	7/26/2018	10,969,135	4/6/2021	Central Plant Control System With Computation Reduction Based On Sensitivity Analysis
1369 US	16/046,971	7/26/2018			Central Plant Control System With Setpoints Modification Based On Physical Constraints
1370 US	16/046,955	7/26/2018	11,092,352	8/17/2021	Central Plant Control System With Computation Reduction Based On Stranded Node Analysis
1371 US	16/048,162	7/27/2018	10,824,125	11/3/2020	Central Plant Control System Based On Load Prediction Through Mass Storage Model
1372 US	16/048,165	7/27/2018	10,876,754	12/29/2020	Dynamic Central Plant Control Based On Load Prediction
1373 US	16/048,092	7/27/2018	10,900,686	1/26/2021	Central Plant Control System With Time Dependent Deferred Load
1374 US	19165142.1	7/27/2018	10,824,125	11/3/2020	Central Plant Control System Based On Load Prediction Through Mass Storage Model
1375 US	16/052,120	8/1/2018	10,907,846	2/2/2021	Building Control System With Cooperative Extremum-Seeking Control
1376 US	16/051,992	8/1/2018	10,809,682	10/20/2020	Building Management System with Optimized Processing of Building System Data
1377 US	16/052,038	8/1/2018	10,564,616	2/18/2020	Building Management System with Automatic Point Mapping Validation
1378 US	16/052,083	8/1/2018	11,281,169	3/22/2022	Building Management System with Point Virtualization for Online Meters
1379 US	16/054,805	8/3/2018	10,935,940	3/2/2021	Building Management System With Augmented Deep Learning Using Combined Regression And Artificial Neural Network Modeling
1380 US	16/107,628	8/21/2018	10,890,346	1/12/2021	Extremum-Seeking Control System For On/Off Systems
1381 US	16/112,582	8/24/2018	11,379,935	7/5/2022	CENTRAL PLANT CONTROL SYSTEM WITH EQUIPMENT MAINTENANCE EVALUATION

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1382	US	18812011.7	8/24/2018	11,379,935	7/5/2022	CENTRAL PLANT CONTROL SYSTEM WITH EQUIPMENT MAINTENANCE EVALUATION
1383	US	16/115,290	8/28/2018			Building Energy System With Stochastic Model Predictive Control And Demand Charge Incorporation
1384	US	16/115,120	8/28/2018	11,159,022	10/26/2021	Building Energy Optimization System with a Dynamically Trained Load Prediction Model
1385	US	16/115,282	8/28/2018	11,163,271	11/2/2021	Cloud Based Building Energy Optimization System with a Dynamically Trained Load Prediction Model
1386	US	16/118,962	8/31/2018	10,809,705	10/20/2020	Central Plant Control System With Automatic Optimization Formulation
1387	US	16/119,172	8/31/2018	10,629,038	4/21/2020	Access Control System with Lock Defeat Device Detection
1388	US	16/120,043	8/31/2018	10200281	2/5/2019	OVERLAY NETWORK IDENTITY-BASED RELAY
1389	US	16/122,399	9/5/2018	10,684,070	6/16/2020	Variable Refrigerant Flow System With Capacity Limits
1390	US	16/142,803	9/26/2018	11,314,788	4/26/2022	Smart Entity Management for Building Management Systems
						Web Services for Creation and Maintenance of Smart Entities for Connected Devices
1391	US	16/142,906	9/26/2018	11768826	9/26/2023	Web Services for Smart Entity Management for Sensor Systems
1392	US	16/143,164	9/26/2018	11,314,726	4/26/2022	Web Services Platform with Integration and Interface of Smart Entities with Enterprise Applications
1393	US	16/142,859	9/26/2018	11,120,012	9/14/2021	Web Services Platform with Nested Stream Generation
1394	US	16/143,012	9/26/2018	11,258,683	2/22/2022	Building Management System with Identity Management and Assurance Services
1395	US	16/142,472	9/26/2018	10,600,263	3/24/2020	Building Risk Analysis System With Global Risk Dashboard
1396	US	16/143,276	9/26/2018	10,565,844	2/18/2020	BUILDING RISK ANALYSIS SYSTEM WITH RISK CARDS
1397	US	16/143,221	9/26/2018			Building Risk Analysis System with Natural Language Processing for Threat Ingestion
1398	US	16/143,256	9/26/2018	11,195,401	12/7/2021	Building Risk Analysis System with Dynamic Modification of Asset-Threat Weights
1399	US	16/143,247	9/26/2018	10,559,180	2/11/2020	Building Risk Analysis System with Risk Combination for Multiple Threats
1400	US	16/143,282	9/26/2018	10,559,181	2/11/2020	Web Services for Creation and Maintenance of Smart Entities for Connected Devices
1401	US	20151204.3	9/26/2018	11768826	9/26/2023	System Identification And Model Development
1402	US	16/144,192	9/27/2018	11,086,276	8/10/2021	Photovoltaic Energy System With Stationary Energy Storage Control And Power Factor Correction
1403	US	16/147,356	9/28/2018	10,797,511	10/6/2020	Photovoltaic Energy System With Stationary Energy Storage Control And Power Factor Correction
1404	US	19707156.6	9/28/2018	10,797,511	10/6/2020	Power Factor Correction

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1405 US	16/153,266	10/5/2018	10,761,516	9/1/2020	Systems and Methods for Real-Time Detection and Communication of Health and Performance Degradation in a Distributed Building Automation Network
1406 US	16/155,256	10/9/2018	11,042,138	6/22/2021	Auto Detection of Signature and Native Reference Changes from Data Sources
1407 US	16/155,569	10/9/2018	11,216,168	1/4/2022	Systems and Methods for Building Enterprise Management
1408 US	PCT/US2023/020060	10/9/2018	11,042,138	6/22/2021	Auto Detection of Signature and Native Reference Changes from Data Sources
1409 US	16/847,141	10/11/2018	11,360,121	6/14/2022	System And Method For Energy Sensing And Harvesting With Fault Detection
1410 US	16/159,199	10/12/2018	11,270,084	3/8/2022	Systems and Methods for Using Trigger Words to Generate Human-Like Responses in Virtual Assistants
1411 US	16/172,371	10/26/2018	10,573,168	2/25/2020	Automated Alarm Panel Classification Using Pareto Optimization
1412 US	16/172,621	10/26/2018	10797979	10/6/2020	MULTI-LINK NETWORK GATEWAY WITH MONITORING AND DYNAMIC FAILOVER
1413 US	16/178,264	11/1/2018	10,839,628	11/17/2020	Virtual Panel Access Control System
1414 US	16/178,361	11/1/2018	10,928,784	2/23/2021	Central Plant Optimization System With Streamlined Data Linkage Of Design And Operational Data
1415 US	18806317.6	11/1/2018	10,839,628	11/17/2020	Virtual Panel Access Control System
1416 US	16/182,362	11/6/2018	10,928,790	2/23/2021	Control System With Coordinated Equipment Staging
1417 US	16/185,274	11/9/2018	10,495,337	12/3/2019	Smart Thermostat with Model Predictive Control
1418 US	19186473.5	11/9/2018	10,495,337	12/3/2019	Smart Thermostat with Model Predictive Control
1419 US	16/190,105	11/13/2018	10,628,135	4/21/2020	Visualization Tool for Real-Time Dataflow Programming Language
1420 US	16/198,484	11/21/2018	11,561,606	1/24/2023	Systems And Methods For Reducing Wi-Fi Station Power
1421 US	16/198,539	11/21/2018	11,163,278	11/2/2021	Method for Optimal Selection of Deadbands in On/Off Controllers
1422 US	16/198,696	11/21/2018	11,127,235	9/21/2021	Building Campus with Integrated Smart Environment
1423 US	16/198,456	11/21/2018	11,474,485	10/18/2022	Adaptive Training and Deployment of Single Chiller and Clustered Chiller Fault Detection Models for Connected Chillers
1424 US	16/198,416	11/21/2018	11,531,310	12/20/2022	Adaptive Selection of Machine Learning/Deep Learning Model with Optimal Hyper-Parameters for Anomaly Detection of Connected Chillers
1425 US	16/198,377	11/21/2018	11,604,441	3/14/2023	AUTOMATIC THRESHOLD SELECTION OF MACHINE LEARNING/DEEP LEARNING MODEL FOR ANOMALY DETECTION OF CONNECTED CHILLERS
1426 US	16/215,791	12/11/2018	11,070,081	7/20/2021	Building Management System with Smart Circuit Breaker
1427 US	16/221,145	12/14/2018	11,582,129	2/14/2023	MONITORING OVERLAY NETWORKS
1428 US	17/403,543	12/14/2018	11,582,129	2/14/2023	MONITORING OVERLAY NETWORKS
1429 US	16/223,746	12/18/2018	11,164,126	11/2/2021	Cost Optimization of a Central Energy Facility with Block-And-Index Rate Structure

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1430 US	16/232,309	12/26/2018	10,890,904	1/12/2021	Model Predictive Maintenance System for Building Equipment
1431 US	16/237,622	12/31/2018	11,274,843	3/15/2022	Systems and Methods for Providing Multi-Dimensional Load Data on a Dashboard
1432 US	16/239,030	1/3/2019	11,042,139	6/22/2021	Systems and Methods for Controlling a Building Management System
1433 US	16/680,881	1/3/2019	11,042,139	6/22/2021	Systems and Methods for Controlling a Building Management System
1434 US	16/240,466	1/4/2019	10,884,398	1/5/2021	Systems And Methods For Prediction Model Update Scheduling For Building Equipment
1435 US	16/240,028	1/4/2019	10,684,598	6/16/2020	Building Management System With Efficient Model Generation For System Identification
1436 US	16/241,655	1/7/2019	10,732,585	8/4/2020	Self-Configuring Extremum-Seeking Control System
1437 US	16/246,391	1/11/2019	11,120,803	9/14/2021	Systems and Methods for Conversational Interaction with a Building Automation System
1438 US	16/246,454	1/11/2019	11,209,184	12/28/2021	Control System For Central Energy Facility With Distributed Energy Storage
1439 US	16/246,342	1/11/2019	11,014,466	5/25/2021	Building Energy Optimization System With Battery Powered Vehicle Cost Optimization
1440 US	16/255,719	1/23/2019	11,360,959	6/14/2022	Building Risk Analysis System with Dynamic and Baseline Risk
1441 US	16/260,030	1/28/2019	US11873998	1/16/2024	Central Plant with Secondary Strong Prevention
1442 US	16/259,950	1/28/2019	10,788,798	9/29/2020	Building Management System with Hybrid Edge-Cloud Processing
1443 US	16/262,263	1/30/2019	10,928,089	2/23/2021	Building Temperature Control System With Feedback And Feedforward
1444 US	16/267,166	2/4/2019	10797993	10/6/2020	Total Energy Flow Compensation
1445 US	16/269,437	2/6/2019	10,713,909	7/14/2020	OVERLAY NETWORK IDENTITY-BASED RELAY
1446 US	16/269,384	2/6/2019	10,896,561	1/19/2021	Building Access Control System with Complex Event Processing
1447 US	16/269,274	2/6/2019	11,048,247	6/29/2021	Building Access Control System With Spatial Modeling
1448 US	16/269,472	2/6/2019	10,565,838	2/18/2020	Building Management System to Detect Anomalousness with Temporal Profile
1449 US	16/274,071	2/12/2019	10,600,316	3/24/2020	Building Access Control System with Complex Event Processing
1450 US	16/275,257	2/13/2019	11,361,040	6/14/2022	Rules-Based Method of Identifying Misuse of Emergency Fire Exits Using Data Generated by a Security Alarm System
1451 US	16/283,532	2/22/2019	11,424,643	8/23/2022	Systems And Methods For Providing Persona-Adjusted Data
1452 US	16/294,744	3/6/2019	11,145,151	10/12/2021	Building Management System With Energy Optimization Using Blockchain
1453 US	16/294,475	3/6/2019	11,182,714	11/23/2021	Frictionless Access Control System for a Building
1454 US	16/294,490	3/6/2019	11,068,821	7/20/2021	Building Energy Optimization System With Capacity Market Program (CMP) Planning
1455 US	16/294,268	3/6/2019	11,467,571	10/11/2022	Building Energy Optimization System With Capacity Market Program (CMP) Participation
					SYSTEMS AND METHODS FOR BUILDING MANAGEMENT SYSTEM SENSOR DIAGNOSTICS AND MANAGEMENT

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1456	US	16/352,485	3/13/2019	10,909,642	2/2/2021	Building Energy Storage System With Multiple Demand Charge Cost Optimization
1457	US	16/352,612	3/13/2019	11,010,846	5/18/2021	Building Energy Storage System With Multiple Demand Charge Cost Optimization
1458	US	16/366,862	3/27/2019	11,268,996	3/8/2022	Building Energy Management System With Virtual Audit Metrics
1459	US	16/368,611	3/28/2019	10,607,476	3/31/2020	Building Security System With Site Risk Reduction
1460	US	16/368,620	3/28/2019	10,607,478	3/31/2020	Building Security System With False Alarm Reduction Using Hierarchical Relationships
1461	US	16/370,632	3/29/2019	11,360,451	6/14/2022	Central Plant Optimization Planning Tool With Advanced User Interface
1462	US	16/373,430	4/2/2019	10,854,059	12/1/2020	Wireless Sensor Network
1463	US	16/378,033	4/8/2019	10,972,868	4/6/2021	Adaptive Inter-Ranging Network
1464	US	16/379,646	4/9/2019	11,226,604	1/18/2022	Building System With Semantic Modeling Based Configuration And Deployment Of Building Applications
1465	US	16/379,661	4/9/2019	11,334,044	5/17/2022	Building System With Semantic Modeling Based Searching
1466	US	16/379,700	4/9/2019	11,616,839	3/28/2023	INTELLIGENT EDGE COMPUTING PLATFORM WITH MACHINE LEARNING CAPABILITY
1467	US	16/383,228	4/12/2019	11,036,249	6/15/2021	Building Energy Storage System With Peak Load Contribution Cost Optimization
1468	US	16/387,356	4/17/2019	11,288,754	3/29/2022	Cost Optimization of a Central Energy Facility With Block-And-Index Rate Structure
1469	US	16/389,731	4/19/2019	11,221,156	1/11/2022	Central Plant Control System With Decaying Capacity Adjustment
1470	US	16/394,810	4/25/2019	11,256,219	2/22/2022	Central Plant Control System With Rank-Based Asset Allocator
1471	US	16/399,751	4/30/2019	10,824,127	11/3/2020	Newton-Based Extremum-Seeking Control System
1472	US	16/403,924	5/6/2019	11,009,252	5/18/2021	HVAC Control System with Cost Target Optimization
1473	US	16/404,030	5/6/2019	11,002,457	5/11/2021	Variable Refrigerant Flow, Room Air Conditioner, and Packaged Air Conditioner Control Systems with Cost Target Optimization
1474	US	16/405,724	5/7/2019	11,415,334	8/16/2022	Building Control System with Automatic Comfort Constraint Generation
1475	US	16/414,414	5/16/2019	11,151,828	10/19/2021	Frictionless Building Access Control System With Tailgate Detection
1476	US	16/415,861	5/17/2019	11,188,038	11/30/2021	Systems And Methods Of Occupant Path Prediction
1477	US	16/415,170	5/17/2019	10,955,800	3/23/2021	Central Plant Control System, Method, And Controller With Multi-Level Granular And Non-Granular Asset Allocation
1478	US	16/418,686	5/21/2019	11,747,800	9/5/2023	Model Predictive Maintenance System with Automatic Service Work Order Generation
1479	US	16/418,715	5/21/2019	11,454,940	9/27/2022	BUILDING CONTROL SYSTEM WITH HEAT LOAD ESTIMATION USING DETERMINISTIC AND STOCHASTIC MODELS
1480	US	20812178.0	5/21/2019	11,747,800	9/5/2023	Model Predictive Maintenance System with Automatic Service Work Order Generation

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1481 US	16/427,806	5/31/2019	11605011	3/14/2023	Analysis System With Machine Learning Based Interpretation
1482 US	16/428,548	5/31/2019	11,281,198	3/22/2022	Central Plant Optimization With Optimization Modification
1483 US	16/428,662	5/31/2019	11,392,095	7/19/2022	Building Control System With Central Plant Model Generation
1484 US	16/438,854	6/12/2019	10,845,070	11/24/2020	Extremum-seeking control system for a plant
1485 US	16/438,961	6/12/2019	11636429	4/25/2023	Model Predictive Maintenance Systems and Methods with Automatic Parts Resupply
1486 US	16/442,103	6/14/2019	11,137,162	10/5/2021	Variable Refrigerant Flow System with Zone Grouping
1487 US	16/441,988	6/14/2019	11,193,689	12/7/2021	Building HVAC System with Predictive Temperature and Humidity Control
1488 US	112020005905.7	6/14/2019	11,137,162	10/5/2021	Variable Refrigerant Flow System with Zone Grouping
1489 US	16/447,724	6/20/2019	11,210,591	12/28/2021	Building Control System With Automated Kalman Filter Parameter Initiation And System Identification
1490 US	17/688,192	6/20/2019	11,210,591	12/28/2021	Building Control System With Automated Kalman Filter Parameter Initiation And System Identification
1491 US	16/449,198	6/21/2019	11,120,411	9/14/2021	Model Predictive Maintenance System with Incentive Incorporation
1492 US	16/450,701	6/24/2019	11,099,532	8/24/2021	Central Plant Control System with Building Energy Load Estimation
1493 US	16/453,643	6/26/2019	11727335	8/15/2023	Systems And Methods For Managing Energy Usage Intensity Of Buildings
1494 US	16/453,755	6/26/2019	11474869	10/18/2022	Central Plant Control System With Subplant Rank Generator
1495 US	16/457,302	6/28/2019	11,061,424	7/13/2021	Building Energy Storage System With Peak Load Contribution And Stochastic Cost Optimization
1496 US	16/457,314	6/28/2019			Model Predictive Maintenance System with Budgetary Constraints
1497 US	16/457,616	6/28/2019	11549709	1/10/2023	Quantitative Monthly Visual Indicator To Determine Data Availability For Utility Rates
1498 US	18186163.4	6/28/2019			Model Predictive Maintenance System with Budgetary Constraints
1499 US	16/507,709	7/10/2019	11,094,186	8/17/2021	Systems and Methods for Managing Alarm Data of Multiple Locations
1500 US	16/513,054	7/16/2019			Systems and Methods for Automated System Identification
1501 US	16/516,076	7/18/2019	11,098,921	8/24/2021	Building Management System With Automatic Comfort Constraint Adjustment
1502 US	16/516,928	7/19/2019	11,085,663	8/10/2021	Building Management System With Triggered Feedback Set-Point Signal For Persistent Excitation
1503 US	16/518,314	7/22/2019	11,238,547	2/1/2022	Building Energy Cost Optimization System With Asset Sizing
1504 US	16/518,548	7/22/2019	11847617	12/19/2023	Model Predictive Maintenance System With Financial Analysis Functionality
1505 US	18752325.3	7/22/2019	11847617	12/19/2023	Model Predictive Maintenance System With Financial Analysis Functionality
1506 US	16/526,768	7/30/2019	10,917,740	2/9/2021	Laboratory Utilization Monitoring And Analytics
1507 US	16/535,341	8/8/2019	11,067,956	7/20/2021	Variable Refrigerant Flow System with Automatic Sensor Data Correction

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1508 US	16/539,968	8/13/2019	11,048,498	6/29/2021	Edge Computing Platform
1509 US	16/549,931	8/23/2019	11,099,530	8/24/2021	Central Plant Control System with Device Geometric Modeling and Control
1510 US	16/549,037	8/23/2019	11,531,919	12/20/2022	Building System With Probabilistic Forecasting Using A Recurrent Neural Network Sequence To Sequence Model
1511 US	16/549,656	8/23/2019	11636310	4/25/2023	Building System With Selective Use Of Data For Probabilistic Forecasting
1512 US	16/549,744	8/23/2019	11,803,743	10/31/2023	Building System With Model Training To Handle Selective Forecast Data
1513 US	2020387403	8/23/2019	11,099,530	8/24/2021	Central Plant Control System with Device Geometric Modeling and Control
1514 US	16/555,591	8/29/2019	11,226,600	1/18/2022	Building Control System With Load Curtailment Optimization
1515 US	16/555,884	8/29/2019			Systems And Methods For An Anonymized Tracking Service
1516 US	16/559,318	9/3/2019	10,796,554	10/6/2020	Building Incident Management System With User Interface For Creating And Editing Standard Operating Procedures
1517 US	16/562,258	9/5/2019	11,509,559	11/22/2022	MONITORING OVERLAY NETWORKS
1518 US	16/583,966	9/26/2019	11451408	9/20/2022	Building Management System With Timeseries Based Assurance Services
1519 US	20804053.5	9/26/2019	11451408	9/20/2022	Building Management System With Timeseries Based Assurance Services
1520 US	16/588,467	9/30/2019	11,274,849	3/15/2022	Smart Thermostat with Model Predictive Control and Demand Response Integration
1521 US	16/590,783	10/2/2019	11,215,375	1/4/2022	Building Control System With Heat Disturbance Estimation And Prediction
1522 US	16/598,539	10/10/2019	11644207	5/9/2023	Smart Thermostat with Model Predictive Control
1523 US	16/601,385	10/14/2019	10,809,675	10/20/2020	HVAC System Using Model Predictive Control With Distributed Low-Level Airside Optimization and Airside Power Consumption Model
1524 US	16/601,391	10/14/2019	10,809,676	10/20/2020	Building HVAC System with Multi-Level Model Predictive Control
1525 US	16/601,377	10/14/2019	10,956,842	3/23/2021	Central Plant with Asset Allocator
1526 US	16/655,745	10/17/2019	11,276,125	3/15/2022	Systems And Methods For Assessing Economic Feasibility Of An Energy Plant
1527 US	16/657,398	10/18/2019	11,188,039	11/30/2021	Building Management System With Dynamic Energy Prediction Model Updates
1528 US	16/658,822	10/21/2019	11,422,547	8/23/2022	Building Management System With Machine Learning For Detecting Anomalies In Vibration Data Sets
1529 US	16/663,623	10/25/2019			Systems And Methods For Mapping A Building Schema Into A Graph Data Schema
1530 US	16/666,005	10/28/2019	11,411,999	8/9/2022	Building System With Dynamic Manufacturer Usage Description (MUD) Files Based On Building Model Queries

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1531	US	16/667,036	10/29/2019	11,100,788	8/24/2021	Building Alarm System With Bayesian Event Classification
1532	US	16/672,207	11/1/2019	10,955,157	3/23/2021	Building Management System With Distributed Data Storage And Processing
1533	US	16/673,738	11/4/2019	11774925	10/3/2023	Building Management System With Device Twinning, Natural Language Processing (NLP), And Block Chain
1534	US	16/682,679	11/13/2019	11,217,087	1/4/2022	Assurance Services System And Method
1535	US	16/684,371	11/14/2019	11,271,769	3/8/2022	Central Plant Control System With Asset Allocation Override
1536	US	16/685,646	11/15/2019	11,012,457	5/18/2021	Building Security Analysis System With Site-Independent Signature Generation For Predictive Security Analysis
1537	US	16/685,849	11/15/2019			System And Method For Showing Key Performance Indicators
1538	US	16/685,814	11/15/2019			Building System With A Time Correlated Reliability Data Stream
1539	US	16/685,834	11/15/2019			Building System With Performance Identification Through Equipment Exercising And Entity Relationships
1540	US	16/687,571	11/18/2019	11,416,955	8/16/2022	Model Predictive Maintenance System With Integrated Measurement And Verification Functionality
1541	US	16/687,122	11/18/2019	11662113	5/30/2023	Building Cooling Systems With Energy Optimization And Model Predictive Control
1542	US	19154979.9	11/18/2019	11,416,955	8/16/2022	Model Predictive Maintenance System With Integrated Measurement And Verification Functionality
1543	US	16/688,864	11/19/2019			Building Control System With Automatic Control Problem Formulation Using Building Information Model
1544	US	16/692,346	11/22/2019	11,144,020	10/12/2021	Central Plant Control System With Geometric Modeling Of Operational Sequences
1545	US	16/697,099	11/26/2019	11,409,274	8/9/2022	Model Predictive Maintenance System For Performing Maintenance As Soon As Economically Viable
1546	US	16/695,519	11/26/2019	11,445,024	9/13/2022	Building Control System With Smart Edge Devices Having Embedded Model Predictive Control
1547	US	16/703,514	12/4/2019	11,281,173	3/22/2022	Systems And Methods For Maintaining Occupant Comfort For Various Environmental Conditions
1548	US	16/709,070	12/10/2019	11,175,062	11/16/2021	Central Plant Control System With Computation Reduction Based On Graph Theory
1549	US	16/711,080	12/11/2019	11,460,822	10/4/2022	Self Perturbing Extremum-Seeking Control System
1550	US	16/719,865	12/18/2019			HVAC Controller With Predictive Cost Optimization
1551	US	16/719,469	12/18/2019	11,530,833	12/20/2022	Systems And Methods For Controlling And Predicting Heat Load Disturbances
1552	US	18712068.8	12/18/2019			HVAC Controller With Predictive Cost Optimization
1553	US	16/722,439	12/20/2019	10,831,163	11/10/2020	Syntax Translation From First Syntax To Second Syntax Based On String Analysis

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1554 US	18150740.1	12/20/2019	10,831,163	11/10/2020	Syntax Translation From First Syntax To Second Syntax Based On String Analysis
1555 US	16/725,940	12/23/2019	11,243,523	2/8/2022	Building System With Adaptive Fault Detection
1556 US	16/725,952	12/23/2019	11719451	8/8/2023	Building System With Early Fault Detection
1557 US	16/725,644	12/23/2019			Robust Fault Detection And Diagnosis By Constructing An Ensemble Of Detectors
1558 US	16/726,007	12/23/2019	11,531,308	12/20/2022	Adaptively Learning Surrogate Model For Predicting Building System Dynamics From Simulation Model
1559 US	16/726,038	12/23/2019	11,409,250	8/9/2022	Adaptively Learning Surrogate Model For Predicting Building System Dynamics From System Identification Model
1560 US	16/725,961	12/23/2019	11,525,596	12/13/2022	Methods And Systems For Training HVAC Control Using Simulated And Real Experience Data
1561 US	16/725,999	12/23/2019	11,573,540	2/7/2023	Methods And Systems For Training HVAC Control Using Surrogate Model
1562 US	16/737,579	1/8/2020	11,408,626	8/9/2022	Central Plant Control System With Dynamic Computation Reduction
1563 US	16/738,878	1/9/2020	11,774,122	10/3/2023	Building Control System With Adaptive Online System Identification
1564 US	16/740,020	1/10/2020	11,686,480	6/27/2023	Noise-Adaptive Extremum-Seeking Controller
1565 US	16/739,986	1/10/2020	11,408,631	8/9/2022	Extremum-Seeking Control System With Saturation Constraints
1566 US	16/746,534	1/17/2020	11,268,726	3/8/2022	Air Handling Unit And Rooftop Unit With Predictive Control
1567 US	16/746,074	1/17/2020	11,164,159	11/2/2021	Smart Building Automation System With Digital Signage
1568 US	16/746,453	1/17/2020	11,132,649	9/28/2021	Smart Parking Lot System
1569 US	16/746,476	1/17/2020	11,775,938	10/3/2023	Lobby Management System
1570 US	16/746,517	1/17/2020	11436567	9/6/2022	Conference Room Management System
1571 US	16/746,529	1/17/2020	11,468,408	10/11/2022	Building Automation System With Visitor Management
1572 US	16/746,570	1/17/2020	11769117	9/26/2023	BUILDING AUTOMATION SYSTEM WITH FAULT ANALYSIS AND COMPONENT PROCUREMENT
1573 US	16/775,032	1/28/2020	11,327,737	5/10/2022	Building Management System With Cloud Management Of Gateway Configurations
1574 US	16/775,966	1/29/2020	11,592,792	2/28/2023	ENERGY CONTROL SYSTEM WITH ENERGY PROVIDER LEVEL DEMAND OPTIMIZATION
1575 US	112020005713.5	1/29/2020	11,592,792	2/28/2023	ENERGY CONTROL SYSTEM WITH ENERGY PROVIDER LEVEL DEMAND OPTIMIZATION
1576 US	16/783,936	2/6/2020	11,276,288	3/15/2022	Building Risk Analysis System With Dynamic Modification Of Asset-Threat Weights
1577 US	16/792,149	2/14/2020	11561774	1/24/2023	Composition of Pattern-Driven Reactions in Real-Time Dataflow Programming
1578 US	16/801,099	2/25/2020	11,226,795	1/18/2022	Efficient State Machines for Real-Time Dataflow Programming
1579 US	16/803,775	2/27/2020	US1875278	1/16/2024	Door Lock Fault Detection

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1580 US	16/814,644	3/10/2020	10,916,081	2/9/2021	Building Management System With Identity Management And Assurance Services
					SYSTEMS AND METHODS FOR CONTROLLING VARIABLE REFRIGERANT FLOW SYSTEMS AND EQUIPMENT USING ARTIFICIAL INTELLIGENCE MODELS
1581 US	17/910,240	3/12/2020			
1582 US	16/841,328	4/6/2020	11669794	6/6/2023	Building Risk Analysis System With Geographic Risk Scoring
1583 US	16/854,873	4/21/2020	10,977,010	4/13/2021	Development Environment for Real-Time Dataflow Programming Language
1584 US	16/860,781	4/28/2020	11,416,796	8/16/2022	Control System For Generating And Distributing Energy Resources And Operating Building Equipment
1585 US	16/868,337	5/6/2020	11436492	9/6/2022	Transfer Learning Of Deep Neural Network For HVAC Heat Transfer Dynamics
1586 US	16/880,707	5/21/2020	11892180	2/6/2024	HVAC System with Automated Device Pairing
1587 US	16/884,792	5/27/2020	11657465	5/23/2023	Building System With Automatic Incident Identification
					System And Method For Checking Default Configuration Settings Of Device On A Network
1588 US	16/885,895	5/28/2020	11757875	9/12/2023	Building System With String Mapping Based On A Statistical Model
1589 US	16/885,959	5/28/2020			Building System With String Mapping Based On A Sequence To Sequence Neural Network
1590 US	16/885,968	5/28/2020	11,693,374	7/4/2023	System And Method For Managing The Security Health Of A Network
1591 US	16/887,882	5/29/2020	11736508	8/22/2023	Device
1592 US	16/890,124	6/2/2020	11,275,363	3/15/2022	Central Plant Control System with Plug and Play EMPC
1593 US	16/895,817	6/8/2020	US11874809	1/16/2024	Building System With Naming Schema Encoding Entity Type And Entity Relationships
1594 US	16/905,513	6/18/2020			Dissimilar Query Engine
1595 US	16/906,562	6/19/2020	11,480,360	10/25/2022	Building HVAC System with Modular Cascaded Model
1596 US	16/913,328	6/26/2020	11,131,969	9/28/2021	Self-Configuring Extremum-Seeking Control System
1597 US	16/913,114	6/26/2020	10,911,418	2/2/2021	PORT LEVEL POLICY ISOLATION IN OVERLAY NETWORKS
1598 US	16/919,909	7/2/2020	11,391,478	7/19/2022	Building Automation System With Microservices Architecture
1599 US	16/934,877	7/21/2020	11,761,653	9/19/2023	Building Management System With A Distributed Blockchain Database
1600 US	16/989,460	8/10/2020	11473799	10/18/2022	Systems And Methods For Intelligent Pic Valves With Agent Interaction
					Systems And Methods For Real-Time Detection And Communication Of Health And Performance Degradation In A Distributed Building Automation Network
1601 US	17/003,063	8/26/2020	11,353,853	6/7/2022	Building System With A Building Model Editor
1602 US	17/013,302	9/4/2020			Building Management System With Control Framework
1603 US	17/013,194	9/4/2020	11,283,669	3/22/2022	Building System With Flexible Facility Operation
1604 US	17/013,273	9/4/2020	11,536,476	12/27/2022	Building System With Flexible Facility Operation
1605 US	17/017,028	9/10/2020	11635751	4/25/2023	Model Predictive Maintenance System With Short-Term Scheduling

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1606 US	17/024,387	9/17/2020			Trend Analysis And Data Management System For Temperature, Pressure, And Humidity Compliance
1607 US	17/024,404	9/17/2020			User Experience System For Improving Compliance Of Temperature, Pressure, And Humidity
1608 US	17/024,376	9/17/2020	11698205	7/11/2023	Smart Building Level Control For Improving Compliance Of Temperature, Pressure, And Humidity
1609 US	17/028,704	9/22/2020	11519620	12/6/2022	Stability Index For Connected Equipment
1610 US	17/033,002	9/25/2020	11,762,343	9/19/2023	Building Management System With Hybrid Edge-Cloud Processing
1611 US	17/032,853	9/25/2020	US11762379	9/26/2023	Automatic Fault Detection And Diagnostics In A Building Management System
1612 US	17/039,364	9/30/2020	11,397,773	7/26/2022	Building Management System With Semantic Model Integration
1613 US	17/062,009	10/2/2020	11,467,549	10/11/2022	Building Management System With Optimized Processing Of Building System Data
1614 US	17/062,003	10/2/2020			Building Incident Management System With User Interface For Creating And Editing Standard Operating Procedures
1615 US	17/067,230	10/9/2020	11,164,269	11/2/2021	Systems And Methods For Dynamic Travel Planning
1616 US	17/067,198	10/9/2020	11,276,024	3/15/2022	Systems And Methods For Managing A Trusted Service Provider Network
1617 US	17/972,454	10/9/2020	11,164,269	11/2/2021	Systems And Methods For Dynamic Travel Planning
1618 US	17/071,633	10/15/2020	11,281,168	3/22/2022	Central Plant Control System Based On Load Prediction Through Mass Storage Model
1619 US	19165208, 0	10/15/2020	11,281,168	3/22/2022	Central Plant Control System Based On Load Prediction Through Mass Storage Model
1620 US	17/073,801	10/19/2020	11754984	9/12/2023	HVAC System with Predictive Airside Control
1621 US	17/073,781	10/19/2020	11789415	11/17/2023	Building HVAC System with Multi-Level Model Predictive Control
1622 US	17/074,014	10/19/2020			Control System with Automatic Optimization Formulation
1623 US	17/079,248	10/23/2020	10999154	5/4/2021	RELAY NODE MANAGEMENT FOR OVERLAY NETWORKS
1624 US	17/080,583	10/26/2020	11705726	7/18/2023	Building Energy System With Predictive Control Of Battery And Green Energy Resources
1625 US	17/084,102	10/29/2020	11,372,382	6/28/2022	Building Management System With Augmented Deep Learning Using Combined Regression And Artificial Neural Network Modeling
1626 US	17/084,557	10/29/2020	11,070,594	7/20/2021	APPLYING OVERLAY NETWORK POLICY BASED ON USERS
1627 US	17/087,441	11/2/2020	11754982	9/12/2023	Syntax Translation From First Syntax To Second Syntax Based On String Analysis
1628 US	17/091,731	11/6/2020			Building Security System With False Alarm Reduction Recommendations And Automated Self-Healing For False Alarm Reduction
1629 US	17/111,468	12/3/2020			Multifactor Analysis of Building Microenvironments
1630 US	17/127,303	12/18/2020			Building System With Ledger Based Software Gateways

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	1631 US	17/135,023	12/28/2020	11,777,757	10/3/2023	Building Data Platform With Event Based Graph Queries
	1632 US	17/134,659	12/28/2020	11,150,617	10/19/2021	Building Data Platform With Event Enrichment With Contextual Information
	1633 US	17/134,661	12/28/2020			Building Data Platform With A Graph Change Feed
	1634 US	17/134,999	12/28/2020			Building Data Platform With Graph Projections
	1635 US	17/135,009	12/28/2020	11,824,680	11/21/2023	Building Data Platform With A Tenant Entitlement Model
	1636 US	17/134,691	12/28/2020			Building Data Platform With Edge Based Event Enrichment
	1637 US	17/135,056	12/28/2020	11,777,758	10/3/2023	Building Data Platform With External Twin Synchronization
	1638 US	17/134,664	12/28/2020	11,356,292	6/7/2022	Building Data Platform With Graph Based Capabilities
	1639 US	17/134,671	12/28/2020	11,777,756	10/3/2023	Building Data Platform With Graph Based Communication Actions
	1640 US	17/136,307	12/29/2020			Model Predictive Maintenance System for Building Equipment
	1641 US	17/136,752	12/29/2020			Building Information Model Management System With Hierarchy Generation
	1642 US	17/136,768	12/29/2020			Systems And Methods For Presenting Multiple Bim Files In A Single Interface
	1643 US	17/136,785	12/29/2020			Systems And Methods For Generating A Data Structure From Multiple Bim Files
	1644 US	17/147,328	1/12/2021			Systems And Methods For Dynamic Risk Analysis
	1645 US	17/148,094	1/13/2021	11,353,834	6/7/2022	Control System With Coordinated Equipment Staging
	1646 US	17/164,488	2/1/2021	11,729,152	8/15/2023	PORT LEVEL POLICY ISOLATION IN OVERLAY NETWORKS
	1647 US	17/167,049	2/3/2021			Systems And Methods For Software Defined Fire Detection And Risk Assessment
	1648 US	17/169,745	2/8/2021	11,272,316	3/8/2022	Laboratory Utilization Monitoring And Analytics
	1649 US	17/170,615	2/8/2021			Self-Configuring Building Management System
	1650 US	17/170,634	2/8/2021			Data Preprocessing And Refinement Tool
	1651 US	17/170,668	2/8/2021			Building Management System With Auto-Configuration Using Existing Points
	1652 US	17/170,539	2/8/2021			Building Management System With Configuration By Building Model Augmentation
	1653 US	17/170,533	2/8/2021			Building Management System With Dynamic Building Model Enhanced By Digital Twins
	1654 US	17/179,832	2/19/2021	11,774,923	10/3/2023	Augmented Deep Learning Using Combined Regression And Artificial Neural Network Modeling
	1655 US	17/181,847	2/22/2021	11,761,660	9/19/2023	Building Control System With Feedback And Feedforward Total Energy Flow Compensation
	1656 US	17/189,871	3/2/2021	11668572	6/6/2023	Systems And Methods For Generating Indoor Paths
	1657 US	17/197,750	3/10/2021	11,587,428	2/21/2023	Incident Response System
	1658 US	17/204,605	3/17/2021			Direct Policy Optimization For Meeting Room Comfort Control And Energy Management

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1659 US	17/205,215	3/18/2021	11675320	6/13/2023	SYSTEMS AND METHODS FOR CONTROLLING EQUIPMENT OPERATION USING GRANULAR ASSET AND GENERAL ASSET MODELS TO DETERMINE ASSET ALLOCATION
1660 US	17/206,280	3/19/2021	11640146	5/2/2023	Smart Building Application To Prepare For Employee Arrival And Health Risks
1661 US	17/208,869	3/22/2021			Central Plant with Asset Allocator
1662 US	17/219,196	3/31/2021	11680724	6/20/2023	Central Plant Control System With Computation Reduction Based On Sensitivity Analysis
1663 US	17/220,795	4/1/2021	11,367,534	6/21/2022	Systems And Methods For Contagious Disease Risk Management
1664 US	17/221,064	4/2/2021	11,537,386	12/27/2022	Building System With Dynamic Configuration Of Network Resources For 5G Networks
1665 US	17/229,782	4/13/2021	11,422,778	8/23/2022	Development Environment for Real-Time Dataflow Programming Language
1666 US	17/246,520	4/30/2021	11831514	11/28/2023	RELAY NODE MANAGEMENT FOR OVERLAY NETWORKS
1667 US	17/322,403	5/17/2021			HVAC Control system with Cost Target Optimization
1668 US	17/324,966	5/19/2021	11,272,011	3/8/2022	Systems And Methods Of Configuring A Building Management System
1669 US	17/330,741	5/26/2021	11699903	7/11/2023	BUILDING ENERGY OPTIMIZATION SYSTEM WITH ECONOMIC LOAD DEMAND RESPONSE (ELDR) OPTIMIZATION AND ELDR USER INTERFACES
1670 US	17/334,524	5/28/2021			CENTRAL PLANT OPTIMIZATION SYSTEM WITH SCALABLE ASSET MODELS
1671 US	17/339,322	6/4/2021			Building System With A Recommendation Engine That Operates Without Starting Data
1672 US	17/345,412	6/11/2021	11,442,424	9/13/2022	Building Management System With Dynamic Channel Communication
1673 US	17/353,181	6/21/2021	11714391	8/1/2023	Systems And Methods For Controlling A Building Management System
1674 US	17/859836	6/21/2021	11714391	8/1/2023	Systems And Methods For Controlling A Building Management System
1675 US	17/354,583	6/22/2021			Building System With Building Health Analysis
1676 US	17/354,338	6/22/2021			Building Data Platform With Contextual Query Triggered Processing
1677 US	17/354,436	6/22/2021			Building Data Platform With Context Based Twin Function Processing
1678 US	17/304,933	6/28/2021			Edge Computing Platform
1679 US	17/370,847	7/8/2021	11729577	8/15/2023	Building Management System With Geofenced Configuration Templates
1680 US	17/371,561	7/9/2021	11526139	12/13/2022	Central Plant Optimization System With Equipment Model Adaptation
1681 US	17/378,535	7/19/2021	11,824,901	11/21/2023	APPLYING OVERLAY NETWORK POLICY BASED ON USERS
1682 US	17/384,481	7/23/2021			Incident Response Tool
1683 US	17/383,213	7/23/2021	11886153	1/30/2024	Building Control System Using Reinforcement Learning
1684 US	17/386,253	7/27/2021			Building Management System With Automatic Training Data Selection For Online System Identification

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1685 US	17/386,983	7/28/2021			Method And System For Optimizing Access Restrictions To Shared Resources
1686 US	17/389,085	7/29/2021			Building Management System With Supervisory Fault Detection Layer
1687 US	17/388,776	7/29/2021	11703246	7/18/2023	BUILDING HVAC SYTEM WITH FAULT-ADAPTIVE MODEL PREDICTIVE CONTROL
1688 US	PCT/US2022/028840	7/29/2021			Building Management System With Supervisory Fault Detection Layer
1689 US	17/390,225	7/30/2021			Building Control System With Setpoint Injection For Online System Identification
1690 US	17/966,272	7/30/2021			Building Control System With Setpoint Injection For Online System Identification
1691 US	17/391,811	8/2/2021	11,763,266	9/19/2023	Smart Parking Lot System
1692 US	17/395,672	8/6/2021	11663541	5/30/2023	Building Energy System With Load-Following-Block Resource Allocation
1693 US	17/399,576	8/11/2021			SYSTEM AND METHOD FOR AUTOMATIC DETECTION AND CLUSTERING OF VARIABLE AIR VOLUME UNITS IN A BUILDING MANAGEMENT SYSTEM
1694 US	17/404,799	8/17/2021			BUILDING SYSTEM WITH A RECOMMENDATION INTERFACE
1695 US	17/408,014	8/20/2021	11852505	12/26/2023	Critical Environment Monitoring System
1696 US	17/473,946	9/13/2021			Web Services Platform with Integration and Interface of Smart Entities with Enterprise Applications
1697 US	17/479,994	9/20/2021	11727738	8/15/2023	BUILDING CAMPUS WITH INTEGRATED SMART ENVIRONMENT
1698 US	17/826,635	9/20/2021	11727738	8/15/2023	BUILDING CAMPUS WITH INTEGRATED SMART ENVIRONMENT
1699 US	17/491,840	10/1/2021	11768003	9/26/2023	Variable Refrigerant Flow System with Zone Grouping
1700 US	17/498,553	10/11/2021	11846439	12/19/2023	Building Control System With Peer Analysis Based On Weighted Outlier Detection
1701 US	17/504,121	10/18/2021	11,361,123	6/14/2022	Building Data Platform With Event Enrichment With Contextual Information
1702 US	17/505,104	10/19/2021	11783240	10/10/2023	Building Management System With Dynamic Workspace Assignment
1703 US	17/510,774	10/26/2021	11,774,930	10/3/2023	BUILDING SYSTEM WITH DIGITAL TWIN BASED AGENT PROCESSING
1704 US	17/515,844	11/1/2021			Systems And Methods For Dynamic Travel Planning
1705 US	17/517,419	11/2/2021			Building Security System With Alarm Lists And Alarm Rule Editing
1706 US	17/519,418	11/4/2021			Building Equipment Selection Using Soft Constraints
1707 US	17/523,567	11/10/2021			Systems And Methods For Predicting Building Faults Using Machine Learning
1708 US	17/525,227	11/12/2021			Building System With Occupant Health Analysis Based On Water Usage
1709 US	17/528,026	11/16/2021	11796974	10/24/2023	Building Data Platform With Schema Extensibility For Properties And Tags Of A Digital Twin
1710 US	17/528,038	11/16/2021			BUILDING DATA PLATFORM WITH SCHEMA EXTENSIBILITY FOR STATES OF A DIGITAL TWIN

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1711 US	17/529,118	11/17/2021			Building Data Platform With Digital Twin Inferences
1712 US	17/529,120	11/17/2021	17529120	9/26/2023	Building Data Platform With Digital Twin Triggers And Actions
1713 US	17/530,257	11/18/2021			Systems And Methods Of Anomaly Detection For Building Components
1714 US	17/531,601	11/19/2021	11,761,663	9/19/2023	HVAC SYSTEM FOR REDUCING INTRA-SPACE VARIATION OF CONTROLLED ENVIRONMENTAL CONDITIONS
					SYSTEM TO EVALUATE AND MANAGE PEOPLE ENTERING A BUILDING BASED ON INFECTION RISK DATA, ENVIRONMENTAL DATA, AND BUILDING ENTRANT HEALTH DATA
1715 US	17/532,815	11/22/2021			BUILDING DATA PLATFORM WITH A DISTRIBUTED DIGITAL TWIN
1716 US	17/534,821	11/24/2021	11704311	7/18/2023	Building Data Platform With Digital Twin Based Inferences And Predictions
1717 US	17/537,046	11/29/2021	11714930	8/1/2023	For A Graphical Building Model
1718 US	17/539,757	12/1/2021			SYSTEMS AND METHODS FOR BALANCING SPACE UTILIZATION IN A BUILDING
1719 US	17/540,725	12/2/2021			BUILDING MANAGEMENT SYSTEMS AND METHODS FOR TUNING FAULT DETECTION THRESHOLDS
1720 US	17/541,119	12/2/2021			BUILDING SYSTEM WITH INFECTIOUS DISEASE HEALTH ANALYSIS BASED ON ATTENDANCE DATA
1721 US	18/265,199	12/3/2021			Building System With Multi-Tiered Model Based Optimization For Ventilation And Setpoint Control
1722 US	17/542,837	12/6/2021	11735021	8/22/2023	BUILDING RISK ANALYSIS SYSTEM WITH RISK DECAY
1723 US	17/554,752	12/17/2021			Building Management System Performance Index
1724 US	17/558,340	12/21/2021			Building Management System with Cloud Management of Gateway Configurations
1725 US	19217287.2	12/21/2021			Building Management System with Cloud Management of Gateway Configurations
					CONTROL SYSTEM FOR BUILDING EQUIPMENT WITH OPTIMIZATION SEARCH REDUCTION BASED ON EQUIPMENT MODELS AND PARAMETERS
1726 US	17/560,799	12/23/2021			Assurance Services System And Method
1727 US	17/566,252	12/30/2021			Systems And Methods For Workspace Recommendations
1728 US	17/572,112	1/10/2022			Building Control System With Load Curtailment Optimization
1729 US	17/576,615	1/14/2022	11714393	8/1/2023	Efficient State Machines for Real-Time Dataflow Programming
1730 US	17/648,281	1/18/2022			HVAC System With Data Driven User Interfaces For Equipment Commissioning And Operation
1731 US	17/581,670	1/21/2022	11886209	1/30/2024	Thermal Energy Production, Storage, And Control System With Heat Recovery Chillers
1732 US	17/582,988	1/24/2022			Site Command and Control Tool with Dynamic User Interfaces
1733 US	17/666,342	2/7/2022			Site Command and Control Tool with Dynamic Model Viewer
1734 US	17/666,344	2/7/2022			

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1735 US	17/668,791	2/10/2022			CONTROL SYSTEM WITH MULTI-FACTOR CARBON EMISSIONS OPTIMIZATION
1736 US	17/678,260	2/23/2022	11770269	9/26/2023	Building Data Platform With Event Enrichment With Contextual Information
1737 US	17/680,092	2/24/2022			Automated Alarm Panel Classification Using Pareto Optimization
1738 US	17/686,320	3/3/2022			CONTROL SYSTEM WITH ADAPTIVE CARBON EMISSIONS OPTIMIZATION
1739 US	17/687,427	3/4/2022			Building Equipment With Predictive Control And Allocation Of Energy From Multiple Energy Sources
1740 US	17/688,050	3/7/2022	11,589,186	2/21/2023	Laboratory Utilization Monitoring And Analytics
1741 US	17/688,048	3/7/2022	11,765,231	9/19/2023	Systems And Methods Of Configuring A Building Management System
1742 US	17/689,569	3/8/2022	11888676	1/30/2024	Building Management System With Control Framework
1743 US	17/697,289	3/8/2022	11888676	1/30/2024	Building Management System With Control Framework
1744 US	17/690,602	3/9/2022			Systems And Methods For Ranking Recommendations
1745 US	17/691,722	3/10/2022	11741812	8/29/2023	Building Risk Analysis System With Dynamic Modification Of Asset-Threat Weights
1746 US	17/691,414	3/10/2022			Systems And Methods For Ranking Recommendations
1747 US	17/692,875	3/11/2022	11,762,377	9/19/2023	SYSTEMS AND METHODS FOR MODELING AND CONTROLLING BUILDING SYSTEM ENTITIES
1748 US	17/692,775	3/11/2022			Smart Entity Management for Building Management Systems
1749 US	17/697,772	3/17/2022			Systems And Methods For Determining Equipment Energy Waste
1750 US	17/698,653	3/18/2022			CONTROL SYSTEMS AND METHODS FOR BUILDING EQUIPMENT WITH OPTIMIZATION MODIFICATION
1751 US	17/700,143	3/21/2022	11,762,351	9/19/2023	Building Management System with Point Virtualization for Online Meters
1752 US	17/705,830	3/28/2022			SYSTEMS AND METHODS OF OPERATING A COLLABORATIVE BUILDING NETWORK
1753 US	17/709,003	3/30/2022			Dynamic Alert Prioritization Method Using Disposition Code Classifiers And Modified TVC
1754 US	17/708,929	3/30/2022			BUILDING SYSTEM FOR BUILDING EQUIPMENT WITH FAULT BASED DATA HEALTH OPERATIONS
1755 US	17/708,661	3/30/2022	11598544	3/7/2023	BUILDING SYSTEM FOR BUILDING EQUIPMENT WITH DATA HEALTH OPERATIONS
1756 US	17/708,970	3/30/2022			BUILDING SYSTEM FOR BUILDING EQUIPMENT WITH EXTERNAL MODEL INTEGRATION
1757 US	17/708972	3/30/2022			BUILDING SYSTEM FOR BUILDING EQUIPMENT WITH MANAGEMENT OF MULTIPLE BUILDING OPERATION BASED CERTIFICATIONS
1758 US	17/708,845	3/30/2022			BUILDING SYSTEM FOR BUILDING EQUIPMENT WITH OCCUPANT FEEDBACK BASED VERIFICATION

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1759 US	17/710,775	3/31/2022			BUILDING MANAGEMENT SYSTEM WITH DISTRIBUTED CONTROL ALGORITHM
1760 US	17/710,782	3/31/2022	11711269	7/25/2023	Building Management System With Flexible Gateway Configuration
1761 US	17/710,743	3/31/2022			Building Management System With Adaptive Edge Processing For Gateways
1762 US	17/710,542	3/31/2022			Building Management System With Adaptive Edge Processing On Network Engines
1763 US	17/710,535	3/31/2022			Building Management System With Adaptive Edge Processing On Local Servers
1764 US	17/710,458	3/31/2022	11,567,466	1/31/2023	Building Management System With Adaptive Edge Processing
1765 US	17/710,443	3/31/2022			PREDICTIVE MODELING AND CONTROL SYSTEM FOR BUILDING EQUIPMENT WITH MULTI-DEVICE PREDICTIVE MODEL GENERATION
1766 US	17/710,597	3/31/2022			BUILDING EQUIPMENT CONTROL SYSTEM WITH AUTOMATED HORIZON SELECTION
1767 US	17/710,706	3/31/2022			BUILDING EQUIPMENT CONTROL SYSTEM WITH MODULAR MODELS
1768 US	17/710,603	3/31/2022			PREDICTIVE MODELING AND CONTROL SYSTEM FOR BUILDING EQUIPMENT WITH GENERATIVE ADVERSARIAL NETWORK
1769 US	17/726,433	4/21/2022			EDGE DEVICES AND GATEWAYS WITH MACHINE LEARNING FOR DETECTING ANOMALIES IN BUILDING EQUIPMENT VIBRATION DATA
1770 US	17/728,047	4/25/2022			Web Services for Smart Entry Management for Sensor Systems
1771 US	17/737,873	5/5/2022			BUILDING DATA PLATFORM WITH DIGITAL TWIN BASED FAULT DETECTION AND DIAGNOSTICS
1772 US	17/737,436	5/5/2022			BUILDING DATA PLATFORM WITH DIGITAL TWIN FUNCTIONALITY INDICATORS
1773 US	17/737,427	5/5/2022			BUILDING DATA PLATFORM WITH DIGITAL TWIN-BASED DIAGNOSTIC ROUTINES
1774 US	17/737,423	5/5/2022			BUILDING DATA PLATFORM WITH DIGITAL TWIN DIAGNOSTICS
1775 US	17/737,876	5/5/2022			BUILDING MANAGEMENT SYSTEM WITH CODE BLUE INTEGRATION
1776 US	17/740,814	5/10/2022			Building Equipment with Predictive Control
1777 US	18706617.0	5/10/2022			Building Equipment with Predictive Control
1778 US	18/560,362	5/11/2022			SMART ROOM FOR A HEALTHCARE FACILITY
1779 US	17/745,520	5/16/2022	11,762,358	9/19/2023	Building System With Semantic Modeling Based Searching
1780 US	17/827,439	5/27/2022			NET ZERO ENERGY FACILITIES
1781 US	17/828,887	5/31/2022	11,777,759	10/3/2023	BUILDING DATA PLATFORM WITH GRAPH BASED PERMISSIONS
1782 US	17/833,407	6/6/2022			BUILDING DATA PLATFORM WITH GRAPH BASED CAPABILITIES
1783 US	17/834,768	6/7/2022			Building Management System with Intelligent Visualization
1784 US	17/835,793	6/8/2022			Central Energy System With Expert Subplant Models
1785 US	17/839,082	6/13/2022	11861741	1/2/2024	CENTRAL PLANT CONTROL SYSTEM WITH EQUIPMENT MAINTENANCE EVALUATION

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Country	Application Number	Filing Date	Patent Number	Issue Date	Title
1786 US	17/839,034	6/13/2022			BUILDING SYSTEM WITH SOCIAL MEDIA BASED SHOOTER RISK
1787 US	18/570,593	6/17/2022			BUILDING DATA PLATFORM WITH DIGITAL TWIN ENERGY MANAGEMENT
1788 US	17/853,359	6/29/2022			BUILDING DATA PLATFORM WITH EVENT SUBSCRIPTIONS
1789 US	17/853,352	6/29/2022	11894944	2/6/2024	BUILDING DATA PLATFORM WITH AN ENRICHMENT LOOP
1790 US	17/853,224	6/29/2022			Digital Twin Incident Response
1791 US	17/965,526	6/29/2022	11894944	2/6/2024	BUILDING DATA PLATFORM WITH AN ENRICHMENT LOOP
1792 US	17/855,561	6/30/2022			BUILDING DATA PLATFORM WITH DIGITAL TWIN BASED PREDICTIVE RECOMMENDATION VISUALIZATION
1793 US	17/855,609	6/30/2022			BUILDING DATA PLATFORM WITH DIGITAL TWIN BASED SITUATIONAL EXPERIMENTATION
1794 US	17/855,607	6/30/2022			BUILDING DATA PLATFORM WITH A DIGITAL TWIN BASED BUILDING PLAYER
1795 US	17/855,613	6/30/2022			BUILDING DATA PLATFORM WITH DIGITAL TWIN BASED HISTORICAL SCENARIO GENERATION
1796 US	17/872,705	7/25/2022	11741165	8/29/2023	Building Management System With Semantic Model Integration
1797 US	17/887,317	8/12/2022			Building Management System With Machine Learning For Detecting Anomalies In Vibration Data Sets
1798 US	17/892,927	8/22/2022			Development Environment for Real-Time Dataflow Programming Language
1799 US	17/896,420	8/26/2022			BUILDING MANAGEMENT SYSTEM WITH AUDIOVISUAL DYNAMIC AND INTERACTIVE FAULT PRESENTATION INTERFACES
1800 US	17/900,141	8/31/2022			EQUIPMENT EDGE CONTROLLER WITH REINFORCEMENT LEARNING
1801 US	17/939,771	9/7/2022	11,762,362	9/19/2023	Building Management System With Dynamic Channel Communication
1802 US	17/940,408	9/8/2022			BUILDING SYSTEM THAT MAPS POINTS INTO A GRAPH SCHEMA
1803 US	17/940,411	9/8/2022			GATEWAY SYSTEM THAT MAPS POINTS INTO A GRAPH SCHEMA
1804 US	17/946,371	9/16/2022	11,783,203	10/10/2023	Building Energy System With Energy Data Simulation For Pre-Training Predictive Building Models
1805 US	17/959,139	10/3/2022			BUILDING HVAC SYSTEM WITH SAMPLE COLLECTION
1806 US	17/960,579	10/5/2022			SYSTEMS AND METHODS FOR BUILDING MANAGEMENT SYSTEM SENSOR DIAGNOSTICS AND MANAGEMENT
1807 US	17/962,990	10/10/2022	US11782407	10/10/2023	Building Management System With Optimized Processing Of Building System Data
1808 US	17/963,699	10/11/2022	11747776	9/5/2023	ADAPTIVE TRAINING AND DEPLOYMENT OF SINGLE DEVICE AND CLUSTERED DEVICE FAULT DETECTION MODELS FOR CONNECTED EQUIPMENT
1809 US	17/965,345	10/13/2022	11859847	1/2/2024	METHODS AND SYSTEMS FOR TRAINING BUILDING CONTROL USING SIMULATED AND REAL EXPERIENCE DATA

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1810 US	17/977,315	10/31/2022			PERFORMANCE MONITORING AND CONTROL SYSTEM FOR CONNECTED BUILDING EQUIPMENT WITH STABILITY INDEX
1811 US	17/982,312	11/7/2022	11,762,349	9/19/2023	CONTROL SYSTEM FOR BUILDING EQUIPMENT WITH EQUIPMENT MODEL ADAPTATION
1812 US	17/982,066	11/7/2022			BUILDING AUTOMATION SYSTEM WITH RESOURCE CONSUMPTION TRACKING FEATURES
1813 US	17/987,652	11/15/2022			BUILDING DATA PLATFORM WITH ARTIFICIAL INTELLIGENCE SERVICE REQUIREMENT ANALYSIS
1814 US	17/987,498	11/15/2022			BUILDING MANAGEMENT SYSTEM WITH INDOOR NAVIGATION FEATURES
1815 US	17/989,093	11/17/2022			MONITORING OVERLAY NETWORKS
1816 US	17/991,451	11/21/2022			BUILDING HVAC SYSTEM WITH MULTI-LEVEL MODEL PREDICTIVE CONTROL
1817 US	17/991,332	11/21/2022			Building Management System Cybersecurity Index
1818 US	17/991,166	11/21/2022			SYSTEMS AND METHODS FOR BUILDING SURVEILLANCE RE-IDENTIFICATION BASED ON A BUILDING GRAPH
1819 US	18/072,525	11/30/2022			BUILDING DATA PLATFORM WITH AUGMENTED REALITY BASED DIGITAL TWINS
1820 US	18/080,360	12/13/2022			BUILDING DATA PLATFORM WITH HIGH LEVEL DIGITAL TWINS
1821 US	18/083,387	12/16/2022			BUILDING DATA PLATFORM WITH POLICY LEARNING FOR DIGITAL TWINS
1822 US	18/085,375	12/20/2022			BUILDING DATA PLATFORM WITH ANALYTICS DEVELOPMENT
1823 US	18/087,191	12/22/2022	11880677	1/23/2024	BUILDING SYSTEM WITH DIGITAL NETWORK TWIN
1824 US	18/087,117	12/22/2022			CONNECTED EQUIPMENT SYSTEM
1825 US	17/529,085	12/22/2022	11880677	1/23/2024	BUILDING SYSTEM WITH DIGITAL NETWORK TWIN
1826 US	18/095,382	1/10/2023			Composition of Pattern-Driven Reactions in Real-Time Dataflow Programming
1827 US	18/096,965	1/13/2023			BUILDING PLATFORM CHIP FOR DIGITAL TWINS
1828 US	18/097,866	1/17/2023			BUILDING SECURITY SYSTEMS WITH FALSE ALARM REDUCTION FEATURES
1829 US	18/098,003	1/17/2023			Building Management System with Sustainability Improvement
1830 US	18/098,554	1/18/2023			BUILDING DATA PLATFORM WITH EVENT QUERIES
1831 US	18/103,262	1/30/2023			Building Management System with Adaptive Edge Processing
1832 US	18/103,297	1/30/2023			AUTO ADAPTING DEEP LEARNING MODELS ON EDGE DEVICES FOR AUDIO AND VIDEO
1833 US	18/105,090	2/2/2023			BUILDING CONTROL SYSTEM WITH INTELLIGENT LOAD SHEDDING
1834 US	18/105,710	2/3/2023			BUILDING MANAGEMENT SYSTEM WITH CLEAN AIR FEATURES
1835 US	18/106,932	2/7/2023			Building Management System with Clean Air and Infection Reduction Features

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	1836 US	18/106,934	2/7/2023			Building Management System with Clean Air and Infection Reduction Features
	1837 US	18/110,723	2/16/2023			Systems and Methods for Controlling Variable Refrigerant Flow Systems Using Artificial Intelligence
	1838 US	18/111,404	2/17/2023			Incident Response System
	1839 US	18/114,127	2/24/2023			BUILDING MANAGEMENT SYSTEM WITH PARTICULATE SENSING
	1840 US	18/114,129	2/24/2023			BUILDING MANAGEMENT SYSTEM WITH PARTICULATE SENSING
	1841 US	18/114,729	2/27/2023			FLARE MONITORING SYSTEM AND METHOD
	1842 US	18/116,974	3/3/2023			Monitoring and Control System for Connected Building Equipment with Fault Prediction and Predictive Maintenance
	1843 US	18/117,611	3/6/2023			Building System For Building Equipment With Data Health Operations
	1844 US	18/119,538	3/9/2023			Analysis System With Machine Learning Based Interpretation
	1845 US	20781707.3	3/9/2023			Analysis System With Machine Learning Based Interpretation
	1846 US	18/121,941	3/15/2023			Building Automation System with Remote Advisory Services
	1847 US	63/453,640	3/21/2023			Systems and Methods For Feedback Control of UVC Disinfection
	1848 US	18/126057	3/24/2023			Smart Thermostat with Model Predictive Control
	1849 US	18/125,954	3/24/2023			INTELLIGENT EDGE COMPUTING PLATFORM WITH MACHINE LEARNING CAPABILITY
	1850 US	18/132,200	4/7/2023			BUILDING MANAGEMENT SYSTEM WITH AIR QUALITY OCCUPANT IMPACT ASSESSMENT
	1851 US	18/133,831	4/12/2023			Building Management System With Water And Air-Based Biological Sensing
	1852 US	18/133,833	4/12/2023			BUILDING MANAGEMENT SYSTEM WITH INDOOR AIR QUALITY MANAGEMENT USING OUTDOOR AIR QUALITY FORECASTING
	1853 US	63/458,871	4/12/2023			US PROV PAT APP BUILDING MANAGEMENT SYSTEM WITH GENERATIVE AI-BASED BUILDING EQUIPMENT SERVICING
	1854 US	15/201,740	4/12/2023			BUILDING MANAGEMENT SYSTEM WITH INDOOR AIR QUALITY MANAGEMENT USING OUTDOOR AIR QUALITY FORECASTING
	1855 US	63/497,526	4/21/2023			<Placeholder> Carbon Capture Storage Utilization (CCSU)
	1856 US	18/140,112	4/27/2023			BUILDING EQUIPMENT CONTROL SYSTEM WITH DYNAMIC FLOW BOUNDS
	1857 US	18/141,088	4/28/2023			<Placeholder> Building Management System with Sustainability Improvement
	1858 US	18/310,371	5/1/2023			Variable Refrigerant Flow System with Predictive Control
	1859 US	18706618.8	5/1/2023			Variable Refrigerant Flow System with Predictive Control
	1860 US	18/143,968	5/5/2023			BUILDING DATA PLATFORM WITH A DISTRIBUTED DIGITAL TWIN
	1861 US	18/196188	5/11/2023			Building Energy System With Load-Following-Block Resource Allocation
	1862 US	63/466,203	5/12/2023			GAI Architecture

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1863 US	63/466,414	5/15/2023			Virtual Assistant for Chiller Tech. Service and Service/Parts Recommendation
1864 US	63/466,411	5/15/2023			Video / Still Imaging To Recognize Important Use Cases
1865 US	63/466,602	5/15/2023			Metasys PVT
1866 US	63/466,603	5/15/2023			Connected Workflows
1867 US	17/586,533	5/15/2023			Metasys PVT
1868 US	18/198,091	5/16/2023			Central Plant Control System With Asset Allocation Override
1869 US	63/467,684	5/19/2023			Simplification of Plant Simulator Using Generative AI
1870 US	18/201,121	5/23/2023			Building Energy Optimization System With Battery Powered Vehicle Cost Optimization
1871 US	63/468,670	5/24/2023			Robust AI Correlators
1872 US	63/468,675	5/24/2023			Net Zero Advisor
1873 US	63/469,325	5/26/2023			Co-Pilot or Auto-Pilot
1874 US	63/469,324	5/26/2023			Installation Planner
1875 US	63/469,802	5/30/2023			GAI-Based Digital Platform Enhancements
1876 US	18/204,106	5/31/2023			Environmental Control System For A Healthcare Facility
1877 US	63/470,074	5/31/2023			Revolutionize Service - GAI-Based Unstructured Service Data Ingestion System
1878 US	18/204,642	6/1/2023			Web Services Platform with Integration and Interface of Smart Entities with Enterprise Applications
1879 US	18/204,631	6/1/2023			Building System With String Mapping Based On A Sequence To Sequence Neural Network
1880 US	18/204,632	6/1/2023			Building Management System With Flexible Gateway Configuration
1881 US	18/205,311	6/2/2023			Building Energy System With Predictive Control Of Battery And Green Energy Resources
1882 US	63/470,754	6/2/2023			HVAC Equipment Service Recommendation by Fine-Tuned Large Language Model with HVAC Service Records
1883 US	63/470,752	6/2/2023			IQ Panel and IQ Router Use Cases
1884 US	63/470,756	6/2/2023			Generative AI UI Server
1885 US	63/470,831	6/2/2023			Auto-Tuning HVAC – Self Optimizing Controls
1886 US	63/470,749	6/2/2023			MACHINE LEARNING SYSTEMS AND METHODS FOR BUILDING SECURITY RECOMMENDATION GENERATION
1887 US	18/206,992	6/7/2023			Variable Refrigerant Flow System with Zone Grouping
1888 US	63/472,186	6/9/2023			Long-Term Optimal Planning for Sustainability Goals
1889 US	18/212,561	6/21/2023			BUILDING RISK ANALYSIS SYSTEM WITH NATURAL LANGUAGE PROCESSING FOR THREAT INGESTION
1890 US	18/213,748	6/23/2023			Syntax Translation From First Syntax To Second Syntax Based On String Analysis
1891 US	63/522,969	6/23/2023			INFECTION RISK REDUCTION STANDARD COMPLIANCE FOR BUILDINGS
1892 US	18/218,416	7/5/2023			Systems And Methods Of Configuring A Building Management System

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
1893 US	18/218,983	7/6/2023			ADAPTIVE TRAINING AND DEPLOYMENT OF SINGLE DEVICE AND CLUSTERED DEVICE FAULT DETECTION MODELS FOR CONNECTED EQUIPMENT
1894 US	18/218,981	7/6/2023			System And Method For Managing The Security Health Of A Network Device
1895 US	18/219,205	7/7/2023			Smart Building Level Control For Improving Compliance Of Temperature, Pressure, And Humidity
1896 US	18/219,548	7/7/2023			PORT LEVEL POLICY ISOLATION IN OVERLAY NETWORKS
1897 US	18/221,322	7/12/2023			Building Data Platform With Schema Extensibility For Properties And Tags Of A Digital Twin
1898 US	18/223,330	7/18/2023			BUILDINGS WITH PRIORITIZED SUSTAINABLE INFRASTRUCTURE
1899 US	63/527,511	7/18/2023			BUILDING MANAGEMENT SYSTEM FOR IMPLEMENTING MACHINE-LEARNING ON EDGE DEVICES
1900 US	63/528,183	7/21/2023			Generative AI Prompt Generation Engine for Building Knowledge Graphs
1901 US	18/227,093	7/27/2023			A System and Method for Refrigerant Leak Detection
1902 US	18/227,096	7/27/2023			BUILDING MANAGEMENT SYSTEM WITH INTELLIGENT VISUALIZATION FOR HEATING, VENTILATION, AND/OR AIR CONDITIONING INTEGRATION
1903 US	18/227,859	7/28/2023			Oil and Gas Metering System
1904 US	63/529,578	7/28/2023			SECURITY SYSTEM LAYOUT AND INSTALLATION USING MACHINE LEARNING MODELS
1905 US	63/529,582	7/28/2023			Systems and Methods of Maintaining User-Specific Context Information for Conversational Interfaces for Building Management Systems
1906 US	18/229,079	8/1/2023			BUILDING AIR QUALITY ASSESSMENT
1907 US	18/231,698	8/8/2023			BUILDING DATA PLATFORM WITH SCHEMA EXTENSIBILITY FOR STATES OF A DIGITAL TWIN
1908 US	63/531,772	8/9/2023			AIR QUALITY ASSESSMENT SENSOR CONFIGURATION MODEL
1909 US	18/234,116	8/15/2023			Augmented Deep Learning Using Combined Regression And Artificial Neural Network Modeling
1910 US	18/236,113	8/21/2023			Systems and Methods for Policy Builder for Overlay Network
1911 US	18/240,291	8/30/2023			SYSTEMS AND METHODS FOR REFRIGERANT LEAKAGE DIAGNOSIS
1912 US	63/535,539	8/30/2023			BUILDING MANAGEMENT SYSTEM WITH GENERATIVE AI-BASED RULES GENERATOR
1913 US	63/536,019	8/31/2023			LANGUAGE-MODEL BASED BUILDING MANAGEMENT SYSTEMS RULES ENGINE GENERATOR
1914 US	63/537,395	9/8/2023			Systems and methods to automate security assets discovery and onboarding

	Country	Application Number	Filing Date	Patent Number	Issue Date	Title
1915	US	18/244,778	9/11/2023			Building Management System With Hybrid Edge-Cloud Processing
1916	US	63/537,706	9/11/2023			BUILDING MANAGEMENT SYSTEM WITH OPERATION TWIN AND DESIGN TWIN SYNCHRONIZATION
1917	US	18/244,779	9/11/2023			Building System with Synthetic Data Compliance Control
1918	US	63/537,999	9/12/2023			LIGHT FIXTURE WITH EMBEDDED EMISSION REMOVAL DEVICE
1919	US	18/371,220	9/21/2023			BUILDING SYSTEM WITH OCCUPANCY PREDICTION AND DEEP LEARNING MODELING OF AIR QUALITY AND INFECTION RISK
1920	US	18/371,923	9/22/2023			Web Services for Creation and Maintenance of Smart Entities for Connected Devices
1921	US	18/372,469	9/25/2023			Building Data Platform With Digital Twin Triggers And Actions
1922	US	18/373,041	9/26/2023			Building Equipment with Embedded Connectivity
1923	US	63/540,527	9/26/2023			BUILDING EQUIPMENT WITH EMBEDDED CONNECTIVITY USE CASES
1924	US	63/540,530	9/26/2023			BUILDING EQUIPMENT WITH EMBEDDED CONNECTIVITY AND PHYSICAL ADAPTATIONS
1925	US	63/540,581	9/26/2023			BUILDING MANAGEMENT SYSTEM WITH DIGITAL TWIN VIRTUAL SENSOR GENERATION
1926	US	63/541,258	9/28/2023			Dependency-ordered Context Inclusions for Large Language Model AI
1927	US	63/541,162	9/28/2023			Self organizing, self assembling building command and control system
1928	US	63/541,185	9/28/2023			REGIONAL SUSTAINABILITY MONITORING SYSTEM
1929	US	63/541,188	9/28/2023			ENTERPRISE REGIONAL SUSTAINABILITY MONITORING SYSTEM
1930	US	63/541,261	9/28/2023			BUILDING MANAGEMENT SYSTEM WITH LANGUAGE MODEL-BASED DATA STRUCTURE GENERATION
1931	US	18/375,153	9/29/2023			SYSTEMS AND METHODS FOR OPTIMIZATION AND AUTOCONFIGURATION OF EDGE PROCESSING DEVICES
1932	US	18/375,066	9/29/2023			Building System with Occupant-Specific Air Cleanliness Control
1933	US	63/541,539	9/29/2023			BUILDING MANAGEMENT SYSTEM WITH AUGMENTED REALITY COMMAND CENTER
1934	US	63/541,743	9/29/2023			Building Management Systems with Dynamic Edge Computing Architectures
1935	US	63/541,748	9/29/2023			Building Management Systems with Intelligent Deployment and Configuration
1936	US	63/541,746	9/29/2023			Building Management Systems with Sustainability Improvement Architectures
1937	US	18/375,823	10/2/2023			BUILDING DATA PLATFORM WITH GRAPH BASED PERMISSIONS
1938	US	18/375,850	10/2/2023			BUILDING DATA PLATFORM WITH GRAPH BASED PERMISSIONS
1939	US	18/483,430	10/9/2023			BUILDING DATA PLATFORM WITH GRAPH BASED CAPABILITIES
1940	US	63/588,965	10/9/2023			Global Decarbonization Platform
1941	US	18/487,812	10/16/2023			BUILDING MANAGEMENT SYSTEM WITH INTELLIGENT VISUALIZATION FOR AIR QUALITY INTEGRATION

PATENT

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	Country	Application Number	Filing Date	Patent Number	Issue Date	Title
1942	US	63/594,264	10/30/2023			Meta-Machine Learning / Artificial Intelligence (Meta-ML/AI) - Orchestration and Optimization
1943	US	63/594,269	10/30/2023			Systems and Methods For Learning and Utilizing Occupant Tolerance In Demand Response
1944	US	18/512,525	11/17/2023			Central Plant with Secondary Strong Prevention
1945	US	18/515,221	11/20/2023			APPLYING OVERLAY NETWORK POLICY BASED ON USERS
1946	US	18/519,576	11/27/2023			RELAY NODE MANAGEMENT FOR OVERLAY NETWORKS
1947	US	18/530,949	12/6/2023			BUILDING MANAGEMENT SYSTEM WITH NETWORKING DEVICE AGILITY
1948	US	18/531,219	12/6/2023			BUILDING MANAGEMENT SYSTEM WITH INTELLIGENT VISUALIZATION FOR FIRE SUPPRESSION, FIRE PREVENTION, AND SECURITY INTEGRATION
1949	US	18/540,070	12/14/2023			FALSE FAULT DETECTION FOR A COMPLIANCE REPORTING SYSTEM
1950	US	18/544,182	12/18/2023			Building System With Building Health Recommendations
1951	US	18/543,290	12/18/2023			BUILDING DATA PLATFORM WITH AN ENRICHMENT LOOP
1952	US	18/213,744	12/18/2023			BUILDING DATA PLATFORM WITH AN ENRICHMENT LOOP
1953	US	18/389,595	12/19/2023			Building Management System with Continuous Air Quality Monitoring
1954	US	18/393,257	12/21/2023			SYSTEMS AND METHODS TO MITIGATE INFECTION RISK USING FAR UVC
1955	US	63/614,179	12/22/2023			Risk Monitoring System with Synthetic Training Image Generation and Blending Using Generative Artificial Intelligence
1956	US	18/398,007	12/27/2023			NET ZERO ENERGY FACILITIES WITH UNCERTAINTY HANDLING
1957	US	18/400,798	12/29/2023			Systems And Methods For Ranking Recommendations
1958	US	18/400,783	12/29/2023			CENTRAL PLANT CONTROL SYSTEM WITH EQUIPMENT MAINTENANCE EVALUATION
1959	US	18/404,534	1/4/2024			Control System With Coordinated Equipment Staging
1960	US	18/404,779	1/4/2024			Building Data Platform With Context Based Twin Function Processing
1961	US	18/405,785	1/5/2024			BUILDING ENERGY SYSTEM WITH BLOCKCHAIN CARBON CREDIT VERIFICATION
1962	US	63/621,946	1/17/2024			Building System with Air Quality Control Based on Energy and Productivity Modeling
1963	US	63/621,947	1/17/2024			Building System with Mold Risk and Air Quality Control
1964	WO	PCT/US2020/067130	12/28/2020			Building Data Platform
1965	WO	PCT/US2021/046348	8/17/2021			Building System With A Recommendation Interface
1966	WO	PCT/CN2021/122767	10/9/2021			Systems and Methods for Controlling Variable Refrigerant Flow Systems Using Artificial Intelligence
1967	WO	PCT/US2021/057360	10/29/2021			Systems And Methods Of Configuring A Building Management System
1968	WO	PCT/US2021/061788	12/3/2021			Building System With Multi-Tiered Model Based Optimization For Ventilation And Setpoint Control
1969	WO	PCT/US2022/020808	3/17/2022			Systems And Methods For Determining Equipment Energy Waste

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1970 WO	PCT/US2022/028842	5/11/2022			BUILDING MANAGEMENT SYSTEM WITH CODE BLUE INTEGRATION
1971 WO	PCT/US2022/031643	5/31/2022			NET ZERO ENERGY FACILITIES
1972 WO	PCT/US2022/044034	9/19/2022			SYSTEMS AND METHODS FOR SUSTAINABILITY PLANNING FOR A BUILDING
1973 WO	PCT/US2022/050079	11/16/2022			BUILDING DATA PLATFORM WITH DIGITAL TWINS
1974 WO	18/214,945	11/16/2022			BUILDING DATA PLATFORM WITH DIGITAL TWINS
					CONTROL SYSTEM WITH MULTI-FACTOR CARBON EMISSIONS OPTIMIZATION
1975 WO	PCT/US2023/012719	2/9/2023			FLARE MONITORING SYSTEM AND METHOD
1976 WO	PCT/US2023/013985	2/27/2023			SYSTEMS AND METHODS FOR OPTIMIZATION AND AUTOCONFIGURATION OF EDGE PROCESSING DEVICES
1977 WO	PCT/US2023/034166	9/29/2023			NET ZERO ENERGY FACILITIES WITH UNCERTAINTY HANDLING
1978 WO	PCT/US2023/086099	12/27/2023			Airflow Adjustment User Interfaces
1979 CA	2,678,713	9/15/2009	2,678,713	12/20/2016	Method And Apparatus For Noise Attenuation For Hvac&R System
1980 CA	2,845,520	3/11/2014	2,845,520	2/26/2019	Graphical User Interface For A Display Screen Or Portion Thereof
1981 CA	168,995	6/14/2016	168995	3/23/2017	Graphical User Interface For A Display Screen Or Portion Thereof
1982 CA	173,093	6/14/2016	173093	3/23/2017	Display Screen with Graphical User Interface
1983 CA	173,095	2/16/2017	173095	3/23/2017	Display Screen with Graphical User Interface
1984 CA	173,094	2/16/2017	173094	3/23/2017	Modulating Reheat Operation Of HVAC System
1985 CA	3,095,390	10/5/2020	3095390	5/23/2023	Blower Housing For Blower Of HVAC System
1986 CA	3104087	12/23/2020			A Control System For An HVAC System
1987 CA	3,130,458	9/10/2021			CONDENSATE PAN FOR A HEAT EXCHANGER
1988 CA	3154515	3/30/2022			HEAT EXCHANGER ARRANGEMENT FOR HVAC SYSTEM
1989 CA	3154520	3/30/2022			QUICK HEAT ALGORITHM FOR MODULATING HEATING EQUIPMENT
1990 CA	3166228	6/30/2022			ANGLED BAFFLES FOR A HEAT EXCHANGER
1991 CA	3167797	7/14/2022			TOP FIRED OUTDOOR GAS HEAT EXCHANGER
1992 CA	3182774	11/22/2022			VARIABLE CAPACITY FURNACE
1993 CA	3187930	1/27/2023			PANEL ARRANGEMENT FOR HVAC SYSTEM
1994 CA	3188584	2/3/2023			SYSTEMS AND METHODS FOR OPERATING A FURNACE
1995 CA	3194549	3/29/2023			SYSTEM AND METHOD FOR OPERATING A COMPRESSOR OF AN HVAC SYSTEM
1996 CA	3194853	3/31/2023			ROTATABLE HANDLE FOR HVAC ACCESS PANELS
1997 CA	3197624	4/21/2023			HEAT PUMP SYSTEMS AND METHODS WITH FROST MITIGATION
1998 CA	3200108	5/19/2023			HVAC CONNECTIVITY CONTROL SYSTEMS AND METHODS
1999 CA	3202421	6/7/2023			REFRIGERANT DETECTION SYSTEM WITH AUXILIARY CONTROL CIRCUITRY
2000 CA	3202624	6/8/2023			HEAT EXCHANGER FOR HVAC SYSTEM
2001 CA	3202871	6/9/2023			SYSTEMS AND METHODS FOR OPERATING AN HVAC SYSTEM
2002 CA	3203862	6/16/2023			

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
2003 CA	3205440	6/29/2023			SYSTEM AND METHOD FOR AVOIDING STALL REGIONS USING MULTIPLE HVAC FANS
2004 CA	3209236	8/11/2023			HEAT EXCHANGER FOR HVAC SYSTEM
2005 CA	3209148	8/11/2023			A DRAIN PAN ADAPTER AND A DRAIN PAN
2006 CA	3210249	8/25/2023			MULTI CIRCUIT HVAC SYSTEMS AND METHODS
2007 CA	3210398	8/29/2023			SYSTEM AND METHOD FOR OPERATING A COMPRESSOR OF AN ENERGY EFFICIENT HEAT PUMP
2008 CA	3,222,155	12/5/2023			CONDENSATE COLLECTION ASSEMBLY
2009 CN	201180028964.1	6/28/2011	ZL201180028964	6/17/2015	Multichannel Heat Exchangers Employing Flow Distribution Manifolds
2010 IN	202321059188	9/4/2023			Adjustable Drain Pan
2011 US	10/694,331	10/27/2003	7,062,930	6/20/2006	System And Method For Using Hot Gas Re-Heat For Humidity Control
2012 US	10/929,757	8/30/2004	7,726,140	6/1/2010	System And Method For Using Hot Gas Re-Heat For Humidity Control
2013 US	10/970,958	10/22/2004	7,219,505	5/22/2007	Control Stability System For Moist Air Dehumidification Units And Method Of Operation
2014 US	11/027,402	12/30/2004	7,434,415	10/14/2008	System And Method For Using Hot Gas Reheat For Humidity Control
2015 US	11/165,106	6/23/2005	7,845,185	12/7/2010	Method And Apparatus For Dehumidification
2016 US	11/159,878	6/23/2005	7,559,207	7/14/2009	Method For Refrigerant Pressure Control In Refrigeration Systems
2017 US	11/201,984	8/11/2005	7,481,619	1/27/2009	Extended Venturi Fan Ring
2018 US	11/326,770	1/6/2006	7,451,606	11/18/2008	HVAC System Analysis Tool
2019 US	11/327,084	1/6/2006	7,562,536	7/21/2009	Method And Apparatus To Sense And Control Compressor Operation In An HVAC System
2020 US	11/337,727	1/23/2006	7,849,698	12/14/2010	Method And Apparatus To Sense And Establish Operation Mode For An Hvac Control
2021 US	11/697,872	4/9/2007	7,694,527	4/13/2010	Control Stability System For Moist Air Dehumidification Units And Method Of Operation
2022 US	14728788.2	4/9/2007	7,694,527	4/13/2010	Control Stability System For Moist Air Dehumidification Units And Method Of Operation
2023 US	11/856,889	9/18/2007	8,056,553	11/15/2011	Condensate Pan With Condensate Trap
2024 US	11/971,498	1/9/2008	7,798,451	9/21/2010	Three-In-One Door Bracket
2025 US	12/019,080	1/24/2008	7,891,210	2/22/2011	Adjustable Motor Base For An Hvac&R Blower Motor
2026 US	12/040,559	2/29/2008	7,832,231	11/16/2010	Multichannel Evaporator With Flow Separating Manifold
2027 US	12/141,366	6/18/2008	8,393,318	3/12/2013	Heat Exchanger
2028 US	12/247,463	10/8/2008	7,770,411	8/10/2010	System And Method For Using Hot Gas Reheat For Humidity Control
2029 US	29/335,419	4/15/2009	D610,475	2/23/2010	Thermostat Housing
2030 US	12/501,075	7/10/2009	8,011,197	9/6/2011	Apparatus To Sense And Control Compressor Operation In An Hvac System
2031 US	13726335.6	7/10/2009	8,011,197	9/6/2011	Apparatus To Sense And Control Compressor Operation In An Hvac System
2032 US	12/560,251	9/15/2009	8,826,165	9/2/2014	System Status User Interfaces

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2033	US	13/170,066	6/27/2011	9,151,540	10/6/2015	Multichannel Heat Exchanger Tubes With Flow Path Inlet Sections
2034	US	13/170,016	6/27/2011	9,267,737	2/23/2016	Multichannel Heat Exchangers Employing Flow Distribution Manifolds
2035	US	13/295,556	11/14/2011	10,145,581	12/4/2018	Condensate Pan With Condensate Trap
2036	US	13/370,098	2/9/2012	9,322,581	4/26/2016	HVAC Unit With Hot Gas Reheat
2037	US	13/768,123	2/15/2013	8,955,507	2/17/2015	Heat Exchanger
2038	US	13/967,604	8/15/2013	9,752,803	9/5/2017	Heat Pump System With A Flow Directing System
2039	US	14/322,427	7/2/2014	9,726,387	8/8/2017	Hot Gas Reheat Modulation
2040	US	14/322,534	7/2/2014	9,534,822	1/3/2017	Staging Active Cooling Start-Up
2041	US	14/582,292	12/24/2014	10,337,775	7/2/2019	Method And Apparatus For Noise Attenuation For HVAC&R System
2042	US	14/594,834	1/12/2015	10,024,608	7/17/2018	Heat Exchanger
2043	US	14/618,961	2/10/2015	9,631,821	4/25/2017	Intake Drain System And Method
2044	US	14/704,751	5/5/2015	10,119,701	11/6/2018	Furnace Combustion System And Method
2045	US	14/849,331	9/9/2015	9,827,520	11/28/2017	Integrated Filter Support
2046	US	14/850,774	9/10/2015	10,371,451	8/6/2019	Multichannel Heat Exchanger Tubes With Flow Path Inlet Sections
2047	US	29/548,668	12/15/2015	D824,921	8/7/2018	Display Screen Or Portion Thereof With Graphical User Interface
2048	US	15/089,122	4/1/2016	10,072,854	9/11/2018	HVAC Unit With Hot Gas Reheat
2049	US	15/260,293	9/8/2016			Thermostat With Occupant Identity Determination Features
2050	US	15/291,970	10/12/2016	10,101,041	10/16/2018	HVAC Unit With Hot Gas Reheat
2051	US	15/291,975	10/12/2016	10,247,430	4/2/2019	HVAC Unit With Hot Gas Reheat
2052	US	15/291,980	10/12/2016	10,174,958	1/8/2019	HVAC Unit with Hot Gas Reheat
2053	US	15/394,495	12/29/2016	10,113,782	10/30/2018	Staging Active Cooling Start-Up
2054	US	15/398,610	1/4/2017	9,976,759	5/22/2018	Rain Shield For A Heat Exchanger Component
2055	US	15/398,605	1/4/2017	10,197,294	2/5/2019	Foam Substructure For A Heat Exchanger
2056	US	15/398,599	1/4/2017	10,451,363	10/22/2019	Bracket Assembly For A Heat Exchanger
2057	US	15/417,182	1/26/2017	10,571,174	2/25/2020	Systems and Methods for Defrost Control
2058	US	15/417,186	1/26/2017	10,612,826	4/7/2020	Systems and Methods for Electronic Expansion Valve Control
2059	US	15/487,196	4/13/2017	10,302,311	5/28/2019	Intake Drain System And Method
2060	US	15/608,742	5/30/2017	10,738,517	8/11/2020	ElectroMagnetic Access Panel Latches
2061	US	15/611,601	6/1/2017	10,589,208	3/17/2020	Heat Exchanger Filter Assembly
2062	US	15/611,605	6/1/2017	10,563,895	2/18/2020	Adjustable Inlet Header For Heat Exchanger Of An Hvac System
						Systems And Methods For Controlling Fan Motors With Variable Frequency Drives
2063	US	15/614,405	6/5/2017	10,833,625	11/10/2020	
2064	US	15/614,396	6/5/2017	10,520,255	12/31/2019	Finned Heat Exchanger U-Bends, Manifolds, And Distributor Tubes
2065	US	15/617,931	6/8/2017	10,408,473	9/10/2019	Method For Sequencing Compressor Operation Based On Space Humidity
2066	US	15/619,245	6/9/2017	10,563,931	2/18/2020	Ultrasonic Enhanced Heat Exchanger Systems And Methods
						Heating, Ventilating, And Air Conditioning System Override Systems And Methods
2067	US	15/636,348	6/28/2017	11,209,181	12/28/2021	
2068	US	15/640,240	6/30/2017	10,584,896	3/10/2020	HVAC Furnace Condensate Removal System

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2069 US	15/645,875	7/10/2017	11,022,340	6/1/2021	Enhanced Heat Transfer Surfaces For Heat Exchangers
2070 US	15/648,328	7/12/2017	10,605,469	3/31/2020	System And Method For Capture Of Waste Heat In An HVAC Unit
2071 US	15/653,332	7/18/2017	10,907,853	2/2/2021	Systems And Methods For Providing Custom Applications For HVAC Systems
2072 US	15/655,584	7/20/2017	10,323,869	6/18/2019	Combined Suction Header And Accumulator Unit
2073 US	15/660,798	7/26/2017	10,801,760	10/13/2020	Electronic Expansion Valve (EEV) Control System And Method
2074 US	15/660,768	7/26/2017	10,502,454	12/10/2019	Furnace For A Rooftop Unit
2075 US	15/666,805	8/2/2017	10,401,046	9/3/2019	Indoor And Outdoor Units For An HVAC System
2076 US	15/710,543	9/20/2017	10,557,661	2/11/2020	Freeze-stat Assembly
2077 US	15/710,621	9/20/2017	10,605,838	3/31/2020	System And Method For HVAC Submetering
2078 US	15/711,911	9/21/2017	10,415,848	9/17/2019	Systems And Methods For Pivotal Evaporator Coils
2079 US	15/716,176	9/26/2017	10,634,391	4/28/2020	Supplemental Heating And Cooling System
2080 US	15/716,193	9/26/2017	10,634,437	4/28/2020	Heat Exchanger Coil Prototyping System
2081 US	15/717,743	9/27/2017	11,274,861	3/15/2022	Heat Exchanger For A HVAC Unit
2082 US	15/718,282	9/28/2017	10,488,089	11/26/2019	Parallel Capillary Expansion Tube Systems And Methods
2083 US	15/718,291	9/28/2017	10,502,468	12/10/2019	Parallel Capillary Expansion Tube Systems And Methods
2084 US	15/833,632	12/6/2017			Dynamic Sizing Of Damper Sections And/Or Air Economizer Compartments
2085 US	15/871,698	1/15/2018	10,935,454	3/2/2021	Systems And Methods For Refrigerant Leak Management
2086 US	15/871,681	1/15/2018	10,996,131	5/4/2021	Refrigerant Gas Sensing System
2087 US	15/871,682	1/15/2018	11,573,149	2/7/2023	SYSTEMS AND METHODS FOR REFRIGERANT LEAK MANAGEMENT BASED ON ACOUSTIC LEAK DETECTION
2088 US	15/871,704	1/15/2018			Systems And Methods For Detecting Refrigerant Leaks In Heating, Ventilating, And Air Conditioning (HVAC) Systems
2089 US	15/871,685	1/15/2018	10,514,176	12/24/2019	Systems And Methods For Refrigerant Leak Management
2090 US	15/871,691	1/15/2018	11,231,197	1/25/2022	Ultraviolet (UV) Light-Based Refrigerant Leak Detection System And Method
2091 US	15/871,694	1/15/2018	10,677,679	6/9/2020	Refrigerant Leak Detection And Management Based On Condensation From Air Samples
2092 US	15/874,630	1/18/2018	11,060,746	7/13/2021	Systems And Methods For Detecting And Responding To Refrigerant Leaks In Heating, Ventilating, And Air Conditioning Systems
2093 US	15/876,408	1/22/2018	10,684,052	6/16/2020	Diagnostic Mode Of Operation To Detect Refrigerant Leaks In A Refrigeration Circuit
2094 US	15/880,230	1/25/2018	11,333,380	5/17/2022	Heating, Ventilation, And Air Conditioning Combustion Suppression System
2095 US	15/880,197	1/25/2018	10,816,247	10/27/2020	Heating, Ventilation, And Air Conditioning Control System
2096 US	15/890,120	2/6/2018	11,105,539	8/31/2021	Heating, Ventilation, And Air Conditioning System With Primary And Secondary Heat Transfer Loops

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2097 US	15/892,835	2/9/2018	10,928,088	2/23/2021	HVAC Switchable Communication Bus And Power Bus Control Board Systems And Methods
2098 US	15/897,874	2/15/2018	11,168,931	11/9/2021	Vapor Compression System With Reheat Coil
2099 US	15/897,890	2/15/2018	10,845,064	11/24/2020	Heating, Ventilation, And Air Conditioning Control System
2100 US	15/902,082	2/22/2018	10,684,053	6/16/2020	Vapor Compression System With Compressor Control Based On Temperature And Humidity Feedback
2101 US	15/901,953	2/22/2018	10,753,663	8/25/2020	HVAC System With Multiple Compressors And Heat Exchangers
2102 US	15/913,309	3/6/2018	10,962,275	3/30/2021	Condenser Unit With Fan
2103 US	15/914,732	3/7/2018	10,704,797	7/7/2020	Sensor Management Systems For HVAC Systems
2104 US	15/916,098	3/8/2018	11,415,339	8/16/2022	HVAC Filter Locking Systems And Methods
2105 US	15/920,129	3/13/2018	10,712,033	7/14/2020	Control Of HVAC Unit Based On Sensor Status
2106 US	15/920,728	3/14/2018	10,788,231	9/29/2020	Fault Condition Management For Heating, Ventilation, And Air Conditioning (HVAC) Systems
2107 US	15/925,535	3/19/2018	10,955,162	3/23/2021	Portable Thermostat Systems And Methods
2108 US	15/926,130	3/20/2018	10,612,803	4/7/2020	Configuration Management Systems For Heating, Ventilation, And Air Conditioning (HVAC) Systems
2109 US	15/926,053	3/20/2018	11,156,394	10/26/2021	Systems And Methods For Pressure Control In A Heating, Ventilation, And Air Conditioning (HVAC) System
2110 US	15/927,475	3/21/2018	10,914,503	2/9/2021	Coil Heating Systems For Heat Pump Systems
2111 US	15/933,157	3/22/2018	11,268,540	3/8/2022	Damping Component For A Fan Guard
2112 US	15/935,948	3/26/2018	11,067,319	7/20/2021	Heat Exchanger With Multiple Circuits
2113 US	15/937,630	3/27/2018	10,830,538	11/10/2020	Variable Circuitry Heat Exchanger System
2114 US	15/944,615	4/3/2018	10,670,316	6/2/2020	Compressor And Fan Staging In Heating, Ventilation, And Air Conditioning Systems
2115 US	15/950,931	4/11/2018	11,268,722	3/8/2022	Systems And Methods For Energy Recovery Of An HVAC System
2116 US	15/957,597	4/19/2018	10,712,034	7/14/2020	Variable Frequency Drives Systems And Methods
2117 US	15/958,493	4/20/2018	11,592,214	2/28/2023	Row Split Coil Systems For HVAC Systems
2118 US	15/960,318	4/23/2018	10,808,950	10/20/2020	Filter Track Assembly For HVAC Units
2119 US	15/965,543	4/27/2018	10,830,501	11/10/2020	Systems For Detecting And Positioning Of Reversing Valve
2120 US	15/966,820	4/30/2018	11,041,712	6/22/2021	Mobile Device Building Layout Determination Systems And Methods
2121 US	15/971,725	5/4/2018	10,935,998	3/2/2021	Economizer Temperature Extrapolation Systems And Methods
2122 US	15/975,661	5/9/2018	11,022,382	6/1/2021	System And Method For Heat Exchanger Of An HVAC&R System
2123 US	15/979,136	5/14/2018	10,961,774	3/30/2021	Systems And Methods For Window Setting Adjustment
2124 US	15/980,556	5/15/2018	10,830,473	11/10/2020	Systems And Methods For Zoning System Setup
2125 US	15/985,444	5/21/2018	10,830,459	11/10/2020	Rain Shield For A Heat Exchanger Component
2126 US	15/986,612	5/22/2018	11,009,243	5/18/2021	Systems And Methods For Zoning System Configuration
2127 US	15/988,795	5/24/2018	10,648,686	5/12/2020	HVAC High Voltage Powerline Communication Systems And Methods
2128 US	15/991,970	5/29/2018	11,754,306	9/12/2023	HVAC Zone Control Panel Electronic Display Systems And Methods

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2129 US	15/991,985	5/29/2018	10,830,488	11/10/2020	Control Board Systems And Methods For Diagnosis Of HVAC Components
2130 US	15/994,879	5/31/2018	10,941,961	3/9/2021	Ultrasonic Condensate Management System And Method
2131 US	15/994,835	5/31/2018	11,609,033	3/21/2023	Condenser Fan Control System
2132 US	15/997,266	6/4/2018	11,085,666	8/10/2021	Collapsible Roof Top Unit Systems And Methods
2133 US	16/000,291	6/5/2018	10,816,236	10/27/2020	Condensate Recycling System For HVAC System
2134 US	16/000,672	6/5/2018	11,002,453	5/11/2021	HVAC Functionality Restoration Systems And Methods
2135 US	16/002,844	6/7/2018	10,829,986	11/10/2020	HVAC Systems Having Air-Tight Access Doors
2136 US	16/008,939	6/14/2018	10,948,203	3/16/2021	Heat Pump With Hot Gas Reheat Systems And Methods
2137 US	16/011,420	6/18/2018	11,137,165	10/5/2021	Fan Array For HVAC System
2138 US	16/014,735	6/21/2018	11,429,122	8/30/2022	Single Zone Variable Air Volume Control Systems And Methods
2139 US	16/016,221	6/22/2018	11,231,201	1/25/2022	Seasonal Airflow Control System
2140 US	16/022,287	6/28/2018	11,022,334	6/1/2021	Operational Envelope Control Of An HVAC Component
2141 US	16/034,259	7/12/2018	11,204,192	12/21/2021	Adjustable Duct For HVAC System
2142 US	16/037,804	7/17/2018	11,573,029	2/7/2023	Collapsible Vent Hood For HVAC Unit
2143 US	16/044,317	7/24/2018	10,837,685	11/17/2020	HVAC Refrigerant Charging And Relieving Systems And Methods
					Climate Control Adaptive Temperature Setpoint Adjustment Systems And Methods
2144 US	16/047,680	7/27/2018	10,830,476	11/10/2020	Sensor Well For HVAC Unit
2145 US	16/047,809	7/27/2018	11,143,559	10/12/2021	Flame Control Systems And Methods For Furnaces
2146 US	16/052,271	8/1/2018	10,753,623	8/25/2020	Liquid Drainage Systems And Methods
2147 US	16/102,513	8/13/2018	10,830,490	11/10/2020	HVAC Unit Centering Systems And Methods
2148 US	16/113,994	8/27/2018	11,112,129	9/7/2021	Systems And Methods For Providing Airflows Across A Heat Exchanger
2149 US	16/113,985	8/27/2018	11,054,170	7/6/2021	Interface For A Plenum Fan
2150 US	16/114,004	8/27/2018	11,268,537	3/8/2022	HVAC Access Panel Latch Systems And Methods
2151 US	16/116,757	8/29/2018	10,830,460	11/10/2020	Systems And Methods For Providing Airflow In Furnace Systems
2152 US	16/116,753	8/29/2018	10,921,015	2/16/2021	Enclosure With Adjustable Louver Panels
2153 US	16/122,721	9/5/2018	10,995,968	5/4/2021	Fan Blade Winglet
2154 US	16/126,927	9/10/2018	11,054,172	7/6/2021	Liquid Level Sensor Mounting Systems And Methods
2155 US	16/129,604	9/12/2018	11,022,140	6/1/2021	Systems And Methods For Energy Recovery Of An HVAC System
2156 US	16/136,040	9/19/2018	11,255,571	2/22/2022	Working Fluid Distribution Systems
2157 US	16/136,034	9/19/2018	11,162,706	4/20/2021	System For Control Of Superheat Setpoint For HVAC System
2158 US	16/137,257	9/20/2018	10,982,870		Cover For A Condensate Collection Trough
2159 US	16/137,260	9/20/2018		2/22/2022	Heating, Ventilation, And/Or Air Conditioning Network Address Control Systems
2160 US	16/137,267	9/20/2018	11,255,594	11/24/2020	Heating, Ventilation, And/Or Air Conditioning System Fault Log Management Systems
2161 US	16/144,154	9/27/2018	10,845,080	6/22/2021	
2162 US	16/144,069	9/27/2018	11,041,648		

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2163 US	16/144,093	9/27/2018	10,634,381	4/28/2020	Heating, Ventilation, And/Or Air Conditioning System With Zone Control
2164 US	16/146,736	9/28/2018	11,498,162	11/15/2022	Circuitry And Master Control Circuitry
2165 US	16/146,051	9/28/2018	11,609,005	3/21/2023	Heat Exchanger Tube With Flattened Draining Dimple
2166 US	16/146,074	9/28/2018	11,542,723	1/3/2023	Adjustable Heat Exchanger
2167 US	16/186,112	11/9/2018	10,830,475	11/10/2020	Convertible Access Panel Latch Assembly
2168 US	16/186,132	11/9/2018	11,392,098	7/19/2022	Systems And Methods For Thermal Storage In A Zoning System
2169 US	16/186,107	11/9/2018	10,914,487	2/9/2021	Priority Systems And Methods For A Zoning System
2170 US	16/186,124	11/9/2018	11,536,466	12/27/2022	Low Load Mode Of HVAC System
2171 US	16/195,620	11/19/2018	11,441,816	9/13/2022	Systems And Methods For Gas Valve Assembly Of An HVAC System
2172 US	16/204,893	11/29/2018	11,175,057	11/16/2021	Draft Inducer Motor Control System
2173 US	16/206,293	11/30/2018	10,935,263	3/2/2021	HVAC Multi-Zone Management Screen Systems And Methods
2174 US	16/215,274	12/10/2018	11,320,160	5/3/2022	Multi-Circuit HVAC System
2175 US	16/218,105	12/12/2018	11,266,939	3/8/2022	Mobile Air Conditioning Unit
2176 US	16/234,326	12/27/2018	11,162,717	11/2/2021	Adjustable Filter Assemblies For HVAC Systems
2177 US	16/234,318	12/27/2018	10,989,434	4/27/2021	Supplemental Cooling For An HVAC System
2178 US	16/241,594	1/7/2019	10,830,472	11/10/2020	Removable Energy Recovery Wheel Assembly for an HVAC System
2179 US	16/247,355	1/14/2019	11,125,275	9/21/2021	Systems And Methods For Dynamic Coil Calibration
2180 US	16/248,634	1/15/2019	11,371,738	6/28/2022	Bearing Assembly For A Fan Of An HVAC System
2181 US	16/250,902	1/17/2019	11,236,951	2/1/2022	Enclosure For A Controller Of An HVAC System
2182 US	16/250,906	1/17/2019	11,221,151	1/11/2022	Heat Exchanger Fin Surface Enhancement
2183 US	16/252,243	1/18/2019	11,629,866	4/18/2023	Hot Gas Reheat Systems And Methods
2184 US	16/253,070	1/21/2019	11,092,346	8/17/2021	Systems And Methods For Delayed Fluid Recovery
2185 US	16/256,859	1/24/2019	11,073,850	7/27/2021	Integrated Zone Control System
2186 US	16/259,904	1/28/2019	11,041,679	6/22/2021	HVAC Selective Zone Setpoint Scheduling Systems And Methods
2187 US	16/259,892	1/28/2019	10,921,016	2/16/2021	Energy Recovery Wheel Assembly For An HVAC System
2188 US	16/259,900	1/28/2019	10,830,482	11/10/2020	Integrated Control Box For HVAC Units
2189 US	16/261,351	1/29/2019	11,480,192	10/25/2022	HVAC Cable Grounding Systems And Methods
2190 US	16/263,678	1/31/2019	11,287,166	3/29/2022	Cutoff For A Blower Housing
2191 US	16/265,734	2/1/2019	11,143,428	10/12/2021	Evaporative Cooling System For An HVAC System
2192 US	16/267,074	2/4/2019	11,747,041	9/5/2023	HVAC Unit Fan Control Systems And Methods
2193 US	16/267,081	2/4/2019	11,073,293	7/27/2021	HVAC Fan Housing Systems And Methods
2194 US	16/274,057	2/12/2019	11,009,272	5/18/2021	Foam Substructure For A Heat Exchanger
2195 US	16/279,790	2/19/2019	11,441,809	9/13/2022	Low Ambient Operation Of HVAC System
2196 US	16/282,940	2/22/2019	11,454,420	9/27/2022	Auxiliary Economizer For An HVAC System
2197 US	16/284,885	2/25/2019	10,760,798	9/1/2020	Service Plate For A Heat Exchanger Assembly
2198 US	16/287,804	2/27/2019	11,732,924	8/22/2023	HVAC Unit With Hot Gas Reheat
					Air Intake Filter Assemblies With A Multi-Level Fine Filter For Heating, Ventilation, And/Or Air Conditioning (HVAC) Systems

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
2199 US	16/287,809	2/27/2019	11,759,742	9/19/2023	Air Intake Filter Assemblies With Actuable Filter Slats For Heating, Ventilation, And/Or Air Conditioning (HVAC) Systems
2200 US	16/289,289	2/28/2019	11,439,937	9/13/2022	Adjustable Filter Track For HVAC System
2201 US	16/289,102	2/28/2019	11,118,795	9/14/2021	Composite Interconnection Conduits For HVAC Systems
2202 US	16/289,291	2/28/2019	11,351,493	6/7/2022	Adjustable Filter Track For HVAC System
2203 US	16/289,294	2/28/2019	11,090,595	8/17/2021	Adjustable Filter Track For HVAC System
2204 US	16/289,091	2/28/2019	11,686,491	6/27/2023	Systems For Refrigerant Leak Detection And Management
2205 US	16/288,971	2/28/2019	10,982,688	4/20/2021	HVAC Fan Assembly Air Inlet Systems And Methods
2206 US	16/290,293	3/1/2019	11,035,578	6/15/2021	Removable Fin Heat Exchanger Systems And Methods
2207 US	16/293,849	3/6/2019	11,391,486	7/19/2022	Control Unit For Multiple Variable Frequency Drives
2208 US	16/298,886	3/11/2019	11,162,692	11/2/2021	Fan Assembly For An HVAC Unit
2209 US	16/351,304	3/12/2019	11,002,464	5/11/2021	Stacking Bracket For An HVAC Unit
2210 US	16/352,460	3/13/2019			Diverter Baffle For A Blower
2211 US	16/352,416	3/13/2019	11,209,187	12/28/2021	Condensate Drain System For A Furnace
2212 US	16/359,827	3/20/2019			Damper Control Systems And Methods For A Zoning System
2213 US	16/366,164	3/27/2019			Electric Heater Package For HVAC Unit
2214 US	16/366,750	3/27/2019			Heating Unit With A Partition
2215 US	16/366,861	3/27/2019	11,397,014	7/26/2022	Auxiliary Heat Exchanger For HVAC System
2216 US	16/369,986	3/29/2019	11,268,727	3/8/2022	Selective Zone Air Condition Setpoint Mode Interface Systems And Methods
2217 US	16/370,292	3/29/2019			HVAC Unit Utilizing Selectively Modulated Flow Rates With Hot Gas Reheat Circuit
2218 US	16/370,208	3/29/2019	11,125,449	9/21/2021	Systems And Methods For Transitioning Between A Cooling Operating Mode And A Reheat Operating Mode
2219 US	16/684,266	3/29/2019	11,268,727	3/8/2022	Selective Zone Air Condition Setpoint Mode Interface Systems And Methods
2220 US	16/374,432	4/3/2019	11,231,211	1/25/2022	Return Air Recycling System For An HVAC System
2221 US	16/380,810	4/10/2019	11,421,444	8/23/2022	Systems And Methods For Electronically Locking HVAC Doors
2222 US	16/385,967	4/16/2019	11,378,464	7/5/2022	Temperature Sensor Clamping Systems And Methods
2223 US	16/386,789	4/17/2019	11,231,212	1/25/2022	Refrigerant Discharge Heat Exchange System And Method
2224 US	16/388,654	4/18/2019	11,339,992	5/24/2022	Sensor Mount For HVAC System
2225 US	16/395,039	4/25/2019	10,968,920	4/6/2021	Motor Mount For HVAC System
2226 US	16/397,801	4/29/2019	11,236,762	2/1/2022	Variable Geometry Of A Housing For A Blower Assembly
2227 US	16/421,195	5/23/2019	11,131,320	9/28/2021	Modular Cutoff For A Blower Housing
2228 US	16/423,796	5/28/2019	11,451,014	9/20/2022	Fuse Bank For HVAC Systems
2229 US	16/430,303	6/3/2019	11,105,516	8/31/2021	Panel For An HVAC System
2230 US	16/434,007	6/6/2019	11,573,028	2/7/2023	Heater Assembly Of A Heating Unit
2231 US	16/436,534	6/10/2019	11,739,978	8/29/2023	Intake Hood System For An HVAC Unit
2232 US	16/441,535	6/14/2019	11,236,928	2/1/2022	Curb Assembly For HVAC System

	Country	Application Number	Filing Date	Patent Number	Issue Date	Title
2233	US	16/446,366	6/19/2019	11,041,651	6/22/2021	Energy Recovery System For HVAC System
2234	US	16/451,916	6/25/2019	11,473,809	10/18/2022	System And Method For Modulating Hot Gas Reheat Utilizing Multiple Compressor Systems
2235	US	16/513,499	7/16/2019	11,421,923	8/23/2022	Systems And Methods For Reheat Control Of An HVAC System
2236	US	16/530,337	8/2/2019	11,320,213	5/3/2022	Furnace Control Systems And Methods
2237	US	16/547,306	8/21/2019	10,914,476	2/9/2021	Method For Sequencing Compressor Operation Based On Space Humidity
2238	US	16/557,750	8/30/2019	11,162,704	11/2/2021	Indoor And Outdoor Units For An HVAC System
2239	US	16/569,353	9/12/2019	11,781,785	10/10/2023	Feedback Warning System Using Inducer Pulse Width Modulation Signal
2240	US	16/588,611	9/30/2019			Building Relative Efficiency Monitoring System
2241	US	16/590,080	10/1/2019	11,098,922	8/24/2021	Adjustable Motor Mount For HVAC System
2242	US	16/591,408	10/2/2019	11,415,376	8/16/2022	End Cap For Panel Assembly Of An HVAC System
2243	US	16/591,205	10/2/2019			Blower Properties Used For User Warning
2244	US	16/591,214	10/2/2019	11,761,656	9/19/2023	System And Method For Faulting To Return Air Sensor
2245	US	16/591,412	10/2/2019			Reversible Valve For HVAC System
2246	US	16/592,571	10/3/2019	11,280,503	3/22/2022	Air Intake Guard Of A Heating, Ventilation, And/Or Air Conditioning (HVAC) System
2247	US	16/592,147	10/3/2019	11,156,381	10/26/2021	Motor Mount For HVAC System
2248	US	16/595,232	10/7/2019	11,493,113	11/8/2022	Drive Belt Tensioner Systems And Methods
2249	US	16/595,227	10/7/2019	11,603,910	3/14/2023	Drive Belt Tensioner Systems And Methods
2250	US	16/595,221	10/7/2019	11,499,607	11/15/2022	Drive Belt Tensioner Systems And Methods
2251	US	16/595,136	10/7/2019	11,313,600	4/26/2022	Modulating Reheat Operation Of HVAC System
2252	US	16/595,150	10/7/2019	11,428,428	8/30/2022	Exhaust Fans For HVAC System With Energy Recovery Wheel
2253	US	16/596,485	10/8/2019	11,668,325	6/6/2023	Bracket Assembly For An HVAC System
2254	US	16/596,472	10/8/2019	11,506,410	11/22/2022	Zone Monitoring Systems And Methods For A Zoning System
2255	US	16/664,395	10/25/2019	11,754,331	9/12/2023	Divider Panel For HVAC System
2256	US	16/670,212	10/31/2019	11,506,434	11/22/2022	Adjustable Inlet Header For Heat Exchanger Of An HVAC System
2257	US	16/681,576	11/12/2019	11,767,999	9/26/2023	System And Method For Monitoring Charge Level Of HVAC System
2258	US	16/683,042	11/13/2019	11,867,416	1/9/2024	Remaining Useful Life Estimator Of Components Of HVAC System
2259	US	16/684,200	11/14/2019	11,493,221	11/8/2022	Alternative Defrost Mode Of HVAC System
2260	US	16/689,843	11/20/2019	11,761,679	9/19/2023	HVAC System With Baffles
2261	US	16/700,668	12/2/2019	11,262,112	3/1/2022	Condenser Coil Arrangement
2262	US	16/706,215	12/6/2019	11,725,888	8/15/2023	Multi-Position Condensation Kit And Bracket
2263	US	16/709,657	12/10/2019	11,486,604	11/1/2022	Furnace For A Rooftop Unit
2264	US	16/711,202	12/11/2019	11,208,905	12/28/2021	Fan Assembly For An HVAC System
2265	US	16/723,440	12/20/2019	11,041,647	6/22/2021	Systems And Methods For Refrigerant Leak Management
2266	US	16/723,255	12/20/2019	11,674,740	6/13/2023	Drain Pan For HVAC System
2267	US	16/723,327	12/20/2019	11,674,741	6/13/2023	Drain Spout For Drain Of HVAC System

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
2268 US	16/723,293	12/20/2019	11,536,471	12/27/2022	Adjustable Motor Mount
2269 US	16/725,924	12/23/2019	11,493,056	11/8/2022	Blower Housing For Blower Of HVAC System
2270 US	16/730,302	12/30/2019	11,604,032	3/14/2023	Finned Heat Exchanger U-Bends, Manifolds, And Distributor Tubes
2271 US	16/733,133	1/2/2020	11,397,012	7/26/2022	Panel Restrictor For HVAC System
2272 US	16/733,146	1/2/2020	11,655,997	5/23/2023	Damper Blade Assembly For HVAC System
2273 US	16/736,701	1/7/2020	11,255,572	2/22/2022	Drain Pan With Overflow Features
2274 US	16/741,527	1/13/2020	11,781,763	10/10/2023	Air Flow Amplifier For HVAC System
2275 US	16/742,696	1/14/2020	11,635,214	4/25/2023	Base Pan For HVAC System
2276 US	16/744,015	1/15/2020	11,549,694	1/10/2023	Movable Fan Assembly Of A Heating, Ventilation, And/Or Air Conditioning (HVAC) Unit
2277 US	16/780,255	2/3/2020	11,359,824	6/14/2022	Slidable Electric Control Box For Rooftop Unit
2278 US	16/795,283	2/19/2020	11,555,629	1/17/2023	HVAC System With Baffle In Side Discharge Configuration
2279 US	16/796,737	2/20/2020	11,532,431	12/20/2022	Fuse Block Mounting Bracket For Transformer
2280 US	16/804,864	2/28/2020	11,460,221	10/4/2022	Diverter Plate For Furnace Of HVAC System
2281 US	16/807,849	3/3/2020			Energy Control System
2282 US	16/827,369	3/23/2020	11,703,238	7/18/2023	Remote Access Control Of HVAC System
2283 US	16/827,043	3/23/2020	11,454,411	9/27/2022	Zone Air Flow Rate Adjustment For An HVAC System
2284 US	16/828,813	3/24/2020	11,768,000	9/26/2023	System And Method To Operate HVAC System During Voltage Variation Event
2285 US	16/833,000	3/27/2020			Systems And Methods For Communication In HVAC System
2286 US	16/833,047	3/27/2020	11,512,867	11/29/2022	Refrigerant Detection And Control Of HVAC System
2287 US	16/836,701	3/31/2020	11,300,321	4/12/2022	Systems And Methods To Operate An HVAC System Based On Sound Level
2288 US	16/836,475	3/31/2020	11,428,435	8/30/2022	Self-Orienting Refrigerant Sensor Systems
2289 US	16/837,775	4/1/2020	11,300,308	4/12/2022	Faceless System Control
2290 US	16/841,275	4/6/2020	11,313,572	4/26/2022	Configuration Management Systems For Heating, Ventilation, And Air Conditioning (HVAC) Systems
2291 US	16/874,200	5/14/2020			Condenser Fan Operation For HVAC System
2292 US	16/882,324	5/22/2020	11,371,599	6/28/2022	Systems And Methods Of Accessible Belt Guard
2293 US	16/900,455	6/12/2020	11,333,416	5/17/2022	Vapor Compression System With Compressor Control Based On Temperature And Humidity Feedback
2294 US	16/901,751	6/15/2020	11,378,316	7/5/2022	Diagnostic Mode Of Operation To Detect Refrigerant Leaks In A Refrigeration Circuit
2295 US	17/007,993	8/31/2020			Interactive Outdoor Display
2296 US	17/008,365	8/31/2020	11,867,413	1/9/2024	HVAC Unit With Hot Gas Reheat
2297 US	17/069,681	10/13/2020	11,885,524	1/30/2024	HVAC System Using Reheat From Alternative Heat Source
2298 US	17/073,812	10/19/2020	11,499,744	11/15/2022	Control Board Systems And Methods For Diagnosis Of HVAC Components

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
2299 US	17/080,342	10/26/2020	11,604,020	3/14/2023	HEATING, VENTILATION, AND AIR CONDITIONING CONTROL SYSTEM WITH REFRIGERANT LEAK CONTROL
2300 US	17/081,658	10/27/2020	11,402,115	8/2/2022	Systems And Methods For Dynamically Configurable Thermostat Installation
2301 US	17/081,787	10/27/2020	11884517	1/30/2024	Lifting Lug For HVAC Unit
2302 US	17/091,419	11/6/2020	11,342,881	5/24/2022	Systems And Methods For Controlling Fan Motors With Variable Frequency Drives
2303 US	17/093,448	11/9/2020	11,761,684	9/19/2023	Systems For Detecting And Positioning Of Reversing Valve
2304 US	17/093,479	11/9/2020	11,713,894	8/1/2023	Climate Control Adaptive Temperature Setpoint Adjustment Systems And Methods
2305 US	17/093,508	11/9/2020	11,384,594	7/12/2022	HVAC Systems Having Air-Tight Access Doors
2306 US	16/953,122	11/19/2020			Heating, Ventilation, And Air Conditioning Control System
2307 US	17/151,186	1/17/2021	11,656,590	5/23/2023	Staging Algorithm For Two Stage Heating/Cooling Equipment
2308 US	17/152,541	1/19/2021	11,761,646	9/19/2023	Systems And Methods For Reheat Control Of An HVAC System
2309 US	17/162,926	1/29/2021	11,662,105	5/30/2023	Electrical Housing For Heating, Ventilation, And/Or Air Conditioning (HVAC) System
2310 US	17/164,669	2/1/2021			Systems And Methods For Providing Custom Applications For HVAC Systems
2311 US	17/176,978	2/16/2021	11879653	1/23/2024	Portable Thermostat Systems And Methods
2312 US	17/181,972	2/22/2021	11,359,832	6/14/2022	HVAC Switchable Communication Bus And Power Bus Control Board
2313 US	17/183,144	2/23/2021	11,686,513	6/27/2023	Systems And Methods
2314 US	17/189,001	3/1/2021	11,733,723	8/22/2023	Flash Gas Bypass Systems And Methods For An HVAC System
2315 US	17/191,266	3/3/2021			Economizer Temperature Extrapolation Systems And Methods
2316 US	17/212,938	3/25/2021	11,635,232	4/25/2023	Motor Jacket For HVAC System
2317 US	17/214,260	3/26/2021	11,644,213	5/9/2023	HVAC System Flame Sensor
2318 US	17/216,242	3/29/2021	11,639,633	5/2/2023	Systems And Methods To Operate HVAC System In Variable Operating Mode
2319 US	17/217,898	3/30/2021	11,761,674	9/19/2023	Systems And Methods For Window Setting Adjustment
2320 US	17/217,891	3/30/2021			Condensate Pan For A Heat Exchanger
2321 US	17/235,726	4/20/2021			Heat Exchanger Arrangement For HVAC System
2322 US	17/235,740	4/20/2021			OUTDOOR AIR HOOD ASSEMBLY WITH AN INLET HOOD
2323 US	17/235,703	4/20/2021			SYSTEM AND METHOD OF COOLING OF HEAT GENERATING UNITS IN AN HVAC UNIT
2324 US	17/236,802	4/21/2021	11,686,501	6/27/2023	Condensate Drain System Of An HVAC Unit
2325 US	17/240,749	4/26/2021			SIDE PANEL ASSEMBLY FOR ROOF TOP UNITS
2326 US	17/308,836	5/5/2021	11,686,490	6/27/2023	Energy Recovery Wheel Assembly For An HVAC System
2327 US	17/308,645	5/5/2021			HVAC Functionality Restoration Systems And Methods
2328 US	17/326,134	5/20/2021	11859860	1/2/2024	Condenser Fan Rotation Restriction System
					Tube Guide For HVAC System

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
2329 US	17/328,868	5/24/2021	11,754,304	9/12/2023	Operational Envelope Control Of An HVAC Component
2330 US	17/354,853	6/22/2021	11,774,126	10/3/2023	Systems And Methods For Refrigerant Leak Management
2331 US	17/354,909	6/22/2021			Heating, Ventilation, And/Or Air Conditioning System Fault Log Management Systems
2332 US	17/365,814	7/1/2021			Quick Heat Algorithm For Modulating Heating Equipment
2333 US	17/377,066	7/15/2021			Angled Baffles For A Heat Exchanger
2334 US	17/382,142	7/21/2021	11,635,223	4/25/2023	Recovery Mode Algorithm For Two Stage HVAC Equipment
2335 US	17/412,008	8/25/2021			Heating, Ventilation, And Air Conditioning System With Primary And Secondary Heat Transfer Loops
2336 US	17/464,495	9/1/2021			BASE PAN ASSEMBLY
2337 US	17/471,907	9/10/2021			CONTROL SYSTEM FOR AN HVAC SYSTEM
2338 US	17/473,795	9/13/2021	11,754,298	9/12/2023	Composite Interconnection Conduits For HVAC Systems
2339 US	17/477,298	9/16/2021			Heat Exchanger For HVAC Unit
2340 US	17/498,573	10/11/2021			HVAC Unit Fan Control Systems And Methods
2341 US	17/512,471	10/27/2021	11,761,630	9/19/2023	Systems And Methods For Monitoring Operation Of A Furnace System
2342 US	17/512,481	10/27/2021			Systems And Methods For Operating A Furnace System
2343 US	17/534,192	11/23/2021			Top Fired Outdoor Gas Heat Exchanger
2344 US	17/541,076	12/2/2021			Heat Exchanger Assembly Systems And Methods
2345 US	17/541,083	12/2/2021	11,761,661	9/19/2023	Systems And Methods For Operating An HVAC System
2346 US	17/544,732	12/7/2021			Partition Wall For An HVAC Device
2347 US	17/545,849	12/8/2021	11,892,013	2/6/2024	Blower Assembly Systems And Methods
2348 US	17/562,840	12/27/2021			Condensate Drain System For A Furnace
2349 US	17/572,431	1/10/2022	US11874006	1/16/2024	Alternative Feedback Usage For HVAC System
2350 US	17/582,910	1/24/2022			Ultraviolet (UV) Light-Based Refrigerant Leak Detection System And Method
2351 US	17/584,149	1/25/2022	11,725,845	8/15/2023	Curb Assembly For HVAC System
2352 US	17/592,385	2/3/2022			Panel Arrangement For HVAC System
2353 US	17/685,069	3/2/2022			Interface For A Plenum Fan
2354 US	17/694,426	3/14/2022			Heat Exchanger For A HVAC Unit
2355 US	17/696,722	3/16/2022			Filter Track System For HVAC System
2356 US	17/707,829	3/29/2022			Systems And Methods For Operating A Furnace
2357 US	17/711,677	4/1/2022			HEATER ARRANGEMENT FOR HVAC SYSTEM
2358 US	17/723,707	4/19/2022	11,689,145	6/27/2023	SYSTEMS AND METHODS FOR CONTROLLING FAN MOTORS WITH VARIABLE FREQUENCY DRIVES
2359 US	17/726,353	4/21/2022			ROTATABLE HANDLE FOR HVAC ACCESS PANELS
2360 US	17/732,198	4/28/2022			Shield For HVAC Drain Pan
2361 US	17/732,183	4/28/2022			HOUSING FOR A HEATING, VENTILATION, AND/OR AIR CONDITIONING (HVAC) UNIT
2362 US	17/733,569	4/29/2022			AIR DAM FOR CONDENSATE DRAIN PAN

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2363 US	17/733,628	4/29/2022			Condensate Collection Assembly
2364 US	17/752,525	5/24/2022			VARIABLE CAPACITY FURNACE CONTROL
2365 US	17/834,726	6/7/2022			HVAC CONNECTIVITY CONTROL SYSTEMS AND METHODS
2366 US	17/834,757	6/7/2022			WORKING FLUID ELIMINATOR FOR A HEATING, VENTILATION, AND/OR AIR CONDITIONING (HVAC) SYSTEM
2367 US	17/835,675	6/8/2022			REFRIGERANT DETECTION SYSTEM WITH AUXILIARY CONTROL CIRCUITRY
2368 US	17/837,298	6/10/2022			HEAT EXCHANGER FOR HVAC SYSTEM
2369 US	17/839,243	6/13/2022			HVAC SWITCHABLE COMMUNICATION BUS AND POWER BUS CONTROL BOARD SYSTEMS AND METHODS
2370 US	17/863,155	7/12/2022			SYSTEMS AND METHODS FOR INTEGRATED APPLICATIONS OF HVAC SYSTEMS
2371 US	17/870,442	7/21/2022	11852372	12/26/2023	AUXILIARY HEAT EXCHANGER FOR HVAC SYSTEM
2372 US	17/886,206	8/11/2022			HEAT EXCHANGER FOR HVAC SYSTEM
2373 US	17/887,816	8/15/2022			HVAC FILTER LOCKING SYSTEMS AND METHODS
2374 US	17/892,956	8/22/2022	11,768,020	9/26/2023	SYSTEMS AND METHODS FOR REHEAT CONTROL OF AN HVAC SYSTEM
2375 US	17/892,993	8/22/2022			SYSTEMS AND METHODS FOR ELECTRONICALLY LOCKING HVAC DOORS
2376 US	17/894,923	8/24/2022			SINGLE ZONE VARIABLE AIR VOLUME CONTROL SYSTEMS AND METHODS
2377 US	17/894,908	8/24/2022			EXHAUST FANS FOR HVAC SYSTEM WITH ENERGY RECOVERY WHEEL
2378 US	17/894,897	8/24/2022			SELF-ORIENTING REFRIGERANT SENSOR SYSTEMS
2379 US	17/903,752	9/6/2022			CONTROL SYSTEM FOR AN HVAC SYSTEM
2380 US	17/943,012	9/12/2022			DRAFT INDUCER MOTOR CONTROL SYSTEM
2381 US	17/943,454	9/13/2022			SYSTEM AND METHOD FOR MODULATING HOT GAS REHEAT UTILIZING MULTIPLE COMPRESSOR SYSTEMS
2382 US	17/936,716	9/29/2022	11,719,471	8/8/2023	ENERGY EFFICIENT HVAC SYSTEM WITH COUNTERFLOW ARRANGEMENT
2383 US	17/959,151	10/3/2022			DIVERTER PLATE FOR FURNACE OF HVAC SYSTEM
2384 US	17/982,309	11/7/2022	11,713,771	8/1/2023	BLOWER HOUSING FOR BLOWER OF HVAC SYSTEM
2385 US	18/053,263	11/7/2022			ALTERNATIVE DEFROST MODE OF HVAC SYSTEM
2386 US	17/986,692	11/14/2022			CONTROL BOARD SYSTEMS AND METHODS FOR DIAGNOSIS OF HVAC COMPONENTS
2387 US	17/991,617	11/21/2022			ZONE MONITORING SYSTEMS AND METHODS FOR A ZONING SYSTEM
2388 US	17/994,584	11/28/2022	11,761,666	9/19/2023	REFRIGERANT DETECTION AND CONTROL OF HVAC SYSTEM
2389 US	18/075,133	12/5/2022			CONDENSATE COLLECTION ASSEMBLY
2390 US	18/069,754	12/21/2022	11,739,955	8/29/2023	ADJUSTABLE MOTOR MOUNT
2391 US	18/094,640	1/9/2023			FAN ASSEMBLY FOR HVAC SYSTEM
2392 US	18/095,415	1/10/2023			THERMOELECTRIC HEAT EXCHANGER FOR AN HVAC SYSTEM

	Country	Application Number	Filing Date	Patent Number	Issue Date	Title
	2393 US	18/099,189	1/19/2023			ARRANGEMENT FOR HEAT EXCHANGER
	2394 US	18/101,471	1/25/2023			LEAKAGE DETECTION AND MITIGATION SYSTEM
	2395 US	18/101,990	1/26/2023			VARIABLE CAPACITY FURNACE
	2396 US	18/101,988	1/26/2023			HEAT PUMP CONTROL SYSTEMS AND METHODS
	2397 US	18/104,131	1/31/2023	11892219	2/6/2024	ROW SPLIT COIL SYSTEMS FOR HVAC SYSTEMS
	2398 US	63/442,969	2/2/2023			FURNACE WITH NOISE ABATEMENT FEATURES
	2399 US	18/106,367	2/6/2023			SYSTEMS AND METHODS FOR REFRIGERANT LEAK MANAGEMENT
	2400 US	63/445,946	2/15/2023			A TUBE JOINT FOR ALIGNING HVAC TUBES
	2401 US	63/449,219	3/1/2023			AN ARRANGEMENT FOR REFRIGERANT LEAK MANAGEMENT
	2402 US	18/182,012	3/10/2023			ENERGY EFFICIENT HEAT PUMP SYSTEMS AND METHODS
	2403 US	18/121,461	3/14/2023			HEATING, VENTILATION, AND AIR CONDITIONING CONTROL SYSTEM
	2404 US	18/128,803	3/30/2023			SYSTEM AND METHOD FOR OPERATING A COMPRESSOR OF AN HVAC SYSTEM
	2405 US	63/456,664	4/3/2023			MULTI-POSE MOUNTING BRACKET
	2406 US	18/133,387	4/11/2023			SYSTEMS AND METHODS FOR WINDOW SETTING ADJUSTMENT
	2407 US	18/134,420	4/13/2023			SYSTEMS AND METHODS TO OPERATE HVAC SYSTEM IN VARIABLE OPERATING MODE
	2408 US	18/136,778	4/19/2023			ADJUSTABLE WORKING FLUID RESERVOIR FOR HVAC SYSTEM
	2409 US	18/138,632	4/24/2023			BASE PAN FOR HVAC SYSTEM
	2410 US	18/138,615	4/24/2023			RECOVERY MODE ALGORITHM FOR TWO STAGE HVAC EQUIPMENT
	2411 US	18/306,819	4/25/2023			ENERGY EFFICIENT HEAT PUMP WITH VALVE SYSTEM AND COUNTERFLOW ARRANGEMENT
	2412 US	18/307,668	4/26/2023			ENERGY EFFICIENT HEAT PUMP WITH COUNTERFLOW HEAT TRANSFER ARRANGEMENT
	2413 US	18/308,268	4/27/2023			ENERGY EFFICIENT HEAT PUMP WITH FLOW REGULATION SYSTEM
	2414 US	18/199,139	5/18/2023			HEAT PUMP SYSTEMS AND METHODS WITH FROST MITIGATION
	2415 US	18/201,026	5/23/2023			STAGING ALGORITHM FOR TWO STAGE HEATING/COOLING EQUIPMENT
	2416 US	18/202,160	5/25/2023			ELECTRICAL HOUSING FOR HEATING, VENTILATION, AND/OR AIR CONDITIONING (HVAC) SYSTEM
	2417 US	18/205,965	6/5/2023			BRACKET ASSEMBLY FOR AN HVAC SYSTEM
	2418 US	18/208,764	6/12/2023			DRAIN PAN FOR HVAC SYSTEM
	2419 US	18/208,735	6/12/2023			DRAIN SPOUT FOR DRAIN OF HVAC SYSTEM
	2420 US	18/210,735	6/16/2023			SYSTEMS AND METHODS FOR OPERATING AN HVAC SYSTEM
	2421 US	18/337,271	6/19/2023			MULTI-CONFIGURATION DRAIN PAN ASSEMBLY
	2422 US	18/215,039	6/27/2023			SYSTEMS AND METHODS FOR CONTROLLING FAN MOTORS WITH VARIABLE FREQUENCY DRIVES
	2423 US	18/215,029	6/27/2023			SYSTEMS FOR REFRIGERANT LEAK DETECTION AND MANAGEMENT

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2424 US	18/215,671	6/28/2023			SYSTEM AND METHOD FOR AVOIDING STALL REGIONS USING MULTIPLE HVAC FANS
2425 US	63/525,086	7/5/2023			HEAT EXCHANGER WITH SPRING TUBE COIL
2426 US	18/351,279	7/12/2023			INTAKE HOOD SYSTEM FOR AN HVAC UNIT
2427 US	63/528,855	7/25/2023			AN ARRANGEMENT FOR REFRIGERANT LEAK MANAGEMENT
2428 US	18/227,190	7/27/2023			FURNACE CONTROL SYSTEMS AND METHODS
2429 US	18/227,230	7/27/2023			HVAC SYSTEM WITH OUTDOOR FAN SPEED CONTROL BYPASS
2430 US	18/228,511	7/31/2023			CLIMATE CONTROL ADAPTIVE TEMPERATURE SETPOINT ADJUSTMENT SYSTEMS AND METHODS
2431 US	18/228,525	7/31/2023			BLOWER HOUSING FOR BLOWER OF HVAC SYSTEM
2432 US	18/230,063	8/3/2023			A FAN UNIT FOR AN HVAC SYSTEM
2433 US	18/231,132	8/7/2023			ENERGY EFFICIENT HVAC SYSTEM WITH COUNTERFLOW ARRANGEMENT
2434 US	18/232,074	8/9/2023			COIL ASSEMBLY PLATE WITH COMPENSATOR ACCOMMODATION
2435 US	18/447,954	8/10/2023			A DRAIN PAN ADAPTER AND A DRAIN PAN
2436 US	18/233,749	8/14/2023			CURB ASSEMBLY FOR HVAC SYSTEM
2437 US	18/236,298	8/21/2023			AIR INTAKE FILTER ASSEMBLIES WITH A MULTI-LEVEL FINE FILTER FOR HEATING, VENTILATION, AND/OR AIR CONDITIONING (HVAC) SYSTEMS
2438 US	18/237,827	8/24/2023			MULTI-CIRCUIT HVAC SYSTEMS AND METHODS
2439 US	18/240,227	8/30/2023			HVAC EQUIPMENT WITH WIRELESS CONNECTIVITY FEATURES
2440 US	63/536,900	9/6/2023			A FAN UNIT
2441 US	18/463,937	9/8/2023			Dedicated Outdoor Air System Configuration Systems and Methods
2442 US	18/244,812	9/11/2023			COMPOSITE INTERCONNECTION CONDUITS FOR HVAC SYSTEMS
2443 US	18/367,357	9/12/2023			HVAC ZONE CONTROL PANEL ELECTRONIC DISPLAY SYSTEMS AND METHODS
2444 US	18/369,676	9/18/2023			SYSTEMS FOR DETECTING AND POSITIONING OF REVERSING VALVE
2445 US	18/369,663	9/18/2023			HVAC SYSTEM WITH BAFFLES
2446 US	18/369,590	9/18/2023			SYSTEM AND METHOD FOR FAULTING TO RETURN AIR SENSOR
2447 US	18/369,611	9/18/2023			SYSTEMS AND METHODS FOR OPERATING AN HVAC SYSTEM
2448 US	18/370,291	9/19/2023			REFRIGERANT DETECTION AND CONTROL OF HVAC SYSTEM
2449 US	18/372,572	9/25/2023			SYSTEM AND METHOD FOR MONITORING CHARGE LEVEL OF HVAC SYSTEM
2450 US	18/372,580	9/25/2023			SYSTEMS AND METHODS FOR REHEAT CONTROL OF AN HVAC SYSTEM
2451 US	18/372,621	9/25/2023			SYSTEM AND METHOD TO OPERATE HVAC SYSTEM DURING VOLTAGE VARIATION EVENT
2452 US	18/376,284	10/3/2023			SYSTEMS AND METHODS FOR REFRIGERANT LEAK MANAGEMENT
2453 US	18/483,387	10/9/2023			AIR FLOW AMPLIFIER FOR HVAC SYSTEM
2454 US	18/378,089	10/9/2023			FEEDBACK WARNING SYSTEM USING INDUCER PULSE WIDTH MODULATION SIGNAL

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	2455 US	63/543,469	10/10/2023			COIL GUARD FOR AN HVAC SYSTEM
	2456 US	18/503,980	11/7/2023			ENERGY EFFICIENT HEAT PUMP SYSTEMS AND METHODS
	2457 US	18/539,082	12/13/2023			ENERGY EFFICIENT HEAT PUMP WITH CONTROL SYSTEM AND COMPRESSOR INJECTION
	2458 US	18/539,766	12/14/2023			ENERGY EFFICIENT HVAC SYSTEM WITH VARIABLE CAPACITY START UP CONTROL
						SYSTEMS AND METHODS FOR DETECTING AND RESPONDING TO REFRIGERANT LEAKS IN HEATING, VENTILATING, AND AIR CONDITIONING SYSTEMS
	2459 US	18/404,633	1/4/2024			ALTERNATIVE FEEDBACK USAGE FOR HVAC SYSTEM
	2460 US	18/409,649	1/10/2024			HEAT PUMP CONTROL SYSTEMS AND METHODS
	2461 WO	PCT/US2023/011758	1/27/2023			ENERGY EFFICIENT HEAT PUMP SYSTEMS AND METHODS
	2462 WO	PCT/US2023/036951	11/7/2023			HEAT PUMP CONTROL SYSTEMS AND METHODS
	2463 WO	PCT/US2023/084121	12/14/2023			Gunshot Detection System with Forensic Data Retention, Live Audio Monitoring, and Two-Way Communication
	2464 CA	3091482	2/14/2019			Gunshot Detection System with Master Slave Timing Architecture
	2465 CA	3091550	2/14/2019			Gunshot Detection System with Encrypted, Wireless Transmission
	2466 CA	3091894	2/14/2019			Gunshot Detection System with Building Management System Integration
	2467 CA	3091552	2/14/2019			Gunshot Detection System Anti-Tampering Protection
	2468 CA	3091318	2/14/2019			Gunshot Detection System with Ambient Noise Modeling and Monitoring
	2469 CA	3091327	2/14/2019			Gunshot Detection System with Fire Alarm System Integration
	2470 CA	3091328	2/14/2019			Gunshot Detection Sensors Incorporated into Building Management Devices
	2471 CA	3091330	2/14/2019			Gunshot Detection System with Location Tracking
	2472 CA	3091332	2/14/2019			Interface Circuit For Distributed Fire Alarm In Loop Configuration
	2473 DE	13/774772.1	10/8/2013	EP2904597	5/10/2023	System And Method For Using Customer Data Networks For Alarm Systems
	2474 DE	14167268.3	5/6/2014	EP2801961	7/5/2023	Strobe Notification Appliance
	2475 DE	15750185.9	7/24/2015	EP3175171	4/14/2021	Gunshot Detection System Anti-Tampering Protection
	2476 DE	19711418.4	2/14/2019	EP3752996	5/31/2023	Gunshot Detection System with Building Management System Integration
	2477 EP	21804797.5	2/14/2019			Applying machine learning to detector data
	2478 GB	2311759.1	7/31/2023			Fire Alarm System Testing
	2479 GB	17/381,032	10/31/2023			DATA LOGGING IN A FIRE ALARM SYSTEM
	2480 GB	2317663.9	11/17/2023			Multi-candela emergency strobe light
	2481 US	10/645,396	8/21/2003	7,006,003	2/28/2006	Fire Alarm With Distinct Alarm Reset Threshold
	2482 US	10/705,146	11/10/2003	7,091,855	8/15/2006	National security warning system integrated with building fire alarm notification system
	2483 US	10/720,810	11/24/2003	7,295,127	11/13/2007	

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	2484 US	10/835,930	4/30/2004	7,233,253	6/19/2007	Multiwavelength Smoke Detector Using White Light Led
	2485 US	21159514.5	4/30/2004	7,233,253	6/19/2007	Multiwavelength Smoke Detector Using White Light Led
	2486 US	10/872,852	6/21/2004	7,369,037	5/6/2008	Programmable Multicandela Notification Device
	2487 US	10/873,027	6/21/2004	7,170,396	1/30/2007	Addressable Smart Speaker
	2488 US	17/489,175	6/21/2004	7,369,037	5/6/2008	Programmable Multicandela Notification Device
	2489 US	10/914,666	8/9/2004	7,145,466	12/5/2006	National security warning system integrated with building fire alarm notification system
	2490 US	11/282,358	11/18/2005	7,333,010	2/19/2008	Method and apparatus for verifying operation of notification appliances during low input voltage condition
	2491 US	11/884,507	12/12/2005	7,843,324	11/30/2010	Detection arrangements
	2492 US	11/886,611	1/18/2006	7,633,386	12/15/2009	Amplifier for multi-use of single environmental sensor
	2493 US	11/921,113	2/17/2006	7,948,628	5/24/2011	Window cleanliness detection system
	2494 US	11/921,111	2/17/2006	7,956,329	6/7/2011	Flame detector and a method
	2495 US	11/432,120	5/11/2006	7,456,585	11/25/2008	Optical element driving circuit
	2496 US	11/479,641	6/30/2006	7,471,049	12/30/2008	Optical element driving circuit
	2497 US	2316686.1	6/30/2006	7,471,049	12/30/2008	Optical element driving circuit
	2498 US	11/500,851	8/8/2006	7,532,117	5/12/2009	Fire alarm with distinct alarm reset threshold
	2499 US	11/514,612	9/1/2006	8,319,625	11/27/2012	Fire alarm textual notification related application
	2500 US	11/580,654	10/13/2006	7,714,733	5/11/2010	Emergency warning system integrated with building hazard alarm notification system
	2501 US	11/587,461	10/25/2006	7,609,154	10/27/2009	Testing a fire detector sensor
	2502 US	11/796,008	4/26/2007	7,474,227	1/6/2009	Multiwavelength smoke detector using white light LED
	2503 US	11/825,213	7/5/2007	8,558,711	10/15/2013	System for testing NAC operability using backup power
	2504 US	11/881,312	7/26/2007	7,688,212	3/30/2010	Method and apparatus for providing occupancy information in a fire alarm system
	2505 US	11/906,827	10/4/2007	7,999,692	8/16/2011	Non-addressable dual notification appliance
	2506 US	12/525,928	11/20/2007	9,134,180	9/15/2015	Detector
	2507 US	12/040,300	2/29/2008	8,023,661	9/20/2011	Self-adjusting and self-modifying addressable speaker
	2508 US	12/249,580	10/10/2008	8,511,630	8/20/2013	Emergency notification appliance mounting bracket
	2509 US	12/256,066	10/22/2008	7,994,729	8/9/2011	Optical Element Driving Circuit
	2510 US	12/260,728	10/29/2008	8,049,632	11/1/2011	Switchable Strobe Lens
	2511 US	12/360,461	1/27/2009	8,138,928	3/20/2012	Multiple Event Notification Appliance
	2512 US	15844243.4	1/27/2009	8,138,928	3/20/2012	Multiple Event Notification Appliance
	2513 US	12/483,039	6/11/2009	8,228,182	7/24/2012	Self-Testing Notification Appliance
	2514 US	19711166.9	6/11/2009	8,228,182	7/24/2012	Self-Testing Notification Appliance
	2515 US	12/533,828	7/31/2009	8,373,420	2/12/2013	Ground Fault Detection
	2516 US	13/121,467	10/1/2009	8,559,006	10/15/2013	Particulate detector
	2517 US	12/572,014	10/1/2009	8,368,528	2/5/2013	Configurable Notification Device
	2518 US	12/749,928	3/30/2010	8,845,136	9/30/2014	Adjustable Strobe Reflector Assembly

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2519 US	19711167.7	3/30/2010	8,845,136	9/30/2014	Adjustable Strobe Reflector Assembly
2520 US	12/851,958	8/6/2010	8,624,754	1/7/2014	System And Method For Detecting A Property Of A Strobe Cover
2521 US	19710785.7	8/6/2010	8,624,754	1/7/2014	System And Method For Detecting A Property Of A Strobe Cover
2522 US	12/884,818	9/17/2010	8,378,806	2/19/2013	Pseudo non-addressable alarm system
2523 US	12/944,801	11/12/2010	8,723,681	5/13/2014	Apparatus And Methods For Providing Emergency Override Of Informational Displays
2524 US	19711419.2	11/12/2010	8,723,681	5/13/2014	Apparatus And Methods For Providing Emergency Override Of Informational Displays
2525 US	12/946,708	11/15/2010	8,705,038	4/22/2014	Duct Detector
2526 US	12/972,151	12/17/2010	8,508,359	8/13/2013	Method And System For Wireless Configuration, Control, And Status Reporting Of Devices In A Fire Alarm System
2527 US	13/005,704	1/13/2011	8,354,798	1/15/2013	Compensation Circuit For Current Peaking Reduction In Notification Appliances
2528 US	13/578,522	2/11/2011	9,286,779	3/15/2016	Detector Devices
2529 US	13/042,191	3/7/2011	8,698,613	4/15/2014	Integrated Test-Mode For Monitoring Of Fire And Security System Networks
2530 US	13/160,185	6/14/2011	8,773,276	7/8/2014	Dual Mode Led Strobe
2531 US	19711420.0	6/14/2011	8,773,276	7/8/2014	Dual Mode Led Strobe
2532 US	13/173,049	6/30/2011	8,794,389	8/5/2014	Interface between fire panel and elevator controller
2533 US	13/193,304	7/28/2011	8,760,280	6/24/2014	Method And Apparatus For Communicating With Non-Addressable Notification Appliances
2534 US	13/195,497	8/1/2011	8,269,637	9/18/2012	Switchable Strobe Lens
2535 US	13/249,466	9/30/2011	8,736,444	5/27/2014	System And Method For Wireless Heat Detection
2536 US	19711168.5	9/30/2011	8,736,444	5/27/2014	System And Method For Wireless Heat Detection
2537 US	13/877,038	10/3/2011	9,343,884	5/17/2016	Mounting Unit
2538 US	13/877,312	10/4/2011	9,391,714	7/12/2016	Safety System
2539 US	13/877,045	10/4/2011	9,847,019	12/19/2017	Detector System
2540 US	13/877,056	10/4/2011	9,153,968	10/6/2015	Isolator Circuit
2541 US	13/271,976	10/12/2011	9,245,427	1/26/2016	System And Method For Synchronization Of Networked Fire Alarm Panels
2542 US	13/369,099	2/8/2012	8,503,491	8/6/2013	Fiber Optic Multiplex Modem
2543 US	13/422,368	3/16/2012	8,939,013	1/27/2015	Duct Detector With Improved Functional Test Capability
2544 US	13/432,327	3/28/2012	9,026,439	5/5/2015	Verbal Intelligibility Analyzer For Audio Announcement Systems
2545 US	13/495,559	6/13/2012	8,760,301	6/24/2014	Led Strobes With Fixed Pulse Width
2546 US	13/525,427	6/18/2012	8,796,931	8/5/2014	Current Regulated Led Strobe Drive Circuit
2547 US	19710786.5	6/18/2012	8,796,931	8/5/2014	Current Regulated Led Strobe Drive Circuit
2548 US	13/540,690	7/3/2012	8,890,704	11/18/2014	Method And Apparatus For Monitoring Transient Electrical Strikes
2549 US	13/601,585	8/31/2012	8,693,641	4/8/2014	Fire Alarm With Integrated Firefighter Communications System
2550 US	13/610,801	9/11/2012	8,797,724	8/5/2014	Notification Appliance Enclosure

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	2551 US	13/688,441	11/29/2012	9,076,319	7/7/2015	User Interface Broker For Fire Alarm Systems
	2552 US	13/709,180	12/10/2012	8,558,472	10/15/2013	Compensation Circuit For Current Peaking Reduction In Notification Appliances
	2553 US	14/364,080	2/13/2013	11,250,681	2/15/2022	Combustion Product Detection
	2554 US	13/780,244	2/28/2013	9,814,157	11/7/2017	Wire Management And Wire Entry Cover Bracket
	2555 US	13/836,685	3/15/2013	9,030,314	5/12/2015	Method For Inspecting And Testing Notification Appliances In Alarm Systems
	2556 US	13/836,942	3/15/2013	8,994,525	3/31/2015	Method For Testing Notification Appliances In Alarm Systems
	2557 US	13/836,831	3/15/2013	9,076,313	7/7/2015	Method For Self-Testing Notification Appliances In Alarm Systems
	2558 US	13/835,525	3/15/2013	9,076,321	7/7/2015	Real Time Control Chart Generation And Monitoring Of Safety Systems
	2559 US	13/889,448	5/8/2013	9,293,031	3/22/2016	System And Method For Using Customer Data Networks For Alarm Systems
	2560 US	13/890,351	5/9/2013	10,044,178	8/7/2018	Notification Appliance Enclosure
	2561 US	13/896,906	5/17/2013	9,007,201	4/14/2015	Method For Self-Testing Notification Appliances In Alarm Systems
	2562 US	13/921,743	6/19/2013	9,076,316	7/7/2015	SYSTEM AND METHOD FOR VERIFYING ASSOCIATIONS BETWEEN INITIATING DEVICES AND NOTIFICATIONS APPLICANCES IN ALARM SYSTEMS
	2563 US	13/929,335	6/27/2013	8,988,217	3/24/2015	Method And System For Wireless Configuration, Control, And Status Reporting Of Devices In A Fire Alarm System
	2564 US	14/046,157	10/4/2013	9,459,208	10/4/2016	Duct Detector With Remote Airflow Test Capability
	2565 US	14/047,938	10/7/2013	9,058,731	6/16/2015	Smoke Detector With Airflow Barrier
	2566 US	14/070,896	11/4/2013	9,374,239	6/21/2016	Alarm System Network Operation
	2567 US	14/075,157	11/8/2013	9,642,210	5/2/2017	Supervision For A Light Display Device
	2568 US	14/084,721	11/20/2013	10,074,254	9/11/2018	Cloud-Based Method And Apparatus For Configuring A Fire Panel
	2569 US	14/095,172	12/3/2013	9,842,486	12/12/2017	User Interface Configuration For Alarm Systems
	2570 US	14/098,007	12/5/2013	9,185,774	11/10/2015	System And Method For Detecting A Property Of A Strobe Cover
	2571 US	14/157,847	1/17/2014	9,552,720	1/24/2017	Testing System And Method For Fire Alarm System
	2572 US	14/173,485	2/5/2014	9,361,785	6/7/2016	System And Method For Testing Battery Backup Capacities In Alarm Systems
	2573 US	14/259,176	4/23/2014	9,659,485	5/23/2017	Self-Testing Smoke Detector With Integrated Smoke Source
	2574 US	14/268,862	5/2/2014	9,053,619	6/9/2015	Led Strobes With Fixed Pulse Width
	2575 US	14/315,721	6/26/2014	9,345,082	5/17/2016	Current Regulated Led Strobe Drive Circuit
	2576 US	14/319,839	6/30/2014	9,673,596	6/6/2017	Back box with mounting posts projecting from recessed portions in sidewalls
	2577 US	14/324,816	7/7/2014	9,355,535	5/31/2016	Dual Mode Led Strobe
	2578 US	14/341,549	7/25/2014	9,466,186	10/11/2016	Conditionally Variable Strobe Notification Appliance
	2579 US	14/455,024	8/8/2014	9,767,679	9/19/2017	Method And Apparatus For Testing Fire Alarm Initiating Devices
	2580 US	14/514,071	10/14/2014	10,002,509	6/19/2018	Optic For A Strobe Notification Appliance
	2581 US	14/514,097	10/14/2014	9,875,630	1/23/2018	Notification Appliance

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	2582 US	14/514,083	10/14/2014	9,959,725	5/1/2018	Strobe Notification Appliance
	2583 US	14/514,120	10/14/2014	10,121,343	11/6/2018	Adapter Bracket For Notification Appliance
	2584 US	14/514,113	10/14/2014	9,704,364	7/11/2017	Notification Appliance
	2585 US	15/037,085	11/17/2014	10,163,310	12/25/2018	Alarm Panel
	2586 US	29/512,235	12/17/2014	D769,757	10/25/2016	Notification Appliance
	2587 US	14/670,921	3/27/2015	9,672,704	6/6/2017	Emergency System Textual Notification Device With Alert Mechanism
	2588 US	14/728,373	6/2/2015	9,830,794	11/28/2017	Fire Sensor Having A Sensor Guard For Heat And Smoke Detection Applications
	2589 US	14/814,805	7/31/2015	10,339,793	7/2/2019	System And Method For Smoke Detector Performance Analysis
	2590 US	14/831,977	8/21/2015	9,673,615	6/6/2017	Isolator Circuit
	2591 US	14/860,286	9/21/2015	9,824,574	11/21/2017	Contextual Fire Detection And Alarm Verification Method And System
	2592 US	14/863,674	9/24/2015	10,297,129	5/21/2019	Fire/Security Service System With Augmented Reality
	2593 US	14/943,751	11/17/2015	10,077,575	9/18/2018	Door Lock Extender And Method Of Use
	2594 US	14/988,949	1/6/2016	11,176,808	11/16/2021	Interface Actuator Device And Method Of Use
	2595 US	15/004,420	1/22/2016	9,922,509	3/20/2018	Strobe Notification Appliance With Directional Information
	2596 US	17/499,390	1/22/2016	9,922,509	3/20/2018	Strobe Notification Appliance With Directional Information
	2597 US	15/058,623	3/2/2016	10,069,293	9/4/2018	Isolator Circuit
	2598 US	15/088,618	4/1/2016	9,959,748	5/1/2018	Fire Detection System With Self-Testing Fire Sensors
	2599 US	15/088,533	4/1/2016	10,074,265	9/11/2018	Mesh Network Testing System And Method For Fire Alarm System
	2600 US	15/095,614	4/11/2016	10,008,105	6/26/2018	System And Method For Charging Supplemental Power Units For Alarm Notification Devices
	2601 US	15/342,427	11/3/2016	9,978,256	5/22/2018	Method And System For Monitoring Fire Alarm Systems
	2602 US	15/378,363	12/14/2016	9,990,841	6/5/2018	Testing System And Method For Fire Alarm System
	2603 US	29/590,034	1/6/2017	D805,940	12/26/2017	Sounder for alarm unit
	2604 US	15/446,256	3/1/2017			Building Asset Management System
	2605 US	15/600,509	5/19/2017	10,216,164	2/26/2019	Fire Alarm Inspection Application And User Interface
	2606 US	15/619,780	6/12/2017	10,390,160	8/20/2019	System And Method For Testing Emergency Address Systems Using Voice Recognition
	2607 US	15/633,111	6/26/2017	10,607,477	3/31/2020	Hardware Fire Alarm Panel Walktest Decoder
	2608 US	17/495,324	6/26/2017	10,607,477	3/31/2020	Hardware Fire Alarm Panel Walktest Decoder
	2609 US	15/696,641	9/6/2017	10,663,501	5/26/2020	Software Defined Battery Charger System And Method
	2610 US	15/707,135	9/18/2017			Method And Apparatus For Cloud Based Predictive Service Scheduling And Evaluation
	2611 US	15/707,142	9/18/2017	10,735,418	8/4/2020	Method And System For Service Verification Using Access Control System
	2612 US	15/707,148	9/18/2017	10,681,667	6/9/2020	Method And System For Service Verification Using Wifi Signal Strength Mapping
	2613 US	15/707,167	9/18/2017	11,687,048	6/27/2023	Method And Apparatus For Evaluation Of Temperature Sensors

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
2614 US	17/455,616	9/18/2017	10,735,418	8/4/2020	Method And System For Service Verification Using Access Control System
2615 US	17/489,225	9/18/2017	10,681,667	6/9/2020	Method And System For Service Verification Using Wifi Signal Strength Mapping
2616 US	17/489,456	9/18/2017	11,687,048	6/27/2023	Method And Apparatus For Evaluation Of Temperature Sensors
2617 US	15/805,223	11/7/2017	10,388,146	8/20/2019	Contextual Fire Detection And Alarm Verification Method And System
2618 US	15/810,428	11/13/2017	10,147,313	12/4/2018	Detector System
2619 US	15/810,449	11/13/2017	10,713,938	7/14/2020	Detector System
2620 US	15/810,460	11/13/2017	10,614,705	4/7/2020	Detector System
2621 US	29/626,311	11/16/2017	D827,472	9/4/2018	Visual Indicator For Alarm Unit
2622 US	29/626,314	11/16/2017	D830,213	10/9/2018	Visual Alarm For Alarm Unit
2623 US	15/838,898	12/12/2017	11,018,573	5/25/2021	Power Supply Ripple Detector
2624 US	15/953,627	4/16/2018	10,565,859	2/18/2020	Indoor Positioning System For Fire Alarm System
2625 US	15/957,543	4/19/2018	10,970,994	4/6/2021	Method And System For Monitoring Fire Alarm Systems
					System and Method for Charging Supplemental Power Units for Alarm Notification Devices
2626 US	15/990,125	5/25/2018	10,769,937	9/8/2020	Smoke Sensor With Test Switch And Method Of Operation Thereof
2627 US	16/004,766	6/11/2018	11,776,386	10/3/2023	Smoke Sensor With Test Switch And Method Of Operation Thereof
2628 US	16/123,724	9/6/2018	10,580,277	3/3/2020	Chamberless Smoke Detector
2629 US	18209988.7	9/6/2018	10,580,277	3/3/2020	Chamberless Smoke Detector
2630 US	16/248,398	1/15/2019	10,831,167	11/10/2020	Fire Alarm Inspection Application And User Interface
2631 US	16/270,432	2/7/2019	10,970,578	4/6/2021	System And Method For Extracting Information From A Non-Planar Surface
2632 US	16/968,931	2/14/2019	11,170,619	11/9/2021	Gunshot Detection System with Forensic Data Retention, Live Audio Monitoring, and Two-Way Communication
2633 US	16/968,932	2/14/2019	11,620,887	4/4/2023	Gunshot Detection System with Master Slave Timing Architecture
2634 US	16/968,933	2/14/2019			Gunshot Detection System with Encrypted, Wireless Transmission
2635 US	16/968,934	2/14/2019	11,545,012	1/3/2023	Gunshot Detection System with Building Management System Integration
2636 US	16/968,936	2/14/2019	11,361,636	6/14/2022	Gunshot Detection System Anti-Tampering Protection
2637 US	16/968,937	2/14/2019	11,361,637	6/14/2022	Gunshot Detection System with Ambient Noise Modeling and Monitoring
2638 US	16/968,940	2/14/2019	11,468,751	10/11/2022	Gunshot Detection System with Fire Alarm System Integration
2639 US	16/968,944	2/14/2019	11,361,638	6/14/2022	Gunshot Detection Sensors Incorporated into Building Management Devices
2640 US	16/968,945	2/14/2019	11,361,639	6/14/2022	Gunshot Detection System with Location Tracking
2641 US	17719145.9	2/14/2019	11,170,619	11/9/2021	Gunshot Detection System with Forensic Data Retention, Live Audio Monitoring, and Two-Way Communication
2642 US	16/379,374	4/9/2019	11,520,946	12/6/2022	Cloud-Based Fire Protection System and Method

	Country	Application Number	Filing Date	Patent Number	Issue Date	Title
2643	US	16/390,914	4/22/2019	11,606,403	3/14/2023	Systems And Methods For Echo Management In Conferencing Over A Network Using Mixed Multicast
2644	US	16/390,927	4/22/2019	11,201,968	12/14/2021	Systems And Methods For Echo Management In Conferencing Over A Network Using Multiplexed Multicast
2645	US	16/390,952	4/22/2019	10,958,791	3/23/2021	Systems and Methods for Echo Management in Conferencing Over a Network Using Multiplexed Mixed Multicast
2646	US	18195994.1	4/22/2019	11,606,403	3/14/2023	Systems And Methods For Echo Management In Conferencing Over A Network Using Mixed Multicast
2647	US	16/413,274	5/15/2019	11,108,223	8/31/2021	Abnormal Impedance Fault Isolation
2648	US	16/413,307	5/15/2019	11,132,890	9/28/2021	Fault Isolation Locality
2649	US	16/420,428	5/23/2019	10,937,285	3/2/2021	Systems And Methods Of Alarm Controls And Directed Audio Evacuation
2650	US	16/421,693	5/24/2019	10,644,464	5/5/2020	Apparatus And Method For Addressing A Device
2651	US	16/455,004	6/27/2019	11,064,338	7/13/2021	Heads Up Mass Notification
2652	US	16/598,025	10/10/2019	RE49,112	6/21/2022	Adapter Bracket For Notification Appliance
2653	US	16/600,209	10/11/2019	11,112,460	9/7/2021	Lithium Battery Passivation Detection
2654	US	16/600,069	10/11/2019	11,245,136	2/8/2022	Lithium Battery Activation and Long-Term Maintenance
2655	US	18195939.6	10/11/2019	11,112,460	9/7/2021	Lithium Battery Passivation Detection
2656	US	18196020.4	10/11/2019	11,245,136	2/8/2022	Lithium Battery Activation and Long-Term Maintenance
2657	US	16/698,334	11/27/2019	11,057,726	7/6/2021	Method And System For Configuring An Alarm System
2658	US	16/706,395	12/6/2019	11,176,806	11/16/2021	Erratic Short-Circuit Detection
2659	US	16/712,290	12/12/2019	11,176,788	11/16/2021	Emergency Notification System and Method
2660	US	16/733,821	1/3/2020	11,138,866	10/5/2021	Indoor Positioning System For Fire Alarm System
2661	US	16/850,080	4/16/2020	10,996,249	5/4/2021	Software Defined Battery Charger System And Method
2662	US	16/904,299	6/17/2020	11,080,984	8/3/2021	Systems and Methods for Controlling Combined Initiating Device and Notification Appliance Circuits
2663	US	16/904,290	6/17/2020	11,176,804	11/16/2021	Systems and Methods for Controlling Addressable Combined Initiating Device and Notification Appliance Circuits
2664	US	21168840.3	6/17/2020	11,080,984	8/3/2021	Systems and Methods for Controlling Combined Initiating Device and Notification Appliance Circuits
2665	US	17/066,202	10/8/2020	11,347,985	5/31/2022	Method and system of granting control access via QR code
2666	US	17/190,605	3/3/2021	11,696,107	7/4/2023	Heads Up Mass Notification
2667	US	13197007.1	3/3/2021	11,696,107	7/4/2023	Heads Up Mass Notification
2668	US	17/491,562	10/1/2021	11,710,391	7/25/2023	Gunshot Detection System with Forensic Data Retention, Live Audio Monitoring, and Two-Way Communication
2669	US	18/268,119	12/26/2021			A Control Panel for Fire Alarm Systems and a Method for Updating the Configuration Informationa Control Panel for Fire Alarm Systems and a Method for Updating the Configuration Information

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2670 US	17/709,017	3/30/2022			Systems and Methods for Processing Excess Event Messages Using a Mobile Application
2671 US	17/709,013	3/30/2022			System And Methods for Accurately Synchronizing an Event Monitoring Application and a Cloud-Based Event Monitoring Service
2672 US	17/971,493	10/21/2022			Fire Alarm Speaker Circuits For Dual-Purpose Spaces
2673 US	17/971,289	10/21/2022			Fire Panel Audio Interface
2674 US	21167827.1	10/21/2022			Fire Panel Audio Interface
2675 US	18/149,785	1/4/2023			Isolated Receiver Powered by Transmitter
2676 US	18/181,404	3/9/2023			System and Method for Providing Evacuation Guidance
2677 US	63/494,985	4/7/2023			FIRE DETECTION SYSTEM DATA DEVICE
2678 US	19707130.1	4/7/2023			FIRE DETECTION SYSTEM DATA DEVICE
					System and Method for Providing Emergency Alerts Using Multi-Color Light Emitting Diode Notification Appliances
2679 US	18/303,405	4/19/2023			Fire Panel End of Line Supervision Monitoring
2680 US	18/319,275	5/17/2023			Heads Up Mass Notification
2681 US	18/322,923	5/24/2023			Generic Equation Interpreter
2682 US	63/510,753	6/28/2023			Generic Equation Interpreter
2683 US	17/370,943	6/28/2023			Generic Equation Interpreter
2684 US	18/347,427	7/5/2023			IDNAC Device VNAC Fast Activation
2685 US	63/525,854	7/10/2023			Locating Loop Break Position on Unconfigured Panel
2686 US	18/361591	7/28/2023			Heads Up Mass Notification (standalone device)
2687 US	18/454,536	8/23/2023			Fire Alarm Voice Generator
2688 US	17/490,752	8/23/2023			Fire Alarm Voice Generator
2689 US	18/462,192	9/6/2023			Dual-Lens Smoke Detection System
2690 US	18/462,206	9/6/2023			Multi-Beam Smoke Detector
2691 US	21167839.6	9/6/2023			Multi-Beam Smoke Detector
2692 US	63/581,520	9/8/2023			Methods and Apparatuses for Generating Network Topography
2693 US	63/544068	10/13/2023			Fire Alarm Panel with Integrated Circuit Tester (FACP-ICT)
2694 US	17/484,712	10/13/2023			Fire Alarm Panel with Integrated Circuit Tester (FACP-ICT)
2695 US	18/400,462	12/29/2023			CONTROL PANEL MANAGED TESTING OF ALARM INITIATING DEVICES
2696 US	17/368,530	12/29/2023			CONTROL PANEL MANAGED TESTING OF ALARM INITIATING DEVICES
2697 WO	PCT/US2023/071413	8/1/2023			Non-Disruptive Control Unit Battery Test
2698 US	17/388,514	7/29/2021			SYSTEMS AND METHODS FOR CONFIGURING A FIRE ALARM CONTROL PANEL
2699 US	17/464,557	9/1/2021			User-Interactive Tools And Methods For Configuring Building Equipment Systems
2700 US	17/751,221	9/1/2021			User-Interactive Tools And Methods For Configuring Building Equipment Systems
2701 US	17/477,297	9/16/2021	11835930	12/5/2023	Systems And Methods For Modeling And Controlling Building Equipment

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2702 US	17/714,640	9/16/2021	11835930	12/5/2023	Systems And Methods For Modeling And Controlling Building Equipment
2703 US	17/882,283	8/5/2022			INDOOR AIR QUALITY (IAQ) ANALYSIS SYSTEM
2704 US	18120162	3/28/2023			SYSTEMS AND METHODS FOR GENERATING AND USING ASSISTIVE DIGITAL MODELS OF BUILDINGS AND BUILDING EQUIPMENT
2705 AU	2021270571	5/12/2021			DAMPING SYSTEM FOR COMPRESSOR
2706 AU	2021305068	7/6/2021			CLOUD-BASED HVAC&R CONTROL SYSTEMS AND METHODS
2707 CA	3183173	5/12/2021			DAMPING SYSTEM FOR COMPRESSOR
2708 CA	3188834	7/6/2021			Cloud-Based HVAC&R Control Systems And Methods
2709 CN	202180058398.2	7/6/2021			Cloud-Based HVAC&R Control Systems And Methods
2710 CN	202080058543.2	7/20/2021			Lubricant System For A Compressor
2711 DE	17718791.1	4/13/2017	602017066805.2	3/15/2023	Condenser Evaporator System for Refrigeration Systems
2712 DK	10737203.9	7/21/2010	2577205	1/4/2023	Cooling System Comprising Thermosyphon Cooler and Cooling Tower and Method for Operating Such Cooling System
2713 DK	13785794.2	10/23/2013	2914851	8/29/2018	Semi-Hermetic Compressor Motor For Ammonia Service
2714 EP	21837662.2	7/6/2021			Cloud-Based HVAC&R Control Systems And Methods
2715 IN	202217040432	12/16/2020			LUBRICANT SYSTEM FOR A COMPRESSOR
2716 JP	2022-568812	5/12/2021			Damping System For Compressor
2717 KR	10-2023-7004277	7/6/2021			Cloud-based HVAC&R control system and method
2718 US	11/047,552	1/31/2005	7,578,659	8/25/2009	Compressor Discharge Muffler
2719 US	11/460,754	7/28/2006	7,686,859	3/30/2010	Coalescing Filter Element With Drainage Mechanism
2720 US	12/646,765	12/23/2009	8,287,248	10/16/2012	Compressor
2721 US	12/708,669	2/19/2010	8,512,429	8/20/2013	Coalescing Filter Element With Drainage Mechanism
2722 US	12/752,959	4/1/2010	8,641,395	2/4/2014	Compressor
2723 US	13/117,216	5/27/2011	10,451,351	10/22/2019	Thermosyphon Coolers For Cooling Systems With Cooling Towers
2724 US	13/709,274	12/10/2012	9,484,732	11/1/2016	Method And Apparatus For Sealing Motor Terminals
2725 US	14/055,429	10/16/2013	9,482,230	11/1/2016	Screw Compressor
2726 US	14/437,676	10/23/2013	9,976,562	5/22/2018	Semi-Hermetic Compressor Motor For Ammonia Service
2727 US	14/820,634	8/7/2015	9,856,876	1/2/2018	Rotary Screw Compressors Utilizing Viscous Damping For Vibration Reduction
2728 US	15/231,527	8/8/2016	10,295,262	5/24/2019	Thermosyphon Coolers for Cooling Systems with Cooling Towers
2729 US	15/231,532	8/8/2016	10,302,363	5/28/2019	Thermosyphon Coolers for Cooling Systems with Cooling Towers
2730 US	15/231,545	8/8/2016	9,939,201	4/10/2018	Thermosyphon Coolers for Cooling Systems with Cooling Towers
2731 US	15/289,869	10/10/2016	9,828,998	11/28/2017	Screw Compressor
2732 US	15/339,592	10/31/2016	9,991,692	6/5/2018	Method And Apparatus For Sealing Motor Terminals
2733 US	15/486,706	4/13/2017	10,739,041	8/11/2020	Selectively controllable condenser and evaporator system
2734 US	15/486,847	4/13/2017	10,767,907	9/8/2020	Condenser Evaporator System with a Subcooler for Refrigeration Systems
2735 US	15/646,988	7/11/2017	10,024,582	7/17/2018	Condenser and Evaporator System for Refrigeration Systems

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2736 US	16/328,489	8/29/2017	11,280,511	3/22/2022	Systems and Methods for Evaporative Heat Rejection Equipment Fan Speed Control
2737 US	16/143,275	9/26/2018	11,047,387	6/29/2021	Rotor For A Compressor
2738 US	17/787,004	12/16/2020			Lubricant System For A Compressor
2739 US	17/924,629	5/12/2021			DAMPING SYSTEM FOR COMPRESSOR
2740 US	18/014,714	7/6/2021			CLOUD-BASED HVAC&R CONTROL SYSTEMS AND METHODS
2741 US	63/467,234	5/17/2023			HYDROGEN GAS FILLING STATION SYSTEM AND METHOD
2742 US	63/529,610	7/28/2023			CASCADE REFRIGERATION SYSTEM
2743 WO	PCT/US2021/032031	5/12/2021			Damping System For Compressor
2744 WO	PCT/US2021/040534	7/6/2021			Cloud-Based HVAC&R Control Systems And Methods
2745 US	14/771,341	3/4/2014	11,118,799	9/14/2021	Outside Air Handling Unit
2746 US	16/562199	9/5/2019			Systems and Methods for Managing a Retail Environment
2747 AR	P090101151	3/31/2009	071133	6/22/2015	TOOL CONFIGURACION/ACTUALIZACION OF PORTABLE ALARM
2748 AU	2005278910	6/24/2005	2005278910	8/20/2009	Smoke Detector Calibration
2749 AU	2006341200	12/21/2006	2006341200	6/2/2011	Methods and apparatus to facilitate component installation
2750 AU	2007332837	12/6/2007	2007332837	2/4/2011	Video Surveillance System Having Communication Acknowledgement Nod
2751 AU	2014331487	10/1/2014	2014331487	10/10/2019	Method And Apparatus For Determining Maintenance Needs And Validating The Installation Of An Alarm System
2752 AU	2019236723	10/1/2014	2019236723	9/9/2021	Method And Apparatus For Determining Maintenance Needs And Validating The Installation Of An Alarm System
2753 BE	04/29799.9	4/28/2004	1668613	8/27/2008	Smoke Detector With Performance Reporting
2754 BR	D16700022-3	1/10/2007	D16700022-3	6/19/2007	Controls - Mountable Control Panel
2755 CA	2,427,320	4/30/2003	2427320	7/21/2009	Smoke Detector With Performance Reporting
2756 CA	2,459,971	3/8/2004	2459971	10/13/2015	SYSTEM AND METHOD FOR COMMUNICATING DATA IN A VIDEO SYSTEM
2757 CA	2,465,045	4/22/2004	2465045	5/22/2018	Video User Interface System And Method
2758 CA	2,571,833	6/24/2005	2571833	8/13/2013	Smoke Detector Calibration
2759 CA	2,621,294	8/25/2006	2621294	2/17/2015	FSK DATA COMMUNICATIONS USING VOICE MODEM
2760 CA	17/393,182	8/25/2006	2621294	2/17/2015	FSK DATA COMMUNICATIONS USING VOICE MODEM
2761 CA	2,660,849	7/4/2007	2660849	12/10/2013	INFRARED SENSOR SECURITY SYSTEM
2762 CA	2,658,002	7/4/2007	2658002	5/27/2014	DOOR POSITION DETERMINATION USING AN INFRARED REFLECTIVITY SENSOR
2763 CA	2,658,347	7/4/2007	2658347	9/1/2015	INTRUDER DETECTION USING VIDEO AND INFRARED DATA
2764 CA	18822217.8	7/4/2007	2658002	5/27/2014	DOOR POSITION DETERMINATION USING AN INFRARED REFLECTIVITY SENSOR
2765 CA	2,659,417	8/30/2007	2659417	10/11/2016	Method And Apparatus For Automated Activation Of A Security System
2766 CA	2,611,462	11/22/2007	2611462	10/22/2013	ALARM SYSTEM AUDIO INTERFACE TAMPER AND STATE DETECTION

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2767	CA	2,671,807	12/6/2007	2671807	3/14/2017	Method And Apparatus For Video Surveillance System Field Alignment
2768	CA	2,671,803	12/6/2007	2671803	6/17/2014	Method And System For Low Speed Control Of A Video Surveillance System Motor
2769	CA	2,672,182	12/6/2007	2672182	2/9/2016	Method And System For Video Surveillance System Motor Overcurrent Protection
2770	CA	2,681,543	3/4/2008	2681543	1/14/2014	Alarm System Providing Multiple Network Routing, Interface Module And Method
2771	CA	2,716,528	3/16/2009	2716528	9/4/2018	Rapid Localized Language Development For Video Matrix Switching System
2772	CA	2,729,689	6/23/2009	2729689	9/22/2015	Security System And Method For Using An Lf Activated Rfid Tag
2773	CA	2,730,188	7/8/2009	2730188	5/16/2017	Alarm System Providing Wireless Voice Communication
2774	CA	2,730,553	7/10/2009	2730553	10/18/2016	Alarm System Configuration Validation
2775	CA	2,750,066	1/22/2010	2750066	5/26/2020	Facsimile Aware Alarm Monitoring Station And Method
2776	CA	2,750,063	1/22/2010	2750063	1/15/2019	Alarm Monitoring Telecommunications Line Condition Detection And Automatic Calibration
2777	CA	2,751,064	2/25/2010	2751064	9/22/2015	System And Method For Analyzing Faulty Event Transmissions
2778	CA	2,753,934	3/12/2010	2753934	2/28/2017	System And Method For Buffered Wireless Device Enrollment In A Security System
2779	CA	2,754,078	3/31/2010	2754078	12/20/2016	Tunable Inverted F Antenna
2780	CA	2,754,076	3/31/2010	2754076	9/13/2016	Quad-Band Pcb Antenna
2781	CA	2,812,808	8/25/2011	2812808	8/13/2019	Alarm System Providing Tamper Deterrent Signalling And Method
2782	CA	2,775,261	4/24/2012	2775261	10/11/2016	Alarm System Call-Back Number Provision And Retrieval
2783	CA	2,925,433	10/1/2014	2925433	4/4/2023	Method And Apparatus For Determining Maintenance Needs And Validating The Installation Of An Alarm System
2784	CA	3190052	10/1/2014			Method And Apparatus For Determining Maintenance Needs And Validating The Installation Of An Alarm System
2785	CA	202080036021.2	10/1/2014			Method And Apparatus For Determining Maintenance Needs And Validating The Installation Of An Alarm System
2786	CA	2,891,742	5/15/2015	2891742	11/28/2023	System And Method For Processing Control Commands In A Voice Interactive System
2787	CA	2,892,113	5/20/2015	2892113	11/8/2022	Dual Access Level Security System And Method
2788	CA	2,957,739	8/12/2015	2957739	10/17/2023	Method And Apparatus For Automation And Alarm Architecture
2789	CA	2,904,249	9/4/2015	2,904,249	6/28/2022	System And Method For Cellular Connection Selection
2790	CA	21703099.8	9/4/2015	2,904,249	6/28/2022	System And Method For Cellular Connection Selection
2791	CA	2,962,522	9/24/2015	2962522	8/29/2023	Auto Enrollment For Configuring Access Control Systems
2792	CA	224162	9/13/2023			Keypad
2793	CL	200900720	3/24/2009	53181	10/24/2016	Method And Apparatus For Proximity Activated Rfid System
2794	CL	200900789	3/31/2009	54219	5/31/2017	Portable Alarm Configuration/Update Tool

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2795 CL	201101788	1/22/2010	52407	4/14/2016	Alarm Monitoring Telecommunications Line Condition Detection And Automatic Calibration
2796 CL	201101893	2/25/2010	52526	5/18/2016	System And Method For Analyzing Faulty Event Transmissions
2797 CL	2016-00604	10/1/2014	60199	7/30/2020	Method And Apparatus For Determining Maintenance Needs And Validating The Installation Of An Alarm System
2798 CN	200510051996	2/23/2005	1662061	12/7/2011	Motion Targeting System And Method
2799 CN	201310248045.6	6/21/2013	103516382	4/5/2019	Use the security system and method for wireless adapter and PoE camera
2800 CO	08116444	12/21/2006	2296	10/29/2012	Method And Apparatus To Facilitate Component Installation
2801 DE	07763845.0	7/4/2007	602007017009.5	9/7/2011	INFRARED SENSOR SECURITY SYSTEM
2802 DE	07800573.3	8/30/2007	60 2007 057 383.1	1/9/2019	Method And Apparatus For Automated Activation Of A Security System
2803 DE	08714737.7	3/4/2008	60 2008 056 589.0	8/22/2018	Alarm System Providing Multiple Network Routing, Interface Module And Method
2804 DE	10733178.7	1/22/2010	602010038032.7	11/16/2016	Facsimile Aware Alarm Monitoring Station And Method
2805 DE	10745783.0	2/25/2010	60 2010 060 996.0	9/11/2019	System And Method For Analyzing Faulty Event Transmissions
2806 DE	10757973.2	3/31/2010	60 2010 066 691.3	3/31/2021	Tunable Inverted F Antenna
2807 DE	20100757972	3/31/2010	EP2415115	9/6/2017	Quad-Band Pcb Antenna
2808 DE	13873075.9	12/10/2013	DE 602013065575.8	2/5/2020	AC Induction Noise Canceler
2809 DE	14851173.6	10/1/2014	3053153	12/4/2019	Method And Apparatus For Determining Maintenance Needs And Validating The Installation Of An Alarm System
2810 DE	15782426.9	4/27/2015	602015054428.5	6/17/2020	Identifying Persons Of Interest Using Mobile Device Information
2811 DE	17185903.6	8/11/2017	60 2017 034 193.2	3/10/2021	Notification System For Virtual Reality Devices
2812 DE	19175075.1	5/17/2019	602019009087.0	11/10/2021	BUILDING MANAGEMENT SYSTEM CONTROL USING OCCUPANCY DATA
2813 EM	000647953-0001	1/3/2007	000647953-0001	1/3/2007	Controls - Mountable Control Panel
2814 EM	006730826-0001	8/16/2019	006730826-0001	8/16/2019	Wall mounts
2815 EM	008162374-0001	9/7/2020	008162374-0001	9/7/2020	Mount
2816 EP	12817910.8	7/12/2012	2737463	9/28/2022	Audio Buffering In Two-Way Voice Alarm Systems
2817 EP	15831829.5	8/12/2015			Method And Apparatus For Automation And Alarm Architecture
2818 EP	16798928.4	11/10/2016			Access And Automation Control Systems With Mobile Computing Device
2819 EP	18764230.1	3/6/2018	3593332	12/6/2023	Safety Cooking Device And Method
2820 EP	19215497.9	9/21/2018	3460691	11/1/2023	Methods And Apparatus For Management Of Intrusion Detection Systems Using Verified Identity
2821 EP	19166391.3	3/29/2019			Alarm System For Facilitating Partial Alarm System Disabling During Temporary Premises Access
2822 EP	19728831.9	5/20/2019			Facial Recognition Frictionless Access Control

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2823 EP	20152562.3	1/17/2020			Sensor System Having Transparent Window Contaminant Removal Using Vibration
2824 EP	24150117.0	1/17/2020			Sensor System Having Transparent Window Contaminant Removal Using Vibration
2825 EP	22715956.3	3/23/2022			SYSTEM AND METHOD OF ENFORCING DYNAMIC THRESHOLDS OF SOCIAL DISTANCING RULES
2826 EP	22165182.1	3/29/2022			Security / Automation System With Router Functionality
2827 ES	10757972.4	3/31/2010	EP2415115	9/6/2017	Quad-Band Pcb Antenna
2828 ES	201790010	10/2/2015	2646632	5/3/2019	Method and apparatus for balancing resources in an automation and alarm architecture
2829 FR	05801227.9	6/24/2005	1769473	10/3/2012	Smoke Detector Calibration
2830 FR	06790574.5	8/25/2006	1927223	11/26/2014	Fsk Data Communications Using Voice Modem
2831 FR	17767496.7	1/26/2015	EP3100245	6/7/2023	Selection And Display Of Adaptive Rate Streams In Video Security System
2832 GB	10733177.9	1/22/2010	2389668	3/30/2016	Alarm Monitoring Telecommunications Line Condition Detection And Automatic Calibration
2833 GB	1202508.6	7/29/2010	2485316	6/17/2015	System And Method For Minimizing The Amount Of Data Being Sent On A Network For Supervised Security Systems
2834 GB	1202509.4	8/11/2010	2485105	10/21/2015	Load Balancing For Packet Switched Alarm Monitoring
2835 GB	1202518.5	8/13/2010	2484867	3/2/2016	System And Method For Multipoint Automation
2836 GB	1704954.5	10/2/2015	2550476	7/14/2021	Method And Apparatus For Resource Balancing In An Automation And Alarm Architecture
2837 GB	19797384.5	9/21/2018	3460691	11/1/2023	Methods And Apparatus For Management Of Intrusion Detection Systems Using Verified Identity
2838 GB	13/916,462	4/16/2021	3896938	11/29/2023	Systems And Methods For Access Control Using Multi-Factor Validation
2839 IN	202321051518	8/1/2023			BUILDING SECURITY SYSTEM WITH ARTIFICIAL INTELLIGENCE VIDEO ANALYSIS AND NATURAL LANGUAGE VIDEO SEARCHING
2840 IN	202321060416	9/8/2023			BUILDING SECURITY SYSTEMS AND METHODS UTILIZING GENERATIVE ARTIFICIAL INTELLIGENCE
2841 MX	PA/A/2006/015047	6/24/2005	266316	4/27/2009	Smoke Detector Calibration
2842 MX	MX/a/2008/003144	9/15/2006	283011	1/18/2011	Communications - Telephone Line Communication Interface
2843 MX	MX/a/2008/012809	12/21/2006	277366	7/19/2010	METHODS AND APPARATUS TO FACILITATE COMPONENT INSTALLATION. METHOD AND APPARATUS FOR AUTOMATICALLY DISARMING A SECURITY SYSTEM.
2844 MX	MX/a/2009/002701	8/29/2007	283266	1/24/2011	ALARM SYSTEM CONFIGURATION VALIDATION.
2845 MX	MX/a/2011/000461	7/10/2009	301603	7/24/2012	FACSIMILE AWARE ALARM MONITORING STATION AND METHOD.
2846 MX	MX/a/2011/007724	1/22/2010	318645	3/21/2014	

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2847 MX	MX/a/2011/007828	1/22/2010	317199	1/16/2014	ALARM MONITORING TELECOMMUNICATIONS LINE CONDITION DETECTION AND AUTOMATIC CALIBRATION.
2848 MX	MX/a/2011/008670	2/24/2010	321228	6/20/2014	Security System With Keyfob Alert Notification
2849 MX	MX/a/2011/008750	2/25/2010	304369	10/18/2012	SYSTEM AND METHOD FOR ANALYZING FAULTY EVENT TRANSMISSIONS.
2850 MX	MX/a/2011/009139	3/12/2010	311869	7/31/2013	SYSTEM AND METHOD FOR BUFFERED WIRELESS DEVICE ENROLLMENT IN A SECURITY SYSTEM.
2851 MX	MX/a/2016/002634	10/1/2014	354626	3/14/2018	METHOD AND APPARATUS FOR DETERMINING MAINTENANCE NEEDS AND VALIDATING THE INSTALLATION OF AN ALARM SYSTEM.
2852 MX	MX/a/2017/004286	10/2/2015	381752	4/20/2021	METHOD AND APPARATUS FOR RESOURCE BALANCING IN AN AUTOMATION AND ALARM ARCHITECTURE.
2853 NO	20070018	1/10/2007	080460	5/22/2007	Controls - Mountable Control Panel
2854 NO	18750068.1	1/10/2007	080460	5/22/2007	Controls - Mountable Control Panel
					Electrical panel with base configured to attach to a wall and cover supportable by base in an open maintenance position to allow for both hands to carry out connections
2855 NZ	571787	12/21/2006	571787	10/10/2011	Method And Apparatus For Proximity Activated Rfid System
2856 PE	407-2009/DIN	3/18/2009	7082	3/17/2014	Method And Apparatus For Proximity Activated Rfid System
2857 PE	470-2009/DIN	3/30/2009	7079	3/17/2014	Portable Alarm Configuration/Update Tool
2858 TR	2008/08931	4/28/2004	2008-G-244492	8/27/2008	Smoke Detector With Performance Reporting
2859 US	10/341,986	1/14/2003	7,212,675	5/1/2007	Method Of Finding Orphan Blocks In Block Based Image Compression Schemes
2860 US	10/395,867	3/24/2003	7,110,239	9/19/2006	Polarity Correction Circuit And System Incorporating The Same
2861 US	10/395,296	3/24/2003	7,573,500	8/11/2009	System and method for communicating data in a video system
2862 US	10/600,369	6/23/2003	6,960,995	11/1/2005	Integrated Lightning Detector
2863 US	10/603,779	6/26/2003	6,838,988	1/4/2005	Smoke Detector With Performance Reporting
2864 US	10/637,388	8/8/2003	7,154,425	12/26/2006	Supervised input converter
2865 US	10/659,454	9/10/2003	7,221,775	5/22/2007	Method and apparatus for computerized image background analysis
2866 US	10/660,955	9/11/2003	7,286,157	10/23/2007	Computerized Method And Apparatus For Determining Field-Of-View Relationships Among Multiple Image Sensors
2867 US	10/683,483	10/10/2003	7,346,187	3/18/2008	Method Of Counting Objects In A Monitored Environment And Apparatus For The Same
2868 US	10/683,562	10/10/2003	7,280,673	10/9/2007	System And Method For Searching For Changes In Surveillance Video
2869 US	10/706,850	11/12/2003	8,547,437	10/1/2013	Method And System For Tracking And Behavioral Monitoring Of Multiple Objects Moving Through Multiple Fields-Of-View
					Multimodal High-Dimensional Data Fusion For Classification And Identification
2870 US	11/129,090	5/13/2005	7,242,810	7/10/2007	Smoke Detector Calibration
2871 US	11/166,985	6/24/2005	7,224,284	5/29/2007	Wireless Video Surveillance Jamming And Interface Prevention
2872 US	11/202,678	8/12/2005	7,603,087	10/13/2009	Wireless Video Surveillance Jamming And Interface Prevention
2873 US	11/221,965	9/8/2005	7,715,550	5/11/2010	Telephone line interface, side-tone attenuation circuit and method

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2874 US	11/229,091	9/16/2005	7,136,524	11/14/2006	Robust Perceptual Color Identification
2875 US	11/230,932	9/19/2005	7,467,116	12/16/2008	Incremental data fusion and decision making system and associated method
2876 US	11/230,840	9/20/2005	7,583,726	9/1/2009	Frequency shift keying (FSK) data communications using voice modem
2877 US	17/487,985	9/20/2005	7,583,726	9/1/2009	Frequency shift keying (FSK) data communications using voice modem
2878 US	11/321,262	12/29/2005	7,835,516	11/16/2010	Direct Access Arrangement Device
2879 US	11/388,759	3/24/2006	8,174,572	5/8/2012	Intelligent camera selection and object tracking
2880 US	11/278,451	4/3/2006	7,393,231	7/1/2008	Methods And Apparatus To Facilitate Component Installation
2881 US	11/443,500	5/30/2006	9,036,028	5/19/2015	Object tracking and alerts
2882 US	11/446,523	6/2/2006	7,671,728	3/2/2010	Systems and methods for distributed monitoring of remote sites
2883 US	11/446,570	6/2/2006	7,825,792	11/2/2010	Systems and methods for distributed monitoring of remote sites
2884 US	11/498,924	8/3/2006	7,787,776	8/31/2010	Method And Apparatus For Using Infrared Sensors To Transfer Data Within A Security System
2885 US	11/498,930	8/3/2006	7,986,232	7/26/2011	Method And Apparatus For Using An Infrared Reflectivity Sensor In A Security System
2886 US	18752400.4	8/3/2006	7,986,232	7/26/2011	Method And Apparatus For Using An Infrared Reflectivity Sensor In A Security System
2887 US	11/505,007	8/15/2006	7,623,157	11/24/2009	Polarity correction circuit and system incorporating same
2888 US	11/504,865	8/16/2006	7,791,477	9/7/2010	Method And Apparatus For Analyzing Video Data Of A Security System Based On Infrared Data
2889 US	11/519,351	9/12/2006	7,696,873	4/13/2010	Method And Apparatus For Automatically Disarming A Security System
2890 US	11/521,876	9/15/2006	10,354,516	7/16/2019	Method and apparatus for automated activation of a security system
2891 US	11/588,762	10/27/2006	7,609,165	10/27/2009	Method And Apparatus For Magnetically Activated Radio Or Infrared Identification System
2892 US	11/717,580	3/13/2007	7,460,685	12/2/2008	Method and apparatus for computerized image background analysis
2893 US	11/726,879	3/23/2007	7,777,783	8/17/2010	Multi-video navigation
2894 US	11/728,478	3/26/2007	8,036,344	10/11/2011	Alarm System Providing Multiple Network Routing, Interface Module And Method
2895 US	20714414.8	3/26/2007	8,036,344	10/11/2011	Alarm System Providing Multiple Network Routing, Interface Module And Method
2896 US	11/784,688	4/9/2007	7,474,226	1/6/2009	Smoke Detector Calibration
2897 US	11/947,943	11/30/2007	8,947,526	2/3/2015	Video surveillance system having communication acknowledgement nod
2898 US	11/950,711	12/5/2007	8,786,701	7/22/2014	Method and apparatus for video surveillance system field alignment
2899 US	11/950,809	12/5/2007	7,915,849	3/29/2011	Method and system for low speed control of a video surveillance system motor
2900 US	11/951,652	12/6/2007	8,854,468	10/7/2014	Method and system for video surveillance system motor overcurrent protection
2901 US	12/053,854	3/24/2008	7,859,406	12/28/2010	Alarm System Audio Interface Tamper And State Detection

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2902 US	12/141,574	6/18/2008	7,859,404	12/28/2010	Method And Apparatus For Proximity Activated RFID System
2903 US	12/166,884	7/2/2008	8,026,811	9/27/2011	Security System And Method For Using An LF Activated RFID Tag
2904 US	12/172,410	7/14/2008	8,207,845	6/26/2012	Alarm System Providing Wireless Voice Communication
2905 US	12/193,063	8/18/2008	7,956,740	6/7/2011	Alarm System Configuration Validation
2906 US	12/394,738	2/27/2009	8,077,027	12/13/2011	System And Method For Analyzing Faulty Event Transmissions
2907 US	12/380,807	3/4/2009	8,395,664	3/12/2013	Wireless Surveillance System And Method For 3-D Visualization And User-Controlled Analytics Of Captured Data
2908 US	12/403,453	3/13/2009	8,659,398	2/25/2014	System And Method For Buffered Wireless Device Enrollment In A Security System
2909 US	18783338.9	3/13/2009	8,659,398	2/25/2014	System And Method For Buffered Wireless Device Enrollment In A Security System
2910 US	18783340.5	3/13/2009	8,659,398	2/25/2014	System And Method For Buffered Wireless Device Enrollment In A Security System
2911 US	12/414,688	3/31/2009	8,606,995	12/10/2013	Portable Alarm Configuration/Update Tool
2912 US	110126107	3/31/2009	8,606,995	12/10/2013	Portable Alarm Configuration/Update Tool
2913 US	12/463,653	5/11/2009	8,314,681	11/20/2012	System And Method For Automatic Key Recognition
2914 US	17801572.3	5/11/2009	8,314,681	11/20/2012	System And Method For Automatic Key Recognition
2915 US	13/056,737	8/3/2009	9,793,732	10/17/2017	Battery Backed Power-Over-Ethernet System
2916 US	12/534,355	8/3/2009	8,525,664	9/3/2013	System And Method For Minimizing The Amount Of Data Being Sent On A Network For Supervised Security Systems
2917 US	12/541,414	8/14/2009	8,368,532	2/5/2013	Security System Annunciation Communication Delay
2918 US	12/541,604	8/14/2009	8,676,930	3/18/2014	System And Method For Multipoint Automation
2919 US	12/550,935	8/31/2009	7,925,219	4/12/2011	Wireless video surveillance jamming and interference prevention
2920 US	12/560,080	9/15/2009	8,396,446	3/12/2013	Two Way Voice Communication Through Gsm With Alarm Communication
2921 US	12/606,311	10/27/2009	8,373,553	2/12/2013	System And Method For Automatic Enrollment Of Two-Way Wireless Sensors In A Security System
2922 US	21172888.6	10/27/2009	8,373,553	2/12/2013	System And Method For Automatic Enrollment Of Two-Way Wireless Sensors In A Security System
2923 US	21172890.2	10/27/2009	8,373,553	2/12/2013	System And Method For Automatic Enrollment Of Two-Way Wireless Sensors In A Security System
2924 US	12/650,731	12/31/2009	8,217,780	7/10/2012	System And Method For Extension Of Entry Delay In A Security System
2925 US	12/690,220	1/20/2010	8,013,729	9/6/2011	Systems And Methods For Distributed Monitoring Of Remote Sites
2926 US	13/145,585	1/22/2010	10,198,934	2/5/2019	Facsimile Aware Alarm Monitoring Station And Method
2927 US	13/145,700	1/22/2010	8,723,671	5/13/2014	Alarm Monitoring Telecommunications Line Condition Detection And Automatic Calibration
2928 US	12/7724,202	3/15/2010	7,973,659	7/5/2011	Method And Apparatus For Automatically Disarming A Security System
2929 US	12/7724,171	3/15/2010	8,581,737	11/12/2013	Method And Apparatus For Automatically Disarming A Security System
2930 US	21705678.7	3/15/2010	8,581,737	11/12/2013	Method And Apparatus For Automatically Disarming A Security System

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2931 US	18921213.7	3/15/2010	8,581,737	11/12/2013	Method And Apparatus For Automatically Disarming A Security System
2932 US	12/748,605	3/29/2010	8,614,650	12/24/2013	Tunable Inverted F Antenna
2933 US	12/748,804	3/29/2010	9,166,294	10/20/2015	Quad-Band Pcb Antenna
2934 US	20199642.8	3/29/2010	8,614,650	12/24/2013	Tunable Inverted F Antenna
2935 US	20199572.7	3/29/2010	9,166,294	10/20/2015	Quad-Band Pcb Antenna
2936 US	12/738,503	4/16/2010	9,241,075	1/19/2016	Alarm System Call Handling
2937 US	12/767,132	4/26/2010	8,558,889	10/15/2013	Method And System For Security System Tampering Detection
2938 US	29/364,668	6/25/2010	D633,121	2/22/2011	Wireless Video Surveillance Camera
2939 US	12/854,351	8/11/2010	8,825,857	9/2/2014	Load Balancing For Packet Switched Alarm Monitoring
2940 US	17/468,175	8/11/2010	8,825,857	9/2/2014	Load Balancing For Packet Switched Alarm Monitoring
2941 US	12/874,599	9/2/2010	8,754,946	6/17/2014	Wireless Video Surveillance System And Method With Two-Way Locking Of Input Capture Devices
2942 US	12/909,502	10/21/2010	9,794,518	10/17/2017	Method And System For Converting Privacy Zone Planar Images To Their Corresponding Pan/Tilt Coordinates
2943 US	12/957,720	12/1/2010	8,456,299	6/4/2013	Automated Audio Messaging In Two-Way Voice Alarm Systems
2944 US	17/488,103	12/1/2010	8,456,299	6/4/2013	Automated Audio Messaging In Two-Way Voice Alarm Systems
2945 US	95/001,525	1/21/2011	7,777,783 C1	2/16/2016	Multi-Video Navigation
2946 US	13/049,527	3/16/2011	8,600,172	12/3/2013	Video based matching and tracking by analyzing one or more image abstractions
2947 US	13/089,503	4/19/2011	9,258,625	2/9/2016	Method And System For Load Balancing Between A Video Server And Client
2948 US	13/159,217	6/13/2011	8,970,349	3/3/2015	System To Provide A Security Technology And Management Portal
2949 US	13/173,032	6/30/2011	8,797,157	8/5/2014	System And Method For Monitoring Usage And Predicting Failure Of Visual Notification Appliances
2950 US	13/191,052	7/26/2011	8,723,665	5/13/2014	Audio Buffering In Two-Way Voice Alarm Systems
2951 US	17/681,458	7/26/2011	8,723,665	5/13/2014	Audio Buffering In Two-Way Voice Alarm Systems
2952 US	13/881,089	8/25/2011	9,111,431	8/18/2015	Alarm System Providing Tamper Deterrent Signalling And Method
2953 US	13/367,770	2/7/2012	11,470,285	10/11/2022	Method And System For Monitoring Portal To Detect Entry And Exit
2954 US	13/426,815	3/22/2012	8,502,868	8/6/2013	Intelligent Camera Selection And Object Tracking
2955 US	13/454,254	4/24/2012	8,744,399	6/3/2014	Alarm System Call-Back Number Provision And Retrieval
2956 US	13/463,417	5/3/2012	9,046,555	6/2/2015	Latching Over-Current Protection Circuit And Method
2957 US	13/463,591	5/3/2012	9,360,507	6/7/2016	Displacement Tamper Sensor And Method
2958 US	13/475,560	5/18/2012	8,933,803	1/13/2015	Alarm System Providing Wireless Voice Communication
2959 US	13/591,290	8/22/2012	9,329,457	5/3/2016	Method And System For Detecting And Clearing Camera Bubble Misting
2960 US	13/593,012	8/23/2012	9,123,225	9/1/2015	Robust Alarm System With Auxiliary Processing Sub-System
2961 US	13/622,182	9/18/2012	8,888,002	11/18/2014	Access Control Reader Enabling Remote Applications
2962 US	13/625,999	9/25/2012	9,110,107	8/18/2015	Battery Test Circuit With Energy Recovery
2963 US	13/630,986	9/28/2012	9,488,683	11/8/2016	Digital Circuit And Method For Measuring Ac Voltage Values

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2964 US	13/632,678	10/1/2012	8,891,217	11/18/2014	Input/Output Interface Circuit With Overpower Protection
2965 US	13/645,820	10/5/2012			Access Control Reader With Audio Spatial Filtering
2966 US	13/648,242	10/9/2012	9,134,354	9/15/2015	System And Method For Ground Fault Detection And Fault Type Evaluation
2967 US	17791780.4	10/9/2012	9,134,354	9/15/2015	System And Method For Ground Fault Detection And Fault Type Evaluation
2968 US	13/661,572	10/26/2012			Transcoding Mixing And Distribution System And Method For A Video Security System
2969 US	13/661,298	10/26/2012	9,264,596	2/16/2016	Security Camera System And Method For Eliminating Video Aberrations From Excessive Ir Illumination
2970 US	13/688,626	11/29/2012	9,024,616	5/5/2015	Signaling Circuit And Method To Detect Zone Status
2971 US	13/712,591	12/12/2012	9,602,778	3/21/2017	Security Video System Using Customer Regions For Monitoring Point Of Sale Areas
2972 US	13/715,389	12/14/2012	9,397,520	7/19/2016	Intelligent Adaptive Power Supply
2973 US	13/740,973	1/14/2013	9,552,135	1/24/2017	Security System And Method With Multistate Alert User Interface
2974 US	13/749,147	1/24/2013	9,171,452	10/27/2015	Ac Induction Noise Canceled
2975 US	13/761,564	2/7/2013	9,019,069	4/28/2015	Configuration Of Security Devices Using Spatially-Encoded Optical Machine-Readable Indicia
2976 US	13/768,210	2/15/2013	10,372,016	8/6/2019	Method And System For Assisting Security Camera Focusing
2977 US	13/798,858	3/13/2013	9,226,181	12/29/2015	System And Method For Cellular Connection Selection
2978 US	13/847,297	3/19/2013	9,191,383	11/17/2015	Networked Security System With Translating Router
2979 US	13/873,747	4/30/2013	9,608,983	3/28/2017	Authentication System And Method For Embedded Applets
2980 US	2,962,590	6/12/2013	9,544,563	1/10/2017	Multi-Video Navigation System
2981 US	13/944,142	7/17/2013	9,332,163	5/3/2016	Indoor Bubble Adapter
2982 US	13/946,279	7/19/2013	9,955,073	4/24/2018	Video User Interface System And Method
2983 US	13/952,306	7/26/2013	9,384,611	7/5/2016	Method and system for self-discovery and management of wireless security devices
2984 US	13/965,833	8/13/2013	10,482,738	11/19/2019	System And Method For Video/Audio And Event Dispatch Using Positioning System
2985 US	14/018,624	9/5/2013	9,286,778	3/15/2016	Method And System For Security System Tampering Detection
2986 US	14/018,905	9/5/2013	9,075,288	7/7/2015	Pan, tilt, zoom camera system for cooling electronics
2987 US	14/050,101	10/9/2013	8,937,539	1/20/2015	Method and apparatus for automatically disarming a security system
2988 US	14/093,917	12/2/2013	9,886,634	2/6/2018	Video Based Matching And Tracking
2989 US	14/098,935	12/6/2013	9,615,065	4/4/2017	Security System And Method With Help And Login For Customization
2990 US	14/098,962	12/6/2013	10,419,725	9/17/2019	Security System And Method With Modular Display Of Information
2991 US	14/098,986	12/6/2013	9,967,524	5/8/2018	Security System And Method With Scrolling Feeds Watchlist
2992 US	14/177,432	2/11/2014	10,068,077	9/4/2018	Method And Apparatus For Authenticating Security System Users And Unlocking Selected Feature Sets

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2993 US	14/177,398	2/11/2014	9,824,514	11/21/2017	Applying Geographical Limitations To Control Actions Of A Security System
2994 US	14/183,319	2/18/2014	9,313,415	4/12/2016	Method And System For Adjusting Exposure Settings Of Video Cameras
2995 US	14/249,687	4/10/2014	10,057,546	8/21/2018	Systems And Methods For Automated Cloud-Based Analytics For Security And/Or Surveillance
2996 US	14/251,079	4/11/2014	9,491,414	11/8/2016	Selection And Display Of Adaptive Rate Streams In Video Security System
2997 US	14/288,578	5/28/2014	11,188,993	11/30/2021	Method And System For Managing Evacuations Using Positioning Systems
2998 US	14/309,983	6/20/2014	9,373,097	6/21/2016	Mobile Access Control System With Geo-Tagging
2999 US	14/468,501	8/26/2014	10,038,833	7/31/2018	Method And System For Video Surveillance System Motor Overcurrent Protection
3000 US	14/496,050	9/25/2014	10,269,224	4/23/2019	Residential Security Using Game Platform
3001 US	14/495,970	9/25/2014	9,390,616	7/12/2016	Method And Apparatus For Determining Maintenance Needs And Validating The Installation Of An Alarm System
3002 US	14/496,901	9/25/2014	9,628,688	4/18/2017	Security Camera Having A Body Orientation Sensor And Method Of Use
3003 US	14/497,445	9/26/2014	10,326,767	6/18/2019	Auto Configuration For Auto-Enrolled Access Controller Systems
3004 US	14/498,263	9/26/2014	10,070,077	9/4/2018	System And Method For Automated Camera Guard Tour Operation
3005 US	14/497,415	9/26/2014	9,520,008	12/13/2016	Auto Enrollment For Configuring Access Control Systems
3006 US	14/504,132	10/1/2014	9,216,509	12/22/2015	Systems And Methods For Automated Cloud-Based Analytics For Security And/Or Surveillance
3007 US	14/515,907	10/16/2014	9,390,573	7/12/2016	Access Control Reader Enabling Remote Applications
3008 US	14/516,651	10/17/2014	11,157,021	10/26/2021	Drone Tours In Security Systems
3009 US	14/516,671	10/17/2014	10,301,018	5/28/2019	Fixed Drone Visualization In Security Systems
3010 US	14/567,008	12/11/2014	10,277,869	4/30/2019	Efficient process for camera call-up
3011 US	14/573,063	12/17/2014	9,912,149	3/6/2018	Lightning And Surge Protection For Electronic Circuits
3012 US	14/575,567	12/18/2014	9,965,684	5/8/2018	Method And System For Queue Length Analysis
3013 US	14/593,210	1/9/2015	9,684,294	6/20/2017	Multi-Core Processor For Optimized Power Consumption In A Security And Home Automation System
3014 US	20807220.7	1/9/2015	9,684,294	6/20/2017	Multi-Core Processor For Optimized Power Consumption In A Security And Home Automation System
3015 US	14/598,964	1/16/2015	9,235,980	1/12/2016	Method And Apparatus For Automatically Disarming A Security System
3016 US	14/605,165	1/26/2015	9,697,656	7/4/2017	Method And System For Access Control Proximity Location
3017 US	14/604,902	1/26/2015	9,378,633	6/28/2016	System To Provide A Security Technology And Management Portal
3018 US	14/666,429	3/24/2015	9,787,535	10/10/2017	Configuration Of Security Devices Using Spatially-Encoded Optical Machine-Readable Indicia
3019 US	14/683,342	4/10/2015	10,044,932	8/7/2018	Wide Angle Fisheye Security Camera Having Offset Lens And Image Sensor

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	3020 US	14/687,358	4/15/2015	9,407,878	8/2/2016	Object tracking and alerts
	3021 US	14/693,185	4/22/2015	10,008,104	6/26/2018	Security System Output Interface With Overload Detection And Protection
	3022 US	15/301,721	4/27/2015	10,319,206	6/11/2019	Identifying Persons Of Interest Using Mobile Device Information
	3023 US	21702800.0	4/27/2015	10,319,206	6/11/2019	Identifying Persons Of Interest Using Mobile Device Information
	3024 US	14/713,513	5/15/2015	10,031,721	7/24/2018	System And Method For Processing Control Commands In A Voice Interactive System
	3025 US	14/717,141	5/20/2015	10,062,224	8/28/2018	Dual Access Level Security System And Method
	3026 US	20721897.5	5/20/2015	10,062,224	8/28/2018	Dual Access Level Security System And Method
	3027 US	14/741,102	6/16/2015	11,272,089	3/8/2022	System And Method For Position Tracking And Image Information Access
	3028 US	14/802,788	7/17/2015	9,832,354	11/28/2017	Bubble For Surveillance Camera
	3029 US	14/824,175	8/12/2015	10,084,638	9/25/2018	Method And Apparatus For Automation And Alarm Architecture
	3030 US	14/845,439	9/4/2015	9,407,879	8/2/2016	Systems and Methods for Automated Cloud-Based Analytics and 3-Dimensional (3D) Playback for Surveillance Systems
	3031 US	14/845,446	9/4/2015	9,420,238	8/16/2016	Systems and Methods for Automated Cloud-Based 3-Dimensional (3D) Analytics for Surveillance Systems
	3032 US	14/845,458	9/4/2015	9,405,979	8/2/2016	Systems and methods for automated cloud-based analytics and 3-dimensional (3D) display for surveillance systems
	3033 US	14/845,475	9/4/2015	9,407,880	8/2/2016	Systems And Methods For Automated 3-Dimensional (3D) Cloud-Based Analytics For Security Surveillance In Operation Areas
	3034 US	14/845,480	9/4/2015	9,438,865	9/6/2016	Systems and methods for automated cloud-based analytics for security surveillance systems with mobile input capture devices
	3035 US	14/845,464	9/4/2015	9,426,428	8/23/2016	Systems And Methods For Automated Cloud-Based Analytics And 3-Dimensional (3D) Display For Surveillance Systems In Retail Stores
	3036 US	14/845,417	9/4/2015	9,686,514	6/20/2017	Systems And Methods For An Automated Cloud-Based Video Surveillance System
	3037 US	14/845,423	9/4/2015	10,084,995	9/25/2018	Systems And Methods For An Automated Cloud-Based Video Surveillance System
	3038 US	14/857,900	9/18/2015	10,592,306	3/17/2020	Method And Apparatus For Resource Balancing In An Automation And Alarm Architecture
	3039 US	14/865,684	9/25/2015	9,407,881	8/2/2016	Systems And Methods For Automated Cloud-Based Analytics For Surveillance Systems With Unmanned Aerial Devices
	3040 US	14/869,707	9/29/2015	9,986,010	5/29/2018	System And Method For Controlling Video And/Or Audio Streams In A Web Browser
	3041 US	14/870,341	9/30/2015	11,436,911	9/6/2022	Sensor Based System And Method For Premises Safety And Operational Profiling Based On Drift Analysis
	3042 US	14/870,404	9/30/2015	10,296,979	5/21/2019	Sensor Based System And Method For Augmenting Insurance Claim Filing

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3043 US	14/870,463	9/30/2015	10,902,524	1/26/2021	Sensor Based System And Method For Augmenting Underwriting Of Insurance Policies
3044 US	14/870,493	9/30/2015	10,425,702	9/24/2019	Sensor Packs That Are Configured Based On Business Application
3045 US	14/870,551	9/30/2015	10,354,332	7/16/2019	Sensor Based System And Method For Drift Analysis To Predict Equipment Failure
3046 US	14/870,621	9/30/2015	11,151,654	10/19/2021	System And Method For Determining Risk Profile, Adjusting Insurance Premiums And Automatically Collecting Premiums Based On Sensor Data
3047 US	14/873,097	10/1/2015	10,097,795	10/9/2018	Network Video Recorder Cluster And Method Of Operation
3048 US	14/882,896	10/14/2015	9,403,277	8/2/2016	Systems and Methods for Automated Cloud-Based Analytics for Security and/or Surveillance
3049 US	14/926,189	10/29/2015	11,093,545	8/17/2021	Systems and Methods for an Automated Cloud-Based Video Surveillance System
3050 US	14/988,014	1/5/2016	10,803,720	10/13/2020	Intelligent Smoke Sensor With Audio-Video Verification
3051 US	21709306.1	1/5/2016	10,803,720	10/13/2020	Intelligent Smoke Sensor With Audio-Video Verification
3052 US	14/991,622	1/8/2016	9,619,994	4/11/2017	Method And Apparatus For Automatically Disarming A Security System
3053 US	15/014,457	2/3/2016	10,373,412	8/6/2019	System And Method For Controlling Access To An Access Point
3054 US	15/015,723	2/4/2016	10,565,811	2/18/2020	Access Control System with Curtain Antenna System
3055 US	15/019,260	2/9/2016	10,393,554	8/27/2019	Security System Having A Magnetic Displacement Sensor System And Analytics System
3056 US	15/046,058	2/17/2016	10,728,244	7/28/2020	Method And System For Credential Management
3057 US	15/055,973	2/29/2016	10,419,484	9/17/2019	System And Method For Communicating With Security Devices Within Secure Networks
3058 US	15/071,464	3/16/2016	10,593,177	3/17/2020	Method And Apparatus For Tiered Analytics In A Multi-Sensor Environment
3059 US	15/076,712	3/22/2016	9,965,680	5/8/2018	Method and system for conveying data from monitored scene via surveillance cameras
3060 US	15/076,708	3/22/2016	11,216,847	1/4/2022	System And Method For Retail Customer Tracking In Surveillance Camera Network
3061 US	15/076,706	3/22/2016	10,192,414	1/29/2019	System And Method For Overlap Detection In Surveillance Camera Network
3062 US	15/076,705	3/22/2016	10,665,071	5/26/2020	System And Method For Deadzone Detection In Surveillance Camera Network
3063 US	15/076,704	3/22/2016	10,318,836	6/11/2019	System And Method For Designating Surveillance Camera Regions Of Interest
3064 US	15/076,701	3/22/2016	10,347,102	7/9/2019	Method And System For Surveillance Camera Arbitration Of Uplink Consumption
3065 US	15/076,709	3/22/2016	10,733,231	8/4/2020	Method and system for modeling image of interest to users

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3066 US	15/076,710	3/22/2016	10,764,539	9/1/2020	System And Method For Using Mobile Device Of Zone And Correlated Motion Detection
3067 US	15/076,713	3/22/2016	10,475,315	11/12/2019	System And Method For Configuring Surveillance Cameras Using Mobile Computing Devices
3068 US	15/076,717	3/22/2016	11,601,583	3/7/2023	System And Method For Controlling Surveillance Cameras
3069 US	15/138,571	4/26/2016	10,685,542	6/16/2020	System And Method For Monitoring A Premises Based On Parsed Codec Data
3070 US	15/147,093	5/5/2016	10,552,914	2/4/2020	Method And Apparatus For Evaluating Risk Based On Sensor Monitoring
3071 US	15/151,613	5/11/2016	10,482,759	11/19/2019	Identified Presence Detection In And Around Premises
3072 US	15/160,765	5/20/2016	9,947,155	4/17/2018	Frictionless Access System For Public Access Point
3073 US	15/160,775	5/20/2016	10,403,066	9/3/2019	Portable Device Having Directional Ble Antenna
3074 US	15/160,722	5/20/2016	10,158,550	12/18/2018	Access Control System With Omni And Directional Antennas
3075 US	15/160,736	5/20/2016	10,235,854	3/19/2019	Tailgating Detection In Frictionless Access Control System
3076 US	15/160,753	5/20/2016	9,865,144	1/9/2018	Video Recognition In Frictionless Access Control System
3077 US	15/164,163	5/25/2016	9,984,295	5/29/2018	Method to provide a security technology and management portal
3078 US	15/173,795	6/6/2016	10,810,676	10/20/2020	Method And Apparatus For Increasing The Density Of Data Surrounding An Event
3079 US	15/173,775	6/6/2016	10,380,521	8/13/2019	Predicting Service For Intrusion And Alarm Systems Based On Signal Activity Patterns
3080 US	15/196,613	6/29/2016	10,492,066	11/26/2019	Access And Automation Control Systems With Mobile Computing Device
3081 US	15/196,585	6/29/2016	10,728,585	7/28/2020	System And Method For Distributed Video Storage Across Enterprises
3082 US	15/198,848	6/30/2016	9,881,216	1/30/2018	Object Tracking And Alerts
3083 US	15/205,911	7/8/2016	10,438,425	10/8/2019	Touch Pad Circuit Board Having Radio Frequency Antenna And Capacitive Touch Pad And Access Control Reader Device Using The Radio Frequency Antenna In Proximity To The Capacitive Touch Pad
3084 US	15/206,897	7/11/2016	9,911,317	3/6/2018	Method And System For Determining Maintenance Needs And Validating The Installation Of An Alarm System
3085 US	15/220,126	7/26/2016	10,460,590	10/29/2019	Method And System For Mobile Duress Alarm
3086 US	15/220,453	7/27/2016	9,749,596	8/29/2017	Systems And Methods For Automated Cloud-Based Analytics For Security And/Or Surveillance
3087 US	15/220,445	7/27/2016	9,514,370	12/6/2016	Systems And Methods For Automated 3-Dimensional (3D) Cloud-Based Analytics For Security Surveillance In Operation Areas
3088 US	15/220,463	7/27/2016	9,514,371	12/6/2016	Systems And Methods For Automated Cloud-Based Analytics And 3-Dimensional (3D) Display For Surveillance Systems
3089 US	15/220,456	7/27/2016	9,516,278	12/6/2016	Systems And Methods For Automated Cloud-Based Analytics And 3-Dimensional (3D) Playback For Surveillance Systems

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3090 US	15/220,449	7/27/2016	9,747,502	8/29/2017	Systems And Methods For Automated Cloud-Based Analytics For Surveillance Systems With Unmanned Aerial Devices
3091 US	15/228,354	8/4/2016	9,516,279	12/6/2016	Systems And Methods For Automated Cloud-Based 3-Dimensional (3D) Analytics For Surveillance Systems
3092 US	15/228,374	8/4/2016	9,516,280	12/6/2016	systems And Methods For Automated Cloud-Based Analytics And 3-Dimensional (3d) Display For Surveillance Systems In Retail Stores
3093 US	15/229,874	8/5/2016	10,855,741	12/1/2020	System And Method For Multiplexed Video Stream Decoding In Web Browser
3094 US	15/235,451	8/12/2016	9,990,778	6/5/2018	Notification System For Virtual Reality Devices
3095 US	15/240,569	8/18/2016	10,013,826	7/3/2018	Identity Token Based Security System And Method
3096 US	15/241,451	8/19/2016	9,516,281	12/6/2016	Systems And Methods For Automated Cloud-Based Analytics For Security Surveillance Systems With Mobile Input Capture Devices
3097 US	15/252,314	8/31/2016	10,606,224	3/31/2020	Device Enabled Identity Authentication
3098 US	15/263,301	9/12/2016	10,769,935	9/8/2020	Method And Apparatus For Unified Mobile Application For Installation Of Security Products
3099 US	15/278,814	9/28/2016			Repeater For Frictionless Access Control System
3100 US	15/279,736	9/29/2016	10,713,934	7/14/2020	Detecting Of Patterns Of Activity Based On Identified Presence Detection
3101 US	15/279,776	9/29/2016	10,650,668	5/12/2020	Minimizing False Alarms Based On Identified Presence Detection
3102 US	15/279,815	9/29/2016	10,504,358	12/10/2019	Simplified User Interaction With Intrusion Systems Based On Identified Presence Detection
3103 US	21759526.3	9/29/2016	10,504,358	12/10/2019	Simplified User Interaction With Intrusion Systems Based On Identified Presence Detection
3104 US	15/333,984	10/25/2016	11,516,436	11/29/2022	Method And System For Object Location Notification In A Fire Alarm System
3105 US	15/366,576	12/1/2016	10,326,940	6/18/2019	Multi-Video Navigation System
3106 US	15/366,450	12/1/2016	10,484,611	11/19/2019	Multi-Video Navigation
3107 US	15/369,619	12/5/2016	10,217,003	2/26/2019	SYSTEMS AND METHODS FOR AUTOMATED ANALYTICS FOR SECURITY SURVEILLANCE IN OPERATION AREAS
3108 US	15/443,034	2/27/2017	10,958,878	3/23/2021	Security System And Method With Help And Login For Customization
3109 US	15/465,750	3/22/2017	9,860,388	1/2/2018	Automatic Handshaking To Improve Call Processing And Performance
3110 US	110136332	3/22/2017	9,860,388	1/2/2018	Automatic Handshaking To Improve Call Processing And Performance
3111 US	15/478,996	4/4/2017	10,332,370	6/25/2019	System And Method For Energy Saving On Access Control Products
3112 US	15/492,490	4/20/2017	10,181,230	1/15/2019	System And Method For Controlling Access At Access Point
3113 US	15/583,815	5/1/2017	10,613,729	4/7/2020	Building and Security Management System with Augmented Reality Interface
3114 US	15/587,648	5/5/2017	10,636,286	4/28/2020	Signal Reconstruction Using Recursive Data And Signal Recovery Using Previous Known Signals
3115 US	15/594,750	5/15/2017	10,475,272	11/12/2019	Architecture For Access Management

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3116 US	15/594,861	5/15/2017	10,055,926	8/21/2018	Architecture For Access Management
3117 US	15/594,826	5/15/2017	10,692,321	6/23/2020	Architecture For Access Management
3118 US	15/595,818	5/15/2017	11,010,754	5/18/2021	Architecture For Access Management
3119 US	15/596,028	5/16/2017	9,858,781	1/2/2018	Architecture For Access Management
3120 US	15/599,641	5/19/2017	10,373,408	8/6/2019	Method And System For Access Control Proximity Location
3121 US	15/603,836	5/24/2017	11,190,907	11/30/2021	System And Method For Facilitating Access To Access Points In Access Control System
3122 US	15/624,195	6/15/2017	10,379,237	8/13/2019	Multi Facility Earthquake Automation System And Method Of Control System
3123 US	15/638,711	6/30/2017	11,361,640	6/14/2022	Security Camera System With Multi-Directional Mount And Method Of Operation
3124 US	15/690,743	8/30/2017	10,968,669	4/6/2021	System And Method For Inductive Power Transfer To Door
3125 US	15/690,763	8/30/2017	10,943,415	3/9/2021	System And Method For Providing Communication Over Inductive Power Transfer To Door
3126 US	15/690,770	8/30/2017	10,937,262	3/2/2021	Door system with power management system and method of operation thereof
3127 US	15/707,161	9/18/2017	10,755,555	8/25/2020	Method And Apparatus For Verifying Service Of Installed Devices Using Rfid
3128 US	15/721,341	9/29/2017	10,769,911	9/8/2020	Wireless Environmental Data Capture System And Method For Mesh Networking
3129 US	15/721,434	9/29/2017	11,055,975	7/6/2021	Wireless Environmental Data Capture System And Method For Mesh Networking
3130 US	15/721,462	9/29/2017	11,138,848	10/5/2021	Wireless Environmental Data Capture System And Method For Mesh Networking
3131 US	15/729,926	10/11/2017	10,540,834	1/21/2020	Frictionless Access Control System With User Tracking And Omni And Dual Probe Directional Antennas
3132 US	15/729,928	10/11/2017	11,705,615	7/18/2023	Frictionless Access Control System With Ceiling Tile Positioning Unit
3133 US	15/729,929	10/11/2017	11,734,978	8/22/2023	Frictionless Access Control System With Ranging Camera
3134 US	15/791,534	10/24/2017	11,274,840	3/15/2022	Vent For Use In An HVAC System
3135 US	15/803,661	11/3/2017	10,194,119	1/29/2019	Wireless Environmental Data Capture System And Method For Mesh Networking
3136 US	15/803,988	11/6/2017	10,643,078	5/5/2020	Automatic Camera Ground Plane Calibration Method And System
3137 US	16/613,243	11/8/2017	11,750,777	9/5/2023	Video Management System and Method for Retrieving and Storing Data from Surveillance Cameras
3138 US	15/807,101	11/8/2017	10,397,619	8/27/2019	Camera Data Retention Using Uptime Clocks And Settings
3139 US	15/815,435	11/16/2017	10,304,301	5/28/2019	Wireless Environmental Data Capture System and Method for Mesh Networking
3140 US	15/818,818	11/21/2017			Security Camera System With Multi-Directional Mount And Method Of Operation

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3141	US	15/818,821	11/21/2017	10,713,811	7/14/2020	Security Camera System With Multi-Directional Mount And Method Of Operation
3142	US	15/818,816	11/21/2017	11,288,937	3/29/2022	Security Camera System With Multi-Directional Mount And Method Of Operation
3143	US	15/822,300	11/27/2017	10,475,273	11/12/2019	Architecture for Access Management
3144	US	15/873,080	1/17/2018	10,475,191	11/12/2019	System And Method For Identification And Suppression Of Time Varying Background Objects
3145	US	15/897,936	2/15/2018	10,747,185	8/18/2020	System And Method For Performing Encryption Between Alarm Panel And Monitoring Station
3146	US	15/897,948	2/15/2018	10,795,328	10/6/2020	Method Of Confirming Remote Programming Of Device By Monitoring Station
3147	US	15/909,625	3/1/2018	10,386,803	8/20/2019	Account Number Substitution For Dial Capture And IP Based Communicators
3148	US	15/911,537	3/5/2018	11,645,593	5/9/2023	Use Of Identity And Access Management For Service Provisioning
3149	US	15/911,512	3/5/2018	10,829,088	11/10/2020	Identity management for implementing vehicle access and operation management
3150	US	15/911,560	3/5/2018	11,055,802	7/6/2021	Methods And Apparatus For Implementing Identity And Asset Sharing Management
3151	US	15/911,613	3/5/2018	10,453,319	10/22/2019	Methods And Apparatus For Management Of Intrusion Detection Systems Using Verified Identity
3152	US	15/912,966	3/6/2018	10,366,591	7/30/2019	Safety Cooking Device And Method
3153	US	15/918,671	3/12/2018	10,140,839	11/27/2018	Alarm System Communicator For Forwarding Alarm System Event Data
3154	US	15/939,452	3/29/2018	10,445,589	10/15/2019	Method And System For Queue Length Analysis
3155	US	15/939,461	3/29/2018	10,977,487	4/13/2021	Method And System For Conveying Data From Monitored Scene Via Surveillance Cameras
3156	US	15/941,048	3/30/2018	10,565,856	2/18/2020	Alarm System For Facilitating Partial Alarm System Disabling During Temporary Premises Access
3157	US	15/959,860	4/23/2018	11,134,200	9/28/2021	Two Axis Pan Tilt Camera System Configured To Maintain A Level Image When Wall Or Ceiling Mounted
3158	US	16/606,499	5/1/2018	11657616	5/23/2023	Space Management Monitoring and Reporting Using Video Analytics
3159	US	15/967,983	5/1/2018	11,080,533	8/3/2021	Surveillance System With Human Behavior Prediction By Human Action Recognition
3160	US	15/967,997	5/1/2018			Video Display System For Video Surveillance
3161	US	15/972,651	5/7/2018	11,120,677	9/14/2021	Transcoding mixing and distribution system and method for a video security system
3162	US	15/989,254	5/25/2018	10,650,248	5/12/2020	System To Provide A Security Technology And Management Portal
3163	US	16/007,562	6/13/2018	10,608,909	3/31/2020	Network Data Aggregation System And Method For Building Management Systems
3164	US	16/027,468	7/5/2018	10,852,751	12/1/2020	Building bots interfacing with security systems

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3165 US	16/037,492	7/17/2018			Biometric Access Control Identification Card
3166 US	16/058,050	8/8/2018	10,726,712	7/28/2020	Building Bots Interfacing With Intrusion Detection Systems
3167 US	16/105,462	8/20/2018	10,685,526	6/16/2020	Architecture for Access Management
					Systems And Methods For Automated Cloud-Based Analytics For Security And/Or Surveillance
3168 US	15/999,403	8/20/2018	10,594,985	3/17/2020	
3169 US	16/106,922	8/21/2018	10,645,311	5/5/2020	System and Method for Automated Camera Guard Tour Operation
3170 US	16/109,979	8/23/2018	10,397,042	8/27/2019	Method And Apparatus For Automation And Alarm Architecture
					System and Method for Controlling Building Management Systems for Scheduled Events
3171 US	16/111,981	8/24/2018	11,360,445	6/14/2022	System and method for detecting room occupancy with beamforming microphone arrays
3172 US	16/111,991	8/24/2018	10,635,057	4/28/2020	Building Management System with Blockchain Ledger
3173 US	16/111,998	8/24/2018			System and Method for Tracking Locations of Students within School Buildings
3174 US	16/112,007	8/24/2018	11,395,099	7/19/2022	System and method for tracking students
3175 US	16/112,014	8/24/2018	10,586,436	3/10/2020	Access Control System Using Blockchain Ledger
3176 US	16/112,041	8/24/2018	10,964,145	3/30/2021	Event Engine for Building Management System Using Distributed Devices and Blockchain Ledger
3177 US	16/112,030	8/24/2018			
3178 US	16/117,030	8/30/2018	11,415,486	8/16/2022	SYSTEMS AND METHODS OF ALARM TRIGGERED EQUIPMENT VERIFICATION USING DRONE DEPLOYMENT OF SENSORS
3179 US	16/120,712	9/4/2018	10,516,856	12/24/2019	Network Video Recorder Cluster And Method Of Operation
3180 US	16/157,009	10/10/2018	11,595,241	2/28/2023	Systems and Methods for Managing a Security System
					SYSTEMS AND METHODS OF ELIMINATING VIDEO FLICKER CAUSED BY LED DUTY CYCLING TO MAINTAIN BRIGHTNESS AND CONTROL POWER CONSUMPTION
3181 US	16/156,806	10/10/2018	11,196,940	12/7/2021	Frictionless Access Control System Embodying Satellite Cameras For Facial Recognition
3182 US	16/753,571	10/24/2018	11,776,308	10/3/2023	Surveillance Monitoring Systems And Methods For Remotely Viewing Data And Controlling Cameras
3183 US	16/171,857	10/26/2018	10,475,314	11/12/2019	Methods and System for Controlling Access to Enterprise Resources Based on Tracking
3184 US	16/757,129	11/2/2018			
3185 US	16/756,904	11/2/2018			Methods and System for Distributed Cameras and Demographics Analysis
3186 US	16/756,905	11/2/2018			Methods And System for Monitoring and Assessing Employee Moods
3187 US	16/756,908	11/2/2018			Methods And System for Employee Monitoring and Business Rule and Quorum Compliance Monitoring
3188 US	16/188,463	11/13/2018	10,708,509	7/7/2020	SYSTEMS AND METHODS OF REMOTE PAN TILT SEALED SPHEROID CAMERAS MAINTAINING LEVEL IMAGE WHEN WALL OR CEILING MOUNTED

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3189 US	16/204,239	11/29/2018	10,861,264	12/8/2020	SYSTEMS AND METHODS OF LOCK AND POWERED LOAD ENUMERATION AND SECURE ACTIVATION
3190 US	16/205,806	11/30/2018	11,030,835	6/8/2021	Frictionless Access Control System Providing Ultrasonic User Location
3191 US	16/213,099	12/7/2018	10,893,195	1/12/2021	SYSTEMS AND METHODS OF MULTI-SENSOR CAMERAS AND REMOTE IMAGERS
3192 US	16/217,242	12/12/2018	10,876,755	12/29/2020	Systems and methods of providing occupant feedback to enable space optimization within the building
3193 US	16/221,184	12/14/2018	11,087,577	8/10/2021	SYSTEMS AND METHODS OF SECURE PIN CODE ENTRY
3194 US	16/238,429	1/2/2019	11,120,274	9/14/2021	Systems And Methods For Automated Analytics for Security Surveillance in Operation Areas
3195 US	16/252,287	1/18/2019	11,358,184	6/14/2022	Sensor System Having Transparent Window Contaminant Removal Using Vibration
3196 US	16/274,066	2/12/2019	11,414,188	8/16/2022	Fixed Drone Visualization In Security Systems
3197 US	29/681,180	2/22/2019	D890,834	7/21/2020	Camera Housing
3198 US	29/681,224	2/22/2019	D892,909	8/11/2020	Mount
3199 US	16/292,551	3/5/2019	11,004,326	5/11/2021	System and Method for Monitoring a Location
3200 US	16/353,866	3/14/2019	11,587,420	2/21/2023	Systems And Methods Of Combining RFID And VMS For People Tracking
3201 US	16/355,305	3/15/2019	11,435,098	9/6/2022	And Intrusion Detection
3202 US	16/367,097	3/27/2019	10,573,143	2/25/2020	System And Method For Access Control Using Differential Air Pressure Surveillance Monitoring Systems And Methods For Remotely Viewing Data And Controlling Cameras
3203 US	16/374,271	4/3/2019	11,068,994	7/20/2021	Sensor Based System And Method For Augmenting Insurance Claim Filing
3204 US	16/376,418	4/5/2019	10,955,573	3/23/2021	Multi Facility Earthquake Automation System And Method
3205 US	16/376,499	4/5/2019			System And Method For Providing Power To Building Management System Components Using Inductive Coupling
3206 US	16/398,051	4/29/2019	10,504,347	12/10/2019	Wireless Environmental Data Capture System and Method for Mesh Networking
3207 US	16/399,744	4/30/2019			Video Summarization Systems And Methods
3208 US	16/415,762	5/17/2019	11,061,132	7/13/2021	Building Radar-Camera Surveillance System
3209 US	16/415,682	5/17/2019	10,911,074	2/2/2021	Systems and Methods for Transceiver Coexistence Filtering
3210 US	17/057,476	5/20/2019	11749038	9/5/2023	Facial Recognition Frictionless Access Control
3211 US	16/513,286	7/16/2019	10,748,364	8/18/2020	Methods And Systems For Access Control
3212 US	16/513,242	7/16/2019	11,004,319	5/11/2021	Security Camera Systems and Methods
3213 US	16/534,435	8/7/2019	11,386,707	7/12/2022	Techniques For Detecting A Three-Dimensional Face In Facial Recognition
3214 US	16/561,419	9/5/2019	11,250,644	2/15/2022	Method And System For Queue Length Analysis
3215 US	29/704,574	9/5/2019	D943,434	2/15/2022	Motion Sensor
3216 US	15710029.8	9/5/2019	D943,434	2/15/2022	Motion Sensor

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3217 US	16/574,479	9/18/2019	10,896,586	1/19/2021	Methods And Apparatus For Management Of Intrusion Detection Systems Using Verified Identity
3218 US	16/589,610	10/1/2019	10,636,240	4/28/2020	Architecture for Access Management
3219 US	16/589,666	10/1/2019	10,861,163	12/8/2020	System And Method For Identification And Suppression Of Time Varying Background Objects
3220 US	16/590,298	10/1/2019	11,037,419	6/15/2021	Surveillance Monitoring Systems And Methods For Remotely Viewing Data And Controlling Cameras
3221 US	16/664,450	10/25/2019	11,132,854	9/28/2021	Inconspicuous Access Control Device
3222 US	16/665,837	10/28/2019	11,431,520	8/30/2022	SYSTEMS AND METHODS OF ENABLING BLOCKCHAIN-BASED BUILDING AUTOMATION SYSTEMS
3223 US	16/667,449	10/29/2019	10,872,520	12/22/2020	Systems and Methods for Managing Supervision Signals
3224 US	16/674,416	11/5/2019	10,685,543	6/16/2020	Wireless Environmental Data Capture System and Method for Mesh Networking
3225 US	16/692,813	11/22/2019	11,469,893	10/11/2022	Systems and methods for establishing secured connections for IoT devices
3226 US	16/700,842	12/2/2019	11,200,767	12/14/2021	Method And System For Enhancing Security Of A Secured Area
3227 US	16/726,067	12/23/2019	11,037,420	6/15/2021	Method and Apparatus for Tiered Analytics in a Multi-Sensor Environment
3228 US	16/731,614	12/31/2019	11,043,092	6/22/2021	Surveillance Monitoring Systems And Methods For Remotely Viewing Data And Controlling Cameras
3229 US	16/735,322	1/6/2020	11,026,067	6/1/2021	Power Efficient Ultra-Wideband (UWB) Tag For Indoor Positioning
3230 US	16/736,445	1/7/2020	10,818,159	10/27/2020	Alarm System For Facilitating Partial Alarm System Disabling During Temporary Premises Access
3231 US	16/739,688	1/10/2020	11,250,516	2/15/2022	Method And Apparatus For Evaluating Risk Based On Sensor Monitoring
3232 US	16/752,410	1/24/2020	11,688,051	6/27/2023	Automating Inspection Using Neural Network
3233 US	16/783,071	2/5/2020	11,128,838	9/21/2021	Systems And Methods For Automated Cloud-Based Analytics For Security And/Or Surveillance
3234 US	16/787,954	2/11/2020	11,622,271	4/4/2023	Methods and Systems for Access Control
3235 US	16/788,043	2/11/2020	11,622,063	4/4/2023	CAMERA HOUSING COMPRISING MOVABLE THERMAL BRIDGE FOR TEMPERATURE REGULATION
3236 US	16/798,093	2/21/2020			Methods and Systems for an Access Control System Using Visual Recognition
3237 US	29/727,215	3/9/2020			Mount
3238 US	29/727,218	3/9/2020			Mount
3239 US	16/855,740	4/22/2020	11,429,695	8/30/2022	Barcode-Based License Configuration for Air-Gapped Systems
3240 US	16/884,940	5/27/2020	10,991,236	4/27/2021	Detecting Of Patterns Of Activity Based On Identified Presence Detection

	Country	Application Number	Filing Date	Patent Number	Issue Date	Title
3241	US	21760956.9	5/27/2020	10,991,236	4/27/2021	Detecting Of Patterns Of Activity Based On Identified Presence Detection
3242	US	16/897,134	6/9/2020	11,341,827	5/24/2022	Wireless Environmental Data Capture System and Method for Mesh Networking
3243	US	16/906,308	6/19/2020	11,540,138	12/27/2022	Interactive Local Information Interface
3244	US	16/996,688	8/18/2020	11,696,024	7/4/2023	Video Analytics Scene Classification And Automatic Camera Configuration Based Automatic Selection Of Camera Profile
3245	US	16/996,604	8/18/2020	11869239	1/9/2024	Automatic Configuration Of Analytics Rules For A Camera
3246	US	17/008,900	9/1/2020	11680960	6/20/2023	Motion Detector With Adjustable Pattern Direction
3247	US	17/009,065	9/1/2020	11,450,188	9/20/2022	Wireless Environmental Data Capture System And Method For Mesh Networking
3248	US	17/010,598	9/2/2020	11,417,196	8/16/2022	Alarm System For Facilitating Partial Alarm System Disabling During Temporary Premises Access
3249	US	17/061,262	10/1/2020	11,423,248	8/23/2022	Hierarchical Sampling For Object Identification
3250	US	17/061,110	10/1/2020			Classification And Re-identification
3251	US	17/095,612	11/11/2020	11,349,505	5/31/2022	Systems and Methods for Transceiver Coexistence Filtering
3252	US	17/127,195	12/18/2020			Access Control System Screen Capture Facial Detection and Recognition
3253	US	17/135,107	12/28/2020	11,585,555	2/21/2023	SYSTEMS AND METHODS OF PROVIDING OCCUPANT FEEDBACK TO ENABLE SPACE OPTIMIZATION WITHIN THE BUILDING
3254	US	17/143,693	1/7/2021	11734981	8/22/2023	Enhanced Entry Authorization
3255	US	17/143,727	1/7/2021	11,204,281	12/21/2021	Enhanced Temperature Measurement Techniques
3256	US	17/145,032	1/8/2021	11,495,067	11/8/2022	Security System with Temperature Sensing
3257	US	17/145,029	1/8/2021			Security System with Hand Sanitization
3258	US	17/147,227	1/12/2021			Video Summarization Systems And Methods
3259	US	17/180,074	2/19/2021			SYSTEMS AND METHODS OF DETECTING INCORRECT MASK USAGE
3260	US	29/771,123	2/19/2021	D1012966	1/30/2024	Display Screen with Icon
3261	US	29/771,125	2/19/2021			Interactive Multimedia Device
3262	US	17/186,783	2/26/2021			Systems And Methods Of Access Validation Using Distributed Ledger
3263	US	17/186,719	2/26/2021			Identity Management
3264	US	17/195,219	3/8/2021	11,763,613	9/19/2023	Automatic Creation And Management Of Digital Identity Profiles For Access Control
3265	US	17/194,963	3/8/2021	11,328,576	5/10/2022	Surveillance system for automatic sanitation verification
3266	US	17/196,596	3/9/2021	11,609,485	3/21/2023	Modular Camera Mounts Usable with Security Camera Applications
3267	US	17/196,781	3/9/2021	11,592,727	2/28/2023	Modular camera mounts and cameras for security, surveillance, and access control applications

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3268	US	17/196,269	3/9/2021	11754220	9/12/2023	Modular Camera Mounts Usable With Security Camera Or Access Control Applications
3269	US	17/196,698	3/9/2021			Systems and Methods of Identifying Persons-of-Interest
3270	US	17/196,717	3/9/2021	11,615,620	3/28/2023	Systems and Methods of Enforcing Distancing Rules
3271	US	17/203,088	3/16/2021	11893827	2/6/2024	Systems and Methods of Detecting Mask Usage
3272	US	17/210,276	3/23/2021	11,763,662	9/19/2023	Systems and Methods of Enforcing Dynamic Thresholds of Social Distancing Rules
3273	US	17/214,468	3/26/2021	11,296,933	4/5/2022	SECURE LOW-LATENCY AND LOW-THROUGHPUT SUPPORT OF REST API IN IOT DEVICES
3274	US	17/214,473	3/26/2021	11,647,012	5/9/2023	Birth Private-Key Based Security for Rest API in IOT Devices
3275	US	17/216,312	3/29/2021	11,594,086	2/28/2023	Automatic Switching For Frictionless Access Control
3276	US	17/215,703	3/29/2021			Systems And Methods Of Access Control With Hand Sanitation
3277	US	17/230,847	4/14/2021	11688219	6/27/2023	Systems and Methods for Access Control Using Multi-Factor Validation
3278	US	17/314,183	5/7/2021			Power Efficient Ultra-Wideband (UWB) Tag For Indoor Positioning
3279	US	17/315,132	5/7/2021			Multi-Stream Peak Bandwidth Dispersal
3280	US	17/330,211	5/25/2021			Wireless Environmental Data Capture System And Method For Mesh Networking
3281	US	17/358,189	6/25/2021	11,733,370	8/22/2023	Building Radar-Camera Surveillance System
3282	US	17/367,933	7/6/2021	11847876	12/19/2023	SYSTEMS AND METHODS OF SECURE PIN CODE ENTRY
3283	US	17/380,929	7/20/2021	11769381	9/26/2023	Autonomous Management and Notification on Building Pathways
3284	US	17/387,611	7/28/2021			Radio Frequency Protocol For A Security / Automation System
3285	US	17/459,648	8/27/2021			Security / Automation System With Router Functionality
3286	US	17/473,205	9/13/2021			SYSTEMS AND METHODS FOR DETECTING A DRIFT STATE
3287	US	17/489,127	9/29/2021			Systems And Methods For Protecting Robot Tailgating In Building Environments
3288	US	17/498,462	10/11/2021			Delivery Attempt Tracking Using Automated Video
3289	US	17/455,143	11/16/2021			Methods and Apparatuses for Controlling HVAC for User Comfort Using Heat Signals
3290	US	17/527,816	11/16/2021			Security / Automation System with Backend Backup of Device Information
3291	US	17/536,963	11/29/2021	11758281	9/12/2023	SYSTEMS AND METHODS OF ELIMINATING VIDEO FLICKER CAUSED BY LED DUTY CYCLING TO MAINTAIN BRIGHTNESS AND CONTROL POWER CONSUMPTION
3292	US	17/570,283	1/6/2022	11861959	1/2/2024	Methods And Systems For Integrating Autonomous Devices With An Access Control System
3293	US	17/570,236	1/6/2022			Methods And Systems For Using Video Surveillance To Detect Falling Liquids
3294	US	17/571,146	1/7/2022			Systems and Methods for Sharing Analytical Resources in a Camera Network

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3295 US	17/579,384	1/19/2022			Smoke Detector Self-Test
3296 US	17/580,330	1/20/2022			Computer Vision System And Methods For Anomalous Event Detection
3297 US	16723227.1	1/20/2022			Computer Vision System And Methods For Anomalous Event Detection
3298 US	17/592,193	2/3/2022			Methods and Systems for Employing an Edge Device to Provide Multifactor Authentication
3299 US	17/672,182	2/15/2022			SYSTEMS AND METHODS FOR DETECTING SECURITY EVENTS IN AN ENVIRONMENT
3300 US	17/674,524	2/17/2022			Methods and Apparatuses for Managing Network Security Using Video
3301 US	17/677,346	2/22/2022			Surveillance and Access Control System
3302 US	17/687,327	3/4/2022			METHOD AND SYSTEM FOR CROWD COUNTING
3303 US	17/694,279	3/14/2022			Access Card With Built-In User Input Device
3304 US	17/707,344	3/29/2022			Methods And Apparatuses For Installing An Automatic Mounting Assembly
3305 US	17/712,783	4/4/2022			Surveillance System For Automatic Sanitation Verification
3306 US	17/741,278	5/10/2022			Recording device scanings to audit operators and screening process and later manage incidents
3307 US	17/743,004	5/12/2022	11752531	9/12/2023	System and Method for Controlling Building Management Systems for Scheduled Events
3308 US	17/750,021	5/20/2022			Sensor System Having Transparent Window Contaminant Removal Using Vibration
3309 US	17/839,081	6/13/2022	11,763,601	9/19/2023	Security Camera System With Multi-Directional Mount And Method Of Operation
3310 US	15705136.8	6/13/2022	11,763,601	9/19/2023	Techniques For Detecting A Three-Dimensional Face In Facial Recognition
3311 US	17/863,160	7/12/2022			Fault Protection for Security System Controllers
3312 US	17/813,293	7/18/2022			System and Method for Tracking Locations of Students within School Buildings
3313 US	17/870,301	7/21/2022			SYSTEMS AND METHODS FOR PROVIDING SECURITY SYSTEM INFORMATION
3314 US	17/814,797	7/25/2022			USING AUGMENTED REALITY EFFECTS
3315 US	17/877,580	7/29/2022	11755694	9/12/2023	Systems and Methods for Providing Security System Information through Smart Glasses
3316 US	17/817,066	8/3/2022			Barcode-Based License Configuration for Air-Gapped Systems
3317 US	17/880,948	8/4/2022	11,753,162	9/12/2023	AUTO-PROGRAMMING DOOR AND CAMERA RELATIONSHIPS FOR A SECURITY SYSTEM
					Fixed Drone Visualization In Security Systems

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3318 US	17/880,978	8/4/2022	11740160	8/29/2023	SYSTEMS AND METHODS OF ALARM TRIGGERED EQUIPMENT VERIFICATION USING DRONE DEPLOYMENT OF SENSORS
3319 US	17/882,208	8/5/2022			Hierarchical Sampling For Object Identification
3320 US	17/883,387	8/8/2022			Alarm System For Facilitating Partial Alarm System Disabling During Temporary Premises Access
3321 US	17/888,963	8/16/2022	11,764,989	9/19/2023	SYSTEMS AND METHODS OF ENABLING BLOCKCHAIN-BASED BUILDING AUTOMATION SYSTEMS
3322 US	17/890,108	8/17/2022	11767997	9/26/2023	System And Method For Access Control Using Differential Air Pressure
3323 US	17/992,551	11/22/2022			VOICE BASED ACCESS CONTROL WITH INCREASED ASSURANCE
3324 US	18/063,819	12/9/2022			Systems And Methods For Two-Stage Objection Detection
3325 US	63/479,422	1/11/2023			METHOD AND SYSTEM FOR EFFICIENT OBJECT DENSITY ESTIMATION USING DYNAMIC INPUT RESOLUTION
3326 US	18/161,646	1/30/2023			SYSTEMS AND METHODS FOR TRACKING OBJECTS
3327 US	18/103,854	1/31/2023			Systems And Methods For Dynamic Device Configuration Using Machine-Readable Optical Labels
3328 US	18/179,183	3/6/2023			System And Method For Controlling Surveillance Cameras
3329 US	18/182,090	3/10/2023			Incident Surveillance Using Unmanned Mobile Machines
3330 US	29/872,440	3/13/2023			Keypad
3331 US	63/451,866	3/13/2023			Switching Apparatus for Heating, Ventilation, and Air Conditioning (HVAC) Systems
3332 US	18/120,883	3/13/2023			Systems and Methods for Camera Configuration
3333 US	18/186,579	3/20/2023			Directional audio microphones in a surveillance system
3334 US	18/186,609	3/20/2023			Steering direction audio recordings in a surveillance system
3335 US	18/187,363	3/21/2023			Security Web Application Layouts and Tiles
3336 US	63/492,426	3/27/2023			Automated Animal Detection And Response
3337 US	63/492,356	3/27/2023			Method and System for Generative-Bot Driven Security Responses
3338 US	18/194,485	3/31/2023			Systems And Methods For Updating A Security User Interface Based On Scheduled Modes
3339 US	18/194,292	3/31/2023			Systems And Methods For A Map-Based Multi-Camera View Dashboard
3340 US	63/457,027	4/4/2023			Premises Environment Platform with Multi-System Battery Backup Functionality
3341 US	18/132,228	4/7/2023			Use Of Identity And Access Management For Service Provisioning
3342 US	20151300.9	4/7/2023			Use Of Identity And Access Management For Service Provisioning
3343 US	18/305,016	4/21/2023	11895196	2/6/2024	Efficient Update Mechanism in IOT Event Driven Architectures
3344 US	18/309,585	4/28/2023			Systems and Methods for Managing Security Events Using a Graphical User Interface
3345 US	63/465,168	5/9/2023			Systems and Methods for Providing Attested Verification of Personal Data

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	3346 US	18/320,052	5/18/2023			Systems and Methods for Classification of Ambiguous Objects
	3347 US	63/472,100	6/9/2023			System And Method For Protecting An Electronic System In Packaging
	3348 US	63/523,552	6/27/2023			Method And System For Seen Analysis For Automated Video Camera Inspection
	3349 US	18/343,686	6/28/2023			Robot use of destination dispatch elevators
	3350 US	18/347,311	7/5/2023			Systems and Methods for Curing Network Deficiencies in Video Networks
	3351 US	18/221,697	7/13/2023			SYSTEMS AND METHODS OF ALARM TRIGGERED EQUIPMENT VERIFICATION USING DRONE DEPLOYMENT OF SENSORS
	3352 US	18/226,603	7/26/2023			Access Control to Secured Locations Using Relaxed Biometrics
	3353 US	18/228,140	7/31/2023			Fixed Drone Visualization In Security Systems
						SYSTEMS AND METHODS OF ELIMINATING VIDEO FLICKER CAUSED BY LED DUTY CYCLING TO MAINTAIN BRIGHTNESS AND CONTROL POWER CONSUMPTION
	3354 US	18/229,438	8/2/2023			Facial Recognition Frictionless Access Control
	3355 US	18/447,079	8/9/2023			SYSTEMS AND METHODS OF ENABLING BLOCKCHAIN-BASED BUILDING AUTOMATION SYSTEMS
	3356 US	18/446,886	8/9/2023			
	3357 US	18/447,991	8/10/2023			Techniques For Detecting a Three-Dimensional Face in Facial Recognition
	3358 US	18/449,376	8/14/2023			Network Router With Customizable Radio Configurations
	3359 US	14717236.5	8/14/2023			Network Router With Customizable Radio Configurations
	3360 US	63/532,851	8/15/2023			Augmented Reality Overlay And Map On Mobile Video Management System
	3361 US	18/450,288	8/15/2023			Integrating Wireless Communications In A Camera To Extend An Enterprise Network
	3362 US	63/533,018	8/16/2023			Methods And Systems For Detering Active Shooters Using High-Volume Alarms
	3363 US	18/451,420	8/17/2023			Methods And Systems For Occupancy Detection Using A Video Feed
	3364 US	63/578,858	8/25/2023			Augmented and Virtual Reality Equipment with Access Control Solutions
	3365 US	63/578,869	8/25/2023			Natural Language Search in Security Videos
	3366 US	18/458,575	8/30/2023			IOT Mechanism for Device to Application Communication in Physical Access Control Systems
	3367 US	18/458,584	8/30/2023			Object hierarchy to support device to application configuration in physical access control systems
	3368 US	63/579,978	9/1/2023			Decentralized Peer Authentication Network Without Blockchain
	3369 US	63/581,838	9/11/2023			System, Method, And Apparatus for Automated Validation Checks of License Plate Recognition System at Parking Facility
	3370 US	63/587,601	10/3/2023			Security Score for Home

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3371 US	18/482,592	10/6/2023			Security / Automation System Control Panel With Removable Back Speaker
3372 US	18/484,209	10/10/2023			Sensor Fusion In Security Systems
3373 US	63/543,686	10/11/2023			Network Device Certificate Deployment Using Short-Range Communications
3374 US	63/545,502	10/24/2023			Methods And Systems For Aggregating Events On An Interactive Timeline
3375 US	18/506,318	11/10/2023			SYSTEMS AND METHODS OF SECURE PIN CODE ENTRY
3376 US	63/598,821	11/14/2023			System And Method For Indicating Recording Status Of Camera
3377 US	63/600,295	11/17/2023			System, Device, And Method to Assist Persons During an Emergency Situation
3378 US	18/514,102	11/20/2023			Methods and Systems for Integrating Autonomous Devices with an Access Control System
3379 US	18/514,736	11/20/2023			Dynamic Data-Stream Selection from Edge Devices
3380 US	18/516070	11/21/2023			Camera Calibration And Distance Measurement Using Parallel Lines
3381 US	18/516131	11/21/2023			Camera Calibration and Distance Measurement based on Homography
3382 US	18/521,889	11/28/2023			Smart Privacy Zones
3383 US	18/526341	12/1/2023			High Assurance Enrollment for Identities
3384 US	18/528218	12/4/2023			CONTROLLING FIRE SUPPRESSION BASED ON OCCUPANCY DATA
3385 US	63/612,167	12/19/2023			Methods and Systems for Displaying a Map of Markers in an Area
3386 US	18/391,086	12/20/2023			Methods And Systems For Improving Accuracy Of Occupancy Monitoring Using Multiple Sensors
3387 US	18/402528	1/2/2024			Object Detection Systems And Methods Including An Object Detection Model Using A Tailored Training Dataset
3388 US	18/403,333	1/3/2024			Method And System For Efficient Object Density Estimation Using Dynamic Input Resolution
3389 WO	PCT/US2022/071275	3/23/2022			SYSTEM AND METHOD OF ENFORCING DYNAMIC THRESHOLDS OF SOCIAL DISTANCING RULES
3390 WO	PCT/IB2022/058943	9/21/2022			Enhanced Three Dimensional Visualization Using Artificial Intelligence
3391 WO	PCT/US2023/060048	1/3/2023			Methods and Systems for Integrating Autonomous Devices with an Access Control System
3392 WO	PCT/US2023/064251	3/13/2023			Systems and Methods for Camera Configuration
3393 WO	PCT/US2023/067240	5/19/2023			Methods and Systems for Detecting Bullying in Real Time Using Artificial Intelligence
3394 WO	PCT/US2023/069514	6/30/2023			Method and System to Provide Alarm Risk Score Analysis and Intelligence
3395 WO	PCT/US2023/069994	7/11/2023			Fault Protection for Security System Controllers

Country	Application Number	Filing Date	Patent Number	Issue Date	Title
3396 WO	PCT/US2023/070448	7/18/2023			Systems and Methods for Curing Network Deficiencies in Video Networks
3397 WO	PCT/US2023/070522	7/19/2023			SYSTEMS AND METHODS FOR PROVIDING SECURITY SYSTEM INFORMATION USING AUGMENTED REALITY EFFECTS
3398 WO	PCT/US2023/071067	7/26/2023			Access Control To Secured Locations Using Relaxed Biometrics
3399 WO	PCT/US2023/071158	7/27/2023			Auto-Programming Door and Camera Relationships for a Security System
3400 WO	PCT/US2023/072228	8/15/2023			Network Router With Customizable Radio Configurations
3401 WO	PCT/US2023/076550	10/11/2023			Sensor Fusion In Security Systems
3402 WO	PCT/US2023/080372	11/17/2023			Voice Based Access Control with Increased Assurance
3403 WO	PCT/US2023/080888	11/22/2023			Camera Calibration And Distance Measurement Using Parallel Lines
3404 WO	PCT/US2023/080895	11/22/2023			Camera Calibration and Distance Measurement based on Homography
3405 WO	PCT/US2024/010919	1/9/2024			Method And System for Efficient Object Density Estimation Using Dynamic Input Resolution
3406 ZA	2008/08864	12/21/2006	2008/08864	7/29/2009	Method And Apparatus To Facilitate Component Installation
3407 ZA	2011/05174	1/22/2010	2011/05174	9/26/2012	Facsimile Aware Alarm Monitoring Station And Method
3408 ZA	2011/05173	1/22/2010	2011/05173	9/26/2012	Alarm Monitoring Telecommunications Line Condition Detection And Automatic Calibration
3409 ZA	2011/05175	7/13/2011	201105175	9/26/2012	System And Method For Analyzing Faulty Event Transmissions

SCHEDULE 2
ASSIGNED COPYRIGHTS

U.S. Copyright Registration	Title	Registration Date
USCOPYRIGHT TX 006907225	JCI PWI Energy tracker tool.	December 10, 2008
USCOPYRIGHT VAu000616613	Menahga Public Schools, Independent School District No. 821, classroom addition, Menahga, Minnesota : project no. 04016.	May 18, 2004
USCOPYRIGHT VAu000616612	Menahga Public Schools, Independent School District No. 821, classroom addition, Menahga, Minnesota : project no. 04016.	May 18, 2004
USCOPYRIGHT TX 005872616	LBS source code.	November 19, 2003
USCOPYRIGHT TX 005785798	[Metasys system extended architecture]	August 05, 2003
USCOPYRIGHT TXu001080967	Johnson Controls, Inc., legal homepage.	April 24, 2002
USCOPYRIGHT VAu000464956	Building for a great future Willow River Elementary rejuvenation project.	December 20, 2001
USCOPYRIGHT VAu000464955	Willow River phasing plan.	December 20, 2001
USCOPYRIGHT TXu001008399	Willow River Elementary School building assessment & improvement recommendations.	December 20, 2001
USCOPYRIGHT TX 004822793	Building environments : HVAC systems / Alan J. Zajac.	July 02, 1998
USCOPYRIGHT TXu000746337	Advanced Installation Management (AIM) Tools rel. 2.1.	June 21, 1996
USCOPYRIGHT TXu000682653	EFACT II.	April 26, 1996
USCOPYRIGHT TXu000617467	JC Calcs : rev. 1.0E.	February 13, 1995
USCOPYRIGHT TX 003924273	JC Calcs : rev. 1.0E.	February 13, 1995
USCOPYRIGHT TX 003945581	Network integration services.	November 25, 1994
USCOPYRIGHT TX 003423666	METASYS : release 4.0.	November 02, 1992
USCOPYRIGHT TXu000509175	DSC-XLA.	March 18, 1992
USCOPYRIGHT TXu000509174	DSC-XLA.	March 18, 1992

U.S. Copyright Registration	Title	Registration Date
USCOPYRIGHT TXu000509156	DSC-XLA.	March 18, 1992
USCOPYRIGHT TX 003274432	[JCI CADD symbol library]	March 18, 1992
USCOPYRIGHT TX 003434674	METASYS.	October 30, 1992
USCOPYRIGHT TXu000408043	Working with your advertising agency : are you shortchanging your firm's marketing effectiveness? / by Bruce Fassett.	March 15, 1990
USCOPYRIGHT VA 000357418	Excellence in customer satisfaction.	July 11, 1989
USCOPYRIGHT TX 003273548	DSC-XLA (parm)	March 18, 1992
USCOPYRIGHT TX 003273551	DSC-XLA : release A.42.	March 18, 1992
USCOPYRIGHT TX 001843692	PRG-C500D-1.	May 23, 1986
USCOPYRIGHT TX 003268124	[DSC-XLA, revision A 4.1]	March 13, 1992
USCOPYRIGHT TX 001911923	PRG-C500D-1. By Johnson Controls, Inc.	September 15, 1986
USCOPYRIGHT TX 001911922	PRG-C500E-2. By Johnson Controls, Inc.	September 15, 1986
USCOPYRIGHT TX 001871429	PRG-C500F-1.	June 02, 1986
USCOPYRIGHT TX 001840425	PRG-C500E-2.	June 02, 1986
USCOPYRIGHT TX 003270323	[DSC-XLA].	March 18, 1992
USCOPYRIGHT TX 001871435	PRG-C500C-1.	June 02, 1986
USCOPYRIGHT TX 001871434	PRG-C500E-1.	June 02, 1986
USCOPYRIGHT TXu000189201	JC-5000 process control system.	April 09, 1985
USCOPYRIGHT TX 001660525	Johnson Controls Counterline product catalog. By Johnson Controls, Inc.	May 17, 1985
USCOPYRIGHT TX 001554064	Digital to proportional interface : PRG-N500-1.	April 08, 1985
USCOPYRIGHT CSN0059431 1984	Johnson Controls : control products catalog : including Penn and Baso control products for heating, air conditioning, and refrigeration in commercial, industrial, and residential applications.	
USCOPYRIGHT VA 000226870	Structural induction bending.	May 30, 1986

U.S. Copyright Registration	Title	Registration Date
USCOPYRIGHT TX 001517022	Johnson Controls Counterline product catalog.	February 08, 1985
USCOPYRIGHT TX 001365799	Custom programmed maintenance.	July 17, 1984
USCOPYRIGHT TX 001133093	Counterline.	June 08, 1983
USCOPYRIGHT TX 000529538	Integrated systems for correctional facilities : [publication no. 1174]	August 18, 1980
USCOPYRIGHT TX 000529539	EPAK : calculations to determine potential energy savings : [publication no. 1177]	August 18, 1980
USCOPYRIGHT TX 000529540	The Systems company : [publication no. 2101]	August 18, 1980
USCOPYRIGHT TX 000508496	Fire management for high rise office buildings : a cost-effective means of compliance with national and local codes.	July 14, 1980
USCOPYRIGHT TX 000493854	Systems Engineering & Construction Division : Johnson Controls.	June 16, 1980
USCOPYRIGHT TX 000528627	Now you can own your own small-building automation system / Fred Brengel.	August 01, 1980
USCOPYRIGHT TX 000528629	George Jacobi tells how the new Johnson Controls JC/85 gives your clients total control of buildings as small as 50,000 square feet.	August 01, 1980
USCOPYRIGHT TX 000461367	How Johnson Controls give Jack Fishburn total control of Rolling Hills Country Club.	April 28, 1980
USCOPYRIGHT TX 000450655	How Johnson Controls gives Jack Fishburn total control of Rolling Hills Country Club.	March 27, 1980
USCOPYRIGHT TX 000442000	Control panels, consoles, and instrumentation : a unique capability where your special panel requirements are our standard offering.	March 28, 1980
USCOPYRIGHT TX 000431335	Energy manager thermostats, a new direction in controlling energy efficiency : [publication no. 1172].	March 11, 1980

U.S. Copyright Registration	Title	Registration Date
USCOPYRIGHT TX 000450656	How Johnson Controls give Mac McCarthy total control of the State Fund Building.	March 27, 1980
USCOPYRIGHT TX 000434972	Energy monitoring and control system (E M C S) San Bruno : contract number N62474-75-C-6547 : training manual, operating and maintenance manual : document no. TNG-90-SB-07-00.	March 18, 1980
USCOPYRIGHT TX 000399405	We keep on working even after you lock the door at night : [publication no. 2098].	January 21, 1980
USCOPYRIGHT TX 000394510	You'll sleep better tonight knowing your family is safe.	January 14, 1980
USCOPYRIGHT TX 000387210	JC/85/10 energy management system.	December 11, 1979
USCOPYRIGHT TX 000384280	JC/85/40 building automation system.	December 26, 1979
USCOPYRIGHT TX 000346495	Food processing instrumentation : [publication no. 1171].	October 16, 1979
USCOPYRIGHT TX 000343705	JC/80 building automation system : a multi-disciplined management tool.	October 12, 1979
USCOPYRIGHT TX 000358987	How Johnson controls gives John Crowley total control of Saint Johns Hospital.	October 24, 1979
USCOPYRIGHT TX 000301119	John Schade tells how Johnson Controls give you total control for Federal energy grants.	July 23, 1979
USCOPYRIGHT TX 000293883	How Johnson Controls gives Helmut Herbrechtsmeier total control of M G M Grand Hotel-Reno.	June 28, 1979
USCOPYRIGHT TX 000293882	How Johnson Controls gives Doctor Barry Farnham total control of Briarcliff High School.	June 28, 1979
USCOPYRIGHT TX 000231879	How Johnson Controls gives Dominick Vella total control of the United Cerebral Palsy Center.	April 24, 1979
USCOPYRIGHT TX 000280657	How Johnson Controls gives Superintendent Zaccarine total control of the Elmira School District.	June 21, 1979

U.S. Copyright Registration	Title	Registration Date
USCOPYRIGHT TX 000256446	How Johnson Controls gives Jim Markin total control of Benj. Franklin Plaza.	May 30, 1979
USCOPYRIGHT TX 000224219	How Johnson Controls gives Jim Markin total control of Benjamin Franklin Plaza.	March 20, 1979
USCOPYRIGHT TX 000219543	Sound and communication systems : [publication no. 2089].	March 28, 1979
USCOPYRIGHT TX 000252296	How Johnson Controls gives Father Moeller total control of Saint Elizabeth's.	April 19, 1979
USCOPYRIGHT TX 000205365	How Johnson Controls gives Charles Duggan total control of State Life.	March 13, 1979
USCOPYRIGHT TX 000255445	Schools and hospitals energy conservation grants program : Federal energy programs.	February 25, 1979
USCOPYRIGHT TX 000205366	How Johnson Controls gives Father Moeller total control of Saint Elizabeth's.	March 13, 1979
USCOPYRIGHT TX 000197370	Energy conservation control : an ideabook to help you save energy dollars.	February 26, 1979
USCOPYRIGHT TX 000278470	Fire management : an ideabook that shows how your building can manage fires and save lives. Automatically.	June 13, 1979
USCOPYRIGHT TX 000194913	Time-shared automated building service/tabs : [publication no. 2087].	November 03, 1978
USCOPYRIGHT TX 000156730	Branch office public relations guidebook : publication no. 2086.	November 01, 1978
USCOPYRIGHT TX 000025406	Plug-in energy management : Johnson Controls P L U S 4000 : [publication no. 1166].	April 06, 1978
USCOPYRIGHT TX 000018216	Div. 16 : communication and protective systems : an idea book that explains how Johnson Controls can help electrical contractors maximize profits : [publication no. 2071].	March 29, 1978

U.S. Copyright Registration	Title	Registration Date
USCOPYRIGHT TX 000025427	A Matter of life safety or death : 25 ways to check up on your building's fire and security systems.	April 10, 1978
USCOPYRIGHT TX 000018215	Diagnosing an ailing hospital : 10 simple symptoms of a hospital that's wasting energy : [publication no. 2079].	March 29, 1978
USCOPYRIGHT TX 000018214	Is your building secretly wasting away? : 8 quick checks that will tell you if your systems are heading for breakdown : [publication no. 2084].	March 29, 1978
USCOPYRIGHT TX 000018213	Readin', writin', and energy waste : 10 quick ways to tell if your school deserves a passing grade in energy conservation : [publication no. 2083].	March 29, 1978
USCOPYRIGHT TX 000018212	Uncovering energy waste : 10 do-it-yourself spot checks you can make in half an hour to save thousands of dollars : [publication no. 2082].	March 29, 1978
USCOPYRIGHT TX 000018208	Keeping your property prime : 48 things your building must do to stay ahead of the competition : [publication no. 2078].	March 29, 1978
USCOPYRIGHT TX 000018207	An RX for hospital fire and security systems : 25 ways your patients and staff should be protected now : [publication no. 2081].	March 29, 1978
USCOPYRIGHT TX 000018206	The ABC's of school life safety : 25 ways to evaluate your school's fire and security systems : [publication no. 2080].	March 29, 1978
USCOPYRIGHT TX 000018211	Building automation comes to the smaller building : to save energy dollars : [publication no. 2077].	March 29, 1978
USCOPYRIGHT TX 000018209	Johnson Controls can help your energy over-indulgent building save up to 25% per year : [publication no. 2075].	March 29, 1978
USCOPYRIGHT TX 000018210	Automated controls and energy management in multi-performance industrial complexes : an idea book to help your industrial	March 29, 1978

U.S. Copyright Registration	Title	Registration Date
	buildings save energy and money without sacrificing production : [publication no. 2076].	
USCOPYRIGHT TXu001895485	Truesite Workstation 3.02.	December 16, 2013
USCOPYRIGHT TXu001861687	TrueSTART Analyzer II PCC firmware 1.01.	April 04, 2013
USCOPYRIGHT TXu001861359	4100ES Master 2.01.	April 03, 2013
USCOPYRIGHT TXu001861355	TSI Analyzer 2.01.01.	April 03, 2013
USCOPYRIGHT TXu001861350	TrueSTART Analyzer II Firmware.	April 03, 2013
USCOPYRIGHT TXu001861345	TrueSTART Analyzer II Bootloader.	April 03, 2013
USCOPYRIGHT TXu001854148	EPS Boot Loader 1.02.	February 25, 2013
USCOPYRIGHT TXu001854144	EPS 1.02.	February 25, 2013
USCOPYRIGHT TXu001854142	ITCC Boot Loader 1.02.	February 25, 2013
USCOPYRIGHT TXu001854124	ITCC 1.02.	February 25, 2013
USCOPYRIGHT TXu001854114	DCAI Short Circuit CPU 1.01.	February 25, 2013
USCOPYRIGHT TXu001854107	DCAI MAIN CPU 1.01.	February 25, 2013
USCOPYRIGHT TXu001854106	NXNA Repeater 1.01.	February 25, 2013
USCOPYRIGHT TXu001854105	NXNA Hornstrobe 1.02.	February 25, 2013
USCOPYRIGHT TXu001854104	NXNA Hornstrobe Bootloader 1.01.	February 25, 2013
USCOPYRIGHT TXu001827498	TrueSITE Workstation 3.01.	September 04, 2012
USCOPYRIGHT TXu001827497	Network Programmer 1.5.	September 04, 2012
USCOPYRIGHT TXu001832784	Programmer NetSync 1.03.	June 11, 2012
USCOPYRIGHT TXu001832769	NXNA Hornstrobe notification device.	June 11, 2012
USCOPYRIGHT TXu001817128	EPS Slave.	June 11, 2012
USCOPYRIGHT TXu001817125	4100/4014 ES 1.03 Master.	June 11, 2012
USCOPYRIGHT TXu001815928	IDNET1+ Slave.	June 11, 2012
USCOPYRIGHT TXu001832780	Network System Integrator.	May 02, 2012
USCOPYRIGHT TXu001832773	TCP/IP Physical Bridge.	May 02, 2012

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USCOPYRIGHT TXu001832767	Modem Bridge.	May 02, 2012
USCOPYRIGHT TX 007519736	TrueSite Workstation 2.04.	March 21, 2012
USCOPYRIGHT TX 007469559	4100ES Master Code.	November 16, 2011
USCOPYRIGHT TX 007469555	BNIC 1.01.02.	November 16, 2011
USCOPYRIGHT TX 007453631	TrueSite Workstation 2.03.	September 22, 2011
USCOPYRIGHT TX 007383152	TrueSite Workstation 2.02.	March 29, 2011
USCOPYRIGHT TX 007321211	4100U MX Digital Loop Card.	September 16, 2010
USCOPYRIGHT TX 007168304	TrueSite Workstation 2.01.	January 11, 2010
USCOPYRIGHT TX 006977930	[No title on deposit.]	January 11, 2008
USCOPYRIGHT TX 006977933	[No title on deposit.]	January 11, 2008
USCOPYRIGHT TX 006210246	Fire panel configuration & control software : version 8.04 / author, Marty Steinberg.	September 23, 2005
USCOPYRIGHT TX 006190136	Fire panel configuration & control software : version 11.01.	July 29, 2005
USCOPYRIGHT TX 006194912	Fire panel configuration & control software : version 10.01.	July 29, 2005
USCOPYRIGHT V 00352655100000	Fire panel configuration & control software, version 9.02 & 2 other titles; software.	
USCOPYRIGHT V 00352655100000	Fire panel configuration & control software, version 9.02 & 2 other titles; software.	
USCOPYRIGHT TXu002095896	The Sensormatic Global Shrink Index.	April 27, 2018
USCOPYRIGHT VAu001116499	S Logo.	September 12, 2012
USCOPYRIGHT VAu001116496	Hand Logo Design.	September 12, 2012
USCOPYRIGHT TX 007631718	CCURE 800/8000 Security System Version 10.3.0.	December 05, 2012
USCOPYRIGHT TX 007631707	CCURE 800/8000 Security System Version 10.2.0.	December 05, 2012
USCOPYRIGHT TX 007473413	CCURE 9000 Security System Version 2.02.	November 10, 2011
USCOPYRIGHT TX 007466928	CCURE 9000 Security System Version 2.01.	November 09, 2011

U.S. Copyright Registration	Title	Registration Date
USCOPYRIGHT TX 007400529	CCURE 800/8000 Security System Version 10.1.0.	May 24, 2011
USCOPYRIGHT TX 007451724	CCURE 9000 Security System Version 1.93.	September 20, 2011
USCOPYRIGHT TX 007390047	CCURE 800/8000 Security System Version 10.0.0.	April 21, 2011
USCOPYRIGHT VA 001698889	Circle Device with Curves.	January 07, 2010
USCOPYRIGHT TX 007451766	CCURE 9000 Security System Version 1.92.	September 20, 2011
USCOPYRIGHT TX 006605242	Ultra post configurator 6.41.	June 21, 2007
USCOPYRIGHT TX 001748456	Sensormatic : profits through merchandise preservation.	February 03, 1986
USCOPYRIGHT TX 001678515	From the leader in loss prevention : Calculating your return on an investment with Sensormatic.	October 17, 1985
USCOPYRIGHT VA 001355229	Warning labels : no. 649A1032.	February 02, 2006
USCOPYRIGHT VA 001363285	Computer control system, control panel assembly : no. 645D0708.	February 03, 2006
USCOPYRIGHT TX 006318181	Computer control system control panel assembly : object code.	February 14, 2006
USCOPYRIGHT TX 006333623	Warning labels : object code.	February 14, 2006
USCOPYRIGHT VA 001355798	Motor starter assy 1HP to 15HP nema 4X : no. 644D0034.	February 02, 2006
USCOPYRIGHT TX 006351501	Motor starters ASSY 1HP to 15HP NEMA 4X : object code.	February 14, 2006
USCOPYRIGHT VA 001353223	Wiring diagram/panel layout starter panel : no. AA-05-95-MUA-Q.	February 02, 2006
USCOPYRIGHT TX 006343090	Wiring diagram/panel layout.	February 14, 2006
USCOPYRIGHT TX 005230711	The Coleman pressure control system.	June 12, 2000
USCOPYRIGHT TX 004593888	Frick quantum control panel, version 2.02.	May 19, 1997
USCOPYRIGHT TX 006349996	Label-panel check out : object code.	February 14, 2006
USCOPYRIGHT TX 004460073	Frick quantum control panel : version 1.0.	January 21, 1997

U.S. Copyright Registration	Title	Registration Date
USCOPYRIGHT TX 004045995	""Win one"" facility manager.	May 12, 1995
USCOPYRIGHT TX 003170719	Frigid select : evaporator selection program.	October 09, 1991
USCOPYRIGHT TX 003268931	Frigid select (evaporator selection program) By York International Corporation.	January 16, 1992