

(12) **United States Patent**
Potucek et al.

(10) **Patent No.:** **US 11,096,862 B2**
(45) **Date of Patent:** **Aug. 24, 2021**

(54) **SYSTEMS AND METHODS FOR PROVIDING NETWORK CONNECTIVITY AND REMOTE MONITORING, OPTIMIZATION, AND CONTROL OF POOL/SPA EQUIPMENT**

(71) Applicant: **Hayward Industries, Inc.**, Berkeley Heights, NJ (US)

(72) Inventors: **Kevin Potucek**, Far Hills, NJ (US); **James Murdock**, Wakefield, RI (US); **James Carter**, Warren, RI (US); **Gregory Fournier**, West Kingston, RI (US); **Arthur W. Johnson, III**, Stoughton, MA (US); **Ray Denkwicz**, East Greenwich, RI (US); **David Blaine**, North Kingston, RI (US); **Jason DeBruin**, Brick, NJ (US); **Vance Willis**, Nunnely, TN (US); **Bruce Aubrey**, Nashville, TN (US); **Scott Petty**, Lewisville, NC (US); **Jason Parcell**, Pfafftown, NC (US); **Craig Horrocks**, North Kingston, RI (US)

(73) Assignee: **Hayward Industries, Inc.**, Berkeley Heights, NJ (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **15/413,141**

(22) Filed: **Jan. 23, 2017**

(65) **Prior Publication Data**

US 2017/0213451 A1 Jul. 27, 2017

Related U.S. Application Data

(60) Provisional application No. 62/414,545, filed on Oct. 28, 2016, provisional application No. 62/412,504, (Continued)

(51) **Int. Cl.**
A61H 33/00 (2006.01)
G05B 19/042 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC **A61H 33/005** (2013.01); **A61H 33/0087** (2013.01); **A61H 33/0095** (2013.01);
(Continued)

(58) **Field of Classification Search**
CPC G05D 7/0629; G05D 7/0635; G05D 21/02; G05B 15/02; G05B 19/042;
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,874,513 A 8/1932 Hall
1,991,775 A 2/1935 Spencer
(Continued)

FOREIGN PATENT DOCUMENTS

AU 2002356357 B2 5/2007
AU 2013100126 B4 6/2013
(Continued)

OTHER PUBLICATIONS

Hayward Underwater ColorLogic LED Lighting Fixtures for Swimming Pools and Spas (Generation 2.5), SP0524(S) / SP0525(S) / SP0532(S) / SP0533(S) Owner's Guide (2004) (12 pages).
(Continued)

Primary Examiner — Christopher E. Everett
(74) *Attorney, Agent, or Firm* — McCarter & English, LLP

(57) **ABSTRACT**

Systems and methods for providing network connectivity and remote monitoring, optimization, and control of pool/spa equipment are provided. "Internet-of-Things" (IoT) functionality is provided for pool and spa equipment in a flexible and cost-effective manner. Network connectivity
(Continued)

