# Wireless Branch Circuit Monitoring

PACKETPOWER

Simple panel retrofit

Packet Power offers the ideal way to add monitoring to any panel whether it is a single power distribution panel or a four-panel RPP or PDU.

Designed to minimize installation time, the system uses a flexible CT harness that fits in even the tightest spaces, comes fully configured, and avoids the need to run data communications wiring. Use the monitoring data to allocate energy costs, avoid unplanned outages, identify underutilized power, and balance load across phases.

Monitoring Made to Measure

Cuts installation time in half
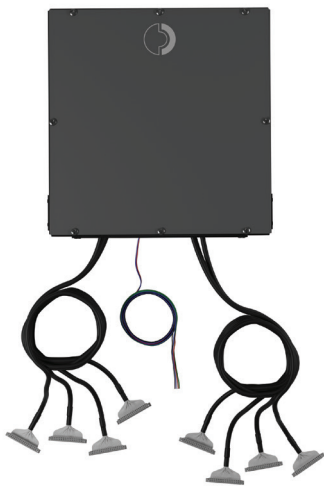
BGP128
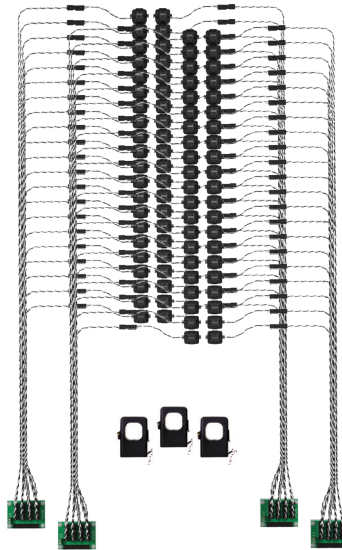
Built exactly to your specifications:

- Voltage service - 100V to 480/277V AC
- Voltage source quantity
- Voltage lead color and length
- Branch circuit CT size - 15A to 50A
- Branch circuit CT quantity - 30 to 192
- Optional infeed circuit CTs - 100A to 400A
- CT wire harness configuration
- Ribbon cable length to CT interconnect board
- Wire exit location
- Mounting location - on the device, wall-mount or under the raised floor
- Over-current protection
- Customized panel circuit map

Works on any panel, RPP or PDU

- Monitors any combination of single- and 3-phase circuits
- Installs on PDUs, RPPs or panelboards from any vendor
- No data communications wiring to panels
- Uses split core CTs to minimize disruption
- Flexible current sensor harnesses install in minutes
- Enables continuous energy monitoring
- View circuits as they are installed on the panelboard
- Access data from existing monitoring application via SNMP, Modbus, Ethernet/IP, MTConnect, BACnet/IP, or MQTT
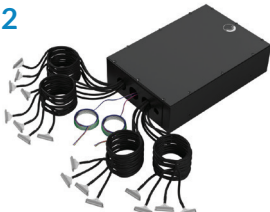

Panel Map

Circuit Type
Circuit Rating
Circuit Name

Readings

Packet Power Branch Circuit Monitoring Models

	Model	Maximum Full Power CTs	Maximum Current Only CTs	CT Interconnect Boards	Fits Panel
BGP64 310 x 160 x 115 mm (12.2 x 6.3 x 4.5 in)	BGP64-32 BGP64-40 BGP64-48 BGP64-56 BGP64-64	32 40 48 56 64	- - - - -	2 3 3-4 4 4	30-pole side-by-side 42/48-pole side-by-side
BGP128 310 x 302 x 115 mm (12.2 x 11.9 x 4.5 in)	BGP128-72 BGP128-80 BGP128-88 BGP128-96 BGP128-104 BGP128-112 BGP128-120 BGP128-128	72 80 88 96 104 112 120 128	- - - - - - - -	5 5 6 6-8 7 7 8 8	72-pole inline Two 42/48-pole side-by-side
BGP192 445 x 302 x 115 mm (17.5 x 11.9 x 4.5 in)	BGP192-144 BGP192-192	144 192	- -	9-12 12-16	Three 42/48-pole side-by-side Four 42/48-pole side-by-side
BGP51 265 x 185 x 96 mm (10.4 x 7.3 x 3.8 in)	BGP51-48C BGP51-3P48C	- 3	48 48	2 2	42/48-pole side-by-side 42/48-pole side-by-side
BGP198 341 x 281 x 130 mm (13.4 x 11 x 5.1 in)	BGP198-6P96C BGP198-6P192C	6 6	96 192	4 8	Two 42/48-pole side-by-side Four 42/48-pole side-by-side

**For multi-circuit monitoring solutions requiring 9 to 72 CTs, go to
www.packetpower.com/multi-circuit-monitoring**

Installation to online in minutes
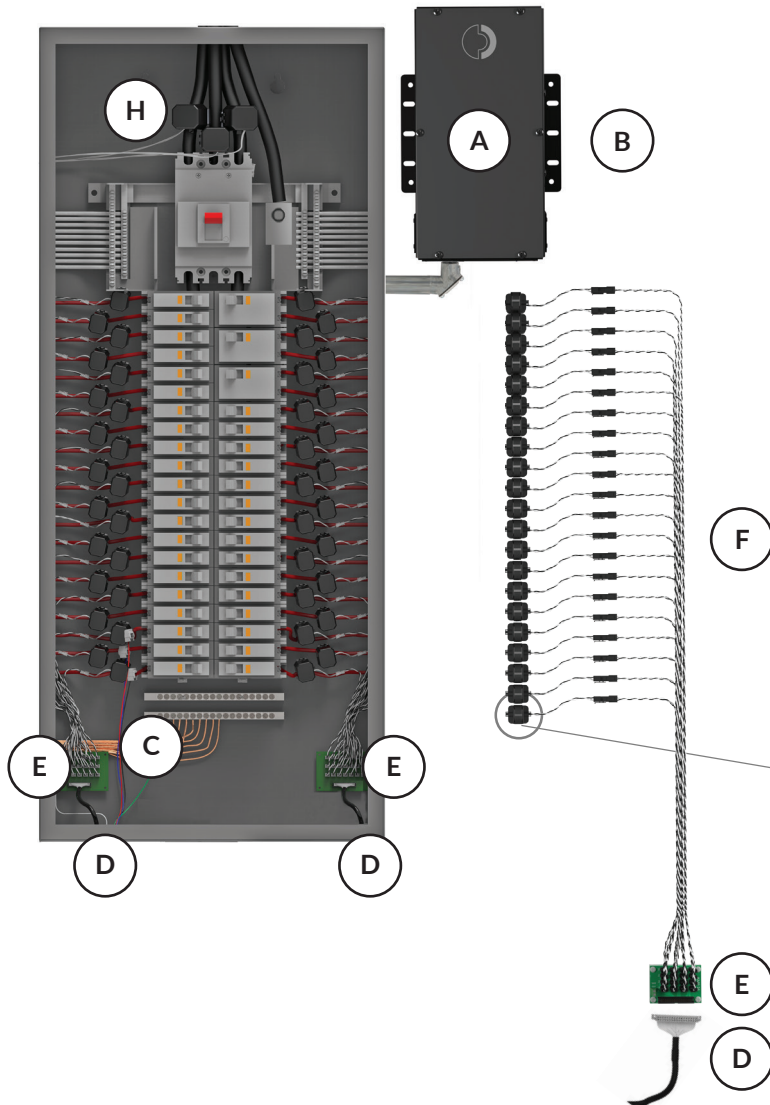
Packet Power wireless Branch Circuit Monitoring installs in a fraction of the time versus other systems by eliminating communication wiring and configuration as well as offering flexible CT wire harnesses that install in minutes.

Once power is supplied, the monitor will automatically begin to transmit data.

Components:

(A)	Monitor (BGP64 shown here)
(B)	Mounting Brackets
(C)	Voltage Lead
(D)	CT Interconnect Cables
(E)	CT Interconnect Boards
(F)	CT Wire Harnesses (several types)
(G)	Split core Branch Circuit CTs
(H)	Optional Split core Infeed Circuit CTs

Packet Power saves time and money

Conventional BCMs	Packet Power	Time / Cost Difference
Run data communication cables	Wireless	1-3 hours / $150-$450
Configure communications network	Pre-configured plug and play	1-4 hours / $150-$600
Assemble wiring kits	Pre-configured, pre-wired	1-2 hours / $100-$200
Cut and dress CT cables individually	Pre-made CT harness for specific panel	1-2 hours / $150-$300
Program meter	Fully ready to use	1 hour / $150
Maximum 2 panels per BCM	Up to 4 panels per BCM	2-4 hours / $300-$600

Potential savings using Packet Power: Up to 16 hours and $2,300

Technical Specifications

Measurement

Measurements	Full Power: V, A, Ah VA, W Wh, Power Factor, Hz Current Only: A, Ah (optional full power monitoring on infeed circuit)
Accuracy	± 1.0% (CT dependent); ± 0.5% available
Input voltage	100 - 480/277V AC; 277V maximum input voltage
Input voltage configuration	LLLN+E, LLL+E, LLN+E, LN+E, LL+E
Current range	Branch circuits: 15A, 30A, 50A; Main input circuits: 100A, 200A, 400A (other CTs available)
Frequency	50/60 Hz

Communications

Operating frequency	860 to 930 MHz and 2.4 GHz (frequencies vary by region)
Wireless network protocol	Frequency hopping self-configuring load-balancing mesh
Wired network protocols	HTTPS to Packet Power EMX running locally or as cloud service; SNMP V1/V2c/V3; Modbus TCP/IP; Ethernet/IP; MTConnect; BACnet/IP; MQTT
Firmware updates	Wireless
Typical transmission range	10 to 30 meters indoors between any two devices in mesh network
Antenna	Fully enclosed, fixed configuration
Monitoring unit to gateway ratio	6 to 25 BGP units per gateway (depending on model) with unlimited gateways per site
Multi-site support	Yes
Encryption	HTTPS; optional 128-bit wireless
Local display	Presence of power, wireless communication status

Environmental & Mechanical

Operating environment	0° to 75°C (32° to 167°F) / 5% to 95% non-condensing
Water and dust resistance	NEMA 1/IP20 (indoor use); NEMA 4 available on some products
Power usage	5-20W depending on the model
Certifications	UL 508A and CE, FCC and other communications standards

For detailed product specifications, go to: **www.packetpower.com/panel-boards**

Why Packet Power

Installs easily

- Pre-wired CT harnesses simplify installation
- No data communications wiring to panels
- Simple panel mapping displays circuits as they appear on the panel
- Split-core CTs install without disconnecting critical systems

Cost effective

- Match type and amount of metering exactly to your needs
- Lower installation costs
- Fully self-optimizing wireless network lowers ongoing support costs

Open

- Compatible with any existing hardware
- Send data to any DCIM or BMS using SNMP. Modbus TCP/IP, Ethernet/IP, BACnet/IP, MTConnect, or MQTT

Secure

- Unique purpose-built wireless protocol can only be used for monitoring
- Full separation of wireless monitoring and wired data network
- Proven in data centers worldwide

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