DIGITAL INDICATOR

-USER MANUAL-

DN520N

Content

1. INTRODUCTION

1-1 INTRODUCTION

Thank you very much for purchasing our industrial indicator.
This product has various functions as well as the functions of external interface.
It is designed to satisfy different kinds of requirement in the various industrial sites.
Its external design is also solid and elegant.
It is programmed in user's friendly way for easy in use and the message display function
is built-in to help user's easy understanding.
Please ready this instruction manual carefully before you use this product so that you can
use this product properly and apply all the functions of this indicator enough.

1-2 ATTENTION

· Do not drop or impact upon this indicator.
· Do not install this item in the place with a direct ray of light or strong vibration.
· Do not install this item in the place with high voltage or electric noise.
· Turn off the power switch before you connect this item to the external peripheral device.
· Do not sprinkle water on this item and always avoid it being exposed to rain.

1-3 SPECIAL FEATURES

· Self- diagnosis and self- error solution feature (Watch-dog) are built-in.
· The external input terminal is built-in. (4 terminals: Function Set-up by external input
   set-up mode)
· Shielded counter plan against external Noise.(Photo-Coupler)
· Data Memory feature in case of power failure. (Back-up)
· Lexan Film is used on the display front so that it is safe from dust and moisture.
· RS-232C and Current Loop is installed as standard.
· Various Options.

   ① Analog Out-put (V-out) : 0～10V, 0～5V(advance order)
   ② Analog Out-put (I-out) : 4～20mA
   ③ Serial I / F : RS-422, RS-485
   ④ BCD In-put : Part Number input

-4 ACCESSORIES
   · Power Cord : 1 pcs
   · FUSE : 2 pcs (Cylindrical,250V 10A small-sized)
   · Load-cell Connector : 1 pcs(N16-05)
   · Instruction Manual : 1
   · Relative connector in case of installation of Option

2.SPECIFICATION

2-1.ANALOGUE INPUT & A/D CONVERSION

Input sensitivity	0.45μV / D
Zero adjustment Range	- 0.6mV ~ + 42.0mV
Load-cell impressed Voltage	DC 10V (±5V)
Max signal input Voltage	32mV
Temperature coefficient	ZERO: ±20 PPM / ℃ SPAN: ±20 PPM / ℃
Input Noise	±0.6μV P.P
Input Impedance	over 10MΩ
A/D Conversion Method	$\Delta\sum$
A/D Resolution	520,000 Count(19bit)
A/D Conversion rate	200times / Sec
Non-linearity	0.01% FS

2-2. Digital Part

Main Display	Weight	7-Segment 6 digit RED FND Size of letters: 20.0(H) ×13.0(W)mm
Sub Display	*Normal Display Part Number (2 Digit) Upper limit (6 Digit) Lower limit (6 Digit)	7-Segment 14 digit RED FND Size of letters :9.2(H) ×4.8(W)mm
Weight Part Display	Value of 1 division	×1, ×2, ×5, ×10, ×20, ×50
	Max display value	+550000
	Under Zero	"-"Minus Sign
Status	Steady, Zero, Tare, Hold, Lower limit, Upper limit, Completion, Communication	Green LED 3Ø Status Display 8 Lamps
K e y	Number & Function Key	Number Key, Function Key combined with 12 keys

2-3. GENERAL SPECIFICATION

Power for use	SMPS Free Voltage (85V~265V)
Temperature for use	−5℃ ~ 40℃
Humidity for use	Under 85% Rh (No water drop should be formed)
Product Size	(W)193 X (H)100 X(D)140
Product Weight	About 1.5Kg

◆ **Note**: Because of continuing technological advancements, specifications, models and options are subject to change without notice

2-4. OPTIONS

OP1	Analog Out : V - out(0~10V)
OP2	Analog Out : I - out(4~20mA)
OP3	Serial I/F : RS 422, RS 485
OP4	BCD in - put
OP5	BCD Out - put

◆ Serial print I/F, RS-232C and Current Loop are installed as standard.

3. DISPLAY (DISPLAY & KEY BOARD PART)

3-1. STATUS LAMP (▼)

· STEADY   : Lamp is on when weight is stable.

· ZERO   : Lamp is on when weight is "0".

· TARE   : Displayed when the tare weight is set up.

· HOLD   : Displayed when Hold is set for the weight display value.

               (Peak-Hold, sample-Hold)

· Lower Limit Display : Displayed in case of lower limit Relay ON output.

· Upper Limit Display : Displayed in case of upper limit Relay ON output.

· Completion Display : Displayed when weighing is completed.

· RTxD   Display : Displayed when communication DATA is transmitted. (Serial I/F)

3-2. KEY OPERATION

1 ZERO	- It is used to return the weight display to zero. Available within 2%, 5%, 10%, 20%, 100% of maximum capacity. (KEY "1" is used to input the setting values.)
2 TARE	- It is used to check the weight excluding the tare while the tare is already set or to check the weight including tare. (KEY "2" is used to input the setting values.)
3 RUN/STB	- It is used to input with Key for starting weighing while Packer Mode(F21-2)is set.
4 P/N	- It is to use memorize the weight values you want to weight by setting each part. Press "4" Key and then press Part Number you want. The memorized setting value will be displayed and controlled by the value displayed. (KEY "4" is used to input the setting values.)
5 HOLD	- It is used to change or confirm the setting value of BIN. Press "5" KEY and then press Bin Number you want. Then press "ENTER". The memorized value will be displayed and controlled by the value displayed. (KEY "5" is used to input the setting values.)
6 S/N	- It is used to input with Key for stopping weighing while Packer Mode(F21-2)is set.
7 SP1	- It is used to check and change the lower limit value. ▶ Lower limit check : Press **7** key. After checking the lower limit, press CLEAR key to return automatically. ▶ Lower limit change : Press **7** key. After changing lower limit value, press ENTER key to change lower limit value.
8 SP2	- It is used to check and change the Upper limit value. ▶ Upper limit check : Press **8** key. After checking upper limit, press CLEAR key to return automatically. ▶ Upper limit Change : Press **8** key. After changing upper limit value, press ENTER key to change the upper limit value.
9 FREE FALL	- It is used to match the exact target value by setting up the amount of the difference in elevation. Relay output is controlled in advance as much as the difference in elevation of the material in the air. ▶ Difference in elevation check : Press **9** key. After checking the difference, press CLEAR key to return automatically. . ▶ Difference in elevation change : Press **9** key. After changing the difference, press ENTER key to change the difference in elevation.
0 PRINT	- It is used to print manually. (KEY "0" is used to input the setting values.) While carrying out calibration, it is used to change the value of 1 graduation. Each time "0" is pressed, it will be increased as ×1, ×2, ×5,···.
	- This key is used to cancel while inputting setting value.

CLEAR	It is used to use secondary function key of each Key.. In case of calibration, it is used to process in reverse way. It is used to change F-Function
ENTER	- It is used to save the input of each setting value. It is used to proceed weight calibration. It is used to save F-Function Data.

※ HIDDEN KEY		
CLEAR		You can change key number if you press the other key within 2 seconds after you press "CLEAR" Key.
CLEAR	**1 ZERO**	To display and change TIME
CLEAR	**2 TARE**	To display and change DATE
CLEAR	**3 RUN/STB**	To display and change CODE
CLEAR	**4 P/N**	To print total
CLEAR	**5 HOLD**	To print subtotal
CLEAR	**6 S/N**	To display and change SERIAL
CLEAR	**7 SP1**	To display and change lower limit
CLEAR	**8 SP2**	To display and change upper limit
CLEAR	**9 FREE FALL**	To delete total printer data
CLEAR	**0 PRINT**	To delete subtotal printer date

3-3. REAR PANEL

①POWER	-Power Switch : Power ON/OFF Switch -Fuse : AC 250V 10A -AC IN : This product can be used in AC 85V ~ 265V since it uses SMPS power.
②OPTION 1,2	- When OPTION BOARD is installed, I/F connector will be equipped. - ANALOG out, Serial I/F, etc
③LOAD CELL CONNECTOR (N-16)	-EXC + (+5V) PIN1 (RED) -EXC - (-5V) PIN2 (WHITE) -SIG+ PIN3 (BLUE or BLACK) -SIG- PIN4 (GREEN) -SHIELD PIN5 (OUTER COVER)
④Remote-in-put	- It is used to control the equipment from the external operation panel. (1.Start, 2.Stop, 3.Container, 4.Remove container) * Refer to external input mode F-11
⑤ Relay-out	6 Terminals (Relay Output a Contact Point): Each relay function will be set according to F-21 setting. * Refer to F-21 output Mode
⑥External Output (Printer, CURRENT, Computer communication))	- RS-232C / CURRENT LOOP are built-in as standard (GND,TXD1,CL1,CL2,RXD,GND,TXD)
⑦ISP (DATA LOCK PIN)	- When LOCK pin header is built-in here, data can be protected from certain external reasons of static electricity or system fault. * When this Lock pin header is built in, data cannot be saved by pressing keys on front for Function Setting since Lock function is being operated. Please remove lock pin header before you do Setting again.

INSTALLATION

4-1. EXTERNAL DIMENSION & CUTTING SIZE

(EXTRNAL SIZE ×mm)
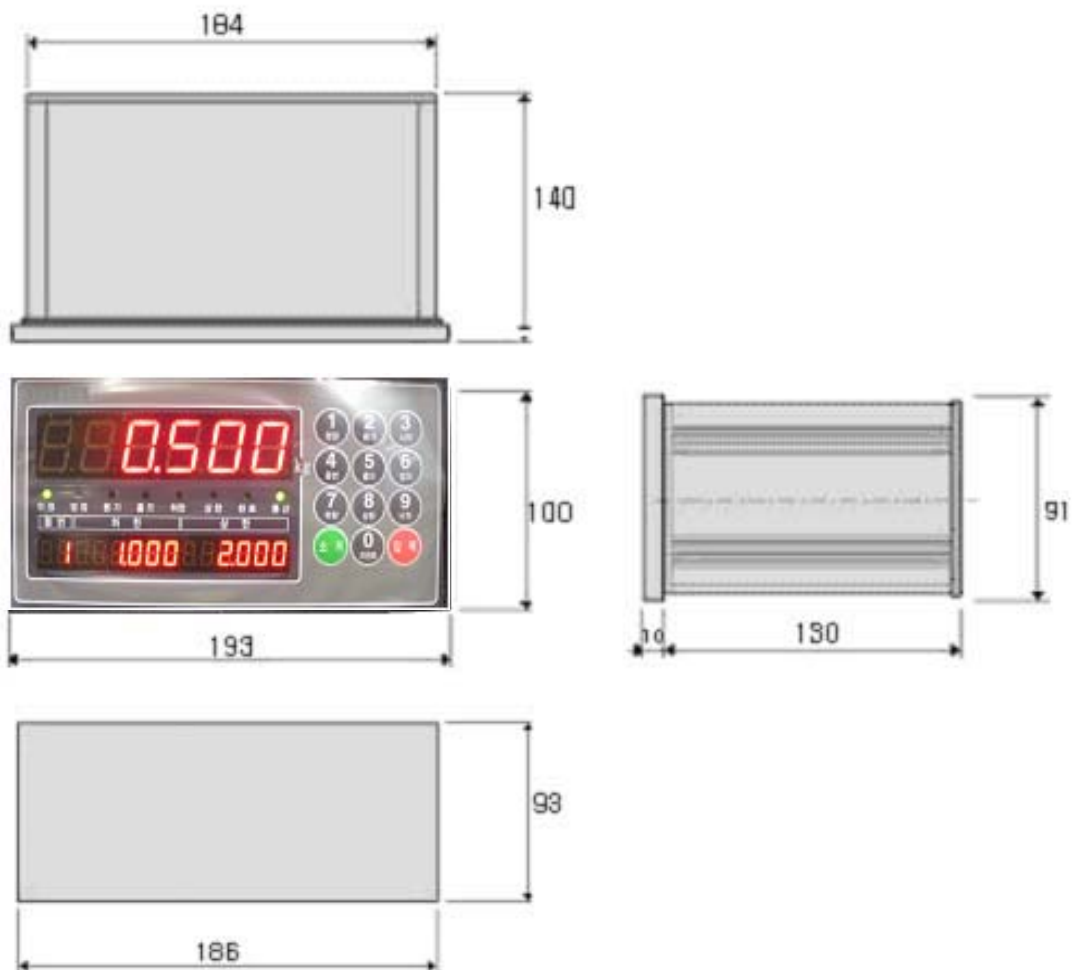
5. CALIBRATION

What is Calibration?

This is to match the displayed numerical value and the actual weight value for displaying weight.

5-1. ZERO CALIBRATION

"0" is a point to be a standard for displaying weight of indicator.

Please carry out Zero Calibration so that "0"can be displayed when all the mechanism is fixed on the weight sensor load-cell. (Early load offsetting of Load-Cell)

5-2. SPAN CALIBRATION

This is to set the linearity so that display value from "0" to maximum weight and the actual weight can be matched for displaying the weight of indicator.

▶ TO ENTER SPAN CALIBRATION

While pressing "3" KEY, please turn the power ON. Then, TEST will be shown at display.

At this stage, please press "3" Key again and then SET.CAL will be displayed.

Press ENTER Key and then d__XX will be shown at display.

EX

▶ When Power is OFF
① While pressing"3" KEY, turn the power ON - TEST displayed.
② Press "3" Key - SET.CAL. displayed.
③ Press ENTER Key - "d__XX"

▶ How to carry out SPAN CALIBRATION

There are 5 steps for Span Calibration. Each step will be carried out by Enter key. Please use Clear Key to return to previous step.

➔ Move to next step: Use ENTER Key
➔ Return to previous step: Use CLEAR Key

Ⅰ. STEP 1

```
d      _1
· · · · · · · · ·
      ↓
d       50
· · · · · · · ·
```

This step is to set the value of 1 division. (Unit of minimum display division)

Here, "d" stands for Division and it indicates "the value of 1 division (Minimum division display)"

This value change is shown in order of "01-02-05-10-20-50" each time 0 Key is pressed. After it stopped at a desired value – a certain value of 1 division, press ENTER Key so that the value can be memorized as "the value of one division" and then move to the next step.

Ⅱ. STEP 2

```
CAPA
· · · · · · · · ·
      ↓
XXXXXX
· · · · · · · ·
```

This step is to set the maximum display capacity.

Here, "CAPA" stands for Capacity and it indicates the maximum display capacity that can be weighed by scale. You should input your desired maximum display capacity value instead of an optional numerical value currently displayed. To input, please input the number you want by using the number Key on Key Board and then press ENTER Key so that the current value will be memorized and move to the next step.

✳✳✳

➔ Please do not set (Value of 1 division/MAX display capacity) to be over (1/20,000) When it is over (1/20,000), Error message will be displayed. You can use up to 1/20,000 only.

Ⅲ. STEP 3

```
CAL._O_
· · · · · · · · ·
      ↓
XXXXXX
· · · · · · · ·
```

This step is to confirm the current "0" status of scale.

After you check the currently displayed value, please press "ENTER" Key. And then the gauge bar will goes up for about 3 seconds.
You will move to the next step automatically.

Ⅳ. STEP 4

```
SPAn
· · · · · · · · ·
      ↓
XXXXXX
· · · · · · · ·
      ↓
C_UP _
· · · · · · · ·
```

SPAN" will be shown on capacity display and then it will be changed to "CAPA" value which is the value in STEP 2.

If standard span weight of CAPA is not ready here, please prepare for a span standard weight that is over 10% of CAPA value and then input the value by using numerical Key and then press "ENTER" Key so that you can move to the next step.

At this stage, "UP" means you have to put the prepared span standard weight on scale.

After you put on the span standard weight on scale and when the capacity is stable enough without any impact or vibration, please press "ENTER" KEY so that Gauge bar can go up for about 3 seconds and you can move to the next step.

Ⅴ. STEP 5

X X X X X X

↓

C _ E n d._

This span is to display the calculated Span constant.

If indicator displays this condition, it means Span calculation is finished. If constant value is between 0.50000~1.50000, span is normally calibrated. If constant value is not between 0.50000~1.50000, you need to do the Span calibration once again so that you can use the scale with better accuracy. After span constant is displayed, C_End._ will be displayed and slowly flashing for about 3 seconds to test the condition of display. Then it will be displayed as "normal operation mode" for measuring.

Now, Span Calibration is completed.

★★
→ When you do setting weight:
When (Value of one division/Max. display capacity) less than 1/5,000, you need to prepare for a standard weight that is over 10% of Max display division and then set the value. When it is more than 1/5,000, you need to prepare for a standard weight that is over 20% of Max display division and then set the value. This is to do the span calibration with better accuracy.
- If you do the setting a weight over Max display division, an Error Message "Err 04" will be displayed.
- If you do the setting a weight below 10 % of Max display division, an Error Message "Error 05" will be displayed.

5-3. Error Display and Troubleshooting

No.	MESSAGE	CAUSE	SOLUTION
1	Err 01	It is displayed when Max. display division/value of one division is over 20,000	- Please re-input the value of Max display division and one division so that Max. display division/ value of one division is less than 10,000
4	Err 04	It is displayed when standard weight setting is over Maximum display division.	- Please re-input a standard weight setting value less than Maximum display division by using number Key.
5	Err 05	It is displayed when standard weight setting is less than 10% of Maximum display division.	- Please re-input standard weight setting value less over 10% of one division.
6	Err 06	It is displayed when Amp and Gain is too big.	- Please check if standard weight exceeds the value you already set. If so, please set the standard weight according to the value correctly.
7	Err 07	It is displayed when Amp and Gain is too small.	- Please check if standard weight is less than the value you already set. If so, please set the standard weight according to the value correctly.
8	Err A	It is displayed when weight value is fluctuated during calibration.	-Please check surroundings and remove any vibration. -Check defect of scale. -Check scale connection or wiring condition.
9	Err _8	It is displayed if wrong data is entered for F-Function	- Check the data and re-enter.

6. SET-UP

6-1. SET-UP

●SUMMARY

It is to set F-FUNCTION properly according to the actuator of scale and surroundings so that the scale can be operated on the optimized condition.

▶ ENTERING SET-UP

When Power is OFF, please keep pressing "3" Key, and then Power will be ON and the main display will show "TEST".
Now press "3" Key again and the main display will show "SET. CAL".
Then press "CLEAR" Key and "F01-XX" will be displayed.

EX

▶ When Power is OFF

① Keep pressing "3" KEY to make Power ON and have "TEST___" displayed.
② Press "3"Key again - "SET. CAL" displayed.
③ Press "CLEAR" Key - "F01-XX" displayed.

※ "X"is an optional number.

▶ FHOW TO CHANGE FUNCTION NUMBER FOR F-FUNCTION

To change function number of F-Function, you need to press CLEAR Key. Each time you press it, the function number will be increased.
Function number will be increased from "F01-XX" to "F52-XX" and it returns to "F01-XX".
If you want to change "F01-XX" to "F30-XX" directly, please ender "30" with number Key and press "CLEAR." "F30-XX" will be called right away.

EX

▶ Current Display - "F01-01"
① Press CLEAR Key - "F02-XX"
② Press CLEAR Key again - "F03-XX"
③ Function number is increased continuously each time CLEAR Key is pressed.
▶ To change "F01-XX" to "F80-XX" when current display is F01-XX"
① Press "3" Key - "F01-03"
② Press "2" Key - "F01-32"
③ Press "CLEAR" Key - "F32-XX"

▶ HOW TO CHANGE SETTING FOR F-Function

To change setting for F-Function, you need to ender the number you want with number Key and press "ENTER" Key so that it will be saved in the internal Memory and the change is completed. Please remember **if you enter only number Key and don't press "ENDER" Key the value cannot be saved.**

EX

▶ To change current display "F06-05" to "F06-08":
① Press "8" Key – "F06-08"
② Presses "ENTER" Key so that it can be saved in the internal memory.

※ You must press "ENTER" Key when the setting value is changed
to the number you want to save the value in the internal memory.

TEST Mode

TEST	TEST Mode Title	Description
TEST1	Analog TEST Mode	This mode is to test Analogue.
TEST2	Key TEST Mode	This mode is to test front keys.
TEST3	SET.CAL Mode	You can set F-Function or capacity.
TEST4	DISPLAY TEST Mode	This mode is to check if front display is normal.
TEST5	RELAY OUT TEST Mode	This mode is to check if Relay output is normal when there is RELAY.
TEST6	External Input TEST Mode	This mode is to check if external input is normal.
TEST7	Initial Analogue TEST Mode	This mode is to check the initial analogue value that is without any weight setting.
TEST8	Setting DATA Printer Output TEST Mode	This mode is to print F-Function setting value by using printer.

- How to return to the first step - TEST -

You need to press to escape from each mode.

On TEST3 mode, press to return to TEST mode again.

6-2. F-FUNCTION LIST

F-Function	Contents	Division
F00	Select Set-Up&Calibration	Divided into "CLR" and Input "ENTER"
F01	Set the location of decimal point	0, 0.0, 0.00, 0.000
F02	Zero Memory Mode	Normal(0), Back - UP(1)
F03	MOTION BAND Range	0, 1, 2, 3
F04	ZERO TRACKING Range	0, 1, 2, 3
F05	Set AUTO ZERO Range	00~99
F06	Digital Filter Range	1~9
F07	ZERO, TARE Key Operation Mode	Steady(0), Unsteady(1)
F08	Set ZERO Key Operation Range	2%(0), 5%(1), 10%(2), 20%(3), 100%(4)
F09	Set TARE Key Operation Range	10%(0), 20%(1),50%(2),100%(3)
F10	Set HOLD Function	Peak-hold(0), Sample hold(1),8Sec Average Hold(2)
F11	Set External Input	0,1,2,3,4,5
F12	Appoint Code Number	0,1,2
F14	HOLD OFF Time	0.0 ~ 9.9 Sec
F21	Select Weighing Mode	1,2,3,4
F22	Weighing Completion Relay ON Delay Time	0.0 ~ 9.9 Sec
F23	Weighing Completion Relay ON Time	0.0 ~ 9.9 Sec
F24	Weighing Judging Relay ON Delay Time	0.0 ~ 9.9 Sec
F25	Weighing Judging Relay ON Time	0.0 ~ 9.9 Sec
F30	Set Serial 2 Parity Bit	NO(0), ODD(1), EVEN(2)
F31	Set Serial 2 Communication Speed	0 ~ 9 , 115200 bps ~ 2400 bps
F32	Serial 2 Communication Mode	0 : Stream Mode, 1 : Stable Mode, 2:PRINT KEY
F33	Serial 2 Communication Method	0:One-way Transmit Mode, 1:COMMAND MODE, 2:LCD MODE
F34	Set ID NUMBER	1~99
F35	Transmit Data FORMAT	0 : Basic FORMAT , 1 : Basic+Time , 2 : CAS FORMAT
F36	Select BCC Mode	0 : BCC No Use 1 : BCC Use
F40	Set Weighing Unit Print	0:kg, 1:g, 2:ton
F41	Select Data Output with Auto Printer	0 :F80 Setting , 1 : Steady Lamp
F42	Set Printing Format	0 : Consecutive Print, 1 : Individual Print
F43	Set removing printer subtotal Memory	0 : Remove Subtotal Grand 1 : Auto remove
F44	Set paper feeding	1Count increase= 1 Line increase
F45	Set printer line interval	Control the interval 1 line to the next line
F46	Subtotal Print Mode	0 : Print weight value, 1 : Print Max. Min. Average
F47	Select PRINT Font	0 : Korean 1 : English
F48	PRINT Delay Time	0~9.9
F49	Select Auto, Manual for Printer	0,1
F52	Select Key Tare Operation	0: Key Tare No Use,1: Key Tare Useable
F77	FUNCTION AUTO SETTING	. AUTO FUNCTION SETTING
F80	Set NEAR ZERO(EMPTY) Range	x x x x x x
F81	Set Zero Display Range	x x x x x x
F89	Confirm Calibration SPAN Constant Value	x. x x x x x
F90	Confirm & Change Date (Year,Month,Date)	x x. x x. x x
F91	Confirm & Change Time (Hour,Min,Sec)	x x. x x. x x

(●Factory Default)

SET LOCATION OF DECIMAL POINT				
F01		0	No Decimal Point	0
		1	One decimal place	0.0
		2	Two decimal places	0.00
	●	3	Three decimal places	0.000

ZERO MEMORY MODE			
F02	●	0	Normal Mode
		1	Back-up Mode

* On normal condition, it doesn't remember the weight on scale if power failure or Power OFF.
  Thus, you need to make Power ON after removing the weight from scale.
* On Back-up condition, it remembers the initial zero value when power failure or Power OFF. So if
  there is a weight on scale when Power is on, it displays the same weight value.
  If the weight is already removed, you need to press "ZERO" Key to make Zero value re-saved.

SET MOTION BAND RANGE			
F03	1	0 ∫ 3	It is to set a certain weight change range per hour to show or not to show its steadiness. 0 : Weak Vibration ~ 3 : Strong Vibration

 * If weight change range in setting time is within A/D count setting Range, it regards this condition as steady. To have speedy steady condition, please have a big number when the surroundings have strong vibration and please have a small number when the surroundings have weak vibration.

SET ZERO TRACKING COMPENSATION RANGE			
F04	1	0 ∫ 3	The zero tracking compensation function will automatically bring the display back to "Zero" when there are small deviations caused by dust, wind, temperature etc.

Ex) When Maximum display division is 120.00Kg and the value of one division is set as 0.05Kg: F04 is set as "3."

4.5digit
(0.25Kg)

If weight change is within 250g in 0.75 Sec, displays shows "0" automatically.

t

←0.75 Sec→

If weight change is over 250g in 0.75 Sec, the changed value will be shown
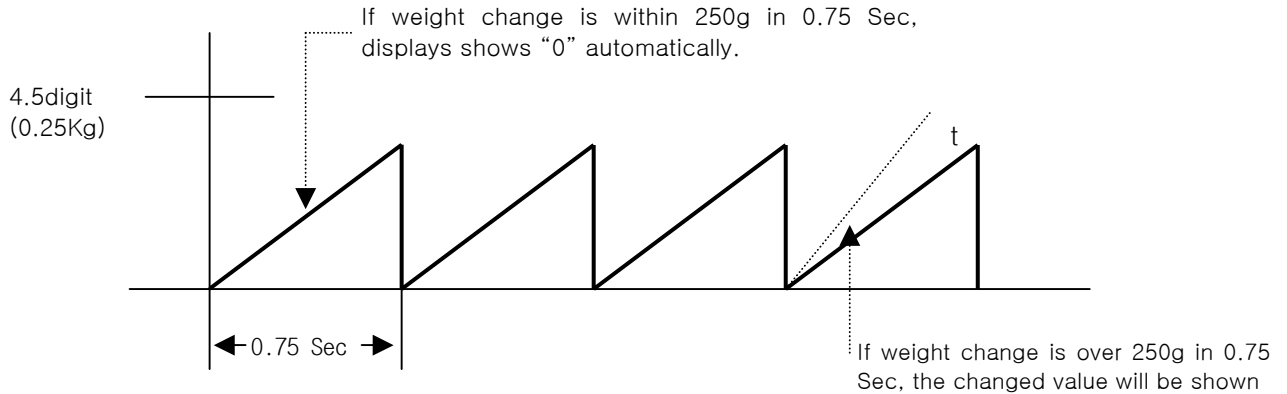
SET AUTO-ZERO RANGE			
F05	20	00 ∫ 99	It returns the displayed value to "0" when the weight is less than setting value and steady.

※ With this mode, you can automatically set "Zero" without pressing "Zero" Key before you do measuring again. (When the remaining value is less than the setting value).

※ EX) In case of a scale with Max display weight is 120.00Kg and the value of one division is 0.02Kg, F05 is set as 30: when the remaining weight is ± (0.02~0.30Kg) and steady lamp is ON, it automatically sets "Zero" and the display will be returned to "0.00KG".

DIGITAL FILTER RANGE					
F06	5	1 ∫ 9	Weak ↕ Strong	Weak Vibration ↑ Strong Vibration	More Sensitive Less Sensitive

※ This mode should be used after compensating the setting value according to the surrounding condition (surrounding vibration).

 ※ To make the speed of display reply faster, please set the setting value small.

ZERO. TARE KEY OPERATION			
F07	●	0	"ZERO" and "TARE" Keys are operated only when weight is steady.
		1	"ZERO" and "TARE" Keys are operated even there is change in weight.

SET ZERO KEY RANGE			
F08		0	Within 2% of Maximum Capacity
		1	Within 5% of Maximum Capacity
	●	2	Within 10% of Maximum Capacity
		3	Within 20% of Maximum Capacity
		4	Within 100% of Maximum Capacity

SET TARE KEY OPERATION RANGE			
F09		0	Within 10% of Maximum Capacity
		1	Within 20% of Maximum Capacity
		2	Within 50% of Maximum Capacity
	●	3	Within 100% of Maximum Capacity

SET HOLD FUNCTION			
F10	●	0	Held when maximum weight is detected: Peak-Hold
		1	Display is held when Hold key is pressed or external input is made: Sample Hold
		2	Held for 8 sec averaging weight if Hold Key is pressed or external input is made : Average Hold

EXTERNAL INPUT MODE						
F11	구 분		IN1	IN2	IN3	IN4
	●	0	START	STON	TARE	REMOVE TARE
		1	START/STOP	TARE/REMOVE TARE	ZERO	PRINT
		2	ZERO	TARE/REMOVE TARE	DECIDE	PRINT
		3	ZERO	TARE/REMOVE TARE	HOLD	REMOVE HOLD
		4	ZERO	TARE	REMOVE TARE	PRINT
		5	ZERO	SUBTOTAL	TOTAL	PRINT

APPOINT CODE NUMBER MODE			
F12	●	0	Fixed
		1	increased 1 by each measuring work
		2	decreased 1 by each measuring work

SET HOLD OFF TIME			
F14	00	0.0 ∫ 9.9	To set Hold Off time from 0.0sec to 9.9sec.

SELECT WEIGHING MODE			
F21	●	1	Relay out mode 1(Limit)
		2	Relay out mode 2(Packer)
		3	Relay out mode 3(Checker1)
		4	Relay out mode 4(Checker2)
		5	Relay out mode 5(Checker3)

RELAY OUTPUT						
RELAY OUTPUT		OUT 1	OUT 2	OUT 3	OUT 4	OUT 5	OUT 6
1	Limit	SP1	SP2	Completed	Lower limit NG	Upper limit NG	ZERO
2	Packer	SP1	SP2	Completed	Lower limit NG	Upper limit NG	ZERO
3	Cherker1 (Weight select)	SP1(Low)	SP2(Hi)	OK	Lower limit NG	Upper limit NG	ZERO
4	Cherker2 (press-fit control)	SP1(Low)	SP2(Hi)	OK	Lower limit NG	Upper limit NG	ZERO
5	Cherker3 (Weight decide)	SP1(Low)	SP2(Hi)	OK	Lower limit NG	Upper limit NG	ZERO

1. Out mode 1 : Normal batching (Limit mode)
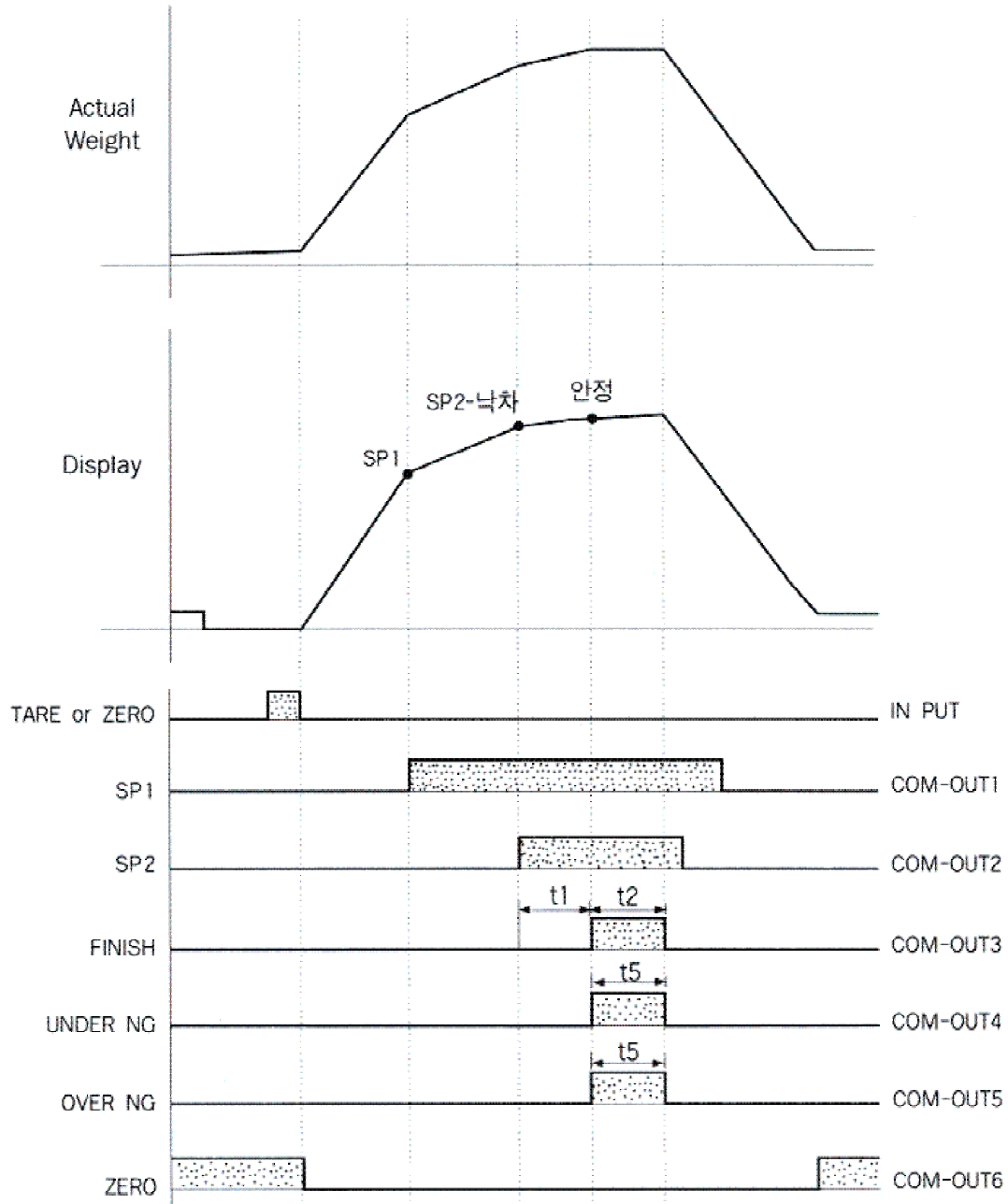
2. Out mode 2 : Programing Batching (Packer mode 1)
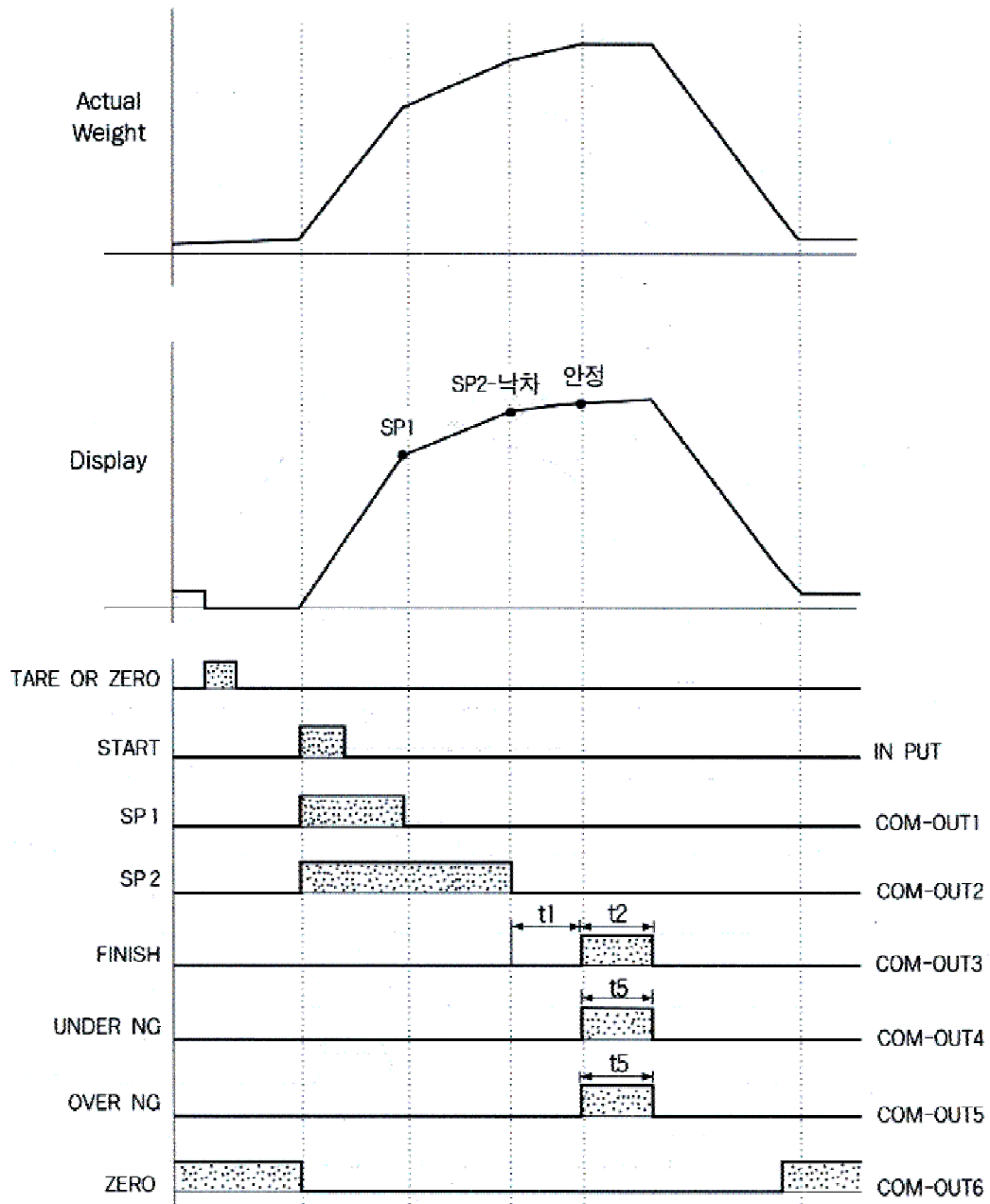
3. Out mode 3 : Comparison mode 1 (Checker mode)
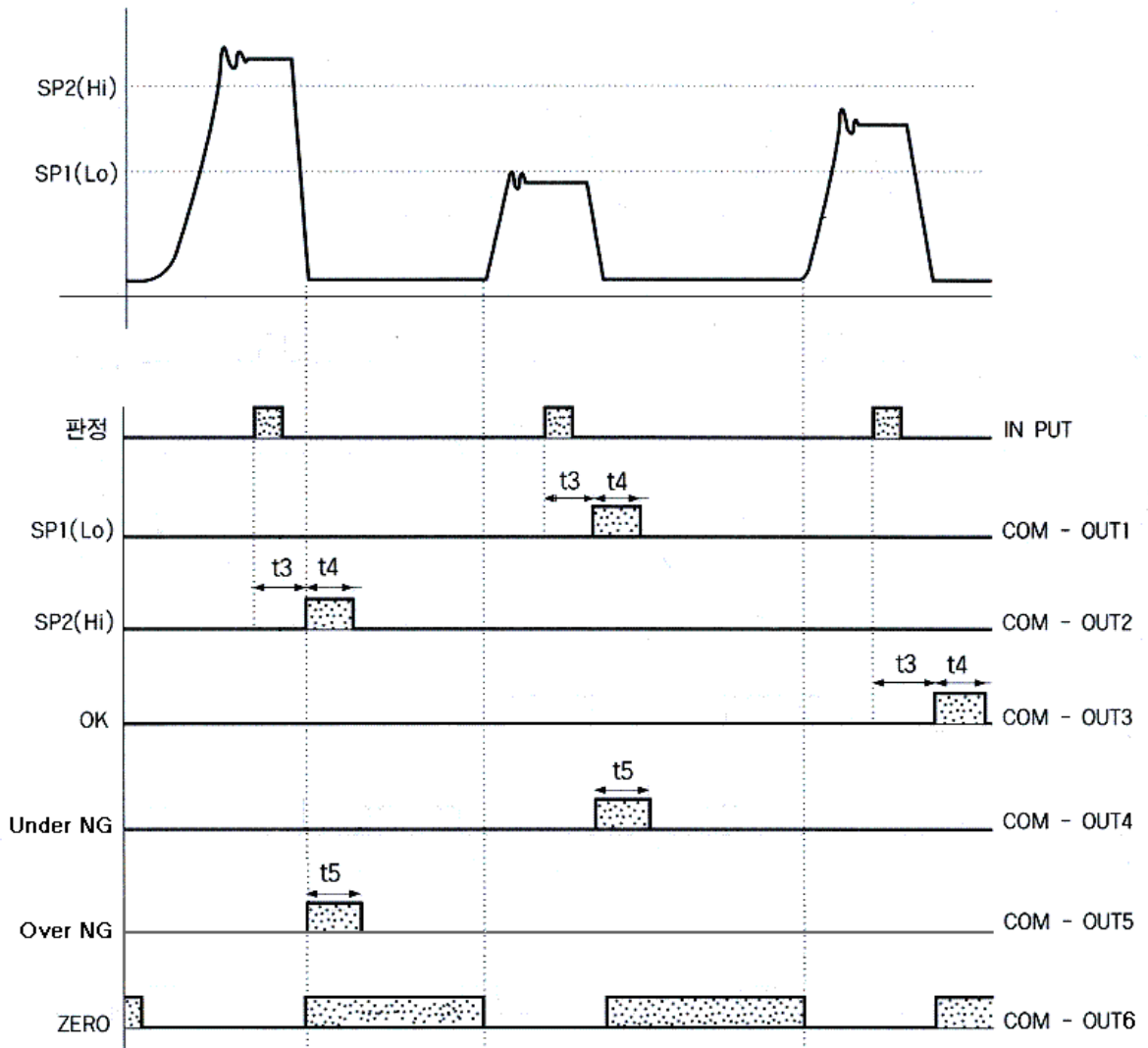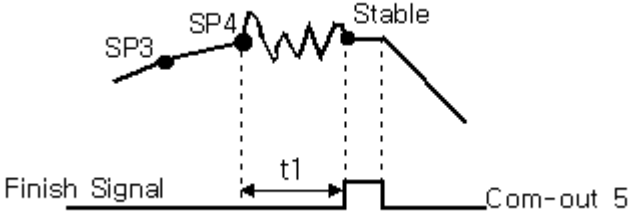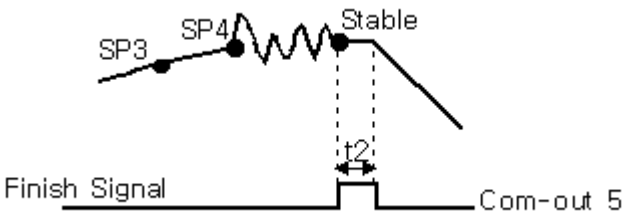
4.Out mode 4 : Comparison mode 2 (Checker mode 2)
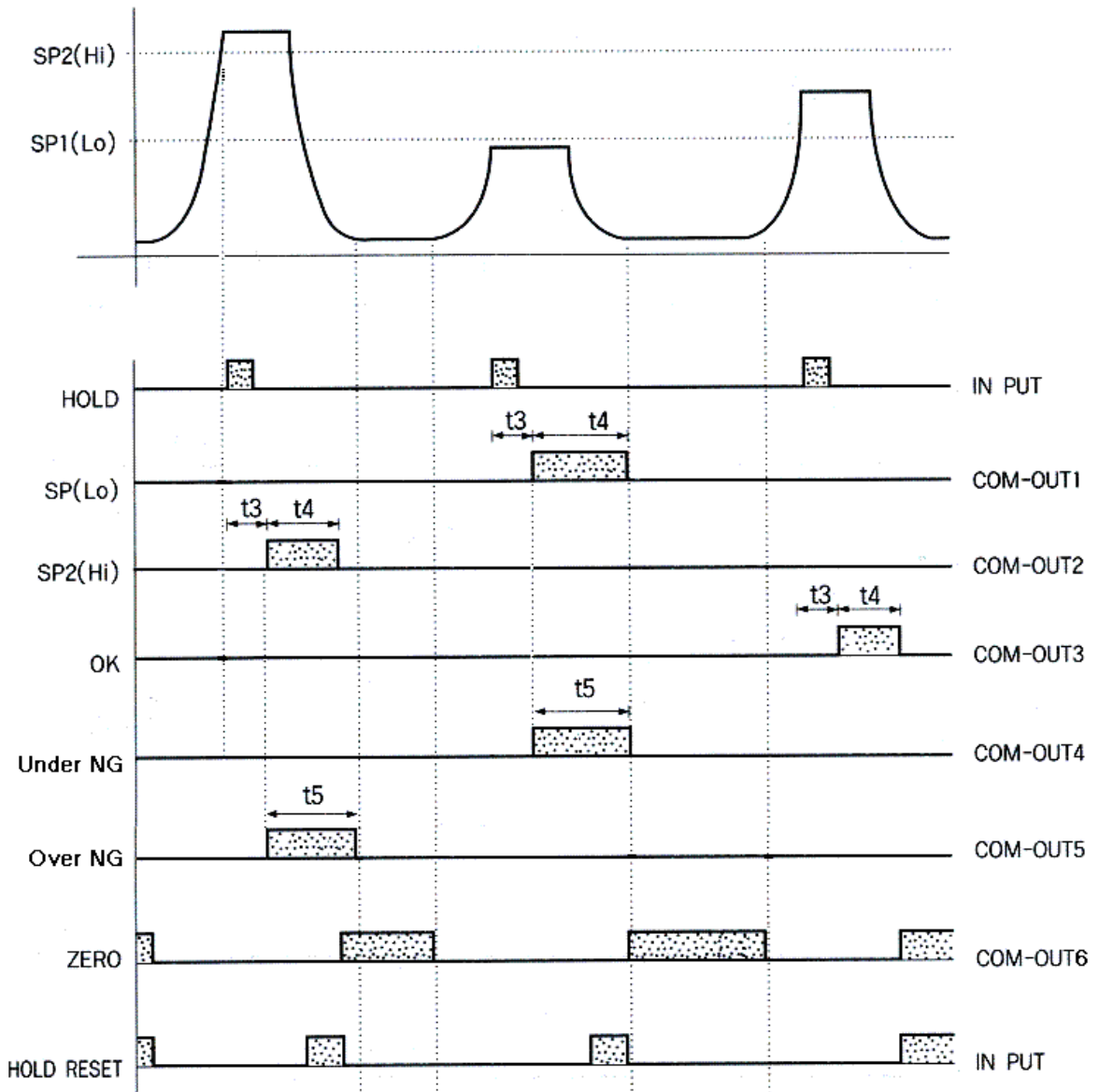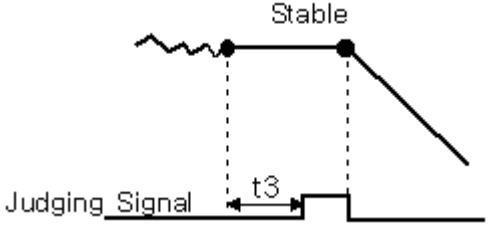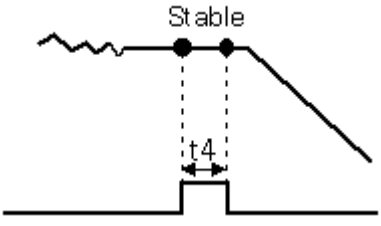
5. Out mode 5 : Comparison mode 3 (Checker mode 3)
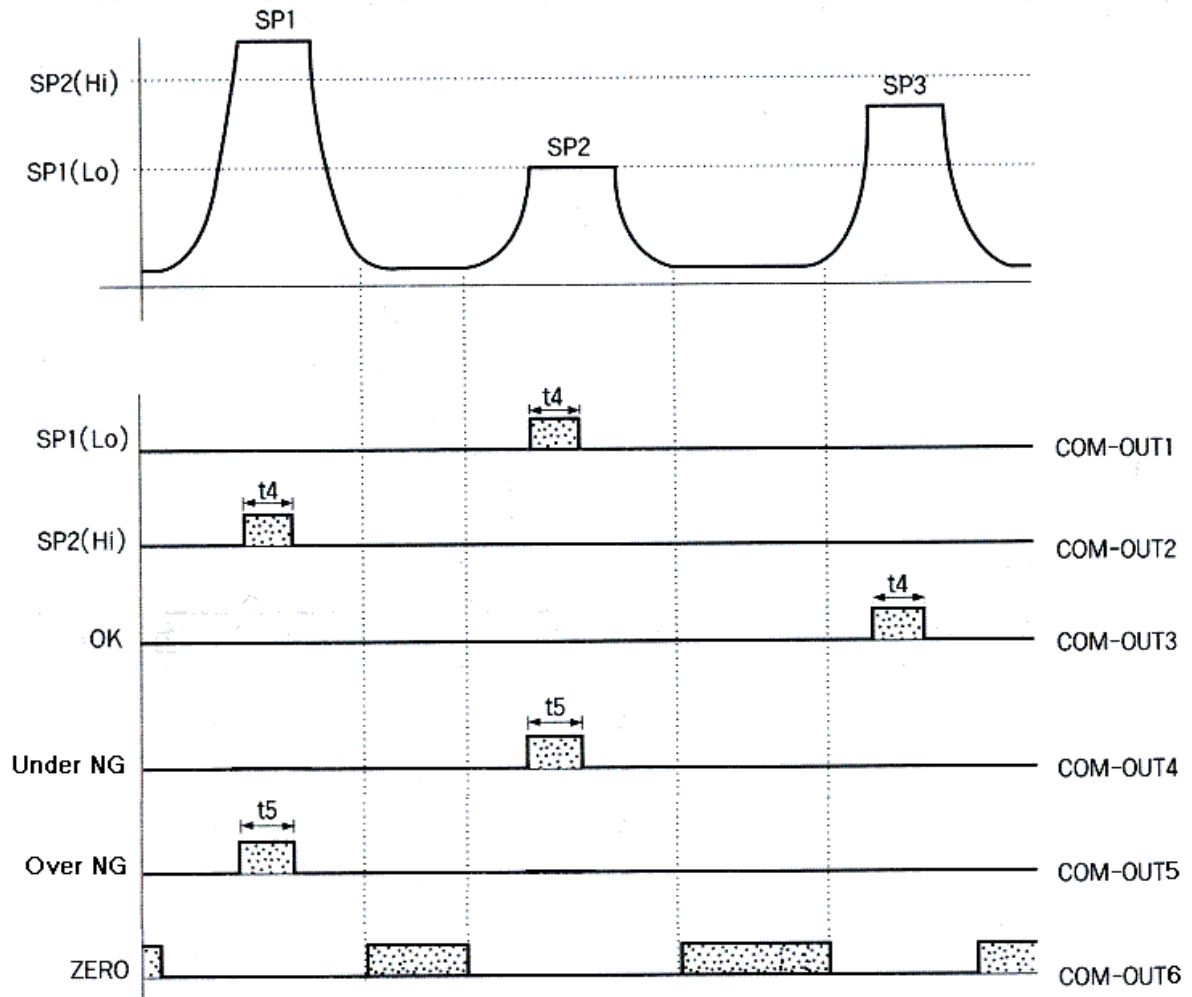
WEIGHING COMPLETION RELAY OUTPUT DELAY TIME (F21-01 : Packer Mode SETTING)			
F22	10	0 ∫ 99	Delay time from the start of SP4 relay operation until the start of Completion Relay Operation can be set. *Note 00 : Finish signal (Relay Output) when weight is stable. 01 : Finish signal (Relay Output) after 0.1 sec. 99 : Finish signal (Relay Output) after 9.9 sec.

WEIGHING COMPLETION RELAY OUTPUT ON TIME (F21-01 : Packer Mode SETTING)			
F23	10	0 ∫ 99	Weighing completion Relay On time can be set. *Note 00 : Weighing Completion Relay continued. 01 : Finish signal (Relay Output) for 0.1 sec. 99 : Finish signal (Relay Output) for 9.9 sec.

WEIGHING COMPLETION RELAY OUTPUT DELAY TIME (Checker Mode)			
F24	10	00 ∫ 99	Delay time from weighing completion until the start of Judging Relay Operation can be set. ∗Note 01 : Judging signal (Relay Output) after 0.1 sec. 99 : Judging signal (Relay Output) after 9.9 sec.

WEIGHING JUDGING RELAY OUTPUT ON TIME (Checker Mode)			
F25	10	00 ∫ 99	Weighing Completion Relay ON time can be set. ∗Note 01 : Judging signal (Relay Output) after 0.1 sec. 99 : Judging signal (Relay Output) after 9.9 sec.

WEIGHING NG RELAY OUPUT ON TIME (t5)			
F28	10	00 ~ 99	Weighing completion Relay ON time can be set. * Note 01 : Relay ON for 0.1 sec. 99 : Relay ON for 9.9 sec

※ SERIAL I/F

			SERIAL COMMUNICATION : PARITY BIT SETTING
F30	●	0	No Parity
		1	Odd Parity
		2	Even Parity

			SERIAL COMMUNICATION : SELECT COMMUNICATION SPEED
F31		0	115,200 bps
		1	76,800 bps
		2	57,600 bps
		3	38,400 bps
		4	28,800 bps
		5	19,200 bps
		6	14,400 bps
	●	7	9,600 bps
		8	4,800 bps
		9	2,400 bps

			SERIAL COMMUNICATION MODE (WHEN F33 IS SET AS "0")
F32	●	0	Stream Mode: Always output weight value continuously.
		1	Steady Mode: Data output as soon as measuring is steady.
		2	Data output when Print Key is pressed.

			SERIAL COMMUNICATION METHOD
F33	●	0	One-way transmit Mode
		1	Command Mode
		2	LCD Mode
		4	External display mode

			ID NUMBER SETTING
F34	1	1~99	ID number is to identify each device.

			TRANSMIT DATA FORMAT
F35	●	0	Basic FORMAT
		1	Basic FORMAT + Time
		2	CAS FORMAT

BCC SELET MODE

| F36 | ● | 0 | BCC No Use. |
| | | 1 | BCC Use. |

· Refer to description on Serial I/F

※ CENTRONICS PARALLEL OUT (PRINTER I/F)

SET WEIGHING UNIT PRINT			
F40	●	0	Kg
		1	g
		2	ton

SELECT DATA OUTPUT IN CASE OF AUTO PRINT			
F41	●	0	Automatic print is operated when weight is less than the setting value of F80 (near Zero) and increased again to be steady.
		1	Automatic print is operated when Steady lamp for weight on scale is OFF and then ON again.

SET PRINT FORMAT			
F42	●	0	Consecutive Print: Serial and weight will be printed consecutively.
		1	Individual Print: Print will be made each time measuring is done.

SET PRINT SUBTOTAL GRAND MEMORY REMOVE			
F43	●	0	Remove Subtotal: Press Clear Key and then press SUB Key. Remove Grand: Press Clear Key and then press Grand Key
		1	Remove Subtotal, Grand automatically once printing is done.

CONTROL PAPER FEEDING ONCE PRINTIN IS COMPLETED			
F44	4	0 ∫ 9	1 Count increase = 1 Line increase **(This will be applied only to individual print and subtotal print.)**

SET PRINT LINE INTERVAL			
F45	1	0 ∫ 9	When print output, print 1 line and then adjust the interval to the next line. 1 Count increase = 1 Line increase **(This will be applied only to consecutive print.)**

SUBTOTAL PRINT MODE			
F46	●	0	Output weight value in case of printing subtotal.
		1	Print Max. Min and Average value in case of printing subtotal.

SELECT PRINT FONT			
F47	●	0	Korean
		1	English

PRINT DELAY TIME			
F48	00	0.0 ∫ 9.9	Set print delay time from 0.1 to 9.9 sec 0.0 sec: No use for print delay time

PRINTER AUTO OR MANUAL SELECT MODE			
F49	●	0	MANUAL MODE
		1	AUTO MODE

SET KEY TARE OPERATION MODE			
F52	●	0	Key Tare No Use
		1	Key Tare Use Available

FUNCTION AUTO SETTING MODE	
F77	This is to automatically set the setting value of Function to the initial factory default.. ** If other setting value is applied, please **do not access** to F77 Mode.

SET NEAR ZERO(EMPTY) RANGE		
F80	0.10	This is near Zero range to check the emptiness of scale. EX) 000: Weight display is "0" : Near Zero Relay is operated. 010: Weight display is below 10" : Near Zero Relay is operated. 150: Weight display is below "150" : Near Zero Relay is operated.

SET ZERO DISPLAY RANGE		
F81	XXXXXX	This is to set the zero display range. EX) If 50 is set, the numbers less than 50 will be all displayed as "0."

CHECK CALIBRATION SPAN CONSTANT

F89	On SET-UP Mode, KEY 89 and then "CLEAR" KEY is pressed, SPAN constant will be displayed on weight section. Once you check the SPAN constant, please return to previous menu by pressing "CLEAR" Key. If you change SPAN constant, please press "ENTER" Key and then" CLEAR" Key. *Note: Please do not change constant at random since a tolerance can be caused between the actual weight values. ※ REFERENCE If there is a mall tolerance on weight value. You can adjust it by changing SPAN constant. EX) Actual weight value: 100Kg. Indicator display value: 105Kg, F89 Constant 1.23456 How to change = (Actual weight value ÷ Indicator display value) X F89 Constant = (100÷105) X 1.23456 = 1.17577) Once you change the current F89 constant 1.23456 to 1.17577, the indicator display value will be shown as 100Kg

CONFIRM & CHANGE DATE (YEAR, MONTH, DATE)	
F90	You can confirm or change current date.

CONFIRM & CHANGE TIME (HOUR, MINUTE, SECOND)	
F91	You can confirm or change current time.

7. INTERFACE

7-1. Serial Interface

● RS-232C Serial Interface

RS-232C Interface is sensitive to electric noise..

Therefore, please do the wiring separately from the wires of AC Power Cable or other electric wires and you must use Shield Cable for it.

Communication Mode: You can set on F-Function(F30~F35).

▶ Signal Format

①Type: EIA-RS-232C

②Method: Half-Duplex, asynchronous method, Stream

③Baud-rate: 2400,4800,9600,14400,19200,28800,38400,57600,76800,115200 can be selected.

④Data bit: 7 or 8(No, Parity)

⑤Stop bit: 1

⑥Parity bit: Even, Odd, No, Parity can be selected

⑦Code: ASCII
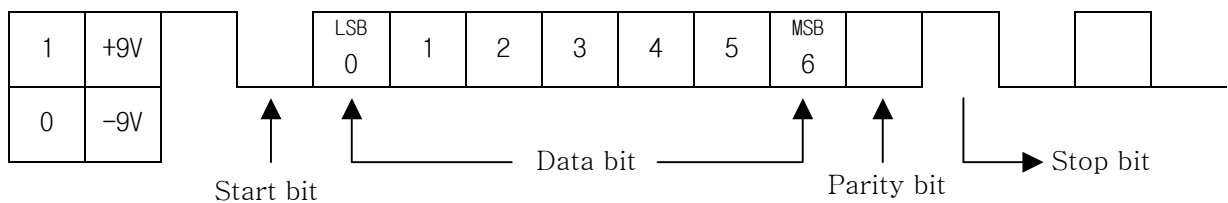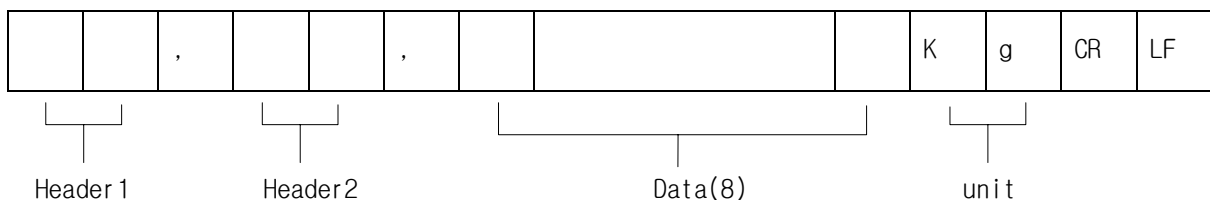
1	+9V		LSB 0	1	2	3	4	5	MSB 6			
0	-9V											

Start bit — Data bit — Parity bit → Stop bit

⑧Data format(1)

		,			,			K	g	CR	LF

Header1　　　Header2　　　Data(8)　　　unit

▶ Header 1

- OL: OVER LOAD, UNDER LOAD
- ST: Display Stable
- US: Display unstable

▶ Header 2

- NT: NET WEIGHT
- GS: GROSS WEIGHT

▶ Data on number
  - 2B (H): "+"PLUS
  - 2D (H): "-"MINUS
  - 20 (H): " "SPACE
  - 2E (H): "."Decimal point

▶ UNIT
  - Kg

⑨Data format(2)
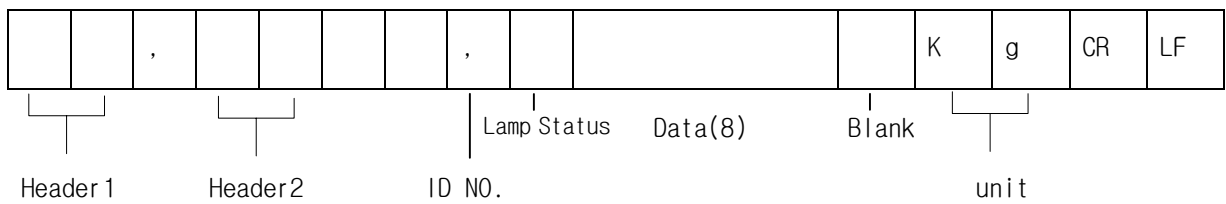
		,				,				K	g	CR	LF

Header1　　　　Header2　　　　ID NO.　　Lamp Status　　Data(8)　　Blank　　　　　　　　unit

▶ Header 1
  - OL: OVER LOAD, UNDER LOAD
  - ST: Display Stable
  - US: Display Unstable

▶ Header 2
  - NT: NET WEIGHT
  - GS: GROSS WEIGHT

▶ ID Number: To be set on F33

▶ Lamp Status: Shows current lamp's ON and OFF Status

bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0
1	Stable	1	Hold	Print	Gross Weight	Tare	Zero

▶ Data on Number
  - 2B (H): "+"PLUS
  - 2D (H): "-"MINUS
  - 20 (H): " "SPACE
  - 2E (H): "."Decimal point

▶ UNIT
  - Kg

33

▶ CONNECTION TO PC (Personal Computer) AND OTHER DEVICES.

3: TxD	RxD : 2
2: RxD	TxD : 3
5: SG	SG : 5

PERSONAL COMPUTER
9 PIN(STANDARD)

INDICATOR

▶RS-232C Circuit

2. RxD

3. TxD

5. SG
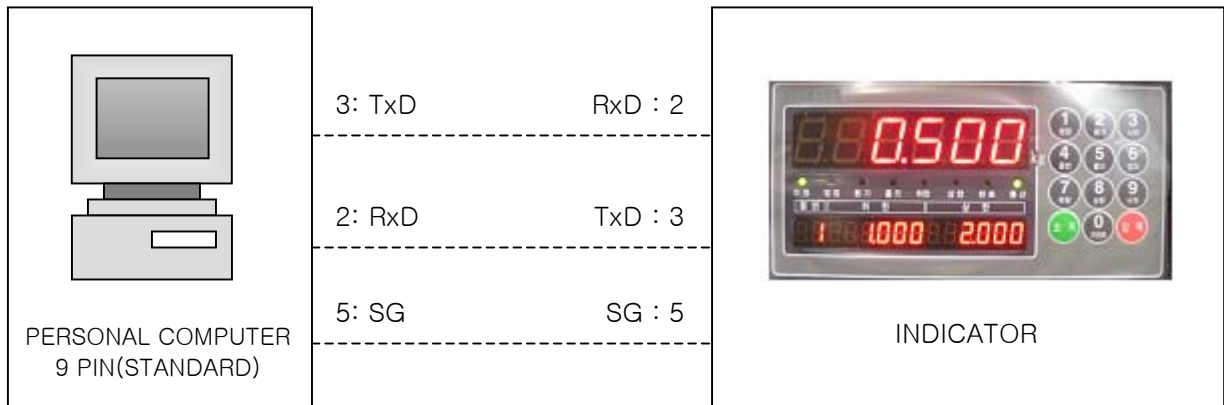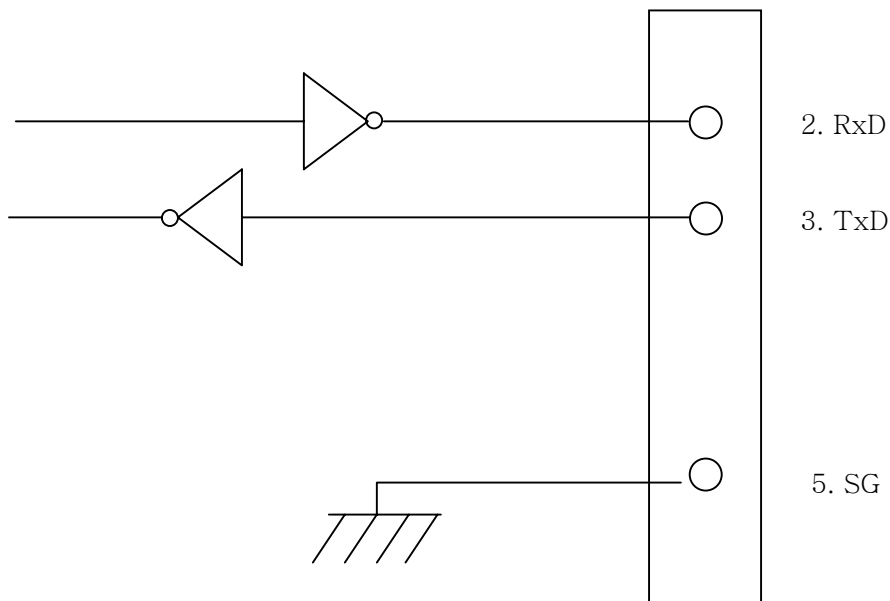
7-2 Current Loop Interface

Current Loop Interface is stronger than RS232C against electric noise. Therefore, it is more suitable for medium distance transmit. (about100M)

▶ Transmission Mode
Same as RS232C

▶ Signal Format
Same as RS232C

1	20mA
0	0mA

▶ Data Format
Same as RS232C

▶ Connection to External Display and other devices

EXTERNAL DISPLAY   1 : RxD   C/L   INDICATOR

                          2 : RxD   C/L
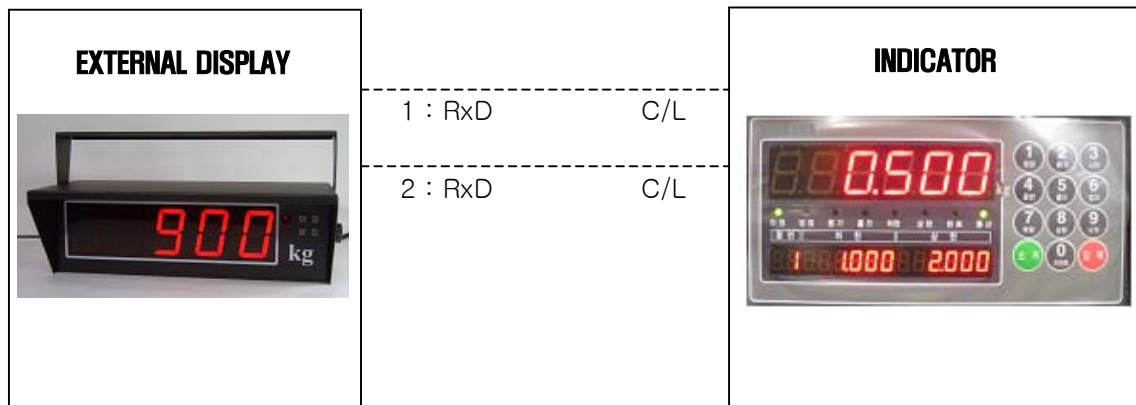
▶ Current Loop Circuit Schematic
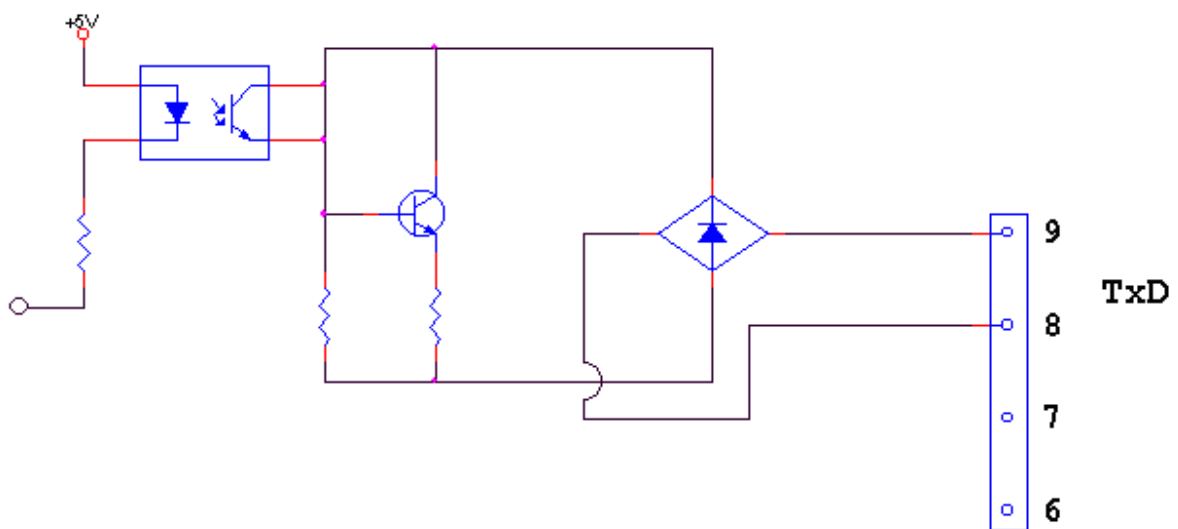
7-3. RS-422 Series Communication (Option 04)

RS-422 is to transmit signal by voltage difference. Therefore, it is more stable than other communication methods against electric noise.
Please do wiring separately from AC Power Cable and other electric wires. Also you must use exclusive Shield Cable(over 0.5Φ) for communication.
Recommended distance for use is within 1.2Km.

▶ SIGNAL FORMAT
① TYPE : RS-422
② FORMAT: ⓐ Baud-Rate: 300~115200 can be selected.
　　　　　　 ⓑ Data Bit: 7 or 8 (No Parity)
　　　　　　 ⓒ Stop: 1
　　　　　　 ⓓ Parity Bit: Even, Odd, No Parity can be selected.
　　　　　　 ⓔ Code: ASCII

| 1 | 1.5V | | LSB | 1 | 2 | 3 | 4 | 5 | MSB | | | | |
| 0 | Potential difference | | 0 | | | | | | 6 | | | | |

Start 1 bit　　　　　　Data bit　　　　　　Parity bit　　　Stop 1 bit

▶ One-Way Transmit MODE

| STX (1) | ID.NO. (2) | COMMAND (4) | DATA (14) | BCC (1) | ETX (1) |

| Header1 (2) | Header2 (2) | DATA (8) | UNIT (2) |
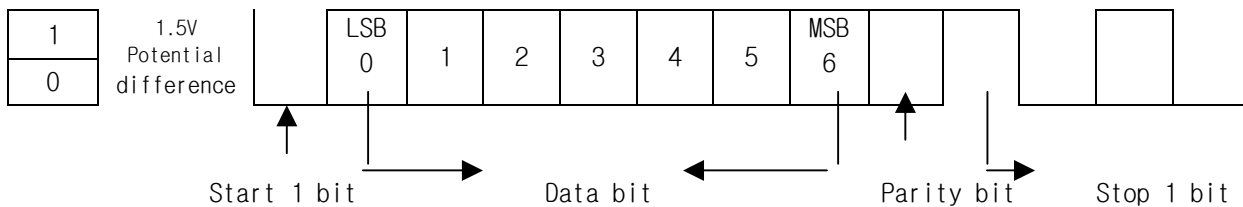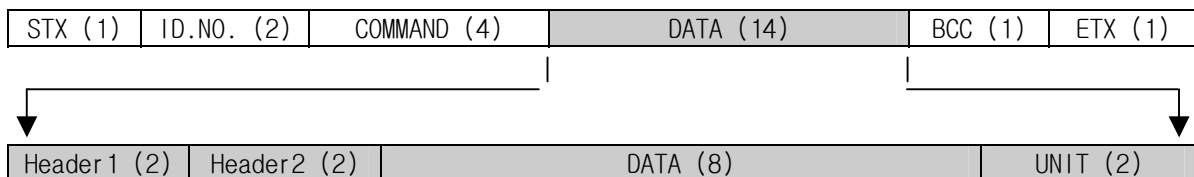
1. Header1
   - Stable
   - Unstable
   - Over Load

2. Header2
   - Net Weight
   - Net Hold Weight
   - Gross Weight
   - Gross Hold Weight

3. UNIT
   - kg
   - t

4. DATA
   - Weight including sign and decimal point
   -
5. BCC = Σ i %(MOD) 127(7FH) ^(XOR) 136(88H)

▶ COMMAND MODE
(READ COMMAND)

TO → INDICATOR	명령어 설명	INDICATOR 응답
STX ID. NO. RTIM BCC ETX	Command to transmit Time data of indicator	Transmit time DATA(6) - STX ID. NO. RTIM 000000 BCC ETX
STX ID. NO. RDAT BCC ETX	Command to transmit Date data of indicator	Transmit date DATA(6) - STX ID. NO. RDAT 000000 BCC ETX
STX ID. NO. RSNO BCC ETX	Command to transmit Serial Number	Transmit S/N (6) - STX ID. NO. RSNO 000000 BCC ETX
STX ID. NO. RCNO BCC ETX	Command to transmit Code Number	Transmit code number (6) - STX ID. NO. RCNO 000000 BCC ETX
STX ID. NO. RPNO BCC ETX	Command to transmit Part Number	Transmit P/N(2) - STX ID. NO. RPNO 00 BCC ETX
STX ID. NO. RTAR BCC ETX	Command to transmit "KEY Tare" Weight	Transmit KEY Tare (6) - STX ID. NO. RTAR 000000 BCC ETX
STX ID. NO. RCWT BCC ETX	Command to transmit "Current weight"	Transmit currently measured weight - STX ID. NO. RCWT DATA1 BCC ETX
STX ID. NO. RSUB BCC ETX	Command to transmit "Subtotal"	- STX ID. NO. RSUB P/N(2) CODE_BUF(6) COUNT(6) S.T.W(8) UNIT BCC ETX ▲____No decimal point.
STX ID. NO. RGRD BCC ETX	Command to transmit "Total"	- STX ID.NO. RGRD P/N(2) CODE(6) G.T.W(8) UNIT BCC ETX ▲___ No decimal point .
STX ID. NO. RFIN BCC ETX	Command to transmit measuring status	Transmit measuring status (FN: finished, RN: under measuring) - STX ID. NO. RFIN FN (Measuring completion 6 digit weight) BCC ETX - STX ID. NO. RFIN RN BCC ETX
STX ID. NO. RCWD BCC ETX	Command to transmit all the current data memorized in the indicator	Transmit "Current weight" - STX ID. NO. RCWD DATA2 BCC ETX
STX ID. NO. RSP1 BCC ETX	Command to transmit SP1 DATA	Transmit SP1 DATA(6) - STX ID.NO. RSP1 000000 BCC ETX
STX ID. NO. RSP2 BCC ETX	Command to transmit SP2 DATA	Transmit SP2 DATA(6) - STX ID.NO. RSP2 000000 BCC ETX
STX ID. NO. RFRE BCC ETX	Command to transmit the difference in elevation Data	Transmit the difference in elevation DATA(6) - STX ID.NO. RFRE 000000 BCC ETX
STX ID. NO. RUND BCC ETX	Command to transmit lower limit DATA	Transmit lower limit DATA(4) - STX ID.NO. RUND 0000 BCC ETX
STX ID. NO. ROVE BCC ETX	Command to transmit upper limit DATA	Transmit upper limit DATA(4) - STX ID.NO. ROVE 0000 BCC ETX

※ DATA1 (14), RCWT

HEADE1 (2)	HEADE2 (2)	Weight including sign, decimal point(8)	UNIT (kg or t)(2)

※ DATA2 (38) , RCWD

DATE (6)	TIME (6)	P/N (2)	CODE (6)	S/N (6)	KEY TARE (6) (F52 ,1)	NET.W (6)

▶ COMMAND MODE
(WRITE COMMAND)

TO → INDICATOR	명령어 설명	INDICATOR 응답
STX ID. NO.　WTAR　BCC　ETX	Command to set "TARE"	STX ID. NO.　**WTAR ACK** BCC ETX or STX ID. NO.　**WTAR NAK** BCC ETX
STX ID. NO.　WTRS　BCC　ETX	Command "TARE RESET"	STX ID. NO.　**WTRS ACK** BCC　ETX or STX ID. NO.　**WTRS NAK** BCC　ETX
STX ID. NO.　WZER　BCC　ETX	Command to set "ZERO"	STX ID. NO.　**WZER ACK** BCC　ETX or STX ID. NO.　**WZER NAK** BCC　ETX
STX ID. NO.　WPRT　BCC　ETX	Command to carry out "PRINT"	STX ID. NO.　**WPRT ACK** BCC　ETX or STX ID. NO.　**WPRT NAK** BCC　ETX
STX ID. NO.　WSPR　BCC　ETX	Command to carry out "SUB-PRINT"	STX ID. NO.　**WSPR ACK** BCC　ETX or STX ID. NO.　**WSPR NAK** BCC　ETX
STX ID. NO.　WGPR　BCC　ETX	Command to carry out "GRAND-PRINT"	STX ID. NO.　**WGPR ACK** BCC　ETX or STX ID. NO.　**WGPR NAK** BCC　ETX
STX ID. NO.　WDAT DATE BCC ETX ex) STX ID.NO WDAT 00000000 BCC ETX	Command to change the date on Timer memorized in indicator.	STX ID. NO.　**WDAT ACK** BCC　ETX or STX ID. NO.　**WDAT NAK** BCC　ETX
STX ID. NO.　WTIM TIME BCC ETX ex) STX ID.NO WTIM 000000 BCC ETX	Command to change the time on Timer memorized in indicator.	STX ID. NO.　**WTIM WCK** BCC　ETX or STX ID. NO.　**WTIM NAK** BCC　ETX
STX ID. NO.　WSNO S/N(6) BCC ETX ex) STX ID.NO WSNO 000000 BCC ETX	Command to change "Serial" memorized inside.	STX ID. NO.　**WSNO ACK** BCC　ETX or STX ID. NO.　**WSNO NAK** BCC　ETX
STX ID. NO. WPNO P/N(2) BCC ETX ex) STX ID.NO WPNO　00　BCC　ETX	Command to change "PART NUMBER" to the DATA that is now being transmitted	STX ID. NO.　**WPNO ACK** BCC　ETX or STX ID. NO.　**WPNO NAK** BCC　ETX
STX ID. NO. WCNO C/N(6) BCC ETX ex) STX ID.NO WCNO 000000 BCC ETX	Command to change "CODE" to the DATA that is now being transmitted.	STX ID. NO.　**WCNO ACK** BCC　ETX or STX ID. NO.　**WCNO NAK** BCC　ETX

STX ID. NO. WHOL BCC ETX	Command to set "HOLD"	STX ID. NO. **WHOL ACK** BCC ETX or STX ID. NO. **WHOL NAK** BCC ETX
STX ID. NO. WHRS BCC ETX	Command "HOLD RESET"	STX ID. NO. **WHRS ACK** BCC ETX or STX ID. NO. **WHRS NAK** BCC ETX
STX ID. NO. WSTC BCC ETX	Command "SUB TOTAL CLEAR"	STX ID. NO. **WSTC ACK** BCC ETX or STX ID. NO. **WSTC NAK** BCC ETX
STX ID. NO. WGTC BCC ETX	"Command GRAND TOTAL CLEAR"	STX ID. NO. **WGTC ACK** BCC ETX or STX ID. NO. **WGTC NAK** BCC ETX
STX ID. NO. WSTR BCC ETX	"Command START"	STX ID. NO. **WGTC ACK** BCC ETX or STX ID. NO. **WGTC NAK** BCC ETX
STX ID. NO. WSTO BCC ETX	Command "STOP"	STX ID. NO. **WGTC ACK** BCC ETX or STX ID. NO. **WGTC NAK** BCC ETX
STX ID. NO. WSP1 SP1(6) BCC ETX ex) STX ID.NO WSP1 000000 BCC ETX	Command to change "SP1" to the data value that is now being transmitted.	STX ID. NO. **WCNO ACK** BCC ETX or STX ID. NO. **WCNO NAK** BCC ETX
STX ID. NO. WSP2 SP2(6) BCC ETX ex) STX ID.NO WSP2 000000 BCC ETX	Command to change "SP2" to the data value that is now being transmitted.	STX ID. NO. **WCNO ACK** BCC ETX or STX ID. NO. **WCNO NAK** BCC ETX
STX ID. NO. WFRE 낙차(6) BCC ETX ex) STX ID.NO WFRE 000000 BCC ETX	Command to change "Difference in elevation" to DATA value that is currently transmitting. "	STX ID. NO. **WFRE ACK** BCC ETX or STX ID. NO. **WFRE NAK** BCC ETX
STX ID. NO. WUND 하한(4) BCC ETX ex) STX ID.NO WUND 0000 BCC ETX	Command to change "Lower limit " to DATA value that is currently transmitting.	STX ID. NO. **WUND ACK** BCC ETX or STX ID. NO. **WUND NAK** BCC ETX
STX ID. NO. WOVE 상한(4) BCC ETX ex) STX ID.NO WOVE 0000 BCC ETX	Command to change "Upper limit" to DATA value that is currently transmitting	STX ID. NO. **WOVE ACK** BCC ETX or STX ID. NO. **WOVE NAK** BCC ETX

※ ACK = Reception Completed (Normal Operation), NAK = Bad Reception (Retry Transmission)

▶ CONNECTION TO PC (Personal Computer) AND OTHER DEVICES.

TXD+	RXD+ 6	
TXD−	RXD− 7	
RXD−	TXD− 8	
RXD+	TXD+ 9	

PERSONAL COMPUTER
9 PIN(Standard)

INDICATOR
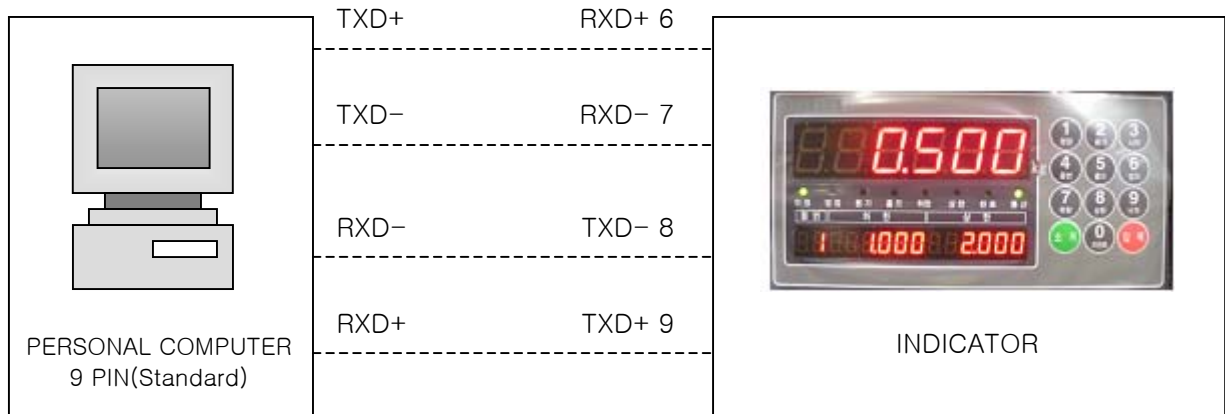
Connection in case of using 422 Option Card

7-4. PRINTER INTERFACE (Option 01)

It is a serial Interface method and this method can be used for the connection to all printers communicated by this communication method. Print Format is programmed conforming to YJ-350(S/D, S/T).

▶ Connector Pin Assignment

| 핀 번호	신 호	설 명	구 분
1	NC	STROBE Signal	Output
2	RXD	Data Input	Input
3	TXD	Data Output	Output
4	NC	–	”
5	GND	GROUND	Output
6	NC	–	”
7	NC	–	”
8	NC	–	”
9	NC	–	”

40

7-5. ANALOG OUT(0~10V)INTERFACE(Option 02)

This Option is to transmit display weight value by Voltage out to the external devices (such as Recoder, P.L.C Main Control etc.) controlled by analog signal.

▶ SPECIFICATIONS

Output Voltage	0~10V DC Output
Accuracy	Over 1/1000

▶ CONNECTOR (9P D-TYPE Female) & Circuit
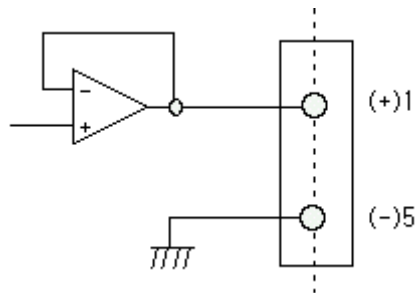
※ This Voltage Output generates analog voltage (0~10V) compared to the weight display signal input.

▶ ADJUST (Refer to the details at Page33.)

① At dispatch, it is set as 0V with weight display "0" and 10V with maximum load.
② It is set accurately when output voltage is measured by DIGITAL MULTI-METER.
  Please do the detailed adjustment for VR1 (Zero on Analog out PCB) and VR2 (SPAN) inside of indicator.
  ※ Note: This Analogue out output is printed after converting displayed weight value (Micro Process DATA) to Analogue value by D/A converter.
  The accuracy of D/A converter is below 1/4000. Therefore, users should use the device with accuracy below 1/3000
  This is not suitable for the device that requires high accuracy over 1/3000.
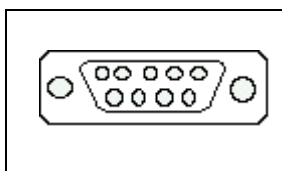
▶ CONNECTOR

9 Pin D-TYPE Female Connector
1 : HI(+)
5 : Lo(-)

EX

If you need 0~5VDC 1~5VDC Output,
please ask us in advance before we dispatch the product.

7-6. ANALOG OUT(4~20㎃)INTERFACE(Option 03)

This Option is to transmit display weight value by Current out to the external devices (such as Recoder, P.L.C Main Control etc.) controlled by analog signal.

▶ SPECIFICATIONS

Output Current	4~20㎃ for Available Range, Output Range is 2~22㎃
Accuracy	Over 1/1000
Temperature Coefficient	0.01%℃
MAX Load Impedance	500Ω MAX.

▶ When weight display is 0, Output current 4㎃ will be made. When weight display is maximum display capacity, 20㎃ will be made.

▶ This should not connected any other device's GND Line or Body GND or any other similar device since Lo(-) circuit is not GND.

*Equivalent Circuit

Hi

MAX, 500Ω

Lo

-12v
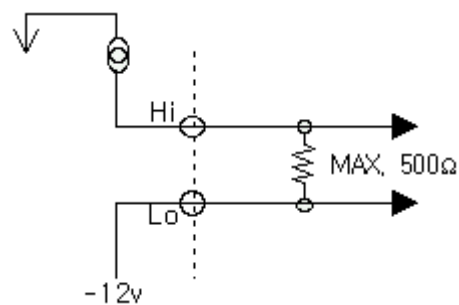
▶ ADJUST

1. At dispatch, it is set as 4㎃ with weight display "0" and 20㎃ with maximum load.
2. If you don't get accurate output when you measure output current with DIGITAL MULTI-METER, please do the detailed adjustment on VR_1 (ZERO), VR_2 (SPAN) on Analog Out PCB inside the indicator.
※ Note: This Analogue out output is printed after converting displayed weight value (Micro Process DATA) to Analogue value by D/A converter.
The accuracy of D/A converter is below 1/4000. Therefore, users should use the device with accuracy below 1/3000
This is not suitable for the device that requires high accuracy over 1/3000.
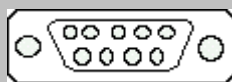
▶ CONNECTOR

9 Pin D-TYPE Female Connector
1: HI (+)
5: Lo (-)

- PRINTER SPECIFICATION -

1. Interface : RS232C Serial

2. Protocol : 9600 bps , No Parity, 8, 1

3. Column : 30 Column

4. Korean Font type : Combination Type

5. Emulation : EPSON TM-T88II

YJ-350 Printer		INDICATOR
	GND ——— GND1	
	RXD ——— TXD1	
	TXD ——— RXD1	

- Print Format -

Consecutive, Subtotal, Total Printing

```
============================
날   짜 :   2001/03/05[월]
시   간 :      10:16:30
품번  코드    순번    중량
56     1      1     45.0 kg
56     2      2     48.6 kg
56     3      3     49.8 kg
56     4      4     49.2 kg
56     5      5     49.0 kg
56     6      6     49.0 kg
56     7      7     48.6 kg
============================

============================
           소   계
날   짜 :   2001/03/05[월]
시   간 :      10:16:34
품 번 코 드 :          56
순       번 :           7
최 소 값 :         45.0 kg
최 대 값 :         49.8 kg
평 균 값 :         48.4 kg
계량횟수 :              7
누계중량 :        339.2 kg
============================

============================
           총   계
날   짜 :   2001/03/05[월]
시   간 :      10:16:35
품번  코드    순번    중량
56     7      7    339.2 kg
99   527      8    449.0 kg

총 품번 :              2
총 횟수 :             15
총 중량 :        788.2 kg
============================
```

Consecutive, Subtotal, Total Printing in English

```
============================
DATE    :   2006/12/14 THU
TIME    :      15:28:55
PART  CODE   SERIAL   WEIGHT
 1     1       1     50.00 kg
 1     1       2     50.00 kg
 1     1       3     50.01 kg
 1     1       4     50.00 kg
 1     1       5     20.62 kg

============================
          SUB-TOTAL
DATE    :   2006/12/14 THU
TIME    :      15:29:30
PART    :           1
CODE    :           1
MIN     :       20.62 kg
MAX     :       50.01 kg
AVG     :       44.12 kg
T-COUNT :           5
T-WEIGHT :      220.63 kg
============================

============================
          GRD-TOTAL
DATE    :   2006/12/14 THU
TIME    :      15:29:31
PART  CODE   SERIAL   WEIGHT
 1     1       5    220.63 kg

T-PART   :          1
T-COUNT  :          5
T-WEIGHT :     220.63 kg
============================
```

Individual Printing

```
============================
날   짜 :   2006/12/14[목]
시   간 :      13:36:10
품번  코드    순번    중량
 1     1       1    50.00 kg
============================
날   짜 :   2006/12/14[목]
시   간 :      13:36:16
품번  코드    순번    중량
 1     1       2    50.01 kg
============================
날   짜 :   2006/12/14[목]
시   간 :      13:37:04
품번  코드    순번    중량
 1     1       3    50.01 kg
============================
날   짜 :   2006/12/14[목]
시   간 :      13:37:10
품번  코드    순번    중량
 1     1       4    50.00 kg
============================
```

Individual Printing in English

```
============================
DATE    :   2006/12/14 THU
TIME    :      15:26:32
PART  CODE   SERIAL   WEIGHT
 1     1       1    50.00 kg
============================
DATE    :   2006/12/14 THU
TIME    :      15:26:38
PART  CODE   SERIAL   WEIGHT
 1     1       2    50.00 kg
============================
DATE    :   2006/12/14 THU
TIME    :      15:26:43
PART  CODE   SERIAL   WEIGHT
 1     1       3     2.24 kg
============================
DATE    :   2006/12/14 THU
TIME    :      15:26:50
PART  CODE   SERIAL   WEIGHT
 1     1       4     3.02 kg
============================
```