PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT7126214

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
TIGO ENERGY, INC.	01/18/2022

RECEIVING PARTY DATA

Name:	NEWLIGHT CAPITAL LLC
Street Address:	525 MIDDLEFIELD ROAD, SUITE 250
City:	MENLO PARK
State/Country:	CALIFORNIA
Postal Code:	94025

PROPERTY NUMBERS Total: 98

Property Type	Number
Patent Number:	8751053
Patent Number:	7884278
Patent Number:	7807919
Patent Number:	9218013
Patent Number:	7898112
Patent Number:	8098055
Patent Number:	8058747
Patent Number:	7602080
Patent Number:	8860246
Patent Number:	10110007
Patent Number:	10615603
Patent Number:	8653689
Patent Number:	8325059
Patent Number:	7839022
Patent Number:	8093757
Patent Number:	8963518
Patent Number:	9594392
Patent Number:	8860241
Patent Number:	8773236
Patent Number:	9143036

Property Type	Number
Patent Number:	9584021
Patent Number:	9966848
Patent Number:	10333405
Patent Number:	8405349
Patent Number:	8271599
Patent Number:	9124139
Patent Number:	10135385
Patent Number:	10749457
Patent Number:	8854193
Patent Number:	9377765
Patent Number:	10063056
Patent Number:	10523013
Patent Number:	11081889
Patent Number:	8039730
Patent Number:	8415552
Patent Number:	8102074
Patent Number:	8274172
Patent Number:	8954203
Patent Number:	9401439
Patent Number:	10756545
Patent Number:	8933321
Patent Number:	10312857
Patent Number:	9312697
Patent Number:	9991842
Patent Number:	8314375
Patent Number:	8686333
Patent Number:	9324885
Patent Number:	10128683
Patent Number:	11201494
Patent Number:	8922061
Patent Number:	9312399
Patent Number:	10355637
Patent Number:	9007210
Patent Number:	8823218
Patent Number:	9397612
Patent Number:	9813021
Patent Number:	10256770
Patent Number:	10686403

Property Type	Number
Patent Number:	8853886
Patent Number:	9225261
Patent Number:	8957544
Patent Number:	9450414
Patent Number:	9882390
Patent Number:	10454275
Patent Number:	9425783
Patent Number:	10461570
Patent Number:	8841916
Patent Number:	9043039
Patent Number:	9927822
Patent Number:	10754365
Patent Number:	9142965
Patent Number:	9847646
Patent Number:	10819117
Patent Number:	9431825
Patent Number:	10312692
Patent Number:	8982591
Patent Number:	9368965
Patent Number:	10673244
Patent Number:	9000919
Patent Number:	9543455
Patent Number:	10673245
Patent Number:	11171490
Patent Number:	10218307
Patent Number:	11177769
Patent Number:	10615607
Patent Number:	9991843
Patent Number:	10361654
Application Number:	17225885
Application Number:	16841408
Application Number:	17001485
Application Number:	16899351
Application Number:	15996370
Application Number:	17526793
Application Number:	16389775
Application Number:	17351071
Application Number:	16841400

Property Type	Number
Application Number:	14964342
Application Number:	16881540

CORRESPONDENCE DATA

Fax Number: (215)963-5001

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 2159634890
Email: katie.kinsman@morganlewis.com
Correspondent Name: KATIE KINSMAN
Address Line 1: MORGAN, LEWIS & BOCKIUS, LLP
Address Line 2: 1701 MARKET STREET
Address Line 4: PHILADELPHIA, PENNSYLVANIA 19103

ATTORNEY DOCKET NUMBER:	129136-0013
NAME OF SUBMITTER:	KATIE C. KINSMAN
SIGNATURE:	/Katie C. Kinsman/
DATE SIGNED:	01/18/2022

Total Attachments: 16
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SHORT FORM INTELLECTUAL PROPERTY SECURITY AGREEMENT

This SHORT FORM INTELLECTUAL PROPERTY SECURITY AGREEMENT (the "Short Form Agreement") is made by **TIGO ENERGY, INC.**, a Delaware corporation ("Grantor"), and dated as of January 18, 2022, in favor of **NEWLIGHT CAPITAL LLC**, a North Carolina limited liability company, as servicer ("Servicer"), (i) for itself and for the benefit of **UMB BANK, NATIONAL ASSOCIATION**, as Trustee, solely in its capacity as disbursing agent ("Disbursing Agent") and the Insurer, and (ii) as collateral agent for the benefit of the Trustee under the Trust Indenture.

WITNESSETH:

WHEREAS, the Grantor and Servicer entered into an Intellectual Property Security Agreement dated as of January 18, 2022 (as amended, restated, modified or supplemented from time to time, the "Intellectual Property Security Agreement"), and this Short Form Agreement is a supplement to the Intellectual Property Security Agreement; and

WHEREAS, this Short Form Agreement is executed for the purpose of filing a short form intellectual property security agreement with the United States Patent and Trademark Office (the "USPTO") and the United States Copyright Office (the "USCO"), which sets forth the Grantor's pledge of its intellectual property as a first priority security interest for certain indebtedness and other obligations of Grantor;

NOW, THEREFORE, in consideration of the premises, and for other good and valuable consideration as set forth in the Intellectual Property Security Agreement, the receipt and sufficiency of which are hereby acknowledged, the Grantor and Servicer hereby agree as follows:

1. GRANT OF SECURITY INTEREST.

Grantor hereby pledges, assigns and grants to Servicer (and its successors and assigns), (x)(i) for the benefit of the Servicer, (ii) as representative and for the benefit of the Insurer and (iii) as representative and for the benefit of Disbursing Agent, in order to secure prompt repayment and performance of any and all Obligations and in order to secure prompt performance by Grantor and each other Co-Obligor of each of their agreements, covenants and duties under the Disbursement Documents, and (y) as collateral agent for the benefit of the Trustee under the Trust Indenture in order to secure prompt repayment of any and all obligations of Grantor and each other Co-Obligor under the Trust Transaction Documents and in order to secure prompt performance by Grantor and each other Co-Obligor of each of their agreements, covenants and duties under the Trust Transaction Documents, a continuing security interest in and a lien upon, and a collateral assignment of, all of the following (being collectively referred to herein as the "IP Collateral"):

a. all of its now existing or hereafter acquired right, title and interest in and to all patents, trademarks, copyrights, inventions, invention disclosures and improvements, and all applications, registrations and recordings relating to the foregoing, and any reissues, divisions, continuations, continuations-in-part, renewals, extensions, and/or reexaminations of any of the foregoing, as may at any time be filed in the USPTO or in any similar office or agency of the United States, any State thereof, any political subdivision thereof, or in any other country, including, without limitation, those set forth on Schedule A; provided, however, such security interest shall not extend to any "intent-to-use" trademark application filed pursuant to Section 1(b) of the Lanham Act, 15 U.S.C. § 1051, prior to the filing of a "Statement of Use" pursuant to Section

1(d) of the Lanham Act or an "Amendment to Allege Use" pursuant to Section 1(c) of the Lanham Act with respect thereto, to the extent that, and solely during the period, if any, in which, the grant of a security interest therein would impair the validity or enforceability of any registration that issues from such intent-to-use application under applicable federal law (it being understood that after such period such intent-to-use application shall be automatically subject to the security interest granted herein);

b. all rights of any kind whatsoever accruing under any of the foregoing throughout the world, including, without limitation, all rights under and interests in any and all patent, copyright or trademark licenses, whether written or oral, with any other party, and whether Grantor is a licensee or licensor under any such license (all of the foregoing are referred to, collectively, as the "Licenses");

c. all income, fees, royalties and other payments at any time due or payable with respect thereto, including, without limitation payments under any and all Licenses at any time entered into in connection therewith; and

d. any and all claims and/or causes of actions with respect to any of the foregoing, whether occurring before, on, or after the date hereof, including without limitation all rights to and claims for damages, restitution and injunctive and other legal and equitable relief for past, present, and/or future infringement, violation, misuse, breach, or default, with the right but not the obligation to sue for such legal and equitable relief and to collect, or otherwise recover, any such damages.

2. MISCELLANEOUS

a. To the extent that Grantor creates or acquires any items of the type described in Section 1 after the date hereof, the same shall immediately constitute IP Collateral for purposes hereof from and after the date of such creation or acquisition and shall immediately be subject to the security interest and assignment set forth herein. Grantor shall give to Servicer written notice of any such creation or acquisition (that is not Excluded Property) within 15 days thereof. Upon the request of Servicer, Grantor shall promptly execute any and all assignments, agreements, instruments, documents and other papers as may be reasonably requested by Servicer to evidence and/or perfect the security interest in and collateral assignment of such items in favor of Servicer, including, without limitation, in Servicer's discretion, a modification, amendment or supplement hereof or a new short form intellectual property security agreement with respect thereto.

b. Grantor authorizes the Commissioner for Patents, the Commissioner for Trademarks, Commissioner of Copyrights and any other government officials to record this Short Form Agreement upon request of Servicer.

c. This Short Form Agreement has been entered into pursuant to, and in conjunction with, the Intellectual Property Security Agreement, and the terms and provisions thereof are incorporated by reference herein. The rights and remedies of Servicer with respect to the security interests described herein are as provided by the Intellectual Property Security Agreement and nothing in this Short Form Agreement shall be deemed to limit such rights and remedies.

d. This Short Form Agreement is binding on and shall inure to the benefit of the parties hereto, and their respective successors and assigns.

e. All capitalized terms not expressly defined herein shall have the definitions ascribed to them in the Intellectual Property Security Agreement and the Disbursing Agreement (as defined in the Intellectual Property Security Agreement) and are incorporated herein by reference. If there is a conflict between the definitions, terms, and/or provisions of this Short Form Agreement and the Intellectual Property Security Agreement, the definitions, terms, and/or provisions of the Intellectual Property Security Agreement shall control.

f. This Short Form Agreement may be executed in any number of counterparts and by different parties on separate counterparts, each of which, when executed and delivered, shall be deemed to be an original, and all of which, when taken together, shall constitute but one and the same agreement. Delivery of an executed signature page or counterpart (or electronic image or scan transmission (such as a "pdf" file) thereof), whether by facsimile transmission, email, similar form of electronic transmission or otherwise (and whether executed manually, electronically or digitally), shall be effective as delivery of a manually executed counterpart of this Short Form Agreement and shall create a valid and binding obligation of the party executing the same or on whose behalf such signature page or counterpart is executed.

g. THIS SHORT FORM AGREEMENT SHALL BE GOVERNED BY NEW YORK LAW, WITHOUT REGARD TO PRINCIPLES OF CONFLICTS OF LAW THAT WOULD RESULT IN THE APPLICATION OF THE LAW OF A STATE OTHER THAN NEW YORK.

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IN WITNESS WHEREOF, the undersigned have duly executed this Short Form Agreement as of the date first above written.

TIGO ENERGY, INC., as Grantor

By: _____
Name: Zvi Alon
Title: Chief Executive Officer

[Signature Page to Short Form IP Agreement]

ACCEPTED AND AGREED:

NEWLIGHT CAPITAL LLC, as Servicer

By: Kevin Wallace

Name: Kevin Wallace
Title: Vice President

[Signature Page to Short Form IP Agreement]

SCHEDULE A
TO
SHORT FORM INTELLECTUAL PROPERTY SECURITY AGREEMENT

(See attached)

Title	Country	Status	Filed Date	Application No.	Grant Date	Patent No.	Owner
METHOD AND SYSTEM TO PROVIDE A DISTRIBUTED LOCAL ENERGY PRODUCTION SYSTEM WITH HIGH-VOLTAGE DC BUS	United States of America	Granted	10/19/2007	11/875,799	6/10/2014	8,751,053	Tigo Energy, Inc.
APPARATUSES AND METHODS TO REDUCE SAFETY RISKS ASSOCIATED WITH PHOTOVOLTAIC SYSTEMS	China	Granted	10/30/2008	200880114564.0	7/10/2013	CN101849292B	Tigo Energy, Inc.
APPARATUSES AND METHODS TO REDUCE SAFETY RISKS ASSOCIATED WITH PHOTOVOLTAIC SYSTEMS	European Patent	Published	10/30/2008	08845104.2			Tigo Energy, Inc.
APPARATUSES AND METHODS TO REDUCE SAFETY RISKS ASSOCIATED WITH PHOTOVOLTAIC SYSTEMS	United States of America	Granted	10/20/2008	12/254,780	2/8/2011	7,884,278	Tigo Energy, Inc.
APPARATUSES AND METHODS TO REDUCE SAFETY RISKS ASSOCIATED WITH PHOTOVOLTAIC SYSTEMS	United States of America	Granted	2/5/2009	12/366,597	10/5/2010	7,807,919	Tigo Energy, Inc.
METHOD AND SYSTEM FOR CONNECTING SOLAR CELLS OR SLICES IN A PANEL SYSTEM	China	Granted	11/10/2008	200880114659.2	4/3/2013	ZL200880114659.2	Tigo Energy, Inc.
METHOD AND SYSTEM FOR CONNECTING SOLAR CELLS OR SLICES IN A PANEL SYSTEM	European Patent	Granted	11/10/2008	08850862.7	12/1/2021	2188844	Tigo Energy, Inc.
METHOD AND SYSTEM FOR CONNECTING SOLAR CELLS OR SLICES IN A PANEL SYSTEM	United States of America	Granted	10/17/2008	12/253,868	12/22/2015	9,218,013	Tigo Energy, Inc.
METHOD AND SYSTEM FOR CONNECTING SOLAR CELLS OR SLICES IN A PANEL SYSTEM	United States of America	Published	12/9/2015	14/964,342			Tigo Energy, Inc.
APPARATUSES AND METHODS TO CONNECT POWER SOURCES TO AN ELECTRIC POWER SYSTEM	United States of America	Granted	10/29/2008	12/260,720	3/1/2011	7,898,112	Tigo Energy, Inc.
STEP-UP CONVERTER SYSTEMS AND METHODS	United States of America	Granted	8/29/2008	12/202,110	1/17/2012	8,098,055	Tigo Energy, Inc.
SYSTEMS TO CONNECT MULTIPLE DIRECT CURRENT ENERGY SOURCES TO AN ALTERNATING CURRENT SYSTEM TO AN ALTERNATING CURRENT SYSTEM	United States of America	Granted	12/19/2008	12/340,540	11/15/2011	8,058,747	Tigo Energy, Inc.
SYSTEMS AND METHODS TO BALANCE SOLAR PANELS IN A MULTI-PANEL SYSTEM	China	Granted	6/18/2009	200980100766.4	3/13/2013	ZL200980100766.4	Tigo Energy, Inc.
SYSTEMS AND METHODS TO BALANCE SOLAR PANELS IN A MULTI-PANEL SYSTEM	Japan	Granted	6/18/2009	2011-537441	12/13/2013	5430669	Tigo Energy, Inc.

SYSTEMS AND METHODS TO BALANCE SOLAR PANELS IN A MULTI-PANEL SYSTEM	United States of America	Granted	3/25/2009	12/411,317	10/13/2009	7,602,080	Tigo Energy, Inc.
SYSTEMS AND METHODS TO BALANCE SOLAR PANELS IN A MULTI-PANEL SYSTEM	United States of America	Granted	9/25/2009	12/567,169	10/14/2014	8,860,246	Tigo Energy, Inc.
SYSTEMS AND METHODS TO BALANCE SOLAR PANELS IN A MULTI-PANEL SYSTEM	United States of America	Granted	10/13/2014	14/512,786	10/23/2018	10,110,007	Tigo Energy, Inc.
SYSTEMS AND METHODS TO BALANCE SOLAR PANELS IN A MULTI-PANEL SYSTEM	United States of America	Granted	10/16/2018	16/161,987	4/7/2020	10,615,603	Tigo Energy, Inc.
SYSTEMS AND METHODS TO BALANCE SOLAR PANELS IN A MULTI-PANEL SYSTEM	United States of America	Published	4/6/2020	16/841,400			Tigo Energy, Inc.
METHOD AND SYSTEM FOR CURRENT-MODE POWER LINE COMMUNICATIONS	United States of America	Granted	5/15/2009	12/467,117	2/18/2014	8,653,689	Tigo Energy, Inc.
METHOD AND SYSTEM FOR COST-EFFECTIVE POWER LINE COMMUNICATIONS FOR SENSOR DATA COLLECTION	United States of America	Granted	5/15/2009	12/467,116	12/4/2012	8,325,059	Tigo Energy, Inc.
A DEVICE FOR DISTRIBUTED MAXIMUM POWER TRACKING FOR SOLAR ARRAYS	Australia	Granted	7/12/2005	2005262278	1/19/2006	2005262278	Queensland State Department of Public Works, Central Queensland
DEVICE FOR DISTRIBUTED MAXIMUM POWER TRACKING FOR SOLAR ARRAYS	United States of America	Granted	7/12/2005	11/571,603	11/3/2010	7,839,022	Tigo Energy, Inc.
DEVICE FOR DISTRIBUTED MAXIMUM POWER TRACKING FOR SOLAR ARRAYS	United States of America	Granted	11/23/2010	12/953,337	1/10/2012	8,093,757	Tigo Energy, Inc.
DEVICE FOR DISTRIBUTED MAXIMUM POWER TRACKING FOR SOLAR ARRAYS	United States of America	Granted	12/9/2011	13/316,388	2/24/2015	8,963,518	Tigo Energy, Inc.
DEVICE FOR DISTRIBUTED MAXIMUM POWER TRACKING FOR SOLAR ARRAYS	United States of America	Granted	2/12/2015	14/620,805	3/14/2017	9,594,392	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR USING A POWER CONVERTER FOR TRANSMISSION OF DATA OVER THE POWER FEED	United States of America	Granted	7/21/2009	12/506,929	10/14/2014	8,860,241	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR A COMMUNICATION PROTOCOL BETWEEN A LOCAL CONTROLLER AND A MASTER CONTROLLER	United States of America	Granted	9/30/2010	12/895,745	7/8/2014	8,773,236	Tigo Energy, Inc.
SYSTEM AND METHOD FOR ENHANCED EFFICIENCY AUXILIARY POWER SUPPLY MODULE	United States of America	Granted	5/25/2010	12/787,205	9/22/2015	9,143,036	Tigo Energy, Inc.

SYSTEMS AND METHODS FOR ENHANCED EFFICIENCY AUXILIARY POWER SUPPLY MODULE	United States of America	Granted	8/10/2015	14/822,227	2/28/2017	9,584,021	Tigo Energy, Inc.
SYSTEM AND METHOD FOR ENHANCED EFFICIENCY AUXILIARY POWER SUPPLY MODULE	United States of America	Granted	12/28/2016	15/392,960	5/8/2018	9,966,848	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR ENHANCED EFFICIENCY AUXILIARY POWER SUPPLY MODULE	United States of America	Granted	5/2/2018	15/969,607	6/25/2019	10,333,405	Tigo Energy, Inc.
ENHANCED BATTERY STORAGE AND RECOVERY ENERGY SYSTEMS	United States of America	Granted	10/12/2009	12/577,698	3/26/2013	8,405,349	Tigo Energy, Inc.
SYSTEM AND METHOD FOR THEFT PREVENTION AND SECURE CERTIFICATE EXCHANGE	United States of America	Granted	1/6/2011	12/985,883	9/18/2012	8,271,599	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR AN IDENTIFICATION PROTOCOL BETWEEN A LOCAL CONTROLLER COUPLED TO CONTROL A SOLAR MODUEL AND A MASTER CONTROLLER	United States of America	Granted	4/30/2012	13/460,545	9/1/2015	9,124,139	Tigo Energy, Inc.
IDENTIFICATION PROTOCOL BETWEEN A LOCAL CONTROLLER OF A SOLAR MODULE AND A MASTER CONTROLLER	United States of America	Granted	8/4/2015	14/817,949	11/20/2018	10,135,385	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR AN IDENTIFICATION PROTOCOL BETWEEN A LOCAL CONTROLLER OF A SOLAR MODULE AND A MASTER CONTROLLER	United States of America	Granted	10/16/2018	16/161,904	8/18/2020	10,749,457	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR REMOTE OR LOCAL SHUT-OFF OF A PHOTOVOLTAIC SYSTEM	United States of America	Granted	3/28/2011	13/073,915	10/7/2014	8,854,193	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR REMOTE OR LOCAL SHUT-OFF OF A PHOTOVOLTAIC SYSTEM	United States of America	Granted	10/1/2014	14/503,723	6/28/2016	9,377,765	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR REMOTE OR LOCAL SHUT-OFF OF A PHOTOVOLTAIC SYSTEM	United States of America	Granted	6/17/2016	15/186,330	8/28/2018	10,063,056	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR REMOTE OR LOCAL SHUT-OFF OF A PHOTOVOLTAIC SYSTEM	United States of America	Granted	8/6/2018	16/055,789	12/31/2019	10,523,013	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR REMOTE OR LOCAL SHUT-OFF OF A PHOTOVOLTAIC SYSTEM	United States of America	Granted	12/27/2019	16/729,100	8/3/2021	11,081,889	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR COMMUNICATION PROTOCOL BETWEEN A LOCAL CONTROLLER AND A MASTER CONTROLLER	United States of America	Published	6/17/2021	17/351,071			Tigo Energy, Inc.

SYSTEM AND METHOD FOR PREVENTION OF OPEN LOOP DAMAGE DURING OR IMMEDIATELY AFTER MANUFACTURING	United States of America	Granted	8/17/2009	12/542,632	10/18/2011	8,039,730	Tigo Energy, Inc.
SYSTEM AND METHOD FOR PREVENTION OF OPEN LOOP DAMAGE DURING OR IMMEDIATELY AFTER MANUFACTURING	United States of America	Granted	9/14/2011	13/232,887	4/9/2013	8,415,552	Tigo Energy, Inc.
SYSTEMS AND METHOD FOR LIMITING MAXIMUM VOLTAGE IN SOLAR PHOTOVOLTAIC POWER GENERATION SYSTEMS	United States of America	Granted	9/18/2009	12/562,933	1/24/2012	8,102,074	Tigo Energy, Inc.
SYSTEMS AND METHOD FOR LIMITING MAXIMUM VOLTAGE IN SOLAR PHOTOVOLTAIC POWER GENERATION SYSTEMS	United States of America	Granted	1/24/2012	13/357,331	9/25/2012	8,274,172	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR DISTRIBUTED POWER FACTOR CORRECTION AND PHASE BALANCING	United States of America	Granted	9/18/2009	12/562,491	2/10/2015	8,954,203	Tigo Energy, Inc.
ENHANCED SYSTEMS AND METHODS FOR USING A POWER CONVERTER FOR BALANCING MODULES IN SINGLE-STRING AND MULTI-STRING CONFIGURATIONS	United States of America	Granted	11/4/2009	12/612,641	7/26/2016	9,401,439	Tigo Energy, Inc.
ENHANCED SYSTEMS AND METHODS FOR USING A POWER CONVERTER FOR BALANCING MODULES IN SINGLE-STRING AND MULTI-STRING CONFIGURATIONS	United States of America	Granted	7/6/2016	15/203,595	8/25/2020	10,756,545	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR AN ENHANCED WATCHDOG IN SOLAR MODULE INSTALLATIONS	United States of America	Granted	12/1/2009	12/628,977	1/13/2015	8,933,321	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR AN ENHANCED WATCHDOG IN SOLAR MODULE INSTALLATIONS	United States of America	Granted	12/16/2014	14/572,458	6/4/2019	10,312,857	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR AN ENHANCED WATCHDOG IN SOLAR MODULE INSTALLATIONS	United States of America	Published	4/19/2019	16/389,775			Tigo Energy, Inc.
SYSTEMS AND METHODS FOR AN ENHANCED WATCHDOG IN SOLAR MODULE INSTALLATIONS	United States of America	Application	11/15/2021	17/526,793			Tigo Energy, Inc.
NOVEL SYSTEM AND METHOD FOR ADDRESSING SOLAR ENERGY PRODUCTION CAPACITY LOSS DUE TO FIELD BUILDUP BETWEEN CELLS AND GLASS AND FRAME ASSEMBLY	United States of America	Granted	12/1/2009	12/628,997	4/12/2016	9,312,697	Tigo Energy, Inc.

SYSTEMS AND METHODS TO REDUCE FIELD BUILDUP BETWEEN CELLS AND GLASS AND FRAME ASSEMBLY FOR SOLAR ENERGY PRODUCTION	United States of America	Granted	3/1/2016	15/057,955	6/5/2018	9,991,842	Tigo Energy, Inc.
SYSTEMS AND METHODS TO REDUCE FIELD BUILDUP BETWEEN CELLS AND GLASS AND FRAME ASSEMBLY FOR SOLAR ENERGY PRODUCTION	United States of America	Allowed	6/1/2018	15/996,370			Tigo Energy, Inc.
SYSTEM AND METHOD FOR LOCAL STRING MANAGEMENT UNIT	United States of America	Granted	1/21/2010	12/691,692	11/20/2012	8,314,375	Tigo Energy, Inc.
SYSTEM AND METHOD FOR LOCAL STRING MANAGEMENT UNIT	United States of America	Granted	9/26/2012	13/627,852	4/1/2014	8,686,333	Tigo Energy, Inc.
SYSTEMS AND METHODS TO PROVIDE ENHANCED DIODE BYPASS PATHS	United States of America	Granted	3/15/2010	12/724,371	4/26/2016	9,324,885	Tigo Energy, Inc.
SYSTEMS AND METHODS TO PROVIDE ENHANCED DIODE BYPASS PATHS	United States of America	Granted	4/13/2016	15/098,075	11/13/2018	10,128,683	Tigo Energy, Inc.
SYSTEMS AND METHODS TO PROVIDE ENHANCED DIODE BYPASS PATHS	United States of America	Granted	10/5/2018	16/152,766	12/14/2021	11,201,494	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR DETECTING AND CORRECTING A SUBOPTIMAL OPERATION OF ONE OR MORE INVERTERS IN A MULTI-INVERTER SYSTEM	United States of America	Granted	7/20/2010	12/840,228	12/30/2014	8,922,061	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR MAPPING THE CONNECTIVITY TOPOLOGY OF LOCAL MANAGEMENT UNITS IN PHOTOVOLTAIC ARRAYS	United States of America	Granted	10/14/2010	12/904,919	4/12/2016	9,312,399	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR MAPPING THE CONNECTIVITY TOPOLOGY OF LOCAL MANAGEMENT UNITS IN PHOTOVOLTAIC ARRAYS	United States of America	Granted	4/5/2016	15/090,939	7/16/2019	10,355,637	Tigo Energy, Inc.
ENHANCED SYSTEM AND METHOD FOR THEFT PREVENTION IN A SOLAR POWER ARRAY DURING NONOPERATIVE PERIODS	United States of America	Granted	4/21/2011	13/092,099	4/14/2015	9,007,210	Tigo Energy, Inc.
SYSTEM AND METHOD FOR ENHANCED WATCH DOG IN SOLAR PANEL INSTALLATIONS	European Patent	Granted	4/22/2011	11772811.3	5/22/2019	2561596	Tigo Energy, Inc.
SYSTEM AND METHOD FOR ENHANCED WATCH DOG IN SOLAR PANEL INSTALLATIONS	Germany (Federal Republic of)	Granted	4/22/2011	11772811.3	5/22/2019	602011059209.2	Tigo Energy, Inc.
SYSTEM AND METHOD FOR ENHANCED WATCH DOG IN SOLAR PANEL INSTALLATIONS	Spain	Granted	4/22/2011	11772811.3	5/22/2019	2561596	Tigo Energy, Inc.

SYSTEM AND METHOD FOR ENHANCED WATCH DOG IN SOLAR PANEL INSTALLATIONS	France	Granted	4/22/2011	11772811.3	5/22/2019	2561596	Tigo Energy, Inc.
SYSTEM AND METHOD FOR ENHANCED WATCH DOG IN SOLAR PANEL INSTALLATIONS	Italy	Granted	4/22/2011	11772811.3	5/22/2019	2561596	Tigo Energy, Inc.
SYSTEM AND METHOD FOR ENHANCED WATCH DOG IN SOLAR PANEL INSTALLATIONS	Netherlands	Granted	4/22/2011	11772811.3	5/22/2019	2561596	Tigo Energy, Inc.
SYSTEM AND METHOD FOR ENHANCED WATCH DOG IN SOLAR PANEL INSTALLATIONS	United States of America	Granted	4/22/2011	13/092,783	9/2/2014	8,823,218	Tigo Energy, Inc.
SYSTEM AND METHOD FOR ENHANCED WATCH DOG IN SOLAR PANEL INSTALLATIONS	United States of America	Granted	8/29/2014	14/473,659	7/19/2016	9,397,612	Tigo Energy, Inc.
SYSTEM AND METHOD FOR ENHANCED WATCH DOG IN SOLAR PANEL INSTALLATIONS	United States of America	Granted	7/6/2016	15/203,713	11/7/2017	9813021	Tigo Energy, Inc.
SYSTEM AND METHOD FOR ENHANCED WATCH DOG IN SOLAR PANEL INSTALLATIONS	United States of America	Granted	9/27/2017	15/717,244	4/9/2019	10,256,770	Tigo Energy, Inc.
SYSTEM AND METHOD FOR ENHANCED WATCH DOG IN SOLAR PANEL INSTALLATIONS	United States of America	Granted	3/5/2019	16/293,514	6/16/2020	10,686,403	Tigo Energy, Inc.
SYSTEM AND METHOD FOR ENHANCED WATCH DOG IN SOLAR PANEL INSTALLATIONS	United States of America	Allowed	6/11/2020	16/899,351			Tigo Energy, Inc.
SYSTEM FOR USE OF STATIC INVERTERS IN VARIABLE ENERGY GENERATION ENVIRONMENTS	United States of America	Granted	5/31/2011	13/149,163	10/7/2014	8,853,886	Tigo Energy, Inc.
METHOD FOR USE OF STATIC INVERTERS IN VARIABLE ENERGY GENERATION ENVIRONMENTS	United States of America	Granted	5/31/2011	13/149,172	12/29/2015	9,225,261	Tigo Energy, Inc.
SYSTEMS AND METHODS TO OPTIMIZE OUTPUTS OF STATIC INVERTERS IN VARIABLE ENERGY GENERATION ENVIRONMENTS	United States of America	Granted	6/9/2011	13/157,016	2/17/2015	8,957,544	Tigo Energy, Inc.
METHOD FOR USE OF STATIC INVERTERS IN VARIABLE ENERGY GENERATION ENVIRONMENTS	United States of America	Granted	12/9/2015	14/964,388	9/20/2016	9,450,414	Tigo Energy, Inc.
METHOD FOR USE OF STATIC INVERTERS IN VARIABLE ENERGY GENERATION ENVIRONMENTS	United States of America	Granted	9/20/2016	15/270,997	1/30/2018	9,882,390	Tigo Energy, Inc.
METHOD FOR USE OF STATIC INVERTERS IN VARIABLE ENERGY GENERATION ENVIRONMENTS	United States of America	Granted	1/9/2018	15/866,078	10/22/2019	10,454,275	Tigo Energy, Inc.
SYSTEMS AND METHODS TO PROVIDE ENHANCED DIODE BYPASS PATHS	United States of America	Granted	9/16/2011	13/235,064	8/23/2016	9,425,783	Tigo Energy, Inc.

SYSTEMS AND METHODS TO PROVIDE ENHANCED DIODE BYPASS PATHS	United States of America	Granted	8/22/2016	15/243,493	10/29/2019	10,461,570	Tigo Energy, Inc.
SYSTEM AND METHOD FOR FLASH BYPASS	United States of America	Granted	11/1/2011	13/287,021	9/23/2014	8,841,916	Tigo Energy, Inc.
SYSTEM AND METHOD FOR ARC DETECTION AND INTERVENTION IN LARGE SOLAR ENERGY SYSTEMS	United States of America	Granted	3/29/2011	13/075,093	5/26/2015	9,043,039	Tigo Energy, Inc.
SYSTEM AND METHOD FOR ARC DETECTION AND INTERVENTION IN LARGE SOLAR ENERGY SYSTEMS	United States of America	Granted	5/21/2015	14/718,426	3/27/2018	9,927,822	Tigo Energy, Inc.
SYSTEM AND METHOD FOR ARC DETECTION AND INTERVENTION IN SOLAR ENERGY SYSTEMS	United States of America	Granted	3/23/2018	15/933,861	8/25/2020	10,754,365	Tigo Energy, Inc.
SYSTEM AND METHOD FOR ARC DETECTION AND INTERVENTION IN SOLAR ENERGY SYSTEMS	United States of America	Published	8/24/2020	17/001,485			Tigo Energy , Inc.
SYSTEM AND METHOD TO COMBINE STRINGS OF SOLAR PANELS	United States of America	Granted	12/20/2011	13/332,299	9/22/2015	9,142,965	Tigo Energy, Inc.
SYSTEMS AND METHODS TO COMBINE STRINGS OF SOLAR PANELS	United States of America	Granted	8/14/2015	14/827,023	12/19/2017	9,847,646	Tigo Energy, Inc.
SYSTEMS AND METHODS TO COMBINE STRINGS OF SOLAR PANELS	United States of America	Granted	12/18/2017	15/845,980	10/27/2020	10,819,117	Tigo Energy , Inc.
SYSTEM AND METHOD TO REDUCE THE NUMBER AND COST OF MANAGEMENT UNITS OF DISTRIBUTED POWER GENERATORS	United States of America	Granted	1/9/2012	13/346,482	8/30/2016	9,431,825	Tigo Energy, Inc.
SYSTEM AND METHOD TO REDUCE THE NUMBER AND COST OF MANAGEMENT UNITS OF DISTRIBUTED POWER GENERATORS	United States of America	Granted	8/1/2016	15/225,692	6/4/2019	10,312,692	Tigo Energy, Inc.
SYSTEM AND METHOD FOR EXCHANGEABLE CAPACITOR MODULES FOR HIGH-POWER INVERTERS AND CONVERTERS	United States of America	Granted	3/1/2012	13/410,175	3/17/2015	8,982,591	Tigo Energy, Inc.
ENHANCED SYSTEM AND METHOD FOR STRING-BALANCING	United States of America	Granted	3/12/2012	13/418,279	6/14/2016	9,368,965	Tigo Energy, Inc.
ENHANCED SYSTEM AND METHOD FOR STRING BALANCING	United States of America	Granted	6/3/2016	15/172,996	6/2/2020	10,673,244	Tigo Energy, Inc.
ENHANCED SYSTEM AND METHOD FOR STRING BALANCING	United States of America	Published	5/22/2020	16/881,540			Tigo Energy, Inc.
ANTI-THEFT SYSTEM AND METHOD FOR LARGE SOLAR PANEL SYSTEMS	United States of America	Granted	2/27/2013	13/779,456	4/7/2015	9,000,919	Tigo Energy, Inc.
SYSTEM AND METHOD FOR LOW-COST, HIGH-EFFICIENCY SOLAR PANEL POWER FEED	United States of America	Granted	4/23/2014	14/260,183	1/10/2017	9,543,455	Tigo Energy, Inc.

SYSTEM AND METHOD FOR LOW-COST, HIGH-EFFICIENCY SOLAR PANEL POWER FEED	United States of America	Granted	11/30/2016	15/365,753	6/2/2020	10,673,245	Tigo Energy, Inc.
SYSTEM AND METHOD FOR LOW-COST, HIGH-EFFICIENCY SOLAR PANEL POWER FEED	United States of America	Granted	5/29/2020	16/888,561	11/9/2021	11,171,490	Tigo Energy, Inc.
SOLAR PANEL JUNCTION BOXES HAVING INTEGRATED FUNCTION MODULES	United States of America	Granted	12/2/2015	14/957,503	2/26/2019	10,218,307	Tigo Energy, Inc.
SOLAR PANEL JUNCTION BOXES HAVING INTEGRATED FUNCTION MODULES	United States of America	Granted	2/7/2019	16/270,475	11/16/2021	11,177,769	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR QUICK DISSIPATION OF STORED ENERGY FROM INPUT CAPACITORS OF POWER INVERTERS	United States of America	Granted	5/19/2016	15/159,699	4/7/2020	10,615,607	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR QUICK DISSIPATION OF STORED ENERGY FROM INPUT CAPACITORS OF POWER INVERTERS	China	Granted	5/20/2016	201680029553.7	9/4/2020	ZL201680029553.7	Tigo Energy, Inc.
SYSTEMS AND METHODS FOR QUICK DISSIPATION OF STORED ENERGY FROM INPUT CAPACITORS OF POWER INVERTERS	United States of America	Application	4/6/2020	16/841,408			Tigo Energy, Inc.
CONTACTS FOR JUNCTION BOXES ON SOLAR PANELS	United States of America	Granted	6/2/2017	15/612,977	6/5/2018	9,991,843	Tigo Energy, Inc.
SYSTEM AND METHOD FOR NEW, ENHANCED CONTACTS FOR JUNCTION BOXES ON SOLAR PANELS	United States of America	Granted	6/1/2018	15/996,288	7/23/2019	10,361,654	Tigo Energy, Inc.
SYNCHRONIZATION OF SIGNALS TRANSMITTED OVER POWER LINES	United States of America	Published	4/8/2021	17/225,885			Tigo Energy, Inc.
SYSTEMS AND METHODS TO BALANCE SOLAR PANELS IN A MULTI-PANEL SYSTEM	United States of America	Granted	3/25/2009	90/010,892	5/31/2011	7,602,080	TBD

Mark Name	Image	Country	Status	Filed Date	Application No.	Reg. Date	Registration No.	Owner
TIGO	TIGO	United States of America	Registered	1/29/2009	77/659,595	4/6/2010	3,773,090	Tigo Energy, Inc.
TIGO ENERGY	TIGO ENERGY	United States of America	Registered	1/29/2009	77/659,613	9/7/2010	3,845,975	Tigo Energy, Inc.
TIGO	Tigo	United States of America	Registered	1/29/2009	77/659,634	4/6/2010	3,773,091	Tigo Energy, Inc.
TIGO ENERGY (stylized/design)	Tigo energy	United States of America	Registered	1/29/2009	77/659,647	8/24/2010	3,838,677	Tigo Energy, Inc.

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