

## Submetering Code Requirements

### VerifEye™ Submetering Solutions

New codes are being introduced on the local municipal, state and national levels to conserve energy and ensure a more efficient future. With all the variables surrounding code compliance (location, project size, end user needs), selecting a submetering system that meets all energy code requirements for its designed use can be overwhelming. Fortunately, you can rely on Leviton for quality, reliable, simplified solutions that can be used to meet submetering requirements for any sized project.

### Measure, Monitor, and Manage Energy Usage

- Identify how energy is used in order to implement the most effective energy saving programs
- Receive accurate details of energy usage and demand from a specific circuit or a specific area to a complete building or complex
- Discover energy saving opportunities with energy cost center analysis, budgetary accountability, and precise cost allocation
- Supports disaggregation of load types for code compliance
- Integrate with Building Management Systems (BMS) for energy efficiency and savings



## 2021 IECC

### Energy Monitoring (Submetering Requirements)

- New buildings with a gross conditioned floor area of 25,000 ft<sup>2</sup> (2,322 m<sup>2</sup>) or larger shall be equipped to measure, monitor, record and report energy consumption data in compliance with Sections C405.12.1 through C405.12.5.

### Electrical Energy Metering

- For all electrical energy supplied to the building and its associated site, including but not limited to site lighting, parking, recreational facilities and other areas that serve the building and its occupants, meters or other measurement devices shall be provided to collect energy consumption data for each end-use category required by Section C405.12.2.

### End-Use Metering Categories

- Meters or other approved measurement devices shall be provided to collect energy use data for each end-use category indicated in Table C405.12.2. Where multiple meters are used to measure any end-use category, the data acquisition system shall total all of the energy used by that category. Not more than 5 percent of the measured load for each of the end-use categories indicated in Table C405.12.2 shall be permitted to be from a load that is not within that category.
- Meters or other measurement devices required by this section shall be configured to automatically communicate energy consumption data to the data acquisition system required by Section C405.12.4.
- Source meters shall be allowed to be any digital-type meter.
- Lighting, HVAC or other building systems that can monitor their energy consumption shall be permitted instead of meters
- Current sensors shall be permitted, provided that they have a tested accuracy of  $\pm 2$  percent. Required metering systems and equipment shall have the capability to provide at least hourly data that is fully integrated into the data acquisition system and graphical energy report in accordance with Sections C405.12.4 and C405.12.5.

### Data Acquisition System

- A data acquisition system shall have the capability to store the data from the required meters and other sensing devices for a minimum of 36 months. The data acquisition system shall have the capability to store real-time energy consumption data and provide hourly, daily, monthly and yearly logged data for each end-use category required by Section C405.12.2.
- A permanent and readily accessible reporting mechanism shall be provided in the building that is accessible by building operation and management personnel. The reporting mechanism shall have the capability to graphically provide the energy consumption for each end-use category required by Section C405.12.2 at least every hour, day, month and year for the previous 36 months.

# Cheat Sheet for Submetering Code Requirements

## ASHRAE 90.1 2022

### Energy Monitoring (Submetering Requirements)

**Measurement devices must be installed in new buildings to monitor energy use for each of the following separately:**

- Total electrical energy
- HVAC systems
- Interior lighting
- Exterior lighting
- Receptacle circuits
- In applications with tenants, total building and individual tenant usage shall be separately metered

### The measurements must meet the following:

- Record every 15 minutes and report at least hourly, daily, monthly and annually.
- Data must be made available to each tenant.
- Must maintain data for 36 months.
- Buildings with digital control systems complying with Section 6.4.3.10 must transmit data through the digital control system and be graphically displayed.

## 2022 California Title 24

### Service Metering & Disaggregation of Electrical Circuits

- Each electrical service shall have permanently installed user-accessible metering of total electrical energy use per Table 130.5-A. This does not apply to buildings for which the utility company provides a meter for occupant or user use that indicates instantaneous kW demand and kWh for a user-resettable period, or with data accessible online.
- Each newly installed switchboard, panel, and motor control center (in both existing and newly constructed buildings) must be designed to permit the disaggregated measurement of electrical load energy use downstream according to the requirements of Table 130.5-B.

## New York Local Law 88 & 132-134

### Submeters required for covered tenant spaces

- All buildings larger than 50,000 ft<sup>2</sup> (1645 m<sup>2</sup>) must install submeters for any tenants that lease at least 10,000 ft<sup>2</sup> (929 m<sup>2</sup>) of space.
- Required equipment must be in place by January 1, 2025.
- Considering that the majority of NY commercial leases are 10 years long, meters must be planned and installed now to ensure compliance and prevent tenant disruption.

### Reports

- The owner of each covered building shall file a report, with the department on or prior to January 1, 2025, in accordance with the rules of the department prepared by a registered design professional or a licensed master or special electrician certifying that submeters have been installed in all covered tenant spaces.

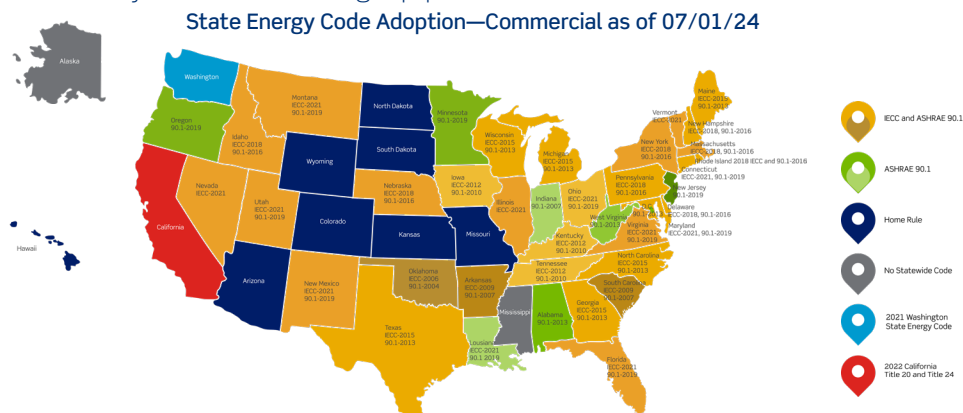
## 2018 Seattle Energy Code

- Submetering is required in new buildings larger than 20,000 ft<sup>2</sup> (1,858 m<sup>2</sup>) and additions larger than 10,000 ft<sup>2</sup> (929 m<sup>2</sup>).
- Tenant improvements where a tenant occupies an entire building floor must be individually metered.
- Buildings with metering capabilities must maintain that capability in future alterations and additions.
- The system must also collect energy use data for the total building and separately for each of the end-use categories identified.

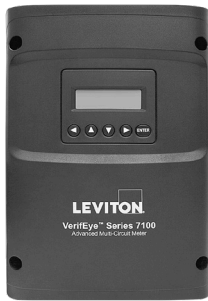
## States With Utility Submetering Legislation

Twenty-two states, three counties, and Washington, D.C., have statutes, regulations, or rulings on utility submetering. Below is a brief summary for each of those states. Note the wide variance in these regulations, not all of which relate to electricity. Designers should review the regulations for specific requirements and/or consult with a professional advisor. Detailed descriptions can be found [here](#).

- **Alabama:** The state requires all water sold by a utility with 100 or more customers to be based on metered volumes.
- **Arizona:** Landlords can measure individual usage and bill tenants for gas, water, electricity, and wastewater.
- **California:** 2019 Title 24, Part 6 includes electrical energy monitoring and disaggregation of load requirements.
- **Connecticut:** Landlords are required to obtain approval from the Public Utilities Commission in order to submeter.
- **District of Columbia:** Landlords can submeter the electricity and gas for non-residential rental units that are not already individually metered.
- **Delaware:** Landlords who did not install separate submeters for their commercial tenants were regulated under a statute prohibiting electricity profiteering.
- **Florida:** Electric utility companies are required to individually meter for each unit in most buildings.
- **Georgia:** 2010 Water Stewardship Act requires submetering of each new multi-unit residential building and certain retail and light industrial buildings granted a construction permit after July 1, 2012.
- **Indiana:** Submetering equipment may be installed in individual units with tenants billed.
- **Maine:** Campground owners or operators may submeter electric service to campground sites.
- **Maryland:** Commercial and residential submetering and tenant billing is allowed with state commission approval.
- **Massachusetts:** Landlords may have cause to be installed ... submetering equipment in the landlord's building to measure the quantity of water.
- **Minnesota:** A public utility and the Public Service Commission cannot limit the availability of submetering to a building occupant when the building is served by a public utility's master meter which measures the total electric energy delivered to the building.
- **Mississippi:** Apartment house and manufactured home community owners or condominium managers may provide submetering of each dwelling unit or rental unit to measure the quantity of water.
- **New Jersey:** New Jersey Board of Public Utilities has authority over submetering, which is permitted in industrial, commercial, publicly financed, and government-owned buildings.
- **New York:** All commercial buildings over 25,000 ft<sup>2</sup> (2,320 m<sup>2</sup>) to install submeters for tenants leasing 5,000 ft<sup>2</sup> (465 m<sup>2</sup>).
- **North Carolina:** Each dwelling unit shall have individual electric service with a separate electric meter.
- **North Dakota:** Electricity from a public utility under established rate schedules shall not be resold or submetered.
- **Oklahoma:** MDUs (Multiple Dwelling Units) may be served by a meter/submeter system as opposed to utility metering.
- **Oregon:** Regulations allow for submetering and tenant billing by landlords.
- **Texas:** Newly constructed apartments and condos must have submetering capabilities.
- **Vermont:** Recreational campground operators may provide a non-profit submetered electric service.
- **Virginia:** Landlords can submeter water, electricity, and gas to residential and commercial tenants.
- **Washington:** Requires submetering in newer buildings larger than 20,000 ft<sup>2</sup> (1,858 m<sup>2</sup>) and additions that exceed 10,000 ft<sup>2</sup> (930 m<sup>2</sup>).
- **Washington D.C.:** Owners, operators, or managers of buildings not individually metered for electricity or gas for each nonresidential rental unit may install submetering equipment.



## What Components Do I Need to Meet Submetering Code Requirements?



	Collect Data	Send Data	Review & Analyze Data
	Series 7100 Submeter	A8810 Energy Monitoring Hub	Building Manager Online (BMO) Base Energy Management Module
Primary Functions	<ul style="list-style-type: none"> <li>• Cost-effective solution for managing electrical loads</li> <li>• Ideal for high density, branch circuit monitoring applications</li> <li>• Monitors up to 48 branch circuit with one single submeter</li> </ul>	<ul style="list-style-type: none"> <li>• Collects energy data from submeters</li> <li>• Connects to enterprise energy management, demand response, and smart grid programs</li> <li>• Compatible with nearly any software platform</li> </ul>	<ul style="list-style-type: none"> <li>• View energy usage and demand patterns in defined time intervals</li> <li>• Plot charts and review data quickly without installing software</li> <li>• Create virtual meters to report aggregated energy loads</li> </ul>

### Highest Level of Submetering Support from Leviton

- **VerifEye™ Submetering Solutions Design Assistance and Support**—Unparalleled resources to make the project planning process, installation and usage easier
- **Exclusive code compliance resources** for IECC, ASHRAE 90.1, and 2019 Title 24, including mobile apps, design guides, application cookbooks, and much more at [leviton.com/energycodes](http://leviton.com/energycodes)
- **ez-Learn™** is online training from the comfort of your home or office, available 24/7 at [leviton.com/ezlearn](http://leviton.com/ezlearn)
- **Dedicated VerifEye support** at 800-959-6004 or [meters@leviton.com](mailto:meters@leviton.com)

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#### Visit our Website at: [www.leviton.com/energycodes](http://www.leviton.com/energycodes)

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