YJ-380T PRINTER

INSTRUCTIONS MANUAL

Content

1. Introduction

The YJ-380T Multi-Function Printer is use with A&D or various electronic balance, indicators.

A highly reliable printer mechanism is perfect for industrial use. You can record and statistics arithmetic the measuring data obtained from the indicators.

1-1. Features

- Small size, light weight.
- Highly reliable, and life-time of product is long.
- Various electronic balance and indicator printing are possible.
- Statistics arithmetic function, watch function offer.
- Printing by Election balance and indicator Key function, printing by printer key function, automatic printing function, interval printing function (in given time to interval 5 seconds ~ 60 minute printing).
- Simple printer environment establishment.
- Outside INPUT that signal, can print by outside switching to provide.
- Self diagnostic function offer. (SELF TEST)
- Possibility when request communication format that is particular in the advance.

1-2. Possible product

Company	Model
AND	Balance, Scale
ACOM	PC-100
CAS	AD Series, BW Series, CUW/CUX Series, MW Series
OHAUS	Adventurer Series, Explorer Series
PRECISA	480S,/480SCS Series, 24D Series, XB-4200C
SARTORIUS	CP4201, BP410
SHIMADZU	EL Series, BX-K Series, UW, UX Series, BL Series
METTER	AB204, PG5002
DESCOM	GT-150,PC-100W
SHINKO	AJ-D/AJH-D
SETRA	EL Series

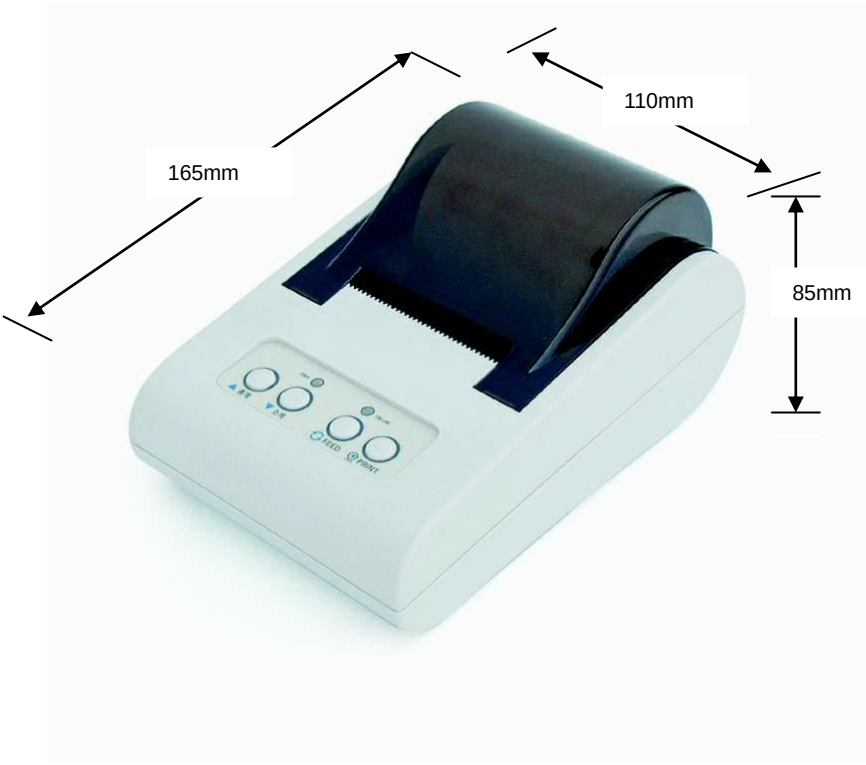
* Optional feature by print mode

1-3. Specification

Item	Specification
External appearance	DESK TYPE
Printing method	Thermal Mechanism
Number of dot per line	384DOT(200 DPI)
Printing speed	70mm/sec
COLUMNS number	English standard 33 characters/line
Character size	English :12x24, Korean : 24x24dot
Support language	English, Hangul support (optional feature by inside mode establishment)
Printing function	Statistics arithmetic function, watch function
Printing paper	57mmx60mm Thermal ROLL PAPER
Printing width	48.0mm
Interface	SERIAL RS-232C/Current Loop/RS-485(OPTION) - PROTOCOL DIP S/W Selection is available. BAUDRATE = 1200/2400/4800/9600bps PARITY = None / Even / Odd DATA BIT = 8 / 7 bit
	Printing by 1 External Input Port.
Electric power unit	DC+ 12V 2.0A 50Hz/60Hz AC Free Voltage outside AC Adapter
Working Temperature conditions	0℃ ~ 70℃
Storage Temperature conditions	-20℃ ~ 70℃
Dimensions(mm)	110(W)x165(D)x85(H)

1-4. External form

YJ-380T



2. Function

2-1. General function key explanation

This function is key function that discharge when printer is acted normally.

Key	Function
PRINT	● Printing Key (use in MANUAL MODE)
FEED	● Paper Feeding.
▼ Sub Total	● When print Sub Total use(date/time, measuring number and total measuring weight)
▲ Grand Total	● When print Grand Total use (date/time, measuring number, measuring weight , maximum, minimum, average, standard deviation, difference between maximum and minimum data)

- Can print though have been pressing about 3 seconds Sub Total/Grand Total key if want to print Sub Total/Grand Total.
- When being pushed “Sub total/Grand total” Key, when there is not a measurement content, “Total Data Not” message printing
- Measurement number possibility with 999 after automatic move movement it is set with 000.

[PRINT KEY measuring print]

```
ID CODE   :   000001

2007-08-24        09:40:32
   NO.  001         1.300 kg
2007-08-24        09:41:20
   NO.  002        12.450 kg
```

[Sub Total KEY print]

```
==========================
*****<  SUB TOTAL  >*****
2007-08-24        09:45:50
ID CODE             000001
    NO.                002
  TOTAL           13.750 kg
==========================
```

[Grand Total KEY print]

```
==========================
*****<  GRAND TOTAL  >*****
2007-08-24        09:47:50
ID CODE             000001
    NO.                002
  TOTAL           13.750 kg
 AVERAG            6.875 kg
    MAX           12.450 kg
    MIN            1.300 kg
  RANGE           11.150 kg
   DEV.            7.884 kg
   C.V.          114.680  %
==========================
```

2-2. Special key explanation

The special key is the function which is provided from the condition which presses a printer power ON corresponding key.

This function provides a printer establishment state, Internal Mode change and Hex Dump mode.

Finish a function set and printer power OFF.

Key	Function
PRINT (SELF TEST)	● DIP switch state, internal mode state printing that is established to printer.
FEED (MODE SELECTOR)	● Internal mode establishment of printer.
▲ Total (HEX DUMP)	● This mode is mode that prints data that is inputted by printer by ASCII code and confirms state of data. Also, I can use at data stream problem time. ● Cereal communication data value that receive in electronic balance since this mode selection is displayed by HEX to printer.

[SELF TEST PRINTING]

```
*[SELF TEST]*
VERSION    : V2.10(2007/05/15)
USER MODE     : AND
PRINT MODE    : MANUAL MODE
PRINT FORMAT : TIME/WEIGHT
PRINT FORMAT2: + PRINT
SUB FORMAT    : DEL
LINE FEED     : 1 LINE
LANGUATE      : KOREA
USER CODE     : 000001
TOTAL MODE    : TIME PRINT
INTERFACE     : RS-232C Serial
                Current Loop
PROTOCOL      : 2400bps,E,7,1

CURRENT TIME/DATE :
```

[MODE SELECTOR PRINTING]

```
**< MODE SELECTOR >**
```

[HEX DUMP PRINTING]

```
**< HEX DUMP PRINT START >**

53 54 2C 2B 30 30 30 36 30 2E
32 34 20 20 67 0D 0A 55 53 2C
2B 30 30 30 36 30 2E 32 34 20
```

2-3. Internal Mode set key explanation

This function should establishes power after do ON when press  key explaining in 2-2 by function that use when change inside mode establishment connected with printing method.

Key	Function
	● Currently mode item printing which it sets.
	● Internal mode change ● When pressing a Key, the internal mode Item is changed.
▼	● Value of selection mode item downward change
▲	● Value of selection mode item recognition change

2-4. LED explanation

ITEM	Function
RED LED	Power indication LED. ● Become ON state if power is supplied to printer.
GREEN LED	ON LINE state indication LED. ● LED becomes ON at normal communication state with electronic balance. ● If LED becomes ON/OFF in 1 second cycle, electronic balance and connection state are error. ** error state ** ① In case of did not receive stability data within 5 seconds in electronic balance (EXT. KEY MODE, NORMAL MODE is exception) ② In case of cereal interface and protocol do not coincide with electronic balance. ③ In case of interface cable was disconnected.

3. Printer setting method

3-1. DIP switch function explanation

DIP switch can specify protocol of communication interface.

Switch NO.			Define
1	2	3	Baud Rate
OFF	OFF	OFF	2400bps *
ON	OFF	OFF	9600bps
OFF	ON	OFF	4800bps
ON	ON	OFF	2400bps
OFF	OFF	ON	1200bps
ON	OFF	ON	9600bps
OFF	ON	ON	9600bps
ON	ON	ON	9600bps

4	5	Parity
OFF	-	None Parity
ON	OFF	Odd Parity
ON	ON	Even Parity *

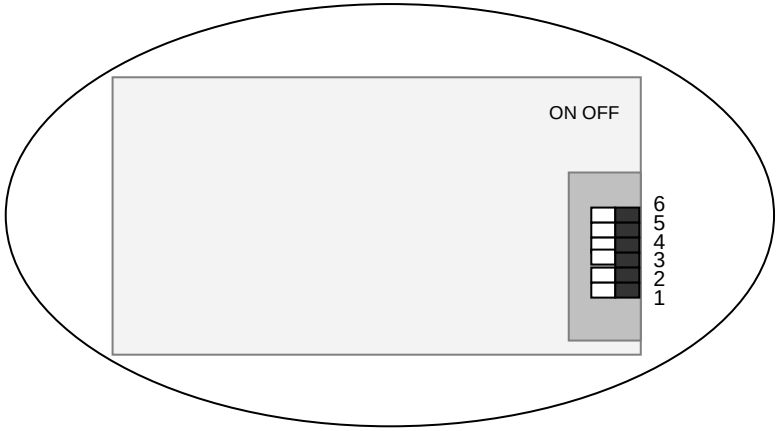
6	Data Bit
OFF	8bit
ON	7bit *

* Factory set

- Attention : when use DIP switch, please use printer power after OFF.
- DIP switch position and pin numbering

If opens printer upside cover and places before site, there is DIP switch on printer right side lower column.

.



3-3. Internal mode setting method

When this mode presses key printer power after do ON establishment possibility do.

Key	Function
	● Currently mode item printing which it sets.
	● Internal mode change ● When pressing a Key, the internal mode Item is changed.
▼	● Value of selection mode item downward change
▲	● Value of selection mode item recognition change

Item	Value	Define
PRINT MODE	KEY MODE *	☐ When press printing key in electronic balance printings.
	MANUAL MODE_1	☐ When press printer "PRINT" Key, measuring weight of electronic balance. ☐ When weight value is stability printing possibility
	MANUAL MODE_2	☐ When press printer "Printing" Key, measuring weight of electronic balance. ☐ When weight value is stability/instability printing possibility
	AUTO MODE	☐ In case of scale to electronic balance automatic printing
	TIMER MODE	☐ Interval printing in set time ☐ Printing in time that is appointed to interval setting in INTERVAL TIME.
	NORMAL MODE	☐ Data sending in electronic balance as it is printing. ☐ This mode is equal with AND's GLP (Good Laboratory Practice) function.
INTERVAL TIME	00 : 00[m:s] Default : 00:10	☐ INTERVAL TIME is established when PRINT MODE selects "TIMER MODE". ☐ INTERVAL TIME set is changed from 00:00 to 00:00 whenever press key. ☐ INTERVAL TIME's extent does establishment possibility until 60 : 000 (minute : Second) on 00:00 (minute : Second).
PRINT FORMAT	WEIGHT *	☐ Measuring number and weight contents printing.
	TIME/WEIGHT	☐ Date/Time, measuring number and weight contents printing
	TIME1/WEIGHT	☐ when measure first time date/market price, measuring number of times, weight printing. ☐ Only the first printing Date/Time , measuring weight and after measuring weight printing.

Item	Value	Define
PRN FOR2 (PRINT FORMAT2)	+ PRN	☐ Measuring data “+” printing
	+/- PRN *	☐ Measuring data “+”,”-“ printing
SUB FORMAT (Suptotal)	DEL *	☐ After Sub total printing it erases a weight and number.
	SAVE	☐ After subtotal printing it is printed because weight, number is connected continuously.
LINE FEED	1 ~ 8 Default : 1	☐ After measuring weight printing it line feed number. ☐ LINE FEED value can establish 1 ~ 8.
LANGUAGE	KOREA *	☐ Printing contents are printing by Hangul
	ENGLISH	☐ Printing contents are printing by ENGLISH
UNIT	g *	☐ This unit selection only CAS and ACOM electronic balance is possible.
	Kg	
USER CODE	000000 ~ 999999 Default : 000000	☐ User selection. ☐ User code is function that can store measurer's code and record measurer. ☐ Code extent can establish 000000 ~ 999999 by 6 figures. ☐ Code set is changed from 000000 to 000000 whenever press key.
VENDER	AND * CAS_AD CAS_BW PRECISA OHAUS SARTORIUS SHMADZU_1 SHMADZU_2 METTER DESCOM	☐ Vender selection of balance.
TOTAL MODE	TIME PRINT *	☐ When print Sub Total/Grand Total date/time printing.
	NO TIME PRINT	☐ When print Sub Total/Grand Total date/time printing bypass.
NORMAL COLUMN	20 COL. * 24 COL. 30 COL.	☐ When select "NORMAL MODE" printing column function that select 20/24/30 COL. be. ☐ This set is available "NORMAL MODE".
TIME/DATE	2005-01-28 18:25	☐ Date/Time establishment. ☐ Date/Time, establishment becomes to establish by movement from 2005-01-28 18:25 to 2005-01-28 18:25 whenever press key. Only, year can establish 2000 ~ 2099..

* Factory set

4. Printer mode explanation

This printer is supporting 5 print modes in internal mode establishment.

PRINT MODE	Explanation
EXT. KEY MODE	● When press printing key in electronic balance printings. ● When this mode does not connect electronic balance, ON-LINE LED does not become ON/OFF. ● This mode is not printed by "PRINT"  Key of printer.
MANUAL MODE 1 / 2	● When press printer "PRINT"  Key, measuring weight of electronic balance. ● MANULA MODE supports MANUAL MODE1 and MANUAL MODE2. ● MANUAL MODE1 = When weight value is stability printing possibility. ● MANUAL MODE2 = When weight value is stability/instability printing possibility ● This mode is available when print by external INPUT signal. ● If it is state ON-LINE LED in 1 second cycle ON/OFF, Electronic balance and Printer connection error occurrence. This time, "PRINT"  key does not act.
AUTO MODE	● In case of scale to electronic balance automatic printing. ● This mode is printed though measure other content after become situs by zero certainly after print measurement content. ● If it is state ON-LINE LED in 1 second cycle ON/OFF, Electronic balance and Printer connection error occurrence.
TIMER MODE	● Interval printing in set time. ● This mode prints by time interval establishing in MODE relationship INTERVAL TIME. ● INTERVAL TIME until minimum 00:00 (minute : Second) ~ 60 : 00 (minute : Second) possibility. ● If it is state ON-LINE LED in 1 second cycle ON/OFF, Electronic balance and Printer connection error occurrence. This time, I do not print without relation on established.
NORMAL MODE	● Data sending in electronic balance as it is printing ● This mode is equal with AND's GLP (Good Laboratory Practice) function. ● This mode includes name of brand of electronic balance, denomination, serial number, ID number, date and sign that correspond to GLP. ● ID number can use by identification number of balance when do repair management of balance.

5. Communication interface

5-1. Serial interface specification (RS-485 is OPTION.)

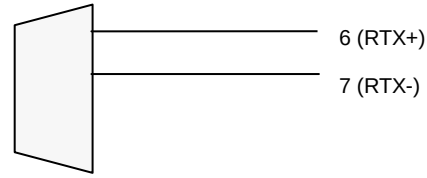
1) Serial(RS-232C/RS-485/),CURRENT LOOP

Data Transmission	RS-232C	RS-485	CURRENT LOOP
Handshaking	Software	Software	Software
Signal Level	Low = -3 ~ -15V : "1" High = +3 ~ +15V : "0"	Low = +5V : "1" High = 0V : "0"	High = 20mA : "1" Low = 0mA : "0"
Baud Rate	150 ~ 9600bps	150 ~ 9600bps	150 ~ 9600bps
Bit Length	7/ 8 bits	7/ 8 bits	7/ 8 bits
Parity	None/Even/Odd	None/Even/Odd	None/Even/Odd
Stop Bits	1 Stop	1 Stop	1 Stop
Connector	D-SUB 9 FEMALE	D-SUB 9 FEMALE	D-SUB 9 FEMALE

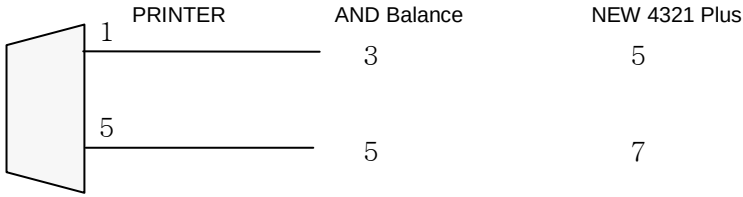
2) Printer Cable Interface

- Serial(RS-232C : 9P D-SUB MALE)

- Serial(RS-485C : 9P D-SUB MALE)



- CURRENT LOOP : 9P D-SUB MALE



4) RS-232C Interface Connector Specification and signal function

Pin No	signal	Direction	Function
2	RXD	Input	Received data
3	TXD	Output	Transmission data
4	DTR	Output	● This signal whether printer can receive data or is not. ● when control of DTR/DSR was chosen, printer can receive data al High, and can not receive data at Low.
5	GND	-	Signal Ground

5) RS-485 Interface Connector Specification and signal function

Pin No	signal	Direction	function
6	RTX+	Input/output	Data send-receive
7	RTX-	Input/output	Data send-receive

6) CURRENT LOOP Interface Connector Specification and signal function

Pin No	signal	direction	Function
1	RXD	Input	Received data
5	GND	-	Signal Ground

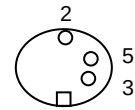
5-2. Serial cable connectivity

- AND general cable connectivity

PRINTER (9P DSUB MALE)	CABLE	User equipment	
		(25P DSUB MALE)	(9P DSUB FEMALE)
2 (RX)	←	3 (TX)	2 (TX)
3 (TX)	→	2 (RX)	3 (RX)
5 (GND)	—	7 (GND)	5 (GND)

- AND FG/HW/HV Series Cable connectivity

PRINTER (9P DSUB MALE)	CABLE	User equipment (DIN 8P MALE)
2 (RX)	←	3 (TX)
3 (TX)	→	2 (RX)
5 (GND)	—	5 (GND)

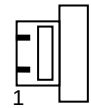


- CAS Cable connectivity

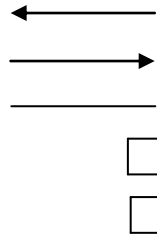
PRINTER (9P DSUB MALE)	CABLE	User equipment (9P DSUB MALE)
2 (RX)	←	2 (TX)
3 (TX)	→	3 (RX)
5 (GND)	—	7 (GND)

- PRECISA general Cable connectivity

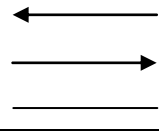
PRINTER (9P DSUB MALE)	CABLE	User equipment (RJ45 8P)
2 (RX)	←	2 (TX)
3 (TX)	→	6 (RX)
5 (GND)	—	5 (GND)



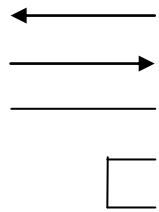
- PRECISA HA300 Cable connectivity

PRINTER (9P DSUB MALE)	CABLE	User equipment (25P DSUB MALE)
2 (RX)		2 (TX)
3 (TX)		3 (RX)
5 (GND)		7 (GND)
		4
		5
		6
		20

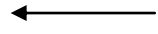
- ACOM Cable connectivity (PC-100W)

PRINTER (9P DSUB MALE)	CABLE	User equipment (9P DSUB MALE)
2 (RX)		3 (TX)
3 (TX)		2 (RX)
5 (GND)		5 (GND)

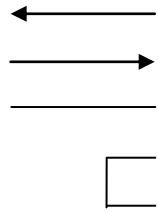
- OHAUS(Adventure, AP) Cable connectivity

PRINTER (9P DSUB MALE)	CABLE	User equipment (9P DSUB MALE)
2 (RX)		2 (TX)
3 (TX)		3 (RX)
5 (GND)		7(GND)
		5
		8

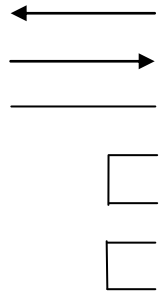
- OHAUS(Adventure Pro) Cable connectivity

PRINTER (9P DSUB MALE)	CABLE	User equipment (9P DSUB MALE)
2 (RX)		2 (TX)
3 (TX)		3 (RX)
5 (GND)		5(GND)

- OHAUS(Explorer,Voyager,MB200,GT+3230HD) Cable connectivity

PRINTER (9P DSUB MALE)	CABLE	User equipment (9P DSUB MALE)
2 (RX)		2 (TX)
3 (TX)		3 (RX)
5 (GND)		7(GND)
		5
		6

- OHAUS(MB45 Moisture Balance) Cable connectivity

PRINTER (9P DSUB MALE)	CABLE	User equipment (9P DSUB FEMALE)
2 (RX)		2 (TX)
3 (TX)		3 (RX)
5 (GND)		5(GND)
		4(DTR)
		6(DSR)
		7(CTS)
		8(RTS)

- OHAUS(Champ) Cable connectivity

PRINTER (9P DSUB MALE)	CABLE	User equipment (9P DSUB FEMALE)
2 (RX)	←	3 (TX)
3 (TX)	→	2 (RX)
5 (GND)	—	5(GND)

- SARTORIUS Cable connectivity

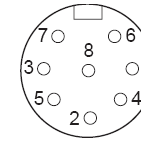
PRINTER (9P DSUB MALE)	CABLE	User equipment (25P DSUB MALE)
2 (RX)	←	2 (TX)
3 (TX)	→	3 (RX)
5 (GND)	—	7 (GND)

- SHIMADZU_1 Cable connectivity

PRINTER (9P DSUB MALE)	CABLE	User equipment (25P DSUB MALE)
2 (RX)	←	2 (TX)
3 (TX)	→	3 (RX)
5 (GND)	—	7 (GND)

- SHIMADZU_2 Cable connectivity (BL Series)

PRINTER (9P DSUB MALE)	CABLE	User equipment (DIN 8P MALE)
2 (RX)	←	8 (TX)
5 (GND)	—	2 (GND)



- SETRA(EL Series) Cable connectivity

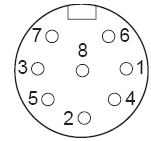
PRINTER (9P DSUB MALE)	CABLE	User equipment (9P DSUB MALE)
2 (RX)	←	2 (TX)
3 (TX)	→	3 (RX)
5 (GND)	—	5(GND)

- METTLER(SS Series/AB204-S/MS Series) Cable connectivity

PRINTER (9P DSUB MALE)	CABLE	User equipment (9P DSUB MALE)
2 (RX)	←	2 (TX)
3 (TX)	→	3 (RX)
5 (GND)	—	5(GND)

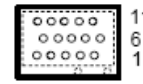
- METTLER(ID-7) Cable connectivity

PRINTER (9P DSUB MALE)	CABLE	User equipment (DIN 8P MALE)
2 (RX)	←	2 (TX)
3 (TX)	→	3 (RX)
5 (GND)	—	6(GND)



- METTLER(PM Series) Cable connectivity

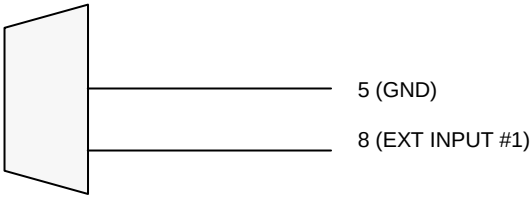
PRINTER (9P DSUB MALE)	CABLE	User equipment
1 (+ Signal)	—	10
5 (- Signal)	—	15
9 (Printer Signal)	—	14
5 (GND)	—	6,11(GND)



5-3. External INPUT signal

This signal is function that can print by external switch point of contact when serial interface is connected. Must establish printer mode (PRINT MODE) as "MANUAL MODE" to use this signal..

YJ-380T PRINTER (9PIN D-SUB MALE)



Pin No	signal	Direction	function
8	EXT INPUT #1	input	● This signal printing by external switch ground connection possible. ● When external INPUT signal measures in + 5V, printing is available at point of contact time by GND. ● Possibility when serial interface is connection measure normally.. ● Printer mode should establishes to MANUAL MODE.
5	GND	-	Signal Ground