# CO—ALARM
# USER MANUAL

1. MENU
2. ALARM
3. FAULT
4. POWER
5. TEST
6. DISPLAY
7. PPM/COHb


**IMPORTANT**

Read the whole manual before you start to install your new CO-Alarm

**WARNING/INFORMATION :**

● This CO-Alarm is designed to protect individuals from the acute effects of Carbon Monoxide exposure / poisoning. However it will not fully safeguard individuals from specific medical conditions. If in doubt consult your doctor.

●Once installed the CO-Alarm in your property, this should not be seen as a rightful reason to avoid regular servicing of your fuel burning appliances, such as gas-, oil-, paraffin-, biofuel-, wood-, coke-, charcoal- or coal fired boilers, room heaters, cookers or similar and their flues.

●This CO-Alarm is not suitable as a smoke-, fire- or combustible gas detector!

● This CO-Alarm must not be operating in areas outside these temperatures / humidity:

Humidity: 30% < (RH) > 90%

Working temp.: -10 degree Celsius < working temp. <+40 degree Celsius

●This alarm has been rigorously tested for immunity to a variety of gasses and vapours, which could affect the operation of the CO-Alarm. However caution should be taken, when handling or decanting oils, cleaning fluids, polishes, paints and greases. The vaporized products of cooking operations may also cause nuisance alarms over time.

● This apparatus should be installed by a competent person.

●If the apparatus is tampered with may cause the risk of electric shock or malfunction .

●The installation of this device should not be used as a substitute

for proper installation, use and maintenance of fuel burning appliances

●Alarm silence facility : if there is any question as to the cause of an alarm it should be assumed that the alarm is due to dangerous levels of carbon

●Expected lifetime of the apparatus:10 years after manufacture.

●The substances listed below may cause alarms other than carbon monoxide alarms at high concentrations; Methane, propane, isobutane, ethylene, ethanol, alcohol, isopropane, benzene, toluene, acetaldehyde, acetate, hydrogen, hydrogen sulfide, sulfur dioxide .

**PRODUCT DESRIPTION:**

●The smallest CO-Alarm in the world.

●Detect Carbon Monoxide (CO)ppm(parts per million).

●As this CO-Alarm is battery powered, you can bring it with you or place the CO-Alarm in different rooms, according "Where to install the CO-Alarm"and persons whereabouts during 24 hours.

●Despite its small size, when faulty cooking and failure during the fuel appliance operation generates Carbon Monoxide, it can detect Concentration of CO .

●The display shows you: Concentration of CO(PPM).

● The 3 LED gives different sound pattern,see ALARM SOUNDS-once one of the alarms are activated.

●Alarm description, see table 1.

● The alarm in case of CO, the alarm will reset itself after the CO (which caused the alarm) has dissipated

●The Battery is sealed and cannot be replaced

## WHAT TO DO-IF THE CO-ALARM SOUNDS

If a carbon monoxide apparatus initiates an alarm sianal it is recommended that the followina actions are taker in the order given:

●keep calm and open all doors and windows to increase the rate of ventilation, but see also item a) below Stop using all fuel-burning appliances and ensure, if possible, that they are turned off, e.g. for gas appliances, isolate the emergency control valve:

●if the alarm continues to be activated. then evacuate the premises (see item b). Leave the doors and windows open and only re-enter the building when the alarm has stopped. In multi-occupancy and multi-storey premises ensure that all the occupants are alerted to the risk;

●get medical help for anyone suffering the effects of carbon monoxide inhalation is suspected:

●telephone the appropriate appliance servicing and/or maintenance agency or, when necessary, the relevant fuel supplier on their emergency number or the national Gas Emergency Service Provider, if appropriate, so that the source of carbon monoxide emissions can be identified and corrected. Unless the reason for the alarm is obviously spurious (see item c) below), do not use the fuel-burning appliances again, until they have been checked and cleared for use by a competent person according to nationa regulations

a ) It should be recognised that increasing ventilation rates may actually lead to higher levels of indoor carbon monnoxide concentration under certain circumstances,Examples od such an occasion would be from a nearby vehicle exhaust or during extremely bad traffic pollution, especially in cold weather. It is therefore possible that outdoor conditions could be a factor in triggering domestic carbon monoxide alarms.

b ) There may be another source of carbon monoxide emission inducing the alarm, for example

-- a large amount of tobacco smoke

-- town gas

-- emission from a smouldering fire

c ) The alarm may be induced by other substance. Some sensors may respond to common household substances, such as solvents. The instructiona provide by the manufacturer should indicate which substances might give rise to alarm

## ALARM SOUNDS

Red LED : 25ms within 200 ms for each beep

Yellow LED: 25ms within 200 ms for each beep

## LED FUNCTION

1.Green: Product is active

2.Yellow: Fault Warning

3.Red: Alarm

## CO-Alarm description-Table 1

| What triggered the CO-Alarm | Description | Description of the sound |
|---|---|---|
| Power Up | Green, yellow and red LEDs flash once in turn followed by 4beeps | .... |
| Normal monitoring status | Green LED flashes once every minute. No sound.Display will show nothing | |
| Carbon Monoxide present harmful level | Repeating series of 4 beeps and red LED flashing every 5 seconds. Display will show the current PPM or COHB Minimum 85 dB within 1 minute and 82 dBwithin 4 minutes | .... ..... .... |
| Carbon Monoxide low level | Series of 4 beeps and red LED will flash every 3 minutes. Display will show the current PPM or COHB | .... .... .... |
| End life or CO-alarm | Three beeps and 3flash yellow LED every minute. | ... ... ... |
| Faulty sensor | Two beeps and 2 flash yellow LED every minute. | .. .. ... |
| Low Battery | One beep and 1 flash yellow LED every minute.An"X"will show in the display when the display is turned on | . . . |
| Alarm Test | Green, yellow and red LEDs flash once in turn followed by4 beeps | .... |

| Carbon Monoxide Level-ppm (parts per million) | No alarm before | Alarm before |
|---|---|---|
| 30ppm | 120minutes | -- |
| 50ppm | 60minutes | 90minutes |
| 100ppm | 10minutes | 40minutes |
| 300ppm | -- | 3minutes |

## Health condition according to the level of CO PPM-Table 2

| Level of CO PPM | Health effects + information |
|---|---|
| 0 | Normalfresh air |
| 10-24 | Possible health effects, with long term exposure |
| 50 | Maxmum permissible exposure in workplace (OSHA) |
| 100 | Slight headache after 1-2 hours |
| 200 | Dizziness,nauseas, fatigue, headache after 2-3hours of exposure. |
| 400 | Headache and nauseas after 1-2 hours of exposure. Life threatening in 3 hours. |
| 800 | Headache, nausea, dizziness after 45 minutes, collapse and unconsciousness after 1 hour of exposure. Death within 2-3hours |

## Battery Specification

| TOPIC | DESCRIPTION |
|---|---|
| Brand name | Ultra Life |
| Part no | CP502537 |
| Voltage range | 1.5V-->3.3V |
| Nominal Voltage | 3.0V |
| Naominal Capacity | 1.2Ah@10mA to 1.5V@+23C |
| Maximum discharge | 150mA continuous |
| Pulse Capability | Up to 300mA-varies according to pulse characteristics, temperature and cell history |
| Typical weight | 9.0 gr |
| Storage temperture | -40C to +60C |
| Exterior/Housing | Laminated/aluminum Foil |
| Terminal/Connectors | Ni/Stainless steel Tabs |
| Safety | AL- MSDS/RD-004 |

## LCD SCREEN:

Touch the menu bottom and this will show.

a.The current Co concentration in PPM

b."HI if the CO level is >512 PPM

c. SIL (4 seconds) will show if any alarm function has be put on silence during an alarm.

## SLENCE FUNCTION:

Touch the TEST button during an alarm.

SIL will appear for 4 seconds, which means you have activate the"Silence"furnction.

aa. CO-Alarm is on -SIL will last 10 minutes. Not possible to activate an SIL if PPM is more than 300

ab. Faulty sensor -SIL will show 4 seconds and the alarm will be silenced for 12 hours

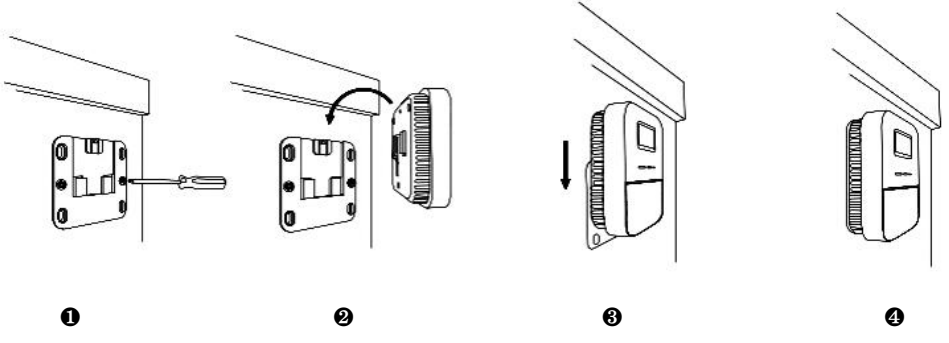
ac. Low battery -SIL will show 4 seconds and the alarm will be silenced for 12 hours

b.Touch the Menu button during any alarm or silence will switch displaying PPM .

## HOW TO INSTALL YOUR CO-ALARM

Portable:

- Assemble the CO-Alarm to the baseplate as showed in page 11-12.The alarm will automatically switch on, 3 LED's will light shortly followed by 4 loud beeps and 000 PPM will show in the display. Touch as you do on your mobile, when pushing the "TEST"button and the same result should happen as just mention above
- Choose the baseplate either with tape / for screws.
- Place baseplate in your chosen position, in open air, with no local cbstructior, Also see "Where to install the CO-Alarm.
- Attach the CO-Alarm itself to the Baseplate.


❶
❷
❸
❹

● The CO alarm will get the correct CO concentration readings after at least3 minutes of stabilization.

## Fixing the CO-Alarm to a wall

● Decide the position of the CO-Alarm in open air and follow the guidance in"Where to install the CO-Alarm,"

●Using the 2 screws to fix the baseplate to the chosen place.

● Assemble the CO-Alarm to the baseplate as showed on page 11-12. The alarmwill automatically switch on and the 3 LED's willight shortly followed by beep 4 times, and 000 PPM will show in the displavTouch as you do on vour mobile push the"TEST"button and the same should happen as just mention

● The CO alarm will get the correct CO concentration readings after at least 3 minutes of stabilization.

## HOW TO UN-INSTALIYOUR CO-ALARM

Simply remove the CO-Alarm from the baseplate by sliding the CO-Alarm of the baseplate -see on page11-12.

## WHERE TO INSTALL YOUR CO-ALARM

The design of the premises and the numbers,type and position of Carbon Monoxide sources vary widely. However general guidance is given on where and where not to install the CO-alarm, in order to minimize the riskof misleading instructions

Which room:

● Ideally, a CO-Alarm should be installed in every room, which contain a fuelburning appliance, Additional alarms can be installed in others rooms, to ensure adequate warning for other occupants,

●In rooms remote from the CO-Alarm, where the occupants spend

considerable time whilst awake and may not be able to hear the alarm from the CO-Alarm,.

●Every sleeping room.

However, if there is a fuel burning appliance in more than one room, then consider this,

a. Locate a CO-Alarm in a room containing a fluid less or open-fluid appliance.

b.Locate a CO-Alarm in a room, where the occupant(s) spend most time.

●If the appliance is in a room, which is not normally used (i.e.boiler room)the alarm should be put just outside the room,so that the CO-Alarm may be heard more easily.

Where in the room:

It should be possible to view the panel of the CO-Alarm and also its LED indicator, when inside the location for the CO-Alarm. It is not possible to give specific guidance on the exact location of a CO-Alarm, which suits all types of room and their usages. The following points should be taken into consideration when make the final decision for an optimum location for any thinkable situation.

●Ceiling mounted: CO-Alarm at least 30 cm away from any wall.

● Wall mounted: CO-Alarm at least 15 cm away from any ceiling.

● Sleeping room: CO-Alarm relative close to the breathing zone of the occupants.(Breathing zone should be regarded as the horizontal level in the

room, where a person's head spend most of the time.Can be in lying in bed, sitting in a chair, standing or walking around.

● Room remote from fuel-burning appliance-as in 3.

●Pay attention to elderly and disabled, when make a final decision, where to add the CO-Alarm.

● Particular attention should be given to rooms, with sleeping accommodation.

● CO is particular hazardous to a sleeping person. If a person has been subjected to CO, this person will not wake up just because breathing CO If the person wake up, might be disoriented and cannot think rational. If the room has fuel-burning appliance, then respect this:

a. The CO-Alarm should be at a horizontal distance of 1m to 3 m, from the potential source of CO,

b.CO-Alarm must be placed at the same side as the potential source of CO,.

c.Rooms with slop ceiling should be placed at the high side of the room. d. CO-Alarm mounted on the wall, must be near the ceiling and also with the position higher than any window / door in the room.

## WHERE NOT TO INSTALL THE CO-ALARM

●In an enclosed place,such as behind a curtain, inside a cupboard,

●Where it can be obstructed, such furniture, books,ornaments or similar,

● Next to a door or window

●Next to extractor fan.

● Next to an air conditioner, air ventilator or similar ventilations openings. ● Where there dirt and dust easily can block the sensor

● In damp and humid location.

●Directly above a sink,

●In the immediate vicinity of a cooking appliance.

●Do not mount the CO-Alarm directly a source of heat/ steam.

●Similar as above.

## WHAT IS CARBON MONOXIDE and SYMPTOMS of be exposed ?

● Carbon Monoxide(CO) is an extremely dangerous poisonous gas, It is colorless, odorless and tasteless gas - mainly released by incomplete combustion of fossil fuels such as: Natural gas, Bottled gas, Petrol, Diesel,Paraffin, Wood, Coal coke and Bio-fuels.

● When inhaled, CO causes chemical asphyxiation, when CO mixes with the blood, the consequence is less oxygen is carried around the body, in particularto the brain itself, If affected while you are at sleep, most dangerous as you might not wake up, ever.

● Typical symptoms of CO poisoning and this need quick action-your

local emergency center must be contacted.

●Mild ExpoSure: Slight headache, nausea, fatigue, can be flue but also can be

CO exposure (ppm)

Medium Exposure:Severe throbbing headache, drowsiness, confusion, vomiting, fast heart rate (ppm)

Extreme Exposure: Unconsciousness, Convulsions, Cardio-respiratory failure and then death (ppm)

● General description:

Although feeling unwell, victims of CO poisoning can become so disoriented, that these people can no longer decide what to do next.

This include cases unable to exit a building.

● Children often show symptoms earlier than adult.

**TYPICAL CAUSES OF Carbon Monoxide inside a ROOM/ a HOUSE or similar.**

● A correctly operating and serviced fossil fuel burning appliance should allow complete fully burning of the fuel, therefore there is no hazard. You should have all such appliances serviced at least every 12 months done by a fully qualified registered Gas Safe engineer.

● Room heater: Real flames fires, Wood-burners, Ranges, Open coal, Coke and Wood fires, Portable Gas and Paraffin heaters.

Central heating boilers, Oil fired and Gas central heating boilers, Wood-burners, and automated feeders for Coke & Coal

●Cookers and Solid Fuel ranges-notice: Cooker hoods with flues will NOT remove any CO.

●Barbecues and Chimneys-used outside but close to the property.

●Petrol and diesel driven engines such as: Cars, Motorbikes, Lawn movers, Trimmers, Renovators, Chain saws and similar. Concentration will be higher especially if these are run up inside a garage /shed.

● Cigarette, cigar and pipe smoke. Carbon Monoxide from burning tobacco can build up (over even a short time) particularly in a poor ventilated property.

●Blocked flues from fires and boilers. A partially blocked flue will cause a buildup of unburned gasses in the system and if damaged -for any reason-

could either severely affect complete burning or leak combustion gases into the property. This is more likely to happen when the flue take air form the room to improve efficiency of exhaust.

●Incorrect installation of equipment (Crake / blocked flues or cracked heat exchangers.

●Faulty equipment for complete combustion,

● Appliances competing for Air Supply. Where there is more than one appliance taking air from a room, then must ensure there is an adequate supply, Consult your Gas Safe Enginee.,

● Air tightness of the property. This can happen if there is a lack of unobstructed ventilation in the presence of double glazing.

● Insufficient ventilation for complete combustion. Where appliances take air for combustion from the room such open wood and coal fires, portable gas or paraffin heaters or space-heating boilers, the room M UST have adequate ventilation to allow sufficient air for complete combustion,

DO NOT block up room vents specially provided for this purpose.

## HOW TO MAINTAIN YOUR ALARM

● Warning: Tampering with this alarm may cause a malfunction!!

● Testing the Alarm: Test the CO-Alarm once a week,using the TESTbutton. It must flash all 3 LED once,one after another, followed by 4 beeps from the sounder.

● Cleaning the CO-alarm:Regular cleaning of the alarm is essential if it is going to work properly. Keep free of dust. Vacuum the CO-Alarm once a month Ensure the vents are clear. Every 6 months wipe the outside with a damp cloth, in order to remove staining / grease from cooking or similar.

## PRODUCT WARRANTY

The manufacturer guarantee to you as purchaser of the CO-Alarm, the CO-Alarm will be free from defect in material, workmanship or design under normal use, for a time of 10 years, recon from the day you purchased this CO-Alarm. Our guarantee is limited to give you a placement of the CO-Alarm, in case of any defect.

Any fault function and you will be able to get a replacement, at store you buy this one, Bring the receipt and the faulty alarm,

The terms of this quarantee will not apply in the following cases;

● Not following "WHERE TO INSTALL THE CO-Alarm"

● Not following "WHERE NOT TO INSTALL THE CO-Alarm"

● If the alarm has been modified, dismantled, contaminated, damaged, neglected or otherwise abused, altered the date of purchase,

● If it fails to operate due to incorrect siting, damaged cause by failure to abide by the instructions supplied.

● It is specifically important to draw the purchaser's attention to the fact,if there is substantial periods of alarm, will shorten the life time of the CO-Alarm, where the CO-Alarm would have provided valuable protection, In this case, no claim will be accepted.

● The liability of the manufacture arising from the sale of this CO-Alarm or under the terms of this quarantee shall not in any case exceed the cost of a replacement of this CO-alarm. In NO case shall the manufacture be liable for consequential loss or damage resulting from the failure of this Co-Alarm or breach of this or another quarantee express or implied or for damage caused by failure to abide by the instructions supplied. This quarantee does not affect your statutory rights.

**CONTENT LIST**

CO-Alarm, 1 baseplate for screws, small plastic bag with 2 screws/plugs, 1 baseplate with self-adhesive tape, 1 manual, 1 screwdriver

**APPROVED**

This CO-Alarm is approved according to EN 50291-1-2018.

**Manufacturer name**: Shenzhen Brojen Electronic Technology Co.,Ltd. Address: 4/F.Bld.4, Nuclear Power Industry, Shijing Community, Fucheng Street,Longhua District, Shenzhen,China

**Contact info**:export@brojensecurity.com

## 10 years warranty on the product /battery