

# SenseLife<sup>®</sup> Tim8

Table multi-indoor air quality monitor

user manual



**HANA Engineering**

[www.hana-eng.com](http://www.hana-eng.com)

**SenseLife<sup>TM</sup> Tim8**

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Thank you for purchasing table monitor (Tim-08)

Please read the user's manual before handling the product

Please place the user's manual in safe place after reading for later use.

Please read safety precautions carefully before operating the product.

Warranty card is included in the user's manual.

The contents and standard features in user's manual can be changed without notice due to upgraded specifications and functions.



# Safety precautions

Top protect users safety and prevent any financial damage, please read carefully before using Tim-8.  
After reading, you are requested to put this manual on the noticeabl place.

## CAUTION..

In case of using this device improperly , we remind you the possible danger and dmage as below classification.



**WARNING**

◀ This means that user could get into the risk of death or serious injury.



**CAUTION**

◀ This means that there can be an injury or a financial.



**NOTICE**

◀ This requires your attention.



**PROHIBITED**

◀ This means that you have to shop it.



**COMPULSORY**

◀ This means that you are forced to do it.



## Prohibited conducts



table multi-indoor air quality monitor

**SenseLife™** *Time*

1. Do not place the monitor in the area where it contains too much rain, snow, seawater this monitor is not water-proof. It might be the reason for a short circuit.



2. Do not use in case of malfunction if there is any smoke or any indication on the display or blinking, stop using the product otherwise it may cause a fire.



3. Do not drop or give any shock on the product it may cause a defect due to strong shock on the internal electric circuit.



4. Do not place too close to a fire or in the hot area. it may cause malfunction or a defect due to high temperature use it between  $-20^{\circ}\text{C}$  ~  $50^{\circ}\text{C}$



between  
 $50^{\circ}\text{C}$  ~  $-20^{\circ}\text{C}$



# Mandatory precautions in using the product



**SenseLife<sup>TM</sup>**

1. Use the adaptor provided in the product  
it may cause a defect if using other adaptor.



2. Place this monitor upwards. it might give wrong values  
or cause a defect if placed in face down or opposite.



3. Avoid placing any area there is direct  
sunlight or high temperature.



4. This product has multifunction indicating the indoor air  
quality It also convenient device cause it indicates and  
warns CO<sub>2</sub> concentration level to ventilate the indoor air.



## Safety precautions

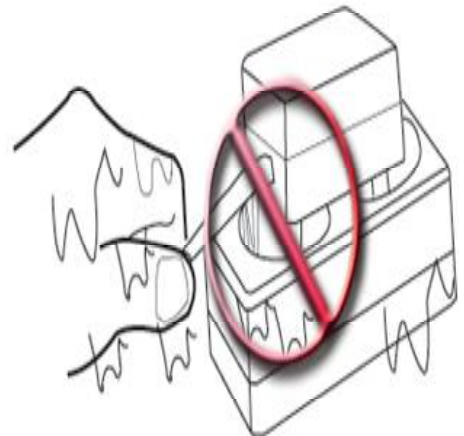


**SenseLife<sup>TM</sup>**

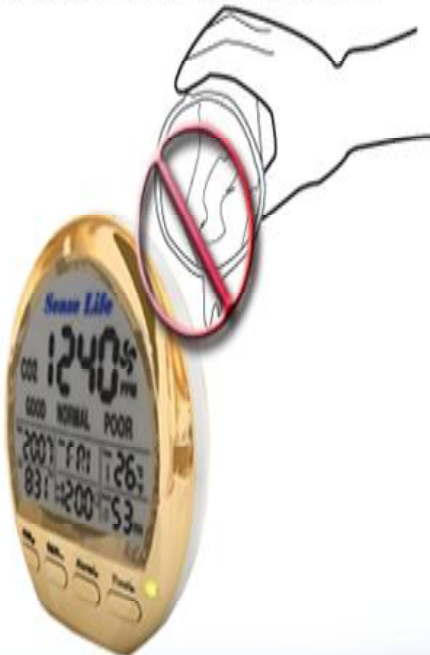
1. Do not repair or modify this product on your own if it is the cause to a defect or malfunction, you cannot get warranty service.



2. Do not use in wet hands or pull the cables with bare hands.



3. Do not allow moisture or wet the product.



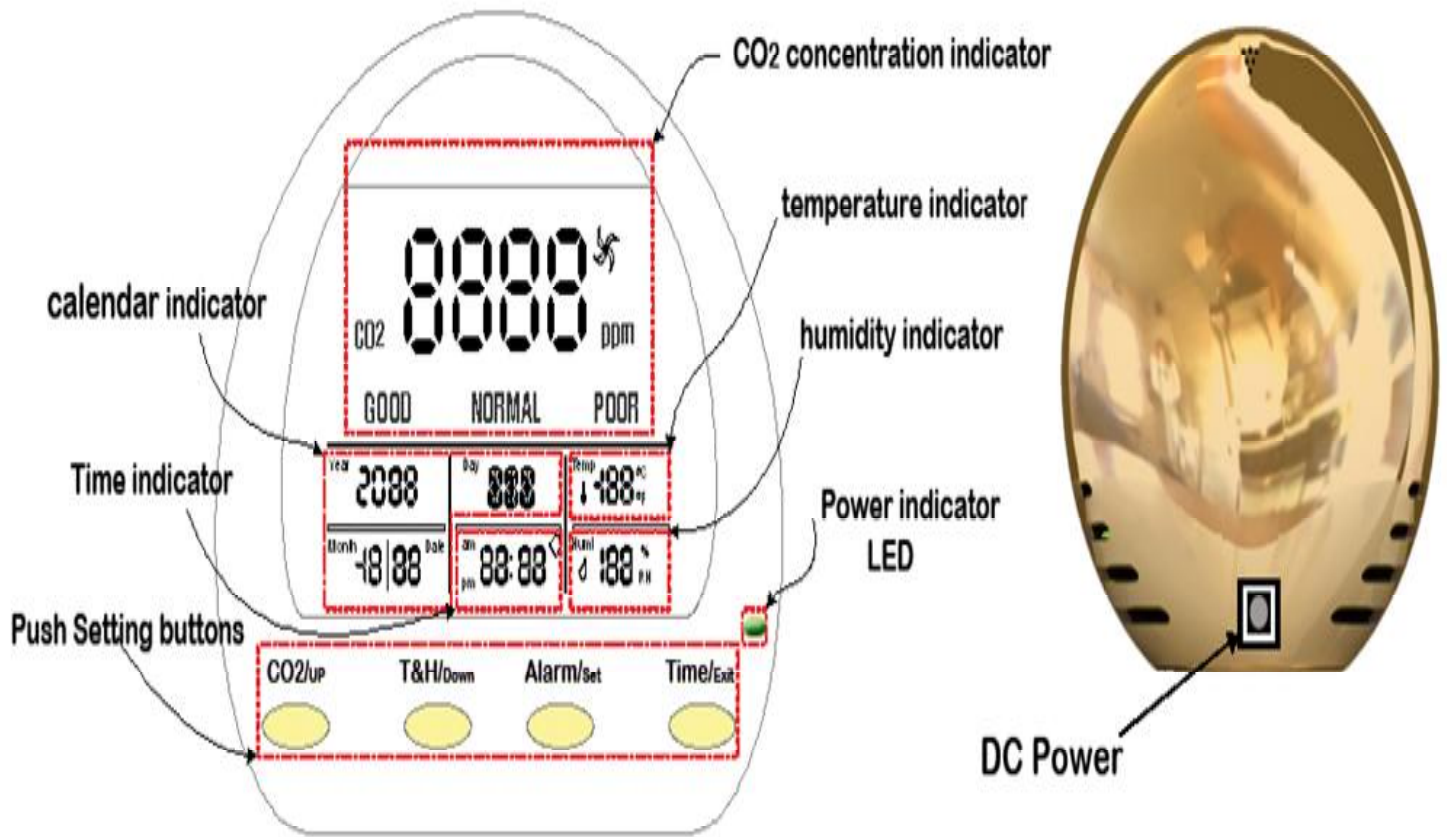
4. Do not use any chemicals or detergent.





# Name for each part

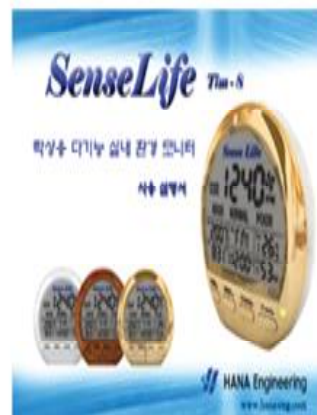
**SenseLife™** *TimS*



## constituent



(AC 220V / 110V, DC5V 1A)

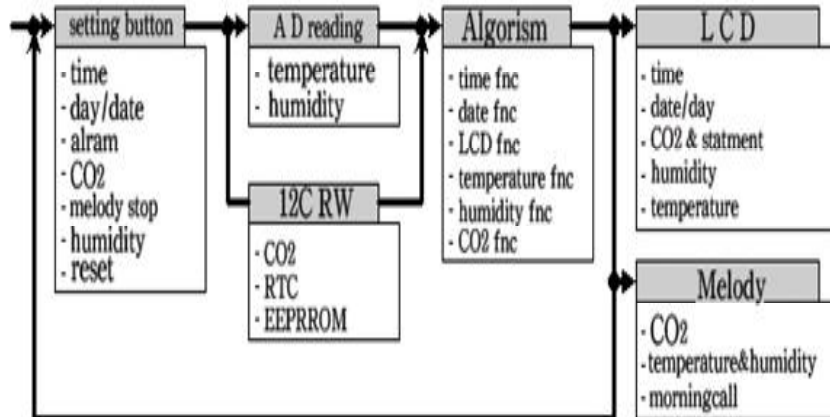


User manual

# Standard product features

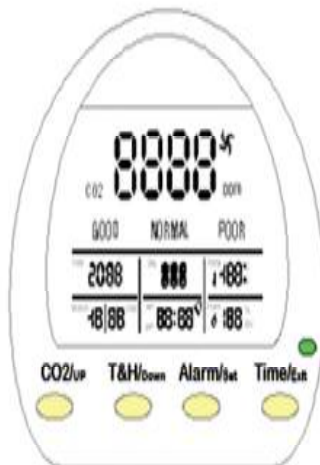
**SenseLife<sup>TM</sup>** *TimeS*

1. Picture 1 is to the product composition.



Picture 1

2. Picture 2 is when the product is powered in.



Picture 2

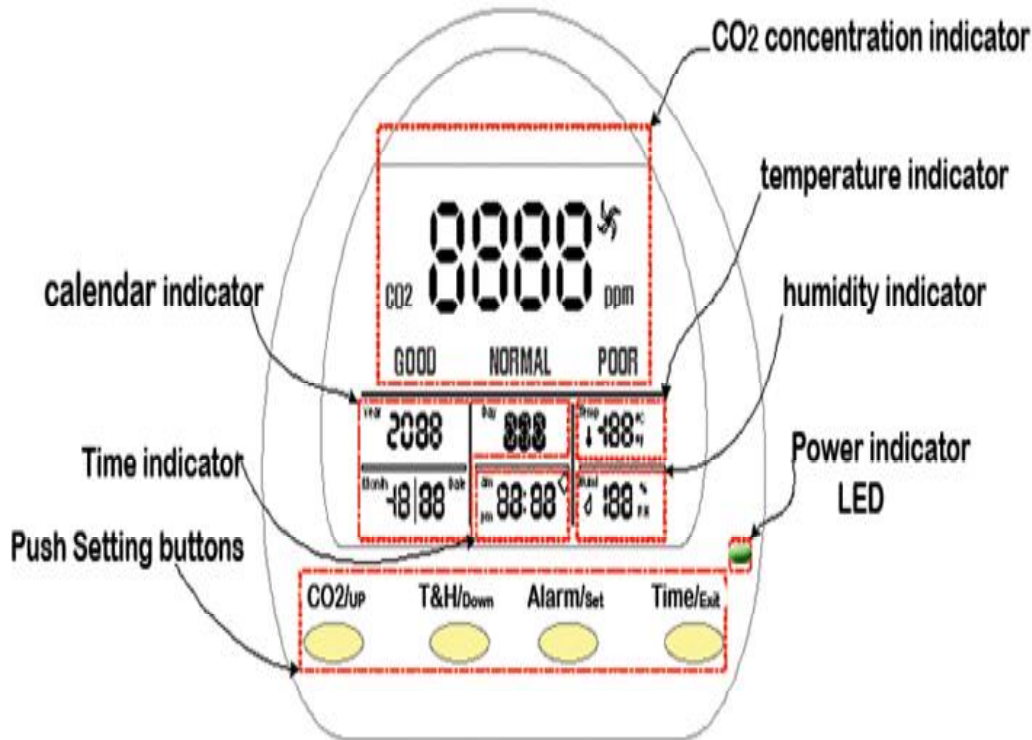
3. Picture 3 is with all the sensors give out the general values.



Picture 3



## Standard function in this product



[Features of display of this project]

### Names and functions for each indicator on the display

1. CO2 concentration indicator : it shows the concentration of CO2 (0~9999ppm)
2. Temperature indicator: it shows the room temperature (-40℃ ~ 50℃ ) it can be converted to ℃/°F .
3. Humidity indicator: it shows the humidity value ( 30%Rh~80%RH)
4. Calendar indicator : it shows year, month, day and dates.
5. Time indicator: it shows hour, am, pm. minute
6. Push setting button: user can push the button to set the each indicator
7. Power indicator: it shows the product is powered by LED.

### How to use setting button

CO2/Up



press the button for 3 seconds then it will go into the CO2 concentration mode you can set your value.

T&H/Down



press the button for 3 seconds then it will go into the temp/humidity mode

Alarm/Set



press the button for 3 seconds then it will go into the morning call and also can set the dew point ,CO2 level and the time.

Time/Exit



press the button for 3 seconds and it will go into the date and time set mode.



## How to set the CO2 value

This monitor will indicate good , normal, or poor according to the indoor CO2 concentration level.

- 1-1) setting to [GOOD] mode: if you press CO2/up button for 3 seconds, [GOOD] will be on the indicator, use the CO2/up button and T&H/down button to set the CO2 value. Then press Alarm/set button to confirm the CO2[GOOD] value.

Note : remember only the value below the setting point can be in [GOOD] value  
The setting point is 800ppm, therefore you can only set it under 800ppm.

- 1-2) then [ NORMAL ] will be on the indicator. Press the CO2/up and T&H/down button to set the CO2 value then press the Alarm/set button to confirm.

Note : remember that only the value above [GOOD] and below the [NORMAL] setting value which is 1200 ppm.

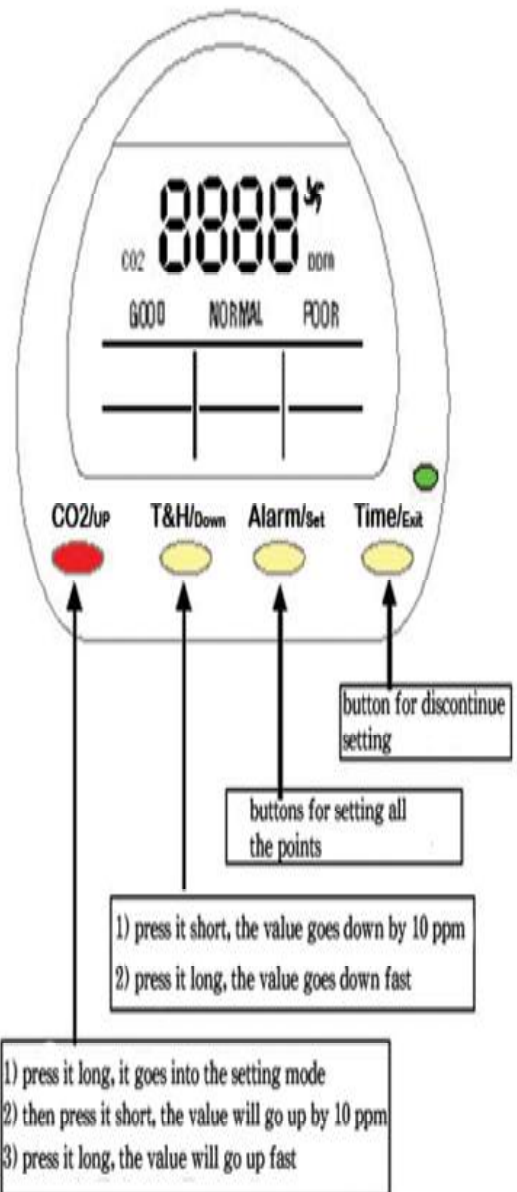
- 1-3) then [POOR] will be on the indicator. You can press the CO2/up and T&H/down button to set the CO2 value the press the Alarm/set button to confirm.

Note :[POOR] setting point is above 1200ppm. If the value goes up to the setting point , [POOR] sig will be on the indicator and it is the time for ventilation. You can set it up to 4990ppm.

- 1-4) then [CO2, ppm,POOR] will on the indicator. You can set the warning value for CO2 concentration level. Press CO2/up and T&H/down button to set the value and press Alarm/set button to confirm.

- 1-5) then [CO2, ppm] will be on the indicator and also [C ON or C OFF] ,too. c.on means CO2 warning alarm sound on C OFF means CO2 warning alarm sound off press CO2/up for on T&H/down for off then press Alarm/set button to confirm.

Reminder) anytime you want to be out from setting mode, press Time/Exit button.





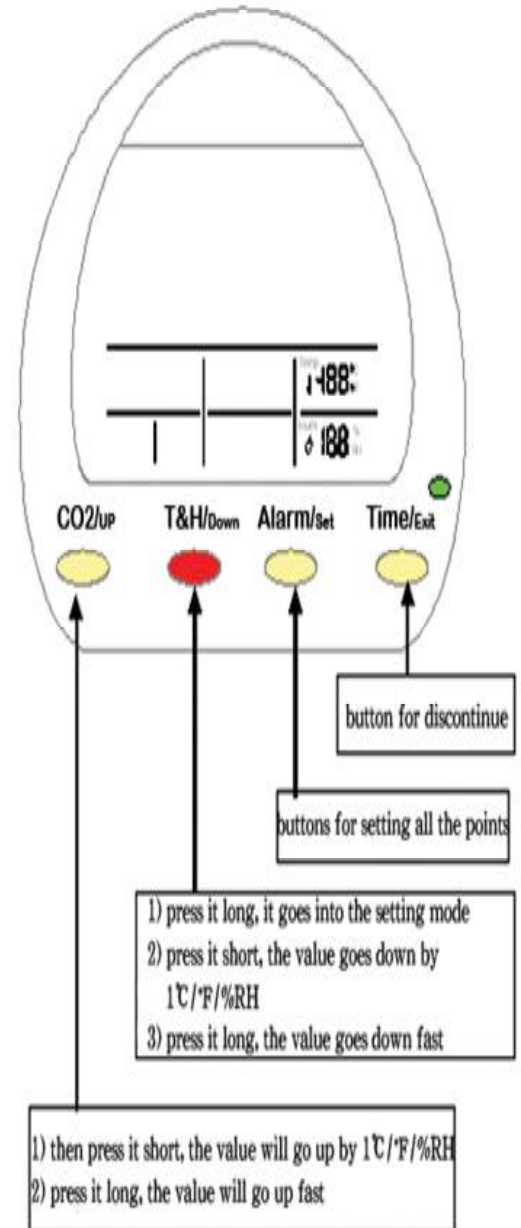
## temperature/humidity/dew point alarm /low humidity/high humidity alarm setting

SenseLife<sup>TM</sup> Tms

Set alarm for dew point: it is set to alarm at the room temperature below 12°C ( 55 °F), above humidity 55 % RH. When the humidity is under 30 %, the low humidity warning alarm will be on. When the humidity is over 60 % RH, the high humidity warning alarm will be on (◊).

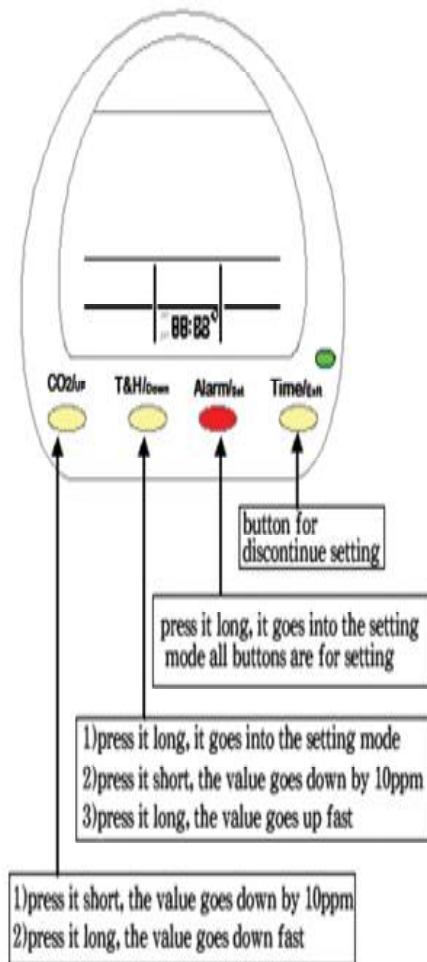
- 1) How to change the dew point : press T&H/Down button for 3 seconds, [ temp, temperature lamp, c, f,] will be on the indicator. Press CO2/UP and T&H/Down button to set the desirable value then press Alarm/Set button to confirm.
- 2) then [humi, humidity lam] will be on the indicator. Press CO2/UP and T&H/Down button to set the desirable value then press Alarm/Set button to confirm.
- 3) then [humi, humidity lamp, %RH] will be on the indicator. Press CO2/UP and T&H/Down button to set the high humidity warning value. Then press Alarm/Set button to confirm.
- 4) then [humidity lamp] will be on the indicator, press CO2/UP and T&H/Down button to set the desirable value. Then press Alarm/Set button to confirm.
- 5) then [H on] will be on the indicator, press CO2/UP and T&H/Down button to decide whether to have dew point alarm on or off. Then press Alarm/ button to confirm.

► reminder: dew point alarm system is to warn the possible indoor air pollution due to dew points created on the walls where the indoor and outdoor temperature difference is high.



## Morning call setting

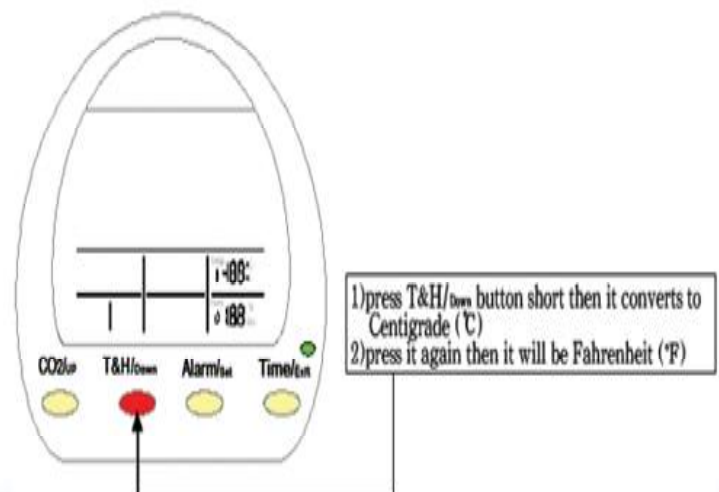
morning call or alarm can be set



- 1) Alarm set: Press Alarm/set button for 3 seconds, time lamp will be on the indicator press CO2/up for on then bell sign will be on the indicator. Press T&H/down for off then the bell sign will be deleted. Press Alarm/set button to confirm. (🔔)
- 2) then [am/pm] will be on the indicator. Press CO2/up and T&H/down button to set am for morning, pm for afternoon. Then press Alarm/set button to confirm.
- 3) And then the indicator will show a bell sign then set the minute with CO2/up, T&H/down. Press Alarm/set button to confirm. (🔔)

## how to convert Centigrade (°C) to Fahrenheit (°F)

you can select the temperature measurement between Centigrade (°C) & Fahrenheit (°F)

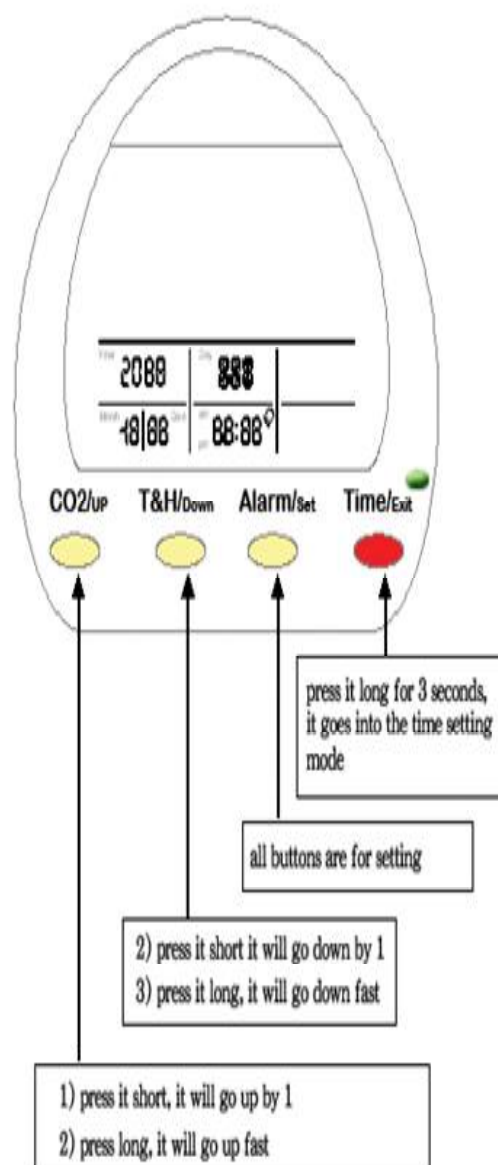




# How to set the date and time

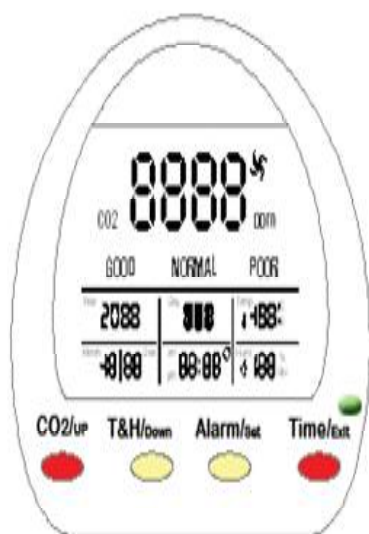
- 1) press Time/Exit button for 3 seconds, then Year20 will be on the indicator. Then use CO<sub>2</sub>/UP and T&H/Down button to set the year. Press Alarm/Set button to confirm.
- 2) then [Month] will be on the indicator. Use CO<sub>2</sub>/UP, T&H/Down button to set the value then press Alarm/Set button to confirm.
- 3) then [Date] will be on the indicator Use CO<sub>2</sub>/UP, T&H/Down button to set the value then press Alarm/Set button to confirm.
- 4) then [Day] will be on the indicator Use CO<sub>2</sub>/UP, T&H/Down button to set the value then press Alarm/Set button to confirm.
- 5) then [am/pm] will be on the indicator Use CO<sub>2</sub>/UP, T&H/Down button to set the value then press Alarm/Set button to confirm.
- 6) then [alarm bell sign] will be on the indicator Use CO<sub>2</sub>/UP, T&H/Down button to set the value then press Alarm/Set button to confirm. (🔔)

Note: anytime you want to be out from setting mode, press Time/Exit button.

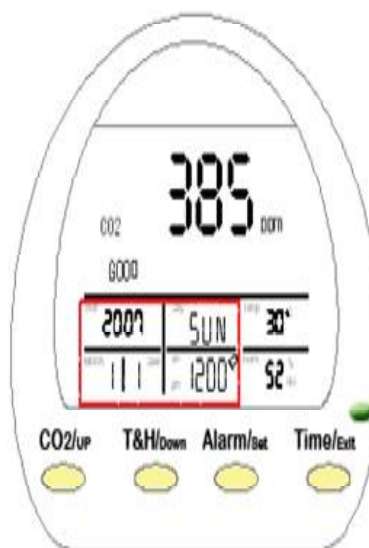


# How to reset or initialize

If you want to reset, all the set points including CO<sub>2</sub> level, date and time, morning call will go back to as it was manufactured.



picture1 reset button and the display



picture2 after reset and changed display

- 1) press CO<sub>2</sub>/up and Time/Exit button at the same time for 3 seconds. The display will be as picture1, after 2 seconds later, the display will be changed as picture 2
- 2) The date and time inside the red line as in picture2 will be different with the present time. Set the date and time as the present date and time by following setting procedure.

## Initial setting values are noted at the bottom

- 1) CO<sub>2</sub> setting point and the range  
 CO<sub>2</sub> good: below 800ppm, [GOOD] will be on the indicator.  
 CO<sub>2</sub> normal: 801~1200ppm, [NORMAL] will be on the indicator  
 CO<sub>2</sub> poor: over 1201ppm, [POOR] will be on the indicator (☹)  
 CO<sub>2</sub> pre-warning: alarm will be on at 1500ppm, if this set value is changed by user, the alarm will be on at the changed value  
 CO<sub>2</sub> main-alarm: alarm will be on above 5000ppm,
- 2) how to set temperature and humidity  
 temperature/humidity: room temperature and humidity will be on the indicator (there's no set temperature and humidity values from manufacturer)  
 alarm for temperature/humidity, dew point: alarm will be on below 12°C(55°F), above 65%RH  
 warning high humidity : alarm will be on above 60%RH (☹)  
 ( a waterdrop sign will be on)  
 warning low humidity : alarm will be on below 30%RH (☹)  
 ( a waterdrop sign will be on)
- 3) initial set date and time  
 initially it is set as 12:00 AM Sunday Jan. 1, 2007  
 morning call set : 7:00 AM



# General characteristics of co2 ( carbon dioxide ) gas

## What is CO2 gas?

People breath in Oxygen(O<sub>2</sub>) and breath out CO<sub>2</sub>. this will increase in concentration of CO<sub>2</sub> in the room and start to contaminate the air quality. Besides micro dusts, chemicals and other polluting elements, mostly CO<sub>2</sub> gas concentration is the major polluting element of indoor air quality. This is usually happened where high number of people are together. the concentration level goes up where there are many people and no ventilation system.

CO<sub>2</sub> gas is colorless, odorless ,and untangeble which cause direct harm on human body. the best way to run the air quality system is to measure the amount of CO<sub>2</sub> concentration and then control the ventialtion system with it.

There is 400 ppm of CO<sub>2</sub> (0.04%)gas in the atmosphere and it is increasing at the moment.

## The major factor of global warming

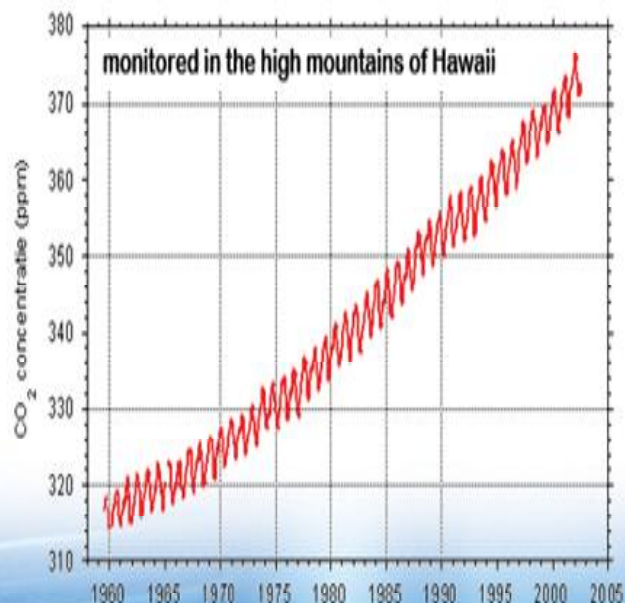
The United Nation concluded the Kyoto plan to reduce the greenhouse gas which is carbon dioxide.

It is being noticed as a principal factor of global warming, which cause abnormal weather and natural disaster.

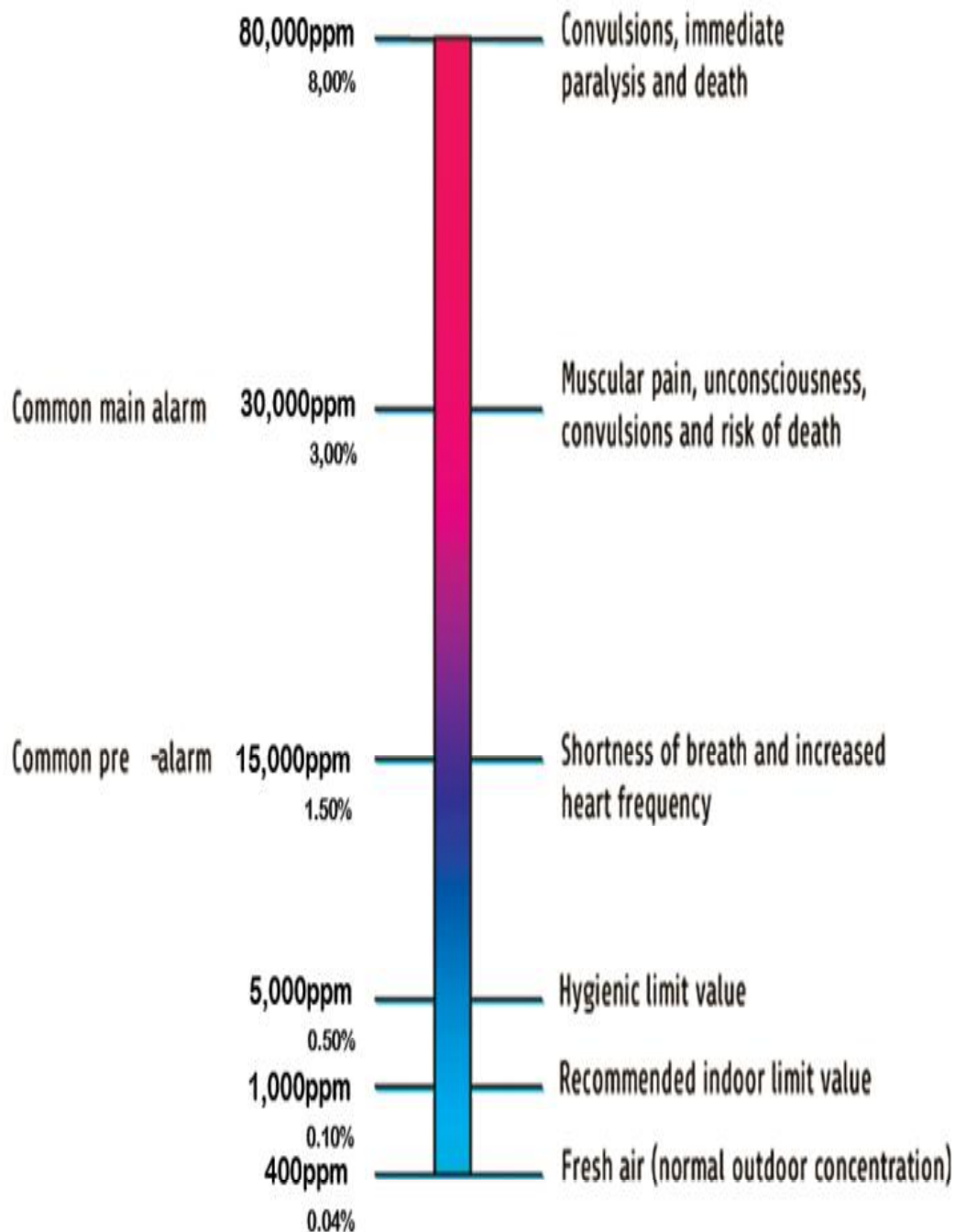
It is creating enormous damage on human race. This is all due to the increase of vehicle and industrial development.

Many countries continue to reduce CO<sub>2</sub> gas. the amount of CO<sub>2</sub> concentration is increasing as time goes.

Global carbon dioxide increase  
in the atmosphere



## CO<sub>2</sub> concentration and how does it affect on the human body



CO<sub>2</sub> (carbon Dioxide) concentration ppm(%)



# product specification (Senselife Tim8)



※ name: multifunctional table indoor air quality and environment monitor

※ code name: Tim8

※ temperature indication

※ indoor temperature should be in use : -20℃~50℃ ( possible to indicate in °F=9/5C+32 )

※ storage temperature : -30 ~ 70℃

※ temperature accuracy : +- 0.5℃

※ sensing rate: moderately fast

※ humidity indication

※ indoor humidity indication: RH%

※ range of humidity indication : 0-100%RH

accuracy of humidity : within ±3%

※ CO2 concentration indication and warning alarm

※ measurement range: : 0-9,999ppm

※ indication: digital number in the unit by 1ppm

※ indoor air quality level indication: Good, Normal, Poor

※ Air quality level according to CO2 concentration

standard set value under 800ppm: Good (user can set new value)

standard set value between 800~1200 ppm : Normal (user can set new value)

standard set value : above 1200 ppm (user can set new value)

standard set value over 5000 ppm (user can set new value)

※ temperature and humidity, CO2 warning alarm

※ temperature: alarm will be on below 12℃, above humidity 55% and the

waterdrop sign will be also on. But after 10 pm no alarm will be on only the

waterdrop and temperature will be on.

All alarm will be off after 10 PM

Except when CO2 concentration is over 5000ppm, alarm will be on.

when the humidity is over 60% only the waterdrop sign will be on.

when the humidity is under 30%, 'Lo' sign will be on (no alarm)

※ morning call: the alarm will be on the time user has set. Alarm will go on for 1 minute ( push any button to stop) morning call alarm will go on for 5 minutes : 3 times repeat and on for 1 minute unless it is not turned off by push any button

※ time set : user can set the present time

※ reset function : return to initial value from manufacturer

※ power for the clock: time is set for two months with the battery power. however after 3 months the time has to be reset when the battery is put back.

※ standardized CO2 sensor

measured gas: CO2 Carbon dioxide

method of measurement: None Dispersive Infra Red

how to sample the measuring gas: diffusion

range of measurement: 0-9999ppm CO2

method of indication: digital display( 4 digits)

accuracy of CO2 sensor: ±50ppm + 5% sensing value

warming up period: 30 seconds

sensing pace : every 2 second

data communication : I2C bus

※ standard adaptor

input: AC 220V / 110V , 50/60Hz

output: DV 5V 1000mA



## Standard features

Model	SenseLife Tim8
Power supply	AC 220V/110V, DC 5V, 1000mA
Power consumption	60mA(max 130mA)
Display	Clock / Calender / Temperature / Humidity/CO <sub>2</sub>
Size : WxHxD(mm)	115 * 108 * 63
Weight	180g
Temperature measuring range	-30℃~70℃(-22°F ~ 158°F)
Humidity measuring range	0~100%RH
CO <sub>2</sub> measuring range	0~9999ppm
Setting mode	Morning call / Time / CO <sub>2</sub> / Dew Point

## maintenance and other safety precautions

- please clean it with soft and dry cloth for dusting.
- do not press the button too hard it will cause a breakage on the product. Press the button with moderate amount of force.
- do not put where it is too hot or high density of humidity. It might give out slightly different temperature and humidity values compare to actual values.
- do not lay facedown or the other way. It might give out slightly different temperature values compare to actual values.
- In case of malfunction, do not dismantle or modify. Please contact a place purchased.

## storage

- in case of not using, please store the product in clean area with packaging box.
- after a long period of storage, the time and date will be required to reset use it after resetting the proper time and date.
- please store the user's manual with the product for your convenience.
- In case of malfunction, do not dismantle or modify. Please contact a place purchased.



Memo

*SenseLife*<sup>®</sup> *TmS*

table multi-indoor air quality monitor

***SenseLife*** <sup>TM</sup> *TimS*



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# WARRANTY CARD

(Applicable to first retail purchaser only)

1. All products pass the strict tests prior to leaving factory. Customers could, within one year from the date of purchase, enjoy free repair or replacement of parts against presentation of this guarantee if it is attested by our company that malfunction or damage to the device end / or parts occurs under normal running condition.
2. The guarantee does not cover the damages that are attributable to self dismantling and assembling, unauthorized operation not found in the instruction, random change of power source and / or voltage, artificial causes and natural disaster.
3. Date(s) on this guarantee and the purchase invoice is the evidence of one year free maintenance.

CUSTOMER DETAILS	Name:
	Address:
	Telephone:

DESCRIPTION	Table multi-indoor air quality monitor		
MODEL	TIM-8		
DATE OF PURCHASE		PRODUCT SERIAL NO	

Warranty Period	( )Months	Price Paid	
DISTRIBUTOR	Name of Company		
	Telephone No.		