

ENERGY SUBMETERS WITH SMART MONITORING

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SUMMARY

Contractors often find themselves dealing with unexpected customer crises like power disruptions, unexplained energy spikes or equipment failure. Reactive solutions can be hurried, short-term and expensive. While these situations may seem unavoidable in the moment, they can often be detected early, saving time, money and inconvenience. Today, electrical contractors need to provide cost-effective tools to help customers proactively manage energy consumption. Tools like modern submeters and Energy Management Systems (EMS).

Submeters are installed downstream of the utility meter to monitor systems and tenant usage, and have proven to be effective for diagnosing and preventing problems with key building systems. When combined with EMS, they provide insights into a building's flow and consumption of electricity, so building managers can make informed decisions about energy use.

By understanding the customer's business, type of building, energy demand, pain points and constraints, contractors can guide them to solutions that will save them money, time and energy-related headaches.

MANUFACTURING AND INDUSTRIAL BUSINESSES

Plant operators require accurate, up-to-the-moment status feedback to evaluate the performance of pumps, compressors, heaters, chillers, conveyors and other electrically powered equipment. By installing EMS, managers now have insight into deteriorating or problematic equipment when a particular load increases more than normal, as well as the ability to accurately allocate energy for product runs, production lines or departments.

Areas Metered

- Production Lines
- Heavy Equipment
- Departments
- Common Areas

Allowing building management to

- Evaluate equipment efficiency
- Prevent costly downtime due to equipment failures
- Take advantage of demand response programs

Electrical contractors can empower plant managers with vital data on energy use, power quality, peaks, shifts or other anomalies in power supply, that can help customers address power trends with their utility provider. Data can be used for tracking and allocating energy consumption costs across departments and/or manufacturing lines.

CASE STUDY

A manufacturing facility shared a location with a sister division and split the energy bill based on an estimation of energy use. The facility was experiencing unusually high energy costs compared to other facilities that manufactured the same products using similar equipment. Preliminary plans were made by the corporate office to shut down the facility and move operations. In attempt to resolve the problem, on-site Managers installed submeters and EMS to track energy usage of the two divisions and measure usage of specific equipment.

After analyzing the data, the Managers found that the division paying for 60% of the electricity bill was using less than 41% of the complex's total energy. The data also showed that a heat-treating process used once a week was causing a 175 kW spike in energy usage. The division worked with the corporate accounting department to re-allocate its percentage of the energy bill and moved its heat-treating process to a day when overall demand was not as high. The division saved \$2,100 per month just by correcting a problem in its heat-treating process. As a result, the division reduced its energy allocation by \$324,000 per year and closure plans were cancelled.

MULTI-TENANT COMMERCIAL AND RESIDENTIAL FACILITIES

Managers of multi-tenant facilities must keep tenants happy while showing the property owner that building efficiency, occupancy rates and profitability are all in line.

Without submetering, the building manager allocates energy costs and Common Area Management (CAM) charges, depending on the lease agreements, based on tenant use or square footage. In these situations, submeters and EMS can be installed to monitor actual electricity consumption by both tenants and common areas, track energy use and help facility managers analyze the data to identify areas for cost savings.

Areas Metered

- Tenants
- Common Areas
- HVAC
- Boilers

Allowing building management to

- Accurately & fairly allocate energy
- Increase tenant satisfaction
- Lower tenant turnover
- Recoup CAM costs

Electrical contractors can now arm customers with simple explanations and benefits for their tenants, improving customer loyalty and tenant retention. Submetering ensures that tenants are only responsible for the electricity they use, and gives them better control – the more they conserve, the less they pay.

CASE STUDY

In a Phoenix-area luxury condominium community, property managers faced the time-consuming and tedious task of manually reading their submeters and creating accurate energy bills for residents. With EMS, they were able to see where and how much energy was being consumed in the various areas of the property, including the common areas.

One area of inefficiency identified with the new software resulted in managers replacing hundreds of 60-watt incandescent light bulbs throughout the building's common areas. Overall, energy use dropped by 90 kWh per month, and costs for these common areas and amenities dropped nearly \$600 total per month.

INSTITUTIONAL AND GOVERNMENT CUSTOMERS

The U.S. Department of Energy estimates a 20% savings when a building or energy manager becomes conscious of his energy usage through a monitoring device such as a submeter. The savings can be attributed to the manager allocating energy costs to tenants as well as identifying and eliminating areas of operational inefficiency.*

Areas Metered

- Housing
- Leased Spaces
- Common Areas
- Equipment
- HVAC
- Departments

Allowing building management to

- Meet or exceed federal requirements
- Accurately & fairly allocate energy
- Reduce energy costs, save tax dollars
- Recoup CAM costs

Look beyond the traditional tenant building scenarios for opportunities to be your customer's energy expert. Talk to existing and potential customers about their energy costs and what it means to their business. Do they have a goal of reducing usage in the next year? What about the next five years? How is customer satisfaction among tenants with respect to energy costs? Can they take advantage of cost saving opportunities by upgrading obsolete electrical systems or equipment? Making customers aware of potential cost savings by performing a few changes will help position you for future business.

In today's energy and cost focused age, electrical contractors can be more than just the people who get the call when something goes wrong. Be an energy expert to your customers and provide them with solutions that meet their long-term needs, whether it's a single submeter or a complete EMS.

CASE STUDY

At one metropolitan university, facility managers had been estimating the electricity costs in each tenant's rent for more than 35 years. By installing submeters in 32 older campus dormitories, the university was able to allocate and bill residents directly and accurately for the electrical services used by each unit. School administrators are expecting the submetering technology to enable the student-housing department to recuperate its costs more efficiently. Preliminary estimates indicate that the resulting cost savings could equal the capital investment in the submetering equipment in as little as three to four years.

In another example, a Federal building complex in Washington, D.C. implemented submetering and energy intelligence software, which resulted in billing \$1.7 million of its energy costs to concession operators. These costs otherwise would have been paid with Federal tax dollars. Overall, 40 submeters now measure electricity consumption in multiple buildings. Data from these devices provides a precise measurement of each concession operator's energy use, allowing facility managers to accurately allocate costs and save tax dollars. The submeters paid for themselves in about three months. Plus, the building manager is now relying on his concessionaries to help with conservation.

*U.S. Department of Energy. (2015, September). AN ASSESSMENT OF ENERGY TECHNOLOGIES AND RESEARCH OPPORTUNITIES. Retrieved from <https://www.energy.gov/sites/prod/files/2017/03/f34/qtr-2015-chapter5.pdf>

HONEYWELL E-MON™ CLASS 6000 SUBMETERS

From guided installation to fast, accurate tenant billing and optimizing energy use throughout the building, the next generation of E-Mon™ Smart Meters make electrical systems easy to work with.



The Honeywell E-Mon mobile app makes it easy to install and commission. From wiring checks to commissioning with current sensors, the app provides guided support to help you ensure accurate installation the first time. And E-Mon Class 6000 meters are easy to rely on, with smart capabilities like revenue-grade accuracy, crypto-chip technology and Bluetooth® connectivity for fast, convenient readings from a mobile device.

Find out what buildings can achieve with E-Mon Class 6000 submeters.

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Honeywell E-Mon™ leads the industry with over 40 years of energy management experience in providing energy information and related products for use within commercial, multi-family, industrial, government and educational sectors, as well as utilities, municipalities, co-ops and others.

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