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Wireless communication products

ZigBee Wireless Indoor Carbon Dioxide (CO2) Detector (Voice alarm)

Model: SG-02-CO2-S1 for stand-alone / SG-02-CO2-H1 for ZigBee

User Manual
※ Compliant to local legal requirements
※ For Indoor use
※ Contain installation procedure

▸ Thank you for choosing Nietzsche's ZigBee wireless CO2 detector.
▸ Please read the manual carefully and use the detector properly.
▸ Please read every details in the manual and notice every "Warning"carefully.

Before installing the detector

▸ This CO2 detector must be installed by a person qualified to carry out electrical
▸ work according to latest national wiring regulations.

1. Safety Notice

To protect your safety , please note below safety notice. Please make sure the Site of installation is safe during your installation, watch your feet and position, danger could happen if you do not keep your eyes on your environment.

Please keep tools, such as battery, screws and screw drivers away from children. Children could accidentally swallow or hurt themselves if they get those tools.

Please keep your ears a certain distance from the siren, it may hurt your ability of hearing if you get too close to the siren while it is activated at the time.
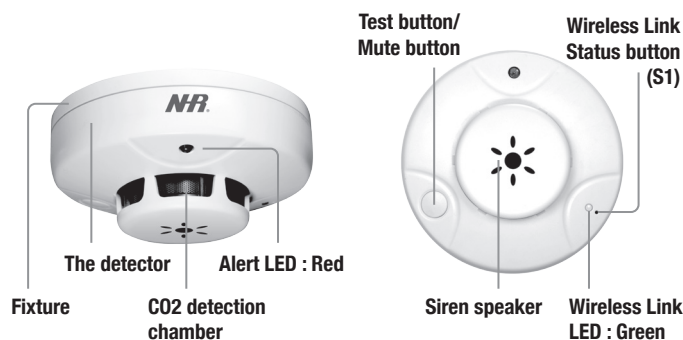
2. Notice in use

▸ According to the law, the customer must install the detector(s) indoors and
▸ maintain/ manage the detector's operation on their own.
▸ Please check if the detector still working properly every six months to make sure its functions.
▸ Please do not disassemble, modify, scratch, paint or cause shocking impact on the detector, as these actions may cause damage the detector.
▸ Please note the detector has self-detection function, please be aware of any indication from the detector no matter it is flash in LEDs or beep, and read manual to find out the meanings.
▸ Please make sure that the user can hear the alarm when installing the detector in less used room.

Warning

Silicones could permanently damage the detector. Please avoid using silicone sealant or any household or cosmetic product containing silicone in the vicinity of the detector.

3. Detector Introduction

Test button/ Mute button
Wireless Link Status button (S1)

The detector   Alert LED : Red

Fixture   CO2 detection chamber
Siren speaker   Wireless Link LED : Green

What is included in the box
▸ Screws for wall/ceiling mount (3.5 x 25mm)…………………………2 pieces
▸ Screws cap for screws …………………………………………………2 pieces
▸ AC adapter (12V) …………………………………………………… 1 piece
▸ UserManual…………………………………………………………………1 piece

4. Location of Installation

▸ The detector should be installed on a well-ventilated location that is 160-170 cm high to facilitate daily maintenance by the service personnel.
▸ For installation in warehouses or in areas of people's health safety monitoring, please install the detector 30 cm from the ground.
▸ The detector is a safety equipment with voice alarm, and therefore it should be installed where the workers can easily see and hear.
▸ In the surrounding areas of the detector, there should not be devices with strong electromagnetic fields, such as high-powered electronic devices and transformers, that would interfere with the detector.
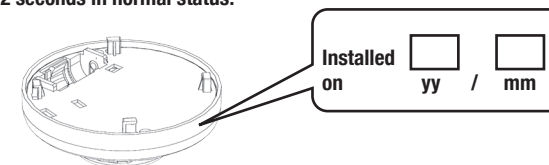
5. How to mount the detector

There are two ways of mounting the detector, wall-mounted and ceiling mounted.

Warning

Please make sure your personal safety in mounting the detector, position in installing the detector is very important and should pay high attention to avoid accidents.

Please make sure the screws have been fixed tightly on wall, any fallen parts or detectors itself may cause damage of the detector.

Please strengthen the wall or ceiling with a supplement board in softer wall or ceiling to avoid the damage cause from fallen parts or detector itself.

Please make sure the screws or any wooden dust will not fall into eyes during installation. Please clean the dust as soon as possible if it happens and call doctor for careful check of health of installer.

6. Installation - Preparation Procedure

1. Open the mounting bracket, and get the adapter wire go through the mentioned hole.
2. Please write down installing date on the detector in the position where agent has suggested.
3. After power on, please hear Beep sound to ensure the proper detector setup.
4. Please make sure the linking status for the wireless type. Green LED flashes every 2 seconds in normal status.
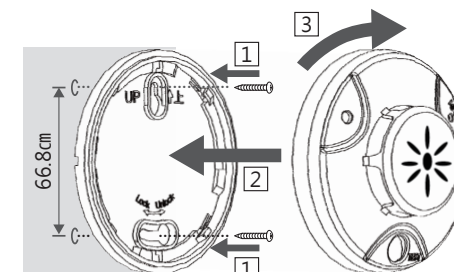

Installed on   yy / mm

Warning

(1) Please mark the expected installing position on wall in advance that is helpful for drilling holes
(2) Please make the Test / Mute button face down for best operation.

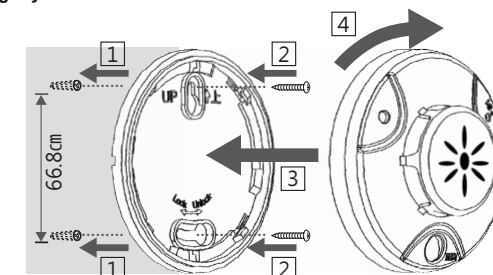### 7. Installation – Mounting Procedure

Mounting on ceiling or wall

66.8cm

Please fix the detector with two screws on ceiling or wall.
1. Fix the mounting bracket with two screws.
2. Place the detector in the rail of mounting bracket.
3. Turn the detector clockwise until hear a sound "KA" meaning fixing tightly.

Mounting on concrete wall

66.8cm

Please fix the detector with two screws on ceiling or wall.
1. Drill 2 holes on expected mounting position for 5mm for diameter and 25 mm in depth.
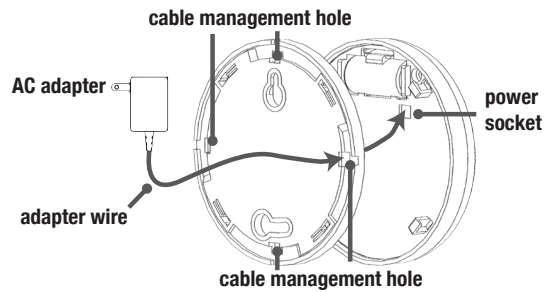2. Fix the mounting bracket with two screws.
3. Place the detector in the rail of mounting bracket.
4. Turn the detector clockwise until hear a sound "KA" meaning fixing tightly.

<div style="writing-mode: vertical">**Installing the power supply**</div>

cable management hole

AC adapter

power socket

adapter wire

cable management hole

Before setting up the detector, please firstly get the adapter wire through he bottom cable management holes. (There are four cable management holes, please find one proper position.) Connect the power socket in mentioned position, and power on AC adapter.

8. Operation Verification

Method for verifying detector(s) operation normally :
Please verify detector function properly after installation and inspection.
Please press Test Button for 1 second for operation verification. Within 1 ~ 5 seconds, you will hear "Operations : Normal" meaning the detector functions normally; on the contrast you will hear Beep Beep meaning the detector function abnormally and it needs to proceed further treatment(s). Please refer to below Status and notification table indications :

Status	Action	Indication	
		Voice and Sound	Red LED
Power On	Plug in AC adapter	"Beep"	---
Normal Detecting	---	---	LED Flash per minute
Alarming (>1500 ppm)	Follow local emergency SOP	"Danger! Evacuate!"	Flashing continuously
Warning (1000-1500 ppm)	Ventilation recommended	"Beep, Beep" periodically	---
Normal Operation	---	"Operations: Normal"	Flashes 4 times

Please verify operation normally when using Wireless Type CO2 Detector

Status	Action	Indication	
		Voice and Sound	Green LED
Not connected To gateway	Please press S1 on gateway	---	Flash once per 5 seconds
Connected to gateway successfully	---	---	Flash 3 times
Normally connected	---	---	Flash once per 2 seconds
Disconnection	Please follow Trouble-shooting	---	Green LED flash twice per 5 seconds
Leave network	Press 3 times on S1	---	Red LED flashing continuously
Reset	Press S1 for 5 seconds	---	Red & Green LED lit-on for 1 sec

9. Periodic Maintenance and Inspection

· Please do NOT let the water of wet cloth leaks into the detector.
· Please do NOT use the volatile cleaner to clean the detector, it may cause the damage on the surface of the detector.
· Disposed detector should strictly follow laws of local waste management.

10. Trouble-shooting

Status	Inspection	Treatment
Press Test button and keep "Beep, Beep" meaning function error	Is the test button has been pressed accidentally?	Please power on the device again.
Wireless disconnection	Is there is block between detector and receiver?	Please remove the block in between
		Please add router in between
	Is there any powerful radio radiation that Interrupts the current wireless signal?	Please remove the radio radiation source, or add router in between.

11. CO2 and Air Quality Reference Table

	ppm	
☹	5000	Do not stay here for over 8 hours
😖	2500	Not good for health
☹	1000	Feeling tired
😐	700	Felling uncomfortable
☺	450	Fair
😄	350	Good

12. Energy Saving Template via DCV using CO2 Detector in Meeting Room

Shut down	Low speed	High speed
450 CO2 PPM	750 CO2 PPM	900 CO2 PPM
Empty	Few people	Crowded

3518 kWh / Year
(−27%)

(Electricity savings)

Demand Control Ventilation using CO2 Detector

+

Automatic Air Conditioning Operating System

No people AC stopped → CO2 detected → Adjust fans speed