

# Intelligent Building Solutions

## Installation Manual



## CAS 20 D ALARM SENSOR INTERFACE UNIT

- DIN-rail mounting

CIB-tech

# Introduction

The CAS 20 D is a general purpose alarm sensor interface, part of the CIB-tech automation system. It can connect various types of alarm sensors (intrusion, motion, smoke, gas) to the CIB-tech system. Detected alarm events can be used to trigger various actions within the system.

## Additional Equipment Required

### 1. Functional CIB-tech system

A minimal number of essential CIB-tech components to make a functional CIB-tech system<sup>1</sup>

### 2. Alarm Sensor

For alarm detection, a third-party alarm sensor (smoke, gas, PIR, magnetic open door/window sensor) must be connected to the CAS 20 D.

Note that only detectors with separate supply and alarm output are supported (4-wire detectors); 2-wire (current loop based) detectors are not compatible<sup>2</sup>.

# Technical Specifications

## Electrical characteristics

### ● Power Supply

The CAS 20 D functions as a node in a CIB-tech system, being powered from the CIB-tech system's power supply via the CIB-tech connectors.

- Operating voltage range: 20 to 28V DC (nominal 24V DC)
- Supply current
  - Standby current (without powered detector): 27mA
  - Maximum current (without powered detector): 45mA
  - Typical current (with powered detector): 40mA
  - Absolute maximum current (with powered detector): 300mA

### ● Power output

The CAS 20 D can provide power to a 12V or 24V type alarm detector.

- Power output for 12V sensor:
  - Output voltage: 12V DC (stabilized)
  - Maximum output current: 350mA
- Power output for 24V sensor:
  - Output voltage: Input voltage – 0.6V (not stabilized)
  - Maximum output current: 200mA

Note: The 24V output voltage is not locally stabilized and is affected by voltage changes on the CIB-tech systems power supply.
- For special configurations where both the 12V and 24V supply outputs are in use, the following condition must be satisfied:  
 $I_{12V} * 0.7 + I_{24V} < 250mA$

### ● Signal Input (for alarm sensing)

The CAS 20 D has an optically isolated two-wire differential alarm sensing input.

- Maximum voltage over alarm sensing input: 30V
- Input impedance of alarm sensing input: 27KOhm
- Voltage range for alarm input state I: 0-2V
- Voltage range for alarm input state II: 6-30V

1 See "CIB-tech installation manual" for details.

2 See "Recommended equipment to be used with CIB-tech" for details

**Note:** The alarm input state (I or II) correspondence to alarm condition (in alarm / not in alarm) is software configurable.

## Mechanical characteristics

The CAS 20 D has a standard 2-module wide enclosure for M36 type DIN-Rail

- Dimensions: 102mm W x 35mm L x 60mm D
- Weight: 85g

## Environmental characteristics

- Operating temperature: -10°C to 85°C
- Storage temperature: -25°C to 100°C

## Key Features

- Support for alarm detectors with voltage based and voltage free output contacts
- Optically isolated alarm sensing inputs
- Can control another CIB-tech equipment via the CIB-tech network based on alarm condition
- Can be used with stand-alone detectors (alarm sensor is connected only to CAS 20 D) or existing systems (alarm sensor is part of an existing system and CAS 20 D detects the state of the detector without interfering with control panel operation)
- Reset alarm detector function (used for resetting alarm sensors with latching output) - this function is only available in stand-alone configurations
- Alarm state remotely viewable and alarm sensor is resettable via the CIB-tech system
- Internal bi-color LED, indicating alarm state (green: no alarm / red: alarm)

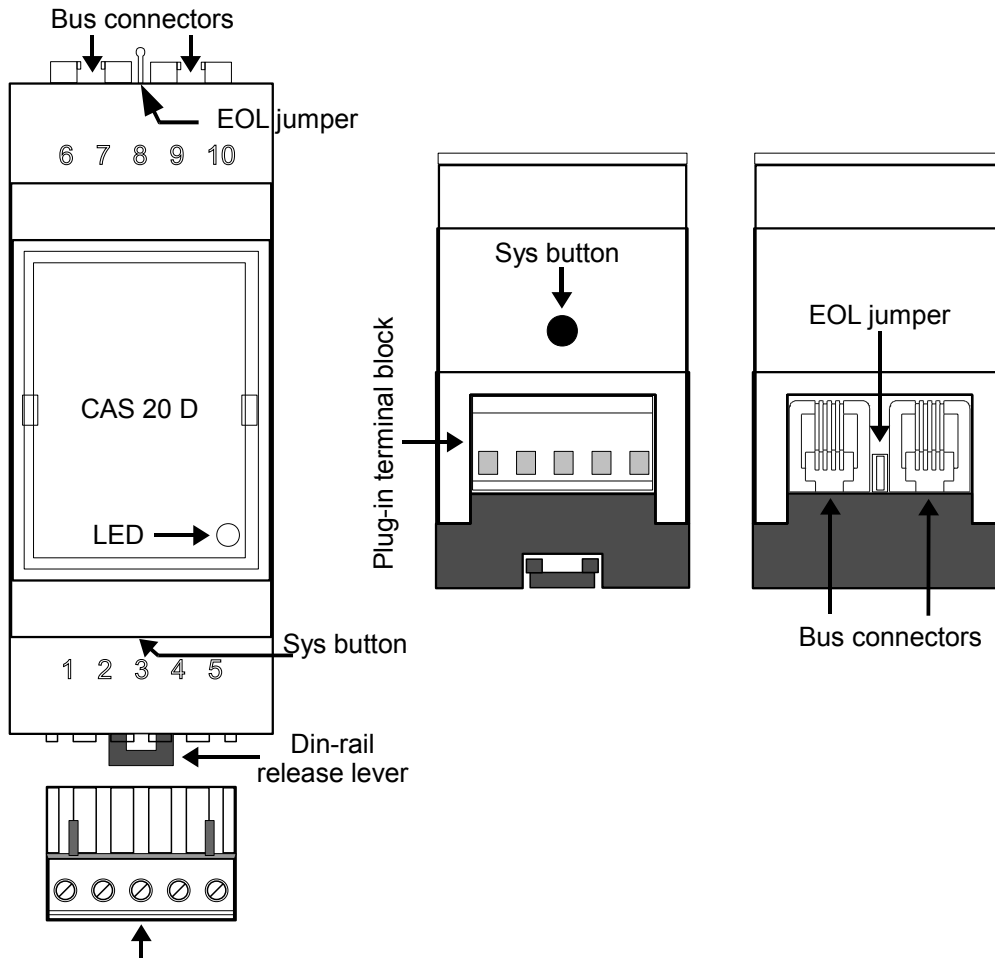
## Installation

The CAS 20 D is meant to be installed on a standard M36 type DIN-Rail.

### Part description

- **Bus connectors:**
  - 4P4C modular jack connectors for CIB-tech connection<sup>1</sup>
- **Sys button:**
  - pushbutton for CIB-tech system configuration
- **EOL jumper:**
  - CIB-tech system's End Of Line jumper<sup>1</sup>
- **LED:**
  - indicator LED for output state (green: on / red: off)
- **DIN-rail release lever:**
  - lever for removing the device from the M36 DIN-Rail
- **Connector type terminal block:** terminals for connecting external devices
  1. Power output – GND
  2. Power output – +12V
  3. Power output – +24V
  4. Sensor contact 1
  5. Sensor contact 2

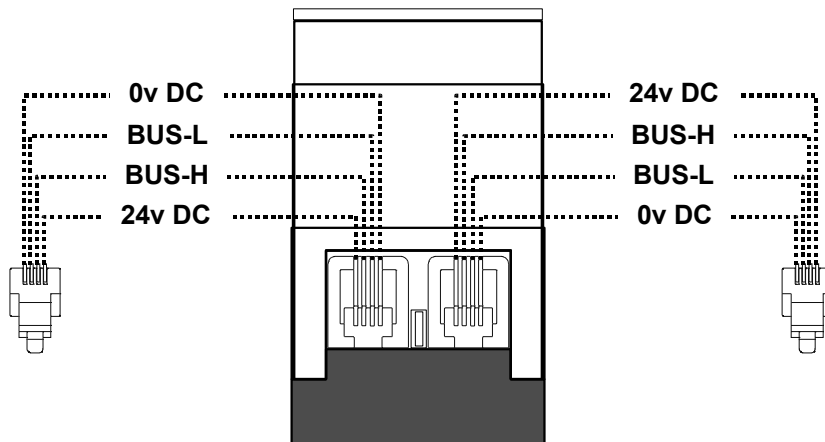
<sup>1</sup> See “CIB-tech installation manual” for details.



## Wiring diagrams

### Connection to CIB-tech system:

Use the CAS 20 D device's two 4P4C modular jack connectors to connect it to the CIB-tech systems (chain like) bus. Do not forget to remove the EOL jumper if the device is not the last element of the chain<sup>1</sup>:

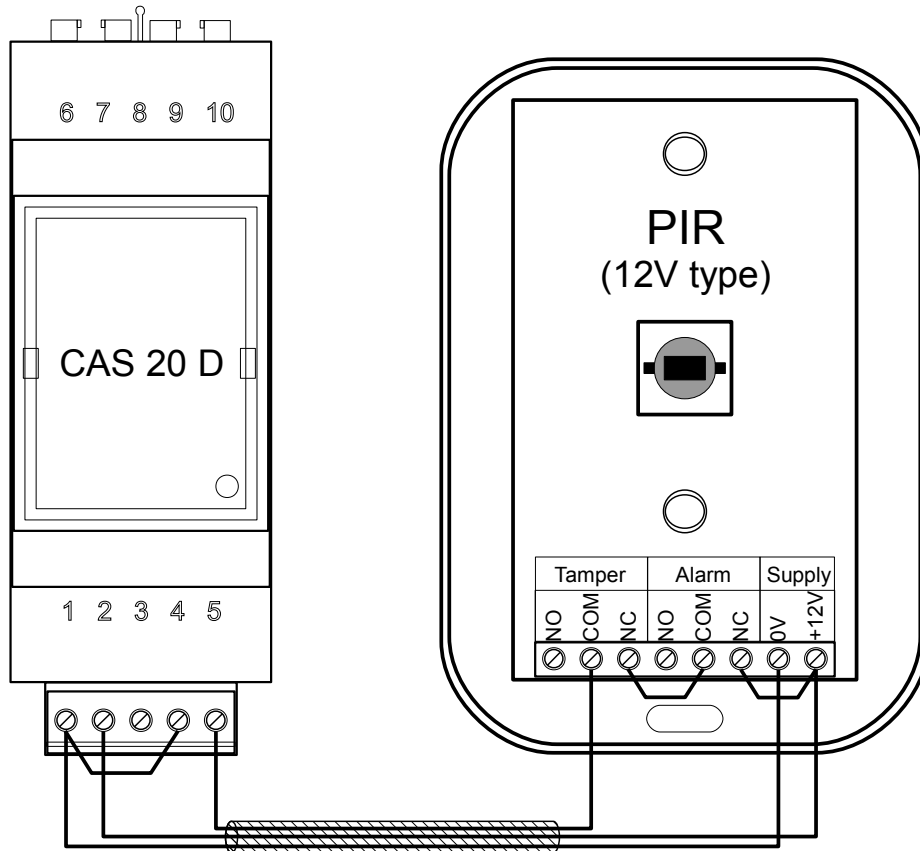


<sup>1</sup> See "CIB-tech installation manual" for details.

## Connecting the alarm sensor

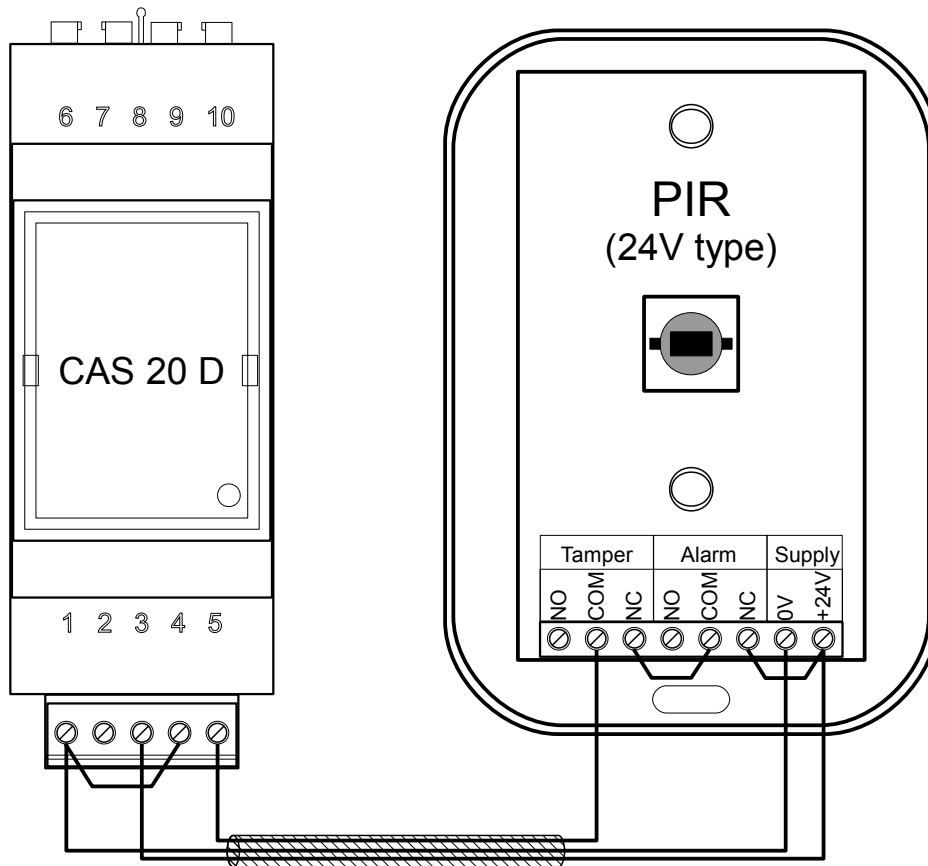
Example 1 (typical use):

- stand-alone connection
- 12V type motion detector (PIR)
- alarm and tamper connected to the same CAS 20 D



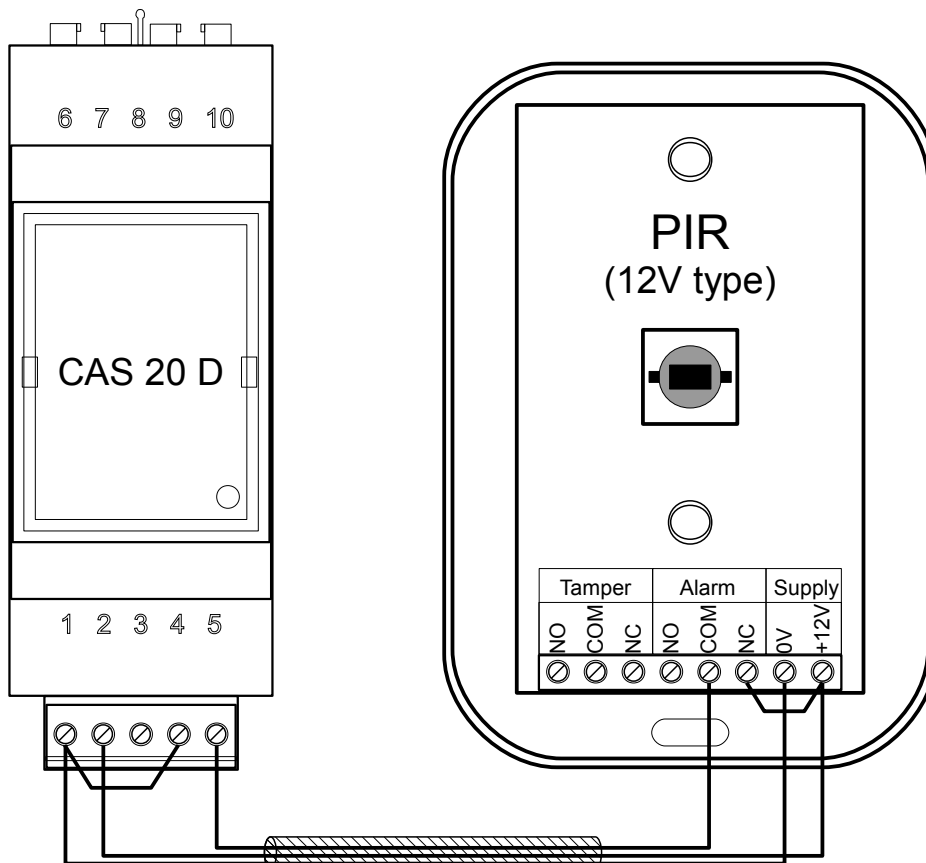
Example 2:

- stand-alone connection
- 24v type motion detector (PIR)
- alarm and tamper connected to the same CAS 20 D

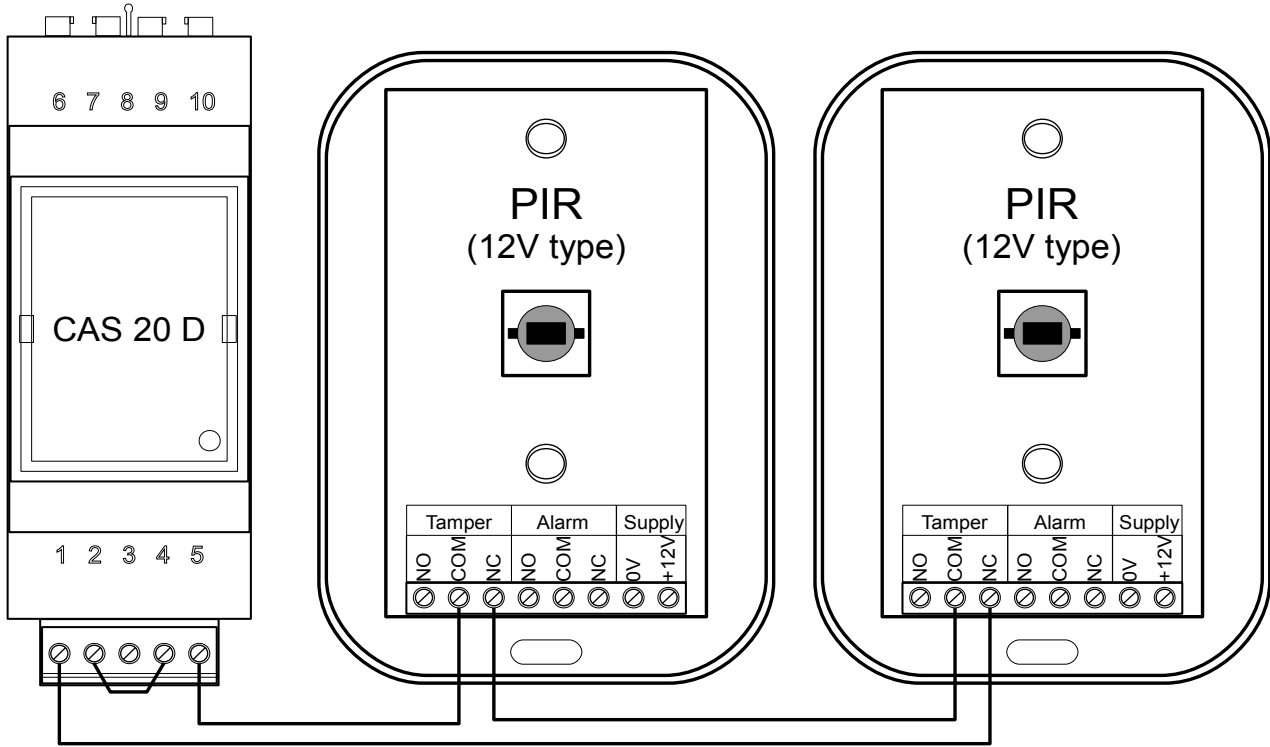


Example 3:

- stand-alone connection
- 2v type motion detector (PIR)
- no tamper function

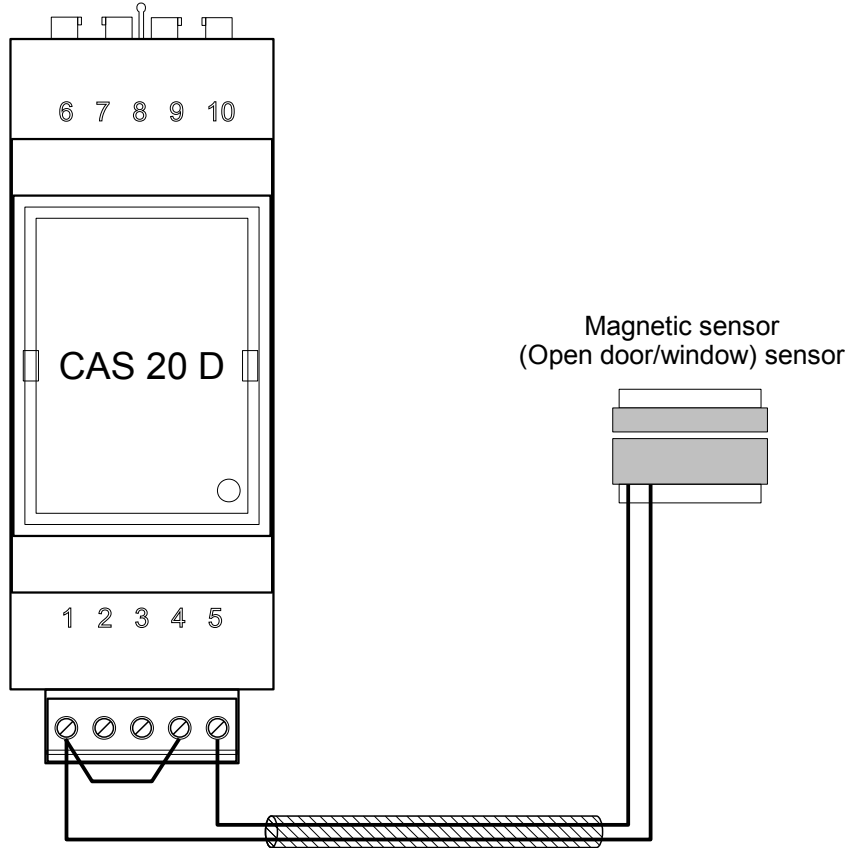


Example 4: connecting the tamper function of several motion detector to a single CAS 20 D.

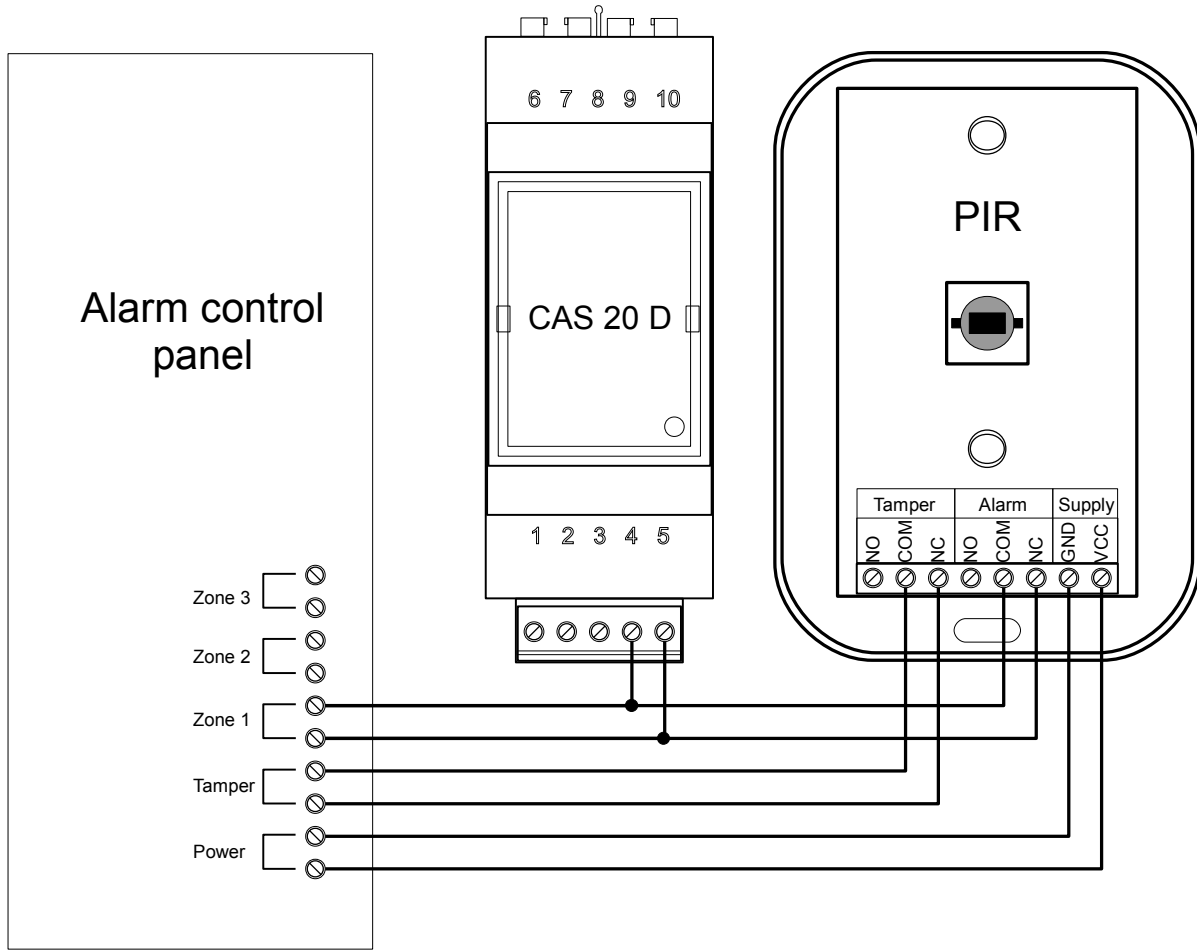


**NOTE:** Each sensor's power supply and alarm output is connected to its own alarm sensor interface (as in Example 2).

Example 5: magnetic (open door/window) sensor connection



Example 6: parallel connection (sensor connected to existing alarm control panel)



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