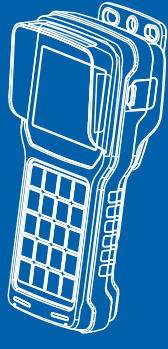
TOTAL WEIGHING SOLUTION™

TWN

Remote Controller



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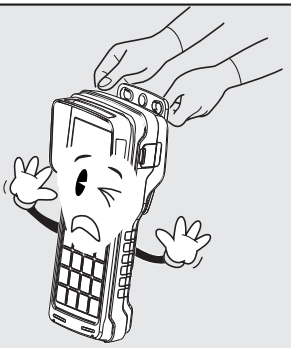
OWNER'S MANUAL

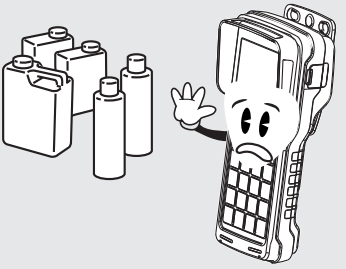
CAS

Table of Contecnts

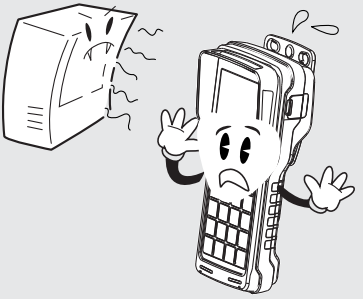
PRECAUTIONS



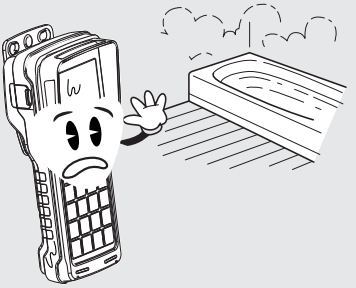
◆ Do not press the keys hard, for it will operate with touch.



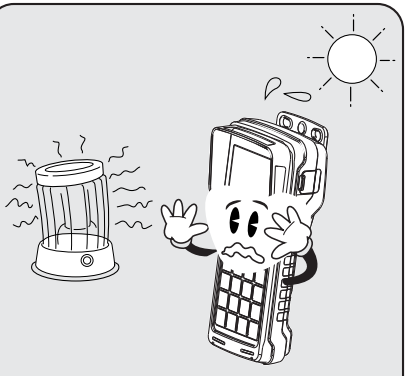
◆ Do not use ignitable materials for cleaning.



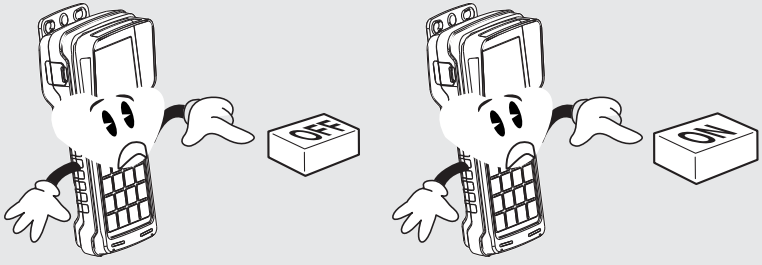
◆ Avoid sudden temperature change.



◆ Keep it in a dry place.



◆ Do not use under the direct sunshine and on the dust place for a long time.



◆ Shift power switch to ON position, when you use it.
(Power switch is located on right-top corner)
◆ Shift power switch to OFF position, when you don't use it for a long time.

INTRODUCTION

Thank you for purchasing CAS industrial TWN.
This produce is characterized by the excellent performance and luxurious features through strict examinations, as well as our elaboration and strict quality control for each component.
Please use the product right and utilize TWN's functions to the full extent, after you read this manual thoroughly before using our company's product TWN.

FEATURES & MAIN FUNCTION

1. Features

■ Possible of wireless (Zigbee, Bluetooth) communications and simple operating procedures.
■ Adopting a high-performance chargeable battery. (DC 3.7V)
■ TWN is automatically powered off when battery is under 3.6V.
■ All functions of TWN depend on the connected device (e.g. CASTON III)
■ TWN has two versions (BLUETOOTH and ZEGBEE)
- Bluetooth version : TWN-B
- Zegbee version : TWN-Z
(see 19 pages as to version display.)

2. Main Function

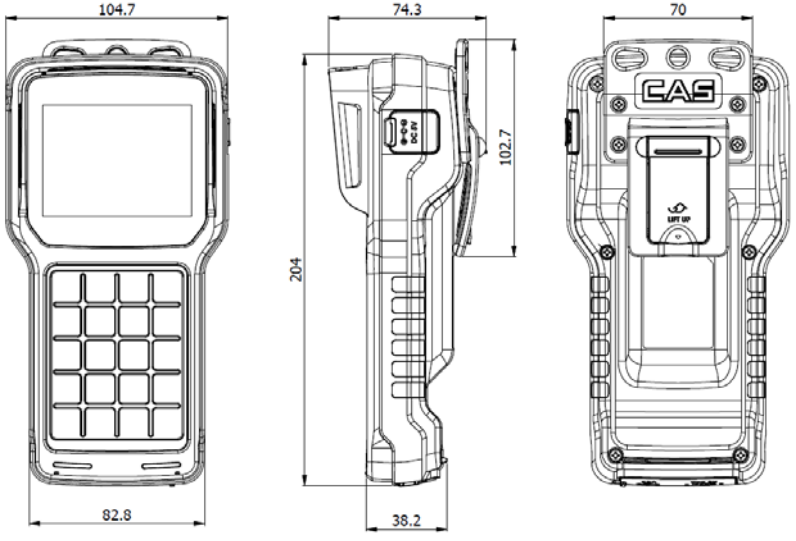
■ RS232C serial communication (standard)
■ Possible to use a serial mobile printer
■ Possible of wireless communications (Zigbee, Bluetooth)
■ 24 hours of continuous use
■ Hold function
■ Possible of USB PC communications
■ Possible to save 1,000 cases of date, time, and gross weight to be printed

TECHNICAL SPECIFICATIONS

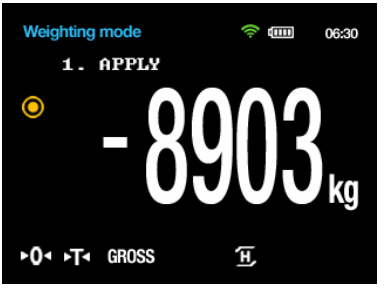
Frequency	2.4GHz
Communication methods	ZIGBEE (BLUETOOTH)
Baud Rate	9600
Effective distance for communications	Maximum about 50 ~ 100M
Display	320*240 TFT LCD
Display below zero	"-" minus signal
Battery life time	Approx. 24hours
Battery changing time	Approx. 5 ~ 6 hours
Power	TWN : Rechargeable DC Battery 3.7V Charger: adapter for charging (4.2V 4400mA)
Temperature range	-10℃ ~ 55℃
Function	Printer interface, zero, tare, hold, print ID setting, weight sum.

* The effective distance is subject to characteristics (elements) in the obstacle.
For example, << concrete walls or sandwich panel, etc. >>

DEMENSION



Display



1. LCD Display

◎	ON while the weight is being stable
0	ON while the current weight is within zero
T	ON when the tare is saved
GROSS	ON when the current weight is gross
Net	ON when the current weight is Net
H	ON during Hold
	Display of charging conditions
06:30	Display of time
	Display of ZIGBEE (BLUETOOTH) connection conditions

2. Key Function

ON/OFF	Power On / Off
ZERO 1 ABC	Set Zero
TARE 2 DEF	Measure the weight using tare
HOLD 3 GHI	Use Hold function
ID 4 JKL	Enter the product List window
G/N 5 MNO	Check the Gross and Net weight

PRINT 6 PQR	Use print current weight information.
I-SUM 7 STU	When printing data set by ID
G-SUM 8 VWX	Use print saved total Data.
UNIT 9 YZ␣	Use change unit(Reserved)
F1 0	(Reserved)
0~9 YZ␣	Display a number in a range of 0 ~ 9
←	Correct the input character
1 a A	Shift among a capital letter, small letter and number
ENTER SET	Enter Set mode
C	Move to the upper menu from the sub menu
← ↓ → ↑	Move the cursor (Reserved) Use → to enter the same alphanumeric letter while entering a character

* Keys shall not be operating in other ways than described above.

* Note : G/N key is not used with CASTON-III.

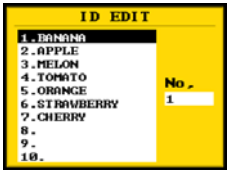
General Function

1	**Power On/Off**
	Possible of power on and power off using TWN ON/OFF key
	* Set to power off to reduce the battery consumption during no use.
2	**Zero Function - ZERO KEY**
	Possible only within ±2% of the maximum capacity.
	This function is not operating while the weight is being instable.
3	**Tare Function - TARE KEY**
	Use this function after removing the object to be measured.
	This function is not operating while the weight is being instable.
	Ensure the container and object to be measured not to exceed the maximum capacity.
4	**Hold Function - HOLD KEY**
	This function is operating as Hold set to the corresponding equipment.
5	**Print (PRT) Function – PRT KEY**
	This function enables the printing of the stored weight values.
6	**I-Sum**
	Use print Data information related current ID
7	**G-Sum**
	Use print saved total Data.
8	**Alphabet Input**
	Any alphabet can be entered when an ID is entered.
	An alphabet corresponding to each key can be entered.
	Enter an ID which can be applied when the weight is saved and printed.
9	**Wireless Communication Check**
	Connection conditions in the wireless communication can be checked out with the activation of an icon ( ).
10	**Clock Function**
	Time is displayed on the right most side in the main screen (12:20)
	Time setting
	Time setting can be done from the Time setting in the Set mode.

- Program Structure

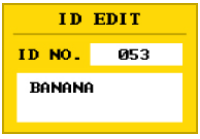
MENU	MODE	항목	
NORMAL MODE (POWER ON)	MENU MODE	ID EDIT	ID INPUT
		COUNT	CHECK THE COUNT OF WEIGHING
		HEADER ON/OFF	SELECT WHETHER TO PRINT OUT THE HEADER
		HEADER TEXT	HEADER DETAILS
		PRINT FORMAT	SELECT THE PRINTING ITEMS
		PRINT BY ID NO.	PRINT INFORMATION UNDER THE SAME ID AMONG THE SAVED WEIGHTS.
		PRINT BY DATE	PRINT THE SAME DATE INFORMATION AMONG THE SAVED WEIGHTS.
		SLEEP MODE ON/OFF	SELECT SLEEP MODE ON/OFF
		WEIGHT DEL	DEL TOTAL SAVE DATA
		CHECKER	BUZZER HIGH AND LOW WEIGHT
		F1 OPERATION	Set a given function
		CASTON POWER ON/OFF	Select CASTON power on/off function
SET MODE (ON/OFF KEY + ENTER KEY)		LCD TEST	LCD SCREEN TEST
		MODULE TEST	BLUETOOTH TEST
		KEY TEST	KEY INPUT TEST
		UART TEST	UART COMMUNICATION TEST
		TIME SETTING	TIME SETTING
		USB TEST	USB COMMUNICATION TEST
		ZIGBEE (BLUETOOTH) SET	ZIGBEE(BLUETOOTH) CHANNEL SET
		BRIGHTNESS SET	LCD BRIGHTNESS SETTING
		FACTORY INIT	Select factory default

1. NORMAL MODE
(WEIGHT VALUE DISPLAY MODE)

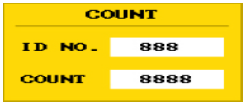


1) 4 KEY (ID)
- Display ID list.
- Change ID list by contorl key(up,down,left,right)
- Change ID list by entering the ID number
- Set ID by pressing Enter Key.

2. MENU MODE



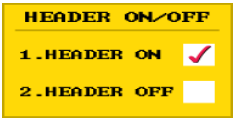
1) ID EDIT
(POWER ON -> MENU KEY -> 1 KEY)
- The product number is set to 000 initially.
- Enter a product number and then enter an ID accordingly.
- 0 cannot be entered as a product name as it is unknown.
- Enter a desired product number and press ENTER to enter a product name.
- Press a corresponding key to enter any alphabet.
- Use ← key to delete any wrong value.
- Use → key to enter alphabets allocated to the same key.
- Press 'ENTER' key to save and return to the MENU MODE after entering and saving values.
- Press 'C' key to return to MENU MODE with no saving.



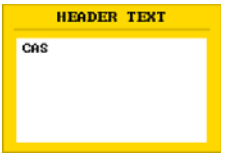
2) COUNT
(POWER ON -> MENU KEY -> 2 KEY)
- Enter an ID No. and press ENTER to identify the count of weighting for the ID.

.

3) HEADER ON/OFF
(POWER ON -> MENU KEY -> 3 KEY)
- Set on or off the print header..

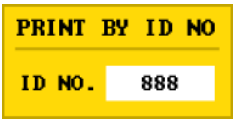


4) HEADER TEXT
(POWER ON -> MENU KEY -> 4 KEY)
- Enter the print header details.
- Total 60 bytes can be entered.



5) PRINT FORMAT
(POWER ON -> MENU KEY -> 5 KEY)
- Set the printing items in the printer.
- DATE: Set on or off data printing
- TIME: Set on or off time printing
- WEIGHT NO: Set on or off the weight serial number printing
- ID NO: Set on or off ID NO printing
- TOTLAL SUM: Set on or off the total weight printing when both SUM key and PRINT key are pressed to print out the saved data.

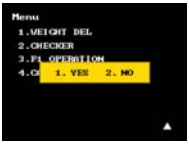
6) PRINT BY ID NO.
(POWER ON -> MENU KEY -> 6 KEY)
- Print out the entire weight information with the same ID as entered among the stored weight values



7) PRINT BY DATE
(POWER ON -> MENU KEY -> 7KEY)
- Print out the entire weight information with the same date as entered among the stored weight values

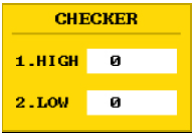
8) SLEEP ON/OFF
(POWER ON -> MENU KEY -> 8KEY)
- Sleep mode is operated when any operation is not in 1minute.
- when pressing TWN key, sleep mode is changed to program mode.
- when sleep mode is on and any operation is not for 30 minutes, TWN is turned off automatically.

9) WEIGHT DEL
(POWER ON -> MENU KEY -> DOWN KEY -> 1 KEY)
- You can delete stored weight data.



10) CHECKER
(POWER ON -> MENU KEY -> DOWN KEY -> 2 KEY)
- User can set upper or lower limit value.
- when weight is over upper limit value and lower limit value, alarm is operated.
- CHECKER does not display a decimal point.

(Ex : If a decimal point displays 2 points, CHECKER has to set 20 for indicating 0.20Kg as a setting value.)



11) F1 OPERATION
(POWER ON -> MENU KEY -> DOWN KEY -> 3 KEY)

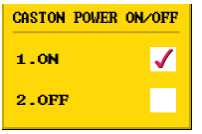
Function Name	Key code
Display on/off	90

- User can set the desired functions to F1 and use it as operation key.

12) CASTON POWER ON/OFF

(POWER ON -> MENU KEY -> DOWN KEY -> 4 KEY)

- user can select function to turn on and off CASTON with TWN.
- User have to power on the caston at least once before this function used.
- Operating time of CASTON reduces by using this mode
- User can power on and off CASTON with Power on/off key of TWN by selecting this function.



3. SET MODE

- It is necessary to turn off the power supply after completing the setting related to TWN in the SET MODE.

1) LCD TEST

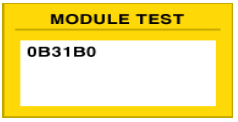
(Enter key + Power on -> 1 key)

- LCD Screen can be tested.
- Carry out LCD TEST at the start of test in the order of white → yellow → red → black → main screen

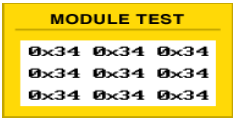
2) ZIGBEE (BLUETOOTH) TEST

(Enter key + Power on -> 2 Key->enter key)

- BLUETOOTH version (TWN-B)
- check BLUETOOTH ID when BT version.
- Relative scale has to be turned off in case of testing Bluetooth wireless modules.



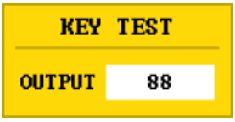
- ZIGBEE version (TWN-Z)
- Print out the weight (5 digits), PER (1 digit), STA (1 digit), BCC (1 digit)
- Relative scale has to be turned on in case of testing zigbee wireless module.



3) KEY TEST

(Enter key + Power on -> 3 key)

- Key can be tested.
- A unique value is displayed whenever a key is pressed.
- Return to the menu mode with the C key.

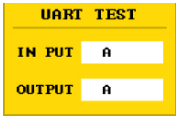


0~9	Key Value	↑	11	MENU	12	←	13
↓	14	→	15	←	16	C	17
1 a A	18	ENTER SET	19				

4) UART TEST

(Enter key + Power on -> 4 key)

- UART communications can be tested.
- Connect No. 2 and 3 among UART PORT pins.
- Display output A when enter key



5) TIME SET

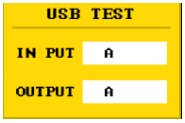
(Enter key + Power on -> 5 key)

- Enter numbers to set the date and time.
- Press any number and then 'SET' Key to finish entries (ex: to change year, '1' key → enter year → press 'SET' Key)
- Time is displayed in the 24 hour system.

6) USB TEST

(Enter key + Power on -> 6 key)

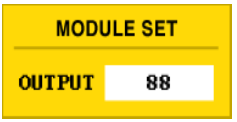
- USB communications can be tested..
- Install the provided USB driver to a PC
- Check out the virtual UART port from the Control Panel
- Start Test after HyperTerminal open.
- Display hyperterminal 'A' when enter key press
- OUTPUT messeage Display when hyperTerminal alphabet input



7) MODULE SET

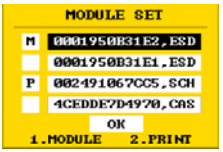
(Enter key + Power on -> 7 key)

- ZIGBEE MODULE (TWN-Z)
- The current Zigbee channel chan be changed.
- Press the Enter Key after entering the channel to be changed.
- Channel 11 ~ 26 can be set.
- Press 'Enter' Key for the channel setting and 'C' Key to return to the Set Mode after entries..



<ZIGBEE>

- BLUETOOTH MODULE (TWN-B)
- Press Set key
- Prcessing is desplayed, searching Bluetooth equipment for 30 seconds.
- TWN can search 12 Bluetooth devices.
- When 'OK' message is displayed, select an connectabled devices with down and up key.
- When selecting press key '1' for CASTON and '2' for Bluetooth module printer.
- when pressing key '1' for CASTON and '2' for Bluetooth mobile printer.
- After selecting, press set key to connect with devices.
- After 'OK' is displayed, TWN is connected with Bluetooth equipment.
- If connection is suceeded, OK is desplayed or if fail, No is displayed.
- IF connection is failed, reboot TWN and the devices and reset them.
- CASTON ID has to set '0'



<BLUETOOTH>

8) BRIGHTNESS SET

- User can adjust brightness of LCD display with Number key 1~5.
- Press set key to save or 'C' key to cancel it.

No. 1 : darkest

No. 5 : brightest

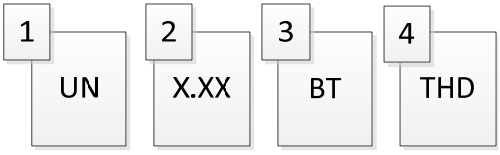
9) FACTORY INIT

- User can set TWN to factory default condition.
- All of item name and stored data is initialized.
- When initializing, user have to reconnect devices by searching Bluetooth module(device) because a device information is initialized as well.

Content	Factory Init
HEADER ON/OFF	ON
PRINT FORMAT	All items
SLEEP MODE	ON
HIGH	0
LOW	0
F1 OPERATION	00
CASTON POWER ON/OFF	OFF
BRIGHTNESS SET	3 steps
ID AND WIEGHT DATA	delete

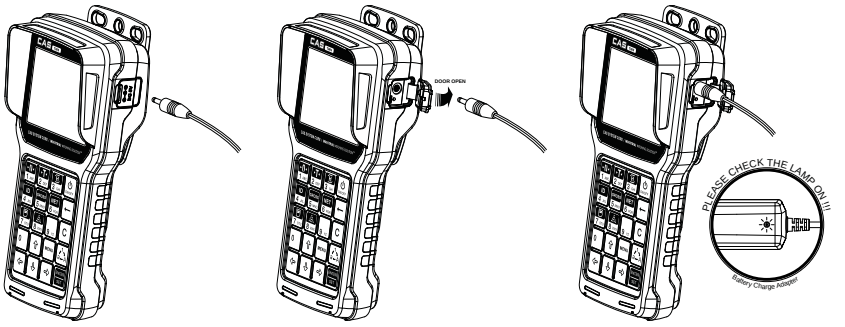
TWN version

TWN version is displayed with Cas logo after power on.



1 . display country code.
2. display TWN version.
3. display BLUETOOTH version OR ZIGBEE version.
   - BT : BLUETOOTH version (TWN-B)
   - ZB : ZIGBEE version (TWN-Z)
4. display the connected equipment .

Charge Adaptor



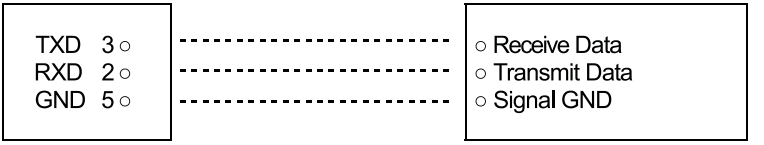
- ■ Apply the power supply to the charger. (220V on the shipment)
- ■ The power lamp is turned on (in red).
- ■ Insert TWN into the charger.
- ■ A red lamp on the charger is turned on.
- ■ The lamp on the charger is turned into green if the charging is done (about 5~6 hours)

- ■ An Adaptor is only for charging TWN. When TWN is charging, do not communicate with PC.
- ■ Use Adaptor and USB cable including Ferrite core.

Connection

▶RS232C port is positioned at the bottom of TWN.

(1) Connection of serial printer (thermal printer) & PRINTER



TWN charger RS-232C port 9-pin print port

Print Format

1. If PRT Key is pressed

Print is done after saving

<HEADER>
2011/1/17 20:38
WEIGHT NO : 1 20kg
ID NO. : 1

2. If sum data is printed

Print is done entirely for the saved data
<HEADER>
2011/1/17 20:38
WEIGHT NO : 1 20kg
ID NO. : 1
2011/1/17 20:38
WEIGHT NO : 2 20kg
ID NO. : 1

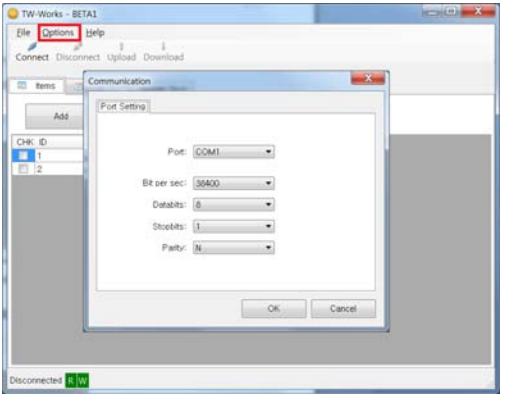
TOTAL SUM : 40kg

USB & PC Connection

▶USB port is positioned at the bottom of TWN.
(1) Connect a USB port to a PC USB port.
(2) Install the provided USB driver.

PC Communications

Execute the provided TW-Works after installing the provided USB driver.



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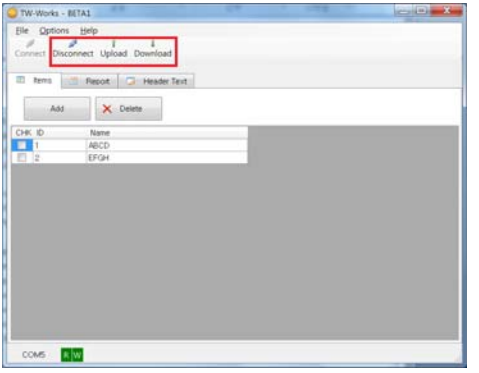
- 'Port Setting' appears after pressing 'Option' to select 'Communication'
- PORT : Click to find out COM Port. Select the allocated COM port after the USB installation.
- Bit per sec : Select 115200.
- Databits : Select 8.
- Stopbits : Select 1.
- Parity: Select N..
- Communications with TWN can be done when 'Connect' is clicked after the setting is done.

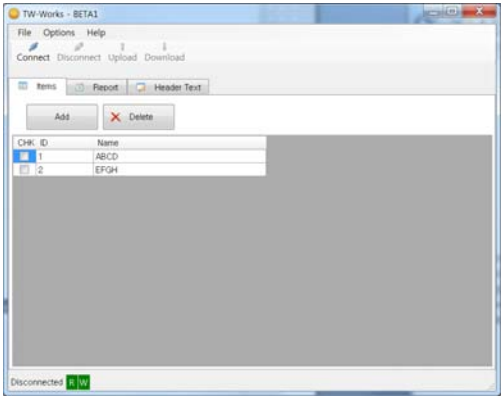


Connect : Press 'Connect' to start connecting this program to TWN after connecting TWN to a PC with a USB cable.

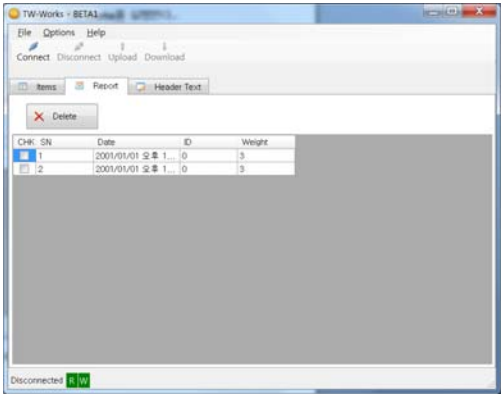
Disconnect : TWN is disconnected from a PC.

Upload : Any data stored in TWN can be downloaded to a PC.

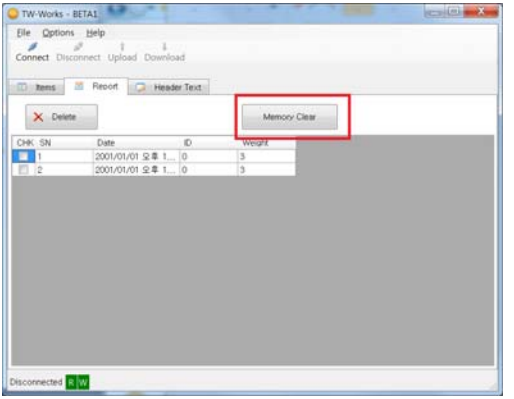
Download : Any data entered in TWN can be transferred



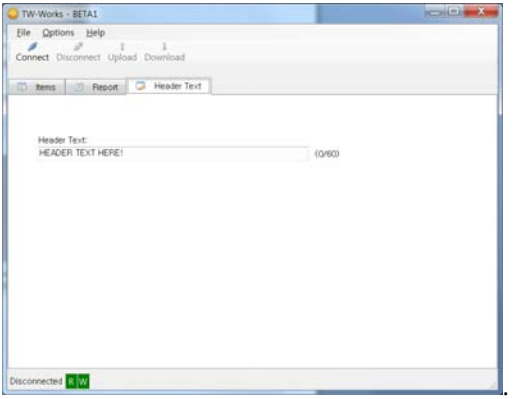
Item name (100EA) can be downloaded and uploaded after connecting.



Information on the weight values stored in TWN can be taken.
Information in the weight value cannot be downloaded.

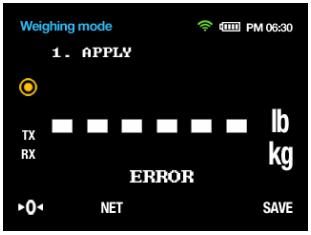


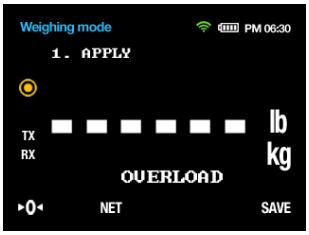
Weight values in TWN can be deleted.



User can upload and download header text of TWN
Lenght of header text is fixed to 60bytes.

ERROR





Error is displayed when TWN can communicate to a relative scale

1) In case that it is impossible to connect with a relative module(scale)
   A. Weight is not displayed with a mark
   B. Error is displayed just below a displayed weight on screen.
2) In case of error of CASTON or communication error even if connecting a relative module(scale)
   A. Weight is not displayed
   B. Error is displayed just below a displayed weight on screen.
3) Incase of overload
   A. Weight is not displayed
   B. OVERLOAD is displayed just below a displayed weight on screen.

EC R&TTE Compliance Statement

1. BLUETOOTH version (TWN-B)

Hereby, CAS Corporation declares that this model TWN-B is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. The declaration of conformity may be consulted at www.address.com/DoC.pdf.

IMPORTANT NOTE: To comply with Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be colocated or operating in conjunction with any other antenna or transmitter.

2. ZIGBEE version (TWN-Z)

Hereby, CAS Corporation declares that this model TWN-Z is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. The declaration of conformity may be consulted at www.address.com/DoC.pdf.

MEMO

EC Declaration of Conformity

Manufacturer **CAS Corporation.**

Address #19, Ganap-Ri, Gwangjeok-Myeon, Yangju-Si, Gyeonggi-Do
482-840, Rep. of Korea

Declares that the following product

Product Name: Portable Indicator
Model Number: TWN-Z
Brand Name: CAS

conforms to the technical regulations applicable to the product within the scope of Directives 2006/95/EC (LVD), 2004/108/EC (EMC), and 1999/5/EC (R&TTE):

Article 3.1(a)	**Health**	EN 50371:2002
Article 3.1(a)	**Safety**	EN 60950-1:2006+A11:2009
Article 3.1(b)	**EMC**	EN 301 489-1 V1.8.1 (2008-04) EN 301 489-17 V2.1.1 (2009-05)
Article 3.2	**Radio**	EN 300 328 V1.7.1 (2006-10)

All essential radio test suites have been carried out. The relevant technical file is available for inspection.

Notified Body EMCCert Dr. Rasek GmbH
Stoernhofer Berg 15
91364 Unterleinleiter
Germany
EU Identification Number: 0678

This declaration is issued under the sole responsibility of the manufacture and, if applicable, his authorized representative.

Point of contact Chul-gi, Kim, TEL:+82-31-820-1392, FAX:+82-31-836-8305
(Name, telephone and fax number)

South Korea, July 6, 2011
(Place, date of issue)


(Signature)

Chul-gi, Kim / Assistant Manager
(Name and title in block letters)

EC Declaration of Conformity

Manufacturer **CAS Corporation.**

Address #19, Ganap-Ri, Gwangjeok-Myeon, Yangju-Si, Gyeonggi-Do
482-840, Rep. of Korea

Declares that the following product

Product Name: Portable Indicator
Model Number: TWN-B
Brand Name: CAS

conforms to the technical regulations applicable to the product within the scope of Directives 2006/95/EC (LVD), 2004/108/EC (EMC), and 1999/5/EC (R&TTE):

Article 3.1(a)	**Health**	EN 50385:2002
Article 3.1(a)	**Safety**	EN 60950-1:2006+A11:2009
Article 3.1(b)	**EMC**	EN 301 489-1 V1.8.1 (2008-04) EN 301 489-17 V2.1.1 (2009-05)
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TWN

Remote Controller

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