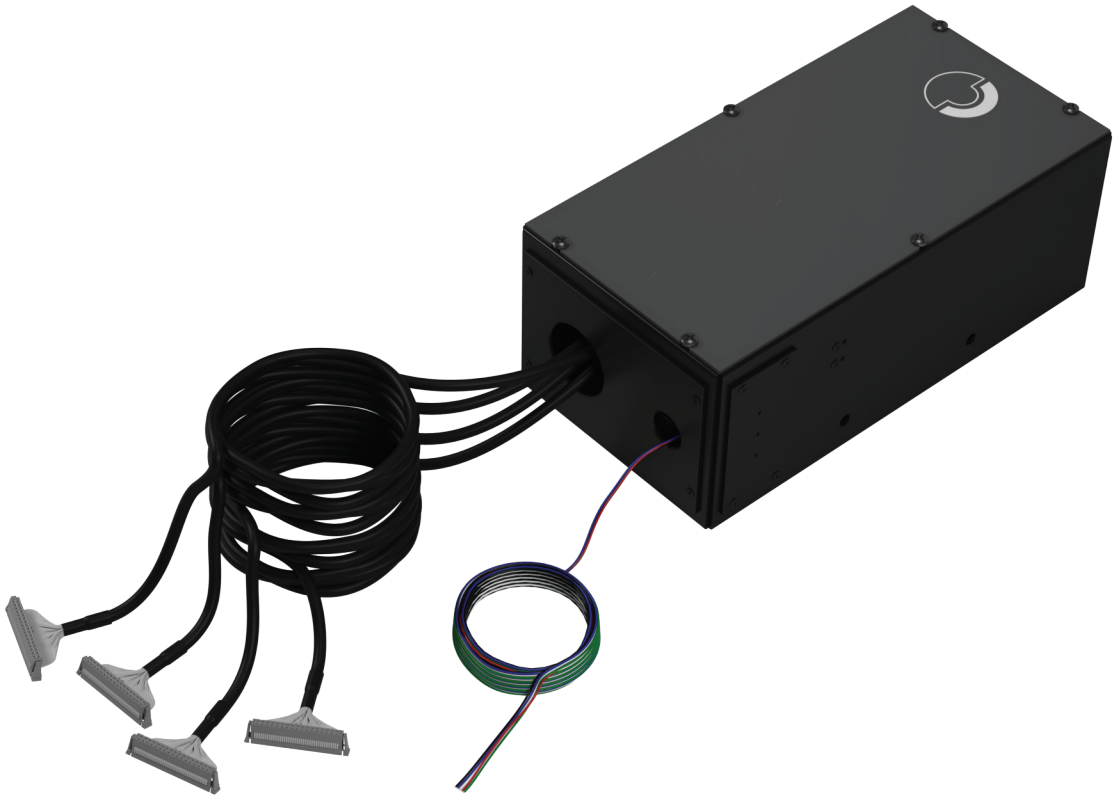
PACKETPOWER

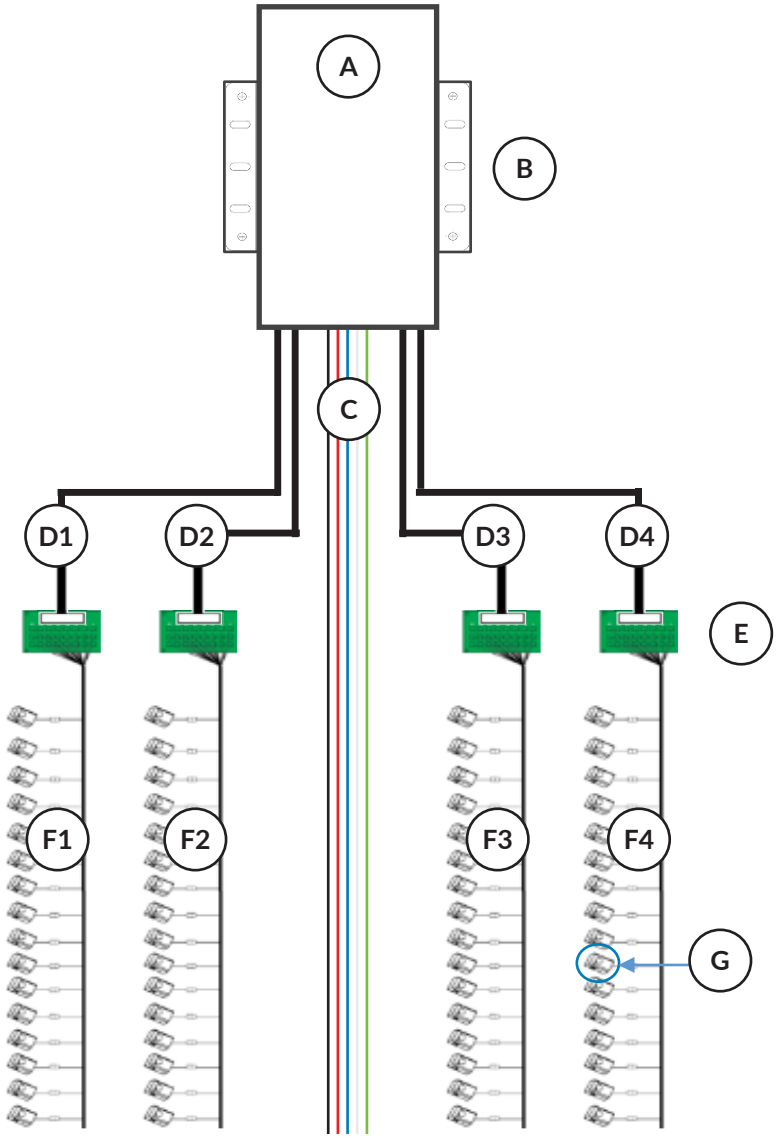
BRANCH CIRCUIT MONITORING

BGP64 Model Components and *Monitoring Made to Measure* Specifications



BRANCH CIRCUIT MONITOR COMPONENTS

Packet Power's BGP64 wireless branch circuit monitor arrives fully configured to each customer's needs and includes the following components.



BGP64 COMPONENTS

(A)	Device:	Up to eight wireless power monitors in an 18 GA steel enclosure with plastic front 310 x 160 x 115 mm (12.2 x 6.3 x 4.5 in)
(B)	Mounting Brackets:	Two optional 18 GA steel brackets 152 x 25 mm (6 x 1 in)
(C)	Voltage Lead(s):	18 AWG 600V colored wire connected to a 6-position terminal block, 3m or 7m length; 5x20 mm 5A inline fuses on L1, L2, L3; Optional 2nd voltage lead for dual feeds
(D)	CT Interconnect Cables:	Up to four 300V shielded cords in any mix of 1-5m lengths; terminate in a 34-pin connector that fastens to the CT Interconnect Board
(E)	CT Interconnect Boards:	Up to four 72 x 53 x 6.3 mm (2.8 x 2.1 x 0.2 in) acrylic-backed boards with VHB adhesive tape for mounting
(F)	Branch Circuit CT: Wire Harnesses	Up to four CT harnesses; 24 AWG 300V twisted pair wire; length varies by harness configuration (see page 4 for options)
(G)	Branch Circuit CTs:	Up to 64 split core CTs; Inside diameter: 10 mm; Outside dimensions: 39 x 23 x 26 mm; CT tail: 100 mm (4 in) to quick disconnect; Rated amperage: 15A, 30A or 50A
	Infeed Circuit CTs:	Up to 6 split core CTs (not shown) Rated amperage: 100A to 400A; Inside diameter and outside dimensions vary by amperage (see page 5 for options); Leads: 24 AWG 600V twisted pair with quick disconnects; 0.5-5m length from CT Interconnect Boards

MODELS

Model	Maximum Full Power CTs	CT Interconnect Boards & Cables	Voltage Options
BGP64-32	32	2	120-240V AC 1Φ (LN) 200-230V AC 1Φ (LL) 277V AC 1Φ (LN)
BGP64-40	40	3	200-230V AC Delta (LLL) 208/120V AC Wye
BGP64-48	48	3 - 4	240/120V AC Split (LLN) 415/240V AC Wye
BGP64-56	56	4	480/277V AC Wye
BGP64-64	64	4	50/60 Hz Frequency

MONITORING MADE TO MEASURE

"Monitoring made to measure" means we fully configure each power monitor to meet your exact needs.

Here's what we need to know to cut your installation time in half.

- Voltage input service type and quantity (source power)
- Number of branch circuits (CTs) you want to monitor
- Branch circuit CT amperage
- If you want to monitor panel infeed circuits, what's the infeed circuit amperage
- Desired wire exit location
- Need for inline fuses on the voltage lead(s)
- Length of the cables to the CT interconnect board
- Placement of CT wire harnesses in relation to your panel (CT harness type)

Use the Configuration worksheet on page 5 to capture your needs.

Contact sales@packetpower.com with questions or if you need a different option than outlined in the rest of this document.

TECHNICAL SPECIFICATIONS

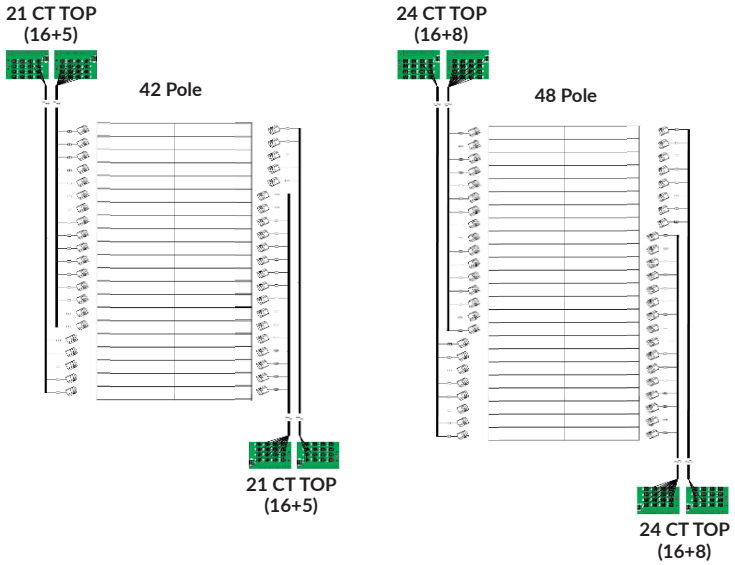
Measurements	V, A, VA, W, Wh, Power Factor, Hz Accuracy: ±1.0%
Fusing	Optional inline 5A fuses
Current Range	Branch circuits: 15A, 30A, 50A Infeed circuits: 100A to 400A
Frequency	50/60 Hz
Monitor Dimensions	310 x 160 x 115 mm (12.2 x 6.3 x 4.5 in)
Monitor Weight	3.6 kg (8 lb)
Mounting	On wall or on device; mounting brackets included
Available Wire Exits	Side, Bottom or Back openings
Voltage Lead Wire	18 AWG 600V colored wire; 3m or 7m length
CT Interconnect Cable (from BGP64 to CT Interconnect Board)	Shielded 300V cord; 1-5m length
Infeed Circuit CT Leads	24 AWG 600V twisted pair; quick disconnect; 0.5-5m length
Operating Environment	0° to 75°C (32° to 167°F); 5% to 95% non-condensing
Water and Dust Resistance	NEMA 1/IP20 (indoor use)
Power Usage	5W
Wireless Network Protocol	Frequency hopping self-configuring load-balancing mesh; Operating frequency 860 to 930 MHz and 2.4 GHz (frequencies vary by region)
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
Monitor to Gateway Ratio	Up to 12 BGP64-64 devices per Ethernet Gateway with unlimited Gateways per site
Local Display	Presence of power only, details available via Gateway console
Made in USA	Yes
Product Warranty	1 year
Certifications	UL 508A and CE, FCC and other country communications standards

CT LEAD WIRE OPTIONS

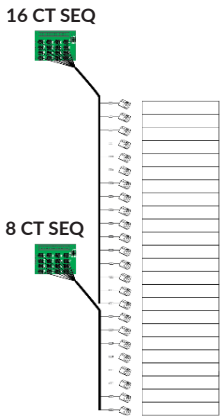
The BGP64 supports flexible, preconfigured CT wire harnesses as well as loose CT leads at a variety of lengths. Any infeed CT leads attach to Interconnect Boards.

Wire Harnesses

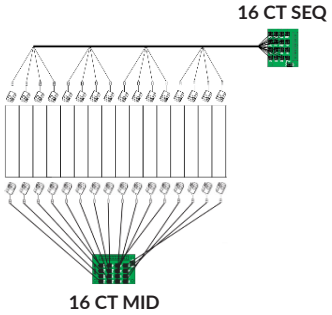
Side-by-Side



Sequential



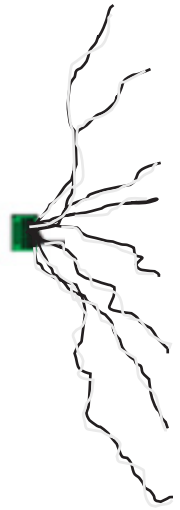
DIN



Wire Harness Type	21 CT TOP	21 CT BOT	24 CT TOP	24 CT BOT	16 CT SEQ	8 CT SEQ	16 CT MID
# CTs	21	21	24	24	16	8	16
Length to 1st CT	495 mm	495 mm	495 mm	495 mm	495 mm	495 mm	521 mm
1st CT number	1 / 2	41 / 42	1 / 2	47 / 48	1	1	1
Length to last CT	1003 mm	1003 mm	1080 mm	1080 mm	876 mm	673 mm	521 mm
Last CT number	41 / 42	1 / 2	47 / 48	1 / 2	16	8	16
# CT Interconnect Boards & Interconnect Cables	2	2	2	2	1	1	1

Wire Harness Specifications	
	24 AWG 300V twisted pair wire with quick disconnects
	Wire lengths and lead labels vary by harness type
	Accommodates side-by-side, inline or DIN mount panels with 25 mm (1”) center-to-center breakers

Loose Leads



Lead Wire Specifications
24 AWG 600V twisted pair wire with quick disconnects
0.5m, 1m, 1.5m, 2m, 3m, or 5m lengths available

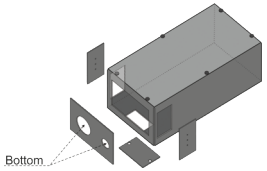
DESIGN YOUR BGP64 BRANCH CIRCUIT MONITOR

Customer _____ Panel _____ Qty _____

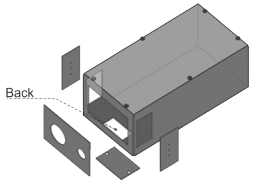
Maximum Full Power CTs

- ☐ 32
- ☐ 40
- ☐ 48
- ☐ 56
- ☐ 64

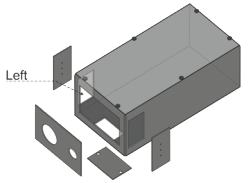
Wire Exit



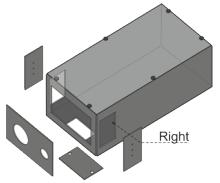
☐ Bottom Conduit Plate
1 x 1.75" [44 mm] knockout
1 x 0.875" [22 mm] knockout



☐ Back Opening
3.14 x 2.00" [80 x 51 mm] opening



☐ Left Side Opening
1.875 x 3.75" [48 x 95 mm] opening



☐ Right Side Opening
1.875 x 3.75" [48 x 95 mm] opening

Voltage Source 1

- ☐ 100-220V AC 1 Phase (2-wire LN + E)
- ☐ 230-240V AC 1 Phase (2-wire LL + E)
- ☐ 277V AC 1 Phase (2-wire LN + E)
- ☐ 200-240V AC Delta (3-wire LLL + E)
- ☐ 240/120V AC Split (3-wire LLL + E)
- ☐ 208/120V AC Wye (4-wire + E)
- ☐ 415/240V AC Wye (4-wire + E)
- ☐ 480/277V AC Wye (4-wire + E)

V1 Lead Length: ☐ 3m ☐ 7m ☐ _____ m ☐ None
Fusing: ☐ Fused ☐ Not Fused
Meters Powered ☐ All Meters: _____

Voltage Source 2

- ☐ None
- ☐ 100-220V AC 1 Phase (2-wire LN + E)
- ☐ 230-240V AC 1 Phase (2-wire LL + E)
- ☐ 277V AC 1 Phase (2-wire LN + E)
- ☐ 200-240V AC Delta (3-wire LLN + E)
- ☐ 240/120V AC Split (3-wire LLN + E)
- ☐ 208/120V AC Wye (4-wire + E)
- ☐ 415/240V AC Wye (4-wire + E)
- ☐ 480/277V AC Wye (4-wire + E)

V2 Lead Length: ☐ 3m ☐ 7m ☐ _____ m ☐ None
Fusing: ☐ Fused ☐ Not Fused
Meters Powered Meters: _____

CT Interconnect Cable Length

See page 3 for number of cables per BGP64 model

1 (D1)	☐ 1m	☐ 1.5m	☐ 2m	☐ 3m	☐ 5m	☐ _____	m
2 (D2)	☐ 1m	☐ 1.5m	☐ 2m	☐ 3m	☐ 5m	☐ _____	m
3 (D3)	☐ 1m	☐ 1.5m	☐ 2m	☐ 3m	☐ 5m	☐ _____	m
4 (D4)	☐ 1m	☐ 1.5m	☐ 2m	☐ 3m	☐ 5m	☐ _____	m

Reference D1 - D4 on page 2

CT Harness Type

See page 4 for Harness options

1 (F1) _____
2 (F2) _____
3 (F3) _____
4 (F4) _____

Reference F1 - F4 on page 2

Branch Circuit Split Core CTs

Qty	Rated / Max Amperage	Inside Diameter	External Dimensions (H x W x D)	CT Tail
	☐ 15A / 18A	10 mm	39 x 23 x 26 mm	100 mm
	☐ 30A / 36A			
	☐ 50A / 63A			

Infeed Circuit Split Core CTs ☐ Not Applicable

Qty	Rated / Max Amperage	Inside Diameter	External Dimensions (H x W x D)	CT Tail	CT Lead Length (CT Interconnect Board to circuit)
	100A / 120A	☐ 16 mm	44 x 31 x 33 mm	500 mm	☐ 0.5 meter
		☐ 24 mm	65 x 46 x 35 mm		☐ 1 meter
	200A / 240A	☐ 24 mm	65 x 46 x 35 mm		☐ 1.5 meters
		☐ 36 mm	85 x 37 x 42 mm		☐ 2 meters
	400A / 480A	☐ 36 mm	85 x 37 x 42 mm		☐ 3 meters
		☐ 50 x 50 mm	125 x 120 x 30 mm		☐ 5 meters
	☐ _____ A	_____ mm			☐ _____ meters

BGP64 BRANCH CIRCUIT MONITOR MODEL CONFIGURATION INFORMATION

Packet Power's BGP64 wireless branch circuit monitor arrives fully configured to each customer's needs. The components selected in the Configuration worksheet (page 5) result in a unique product number. Please contact sales@packetpower.com with questions or if you have any additional customization needs not shown here.

Example:	42-pole, 208/120V Wye power service with 1 voltage source, 3m fused lead, wires exiting from conduit plate, no infeed circuits, 42 50A CTs, 2 top down odd/even panels, and 3m interconnect Cables
Product Number:	BGP6446-C-Y0-3F00-C42-00-A1A1-3333

Model	Exit	Power Source	V Lead 1	V Lead 2	Branch Circuit CTs	CT Qty	Infeed Circuit CTs	Infeed CT Lead	CT Qty	CT Harness 1	CT Harness 2	CT Harness 3	CT Harness 4
BGP6432	C = Conduit plate	S0 = 120-240V AC 1 Phase (2-wire LN + E)	00 = None	00 = None	A = 15A 10MM	1-64	00 = None	00 = None	Omit = None	A1 = 21 CT TOP	00 = None	00 = None	00 = None
BGP6440	L = Left	S1 = 200-230V AC 1 Phase (2-wire LL + E)	0F = None, Fused	0F = None, Fused	B = 30A 10MM		D1 = 100A 16MM	H = 0.5M	1-6	A2 = 21 CT BOT	A1 = 21 CT TOP	A1 = 21 CT TOP	A1 = 21 CT TOP
BGP6448	R = Right	S2 = 277V AC 1 Phase (2-wire LN + E)	30 = 3M, Not fused	30 = 3M, Not fused	C = 50A 10MM		D2 = 100A 24MM	1 = 1M		A3 = 24 CT TOP	A2 = 21 CT BOT	A2 = 21 CT BOT	A2 = 21 CT BOT
BGP6456	X = Back	D0 = 200-230V AC Delta (3-wire LLL + E)	3F = 3M, Fused	3F = 3M, Fused			E1 = 200A 24MM	B = 1.5M		A4 = 24 CT BOT	A3 = 24 CT TOP	A3 = 24 CT TOP	A3 = 24 CT TOP
BGP6464		T0 = 240/120V AC Split (3-wire LLN + E)	70 = 7M, Not fused	70 = 7M, Not fused			E2 = 200A 24MM	2 = 2M		A5 = 16 CT SEQ	A4 = 24 CT BOT	A4 = 24 CT BOT	A4 = 24 CT-BOT
		Y0 = 208/120V AC Wye (4-wire + E)	7F = 7M, Fused	7F = 7M, Fused			F1 = 400A 36MM	3 = 3M		A6 = 8 CT SEQ	A5 = 16 CT SEQ	A5 = 16 CT SEQ	A5 = 16 CT SEQ
		Y1 = 415/240V AC Wye (4-wire + E)	C0 = Custom Not Fused	C0 = Custom Not Fused			F2 = 400A 50x50MM	5 = 5M		A7 = 16 CT MID	A6 = 8 CT SEQ	A6 = 8 CT SEQ	A6 = 8 CT SEQ
		Y2 = 480/277V AC Wye (4-wire + E)	CF = Custom Fused	CF = Custom Fused			CX = Custom	C = Custom		CX = Custom	A7 = 16 CT MID	A7 = 16 CT MID	A7 = 16 CT MID
											CX = Custom	CX = Custom	CX = Custom

CT Interconnect Cable 1	CT Interconnect Cable 2	CT Interconnect Cable 3	CT Interconnect Cable 4
1 = 1M	0 = None	0 = None	0 = None
B = 1.5M	1 = 1M	1 = 1M	1 = 1M
2 = 2M	B = 1.5M	B = 1.5M	B = 1.5M
3 = 3M	2 = 2M	2 = 2M	2 = 2M
5 = 5M	3 = 3M	3 = 3M	3 = 3M
C = Custom	5 = 5M	5 = 5M	5 = 5M
	C = Custom	C = Custom	C = Custom