

# CO-MASTER

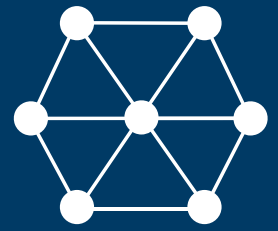
Carbon monoxide control panel for parkings

SYSTEM



# CO-MASTER

## Carbon monoxide control panel for parkings



### ◦ Main function

◦ CO-MASTER Z1/Z2/Z3 central is a system used in car parks where CO concentrations are high enough to harm people's health.

◦ Its objective is to maintain these levels of CO in accordance with the requirements of current regulations. Certification according to UNE 23300: 1984 normative complying with the requirements of Real Decreto 2367/1985 and with the Technical Building Code.

### ◦ Monoxide Central

◦ From the monoxide central CO-MASTER arise different sensors that will detect the presence of CO (carbon monoxide) in the parking and it will be this central that will determine if CO concentration is within the permitted levels.

◦ Its installation is in a room or space reserved for maintenance machines.

### ◦ Sensores CO-SENS & CO-SENS compact

◦ The monoxide sensors will indicate to the central the existing CO concentration the parking.

◦ Each sensor has a resolution of 1ppm (parts per million) and a coverage of 200m<sup>2</sup>.

◦ They can be installed on the ceiling or on the wall, although for optimal sensitivity and operation wall installation, at a distance of 1,5m from the floor, is much more recommended.

◦ The most appropriate wall version is the model CO-SENS COMPACT, with a compact and vandal-proof design, whose box is much more resistant to accidental shocks than the sensor could suffer due to vehicles while parking.

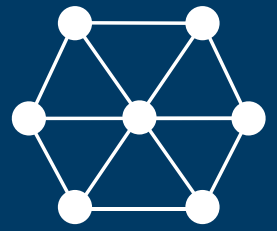
◦ The ceiling version, with a circular and elegant design, is the CO-SENS, although its wall installation is perfectly possible.

◦ In a time less than 10 seconds, both sensors can provide an answer to the detection of carbon monoxide.



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### • CO-CARD EXPAND

° CO-CARD EXPAND cards control the CO sensors and, at the same time, each card can control up to 32 sensors.

° A CO-MASTER monoxide central can carry up to 3 CO-CARD EXPAND cards depending on the installation needs.



### • CO-CARD

° The CO-CARD allows the regulation and integration of motors within a CO control and detection system. The fans will work at more or less speed depending on the CO value read by the sensors, the speed variation is carried out proportionally by frequency speed controllers. CO-CARD has been designed to minimize power consumption in systems and reduce the level of noise in air renewal systems.

CO-CARD is installed inside the CO-MASTER forming a compact and functional set.

When placing the order, this item must be requested together with the rest of the components because it has its own code.



### • EFFECTS MONOXIDE CO



Headaches



Sickness



Dizziness



Breathless



Collapse



Loss of consciousness

System

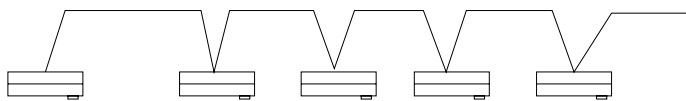
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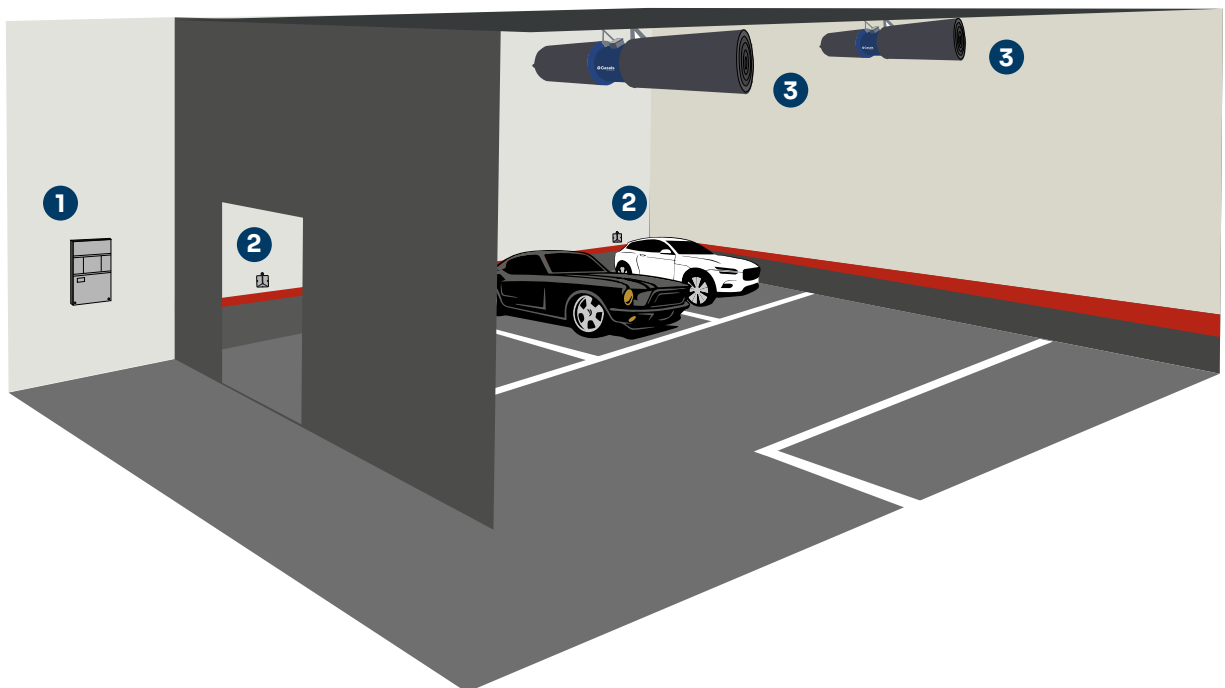
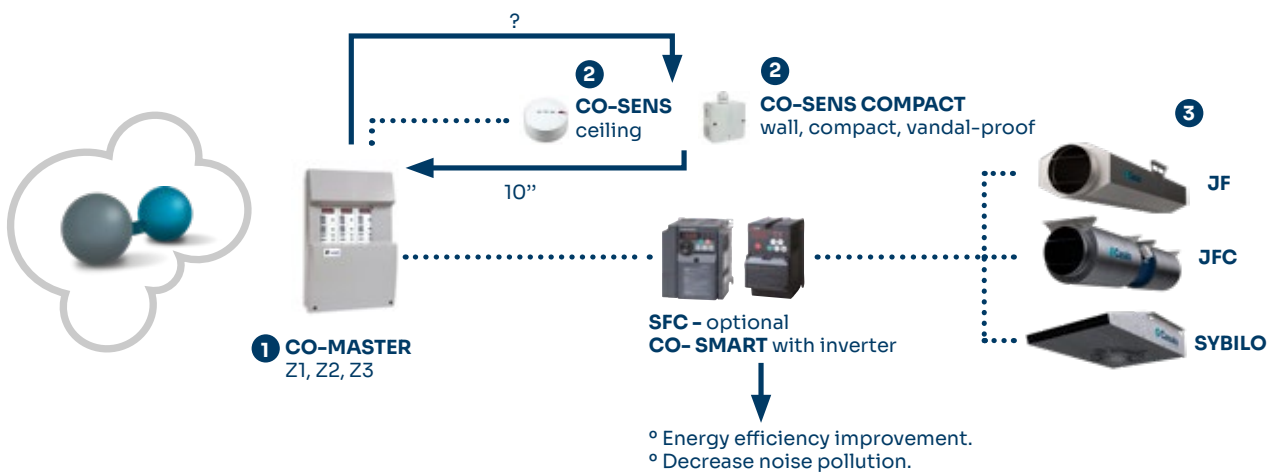
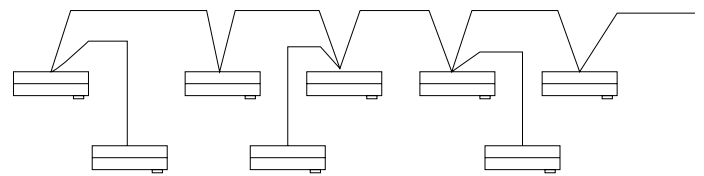


## CONNECTION EXAMPLE OF

° BUS CONNECTION



° STAR CONNECTION



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### ◦ Operating modes

◦ When placing an order, the user must select one of the following operating modes since the CO-MASTER monoxide control unit must be configured at the factory in order to obtain an optimal operation for the installation.

◦ Casals Ventilación recommends the 3rd mode of operation because it provides energy efficiency improvement and a decrease in noise pollution.

#### ◦ Mode 1

◦ There is a maximum of 32 CO-SENS or CO-SENS COMPACT sensors per zone. The monoxide central will activate the operating signal of all the fans of the zone with just the warning of an excessive CO (ppm) from one sensor.

#### ◦ Mode 3

◦ This is the most efficient mode which allows also a greater reduction of the sound level. As in the previous mode, it averages the detected particles and delivers a proportional signal from 0 to 10V depending on the existing concentration.

◦ For this mode the presence of a frequency inverter such as the Casals SFC is required,.

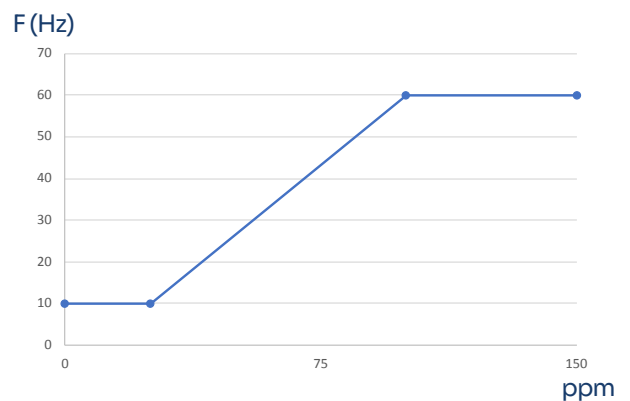
◦ This mode allows the CO-MASTER system to be adapted to any existing project or countries regulations. It is called CO-SMART.

◦ Under request: NO2 probes (nitrogen dioxide) for diesel cars.

#### ◦ Mode 2

◦ This mode averages the particles per million detected by the 32 sensors in a single zone so that the CO-MASTER control panel activates the fans in the area.

Example of system transfer curve:





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