As a portable terminal, the Model BT200 BRAIN TERMINAL is used in combination with equipment using brain communication for setting, changing, displaying and printing out parameters such as tag number, output mode, and range, through simultaneous communication. It also monitors I/O values and self-check results, sets constant-current output, and allows zero adjustments. The Model BT200 BRAIN TERMINAL is used by connecting it between 4 to 20 mA DC signal transmission lines of the equipment or to a dedicated connector on the ESC (Signal Conditioner Communication Card) when the system is started up or maintained.

**FEATURES**

- **Online monitoring and communication**
  The modulated communication signal does not interrupt the 4 to 20 mA DC signals during communication.

- **Common to all Yokogawa’s equipment**
  The Model BT200 BRAIN TERMINAL works with all equipment that uses BRAIN communication.

- **Easy of use**
  A large display (21 characters by 8 lines) eases setup and alteration procedures in English prompting interactive sequences.

- **Diagnostics/security with error messages**
  - Self-check function
  - Security code protection of setpoints
  - Low battery voltage alarm
  - Automatic power-off

- **Printer (BT200-P00)**
  Printer prints out tag numbers and other parameters on the spot.

**STANDARD SPECIFICATIONS**

**Equipment Specifications**

**Applicable Equipment:**

- **[Field Instruments]**
  - DPharp
  - ADMAG
  - YEWFLO
  - YTA

- **[Signal Conditioner]**
  Signal Conditioner for CENTUM

**Communication Specification:** Yokogawa original protocol

- Modulation: Burst modulation
  - 0: 2400 Hz
  - 1: Signal without carrier
- Baud rate: 1200 bps
- Communication signal:
  - host to device: +/- 0.5 V (load resistance 250 Ω)
  - device to host: +/- 2 mA

**Communication Line:**

- **[Field Instruments]**
  - Load resistance: 250 to 600 Ω (including cable resistance)
  - Load capacitance: 0.22 μF or less
  - Load inductance: 3.3 mH or less
  - Power line spacing: 15 cm (6 inch) or more (Avoid parallel wiring.)

- **[Signal Conditioner]**
  Use dedicated cable

**Line Length:**

- **[Field Instruments]**
  - Up to 2 km (1.24 mile) (0.75 to 1.25 mm² instrumentation cable)

- **[Signal Conditioner]**
  - 1.1 m with dedicated cable

**Communication Signal Connection:**

- Dedicated cable, 1.1 m long (3.6 ft)
EMC Conformity Standards
EN61326-1 Class A, Table 2 (For use in industrial locations)

Display:
LCD dot matrix, 21 characters x 8 lines

Controls:
Membrane switches (four function keys, 20 general operation keys, and one power switch)

Printer (BT200-P00):
Thermal paper type

Power Supply:
Five AA 1.5 V dry alkali batteries (LR6/AM3 (N)), or Five AA 1.2 V Ni-MH batteries (HR6/AA)

Dimensions:
BT200-N00 . . . 228 x 110 x 51 mm (9.0 x 4.3 x 2.0 inch)
BT200-P00 . . . 321 x 110 x 61 mm (12.6 x 4.3 x 2.4 inch)

Approximate Weight:
BT200-N00 . . . 510 g (1.12 lb)
BT200-P00 . . . 700 g (1.54 lb)

FUNCTIONAL SPECIFICATIONS

Basic Functions:
• Setup, alteration, and display of parameters
  • BRAIN communication.
  • Constant current output
  • Zero point adjustment

Additional Functions:
• Batch upload/download of data
• Setpoint Protection:
  Security code entry is required to alter setpoints.
• Battery Alarm:
  An alarm message appearing on the LCD announces low battery voltages.
• Automatic Power-off:
  The terminal is switched off automatically if no key access is made for approximately 5 minutes.
• LCD contrast adjustment
• Printing (BT200-P00)

Printout Information:
• All parameter lists
• Parameter list within each menu item
• Setup change data list
• Uploaded data list
• Display images
• Self check list

NORMAL OPERATION CONDITIONS

BT200-N00
Ambient Temperature:
-15 to 55°C (5 to 131°F)
Ambient Humidity:
5 to 95% RH at 40°C (104°F)

BT200-P00
Ambient Temperature:
0 to 50°C (32 to 122°F)
Ambient Humidity:
30 to 80% RH at 40°C (104°F) (with printer)

STORAGE CONDITIONS

Ambient Temperature:
-15 to 60°C (5 to 140°F)
Ambient Humidity:
5 to 95% RH at 40°C (104°F)
30 to 80% RH at 40°C (104°F) (with printer)

ACCESSORIES

• Communication Cable:
  Two cables, one with alligator clips and one with IC clips (both snap-removable)
• Handy carry case

MODEL AND CODE

<table>
<thead>
<tr>
<th>Model</th>
<th>Suffix Codes</th>
<th>Description</th>
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<tr>
<td>BT200</td>
<td>. . . . . . . .</td>
<td>BRAIN Terminal</td>
</tr>
<tr>
<td>Printer</td>
<td>-N . . . . . .</td>
<td>With no printer</td>
</tr>
<tr>
<td></td>
<td>-P . . . . . .</td>
<td>With printer</td>
</tr>
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Options /[ ]

PART NUMBERS

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CONNECTION METHOD
■ DIMENSIONS

Model BT200-N00

Ordering Information
1. Model and suffix codes

Model BT200-P00