Compact, powerful energy meter

An ideal solution for panelboard monitoring and retrofit metering applications

Typical applications

- Commercial sub-metering
- Energy management
- Industrial monitoring
- Cost allocation

Introduction

The Eaton IQ 35M Meter is a compact, affordable energy meter that combines exceptional performance and easy installation to deliver a cost-effective solution for energy and power monitoring applications, as well as sub-metering applications.

Because of its compact size, the IQ 35M is an ideal solution for panelboard applications to monitor the main power coming into the panelboard. Use the IQ 35M for applications in lighting appliance and small power distribution panelboards up to 400 Amps. In addition, with its small profile, the IQ 35M allows you to stack multiple meters in an Integrated Facility System Switchboard application to monitor individual feeder devices.

A NEMA 4X enclosure is available as an accessory. This combination is perfect for retrofit metering applications.

With the rapidly changing emphasis on LEED designs, this meter helps you to meet the Measurement and Verification points required by the LEED and GREEN building design.

Most models include pulse output, alarm contact and phase loss alarms for maximum versatility. The BACnet version offers two digital inputs for accumulating other meter pulses in place of the digital output and alarm contact. The Modbus output option offers added flexibility for configuration, communication and data analysis.

The IQ 35M allows you to:

- Verify energy bills
- Make informed load shifting and shedding decisions
- Fairly and accurately allocate energy costs to users
- Identify wasteful practices
- Decrease unnecessary usage
- Produce an energy profile
- Secure the optimum utility rate structure

Key features:

- Economical and compact watt hour meter with demand
- Backlit LCD display for local reading
- Compatible with the Power Xpert® Gateway for remote monitoring
- Monitors
  - Voltage, current, power factor, frequency
  - Power and Energy: real, reactive and apparent
- Optional data logging capability
- Optional serial communications (Modbus-RTU and BACnet)
- Revenue grade, ANSI C12.20 0.5% accuracy, IEC 62053-22 Class 0.5S
- Compatible with economical solid-core and split-core CTs
- User-enabled password protection
- On-board diagnostics

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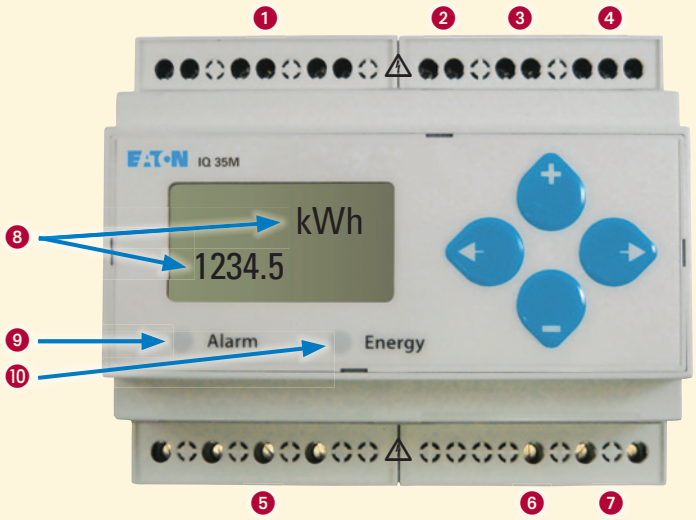
Product Diagram



1. Milivolt CT Inputs
2. Phase Loss Alarm or Pulse Input (BACnet)*
3. Energy Pulse Output or Pulse Input (BACnet)*
4. Reactive Energy Pulse Output, Modbus, or BACnet*
5. Voltage Inputs - Up to 600 VAC L-L
6. Ground
7. Control Power Input - Up to 600 VAC L-L
8. Backlit LCD Display
9. Alarm LED lights when in alarm condition
10. Energy LED tied to Pulse Output or Pulse Inputs (BACnet)*

* Depending on model selected

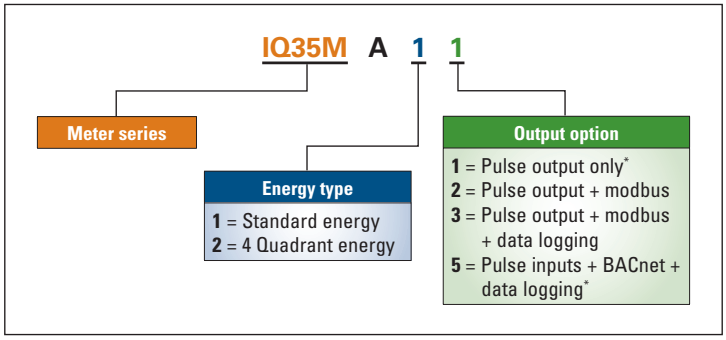
IQ 35M Panelboard Application

The IQ 35M is the industry's first such product offered as standard for panelboard applications. Because of its compact size, it is an ideal solution to monitor the main power coming into the panelboard. Applications include lighting, appliance and small power distribution panelboards up to 400 amperes.

Comparing IQ 35M Models

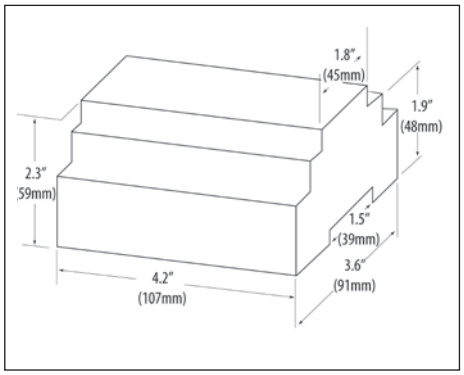
	IQ35MA11	IQ35MA12	IQ35MA13	IQ35MA15	IQ35MA22	IQ35MA23
Instrumentation						
Current, per phase & average	X	X	X	X	X	X
Voltage, per phase (L-L, L-N) & average	X	X	X	X	X	X
Frequency	X	X	X	X	X	X
Power						
Real, reactive and apparent power, per phase & total (W, VAR, VA)	X	X	X	X	X	X
Power factor, per phase & average	X	X	X	X	X	X
Demand						
Block interval (fixed, sliding)	X	X	X	X	X	X
Real, reactive and apparent power demand, present & peak	X	X	X	X		
Real, reactive and apparent power demand, present & positive and negative peak					X	X
Energy						
Real, reactive and apparent energy, total (Wh, VARh, VAh)	X	X	X	X		
Real energy, per phase (Wh)	X	X	X	X		
Real energy, per phase, net & total positive & negative (Wh)					X	X
Reactive energy, positive and negative quadrant (VARh)					X	X
Apparent energy, net & total positive & negative (VAh)					X	X
Data Logging						
Configurable Data Buffers			X	X		X
I/O						
Pulse Outputs	2	1	1		1	1
Alarm Outputs	1	1	1		1	1
Pulse Inputs				2		
Communications						
RS-485, Modbus RTU		X	X		X	X
RS-485, BACnet MS/TP				X		

IQ 35M Meter ordering information

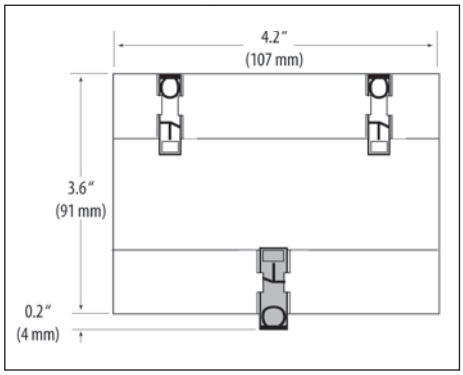


* Not available with 4 Quadrant energy.

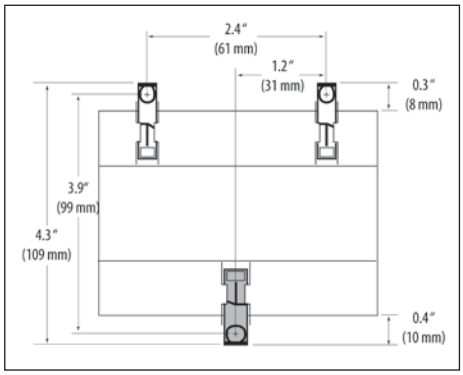
Dimensional drawing



DIN mount configuration



Wall mount configuration



Technical Specifications

Voltage input	UL: 90V (L-N) to 600V (L-L); CE: 90V (L-N) to 300V (L-L)
Current input	Scaling: 5A to 32,767A Input range: 0 to 0.333V or 0 to 1V (selectable)
Control power	UL: 90V (L-N) to 600V (L-L); CE: 90V (L-N) to 300V (L-L)
Accuracy	
Real power and energy	0.5% (ANSI C12.20, IEC 62053-22 Class 0.5S)
Outputs	
IQ35MAx1 thru 3	Real energy pulse: N.O. static; alarm contacts: N.C. static
IQ35MAx1	Reactive energy pulse 30VAC/DC
IQ35MAx2, IQ35MAx3	RS-485 2-wire modbus RTU
IQ35MA15	RS-485 2-wire BACnet MS/TP
Inputs	
IQ35MA15	Two accumulating pulse inputs; solid-state or mechanical contact (current < 1mA) Min pulse width 20 msec
Mechanical	
Mounting	DIN Rail or 3-point screw mount
Environmental	
Operating temperature range	Meter: -30° to 70°C (-22° to 158°F) Display: -10° to 50° C (14° to 122°F)
Storage temperature range	Meter: -40° to 85°C (-40° to 185°F) Display: -10° to 60°C (14° to 140°F)
Humidity range	<95% RH non-condensing
Data outputs	
kW, kWh	Total
Current	3-phase average, per phase
Voltage	3-phase average, per phase line-line and line-neutral
Power	Real, reactive, and apparent; 3-phase total and per phase
Power factor	3-phase average and per phase
Power demand	Most recent and peak
Demand configuration	Fixed, rolling block, and external sync
Data logging (IQ35MAx3/IQ35MA15 only)	10(IQ35MAx3), 3(IQ35MA15) configurable data buffers Configurable demand subinterval (when set at a 15-minute interval, buffers store data for 60 days)
Compliance	
UL/cUL	UL508 (open type device), Listed 44XJ Ind.Cont.Eq.
CSA	CSA 22.2 No. 14-05
CE	EN61010-1:2001
ANSI C12.20	0.5% Accuracy
IEC 62053-22	0.5% Accuracy
ROHS	

CTs and Accessories

Model number	Description
CTs	
Solid Core	
IQ35M-SO-030-5	IQ35M CT, Solid Core, 5A:0.33VAC, 0.30 Inch
IQ35M-SO-030-20	IQ35M CT, Solid Core, 20A:0.33VAC, 0.30 Inch
IQ35M-SO-050-50	IQ35M CT, Solid Core, 50A:0.33VAC, 0.50 Inch
IQ35M-SO-075-50	IQ35M CT, Solid Core, 50A:0.33VAC, 0.75 Inch
IQ35M-SO-125-100	IQ35M CT, Solid Core, 100A:0.33VAC, 1.25 Inch
IQ35M-SO-125-200	IQ35M CT, Solid Core, 200A:0.33VAC, 1.25 Inch
IQ35M-SO-125-250	IQ35M CT, Solid Core, 250A:0.33VAC, 1.25 Inch
IQ35M-SO-125-300	IQ35M CT, Solid Core, 300A:0.33VAC, 1.25 Inch
IQ35M-SO-125-400	IQ35M CT, Solid Core, 400A:0.33VAC, 1.25 Inch
Split Core	
IQ35M-SP-075-5	IQ35M CT, Split Core, 5A:0.33VAC, 0.75 Inch
IQ35M-SP-075-30	IQ35M CT, Split Core, 30A:0.33VAC, 0.75 Inch
IQ35M-SP-075-50	IQ35M CT, Split Core, 50A:0.33VAC, 0.75 Inch
IQ35M-SP-075-100	IQ35M CT, Split Core, 100A:0.33VAC, 0.75 Inch
IQ35M-SP-075-200	IQ35M CT, Split Core, 200A:0.33VAC, 0.75 Inch
IQ35M-SP-125-250	IQ35M CT, Split Core, 250A:0.33VAC, 1.25 Inch
IQ35M-SP-125-300	IQ35M CT, Split Core, 300A:0.33VAC, 1.25 Inch
IQ35M-SP-125-400	IQ35M CT, Split Core, 400A:0.33VAC, 1.25 Inch
IQ35M-SP-125-600	IQ35M CT, Split Core, 600A:0.33VAC, 1.25 Inch
IQ35M-SP-253-800	IQ35M CT, Split Core, 800A:0.33VAC, 2.5 Inch
IQ35M-SP-255-1000	IQ35M CT, Split Core, 1000A:0.33VAC, 2.5 Inch
IQ35M-SP-255-1200	IQ35M CT, Split Core, 1200A:0.33VAC, 2.5 Inch
IQ35M-SP-255-1600	IQ35M CT, Split Core, 1600A:0.33VAC, 2.5 Inch
IQ35M-SP-255-2000	IQ35M CT, Split Core, 2000A:0.33VAC, 2.5 Inch
IQ35M-SP-255-2400	IQ35M CT, Split Core, 2400A:0.33VAC, 2.5 Inch
Accessories	
IQ35M-ENC	IQ35M Enclosure, NEMA 4X
IQ35M-FP1	IQ35M Fuse Pack, Single, 1/2A, Slow-Blow
IQ35M-FP2	IQ35M Fuse Pack, Double, 1/2A, Slow-Blow
IQ35M-FP3	IQ35M Fuse Pack, Triple, 1/2A, Slow-Blow
IQ35M-RMC	IQ35M Replacement Mounting Clips
IQ35M-DR	IQ35M DIN Rail
IQ35M-DRSC	IQ35M DIN Rail Stop Clips (10 Pack)

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Note: Specifications are subject to change without notice and represent the maximum capabilities of the product with all options installed. This is not a complete feature list. Features and functionality may vary depending on selected options, firmware version and product model. Please refer to User Manual for detailed specifications.

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