

Intelligent Building Solutions

Installation Manual



CAS 23 D ALARM SENSOR INTERFACE UNIT

- up to 8 alarm inputs
- DIN-rail mounting

CIB-tech

Introduction

The CAS 23 D is a general purpose alarm sensor interface with up to 8 different alarm inputs, 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 system¹

2. Alarm Sensor

For an alarm detection, alarm sensors (smoke, gas, PIR, magnetic open door/window sensor) must be connected to the CAS 23 D.

Note: Only detectors with separate supply and alarm output are supported (4-wire detectors); 2-wire (current loop based) detectors are not compatible².

Technical Specifications

Electrical characteristics

● Power Supply

The CAS 23 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): 50mA
 - Typical current (with 8 powered detectors): 170mA
 - Absolute maximum current (with powered detectors): 400mA

● Power output

The CAS 23 D can provide power to 12V or 24V type alarm detectors.

- Power output for 12V sensor:
 - Output voltage: 12V DC (stabilized)
 - Maximum output current: 400mA
- Power output for 24V sensor:
 - Output voltage: Input voltage – 0.6V (not stabilized)
 - Maximum output current: 300mA

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:
 $I_{12V} * 0.7 + I_{24V} < 350mA$

● Signal Input (for alarm sensing)

The CAS 23 D has 8 optically isolated two-wire differential alarm sensing inputs.

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

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

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

- Voltage range for alarm input state II: 6-30V

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

Mechanical characteristics

The CAS 23 D has a standard 2-module wide enclosure for M36 type DIN-Rail

- Dimensions: 96mm W x 52mm L x 60mm D
- Weight: 110g

Environmental characteristics

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

Key Features

- 8 alarm detectors can be connected to a single CAS 23 D (or a lesser number of detectors with separate tamper alarm detection)
- 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 23 D) or existing systems (alarm sensor is part of an existing system and CAS 23 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).

Note: All alarm sensors will be reset together - this function is only available in stand-alone configurations

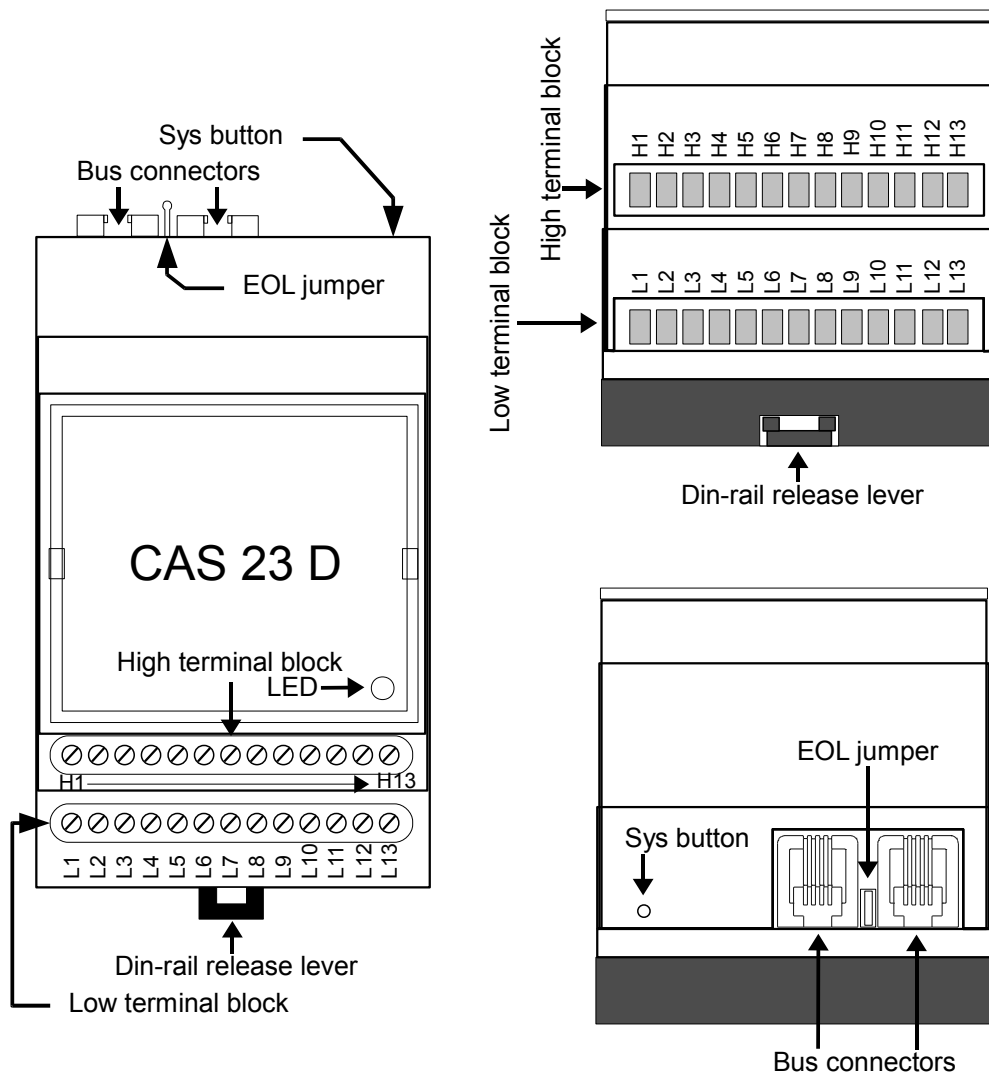
- Alarm state remotely viewable and alarm sensors are resettable via the CIB-tech system
- Internal bi-color LED, indicating alarm state (green: no alarm / red: alarm)

The CAS 23 D is meant to be installed on a standard M36 type DIN-Rail.

Part description

- **Bus connectors:**
 - 4P4C modular jack connectors for CIB-tech connection¹
- **Sys button:**
 - pushbutton for CIB-tech system configuration
- **EOL jumper:**
 - CIB-tech system's End Of Line jumper¹
- **LED:**
 - indicator LED for output state
 - green: on
 - red: off
- **DIN-rail release lever:**
 - lever for removing the device from the M36 DIN-Rail
- **Low terminal block:** terminals for connecting alarm detectors 1 to 4
 - L1. Sensor 1 – contact 1
 - L2. Sensor 1 – contact 2
 - L3. Power output – +12V
 - L4. Power output – GND
 - L5. Sensor 2 – contact 1
 - L6. Sensor 2 – contact 2
 - L7. Power output – +24V
 - L8. Sensor 3 – contact 1
 - L9. Sensor 3 – contact 2
 - L10. Power output – GND
 - L11. Power output – +12V
 - L12. Sensor 4 – contact 1
 - L13. Sensor 4 – contact 2
- **High terminal block:** terminals for connecting alarm detectors 5 to 8
 - H1. Sensor 5 – contact 1
 - H2. Sensor 5 – contact 2
 - H3. Power output – +12V
 - H4. Power output – GND
 - H5. Sensor 6 – contact 1
 - H6. Sensor 6 – contact 2
 - H7. Power output – +24V
 - H8. Sensor 7 – contact 1
 - H9. Sensor 7 – contact 2
 - H10. Power output – GND
 - H11. Power output – +12V
 - H12. Sensor 8 – contact 1
 - H13. Sensor 8 – contact 2

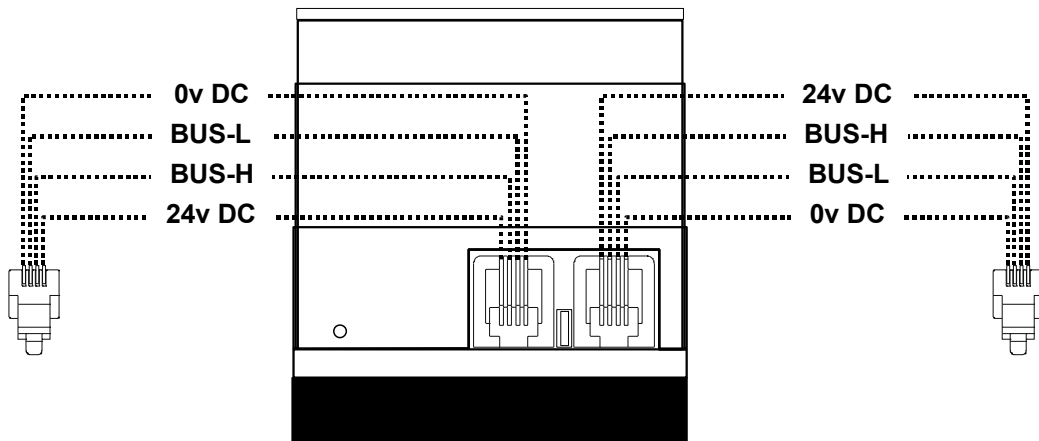
¹ See “CIB-tech installation manual” for details.



Wiring diagrams

Connection to CIB-tech system:

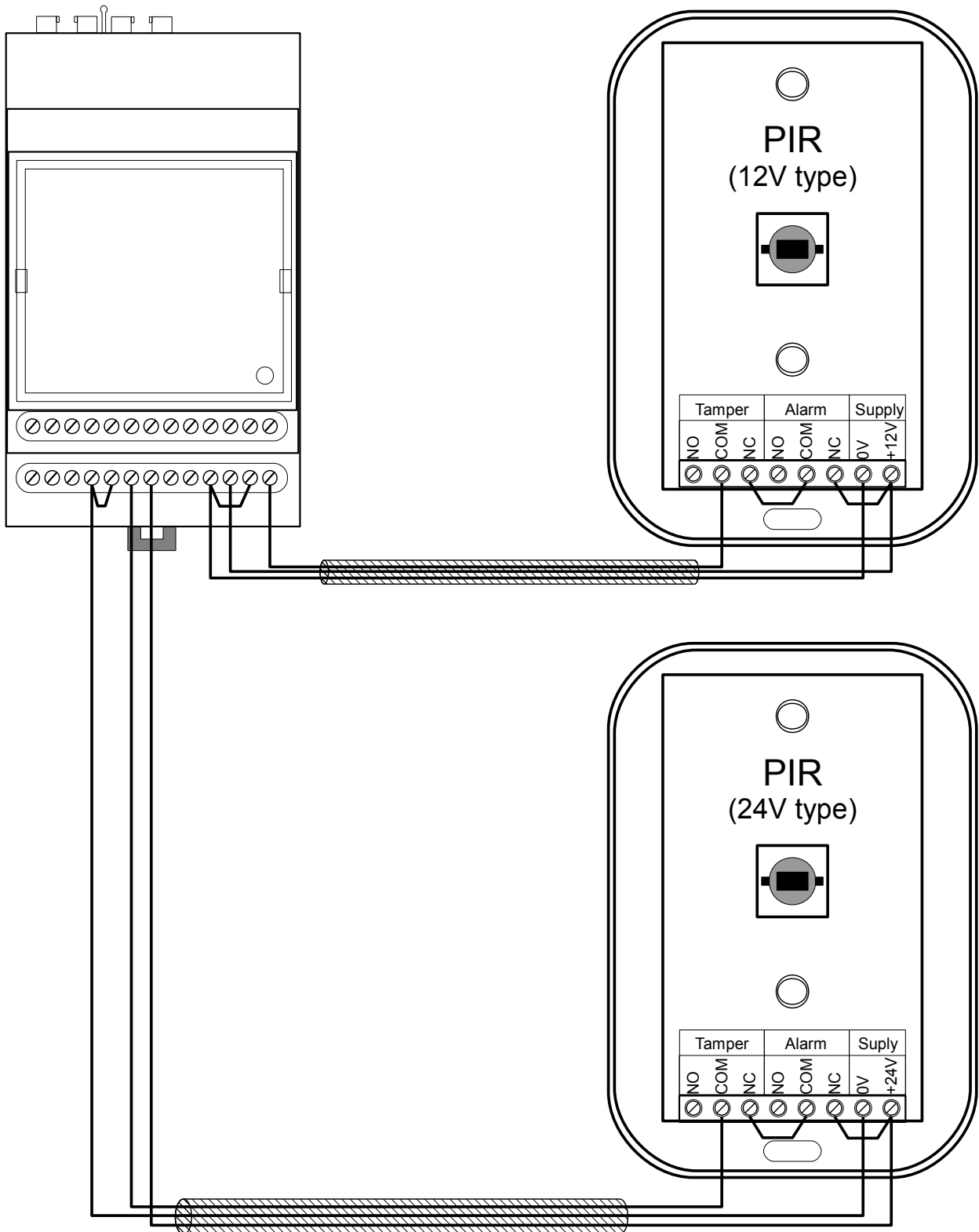
Use the CAS 23 D device's two 4P4C modular jack connectors to connect it to the CIB-tech systems (chain like) bus. Do not forget to remove the EOL jumper if the device is not the last element of the chain¹:



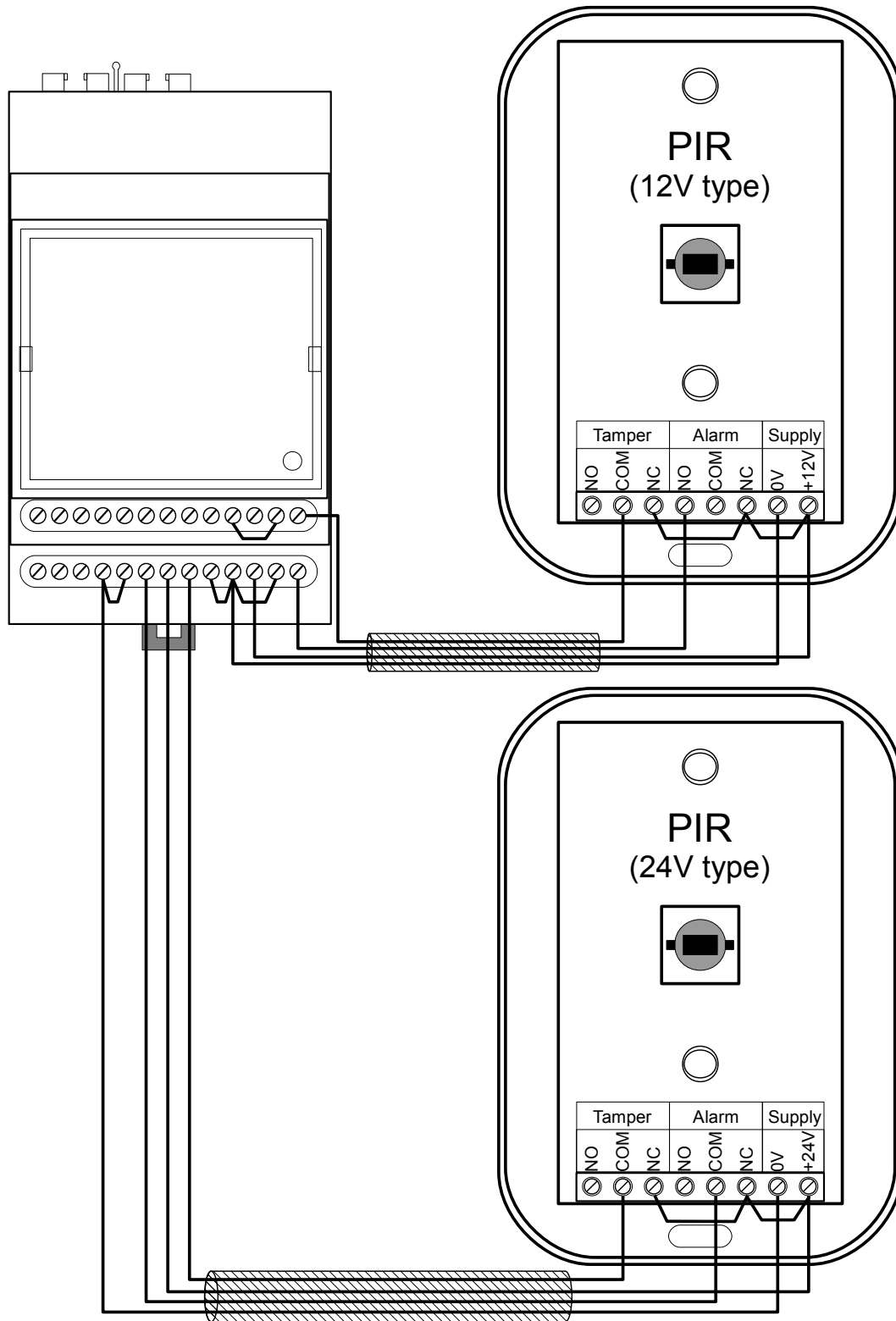
¹ See "CIB-tech installation manual" for details.

Connecting the alarm sensor

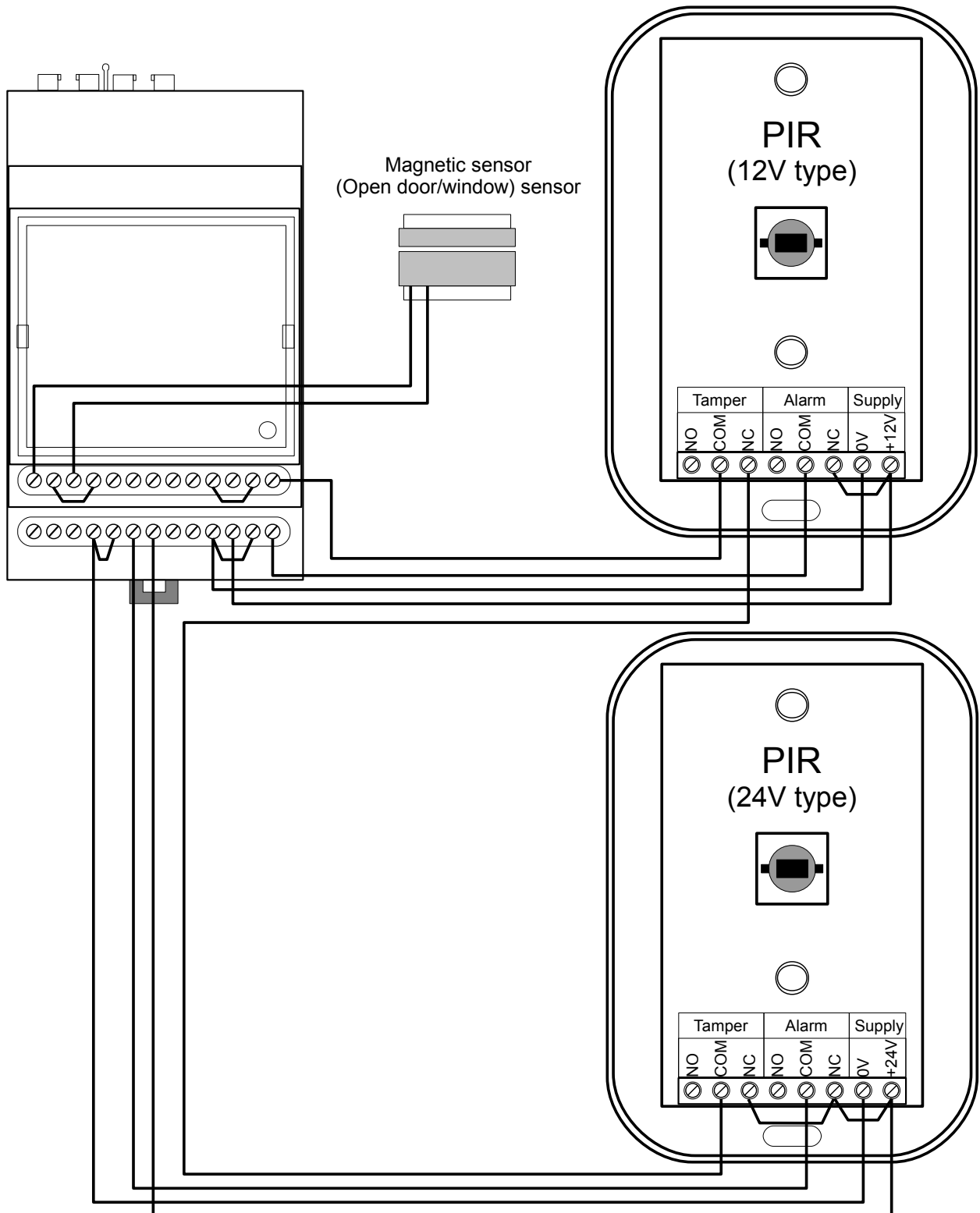
Example1: A 24V and a 12V stand-alone detector connected to alarm sensing input 2 and 4. Tamper function connected in series with detector



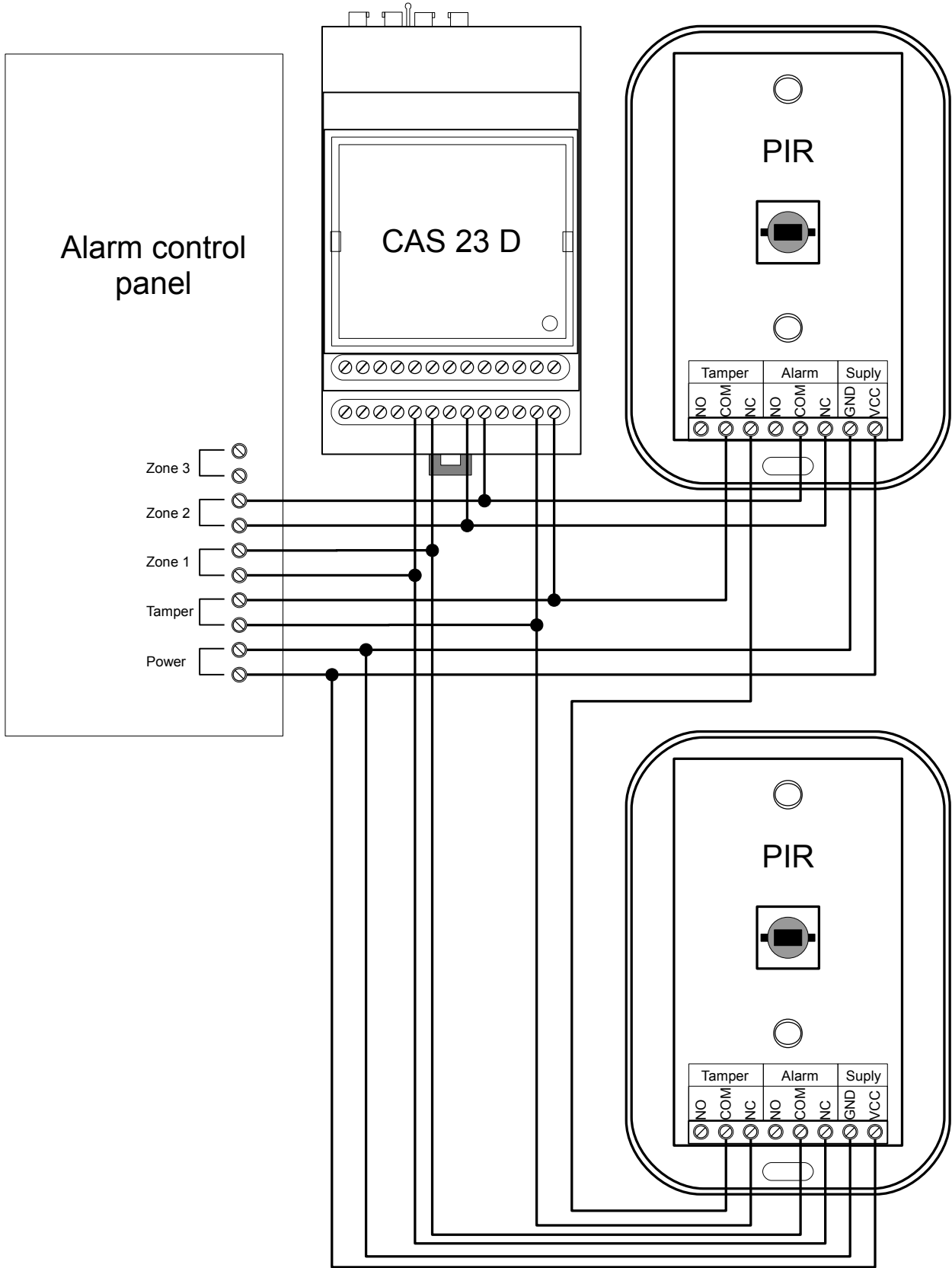
Example 2: A 24V and a 12V stand-alone detector connected to alarm sensing input 2 and 4. Tamper function connected separately to sensing input 3 and 8



Example 3: A 24V and a 12V stand-alone detector and a stand-alone magnetic (open door/window) sensor connected to alarm sensing inputs 2, 4 and 5. Tamper function for both detectors connected together to sensing input 8



Example 4: parallel connection (sensors connected to existing alarm control panel)



NOTE:

These are only a few connection examples. Up to 8 alarm sensors can be connected to the device in any possible combination of supply voltages and alarm inputs. If you find yourself in difficulty laying out a different connection, try to remember that the principle of operation in all stand-alone applications is to route a supply voltage (either 12v or 24v to GND) through the contacts of the sensor(s) you wish to monitor, to one of the inputs of the CAS 23 D. On parallel connections with existing control panels, CAS 23 D inputs are always connected over (in parallel with) a zone circuit of the control panel.

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Technical Support:

<http://www.ibs-smarthouse.com/>
info@ibs-smarthouse.com

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