NODER IO16RS

Extension Module IO16RS

Technical Documentation

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1.   Protection

Please read this documentation before installing this product. The manufacturer is not responsible for any malfunction or damage to the equipment resulting from failure to follow the instructions. Damage caused by incorrect installation, maintenance or operation is not covered by the warranty. Making any changes to the unit that are not authorised by the manufacturer or carrying out independent repairs will result in the loss of rights under the warranty. Installation should be carried out by a person with appropriate electrical qualifications.

2.   Warning

Electric device under voltage! Before performing any activities related to the power supply (connecting wires, installing the device, etc.), make sure that **this device is not connected to the power supply**. Before connecting peripheral devices (electric lock, readers, etc.), it is necessary to verify the correctness of the installation (e.g., no short circuits between wires). During the installation, before each connection, it is necessary to discharge your electrostatic charge by contact with a grounded element to avoid voltage surges, and remember to ground the **housing and door** before applying voltage to the device. In parallel with the electric lock (electromagnetic lock, electric strike, relay), it is necessary to use **a semiconductor diode**, which should be installed as close as possible to the electric lock. Communication buses should not be installed along 230/400V voltage lines at a distance of less than 25 cm. If the infrastructure does not allow it, it is recommended to use screen wiring, which should be grounded on the controller side. It is necessary that the connection of wiring in the enclosure be done in an orderly manner, allowing access to the components mounted inside. Unconnected wires should be insulated.

3.   Device description

The Noder IO16RS extension module is an advanced microprocessor-based input/output device designed for automated user identification. It can be used in building security systems, time and attendance, hotel and leisure facilities. The controller's master and management system are the AxxonSoft Software.

4. Device construction
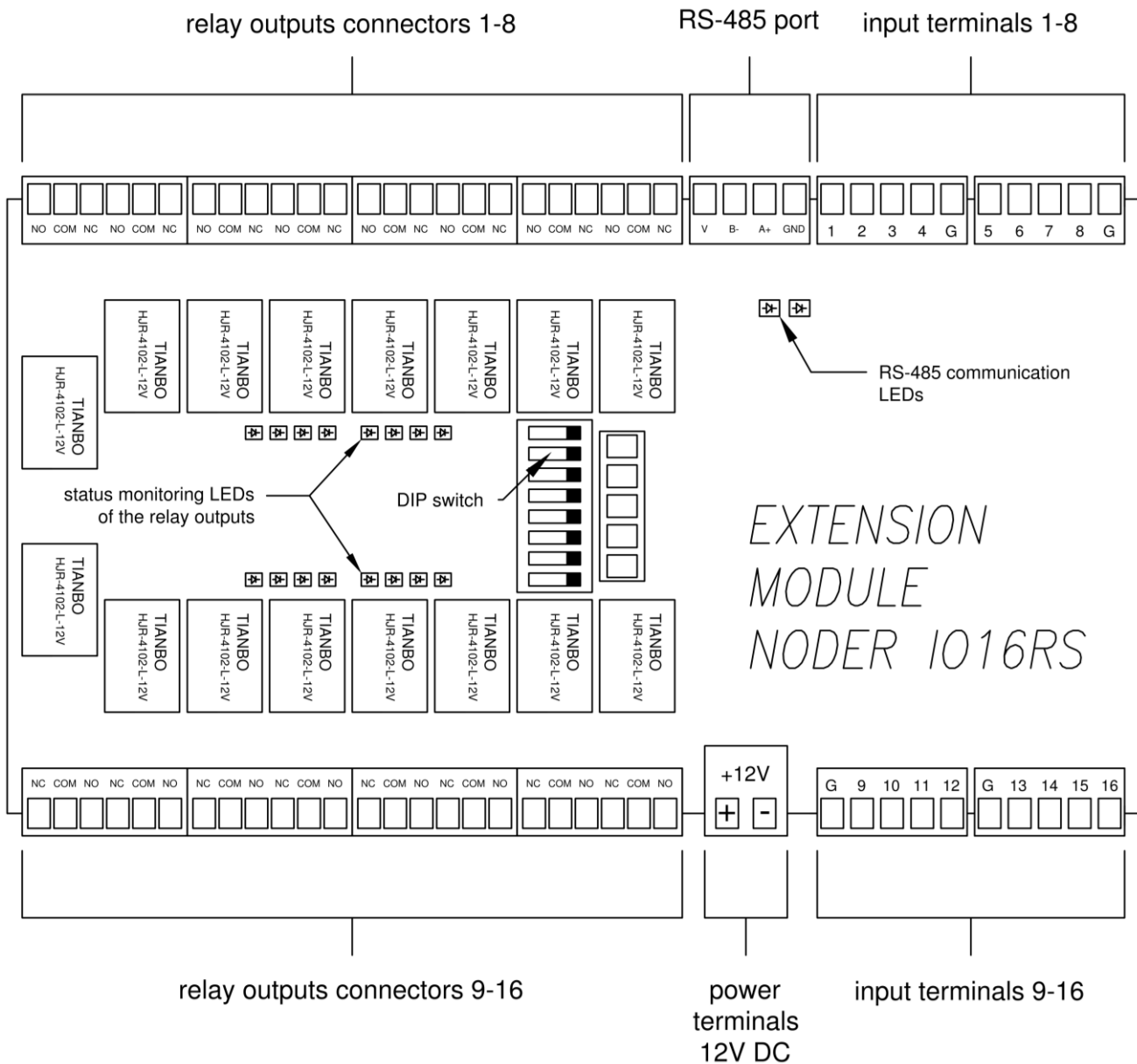
The Noder IO16RS extension module is used for automatic user identification and can be used as a lift control module. The RS-485 bus is used to communicate with controllers such as Noder EE12 or Noder EWE4 (when correctly connected, the RX and TX LEDs on the module will flash at a frequency of approx. 10Hz). After receiving permission from the system to use the lift, certain relays are activated (when a relay is activated, its monitoring LED lights up). The relay output terminals can be connected to the actuators. The inputs of the module are used to check the current position of the lift. In order to start the device, 12V voltage must be connected via the power socket.
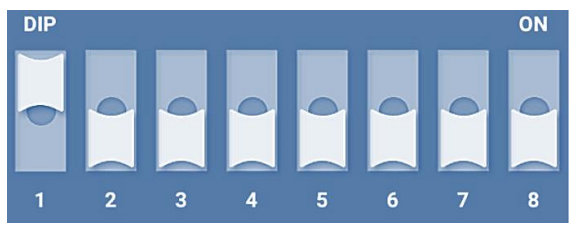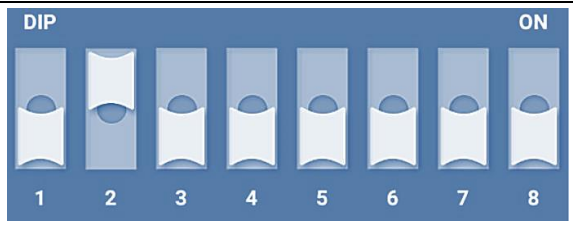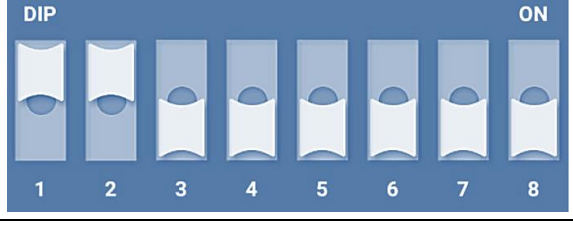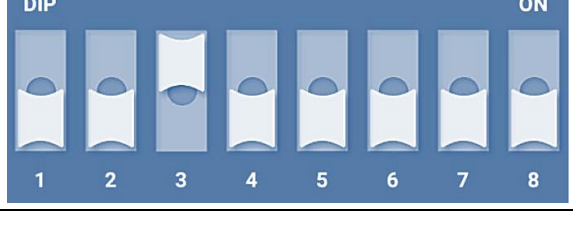
5. Device dimensions
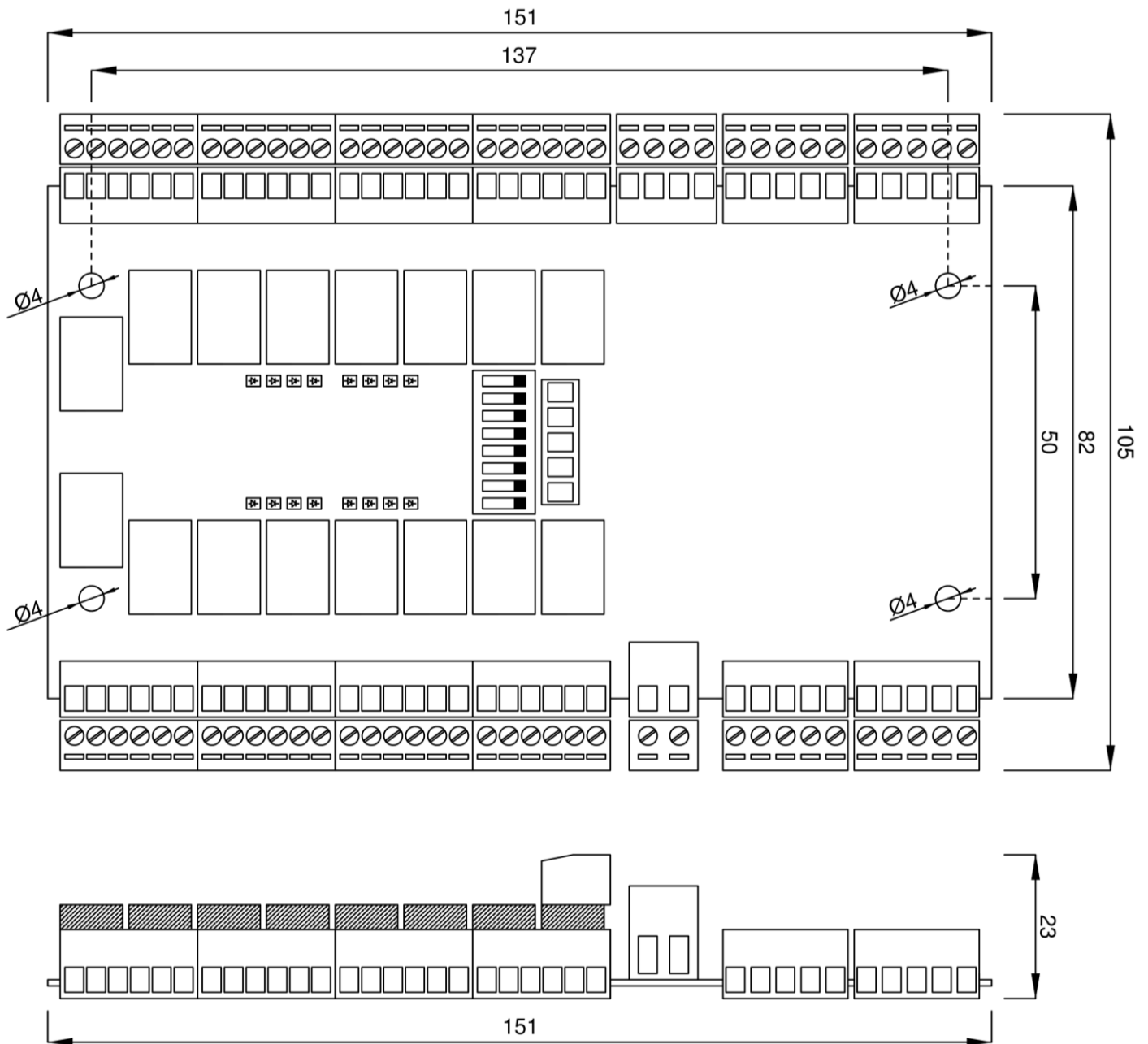
6. Addressing the module IO16RS

The Noder IO16RS extension is compatible with the EE12 and EWE4 controllers. Both devices can handle up to a maximum of 4 extension modules. In order for the system to function correctly, the device must be addressed using the DIP switch on its board. Switches 1 and 2 set the address binary, while switch 8 enables the option to register the current state of the output relay (when a specific relay is driven, the corresponding diode will light up for the time it is driven).

The table below shows the correct addressing of the device:

Address 1	
Address 2	
Address 3	
Address 4	

7. Technical Specification

Characteristic	
TYPE	IO16RS
COOPERATION WITH CONTROLLERS	Noder EE12 Noder EWE4
NUMBER OF SUPPORTED FLOORS	16
NUMBER OF EXTENSIONS PER CONTROLLER	1 – 4
NUMBER OF EXTENSIONS PER ELEVATOR	1 – 4
NUMBER OF SUPPORTED FLOORS PER SINGLE CONTROLLER	1 – 64

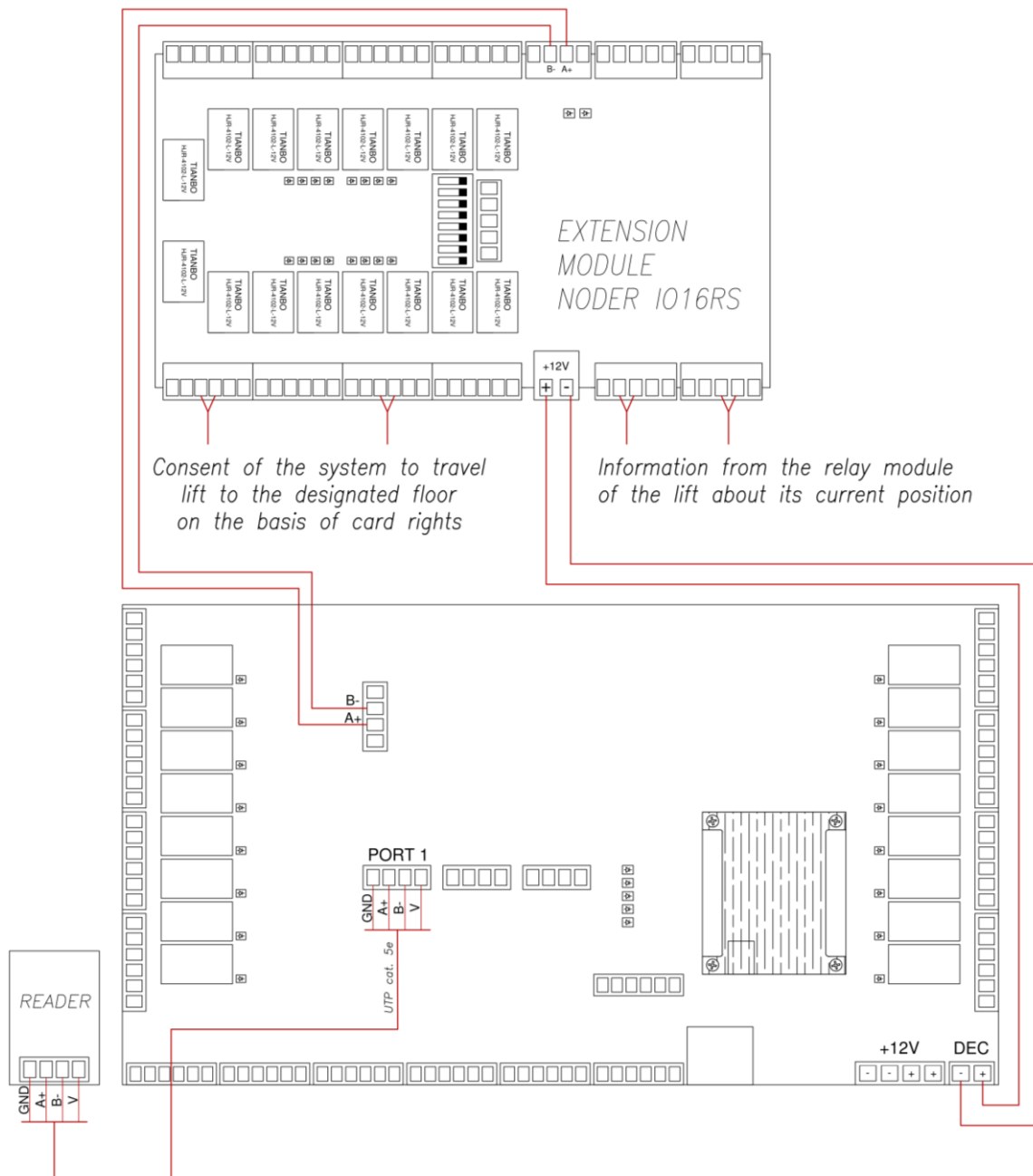| Technical Specification	
NUMBER OF PROGRAMABLE OUTPUTS	16
MAXIMUM CURRENT PER OUTPUT	1A
NUMBER OF PROGRAMABLE INPUTS	16
COMMUNICATION WITH CONTROLLER	1 x RS-485
POWER SUPPLY	12V DC
ENERGY CONSUMPTION	approximately ~200mA (max. ~337mA)
DIMENSIONS	151 x 105 x 23 mm (5.94 x 4.13 x 0.91in)
WEIGHT	300g
WORKING TEMPERATURE	-10 ºC - +55 ºC
STORAGE TEMPERATURE	-20 ºC - +70 ºC
AMBIENT RELATIVE HUMIDITY	<80%
NORMS	CE

8. Example of connection to EWE4 controller

The EWE4 controller can support up to 4 IO16RS modules for automated user identification. The controller does not support different types of devices on the RS-485 bus, so if the IO16RS expansion module is used in the system, only MD-W readers can be used (e.g., 2 x MD-W and 4 x IO16RS). For power supply connection it is recommended to use the relay output DEC on the controller. This allows the system operator to restart the device remotely. The power supply of the module should not be connected to the RS-485 bus of the controller. Connecting the power supply in this way may damage the IO16RS module.

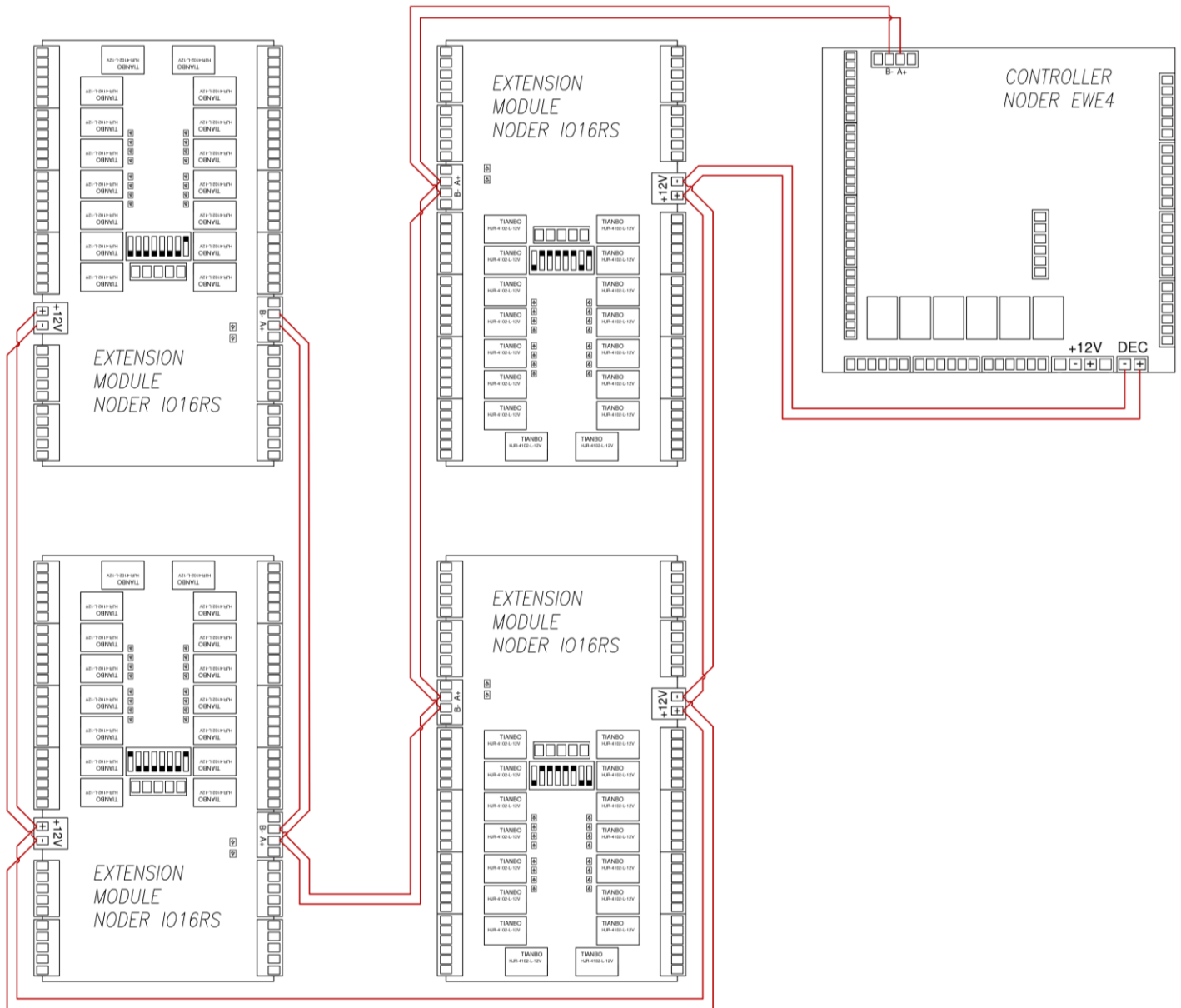**NODER S.A.**, 5h Olszańska Street, 31-513 Cracow, noder@noder.pl
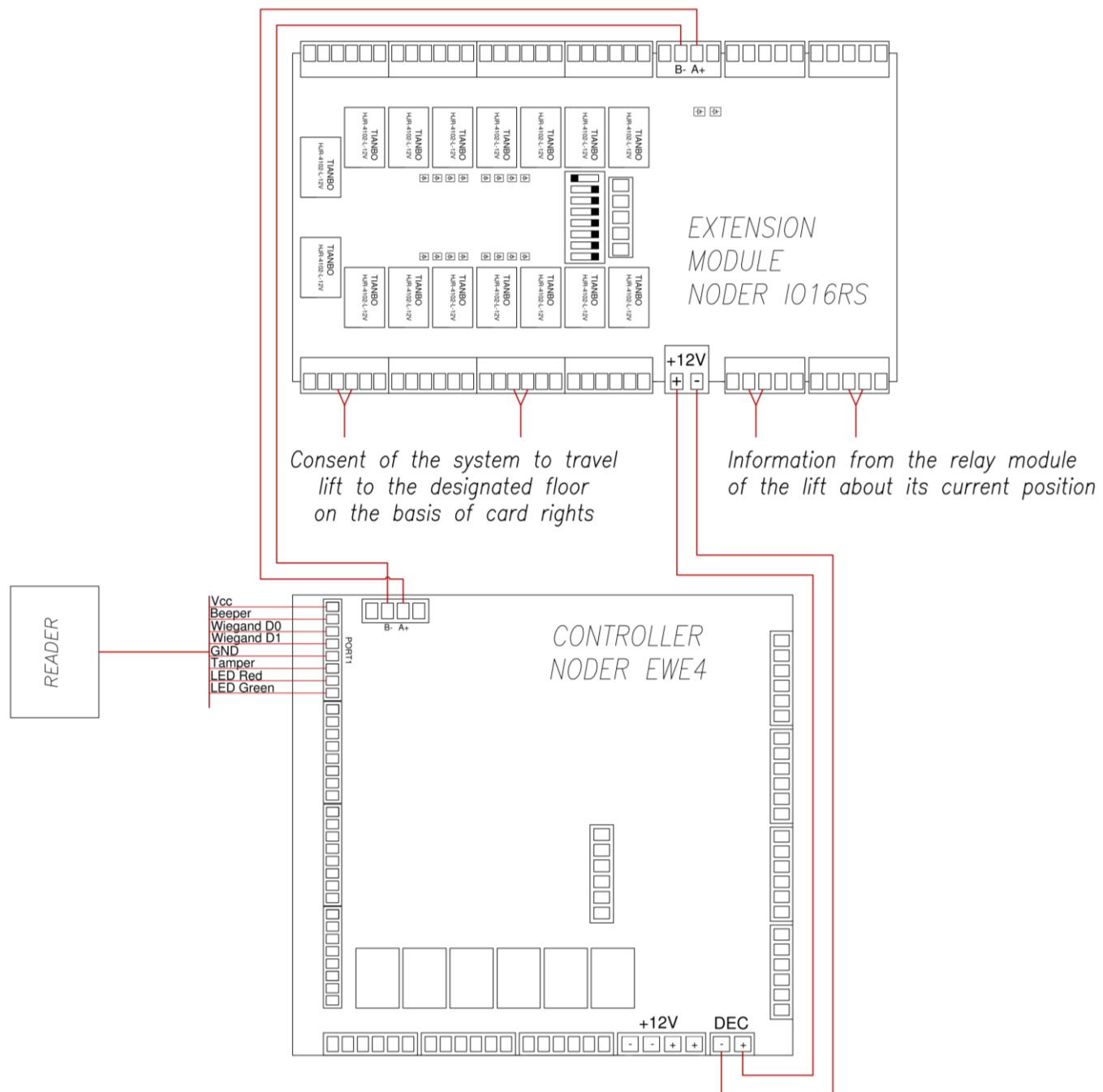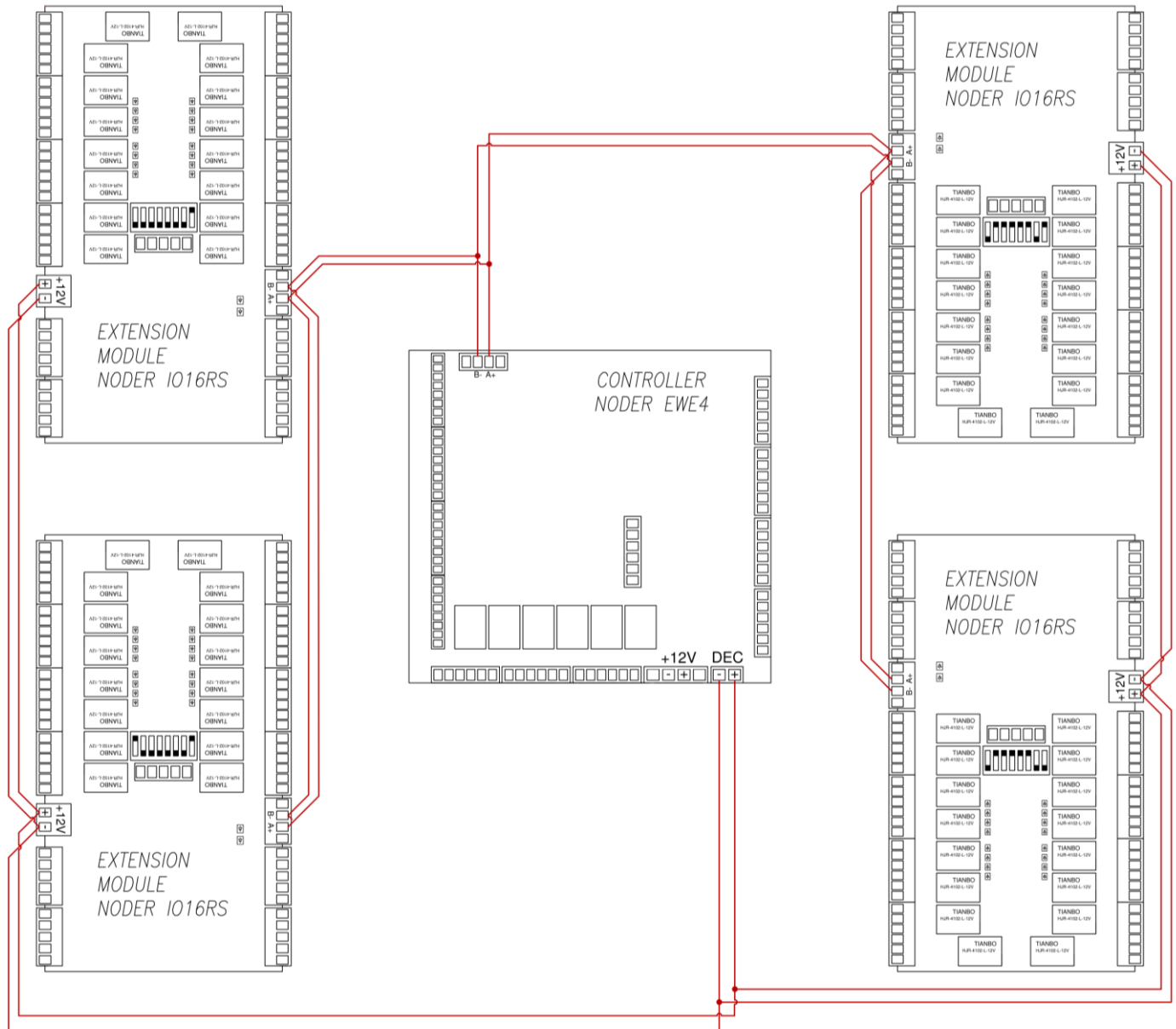
9. Example of connection to EE12 controller

The EE12 controller can handle up to 4 IO16RS modules for automated user identification, simultaneously supporting up to 12 MD-R readers. Use the extension port on the controller board to communicate with the device. For power supply connection it is recommended to use the relay output DEC on the controller. This allows the system operator to restart the device remotely. The power supply of the module should not be connected to the RS-485 bus of the controller. Connecting the power supply in this way may damage the IO16RS module.

Consent of the system to travel lift to the designated floor on the basis of card rights

Information from the relay module of the lift about its current position

NODER S.A., 5h Olszańska Street, 31-513 Cracow, noder@noder.pl

10. Example connection of 4 IO16RS modules to an EWE4 controller

11.   Another example of connection 4 IO16RS modules to an EWE4 controller

12. Example connection of 4 IO16RS modules to an EE12 controller