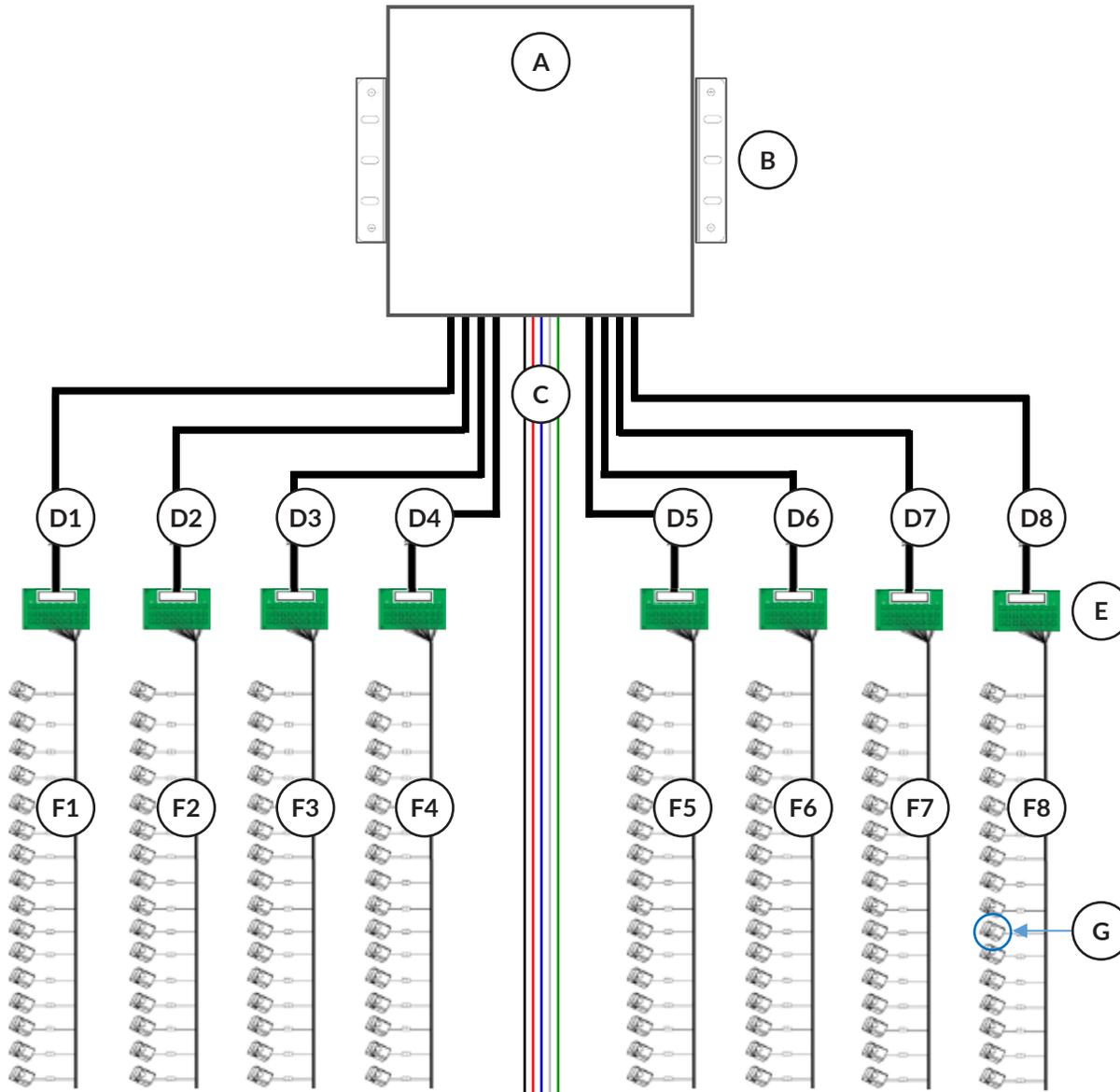


BGP128 Model Components and *Monitoring Made to Measure* Specifications



BRANCH CIRCUIT MONITOR COMPONENTS

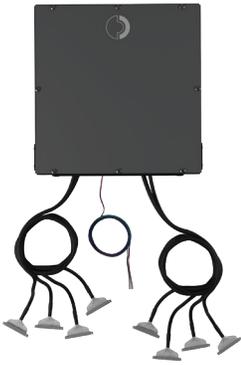
Packet Power's BGP128 wireless branch circuit monitor arrives fully configured to each customer's needs and includes the following components.



BGP128 COMPONENTS

- (A) Device: Up to 16 wireless monitors in an 18 GA steel enclosure with plastic front 310 x 302 x 115 mm (12.2 x 11.9 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 eight shielded 300V 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 eight 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 eight 16-CT harnesses; 24 AWG 300V twisted pair wire; length varies by harness configuration (see page 4 for options)
- (G) Branch Circuit CTs: Up to 128 split core CTs
Inside diameter: 10mm
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: (Not shown) Up to 6 split core CTs
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

|  <p>BGP128-128 pictured</p> | Model | Maximum Full Power CTs | CT Interconnect Boards & Cables | Voltage Options |
|--|------------|------------------------|---------------------------------|--|
| | BGP128-72 | 72 | 5 | |
| | BGP128-80 | 80 | 5 | 120-240V AC 1Φ (LN) 200-230V AC 1Φ (LL) |
| | BGP128-88 | 88 | 6 | 277V AC 1Φ (LN) |
| | BGP128-96 | 96 | 6-8 | 200-230V AC Delta (LLL) |
| | BGP128-104 | 104 | 7 | 208/120V AC Wye 240/120V AC Split (LLN) |
| | BGP128-112 | 112 | 7 | 415/240V AC Wye |
| | BGP128-120 | 120 | 8 | 480/277V AC Wye |
| | BGP128-128 | 128 | 8 | 50/60 Hz Frequency |

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 302 x 115 mm (12.2 x 11.9 x 4.5 in) |
| Monitor Weight | 7.3 kg (16 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; 1-5m length |
| CT Interconnect Board Cable (from BGP128 to CT lead) | Shielded 300V cord; 1m, 2m, 3m, 5m or 10m 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 | 10W |
| 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 6 BGP128-128 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 |

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)

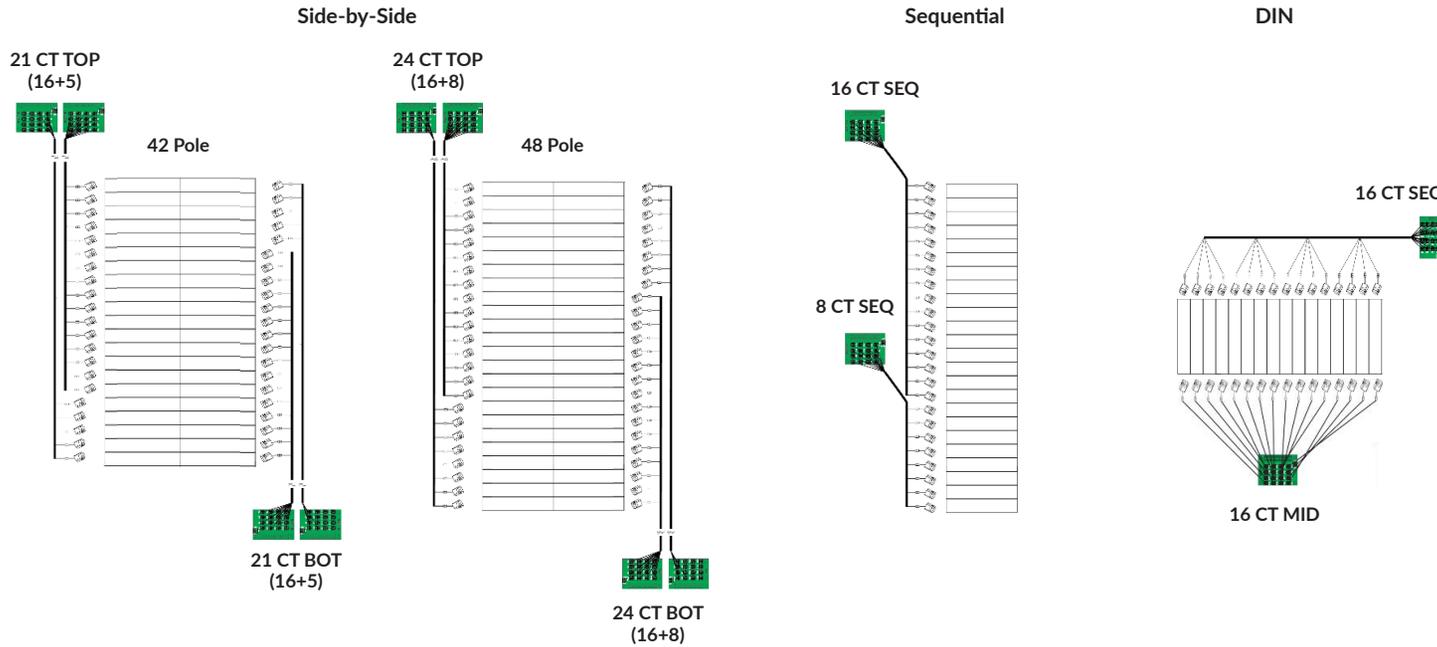
Use the Configuration worksheet on page 5 to capture your needs.

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

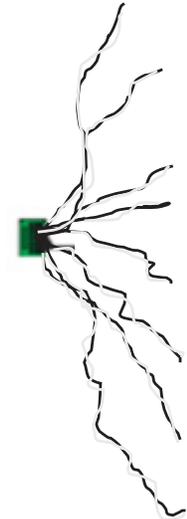
CT LEAD WIRE OPTIONS

The BGP128 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



Loose Leads



| Wire Harness Part Number | 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 | 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 | 1 | 1 | 1 | | | | |

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

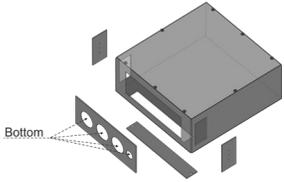
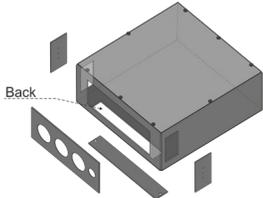
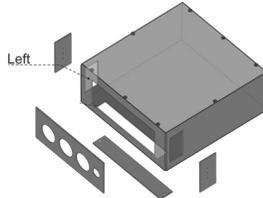
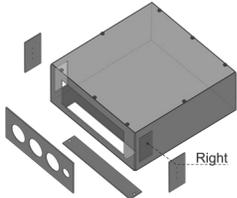
| Wire Harness Specifications |
|---|
| 24 AWG 300V twisted pair wire with quick disconnects |
| Wire lengths and lead labels vary by harness type |
| Accommodates side-by-side, inline or DIN mount panels with 25 mm (1") center-to-center breakers |

DESIGN YOUR BGP128 BRANCH CIRCUIT MONITOR

Customer _____

Panel _____

Qty _____

| Maximum Full Power CTs | Wire Exit | | | |
|--|--|--|--|---|
| <input type="checkbox"/> 72 <input type="checkbox"/> 104 <input type="checkbox"/> 80 <input type="checkbox"/> 112 <input type="checkbox"/> 88 <input type="checkbox"/> 120 <input type="checkbox"/> 96 <input type="checkbox"/> 128 |  <p><input type="checkbox"/> Bottom Conduit Plate 3 x 1.75" (44 mm) knockouts 1 x 0.875" (22 mm) knockout</p> |  <p><input type="checkbox"/> Back Opening 8.75 x 2.00" (222 x 51 mm) opening</p> |  <p><input type="checkbox"/> Left Side Opening 1.875 x 3.75" (48 x 95 mm) opening</p> |  <p><input type="checkbox"/> Right Side Opening 1.875 x 3.75" (48 x 95 mm) opening</p> |

| Voltage Source 1 | Voltage Source 2 | CT Interconnect Cable Length | CT Harness Type |
|---|---|--|--|
| <input type="checkbox"/> 100-220V AC 1 Phase (2-wire LN + E) <input type="checkbox"/> 230-240V AC 1 Phase (2-wire LL + E) <input type="checkbox"/> 277V AC 1 Phase (2-wire LN + E) <input type="checkbox"/> 200-240V AC Delta (3-wire LLL + E) <input type="checkbox"/> 240/120V AC Split (3-wire LLL + E) <input type="checkbox"/> 208/120V AC Wye (4-wire + E) <input type="checkbox"/> 415/240V AC Wye (4-wire + E) <input type="checkbox"/> 480/277V AC Wye (4-wire + E) V1 Lead Length: <input type="checkbox"/> 3m <input type="checkbox"/> 7m <input type="checkbox"/> _____m <input type="checkbox"/> None Fusing: <input type="checkbox"/> Fused <input type="checkbox"/> Not Fused Meters Powered <input type="checkbox"/> All Meters: _____ | <input type="checkbox"/> None <input type="checkbox"/> 100-220V AC 1 Phase (2-wire LN + E) <input type="checkbox"/> 230-240V AC 1 Phase (2-wire LL + E) <input type="checkbox"/> 277V AC 1 Phase (2-wire LN + E) <input type="checkbox"/> 200-240V AC Delta (3-wire LLN + E) <input type="checkbox"/> 240/120V AC Split (3-wire LLN + E) <input type="checkbox"/> 208/120V AC Wye (4-wire + E) <input type="checkbox"/> 415/240V AC Wye (4-wire + E) <input type="checkbox"/> 480/277V AC Wye (4-wire + E) V2 Lead Length: <input type="checkbox"/> 3m <input type="checkbox"/> 7m <input type="checkbox"/> _____m <input type="checkbox"/> None Fusing: <input type="checkbox"/> Fused <input type="checkbox"/> Not Fused Meters Powered Meters: _____ | <p>See page 3 for number of cables per BGP128 model</p> <p>1 (D1) <input type="checkbox"/> 1m <input type="checkbox"/> 1.5m <input type="checkbox"/> 2m <input type="checkbox"/> 3m <input type="checkbox"/> 5m <input type="checkbox"/> _____m 2 (D2) <input type="checkbox"/> 1m <input type="checkbox"/> 1.5m <input type="checkbox"/> 2m <input type="checkbox"/> 3m <input type="checkbox"/> 5m <input type="checkbox"/> _____m 3 (D3) <input type="checkbox"/> 1m <input type="checkbox"/> 1.5m <input type="checkbox"/> 2m <input type="checkbox"/> 3m <input type="checkbox"/> 5m <input type="checkbox"/> _____m 4 (D4) <input type="checkbox"/> 1m <input type="checkbox"/> 1.5m <input type="checkbox"/> 2m <input type="checkbox"/> 3m <input type="checkbox"/> 5m <input type="checkbox"/> _____m 5 (D5) <input type="checkbox"/> 1m <input type="checkbox"/> 1.5m <input type="checkbox"/> 2m <input type="checkbox"/> 3m <input type="checkbox"/> 5m <input type="checkbox"/> _____m 6 (D6) <input type="checkbox"/> 1m <input type="checkbox"/> 1.5m <input type="checkbox"/> 2m <input type="checkbox"/> 3m <input type="checkbox"/> 5m <input type="checkbox"/> _____m 7 (D7) <input type="checkbox"/> 1m <input type="checkbox"/> 1.5m <input type="checkbox"/> 2m <input type="checkbox"/> 3m <input type="checkbox"/> 5m <input type="checkbox"/> _____m 8 (D8) <input type="checkbox"/> 1m <input type="checkbox"/> 1.5m <input type="checkbox"/> 2m <input type="checkbox"/> 3m <input type="checkbox"/> 5m <input type="checkbox"/> _____m</p> <p>Reference D1 - D8 on page 2</p> | <p>See page 4 for Harness options</p> <p>1 (F1) _____ 2 (F2) _____ 3 (F3) _____ 4 (F4) _____ 5 (F5) _____ 6 (F6) _____ 7 (F7) _____ 8 (F8) _____</p> <p>Reference F1 - F8 on page 2</p> |

| Branch Circuit Split Core CTs | | | | |
|-------------------------------|------------------------------------|-----------------|---------------------------------|---------|
| Qty | Rated / Max Amperage | Inside Diameter | External Dimensions (H x W x D) | CT Tail |
| | <input type="checkbox"/> 15A / 18A | 10 mm | 39 x 23 x 26 mm | 100 mm |
| | <input type="checkbox"/> 30A / 36A | | | |
| | <input type="checkbox"/> 50A / 63A | | | |

| Infeed Circuit Split Core CTs <input type="checkbox"/> 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 | <input type="checkbox"/> 16 mm | 44 x 31 x 33 mm | 500 mm | <input type="checkbox"/> 0.5 meter <input type="checkbox"/> 1 meter <input type="checkbox"/> 1.5 meters <input type="checkbox"/> 2 meters <input type="checkbox"/> 3 meters <input type="checkbox"/> 5 meters <input type="checkbox"/> _____ meters |
| | | <input type="checkbox"/> 24 mm | 65 x 46 x 35 mm | | |
| | 200A / 240A | <input type="checkbox"/> 24 mm | 65 x 46 x 35 mm | | |
| | | <input type="checkbox"/> 36 mm | 85 x 37 x 42 mm | | |
| | 400A / 480A | <input type="checkbox"/> 36 mm | 85 x 37 x 42 mm | | |
| | | <input type="checkbox"/> 50 x 50 mm | 125 x 120 x 30 mm | | |
| | <input type="checkbox"/> _____A | _____ mm | | | |



BGP128 BRANCH CIRCUIT MONITOR MODEL CONFIGURATION INFORMATION

Packet Power's BGP128 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: 84-pole, 208/120V Wye power service with 1 voltage source, 3m fused lead, wires exiting from conduit plate, no infeed circuits, 84 50A CTs, 2 bottom up odd/even panels, and 3m Interconnect Cable leads
 Product Number: BGP12888-C-Y0-3F00-C84-00-A2A2A2A2-33333333

| Model | Wire Exit | Voltage Source 1 | V Lead 1 | Meters | Voltage Source 2 | V Lead 2 | Meters | Branch Circuit CTs | CT Qty | Infeed Circuit CTs | Infeed CT Lead | CT Qty | CT Harness 1 | CT Harness 2* |
|--|--|--|---|------------------------------|---|---|-------------------|--|--------|---|---|--------------------|--|---|
| BGP12872 BGP12880 BGP12888 BGP12896 BGP128104 BGP128112 BGP128120 BGP128128 | C = Conduit plate L = Left R = Right X = Back | S0 = 120-240V AC 1 Phase (2-wire LN + E) S1 = 200-230V AC 1 Phase (2-wire LL + E) S2 = 277V AC 1 Phase (2-wire LN + E) D0 = 200-230V AC Delta T0 = 240-120V AC Split (3-wire LLN + E) Y0 = 208-120V AC Wye (4-wire + E) Y1 = 415/240V AC Wye (4-wire + E) Y2 = 480/277V AC Wye (4-wire + E) | 00 = None 0F = None, Fused 30 = 3M, Not Fused 3F = 3M, Fused 70 = 7M, Not Fused 7F = 7M, Fused CO = Custom Not Fused CF = Custom Fused | A = All Indicate meter #s | Omit = None S0 = 120-240V AC 1 Phase (2-wire LN + E) S1 = 200-230V AC 1 Phase (2-wire LL + E) S2 = 277V AC 1 Phase (2-wire LN + E) D0 = 200-230V AC Delta T0 = 240-120V AC Split (3-wire LLN + E) Y0 = 208-120V AC Wye (4-wire + E) Y1 = 415/240V AC Wye (4-wire + E) Y2 = 480/277V AC Wye (4-wire + E) | 00 = None 0F = None, Fused 30 = 3M, Not Fused 3F = 3M, Fused 70 = 7M, Not Fused 7F = 7M, Fused CO = Custom Not Fused CF = Custom Fused | Indicate meter #s | A = 15A 10MM B = 30A 10MM C = 50A 10MM | 1-128 | 00 = None D1 = 100A 24MM D2 = 100A 24MM E1 = 200A 24MM E2 = 200A 36MM F1 = 400A 36MM F2 = 400A 50x50MM CX = Custom | Omit = None H = 0.5M 1 = 1M B = 1.5M 2 = 2M 3 = 3M 5 = 5M C = Custom | Omit = None 1-6 | A1 = 21 CT TOP A2 = 21 CT BOT A3 = 24 CT TOP A4 = 24 CT BOT A5 = 16 CT SEQ A6 = 8 CT SEQ A7 = 16 CT MID CX = Custom | 00 = None A1 = 21 CT TOP A2 = 21 CT BOT A3 = 24 CT TOP A4 = 24 CT BOT A5 = 16 CT SEQ A6 = 8 CT SEQ A7 = 16 CT MID CX = Custom |

| CT Interconnect Cable 1 | CT Interconnect Cable 2** |
|-------------------------|---------------------------|
| 1 = 1M | 00 = None |
| B = 1.5M | 1 = 1M |
| 2 = 2M | B = 1.5M |
| 3 = 3M | 2 = 2M |
| 5 = 5M | 3 = 3M |
| C = Custom | 5 = 5M |
| | C = Custom |

* se CT Harness 2 options for Harnesses 3 - 8

** Use CT Interconnect Cable 2 options for Cables 3 - 8