

TXI-500F

VER 001

ROAD WEIGHER INDICATOR

OWNER'S MANUAL



NOTE

- (1) The unauthorized copying of some or all of this manual is prohibited.
- (2) The information contained herein is subject to change without notice.
- (3) If there are any questions such as wrong or missing parts of the contents listed in this manual, please contact us.
- (4) To improve the product performance, functions can be changed with no notice.
- (5) Please understand that TMT does not have responsibility for a demand related to loss, lost profit etc. caused by operating the product, regardless of the third clause.

WARNING DEFINITIONS

	This is warning & caution mark
	This is hazard alert mark
	This is useful information mark

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1. Precautions

 Please be informed that we're not responsible for any incident or mishap caused by partial modification of this product. To avoid such situation, customers need to contact our customer service team or system installation staff in advance, and any modification should be conducted under our surveillance.

◆ Use only approved enhancements and batteries. Do not connect incompatible products. Use only batteries, chargers, adaptor, and enhancements approved by TMT for use with this particular model.

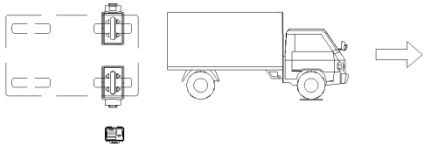
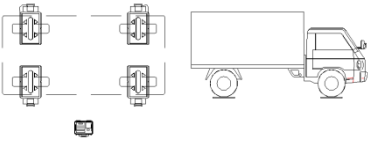
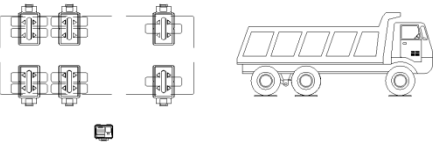
The use of any other types may invalidate any approval or warranty, and may be dangerous. For availability of approved enhancements, please check with your dealer.

- ◆ Do not install the indicator in strong direct sunlight and dust.
- ◆ Please confirm that the local voltage is correct for the indicator.
- ◆ Do not use inflammable substances for cleaning.
- ◆ Do not use the product in the rain. Keep it dry.
- ◆ Avoid sudden changes of temperature if possible
- ◆ Do not use the product in a place with a high-voltage current or severe electronic noise.
- ◆ Do not use the product in a place with severe vibration.
- ◆ Do not put too much pressure to keys.
- ◆ Avoid from the shock of excessive weight.

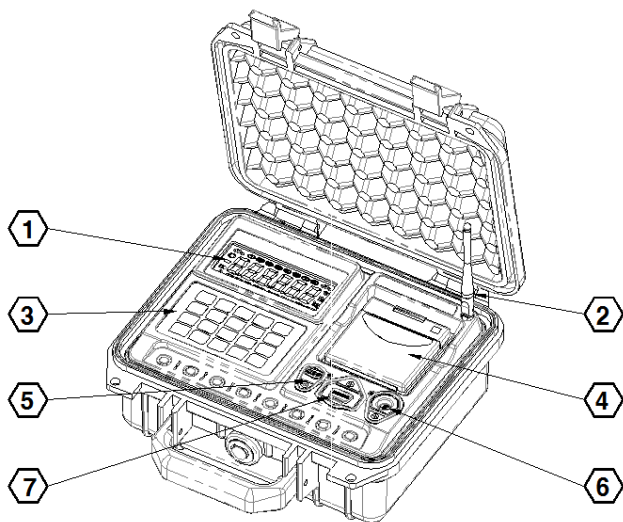
2. Introduction

- ◆ Portable & watertight case
- ◆ Indicators for measuring axle
- ◆ Wireless communication: ZigBee
- ◆ Weigh-In-Motion and static weighing mode
- ◆ Built in thermal printer
- ◆ Memory capacity: 10K vehicles
- ◆ Standard RS232C
- ◆ Alert for over loaded vehicle
- ◆ Long battery lifetime by one time charging
- ◆ Optional USB host (For USB memory stick)

3. Installation

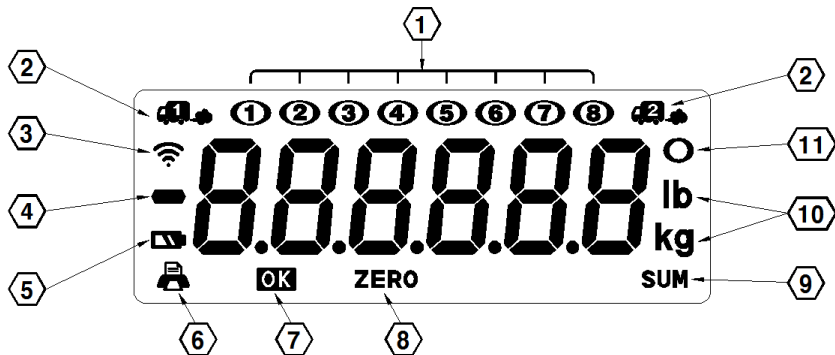
Weighing method	Description
<u>Sequential</u> 2 Axle, 2 Plate Accuracy: $\pm 1 \sim 3\%$ (WIM: $\pm 3\%$) [Scale ID] Axle 1 Left: 1 / Right: 2	  In case of Weigh-In-Motion (WIM), you must install the dummy pad (longer to the length of the vehicle) back and forth on scale.
<u>Synchronous</u> 2 Axle, 4 Plate Accuracy: $\pm 0.1\%$ [Scale ID] Axle 1 Left: 1 / Right: 2 Axle 2 Left: 3 / Right: 4	
<u>Synchronous</u> 3 Axle, 6 Plate Accuracy: $\pm 0.1\%$ [Scale ID] Axle 1 Left: 1 / Right: 2 Axle 2 Left: 3 / Right: 4 Axle 3 Left: 5 / Right: 6	  Can be installed up to maximum 6 axles

4. Description of Panels and Symbols



No.	Name	Description
1	Display	Display the weight data & message
2	Antenna	3dBi dipole antenna for wireless communication
3	Keypad	Ten key and function key
4	Printer	Thermal printer
5	USB port	USB host port for memory stick
6	DC jack port	AC/DC Adaptor jack for battery charge
7	RS232C port	To PC communication port or firmware coding port

4.1. Display specification



No.	Description												
1	Indicates number of scales to be linked or sequence number ① Example of display <table border="0"> <tr> <td>①①①①①①①①① (1 scale)</td> <td>①①①①①①①①①① (2 scales)</td> </tr> <tr> <td>①①①①①①①①①① (3 scales)</td> <td>①①①①①①①①①①① (4 scales)</td> </tr> <tr> <td>①①①①①①①①①①① (5 scales)</td> <td>①①①①①①①①①①①① (6 scales)</td> </tr> <tr> <td>①①①①①①①①①①①① (7 scales)</td> <td>①①①①①①①①①①①①① (8 scales)</td> </tr> <tr> <td>①①①①①①①①①①①①① (9 scales)</td> <td>①①①①①①①①①①①①①① (10 scales)</td> </tr> <tr> <td>①①①①①①①①①①①①①① (11 scales)</td> <td>①①①①①①①①①①①①①①① (12 scales)</td> </tr> </table>	①①①①①①①①① (1 scale)	①①①①①①①①①① (2 scales)	①①①①①①①①①① (3 scales)	①①①①①①①①①①① (4 scales)	①①①①①①①①①①① (5 scales)	①①①①①①①①①①①① (6 scales)	①①①①①①①①①①①① (7 scales)	①①①①①①①①①①①①① (8 scales)	①①①①①①①①①①①①① (9 scales)	①①①①①①①①①①①①①① (10 scales)	①①①①①①①①①①①①①① (11 scales)	①①①①①①①①①①①①①①① (12 scales)
①①①①①①①①① (1 scale)	①①①①①①①①①① (2 scales)												
①①①①①①①①①① (3 scales)	①①①①①①①①①①① (4 scales)												
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①①①①①①①①①①①① (7 scales)	①①①①①①①①①①①①① (8 scales)												
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①①①①①①①①①①①①①① (11 scales)	①①①①①①①①①①①①①①① (12 scales)												
2	Indicates in-motion mode												
3	Indicates the status of the wireless connection												
4	Displayed when the weight is minus												
5	Indicates when a battery has to be recharged												
6	Displayed when printing												
7	Displayed when the type the alphabet.												
8	Displayed when the weight is zero												
9	Indicates the status of accumulated axle weight												
10	Indicates the unit used to weight												
11	Displayed when the weight is stable												

4.2. Keypad specification

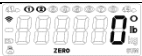
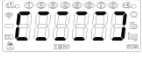
Key	Description
	Turn on and off the indicator
 ~ 	Use to change input value and input data
	Use to back light on and off
	Use to confirm current time or space key
	Return the display to zero
	Use to print the accumulated weight
	Line feed key of printer
	Use to input the vehicle number
	Use to confirm content of weight memory
	Displays weight to be accumulated
	Use to store current axle weight

5. Use of Battery Charger

- ◆ Connect adapter into charge connector (Check if the voltage is 12V 1A).
 - ◆ If a battery jack is connected with an adaptor properly, RED lamp is on.
 - ◆ If it's charged completely, a green lamp is on.
- (The estimated time for charging is about 10 hour but charging time can be varied according to environment condition.)

6. Measurement of Axle Loads

6.1. Sequential weighing in static mode

1	Connect scales by wireless
2	Setting F03-0 and F01-2.
3	 Initial display
4	 → Input the vehicle ID → 
5	 (For 2 seconds) → Input the item code → 
6	 1 st axle weighing → Stable lamp → 
7	 Stored the 1 st axle weight
8	 2 nd axle weighing → Stable lamp → 
9	Repeat measures of axle weight (3 rd , 4 th , 5 th)
10	 6 th axle (Last axle) weighing → Stable lamp → 
11	 Stored the 6 th axle weight
12	  → Displays weight to be accumulated
13	 → Print & Save
14	Repeat the same procedure for each vehicle to be loaded starting from step 3.

i How to check an individual pad weight

Step 1: Press and hold  key for 2 seconds, then “ I – I2” is displayed.

Step 2: Press scale ID number and then press  key.

Step 3: The weight value of the scale is displayed.

Step 4: To display the total weight of all scales again, you press  key

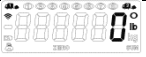
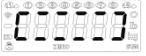
i Undoing the accumulated data

The last axle weight data can be deleted from the accumulated data.

If you press  key, clears the previous axle weight.

i Vehicle ID & Item code input method: Refer to '7. Alphabet Input'

6.2. Sequential weighing in WIM (Weigh-In-Motion)

1	Connect scales by wireless	
2	Setting F03-1 and F01-2.	
3		Initial display
4		NUMBER → Input the vehicle ID → 
5		NUMBER (For 2 seconds) → Input the item code → 
6		1 st axle weighing (WIM)
7		2 nd axle weighing (WIM)
8	Repeat measures of axle weight (3 rd , 4 th , 5 th)	
9		6 th axle(Last axle) weighing (WIM)
10		 → Displays weight to be accumulated
11	 → Print & Save	
12	Repeat the same procedure for each vehicle to be loaded starting from step 3.	

- i** When “SL0”, “FASL” message occurs, in order to initialize, press  key.
Then, must be measured weight again from step 6.
- i** Vehicle ID & Item code input method: Refer to ‘7. Alphabet Input’
- i** Maximum vehicle speed: 10km/h (6mi/h)

6.3. Synchronous weighing method in static mode

1	Connect the scales by wireless (Example: 6 scales)
2	Setting F03-0 and F01-6.
3	 Initial display
4	  → Input the vehicle ID → 
5	  (For 2 seconds) → Input the item code → 
6	 Loaded vehicle entry
7	  → Displays weight to be accumulated
8	 → Print & Save
9	Repeat the same procedure for each vehicle to be loaded starting from step 3.

i How to check an individual pad weight

Step 1: Press and hold  key for 2 seconds, then “1 – 12” is displayed.

Step 2: Press scale ID number and then press  key.

Step 3: The weight value of the scale is displayed.

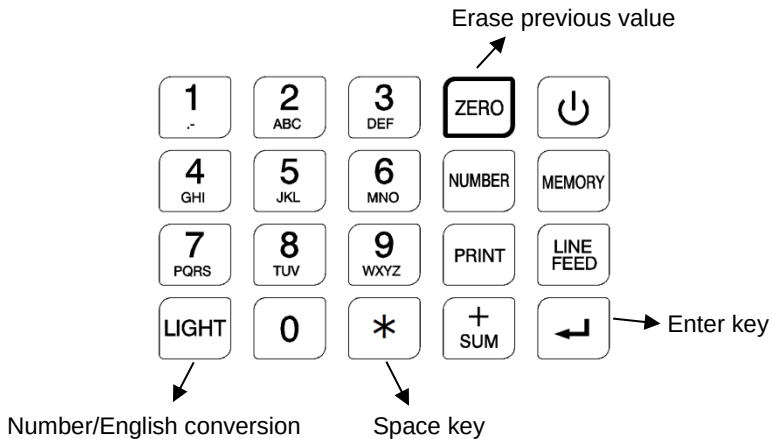
Step 4: To display the total weight of all scales again, you press  key

i Vehicle ID & Item code input method: Refer to '7. Alphabet Input'

7. Alphabet Input

7.1. Input method

English input is similar to the way cellular phone.



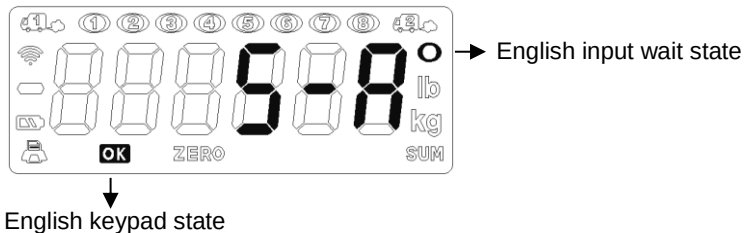
7.2. Input the vehicle ID

You can enter up to 10 characters. ⚠ Vehicle ID is not stored in the memory.

For example ("5-A")

Step1: Press **NUMBER** key in the weight mode, is displayed.

Step2:



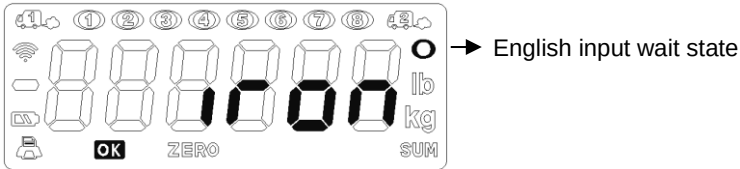
7.3. Input the item code

You can enter up to 10 characters.  Item code is not stored in the memory.

For example ("IRON")

Step1: Press and hold  key for more 2 seconds,  is displayed.

Step2:             



English keypad state

7.4. Input the customer details

You can enter up to 120 characters.

This data is stored in non-volatile memory, and is not lost even if power is off.

For example ("WE WEIGH THE WORLD")

Step1: When the indicator is power off press  key while pressing  key,
"Ed it" is displayed.

Step2: Press  key again,  is displayed.

Step3:                                



English keypad state

Delete the previous contents

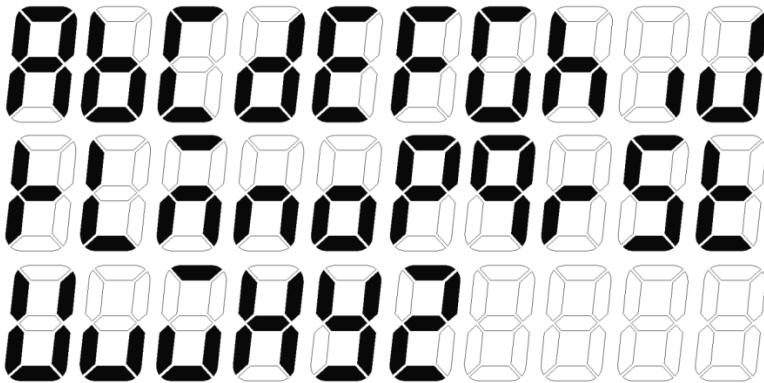
Step1: When the indicator is power off press  key while pressing  key,

“Ed it” is displayed.

Step2: Press  key, “dELEtE” is displayed and delete the previous contents.

i Press  key, exit this mode without any additional work.

7.5. The actual display (Alphabetical)



8. Calling the Saved Data

Press  key in the weight mode and “1 - 5” is displayed.

Refer to the call method of the downside and press  to  key.

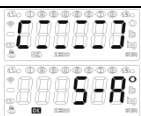
1 Call the date

1		Input the year and date →  (October 13 th 2014)
2		Press  key and execute the send to printer & PC

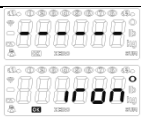
2 Call the serial number

1		Input the serial number →  (1234)
2		Press  key and execute the send to printer & PC

3 Call the vehicle ID

1		Input the vehicle ID →  (5-A)
2		Press  key and execute the send to printer & PC

4 Call the item code

1		Input the item code →  (IRON)
2		Press  key and execute the send to printer & PC

5 The entire call

1		Press  key and execute the send to printer & PC
---	---	--

8.1. Print form

Please refer to print form of page 20.

8.2. PC data format

◇ 1~20 byte

[Data & time]

[Serial number]

1	4	/	1	0	/	1	3	,	1	5	:	1	2	,	0	1	2	3	,
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

◇ 21~41

[Vehicle ID]

[Item code]

A	B	C	D	E	1	2	3	4	5	,	A	B	C	D	E	F	G	H	I	J
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

◇ 42~62

[Axe 1 weight: left / right / sum]

,	l	b	,	0	1	0	0	0	,	0	1	0	0	0	,	0	2	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

◇ 63~80

[Axe 2 weight: left / right / sum]

,	0	2	0	0	0	,	0	2	0	0	0	,	0	4	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

◇ 81~98

[Axe 3 weight: left / right / sum]

,	0	3	0	0	0	,	0	3	0	0	0	,	0	6	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

◇ 99~116

[Axe 4 weight: left / right / sum]

,	0	4	0	0	0	,	0	4	0	0	0	,	0	8	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

◇ 117~134

[Axe 5 weight: left / right / sum]

,	0	5	0	0	0	,	0	5	0	0	0	,	1	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

◇ 135~152

[Axe 6 weight: left / right / sum]

,	0	6	0	0	0	,	0	6	0	0	0	,	1	2	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

◇ 153~173

[Left sum]

[Left %]

[Right sum]

,	0	2	1	0	0	0	,	0	5	0	.	0	,	0	2	1	0	0	0	,
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

◇ 174~188

[Right %]

[Amount]

0	5	0	.	0	,	0	4	2	0	0	0	,	CR	LF
---	---	---	---	---	---	---	---	---	---	---	---	---	----	----

9. Initialization of Memory

It is used to initialize the data stored in the weight mode.

i Stored data: Date, Time, Serial number, Item code, Vehicle ID and Weight.

When the indicator is power off press  key while pressing  key,
Then this mode is started.

Step 1. “----” message is shown on the display.

Step 2. Enter the password (1013), memory is cleared.

10. Real Time Clock

When the indicator is power off press  key while pressing  key,
Then this mode is started.

Step 1. “*DATE*” message is shown on the display.

Step 2. Input the year, date and press  key

Step 3. “*TIME*” message is shown on the display.

Step 4. Input the current time and press  key

 Depending on the environment can cause errors. Therefore, recommended setting the time once a month.

11. Setting Mode

11.1. How to enter

When the display is off, press  key while pressing the  key.

Step 1. At this time, “**FOI**” is shown on the display after “**SET**” message.

At this point, If you press  key exit the mode.

Step 2. You can select the menu that you want to set. Enter number of set menu by pressing the ten keys and then press  key.

11.2. Function menu

◇ F01: Number of scales to be linked wireless (1~12)

Value	Description
1	1 Scale
2	2 Scales
6	6 Scales
12	12 Scales

◇ F02: Stable condition (1~9) ► Initial value: 2

Value	Description
1	Sensitive
5	Normal
9	Insensitive

◇ F03: Weigh-In-Motion (0,1) ► Initial value: 0

Value	Description
0	Not used
1	WIM

◇ F04: Backlight conditions (0~2) ► Initial value: 0

Value	Description
0	Manual ON/OFF
1	Automatic ON/OFF (Weighing: ON / Zero: OFF)
2	Always ON

◇ F05: Backlight brightness level control (0~9) ► Initial value: 9

Value	Description	
0	10%	The brightness of the backlight is adjusted depending on this parameter.
4	50%	
9	100%	

◇ F06: Excess weight (0~999999) ► Initial value: 0

Value	Description
0	Excess weight print function is not used.
20000	If weight is greater than setting value, excess print function is active.
22000	

◇ F07: Print format (0~3) ► Initial value: 0

Value	Description
0	Standard
1	Included left-right balance
2	Included inspector and driver
3	Included left-right balance, inspector and driver

WE WEIGH THE WORLD

DATE: 13/10/2014

TIME: 12:10

SN : 1234

ITEM: IRON

VEHICLE: AX13569PE

1_AXLE: 10000 kg/12000 kg

22000 kg

Excess: 2000 kg

2_AXLE: 11000 kg/13000 kg

24000 kg

TOTAL: 46000 kg

LEFT : 21000 kg (45.6%)

RIGHT: 26000 kg (53.4%)

INSPECTOR:

DRIVER:

→ Customer details (Max. 5 lines – 120 characters)

→ Item code (Max. 10 characters)

→ Vehicle ID (Max. 10 characters)

→ In case of limit weight for axle is 20000 kg

→ Can measure up to six axles

→ F07-1 / F07-3

→ F07-2 / F07-3

◇ F08: Number of copies (0,1) ► Initial value: 0

Value	Description
0	A sheet of paper
1	Two sheet of paper

◇ F09: Line feed (0~9) ► Initial value: 5

Value	Description
0	1 line feed automatically after printing
4	5 line feed automatically after printing
9	10 line feed automatically after printing

◇ F10: Enable printer (0,1) ► Initial value: 1

Value	Description
0	Not used printer
1	Used printer

◇ F11: Baud rate for RS232C port (0~4) ► Initial value: 2

Value	Description
0	2400 bps
1	4800 bps
2	9600 bps
3	19200 bps
4	38400 bps

◇ F12: Data bits, parity for RS232C port (0~2) ► Initial value: 0

Value	Description
0	Data 8 bits, Stop 1 bit, Non parity
1	Data 7 bits, Stop 1bit, Even parity
2	Data 7 bits, Stop 1bit, Odd parity

◇ F13: Data format for auxiliary display (In case of F14-3) ► Initial value: 0

Value	Description	
0	22 bytes format (CAS standard)	Refer to "13. RS-232C Interface"
1	18 bytes format (AND standard)	

◇ F14: RS232C output (0~2) ► Initial value: 0

Value	Description
0	Not used
1	Stream mode (Send the weight of each scales)
2	Press  key (6.1-step13, 6.2-step11, 6.3-step8) to send the data
3	Stream mode (Depend on the setting of F13)

i F14-1: Send a scale data 1  scale 2  scale 3  scale 4  scale 5
 scale 6  scale 1  scale 2

i F14-2: Send a scale data 1  scale 2  scale 3  scale 4  scale 5
 scale 6  Send a sum weight of scales

i F14-3: Primarily, it is used to send a sum weight to auxiliary display unit.

◇ F15: External wireless output (0,1) ► Initial value: 0

Value	Description
0	Not used
1	To wireless auxiliary display unit

◇ F16: USB option (0,1) ► Initial value: 0

Value	Description	
0	Not used	Refer to "14. USB Interface"
1	Used	

◇ F17: Power off sync (0,1) ► Initial value: 1

Value	Description
0	Not used
1	When turn off the indicator, scales will turn off automatically

12. Test Mode

12.1. How to enter

When the display is off, press  key while pressing the  key.

Step 1. At this time, "TEST 1" is shown on the display after "TEST" message.

At this point, If you press  key exit the mode.

Step 2. You can select the menu that you want to test. Enter number of test menu by pressing the ten keys and then press  key.

12.2. Test menu

◇ TEST 1: Keyboard test

Display	Description
--	If you press a key that you want to test, the key number is appeared on the display.

◇ TEST 2: Wireless connect test

Display	Description
1 - 12	Pressing the equipment ID of scales, the weight value of the scale is displayed.

◇ TEST 3: Printer test

Display	Description
Print	Print the  key is pressed.

◇ TEST 4: Back light test

Display	Description
Light	Turn on the backlight the  key is pressed.

◇ TEST 5: Memory test

Display	Description
	Press  key, and then "Good" is displayed. If flash memory has failed, "Error" is displayed.

◇ TEST 6: Real time clock

Display	Description
	Make sure the real time clock is goes. (12:30:56 PM)

13. RS-232C Interface

13.1. Specifications

- ◇ Method: Full-duplex, asynchronous transmission format
- ◇ Baud rate: 2400, 4800, 9600, 19200, 38400 bps
- ◇ Data bit: 7, 8 bits
- ◇ Parity bit: Even or Odd (For 7 data bits) or Non parity (For 8 data bits)
- ◇ Start bit: 1bit / Stop bit: 1bit
- ◇ Code: ASCII
- ◇ Adaptable connector: D-SUB 9pin connector (Female)

1P	2P	3P	4P	5P	6P	7P	8P	9P
N.C.	RXD	TXD	N.C.	GND	N.C.			

13.2. Data format

- ① Setting mode F14-1 or 2 (: Space)

Vehicle ID					Scale ID		Weight data (8bytes)								Unit		Terminator		
					,						2	4	4	0		k	g	C _R	L _F

Byte	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Data1	2	4	3	2	0	,		1	,					2	4	4	0		k	g	C _R	L _F
Data2	2	4	3	2	0	,	1	2	,					2	1	6	0		k	g	C _R	L _F
Data3	2	4	3	2	0	,		T	,					8	2	2	0		k	g	C _R	L _F

- i** F14-1: Send the weight scale 1 scale 2 scale 3 scale 4 scale 5 scale 6 scale 1 scale 2
- i** F14-2: Send the weight scale 1 scale 2 scale 3 scale 4 scale 5 scale 6 Send a sum weight of scales (Scale ID "T")

② Setting mode F14-3

□

◇ Format 1 (F13-0, 22bytes)

Header 1	Header 2	Fixed	Data										Unit		Terminator					
S	T	,	G	S	,	1	□	,	□	□	□	8	2	2	0	□	k	g	C _R	L _F

Header 1	ST	Stable weight data (0x53) (0x54)
	US	Unstable weight data (0x55) (0x53)
	OL	Overload (0x4F) (0x4C)
	HD	Hold weight data (0x48) (0x44)
Header 2	GS	Gross data (0x47) (0x53)
Data	Example 1) 13.5kg ' ',' ',' ',' ','1','3',' ','5' Example 2) 135kg ' ',' ',' ',' ','1','3','5',' ' Example 3) -13.5kg '-',' ',' ',' ',' ','1','3','5',' '	
Unit	kg (0x6B) (0x67)	
Terminator	C _R L _F	(0x0D) (0x0A)

◇ Format 2 (F13-1, 18bytes)

Header 1		Header 2		Data								Unit		Terminator			
S	T	,	G	S	,	+	0	0	0	8	2	2	0	k	g	C _R	L _F

Header 1	ST	Stable weight data (0x53) (0x54)
	US	Unstable weight data (0x55) (0x53)
	OL	Overload (0x4F) (0x4C)
Header 2	GS	Gross data (0x47) (0x53)
Data	The first of the data bit is the polarity (+/-)	
Unit	kg (0x6B) (0x67)	
Terminator	C _R L _F	(0x0D) (0x0A)

14. USB Interface

The USB host option is for sending the weight data to USB memory. When you print weighing data, it is stored to USB memory stick. If an error occurs at the time of storage, “ 04” is displayed.

14.1. Specifications

- ◇ USB 2.0 compatible
- ◇ FAT32 file system
- ◇ Adaptable connector (USB A type/ Female)
-  If not use FAT32-formatted memory stick, it does not work.

14.2. Data format

- ◇ The file name is made by date
- ◇ The weighing data is stored sequentially in the same date file.
- ◇ Press  key (6.1-step13 / 6.2-step11 / 6.3-step8) to save the data in the memory stick.
- ◇ When save the data to memory stick, RED lamp of USB port is lit.

i Example: 140506.csv (Comma separated value - Excel file format)

	C	D	E	F	G	H	I
1	Serial No.	Vehicle ID	Item Code	Unit	1 Left	1 Right	1 Total
2	1234	ABCDE12345	ABCDEFGHJI	kg	12345	12345	24690
3	1235	12345ABCDE	KLMNOPQRST	kg	12345	12345	24690
4							

J	K	L	M	N	O	P	Q	R	S	T	U
2 Left	2 Right	2 Total	3 Left	3 Right	3 Total	4 Left	4 Right	4 Total	5 Left	5 Right	5 Total
12345	12345	24690	12345	12345	24690	12345	12345	24690	12345	12345	24690
12345	12345	24690	12345	12345	24690	12345	12345	24690	12345	12345	24690

V	W	X	Y	Z	AA	AB	AC
6 Left	6 Right	6 Total	Left Total	Ratio(%)	Right Total	Ratio(%)	Amount
12345	12345	24690	74070	50.0	74070	50.0	148140
12345	12345	24690	74070	50.0	74070	50.0	148140

14.3. Data capacity

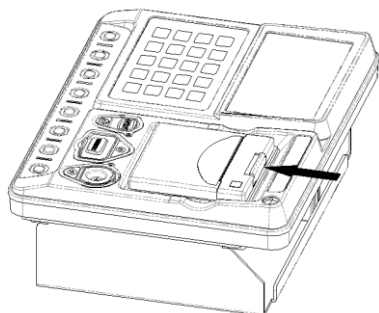
- ◇ In case of 1G memory stick: Approx. 5,900,000 data

15. Replacing the Paper Roll

⚠ Be sure to use paper rolls that meet the specifications.
Do not use paper rolls that have the paper glued to the core because the printer cannot detect the paper end correctly.

Step 1. Make sure that the printer is not receiving data.

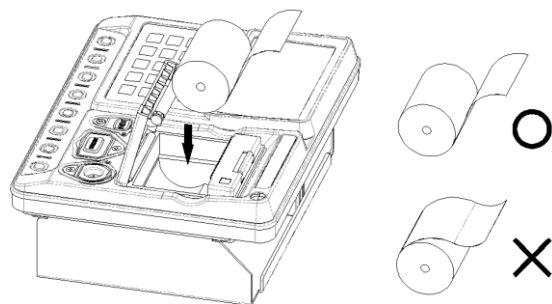
Step 2. Open the paper roll cover by pressing the cover open button.



⚠ Do not open the print cover while the printer is operating.

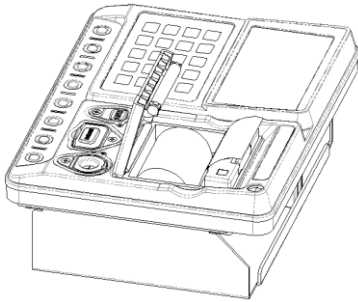
Step 3. Remove the used paper roll core if there is one.

Step 4. Insert the paper roll as shown.



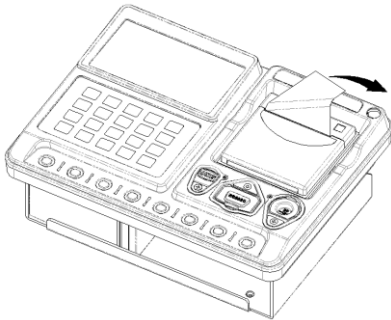
⚠ Be sure to note correct direction that the paper comes off the roll.

Step 5. Pull out a small amount of paper, as shown. Then close the cover.



 When closing the cover, Press the center of printer cover firmly to prevent paper miss-loading

Step 6. Tear off the paper as shown.



16. Specifications

◆ General specifications

Display	6 digit FSTN LCD (Height: 20mm)
Backlight	Amber LED backlight
Operating temperature	-20℃ ~ 60℃
Operating humidity	85% R.H. (No condensation)
Net weight	Approx. 4.2kg
Power	6V $\overline{\text{---}}$ 10A lead-acid battery
Charging adapter	AC/DC Adapter 12V $\overline{\text{---}}$ 1A
Operating time	Approx. 240hr
Option	USB host (For memory stick, OP-01)

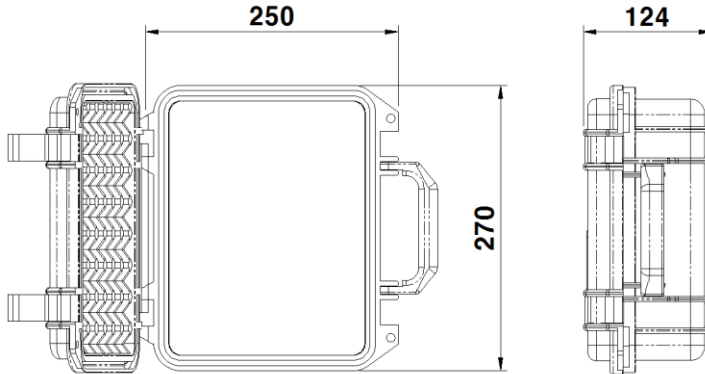
◆ Printer specifications

Print method	Thermal mechanism
Columns	24 on English
Font size	12 x 24
Dot density	200 DPI(8dot/mm)
Total dots	384 dots/line
Print speed	60mm/sec
Print paper	Φ40 x 57mm roll paper
Print width	48.0mm
Data buffer	16kbytes
Interface	RS-232C serial
Input power	6V $\overline{\text{---}}$ 1.5A
Dimensions	77.5(W) x 51(D) x 81(H)

◆ Wireless specifications

Wireless method	ZigBee
RF frequency range	2400 ~ 2483.5 MHz
Output power	Max. 4dBm
Channel width	2 MHz
Frequency offset	< ± 30 ppm
Transmit data rate	250Kbps, 500Kbps
Receiver sensitivity	-99dBm (PER <1%)
Maximum input level	0dBm
RF In/out impedance	50 ohm (TXRF, RXRF)
Spurious(2nd harmonics)	< -30dBm
Radio link effective range	Approx. 30M (Open space)

◆ Dimensions



17. Check Message

Code	Description
<i>Ch 03</i>	Something wrong in printer. Please check printer and contact us to resolve this technical problem.
<i>Ch 04</i>	Something wrong in USB port. Please check your memory stick. FAT32-formatted memory stick must be used.
<i>PAPER</i>	Displayed when there is no paper in the printer. Replace the roll paper.
<i>over</i>	The scale's weight is over maximum capacity. Don't load the article whose weight is heavier than the maximum capacity.
<i>FULL</i>	When memory capacity was exceeded, this is displayed. Please execute a memory initialization.
<i>FAST</i>	In the WIM, occur when the vehicle's speed is too fast. Please pass the vehicle with 10km/h or less.
<i>SLo</i>	In the WIM, occur when the vehicle's speed is too slow.
<i>rF 01</i> : <i>rF 12</i>	When wireless connection is wrong, scale's ID is displayed. Please check setting of F01 and ID of scale.
<i>bAtt 1</i> : <i>bAtt 12</i>	When a scale's battery has to be recharged, scale's ID is displayed with once per every 5 seconds.

[MEMO]

[MEMO]