Instruction Manual

Model MN1
DA Converter

JUXTA

1. PRECAUTION

Please read thorough this Manual before use the instrument for correct handling. Please keep this Manual carefully after use.
This instrument has been thoroughly tested at the factory before shipment. When you receive it, visually inspect it for damage and check the accessories.

① Model number and specification check
Check to see the model number and specifications on the nameplate attached to the front face of the instrument are as ordered.

② Contents of Instruction Manual
This instruction manual provides instructions on handling, external wiring and safety use of the instrument.

2. GENERAL

This plug-in type DA Converter converts 0~7999 binary coded decimal (BCD code) or 0~8191 binary code (BINARY code) into isolated current or voltage analog signal.
As input range is programmable, change can be done as per actual field situation. (See 10.1)
Accessories:
Spacer (use for DIN rail mounting) 1

3. MOUNTING METHOD

JUXTA M-series signal conditioners can be mounted on wall or DIN rail.

3.1 Wall mounting

Unlock stopper and remove main body from socket (See Fig.1). Then fix the socket on the wall with screws. Take installation intervals as shown in Fig.2. (See Fig. 2 for mounting dimension)

3.2 DIN rail mounting

Insert DIN rail into the upper section of the DIN rail groove on rear of socket of the instrument and fix the rail with slidelock at the base of instrument as shown in Fig. 3. Use furnished spacer so as to install the instruments with 5mm intervals.

3.3

When use of wiring duct, install the duct apart more than 20mm from top of the main body.

4. EXTERNAL WIRING

CAUTION Wiring should be done after ensuring power break of each cable.
See Fig.4 for terminal arrangement.
Wires should be connected to M3.5 screw terminals on socket of transmitter. Use crimp-on terminals for connection to terminals.
Set outer the furnished resistor module when current input.

- Signal cable having more than 0.5mm² and power cable having more than 1.25mm² of nominal cross-sectional area of conductor are recommended to be used.

4.1 Wiring

① Connect output signal cable to 1(+), 2(-).
② Connect power cable to 7(L+), 8(N-) and ground to 6(GND).

NOTE: Apart wiring of power and input/output cables from noise source. Otherwise, accuracy may not be warranted.

FIG.1 WALL MOUNTING

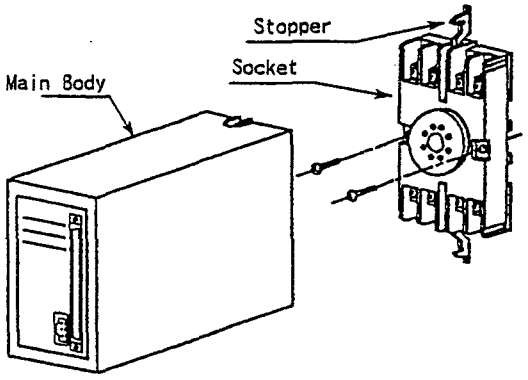


FIG.2 MOUNTING DIMENSION

Unit : mm

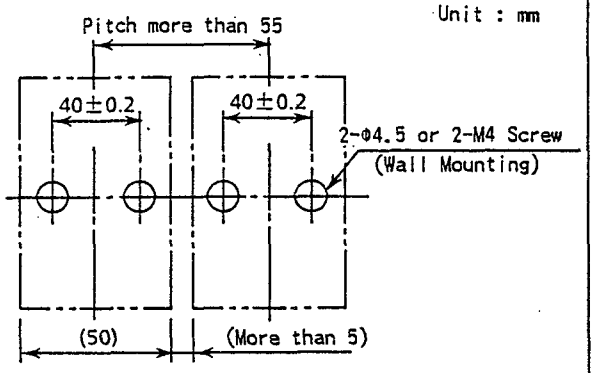
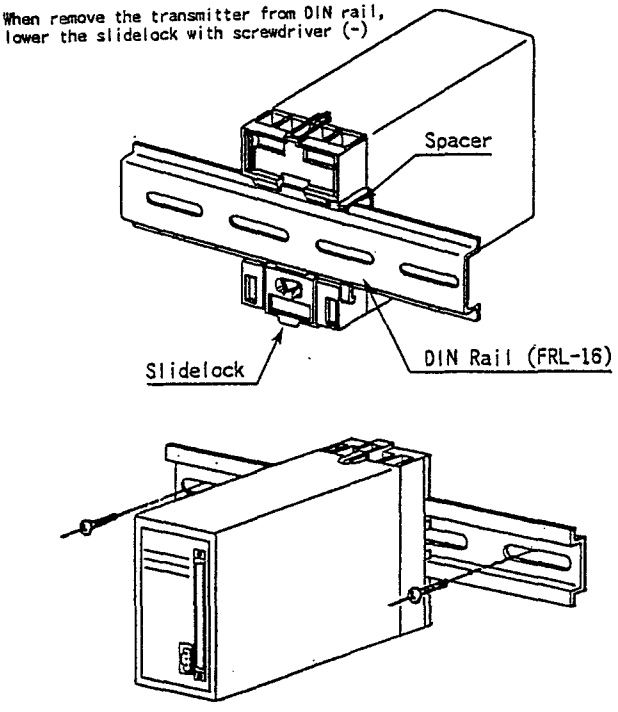


FIG.3 DIN RAIL MOUNTING



5. CONNECTOR CONNECTION

Connect connector to DA Converter as shown in Fig. 6. Fasten upper and lower screws after connection is done. Fig. 7 shows connector pin numbers.

6. INSTALLATION AND HANDLING

① Avoid installation in such environments as shock, vibration, corrosive gas, dust, water, oil, solvent, direct sunlight, radiation, powerful electric and magnetic fields.

② To protect insrtrument from inducement of thunder surges in power and signal cables, use arrester between transmitter and equipment installed in the field.

7. SAFETY USE

Following caution for safety should be taken for handling of instrument. We are not responsible for damage incurred by use contrary to caution.

CAUTION

- Be sure to lock the stopper (top and bottom) after inserting main body into socket.
- Following items should be checked when turning power on. Use of instrument ignoring specifications may cause overheat or burning.
  (a) Voltage of power supply and input value be applied to the instrument should meet with required specifications.
  (b) External wiring to terminals should be connected correctly. (See preceding Article 4)
- Do not use the instrument in such dangerous places where exist inflammable and explosive gas or steam.

8. MAINTENANCE

10~15 minutes warm-up is required to satisfy the specifications of the instruments.

8.1 Calibration equipment

- Voltmeter : 1
  (Yokogawa Model 7551 or equivalent)
- Precision Resistor 250Ω ±0.01% 1W : 1

8.2 Calibration

① Connect equipment as shown in Fig. 8.
(Use R for current output only)

② Input/output characteristic check
Apply input signal equivalent 0% and 100% of BCD code or BINRY code to converter on trial. Check that the corresponding outputs are 0% and 100% respectively.
If output signal is out of specified tolerance, adjust it with Handy Terminal (JHT-100 or JHT200).
As for adjustment method, refer Article 8.8 of Instruction Manual (IM JF81-01E) for JHT-100 and Article 4.5 (2) of Instruction Manual (IM JF81-02E) for JHT200.

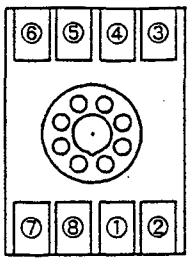
9. CONNECTION TO HANDY TERMINAL

Use Handy Terminal (JHT-100 or JHT200) for input range setting, zero·span adjustment, etc.
Connect Handy Terminal to communication connector access to BCD input connector (See Fig. 9).

TO CUSTOMER

If customer sets input range other than the one specified in Order Sheet, mark input range on the furnished label and stick it on the existing label.

FIG. 4 TERMINAL ARRANGEMENT



TML		
1	OUTPUT	+
2	OUTPUT	−
3		
4		
5		
6	GND	
7	SUPPLY	L+
8	SUPPLY	N−

FIG. 5 WIRING DIAGRAM

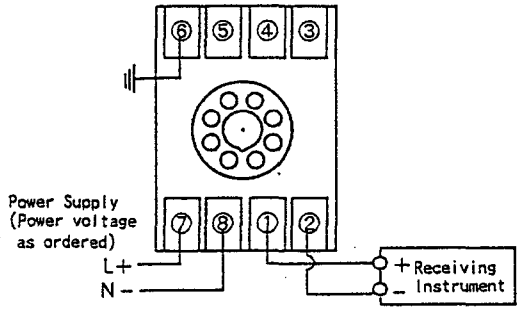


FIG. 6 CONNECTOR CONNECTION

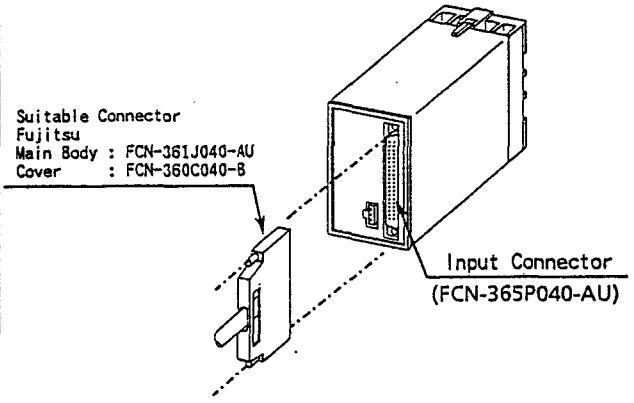


FIG. 7 CONNECTOR PIN NUMBER

Pin No.	Content (Weight of Bit) BCD	Content (Weight of Bit) BINARY	Pin No.	Content
A1	1×10^0	2^0 (LSB)	B1	
A2	2×10^0	2^1	B2	
A3	4×10^0	2^2	B3	
A4	8×10^0	2^3	B4	
A5	1×10^1	2^4	B5	
A6	2×10^1	2^5	B6	
A7	4×10^1	2^6	B7	
A8	8×10^1	2^7	B8	
A9	1×10^2	2^8	B9	N. C
A10	2×10^2	2^9	B10	
A11	4×10^2	2^{10}	B11	
A12	8×10^2	2^{11}	B12	
A13	1×10^3	2^{12} (MSB)	B13	
A14	2×10^3	DON'T CARE	B14	
A15	4×10^3	DON'T CARE	B15	
A16	LOAD		B16	
A17	COM		B17	
A18			B18	COM
A19			B19	
A20	N. C.		B20	N. C.

N.C. : Unused terminal
LOAD : Load signal

10. FUNCTIONS

10.1 Input Range Setting

Input range can be set by Items B05, B06 through Handy Terminal.

Setting Range 0~7999 (BCD) 0~8191 (BINARY)

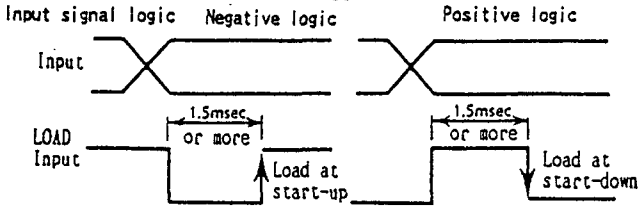
10.2 Data Take-in Trigger Setting

Data Take-in Trigger can be set either at EXT/AUTO by Item B09 through Handy Terminal.

Conversion timing in each case is as shown below :

● DA Conversion Timing Chart

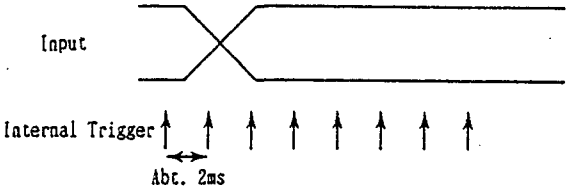
a. When Data Take-in Trigger is EXTERNAL



Take-in input at LOAD input start-up and refect it to output

Take-in input at LOAD input start-down and refect it to output

b. When Data Take-in Trigger is AUTO



LOAD input is ignored when trigger is set at AUTO. Instead, sampling of input is made every 2ms and reflect it to output. To aviod errorneous value take-in at the moment when input shifting, same value resulting from twice continous samplings is regarded as effective input and reflect it to output.

10.3 Input Signal Code Setting

Input signal code can be set either at BCD/BINARY by Item 12 through Handy Terminal.

10.4 Input Signal Logic Setting

Input signal logic can be set either at NEGATIVE (logic)/POSITIVE (logic) by Item B14 through Handy Terminal. List below shows relation between input feature and recognition of 「0」, 「1」.

Input Signal	Input feature		
	Below 1.5V or contact ON	Over 3.5V or contact OFF	Input Open
Negative logic	1	0	0
Positive logic	0	1	1 (Note)

Note) When positive logic, input open is recognized at 「1」. Therefore, drop to COM for input terminal unconnecting to signal.

As for setting method, refer Article 8 of Instruction Manual (IM JF81-01E) for JHT-100 and Article 4 of Instruction Manual (IM JF81-02E) for JHT200.

FIG. 8 CALIBRATION EQUIPMENT WIRING

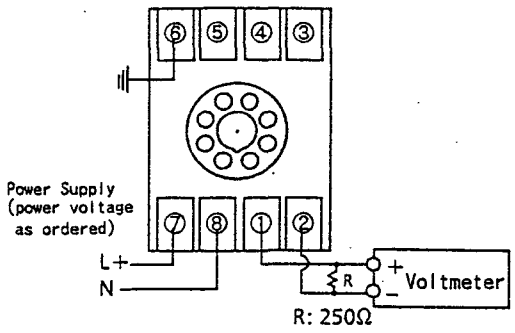
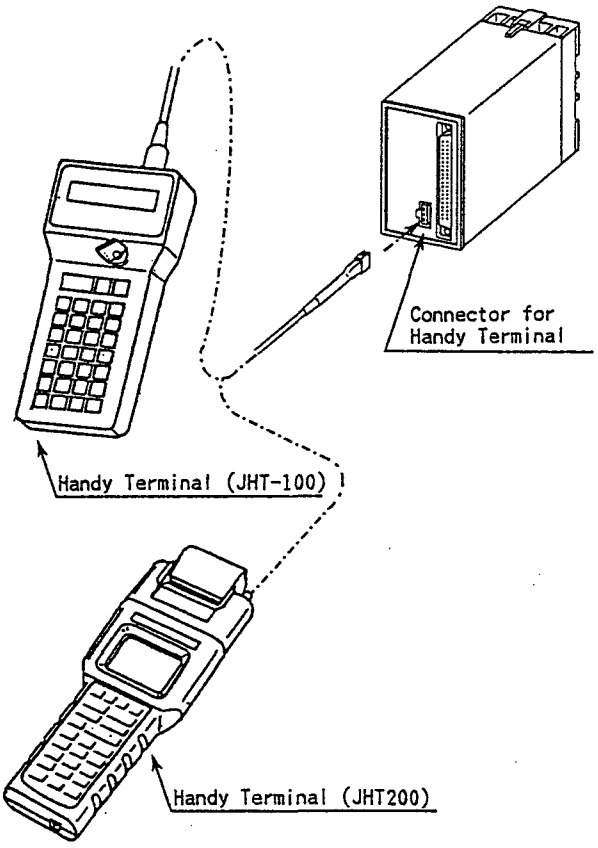


FIG. 9 CONNECTION TO HANDY TERMINAL



PARAMETER LIST

No.	Items	Title Display	Data Dispaly
01	Model	MODEL	MNI
02	Tag No.	TAG NO	16 Alphanumerics
03	Self Check	SELF CHK	Good or Error
A00	Display Item	DISPLAY	
A01	Input	INPUT	Numeric data (decimal 4 digits) *1
A04	Output	OUTPUT	□□□. □%
A13	Status	STATUS	FF (Hexadecimal 2 characters)
A14	Rev. No.	REV NO	n.nnn (n : Rev No.)
A20	Menu Rev No.	MENU REV	n.n (n : Rev No.)
A60	Self Check	SELF CHK	Good or Error
B00	Setup item	SET	
B01	Tag No.1	TAG NO.1	8 Alphanumerics (1st half 8 characters of Tag No.)
B02	Tag No.2	TAG NO.2	8 Alphanumerics (2nd half 8 characters of Tag No.)
B03	Comment 1	COMMENT 1	8 Alphanumerics
B04	Comment 2	COMMENT 2	8 Alphanumerics
B05	Input Zero	INP ZERO	Numeric Data (decimal numeral) *2
B06	Input Span	INP SPAN	Numeric Data (decimal numeral) *2
B07	Output Zero	OUT ZERO	Numeric Data *3
B08	Output Span	OUT SPAN	Numeric Data *3
B09	Data Take-in Trigger	CONV TRG	EXT/AUTO
B12	Input Signal Code	INP CODE	BCD/BINARY
B14	Input Signal Logic	INP POLARITY	NEGATIVE/POSITIVE
B60	Self Check	SELF CHK	Good or Error
C00	Adjust Item	ADJUST	
C07	0% Output Adjust	OUT 0%	Numeric Data (±10.00)
C08	100% Output Adjust	OUT 100%	Numeric Data (±10.00)
C60	Self Check	SELF CHECK	Good or Error

*1 Always indicate by decimal numeral, not by BCD/BINARY of INP CODE.
*2 Available setup range 0～9999. Effective range is upto 7999 for BCD and 8191 for BINARY.
*3 Do not make this Item change since output specifications are written in advance.

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