alaskon

COMPLETE CAR PARK
# VENTILATION SOLUTION

EC INDUCTION FAN
ICF50EC

Features

- Pre-CFD model selection for estimating, design and tendering
- CFD modelling meets AS1668.2 compliance
- EC external rotor for higher efficiency and low noise
- 100% speed controllable via 0-10V
- Integrated motor protection

Technical Specifications

Fan Case	Galvanised sheet metal
Finish	Powder coated dark grey
Voltage	400V AC 50Hz 3 Phase
Input Power	1.45 kW
Current	2.5 A
Thrust	50 N
Max. Flow	1600 l/s
Outlet Velocity	26 m/s
Sound Pressure Level (SPL) at 3m	57 dB(A)

Sound Power Level (SWL) re 1pw

| Hz	63	125	250	500	1k	2k	4k	8k
dB	84	79	84	74	68	64	60	59

Dimensions
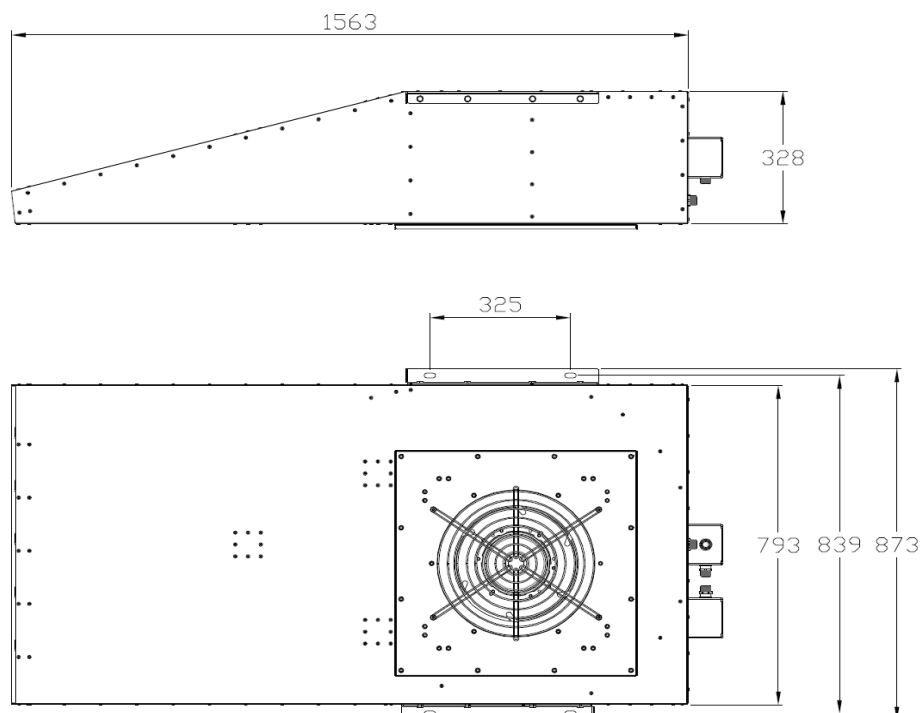
CARBON MONOXIDE DETECTOR/CONTROLLER
TKG-CO

Features

- Design for real-time detection air carbon monoxide.
- High accuracy humidity and temperature detection optional
- LCD display carbon monoxide and optional temperature & RH measurement.
- Smart buttons for easy operation
- Excellent electrochemical CO sensor with up to 5 years lift time
- Replaceable CO sensor
- Provide 1X analog linear output (0~10V DC/4~20mA selectable) for the measurement
- Providing up to two dry contact outputs with presetting the setpoint
- Modbus RS485 communication interface optional
- Provide two easy methods for calibration and setup alarm points by end users: infrared remote controller or a software via RS485
- 24V AC/DC power supply
- CE-Approval

Carbon monoxide detector/controller
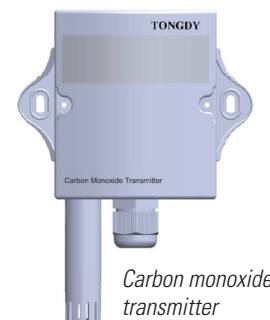
Carbon monoxide transmitter

Typical Applications

- In office and residential areas to detect CO level
- In underground parking lots and garages
- In BAS to detect the CO and the data transmittance
- For greenhouse and plant bin
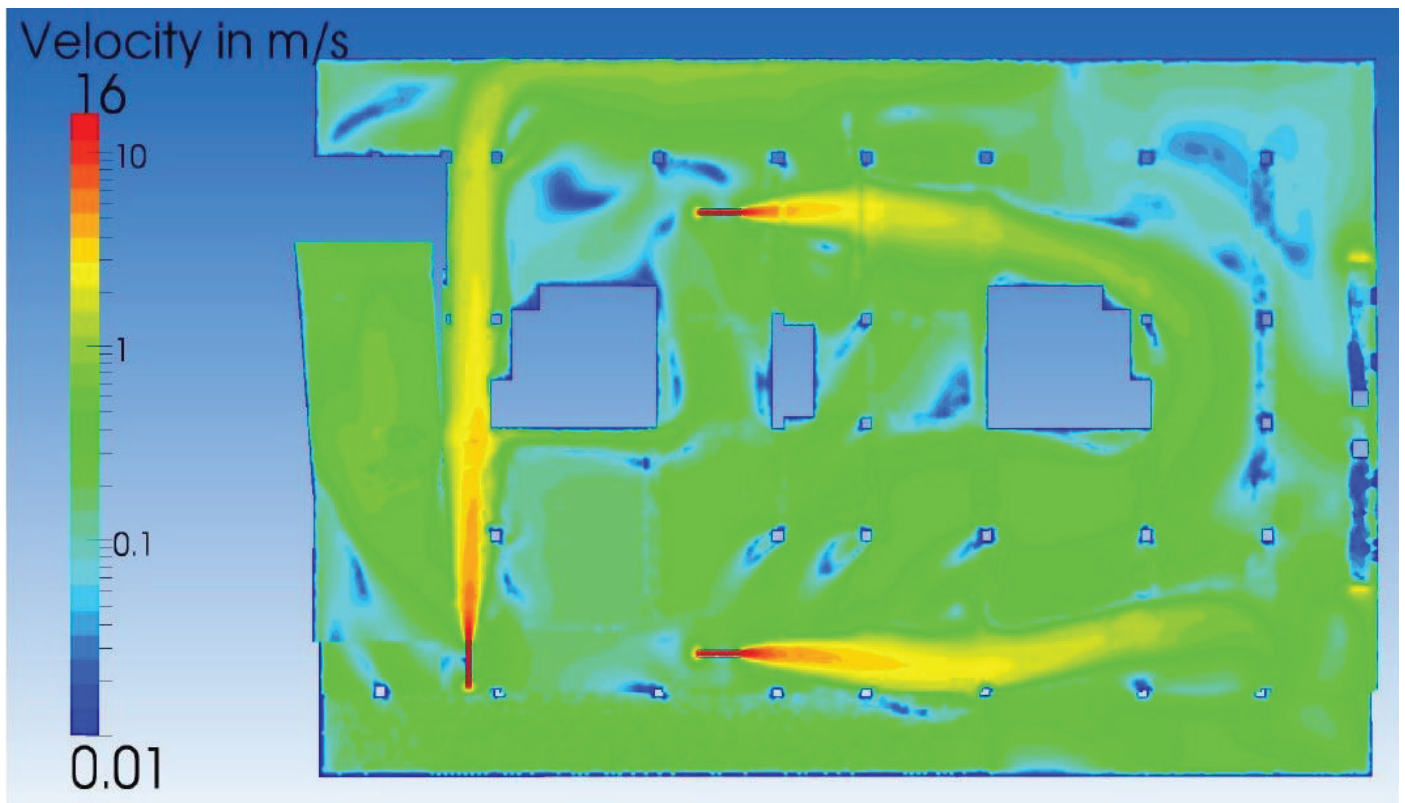- For ventilation control system

Technical Specifications - Sensors

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Gas Sensor	Electrochemical carbon monoxide sensor
Sensor Lifetime	Up to 5 years, replaceable
Warm Up Time	1 hour (first time)
Response Time	Within 60 seconds
Signal Update	1 second
CO Measuring Range	0~500ppm (default) / 0~1 00ppm / 0~1 000ppm selectable
Accuracy	<1 ppm +5% reading
Stability	±5% (over 900 days)

CFD ANALYSIS

Features

- Goal – to simulate performance of the extract system against the 1668.2 regulation requirements.
- 30ppm – 8 hours with personnel (ticketing booths)
- 60ppm – 1 hour (non manned carparks)
- 100ppm – max anytime
- Third party analysis

CAR PARK VENTILATION CONTROLLER
CPCO
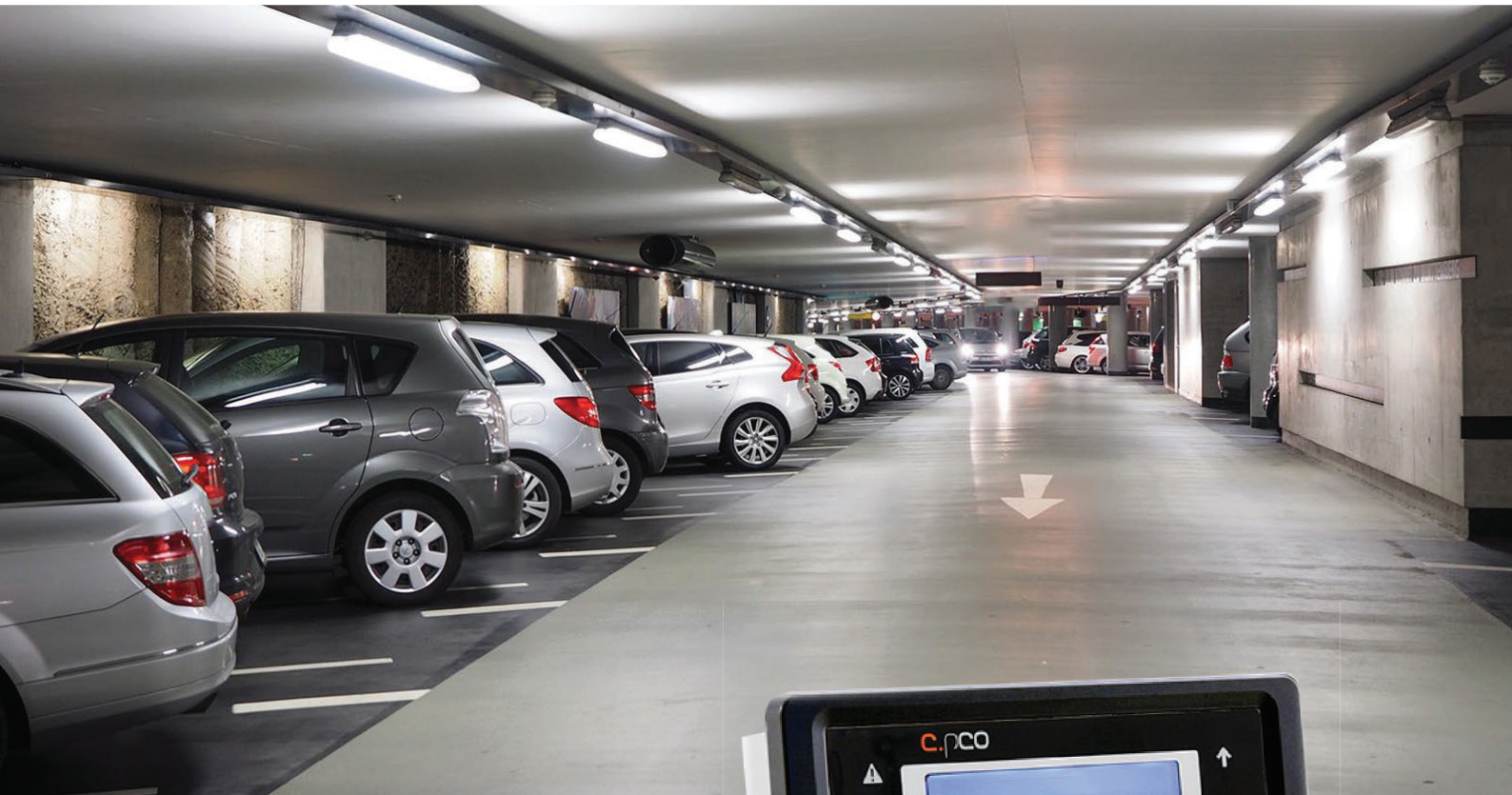
Introduction

The Car Park Ventilation controller enables control of car park fans (exhaust/supply/jet fans) via Modbus control signals. Multiple zones can be set up using expansion modules, for managing and monitoring car park fans and sensors.

The controller operates the car park ventilation system in accordance with AS 1668.2:2012 by checking carbon monoxide levels and regulating the ventilation system. Expansion modules can be added to the system for individual zone control and mechanical service switch board control (Auto/Off/On). The controller can also be integrated into the building fire system and will operate in accordance with AS 1668.1:2015.

CAR PARK VENTILATION CONTROLLER
CPCO

What the System Offers

FIRE PANEL INTEGRATION

CAREL BOSS SUPERVISORY SYSTEM

MECHANICAL SERVICE SWITCHBOARD

EXPANSION BOARDS

JET FANS EC

VARIABLE SPEED DRIVES

CO SENSORS

CAREL GATEWAY

The Carel c.pCO Mini controller can monitor up to 256 devices via Modbus Communication. Therefore, the controller can be configured to any requirement. For a car park ventilation system, we recommend the following:

- Jet fans – up to 100 EC jet fans
- CO analog sensors – 2 per connected fan
- CO Modbus sensors – up to 50
- Smoke sensors – 1 smoke + 1 analog CO sensor per connected fan
- Variable speed drives – up to 50
- Expansion boards – up to 20
- Fire panel integration with manual override control for jet fans
- Boss supervisory system – connects to any system via Modbus, BACnet TCP/IP, BACnet MS/TP all built in. Allows remote monitoring of system.
- Gateway – provides wireless connectivity between Modbus devices and the controller.
- Mechanical service switch board with 4 fault alarms, system OK indication, 3 mechanical switches for jet fans, supply fans and exhaust fans.
- Display of CO level in car park.
- Purge cycle once in a 24hr period to provide one air change.
- Ventilation rate will be varied between 15 and 45ppm.
- System will be in sleep mode when CO levels are below 15ppm.
- System will run at 100% under all fault conditions.

The controller start up screen can be customised to the customer's design to display any requirement.
For example: time, date, customer web address etc

CAR PARK VENTILATION CONTROLLER
CPCO

Outline of System Operation

Fan Control Methods

The controller has two methods for controlling all connected fans. There is a Manual/Off/Auto switch for the exhaust fan allowing the user to control and set to their needs.

Automatic Mode

- All connected fans will be demand driven by the varying CO levels in the car park.
- All Connected fans will go in to standby mode when CO levels are below 15ppm.
- System will wake up when CO levels are above 15ppm and will vary the fans speed between 30 and 100% of the full speed.
- When any faults in the system occur, all fans will run at 100%.
- The system will initiate one purge cycle per 24hr period to provide one air change.

Manual Mode

- Controller will disregard all sensor inputs and run selected fans at 100% or preselected speed.
- Fan speeds can be adjusted manually through the configuration menu.

Off Mode

- Controller will turn off the selected fan group.
- Controller will disregard all sensor inputs.
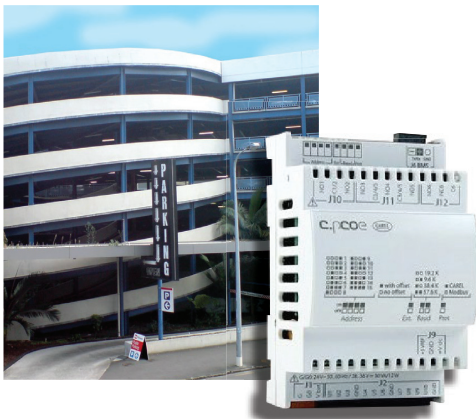
Zone Control

- If individual zone control is required, expansion boards need to be fitted for each zone. The expansion board will provide additional digital inputs and relay outputs.

Any Fire Signal received will take priority over any of the selected modes

Carel Gateway

Converts Modbus signal to a WiFi signal, saving time and money on installation as no cable is required from the controller to the fan.
The only cabling required is from the fan to the CO sensor.

Zone and Expansion Modules

Multi level car parks can be easily split into zones, with each level being a zone. Using an expansion board per zone, allows you complete control of that zone.

You can isolate the zone and operate the fans separate from the rest of the system. Or if required you can link all the zones together and operate the system as a whole.

This offers flexibility within the system allowing you to set it up the way you want.

CAR PARK VENTILATION CONTROLLER
CPCO

Fire Panel Integration

The controller can be integrated into the building fire system and will operate in accordance with AS 1668.1:2015.

When the controller receives a general fire alarm signal the exhaust and supply fans will operate at 100% and the jet/mixer fans will drop to 0% as per clause 5.5.5.

All supply fans will stop when smoke is detected in the supply air duct work, restarting again when smoke has cleared. This is only applicable if a smoke sensor is fitted in the duct work.

Allowances have been made in the controller for manual override control in the fire panel as per clause 5.5.3.

CO Sensors

We offer the Critical Environment Technologies (CETCI) range of CO sensors with the system.

These sensors can be MODbus or analog depending on the customer requirements.

Controller with enclosure box