

SSE-SP30T2
VELOCITY METER
User's Manual



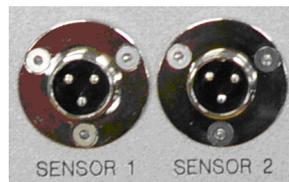
SSE Co., Ltd

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CAUTION.

1. If you drop this Equipment, it seriously damaged and Reject A/S or Asked for a large amount of repairing charges.
2. Make sure no disinfectant or water gets into the equipment.
3. Check sensor order. Velocity must be measured from sensor 1 to sensor 2. If the order is wrong, change connection of two sensors each other.



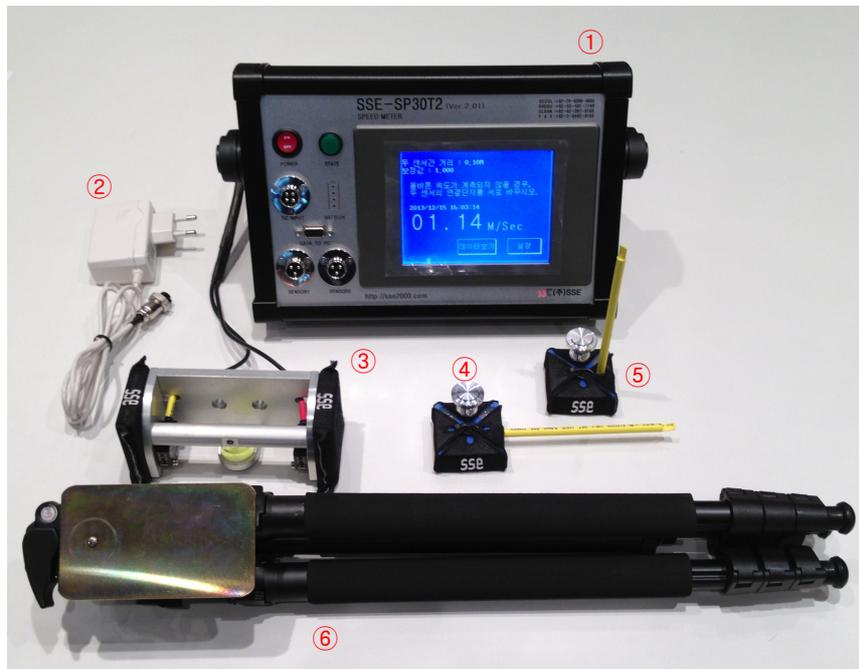
I . General Description

1. SSE-SP30T2 Introduction

SSE-SP30T2 is a velocity meter to measure door open or close velocity. User interface is improved by using touch screen. And rechargeable battery is built in, so user can measure velocity where isn't electricity nearby. In additional, SSE-SP30T2 includes serial communication with PC (as an optional feature). So user can transfer data from SSE-30T2 to PC, convert data to Excel file or another different file, and the program draws graph about data to check data trend easily.

2. Component

(1) The whole unit



Picture 1-1. The Whole Unit

1. The Main Part
2. Power Adapter
3. Sensor Part
4. Side Door Close Velocity Measuring Stick
5. Trunk Rid Close Velocity Measuring Stick
6. Tripod

(2) Main part



Picture 1-2. Main part front view



Picture 1-3. Main part side view



Picture 1-4. Main part back view

1) Specification

- Size: 326 * 270 * 178 mm
- Weight: 3.3kg
- Battery time: 10Hour
- Recharging Time: 10Hour

(3) Sensors

1) Specification

- **Detecting target:** Min. ϕ 5 mm Opaque
- **Detecting Distance:** 1m
- **Power supply:** DC 12V
- **Indication:** Green LED (stabilized indication), Red LED (operation indication)
- **Ambient illumination**
 - Sunlight: Max. 11000lx
 - Incandescent lamp: Max. 3000lx
- **Ambient temperature**
 - Operation(-10 ~ 60℃)
 - Storage(-25 ~ 70℃)
- **Ambient humidity**
 - Operation and storage: 35 ~ 85%RH (non-freezing condition)
- **Weight:** Approx. 45g



Picture 1-5. Sensors

(4) Power adapter

1) Specification

- Convert AC 220V -> DC 8.4V



Picture 1-6. Power adapter

(5) Tripod



Picture 1-7. Tripod

(6) Case

1) Specification

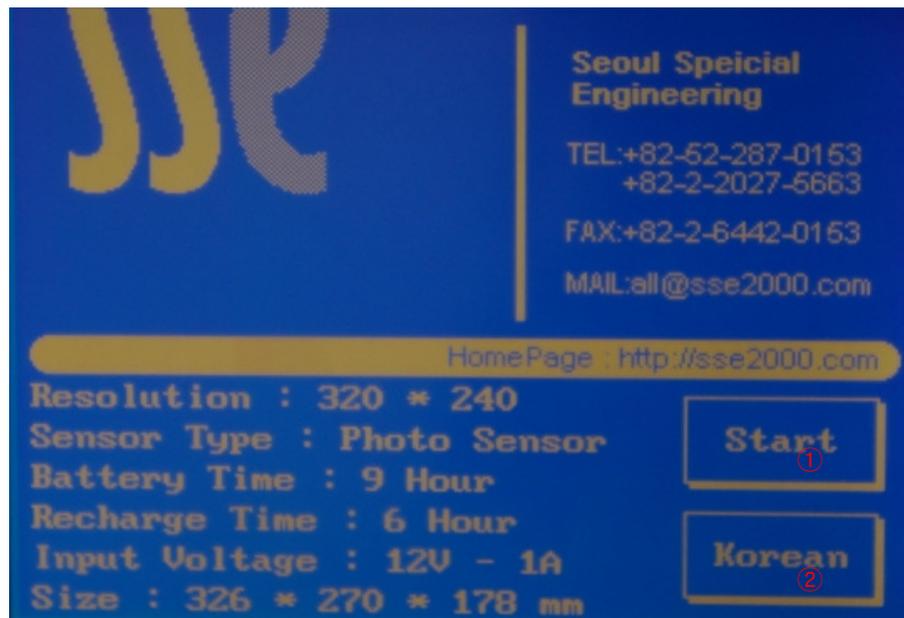
- **Material: Aluminum**
- **Size: 500 × 230 × 315**



Picture 1-8. Case

II . SSE-SP30T2 Screen Information and Configuration

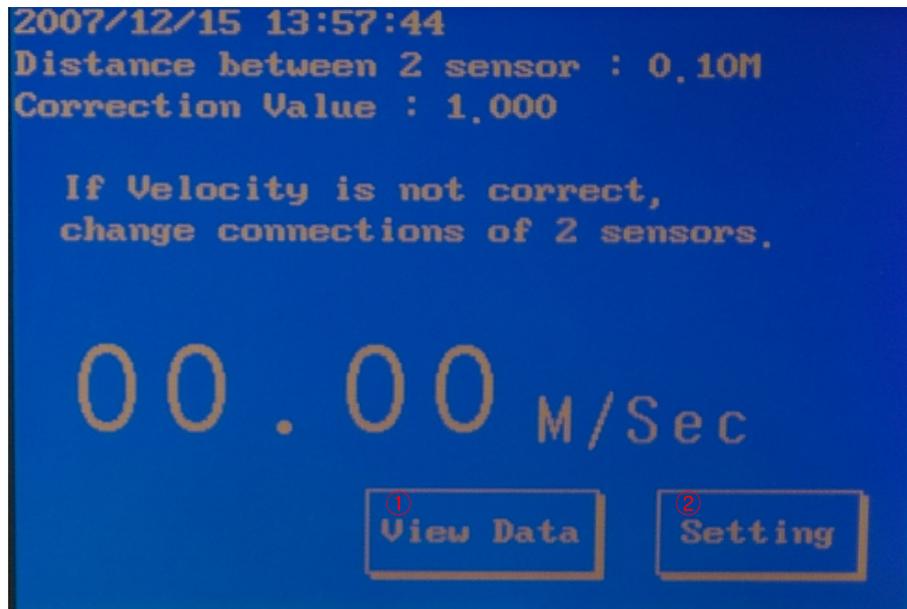
1. The initial screen



Picture 2-1. The initial screen

- (1) '①' Button to move page to measuring screen.
- (2) '②' Change language mode to Korean.

2. Measuring Screen



Picture 2-2. Measuring screen

- (1) It's possible to measure velocity only on measuring screen. If measuring value has trouble, check distance between two sensors and correction value.
- (2) '①' Button to move page to view data screen. View data screen shows last 100 data. If data storage is full, it overwrites oldest data,
- (3) '②' Button to move page to setting screen. In setting screen, user can change distance between two sensors, correction value, and inner clock.

3. View data

	Time	M/Sec
001	2007/12/15 14:01:29	02.10
002	2007/12/15 14:01:29	01.49
003	2007/12/15 14:01:28	01.50
004	2007/12/15 14:01:27	01.72
005	2007/12/15 14:01:26	01.31
006	2007/12/15 14:01:25	01.40
007	2007/12/15 14:01:24	01.27
008	2007/12/15 14:01:23	01.18
009	2007/12/15 14:01:23	01.18
010	2007/12/15 14:01:22	01.22

① > ② To PC ③ Graph ④ Main

Picture 2-3. View data screen 1

- (1) ① Button to move page to next 10 data.
- (2) ② Button to move page to transfer data to PC(Optional feature).
- (3) ③ Button to move page to graph screen
- (4) ④ Button to move page to measuring screen.

2007/12/15 14:02:38

	Time	M/Sec
011	2007/12/15 14:01:21	01.57
012	2007/12/15 14:01:20	01.44
013	2007/12/15 14:01:19	01.79
014	2007/12/15 14:01:19	01.31
015	2007/12/15 14:01:18	01.35
016	2007/12/15 14:01:17	01.16
017	2007/12/15 14:01:15	01.97
018	2007/12/15 14:01:15	01.86
019	2007/12/15 14:01:14	01.79
020	2007/12/15 14:01:13	01.30

① ② To PC Graph Main

Picture 2-4. View data screen 2

- (5) ① Button to move page to previous 10 data.
- (6) ② Button to move page to next 10 data.

2007/12/15 14:02:47

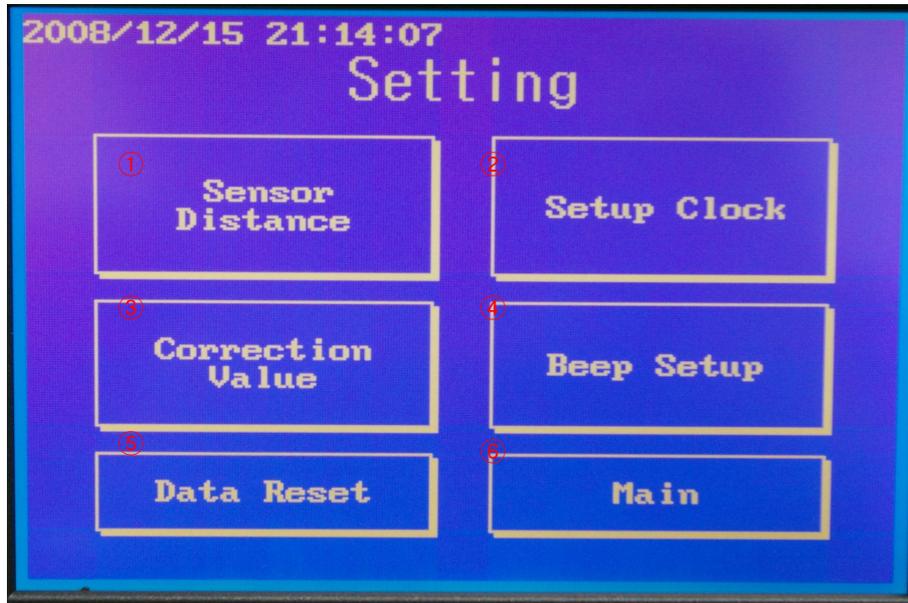
	Time	M/Sec
091	2007/12/15 14:00:25	01.33
092	2007/12/15 14:00:24	01.44
093	2007/12/15 14:00:23	01.83
094	2007/12/15 14:00:23	01.94
095	2007/12/15 14:00:22	01.63
096	2007/12/15 14:00:19	00.02
097	2007/12/15 13:58:55	01.25
098	2007/12/15 13:58:55	01.43
099	2007/12/15 13:58:54	01.24
100	2007/12/15 13:58:53	01.49

① To PC Graph Main

Picture 2-5. View data screen 3

- (7) ① Button to move page to previous 10 data. It shows that 100 data is in storage.

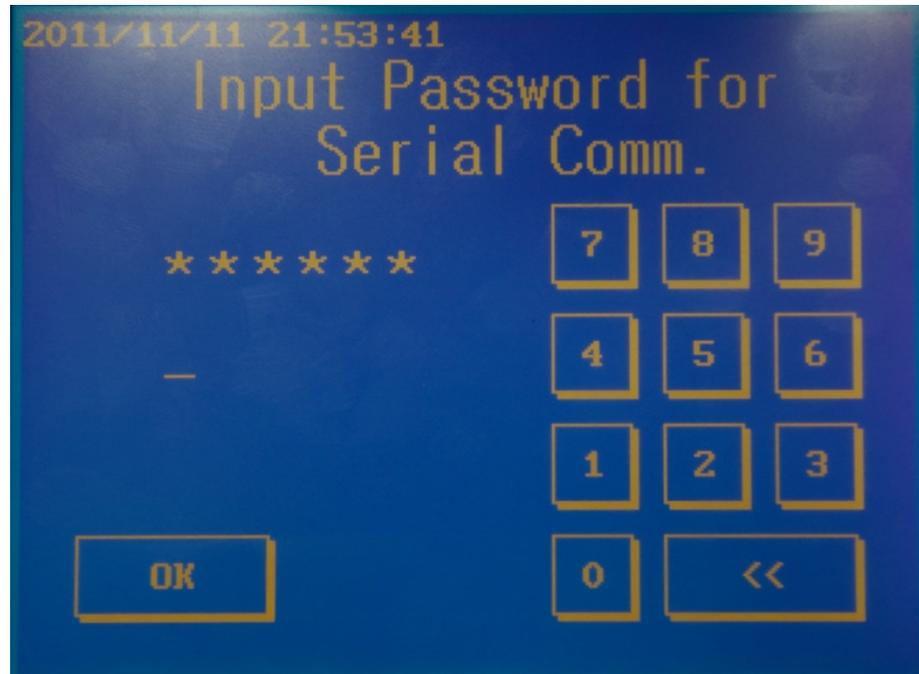
4. Setting



Picture 2-6. Setting screen

- (1) In setting screen, user can setup distance between two sensors, correction value, and inner clock. Also if user touches data reset, all data, distance between two sensors, and correction value are initialized.
- (2) '1' Button to move page to input distance between two sensors. For correct measurement, user should check distance between two sensors.
- (3) '2' Button to move page to change inner clock.
- (4) '3' Button to move page to input correction value. For correct measurement, user should check correction value.
- (5) '4' Button to move page to Beep Sound Setting.
- (6) '5' Button to initialize data, distance between two sensors, and correction value. Before initialization, equipment ask user to initialize or not. After initialization, user must input distance between two sensors and correction value because distance between 2 sensors and correction values become zero. If user doesn't input those values, user can't measure velocity.
- (7) '6' Button to move page to measuring screen.

5. Password screen for serial communication
(optional feature)

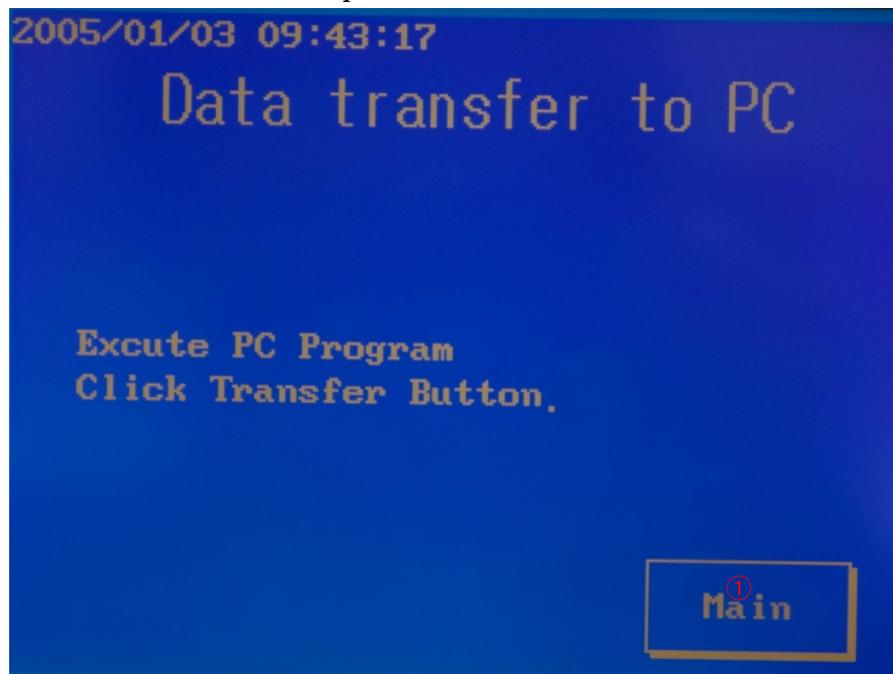


Picture 2-7. Screen to password

(1) If user inputs wrong password in password screen, it shows wrong password message.

This function is optional feature. So if user pays for this option, we send you a password for each equipment and PC program. This program services functions to convert from data to PC file format (like *.xls, *.txt) and draw a graph using data.

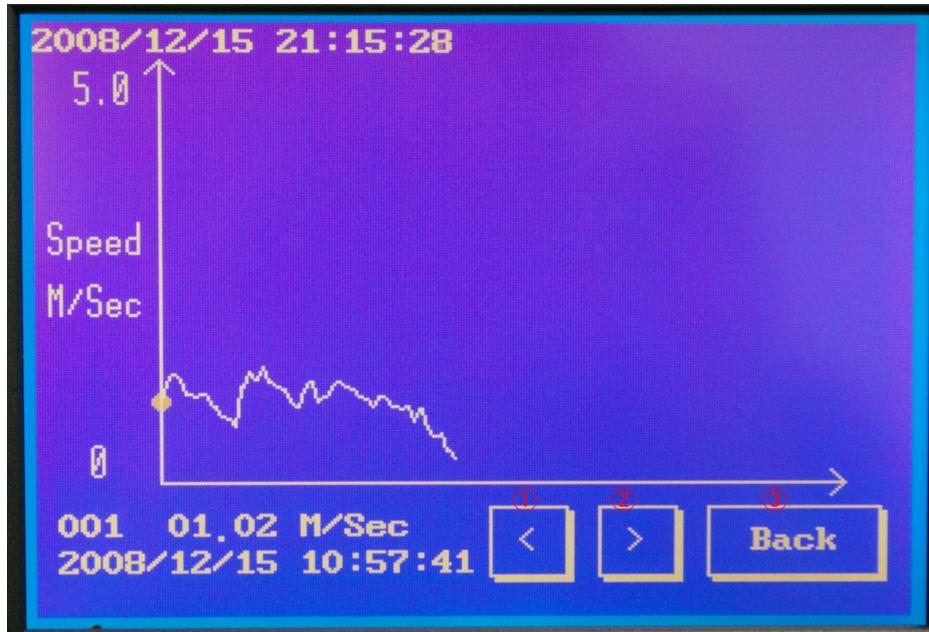
6. Transfer data to PC (optional feature)



Picture 2-8. Screen to transfer data to PC

- (1) User can transfer data to PC. This function is optional feature.
- (2) '①'Button to move page to measuring screen.

7. Graph

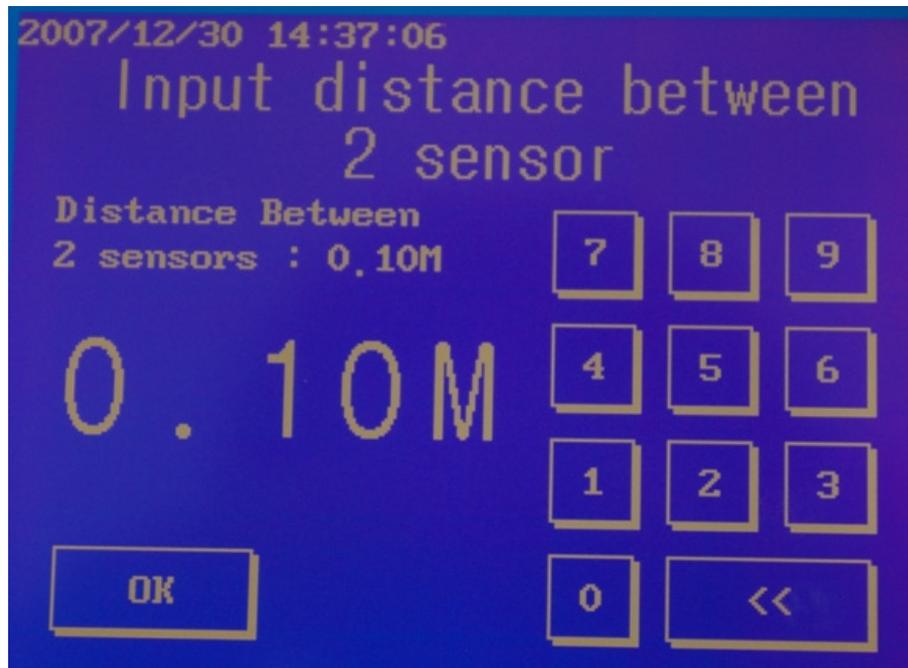


Picture 2-9. Graph screen

(1) In view data screen, if user touches 'Graph' button, this screen is shown. Screen shows last data value at first, and blinking '○' means present value. '①', '②' are buttons to move blinking cursor right or left, and show value that cursor is blinking on the left side of '①'.

And if user touches '③', return to view data screen.

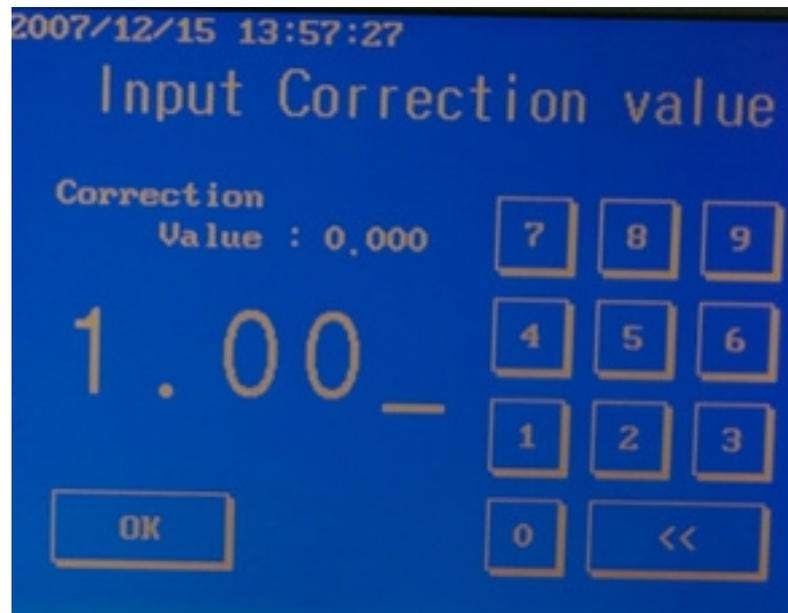
8. Input distance between two sensors



Picture 2-10. Screen to input distance between two sensors

(1) User can input distance value by keypad and OK button. If input value is zero, equipment displays error message on screen and moves input distance screen back.

9. Input correction value

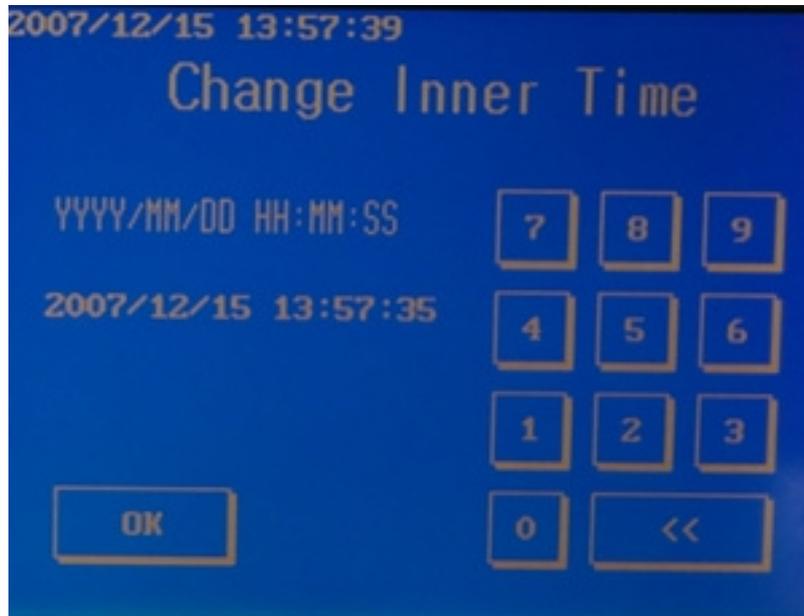


Picture 2-11. Screen to input correction value

(1) This is a screen to input correction value. Refer to below formula and input correction value.

Correction value = distance from door hinge to door lock / distance from door hinge to detecting part of sensor

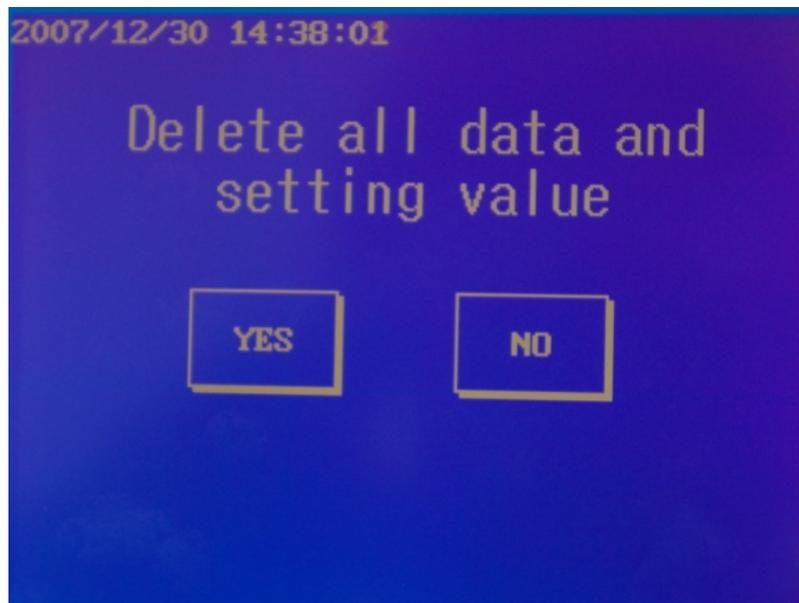
10. Change inner clock



Picture 2-12. Screen to change inner clock

(1) This is a screen to change inner clock. Input inner clock by keypad and OK button. User must input time as YYYY/MM/DD HH:MM:SS form.

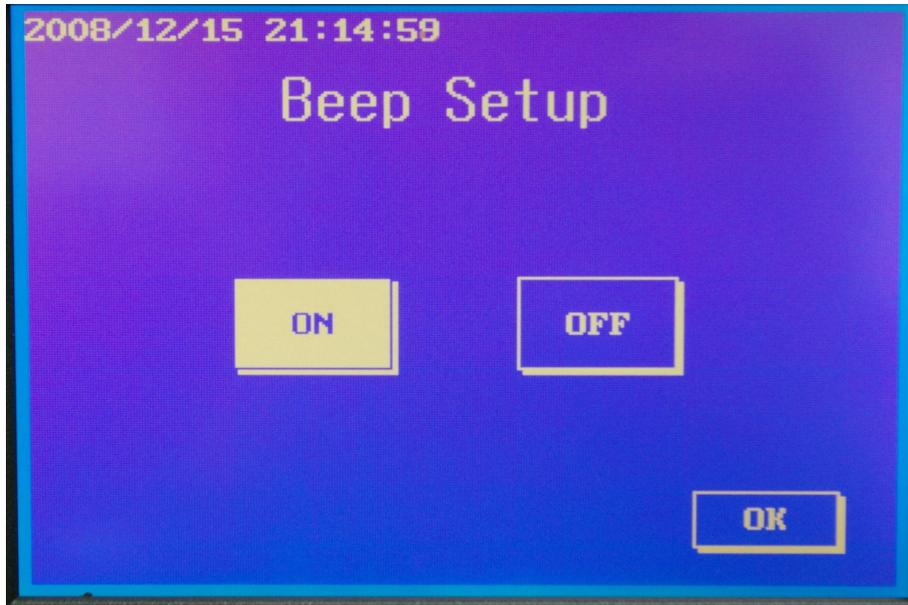
11. Memory reset



Picture 2-13. Screen to ask to reset memory or not

(1) This is screen to reset memory. If user touches data reset button in setting screen, equipment displays screen like this. If user touches 'Yes', clear all data, distance between two sensors, and correction value.

12. Beep Sound Setting



Picture 2-14. Screen to set beep sound

(1) This is screen to set beep sound. If you touch ON, the time that the sensor sensing, you can hear beep sound.

III . Installation and Measurement

1. Installation

- (1) Connect power adapter. For reference, if user uses inner battery, it's not requirement.
- (2) Connect sensor 1 and 2 like below picture.



Picture 3-1. Connect Sensors



Picture 3-2. Handle turning button

- ※ If user presses handle turning button, user can turn a handle

(3) Tripod setting followed below steps



Picture 3-3. Initial state



Picture 3-4. Put on the top of the screw

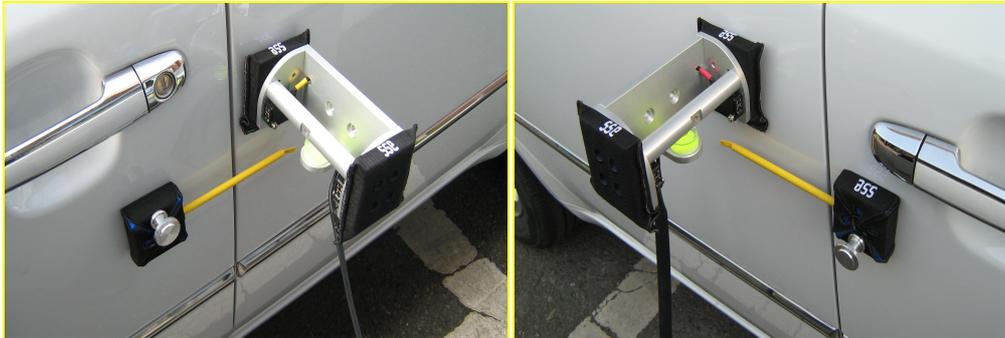


Picture 3-5. Turn the screw clockwise



Picture 3-6. Final state

(4) Refer to below pictures, install sensor part and measuring stick.



Picture 3-7. Installation example

2. Measurement

(1) The principle of measurement

This velocity meter measures a difference between a time when a stick passes sensor 1 and a time when a stick passes sensor 2. And then velocity is calculated by next formula using distance between two sensor and correction value.

Door open or close velocity (M/Sec) = distance between two sensors(M) / a difference of times when a stick passes sensor 1 and sensor 2 × correction value

※ For measuring correct door close velocity, user must check that distance between two sensors and correction value are inputted correctly.

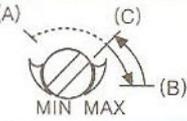
Distance between two sensors and correction value is a constant, so user must input those values. Correction value is calculated by below formula.

Correction value = distance from door hinge to door lock / distance from door hinge to detecting part of sensor

(2) How to measure

1) Install sensor part and measuring stick

2) Adjust sensor sensitivity

Order	Sensitivity adjuster	Description
1		Turn the sensitivity adjuster to the right from min. sensitivity position and check(A) where the indicator is turned on in "Light ON status".
2		Turn the sensitivity adjuster more to the right from min. sensitivity position, check(B) where the indicator is turned on and turn the adjuster to the left, check(C) where the indicator is turned off in "Dark ON status". ※If the indicator is not lighted although the adjuster is turned to the max. position, the max. position is(C).
3		Set the adjuster at the center of (A) and (C). Also setting of the optimum sensitivity, check the operation is correct and lighting of stable indicator with sensing target or without it. If the indicator is not lighted, please check the sensing method again because sensitivity is unstable.

Picture 3-8. Setting the Sensor

3) Turn the power switch on and touch the start button to move page to measuring screen.

4) Open or close the door to measure velocity.

(Set the distance and correction value, if they are not configured.)

5) Velocity is measured from sensor 1 to sensor 2. If the order is wrong, you can get wrong value.

IV . Trouble Shooting

Problem description	Reference
When user turns the power switch on, Equipment is still power off	Check inner battery by STATE button on main part. If battery is discharged, connect power adapter to recharge battery.
No measurement value when user measured.	Check connection of sensors. If sensors are connected, a green lamp on sensor is turned on.
Measurement value is 00.00M/Sec when user measured.	In setting, check that distance between two sensors and correction value are 0. If one of them is 0, measurement value is always 00.00M/Sec.
Measurement value is wrong when user Measured.	Check sensor order. Velocity must be measured from sensor 1 to sensor 2. If the order is wrong, change connection of two sensors each other.
Sensor can't sense measuring stick	Adjust sensor sensitivity.(Refer to Picture 3-8)
Time of inner clock is wrong.	Inner clock uses inner battery. So if inner battery is discharged, time is reset. User must input time in setting.

V . Technical Support

If you have any question or comment, contact us using below contact information.

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