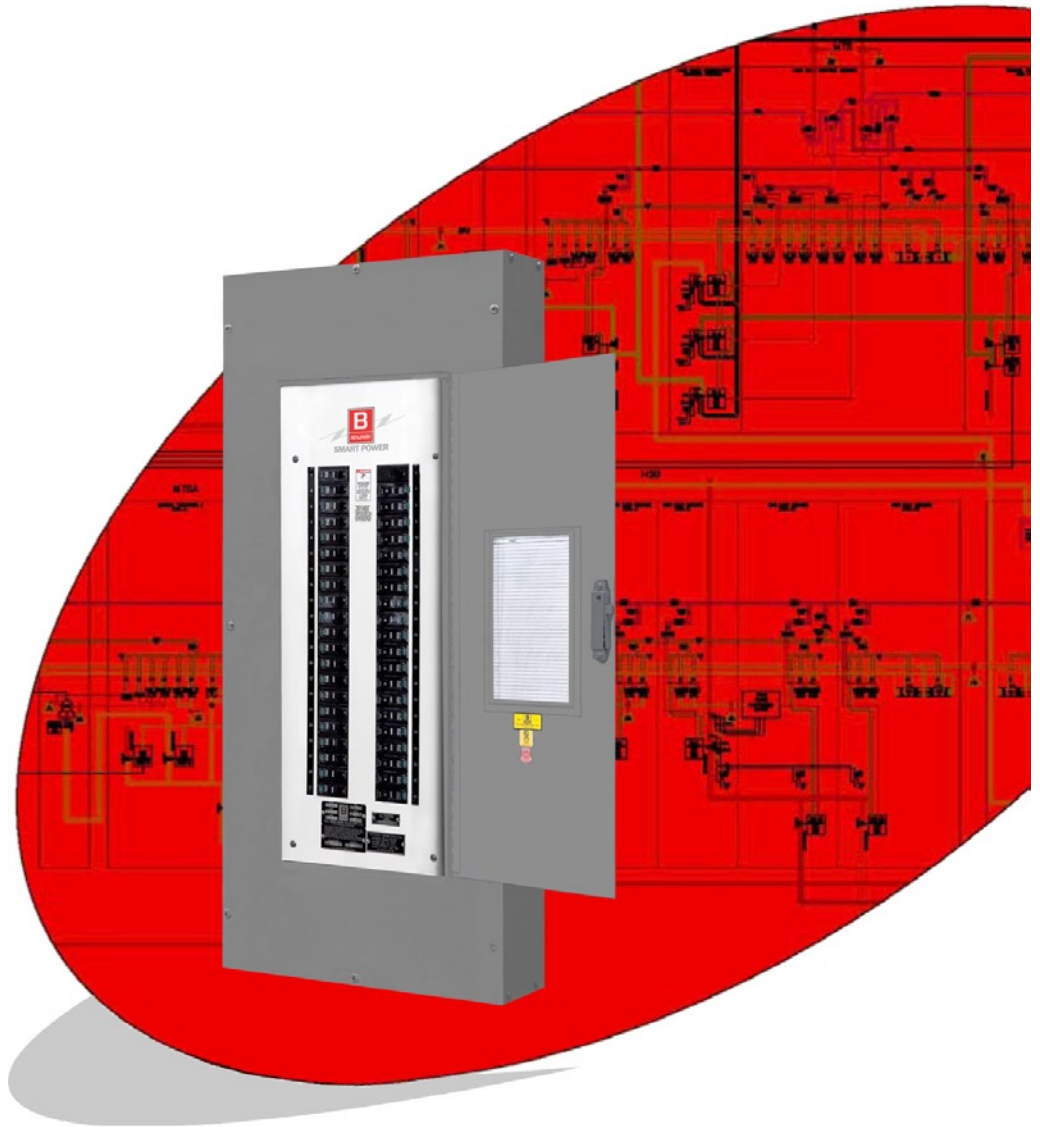


Power Metered Panelboard

with Remote Controllable Circuit Breakers

An effective metering solution for your Energy Management Systems



SMART POWER

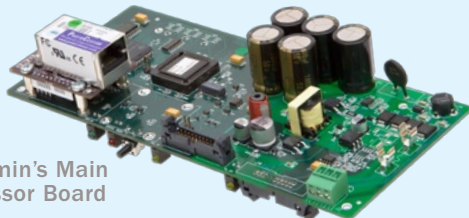
by Benjamin Electric Company
Manufacturers of Smart Power Distribution Products

POWER METERED PANELBOARD (PMP) with Remote Controllable Breakers

The Benjamin PMP provides a cost-effective and innovative approach to branch circuit monitoring and control. Power parameters such as voltage, current, power, and energy consumption are measured on all branch circuits plus mains. The information can be accessed over the network through a variety of protocols. Data updates are available every second to provide proactive information, such as user-configured low and high threshold alarms for any circuit. The Benjamin PMP is ideal for new or existing applications and is an essential step towards development of your energy management program.

Product Features

- 1 Embedded Data Processing** - All Power Circuit Data and Breaker Control is provided by our Master Processor, which makes the data available via standard memory mappings or through the embedded webserver. New data values are available at 1 second intervals.



Benjamin's Main
Processor Board

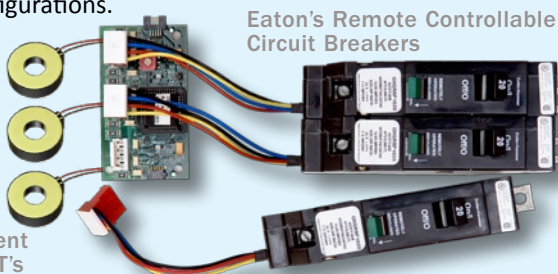
- 2 Embedded Webserver** - This single board computer utilizes a LINUX operating system and provides a "Power Metering Interface" (PMI) accessed using a standard web browser. Additionally, metered data values are archived locally at 1 minute intervals with up to 2 years of storage.



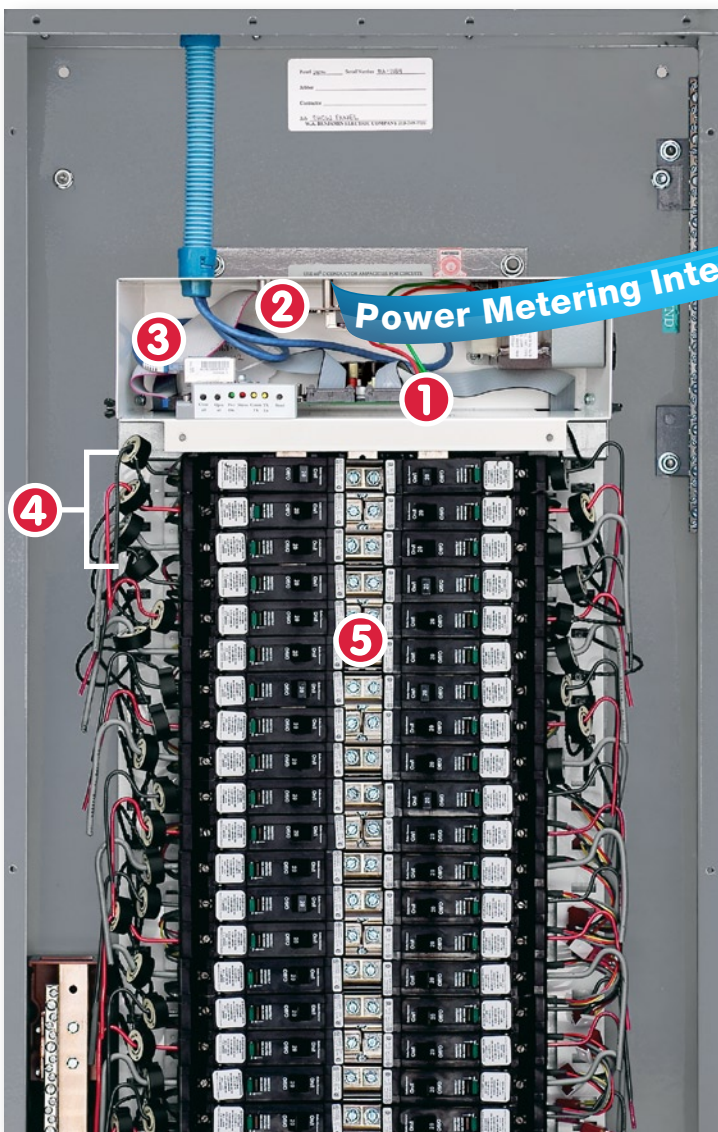
ARM-based Single
Board Computer

- 3 Flexible Communications** - Connectivity to the real-time and archived data is made through standard industry communication protocols such as; BACnet/IP, Modbus TCP/IP, Modbus Serial, and XML-RPC.

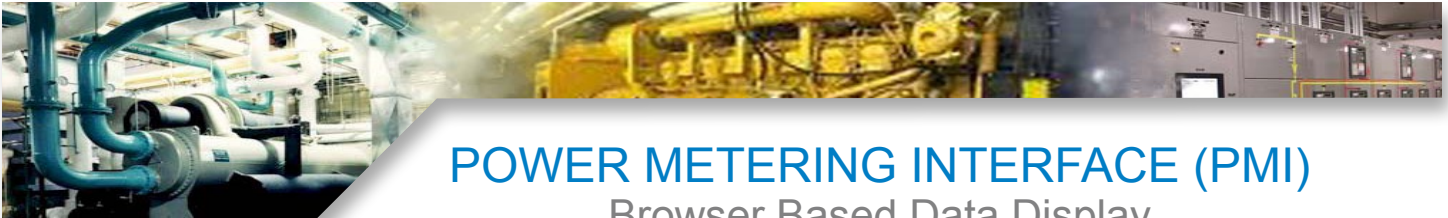
- 4 Efficient Modularity** - Power Metering and Breaker Control functionality are arranged in groups of three circuits. This offers cost effective panelboard configurations.



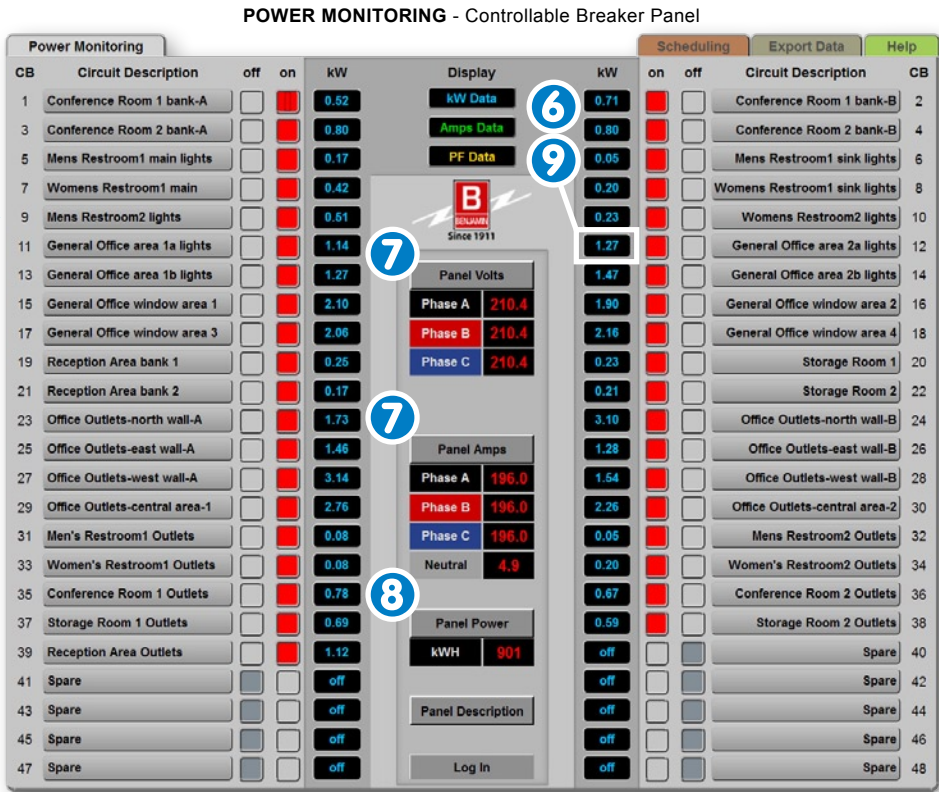
Instrument
Grade CT's



- 5 Eaton Circuit Breakers** - The panelboard utilizes any combination of Eaton's Cutler-Hammer overcurrent protection circuit breakers and Eaton's innovative solenoid operated remote controlled circuit breakers, which combine the protective features of the conventional circuit breaker with the switching functions of a lighting relay.



The Benjamin PMI is used to display the measured power of all circuits using a standard web browser, accessible over the local network or the internet. Software installation is not required and no license fees are applicable. The PMI also provides local storage of metered values at one minute intervals, with up to two years of data storage. Users with authorized access can manually operate the remote controllable circuit breakers and configure scheduled events for automated on-off operation of the breakers. This interface is included as a standard component of the Benjamin Metering system.



Product Features

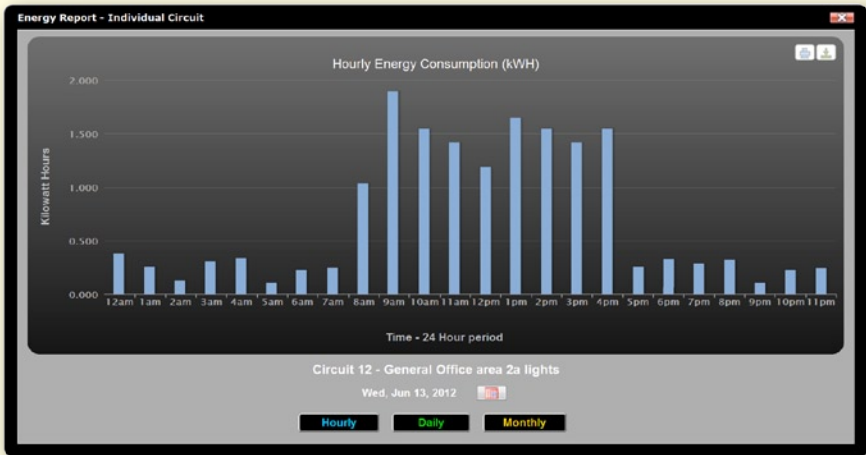
6 Circuit-Level Data - Click point areas of the PMI provide detail of power parameters such as this analog and digital presentation of real-time kW power consumption.



7 Mains Monitoring - Power parameters of the panel mains is presented digitally for all three phases of Volts and Amps. This data can also be viewed in a real-time line graph.

8 Panel Energy - The overall energy consumption of the panel is continuously measured and accumulated. Other energy parameters such as Amps, Volts, real-time kW, kWh, VA, and VARs are also available in real-time digital presentation and in archived graph form.

9 Archived Data - Historical metering data for a specific circuit is presented in a bar graph format. In this example, the Energy Consumption for this circuit is displayed over a 24 hour time period in 1 hour increments.



BENJAMIN Power Metered Panelboard Specifications

Voltage Ratings	120/240V 1Ø 3W	208Y/120V 3Ø 4W	480Y/277V 3Ø 4W
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AIC Ratings	65kAIC@240V Fully Rated to 100kAIC Series Rated
	14kAIC@480Y/277V Fully Rated to 65kAIC Series Rated

Power Measurement	Mains Current Accuracy: 1% of reading from 1% to 100% of nominal rated current
	Mains Voltage Accuracy: 0.5% of reading from 90 to 600 VAC Line to Neutral
	Mains Power Data: Voltage, Current, Watts, PF, VA, VAR, HZ, WattHrs, VAHrs, VARHrs
	Branch Current Accuracy: 1% of reading from 0.15 Amps to 100 Amps
	Branch Power Data: Current, Watts, PF, VA, VAR, WattHrs, VAHrs, VARHrs
	Data Update Rate: Less than 1 second for all branch circuits (all measured values)

Mains Configuration	100 Amp Main Lugs Only	225 Amp Main Lugs Only	400 Amp Main Lugs Only	600 Amp Main Lugs Only
	100 Amp Main Breaker	225 Amp Main Breaker	400 Amp Main Breaker	600 Amp Main Breaker

Circuit Breaker Options (6 to 48 branch circuits)	1 Pole	15 Amp Controlled	20 Amp Controlled	30 Amp Controlled	15 Amp
		20 Amp	30 Amp	40 Amp	50 Amp
		60 Amp	70 Amp	90 Amp	100 Amp
	2 Pole	15 Amp Controlled	20 Amp Controlled	30 Amp Controlled	15 Amp
		20 Amp	30 Amp	40 Amp	50 Amp
		60 Amp	70 Amp	90 Amp	100 Amp
	3 Pole	15 Amp	20 Amp	30 Amp	40 Amp
		50 Amp	60 Amp	70 Amp	90 Amp
		100 Amp			

Communication Protocols	Modbus TCP/IP	Modbus/ASCII	Modbus/RTU	XML-RPC
	BACnet/IP	DMX-512	DMX-RDM	EtherNet/IP



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