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Title 20 Flexible Demand Appliance Standards for Pool Controls — Manufacturers

Pool controls manufactured on or after September 29, 2025, are required to comply with the marking, cybersecurity, communication, scheduling, remote operation, and consumer consent requirements listed in §1690-1697 of California's Flexible Demand Appliance Standards (FDAS). Products manufactured before September 29, 2025, are not in scope and may still be sold.

All in-scope products that are sold or offered for sale, rented, imported, distributed, or leased for use in California are required to be listed on the California Energy Commission's (CEC) Certification Database, a publicly available database that contains all regulated products that are legally allowed to be sold or offered for sale in California.

Compliance Process Summary

Compliance with the FDAS requirements entails the following for regulated pool controls:

1. Mark in accordance with §1692(b);
2. Meet cybersecurity requirements outlined in §1692(c);
3. Meet pool control requirements, including communication standards, clock synchronization, operating status, and default operation schedules outlined in §1693(b);
4. Be connected devices that:
   a. Meet consent requirements outlined in §1694(a);
   b. Meet requirements for remote requests outlined in §1694(b);
   c. Must wirelessly communicate via open standards with entities outside the device by means of integrated or separate communications hardware or software; a device that is able to receive but not send communication is not a connected device.
5. Comply with the certification requirements outlined in §1695(a) and (f);
6. Comply with the data submittal requirements for all appliances in §1696(a)(1) Table A-1, connected devices outlined in §1696(a)(2) Table A-2, and pool controls outlined in §1696(b) Table B-1.

It is illegal to sell or offer for sale a regulated product in California that is not certified to the CEC, even if the product meets all other requirements. Everyone in the sales chain—including manufacturers, distributors, retailers, contractors, and importers—is responsible for ensuring non-compliant products are not sold or offered for sale in California.

Quick Links
to Relevant Code Sections

Flexible Demand Appliance Standards - Title 20

- Section 1690 – Scope
- Section 1691 – Definitions
- Section 1692 – General Requirements
- Section 1693 – Appliance Specific Standards and Requirements
- Section 1694 – Customer and Consumer Consent
- Section 1695 – Certification Requirements
- Section 1696 – Data Submittal Requirements
- Section 1697 – Compliance, Enforcement, and Administrative Civil Penalties

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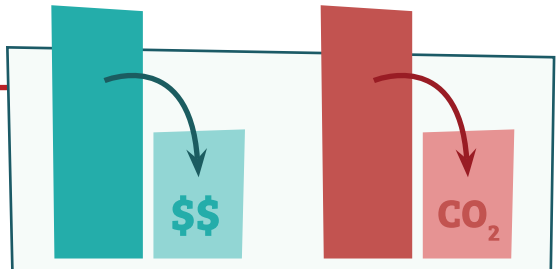
FDAS Background and Benefits

Senate Bill 49, Statutes of 2019, grants the CEC authority to establish FDAS that enable the deployment of flexible demand technologies. These standards are designed to support grid reliability and reduce greenhouse gas emissions by allowing appliances to shift, schedule, or curtail operations based on grid conditions—with end-user consent.

Pool controls are the first products regulated under FDAS. The regulation requires a default operational schedule that shifts energy-intensive functions—such as high-speed pool water filtration and electric heating—to midday when grid supplied renewable energy electricity is more readily available and rates are cheaper. Performing these activities during midday reduces peak load demand and strain on the grid.



These requirements will generate cost savings for consumers through reduced utility bills. According to the CEC's Final Staff Report for Pool Controls, each compliant pool control is expected to **save consumers approximately $1,131 over its 10-year lifetime** and **reduce greenhouse gas emissions** by an estimated **33,000 metric tons of CO_2 equivalent annually** statewide.

Scope of FDAS for Pool Controls

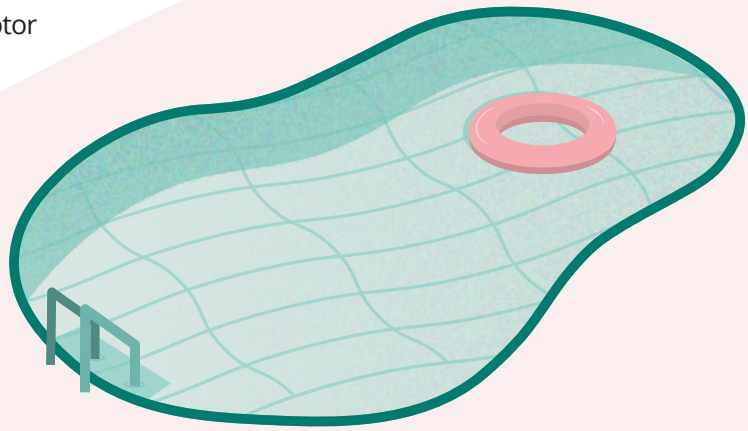
FDAS apply to all pool controls that control a pool filter pump. These controls may also coordinate the operation of other pool equipment, such as an electric pool heater or a pressure cleaner booster pump.

Devices in scope of the regulation include:

- Pool timers
- Pool pump switches
- Heater switches
- Direct load control switches
- Any component or group of components including software that has the capability, at a minimum, to schedule the operation or control the start and stop times of a pool filter pump

Devices *excluded* from the regulation:

- Controls marketed exclusively for use as a control for pool filter pumps with a rated hydraulic horsepower (hhp) greater than 2.5 hhp
- Safety interlock or shutoff controls
- Controls integral to a single pool filter pump or pump motor that are capable of controlling only that pump or motor



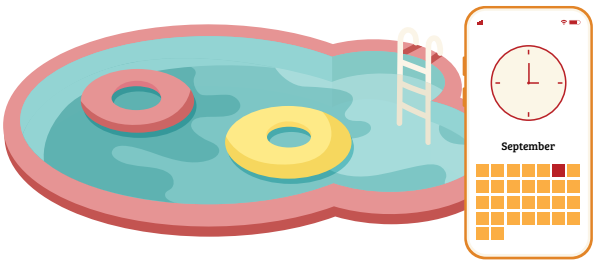
FDAS Requirements for Pool Controls

Marking

Manufacturers must mark products permanently and in a place that can be readily accessed without the use of tools to uncover. The manufacturer's name or brand, model number, and date of manufacture must be legible on the product.

Cybersecurity

Pool controls must meet flexible demand appliance cybersecurity regulations and comply with the North American Electric Reliability Corporation's (NERC) Critical Infrastructure Protection standards per §1692. This includes device identification, configuration, data protection, authentication, software update, restart settings, automatic rejoin, and override functions. These requirements support the secure and reliable operation of connected devices within flexible demand systems.



Clock Requirements

Pool controls must support the following clock-related functions:

- **Time retention:** In the event of a loss of power, the system settings shall be retained for at least 72 hours (e.g., operating schedules and local clock).
- **Time synchronization:** The system clock must automatically and continuously synchronize to the local time.
- **Manual control:** The system must provide manual start and stop control of the pool filter pump and any connected electric heater or pressure cleaner booster pump that rely on the pool filter pump's operation.
- **Schedule control:** The system must support setup, selection, and update of its operating schedule via a user interface. This interface may be located on a separate device able to communicate with the pool control via a wireless communications format.

Equipment in Separate Enclosures

Communication Requirements

Pool controls must be connected devices with two-way communication, meaning they can both send and receive data. They must use open standards (see Table 2 below) to connect with entities outside of the device, such as a pool owner's cellphone or computer. This connectivity allows for remote control of the device—such as starting, stopping, or adjusting schedules—by the pool owner or authorized third parties, always with the customer's or consumer's consent. The list in the table below suggests examples of open standards used by appliances for communication.

Table 2: Examples of Open Standards Used by Appliances for Communication

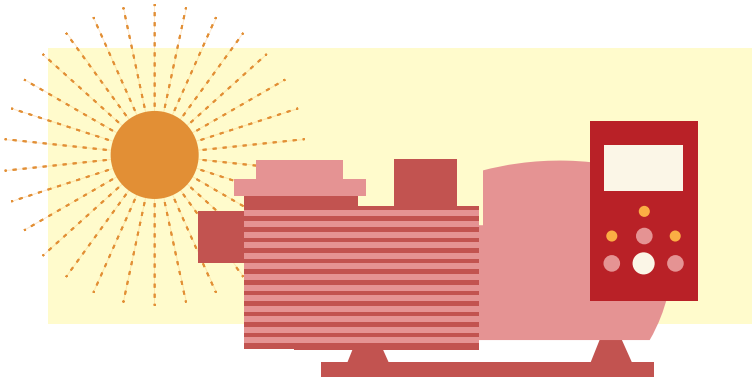
Open Standards (Description)	Agency Adopting/ Publishing Standard
ANSI/CTA-2045 (EcoPort)	American National Standards Institute (ANSI)
IEEE 802.11 (Wireless Local Area Networks)	Institute of Electrical and Electronics Engineers (IEEE)
IEC 62746-10-1, 62746 ED, and TR 62746-2 ED2 (Includes OpenADR 2.0b)	International Electrotechnical Commission (IEC)
ITU-T Recommendation Y. 4480 (LoRaWAN) ITU-T Recommendation G.9959 (Z-Wave)	International Telecommunication Union (ITU)

Note: Pool controls need to use the open standards at every communication layer. This table is not exhaustive and only provides examples of open standards that could be implemented. In all cases, multiple standards across various communication layers (e.g., physical, data link, network, etc.) will be necessary to ensure compliance with the FDAS requirements.

Operating Status

Pool controls must be capable of communicating their current operating status using open communication protocols. This requirement ensures that connected devices can provide timely and accurate information to external systems, such as utilities or aggregators. The operating status must include:

- **On/off status:** The device must indicate whether the pool pump is currently on or off.
- **Operating mode:** The device must report its stored schedule and if capable the real time power draw of the pool pump.



Pool pump

Default Operation Schedules

Pool controls shall be preprogrammed with a preconfigured or default operating schedule that shall:

- Schedule any default operation of the pool filter pump when operating at more than 50% of its maximum speed, the pressure cleaner booster pump, and electric pool heater between 9 a.m. and 3 p.m. local time.
- Not automatically operate these features between 4 p.m. and 9 p.m. local time.

Customer and Consumer Consent

FDAS for pool controls require all devices to include mechanisms for obtaining customer and consumer consent to enable flexible demand features, as detailed in §1694. A device must:

- Include packaging materials that explain the device's flexible demand capabilities, and if applicable, that the device includes features allowing third-party control with consumer consent
- Provide details on the manufacturer's website about flexible demand features and data use policies
- Offer electronic opt-in or opt-out features for flexible demand functions
- Obtain consent before collecting any consumer data
- Respond to authorized remote signals to start or stop device operation and adjust scheduling or performance when customer or consumer provides consent

Table B-1: Data Submitted Requirements for Pool Controls

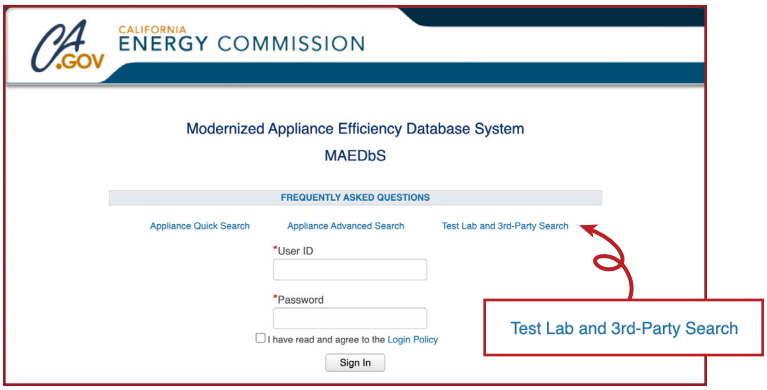
Required Information	Possible Answers
Unit communicates using open standards	True, False
Local control provides for start and stop of pool filter pump and dependent booster pumps and heaters	
Integrated or separate user interface is provided for setup, selection, and update of the operating schedule	
Unit retains memory for at least 72 hours without external power	
System clock has ability to sync with local time automatically	
The pool control is preprogrammed with a default operating schedule setting	
Default operation of pool filter pump at 250% of max rpm starting no earlier than 9 a.m. and ending by 3 p.m. local time	
Default operation of pressure cleaner booster pump starting no earlier than 9 a.m. and ending by 3 p.m. local time	
Default operation of electric pool heater starting no earlier than 9 a.m. and ending by 3 p.m. local time	
No default operation between 4 p.m. and 9 p.m. local time	
Unit is marked with its manufacturers name, its brand name, or its trademark: its model number: and its date of manufacture	

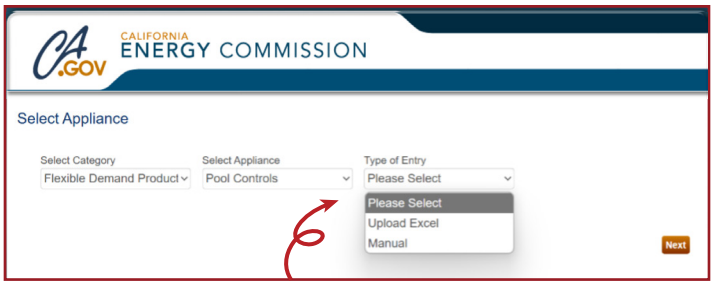
Certification

Manufacturers **must** certify their products to the California Certification Database as outlined in §1695. The CEC has a pool control certification packet that contains information on certification instructions, appliance-specific instructions, and appliance-specific Excel templates.

The California Certification Database provides a tool for manufacturers to search for approved test laboratories and third-party certifiers authorized to submit appliance efficiency data. This Test Lab and 3rd-Party Search feature can be found on the log-in page of the database.

This process includes submitting all required data listed in Table A-1, Table A-2, and Table B-1 of §1696.





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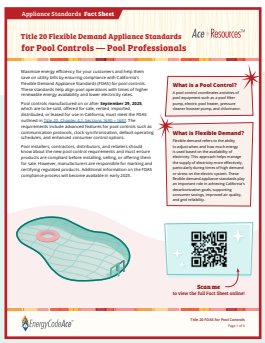
Scan the QR code to access our Pool Industry Collection for tools, training, and resources that further support the CEC's requirements for pools.


Appliance Standards Fact Sheet

Title 20 Flexible Demand Appliance Standards for Pool Controls — Pool Professionals

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2025 Title 24, Part 6 Fact Sheet

Nonresidential, Single-family, and Multifamily Pool and Spa Heating

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What's Included:

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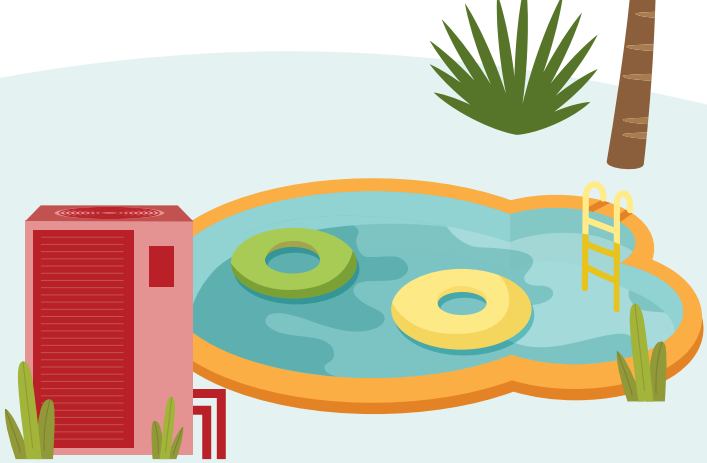

For More Information

CALIFORNIA ENERGY COMMISSION

energy.ca.gov

- **Appliances Call Center:** (888) 838-1467 or outside California (916) 651-7100. Questions may also be emailed to flexibledemandstandards@energy.ca.gov
- **California Flexible Demand Appliances website:** For general information on FDAS rulemakings, reporting, and resources.
- **CEC Staff Report:** Introduction to FDAS
- **Pool Controls Rulemaking Documents:** docket # 23-FDAS-01
- View Senate Bill No. 49 (Skinner, 2019) for more information on California's FDAS efforts

Additional Resources

For more information on how to maximize utility bill savings with a time-of-use (TOU) rate plan, review the following resources for your local utility.

- Pacific Gas and Electric Company Time-of-Use Rate Plans
- Southern California Edison
- San Diego Gas & Electric

EnergyCodeAce™

energycodeace.com

Your "one-stop-shop" for no-cost tools, training, and resources to help you comply with California's Building Energy Efficiency Standards (Title 24, Part 6) and Appliance Standards (Title 20).

Ace Tools™

A suite of interactive tools to help you understand the compliance process, required forms, installation techniques, and energy efficiency regulations applicable to Title 20 and Title 24, Part 6

- Title 20 Reference Ace - Navigate the Title 20 Standards using an index, keyword search, and hyperlinked text.

Ace Training™

A portfolio of on-demand, live online, and in-person training on Title 20 and Title 24, Part 6, tailored to a variety of industry professionals

- Small Bite: Introducing Energy Regulations for Pools & Spas in California
- T20 Essentials: Residential Pool Pumps 2023 Update

Ace Resources™

An array of downloadable materials providing practical and concise guidance on how and when to comply with Title 20 and Title 24, Part 6

- Title 20 Basics - Manufacturers
- Title 20 Basics – Retailers, Distributors, and Installers
- Title 20 FDAS for Pool Controls - Pool Professionals

Submit a Question – Get your Title 20 questions answered directly by experts. Select the 'Appliances' drop-down menu, navigate to 'Resources,' and select 'Submit a Question.'

Energy Code Ace is here to help you ensure your products meet Title 20 requirements. This website can help prevent issues that impact your sales and bottom line, including civil penalties under Title 20 §1697 for noncompliant products.

EnergyCodeAce™ SDGE™ Southern California Edison® Energy for What's Ahead® Pacific Gas and Electric Company®

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