Honeywell | Connected Building

E-Mon
Energy Monitoring Products

Monitor Energy Usage For

IMPROVED ENERGY MANAGEMENT.

Submeter Quick Selection Guide

Essential Information for True Energy Management

Submetering products and systems give users visibility into where and when energy is consumed in their buildings. Meters are used to monitor actual usage by department, tenant or common area and report back to computerized systems for billing, allocation, analysis and management.

For building owners, submeters deliver the information they need to implement energy management programs including:

1. Cost Allocation
2. Tenant Billing
3. Integration with Building Management/Automation Systems
4. Energy Analysis
5. Energy Conservation and Green Building Initiatives

Metering Applications

Submetering opportunities can be found in facilities of all types.

- Commercial Buildings
- Industrial Complexes
- Multi-Family Housing
- Government Facilities
- Education Campuses
- Healthcare Facilities

On-The-Spot Readings

Class 1000 & 2000 kWh/Demand meters provide the basic building blocks of an affordable, effective, and scalable energy management system. These easy-to-install meters can monitor anything from a single-phase circuit, to a specific load panel, and to an entire building.

Energy usage data can be viewed via the meters' LCD display for easy, walk up and read, monitoring of energy consumption. Remote metering, via E-Mon Energy Automatic Meter Reading (AMR) or Web-Mon Web Enabled Monitoring systems, is also easily interfaced for tenant billing, energy management and cost allocation. The metering is based on actual usage, not on estimation or ratio-based calculations.

Class 1000 Single Phase Meters

Single-Phase kWh Submeter

- Provides kW and kWh data for single-phase power
- Revenue-grade accuracy
- Maintains reading in the event of power failure

Class	Voltage (L-N/L-L)	Current (Amps)	Enclosure Type	Current Sensors
E10	120/NA	25	JIC Steel Enclosure	Split-Core Current Sensors
	120/208-240	50	NEMA 4X Enclosure	Solid-Core Current Sensors
	277/NA	100	MMU Style Meter	No Current Sensors Included
		200		

Class 2000 Three-Phase Meters

Three-Phase kWh Submeter and Green Meter

- Provides kW and kWh data for 3-phase power
- Revenue-grade accuracy
- California CTEP approved for use with solid-core current sensors. Listed by the California Energy Commission

Class	Voltage (L-N/L-L)	Current (Amps)	Enclosure Type	Options	Current Sensors
E20	120/208-240	100	JIC Steel Enclosure	Demand	Split-Core Current Sensors
	277/480	200	NEMA 4X Enclosure	Green Class Meter	Solid-Core Current Sensors
	347/600	400	MMU Style Meter		No Current Sensors Included
		800			
		1600			
		3200			

Collect and Store Energy Data

Unlike communicating submeters, which continuously read energy usage as it occurs, Interval Data Recorders (IDRs) collect and store energy data from meters in time-stamped intervals for later download. An IDR collects and stores meter information at specified time intervals, allowing for profiling of metering data and more detailed comparative analysis or billing.

The IDR collects kWh and kW demand information from meters in field selectable 5, 15, 30 or 60-minute interval periods. Data can be collected from up to 8 or 16 separate meters/channels of information. Up to 72 days of 15-minute interval data is stored in the onboard memory. The IDR interval meter data can be accessed via a variety of communication options, including Ethernet, Modbus, BACnet, Internet, telephone modem, and LonWorks TP/FT-10. Data can be used to interface with E-Mon Energy Automatic Meter Reading & Billing software, Building Automation Systems or other energy software.

Interval Data Recorder

- Retains data in case of power outage
- FCC Approval
- 120V power supply required and included with all IDRs
- Multiple communication protocol options

Class	# of Meters	Enclosure Type	Protocol	Connections
EIDR	8	JIC Steel Enclosure	EZ-7, EZ-7 Ethernet	Screw Terminal Connections (only available for EIDR-8 models)
	16	MMU Style Meter	Modbus RTU, EZ-7 Ethernet	RJ Connections
			BACnet MS/TP, EZ-7 Ethernet	
			EZ-7, Modbus TCP/IP	
			EZ-7, BACnet IP	
			Modbus RTU, Modbus TCP/IP	
			EZ-7, EZ-7 Ethernet with Modem	
			EZ-7, Modbus TCP/IP with Modem	
			EZ-7, BACnet IP with Modem	

Space-Saving Metering Options

Space-saving multiple meter units (MMUs) allow for easy and centralized reading. Interval Data Recorders (IDRs) can be factory installed inside MMU enclosure cabinets along with the meters, allowing for easy interface with the E-Mon Energy software. MMU cabinets allows for an easy and centralized reading of meters in apartment buildings, campuses, healthcare facilities and industrial applications.

Multiple Meter Unit (MMU) Cabinets

The MMU cabinets contain 8, 16, or 24 meters mounted in a single case and prewired before shipping. Cabinets are available for Class 1000, 2000, and 3200 meters. IDRs can be added for communications including RS-485 and Ethernet protocols. For added flexibility, MMU cabinets may contain meters of different voltage configurations (i.e. 208V & 480V meters inside a single MMU enclosure).

- Available in configurations containing up to 8, 16 or 24 meters
- May contain meters of different voltage configurations
- Allow for easy and centralized reading

Part #	Description	Configuration	Dimensions
MMU-8	MMU-8 Cabinet/Enclosure for 8 meters	2 meters across/4 meters down	12"w x 24"h x 7"d
MMU-16	MMU-16 Cabinet/Enclosure for 16 meters	4 meters across/4 meters down	20"w x 24"h x 7"d
MMU-24	MMU-24 Cabinet/Enclosure for 24 meters	5 meters across/5 meters down	30"w x 24"h x 7"d
MMU-BLANK	Multiple Meter Unit - Blank Space		

Smart Meters for Smart Data Management

Smart meters for energy, power quality, and building automation system (BAS) integration combine an extended feature set with a wider range of metering functions, basic and dual protocol to load control, net metering, expanded memory and storage, and more. The wide range of functionalities offered by these meters allows you to choose the model and feature set that best fit your needs, without paying for unneeded bells and whistles.

Most smart meters offer communication capabilities for integration with automatic meter reading (AMR) and BAS systems, billing packages or measurement and verification (M&V) reporting programs via industry standard communication protocols. Class 3400 & 5000 meters offer dual protocol communications for talking to two systems at the same time. This greatly enhances the value of your metering investment by allowing you to obtain granular meter data from a single device acting as a separate billing meter and also as an independent BAS meter.

Features

Advanced 4-line display showing kWh, kW demand (with peak date & time), power factor per phase, real-time load in kWs, amps per phase and volts per phase. Meters include on-board set-up option for meter date/time and ID codes for communication options.

0-2 volt output split-core current sensors (optional solid-core sensors available).

Built-in RS-485 communication capability supports up to 52 Class 3200, 3400, 5000, and Din-Mon meters.

Compatible with E-Mon Energy software via EZ7 protocol for automatic meter reading, billing and profiling of interval energy data.

Ethernet communication available when used with Ether-Mon Key.

Approvals:
UL/CUL Listed.
Class 3400 & 5000 meters are certified by an independent test lab to ANSI C12.20 accuracy standards. (+/- 0.5% from 1% to 100% of rated load.)
Meters meet or exceed MID accuracy standards.
BACnet protocol is BTL verified.
LonWorks protocol is LonMark certified.

Class 3200 Smart Meters

Smart Meter with RS-485 Communications

- Available in a Multiple Meter Unit (MMU) version
- CE Mark approved
- Cabling can either be daisy-chain or star configuration, 3-cond., 18-22 AWG, up to 4,000 feet in total length per channel.

Class	Voltage (L-N/L-L)	Current (Amps)	Enclosure Type	Protocol	Options	Current Sensors
E32	120/208-240	100	JIC Steel Enclosure	EZ-7	Single Phase or Two Phase (Two Element)	Split-Core Current Sensors
	277/480	200	NEMA 4X Enclosure	Modbus RTU		Solid-Core Current Sensors
	347/600	400	MMU Style Meter	BACnet MS/TP		No Current Sensors Included
		800				
		1600				
		3200				

Class 3400 Smart Meters

Smart Meter with Advanced Dual Protocol Communications

- Optional expanded features package: includes built-in functions for load control and two pulse output (kWh & kVARh).
- Records and stores kWh and kVARh data in 15-minute intervals for up to 72 days.
- Optional relay board available

Class	Voltage (L-N/L-L)	Current (Amps)	Enclosure Type	Protocol	Options	Current Sensors
E34	120/208-240	100	JIC Steel Enclosure	EZ-7, EZ-7 Ethernet	Single Phase or Two Phase (Two Element)	Split-Core Current Sensors
	277/480	200	NEMA 4X Enclosure	Modbus RTU, EZ-7 Ethernet	Expanded Feature Pack	Solid-Core Current Sensors
	347/600	400		BACnet MS/TP, EZ-7 Ethernet	Expanded Feature Pack, Single Phase or Two Phase (Two Element)	No Current Sensors Included
		800		EZ-7, Modbus TCP/IP		
		1600		EZ-7, BACnet IP		
		3200		Modbus RTU, Modbus TCP/IP		
				LonWorks TP/FT-10, EZ-7 Ethernet		
				LonWorks TP/FT-10, Modbus TCP/ IP		
				EZ-7, EZ-7 Ethernet with Modem		
				EZ-7, Modbus TCP/IP with Modem		
				EZ-7, BACnet IP with Modem		

Class 5000 Submeters

Smart Meter and Green Net Meter with Dual Protocol Capabilities

- Advanced 4-line display
- Onboard installation diagnostics
- Built-in RS-485 & Ethernet Communications

Class	Voltage (L-N/L-L)	Current (Amps)	Enclosure Type	Protocol	Options	Current Sensors
E50	120/208-240	100	JIC Steel Enclosure	EZ-7, EZ-7 Ethernet	Single Phase or Two Phase (Two Element)	Split-Core Current Sensors
	277/480	200	NEMA 4X Enclosure	Modbus RTU, EZ-7 Ethernet	Green Class Net Meter	Solid-Core Current Sensors
	347/600	400		BACnet MS/TP, EZ-7 Ethernet	Green Class Net Meter, Single Phase or Two Phase (Two Element)	No Current Sensors Included
		800		EZ-7, Modbus TCP/IP		
		1600		EZ-7, BACnet IP		
		3200		Modbus RTU, Modbus TCP/IP		
				LonWorks TP/FT-10, EZ-7 Ethernet		
				LonWorks TP/FT-10, Modbus TCP/ IP		
				EZ-7, EZ-7 Ethernet with Modem		
				EZ-7, Modbus TCP/IP with Modem		
				EZ-7, BACnet IP with Modem		

Easy Installation, Performance Monitoring

The compact Din-Mon is ideally suited for internal mounting in building automation equipment boxes, switchgear, control panels, server racks, renewable energy systems and other space-constrained energy monitoring applications. Din-Mon is also wall-mountable. Typical applications include energy-efficiency monitoring of HVAC equipment and other building electrical systems, transformers and more.

Din-Mon™ Smart Meters

D2 (E-D2) with RS-485 Communications

D5 (E-D5) with Dual Protocol Capabilities

- DIN-rail or wall-mounting
- 38 metering points for BAS integration
- RS-485 and Ethernet communications capabilities

Class	Voltage (L-N/L-L)	Current (Amps)	Enclosure Type	Protocol	Current Sensor Type	Configuration Phases	Current Sensor Output	Current Sensor Quantity
E-D2	120/208-240	100	Standard Enclosure	Modbus RTU	Split-Core Current Sensor	Single Phase	0.333V Output	1 Current Sensor Included
	277/480	200		EZ-7	Solid-Core Current Sensor	Two Phases	100mA Output	2 Current Sensor Included
	347/600	400		BACnet MS/TP		Three Phases		3 Current Sensor Included
		800						NO Current Sensor Included

Class	Voltage (L-N/L-L)	Current (Amps)	Enclosure Type	Protocol	Current Sensor Type	Configuration Phases	Current Sensor Output	Current Sensor Quantity
E-D5	120/208-240	100	Standard Enclosure	EZ-7, EZ-7 Ethernet	Split-Core Current Sensor	Single Phase	0.333V Output	1 Current Sensor Included
	277/480	200		Modbus RTU, EZ-7 Ethernet	Solid-Core Current Sensor	Two Phases	100mA Output	2 Current Sensor Included
	347/600	400		BACnet MS/TP, EZ-7 Ethernet		Three Phases		3 Current Sensor Included
		800		EZ-7, Modbus TCP/IP				NO Current Sensor Included
				EZ-7, BACnet IP				
				Modbus RTU, Modbus TCP/IP				
				EZ-7, LonWorks TP/FT-10				

Multiple Meter Management

Branch level energy data visualization is easy with Multi-Mon branch circuit monitors. Multi-Mon offers a packaged solution that systems designers and end users can easily integrate with their own equipment. Multi-Mon provides energy monitoring, tenant billing, cost allocation, power quality management and energy data visualization at the branch circuit level. MMU cabinets facilitate centralized submeter readings for easy data management.

Multi-Mon Meters

Multi-Mon is a multi-phase, multi-channel, multi-function Ampere/Volt demand meter that can contain up to 36 single-phase, 18 two-phase or 12 three-phase submeters in a single device. Perfect for data centers, apartment buildings, OEMs and lighting control panels where a compact meter that can handle many circuits is needed. Power software is included for ease of set-up and analysis.

- 36-channel branch circuit energy monitor
- 2-row, 16-character backlit LCD display
- RS-485 and Ethernet communications
- Current sensors ordered separately

Model	Description
E-MM-RTU-Y-N	Branch Circuit Meter with Modbus RTU, Wye without Sensors
E-MM-RTU-D-N	Branch Circuit Meter with Modbus RTU, Delta without Sensors
E-MM-RTU-Y-N-ETH	Branch Circuit Meter with Modbus TCP/IP, Wye without Sensors
E-MM-RTU-D-N-ETH	Branch Circuit Meter with Modbus TCP/IP, Delta without Sensors
E-MM-RTU-Y-N-MWC	Branch Circuit Meter with Modbus RTU, Wye without Sensors with Enclosure
E-MM-RTU-D-N-MWC	Branch Circuit Meter with Modbus RTU, Delta without Sensors with Enclosure
E-MM-RTU-Y-N-ETH-MWC	Branch Circuit Meter with Modbus TCP/IP, Wye without Sensors with Enclosure
E-MM-RTU-D-N-ETH-MWC	Branch Circuit Meter with Modbus TCP/IP, Delta without Sensors with Enclosure

Multi-Mon Current Sensors

Model	Description
E-MPS-100-12-SCS	100 amp - 0.47 inch inner diameter, Solid-Core Current Sensor
E-MPS-100-23-SCS	100 amp - 0.9 inch inner diameter, Solid-Core Current Sensor
E-MPS-400-26-SCS	400 amp - 1.02 inch inner diameter, Solid-Core Current Sensor
E-MPS-100-16-SPL	100 amp - 0.63 inch inner diameter, Split-Core Current Sensor
E-MPS-200-24-SPL	200 amp - 0.96 inch inner diameter, Split-Core Current Sensor
E-MPS-400-43-SPL	400 amp - 1.7 inch x 1.3 inch inner diameter, Split-Core Current Sensor
E-MPS-800-50-SPL	800 amp - 1.9 inch x 3.1 inch inner diameter, Split-Core Current Sensor
E-MPS-1200-121-SPL	1200 amp - 4.7 inch x 3.1 inch inner diameter, Split-Core Current Sensor

The PowerSmart™ family of power quality energy monitors for commercial, industrial and institutional energy monitoring applications offers unprecedented granularity of energy measurement data combined with advanced power quality analysis. These submeters provide improved energy efficiency and monitoring capabilities for multi-family, commercial, industrial, data center and other branch circuit monitoring applications. In addition, they offer advanced data analysis to reduce utility surcharges and prevent damage to critical equipment in industrial applications and data centers where downtime has a significant impact on business.

PowerSmart Plus Essential Meter

The PowerSmart Essential power quality meter is a multi-functional power meter measuring over 100 energy parameters for revenue metering, power quality and harmonic analysis. The device can be integrated in panel boards or supplied in a stand-alone enclosure. The LCD display provides a wealth of metering information and graphical display of vector diagrams, load bars and waveform monitoring. The PowerSmart Essential meter is ideal for energy metering and power quality analysis of specific critical loads to an entire building.

- Panel mount
- Class 0.5S IEC62053-22 four-quadrant active and reactive polyphase static meter
- RS-485 or Ethernet communications
- Available with or without built-in sensors

Model	Description
E-PS-E-RTU-5	Essential Meter with Modbus RTU and built-in 5 amp Sensors
E-PS-E-RTU-5-ETH	Essential Meter with Modbus TCP/IP and built-in 5 amp Sensors
E-PS-E-RTU-N	Essential Meter with Modbus RTU without Sensors
E-PS-E-RTU-N-ETH	Essential Meter with Modbus TCP/IP without Sensors
E-PS-E-RTU-5-EWC	Essential Meter with Modbus RTU and built-in 5 amp Sensors with Enclosure
E-PS-E-RTU-5-ETH-EWC	Essential Meter with Modbus TCP/IP and built-in 5 amp Sensors with Enclosure
E-PS-E-RTU-N-EWC	Essential Meter with Modbus RTU without Sensors with Enclosure
E-PS-E-RTU-N-ETH-EWC	Essential Meter with Modbus TCP/IP without Sensors with Enclosure

PowerSmart Advanced Power Quality Energy Meter

The PowerSmart Advanced power quality meter is a multi-function power meter combined with a power quality analyzer. The meter has extensive memory and data logging capability to support full harmonic analysis and waveform recording. The device can be integrated into panel boards or provided in a stand-alone enclosure. The PowerSmart Advanced meter is ideal for power quality analysis and recording of harmonics, spikes, sags, swell, etc. of specific critical loads to an entire building.

- Power meter and power quality analyzer combined
- Class 0.2 four-quadrant multi-function 3-phase energy meter
- RS-485 or Ethernet communications
- Available with or without built-in current sensors

Model	Description
E-PS-A-RTU-5	Advanced Meter with Modbus RTU and built-in 5 amp Sensors
E-PS-A-RTU-5-ETH	Advanced Meter with Modbus TCP/IP and built-in 5 amp Sensors
E-PS-A-RTU-N	Advanced Meter with Modbus RTU without Sensors
E-PS-A-RTU-N-ETH	Advanced Meter with Modbus TCP/IP without Sensors
E-PS-A-RTU-5-AWC	Advanced Meter with Modbus RTU and built-in 5 amp Sensors with Enclosure
E-PS-A-RTU-5-ETH-ACW	Advanced Meter with Modbus TCP/IP and built-in 5 amp Sensors with Enclosure
E-PS-A-RTU-N-AWC	Advanced Meter with Modbus RTU without Sensors with Enclosure
E-PS-A-RTU-N-ETH-AWC	Advanced Meter with Modbus TCP/IP without Sensors with Enclosure

PowerSmart Socket Meter

The PowerSmart Socket Meter is a revenue-grade accuracy, three-phase active energy and power demand meter that provides multiple tariffs and time-of-use capability, transformer and line losses, harmonic analyzer, volts and amps, power harmonics and power factor, unique anti-tampering and self-test functions.

- Precision Class 0.2 three-phase active energy and power demand meter
- Form 9S socket configuration allows easy new or retrofit installation
- RS-485 or Ethernet communications

Model	Description
E-PS-S-SV-RTU	Socket Meter with Modbus RTU, 120-277V AC
E-PS-S-HV-RTU	Socket Meter with Modbus RTU, 57.73-120V AC, for use with PT's & CT's
E-PS-S-SV-RTU-ETH	Socket Meter with Modbus TCP/IP, 120-277V AC
E-PS-S-HV-RTU-ETH	Socket Meter with Modbus TCP/IP, 57.73-120V AC, for use with PT's & CT's

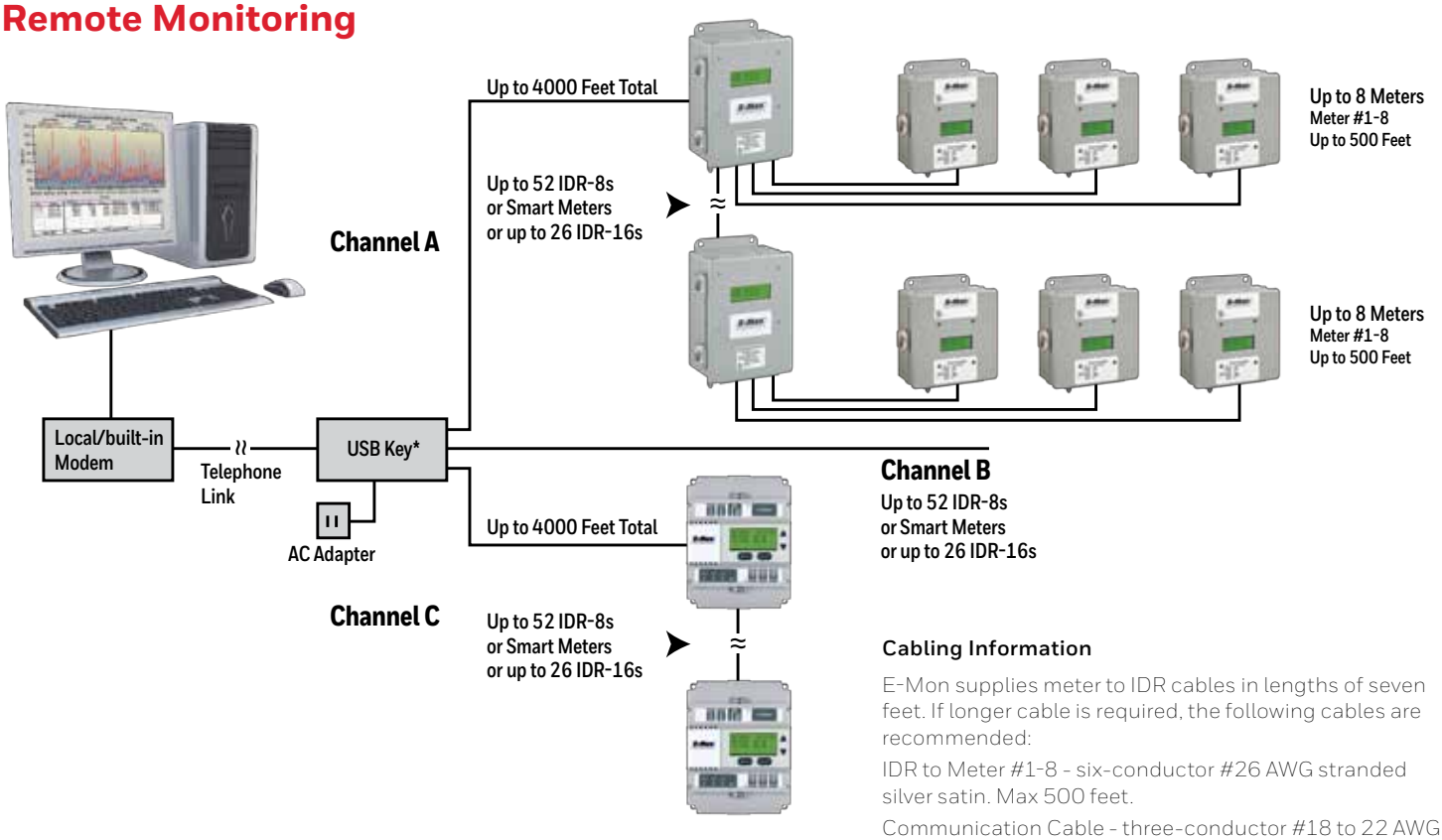
PowerSmart Current Sensors

Model	Description
E-MPS-100-12-SCS	100 amp - 0.47 inch inner diameter, Solid-Core Current Sensor
E-MPS-100-23-SCS	100 amp - 0.9 inch inner diameter, Solid-Core Current Sensor
E-MPS-400-26-SCS	400 amp - 1.02 inch inner diameter, Solid-Core Current Sensor
E-MPS-100-16-SPL	100 amp - 0.63 inch inner diameter, Split-Core Current Sensor
E-MPS-200-24-SPL	200 amp - 0.96 inch inner diameter, Split-Core Current Sensor
E-MPS-400-43-SPL	400 amp - 1.7 inch x 1.3 inch inner diameter, Split-Core Current Sensor
E-MPS-800-50-SPL	800 amp - 1.9 inch x 3.1 inch inner diameter, Split-Core Current Sensor
E-MPS-1200-121-SPL	1200 amp - 4.7 inch x 3.1 inch inner diameter, Split-Core Current Sensor

E-Mon Energy automatic meter reading system allows users to accurately monitor interval energy data for a variety of applications including tenant billing/allocation, departmental allocation, common area management demand/energy analysis and equipment maintenance programs as well as measurement and verification for LEED certification and other green building initiatives.

Energy Monitoring Software generates and prints itemized electric bills using related peak demand date and time. This customer-owned software will fully automate the system to generate bills, create pdf files, print bills or send e-mails based on user-specified parameters.

Remote Monitoring



Cabling Information

E-Mon supplies meter to IDR cables in lengths of seven feet. If longer cable is required, the following cables are recommended:

IDR to Meter #1-8 - six-conductor #26 AWG stranded silver satin. Max 500 feet.

Communication Cable - three-conductor #18 to 22 AWG.

Ethernet cable type 50060341-001, RS-485 cable, BELDEN 1120A cable or equivalent.

E-Mon Accessories

Product Family	Description
Current Sensor for Class 1000, 2000, 3200, 3400, 5000 meters	25 AMP 0-2V Split-Core - One Piece
	50 AMP 0-2V Split-Core - One Piece
	100 AMP 0-2V Split-Core - One Piece
	200 AMP 0-2V Split-Core - One Piece
	400 AMP 0-2V Split-Core - One Piece
	800 AMP 0-2V Split-Core - One Piece
	1600 AMP 0-2V Split-Core - One Piece
	3200 AMP 0-2V Split-Core - One Piece
	100 AMP 0-2V Solid-Core - One Piece
	200 AMP 0-2V Solid-Core - One Piece
Current Sensor for Din-Mon Meters	100 AMP, 100MA, Split-Core - One Piece
	100 AMP, 0.333V, Split-Core - One Piece
	200 AMP, 100MA, Split-Core - One Piece
	200 AMP, 0.333V, Split-Core - One Piece
	400 AMP, 100MA, Split-Core - One Piece
	400 AMP, 0.333V, Split-Core - One Piece
	800 AMP, 100MA, Split-Core - One Piece
	800 AMP, 0.333V, Split-Core - One Piece
	100 AMP, 100MA, Solid Core - One Piece
	100 AMP, 0.333V, Solid Core - One Piece
	200 AMP, 100MA, Solid Core - One Piece
	200 AMP, 0.333V, Solid Core - One Piece
E-Mon Energy	E-Mon Energy Software (1-50 METER) with Start-up
	E-Mon Energy Software (51-100 Meters) with Start-up
	E-Mon Energy Software (101-250 Meters) with Start-up
	E-Mon Energy Software (250+ Meters) with Start-up
Startup Service	One additional consecutive day of service
	One day service within 150 miles of E-Mon office
	1 DAY START-UP >150 miles
Communication Key	RS232K - RS232 Key
	EKM-T - Telephone Key/Modem
	EKM-E - Ethernet Key/Modem
	USBK - USB Key
	Pulse Input Module
Accessories	IDR Power Supply
	P-3 Pulser Interface
Web-Mon	WEB-MON
	Din Rail Power Supply for WEB-MON
	WEB-MON IO Extension by 8 Meters

What is the Correct Submeter for your Project?





Features and Functions	Class 1000 Single Phase Meter	Class 2000 Three-Phase Meter	Class 3200 Smart Meter	Class 3400 Smart Meter	Class 5000 Smart Meter
Voltage (L-N/L-L)	120/NA, 120/208-240, 277/480	120/208-240, 277/480, 347/600			
Current (Amps)	25, 50, 100, 200	100, 200, 400, 800, 1600, 3200			
Enclosure Type	JIC Steel, NEMA 4X, MMU			JIC Steel, NEMA 4X	
Communications	Pulse Output	Pulse Output	RS-485	RS-485/Ethernet	RS-485/Ethernet
Protocols Available	Pulse Output	Pulse Output	EZ-7 Modbus RTU BACnet MS/TP	EZ-7, EZ-7 Ethernet Modbus RTU, EZ-7 Ethernet BACnet MS/TP, EZ-7 Ethernet EZ-7, Modbus TCP/IP EZ-7, BACnet IP Modbus RTU, Modbus TCP/IP Lon TP/FT-10, EZ-7 Ethernet Lon TP/FT-10, Modbus TCP/IP	
Revenue Grade Accuracy	•	•	•	•	•
Current Sensor Output	0-2 volt	0-2 volt	0-2 volt	0-2 volt	0-2 volt
Current Sensor Options	Split-Core Standard, Solid-Core Available				
Data Recorder			•	•	•
External Inputs				2 Optional	2
Pulse Outputs	1	1		2	2
Modem				Optional	Optional
Display	2-Line LCD Display		4-Line LCD Display with Backlight		
On-board set-up			•	•	•
Phase loss alarm (N.O. Contact)				Optional	•
Power Quality Measurement					
Peak Demand Measurement		Optional	•	•	•
Self Power Supply	•	•	•	•	•
Circuit: single phase, 2-wire	•				
Circuit: single phase, 3-wire	•		•	•	•
Circuit: 3-phase, 3-wire (delta)		•	•	•	•
Circuit: 3-phase, 4-wire (wye)		•	•	•	•
CE Approval			•		•
UL/CUL Listed	•	•	•	•	•
ANSI C12.20	•	•	•	•	•






Din-Mon D2 Smart Meter	Din-Mon D5 Smart Meter	Multi-Mon Branch Circuit Meter	PowerSmart Plus Essential	PowerSmart Advanced	PowerSmart Socket Meter
120/208-240, 277/480, 347/600		120V L-N to 480V L-L			
100, 200, 400, 800		100, 200, 400, 800, 1200	100, 200, 400, 800, 1200 & 5 Amp CT input		
Non-metallic enclosure		Optional			Form 9S Socket
RS-485	RS-485, Ethernet	RS-485, Ethernet			
EZ-7 Modbus RTU BACnet MS/TP	EZ-7, EZ-7 Ethernet Modbus RTU, EZ-7 Ethernet BACnet MS/TP, EZ-7 Ethernet EZ-7, Modbus TCP/IP EZ-7, BACnet IP Modbus RTU, Modbus TCP/IP Lon TP/FT-10, EZ-7 Ethernet Lon TP/FT-10, Modbus TCP/IP	Modbus RTU Modbus TCP/IP			
•	•	•	•	•	•
0.333 volt, 100 mA	0.333 volt, 100 mA	40 mA	40 mA	40 mA	40 mA
Split-Core Standard, Solid-Core Available		Order Separately	With or Without Built-in Current Sensors		
•	•	•	•	•	•
				2	
2	2			2	
4-Line LCD Display with Backlight		2-Line LCD Display with Backlight	Graphical LCD Display	3-Row LED Display	Graphical LCD Display
•	•	•	•	•	•
•	•			•	
		•	•	•	•
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Meet Renewable Energy Criteria

As world buildings go greener and more sustainable, submeters offer environmentally conscious users the ability to benchmark energy use, monitor usage trends, record the impact of energy conservation efforts, and measure and verify the effectiveness of energy saving programs. Meters and submetering systems are ideal for complying with various certification programs including LEED, EPACT 2005 and EISA 2007, demand response and renewable energy initiatives.

The country's leading sustainable building assessment system is currently the U.S. Green Building Council's Leadership in Energy & Environmental Design (LEED) rating system. E-Mon can assist with LEED certification points in several areas including measurement and verification (M&V), fundamental commissioning, on-site renewable energy, green power and regional materials. Of the system's nine categories, the left-hand column below lists those areas ideal for submetering applications, including Water Efficiency (WE) and Energy & Atmosphere (EA) credits.

LEED Certification Category	Credit	Certification Points	Applicable Guideline
Core & Shell Core & Shell	EA Credit 5.1 EA Credit 5.2	1 1	Measurement & Verification-Base Building Measurement & Verification-Tenant Submetering
Existing Buildings Existing Buildings Existing Buildings	WE Credit 1.2 EA Credit 5.1-5.3 EA Credit 6	1 1-3 1	Water Performance Measurement: Submetering Performance Measurement: Enhanced Metering Documenting Sustainable Building Cost
New Construction	EA Credit 5	1	Measurement & Verification
Commercial Interiors Commercial Interiors	EA Credit 1 EA Credit 3	1 1-2	Optimize Energy Performance Energy Use, Measurement & Payment Accountability
Schools	EA Credit 5	2-10	Optimize Energy Performance
Healthcare Healthcare Healthcare	WE Credit 2 EA Credit 1 EA Credit 5	1 2-10 1	Measurement & Verification Optimize Energy Performance Measurement & Verification

Learn More

For more information on Honeywell E-Mon meters, communication keys, additional current sensors, or Energy software call **1-800-334-3666** or visit **www.E-Mon.com**

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