RW-2000Z/ RW-Z(10Z,15Z)

Vehicle Weighing Scale

OWNER'S MANUA

CAS

Table of Contents

Caution

⊙ Safety Caution

Make sure to comply with the safety cautions as they are designed to prevent dangers in advance by using the products safely and properly.
Cautions are categorized into 2 types and the significances of 'Warning' and 'Caution' are as follows.

Warning
Refers to situation that may result in high possibility of substantial danger including death or serious injuries if the directions are infringed.
Caution
Refers to situation that may result in high possibility of injuries or material losses if the directions are infringed.

Warning

1. Never disassemble, repair or modify.
   Such will not only exempt the product from warrantee but also cause damages to the apparatus, electrocution or fire.

2. Do not damage, process or excessively pull, bend or twist the power supply cord. This may damage the power supply cord and may cause fire or electrocution.

3. Do not place combustible spray or fire in nearby location.

4. Do not water to external aspect of the product of use in humid location. This may cause insulation to be deteriorated, thereby causing risk of electrocution or fire, or occurrence of error in weighing.

5. Do not place at location exposed to direct sunlight or near hot objects such as stove. It may cause fire.

6. Make sure to insert the power supply plug fully in order to prevent the plug from becoming loose. If the contact is not stable, electrical spark may occur and cause fire.

<div align="center">Caution</div>

1. Frequently inspect for error in measurement to ensure accurate measurement. If the equipment is used outside the range of allowed error due to negligence in usage or other causes, then accurate measurement will not be obtained.

2. Do not impart sudden impact on the product. This may cause damage to the product and prevent accurate measurement.

3. Do not use in places with rapid temperature change or severe vibrations.
   It may cause error in measurement and breakdown. (Maximum measurement error ±10 scales)

4. Do not install in location with excessive generation of electromagnetic waver. It may result in erroneous measurement.

5. If there is "Battery" message on RW2000Z, make sure to recharge the battery. If the output falls below the minimum operational power output, the Indicator will be turned off.

1. Introduction

Thank you very much for purchasing our CAS RW-2000Z (hereinafter referred to as RWZ) Vehicle Weighing System.
This product was manufactured with strictest quality control with meticulous attention paid to every components and inspection, and has outstanding performances and high grade features
CAS RWZ Vehicle Weighing System is a product with abundance of functions and is designed to comply with the special requirements of road well. Furthermore, the external design is sturdy and elegant.
In addition, it is programmed with focus on the convenience of the user in order to enable them to use the product easily, and has built-in message display function to assist with the comprehension of users.
Make sure to read this manual thoroughly prior to using the RWZ Vehicle Weighing System of our company for proper utilization in order to sufficiently use all the functions of the product.

2. Features and Key Functions

Features
☐ It is small in size, making it easy to carry.
☐ Easy manipulation
☐ With built-in high capacity battery, it can be operated without separate power supply
☐ It can be recharged with AC power supply as well as through cigar jack in vehicles
☐ With BACK LIGHT function, it can be used even in dark place
☐ Built-in printer

3. Technological Specifications

RW2000Z

Digital and Display Section	
Display of weight	LCD (6 digit + Sign)
Pad display	Support display (2 digit)
Size of text	24 mm (height)
Indication less than 0	"-" minus display
Status display	SUM,ZERO, STABLE, UNIT(kg,lb)
Power source	DC12~24V
Wireless format	ZIGBEE 2.4GHz
Product weight	10.6kg
Battery life	48 hours
Recharging time of battery	24 hours

Accessory

Items	Quantity	Specifications
User manual	1	RW-2000Z
DC 12V Adaptor	1	12V 1.5A
Indicator Box	1	414*302.8*140
Indicator Box Belt	1	1.5m
Cigar jack wirer ass˚y for connection to vehicle	1	3m(Option)

RW10Z/15Z

Model	RW-10Z	RW-15Z
Max Capa	10,000kg	15,000kg
Division	20kg	50kg
Electrical Specifications		
A/D speed	200 times/sec	
Resolution	1/500	
Operational hours	12 hours	
Operational power supply	AA Size Dry Battery or 4 units of 1.2V Rechargeable Battery	
Internal power supply / applied current	3.3V / 80mA	
Apparatus Specifications		
External dimensions	900mm X 500mm X 40mm	
Weight	32.5kg	
Others	Power ON/OFF key, antenna connection section	
Communication Specifications		
Wireless communication format	Zigbee	
Frequency band	2.45GHz	
Communication channel	16 channel	
PAN ID	2^{16} units	
Effective communication distance	Open area: 100m	Presence of obstacles: 30m
	Note: it may differ depending on the surrounding conditions	
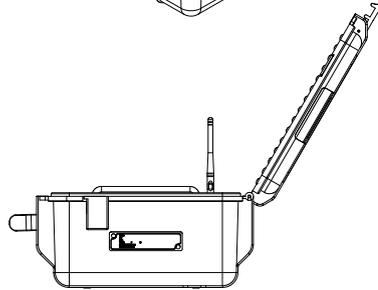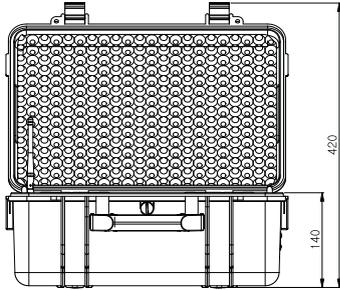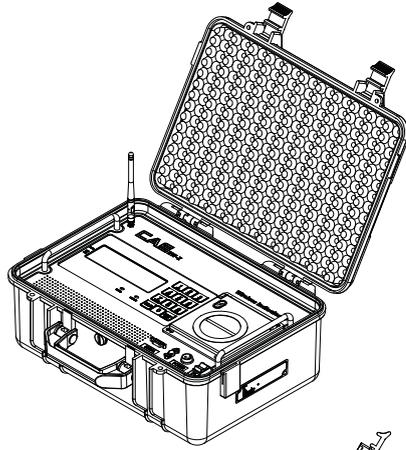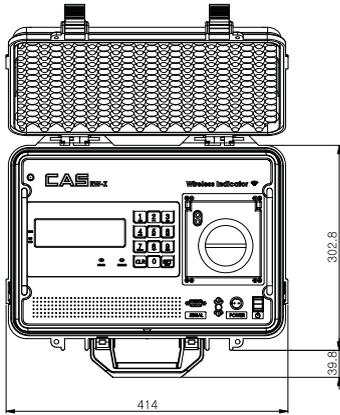
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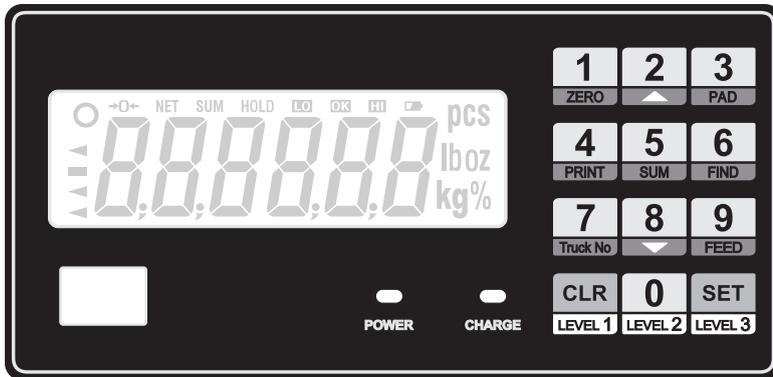
□ LCD

Status	Type	Explanations
(O)	Stabilization lamp	Indicates that the measure weight is in stable state
▫>0<▫	Zero lamp	Displayed when the current weight is 0 kg
SUM	Summation lamp	Displayed when the current mode is summation mode
🔋	Indicator battery alarm lamp	Indicates alarm for low batter of RW2000Z

□ Support display

Status	Explanations	Comments
Numbers (1~6)	Displays the currently selected PAD	
tE	Indicates that it is currently under TEST state	
SE	Indicates that it is currently under SET state	
CA	Indicates that it is currently under CAL state	
Pt	Indicates that it is currently under PRINT state	
FI	Indicates that it is currently under SEARCH state	

□ Printer lamp

Status	Type	Explanations
Red lamp of PRINTER	Power source lamp of the printer	Indicates the state of application of power to printer
Green lamp of PRINTER	SELF-TEST lamp of the printer	Indicates presence of abnormality after self-testing of the printer
POWER lamp	Indicates external power source	Indicates connection with external power source
CHARGE lamp	Indicates recharging	Red: currently recharging Green: completion of recharging

☐ Lamp on the frontal aspect

Status	Type	Explanations
POWER lamp	Indicates external power source	Indication of connection with external power source
CHARGE lamp	Indication of recharging	Red: currently recharging Green: completion of recharging

☐ Keyboard

ZERO	
Short	Turns the weight indication around Zero Point to 0. (Operates up to 2% of the maximum weight)

PAD	
Short	When the PAD is pressed and desired PAD No. pressed, then it will display only the weight on the corresponding PAD only. Support display will indicate the No. of the current PAD. If you wish to find out the weight of other PAD, press the PAD key again and press the corresponding No. of PAD. It will not operate if number other than the number of PADs currently connected. To display the overall weight again, press the SUM key. Print function and FIND function does not operate in this mode.

TRUCK No.	
Short	Enter the vehicle number after having pressed the TRUCK NO key. You can print for each axle by pressing the PRINT key after having entered the vehicle number.

PRINT	
Short	You can start printing with PRINT KEY without using the TRUCK NO key. When printing with the PRINT KEY, the vehicle number will not be outputted. Every time the PRINT key is pressed, the weight of the axle will be printed. Once it reaches the maximum number of axles (5 axles), overall weight will be printed automatically, and whether to save the data will be determined in accordance with the automatic saving option. (Same as when the SUM key is pressed.)

SUM	
Short	Use after having printed all the axles with the PRINT key. Measured weights of axles will be summed and printed, and terminates the operation of printer. Whether to save the data will be determined in accordance with the automatic saving option.
Long	Transfers to the overall weight measurement state from individual weight measurement state.

FIND	
Short	Finds the saved data of truck. After having inputted the vehicle number to be searched and SET key pressed, all the results of search will be displayed. If there is vehicle number that has been searched, press SET key to print all the data, and once the CLR key is pressed, it moves onto the measurement mode once again.

FEED	
Short	Printer undergoes FEED action every time it is pressed. Power of the printer must be turned ON.

SET	
Short	Used when executing actions or storing data.

CLR	
Short	Used as deletion key when canceling action or inputting.

LEVEL1	
Short	Use to move onto the Main Menu.

LEVEL2	
Short	Used in moving from the Main Menu to Sub-Menu.

LEVEL3	
Short	Used in moving from the Sub-Menu to the Detailed Menu. Or, used in entering the Sub-Menu.

▲	
Short	If the menu contains Detailed Menu, then it is used to enter the selected Detailed Menu. Used in moving to the items in the upper level in the menu.

▼	
Short	Used in moving to the items in the lower level in the menu.

Main Menu	Sub-Menu	Detailed Menu	
SET	**General**	**dAtE**	Date setting
		time	Time setting
		Day	Day setting
		Unit	Unit setting
		bLight	BackLight setting
		diSPEd	Display indication speed setting
	PAd	**SEtPAd**	Pad's ID setting
		ChKPAd	Verification of communication connected Pad ID
		PAdnUM	Setting of No. of Pad to be connected
		StAtiC	Static weighing mode
		InMotn	Dynamic weighing mode
	Prt	**AtoPrt**	Automatic printing setting
		SPACE	Printing interval setting
		AtoSAV	Automatic saving following printing setting
	db	**rESEt**	Deletion of stored data
	ZiGbEE	**Indl**	Indicator ZIGBEE module setting
		PAd	Pad's ZIGBEE module setting

5. Menu

It is possible to perform setting without the manual by using the LEVEL1, LEVEL2, LEVEL3 keys and direction key.

Turn the power on for the Indicator. Press the LEVEL1 key for more than 1 second to move to the Main Menu. Main Menu is composed of TEST mode, SET mode and CAL mode. CAL mode will not be activated.

Initial display is the TEST mode. Whenever the LEVEL1 key is pressed, it moves in the sequence of TEST➔SET➔CAL➔…. When the LEVEL1 key is pressed for more than 1 second again, then it will enter the Measurement mode.

☐ TEST

When the LEVEL2 key is pressed under TEST mode in the Main Menu, you will move to the Sub-Menu of TEST mode.

Sub-Menu of the TEST mode is composed of KEY, DISPLAY, BATTERY, LOADCEL, TIME and PRINT. Functions include key-test, LCD and LED test, verification of remaining power of battery, AD value of PAD, verification of current time, and verification of operation of built-in printer.

Whenever the LEVEL2 key is pressed, the sub-menu of the TEST mode moves in the sequence of KEY➔DISPLAY➔BATTERY➔LOADCEL➔TIME➔PRINT➔Comm.

Main Menu	Sub-Menu	Function
TEST	KEY	Verify operation of KEY
	DIsPLy	Verify operation of LCD and LED
	bAtEry	Verify remaining power in Battery
	LoAdCL	Verify AD value for each Pad
	tiME	Verify current time
	Prt	Verify operation of printer
	CoMM	Verify state of communication

TEST – KEY

With the TEST mode displayed, press the LEVEL2 key until KEY is displayed.

Press LEVEL3 key to enter the KEY mode, then the word 'input' will be displayed and when you press the desired key, then the pressed key will be displayed. When SET key is pressed, SET key is displayed and will exit the mode after 1 second.

Once you exited, if you wish to move to other Sub-Menu of the TEST mode, continue to press the LEVEL2 key and press LEVEL1 key to enter the Main Menu and press the LEVEL1 key for more than 1 second in order to enter the MEASUREMENT mode.

TEST – DISPLAY

Press the LEVEL2 key until diSPLy is displayed while TEST is displayed.
In order to enter the DISPLAY mode, press the LEVEL3 key to display all the LCDs and have numbers indicated on the LED sequentially. You can exit the mode by pressing the SET key.
Continue to press the LEVEL2 key if you wish to move to other Sub-Menu of the TEST mode after you have exited, and press LEVEL1 key to move to the Main Menu. Press the LEVEL1 key for more than 1 second to enter the Measurement mode.

TEST – BATTERY

Press the LEVEL2 key until BATTERY is displayed while TEST is displayed.
Once you press the LEVEL3 key to enter the BATTERY mode, current voltage of the BATTER of the Indicator will be displayed. Upon pressing the LEVEL3 key after having confirmed the voltage, you will exit the mode. (There may be slight difference between the actual voltage of the battery and the value indicated.)
Current voltage will be displayed during recharging.

TEST – LOADCELL

Press the LEVEL2 key until LOADCEL is displayed while TEST is displayed.
LOADCEL will be displayed. Once you press the LEVEL3 key to enter the LOADCELL mode, "PAD" will be displayed. When you press the desired PAD No., then the AD value of the corresponding PAD will be indicated. You can exit by pressing the LEVEL3 key once again.

TEST – TIME

Press the LEVEL2 key until TIME is displayed while TEST is displayed.
Once you press the LEVEL3 key to enter the TIME mode, the current time will be displayed. You can exit by pressing the LEVEL3 key once again.

TEST – PRINT

Press the LEVEL2 key until PRINT is displayed while TEST is displayed.
PRINT will be displayed. Once you press the LEVEL3 key to enter the PRINT mode, PRTOUT will be displayed and PRINT TEST will be outputted from the printer.
You can exit by pressing the LEVEL3 key once again.

TEST – Comm

Press the LEVEL2 key until TIME is displayed while Comm is displayed.
Comm will be displayed. Once you press the LEVEL3 key to enter the Comm mode, "PAD" will be displayed. When you press the desired PAD No., it is possible to verify the communication success rate with the corresponding PAD in the unit of %. You can exit by pressing the LEVEL3 key once again.

□ SET

When you press the LEVEL2 key under the SET state of the Main Menu, you can move to the Sub-Menu of SET.
SET is composed of Sub-Menus including GENERAL, PAD, PRINT, DB and OPTION.
Every time the LEVEL2 key is pressed while SET is displayed, the Sub-Menu of the SET changes, and you can enter the Detailed Menu by pressing the LEVEL3 key while in the Sub-Menu.

Main Menu	Sub-Menu	Detailed Menu	
SET	**General**	**dAtE**	Date setting
		time	Time setting
		Day	Day setting
		Unit	Unit setting
		bLight	BackLight setting
		ComErr	Communication error display setting
		diSPEd	Display indication speed setting
		Zero-r	Zero Range Setting.
	PAd	**SEtPAd**	Pad's ID setting
		ChKPAd	Verification of communication connected Pad ID
		PAdnUM	Setting of No. of Pad to be connected
		StAtiC	Static weighing mode
		InMotn	Dynamic weighing mode
	Prt	**AtoPrt**	Automatic printing setting
		SPACE	Printing interval setting
		AtoSAV	Automatic saving following printing setting
	db	**rESEt**	Deletion of stored data
	ZiGbEE	**IndI**	Indicator ZIGBEE module setting
		PAd	Pad's ZIGBEE module setting

SET – GENERAL – DATE: Setting Date

When LEVEL2 key is pressed while "SET" is displayed, "GERAL" will be displayed. Press LEVEL3 key to enter the DATE mode.
You can set the DATE by pressing the ▲ key while the Detailed Menu DATE is displayed.
The date is displayed with year, month and day with 2-digit number for each. Enter the date by using the number keys and correct with CLR key if error in entry has been made.

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Upon completion of setting, store the setting with LEVEL3 key and exit.

SET – GENERAL – TIME: Setting time

Same as the method of setting the SET-GENERAL-DATE. The time is displayed with hour,

minute and second with 2-digit number for each.

SET – GENERAL – DAY: Setting day of the week

You can set the day of the week by pressing ▲ key and ▼ key while Detailed MenuDAY is displayed. After having set the day of the week using ▲ key and ▼ key, save and exit with LEVEL3 key.

SET – GENERAL - UNIT: Setting unit of weight display

You can set the UNIT by pressing ▲ key and ▼ key while Detailed Menu UNIT is displayed. Weight value will be converted in accordance with the corresponding unit depending on the set UNIT. Save and exit with LEVEL3 key.

SET – GENERAL – BLIGHT: Setting the backlight

Change the backlight setting by using ▲ key and ▼ key while Detailed Menu "BLIGHT" is displayed. Save and exit with LEVEL3 key.
   ON: Backlight is always turned on
   OFF: Backlight is always turned off
   KEY IN: Backlight will be turned on for 10 second when key is entered
   It may become slightly dimmer at the time of excessive discharging of battery and continuous operation of printer.

SET – GENERAL – DISPED: Setting display speed

Change the setting by using ▲ key and ▼ key while Detailed Menu "diSPEd" is displayed. Save and exit with LEVEL3 key.
It can be set at 50, 100, 200 or 500.
50 ms: Displays once every 5ms (fast speed of change in weight).
500 ms: Displays once every 500ms (slow speed of change in weight).
If the display speed is slow, then the duration of usage of PAD and Indicator can be increased.

SET - GENERAL – Zero Range Setting.

Change the setting by using ▲ key and ▼ key while Detailed Menu "Zero-r" is displayed. Save and exit with LEVEL3 key.

It can be set 0~99 Range.
Tens place means "Second" and unit's place means "0.5 gradation"
Ex) setting 23 : Regarding zero point for 2 seconds 1.5 gradation change.

☐ PAD

Perform PAD related settings

SET – PAD – SETPAD: Setting the No. of PAD

Prior to performing this setting, turn on the power for one of the PAD. Normal setting is impossible if several PADs are turned on.
ID message will be displayed when ▲ key or ▼ key is pressed while Detailed MenuSETPAD is displayed. Enter the desired number.
When LEVEL3 key is pressed and when No. of PAD is normally set, then message in the format of "OK PAD Number" will be displayed.
When communication with PAD fails, ERROR message will be displayed.
After the setting, save and exit with LEVEL3 key.

SET – PAD – CHKPAD: Verification of No. of connected PAD

Prior to performing this checking, turn on the power for one of the PAD. Normal checking is impossible if several PADs are turned on.
When ▲ key or ▼ key is pressed while Detailed MenuCHKPAD is displayed, the No. of PAD of the PAD for which the power is turned on at the moment will be displayed.
After having confirmed the PAD No., exit by pressing the LEVEL3 key. When communication with PAD fails, NONE message will be displayed.

SET – PAD – PADNUM: Setting No. of PAD to be used

Set the number of PADs to be used by using the ▲ key and ▼ key while Detailed MenuPADNUM is displayed. Save the setting and exit with LEVEL3 key.

This product can measure the weight of the truck with 2 modes, namely, the static weighing mode that measures the weight after having stopped the wheel axle of the truck on the PAD, and the dynamic weighing mode that measures the weight while passing the PAD at low speed.

In the case of dynamic weighing mode, accurate weight may not be indicated depending on the speed of the vehicle and the given environment.
Number of PADs that can be connected when using the dynamic weighing

mode is 2.
You must set the number of PAD to 2 in the SET – PAD – PADNUM mode.

SET – PAD – STATIC: Usage of static weighing mode
It is used when changing from the current status of PAD, which is in dynamic weighing state, to static weighing mode. Only the PAD for which the status will be changed needs to be turned on.
When the ▲ key is pressed while the Detailed Menu StAtIC is displayed, the PAD for which the communication is connected currently will be changed into static weighing state. OK message will be displayed if there is PAD for which communication is connected and normal communication achieved, and FAIL message will be displayed if there is no PAD for which communication is connected and normal communication is failed. Exit by using the LEVEL3 key.

SET – PAD – INMOTION: Usage of dynamic weighing mode
It is used when changing from the current status of PAD, which is in static weighing state, to dynamic weighing mode. Only the PAD for which the status will be changed needs to be turned on.

When the ▲ key is pressed while the Detailed Menu InMotn is displayed, the PAD for which the communication is connected currently will be changed into dynamic weighing state.
Once the PAD is changed into dynamic weighing state, the following 4 settings must be made.

After the OK message is displayed, perform the following setting in the order given. If FAIL message is displayed, then verify whether only one PAD is turned on.

No	Functions	Role	Input range	Message at the time of successful setting/ failure in setting
1	bAnd	At the time of measuring the dynamic weight, designate the range to be recognized as normal weight data	90~100%	bAnd OK/Fail
2	CMP	Constant to be multiplied to the computed dynamic weight	50~150%	CMP OK/Fail
3	LW	Set the weight at which dynamic weighing starts. It is set as % of the Max Capa	0~50%	LW OK/Fail
4	Lt	Once the time that exceeds the prescribed period of time has lapsed since the last axle has passed, it recognizes that the measurement is completed and prints the dynamic weighing data	0~50000 (50 seconds)	Lt OK/Fail

Exit by pressing the LEVEL3 key.

* Dynamic weighing will not be able to provide accurate weight depending on the speed of the vehicle and given environment.
If you wish to have accurate weighing, its usage is not recommended.

□ PRINT

SET – PRINT – AUTO PRINT: Setting whether to use automatic printing

Determine whether to print automatically or not by using ▲ key and ▼ key while Detailed Menu ATOPRT is displayed. Save the setting and exit by using LEVEL3 key.

   MANUAL: Use manual printing

   AUTO: Use automatic printing

Automatic printing will operate only when weight has been applied to all set PADs.

Even if automatic printing has been set, you can start printing by pressing the PRINT key.

SET – PRINT – AUTO SAVE: Setting whether to automatically save DATA

Determine whether to save DATA or not by using ▲ key and ▼ key while Detailed Menu ATOSAV is displayed. Save the setting and exit by using LEVEL3 key.

Up to 140 truck DATA can be stored.

   SAVE: Truck DATA is stored in the internal memory at the time of printing.

   NO SAVE: Does not store the truck DATA at the time of printing.

SET – PRINT – SPACE: Set the interval of printing.

Change the printing interval by using ▲ key and ▼ key while Detailed MenuSPACE is displayed. Save the setting and exit by using LEVEL3 key.

You can select 1~ 9 LINEs.

□ DB

Used in initializing the memory data.

(Weighing data, vehicle number and number of weighing made)

SET – DB – RESET: Delete all the DATA in the memory

When ▲ key is pressed while Detailed Menu "rESEt" is displayed, then PASS message will appear. Enter the PASSWORD (PASS 3070). When the PASS Word is inputted and the SET key pressed, then it is confirmed with the "SUrE" message. If you definitely wish to delete, then press the SET key once again to confirm the "CLr Ok" message. "rESEt" message will appear again. If you do not wish to delete, then exit by pressing the CLR key. "Not Clr" message will then be displayed.

In the event of entering wrong password, "nG" message will be displayed and you will be exited from this menu.

□ ZIGBEE

Change the channel of the indicator and the pad only allows you to set the same channel number.
If the current state of the communication is good communication within walking distance or any other indicator, and communications interference occurs when using the pad, you see the contents of the following communication settings of the ZigBee module must be replaced.

(Note) Change the channel on the wrong indicators and does not connote paedeugan communication channels, so the current number of indicators and a note pad noteunhu the following order, please change the channel to perform

How to change the order of channels
    ①   Indicator turns on and off the pad.
    ②   LEVEL1 of indicators is selected by pressing the Comm Menu
    ③   LEVEL2 of indicators Inid Menu and select press.
    ④   LEVEL3 of indicator values, press Enter to change to the desired channel.
        ⇒Complete channel information, change indicator
    ⑤   PAD Meun LEVEL2 press Select.
    ⑥   LEVEL3 press to enter the number of pads you want to set.
        ⇒Changing pad complete channel information
    ⑦   Varying the number pad 5 or 6 times and repeats.
    ⑧   Indicator and all the power off and turn on the pad.

□ ZIGBEE

You can set the communication channel, ID and ADDRESS of the ZIGBEE module of Indicator and PAD. The default value at the time of shipment are as follows:

	Indicator	Pad	Setting range
Channel	15 (0xFF)	15 (0xFF)	11~26
PanID	65535 (0xFFFF)	65535(0xFFFF)	0~65536
Source Address	65535 (0xFFFF)	65535(0xFFFF)	0~65536
Destination Address	65535 (0xFFFF)	65535(0xFFFF)	0~65536

If you designate only the Pad Number of each Pad with the setting indicated in the table, you can use it normally.
If the current communication status is not good, or there is crossing of communication when there is other Indicator and Pad being used within the communication range, you need to change the setting value of communication of ZIGBEE module by referring to the following.

Make sure to perform the following setting after turning on only the PAD for which the setting value of ZIGBEE module is to be changed.

SET – ZIGBEE – INDICATOR
Used in changing the wireless communication setting of Indicator.
When ▲ key is pressed while the Detailed Menu IndI is displayed, then wireless communication setting of Indicator can be changed. Current setting value will be displayed first and is awaiting entry of value desired by user. Once the values are properly inputted, the inputted value will be displayed along with OIK message.
Once the setting for all of Channel (cH), PanID (Pid), Source Address (SAdd) and Destination Address (dAdd) are completed, it will exit to upper menu. When the power of Indicator is turned off and then turned on, the changed setting value of wireless communication will be applied.

SET – ZIGBEE – PAD
Used in changing the wireless communication setting of Pad.
When ▲ key is pressed while Detailed Menu PAD is displayed, ZIGBEE setting of Pad can be changed. Current setting value will be displayed first and is awaiting entry of value desired by user. Once the values are properly inputted, the inputted value will be displayed along with OIK message.
Once the setting for all of Channel (cH), PanID (Pid), Source Address (SAdd) and Destination Address (dAdd) are completed, it will exit to upper menu.
When the power of Pad is turned off and then turned on, the changed setting value of wireless communication will be applied.

* When you are not using the default setting, then the relationship between Source Address and Destination Address of Indicator and Pad will be set in the following relationship.

EX) 1

	Pad	Indicator
Source Address	1	0
Destination Address	0	1

EX) 1

	Pad	Indicator
Source Address	1234	5678
Destination Address	5678	1234

6. Method of Weighing Truck

Once the vehicle enters, press the Truk NO key first. Once the Car No is displayed, press SET KEY after having inputted the vehicle number.
When READY message is displayed, then it is ready to do measuring.

1) 1st weighing: Place the vehicle on the 1st weighing location as illustrated in the diagram in the following page, and print the weight by pressing the print key.

2) 2nd weighing: Once the 1st weighing is completed, move the vehicle forward to prepare for the 2nd weighing. As in the 1st weighing, when you press the print key, the weight will be printed.

3) 3rd ~ 4th measurements: Weigh with method used in above 1st and 2nd weighing.

4) Total weight of the vehicle: When the SUM key is pressed upon full completion of vehicle weighing total weight of the vehicle will be printed. Stores the weighing data in accordance with the option setting.
* In the case of automatic print option, printing will be performed automatically without having to press the print key.
When using the automatic printing option, printing for each axle will be carried out without having to input the vehicle number, the vehicle number will not be indicated when printing and the data will not be stored.

Automatic printing will be performed only when weight has been applied to all PADs that have been set.
For example, if weighing on 2-axle vehicle is carried out although weighing for 3-axle vehicle has been set by using 6 PADs, automatic printing will not be performed.
Print either by pressing the PRINT key or reset the number of PAD to 4 (2-axles) in the setting.

□ OPTION

Dummy Plate : It is used to reduce errors, when the vehicle which has 3-axiles is measured.

Categories		1st Measurement	2nd Measurement	3rd Measurement	4th Measurement
2-axle Vehicle	1) Weigh the 1st and the 2nd axle in this order (2 PLATE).				
	2) Weighing will be more accurate if weighed by suing dummy plate (2 PLATE + 2 DUMMY PLATE).				
3-axle Vehicle	1) Weigh the 1st, 2nd and the 3rd axle in this order (2 PLATE + 12 DUMMY).				
4-axle Vehicle	1) Weigh in the order beginning with the 1st axle (2 PLATE + 12 DUMMY).				
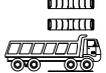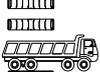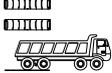
Note: If the PAD No. of RWZ is lower than the total number of axles, then dummy plate must be used in order to achieve accurate weighing. Prior to installing the dummy plate, assess the necessary quantity first (Error in the measurement: within ± 3% of the total weight of the vehicle).

7. Method of Searching Truck Data

1. When the FIND key is pressed for about 1 second, it will move to FIND mode.
   When CAR NO message is displayed, enter the number of the vehicle you wish to search prior to pressing the SET key.
2. If there is a vehicle number that corresponds to the inputted vehicle number, then display will be shown in the format of dat "DATA Number". Press the SET key if you wish to print.
   All the search data will be printed.
   Press CLR key if you do not wish to print.

If there is not vehicle number that corresponds to the inputted vehicle number, then No dat message will be displayed.
(Weighing data can store up to 140 vehicle numbers.)

Print Format

1) When printing following measurement

```
==========CAS RW SYSTEM==========
DATE: 08.11.26.10:11:30        ➜ Measurement date
Truck NO: 1234                 ➜ Measured vehicle number
Weight Count: 9                ➜ Weight count until now
-------------AXLE1----------   ➜ Measured axle number
Pad1: 1000kg                   ➜ No. of pad that corresponds to the axle
Pad2: 1000kg
AXLE1: 2000kg                   ➜ Weight of axle
--------------------------------
-------------AXLE2----------
Pad1: 1000kg
Pad2: 1000kg
AXLE2: 2000kg
--------------------------------
-------------AXLE3----------
Pad1: 1000kg
Pad2: 1000kg
AXLE2: 2000kg
--------------------------------
Total: 6000kg                  ➜ Weight of all axles
```

2) When printing after having searched truck data

```
==========   FIND DATA  ==========
Data Number : 1                ➜ No. of data with same vehicle number
DATE : 08.11.26.10:11:30       ➜ Measurement date
Truck NO : 1234                ➜ Measured vehicle number
-------------AXLE1-----------
Pad1 : 1000kg
Pad2 : 1000kg
AXLE1: 2000kg
--------------------------------
-------------AXLE2-----------
Pad1 : 1000kg
Pad2 : 1000kg
AXLE2: 2000kg
--------------------------------
-------------AXLE3-----------
Pad1 : 1000kg
Pad2 : 1000kg
AXLE2: 2000kg
--------------------------------
Total: 6000kg
```

8. RW10Z/15Z Utilization Method

☐ **CAUTIONS**

- Keep it in dry.
- Measure out on the place that an inclination is under the 45 degrees.
- Don't use in wet weather.
- Avoid the place where mud or sends are existing.
- Restrain measurement from the uneven place. It may cause error or deteriorating performance of a product.
- If a car has two axle, refer to the page 6 for a exact measurement.
- Clean periodically to avoid entering soils between a body and load-cell.

1) How to use

  - Power ON function: Power will be turned ON when the POWER S/W is pressed for about 2 seconds.
  - Power OFF function: Power will be turned OFF when the POWER S/W is pressed for about 2 seconds while the power is ON.

2) Power supply lamp

  - LAMP OFF: The power is currently turned off.
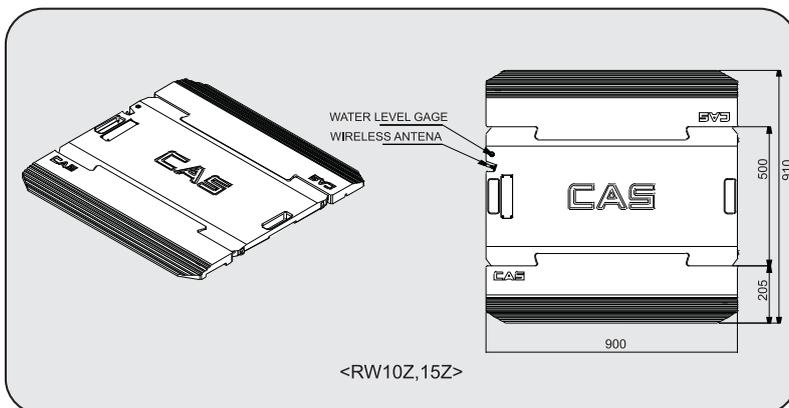 - LAMP Flickering: The power is currently turned on.

3) Automatic zero function
  - If it does not exceed 2 scales within prescribed period of time, then it is automatically corrected to the Zero Point.

4) Range of zero point
  - It operates within the range of 2% of the maximum weight.

☐ **DIMENSION**

WATER LEVEL GAGE
WIRELESS ANTENA

500
910
205
900

<RW10Z,15Z>

9. How to Change Print Roll

① At the time of printing, if the printer outputs printing paper with red line on the back, it is the sign that the paper needs to be replace. Please replace with new roll of printing paper.
② Take caution to refrain from sending Data to the printer during replacing of the paper.
③ Pull the cover of the printer forward.

When inserting the paper, ensure that insertion is made in the direction indicated in the following diagram.
Once the paper is inserted into the mechanism and feed button is pressed, the paper will be installed automatically.
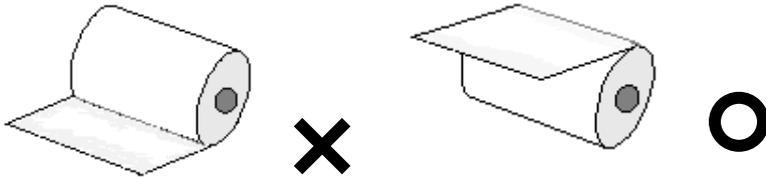
④ Close the cover.

⑤ Properly install the paper and verify that the paper outputs properly by pressing the FEED button

10. Error Messages and Measures to be Taken

Error messages are displayed by using the LCD and support display.
LCD will display the types of error while the support display will indicated the No. of PAD.

⑴ Errors that can occur in the weight measuring mode

Err Cm
◼ Reasons for occurrence of error
Communication error between the Indicator and the Pad.
If Err Cm occurs in one of pad of the set pads, then weight will not be measured.

☞ Measures to be taken
Verify whether the power of Pad is turned ON and whether it is in an area with difficulty in wireless communication.

Err Lc
◼ Reasons for occurrence of error
Load-cell connection is erroneous or there is abnormality in the A/D conversion section.
Error occurs when the value of A/D is too low or too high.

☞ Measures to be taken
Inspect the load-cell of the Pad.

Err IZ
◼ Reasons for occurrence of error
The initial zero point range of the load plate has exceeded more than ±10% from the maximum capacity.

☞ Measures to be taken
Verify that the load plate is empty, and turn the power on within teh range of 10% of the maximum capacity. (Caution: Even tough the power of the indicator is turned off and then on while weight is applied to the load plate during normal weighing, the Indictor will display the current weight.)

Err Ov
◼ Reasons for occurrence of error
The current weight on the load plate is too heavy, exceeding the allowable limit of the Pad.

☞ Measures to be taken
Do not place weight that exceeds the maximum capacity limit of the Pad.
If the load cell is damaged, then the load cell needs to be replaced.

⑵ Errors that can occur in the weight setting mode

Err RS
■ Reasons for occurrence of error
   Resolution setting exceeded the allowable limit of 1/1,000.

☞ Measures to be taken
   Decrease the **Resolution**. Since **Resolution** = maxium weight / value of 1 scale, adjust the **Resolution** to less than 1/1,000 by correcting the maximum weight in CAL 1 of the weight setting menu or by correcting the value of 1 sclae in CAL 2 of weight setting menu.

Err Wt
■ Reasons for occurrence of error
   The weight on the balance for adjustment of span has been set to less than 10% or exceeding 100% of the maximum weight of the weighing scale.

☞ Measures to be taken
   Set the weight on balance for adjustment of span in CAL 3 of the weight setting menu to the range of 10%~100% of the maximum weight of the weighing scale.

Err SP
■ Reasons for occurrence of error
   Span is too low.

☞ Measures to be taken
   It is impossible to set weight with the current **Resolution** due either to abnormality in load cell or too low load cell output, lower the **Resolution** to reset the weight.

Err Zr
■ Reasons for occurrence of error
   Zero value is either too high or low.

☞ Measures to be taken
   Verify whether the load plate of the weighing sclae is empty.
   If this message is displayed even when it is empty, please inquire with the A/S department of our company.

LOW
■ Reasons for occurrence of error
   Battery power for the Pad is low.

☞ Measures to be taken
   Replace or recharge the battery.

MEMO

33

MEMO

MEMO

35

RW-2000Z/
RW-Z(10Z,15Z)

Vehicle Weighing Scale