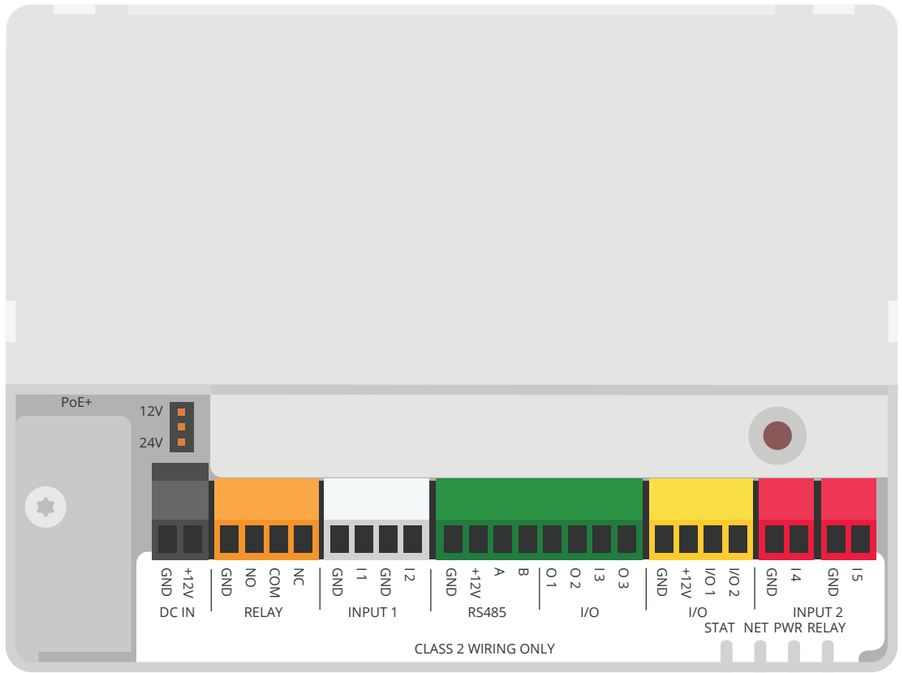
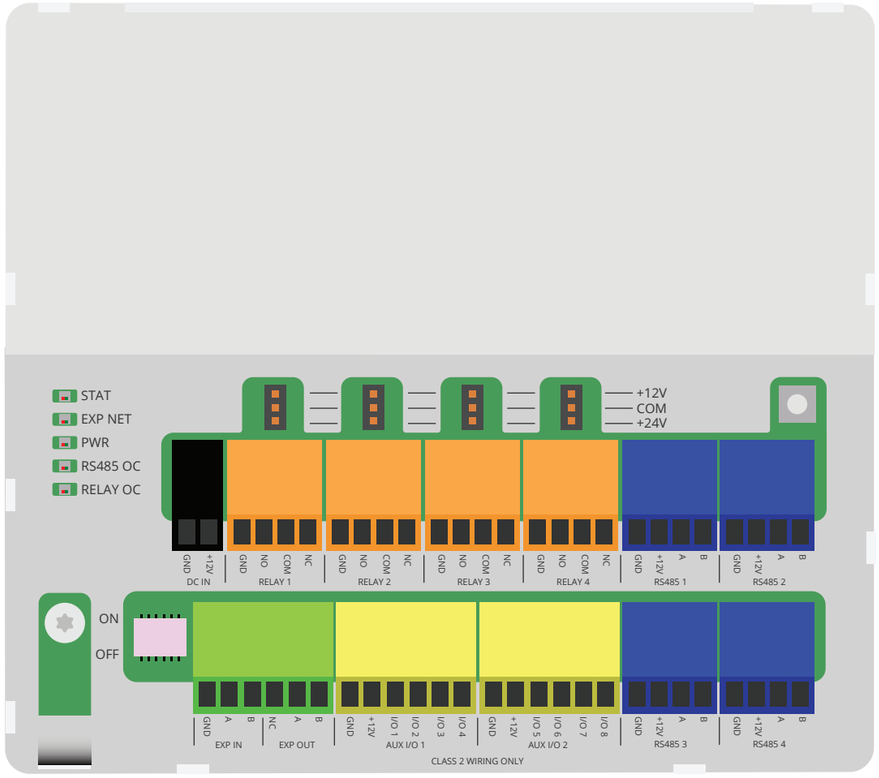
AXIS A9210 Network I/O Relay Module
AXIS A9910 I/O Relay Expansion Module



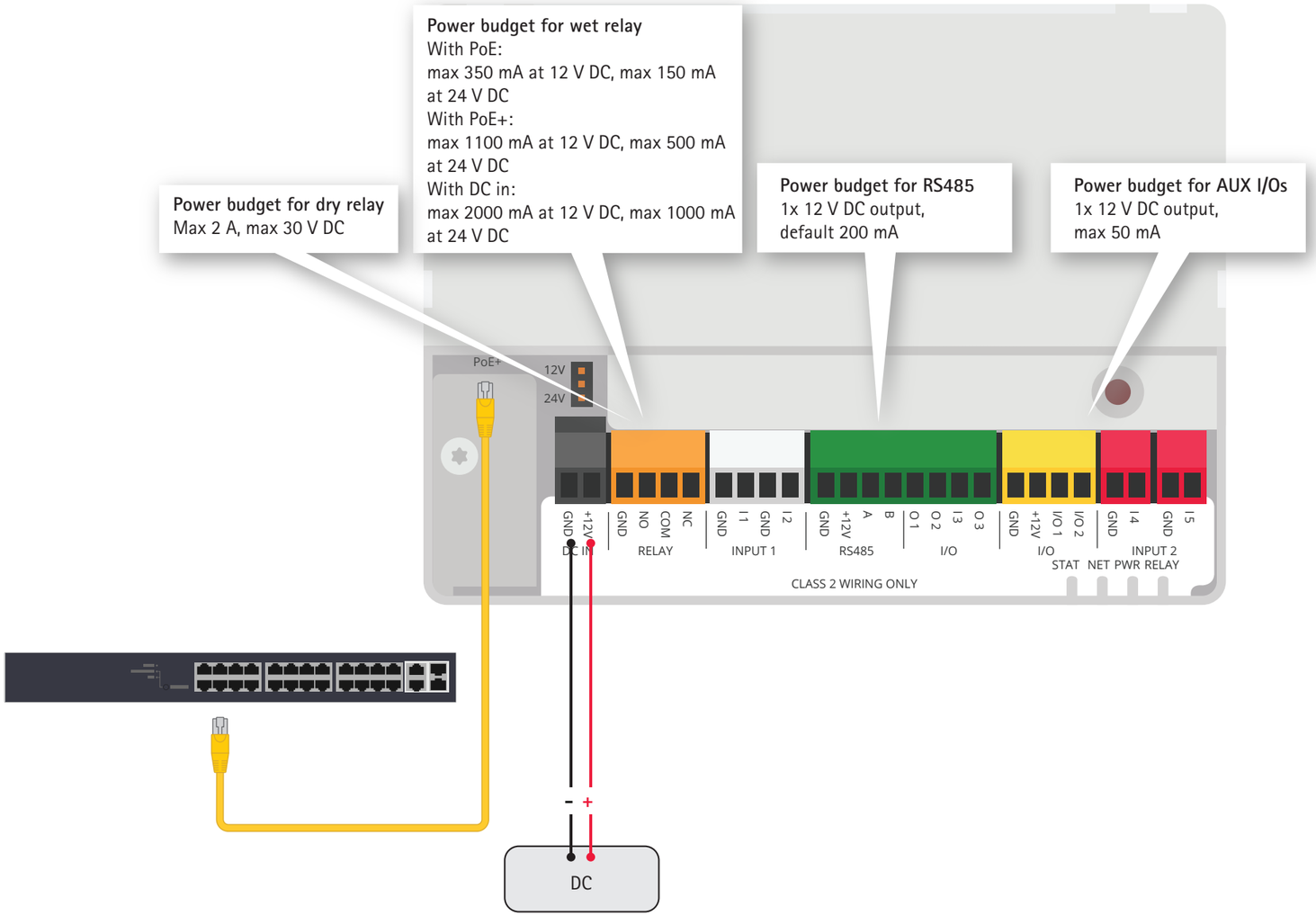


Electrical wiring drawings

Electrical wiring drawings
AXIS A9210 Network I/O Relay Module

Date: January 2026

Power input and budget



Adhere to local life safety code in all installations.
Illustration does not depict door monitors, REX devices, locks, controller power supply, network switch, battery backup and UPS.
Ensure that your power supplies and relays are rated for the intended purposes.
This is just an example.

Application

Please refer to product datasheet for details and the device's web interface for power states

Requirements

> Wire size for connectors:
>> CSA: AWG 28–16, CUL/UL: AWG 30–14

> DC power:
>> AWG 18-16 , qualified for up to 3 m (10 ft)

> Relay:
>> AWG 18-16, qualified for up to 30 m (98 ft)

> Ethernet and PoE:
>> STP CAT 5e or higher, qualified for up to 100 m (328 ft)

Power priotity

> When PoE and DC are both connected before the device is powered, PoE is used for powering.

> PoE and DC are both connected and PoE is currently powering. When PoE is lost, the device uses DC for powering without restart.

> PoE and DC are both connectedand DC is currently powering. When DC is lost, the device restarts and uses PoE for powering.

> When DC is used during startup and PoE is connected after the device has started, DC is used for powering.

> When PoE is used during startup and DC is connected after the device has started, PoE is used for powering.

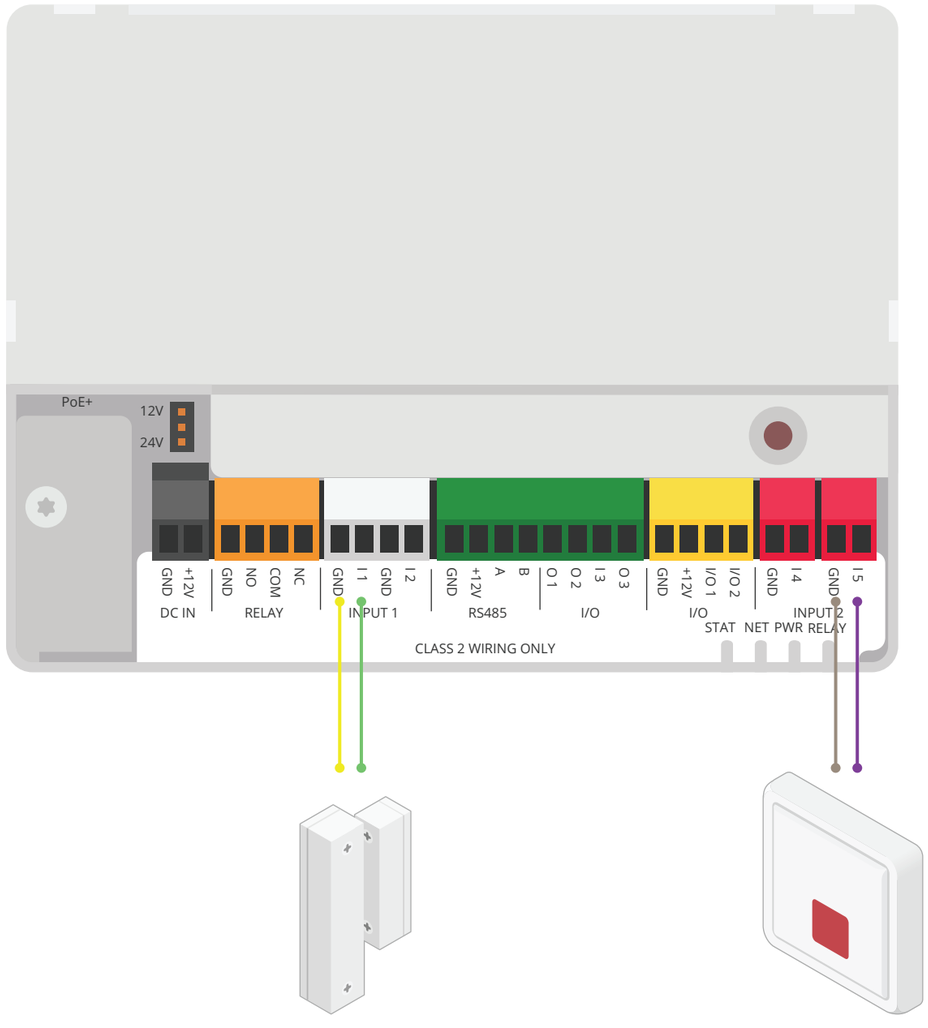
Input 1 and 2

Application

Please refer to product datasheet for details and the device's web interface for power states

Requirements

I/Os as inputs: AWG 24, qualified for up to 200 m (656 ft)

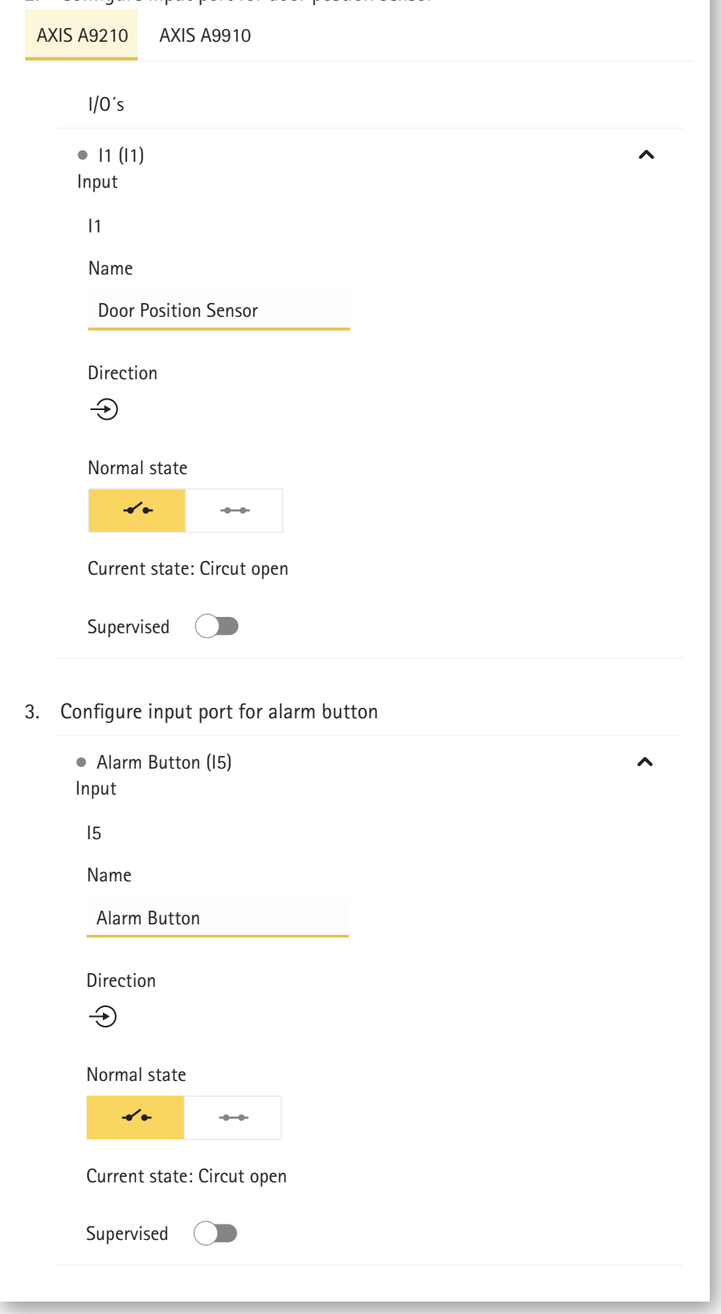


Adhere to local life safety code in all installations.
Illustration does not depict door monitors, REX devices, locks, controller power supply, network switch, battery backup and UPS.
Ensure that your power supplies and relays are rated for the intended purposes.
This is just an example.

Configuration in the device´s web interface

1. Go to Device > I/Os and relays

2. Configure input port for door postion sensor



Supervised input

Application

Please refer to product datasheet for details and the device's web interface for power states

Requirements

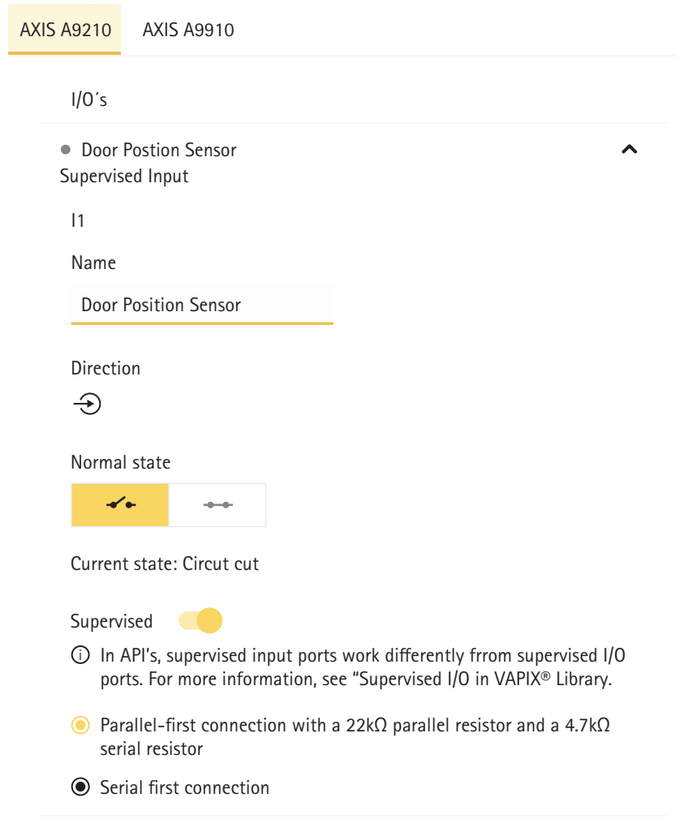
I/Os as inputs (applied to all inputs; IN 1-5, AUX IO1 and IO2):
AWG 24, qualified for up to 200 m (656 ft)

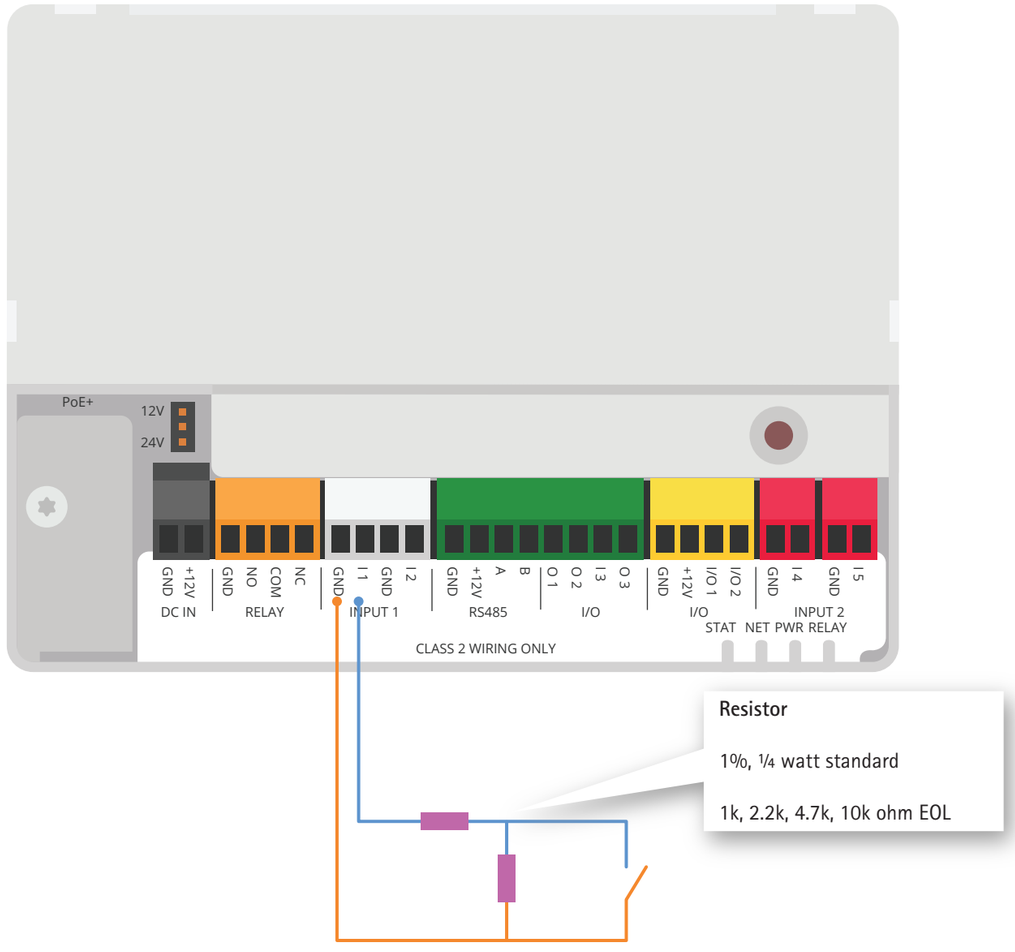
NOTE: The EOL resistors are installed at the end of the circuit, as close to the sensor as possible

Configuration in the device´s web interface

1. Go to Device > I/Os and relays

2. Configure input port for supervised input





Adhere to local life safety code in all installations.
Illustration does not depict door monitors, REX devices, locks, controller power supply, network switch, battery backup and UPS.
Ensure that your power supplies and relays are rated for the intended purposes.
This is just an example.

Configurable Aux I/O

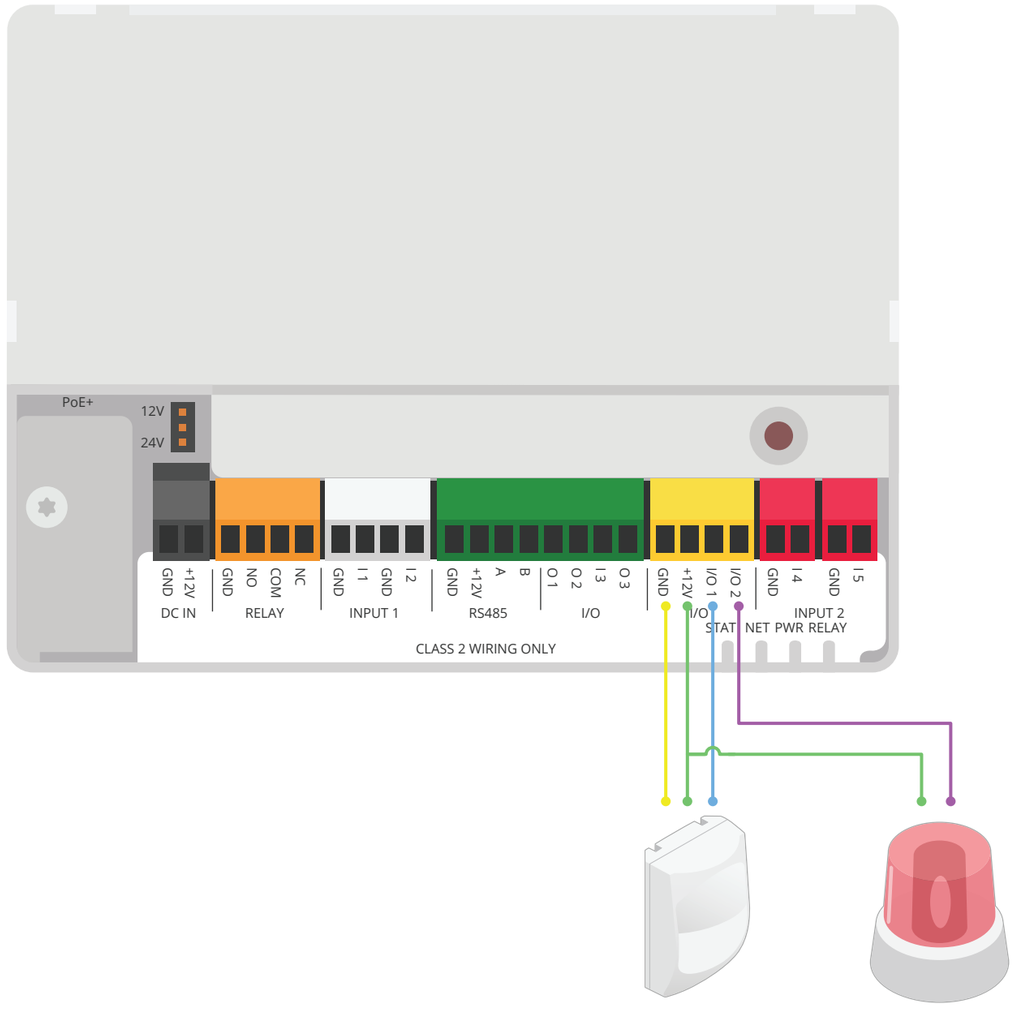
Application

Please refer to product datasheet for details and the device's web interface for power states

Requirements

I/Os as inputs: AWG 24, qualified for up to 200 m (656 ft)

Power out I/O: 1x 12 V DC output, max 50 mA



Configuration in the device´s web interface

1. Go to Device > I/Os and relays

Device

I/Os and relays

2. Configure I/O for PIR/REX

AXIS A9210 | AXIS A9910

I/O´s

PIR / REX (I/O 1)

Input

Name

PIR / REX

Direction

Normal state

Current state: Circut open

Supervised

3. Configure I/O for alarm button

Alarm Button (I/O 2)

Output

Alarm

Name

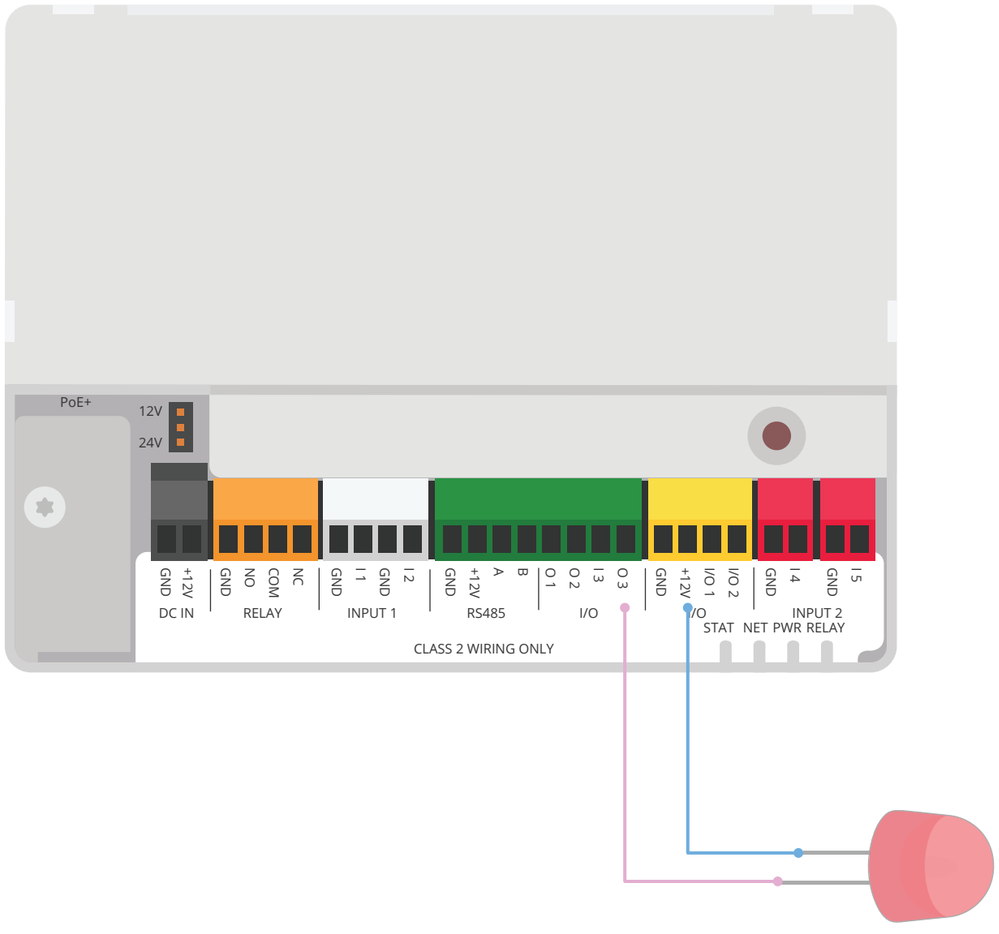
Alarm

Direction

Normal state

Adhere to local life safety code in all installations.
Illustration does not depict door monitors, REX devices, locks, controller power supply, network switch, battery backup and UPS.
Ensure that your power supplies and relays are rated for the intended purposes.
This is just an example.

Output wiring



Application

Please refer to product datasheet for details and the device's web interface for power states

Requirements

I/Os as output: AWG 24

Cable length varies depending on the specification of connected peripheral

Power out I/O: 1x 12 V DC output, max 50 mA

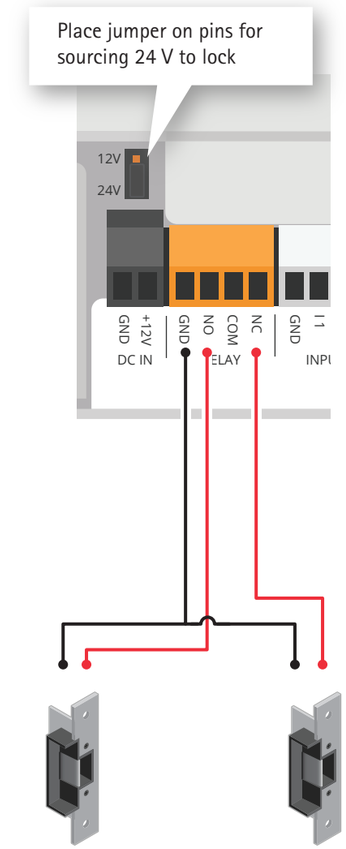
Configuration in the device´s web interface

1. Go to Device > I/Os and relays

2. Configure output for LED

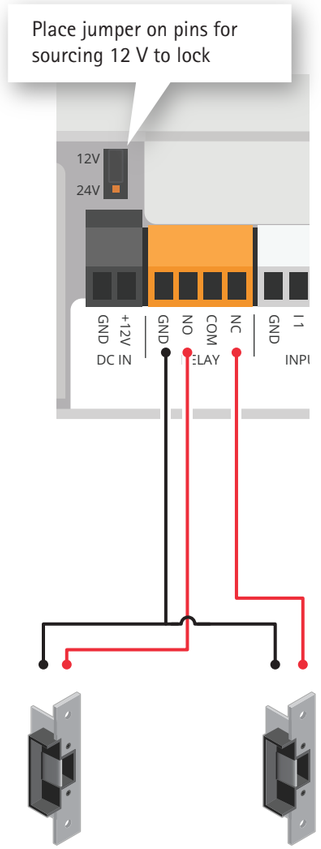
Adhere to local life safety code in all installations.
Illustration does not depict door monitors, REX devices, locks, controller power supply, network switch, battery backup and UPS.
Ensure that your power supplies and relays are rated for the intended purposes.
This is just an example.

Relay wiring



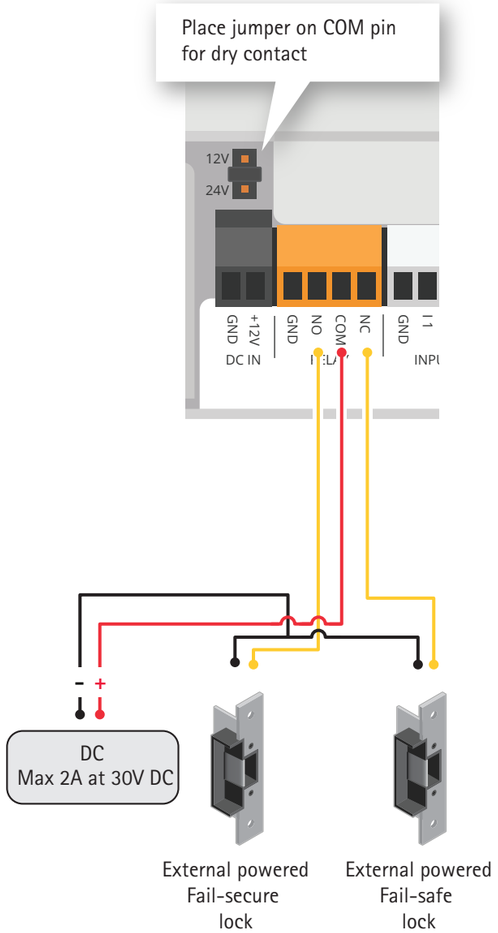
24V Fail-secure lock

24V Fail-safe lock



12V Fail-secure lock

12V Fail-safe lock



External powered Fail-secure lock

External powered Fail-safe lock

Application

Please refer to product datasheet for details and the device's web interface for power states

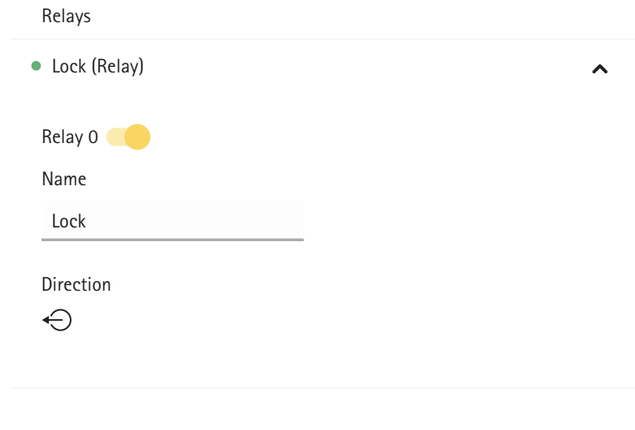
Requirements

Relay: AWG 18-16, qualified for up to 30 m (98 ft)

Configuration in the device´s web interface

1. Go to Device > I/Os and relays

2. Configure relays



Adhere to local life safety code in all installations.
Illustration does not depict door monitors, REX devices, locks, controller power supply, network switch, battery backup and UPS.
Ensure that your power supplies and relays are rated for the intended purposes.
This is just an example.

Modbus sensor wiring

Application

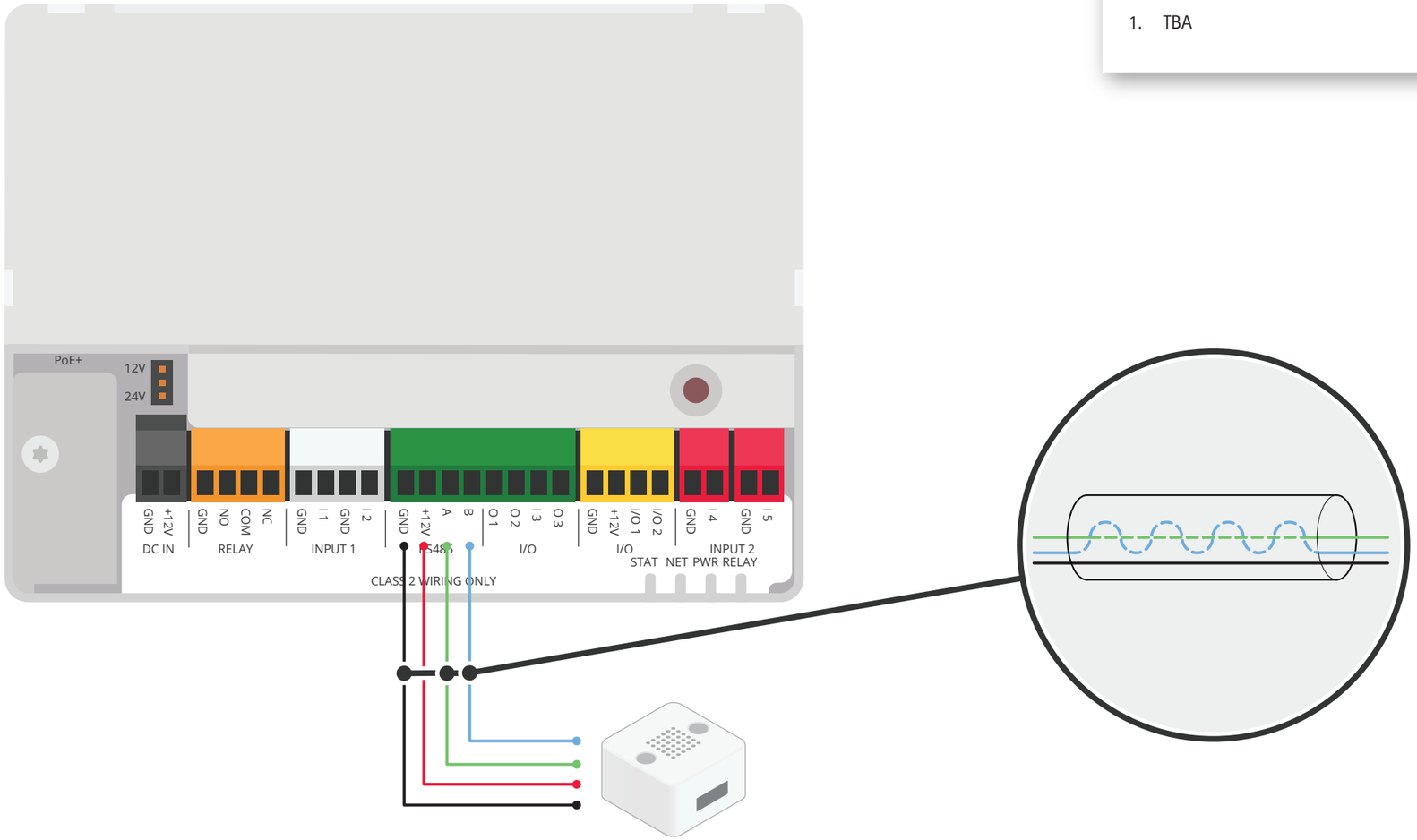
Please refer to product datasheet for details and the device's web interface for power states

Requirements

RS485: 1 twisted pair with shield, 120 ohm impedance, quilified for up to 1000 m (3281 ft)

Configuration in the device´s web interface

1. TBA



Adhere to local life safety code in all installations.
Illustration does not depict door monitors, REX devices, locks, controller power supply, network switch, battery backup and UPS.
Ensure that your power supplies and relays are rated for the intended purposes.
This is just an example.

Expansion connection 1 - seperated power

Application

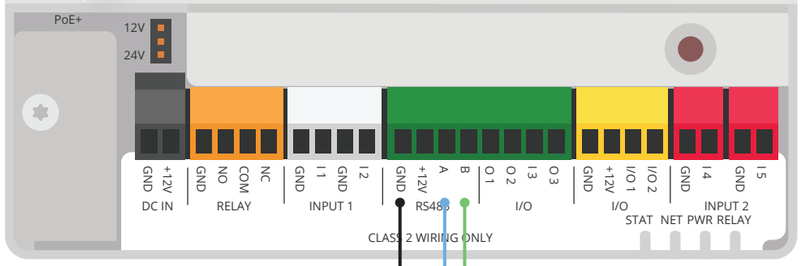
Please refer to product datasheet for details and the device's web interface for power states

Requirements

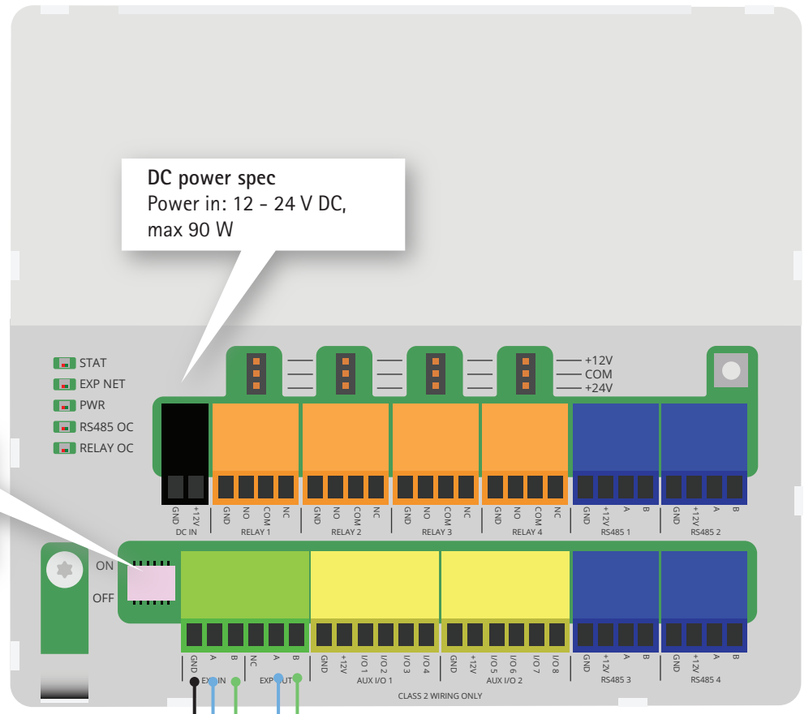
> RS485: 1 twisted pair with shield, 120 ohm impedance, quilified for up to 1000 m (3281 ft)

> When using a GND cable over two or more grounding points we recommend using a ground resistor to minimize loops

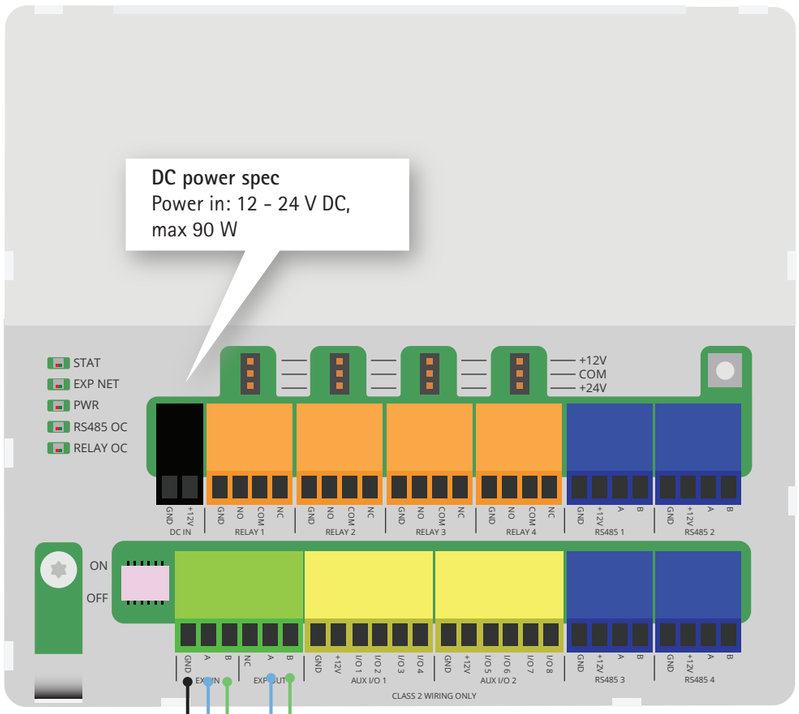
PoE power spec
Power over ethernet (PoE)
IEEE 802.3 at,
Type 2 Class 4

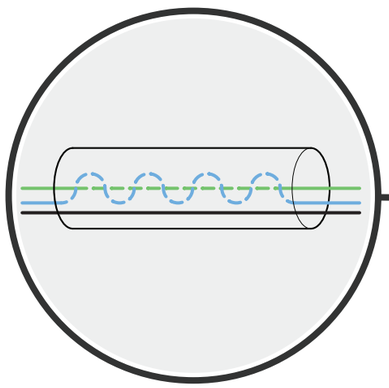


DC power spec
Power in: 12 - 24 V DC,
max 90 W



DC power spec
Power in: 12 - 24 V DC,
max 90 W





> A unique address for each of the expansion modules
> The last one with termination on the DIP switch

> Max 16 expansion modules

Adhere to local life safety code in all installations.
Illustration does not depict door monitors, REX devices, locks, controller power supply, network switch, battery backup and UPS.
Ensure that your power supplies and relays are rated for the intended purposes.
This is just an example.

Expansion connection 1 - separated power

Configuration in the device´s web interface

1. Go to AXIS A9910

AXIS A9210 | AXIS A9910

ⓘ Set an encryption key before you can add AXIS A9910

+ Add encryption key

+ Add AXIS A9910

0 expansion modules: 0 relays, 0 I/O ports

2. Add encryption key

Add encryption key

The encryption key is not visible int the system. If you generate the key, you need to export the key and store it in a safe place before you continue.

Encryption key

32 characters in hexadecimal

Generate key

Export key

Cancel | Ok

Configuration in the device´s web interface

3. Add AXIS A9910

AXIS A9210 | AXIS A9910

✓ Encrypted key is added

+ Add AXIS A9910

0 expansion modules: 0 relays, 0 I/O ports

4. Add expansion module

Add expansion module

Name

A9910 - Entrance

Address

1

0
1
2
3
4
5
6

Close | Save

Configuration in the device´s web interface

5. AXIS A9910 connection

AXIS A9210 | AXIS A9910

+ AXIS A9910 expansion module

1 expansion modules: 4 relays, 8 I/O ports

● A9910 - Main Entrance (Address 0) (S/N)

You must reset the device to factory default, if you have lost your encrytion key.

Name: A9910 - Main Entrnce

Address: 0

Firmware version: 1.0.50

Upgrade firmware

I/O´s

- ● A9910 - Main Entrance I/... (I/O 1) Input
- ● A9910 - Main Entrance I/... (I/O 2) Input
- ● A9910 - Main Entrance I/... (I/O 3) Input
- ● A9910 - Main Entrance I/... (I/O 4) Input
- ● A9910 - Main Entrance I/... (I/O 5) Input
- ● A9910 - Main Entrance I/... (I/O 6) Input
- ● A9910 - Main Entrance I/... (I/O 7) Input
- ● A9910 - Main Entrance I/... (I/O 8) Input

Relays

- ● A9910 - Main Entrance I/... (Relay 1)
- ● A9910 - Main Entrance I/... (Relay 2)
- ● A9910 - Main Entrance I/... (Relay 3)
- ● A9910 - Main Entrance I/... (Relay 4)

Delete

Adhere to local life safety code in all installations.
Illustration does not depict door monitors, REX devices, locks, controller power supply, network switch, battery backup and UPS.
Ensure that your power supplies and relays are rated for the intended purposes.
This is just an example.

Expansion connection 1 - expension module power from AXIS A9210

Application

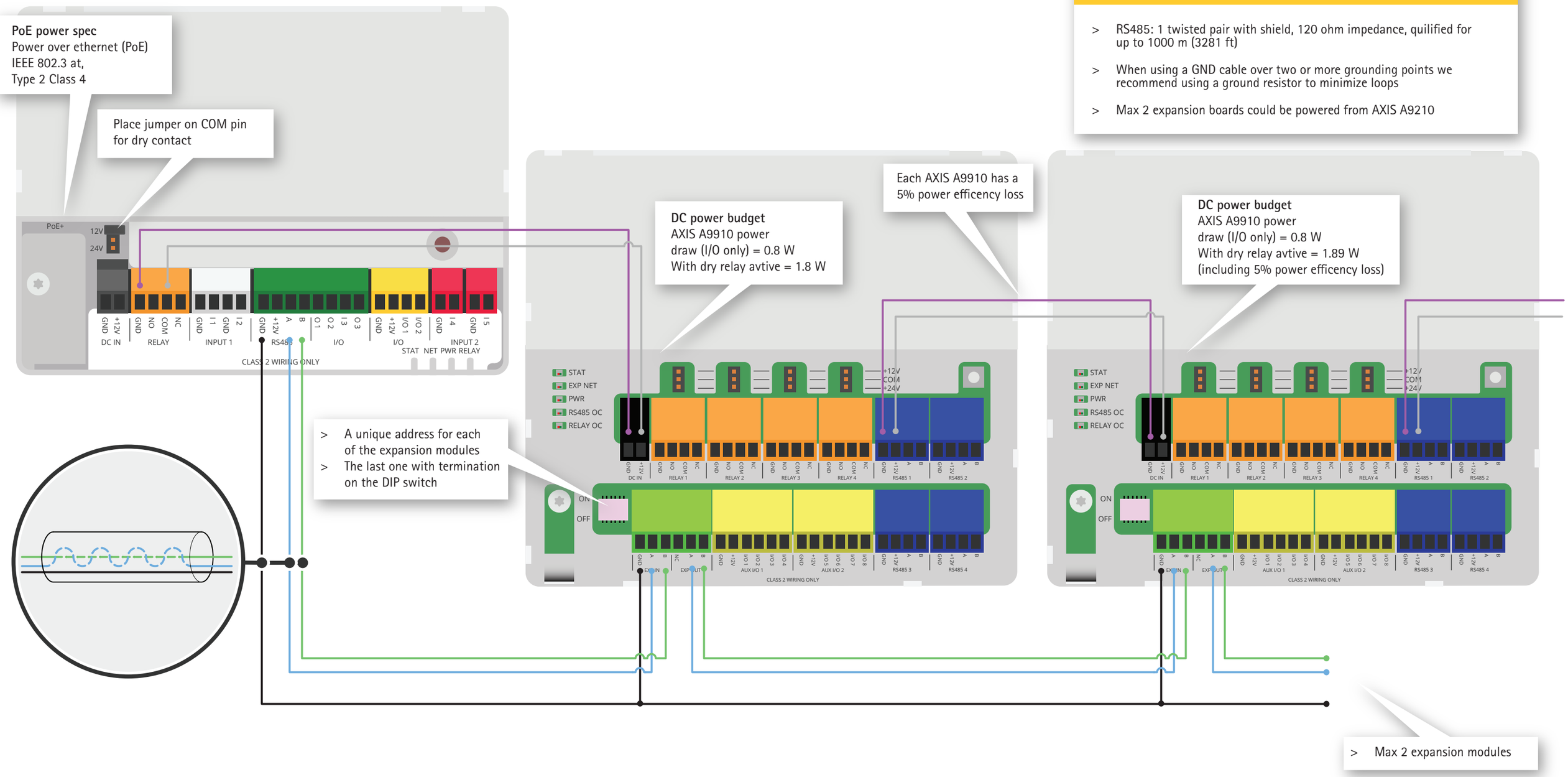
Please refer to product datasheet for details and the device's web interface for power states

Requirements

> RS485: 1 twisted pair with shield, 120 ohm impedance, quilified for up to 1000 m (3281 ft)

> When using a GND cable over two or more grounding points we recommend using a ground resistor to minimize loops

> Max 2 expansion boards could be powered from AXIS A9210



Adhere to local life safety code in all installations.
Illustration does not depict door monitors, REX devices, locks, controller power supply, network switch, battery backup and UPS.
Ensure that your power supplies and relays are rated for the intended purposes.
This is just an example.

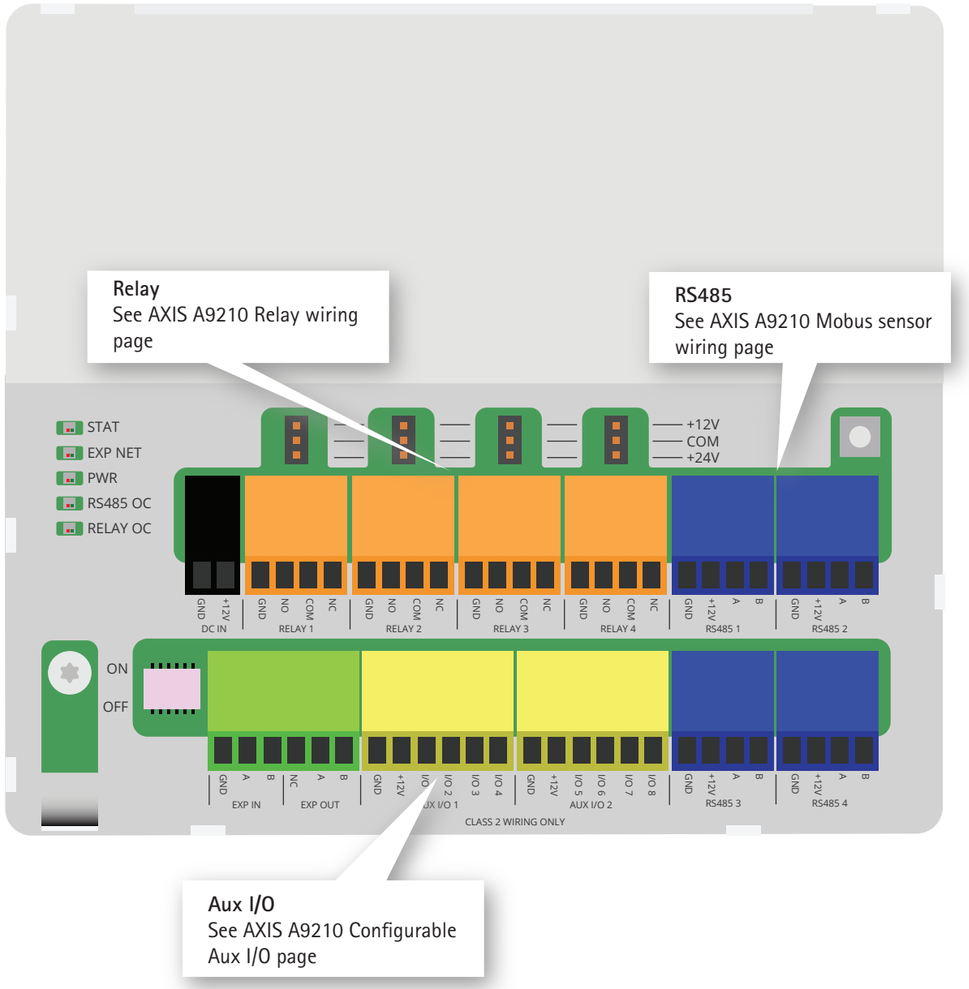
Expansion module - AXIS A9910

Application

Please refer to product datasheet for details and the device's web interface for power states

Requirements

- Wire size for connectors:
  - CSA: AWG 28 - 16
  - CUL/UL. AWG 30 - 14
- DC power: AWG 18 - 16, qualified for up to 3 m (10 ft)
- Relay: AWG 18 - 16, qualified for up to 30 m (98 ft)
- Ethernet and PoE: STP CAT 5e or higher, qualified for up to 100 m (328 ft)
- I/Os as input: AWG 24, qualified for up to 200 m (656 ft)
- RS485: 1 twisted pair with shield, 120 ohm impedance, quilified for up to 1000 m (3281 ft)



Adhere to local life safety code in all installations.
Illustration does not depict door monitors, REX devices, locks, controller power supply, network switch, battery backup and UPS.
Ensure that your power supplies and relays are rated for the intended purposes.
This is just an example.

Modbus sensor connected to A9210

Application

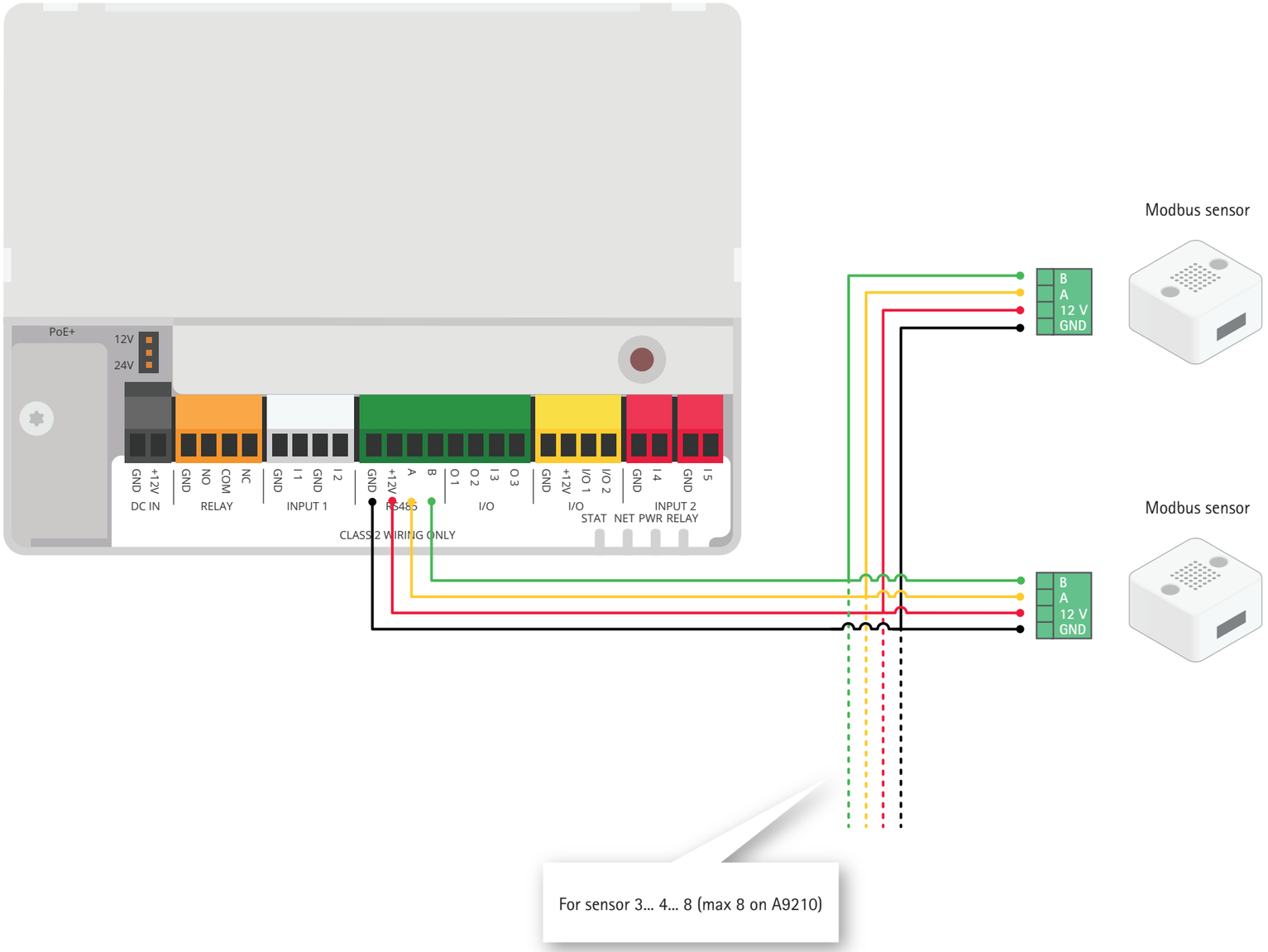
Please refer to product datasheet for details and the device's web interface for power states

Requirements

> A9210: Max 8 Modbus sensors per RS485 port

> A9910: Max 16 Modbus devices per device, 8 Modbus sensors per port

> Max 64 Modbus sensors on 1x A9210 combined with 16x A9910



Adhere to local life safety code in all installations.
Illustration does not depict door monitors, REX devices, locks, controller power supply, network switch, battery backup and UPS.
Ensure that your power supplies and relays are rated for the intended purposes.
This is just an example.

Modbus sensor connected to A9910

Application

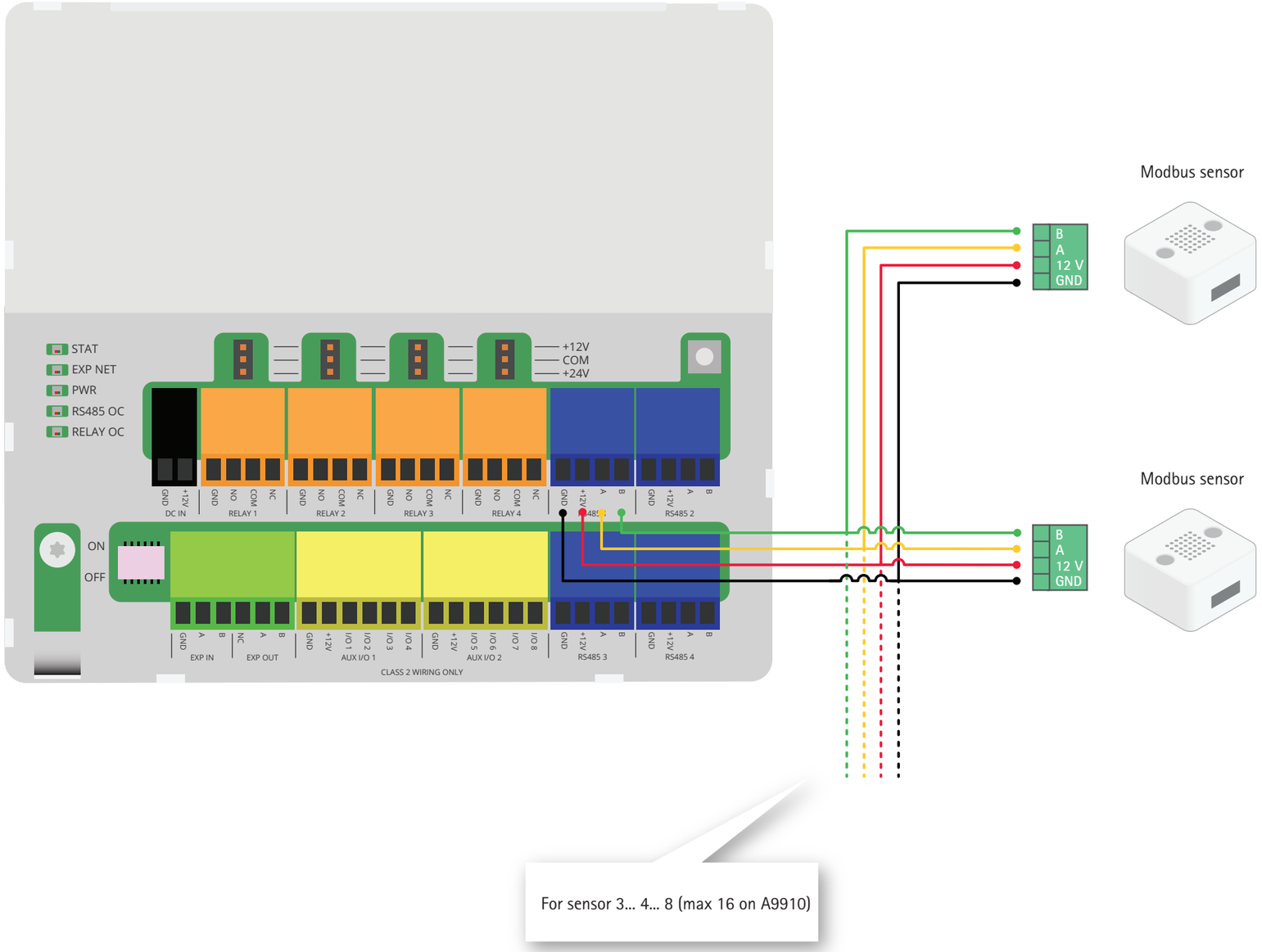
Please refer to product datasheet for details and the device's web interface for power states

Requirements

> A9210: Max 8 Modbus sensors per RS485 port

> A9910: Max 16 Modbus devices per device, 8 Modbus sensors per port

> Max 64 Modbus sensors on 1x A9210 combined with 16x A9910



Adhere to local life safety code in all installations.
Illustration does not depict door monitors, REX devices, locks, controller power supply, network switch, battery backup and UPS.
Ensure that your power supplies and relays are rated for the intended purposes.
This is just an example.