

# PRELIMINARY



## Battery Powered Carbon Monoxide Alarms



XC70

XC100

XC100D

# Carbon Monoxide (CO) in Residential Accommodation



## The dangers of Carbon Monoxide

Carbon Monoxide (CO), not to be confused with Carbon Dioxide (CO<sub>2</sub>), is an invisible, odourless and tasteless gas that is toxic to humans and animals. It is often referred to as the “Silent Killer” because none of our senses can alert us to its presence; we can’t smell it, taste it or see it. The initial symptoms, tiredness and headaches, are similar to those of influenza, which can make it difficult to diagnose. When deadly levels of Carbon Monoxide are present in a home, the occupants will become unconscious and do not wake again. In the UK alone, thousands of people are treated in hospital for CO poisoning and there are many deaths every year.

The longer CO gas is breathed in and the higher its concentration, the worse the symptoms become including loss of balance, loss of vision and memory and eventually unconsciousness. This can happen within just a few minutes or hours, depending on the amount of CO in the air.



CO alarms give a full alarm, before the first symptoms occur: The higher the CO concentration, the quicker the device will give an alarm.

Some alarms offer optional pre-alarm features, which can be used to identify faulty appliances which leak more and more CO over time, but do not yet trigger a full alarm or cause any symptoms.

## How is Carbon Monoxide produced and who is at risk?

CO is produced by the incomplete burning of Carbon based fuels such as gas, coal, oil and wood. CO can be produced by any device that is not burning correctly or a device that has a blocked flue, meaning that all faulty cooking appliances, heating appliances, petrol generators and vehicle engines can pose a potential threat. Any person or animal sharing an environment with a faulty appliance is at risk.

## How to avoid the risks?

Ensure fossil fuel burning appliances are serviced regularly and install a CO alarm alongside each one in a property.

**See guidance on installation on page 6**





## Regulations

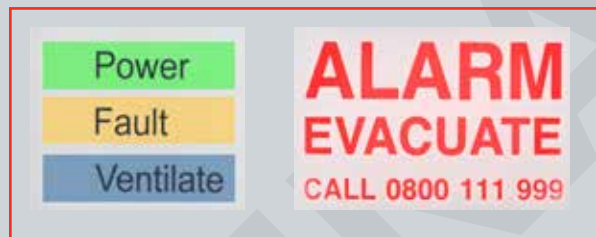
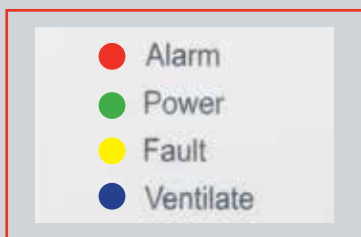
- In England and Wales, a CO alarm is only mandatory if a solid fuel burning appliance, e.g. wood or coal, is installed
- In Northern Ireland, a CO alarm is mandatory when any type of fuel burning appliance is installed or replaced in a new or existing home
- In Scotland from Oct 2013, a CO alarm is mandatory when any type of fuel burning appliance is installed or replaced in a new or existing home
- A CO alarm is mandatory if a "flue in void" situation is present, where the flue cannot be adequately inspected

## Why choose Honeywell?

For over 50 years, Honeywell has been a leading manufacturer of industrial and commercial gas detection systems, typically used in the harshest environments worldwide - oil and gas platforms, refineries, utilities, military applications and the semi-conductor industry, to name a few. For more than 15 years, Honeywell has used its gas detection expertise to not only develop the first residential CO alarm, but also to become one of the leading manufacturers of CO alarms worldwide.

## The Range

Honeywell offers three variants of the X-Series battery powered CO alarms, each of which varies in user interface options and lifetime:



### XC70

- 7 year life and warranty



### XC100

- 10 year life and warranty
- Unique, prominent alarm message\*



### XC100D

- 10 year life and warranty
- Unique, prominent alarm message\*
- Multi function CO level display



\*Patent pending



# XC70, XC100, XC100D - Battery Powered Carbon Monoxide Alarms



The X-Series CO alarms have been optimised for use by professionals dealing with residential CO protection. They have been designed to meet the needs of professional landlords and high demanding private individuals.

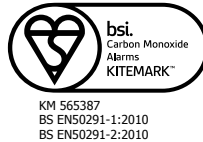
For increased protection, all X-Series devices can be interconnected wirelessly to form an alarm system.\*



## General description

### High reliability

- Own proven long-life sensor technology
- Third party certified by BSI to EN50291-1:2010 and EN50291-2:2010
- Sealed housing to protect from adverse environmental conditions
- Alarm memory
- Event logger
- Optional pre-alarm
- Low level monitoring mode
- End-of-life signal



### Low total cost of ownership

- 10 year (XC100, XC100D) or 7 year (XC70) life and warranty
- Maintenance free – no parts to change

### Tamper-proof

- Sealed-in battery
- Self-locking to mounting plate – remove only with a tool (screwdriver)
- Activation and deactivation triggered by mounting plate

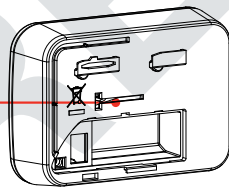
## Installation

No wiring required. For a fixed wall or ceiling installation, fix the mounting plate first using plugs and screws. Then slide the alarm onto it, which automatically activates the alarm.

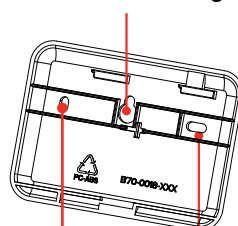
### Mounting options

- Free standing
- Wall with screws or nail
- Ceiling with screws

Discreet ON/OFF switch, activates when mounted to wall bracket

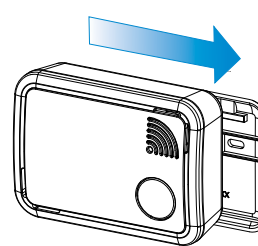


Hanger keyhole for non-permanent wall mounting

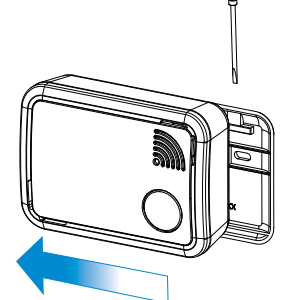


Wall mount screw holes

Activation



Removal



## Dedicated local support

Honeywell provides a UK based Customer Support Centre, which is available Monday to Thursday from 08:30 to 17:00 and Friday from 08:30 to 15:30. Our team is happy to answer any queries on our products. Telephone: 01202 645 577

\*Wireless plug-in module available by end 2014 \*\*Patent pending



## XC70

### Separate indicators for each unit state

- Alarm
- Power
- Fault
- Ventilate (pre-alarm)

Loud sounder output

Big, easy to press button

- Fault hush
- Alarm hush
- Reduced sound level test



## XC100

### Separate indicators for each unit state

- Power
- Fault
- Ventilate (pre-alarm)

Loud sounder output

Big, easy to press button

- Fault hush
- Alarm hush
- Reduced sound level test

Prominent alarm message\*



## XC100D

### Separate indicators for each unit state

- Power
- Fault
- Ventilate (pre-alarm)

Loud sounder output

Big, easy to press button

- Fault hush
- Alarm hush
- Reduced sound level test



Alarm or Fault silenced

Remote fire alarm

Full CO alarm

CO pre-alarm levels



Replace unit

Remote alarm triggered by another unit

CO concentration in PPM  
Number of units in a wireless network  
(during configuration with XW100 wireless module)

## Technical specification

### Reliability

**Detection principle** Electrochemical Cell Ecosure (XC70)  
Ecosure X® (XC100, XC100D)

**Third party approvals** EN50291-1:2010 Domestic  
EN50291-2:2010 Recreational  
BSI Kite marked

**Other compliances** RoHS  
REACH

**Self-test** Every 60 minutes

**Lifetime and warranty** XC70: 7 years  
XC100, XC100D: 10 years

### Operating environment

**Temperature** -10°C - +45°C

**Humidity** 25-95% RH (non-condensing) - suitable also for typical bathroom conditions

**IP rating** IP44

### Electrical and interconnection

**Power supply** Long-life lithium battery, 3V, sealed-in

**Wireless** With optional plug-in module XW100

### User interface

**Visual indicator** Power: Green LED  
Alarm: XC70 Red LED  
XC100, XC100D: Big message  
Fault: Yellow LED  
Ventilate: Blue LED

**Audible** >90 dB @ 1 m

**Button** Test with reduced sound level  
Alarm hush  
Fault hush (24h)

### Alarm levels

PPM	Full alarm	Pre-alarm	Low level monitoring mode
≥ 10	-	-	
≥ 43	~75 minutes	~19 minutes	Immediately
≥ 100	~25 minutes	~6 minutes	
≥ 300	~90 seconds	~23 seconds	

### Product

**Size** 100 x 72 x 36 mm

**Weight** 135 g

### Packaging

**Type** Carton box with euro hole

**Dimensions** 107 x 78 x 50 mm

**Scope of supply** CO alarm  
Mounting kit: Nail  
Instruction manual

## Order information

Part no	Barcode	Batch Size	Minimum Order Quantity	Language
XC70-EN	5 027526 400232	50	100	English
XC100-EN	5 027526 400249	50	100	English
XC100D-EN	5 027526 400256	50	100	English

# Carbon Monoxide (CO) Alarms Where to Install?



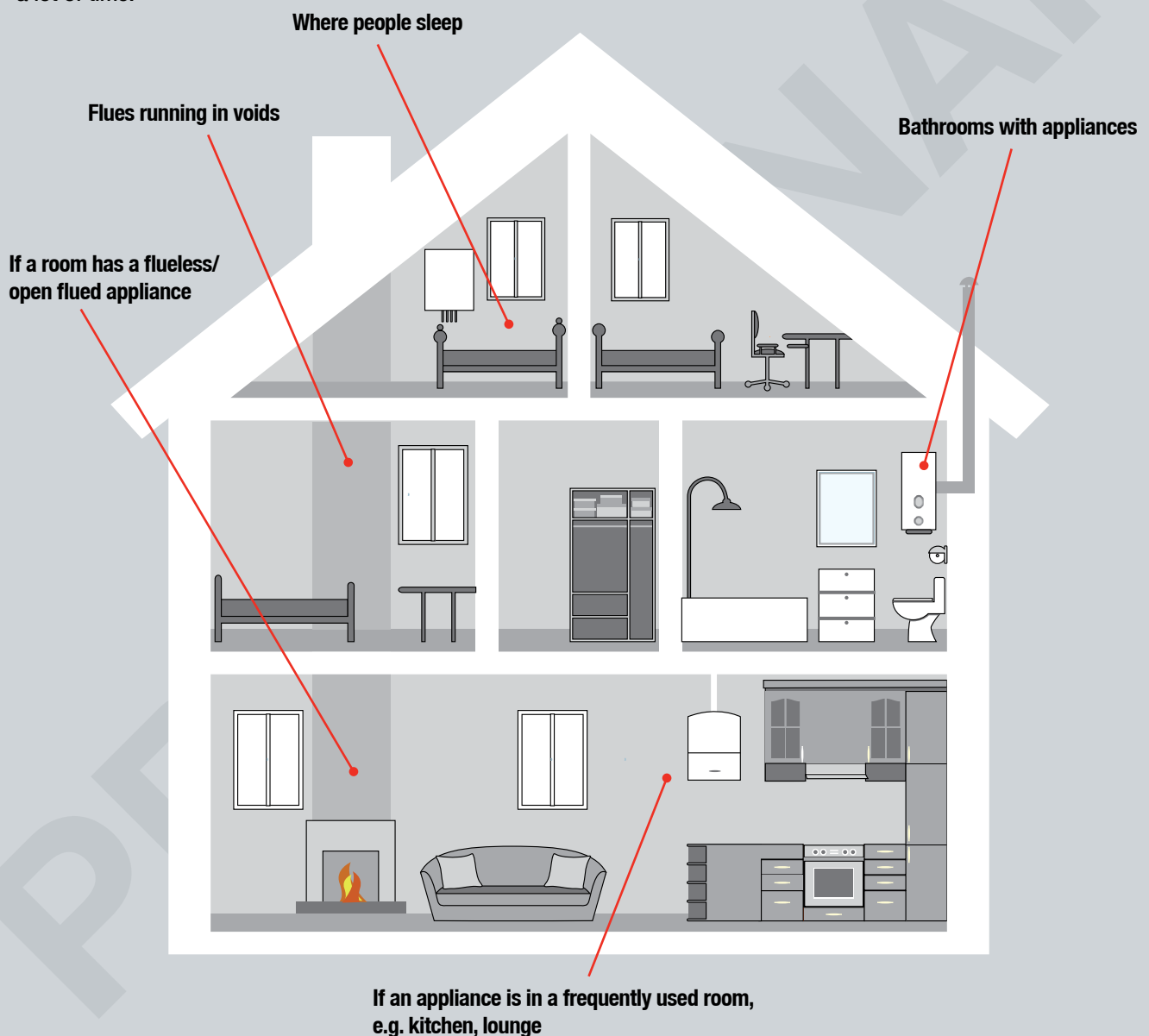
## Where to install?

When considering installation, be aware that Carbon Monoxide has the same density as air and therefore, distributes equally around a room. However, as CO is formed by a combustion process, the gas is likely to be hotter than the surrounding air and will be forced up towards the ceiling.

Detailed recommendations can be found in EN50292, a guide on selection, installation, use and maintenance for residential Carbon Monoxide alarms.

Ideally, an alarm should be fitted in every room containing a fuel-burning appliance. It is strongly recommended to also fit alarms in bedrooms and in rooms where you spend a lot of time.

For premises such as bedsits, caravans or boats where the accommodation is a single living space incorporating the sleeping area, the alarm should be positioned as far from the cooking appliances as possible but near to where the person sleeps.





## How we add value

### CO Alarms

#### Alarm Levels

EN50291 defines the CO level, at which the device must and must not go into alarm. The higher the CO concentration, the quicker the device will give an alarm. This is based on the fact that the poisoning impact of CO is determined by CO concentration and exposure time. The alarm points ensure that the user is always warned when critical situations occur. The alarm levels are:

50 ppm: Alarm between 60 and 90 minutes  
100 ppm: Alarm between 10 and 40 minutes  
300 ppm: Alarm within 3 minutes

#### Pre-Alarm

Dangerous CO levels may be caused by faulty appliances, which start to leak more and more CO over time. If activated, the pre-alarm will give an early warning of such situations even if the alarm levels are not being reached. If pre-alarms occur frequently it is recommended to call a technician for further investigations. The pre-alarm will start giving indications once 25% of the alarm level (time and concentration) has been reached. For example, if 43ppm CO is present, the pre-alarm will start after 15-23 minutes.

#### Low Level Monitoring Mode

In order to avoid unnecessary alarms due to short term CO peaks (e.g. from cigarette smoke) the EN standard prohibits any alarms before 3 minutes of CO presence, or for CO concentrations lower than 30ppm. The low level monitoring mode allows you to temporarily use the unit as a measuring device. Once activated, the units will instantly flash the blue ventilate light if the CO level rises above 10ppm. Units with a display will also show the currently present CO level.

#### Sensor Technology

The sensor plays an important role in ensuring proper CO detection. Honeywell is using its own Electrochemical Cells: Ecosure® (7 years life and warranty) Ecosure X® (10 years life and warranty). More than 10 years of experience and tight quality controls give us confidence that the cells work for the lifetime of the alarm.

#### Self-test

Honeywell's CO alarms perform an automatic self-test for the electronics every 60 minutes.

#### Alarm Memory (End user)

CO does not leave any trace that can be detected by humans and you might have a malfunctioning appliance, which makes the alarm go off whilst you are out. The Memory function will keep the Red Light flashing (LCD version will also show the PPM levels) until the button is pressed or 7 days have passed.

#### Event Logger (Professionals)

Honeywell's CO alarms record a history of events, which can be downloaded by professionals. This provides a more in-depth analysis of CO events such as detailed information on the CO concentration of the last 7 days and weekly maximums for the whole operating life. Dates of alarm events are recorded.

#### End-of-life

CO alarms do not last forever and should be exchanged after their end-of-life date. The lifetime is mainly determined by the CO sensor. The EN standard for CO alarms therefore requires all CO alarms to have an end-of-life signal, which is implemented on all Honeywell CO alarms.

### X-Series Alarms

#### Sealed Housing

Honeywell's X-Series alarms all have rubber sealed housings. This protects the electronics from adverse environmental conditions such as humidity and improves reliability and lifetime. We have been using this technology successfully for many years in our commercial smoke alarms which endure particularly harsh environmental conditions.

#### Alarm Hush

There may be an alarm occurrence where you want to mute the extremely loud alarm sounder, for example, when you have the situation under control. Pressing the Alarm Hush button on the unit will mute the sounder for 5 minutes. The alarm light will continue to flash as long as the unit detects a threat.

#### Fault Hush

A typical fault occurs when the alarm warns of an almost depleted battery. The alarm will start to beep once per minute accompanied by a flashing fault light. The Fault Hush allows you to mute the sounder for 24 hours, giving you time to address the fault. If you wish to restart the 24 hour timer in the morning, you can press the button a second time.

#### Reduced Sound Level Test

Alarms should be tested regularly to ensure they are working properly. After pressing the Test button, the alarm will start the self-test procedure, flashing all lights and sounding the alarm. We have reduced the sound level for this test function considerably from the full alarm level of 85 dB to protect your hearing. By keeping the button pressed, the full alarm level will sound.

#### Tamper-Proof

Professional landlords want to ensure that installed alarms cannot be deactivated by their tenants. Our X-Series alarms all have sealed batteries which cannot be removed by the end user. Also, once installed, a tool (screwdriver) is required to switch the unit off.

#### Maintenance Free Operation

All Honeywell X-Series alarms have lifetime batteries and CO sensors – there is no additional cost for replacement parts or labour to fit them. The only maintenance required is occasional cleaning of the product.

#### Interlink

Interlink provides the ability to connect several alarms to an alarm system. If one of the units goes into alarm, all other units will sound as well. This considerably improves safety, especially in larger properties. All X-Series alarms can be upgraded to connect wirelessly. \*All mains powered X-Series alarms can be linked by wire.

#### Battery Back-up

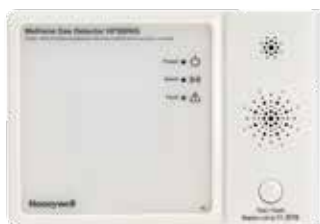
Mains powered alarms can be affected by power outages. Therefore, all Honeywell mains powered X-Series alarms are fitted with a battery back-up.



# Our Gas Detection Product Range



## HF500 Hard-Wired Flammable Gas Alarm



The HF500 alarms are designed to deliver a complete solution for the detection of LPG (Liquefied Petroleum Gas) and Natural Gas/Methane. Optimised for use by professionals dealing with flammable leak detection, HF500 is ideally suited for use in private or social housing as well as other forms of residential care.

## e<sup>z</sup>sense Battery Flammable Gas Alarm



e<sup>z</sup>sense is the most convenient way to detect Natural Gas, Propane, Butane, LPG and LNG. It is compact and light on the pocket in more ways than one.

## SF340 Series Hard-Wired Carbon Monoxide Alarm



The SF340 Series is a range of reliable, hard-wired Carbon Monoxide alarms with battery back-up. They are designed for use in all domestic and light commercial environments.

### Find out more

[www.homesafety.honeywell.com](http://www.homesafety.honeywell.com)  
[www.honeywellanalytics.com](http://www.honeywellanalytics.com)

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