Grenton

Installation guideline

2023/2024

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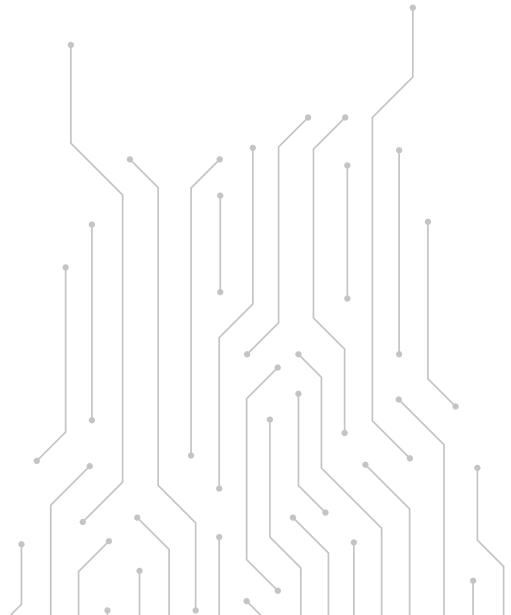
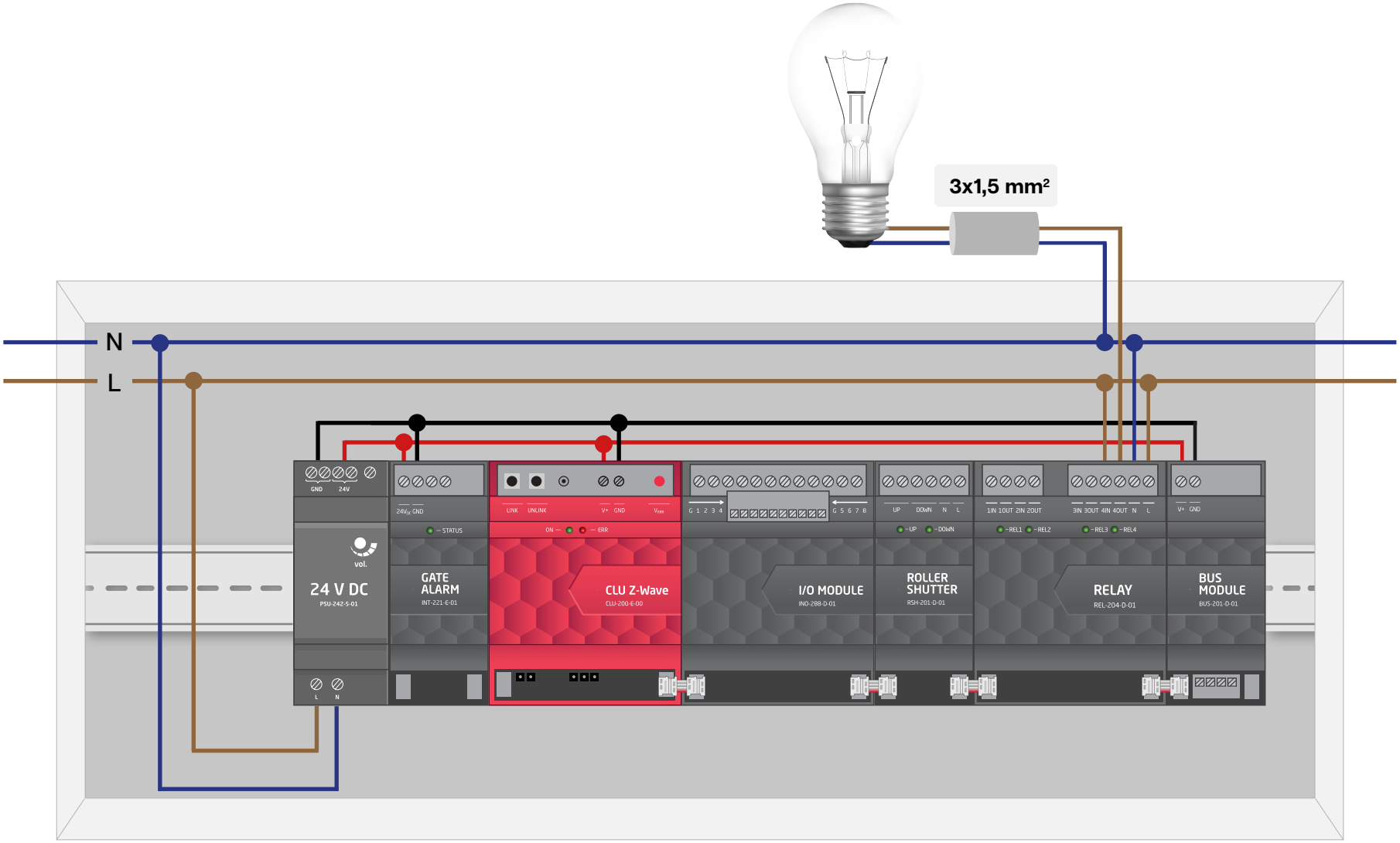
Building wiring



Electrical installation - lighting

230V power cables



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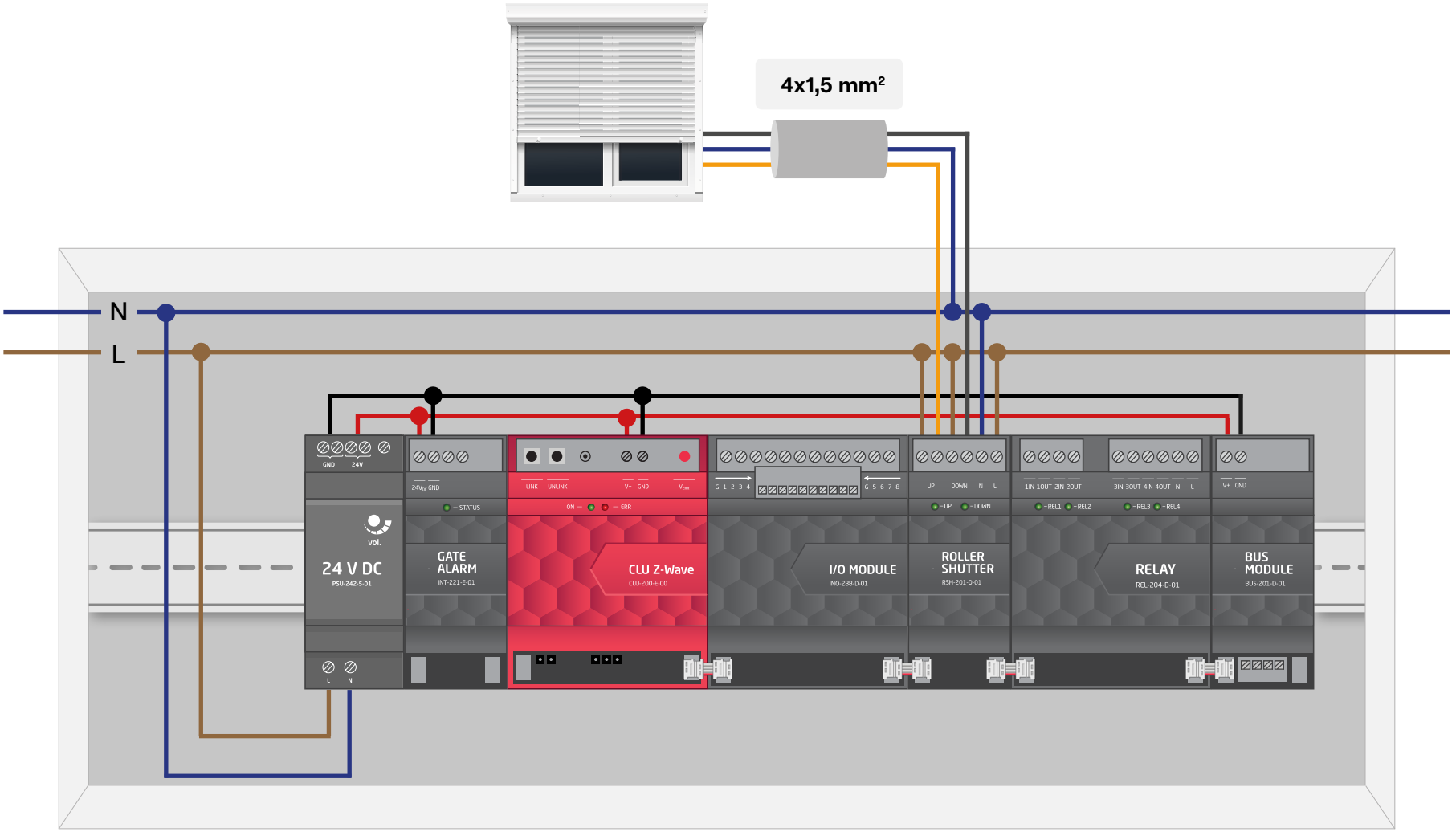
Electrical installation - roller shutters

230V power cables



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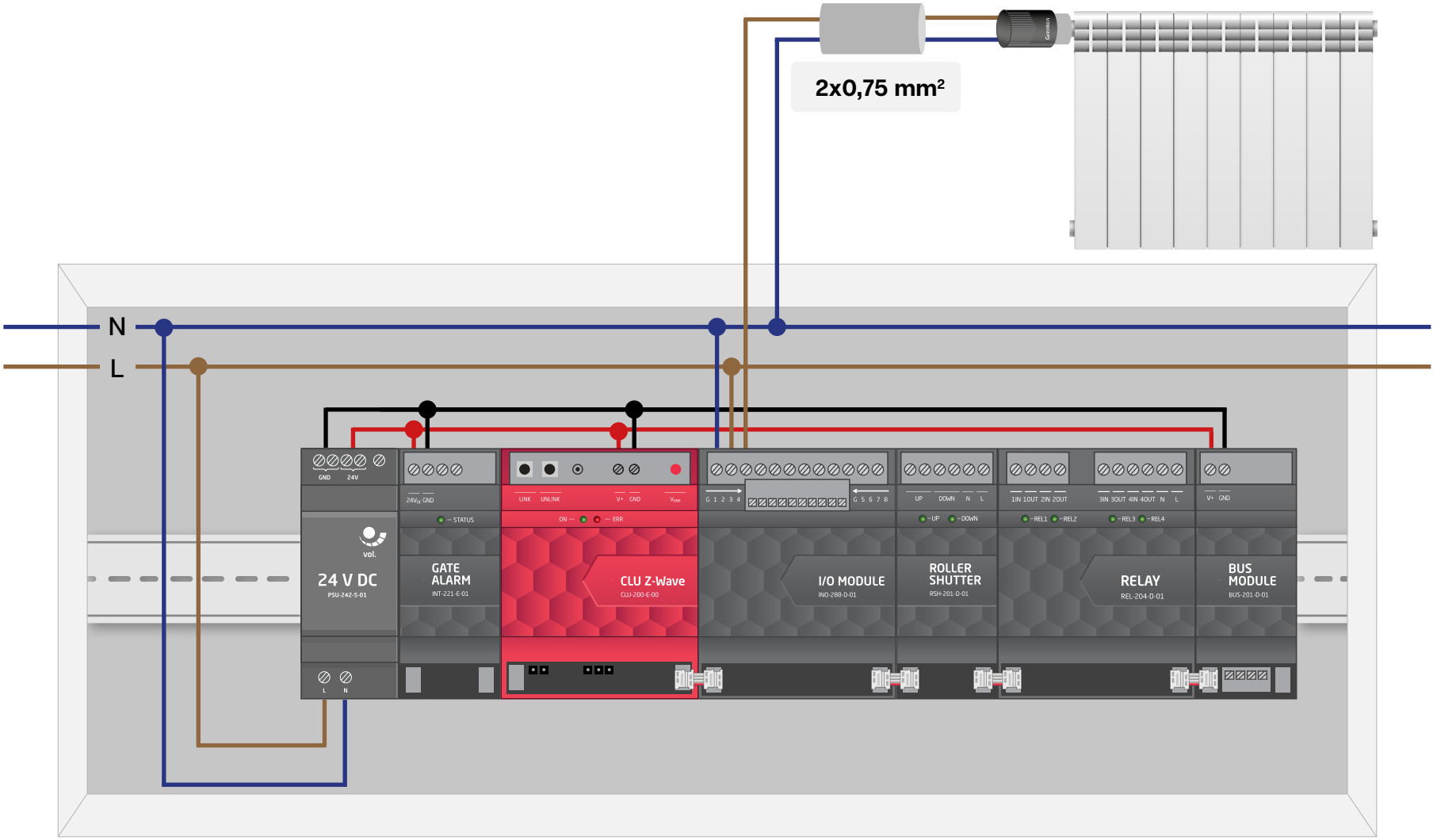
Electrical installation - heating

230V power cables



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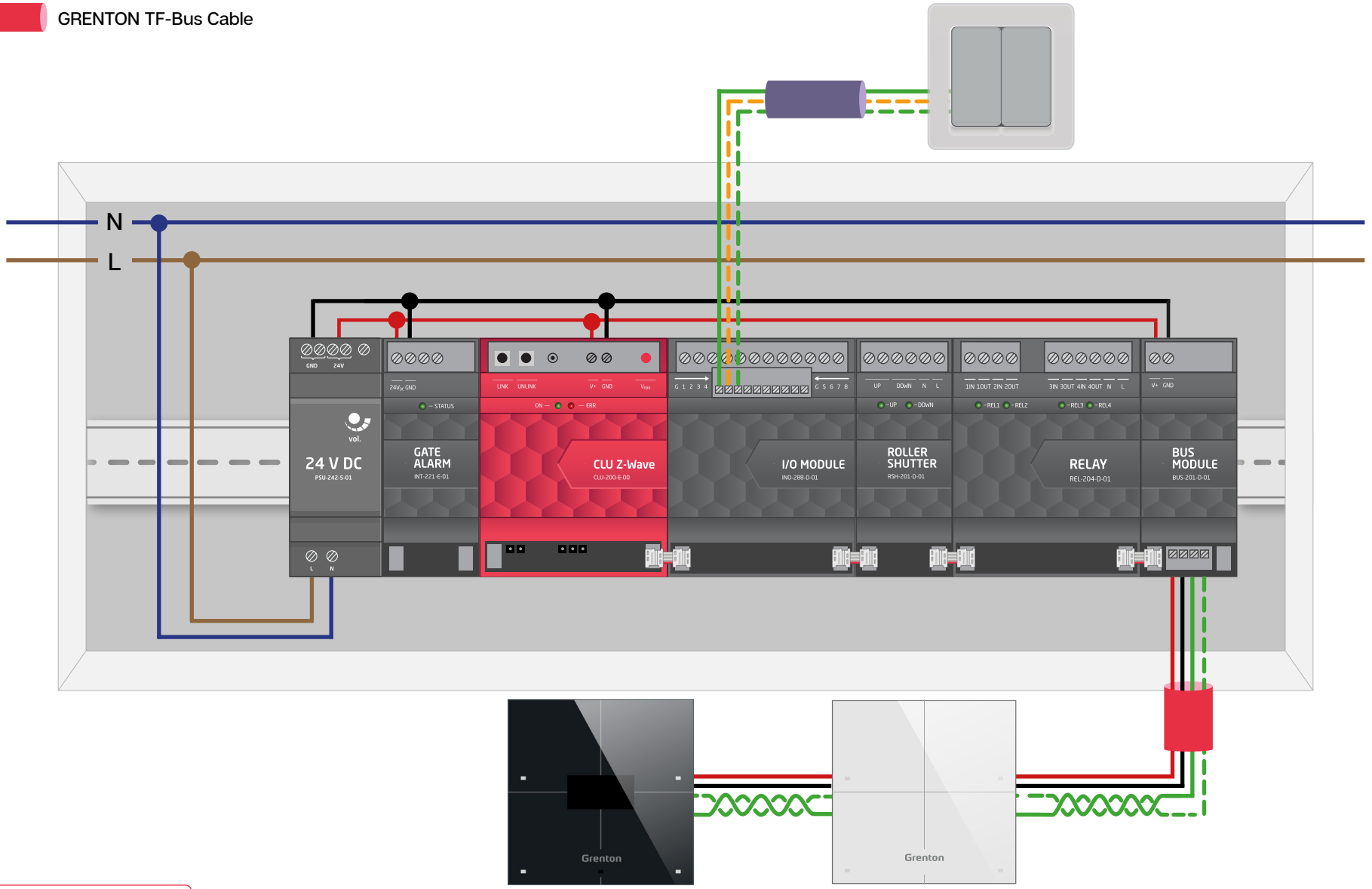
Electrical installation - touch panels and switches

Telecommunications cables

GRENTON TF-Bus Cable



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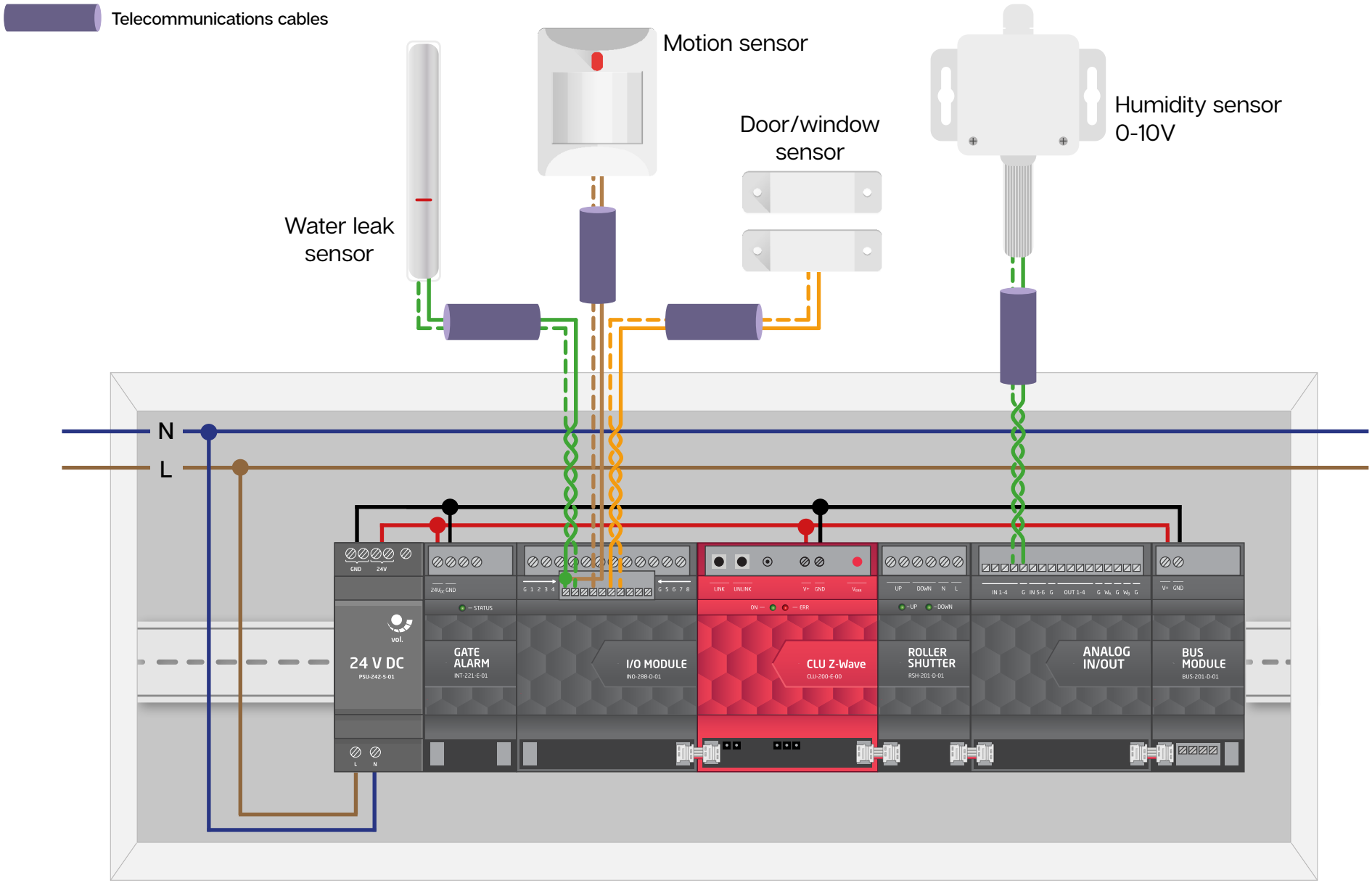
Electrical installation - sensors



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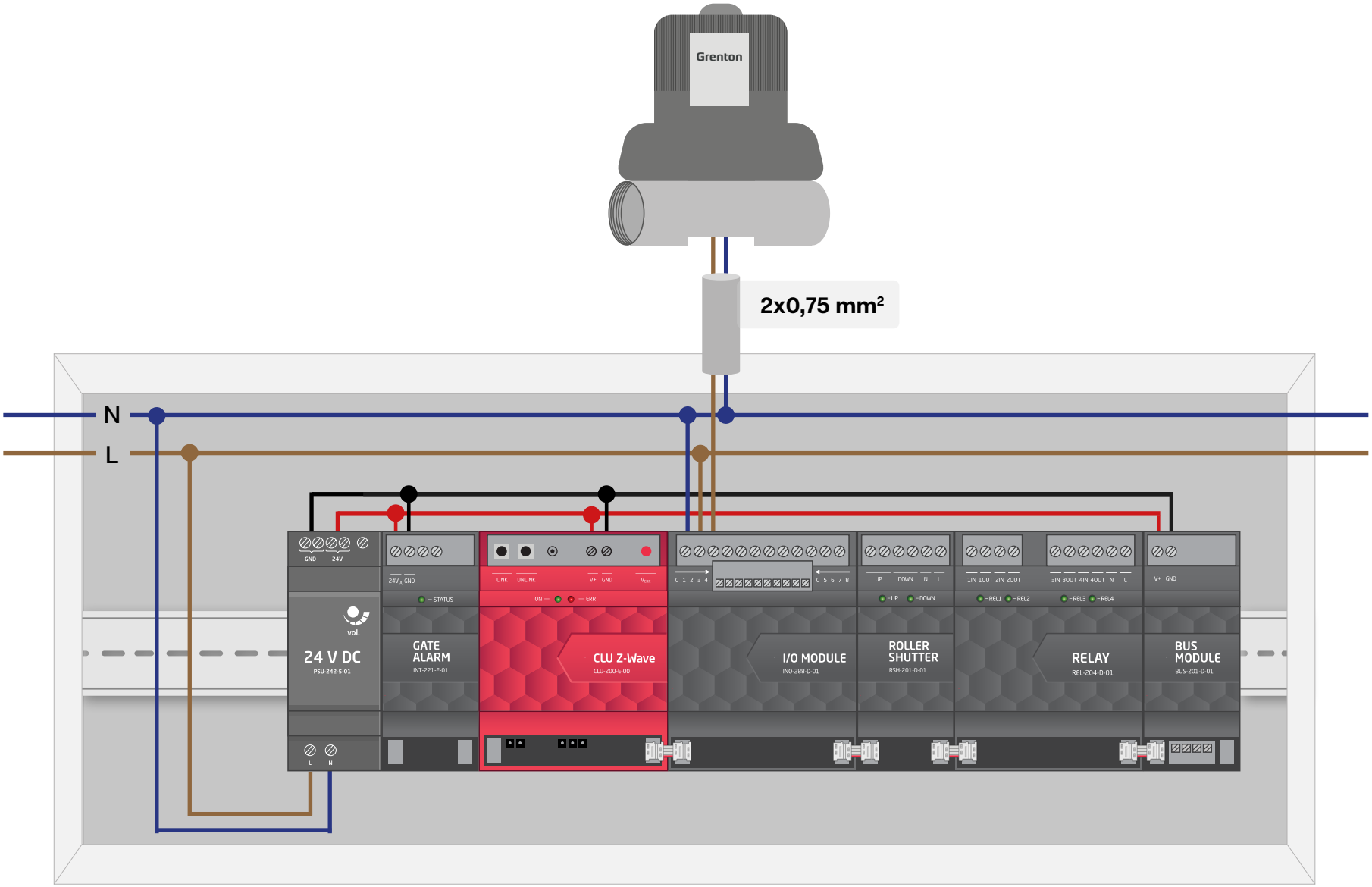
Electrical installation - water valves

230V power cables



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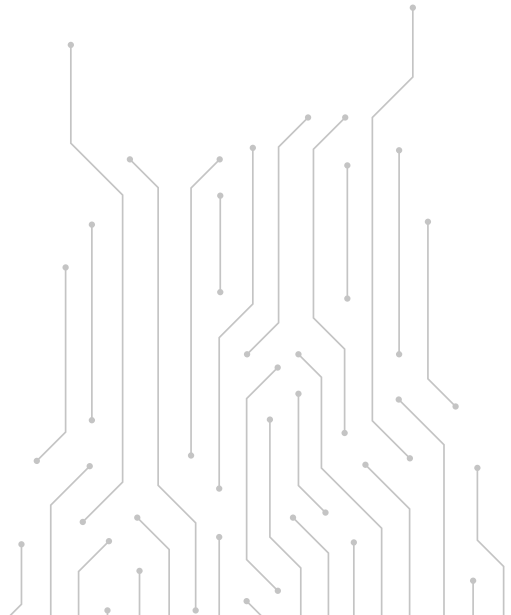
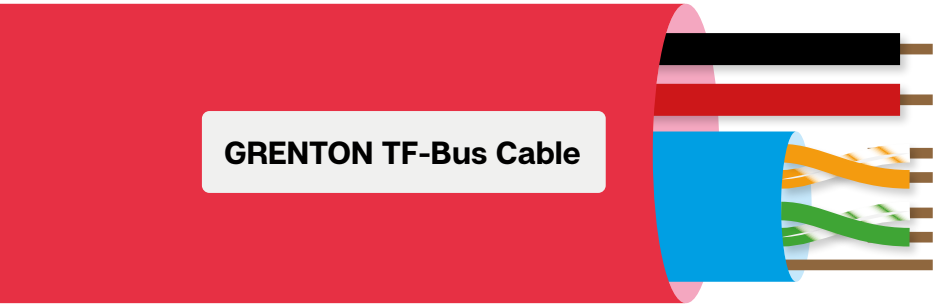
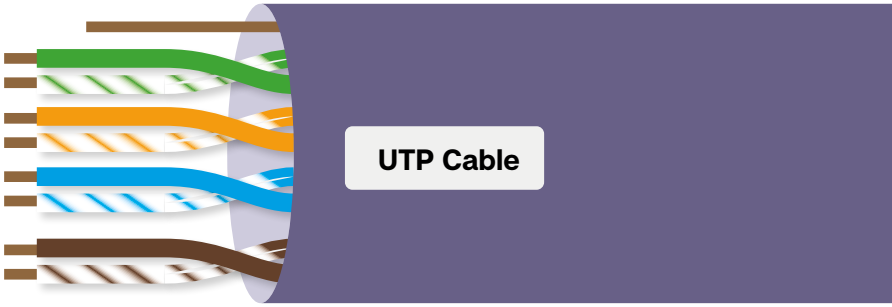
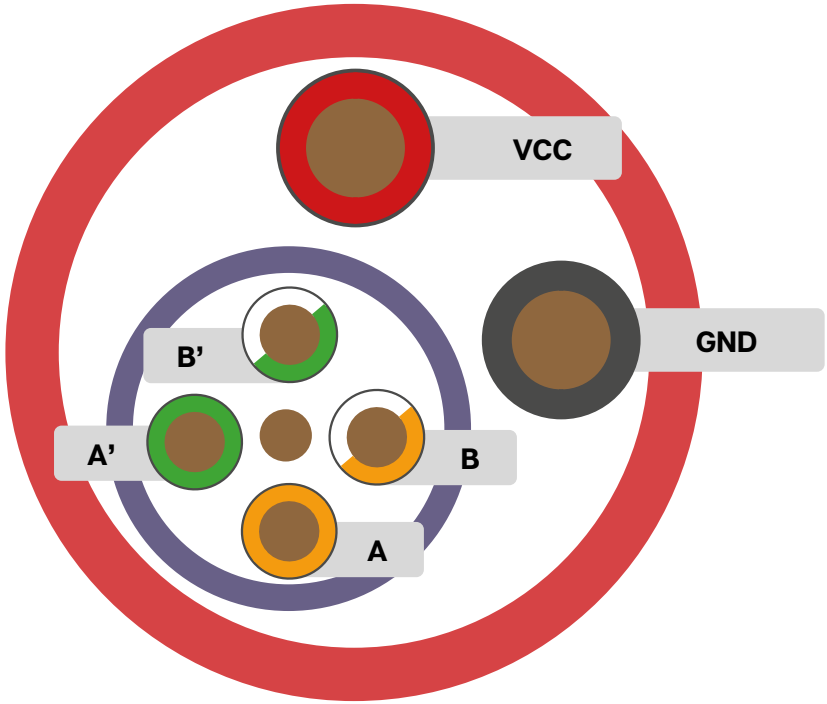
Grenton TF-Bus

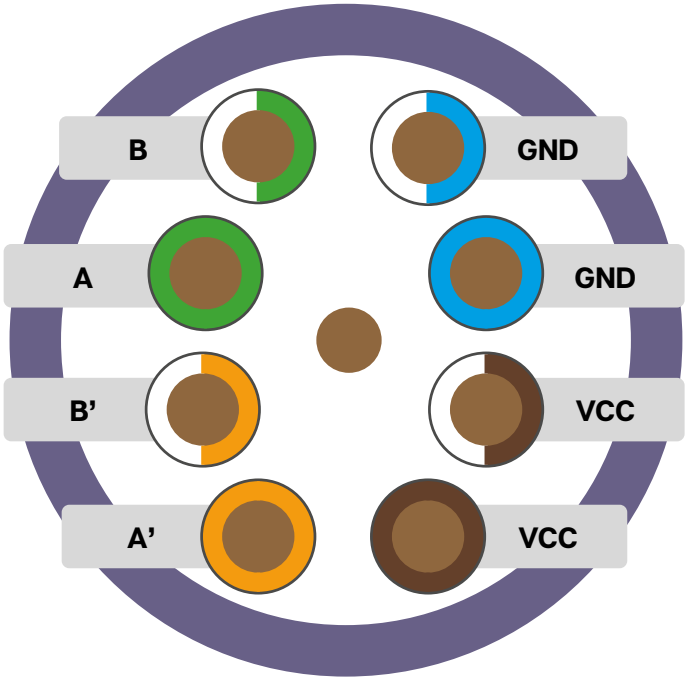


Bus cable - requirements









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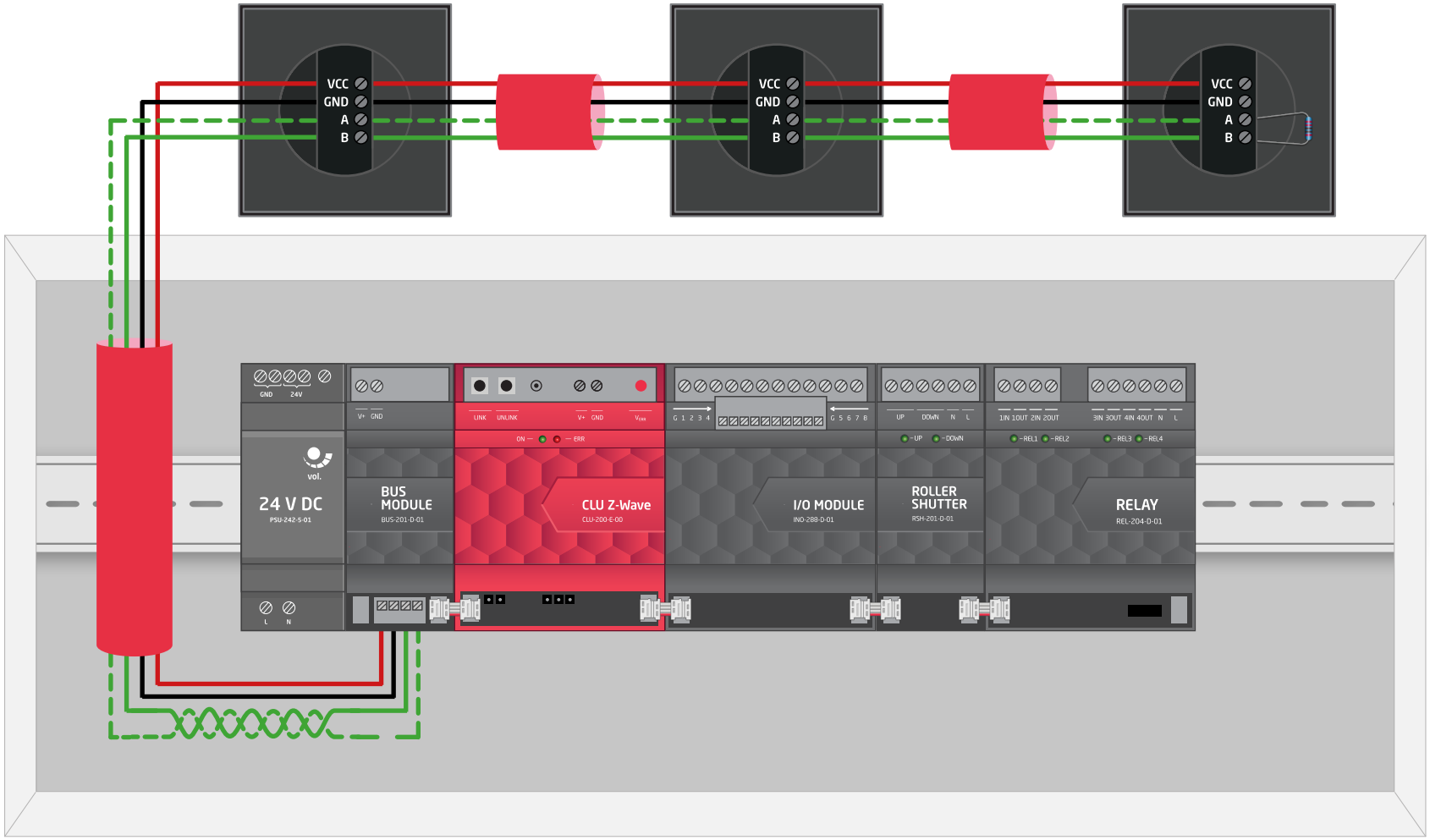
Serial data communication wiring

GRENTON TF-Bus Cable



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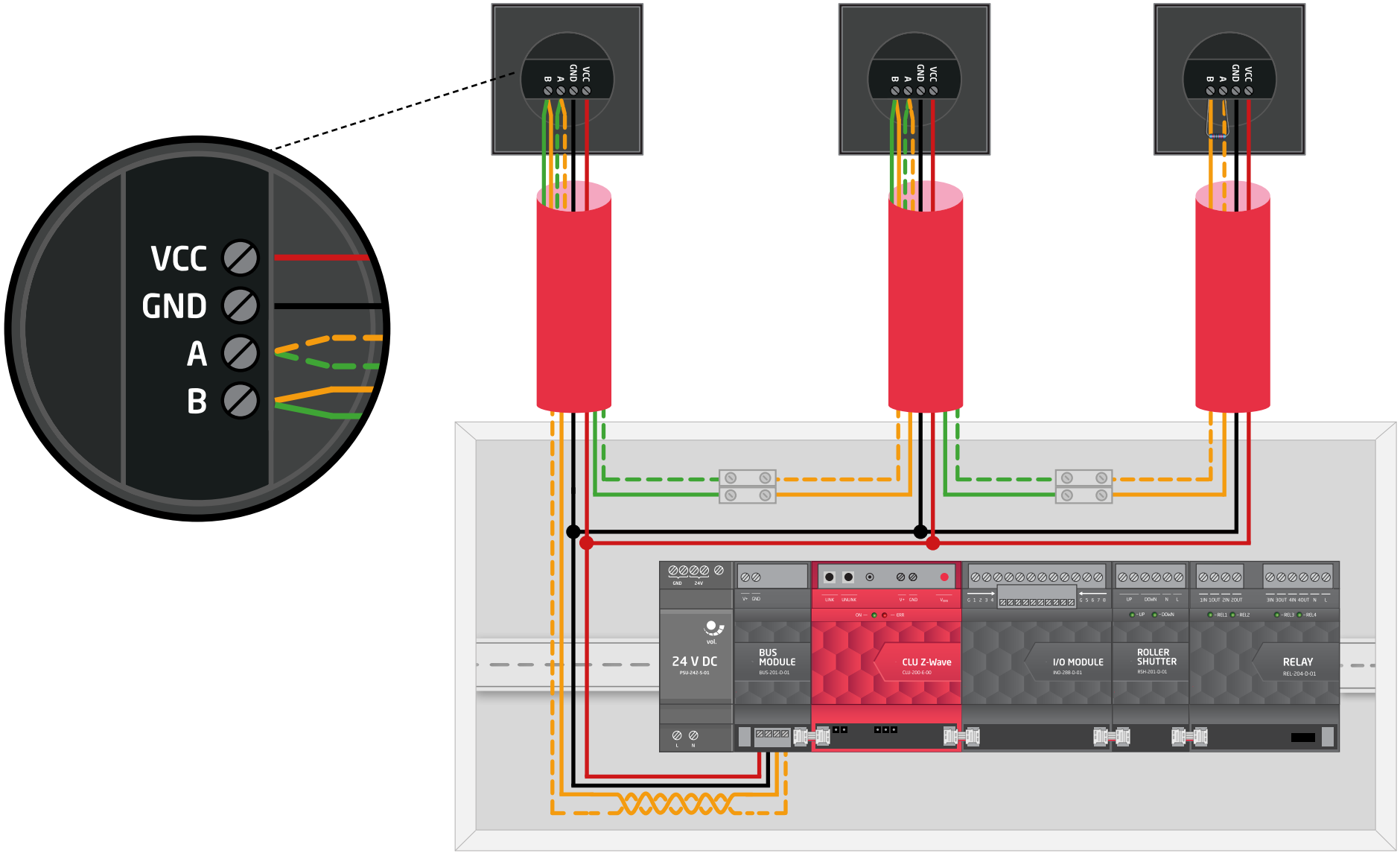
Star data communication wiring - bus “straightening”

GRENTON TF-Bus Cable



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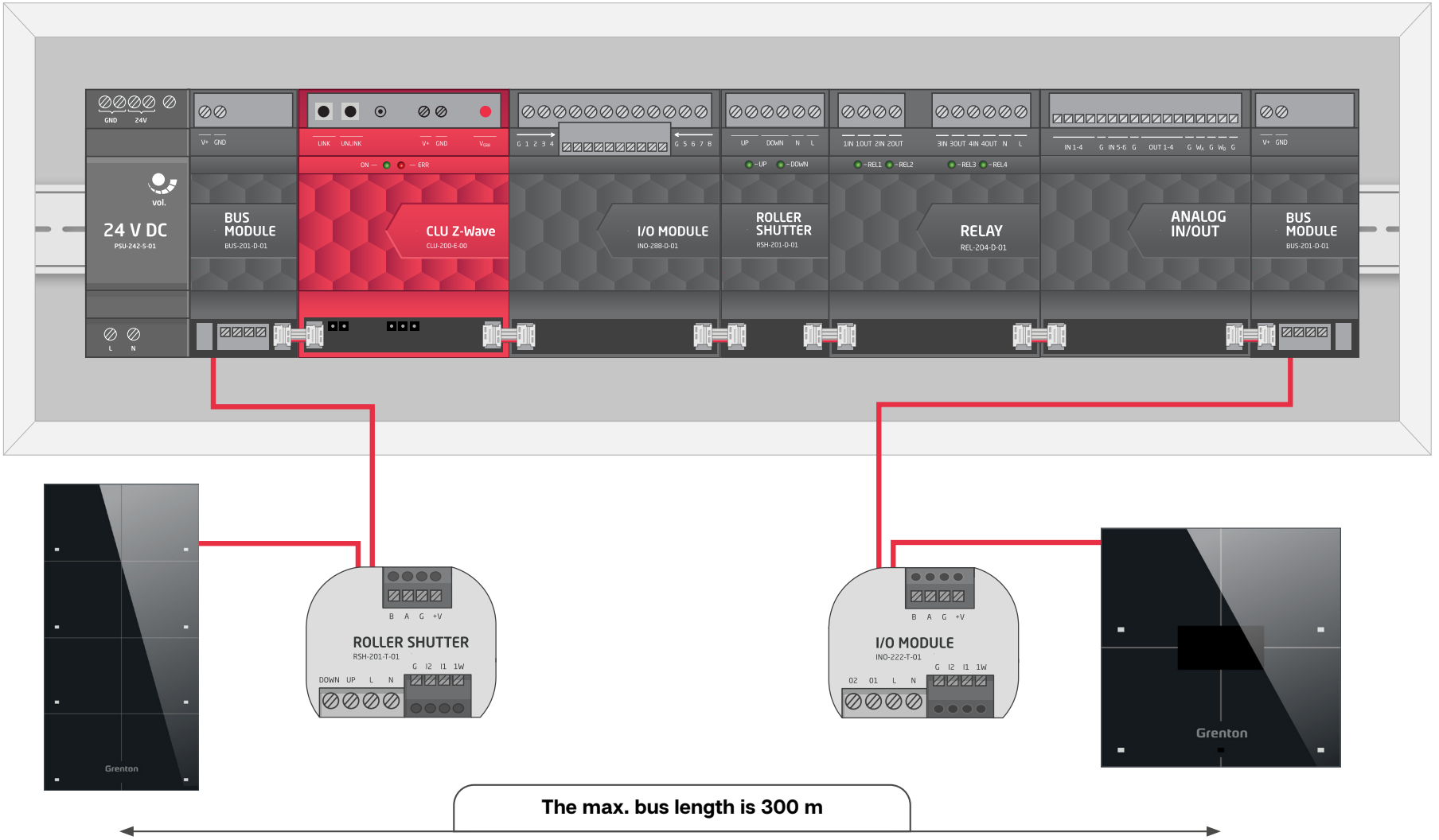
Bus length



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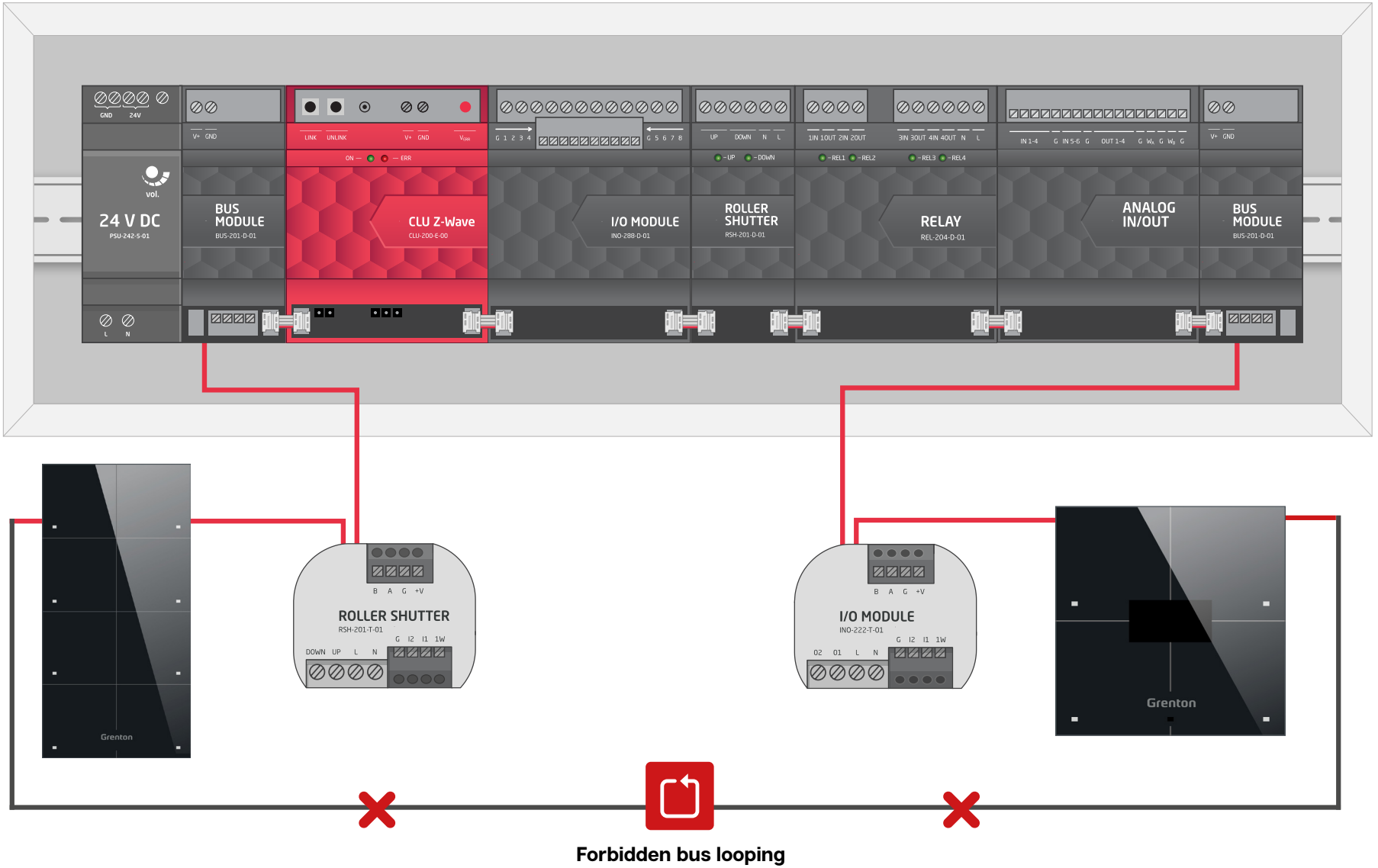
Forbidden bus looping



Forbidden bus looping

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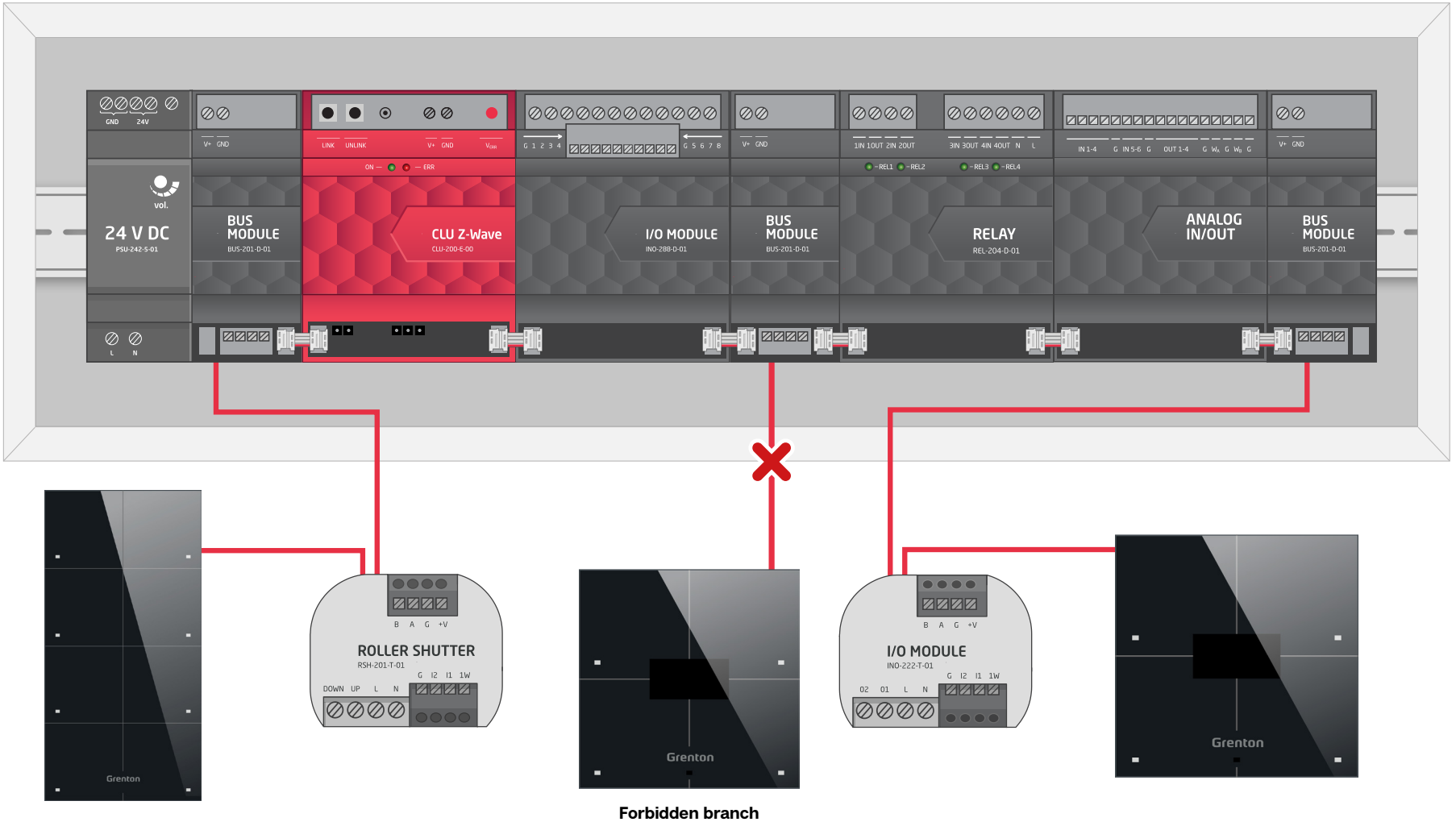
Forbidden branching



Forbidden branch

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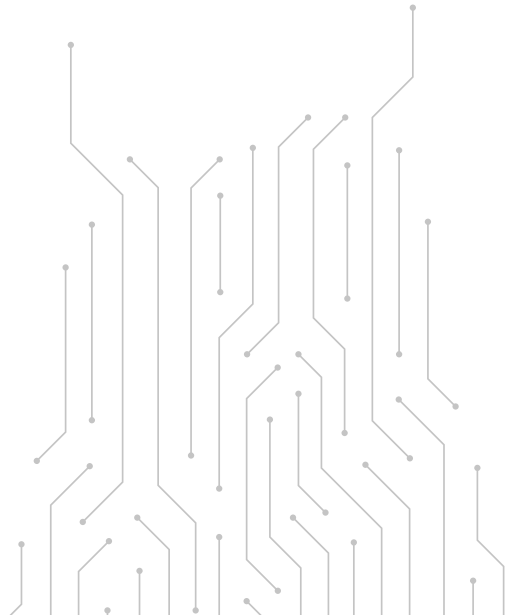
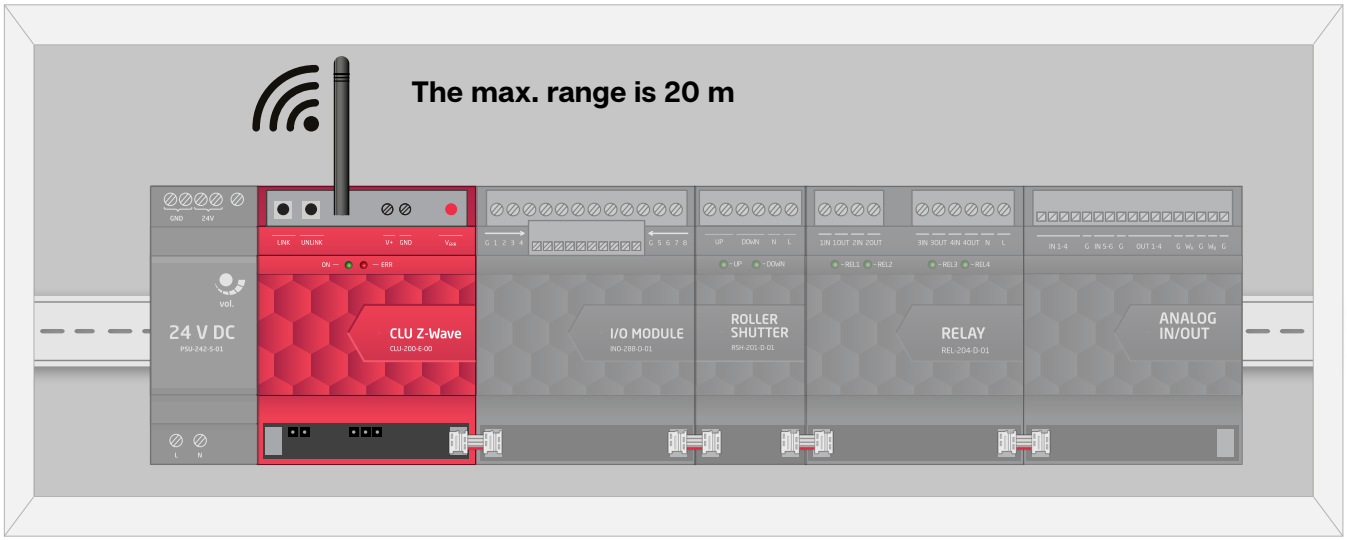
Wireless protocols



Z-Wave



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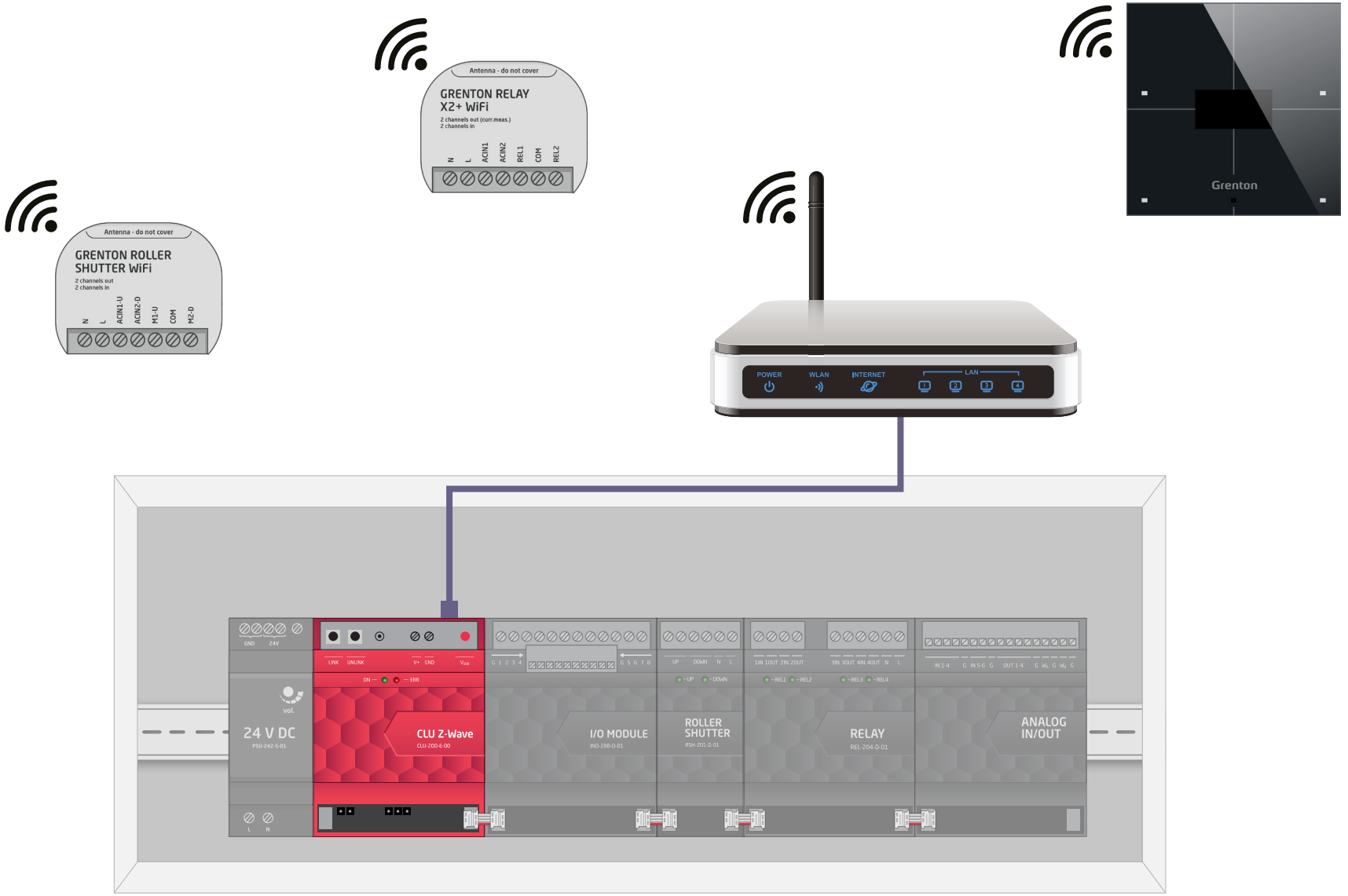
System including Wi-Fi modules and CLU

Telecommunications cables



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System including Wi-Fi modules without CLU

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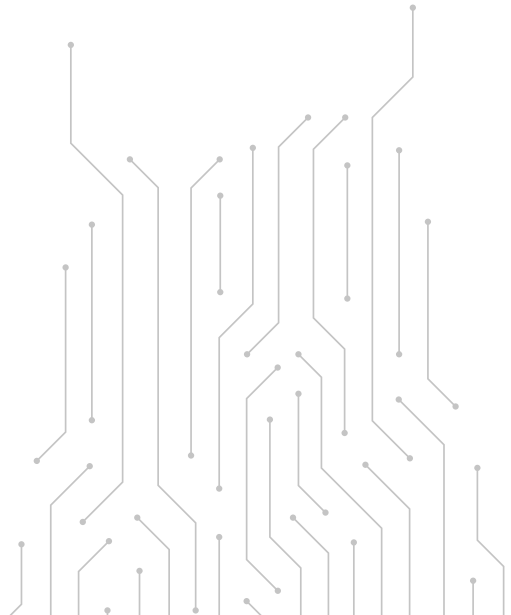
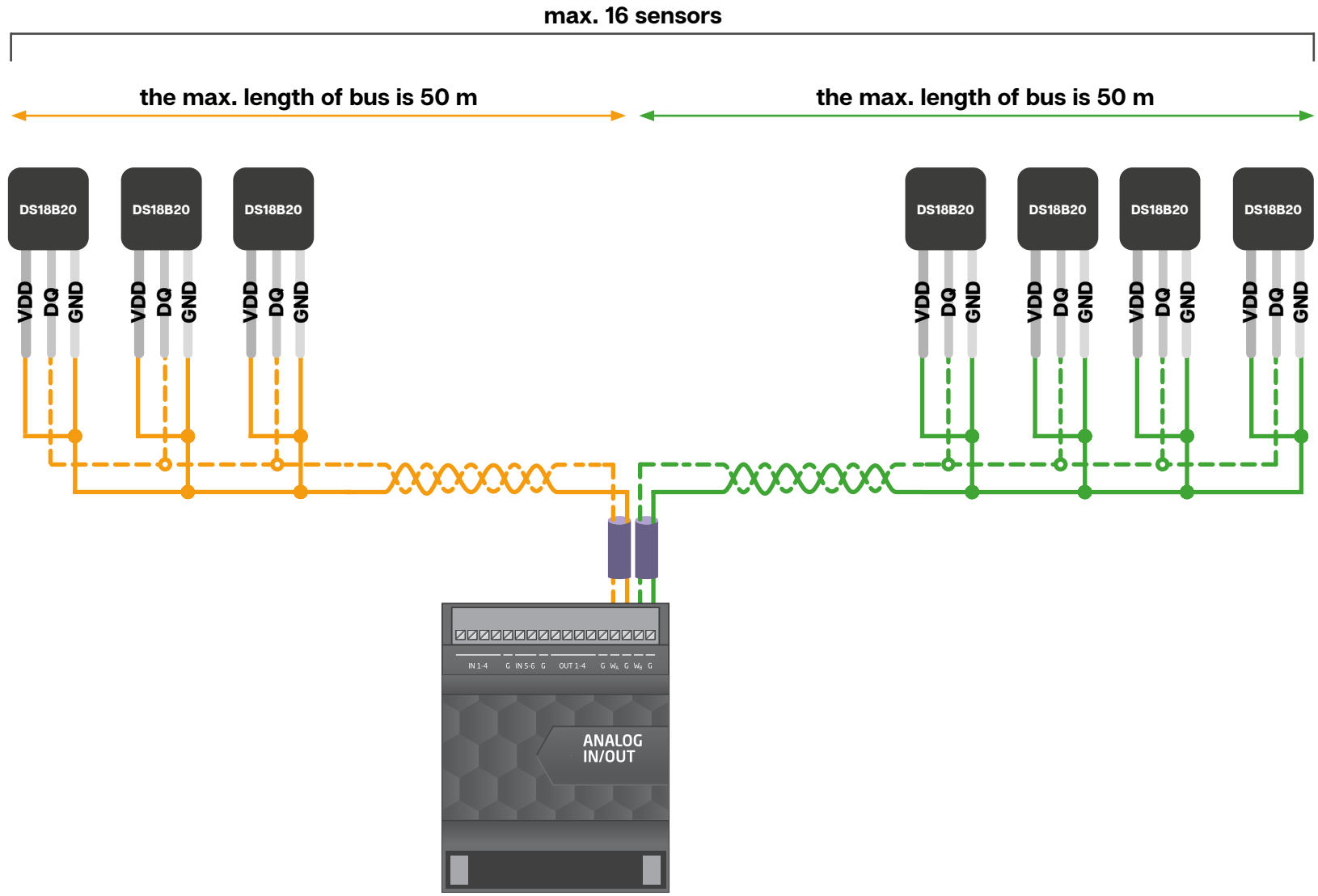
1-Wire bus



Data communication wiring

Telecommunications cables



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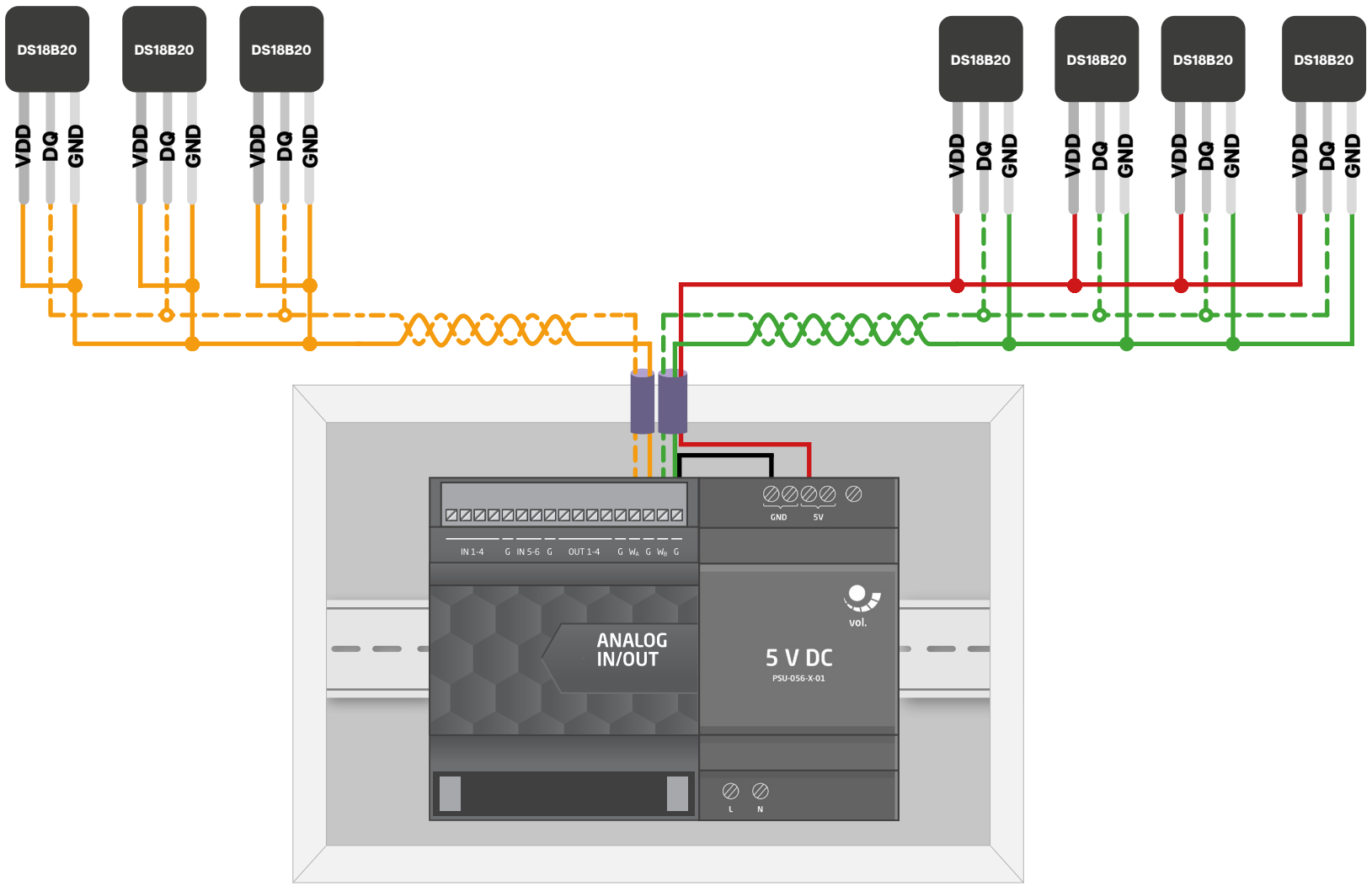
Analog IN/OUT module - sensors connection

Telecommunications cables

Two-wire connection (power directly from the data line - “parasite power”)

Three-wire connection (power from an external power supply unit)



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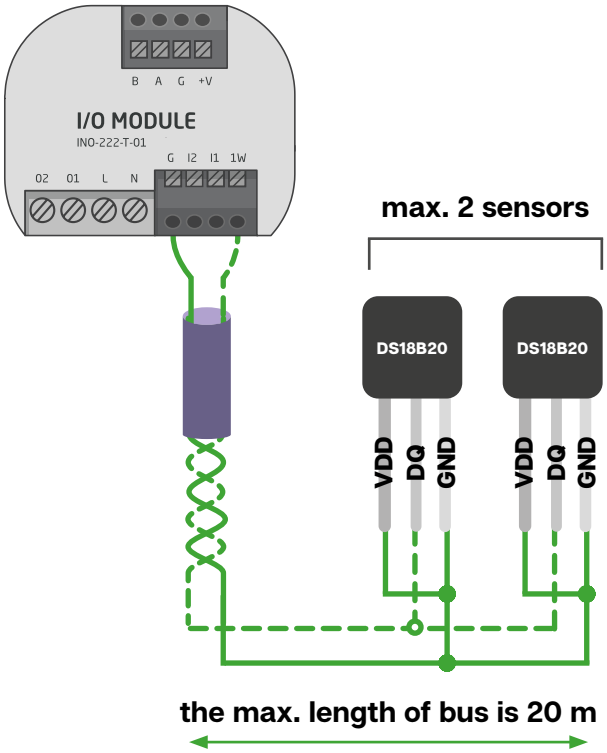
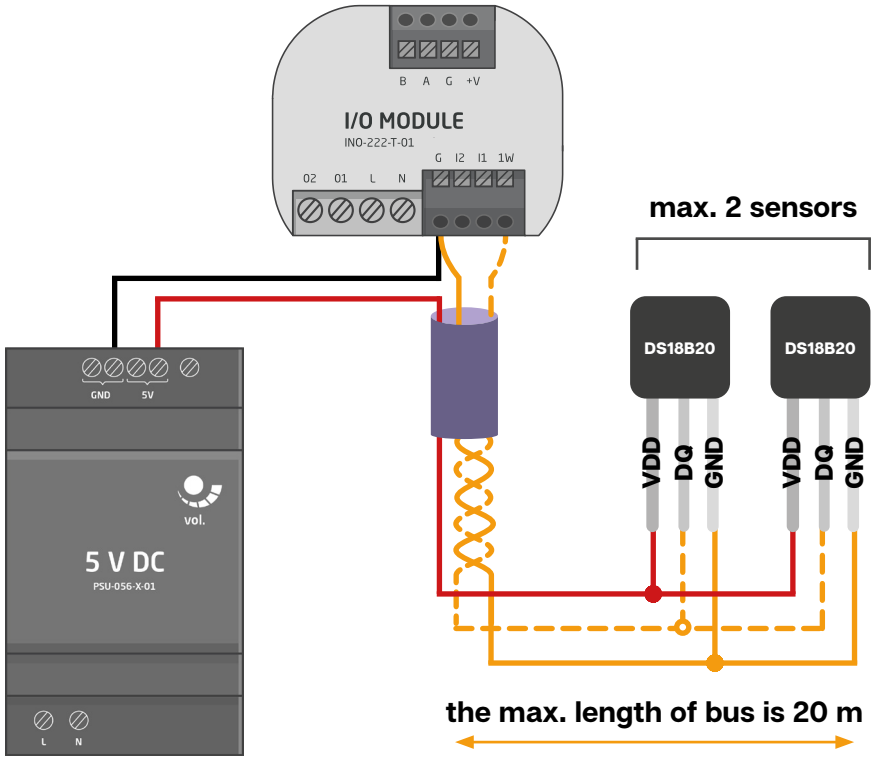
Flush-mounted modules - sensors connection

Telecommunications cables

Two-wire connection (power directly from the data line - “parasite power”)



Three-wire connection (power from an external power supply unit)



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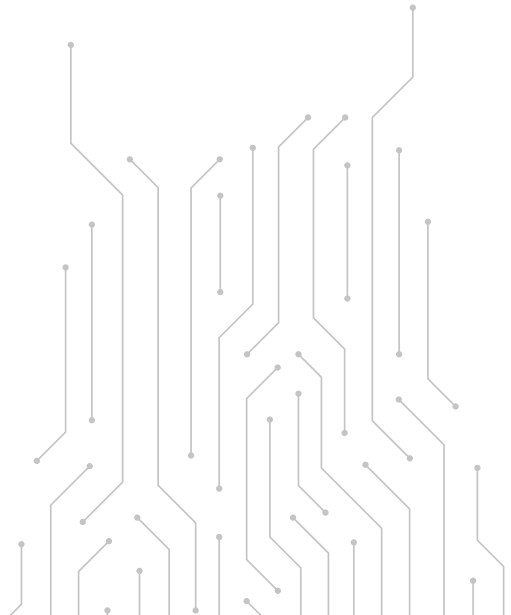
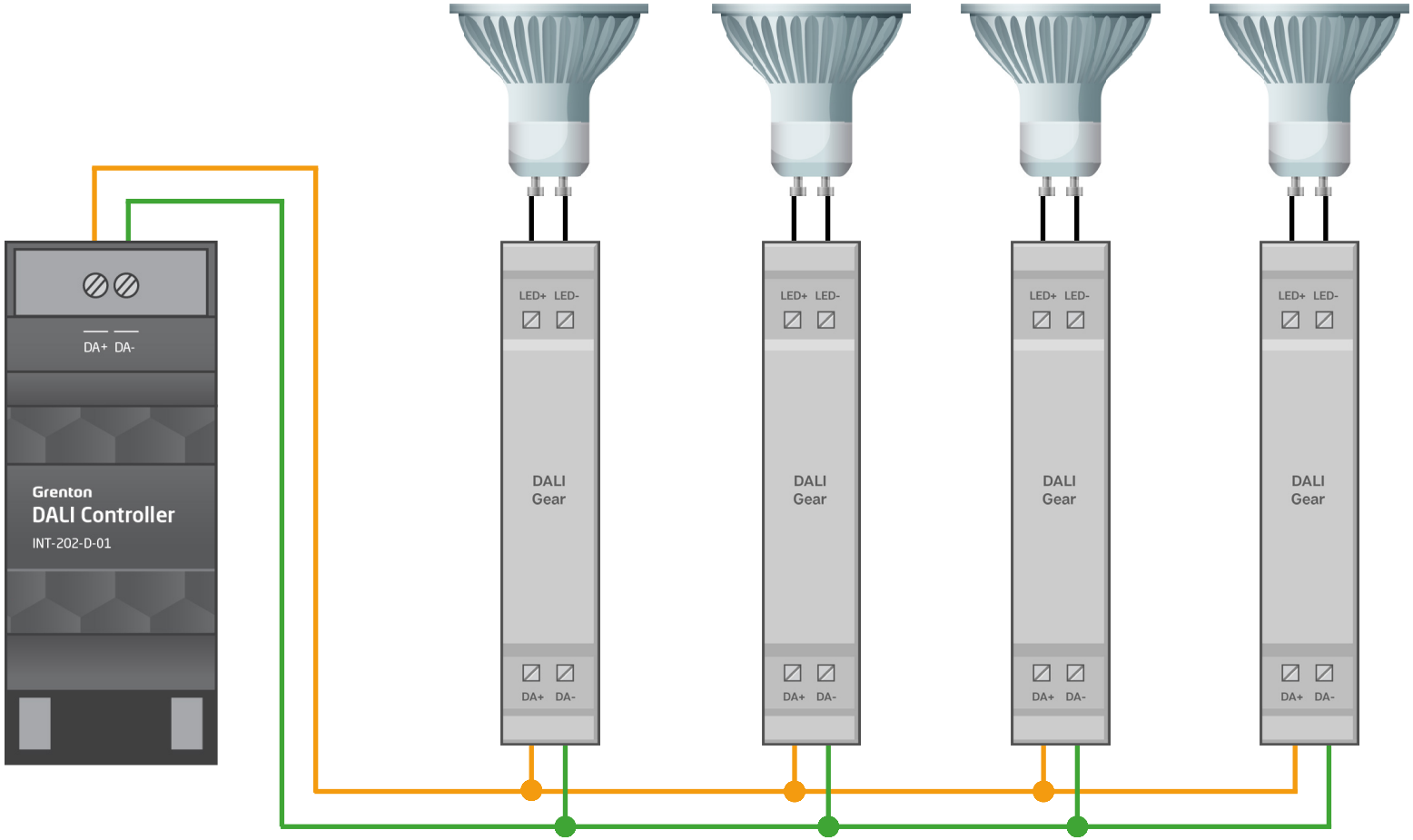
DALI bus



Serial data communication wiring



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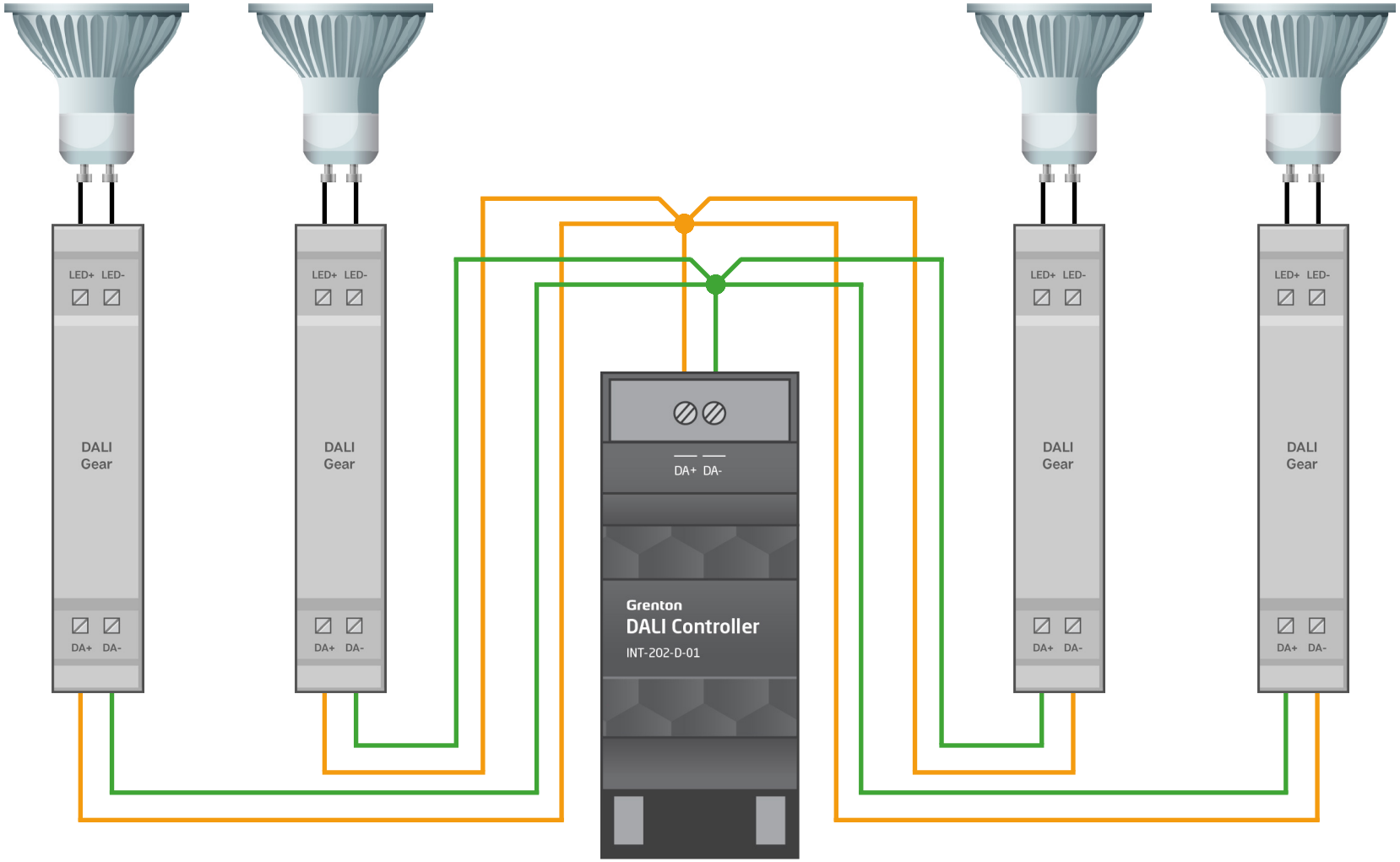
Star data communication wiring



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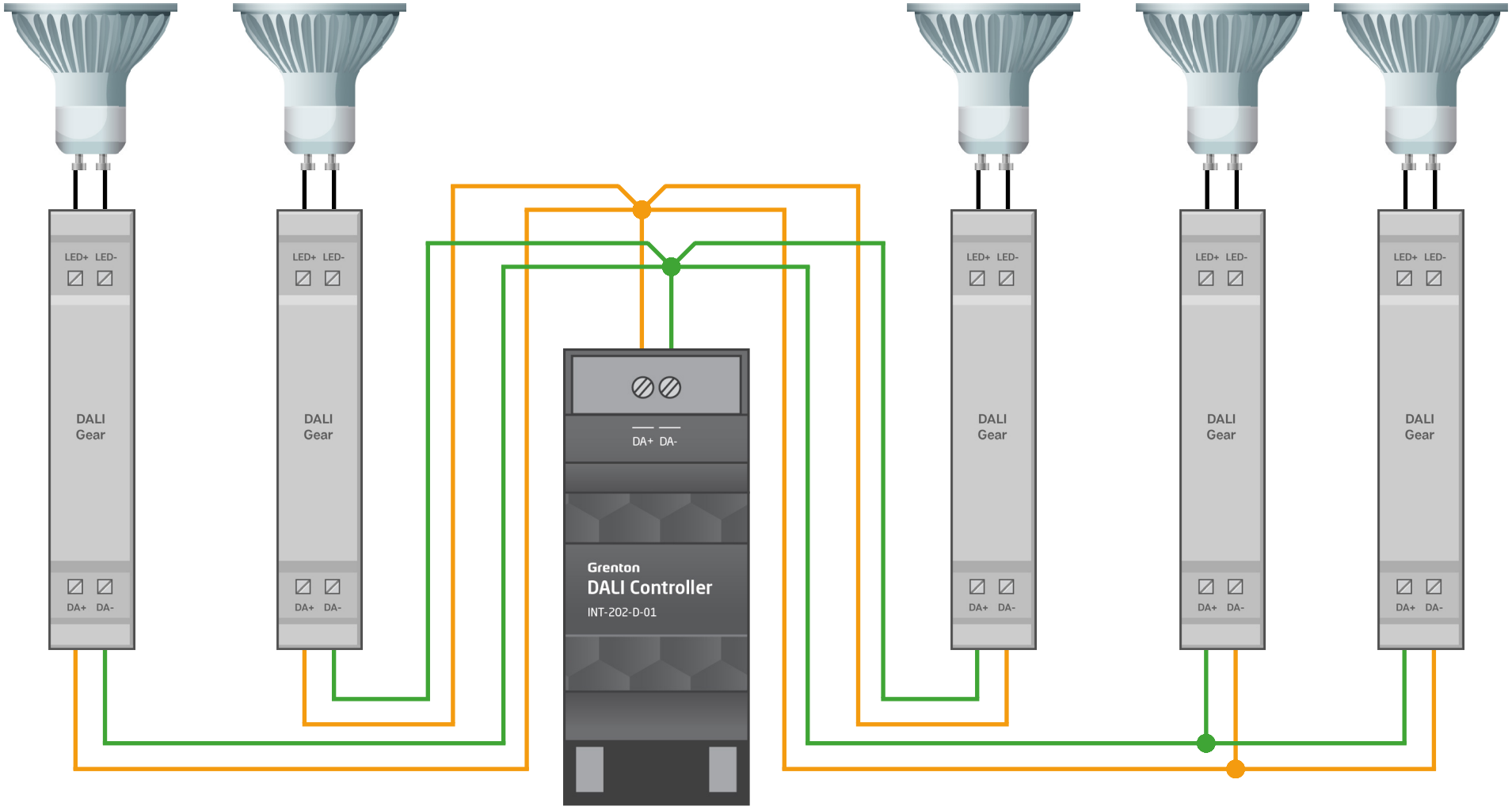
Mixed data communication wiring



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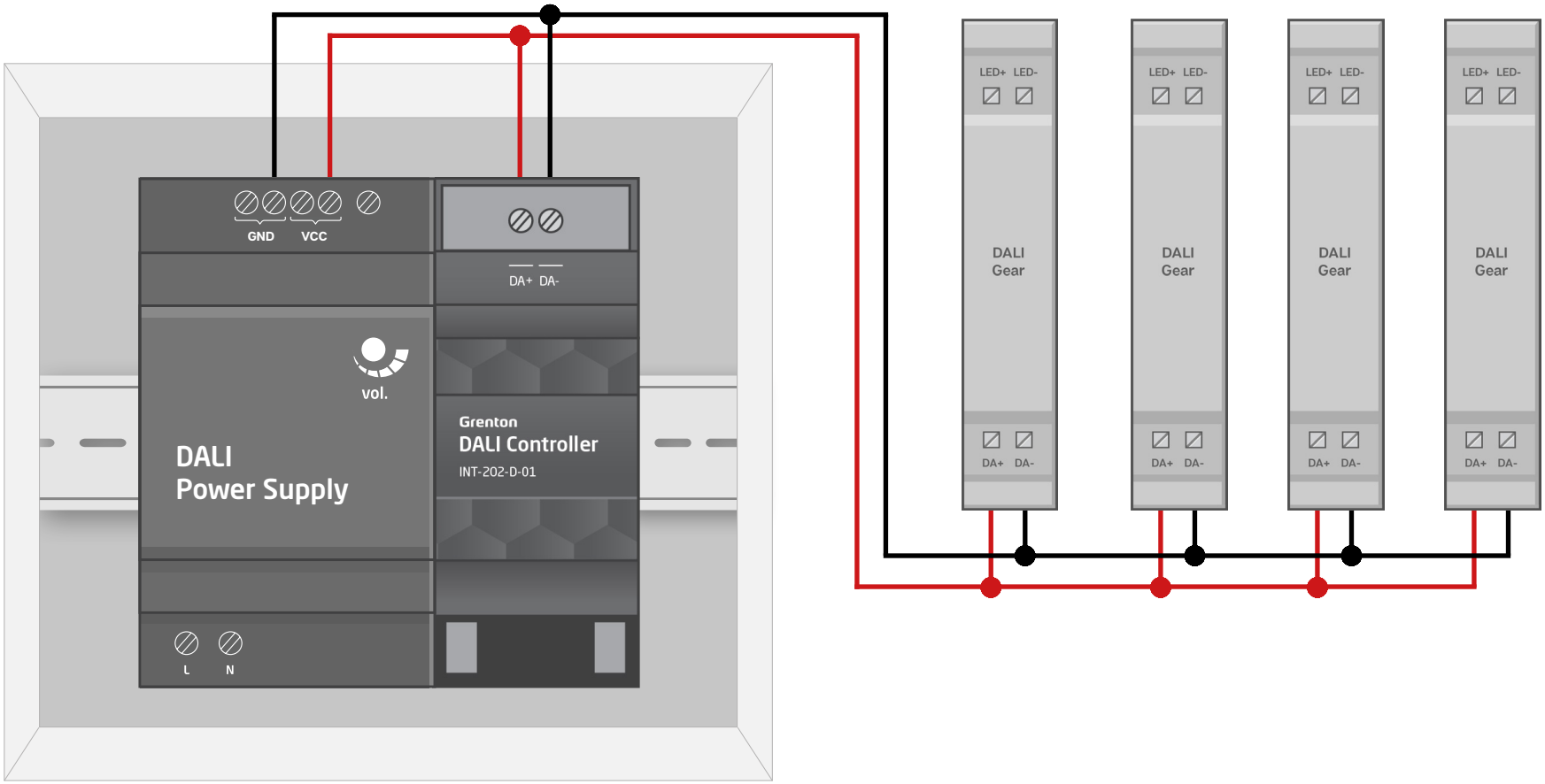
Bus power supply

The maximum output current of the power supply unit is 250 mA



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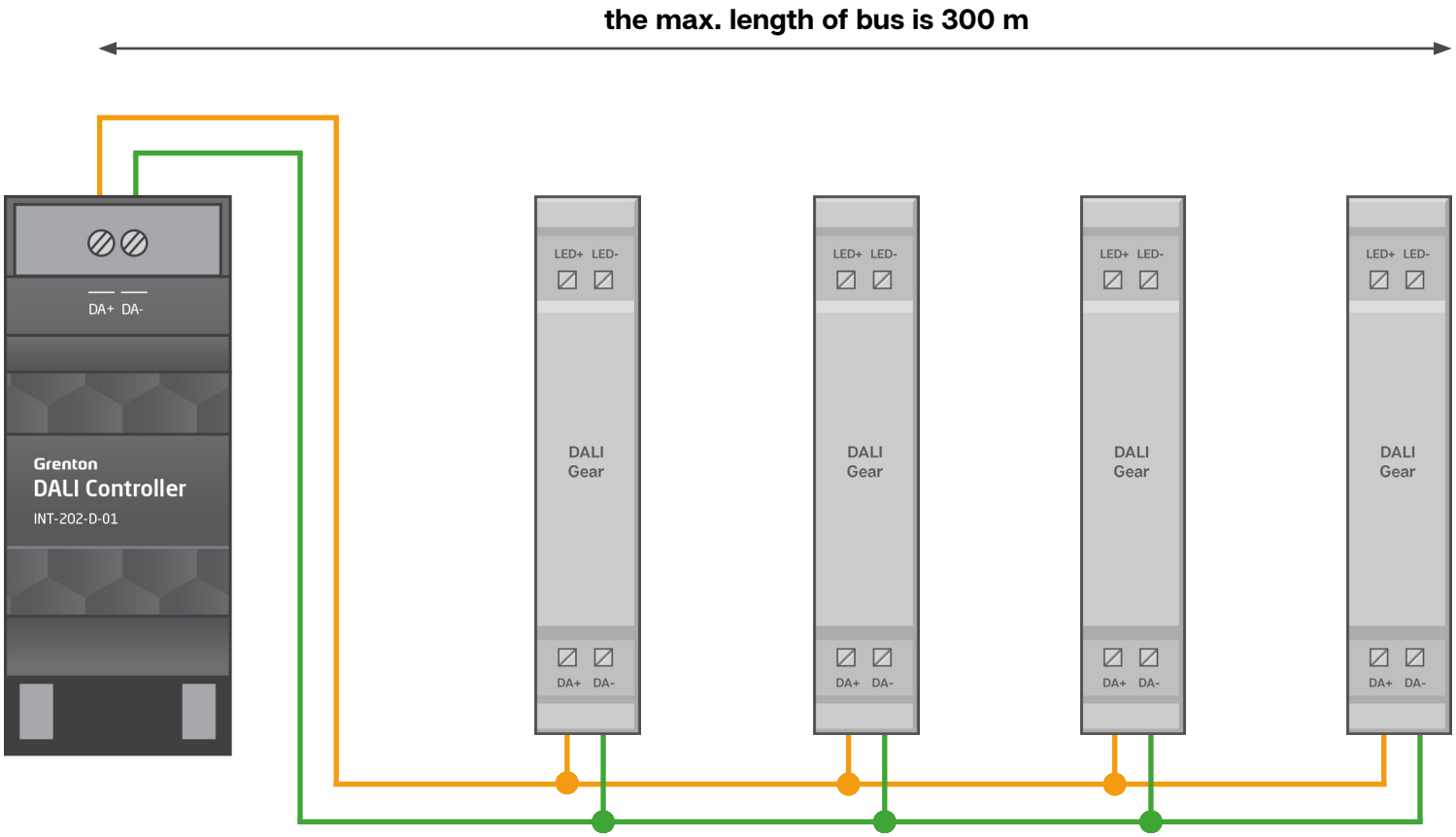
DALI bus - requirements

- **Recommended cable cross-section is 1.5 mm²**
- **No polarity for the DALI bus**
- **Looping, short-circuiting the bus or connecting other buses are not allowed**
- **DALI bus voltage is 13-20V**



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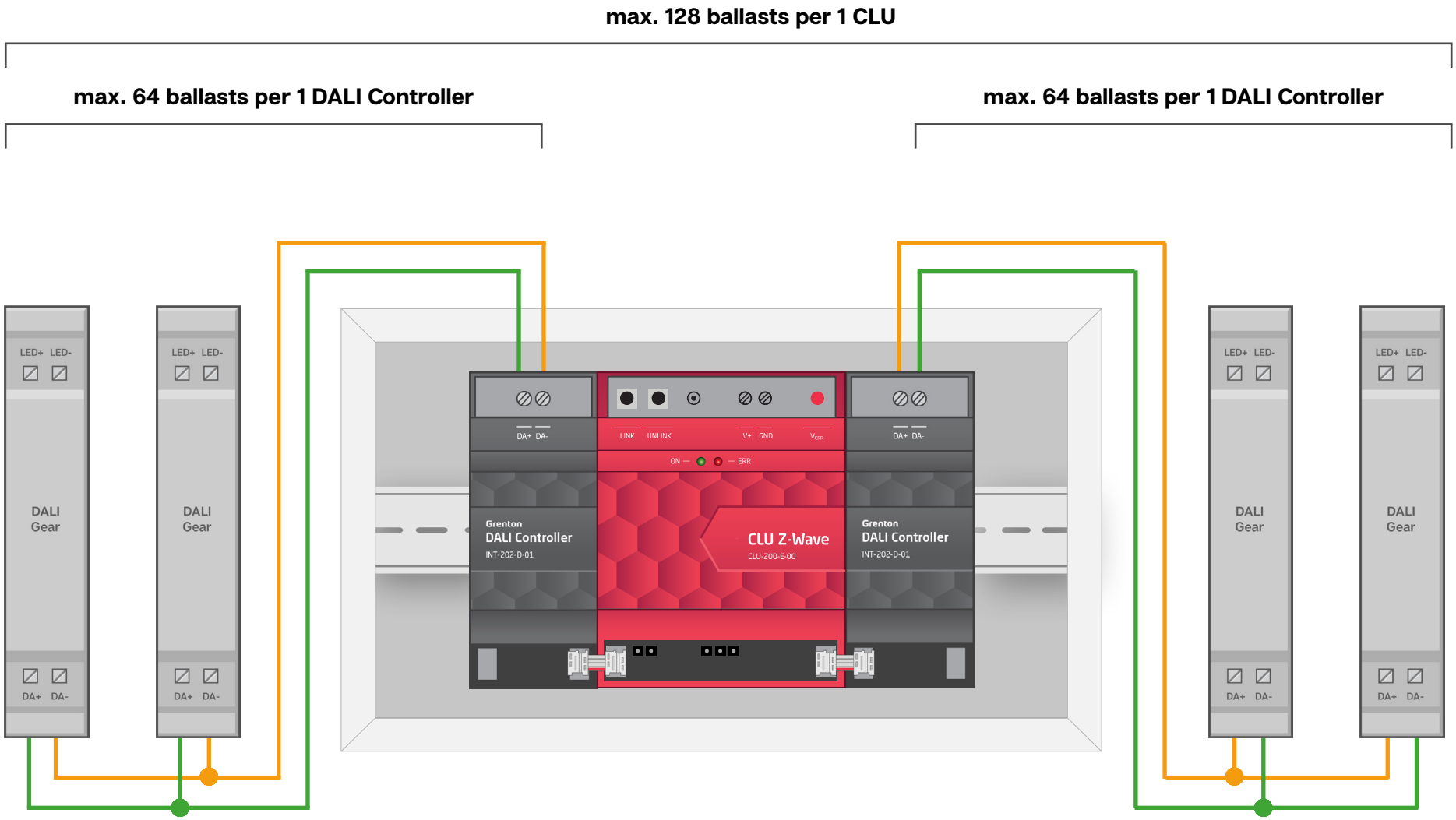
Number of ballasts



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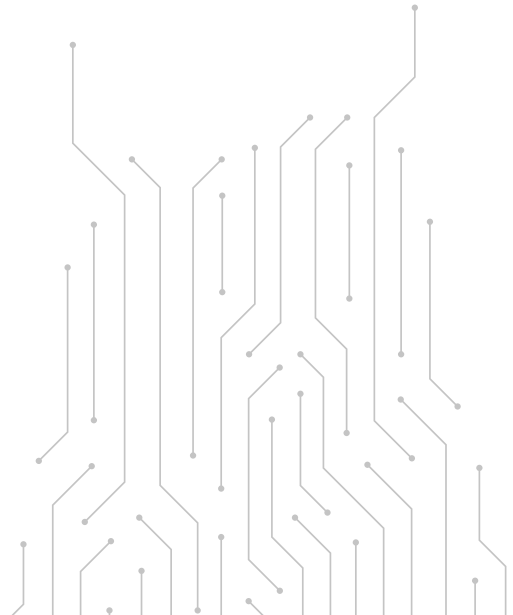
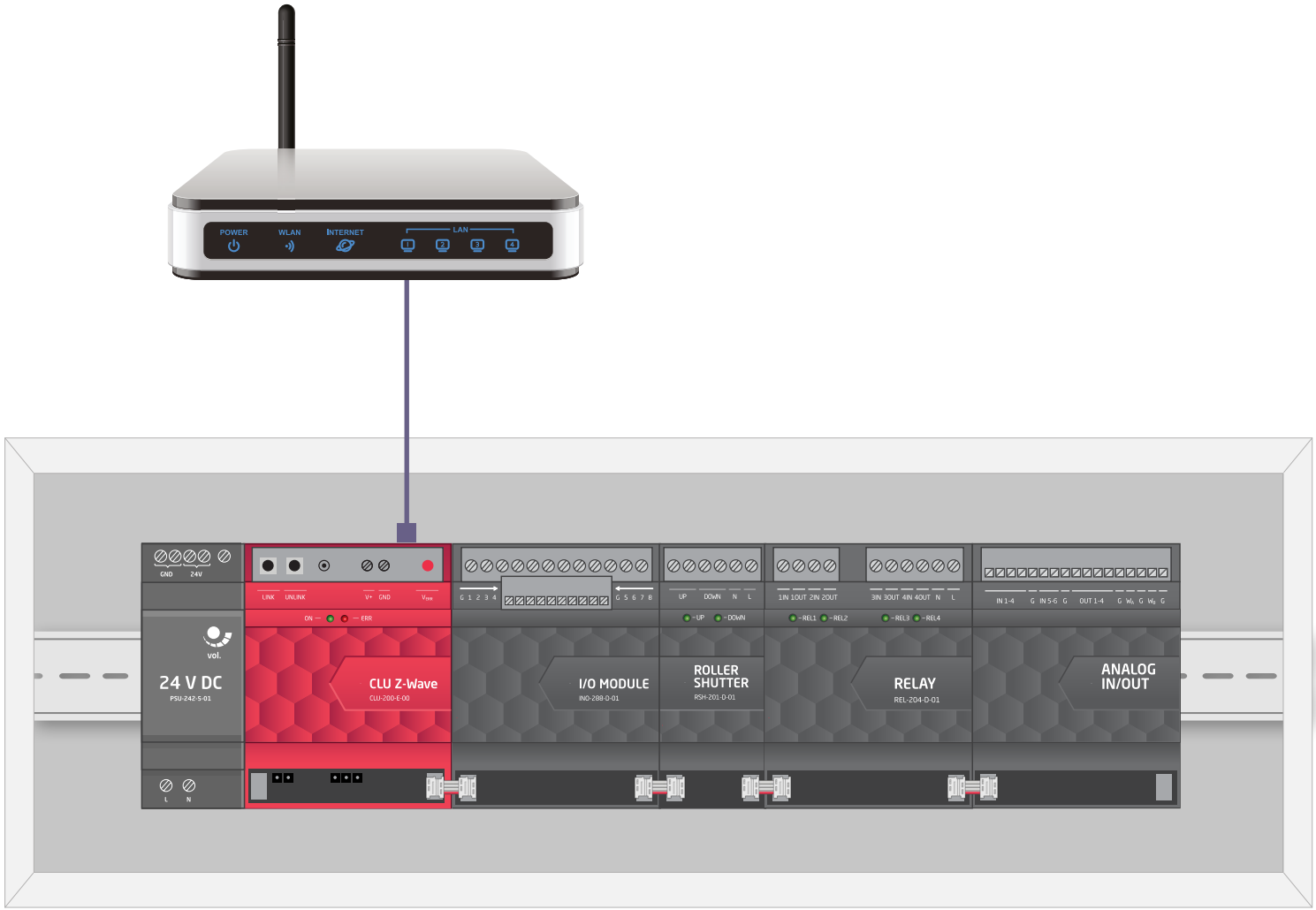
System communication



System with the one CLU class device

Telecommunications cables



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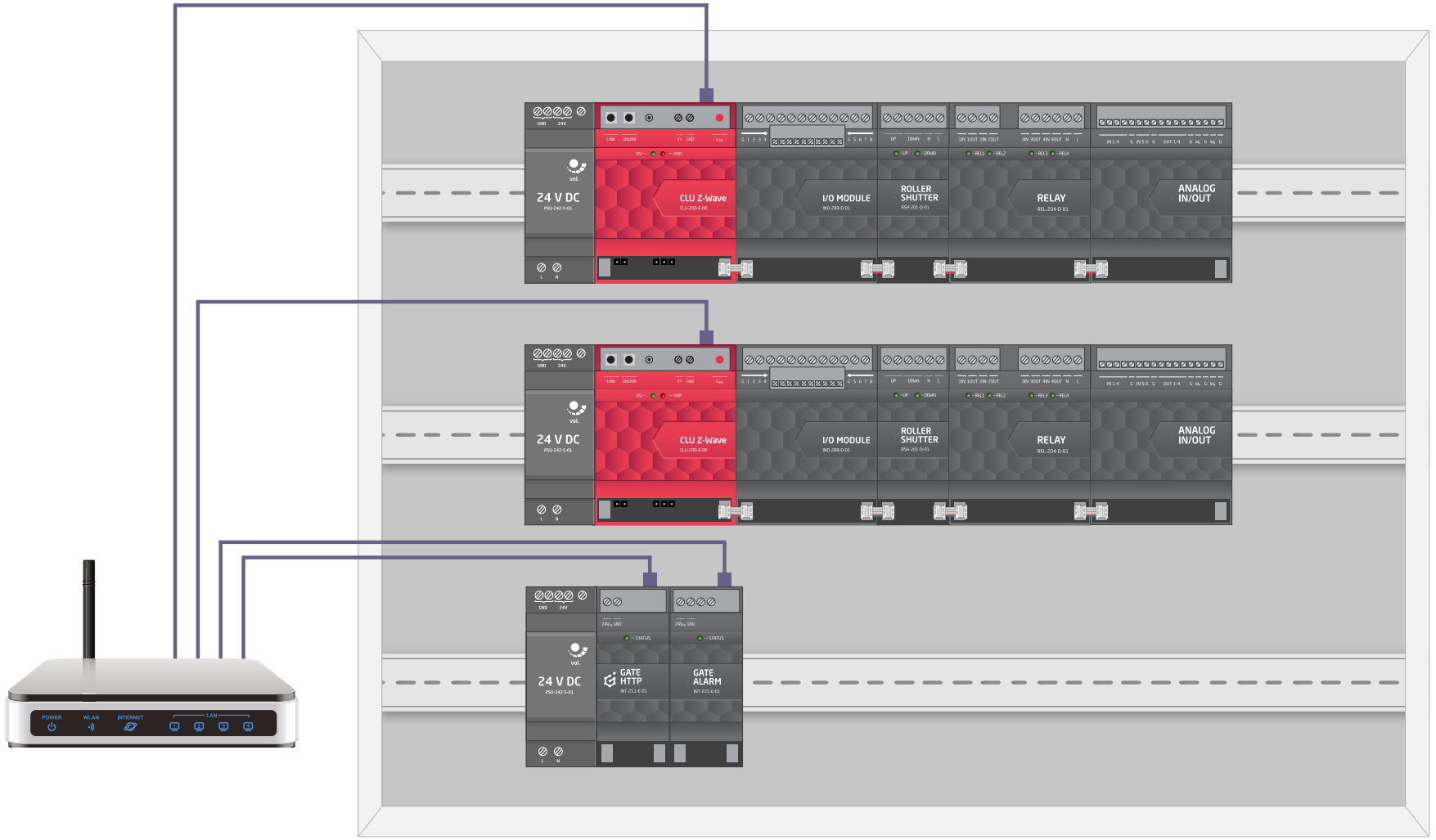
System with several CLU class devices

Telecommunications cables



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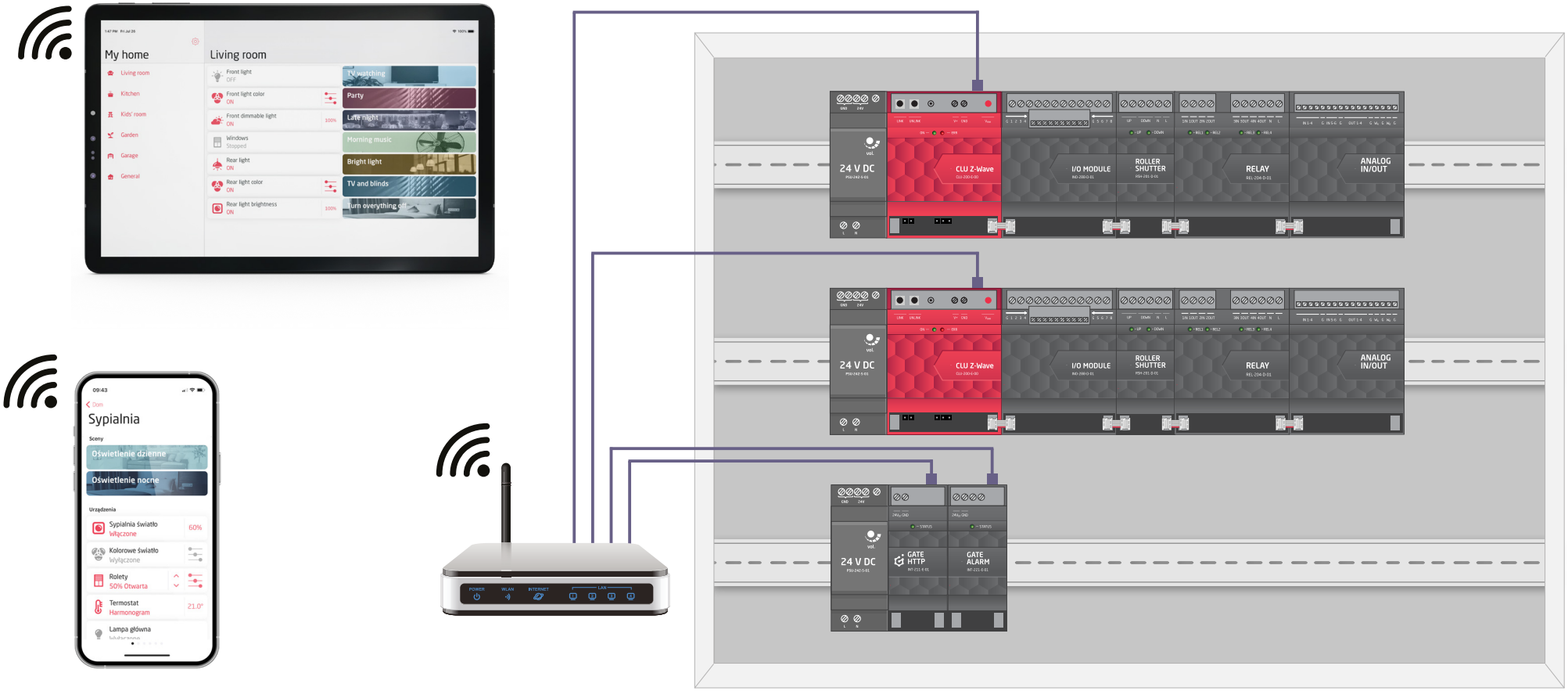
Mobile devices

Telecommunications cables



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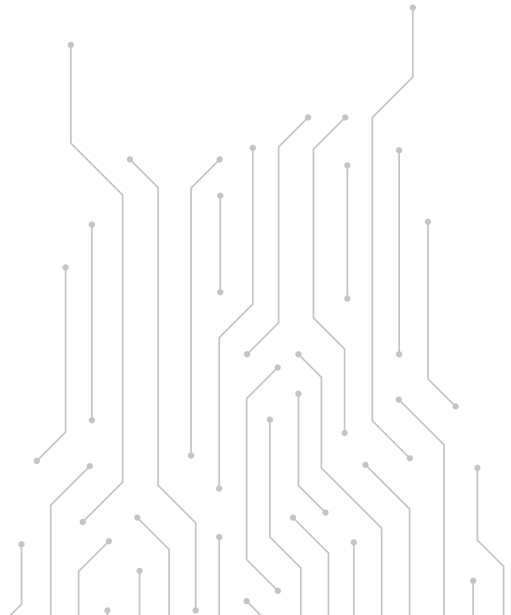
System power supply



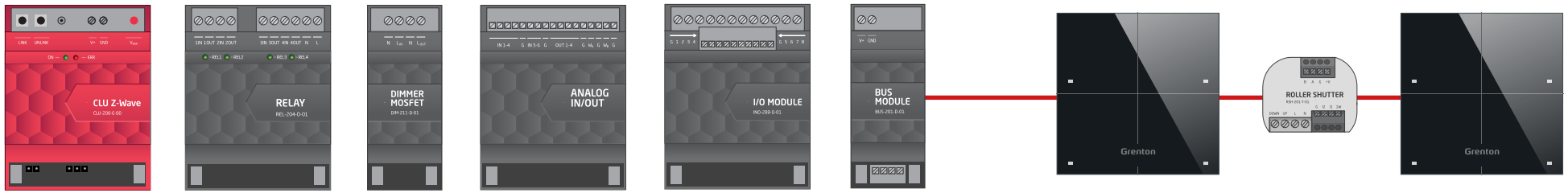
Power supply unit selection

The power of the power supply unit should be calculated by summing:

- The current power consumption of all modules in the system,
- 30% of the buffer taking into account voltage drops on the bus and possible expansion of the system

DIN-mounted modules

Touch panels and flush-mounted modules



Power consumption

Power consumption
+
Voltage drop

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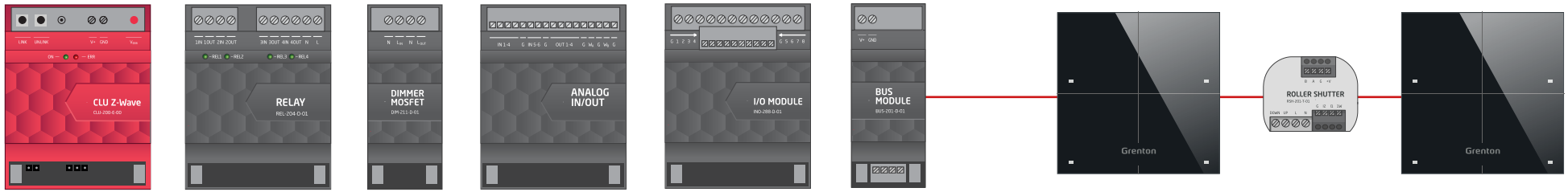
Power supply unit selection - example



100 mA	100 mA	67 mA	20 mA	75 mA	20 mA	30 mA	20 mA

Max. summary power consumption for above modules is **432 mA**

Max. summary power consumption + 30% buffer

432 mA + 30% = **561.6 mA**

Min. power of a power supply unit = **561.6 mA**

Optimal parameters of the power supply unit for this example

24 VDC 600 mA

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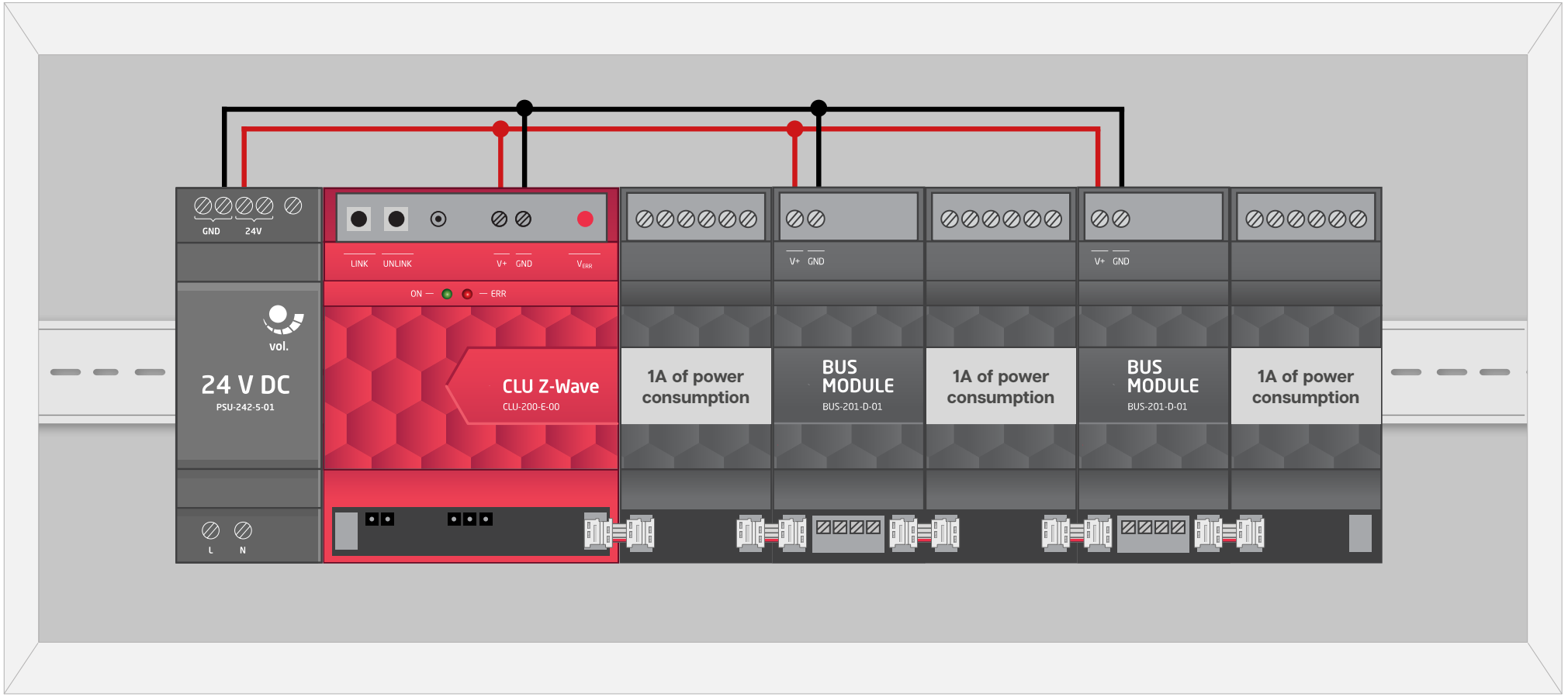
System power supply



24V DC power supply unit

Min. 3A

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System power supply - 1st example

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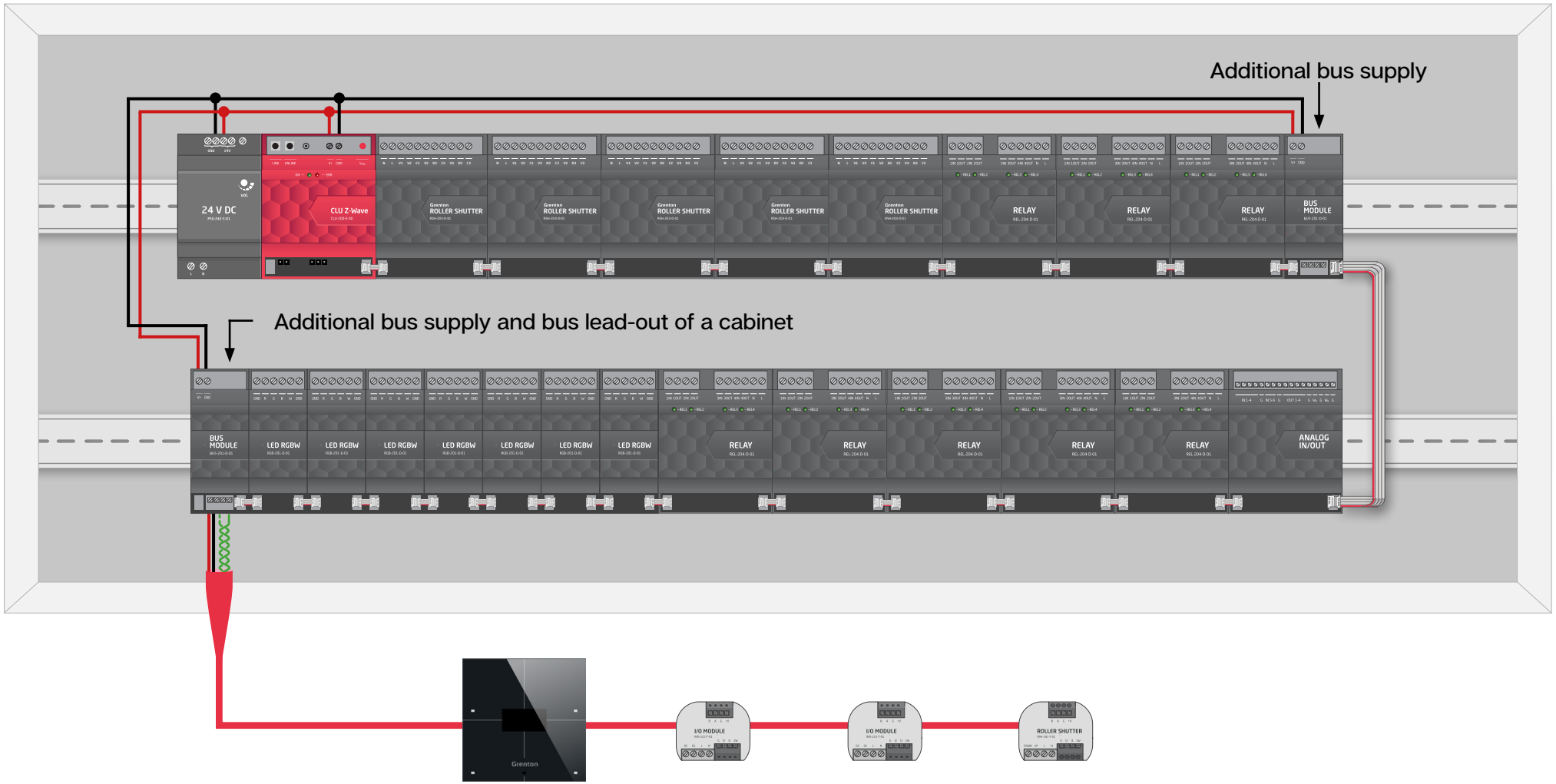
System power supply - 2nd example

GRENTON TF-Bus Cable



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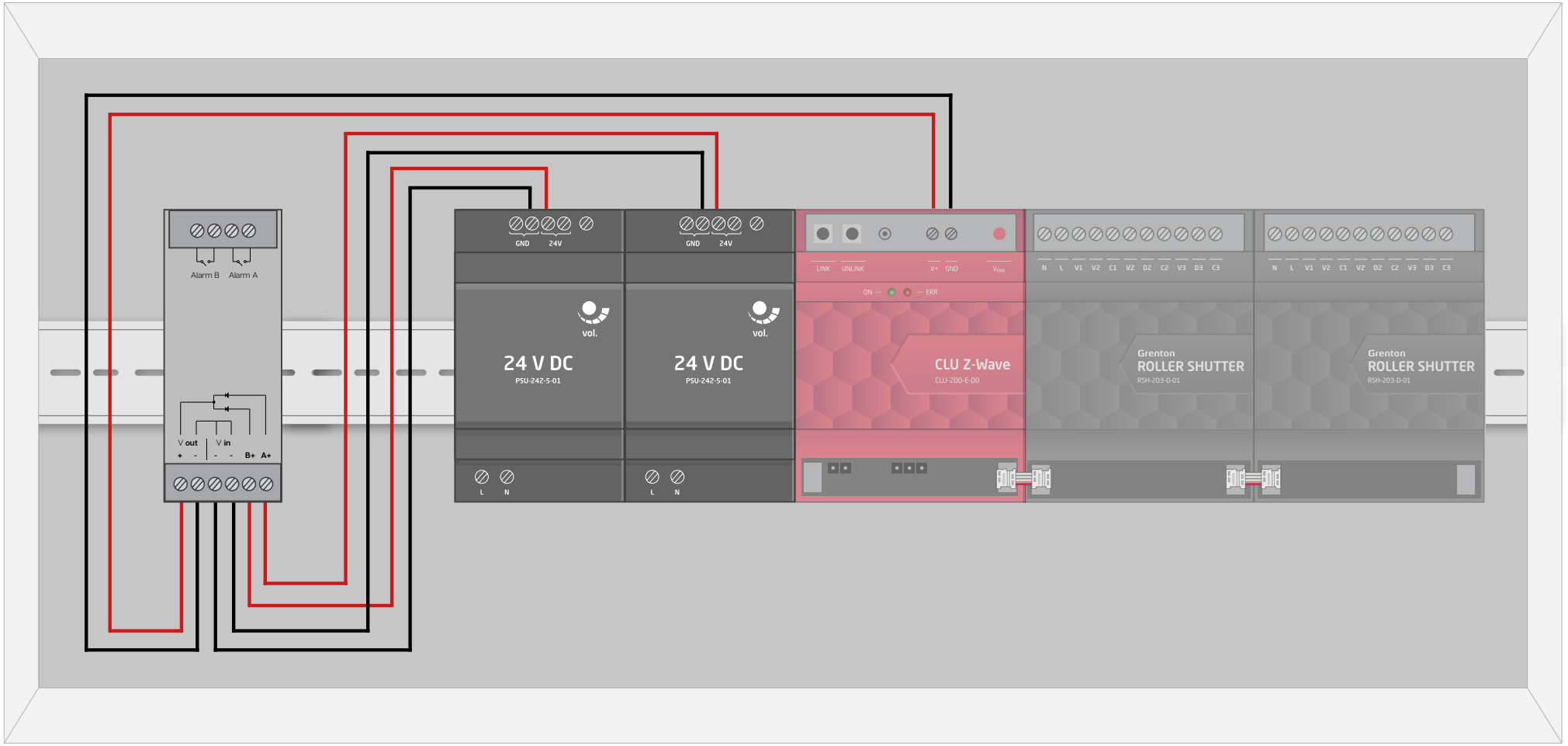
Power supply of the system using a redundancy module



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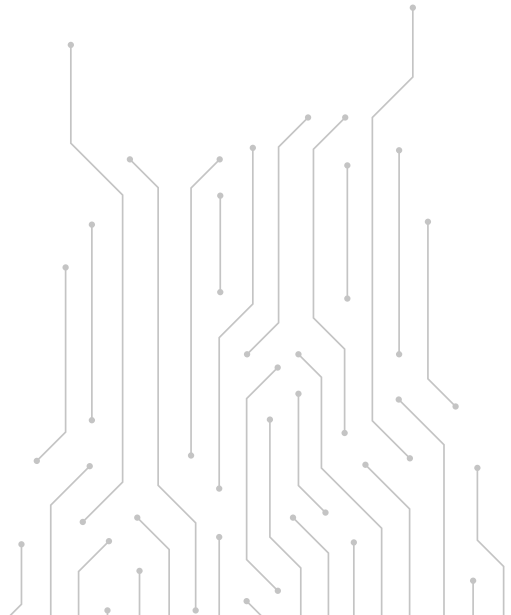
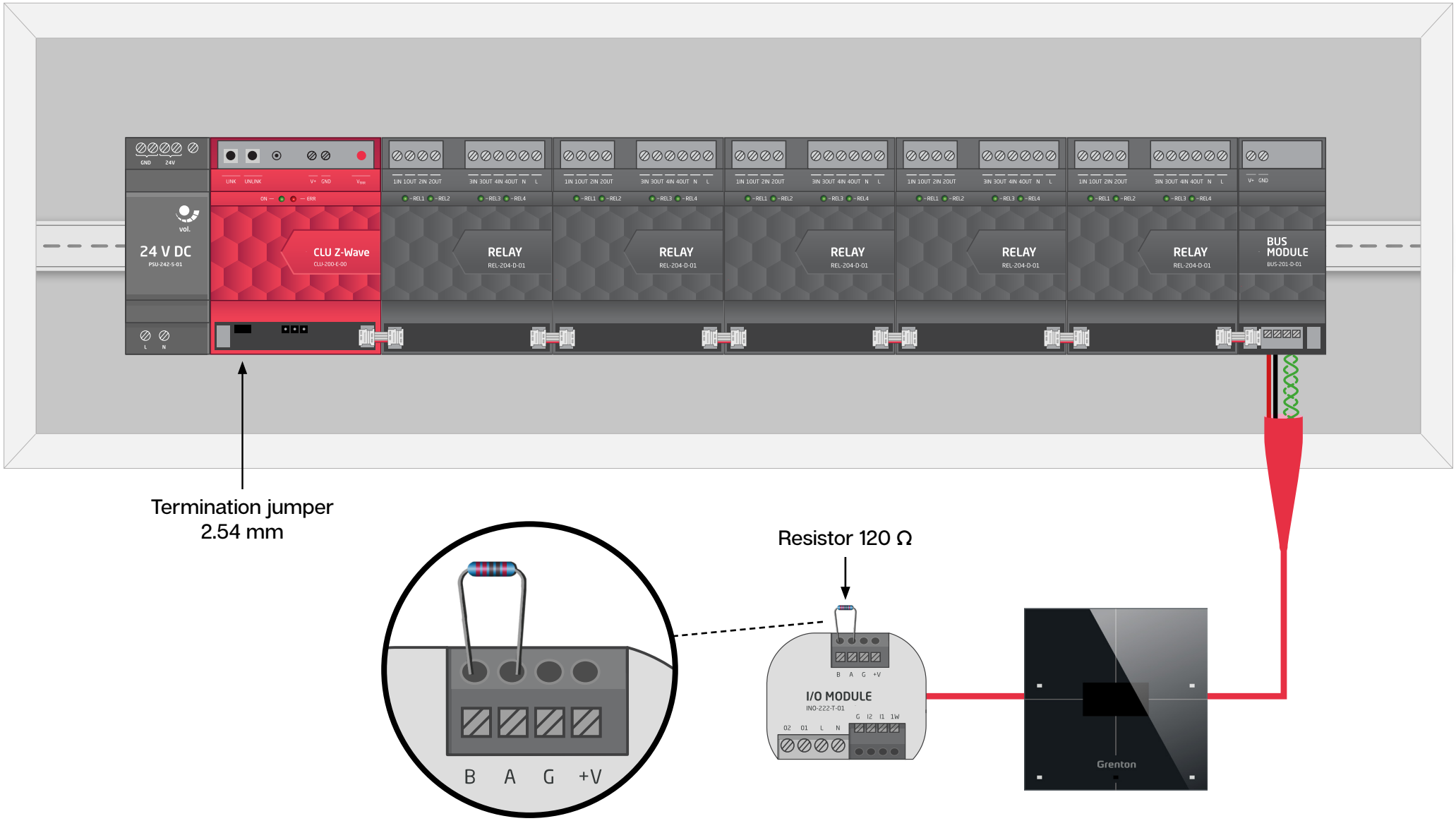
Bus termination



Bus termination

GRENTON TF-Bus Cable



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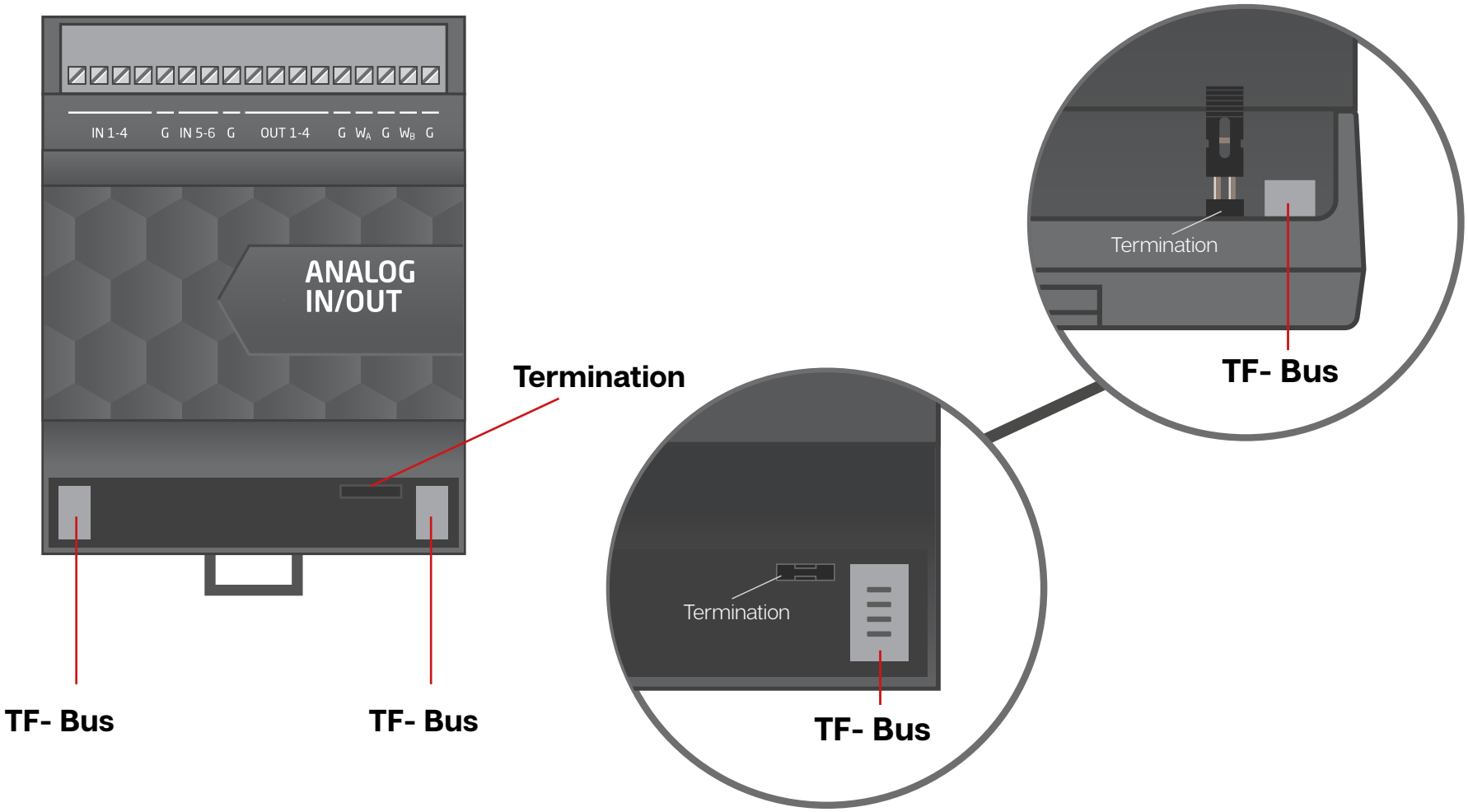
Termination - DIN modules



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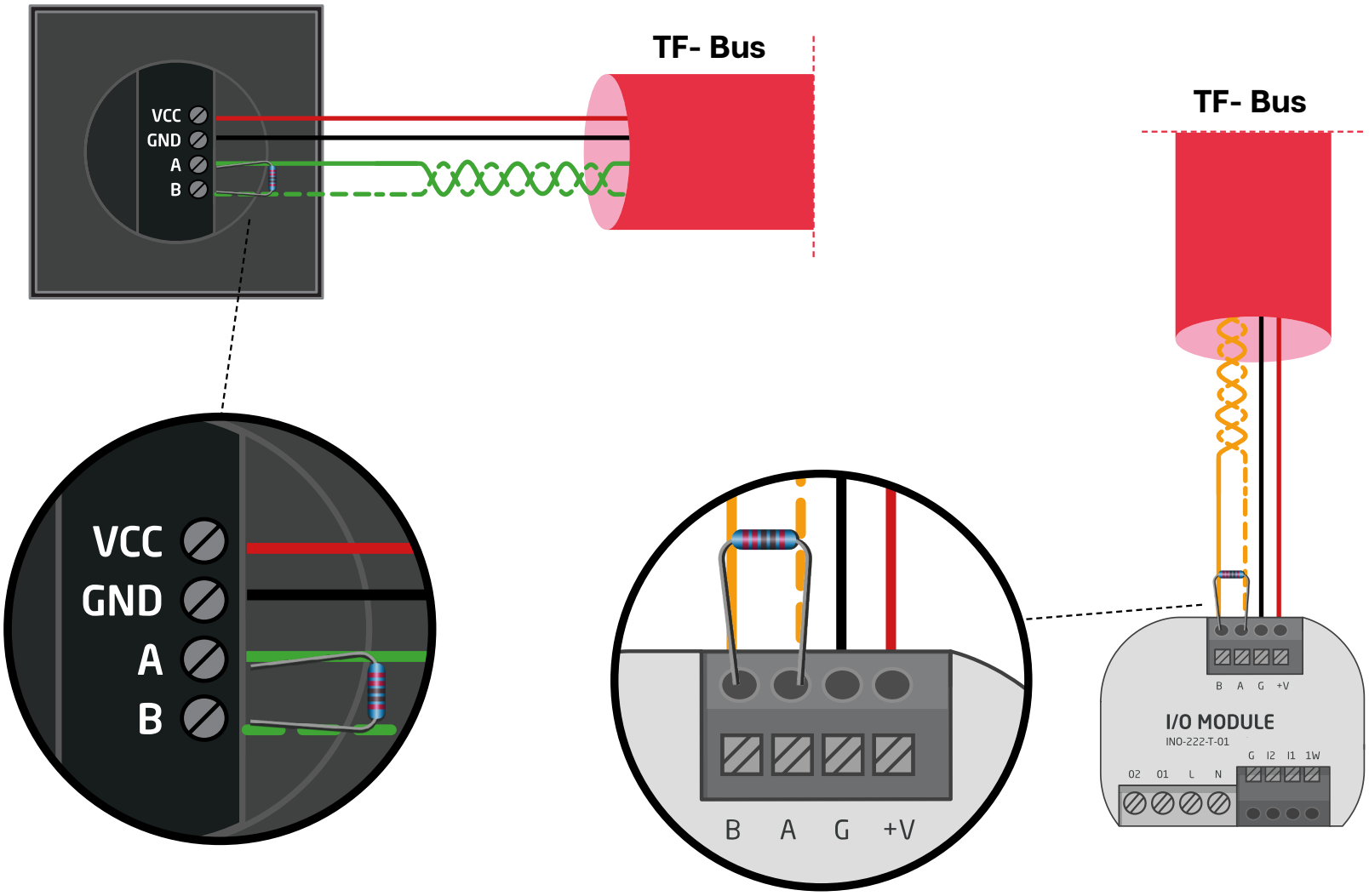
Termination - touch panels and flush-mounted modules

GRENTON TF-Bus Cable



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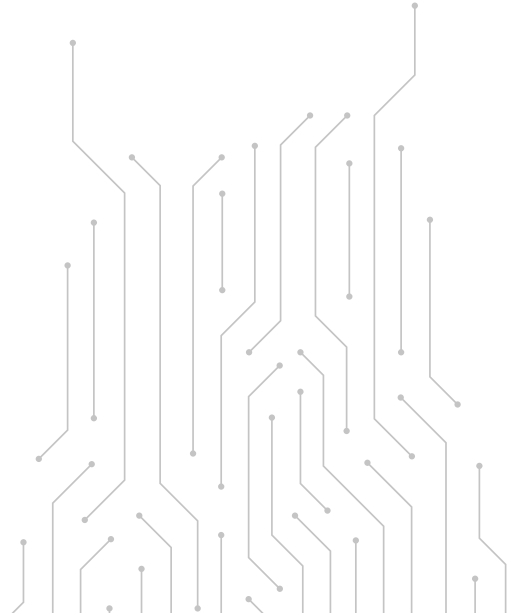
Multisensor



Placement - reading of sensor measurements

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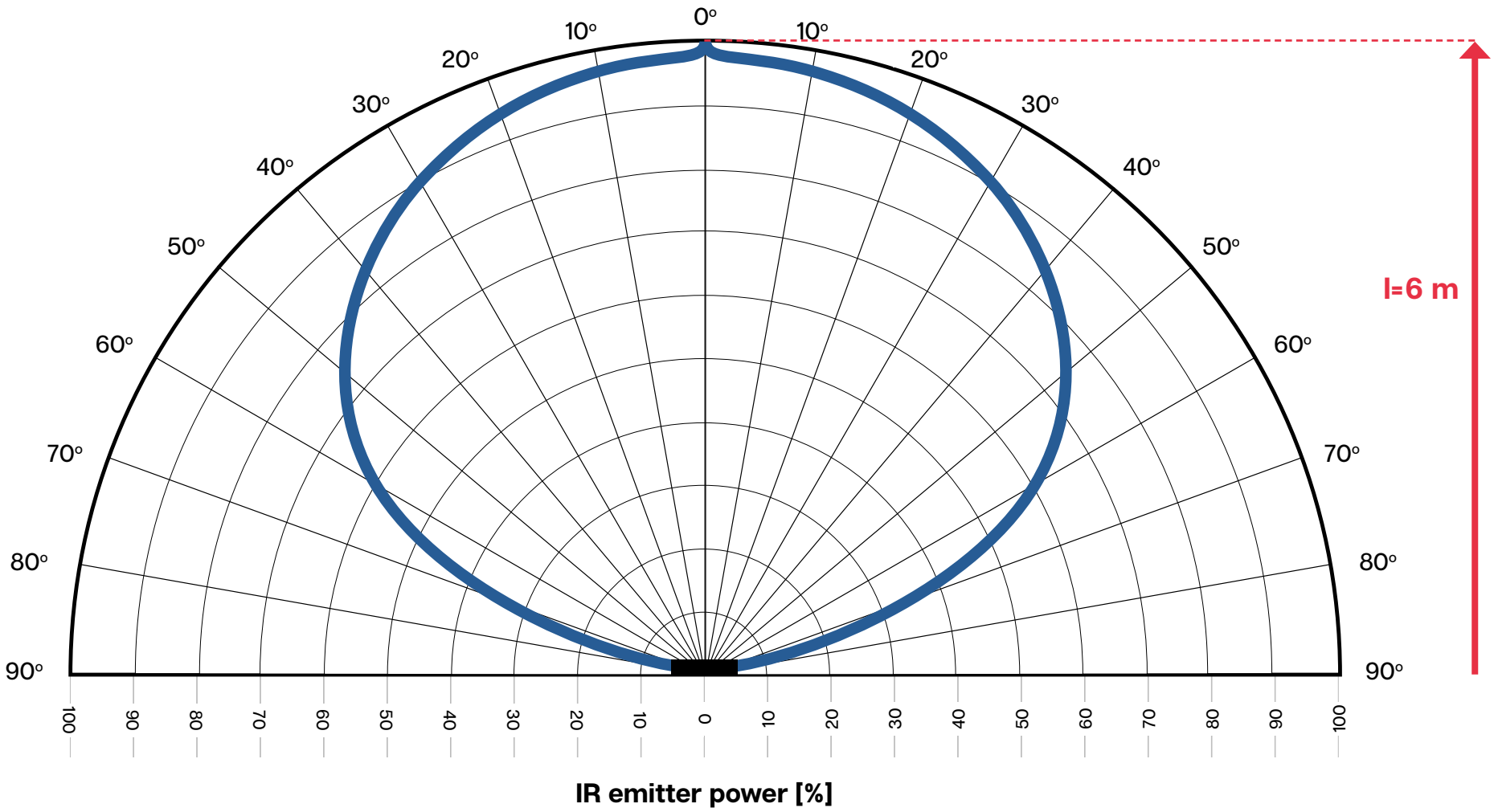
Radiation characteristics of IR emitter and operation range



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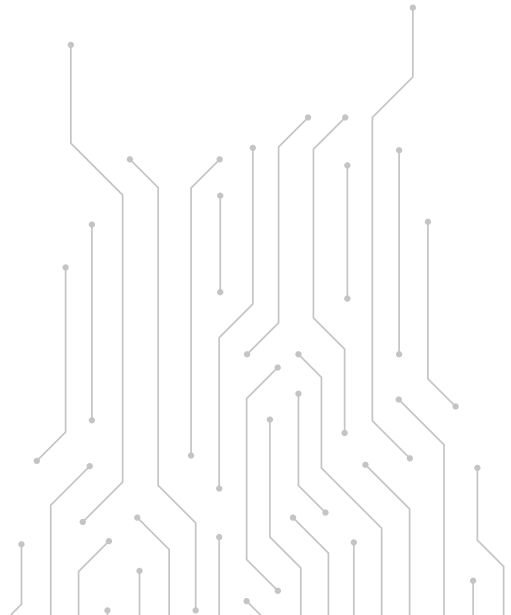
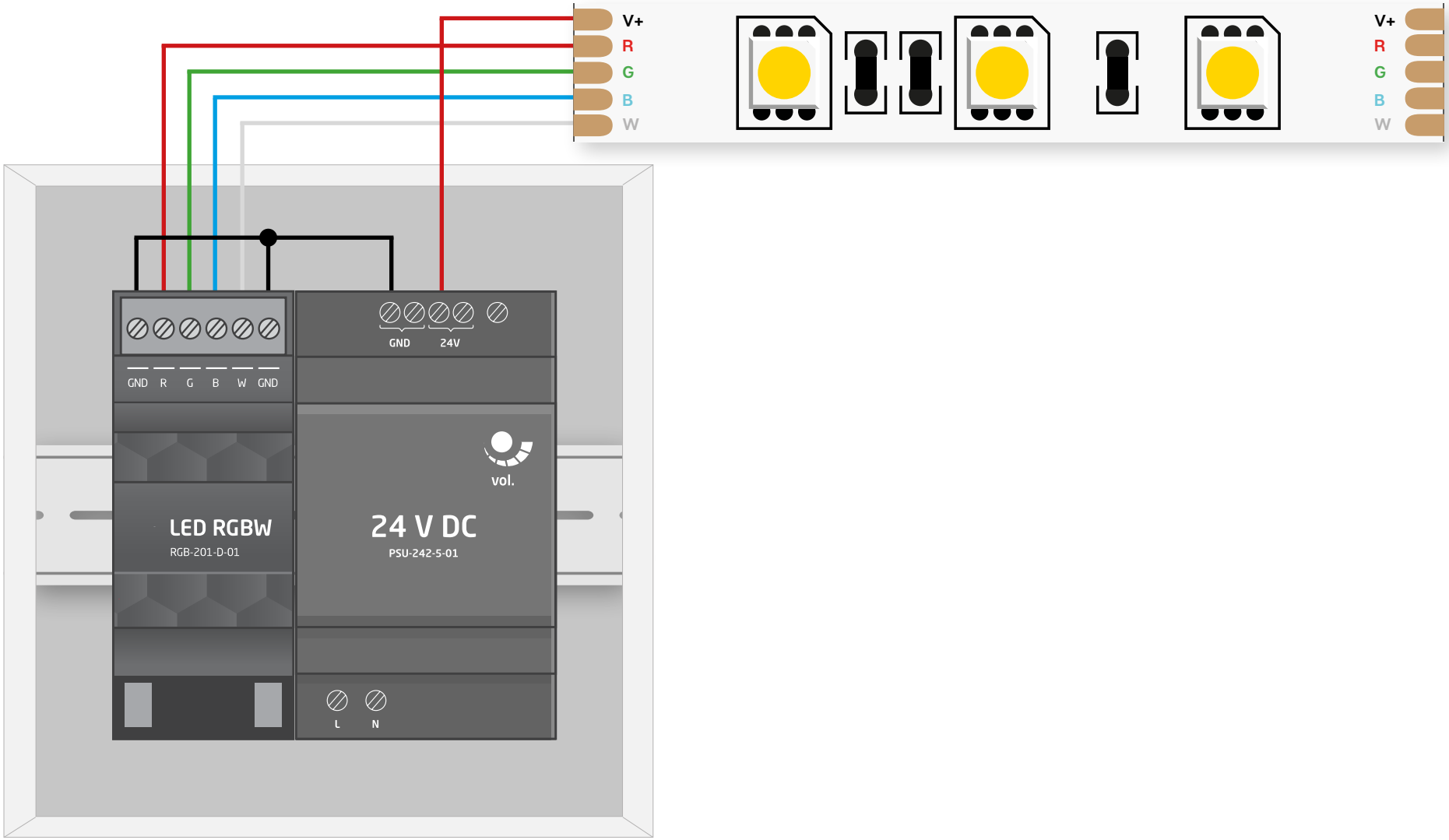
LED strips control



Wiring diagram - RGBW LED strips



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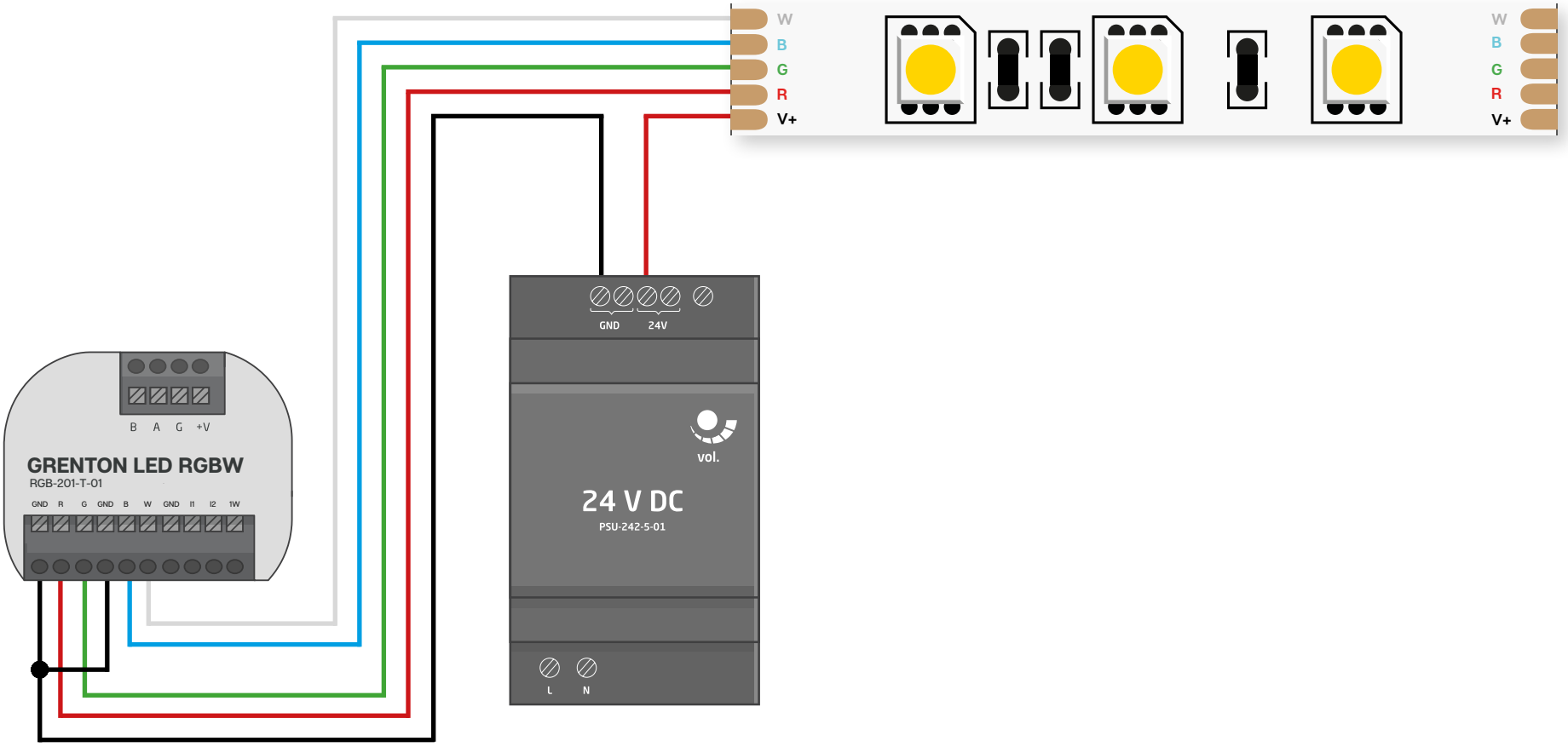
Wiring diagram - RGBW LED strips



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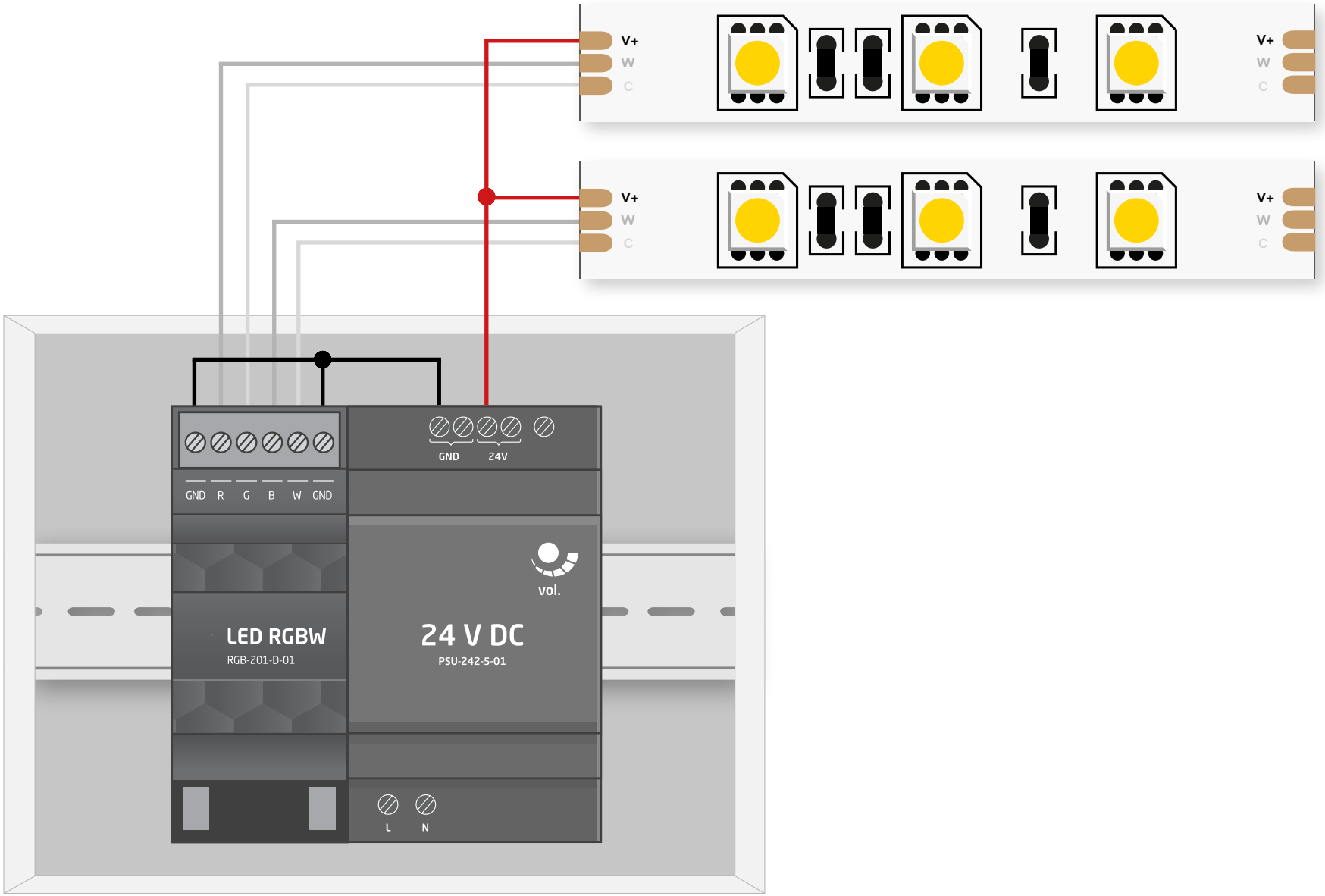
Wiring diagram - CTT LED strips



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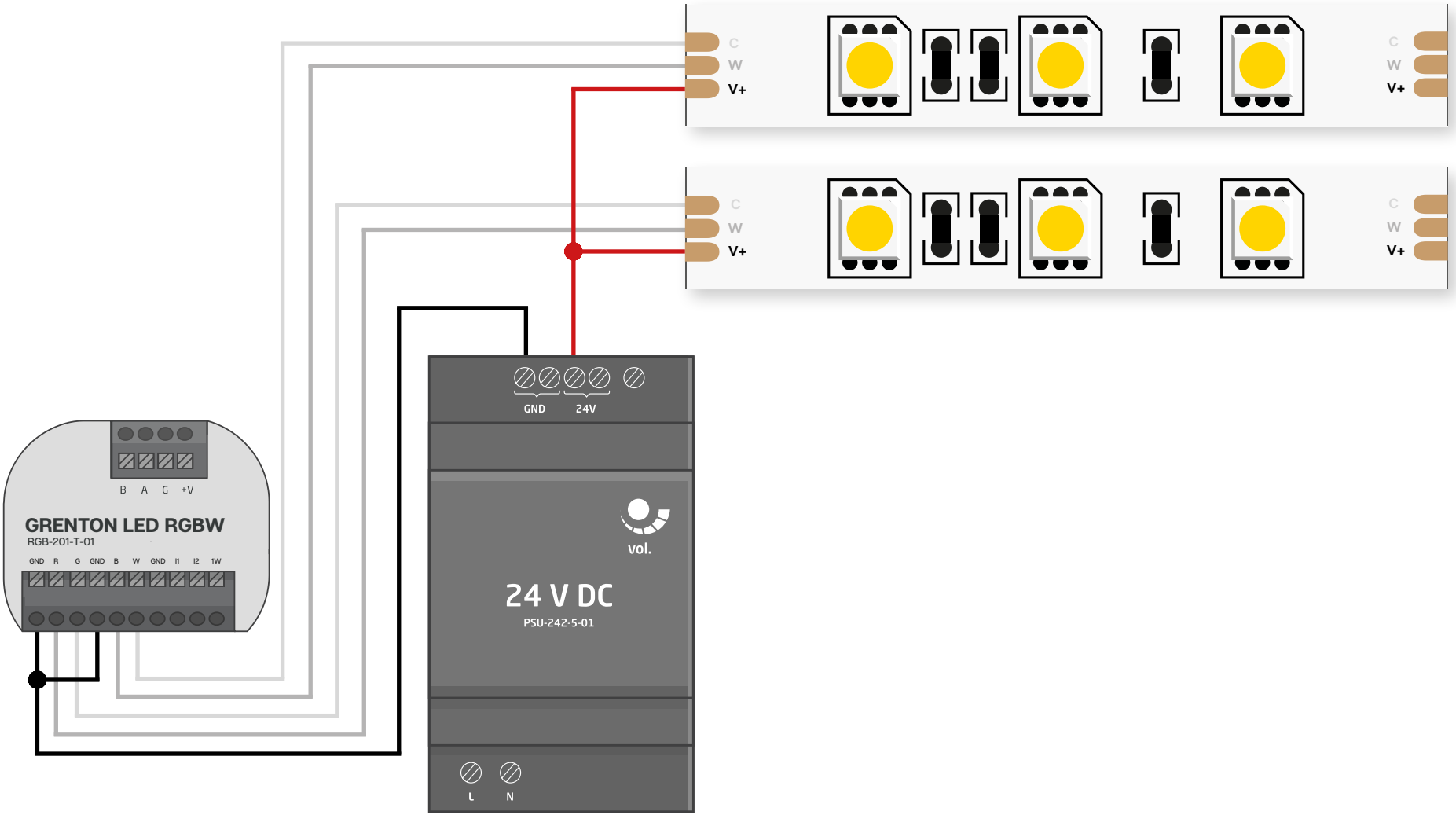
Wiring diagram - CTT LED strips



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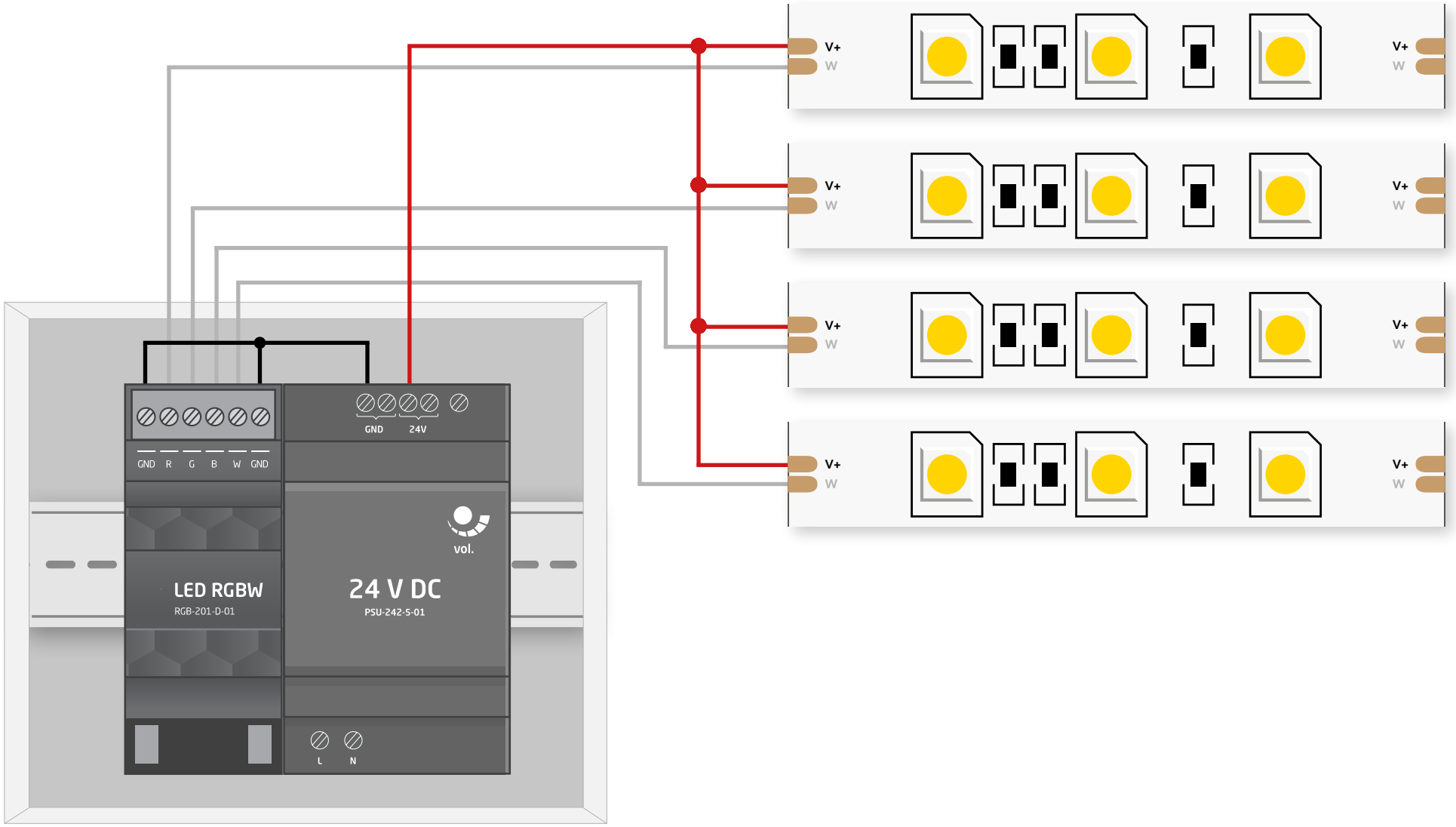
Wiring diagram - W LED strips



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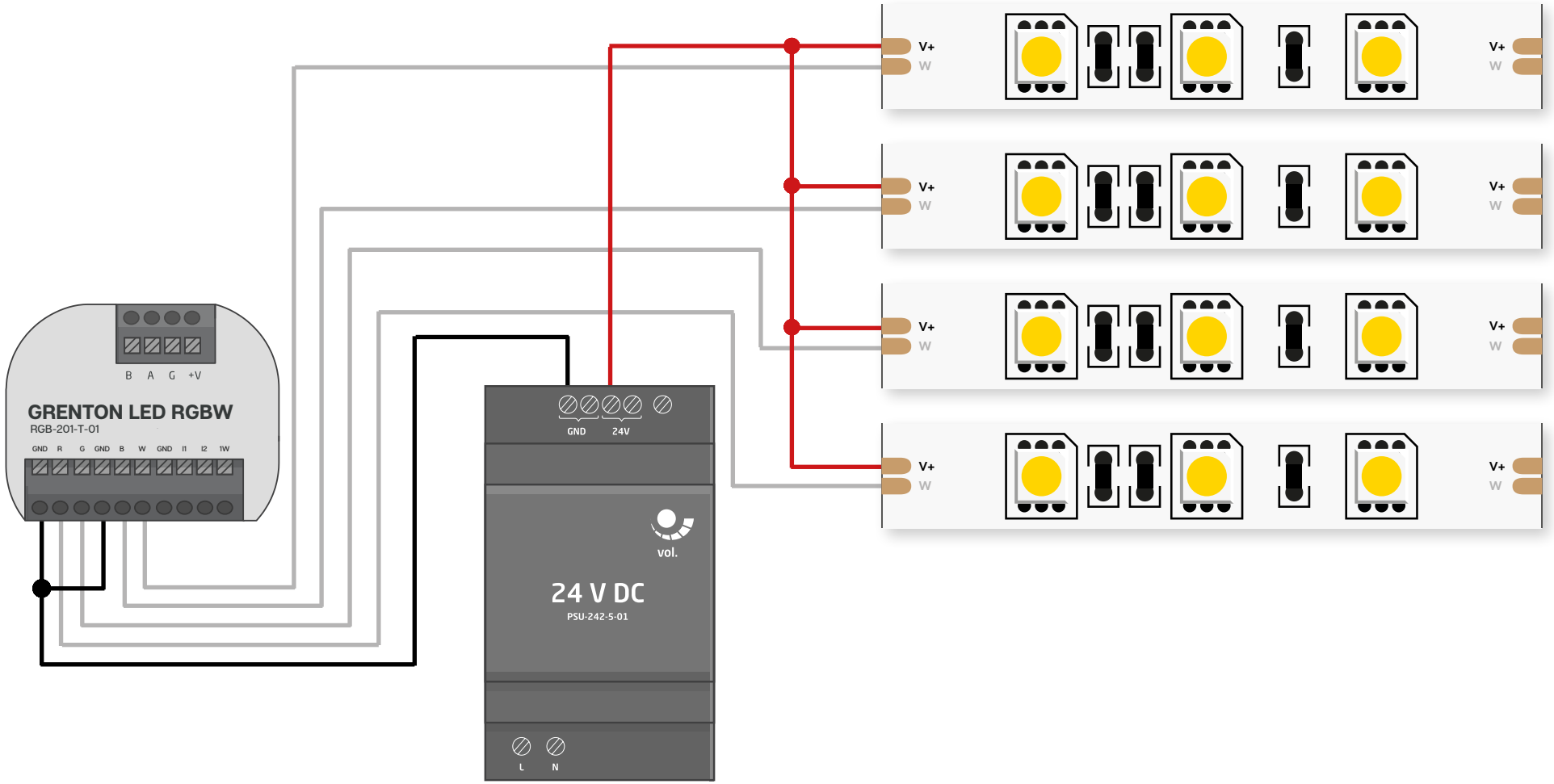
Wiring diagram - W LED strips



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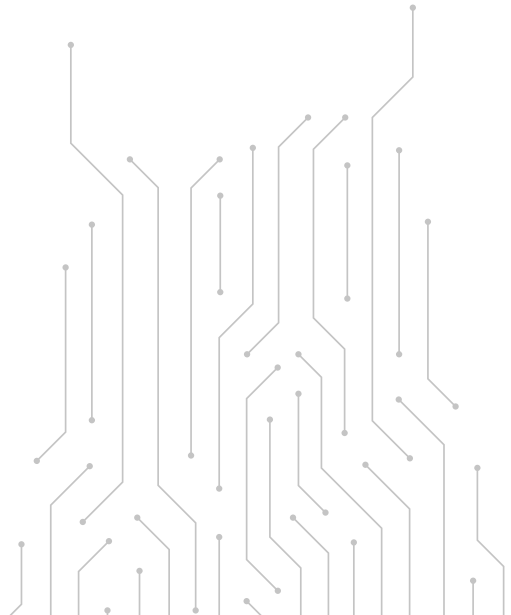
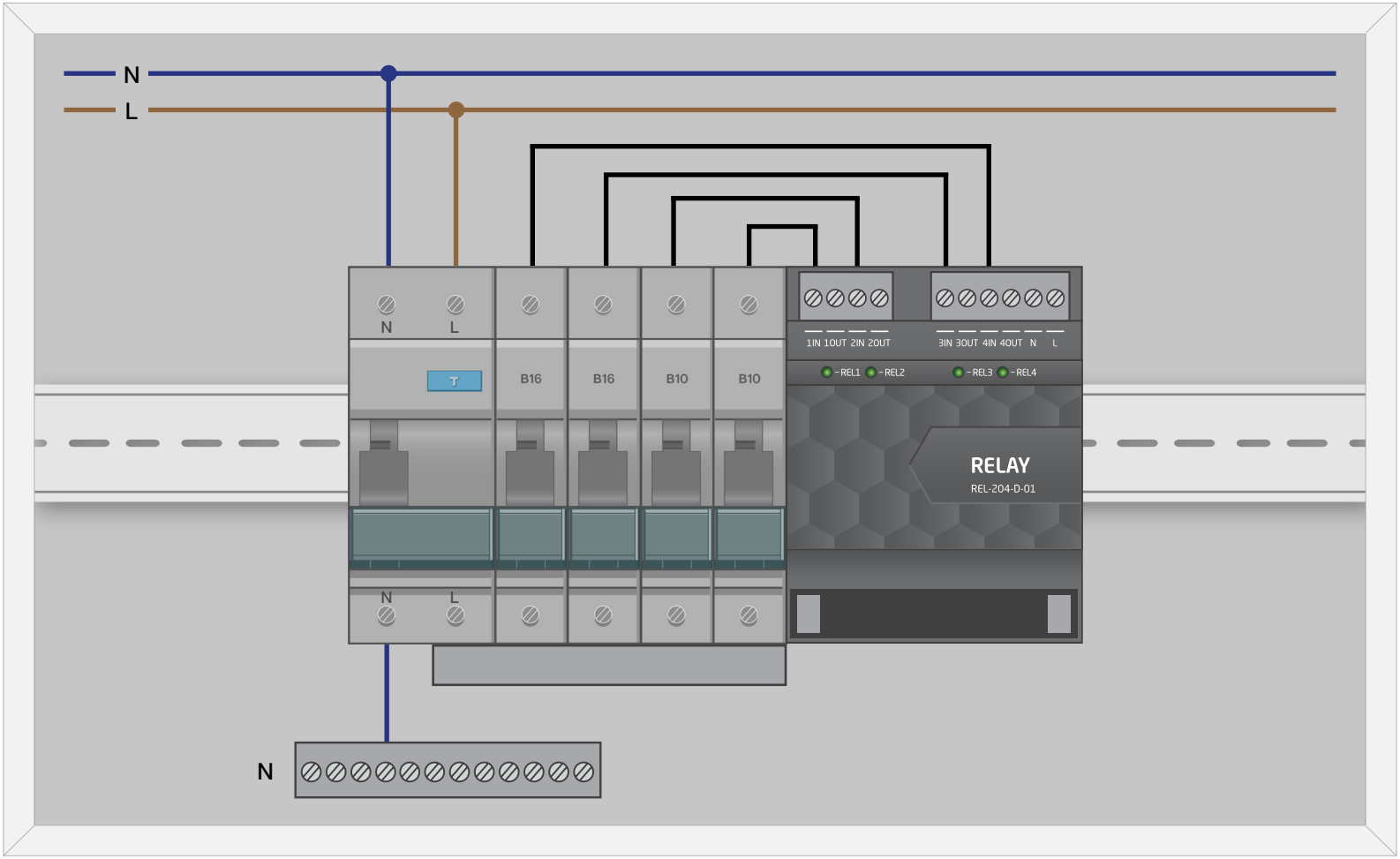
Modules protection



Residual current circuit breakers and overcurrent circuit breakers for Relay module



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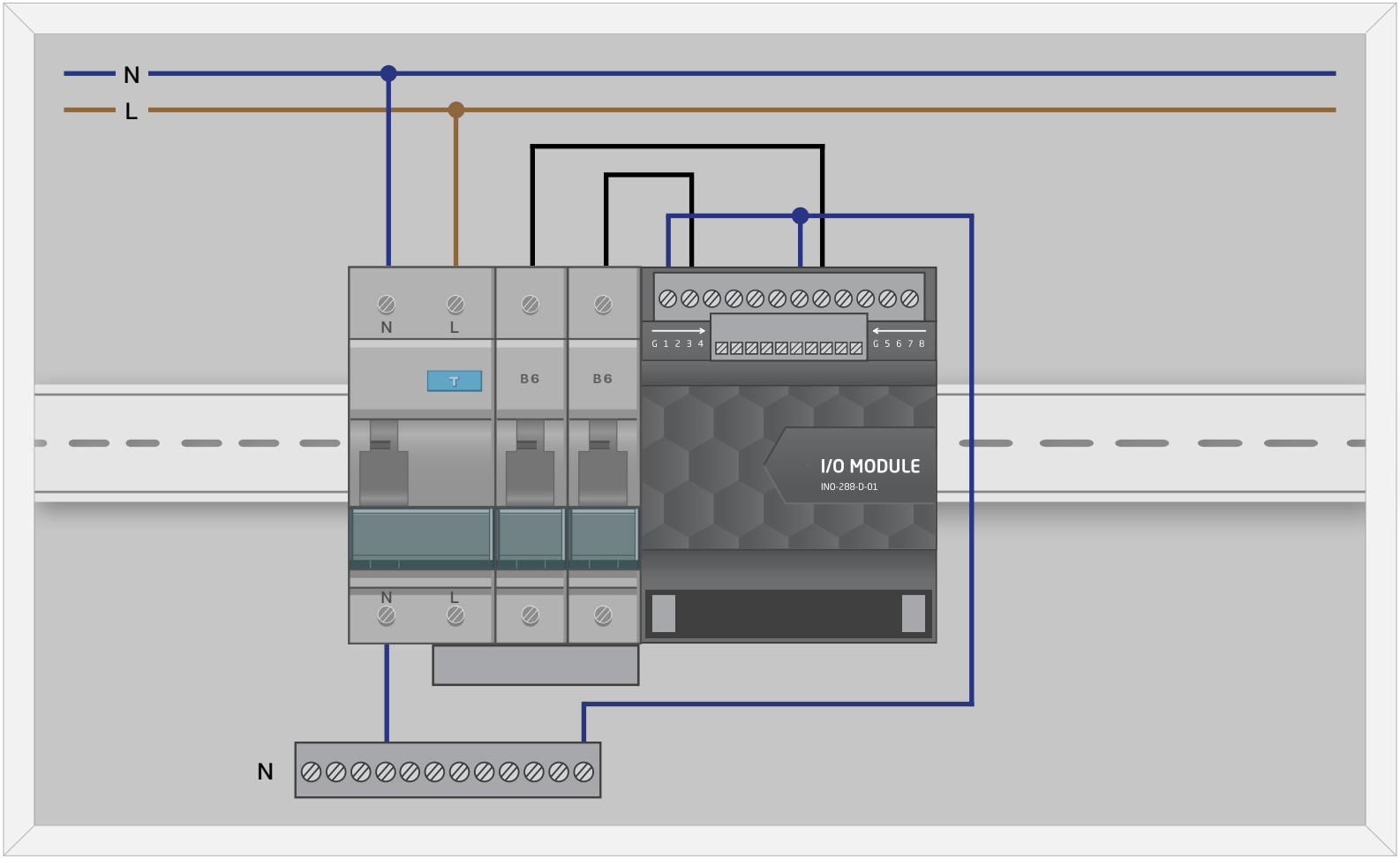
Residual current circuit breakers and overcurrent circuit breakers for I/O 8/8 module



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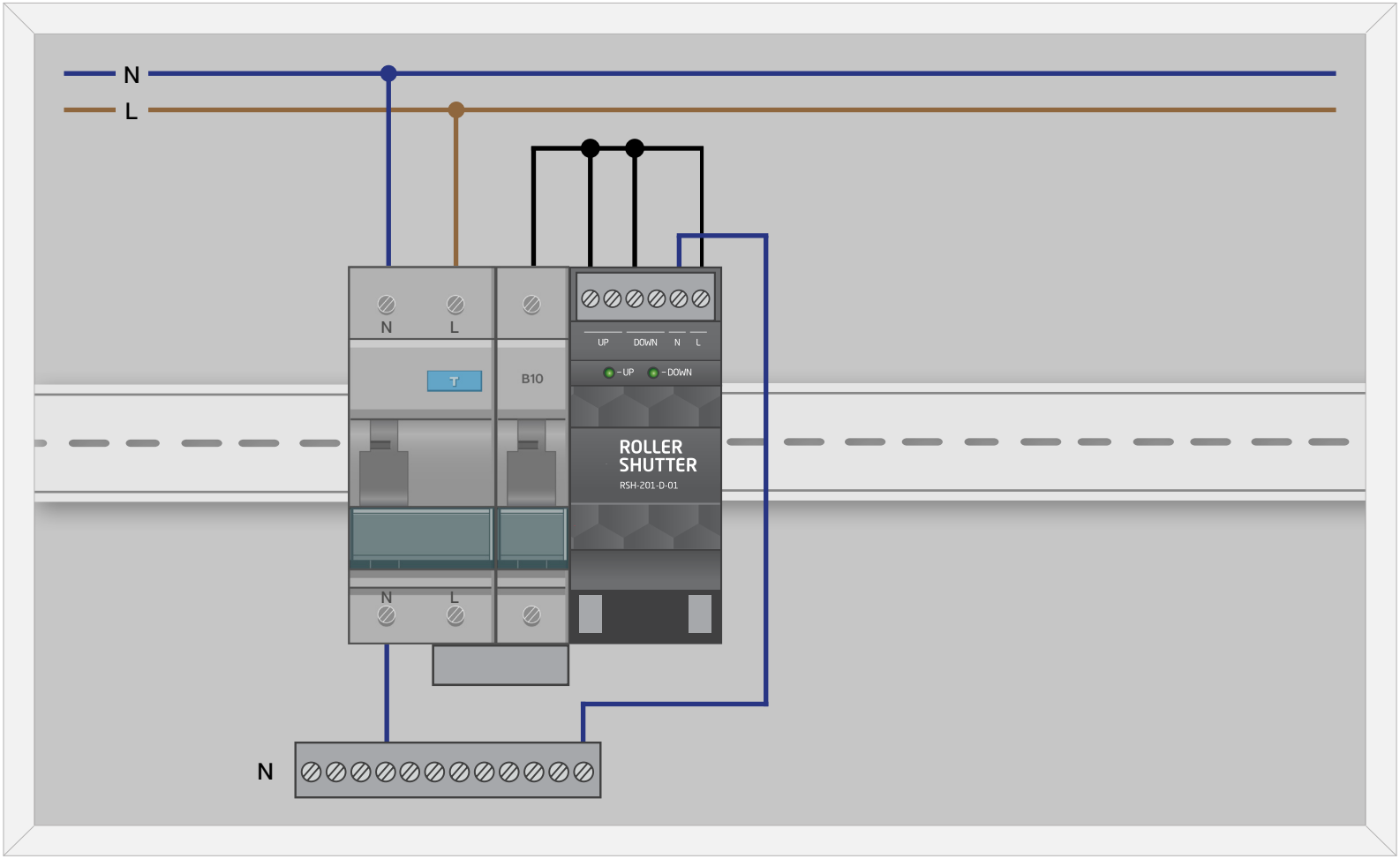
Residual current circuit breakers and overcurrent circuit breakers for Roller Shutter module



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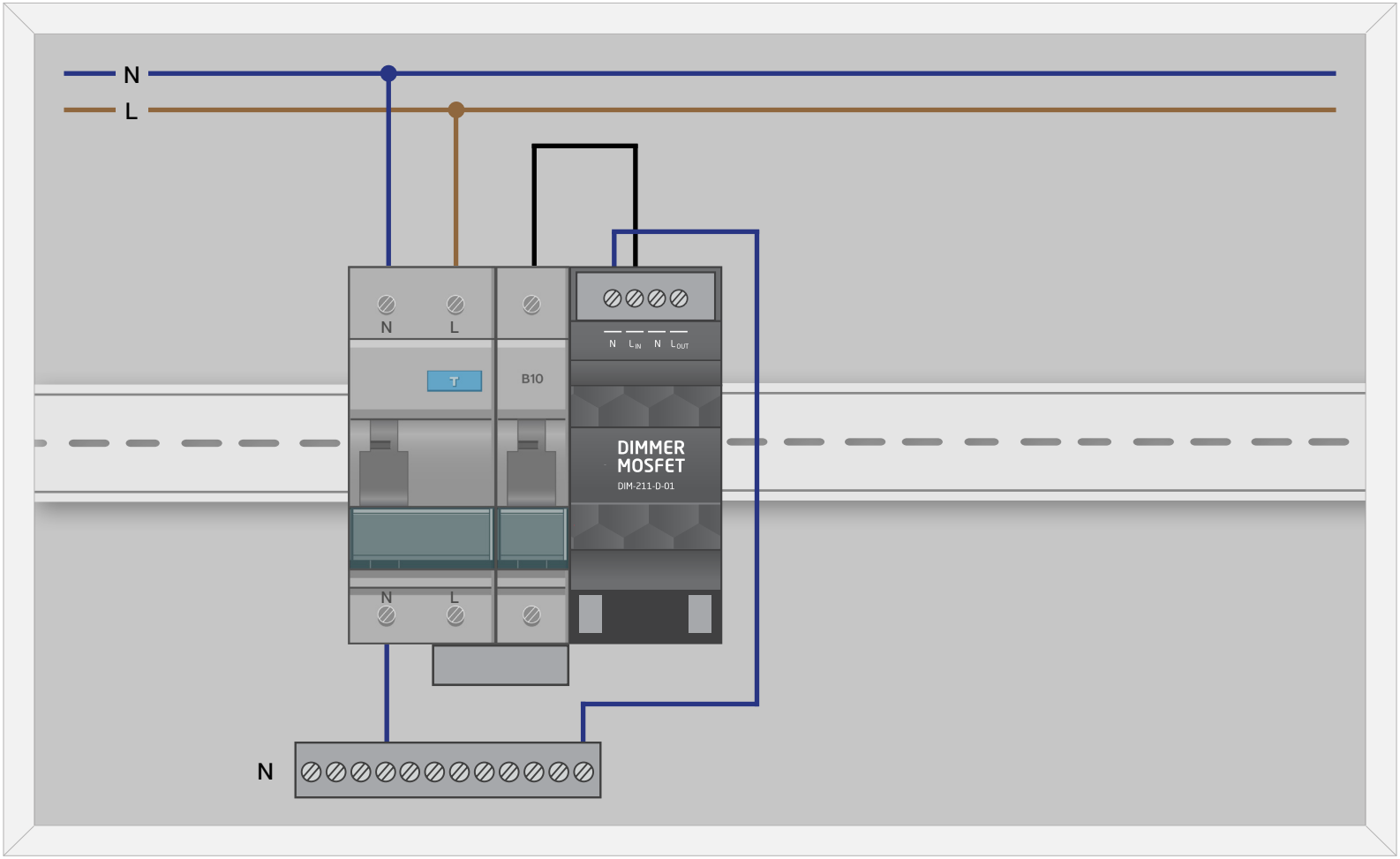
Residual current circuit breakers and overcurrent circuit breakers for Dimmer MOSFET module



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