Ei208W Stand-alone carbon monoxide detector

The product serves for the detection of CO (carbon monoxide) gas and early warning to avoid the harmful effects of this gas on human health.

The detector is certificated for use in building interiors, caravans and boats.

Connection between CO detector and JABLOTRON system provide plug-in module JA-110G-CO or JA-150G-CO.

The detector indicates excessive carbon monoxide concentration both optically with a LED and acoustically using a built-in siren.

The detector is powered with an integrated lithium battery which supplies the detector for its whole service life.

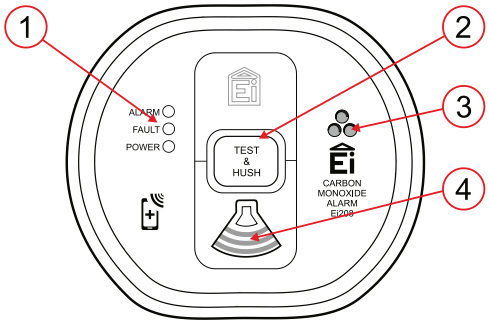


*Fig. 1: **1** – warning LEDs; **2** – test button; **3** – sensor CO, **4** – build-in siren*

Origin of carbon monoxide and its effects on the human organism

CO (carbon monoxide) is a very dangerous gas which is poisonous even in small concentrations. It is generated by imperfect combustion of fossil fuels (natural gas, petroleum, coal, wood). The gas is colourless, tasteless and odourless. Therefore, it cannot be detected by the human sense and there is a great danger of intoxication of the human organism with this gas.

The main carbon monoxide sources:

- incorrectly installed or poorly set fuel-burning appliances (gas, coal, fuel oils and wood)
- blocked, poorly maintained or damaged chimneys
- combustion engines running in confined spaces
- portable paraffin or gas heaters in confined or badly ventilated rooms

Effects of carbon monoxide on the human organism depending on the inhalation time and CO concentration in the air

CO concentration (ppm)	Inhalation time and symptoms developed
35	The maximum allowable concentration for continuous exposure in any 8 hour period according to OSHA
150	Slight headache after 1.5 hours
200	Slight headache, fatigue, dizziness, nausea after 2–3 hours
400	Strong frontal headache after 1–2 hours. Life is threatened after 3 hours
800	Dizziness, nausea and convulsions within 45 minutes. Unconsciousness within 2 hours. Death within 2–3 hours.
1 600	Headache, dizziness and nausea within 20 minutes. Death within 1 hour.
3 200	Headache, dizziness and nausea within 5–10 minutes. Death within 25–30 minutes.
6 400	Headache, dizziness and nausea within 1–2 minutes. Death within 10–15 minutes.
12 800	Death within 1–3 minutes.

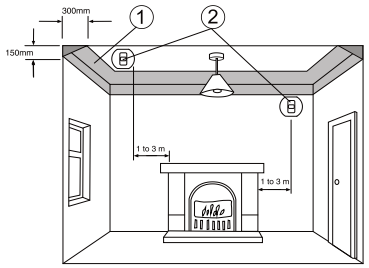
ppm - parts per million

The same concentration of CO may have a different effect on persons with varying body weight or who are weakened by an illness.

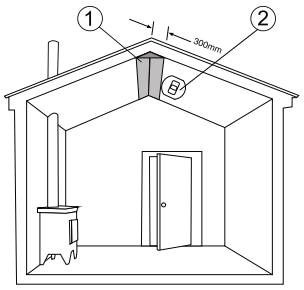
Warning: The CO detector may not prevent the chronic effects of carbon monoxide exposure, and the apparatus will not fully safeguard individuals at special risk.

Detector range and location

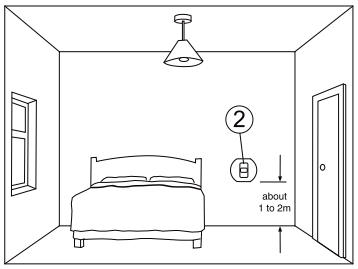
Ideally, the carbon monoxide detector should be installed in every room containing a possible source of carbon monoxide (boilers, fireplaces, local heaters, etc.). It is also recommended to install the carbon monoxide detector in the rooms where occupants spend considerable amounts of time and bedrooms.



Rooms with possible sources of carbon monoxide and level ceilings. Installation above the upper edge of any window or door. At least 15 cm from the ceiling.



Installation on the ceiling at least 30 cm from the walls.



Bedrooms and other rooms remote from possible sources of carbon monoxide. Installation at the approximate height of 1 to 2m in the expected breathing zone of the occupants.

***1** – unsuitable location; **2** – recommended location*

Avoid installing the detector in the following locations:

- in the immediate vicinity of heat sources (keep it at least 1 metre horizontally from any heat source)
- in an enclosed space (e.g. in a cupboard)
- above a bath, a washbasin or heat sources
- next to a door, a window, an air vent or anywhere where it would be affected by draught
- in places where free circulation of air is obstructed (e.g., behind curtains or furniture)
- in places with high levels of dust, humidity or in places where it would be subjected to water or steam.
- in places with high levels of paint, thinner or solvent fumes or close to air fresheners
- in places where it could be easily damaged or accidentally knocked or turned off

Warning: Do not use the detector as a portable device or on an intermittent basis.

Interfering Substances

- The apparatus should not be exposed to excessive amounts of fumes from petrol, diesel, solvents, greases, alcohols and organic cleaning fluids.
- The apparatus may respond to brief exhaust gas emissions e.g., during initial start-up of an appliance or engine.
- Hydrogen acts as an interferon and may give rise to alarms.

Installing the detector

When installing the detector, abide by the procedures recommended in the previous paragraphs.

Warning: The Installation of this CO Alarm should not be used as a substitute for proper installation, use and maintenance of fuel burning appliances including appropriate ventilation and exhaust systems.

In addition, the CO detector must be installed by a competent person.

Installation steps:

1) Open the detector by turning back cover anti-clockwise
2) Attach the base to the selected place using screws.
3) Insert the detector into the plastic base and secure it by turning it clockwise
4) Once you have inserted and secured the detector, it is switched on automatically with a built-in switch located in the detector body
5) If the detector is OK, all three LEDs will flash briefly in sequence.



Fig. 2

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Czech Republic | www.jablotron.com

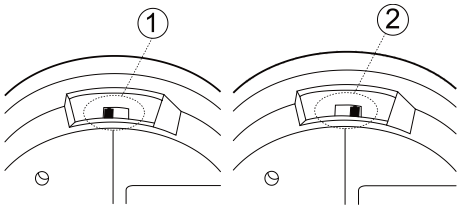


*Fig. 3: **1** – OFF; **2** – ON*

6) In order to make the detector resistant to unauthorized removal and tampering, break off the small pillar on the base as shown in Fig. 4a. To remove the detector from the ceiling it is now necessary to use a small screwdriver which has to be inserted between the detector body and the catch in the base (fig. 4b). The locked detector can further be secured against rotating with a self-tapping screw as shown in Fig. 4c

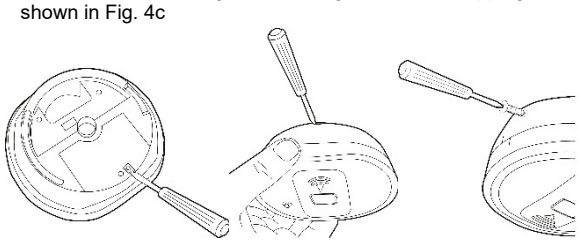


Fig. 4a *Fig. 4b* *Fig. 4c*

Alarm signalling

Pre-alarm: When the detector detects over 43 ppm CO, the red ALARM indicator flashes in interval accordance with the table. This is usually not a concern in a shorter time interval, unless the acoustic signal sounds. Such a slightly increased concentration may come from various sources, e.g., from cooking, barbecuing or starting a combustion engine.

When the detector detects a potentially dangerous carbon monoxide concentration, the red ALARM LED starts flashing. If the concentration remains unchanged, the detector sounds the alarm with a built-in siren. The table below shows the detector signalling depending on the concentration and exposure time. The detector reacts sooner with greater concentrations. The siren can be silenced for 4 minutes by holding down the test button. If the dangerous concentration persists, the siren is reactivated. The siren cannot be silenced when the concentration exceeds 150 ppm.

NEVER IGNORE THE SIGNALLING OF INCREASED CARBON MONOXIDE CONCENTRATION IN THE BUILDING

Note: The CO detector may sound if cigarette smoke is blown into it, or aerosols are released nearby.

Hydrogen serves as a reference gas therefore the detector may report false alarms in the case of its presence.

CO alarm response:

CO gas concentration (ppm)	Red LED pre-alarm	Siren
0 < 20	Off	Off
20 < 43	Off	Off
43 < 80	1 flash / 2 s	on within 60–90 mins (typ 72 mins)
80 < 150	1 flash / 1 s	on within 10–40 mins (typ 18 mins)
>150	2 flashes / 1 s	on within 2 mins (typ. 40 sec)

What to do when the alarm sounds

1) Open the doors and windows to ventilate the area
2) Turn off all fuel appliances where possible and stop using them
3) Leave the threatened area as soon as possible
4) Get medical help immediately for anyone showing the symptoms of carbon monoxide poisoning (headache, nausea)
5) Do not re-enter the property until the Alarm has stopped signalling harmful concentration of carbon monoxide. If the Alarm has been silenced by pressing the test button, wait at least 5 minutes so the Alarm can check if the CO gas has cleared.
6) Do not use the fuel appliances again until they have been checked by an expert.

Note: If the carbon monoxide concentration has been decreased only by ventilation, this might only be a temporary solution. It is necessary to find the carbon monoxide source.

Alarm Memory

After an alarm is triggered, the detector indicates the alarm memory with a red LED, even though the room has already been ventilated and there is no longer any CO present. The red LED continues to flash at an interval determined by the CO concentration that was measured.

The alarm memory can be canceled by pressing and holding the TEST button (approx. 12 seconds) on the device until the LED indicator flashes green.

The alarm memory cannot be canceled via the JA-100 system; only using the button on the detector.

Detector testing, maintenance, fault indication

The detector regularly checks its function to ensure problem-free functioning. Any fault is immediately signalled with LEDs.

It is further recommended to test the detector using a test button in the following cases:

1) After the system is installed.
2) Regularly once per week
3) After prolonged absence from the building
4) After repair or servicing of any of the fossil fuel-burning appliances
5) Once per year using a CO gas testing kit

The following table displays the status signalling after pressing the test button:

Status	*Red LED* (ALARM)	*Yellow LED* (fault)	*Green LED* (power)	*Sound signalling*
Standby			1 flash / min	
Unit OK	Off	Off	1 flash / sec when TEST button is pressed	Pressing confirmed with a beep
Low battery	Off	1 flash	Off	1 beep / per 48 s
Sensor failure	Off	2 flashes	Off	2 beep / per 48 s
End of life	Off	3 flashes	Off	3 beep/ per 48 s

When a low battery, detector failure or end of life is signalled, the detector has to be replaced.

Information about a detector's low battery is not sent to the system until 24 hours after the detector's battery has actually run out. We recommend checking the status regularly using the TEST button.

The carbon monoxide detector has a limited usable life which runs out even if the detector is not used. There is a label on every detector showing its usable life. The detector has to be replaced after this date even if it does not signal any faults.

The detector requires no special maintenance. Keep it clean by wiping it with a wet cloth from time to time. Do not use any aggressive or abrasive cleaning agents.

AudioLink

The detector supports AudioLink if it has its symbol. The app can be downloaded from Google Play or App Store. T. The app can read values from the detector (sensor status, battery, number of tests, CO concentration, …). This is not an app from Jablotron a.s. but from the detector's manufacturer. More information about the app is available at http://www.eielectronics.com.

Technical specifications

Detector lifetime	**10 years (the end of life date is stated on the label)*
	**8 years with the JA-150G-CO module*
Power	*Integrated non-replaceable lithium battery*
Typical battery lifetime	*for the whole usable life of the detector*
Operating temperature range	*-10 °C to +40 °C*
Humidity range	*15 % to 95 % (non-condensing)*
Dimensions, weight	*120 x 105 x 40 mm, 170 g*
Conformity	*EN 50291-1; EN 50291-2, EN 50270, EN 61000-6-3*

Ei ELECTRONICS hereby declares that the Ei208W detector is in compliance with the essential requirements and other relevant provisions of Directives 2014/30/EU, 2011/65/EU. The original of the conformity assessment can be found at www.jablotron.com - Technical Support section.

***Note:** Disposing of this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste handling. Please return the product to the dealer or contact your local authority for further details of your nearest designated collection point.*