

IQ 100 Series Electronic Power Meters



General Description

The IQ 100 meter family provides capabilities you would not normally expect in affordable, compact meters, such as fast sampling rate and accurate metering for a full range of power attributes. Providing the first line of defense against costly power problems, Eaton®'s IQ 100 series electronic power meters can perform the work of an entire wall of legacy metering equipment utilizing today's technology.

When space is at a premium, yet you need ANSI C12.20 accuracy, the IQ 100 series fit the bill. These meters are ideal for electrical equipment assemblies, machine control panels, such as panelboard and switchboard mains and feeders, low voltage metal-enclosed switchgear feeders and motor control centers. Requiring far less space than other meters with similar functionality, IQ 100 series fit into a standard ANSI or IEC cutout on a panelboard or other electrical equipment, and therefore fit easily into retrofit applications.

Typical Applications

- Utility and commercial metering.
- Substations, industrial facilities, power generation sites and campuses.
- Sub-metering.
- Load studies and voltage recording.
- Analog meter replacement.

Features and Benefits

- Measure and display real-time information about critical power parameters with a sampling rate of 400 samples per cycle.
- Monitor power utilization and quality with ANSI C12.20 accuracy (0.5 percent).
- Verify meter accuracy with KYZ test pulse self-certification capabilities.
- Optional Modbus® RTU or TCP communications.
- Available as transducer only or with display.
- Designed to accommodate upgrades.
- Integrate into Eaton's Power Xpert® Architecture for a holistic system-level view.

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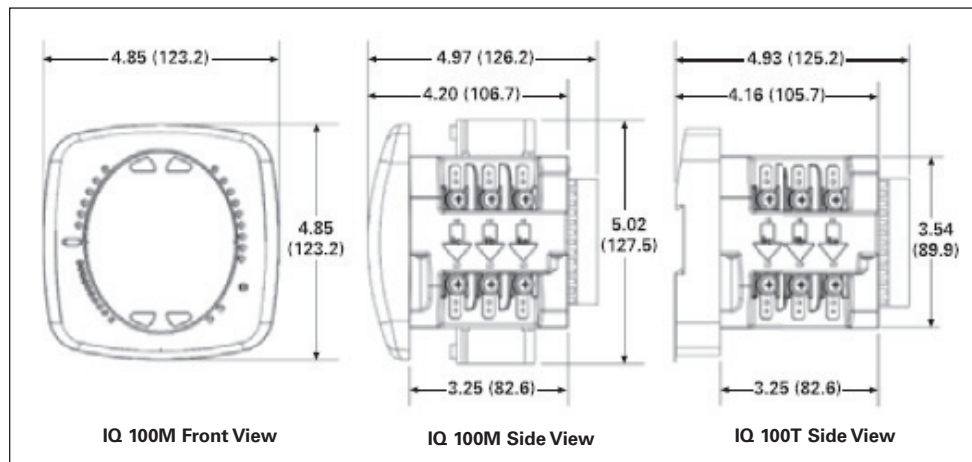
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Additional Features

Table 1. Features of IQ 100 Electronic Power Meters

Features	IQ 130	IQ 140	IQ 150
Instrumentation			
Current, per Phase	•	•	•
Current Demand	•	•	•
Calculated Neutral Current	•	•	•
Voltage, per Phase (L-L, L-N)	•	•	•
Min./Max. Readings, I, V	•	•	•
Min./Max. Readings, I, V, PF, F, W, VAR, VA		•	•
Frequency		•	•
Power			
Real, Reactive and Apparent Power, Total (W, VAR, VA)		•	•
Power Factor, Total		•	•
Real, Reactive and Apparent Power Demand		•	•
Demand Methods			
Block Interval (Sliding, Fixed)		•	•
Energy			
Real, Reactive and Apparent Energy, Total (Wh, VAR, VAh)			•
Communications			
RS-485, Modbus RTU, Modbus ASCII, KYZ Output	Opt.	Opt.	Opt.
RJ45, Modbus TCP, KYZ Output	Opt.	Opt.	Opt.

IQ 100 Meter Dimensions



IQ 100T Transducer Only

Figure 1. IQ 100 Meter Dimensions — Front and Side Views

Technical Data and Specifications

Table 2. IQ 100 Electronic Power Meter Technical Information

Description	Specifications
Current Inputs	
Class 10	5 Amp Nominal, 10 Amp Max.
Class 2	1 Amp Nominal, 2 Amp Max.
Fault Current Withstand	
100 Amps for:	10 Seconds
300 Amps for:	3 Seconds
500 Amps for:	1 Second
Continuous Current Withstand	20 Amps for Screw Terminated or Pass-through Connections
Programmable Current	Full Scale to Any CT Ratio
Burden	0.005 VA per Phase Max. at 11 Amps
Pickup Current	0.1% of Nominal
Class 10	5 mA
Class 2	1 mA
Connections	
Pass-through Wire Gauge Dimension	0.177 Inches (4.5 mm)
Quick Connect	0.25-Inch Male Tab
Voltage Inputs	
Range	
Line-to-Neutral	20 – 416 Vac
Line-to-Line	20 – 721 Vac
Programmable Voltage Range	Full Scale to Any PT Ratio
Supported Systems	3 Element Wye, 2.5 Element Wye, 2 Element Delta, 4-Wire Delta Systems
Input Impedance	1 Meg Ohm/Phase
Burden	0.36 VA/Phase Max. at 600 V; 0.014 VA at 120 Volts
Connection	7-Pin 0.400-Inch Pluggable Terminal Block, AWG #12 – 26 (0.129 – 3.31 mm ²)
Isolation	
All inputs and outputs are galvanically isolated to 2500 volts.	
Environmental Ratings	
Operating Temperature	-20°C to +70°C
Storage Temperature	-20°C to +70°C
Operating Humidity	To 95% RH Non-condensing
Faceplate Rating	NEMA 12 Water-resistant Mounting Gasket Included

Description	Specifications
Sensing Method	
Voltage, Current	True RMS
Power	Sampling at Over 400 Samples per Cycle On All Channels
Update Rate	
Watts, VAR and VA	100 msec at 60 Hz
All other parameters	1 second at 60 Hz
Power Supply	
ac/dc Voltage Option	90 – 265 Vac at 50/60 Hz or 100 – 370 Vdc, Universal ac/dc Supply
dc Voltage Option	18 – 60 Vdc
Burden	10 VA Max.
Optional Communications Format	
Connection Type	RS-485 or RJ45 (Through Back Plate)
Com Port Baud Rate	9600 – 57,600 Bauds
Com Port Address	01 – 247
Data Format	8-Bit, No Parity
Protocols	Modbus ASCII, RTU, TCP
Optional KYZ Pulse	
Contacts	1 Form A
On Resistance, Max.	35 Ohms
Peak Switching Voltage	350 Vdc
Continuous Load Current	350 mA (10 ms)
Off-state Leakage Current at 350 Vdc	1 uA
Opto-isolation	3750 Vac
Dimensions and Shipping	
Weight	2 lbs.
Basic Unit	H 5.00 x W 4.90 x L 5.00 Inches
IQ 100	Mounts in 92 mm DIN and ANSI C39.1 Round Cut-outs
Shipping Container Dimensions	6-Inch Cube
Tolerance	+/-0.1 Inches (2.54 mm)
Compliance	
IEC 687	0.5% Accuracy
ANSI C12.20	0.5% Accuracy
ANSI C62.41	Burst
UL/cUL/CE	Electrical and Electronic Measuring and Test Equipment 22CZ

Note: These 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 the technical data sheet and User Manual for detailed specifications.

Ordering Information

Table 3. IQ 100 Meter Catalog Numbering System

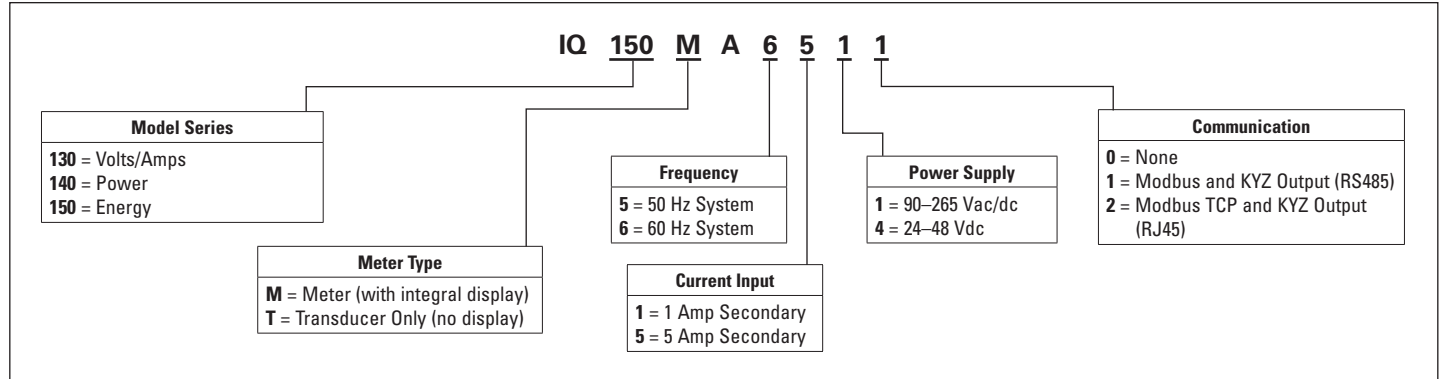


Table 4. IQ 100 Meter Accessories

Description	Catalog Number
Panel Mounting Adapter for retrofitting an IQ 100 to an IQ Analyzer/IQ DP-4000/IQ Data Cutout	IQ250-PMAK

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