

nrg600BT10 :: nrg600BT20S

Power :: 600A Load Center with nrgSMART™ Remote Monitoring

Overview

The Telect nrg600BT10 600A dual-feed 10/10 circuit breaker Load Center features -48V operating voltage to fit in legacy and “next-gen” network applications, with advanced circuit level monitoring features engineered into a compact 2RU footprint. Each of the dual feeds contains ten positions for bullet-style breakers. The Telect nrg600BT20S is a single-feed version that supports 20 positions for bullet-style breakers.

The panel provides total front access to fuses and LED status. All terminals for inputs, outputs, ground and alarms are on the rear of the panel. The open frame design allows easy access while the clear cover provides added protection after installation is complete.

NOTE: Load straps are required for each position a breaker is installed. A fully loaded version is available, see the ordering information at the end of this document.

Primary Benefits

- Individual circuit level monitoring
- High accuracy, 100% passive monitoring, modular sensor modules
- Collect feed voltage, circuit current and temperature
- Network data collection:
 - ◇ Data is collected and sent to a customer's enterprise management system via SNMP

Applications

- Central office
- Co-location sites
- Head ends, hubs and huts
- Data centers



nrg600BT10

Specifications

| Inputs | |
|--|---|
| Voltage range, nominal voltage | -40V to -60V (Nominal -48 VDC) |
| Maximum input load rating | 600A per feed |
| Short circuit withstand rating | 5000A |
| Nominal power loss at full load | Less than 7W per side @ 28,000W full load (600A x 48V) |
| Percentage of full power dissipation at nominal voltage | Less than 1% |
| Max. input interrupt device | 750A |
| Input terminal studs (with nuts, flat washers and spring washers) for dual-hole compression lugs | <ul style="list-style-type: none">• Two pair of 3/8-16 studs on 1 in. centers per terminal [max. lug width of 1.94 in. (49.2 mm)] per pair• Torque nut (using 9/16 in. or 15 mm wrench) to 150 in.-lb. (~17 N•m), max. |
| Input wire size | #1 AWG to 750 MCM |
| Outputs | |
| Max. output circuit breaker | Single-pole: 100A Double-pole: 175A Triple-pole: 250A |
| Max. output load (ea.) - continuous | Single-pole: 80A Double-pole: 140A Triple-pole: 200A |
| Minimum short circuit interrupt rating | 5000A |
| Max. total output load | 550A per side |
| Output terminal studs (with KEPS, nuts, and washers) for dual-hole compression lugs | <ul style="list-style-type: none">• 1/4-20 studs on 5/8 in. centers [max. lug width of 0.625 in. (15.8 mm) for a BATT terminal and 0.70 in. (17.7 mm) for a RTN terminal]• Torque bolts (using 7/16 in. or 12 mm wrench) to 50 in.-lb. (5.5 N•m), max. |
| Output wire size | <ul style="list-style-type: none">• #10 AWG (min.) for a 25A single-pole interrupter to #2 AWG (min.) for a 100A single-pole interrupter• #2 AWG (min.) for double-pole interrupters from 100A to 175A• 2/0 AWG (min.) for triple-pole interrupters• 4/0 AWG (min.) for quad-pole interrupters |
| Circuit breakers* | AIRPAX®-style LEL or Carling-style CA1** |
| <p>*Telect suggests you avoid using different types of circuit breakers in the same load center. Alarm contacts may vary among interrupter manufacturers and may incapacitate the alarm system.</p> <p>** Circuit breakers for this load center are designed and manufactured by Airpax Corporation and Carling Industries to meet Telect's symmetrical pin specifications. Order circuit breakers only from Telect.</p> | |

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Specifications Cont.

| Grounding | |
|---|---|
| Earth GND terminal bolts (with washers) for dual-hole compression lug | <ul style="list-style-type: none">• Two pair of 1/4-20 threaded holes on 5/8 in. centers.• Torque bolts (using 7/16 in. or 12 mm wrench) to 50 in.-lb. (5.5 N•m), max. |
| Input wire size | #2 AWG (min.) for any input interrupt device 400A or more |
| Alarm | |
| Alarm wire size | #24 AWG, typical (#26 to #20 AWG) |
| Alarm terminals | Wire wrap |
| Relay contact ratings | Dry Form-C contacts (1A @ 30 VDC; 0.5A @ 60 VDC, 0.3A @ 125 VAC) |
| Max. alarm power rating | @24V: 72 mA (1.73W) @48V: 147 mA (7.06W) |
| Voltage Sensor | |
| Sensor accuracy | 0 to -19.99V: $\pm 0.3V$ -20V to -60V: $\pm 0.1V$ |
| Voltage measurement range | 0 to -60 VDC |
| Feed voltage detection | 0 to -19.99V: Alarm -20V to -60V: Normal |
| NOTE: <ul style="list-style-type: none">• Voltage measurement may be slightly different than at input terminal blocks due to the voltage drop within the panel.• Sensors are factory calibrated and do not require user adjustment. | |
| Communication | |
| nrgNET sensor and alarm card power | -48 VDC nominal |
| nrgNET data communication | RS-485 |
| nrgNET connector | Removable 5-pin connector with screw down terminals |
| nrgNET connector functions | nrgNET IN from the nrgCONTROL or nrgSMART panel, nrgNET OUT to next in-line nrgSMART panel |
| Supported protocols | Proprietary nrgNET used to communicate between panels and controller |

| Fit and Finish | |
|---|---|
| Material | Cold-rolled steel |
| Color | Pewter grey powder coat |
| Mechanical | |
| Dimensions (L x W x H) | 19" L x 12" W x 3.5" H (483 mm x 305 mm x 88 mm) |
| Rack space | 2RU |
| Weight, without packaging and accessories | 18 lbs. (8.2kg) |
| Weight, shipping | 25 lbs. (11kg) |
| Environmental | |
| Operating temperature | -10°C (14°F) to 44°C (127°F) |
| Humidity | 90% and non-condensing |
| Warranty | |
| <ul style="list-style-type: none">• Standard 1 year warranty on all parts | |

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Ordering Information

| Part Number | Description |
|---------------------------------|--|
| nrgCONTROL Parts | |
| nrgCONTROL-BT | nrgSMART: CONTROLLER |
| 143142 | TERM BLOCK: RCPT, 1x4, 300V, 15A, 5.08 mm, MTG SCRW, 30-12AWG, ROHS |
| nrg600BT10 | |
| nrg600BT10 | nrgSMART: 600A, BULLET TERMINAL, DUAL-FEED 10/10, -48V, UN-POPULATED, NO LOAD STRAPS |
| nrg600BT10-C | nrgSMART: 600A, BULLET TERMINAL, DUAL-FEED 10/10, -48V, WITH nrgBT/SINGLE POLE-LOAD STRAPS |
| nrg600BT20S | nrgSMART: 600A, BULLET TERMINAL, SINGLE-FEED 20, -48V, UN-POPULATED, NO LOAD STRAPS |
| nrg600BT20S-C | nrgSMART: 600A, BULLET TERMINAL, SINGLE-FEED 20, -48V, WITH nrgBT/SINGLE POLE LOAD STRAPS |
| nrg600BT1X-1PK | nrgSMART: LOAD STRAP KIT, 1 POLE, 1/4-20, 5/8 SPACING |
| nrg600BT1X-2PK | nrgSMART: LOAD STRAP KIT, 2 POLE, 1/4-20, 5/8 SPACING |
| nrg600BT1X-3PK | nrgSMART: LOAD STRAP KIT, 3 POLE, 1/4-20, 5/8 SPACING |
| 306308 | nrgSMART: AUX CARD, CIRCUIT BREAKER |
| nrgSMART Circuit Modules | |
| BT | nrgSMART: MOD, BT, PASS THROUGH, -48V |
| nrgBT | nrgSMART: MOD,BT,CURRENT SENSOR, -48V |
| System Level Components | |
| nrgNET-500 | nrgSMART: ACC, nrgNET CABLE, SPOOL, 500FT |
| nrgNET-10 | nrgSMART: ACC, nrgNET CABLE, UN-TERMINATED, 10FT |
| nrgBT-HEX | nrgSMART: ACC, BT, HEX WRENCH |
| nrgTEMP | nrgSMART: ACC, TEMP SENSOR, 6FT |
| 141431 | TERM BLOCK: RCPT, 1x5, 160V, 8A, 3.81 mm, 30-16AWG, ROHS |
| 02117-02+B7 | BRKT: UNIVERSAL, 23IN, 2RU, PWTR GRAY |