

VerifEye™ Submetering Solutions

Product and Application Guide



SMARTer Metering. SMARTer Control. REAL Savings.

THE BENEFITS OF SUBMETERING

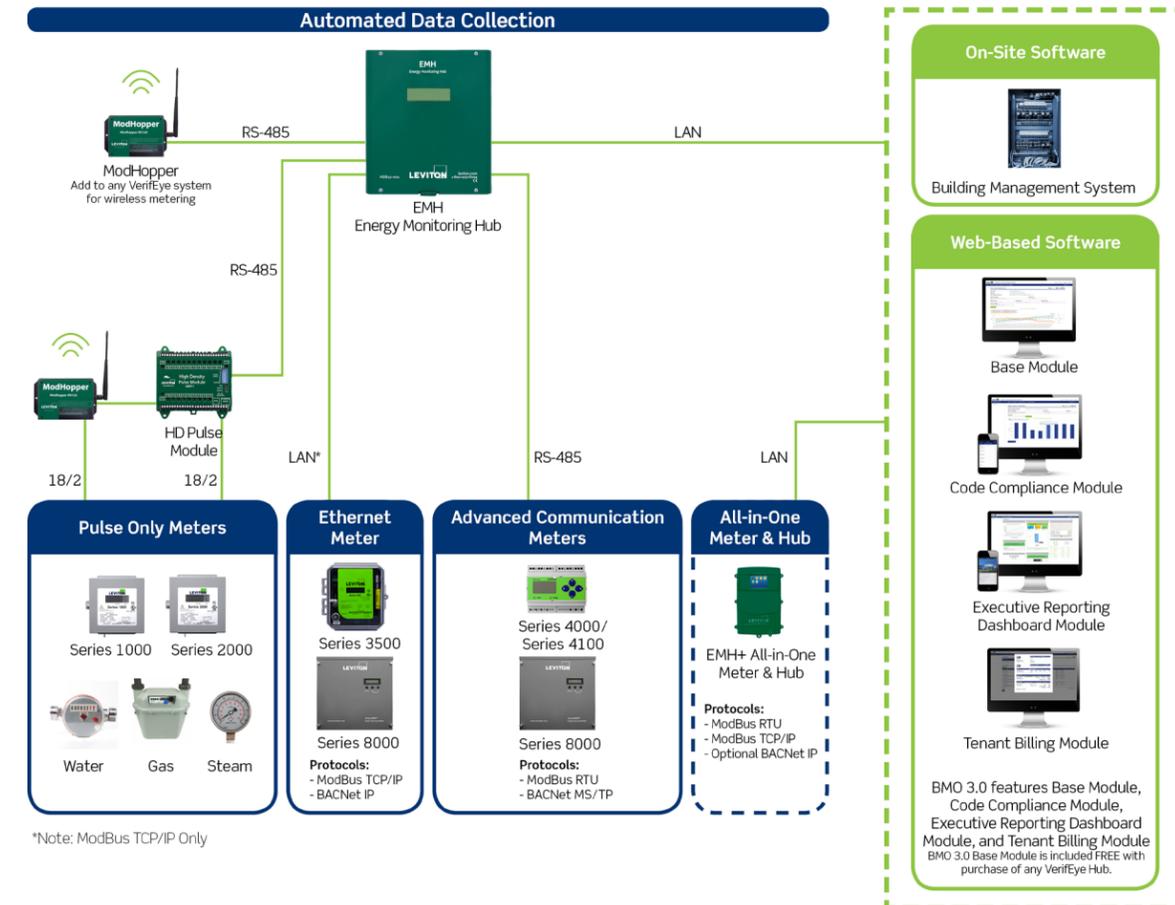
VerifEye™ delivers a comprehensive line of leading-edge submeters, communication products and software solutions as the key building blocks to help you better manage costs and conserve energy.

From tenant billing to energy measurement & verification (M&V) software solutions, VerifEye offers cost-effective scalability and integration to provide you with the solution you need today that can be expanded in the future. This seamless solution enables smart metering, meets code compliance requirements and simplifies the complexities of allocating energy costs and billing tenants. Building owners and managers can minimize usage of electric, water, gas and other utilities for long-term cost savings. Organizations that monitor and manage energy usage are better able to compete, to achieve real savings, and to meet code compliance and building efficiency standards such as LEED, California Title 24 and ASHRAE 90.1.

For additional energy savings, combine VerifEye with Leviton lighting controls for a complete energy management solution from a single source.

VerifEye delivers accurate information for:

- Load profiling & benchmarking
- Tenant billing/cost allocation
- Measurement & verification (M&V)
- Energy conservation programs
- Building codes and standards
- Green initiatives including LEED certification
- Government energy programs
- Building management systems (AMR/BMS/EMS) integration



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High-Rise Residential MDUs

New Construction Projects

With a VerifEye submetering solution utilizing Series 8000 Multiple Point Meters, Leviton can be your single source for a complete tenant metering solution designed specifically to suit high-density applications such as high-rise multiple dwelling units. A solution built around the Series 8000 is especially cost-effective for new construction due to its capacity and flexibility. The Series 8000 submeter is easy to install and wire and allows complete flexibility to fit any project design and is configurable for any type of electrical service including:

PUTTING IT ALL TOGETHER
See pages 6-7



tenant metering solution designed specifically to suit high-density applications such as high-rise multiple dwelling units. A solution built around

the Series 8000 is especially cost-effective for new construction due to its capacity and flexibility. The Series 8000 submeter is easy to install and wire and allows complete flexibility to fit any project design and is configurable for any type of electrical service including:

- 120/208V 1P3W (120/208V 3P4W service at the panel)
- 120/240V 1P3W
- 120/208V 3P4W

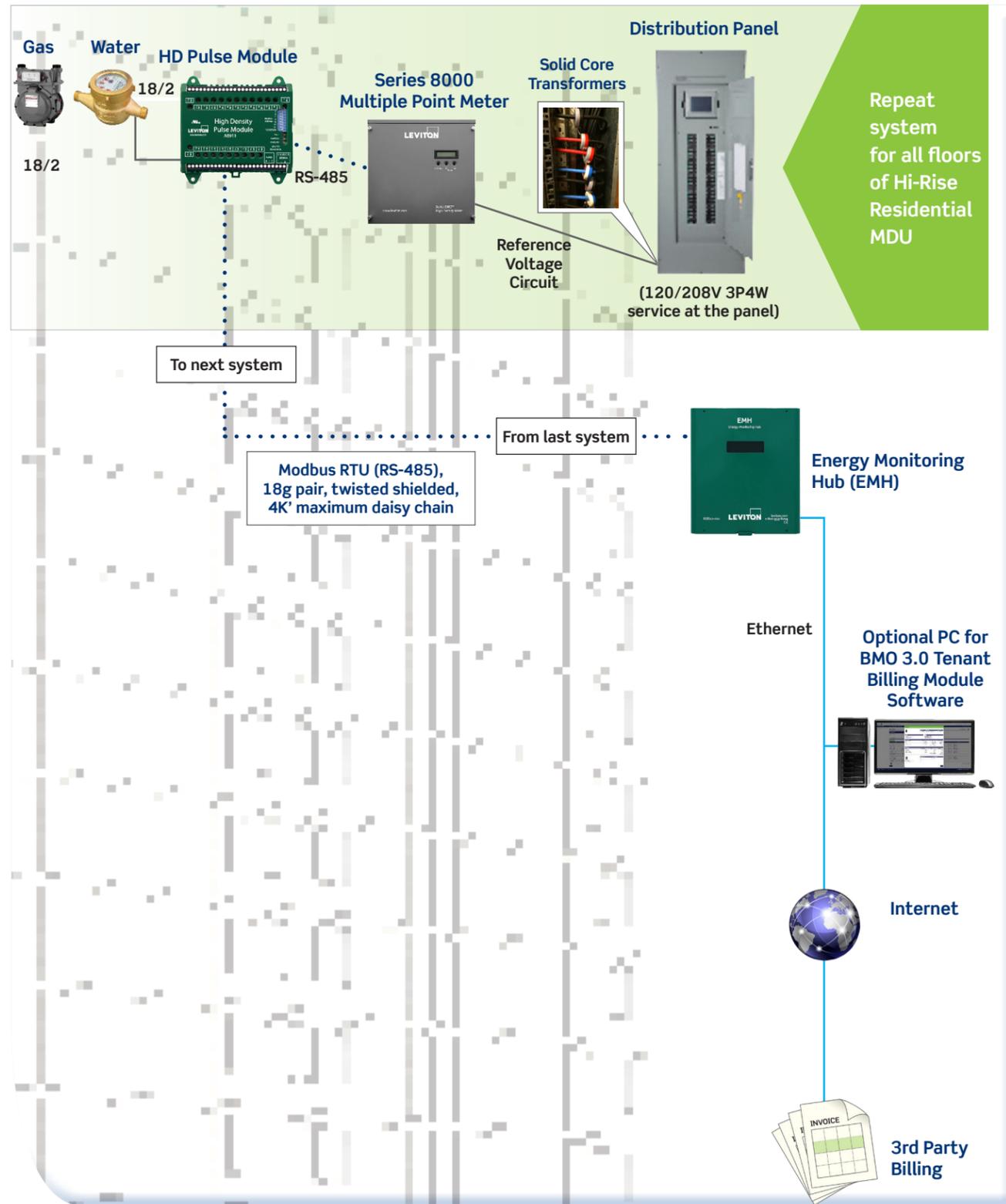
The Leviton Advantage

- Minimal wall space needed in electrical closets and reduced construction costs as compared to traditional metering
- Unique wiring harness minimizes installation labor and material cost (virtually eliminates the need to extend current transformer wires)
- Color coded current transformers to facilitate proper wiring
- Allows interface for water, gas, BTU, etc. meters into single communication system
- Leviton factory technicians provide system startup, programming and training services
- Open architecture provides flexibility to use your choice of third-party billing company or optional VerifEye BMO 3.0 Tenant Billing Module web-based software



*Typical configuration for each service panel location

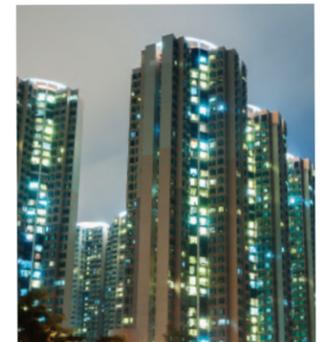
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CORE LEVITON COMPONENTS

High Rise Residential MDUs			
Product	Voltage	Description	Cat. No.
HD Pulse Module	120/208V	HD Pulse Module, 23 inputs	A8911-023
		Phase Config 8x3 with Terminal Strips	S8UTS-241
		Phase Config 12x2 with Terminal Strips	
		Phase Config 24x1 with Terminal Strips	
		Phase Config 8x3 with Wiring Harness	S8UWH-241
		Phase Config 12x2 with Wiring Harness	
Phase Config 24x1 with Wiring Harness			
Energy Monitoring Hub	—	Energy Monitoring Hub	A8812-000
BMO 3.0 Tenant Billing Module Software	—	See www.leviton.com/verifeye for full listing and details	BMOSW-BIL

Note: These are examples of applications but should not be considered limitations to product and solution capability. Please contact your local Leviton representative for design assistance.



Residential Multi-Dwelling Units

Master Metered Buildings (Retrofit)

Ratio-based billing for utilities leaves much to be desired. There's nothing fair about a single, traveling salesman in a two-bedroom unit paying the same share of the utilities as a family of four living in the same size unit. It's also nearly impossible to stabilize building owner profits because although MDU utility bills rise, it can be difficult to retain tenants if rents are hiked annually.

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Leviton's Verifeye submetering solution provides the ability to lower utility costs by billing each apartment unit for what is actually used. VerifEye offers a tenant metering solution with wireless communications that is ideally suited to retrofit MDU applications. The core of the system is a compact, flush-mount or surface mount Leviton Mini Meter that is installed in each unit along with a wireless transmitter.

This wireless system enables either staff or a third party billing company to generate accurate bills. The size of the components and minimal wiring required helps make this a relatively easy-to-install and cost-effective system, especially where risers feed multiple units. With a Leviton submetering solution, owners can allocate costs directly to the tenant and lower overall operating expenses. Get unbeatable accuracy for tenant billing applications and revenue-grade accuracy in a compact, cost-effective solution.

The Leviton Advantage

- Equitable unit/common-area cost allocation and accurate tenant billing eliminates burden of rising and unpredictable expenses
- Easy-to-retrofit and robust wireless communication system with small footprint
- Compact, flush mount or surface mount meter enclosure designed for installation in smaller apartments
- Open architecture allows for easy integration of water and gas meters as well
- Open architecture provides flexibility to use a third-party billing company or VerifEye BMO 3.0 Tenant Billing Software
- Scalable wireless repeater can be used to accommodate large sites or added in the future for new tenants and building expansions

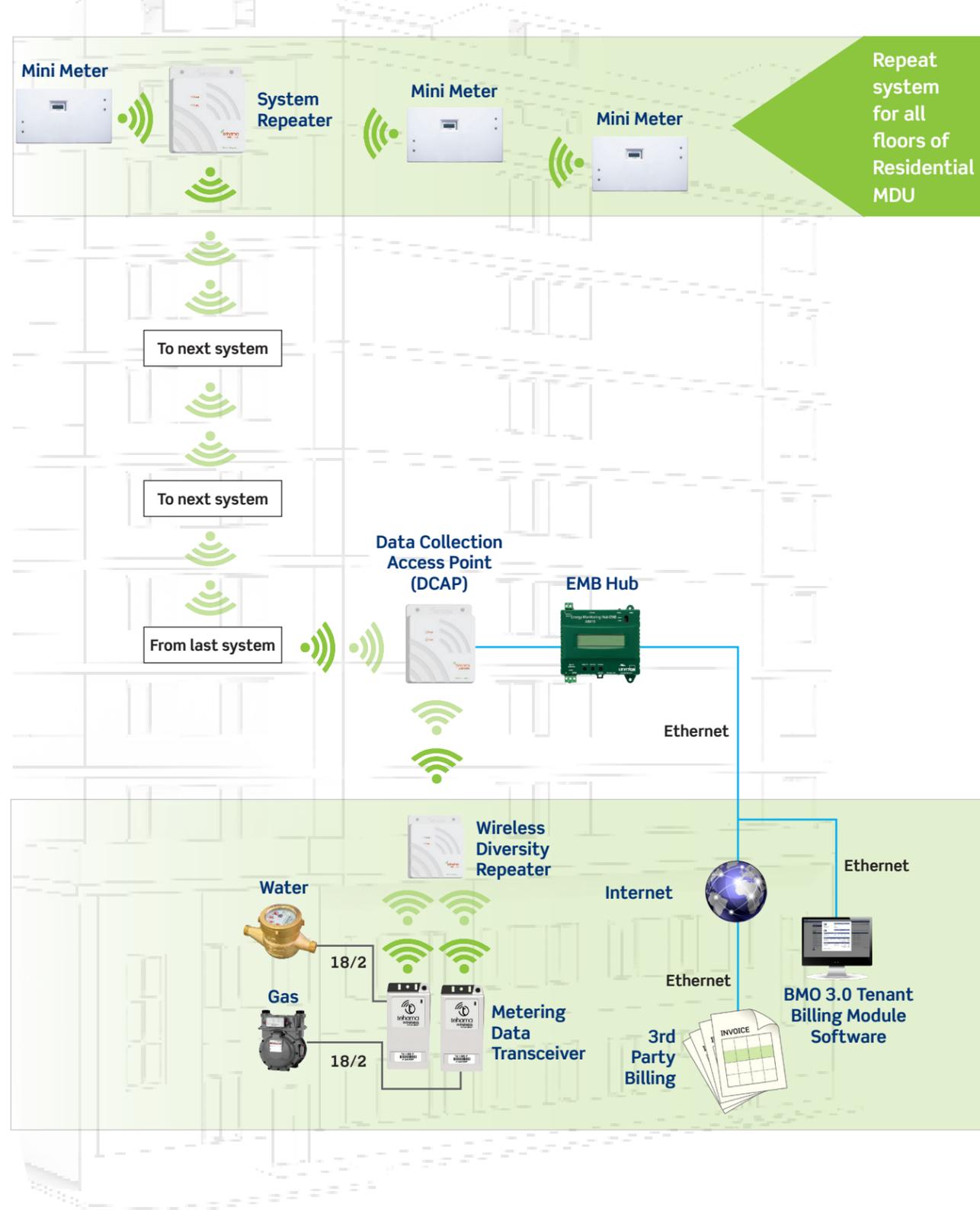


VerifEye™ Smart Submetering Solutions

Residential Multi-Dwelling Units

Master Metered Buildings (Retrofit)

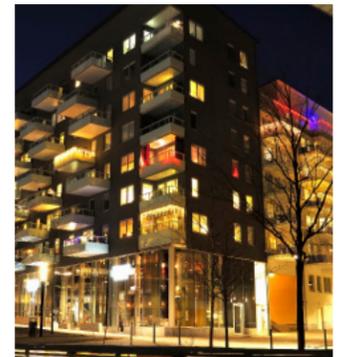
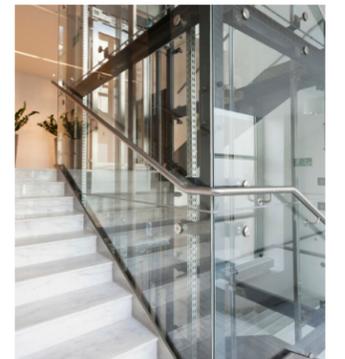
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CORE LEVITON COMPONENTS

Residential Multi-Dwelling Units				
Product	Voltage	Description	Amps	Cat. No.
Mini Meter	120/208V 3W or 120/240V 1PH 3W (Split Phase)	Indoor Enclosure Type, 2 Solid CTs	100A	MK240-1SW
		Indoor Enclosure Type, 2 Solid CTs	200A	MK240-2SW
EMB Hub	—	Intelligent, flexible data acquisition server	—	A8810-000
Wireless Diversity Repeater	—	Repeater, 5V, includes 5VDC 1A plug-in power supply and internal backup battery	—	T101R-05V
Metering Data Transceiver	—	Meter Data Transceiver (MDT), battery input model battery powered, daily reads only (No TOU)	—	T140B-PTU
Data Concentrating Access Point*	—	Data Concentrating Access Point (DCAP), Low Capacity (150 meter points max), built-in radio receiver	—	T201E-151
		DCAP, High Capacity (1000 meter points max), built-in radio receiver	—	T201E-102
BMO 3.0 Tenant Billing Module Software	—	See www.leviton.com/bmo for full listing and details	—	BMOSW-BIL

Note: These are examples of applications but should not be considered limitations to product and solution capability. Please contact your local Leviton representative for design assistance.



Commercial Offices/ Mixed Use

New Construction & Retrofit Applications

The benefits of implementing a cost-effective means of recovering utility costs, saving energy and reducing the carbon footprint can be substantial; even game changing. Whether for a small, two-story office building, a sprawling commercial office complex or a new mixed use facility, Leviton has the right combination of components and expertise to deliver the optimal solution.

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There's no doubt that redirecting accountability for energy usage to tenants and streamlining accounting operations by installing and

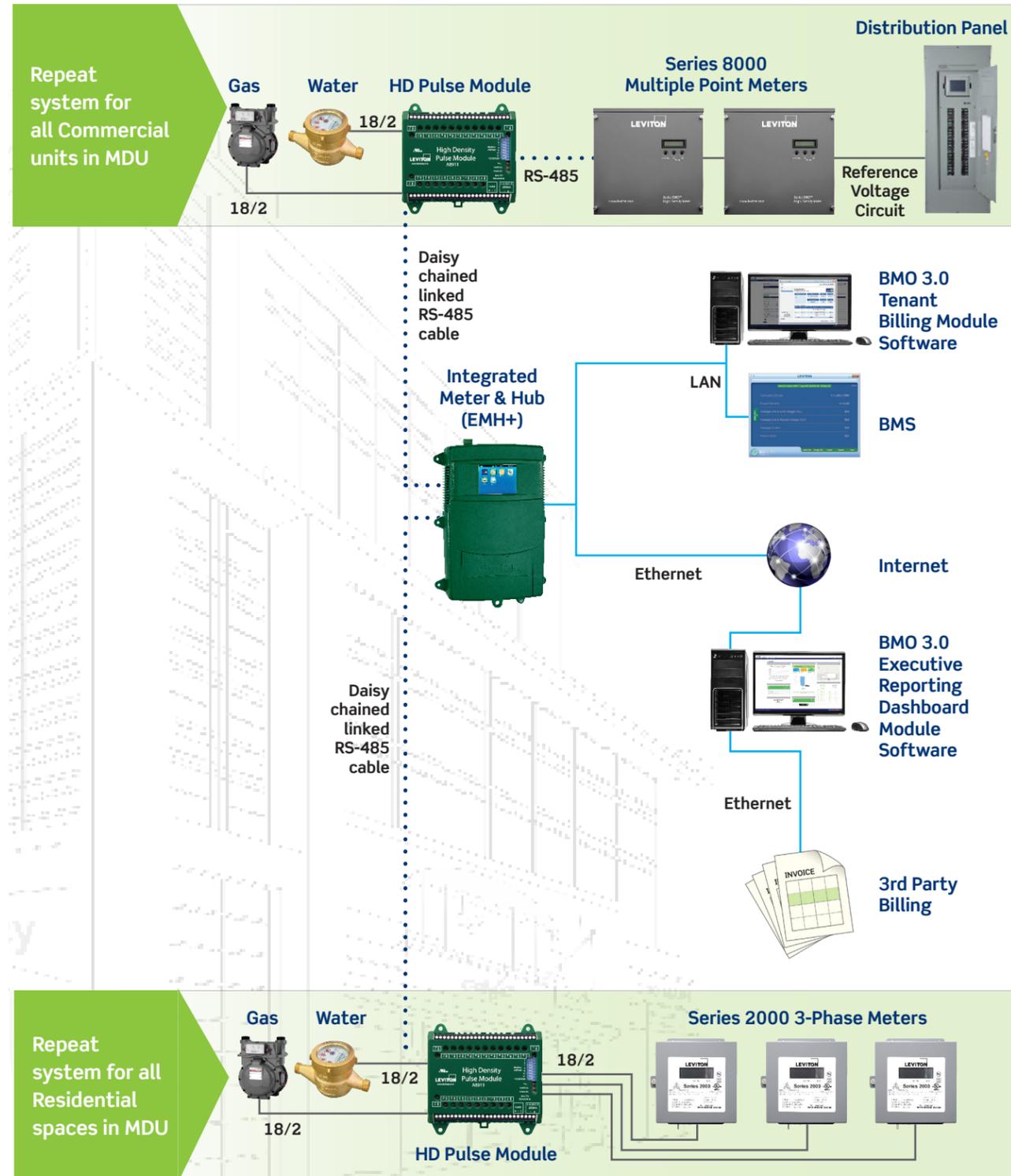
implementing a Leviton submetering solution is a win-win in the commercial office/mixed use space. Precise monitoring of tenant utilities and major building systems can generate substantial cost savings. For a facility to be considered state of the art, it must incorporate technologies such as VerifEye submetering solutions. Leviton's energy management software can be used to push meter data to third party billing companies, energy monitoring software solutions, energy dashboards on kiosks or big screens displaying building energy conservation statistics and tenant awareness/sustainability messages.

The Leviton Advantage

- Redirect responsibility for utility usage from property owners to tenants and encourage conservation
- Easy-to-install/retrofit metering system: minimally wired installation saves time and reduces labor costs
- Universal energy information system designed to meet or exceed all energy data project goals using open protocol system platform and interfaces
- Cost-effective and convenient method of monitoring usage for energy savings, code compliance and LEED measurement and verification
- Provides web-based access to real-time usage data and reports and accommodates third-party billing
- Set energy goals at the building or portfolio level with BMO 3.0 Executive Reporting Module
- Access the Executive Reporting Module remotely via the mobile app



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CORE LEVITON COMPONENTS

Commercial Offices/Mixed Use				
Product	Voltage	Description	Amps	Cat. No.
HD Pulse Module	—	HD Pulse Module, 23 inputs	—	A8911-023
Series 8000 Meter	120/208	Phase Config 24x1 with Wiring Harness	—	S8UWH-241
		Phase Config 8x3 with Terminal Strips	—	277TS-241
	Phase Config 12x2 with Terminal Strips	—	277TS-241	
	Phase Config 24x1 with Terminal Strips	—	277TS-241	
	Phase Config 8x3 with Wiring Harness	—	277WH-241	
	Phase Config 12x2 with Wiring Harness	—	277WH-241	
	Phase Config 24x1 with Wiring Harness	—	277WH-241	
EMH+ Integrated Meter & Hub	—	Data Acquisition Server with 3-Phase Meter, 3 Split CTs	100A	A8814-1S3
			200A	A8814-2S3
			300A	A8814-3S3
			400A	A8814-4S3
			600A	A8814-6S3
			800A	A8814-8S3
			1600A	A8814-163
3000A	A8814-303			
5000A	A8814-503			
Series 2000 3-Phase Meter	—	See www.leviton.com/verifeye for full listing and details	—	2K208-04W
BMO 3.0 Tenant Billing Module Software	—	See www.leviton.com/verifeye for full listing and details	—	BMOSW-xxx
BMO 3.0 Executive Reporting Dashboard Module Software	—	Expansion Module Software & Mobile App - Includes 10 Buildings with 50 Meter Points Per Building	—	BMOSW-EXE

Note: These are examples of applications but should not be considered limitations to product and solution capability. Please contact your local Leviton representative for design assistance.



Retail Malls

New Construction & Retrofit Applications

Billing tenants for actual, measured usage on a regular basis and taking the uncertainty out of the equation makes sense for all parties. It improves cash flow, avoids end-of-year reconciliations and, in general, places responsibility for consumption where it belongs. But VerifEye submetering is more than just a tenant billing solution. All of our meters are designed to provide granular data on usage within specific areas or by individual loads that can be used to lower long-term energy usage.

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Submeters are a cost effective approach to tenant billing and energy management in a mall environment where space is

routinely reconfigured to accommodate tenant turnover and planned improvements. That's because it is a cost-effective option that minimizes rewiring and disruption of retail operations during typical ongoing tenants' improvements.

Leviton VerifEye submetering features a range of devices that incorporate standard protocols, wireless options and split core CT technologies, making retrofits relatively easy and inexpensive. VerifEye submeters facilitate accurate tenant billing of electric, water, gas and other utility usage — and chargebacks for common area utilities.

The Leviton Advantage

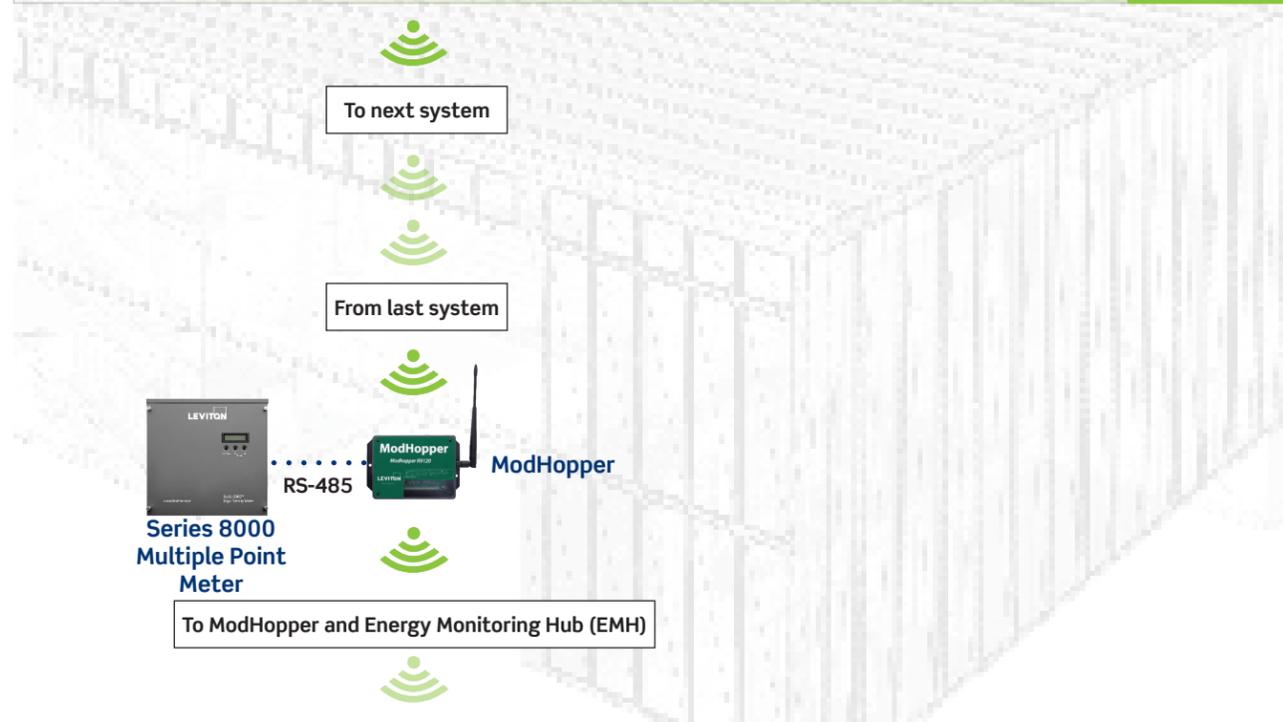
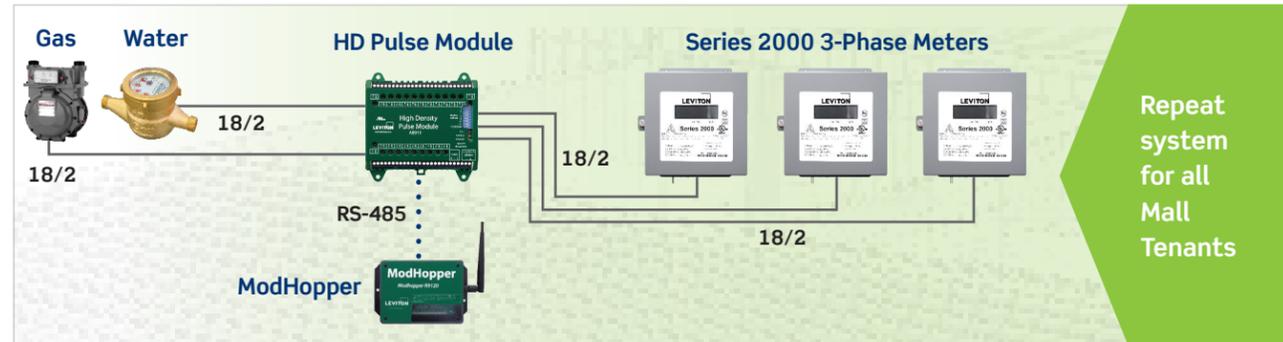
- Redirect responsibility for utility usage from property owners to tenants for improved cash flow, recapture of all costs and improved tenant relations
- The VerifEye ModHopper Wireless Transceiver provides a self-optimizing wireless mesh network between multiple meters for a full submetering solution at a fraction of the traditional cost
- Eliminate the need for costly wiring throughout a large facility with a wireless metering solution
- Open architecture data collection offers freedom to utilize any third party billing company or VerifEye™ BMO 3.0 Tenant Billing Module web-based software



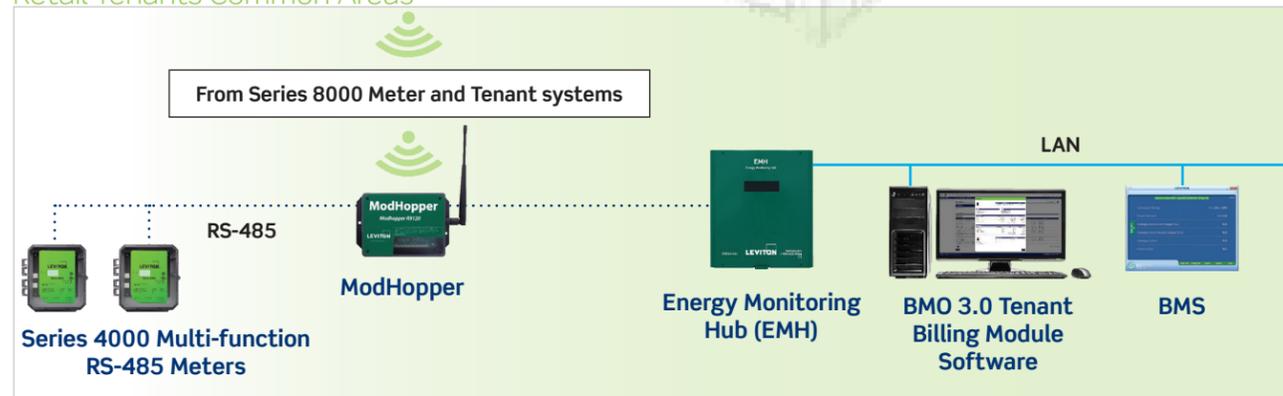
Retail Malls

New Construction & Retrofit Applications

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Retail Tenants Common Areas



CORE LEVITON COMPONENTS

Retail Malls			
Product	Voltage	Description	Cat. No.
ModHopper	—	ModHopper	R9120-500
High Density Pulse Module	—	High Density Pulse Module, 23 Inputs	A8911-023
Series 2000 3-Phase Meter	—	See www.leviton.com/verifeye for full listing and details	2K208-04W
Series 4000 ModBus RTU	Universal 3PH 3W/4W	100A, 3 Split Core CTs	4KUMR-01M
		200A, 3 Split Core CTs	4KUMR-02M
		400A, 3 Split Core CTs	4KUMR-04M
		800A, 3 Split Core CTs	4KUMR-08M
		20-5000A, 3, 12" Rogowski Coil CTs	4KU MR-R12
		20-5000A, 3, 18" Rogowski Coil CTs	4KUMR-R18
Series 8000 Multi-Point High Density Meter	120/270V	Phase Config 24x1 with Wiring Harness	S8UWH-241
Energy Monitoring Hub	—	Energy Monitoring Hub - Configured for Leviton Energy Manager	A8812-001
		Energy Monitoring Hub - Non-Configured	A8812-000
BMO 3.0 Tenant Billing Module Software	—	See www.leviton.com/verifeye for full listing and details	BMOSW-BIL

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Educational and Professional Campuses

New Construction & Retrofit Applications

In the face of escalating utility costs, energy metering and monitoring provides a prime opportunity for substantial savings on college campuses. Modern educational facilities have become increasingly reliant on technology to improve the learning environment. Computers at every desk, sophisticated

A/V equipment in every room, proliferation of personal mobile devices, etc.: all these devices and systems consume vast amounts of energy.

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Installing a Leviton VerifEye submetering system provides visibility into downstream energy usage that can be used to improve energy efficiency and distribute costs equitably. Identifying and correcting system inefficiencies and equipment problems using data provided by submeters can result in significant savings. Submeters provide the required data for energy and facility managers to understand where to focus their time and money.

VerifEye provides the right products to allow whole building submetering on a single, scalable platform. Collected data can be sent to multiple stakeholders including energy monitoring software, EMS/BMS, dorm competition dashboards, ESCOs, etc.

The Leviton Advantage

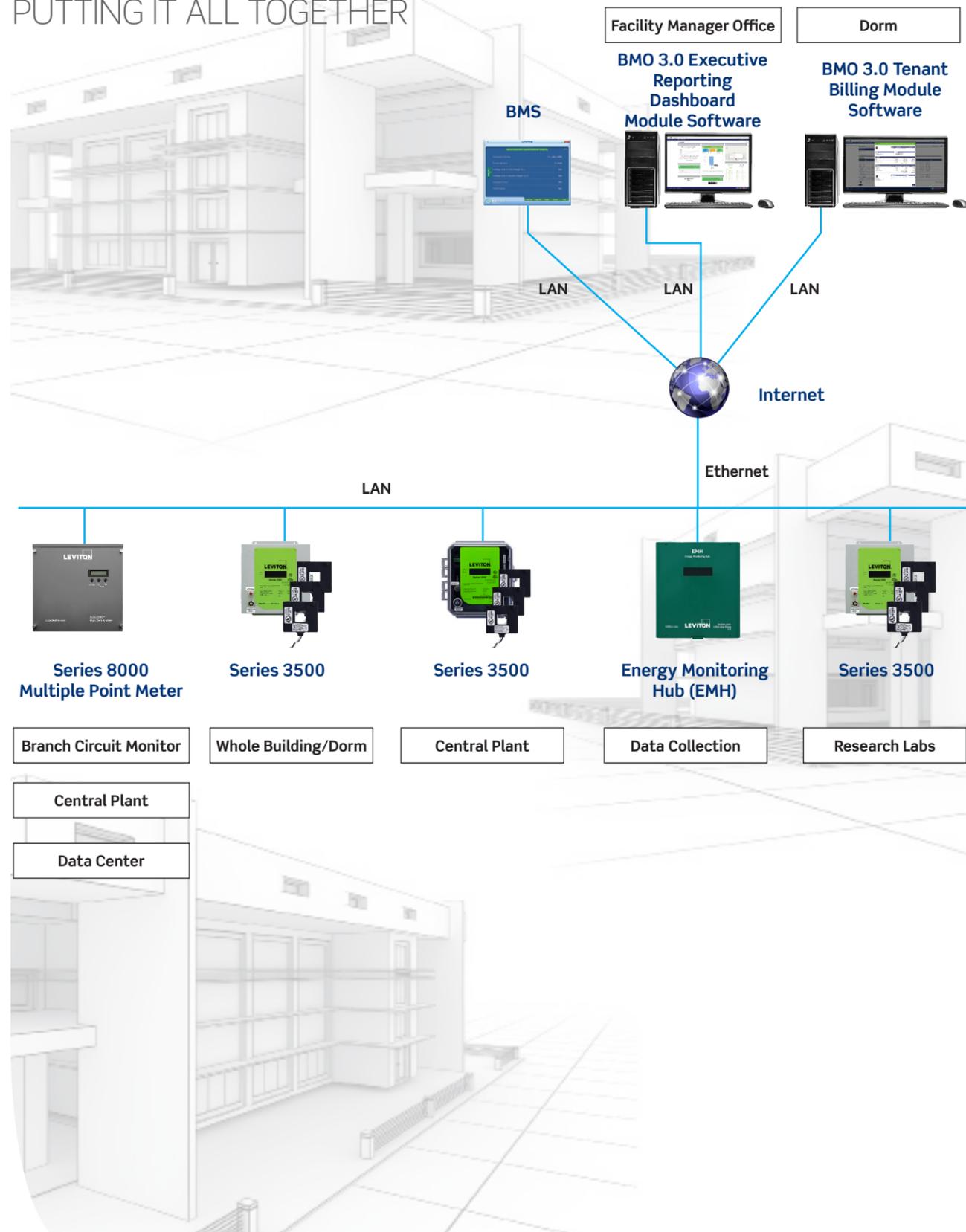
- Clear visibility into downstream costs facilitates departmental budget allocation and forecasting
- Integration of multiple utilities (electric, water, gas and steam) into single data collection platform with open protocol data access
- Broad line of metering products and communication architecture platforms to suit a wide variety of environments
- Highly scalable system can be phased in to accommodate resource constraints and ease adoption
- Cost-effective and convenient method of monitoring usage for energy savings, code compliance and LEED measurement and verification



Educational and Professional Campuses

New Construction & Retrofit Applications

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CORE LEVITON COMPONENTS

Educational and Professional Campuses

Product	Voltage	Description	Amps	Cat. No.
BMO 3.0 Tenant Billing Module Software	—	See www.leviton.com/verifeye for full listing and details	—	BMOSW-BIL
BMO 3.0 Executive Reporting Dashboard Module Software	—	Expansion Module Software & Mobile App - Includes 10 Buildings with 50 Meter Points Per Building	—	BMOSW-EXE

Suggested Meters for Individual Buildings

Low Range — Gymnasium, Faculty Hall

Series 3500 Ethernet Meter Kits* INDOOR ENCLOSURE <small>*Kits include meter, specified enclosure and required current transformers</small>	208-480VAC 3P 3W/4W	ModBus TCP/BACnet IP, 3 Split CTs	100A	3KUMT-01M
			200A	3KUMT-02M
			400A	3KUMT-04M
	ModBus TCP/BACnet IP, 3 Solid CTs		100A	3KUMT-1SM
			200A	3KUMT-2SM
			3000A	3KUMT-4SM
Series 3500 Ethernet Meter Kits* OUTDOOR ENCLOSURE <small>*Kits include meter, specified enclosure and required current transformers</small>	208-480VAC 3P 3W/4W	ModBus TCP/BACnet IP, 3 Split CTs	100A	3OUMT-01M
			200A	3OUMT-02M
			400A	3OUMT-04M
	ModBus TCP/BACnet IP, 3 Solid CTs		100A	3OUMT-1SM
			200A	3OUMT-2SM
			400A	3OUMT-4SM

Mid Range — Administration, Dormitory, Health Sciences, Library

Series 3500 Ethernet Meter Kits* INDOOR ENCLOSURE <small>*Kits include meter, specified enclosure and required current transformers</small>	208-480VAC 3P 3W/4W	ModBus TCP/BACnet IP, 3 Split CTs	400A	3KUMT-04M
			800A	3KUMT-08M
	ModBus TCP/BACnet IP, 3 Solid CTs		200A	3KUMT-2SM
			4000A	3KUMT-30M
		ModBus TCP/BACnet IP, 3 Split CTs	3000A	3KUMT-4SM

High Range — Data Center, Research Lab

Series 3500 Ethernet Meter Kits* INDOOR ENCLOSURE <small>*Kits include meter, specified enclosure and required current transformers</small>	208-480VAC 3P 3W/4W	ModBus TCP/BACnet IP, 3 Split CTs	1800A	3KUMT-08M
			1600A	3KUMT-16M
	ModBus TCP/BACnet IP, 3 Solid CTs		4000A	3KUMT-30M
			3000A	3KUMT-4SM
		ModBus TCP/BACnet IP, 3 Split CTs	5000A	3KUMT-50M

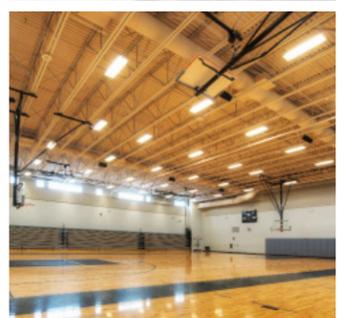
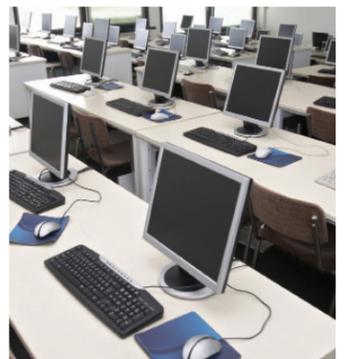
Facilities Management

Energy Monitoring Hub	—	Energy Monitoring Hub - Configured for Leviton Energy Manager	—	A8812-001
		Energy Monitoring Hub - Non-Configured	—	A8812-000

Lecture Hall

Series 8000 Meter	120/208V	Phase Config 8x3 with Terminal Strips	—	S8UTS-241
		Phase Config 12x2 with Terminal Strips	—	S8UTS-241
		Phase Config 24x1 with Terminal Strips	—	S8UTS-241
		Phase Config 8x3 with Wiring Harness	—	S8UWH-241
		Phase Config 12x2 with Wiring Harness	—	S8UWH-241
		Phase Config 24x1 with Wiring Harness	—	S8UWH-241

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Industrial/ Manufacturing Plants, Major Building Systems

New Construction and Retrofit Applications

It takes a tremendous amount of energy to run manufacturing process equipment, lighting and HVAC systems within a typical plant. As major consumers of electricity and other utilities, factories and industrial facilities can achieve significant cost savings by improving equipment performance, by load shedding, and by eliminating wasteful consumption. In addition, accurate allocation of utility costs made possible through submetering can enhance management of per-unit production costs. Energy monitoring data can facilitate a robust energy management and improvement plan that if utilized properly, will provide significant savings opportunities.

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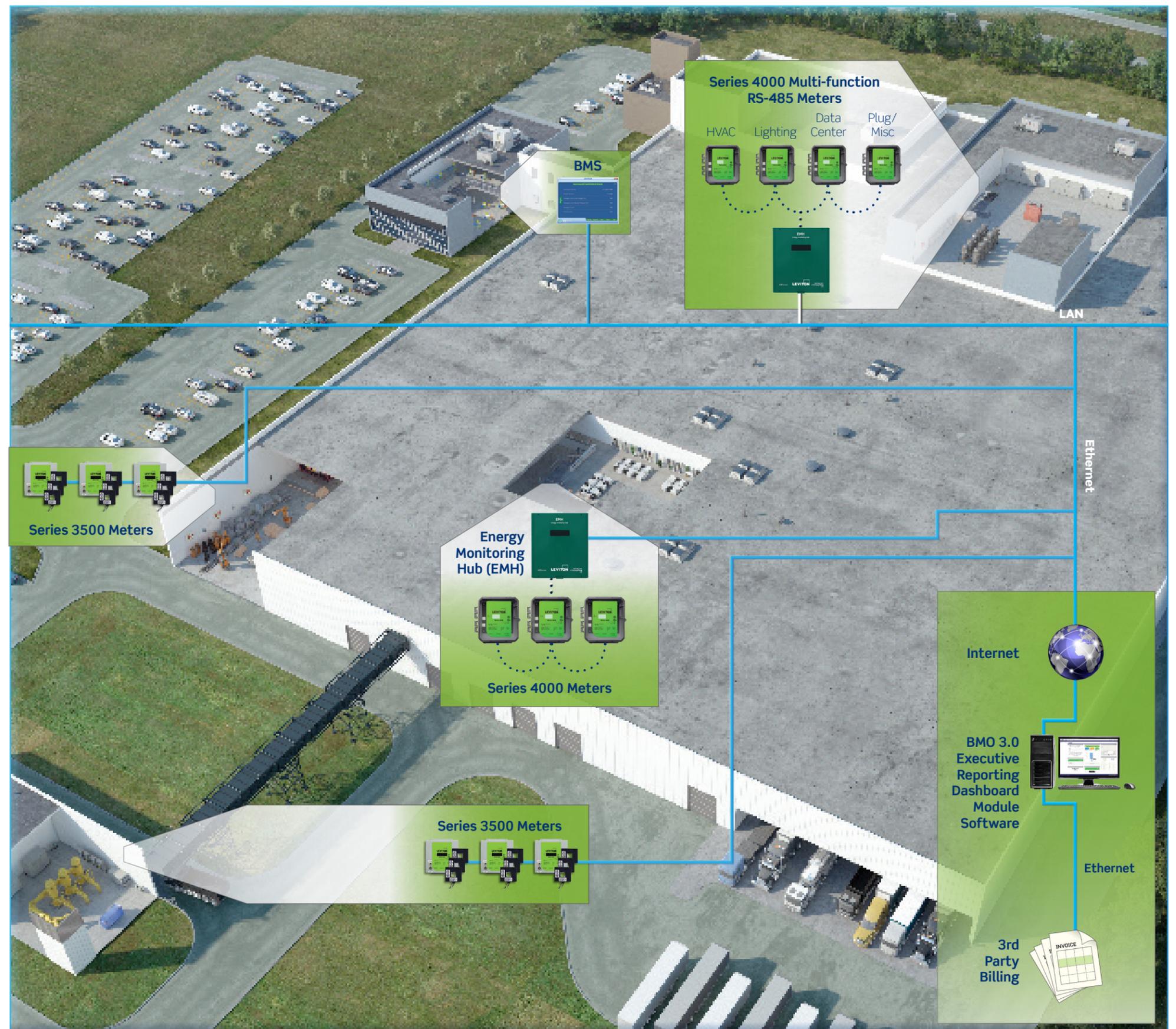
In an environment where downtime can quickly erode profits, a submetering system that can be phased in without

interrupting processing or production has measurable advantages. Leviton's VerifEye submetering system is extremely scalable so it can be installed in phases, while use of split-core transformers enables installation without power interruptions. Once in action, submetering provides facility managers and operators with valuable insight into the performance of the overall facility.

Leviton's VerifEye submetering system can help streamline demand analysis, production and administrative cost allocation, and equipment maintenance opportunities. The end result is a better bottom line.

The Leviton Advantage

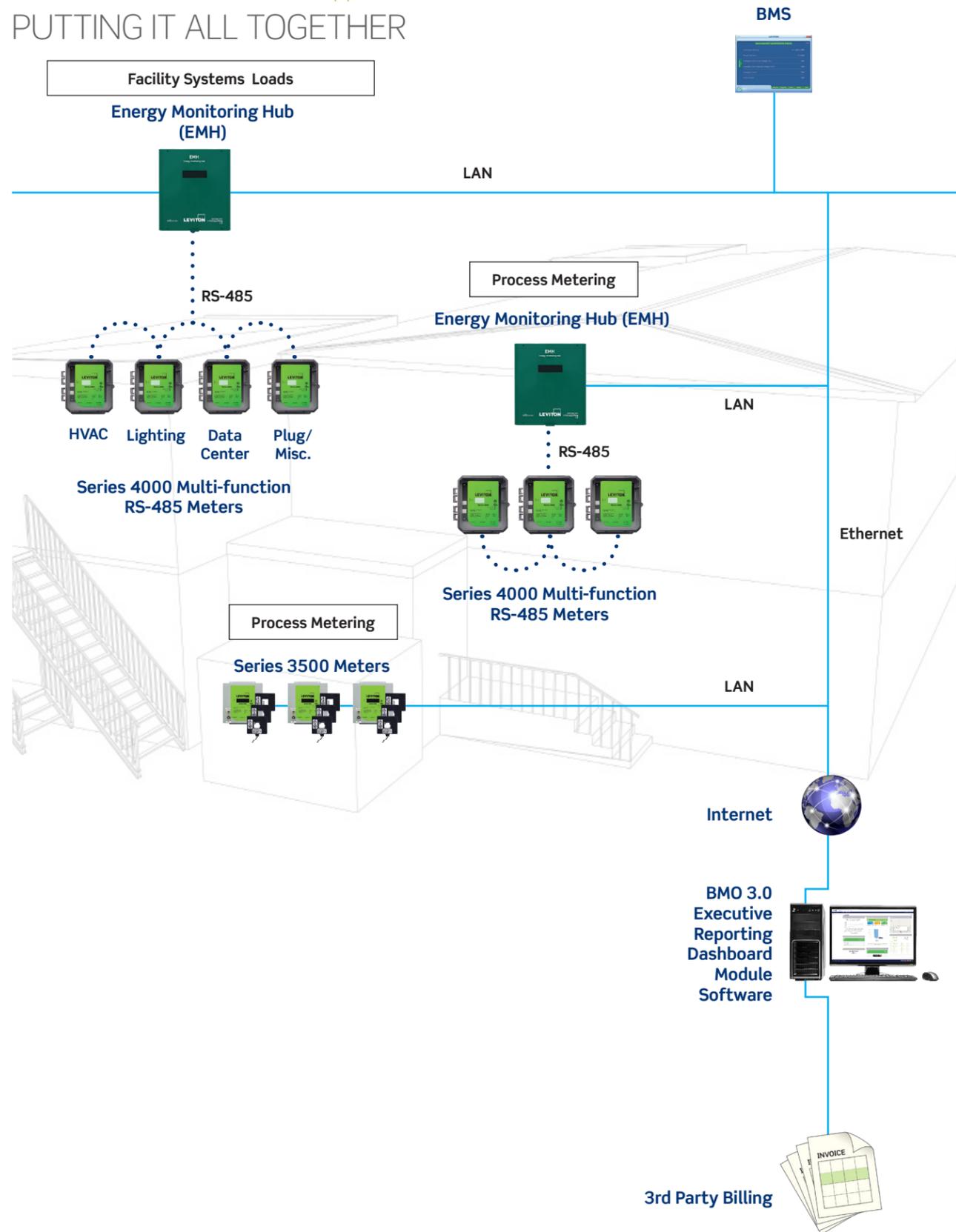
- Highly scalable system can be phased in so as not to interrupt daily operations
- Monitoring of processes, equipment and major building system loads for energy savings
- Ideal solution for departmental cost allocation
- Easy integration of utility data into building and energy management systems
- Versatile metering products accommodate split-core transformers or Rogowski Coil CTs for relatively easy retrofitting into any environment



Industrial/Manufacturing Plants, Major Building Systems

New Construction and Retrofit Applications

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CORE LEVITON COMPONENTS

Industrial/Manufacturing Plants, Major Building Systems				
Product	Voltage	Description	Amps	Cat. No.
Series 4000 ModBus RTU	Universal 3PH 3W/4W	100A, 3 Split Core CTs	—	4KUMR-01M
		200A, 3 Split Core CTs	—	4KUMR-02M
		400A, 3 Split Core CTs	—	4KUMR-04M
		800A, 3 Split Core CTs	—	4KUMR-08M
		20-5000A, 3, 12" Rogowski Coil CTs	—	4KU MR-R12
		20-5000A, 3, 18" Rogowski Coil CTs	—	4KUMR-R18
		20-5000A, 3, 24" Rogowski Coil CTs	—	4KUMR-R24
Series 3500 Ethernet Meter Kits* INDOOR ENCLOSURE <small>*Kits include meter, specified enclosure and required current transformers</small>	208-480VAC 3P 3W/4W	ModBus TCP/BACnet IP, 3 Split CTs	100A	3KUMT-01M
			200A	3KUMT-02M
			400A	3KUMT-04M
			800A	3KUMT-08M
			1600A	3KUMT-16M
		ModBus TCP/BACnet IP, 3 Solid CTs	100A	3KUMT-1SM
			200A	3KUMT-2SM
			4000A	3KUMT-30M
		ModBus TCP/BACnet IP, 3 Split CTs	3000A	3KUMT-4SM
			5000A	3KUMT-50M
Energy Monitoring Hub	—	Energy Monitoring Hub - Configured for Leviton Energy Manager	—	A8812-001
	—	Energy Monitoring Hub - Non Configured	—	A8812-000
BMO 3.0 Executive Reporting Dashboard Module Software	—	Expansion Module Software & Mobile App - Includes 10 Buildings with 50 Meter Points Per Building	—	BMOSW-EXE

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VERIFEYE METERS



	Multi-Family Residential		Residential/Commercial	
Specifications	Mini Meter™ Kits	Mini Meter Kits with AMR	Series 8000 High Density Multi-Circuit Meter	EMH+ All-In-One Meter & Hub**
	kWh Meter		kWh Meter	
Phase/Wiring	1PH 2W 1PH 3W		1PH 2W 1PH 3W WYE 3PH 3W Delta 3PH 4W WYE	3PH 3W Delta 3PH 3W WYE 1PH 2W 3PH 4W WYE
Voltage Configurations	120/208/240		120/208 120/240 240/416 277/480 480*	208-480V AC 3 Phase, 120, 240, 277V AC Single Phase 50/60 Hz
Amperages	100-200A	200A	100-5000A	
Measuring Parameters	kWh		Meter Totals: kWh, kVARh, kW, kVAR, kVA, Voltage L-L, L-N, Current, Power Factor Frequency Per Phase: Voltage L-L, L-N, Current, Power, Power Factor	
Communications Protocol (Standard)	Isolated Pulse Output	Embedded line powered AMR equipment, wireless network	ModBus TCP ModBus RTU (RS-485) BACnet IP	ModBus/RTU, ModBus/TCP, TCP/IP, PPP, HTTP/HTML, FTP, NTP, XML, SNMP-Trap, Optional BACnet/IP
Current Transformers Options	Split Core Solid Core	Solid Core	Split Core Solid Core	Split Core .333V secondary output only
Enclosure Options	OEM Module Indoor Plastic Flush Mount NEMA 1 Outdoor NEMA 4X MMU NEMA 4X	Indoor Flush Mount Indoor Surface Mount	Indoor JIC Steel NEMA1	Indoor Plastic Surface Mount
Display Type	LCD or Mechanical Counter	LCD	Local LCD, Scroll	LCD
Accuracy	C12.10 +/- 0.5% with paired CTs	C12.20 0.5% with paired CTs	C12.20 +/- 0.5%	C12.10 1% from 2% to 100% of full scale
Multiple Meter Unit (MMU) Configurations	Medium, 2-4 Meters Large, 5-8 Meters Extra-Large, 9-19 Meters	—	3PH: 8x3 1PH 3W: 12x2, 9x2, 6x2, 3x2 1PH: 24x1	—
Data Storage	Last Reading - Cumulative		Last Reading - Cumulative Data in 15 min Intervals	Last reading - 1 to 60 min, User Selectable (default 15 min)

* With potential transformer - consult factory for availability
 **VeriEye BMO 3.0 Base Module software is included at no cost with purchase of any VeriEye Data Acquisition Hub



	Commercial				Commercial and Industrial
	Series 1000 Single Phase Meter Kits	Series 2000 Three Phase Meter Kits	Series 3500 Multi-Function Ethernet Meter Kits	Series 4000 Industrial ModBus Meter Kits	Series 4100 Industrial ModBus RTU Bidirectional Meter Kits
	kWh Meter with Optional Demand		Advanced kWh Meter with Communication		
Phase/Wiring	1PH 2W	1PH 3W	1PH 2W 1PH 3W WYE 3PH 4W WYE	1PH 2W 1PH 3W WYE 3PH 3W Delta 3PH 4W WYE	
Voltage Configurations	120 277	120/208 120/240 277/480	120/208 277/480	Universal Voltage (120-480)	Universal Voltage (90-600)
Amperages	100-800A		100-1200A	100-5000A	Split Core: 100, 200, 400, 800A Rogowski: 50-5000A
Measuring Parameters	kWh Optional kW (peak demand reset)		kWh kW (peak demand reset) Meter Totals: kVAR, kVA, Power Factor & kW By Phase: Volts, Watts, Amps, Power Factor, Interval Data	Series 4000: kVARh, kW, kVAR, kVA, Voltage L-L, L-N, Current, Power Factor, Frequency Series 4100: kW, kVA and kVAR Power factor: 3 phase average & per phase Present power demand: Real (kW), reactive (kVAR) and apparent (kVA) Parameters are both delivered and received for the S4100 Meter	
Communications Protocol (Standard)	Isolated Pulse Output, 0WH or 1000WH pulse		Isolated Pulse Output ModBus TCP/IP BACnet IP	ModBus/RTU Isolated Pulse Output	ModBus/RTU w/Pulse Output or BACnet IP with Pulse Input
Current Transformers Options	Split Core Solid Core		Split Core .333V secondary output only Rogowski Coil: lengths available in 12", 18" and 24"		
Enclosure Options	Indoor JIC Steel NEMA 1 Outdoor NEMA 4X	Indoor JIC Steel NEMA 1 Outdoor NEMA 4X MMU JIC Steel NEMA 1	Indoor JIC Steel NEMA 1 Outdoor NEMA 4X	Indoor DIN Rail Mount Outdoor NEMA 4X	
Display Type	Local LCD		Local LCD, Scroll Button		
Accuracy	C12.10 and C12.20 +/- 0.5%				C12.20 / 0.2%
Multiple Meter Unit (MMU) Configurations	—		Medium, 2-4 Meters Large, 5-8 Meters Extra-Large, 9-19 Meters	—	
Data Storage	Last Reading - Cumulative Peak Demand with Key Reset (optional)		Last Reading - Cumulative Peak Demand with Key Reset Data in 15 min Intervals	Last Reading - Present and Peak Demand for kW and kVAR	

VeriEye™ Smart Submetering Solutions

VeriEye™ Smart Submetering Solutions

MINI METER™

EQUITABLE TENANT BILLING

Some multi-tenant residential properties include energy costs in rental fees and generally charge tenants for energy based on the square footage occupied. To be truly equitable, tenants should pay only for what they actually use. With Leviton Mini Meters, building managers can easily track and allocate energy usage costs fairly to multiple tenants, as well as recoup energy expenses from common-use areas (parking lots, hall lighting, etc.). Tenants benefit by paying only for the energy they use; and when they focus on conserving energy, they can see direct financial benefits from their efforts.

- kWh Meter
- 120V 1PH 2W and 120/208/240V 1PH 3W
- 100-200 Amps
- Pulse Output - standard feature
- Available in NEMA 4X indoor/outdoor individual meter enclosures and Multiple Meter Units (MMUs) from 2 to 19 meters
- Select surface mount and flush mount models include built in tamper-proof switch or built-in wireless AMR and temperature sensing capabilities
- Revenue grade accuracy: 0.5% accuracy class
- Use with split core or solid core CTs
- Up to three sets of CTs per phase can be paralleled per meter with no multipliers
- Mini Meter Kits are UL/cUL Listed Energy Usage Monitor per CCN FTRZ



Indoor Flush Mount Mini Meter



Indoor Surface Mount Mini Meter



Outdoor Mini Meter



Mini Meter with Transceiver

MINI METER KITS

Note: Kits include meter, specified enclosure and required current transformers

MINI METER KITS - INDOOR FLUSH MOUNT ENCLOSURE

VOLTAGE	AMPS	CTS INCLUDED	CAT. NO.
120/208V 3W or 120/240V 1PH 3W (Split Phase)	100A	2 SOLID CTs	MK240-1SW
	200A		MK240-2SW

MINI METER KITS - OUTDOOR ENCLOSURE

VOLTAGE	AMPS	CTS INCLUDED	CAT. NO.
120/208V 3W or 120/240V 1PH 3W (Split Phase)	100A	2 SOLID CTs	MO240-1SW
	200A		MO240-2SW
120/208V 2PH 3W or 120/240V 1PH 3W (Split Phase)	100A	2 Split CTs	MO240-01W
	200A		MO240-02W

MINI METER KITS WITH WIRELESS AMR - INDOOR FLUSH MOUNT ENCLOSURE*

VOLTAGE	AMPS	CTS INCLUDED	CAT. NO.
120/208/240V 1PH 3W with AMR (includes Time of Use (TOU) enabled kWh Transceiver and Tamper Proof Switch)	200A	2 SOLID CTs	6W201-C02
120/208/240V 1PH 3W with AMR (includes Time of Use (TOU) and Delta Temperature enabled kWh Transceiver and Tamper Proof Switch)			6W201-D02
120/208/240V 1PH 3W (includes Time of Use (TOU) and Delta Temperature Enabled kWh Transceiver and Tamper Proof Switch)			6W201-E02

MINI METER KITS WITH WIRELESS AMR - INDOOR SURFACE MOUNT ENCLOSURE*

VOLTAGE	AMPS	CTS INCLUDED	CAT. NO.
120/208/240V 1PH 3W with AMR	200A	2 SOLID CTs	6PSMT-C02
120/240V 1PH 3W (includes Time of Use [TOU] enabled kWh Transceiver and Tamper Proof Switch)			MMSMT-C02
120/240V 1PH 3W with AMR (includes Time of Use [TOU] and Temperature enabled kWh Transceiver and Tamper Proof Switch)			MMSMT-D02
120/240V 1PH 3W with AMR (includes Time of Use [TOU] and Temperature enabled kWh Transceiver and Tamper Proof Switch)			MMSMT-E02

WIRELESS REPEATER

DESCRIPTION	CAT. NO.
Repeater, 5V, includes 5VDC 1A plug-in power supply and internal backup battery	T101R-05V

WIRELESS DATA CONCENTRATING ACCESS POINTS (DCAPS)**

DESCRIPTION	CAT. NO.
Data Concentrating Access Point (DCAP), Low Capacity (150 meter points max), built-in radio receiver	T201E-151
DCAP, High Capacity (1000 meter points max), built-in radio receiver	T201E-102

*For a complete wireless Automatic Meter Reading (AMR) system, data transceivers and other wireless network components (DCAPs and Repeaters) are required as dictated by building construction
TOU = Time of Use, providing 15-minute time-stamped kWh interval data

**All DCAPs and Gateways shipped with 6VDC, minimum 1.5 Amp power supply, Ethernet cable and USB cable

MULTIPLE METER UNITS (MMUs)

Leviton Multiple Meter Units (MMUs) come pre-wired per project configuration sheets with clearly labeled connections, minimizing the electrical installation time. All VerifEye MMUs are UL listed assemblies. Choose from an indoor steel model in 4/8/16 unit single- or three-phase configurations utilizing Series 2000 meters or a weatherproof outdoor enclosure in 4/8/19 unit single-phase configurations utilizing Mini Meters. All MMUs are configurable for individual projects and each meter order requires submittal of a Configuration Form. **Note:** All MMUs come with UL listed final enclosures. Go to leviton.com/verifeye for more information.

MULTIPLE METER UNITS (MMUs)

MINI METER MMUs

VOLTAGE	DESCRIPTION	CAT. NO.
MEDIUM MINI METER MMU, 2-4 METERS		
120/240V 1PH 3W	2 Dual Element Meters	6M202-CFG
	3 Dual Element Meters	6M203-CFG
	4 Dual Element Meters	6M204-CFG
120/208V 3PH 4W	2 Dual Element Meters	6M302-CFG
	3 Dual Element Meters	6M303-CFG
	4 Dual Element Meters	6M304-CFG

LARGE MINI METER MMU, 5-8 METERS

120/240V 1PH 3W	5 Dual Element Meters	6L205-CFG
	6 Dual Element Meters	6L206-CFG
	7 Dual Element Meters	6L207-CFG
	8 Dual Element Meters	6L208-CFG
120/208V 3PH 4W	5 Dual Element Meters	6L305-CFG
	6 Dual Element Meters	6L306-CFG
	7 Dual Element Meters	6L307-CFG
	8 Dual Element Meters	6L308-CFG

EXTRA-LARGE MINI METER MMU, 9-19 METERS, NEMA 4X ENCLOSURE

120/240V 1PH 3W	9 Dual Element Meters	6X209-CFG
	10 Dual Element Meters	6X210-CFG
	11 Dual Element Meters	6X211-CFG
	12 Dual Element Meters	6X212-CFG
	13 Dual Element Meters	6X213-CFG
	14 Dual Element Meters	6X214-CFG
	15 Dual Element Meters	6X215-CFG
	16 Dual Element Meters	6X216-CFG
	17 Dual Element Meters	6X217-CFG
120/208V 3PH 4W	9 Dual Element Meters	6X309-CFG
	10 Dual Element Meters	6X310-CFG
	11 Dual Element Meters	6X311-CFG
	12 Dual Element Meters	6X312-CFG
	13 Dual Element Meters	6X313-CFG
	14 Dual Element Meters	6X314-CFG
	15 Dual Element Meters	6X315-CFG
	16 Dual Element Meters	6X316-CFG
	17 Dual Element Meters	6X317-CFG
	18 Dual Element Meters	6X318-CFG
	19 Dual Element Meters	6X319-CFG

SERIES 2000 MMUs

VOLTAGE	DESCRIPTION	CAT. NO.
MEDIUM SERIES 2000 MMU, 2-4 METERS		
120/208V 3PH 4W	2 Three Element Meters	2M202-CFG
	3 Three Element Meters	2M203-CFG
	4 Three Element Meters	2M204-CFG
277/480V 3PH 4W	2 Three Element Meters	2M402-CFG
	3 Three Element Meters	2M403-CFG
	4 Three Element Meters	2M404-CFG

LARGE SERIES 2000 MMU, 5-8 METERS

120/208V 3PH 4W	5 Three Element Meters	2L205-CFG
	6 Three Element Meters	2L206-CFG
	7 Three Element Meters	2L207-CFG
	8 Three Element Meters	2L208-CFG
277/480V 3PH 4W	5 Three Element Meters	2L405-CFG
	6 Three Element Meters	2L406-CFG
	7 Three Element Meters	2L407-CFG
	8 Three Element Meters	2L408-CFG

EXTRA-LARGE SERIES 2000 MMU, 9-16 METERS, NEMA 4X ENCLOSURE

120/208V 3PH 4W	9 Three Element Meters	2X209-CFG
	10 Three Element Meters	2X210-CFG
	11 Three Element Meters	2X211-CFG
	12 Three Element Meters	2X212-CFG
	13 Three Element Meters	2X213-CFG
	14 Three Element Meters	2X214-CFG
	15 Three Element Meters	2X215-CFG
	16 Three Element Meters	2X216-CFG
277/480V 3PH 4W	9 Three Element Meters	2X409-CFG
	10 Three Element Meters	2X410-CFG
	11 Three Element Meters	2X411-CFG
	12 Three Element Meters	2X412-CFG
	13 Three Element Meters	2X413-CFG
	14 Three Element Meters	2X414-CFG
	15 Three Element Meters	2X415-CFG
	16 Three Element Meters	2X416-CFG



Mini Meter
Medium Multiple Meter Unit (MMU)



Mini Meter
Large Multiple Meter Unit (MMU)



Series 2000
Multiple Meter Unit (MMU)

MINI METER MULTIPLE METER UNITS (MMU) KITS

Leviton Mini Meter Multiple Meter Units (MMUs) Kits offer immediate, off-the-shelf installation and easy specification for multi-tenant submetering applications. The MMUs are designed to meter multiple single phase (120/208/240V 3PH 4W) loads originating from a single, high density distribution panel. Each Mini Meter installed in an MMU is a 0.5% accurate revenue grade meter.

- Smaller total mounting footprint
- Reduced hardware requirements (conduit, wire, short circuit protection devices, etc.)
- Reduced installation time
- Individual meters in one enclosure architect enhances produce reliability
- No configuration form needed
- Kitted with CTs for revenue grade metering

MINI METER MULTIPLE METER UNITS (MMU) KITS

MINI METER MMU KITS

VOLTAGE	DESCRIPTION	CAT. NO.
MEDIUM MINI METER MMU, 2-4 METERS, NEMA 4X ENCLOSURE, 200A CTS		
120/208V 3P/4W	2 Dual Element Meters, Kitted with CTs	6M302-KIT
	3 Dual Element Meters, Kitted with CTs	6M303-KIT
	4 Dual Element Meters, Kitted with CTs	6M304-KIT

LARGE MINI METER MMU, 5-8 METERS, NEMA 4X ENCLOSURE, 200A CTS

120/208V 3P/4W	5 Dual Element Meters, Kitted with CTs	6L305-KIT
	6 Dual Element Meters, Kitted with CTs	6L306-KIT
	7 Dual Element Meters, Kitted with CTs	6L307-KIT
	8 Dual Element Meters, Kitted with CTs	6L308-KIT

EXTRA LARGE MINI METER MMU, 9-18 METERS, NEMA 4X ENCLOSURE, 200A CTS

120/208V 3P/4W	9 Dual Element Meters, Kitted with CTs	6X309-KIT
	10 Dual Element Meters, Kitted with CTs	6X310-KIT
	11 Dual Element Meters, Kitted with CTs	6X311-KIT
	12 Dual Element Meters, Kitted with CTs	6X312-KIT
	13 Dual Element Meters, Kitted with CTs	6X313-KIT
	14 Dual Element Meters, Kitted with CTs	6X314-KIT
	15 Dual Element Meters, Kitted with CTs	6X315-KIT
	16 Dual Element Meters, Kitted with CTs	6X316-KIT
	17 Dual Element Meters, Kitted with CTs	6X317-KIT
	18 Dual Element Meters, Kitted with CTs	6X318-KIT



Mini Meter
Multiple Meter Unit (MMU) Kits

SERIES 8000 MULTI-POINT HIGH DENSITY METERS

The Series 8000 Multi-Point High Density Meters are designed to meter high density applications such as multi-tenant office and residential buildings, medium-sized retail stores, institutional facilities and branch circuit monitoring. For easy data accessibility, the Series 8000 design is based on an open protocol network to transmit data over ModBus, BACnet and Ethernet. Combining revenue-grade electrical submetering with building automation communications technology, the Series 8000 complies with all regulatory electric safety and communications requirements and meets stringent ANSI 0.5 % Accuracy Class standards.

- Allows for revenue grade metering of up to 24 individual circuits in one device
- Monitors up to 24 current transformers:
 - 8 circuits, 3 phase loads
 - 12 circuits, 2 phase loads
 - 24 circuits, 1 phase loads
- 100-5,000 Amp current transformers
- Native communications protocol—ModBus TCP, ModBus RTU (RS-485) and BACnet IP standard
- Measures kW hours, kW demand, volts, amps
- Interval and net metering
- Two onboard pulse channels available for co-located meters with contact closures



Series 8000 Meter

CHOOSING BETWEEN A WIRING HARNESS AND TERMINAL STRIPS

- **Wiring harnesses offer a less labor intensive solution when all CTs are located in one panel** like in a multi-family high rise project. This eliminates the need to extend CT wires out of the panel.
- **Terminal strips are ideal for installers who prefer to land each wire and not use a color-coded wiring harness.** For CTs located in different panels or different locations with a switchboard, terminal strips offer an easier solution with the ability to extend the current transformer wiring back to the meter location for termination. Terminal strip models also carry a slightly higher cost and should be considered with the project budget.

SERIES 8000 MULTI-POINT HIGH DENSITY METERS

VOLTAGE	DESCRIPTION	CAT. NO.
MULTI-FAMILY RESIDENTIAL		
120/208/240V	Phase Config 3x2 with Wiring Harness	S8120-032
	Phase Config 6x2 with Wiring Harness	S8120-062
	Phase Config 9x2 with Wiring Harness	S8120-092
	Phase Config 12x2 with Wiring Harness	S8120-122
120/208V	Phase Config 8x3 with Terminal Strips	S8UTS-241
	Phase Config 12x2 with Terminal Strips	
	Phase Config 24x1 with Terminal Strips	
120/208V	Phase Config 8x3 with Wiring Harness	S8UWH-241
	Phase Config 12x2 with Wiring Harness	
	Phase Config 24x1 with Wiring Harness	
COMMERCIAL & INDUSTRIAL		
277/480V	Phase Config 8x3 with Terminal Strips	277TS-241
	Phase Config 12x2 with Terminal Strips	
	Phase Config 24x1 with Terminal Strips	
277/480V	Phase Config 8x3 with Wiring Harness	277WH-241
	Phase Config 12x2 with Wiring Harness	
	Phase Config 24x1 with Wiring Harness	
POTENTIAL TRANSFORMER (OPTIONAL)		
480V Delta	Delta PTs with Enclosure	S480V-011

SERIES 1000 SINGLE PHASE METERS

- kWh meter with optional Peak Demand functionality (includes Reset Key)
- 100 - 800 Amps
- Isolated Pulse output - standard feature
- Large LCD Display
- Revenue grade accuracy: 0.5% accuracy class
- Use with split core or solid core CTs
- UL listed



Series 1000 Meter Outdoor



Series 1000 Meter Indoor

SERIES 1000 SINGLE PHASE METER KITS

Note: Kits include meter, specified enclosure and required current transformers

INDOOR ENCLOSURE

VOLTAGE	AMPS	CTS INCLUDED	CAT. NO.
120V 1PH 2W	100	1 Split CT	1K120-01W
	200		1K120-02W
	400		1K120-04W
	800		1K120-08W
	100	1 SOLID CT	1K120-1SW
120/208V 1PH 3W or 120/240V 1PH 3W (Split Phase)	200	2 Split CTs	1K120-2SW
	400		1K240-01W
	800		1K240-02W
277V 1PH 2W	100	1 Split CT	1K240-04W
	200		1K240-08W
	400		1K240-15W
	800		1K240-25W
	100	1 SOLID CT	1K277-01W
277V 1PH 2W	200	1 Split CT	1K277-02W
	400		1K277-04W
	800		1K277-08W
	100		1 SOLID CT
	200	1 SOLID CT	1K277-2SW

OUTDOOR ENCLOSURE

VOLTAGE	AMPS	CTS INCLUDED	CAT. NO.
120V 1PH 2W	100	1 Split CT	10120-01W
	200		10120-02W
	400		10120-04W
	800		10120-08W
120/208V 1PH 3W or 120/240V 1PH 3W (Split Phase)	100	2 Split CTs	10240-01W
	200		10240-02W
	400		10240-04W
277V 1PH 2W	800	1 Split CT	10240-08W
	100		10277-01W
	200		10277-02W
	400		10277-04W
	800		10277-08W

SERIES 2000 THREE PHASE METERS

- kWh meter with optional Peak Demand functionality (includes Reset Key)
- 120/208V or 277/480V 3PH 4W WYE only
- 100 - 1200 Amps
- Isolated Pulse output—standard feature
- Large LCD Display
- Revenue grade accuracy: 0.5% accuracy class
- Use with split core or solid core CTs
- UL listed



Series 2000 Meter
Outdoor



Series 2000 Meter
Indoor

SERIES 2000 THREE PHASE METER KITS

Note: Kits include meter, specified enclosure and required current transformers

INDOOR ENCLOSURE

VOLTAGE	AMPS	CTS INCLUDED	CAT. NO.
120/208V 3PH 4W WYE kWh Meter	100	3 Split CTs	2K208-01W
	200		2K208-02W
	400		2K208-04W
	800		2K208-08W
	1200	2K208-12W	
	100	3 SOLID CTs	2K208-1SW
200	2K208-2SW		
277/480V 3PH 4W WYE kWh Meter	100	3 Split CTs	2K480-01W
	200		2K480-02W
	400		2K480-04W
	800		2K480-08W
	1200	2K480-12W	
	100	3 SOLID CTs	2K480-1SW
200	2K480-2SW		
120/208V 3PH 4W WYE Demand Meter	100	3 Split CTs	2K208-01D
	200		2K208-02D
	400		2K208-04D
	800		2K208-08D
	1200		2K208-12D
277/480V 3PH 4W WYE Demand Meter	100	3 Split CTs	2K480-01D
	200		2K480-02D
	400		2K480-04D
	800		2K480-08D
	1200		2K480-12D

OUTDOOR ENCLOSURE

VOLTAGE	AMPS	CTS INCLUDED	CAT. NO.
120/208V 3PH 4W WYE kWh Meter	100	3 Split CTs	20208-01W
	200		20208-02W
	400		20208-04W
	800		20208-08W
	1200		20208-12W
277/480V 3PH 4W WYE kWh Meter	100	3 Split CTs	20480-01W
	200		20480-02W
	400		20480-04W
	800		20480-08W
	1200		20480-12W

SERIES 3500 MULTI-FUNCTION ETHERNET METERS

- Communications Protocol
 - ModBus TCP/IP or BACnet IP
 - Isolated pulse output
- Universal voltage for 120-480V
- Measured Parameters
 - Total Meter:
 - kWh/kW
 - kVAh
 - kVA and kVAR
 - Power Factor
 - Line Frequency
 - Per Phase:
 - Voltage L-N
 - Current
 - Watts
 - VA, VAR
 - Power Factor
 - Voltage L-L
- Large LCD display with scroll feature
- Revenue grade accuracy: 0.5% accuracy class
- Installation diagnostics
- Low voltage detection
- Real time clock with battery backup for TOU reading
- Use with split core or solid core CTs
- Indoor JIC steel and outdoor (NEMA 4X) enclosure options
- UL/cUL Listed Energy Usage Monitor per CCN FTRZ



Series 3500
Outdoor Meter

SERIES 3500 METER KITS

INDOOR ENCLOSURE

VOLTAGE	AMPS	CTS INCLUDED	CAT. NO.
208-480V AC 3P 3W/4W ModBus TCP/ BACnet IP	100	3 Split CTs	3KUMT-01M
	200		3KUMT-02M
	400		3KUMT-04M
	800		3KUMT-08M
	1600		3KUMT-16M
	3000	3KUMT-30M	
	5000	3KUMT-50M	
	100	3 SOLID CTs	3KUMT-1SM
	200		3KUMT-2SM
	400		3KUMT-4SM

OUTDOOR ENCLOSURE

VOLTAGE	AMPS	CTS INCLUDED	CAT. NO.
208-480V AC 3P 3W/4W ModBus TCP/ BACnet IP	100	3 Split CTs	30UMT-01M
	200		30UMT-02M
	400		30UMT-04M
	800		30UMT-08M
	1600		30UMT-16M
	3000	30UMT-30M	
	5000	30UMT-50M	
	100	3 Solid CTs	30UMT-1SM
	200		30UMT-2SM
	400		30UMT-4SM

NOTE: Kits include meter, specified enclosure and required current transformers

SERIES 4000 INDUSTRIAL MODBUS METER KITS

Series 4000 Industrial ModBus Meter Kits are revenue-grade (ANSI C12.20 Class 0.2%) kWh electrical meters. The Series 4000 Kits include a DIN rail mount, 3-phase, advanced communication meter with split core or flexible rope-style Rogowski CTs for compact or irregular shaped conductors. Combinations of serial communication, pulse output and phase alarms are provided to suit a wide variety of applications.

- Industrial Temperature Range of -22 to 158°F (30 to 70°C)
- Energy monitoring for AMR/BAS/BMS/EMS systems
- DIN Rail options available
- Options for 100, 200, 400 and 800A Split Core CTs and Rogowski CTs (50-5000A)
- ANSI 12.20 0.2% accuracy, IEC 62053-22 Class 0.2S
- Real energy output and phase loss alarm output
- User-enabled password protection to protect meter from tampering
- Bright, backlit LCD for installation in dark areas and viewing real time data
- AMR/BAS system integration via ModBus RTU- RS-485 2-wire with shield
- 90-600VAC (50/60Hz) versatility including 347V (L-N) and 600V (L-L) with fewer models to stock



Series 4000 DIN Rail Mount



Series 4000 Outdoor NEMA Enclosure

SERIES 4100 BIDIRECTIONAL MODBUS RTU OR BACNET MS/TP METER KITS

The VerifEye Series 4100 Bidirectional ModBus RTU or BACnet MS/TP Meter Kits feature bidirectional monitoring specifically designed for renewable energy applications. The Series 4100 Meter Kits measure power imported from the utility grid and power exported from renewable energy source like solar panels. The Series 4100 Meter Kits are available in a standalone DIN rail mount or NEMA 4X enclosures and come with either split core or flexible rope-style Rogowski Current Transformers (CTs).

- Bidirectional energy monitoring
- Industrial temperature range: -22 to 158°F (-30 to 70°C)
- 50/60 Hz
- Options for 100, 200, 400, and 800A Split Core CTs and Rogowski CTs (50-5000A)
- DIN rail mount option available
- User-enabled password protection to protect meter from tampering
- Bright, backlit LCD for installation in dark areas and viewing real time data
- Renewable energy applications
- AMR/BAS system integration via ModBus RTU or BACnet MS/TP - RS-485 Serial
- CSI approval for California Solar Initiative
- 90-600V versatility (347V L-N max)



Series 4100 DIN Rail Mount



Series 4100 Outdoor NEMA Enclosure

SERIES 4000 MODBUS METER KITS

INDOOR DIN RAIL MOUNT KITS

VOLTAGE	AMPS	CTS INCLUDED	CAT. NO.	COMPONENTS		
				AMPS	DESCRIPTION	CAT. NO.
Universal 3PH 3W/4W	100	Split Core CTs	4KUMR-01M	100	Split Core CTs	CTV01-K21
	200		4KUMR-02M	200		CTV02-K21
	400		4KUMR-04M	400		CTV04-K40
	800		4KUMR-08M	800		CTV08-K40
	50-5000	12" Rogowski Coil CTs	4KUMR-R12	—	Fuse Pack, 1/2A, 600VAC, slow blow	CTV00-FK3
	50-5000	18" Rogowski Coil CTs	4KUMR-R18	—	12" Rogowski Coil CTs	CRV50-K62
	50-5000	24" Rogowski Coil CTs	4KUMR-R24	20-5000	18" Rogowski Coil CTs	CRV50-K93
				24" Rogowski Coil CTs	CRV50-KC2	

STANDALONE METERS ONLY

Universal 3PH 3W/4W	100, 200, 400, 800	Split Core CTs Only	4KUMR-00M
Universal 3PH 3W/4W	50-5000	Rogowski Coil CTs Only	4KUMR-00R

OUTDOOR NEMA ENCLOSURE KITS

Universal 3PH 3W/4W	100	Split Core CTs	4OUMR-01M
	200		4OUMR-02M
	400		4OUMR-04M
	800		4OUMR-08M
	50-5000	12" Rogowski Coil CTs	4OUMR-R12
	50-5000	18" Rogowski Coil CTs	4OUMR-R18
	50-5000	24" Rogowski Coil CTs	4OUMR-R24

SERIES 4100 BIDIRECTIONAL MODBUS RTU AND BACNET MS/TP METER KITS

INDOOR DIN RAIL MOUNT MODBUS METER KITS

VOLTAGE	AMPS	CTS INCLUDED	CAT. NO.
Universal 3PH 3W/4W ModBus RTU	100	Split Core CTs	4DUMR-01M
	200		4DUMR-02M
	400		4DUMR-04M
	800		4DUMR-08M
	50-5000	12" Rogowski Coil CTs	4DUMR-12R
	50-5000	18" Rogowski Coil CTs	4DUMR-18R
	50-5000	24" Rogowski Coil CTs	4DUMR-24R

INDOOR DIN RAIL MOUNT BACNET MS/TP METER KITS

Universal 3PH 3W/4W BACnet MS/TP	100	Split Core CTs	4DUBM-01B
	200		4DUBM-02B
	400		4DUBM-04B
	800		4DUBM-08B
	50-5000	12" Rogowski Coil CTs	4DUBM-12R
	50-5000	18" Rogowski Coil CTs	4DUBM-18R
	50-5000	24" Rogowski Coil CTs	4DUBM-24R

OUTDOOR NEMA ENCLOSURE - MODBUS METER KITS

VOLTAGE	AMPS	CTS INCLUDED	CAT. NO.
Universal 3PH 3W/4W ModBus RTU	100	Split Core CTs	41OUM-01M
	200		41OUM-02M
	400		41OUM-04M
	800		41OUM-08M
	50-5000	12" Rogowski Coil CTs	41OUM-12R
	50-5000	18" Rogowski Coil CTs	41OUM-18R
	50-5000	24" Rogowski Coil CTs	41OUM-24R

OUTDOOR NEMA ENCLOSURE - BACNET MS/TP METER KITS

Universal 3PH 3W/4W BACnet MS/TP	100	Split Core CTs	41OUB-01B
	200		41OUB-02B
	400		41OUB-04B
	800		41OUB-08B
	50-5000	12" Rogowski Coil CTs	41OUB-12R
	50-5000	18" Rogowski Coil CTs	41OUB-18R
	50-5000	24" Rogowski Coil CTs	41OUB-24R

EMH+ ALL-IN-ONE METER AND ENERGY MONITORING HUB*

The EMH+ All-In-One Meter and Energy Monitoring Hub combines an onboard revenue-grade power meter and Leviton Data Acquisition Hub in a flexible all-in-one package. This simple and effective energy solution can be used to meet energy codes and mandates and is ideal for new construction and commercial buildings.

- **Simplicity**—A complete metering system for any application
- **Easy to Install**—Reduces installation time and cost with integrated meter and data acquisition capabilities
- **More Features, Lower Cost**—Costs up to 30% less than other bundled meter and data acquisition devices
- **Scalable**—Employs other VeriEye solutions for future upgrades
- **Free Web-Based Software**—Uses free online energy data visualization BMO 3.0 Base Module software*
- Data Collection
 - Logs and collects data on user selected intervals
 - Non-volatile memory stores data until the next scheduled upload or manual download
- Compatible with VeriEye BMO 3.0 Base Module online software,* allowing users to quickly access energy consumption information from a web-based platform
- Tracks real-time energy usage for demand response programs
- Meter data can be transferred to energy dashboards, kiosks and software applications
- Up to 32 ModBus meters can be added downstream via RS485 interface
- Supports BACnet IP and other protocols on one device
- Seamlessly integrates with BMS and BAS systems
- Set alarms notifications for targeted levels and view graphical and historical data

LCD TOUCH SCREEN FEATURES

- System set up from touch screen
- View live data from the EMH+ and other associated meters



EMH+ All-in-One Meter and Hub*

EMH+ INTEGRATED METER & ENERGY MONITORING HUB*

AMPS	CTS INCLUDED	CAT. NO.
100A	3 Split CTs	A8814-1S3
200A		A8814-2S3
300A		A8814-3S3
400A		A8814-4S3
600A		A8814-6S3
800A		A8814-8S3
1600A		A8814-163
3000A		A8814-303
5000A		A8814-503

*VeriEye BMO 3.0 Base Module software is free with purchase of a VeriEye EMH+ All-In-One Meter and Hub

CURRENT TRANSFORMERS

The better the equipment, the better the measurement. Leviton meters utilize highly accurate current transformers for revenue-grade performance certified to ANSI standards. Competing products use current sensors that do not provide the same level of performance. Leviton Meter Kits include Split Core, Rogowski Coil, or Solid Core Current Transformers (CTs) for high-quality, long-term accuracy and reliability. For added safety, all Leviton current transformers come with built-in voltage suppression devices that prevent hazardous voltages from developing on CT secondaries should they become disconnected from a meter with load current present. Compact and cost-effective solid core CTs slip over power lines to measure the electrical current flowing through the line. For solid core CT installation, power must be de-energized and the circuit opened, in order to slip the CT over the power line.

CURRENT TRANSFORMERS

SOLID CORE—FOR USE WITH SERIES 1000, 2000, 3500 AND 8000 METERS, MINI METERS AND MMUs ONLY

AMP	DESCRIPTION	CAT. NO.
100:0.1A	Solid Core, 0.72", Black	CDA01-K12
	Solid Core, 0.72", Blue	CDA01-L12
	Solid Core, 0.72", Red	CDA01-R12
200:0.1A	Solid Core, 0.72", Black	CDA02-K12
	Solid Core, 0.72", Blue	CDA02-L12
	Solid Core, 0.72", Red	CDA02-R12
400:0.1A*	Solid Core, 1.5", Black	CDF04-K24

*Not for use with Mini Meters



Solid Core Current Transformers
100A, 200A, 400A, 100mA/333mV available

SPLIT CORE—FOR USE WITH SERIES 1000, 2000, 3500, 8000, MINI METERS METERS AND MULTIPLE METER UNITS (MMUs) ONLY

AMP	DESCRIPTION	CAT. NO.
100:0.1A	Split Core, .75" x .75"	CTD01-K16
200:0.1A	Split Core, 1" x 1"	CTD02-K16
400:0.1A	Split Core, 1.5" x 1.5"	CTD04-K23
800:0.1A	Split Core, 3" x 3.5"	CTC08-K46
1200:0.1A	Split Core, 4" x 6"	CTC12-K46
1600:0.1A	Split Core, 4" x 6"	CTC16-K96
3000:0.1A	Split Core, 5" x 7"	CTC30-57B
5000:0.1A	Split Core, 5" x 7"	CTC50-57B



Split Core Current Transformers
100A-5,000A 100mA available

SPLIT CORE—FOR USE WITH SERIES 4000, 4100 INDUSTRIAL MODBUS METER KITS AND EMH+ ONLY

AMP	DESCRIPTION	CAT. NO.
100:0.333V	Split Core, 1.6" x 2.1"	CTV01-K21
200:0.333V	Split Core, 2.2" x 2.8"	CTV02-K21
400:0.333V	Split Core, 6" x 5.2"	CTV04-K40
800:0.333V	Split Core, 6" x 5.2"	CTV08-K40



Split Core Current Transformers
100A-5000A .333mV available

ROGOWSKI COIL—FOR USE WITH SERIES 4000 AND 4100 INDUSTRIAL MODBUS METER KITS ONLY

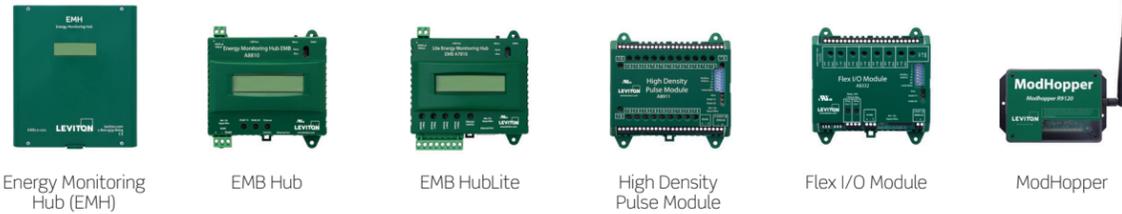
AMP	DESCRIPTION	CAT. NO.
50-5000A	Rogowski Coil, 12"	CRV50-K62
	Rogowski Coil, 18"	CRV50-K93
	Rogowski Coil, 24"	CRV50-KC2



Rogowski Coil Current Transformer
50A-5000A available

*Consult factory for availability.

VERIFEYE COMMUNICATION PRODUCTS



Specifications	Data Acquisition Hubs (ModBus Master)			Input/Output Module		Wireless ModBus/Pulse Transceiver
	Energy Monitoring Hub (EMH)*	EMB Hub*	EMB HubLite*	High Density Pulse Module	Flex I/O Module	ModHopper
	A8812	A8810	A7810	A8911	A8332	R9120
Communication Protocols	ModBus RTU ModBus TCP TCP/IP PPP HTTP/HTML FTP NTP XML SNMP-Trap BACnet IP		ModBus TCP TCP/IP PPP HTTP/HTML FTP NTP XML SNMP-Trap BACnet IP	ModBus RTU		ModBus RTU
Applications	Use with an Ethernet (LAN) connection to push-or-pull data via HTTP, XML, and FTP Connect to web-based (IP-based) software dashboards, energy information management systems and demand response systems		Use with EMH to take advantage of plug-in communication Use with ModHopper for wireless communication Push-or-pull meter data to VeriEye kiosks and software applications	Use with EMH to take advantage of plug-in communication Use with ModHopper for wireless communication Push-or-pull meter data to VeriEye kiosks and software applications	Designed specifically for wireless submetering Collect meter data from multiple buildings over long distances Self-healing mesh network using frequency agile technology	

HOW TO SELECT THE APPROPRIATE DATA ACQUISITION HUB

	ModBus TCP	ModBus RTU	4 Pulse Inputs Onboard	8 Flex Inputs On Board**	Requires Separately Ordered Power Supply
A8812-000 EMH	X	X	-	X	-
A8810-000 EMB Hub	X	X	-	-	X
A7810-000 EMB HubLite	X	-	X	-	X

** Pulse, analog, status and resistive

METERING COMMUNICATIONS SYSTEMS

To create a data network between Leviton submeters and stakeholders (BAS, third party billing, Building Manager Online (BMO) 3.0), Leviton offers Metering Communication Systems. These solutions transmit data from meters to end systems, creating a seamless transition between data collection and data display. Leviton Metering Communications Systems also enable facilities to create metering systems that can easily share data through open protocols such as ModBus, and IP-based data transfer through HTTP/FTP of .csv or XML files. The results are robust and reliable networks scalable to accommodate future expansion, with data made accessible from any internal or external location.

DATA ACQUISITION HUBS

ENERGY MONITORING HUBS

Data Acquisition Hubs, including the Energy Monitoring Hub (EMH), EMB and EMB HubLite are intelligent, flexible data acquisition servers allowing users to collect energy data from meters and environmental sensors. As an additional advantage, VeriEye BMO 3.0 Base Module online software is included at no cost with purchase of any VeriEye Data Acquisition Hub. Designed to connect to IP-based applications such as enterprise energy management, demand response and smart grid programs, Hub servers allow you to connect thousands of energy points, benchmark energy usage and reduce energy costs.

- Collects and logs data from connected wired or wireless devices based on user-set intervals
- Pushes or pulls data via HTTP, XML, FTP or any custom protocol using an Ethernet (LAN) connection
- No software required—information can be accessed through any web browser in any location
- Plug and play connectivity
- Compatible with nearly any front-end software platform allowing customers to use a variety of reporting tools
- Push or pull meter data to energy dashboards, kiosks and software applications
- Monitor performance of critical systems (lighting, HVAC, PDUs, inverters, etc.)

DATA ACQUISITION HUBS*

DESCRIPTION	CAT. NO.
Energy Monitoring Hub	A8812-000
EMB Hub	A8810-000
EMB HubLite	A7810-000
Power Supply for EMB Hub and EMB HubLite	YBM07-001

Refer to page 16 for the EMH+ Integrated Meter and Energy Monitoring Hub



Energy Monitoring Hub



EMB Hub



EMB HubLite

*VeriEye BMO 3.0 Base Module software is free with purchase of a VeriEye Hub.

*VeriEye BMO 3.0 Base Module software is free with purchase of a VeriEye Hub.

INPUT/OUTPUT MODULES

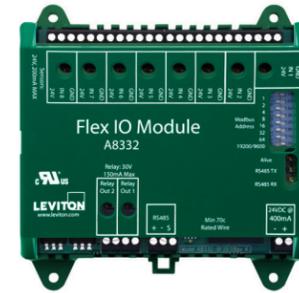
HIGH DENSITY PULSE MODULE

The High Density Pulse Module provides a convenient way to expand a VerifEye metering system by connecting the HD Pulse Module to an Energy Monitoring Hub (EMH) and/or ModHopper for system expansion. The HD Pulse Module accepts up to 23 standard pulse meters or sensors and can function as a slave device with any ModBus master. This data can easily be integrated to a network of other critical energy sensors to provide a comprehensive energy monitoring solution. The HD Pulse Module is ideal for applications with a high density of pulse output devices, giving users access to meters that would previously require manual reading.

- External communications handled via shielded twisted pair 18-22 gauge wire allowing communication up to 4,000 ft and pulse input communications up to 200 ft using 18-24 gauge control wire
- DIN or wall mounting make installations quick and easy
- Device verification—LED indicators for each pulse input allow for fast indication and verification of pulses to reduce installation and troubleshooting time
- Non-volatile memory retains configuration and pulse count totals during power failures for reliable data collection and retention
- Easily add pulse meters to ModBus network for a scalable, open protocol solution
- Field upgradable firmware for user-friendly future upgrades and expansion
- Pulse output value is user selectable (ex: industry standard is 1 pulse per 1 kWh)



High Density Pulse Module



Flex I/O Module

FLEX I/O MODULE

The Flex I/O Module is a cost-effective way to collect data from meters or sensors and bring the information into a ModBus network or energy monitoring system. As a stand-alone or bundled package, the Flex I/O Module can be incorporated with data acquisition and metering devices to provide a cost-effective energy monitoring solution. The Flex I/O Module is compatible with virtually any ModBus master, allowing customers the flexibility to use it in existing ModBus networks. Use with the VerifEye Energy Monitoring Hub (EMH).

- Easily add meters and sensors to the ModBus network
- 8x user selectable inputs
- 2x output relays for manual controls or pulse replication
- Non-volatile memory
- Industrial temperature range of -22 to 158°F (-30 to 70°C)
- LEDs for visual verification/status reduce installation and troubleshooting time
- Din or wall mount for easy installation
- Field upgradable firmware for user-friendly future upgrades and expansion

INPUT/OUTPUT MODULES

DESCRIPTION	CAT. NO.
High Density Pulse Module, 23 Inputs	A8911-000
Flex I/O Module, 8 User Selectable Inputs, 2 Relay Outputs	A8332-000
DIN Rail Mount Power Supply, +24VDC	PST24-I10

WIRELESS MODBUS/PULSE TRANSCEIVER

MODHOPPER

The ModHopper is designed with breakthrough mesh technology that makes connecting ModBus RTU (RS-485) and pulse devices simple and cost effective. Our “smart” ModHopper transceivers eliminate the need for costly wiring runs allowing users to wirelessly capture meter data in the most challenging retrofit and campus environments. Collect data from meter points in existing buildings with minimum down-time or disruption of day-to-day operations.

- Designed specifically for wireless metering and VerifEye submetering solutions for guaranteed compatibility
- No software or programming required and devices automatically configure when powered, reducing labor costs and installation time
- Wireless “mesh” network—self-healing, self-optimizing for ease of installation and maintenance
- Connect up to 32 ModBus and 2 pulse devices per ModHopper for the ultimate expandable solution
- Long distance communication (3,000 ft indoor/14 miles LOS Outdoors) for flexibility of placement and easier future expansion
- Multiple independent network capability
- Reliable, constant two-way communication and packet verification
- Point to multi-point communication
- Field upgradable firmware for user-friendly future upgrades and expansion



ModHopper

WIRELESS MODBUS/PULSE TRANSCEIVER

DESCRIPTION	CAT. NO.
ModHopper and Power Supply	R9120-500
High Gain Antenna for ModHopper	R9120-ANT

NEMA COMMUNICATION BUNDLES

NEMA Communication Bundles combine VerifEye's Data Acquisition Products into one enclosure for a VerifEye-exclusive, all-in-one-bundled communication solution for indoor use. All VerifEye NEMA communication bundles have one part number and are factory pre-assembled for ease of ordering eliminating the need for field assembly.

NEMA COMMUNICATION BUNDLES

DESCRIPTION	CAT. NO.
Energy Monitoring EMB Hub with Line Voltage Power Supply, NEMA 4X Enclosure	A8810-PS1
Energy Monitoring EMB HubLite with Line Voltage Power Supply, NEMA 4X Enclosure	A7810-PS1
HD Pulse Module with Line Voltage Power Supply, NEMA 4X Enclosure	A8911-PS1
Flex I/O Module with Line Voltage Power Supply, NEMA 4X Enclosure	A8332-PS1



VERIFEYE SOFTWARE PRODUCTS



Specifications	Measurement & Verification (M&V) Software			Tenant Billing Software
	Base Module	Code Compliance Module	Executive Reporting Dashboard Module	Tenant Billing Module
	Web-Based Software	Web-Based Software and App	Web-Based Software and App	Web-Based Software
Key Features	<ul style="list-style-type: none"> Provides a summary of energy profiles to help identify high and low consumption as well as energy usage patterns for user defined intervals View building status, consumption and alarms Export energy usage data Display energy usage graphs Included at no cost with the purchase of any VerifEye Data Acquisition Hub 	<ul style="list-style-type: none"> Allows a single building to meet code compliance requirements for energy information Create virtual meters to report aggregated loads for lighting, HVAC, etc. and compare energy cost information Generate date-based reports for whole building energy sources such as electric, gas and steam as well as end use category energy users such as lighting, plug load, HVAC and more Receive push notifications via the Code Compliance mobile app Provides a summary of energy profiles to help identify high and low consumption as well as trending patterns for user defined intervals Can be used to comply with ASHRAE 90.1 2013, ASHRAE 90.1 2016, and 2016 Title 24 service metering and disaggregation of electrical circuits requirements 	<ul style="list-style-type: none"> Link multiple building profiles and view multiple buildings and portfolios on multiple Hubs Configure graphical Executive Dashboard to display user defined data and periods using a wide array of graphical options View building information updated in 15-minute intervals—energy usage, measured parameters, cost metrics and more Set goals for energy usage at the building or portfolio level Create virtual meters to report aggregated loads for lighting, HVAC, etc. Receive push notifications via the Dashboard mobile app Generate date-based reports for any user defined parameter including energy, demand and cost for any meter point 	<ul style="list-style-type: none"> Allows multiple buildings and portfolios to be managed from one application Create virtual meters to allocate common area costs Establish tenant portfolio and assign any meter to any tenant Create tariffs for use at the entire building level—simple, tiered or time of use (TOU) Generate tenant invoices for any user selected data range View management summary reports for each billing period Export invoices as PDFs Provides a graphical representation of energy usage data to support tenant bills Ideal for the commercial MDU market or any multi-space facility where individual tenant invoice creation is required

BUILDING MANAGER ONLINE (BMO) 3.0

BMO 3.0 web-based software delivers several high performing expansion module options to provide end users with quick and easy information for energy monitoring and tenant billing applications. For added flexibility, user pre-configured reports, alerts, and alarms set up in the Code Compliance and Executive Reporting Dashboard Modules can be accessed remotely via a mobile app optimized for Android and Apple smart devices.

BUILDING MANAGER ONLINE (BMO) 3.0 EXPANSION MODULES

DESCRIPTION	CAT. NO.
VerifEye BMO 3.0 Code Compliance Expansion Module, Single Building Software & Mobile App—Includes 1 H with 50 Meter Points	BMOSW-COD
VerifEye BMO 3.0 Executive Reporting Dashboard Expansion Module, Single Building Software & Mobile App—Supports 1 Hub with 50 Meter Points Per Building	BMOSW-EXE
VerifEye BMO 3.0 Tenant Billing Expansion Module, Single Building Software—Supports 1 Hub with 50 Meter Points Per Building	BMOSW-BIL
VerifEye BMO 3.0 Additional Building, 1 Hub with 50 Meter Points	BMOSW-MTR
Additional Building— Each Additional Executive Reporting and Tenant Billing Modules Only	BMOSW-ADD



BMO 3.0 Executive Reporting Dashboard

ANNUAL DATA STORAGE FEES (Purchase required annually after one year initial activation)

DESCRIPTION	CAT. NO.
1 Building, 1 Hub with 1-50 Meter Points	BMOSW-TR1
2 Buildings, 2 Hubs 51-100 Meter Points	BMOSW-TR2
3 to 5 Buildings, 3-5 Hubs 101-250 Meter Points	BMOSW-TR3
6 to 20 Buildings, 6-20 Hubs with 251-1,000 Meter Points	BMOSW-TR4



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G-8505I/J18-aa
REV OCT 2018