

Bench Scale

DB-II

OWNER'S MANUAL (VFD Ver.)



9002-DB2-VF33-3

2006.07



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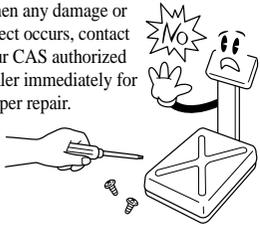
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PRECAUTIONS

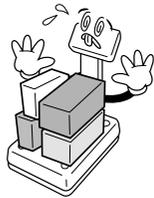
Precautions when installing the scale. To ensure that you get the most from your scale, please follow these instructions.

Warning

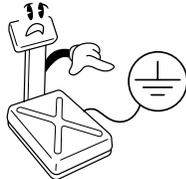
Do not disassemble the scale. When any damage or defect occurs, contact your CAS authorized dealer immediately for proper repair.



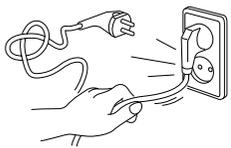
Do not overload beyond the maximum weight limit.



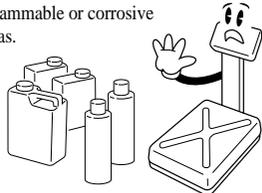
Scale must be grounded to minimize electricity static. This will minimize defect or electric shock.



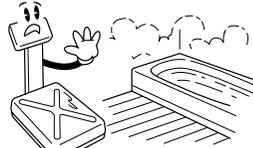
Do not pull the plug by its cord when unplugging. Damaged cord could cause electric shock or fire.



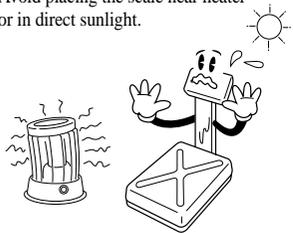
To prevent from fire occurring, Do not place or use the scale near flammable or corrosive gas.



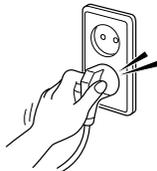
To reduce electric shock or incorrect reading, Do not spill water on the scale or place it in humid condition.



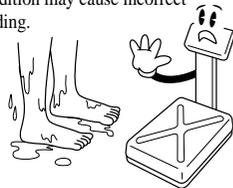
Avoid placing the scale near heater or in direct sunlight.



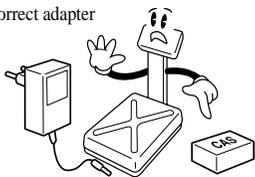
Insert plug firmly to wall outlet to prevent electric shock.



Do not step on the scale with wet feet. Platter becomes slippery. Humid condition may cause incorrect reading.



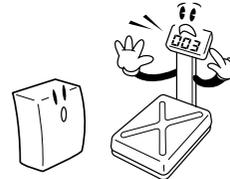
Use proper Adapter. Incorrect adapter could damage the scale.



Make sure to plug your scale into the proper power outlet. For maximum performance, plug into a power outlet 30 minutes before the usage for warm up.

Attention

For consistent and accurate reading, maintain periodical check by your CAS authorized dealer.



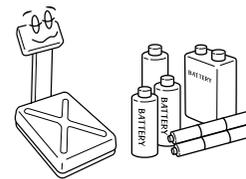
Avoid sudden shock to the scale. Internal mechanism could be damaged.



Grab on the bottom of the scale when moving. Do not hold by the platter.



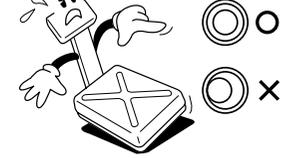
Take the battery out when scale is not in use for long time. Leakage from the batteries is hazardous.



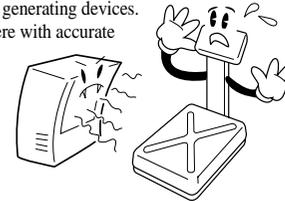
Place the scale on firm and temperature consistent environment.



By adjusting 4 corners of the scale, set the scale even using the built in scale leveling indicator.



Keep the scale away from other electromagnetic generating devices. This may interfere with accurate reading.

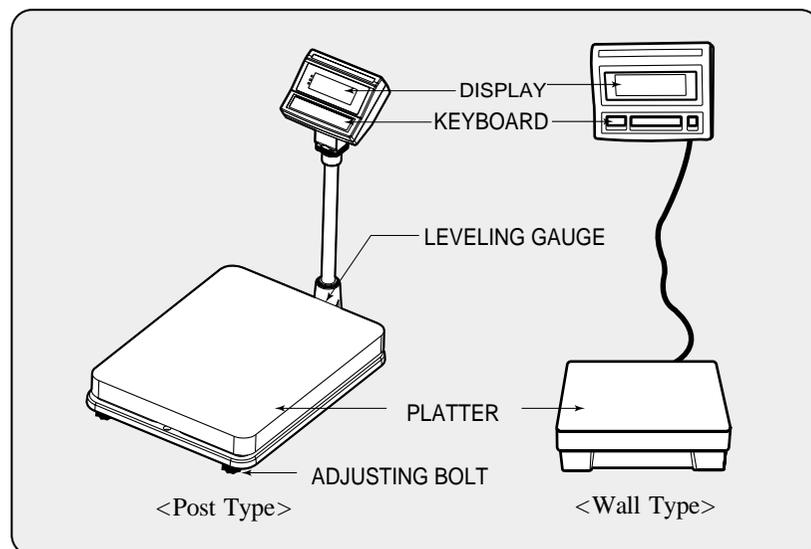


PREFACE

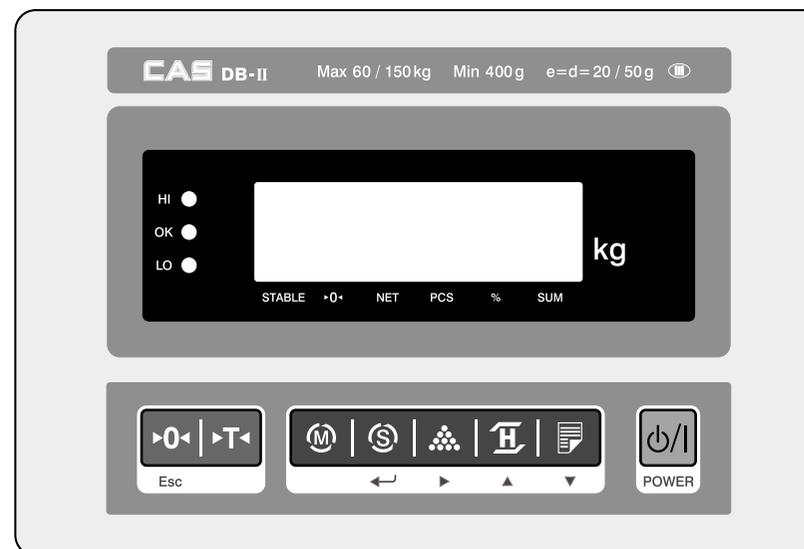
Thank you for purchasing our CAS DB-II series scale.
 These series have been designed with CAS reliability, under rigid quality control and with outstanding performance. Your specialty departments can enjoy these high quality reliable CAS products.
 We believe that your needs will be satisfied and you will have reliability.
 This manual will help you with proper operation and care of the DB-II series.
 Please keep this handy for future reference.

NAMES AND FUNCTIONS

OVERALL VIEW



DISPLAY AND KEYBOARD



KEY FUNCTIONS

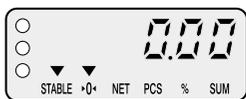
KEYS	DESCRIPTIONS
 Esc	Used to set the zero point to 0.00. Used as an ESC key in Setup Mode.
	Used to enter a tare weight and used to cancel a tare weight.
	Used to convert the mode as below. [kg] → [pcs] → [%] → [WEIGHT LIMIT ON/OFF] → [COUNT LIMIT ON/OFF] → [kg]
	Used as an ENTER key.
	Used to calculate a unit weight of a sample. [▶] Used to enter next digit.
	Used to display average weight. [▲] Used to have number up.

KEYS	DESCRIPTIONS
	PRINT key. [▼] Used to have number down.
	Used to turn ON or OFF the power.

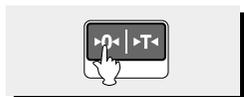
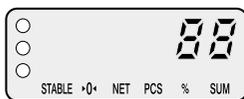
OPERATIONS

1. General Weighing

- The display indicates if the scale is at zero or if there is a tare entered into the scale by way of a ZERO and NET.



- Turn on the power.
The display shows 0.00.
Make sure that STABLE and ZERO lamps are on.



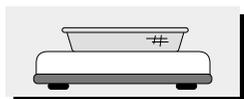
- When the display is not zero though there is nothing on the platter, press the ZERO key.



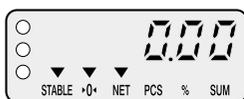
- Place an item on the platter.
When the STABLE lamp is on, read the weight.

2. Weighing with Tare

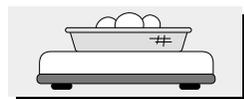
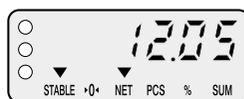
- Tare is the weight of container being used for a commodity.
The TARE key subtracts the weight of the container.



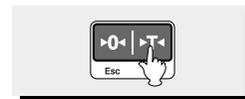
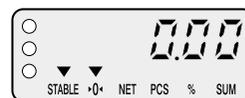
- Place the container on the platter.



- Press the TARE key, NET lamp is on.



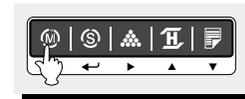
- Place an item in the container.



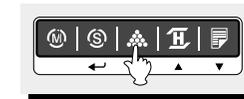
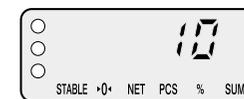
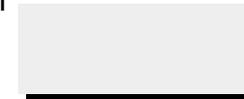
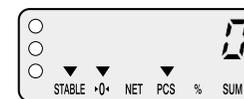
- To release the TARE function, remove an item and container from the platter and press the TARE key.

3. Counting Mode

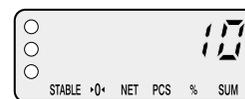
- If you want to count parts, first you have to set sample size.



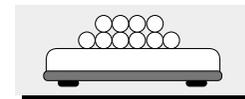
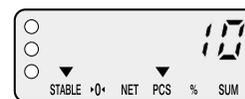
- Press the MODE key until the display shows "PCSSET". Make sure that COUNT lamp is on. If you have set sample size before, the display shows "0".



- Press the SAMPLE key, then the display shows "10".



- If you want to increase sample size, press the SAMPLE key.
The display shows 10, 20, 30, 40, 50, 100, 150 and 200 every time pressing the SAMPLE key.

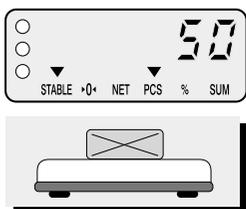


- If you set sample size to 10, place 10 samples on the platter.

- ⑤ Press the SET key. The display shows unit weight and then shows the number of samples. If the display shows "LACK", the counting result may not correct. (LCD version : Lack of Unit lamp is On) If the display shows "LOW", it is impossible to count samples because the unit weight is too small. (Refer to Table 1)

Model	DB-II 60 kg	DB-II 150 kg	DB-II 300 kg
Range of Lack	10g ≥ Lack ≥ 1g	20g ≥ Lack ≥ 1g	50g ≥ Lack ≥ 1g
Range of Low	1g ≥ Low	1g ≥ Low	1g ≥ Low

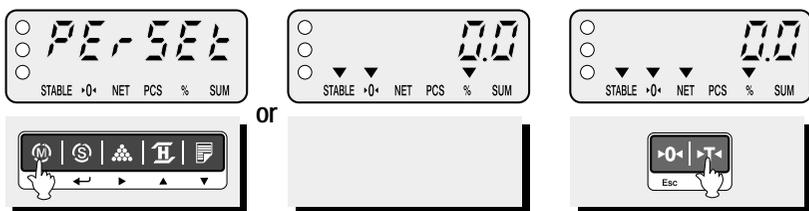
<Table 1>



- ⑥ Place parts on the platter, then the display shows the number of parts. You can also use tare function in counting mode.

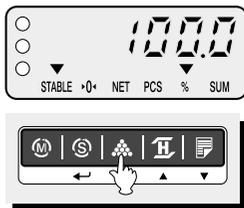
4. Percent Weighing Mode

- The weight is displayed as a percentage of the reference.

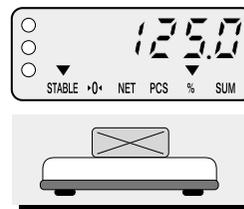


- ① Press the MODE key until the display shows "PERSET". If you have set reference sample before, the display shows "0.0".

- ② If you want to use container, place it and press the TARE key.



- ③ Place reference sample on the platter and press the SAMPLE key. The display shows "100.0". (LCD version : The display shows "100.0%") Make sure that reference sample should be bigger than 3% of maximum capacity. If it is lower than 3% of maximum capacity, the display shows "LOW". In this case, increase the weight of reference sample and press the SAMPLE key.



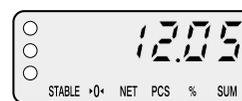
- ④ Place an item on the platter, then the weight is displayed as a percentage of the reference.

5. Hold Function

- ① Place an item on the platter and then press the HOLD key.



- ① "HOLD" is shown on the display.



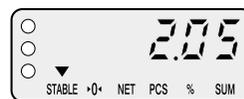
- ② Average weight is shown on the display.

- To release HOLD function, press the HOLD key or remove the item from the platter.

- ※ If the scale judges that the weight of the sample varies above 1/4 weight, it will be released the hold automatically.

6. Cumulative Weight Sum

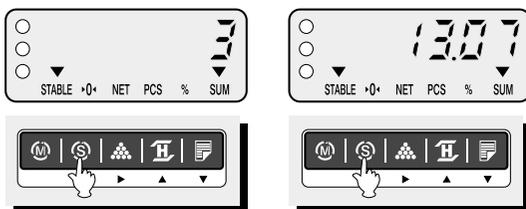
The function of cumulative weight sum is to be showing the aggregate times and weight as adding the value of weighing a several times. Even though power is off, the scale stores data. This function is only available in weighing mode.



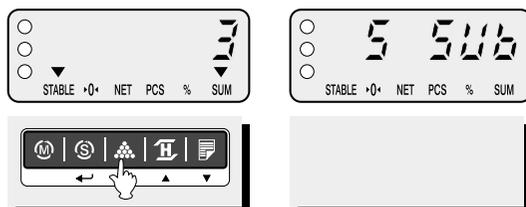
- ① Place an item on the platter.



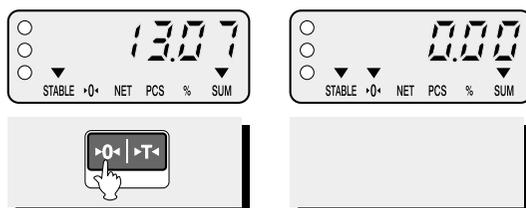
- ② To add this weight, press the SAMPLE key. Make sure that SUM lamp is on.



③ The display shows cumulative weight sum and aggregate times every time pressing the SET key. The SUM key is flashed.



④ To cancel last added weight, press the SET key to display cumulative weight sum or aggregate times and then press the SAMPLE key. The display shows "S SUB".

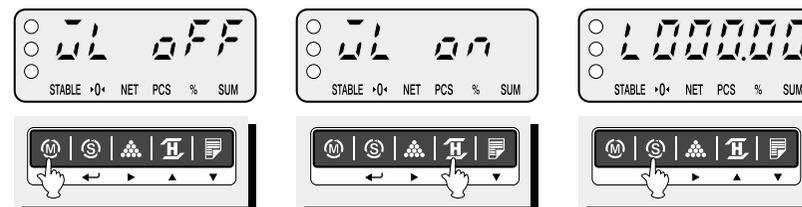


⑤ You can delete cumulative weight sum or aggregate times. Press the SET key to display cumulative weight sum or aggregate times and then press the ZERO (ESC) key.

⑥ To print out cumulative weight sum, press the SET key to display cumulative weight sum or aggregate times and then press the PRINT key.

7. Weight Comparison Function (HI/OK/LOW)

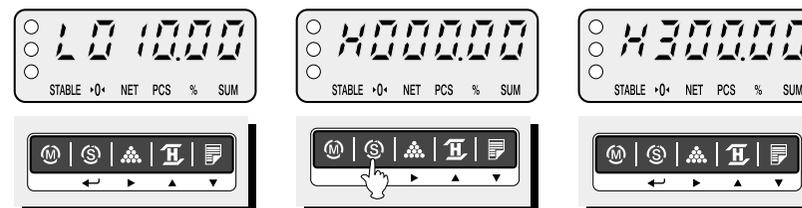
7-1. How to compare weight



① Press the MODE key until the display shows "WL OFF". It means that weight limit function is deactivated.

② Press the HOLD key to activate this function, the display shows "WL ON".

③ Press the SET key to set up low value, the display shows "L000.00".



④ Press the HOLD (▲) or PRINT (▼) key to have number up or down. To enter next digit, press the SAMPLE key.

⑤ Press the SET key to set up high value, the display shows "H000.00".

⑥ Press the HOLD (▲) or PRINT (▼) key to have number up or down. To enter next digit, press the SAMPLE (▶) key.

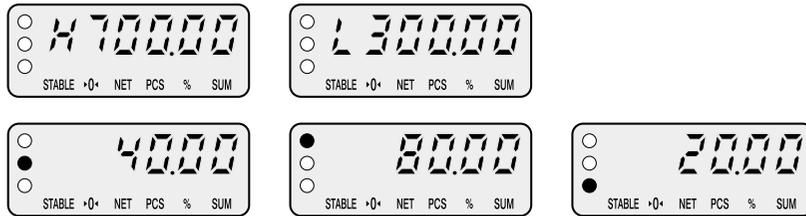


⑦ Press the SET key, the display shows "WL ON".

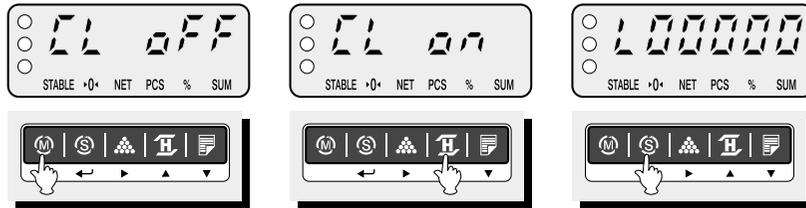
⑧ If you set up LOW/HIGH limit wrong, "WL ERR" will be shown on the display. Then you have to set it up again. For example) LOW=100.00kg HIGH=90.00kg →High limit is lower than Low limit.

⑨ Press the MODE key to go to weighing mode.

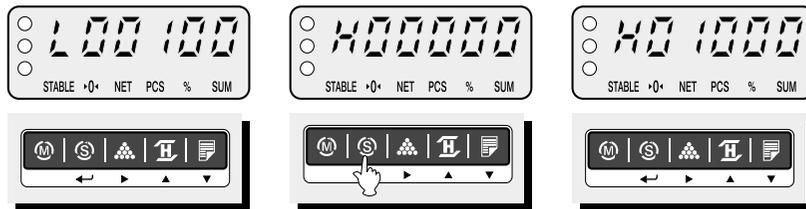
- ⑩ Suppose that the High limit of 70kg and the Low limit of 30kg are set up. In this condition, OK lamp is lighted on if the weight is 40kg, HI lamp is lighted on if the weight is 80kg and if the weight is 20kg, LO lamp is lighted on. It beeps as fixed on User Setup Mode.
(Refer to Setup Mode Table on page 17)



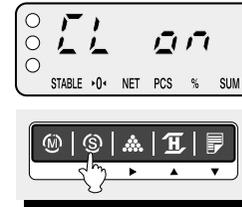
7-2. Counting comparison function



- ① Press the MODE key until the display shows "CL OFF". It means the counting comparison function is deactivated.
- ② Press the HOLD (▲) key to activate this function, the display shows "CL ON".
- ③ Press the SET key, the display shows "L00000".



- ④ Press the HOLD (▲) or PRINT (▼) key to have number up or down. To enter next digit, press the SAMPLE (▶) key.
- ⑤ Press the SET key, the display shows "H00000".
- ⑥ Press the HOLD (▲) or PRINT (▼) key to have number up or down. To enter next digit, press the SAMPLE (▶) key.

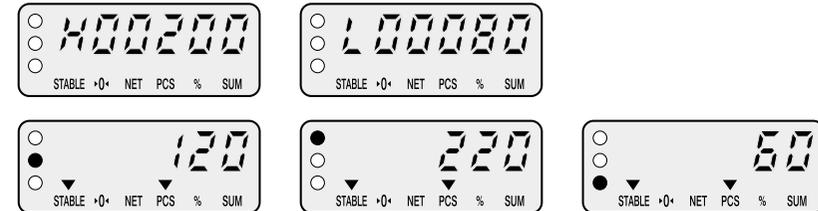


- ⑦ Press the SET key, the display shows "CL ON".

- ⑧ If you set up LOW/HIGH limit wrong, "CL ERR" will be shown on the display. Then you have to set it up again. For example) LOW=00100, HIGH=00090 or LOW=00100, HIGH=00100

- ⑨ Press the MODE key to go to weighing mode.

- ⑩ Suppose that the High limit of 200 and the Low limit of 80 are set up. In this condition, OK lamp is lighted on if the weight is 120, HI lamp is lighted on if the weight is 220 and if the weight is 60, LO lamp is lighted on. It beeps as fixed on User Setup Mode.
(Refer to Setup Mode Table on page 17)



8. Print Out

8-1. Manual Print

- You can print out data every time pressing the PRINT key. You can setup print function depends on your need. Refer to Setup Mode Table on page 17.

Sample format:

-Weighing Function-	-Counting Function-
===== WEIGHT ===== WELCOME TO CAS[DB-2] CAS 2000-00-00 00:00:00	===== COUNT ===== WELCOME TO CAS[DB-2] CAS 2000-00-00 00:00:00
Weight : 0.000 kg	Weight : 40.200 kg
- WEIGHT LIMIT SET VALUE -	UWeight : 0.80400 kg
Limit (H): 40.000 kg	Quantity : 50 pcs
Limit (L): 30.000 kg	- COUNT LIMIT SET VALUE -
	Limit (H): 2000 pcs
	Limit (L): 1000 pcs

-Cumulative Weight Sum Function-

===== WEIGHT =====	
WELCOME TO CAS[DB-2] CAS 2000-00-00 00:00:00	→Label Caption Date/Time
Weight : 40.180 kg	
Weight : 40.200 kg	
Weight : -40.200 kg	→ - means that you cancel the weight right before this weight.
Weight : 40.200 kg	
Weight : 40.200 kg	
Weight : 40.200 kg	

Total : 401.980 kg	→Cumulative weight sum
Count : 10 times	→Aggregate times

8-2. Auto print

- To use auto print function, you have to set printer menu to "Pr AUT" in setup mode. Refer to Setup Mode Table on page 17.
- If the weight is stable, it is printed out automatically.

SETUP MODE

1. How to Go to Setup Mode

Make sure that power is OFF. While pressing the PRINT key, press the POWER key. The display shows "U SET". You can select each menu by pressing the MODE key and change the setting by pressing the HOLD or PRINT key. If you press SET key, you will save current setting and finish this mode. To finish this mode without saving, press the ZERO key.

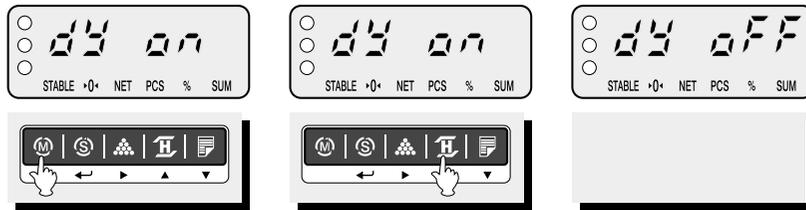
2. Setup Mode Table

MENU	DISPLAY	DESCRIPTIONS
Buzzer	" b on "	You can hear buzzer.
	" b oFF "	You cannot hear buzzer.
Printer	" Pr oFF "	Do not use printer.
	" Pr kEy "	Manual print.
	" Pr AUt "	Auto print when the scale is stable.
	" Pr CMd "	For future.
Baud Rate	" br 48 "	4,800 bps
	" br 96 "	9,600 bps
	" br 192 "	19,200 bps
	" br 384 "	38,400 bps
Weight Limit	" WL M0 "	HIGH Limit \geq Weight \geq LOW Limit - You will hear buzzer.
	" WL M1 "	HIGH Limit \leq Weight, Weight \leq LOW Limit - You will hear buzzer.
	" WL M2 "	Weight \leq LOW Limit - You will hear buzzer.
	" WL M3 "	HIGH Limit \leq Weight - You will hear buzzer.
Count Limit	" CL M0 "	HIGH Limit \geq Counting result \geq LOW Limit - You will hear buzzer.
	" CL M1 "	HIGH Limit \leq Counting result, Counting result \leq LOW Limit - You will hear buzzer.
	" CL M2 "	Counting result \leq LOW Limit - You will hear buzzer.
	" CL M3 "	HIGH Limit \leq Counting result - You will hear buzzer.

MENU	DISPLAY	DESCRIPTIONS
Date	"dy on"	Print out date/day.
	"dy OFF"	Do not print out date/day.
Time	"ti on"	Print out time.
	"ti OFF"	Do not print out time.
Label	"LA off"	Do not print out label caption.
	"LA on"	Print out label caption.
Default	"dF no"	Default setting is released.
	"dF YES"	Everything is setup in default.

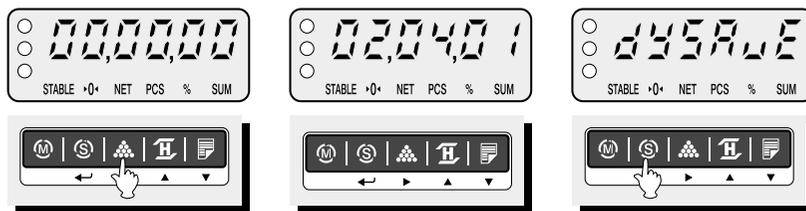
※ *Italic Bold*: Default Setting

3. How to Enter Date



① Press the MODE key until the display shows "dy ON". It means that date is printed out.

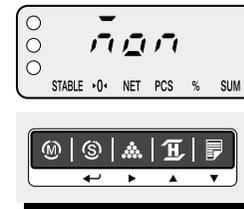
② If you do not want to print out date, press the HOLD (▲) key.



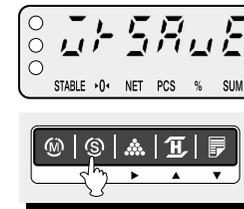
③ Press the SAMPLE (▶) key, the display shows "00,00,00".

④ Press the HOLD (▲) or PRINT (▼) key to have number up or down. To enter next digit, press the SAMPLE (▶) key.

⑤ Press the SET key to save. "dysave" is shown on the display and then the display shows a day of the week.



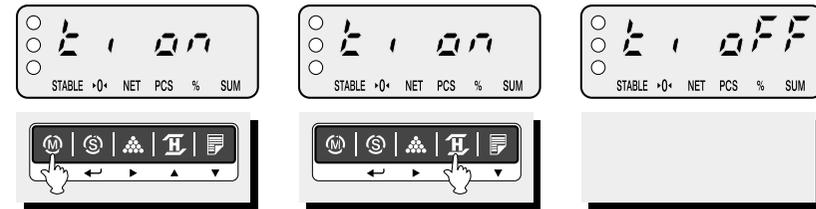
⑥ You can change the day by pressing the HOLD (▲) or PRINT (▼) key. If you set up a day of the week wrong, "Wk err" is shown on the display.



⑦ Press the SET key to save. "Wksave" is shown on the display.

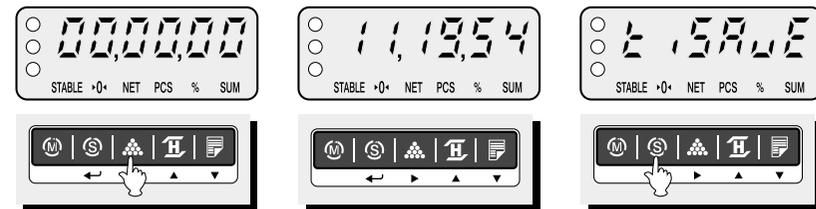
⑧ If you do not want to save, press the ZERO key.

4. How to Enter Time



① Press the MODE key until the display shows "ti ON". It means that time is printed out.

② If you do not want to print out time, press the HOLD (▲) key.



③ Press the SAMPLE (▶) key to set up time, "00,00,00" is shown on the display.

④ Press the HOLD (▲) or PRINT (▼) key to have number up or down. To enter next digit, press the SAMPLE (▶) key.

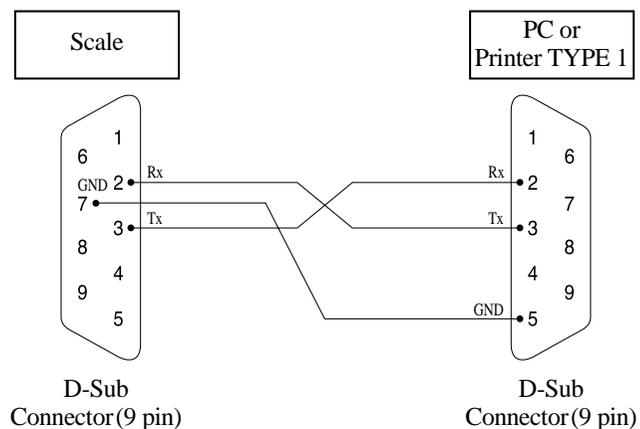
⑤ Press the SET key to save. "tisave" is shown on the display.

⑥ If you do not want to save time, press the ZERO key.

ERROR MESSAGES

ERROR	REASONS	SOLUTIONS
Err 1	An error of the initial ZERO range	1. Make sure the platter is empty. 2. Make sure there is a platter on the scale.
Err 10	Failure of analog module	Call your CAS dealer
Err 11	An error of EEPROM	Call your CAS dealer
Err 12	Condition codes are broken	Call your CAS dealer

SERIAL INTERFACE



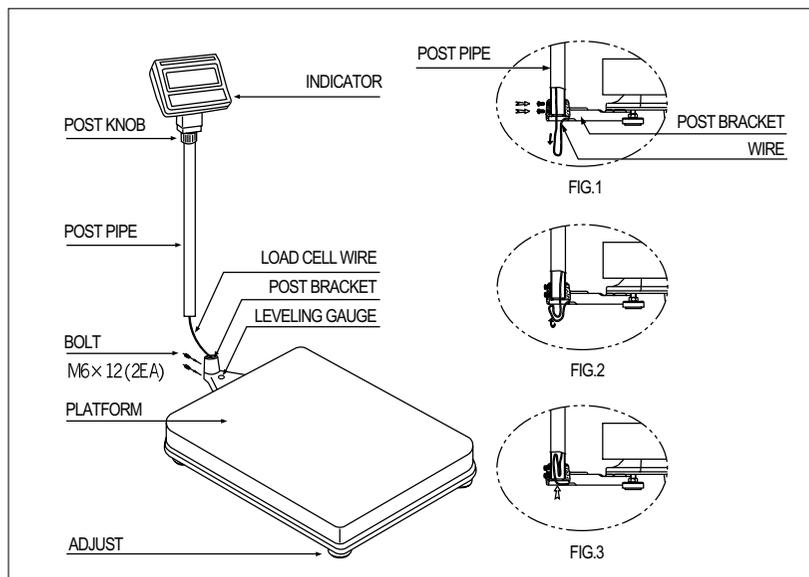
SPECIFICATIONS

VFD Version

MODEL	DBII - 60	DBII - 150	DBII - 300
CAPACITY	30kg/0.01kg 60kg/0.02kg	60kg/0.02kg 150kg/0.05kg	150kg/0.05kg 300kg/0.1kg
MAX. TARE	59.98kg	149.95kg	299.9kg
INTERNAL RESOLUTION	1/120,000	1/150,000	1/150,000
EXTERNAL RESOLUTION	1/3,000		
DISPLAY	VFD 6 DIGIT		
DISPLAY LAMP	STABLE, ZERO, HOLD, NET, HI/OK/LO, %, PCS, SUM, kg		
INTERFACE	RS-232C (Printer)		
POWER SOURCE	AC 230V/50Hz		
TEMPERATURE RANGE	-10°C ~ +40°C		
PLATTER SIZE (W x D x H)mm	420 x 510 x 110	500 x 640 x 120	
PRODUCT SIZE (W x D x H)mm	420 x 635 x 765	500 x 725 x 765	
WEIGHT	12.7kg	24.6kg	

► **Notice: Specifications are subject to change for improvement without notice.**

HOW TO INSTALL DB-II Series



MODEL : DB-II Series

1. Open the box with care because indicator is connected to the scale with load cell wire.
2. Turn the post knob so as to fix indicator.
3. Pull down the wire out of post pipe and insert the post pipe to the post bracket. (Refer to fig. 1)
4. Fasten the post pipe with two bolts. (Refer to fig. 1)
A long bolt should be connected to the upper side.
5. Insert the wire to the post pipe. (Refer to fig. 2, 3)
6. If the scale is not properly level, please adjust 4 leg (adjusting bolt) at the bottom of the scale so as to center the bubble of the leveling gauge.

※ Note : Place the scale on a flat and stable surface.
Inside the indicated circle.

MEMO