General Specifications

BT200
BRAIN TERMINAL

BRAIN TERMINAL

GS 01C00A11-00EN

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.
- **Intrinsic safety (Only for a without printer type)**
  CSA intrinsically safe approval.

■ 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:1200bps
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 mm^2 instrumentation cable)

[Signal Conditioner]
1.1 m with dedicated cable

Communication Signal Connection:
Dedicated cable, 1.1 m long (3.6 ft)

YOKOGAWA

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EMC Conformity Standards CE , N200
EN61326-1 Class A, Table2 (For use in industrial locations), EN61326-2-3

Display:
LCD dot matrix, 21 characters×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))
For Intrinsic safety type; Five designated batteries (see OPTIONS)

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

■ 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)
- **Five AA 1.5 V dry alkali batteries**
- **Handy carry case**

■ MODEL AND CODE

Model	Suffix Codes	Description
BT200	. . . . .	BRAIN Terminal
Printer	**-N**	With no printer
	-P	With printer
—	**00**	Always 00
Options		/□□

■ PART NUMBERS

Item		Parts No.
Communication Cable	With IC clips	F9182EA
	With alligator clips	F9182EB
	with 5-pin connector	F9182EE
Roll paper		F9182DS
Handy carry case		F9182BP

■ OPTIONS

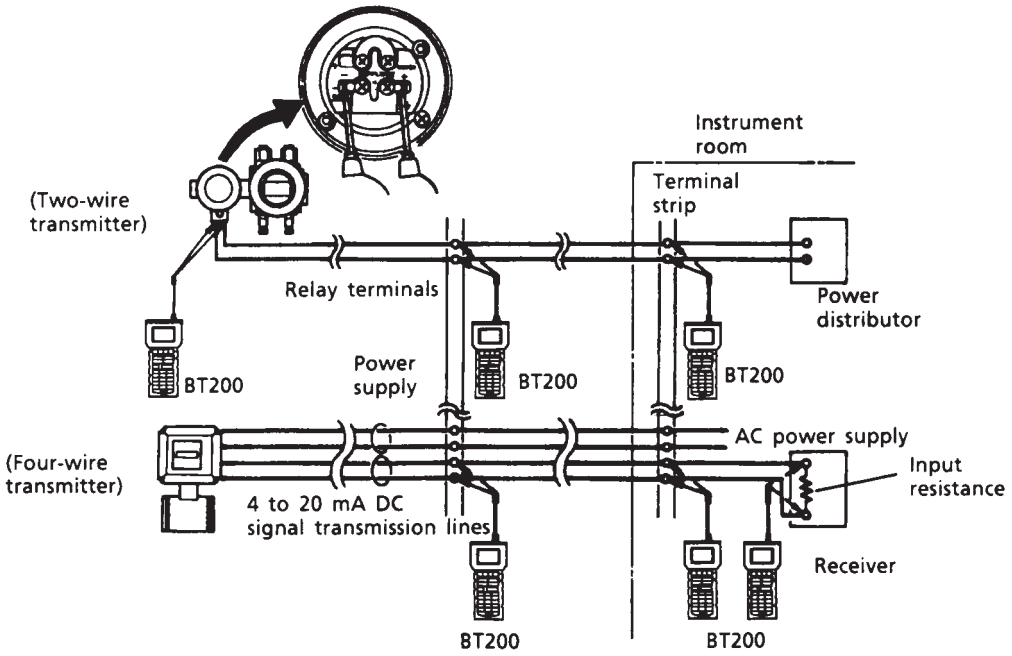
Item	Description	Code
Communication Cable with 5-pin connector (*1)	for SC (Signal conditioner)	/C1
Intrinsic Safety type (*1) (*2) (*3)	CSA Intrinsically safe approval Class I, Groups A,B,C and D Temp. code T4 Vmax (in)=30 V, Imax (in)=165 mA, Pmax (in)=0.9 W, Ci=0, Li=730μF Vmax (out)=2 V, Imax (out)=22 mA, Pmax (out)=11 mW, Ca=3000μF, La=30 mH	/CS1

*1: Optional code /C1 cannot be combined with /CS1
*2: Applicable only for Model BT200-N00.
The battery used in BT200 must be as follows.

Manufacture	Model	Type	Voltage
DURACELL	MN1500 (PC1500)	Alkaline-maganese	1.5 V

*3: Safety Barriers Parameters
Ioc≤28 V, Isc≤143 mA, Pmax≤889 mW
Intrinsically Safe Apparatus Connected with BT200
Vmax≥(Voc of Safety Barrier)+2 V
Imax≥(Isc of Safety Barrier)+22 mA
Pmax≥(Pmax of Safety Barrier)+11 mW

■ CONNECTION METHOD



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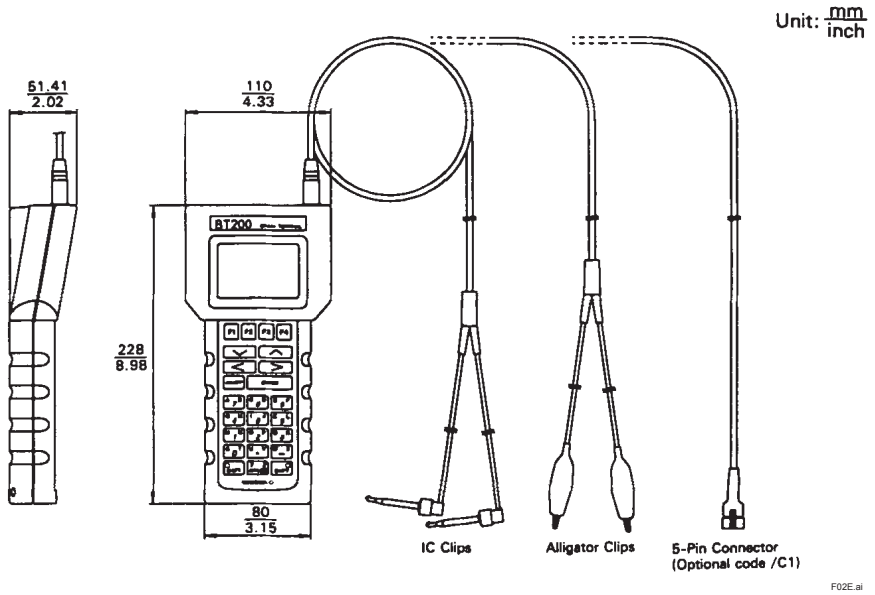
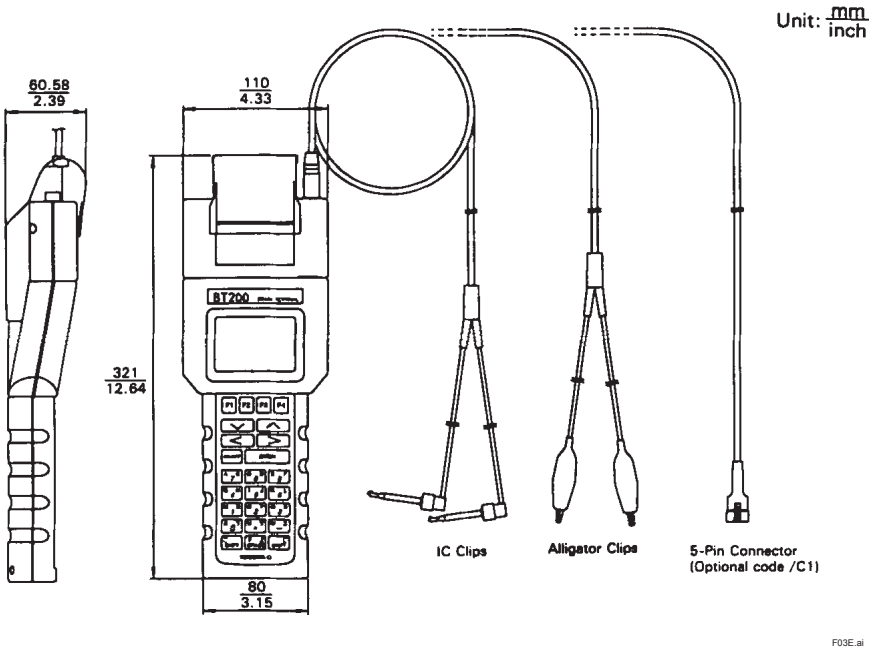
■ DIMENSIONS

Model BT200-N00



Model BT200-P00



Ordering Information

1. Model and suffix codes