

GS 1C0A11-E

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 Remove:

DPharp, UNIΔMARKII/COM, YA63
ADMAG, ADMAG AE
YEFWLO Style E
YT200
JUXTA, Signal Conditioner

Communication Signal Connection:

Dedicated cable, 1.1 m long (3.6 ft)

Communication Line:

Line length: Up to 2 km (1.24 mile) (0.75 to 1.25 mm² instrumentation cable)
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.)

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

EMC Conformity Standards:**For EMI (Emission)-EN55011: 1991**

Test Item	Frequency Range	Basic Standard
Applicable Electromagnetic Radiation Disturbance	30 – 1000 MHz	EN55011 Class A Group 1

T01E.EPS

For EMS (Immunity)-EN50082-2: 1995

No.	Test item	Test specification	Basic standard	Performance criteria
1	Electrostatic discharge	4 kV (contact) 8 kV (air)	IEC 1000-4-2: 1995 Level 3	B
2	Radio - frequency electromagnetic field Amplitude modulated	80 MHz - 1 GHz 10 V/m (unmodulated) 80 % AM	IEC 1000-4-3: 1995 Level 3	A
3	Radio - frequency electromagnetic field Pulse modulated	900 MHz 10 V/m (unmodulated) Duty 50 %, 200 Hz REP.		A
4	Fast transients common mode	2 kV, 5/50 (Tr/Th) ns 5 kHz REP.	IEC 1000-4-4: 1995 Level 3	B
5	Radio-frequency common mode Amplitude modulated	150 kHz - 80 MHz 10 V (unmodulated) 80 % AM (1 kHz) Source Impedance 150 Ω	Draft IEC 1000-4-6: 1995 Level 3	A

T02E.EPS

Note: Definition of performance criterion A

This apparatus continues to communicate with the transmitter and to display or print out parameters during the test.

Note: Definition of performance criterion B

This apparatus continues to operate without falling in uncontrollable condition during the test.

No change of actual operating state or stored data is allowed.

NORMAL OPERATION CONDITIONS**Ambient Temperature:**

-15 to 55 °C (with a printer: 0 to 50 °C)

STORAGE CONDITIONS**Ambient Temperature:**

0 to 50 °C

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		/ <input type="checkbox"/> <input type="checkbox"/>

T03E.EPS

PART NUMBERS

Item		Parts No.
Communication Cable	With IC clips	F9182EA
	With alligator clips	F9182EB
	with 3-pin connector	F9182ED
	with 5-pin connector	F9182EE
Roll paper		F9182DS
Handy carry case		F9182BP
Printer Assembly		F9182AS

T04E.EPS

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 V _{max} (in)=30 V, I _{max} (in)=165 mA, P _{max} (in)=0.9 W, C _i =0, L _i =730 μF V _{max} (out)=2 V, I _{max} (out)=22 mA, P _{max} (out)=11 mW, C _a =3000 μF, L _a =30 mH	/CS1

T05E.EPS

*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

F01E.EPS

*3: Safety Barriers Parameters

I_{oc} ≤ 28 V, I_{sc} ≤ 143 mA, P_{max} ≤ 889 mW

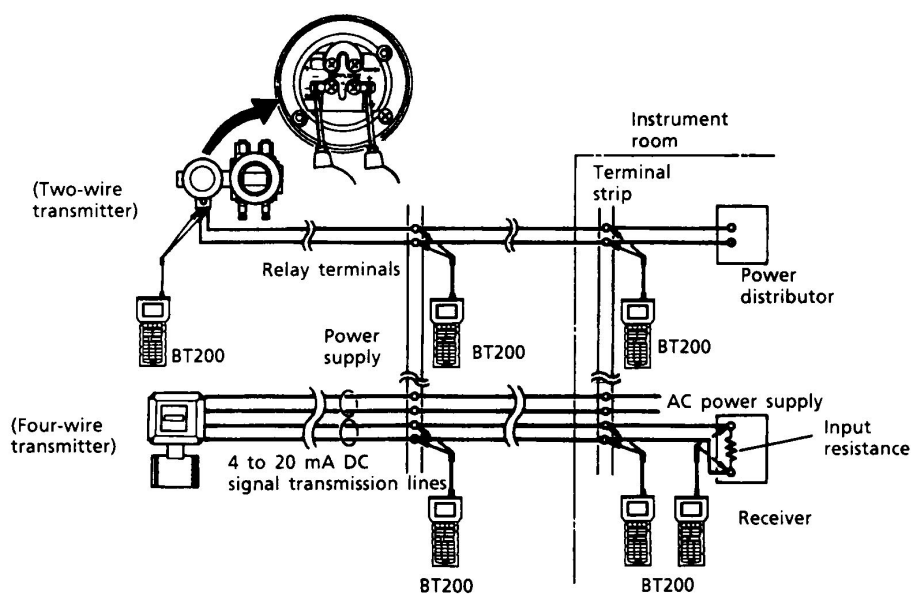
Intrinsically Safe Apparatus Connected with BT200

V_{max} ≥ (V_{oc} of Safety Barrier) + 2 VI_{max} ≥ (I_{sc} of Safety Barrier) + 22 mAP_{max} ≥ (P_{max} of Safety Barrier) + 11 mW

Current CSA Intrinsically safe type instruments which can combine with BT200-N00/CS1.

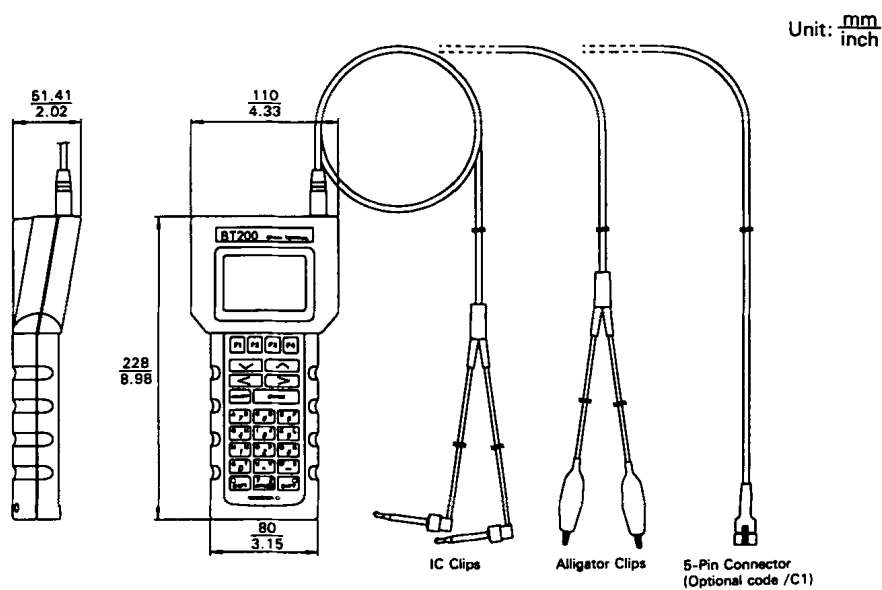
- DPharp EJA series ex) Model EJA110-DM . . . /CS1
- YT200 ex) Model YT200 . . . /CS1

CONNECTION METHOD

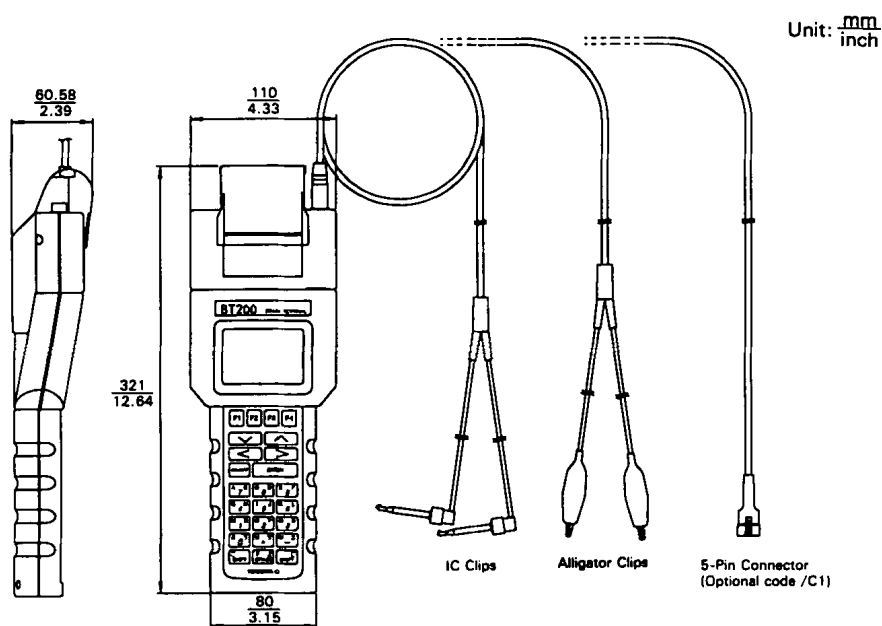


DIMENSIONS

Model BT200-N00



Model BT200-P00



Ordering Information

1. Model and suffix codes

<Associated Equipment>

DPharp	GS 1C20B1-E
DPharp EJA	GS 1C22B1-E
UNIA MARKII /COM	GS 1C5N0-E
YA63	GS 1C5B6-E
ADMAG	GS 1E6A0-E
ADMAG AE	GS 1E7B0-E
YEFLO Style E	GS 1F2B4-E
YT200	GS 6B8B2-E
Signal conditioner	GS 34A9N11-01E