



INTERLOCK SYSTEM

Technical sheet

Enabling innovation
through clean environments

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INTRODUCTION CLEANROOM & LABS PRODUCTS.

Flexibility as the new standard

At Group Jansen, we believe a cleanroom should do more than simply meet a standard. It must of course be of the highest quality, but it should also be able to grow alongside your ambitions.

Our modular cleanrooms and lab products are designed with that vision in mind, drawing on the expertise gained from our own cleanroom projects and the experience of customers who are constantly evolving. A cleanroom built with modular, top-quality products is flexible, more sustainable, faster to realise and more cost-effective to maintain. In addition, shutdown times can be significantly reduced, as technical adjustments can often be made from the outside.

We manufacture in Belgium and deliver worldwide, ensuring the same high standard wherever you are. Our solutions are built to scale with your ambitions, your science, your production and your future.

From pharma to healthcare, from research centres to high-tech manufacturing, we translate complex requirements into clean, certified and future-ready environments. One partner. One standard. Everywhere.

Welcome to a new way of thinking about cleanroom engineering.

J'CLEAN INTERLOCKSYSTEM.

Smart access control, without the complexity.

The Jansen interlock system provides an efficient and flexible access control solution for cleanroom environments. Plug-and-play installation, minimal cabling, and a space-saving design make the system just as easy to install as to manage, without any additional tools or software. Seamlessly integrated into wall or door frame, compatible with all classification levels, and suitable for use with J'Clean door systems and pass boxes.

Fault analysis via the door controller, optional BACnet module for BMS communication, and easy component replacement thanks to full plug-in connectivity, the system is ready today and future-proof.

Benefits

Installation & Cabling

Plug-and-play installation and easy configuration.
Significantly less cabling than traditional systems.
Components quickly and easily replaceable thanks to plug-in connectivity.

Functionality & Use

Easily configurable and programmable without additional tools or software.
Door status monitoring available. Fault analysis via the door controller.
Space-saving design.

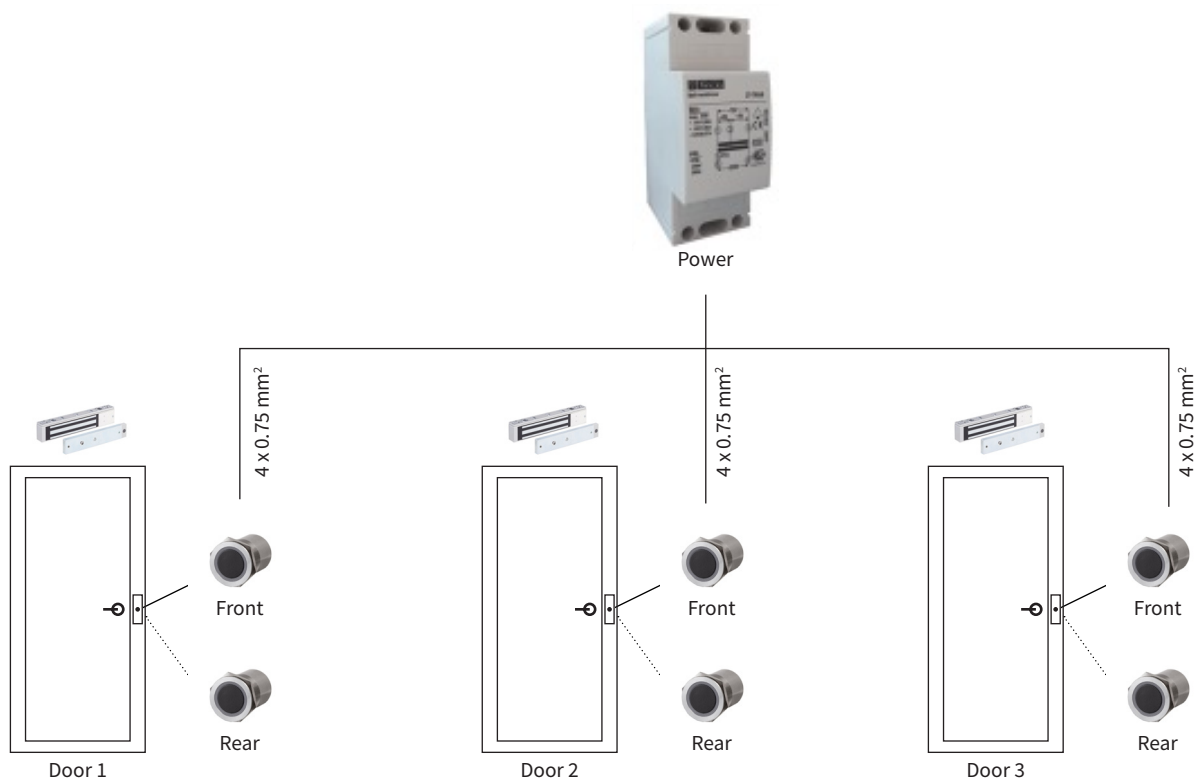
Integration & Compatibility

BMS communication possible via optional BACnet module.
Compatible with J'Clean door systems and pass boxes.
Future-proof

J'CLEAN INTERLOCK SYSTEM.

Schematic diagram

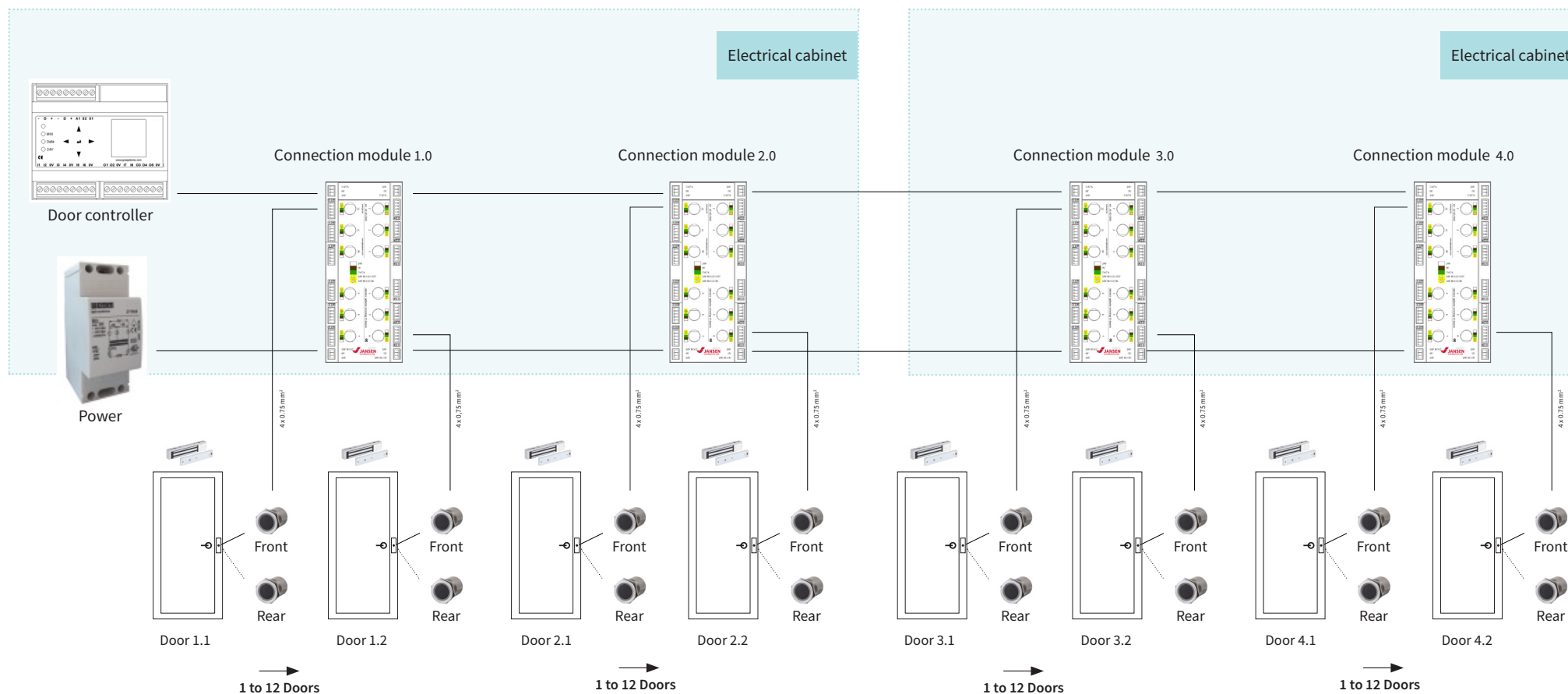
Schematic diagram 2 of 3 doors



Schematic diagram 24 doors



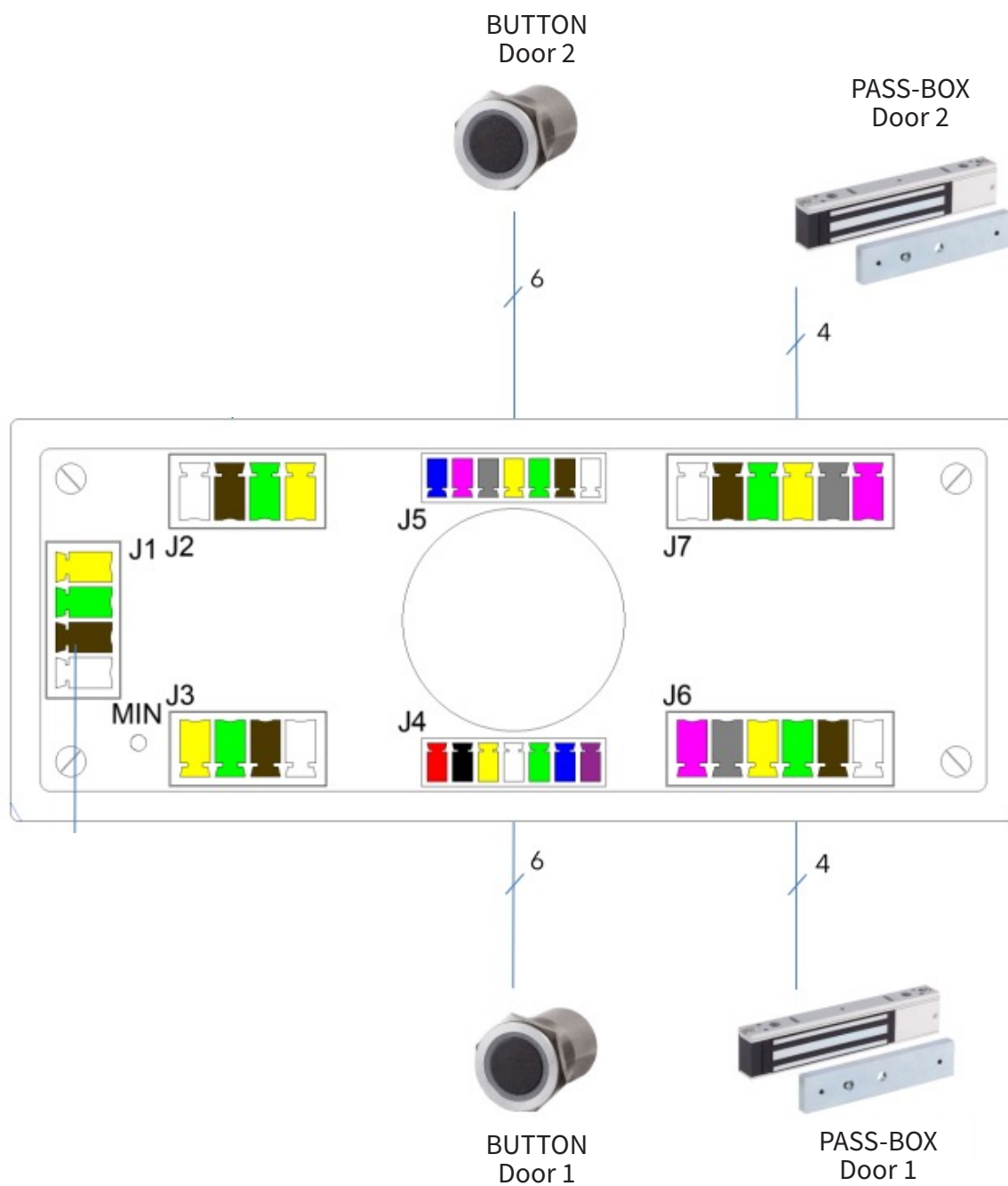
Schematic diagram 48 doors



J'CLEAN INTERLOCK SYSTEM.

Schematic diagram

Schematic diagram variant Pass box



J'CLEAN INTERLOCK SYSTEM.

Composition

Components for Three Doors:

The Jansen interlock can control up to three doors without additional components and consists of the following basic parts:

- A door electromagnet
- An interlock basic door module, mounted on the back of the stainless steel finish plate
- A Magicswitch, mounted on a stainless steel finish plate, compatible with the J'Pure swing door system
- A Magicswitch on the other side of the door, without a stainless steel finish plate (mounted directly in the door frame, if door-integrated installation is chosen)
- A LIYCY cable 4×0.75 DIN 47100

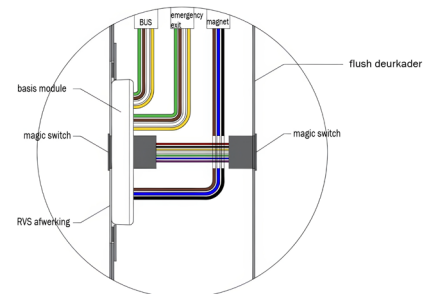
These components are required for every door connected to the interlock system. For a system with up to three doors, only these basic modules are needed. The basic interlock modules can be connected directly to each other; the circuit boards are pre-programmed at the factory.

When choosing the Jansen interlock system, all required cutouts can also be made in the door frame. If a flush-mounted door electromagnet in the door leaf is chosen, it is also fitted in the door frame.

Components for additional doors

When more than three doors need to be interconnected, an additional electrical cabinet is required, which can be placed in a technical room. This cabinet contains the following components:

- A door controller
- A connection module (for connecting up to 12 doors)
- A 24V DC power supply
- Pre-wiring



Each basic door module is connected to the connection module, which is factory-wired to the door controller. With this door controller, up to 48 doors can be easily programmed and managed. In addition, the status of each door can be queried, which helps with troubleshooting any fault messages.

Note: All doors that need to communicate with each other must be connected to the same door controller. Door controllers cannot communicate with each other.

Compatibility

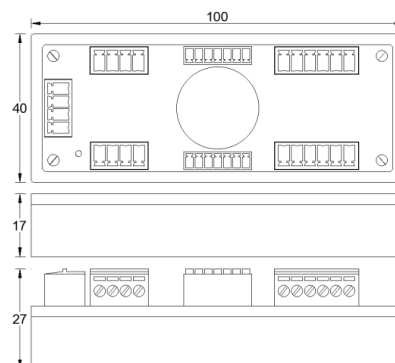
All Jansen cleanroom products are mutually compatible with each other. This guarantees a straightforward installation process and optimal performance. The modular design offers flexibility and scalability, allowing cleanrooms to be adapted or expanded quickly and efficiently.

J'CLEAN INTERLOCK SYSTEM.

Technical specifications

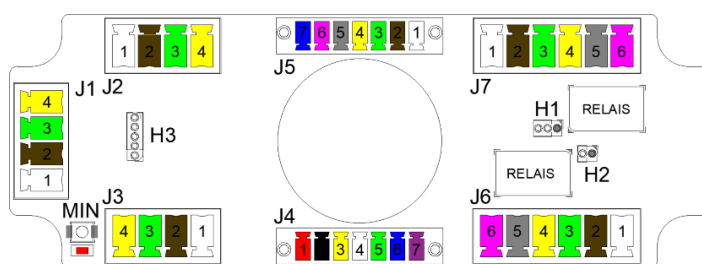
Base Module

Dimensions:	See drawing
Weight:	75 gr
Voltage:	24V DC stabilized
Current consumption:	Max. 70mA, 1.7W
Temperature:	0°C to 50°C
Humidity:	5 to 95% (non-condensing)
Material:	Self-extinguishing PPO
IP rating:	IP20



Functions:

- Two inputs for push buttons (J4+J5)
- Two outputs for the door electromagnet and/or sliding door (J6+J7)
- Connection for emergency push buttons (J2)
- Jumpers for selection of supply voltage for the door electromagnets (H1)
- Two I/O: inputs or open collector outputs (max. 300 mA) (J3)
- Bus connection with LIYCY 4×0.75 (J1)
- M.I.N. activation button for activating M.I.N. programming
- M.I.N. indicator light (red) to indicate that M.I.N. programming is active
- Bus connection current consumption: maximum 70 mA (including circuit board and push buttons)

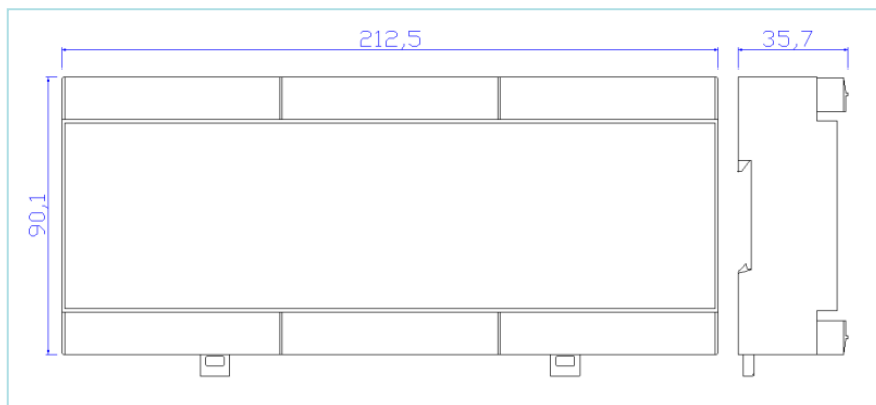


	J1	J2	J3	J4 + J5	J6	J7
	BUS	Emergency push buttons	I/O Open Collector	Smart switches	Electromagnet	Electromagnet
1	+24 V DC	+24 V DC	+24 V DC	+24 V DC	+24 V DC	+24 V DC
2	0V	0V	0V	0V	0V	0V
3	DATA	Common	I/O 1	LED Green	IN	IN
4	24V NOOD	NC	I/O 2	LED Red	NC	NC
5				DC: NO IN	Common	Common
6				DC: Common	NO	NO
7				DC: NC IN		

J'CLEAN INTERLOCK SYSTEM.

Connection module

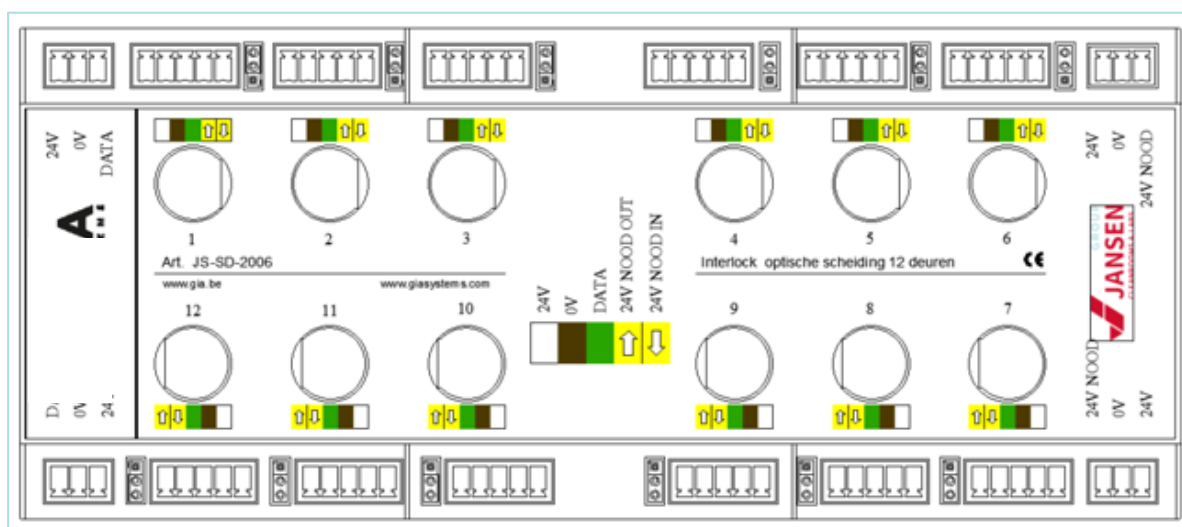
Dimensions:	See drawing
DIN-rail modules:	12
Weight:	0.4 kg
Voltage:	24V DC stabilized
Current consumption (module only):	Max. 100mA, 2.4W (excluding outputs)
Temperature:	0°C to 50°C
Humidity:	5 to 95% (non-condensing)
Material:	Self-extinguishing PPO
IP-rating:	IP20



J'CLEAN INTERLOCK SYSTEM.

Connection module

Connection module for 12 Doors with optical isolation



The Jansen interlock connection module allows up to 12 interlock base modules to be connected. One door control board can be connected per output. Each output is equipped with a +24V emergency connection with a fuse and feedback signal.

- Bus connection
- M.I.N. activation button for activating M.I.N. programming
- M.I.N. indicator light (red) to indicate that M.I.N. programming is active
- 24V power supply connection
- General 24V emergency power input
- Current consumption excluding the 12 outputs: maximum 100 mA
- 12 connections for interlock base modules
- Each +24V emergency output is equipped with a fuse and feedback signal
- Possibility to apply a separate 24V emergency voltage for each output

J'CLEAN INTERLOCK SYSTEM.

Doorcontroller

Doorcontroller

Dimensions:	See drawing
DIN-rail modules:	6
Weight:	0,2 kg
Voltage:	24V DC stabilized
Current consumption:	0,8W
Connection capacity:	2,5mm ²
Temperature:	0°C to 50°C
Humidity:	5 to 95% (non-condensing)
Material:	Self-extinguishing PPO
IP-rating:	IP20

Interlock Functions:

- ✦ Maximum 48 doors
- ✦ Per door, it can be configured which other doors an interlock function should be created with. In such an interlock function, only one door can be open at a time.
- ✦ Configurable parameters:
- ✦ Wait time that all doors must remain closed before another door can be opened (0 → 999 sec)
- ✦ Interlock time 1: the time the door electromagnet contact stays open (adjustable per 1/10 sec from 0 → 255; 0 = not in use)
- ✦ Interlock time 2: the pulse width time for controlling an automatic door (adjustable per 1/10 sec from 0 → 255; 0 = not in use)
- ✦ The door electromagnet contact is activated first and starts the timer for interlock time 1. 0.5 seconds after activating the door electromagnet contact, the pulse for controlling an automatic door is also started, and the timer for interlock time 2 begins.
- ✦ Optional: integrated BACnet module

Digital Inputs:

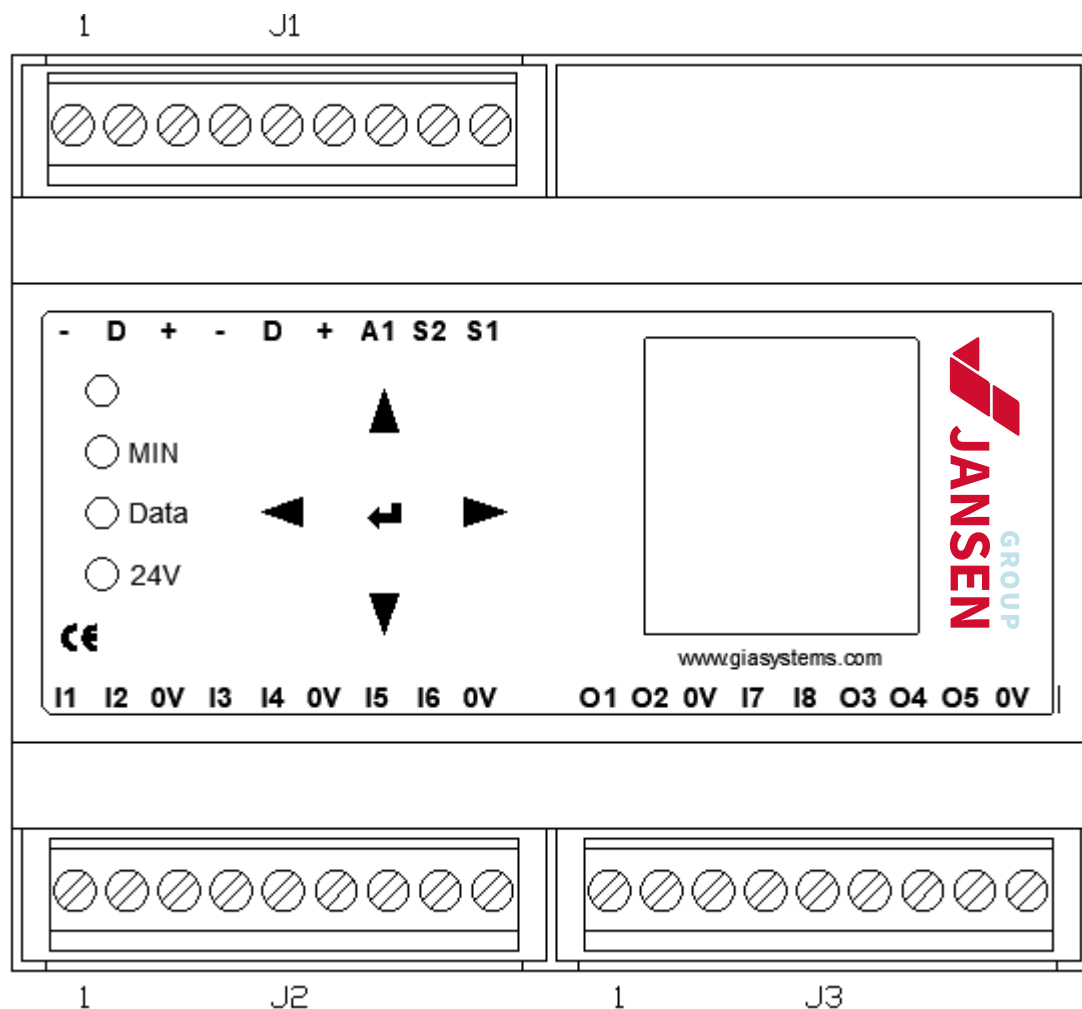
- ✦ 8 digital inputs
- ✦ The voltage on the inputs is 20V DC relative to the 0V connection
- ✦ The current through the connected contact is approximately 5 mA
- ✦ The inputs are suitable for being driven by outputs with an open collector or a push button
- ✦ Multiple contacts may be connected to one input

Note: The 0V connections of the inputs and the 0V of the bus connections are electrically connected to each other.

J'CLEAN INTERLOCK SYSTEM.

Technical drawing

- All connections on this module are made with screw terminals.



J1:

- 1 = 0 Volt (GND)
- 2 = Signal (S)
- 3 = +24V DC
- 4 = 0 Volt (GND)
- 5 = Signal (S)
- 6 = + 24V DC
- 7 = -
- 8 = -
- 9 = -

J2:

- 1 = Input I1
- 2 = Input I2
- 3 = 0 Volt (GND)
- 4 = Input I3
- 5 = Input I4
- 6 = 0 Volt (GND)
- 7 = Input I5
- 8 = Input I6
- 9 = 0 Volt (GND)

J3:

- 1 = Output O1
- 2 = Output O2
- 3 = 0 Volt (GND)
- 4 = Input I7
- 5 = Input I8
- 6 = Output O3
- 7 = Output O5
- 8 = Output O5
- 9 = 0 Volt (GND)



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