



IECC 2021 & ASHRAE 90.1 Metering Requirements

PRACTICAL MONITORING SOLUTIONS FOR ENERGY CODE COMPLIANCE

Many buildings today must meet **IECC 2021 energy monitoring requirements** or **ASHRAE 90.1 electrical metering standards** for new construction, major renovations, or local code adoption.

These Codes Increasingly Require:

- Electrical Submetering
- System-level Energy Monitoring
- HVAC & Lighting Measurement
- Ongoing Energy Data Logging
- Operational Visibility Into Building Energy Usage

For existing buildings, implementing these monitoring requirements can be challenging—especially when electrical infrastructure was never designed for modern metering systems. **Packet Power** provides compact wireless monitoring solutions that help organizations implement practical electrical monitoring architectures aligned with IECC and ASHRAE requirements.

What Is Required for Electrical Monitoring?

The **International Energy Conservation Code (IECC 2021)** includes expanded requirements for electrical energy monitoring in commercial buildings. **ASHRAE 90.1** includes similar energy monitoring provisions designed to improve operational efficiency and building performance.

IECC 2021 vs. ASHRAE 90.1 Comparison

Monitoring Requirement	IECC 2021	ASHRAE 90.1	 Solution
1. Whole-Building Electrical Measurement	✓ Most Commercial Buildings	✓ Required	✓
2. Major End-Use Segmentation (HVAC, lighting, etc.)	✓ Major Loads Over Defined Thresholds	✓ Required	✓
3. Tenant or Usage-Area Submetering	✓ Many Commercial Tenant Configs	✓ Required or Recommended	✓
4. Lighting Energy Monitoring	✓ Lighting Loads Over Defined Thresholds	✓ Required in Large Systems	✓
5. Data Logging & Trending	✓ Ongoing Operational Visibility	✓ Required	✓
6. Operator-Accessible Reporting	✓ Required	✓ Required	✓
7. Commissioning Verification Support	✓ Often for Compliance Validation	✓ Required	✓
8. Retrofit Feasibility Considerations	✗ Not Specified, but Critical in Practice	✗ Not Specified, but Critical in Practice	✓

Packet Power Solutions Supporting Electrical Monitoring Requirements:

1. **Wireless Main Service Monitoring Nodes** with centralized gateway communications
2. **Embedded Wireless Monitors** installed at HVAC distribution panels or feeder circuits
3. **Compact Wireless Monitors** for installation inside tenant electrical panels
4. **Distributed Wireless Monitoring Nodes** for lighting distribution panels
5. **EMX Monitoring Software** with historical data logging & exportable datasets
6. **Centralized Web-based Monitoring Platform (EMX)** for system-wide visibility
7. **Historical Data Logging & Exportable Reporting** for engineering analysis & compliance documentation
8. **Ultra-Compact Wireless Monitors** designed for retrofit installation inside existing panels

