

Control systems for car park ventilation

PARKGUARD · PARKCOMPACT · PARKDIRECT

Scalable solutions for ventilation
control in car parks





SCALABLE CONTROL SYSTEMS FOR CAR PARK VENTILATION

PARKGUARD · PARKCOMPACT · PARKDIRECT

Casals offers a range of control solutions for car park ventilation designed to adapt to the level of complexity of each installation.

Not all car parks require the same control architecture. A small car park, a medium-sized installation or a complex project may require **different levels of automation, supervision, integration and control.**

For this reason, Casals structures its proposal into **three levels:**







- **PARKDIRECT**, the simplest solution for basic installations.
- **PARKCOMPACT**, the intermediate solution for medium-sized car parks.
- **PARKGUARD**, the advanced solution for complex projects and fully customised configurations.

The common objective of the three systems is to manage car park ventilation safely and efficiently, activating the fans according to the needs of the installation: CO levels, fire signals, time scheduling, manual operation or specific project requirements.

One range, three levels of control

With PARKDIRECT, PARKCOMPACT and PARKGUARD, Casals offers a scalable range of solutions for car park ventilation, capable of adapting to each type of installation.

From the simplest direct control to fully customised advanced systems, Casals enables the right technological level to be selected for each project, avoiding oversizing the installation and optimising the relationship between functionality, flexibility and cost.

 Direct control for simple installations	 Compact control with PLC for medium-sized car parks	 Advanced and customised control for complex installations
		
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PARKDIRECT

Direct control for small car parks

PARKDIRECT is the **simplest solution** in the Casals range for ventilation control in car parks. It is designed for installations where basic, robust and cost-effective management is required.

The system **does not use a PLC and operates through direct electrical logic**, based on inverters and motor operation. It is a direct alternative to standard electrical panels, designed for **projects with simple requirements**.



What PARKDIRECT does

PARKDIRECT allows the operation of a **single motor per panel** to be directly controlled, using external signals or manual operation.

It can be used to manage extract fans, air supply fans or jet fans, always in **simple and independent configurations**, where each panel operates a single motor and there is **no centralised programmable logic**.

In this way, PARKDIRECT should not be understood as a global car park management system, but as a direct solution for the **individual control of fans**.

Main configuration

- Direct motor control.
- Maximum 1 motor per panel.
- No PLC.
- Contactors for high/low two-speed motors.
- Optional frequency inverter depending on configuration, from 0.4 kW to 45 kW.
- Electrical protections.
- Panel control elements.
- Activation via external CO or fire signals.
- Manual stop/start operation.
- Basic status signalling.

Recommended application

PARKDIRECT is especially suitable for **small car parks**, simple installations or projects where the priority is to have a functional, robust and low-cost solution.

The direct, simple and cost-effective solution for basic ventilation control in car parks.

Installation outside the risk area: PARKDIRECT does not include F400-rated components. The control panel must be installed in a technical room or protected area, outside the fire-risk zone.



PARKCOMPACT

Compact control with PLC for medium-sized car parks

PARKCOMPACT is the intermediate solution in the Casals range. It is designed for car parks that require a higher level of automation than direct operation, but without reaching the level of customisation of an advanced system such as PARKGUARD.

It is a compact, configurable and balanced control system, designed to manage several fans automatically or manually according to the air quality and safety needs of the installation.

What PARKCOMPACT does

PARKCOMPACT controls the operation of several independent motors by means of an industrial PLC with touch screen. The system activates the fans according to external signals, internal scheduling or manual operation.

In automatic operation, it can activate the motors according to the signal received:

- Low CO: activation at low speed.
- High CO: activation at high speed.
- Time scheduling.
- Fire signal, with priority over ordinary operation.

If a COMBATOR fireman's panel is present, it will have the highest operating priority.

Main configuration

- Control of 3 to 7 independent motors.
- Low/high two-speed motors.
- Electrical panel with PLC and 5" touch screen.
- Contactors per motor.
- Thermal and electrical protections.
- Integration with CO detectors.
- Integration with a CO MASTER-type detection control unit.
- Fire signal management.
- Possibility of integration with a fireman's panel.
- Automatic operation.
- Manual operation.
- Individual activation of each motor.
- Adjustment of operating times.
- Display of the status of each motor.
- Display of active speed.
- Display of thermal or electrical fault.



Type of ventilation managed

PARKCOMPACT can control complete car park ventilation systems made up of:

- Extract fans.
- Air supply or intake fans.
- Jet fans.

Recommended application

PARKCOMPACT is ideal for medium-sized car parks, installations with several fans and projects requiring automatic control logic, but with a compact and cost-optimised architecture.

The balance between functionality, automation and cost.

Installation outside the risk area: PARKCOMPACT does not include F400-rated components. The control panel must be installed in a technical room or protected area, outside the fire-risk zone.



PARKGUARD

Advanced control for complex projects

PARKGUARD is the highest-level solution within the Casals range for car park ventilation.

It is aimed at more complex installations, where an advanced, customisable control system with greater integration capacity is required.

Unlike PARKDIRECT and PARKCOMPACT, PARKGUARD is proposed as a fully configurable solution according to the needs of the project.

What PARKGUARD does

PARKGUARD allows an advanced control architecture to be developed for complex installations, with a higher degree of customisation and supervision.

It is the appropriate option when the project requires an intelligent system, with advanced logic, possible BMS integration and full adaptation to the car park ventilation strategy.

Main configuration

- Advanced-level system.
- Custom PLC.
- Advanced intelligent control.
- Number of motors according to project configuration.
- Possibility of working with 1- or 2-speed motors.
- Possibility of working with frequency inverters.
- Management of extract fans, air supply and jet fans.
- Advanced interface.
- Possibility of BMS integration.
- High level of customisation.



Recommended application

PARKGUARD is suitable for large car parks, complex installations or projects where maximum flexibility, integration and technical adaptation are required.

Maximum flexibility and control for demanding projects.

Installation outside the risk area: PARKGUARD does not include F400-rated components. The control panel must be installed in a technical room or protected area, outside the fire-risk zone.



Comparison of Casals systems for car park ventilation

Feature	PARKDIRECT	PARKCOMPACT	PARKGUARD
Solution level	Basic	Medium	High
Type of installation	Small car parks	Medium-sized car parks	Complex car parks
Type of control	Direct and individual	Programmed	Advanced intelligent
PLC	✗	✓	✓ Custom
Interface	✗	✓ Basic / touch display	✓ Advanced
No. of motors	1 motor per panel	From 3 to 7 motors	According to project
Speeds	1-2 speeds / VFD	1-2 speeds / VFD	1-2 speeds / VFD
Automatic operation	According to external signals	✓	✓ Advanced
Manual operation	✓	✓	✓
Centralised logic	✗	✓	✓ Advanced
CO management	External signals	Low CO / High CO	Advanced
Fire management	External signals	✓ Priority	✓ Advanced
Fireman's panel	Not indicated as standard	Possible COMBATOR integration	✓ According to project
Jet fans	✓ 1 per panel	✓	✓
Extract fans	✓ 1 per panel	✓	✓
Air supply	✓ 1 per panel	✓	✓
Motor status display	Basic signalling	✓	✓ Advanced
Fault display	Basic	Thermal or electrical fault	✓ Advanced
BMS integration	✗	Limited	✓
Level of customisation	Low	Medium	High
Relative cost	Low	Medium	High
Positioning	Cost-effective individual control	Compact control system	Advanced custom system
TT or TN configuration*	✗	✓	✓

* TT or TN configuration:

The panel configuration can be adapted to the earthing system of the installation.

- In TT systems (earth-earth), the panel incorporates general residual current protection.
- In TN systems (earth-neutral), the neutral is referenced to earth and no general residual current protection is required in the panel.

This configuration must be defined according to the electrical system of the country or the installation.