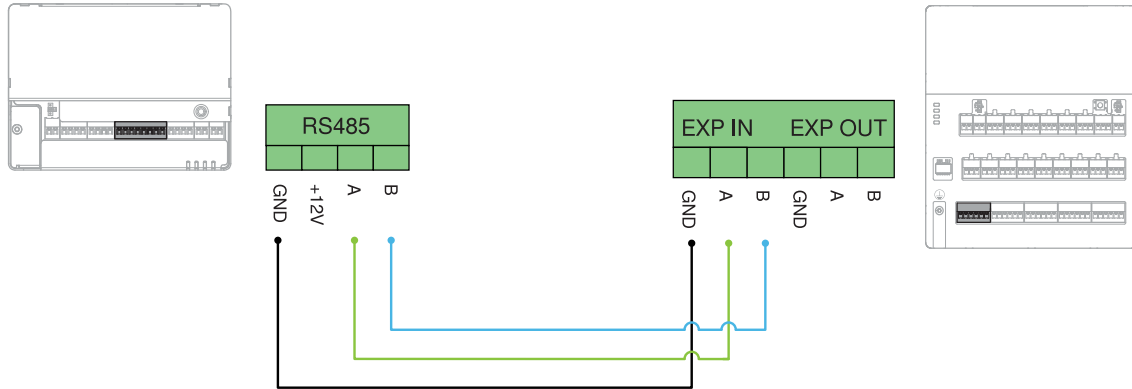


## **AXIS A9920**

**Electrical wiring drawings**

### Expansion connector

AXIS A9920 connected to AXIS A9210

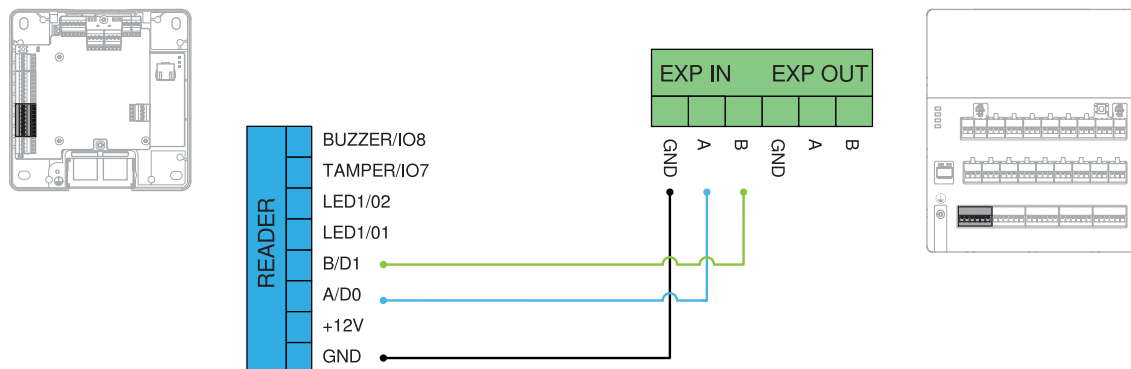


**Application:** Connecting AXIS A9920 to AXIS A9210 for security I/O applications

**Requirements:**

- Cable requirements: AWG: 24–16, one shielded twisted pair, 120 ohm impedance, qualified for up to 1000 m (3,280 ft).
- When using a GND cable between multiple grounding points, we recommend using a ground resistor to minimize ground loops and reduce the risk of communication disturbances.

## AXIS A9920 connected to Axis door controller

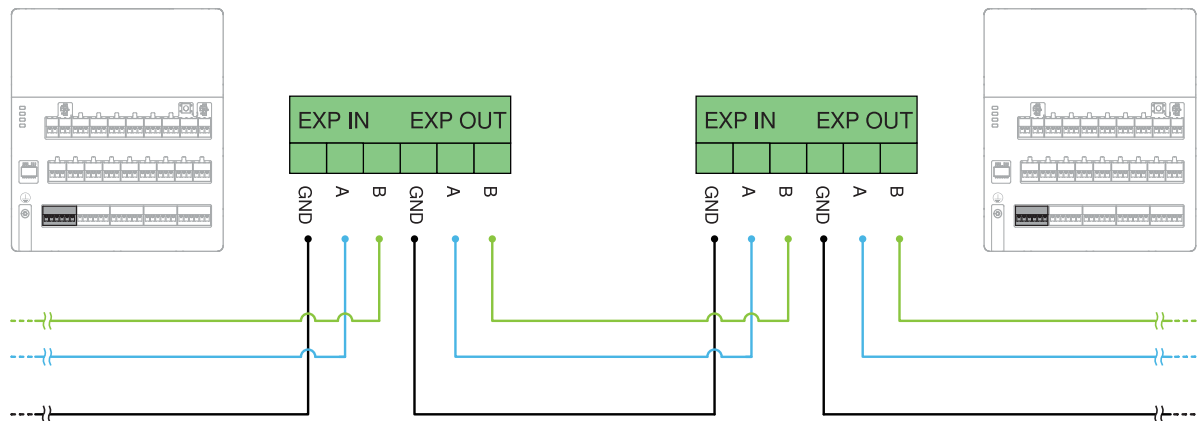


**Application:** Connecting AXIS A9920 to Axis door controller for elevator access control applications

### Requirements:

- AXIS A9920 requires an external power supply.
- Cable requirements: AWG: 24–16, one shielded twisted pair, 120 ohm impedance, qualified for up to 1000 m (3,280 ft).
- When using a GND cable between multiple grounding points, we recommend using a ground resistor to minimize ground loops and reduce the risk of communication disturbances.

## AXIS A9920 multi-drop connection



**Application:** Connecting multiple AXIS A9920 modules using the expansion connector

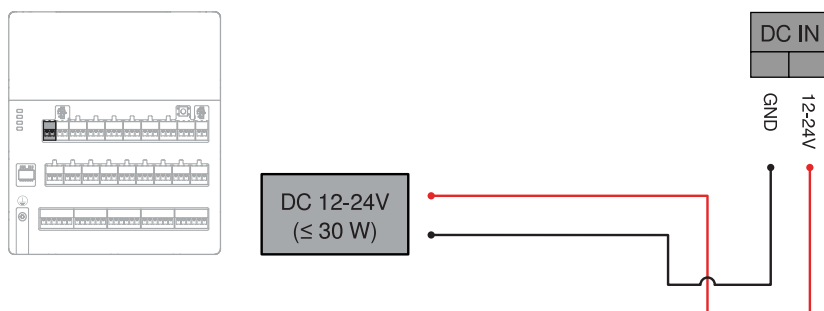
### Requirements:

- Each AXIS A9920 requires its own external power supply.
- Qualified for up to 128 I/Os and 64 relays or max 16 expansion modules.
- Cable requirements: AWG: 24–16, one shielded twisted pair, 120 ohm impedance, qualified for up to 1000 m (3,280 ft).
- When using a GND cable between multiple grounding points, we recommend using a ground resistor to minimize ground loops and reduce the risk of communication disturbances.
- Assign a unique address for each AXIS A9920 expansion module on the same bus using the DIP switch.
- Enable the termination resistor on the last module on the same bus using the DIP switch.

## Power connector

### DC IN

External power supply for AXIS A9920



**Application:** Powering AXIS A9920 with an external power supply connected to the DC IN connector

#### Requirements:

- 12–24 V DC, max 30 W
- Cable requirements: AWG: 18–16, qualified for up to 3 m (10 ft).

## AXIS A9210 powering AXIS A9920



### Application: Powering AXIS A9920 from AXIS A9210 relay power output

#### Note

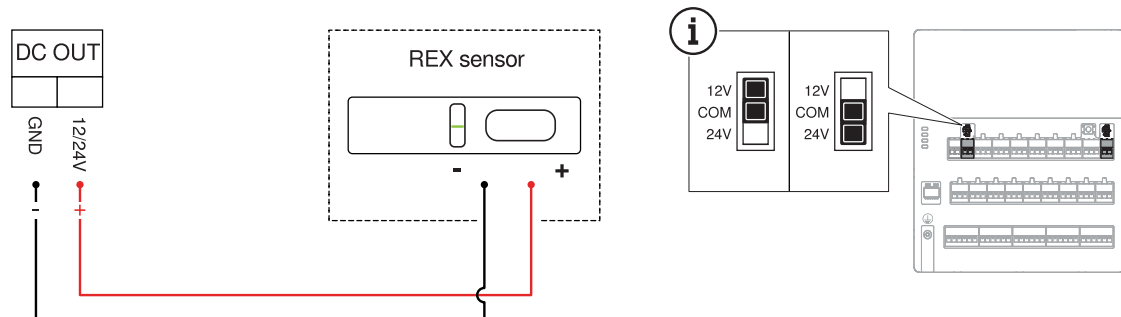
Before installation, verify AXIS A9210 output capability in its datasheet and configure AXIS A9920 DIP switches according to the AXIS A9920 installation guide.

#### Requirements:

- Configure AXIS A9920 for low-power mode using the DIP switches. See AXIS A9920 installation guide for the correct DIP switch settings
- Cable requirements: AWG: 18–16, qualified for up to 3 m (10 ft).

## DC OUT jumper

REX sensor powered from DC OUT



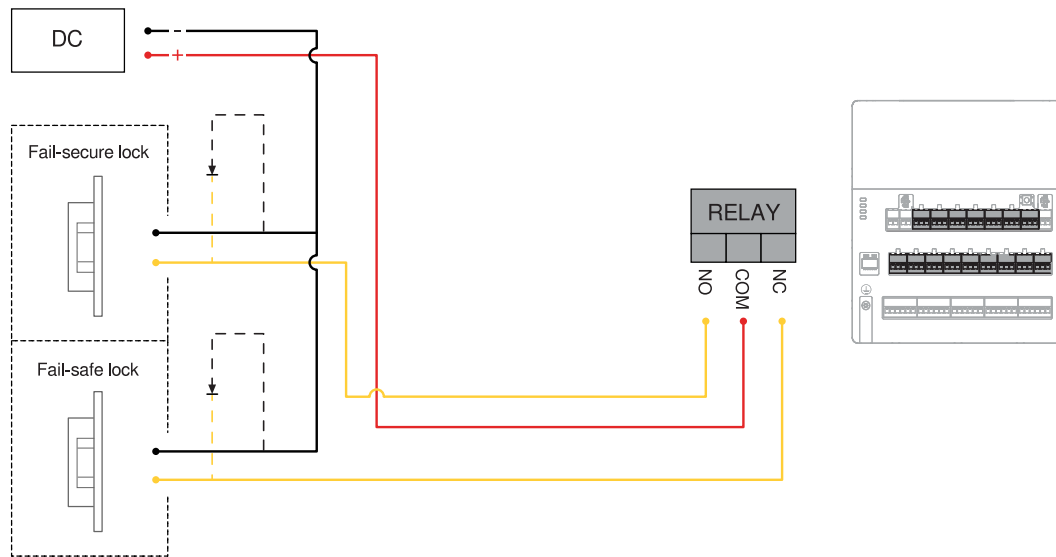
**Application:** AXIS A9920 DC OUT to power an external device, such as a REX sensor

### Requirements:

- Check the technical specification of the external device
- DC Out when AXIS A9920 powered by:
  - External power supply: 12/24 V DC output, jumper configurable, max 25 W (DIP switch configuration).
  - AXIS A9910 relay output: 12/24 V DC output, jumper configurable, max 6 W (DIP switch configuration).
- Cable requirements: AWG: 18–16. Maximum cable length depends on the connected device's voltage requirements and cable voltage drop. See the third-party device specification.

## Relay connector

Lock connection, powered by external power supplier

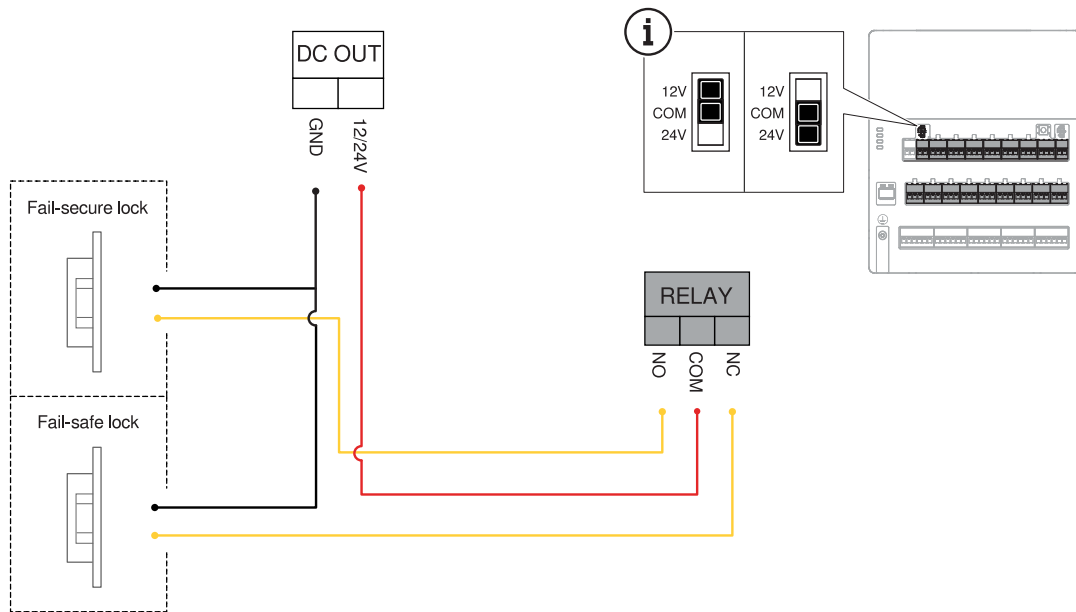


**Application:** Lock connection to AXIS A9920 relay output, dry only

**Requirements:**

- Check the technical specification of the lock devices
- The lock needs to be externally powered.
- Power through relay: max 4 A at 12 V DC, or 2 A at 30 V DC, dry application.
- Cable requirements: AWG: 18–16.

## Lock connection, powered by DC OUT

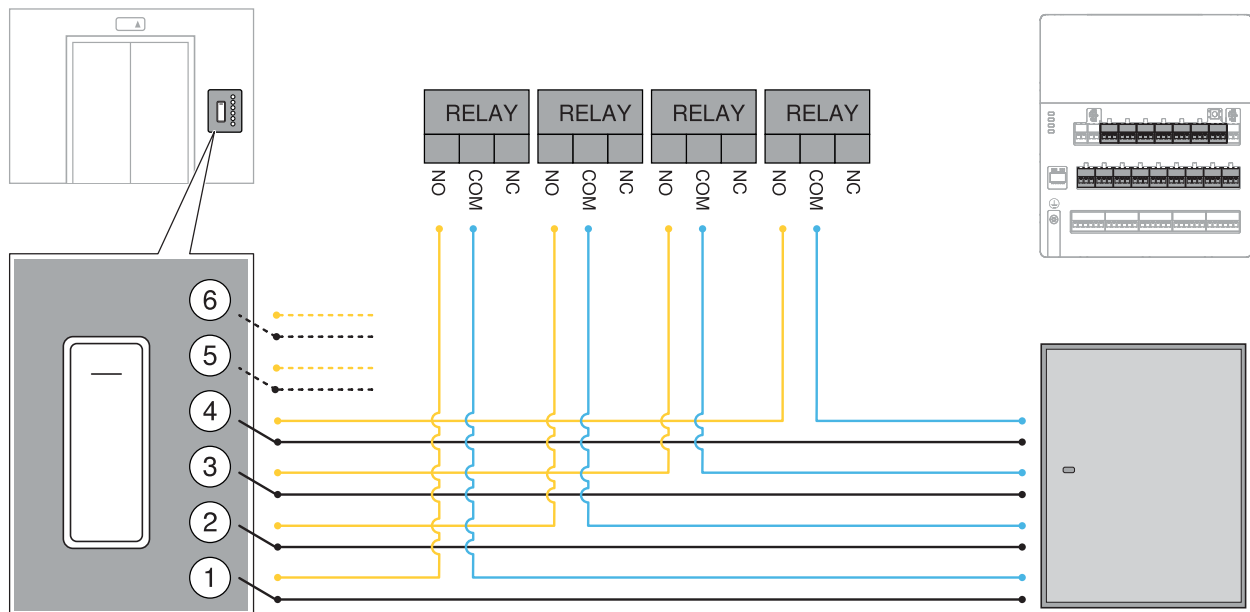


**Application:** Lock connection to AXIS A9920 relay output, and powering the lock using the DC OUT of AXIS A9920

### Requirements:

- Check the technical specification of the lock devices
- DC Out when AXIS A9920 powered by:
  - External power supply: 12/24 V DC output, jumper configurable, max 25 W (DIP switch configuration).
  - AXIS A9910 relay output: 12/24 V DC output, jumper configurable, max 6 W (DIP switch configuration).
- Cable requirements: AWG: 18–16. Maximum cable length depends on the connected device's voltage requirements and cable voltage drop. See the third-party device specification.

## Elevator control



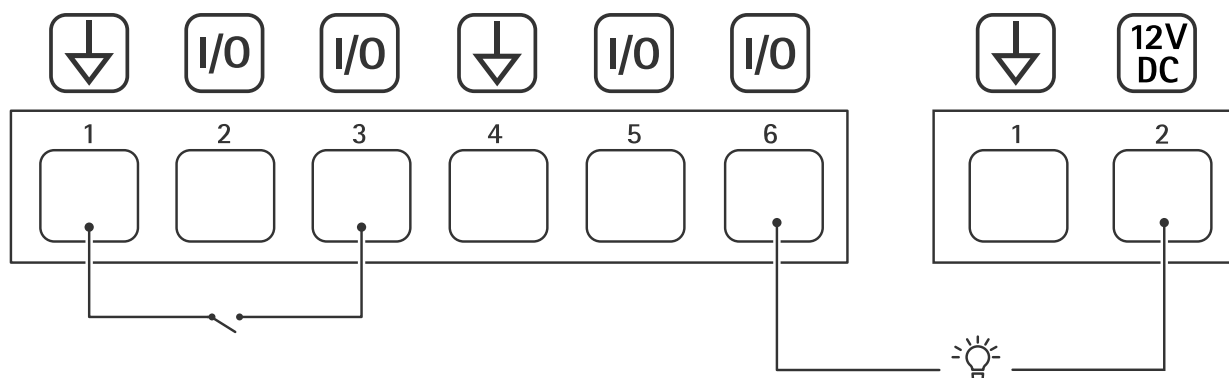
**Application:** Using the AXIS A9920 relay outputs as part of an elevator control solution. AXIS A9920 is connected to an Axis door controller to control floor access through the elevator system

### Requirements:

- Must be connected and configured together with an Axis door controller. See "AXIS A9920 connected to Axis door controller" in *Expansion connector, on page* for connection details. Dry only relay.
- Cable requirements: AWG: 18–16.

## I/O connector

### I/O connection



- 1 I/O connector: DC ground
- 2 I/O connector: Configurable I/O
- 3 I/O connector: I/O configured as input
- 4 I/O connector: DC ground
- 5 I/O connector: Configurable I/O
- 6 I/O connector: I/O configured as output

- 1 DC OUT connector: DC ground
- 2 DC OUT connector: External DC output 12 V

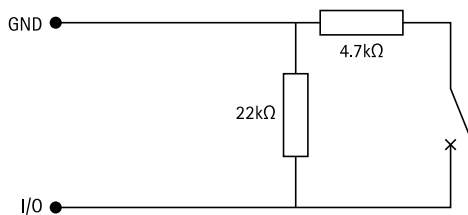
**Application:** Connecting I/O devices to the I/O connector and configuring them as input or output

#### Requirements:

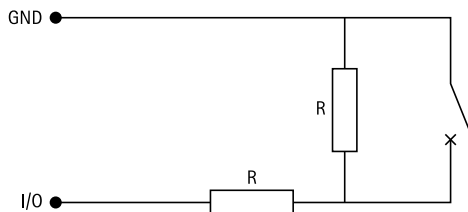
- Configured as output:
  - 0 to max 30 V DC, open drain, 100 mA
  - DC Out when AXIS A9920 powered by:
    - External power supply: 12/24 V DC output, jumper configurable, max 25 W (DIP switch configuration).
    - AXIS A9910 relay output: 12/24 V DC output, jumper configurable, max 6 W (DIP switch configuration).
  - Cable Requirements: Maximum cable length depends on the connected device's voltage requirements and cable voltage drop. See the third-party device specification.
- Configured as input:
  - 0 to max 30 V DC
  - Cable requirements: AWG 24–16, qualified for up to 200 m (656 ft)

## Supervised inputs

### Parallel first connection



### Serial first connection



**Application:** Resistors connected in series or parallel at the end of line to detect the state of the circuit (ON, OFF, Open and Short)

### Requirements:

- Connected closer to the input device.
- Parallel first connection:
  - Resistor values must be 4.7 K Ohm and 22 K Ohm, 1%, 1/4% watt standard
- Serial first connection:
  - Resistor vales needs to be same
  - 1 k Ohm, 2.2 K Ohm, 4.7 K Ohm, and 10 K Ohm, 1%, 1/4% watt standard



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