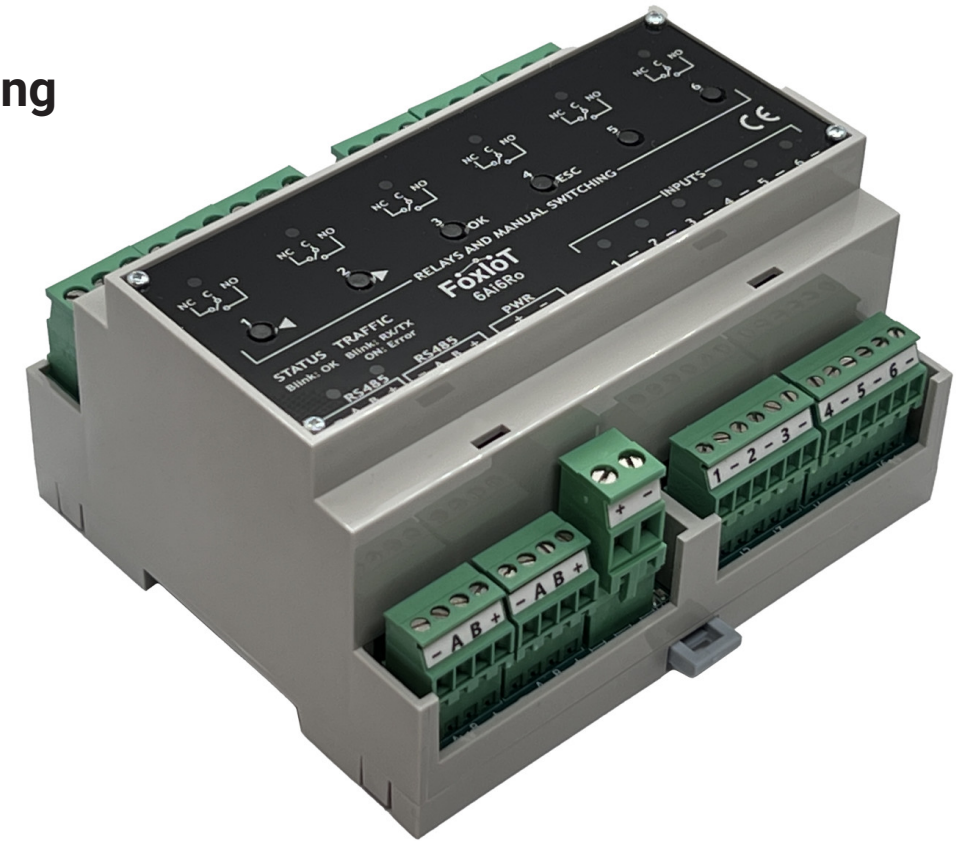
FoxIoT 6Ai6Ro Wiring Instructions

Wiring Reference and Connection Guide for Installers and System Integrators



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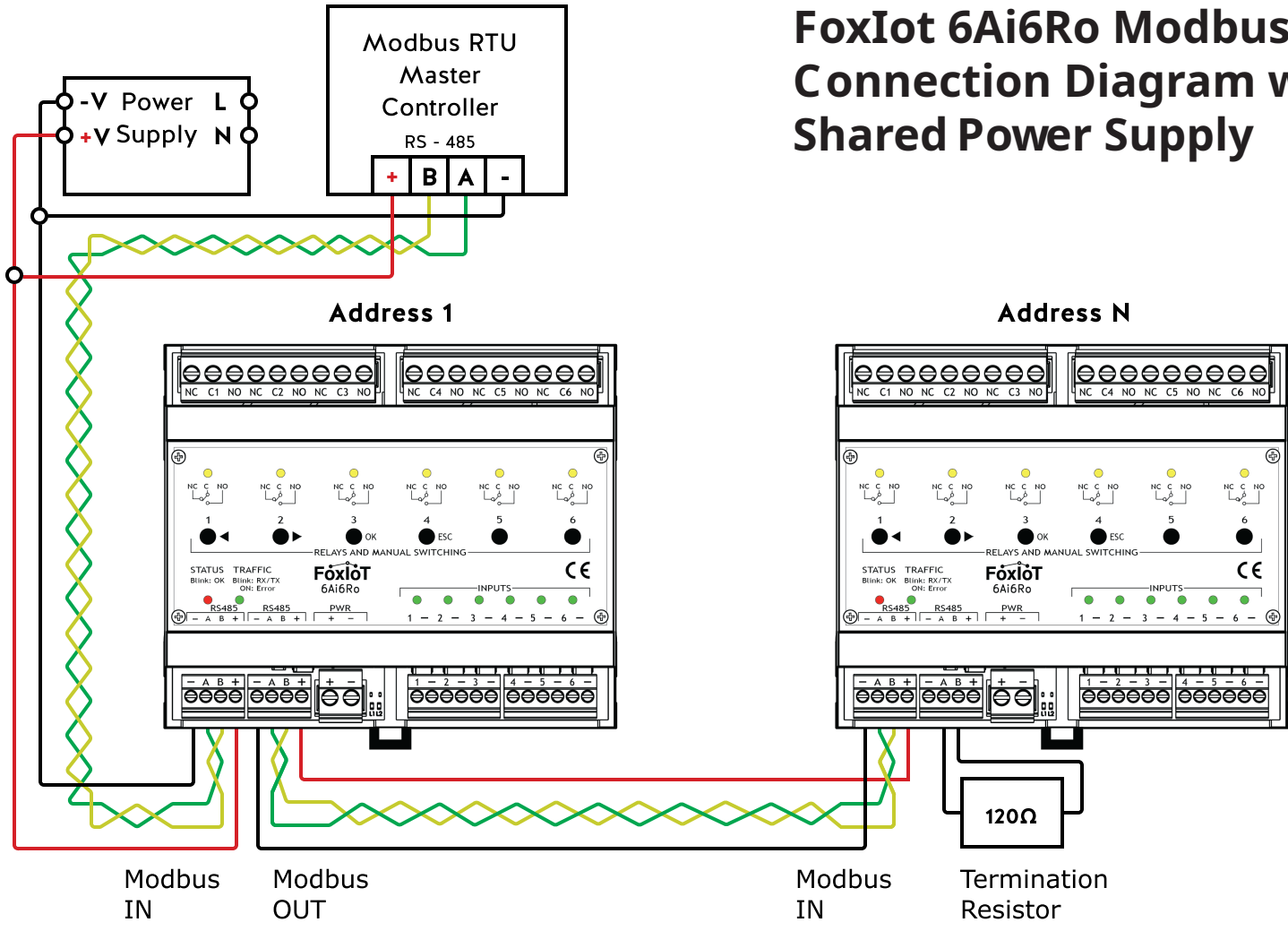
Document version: 1.0

Modbus & Power Connection Contents

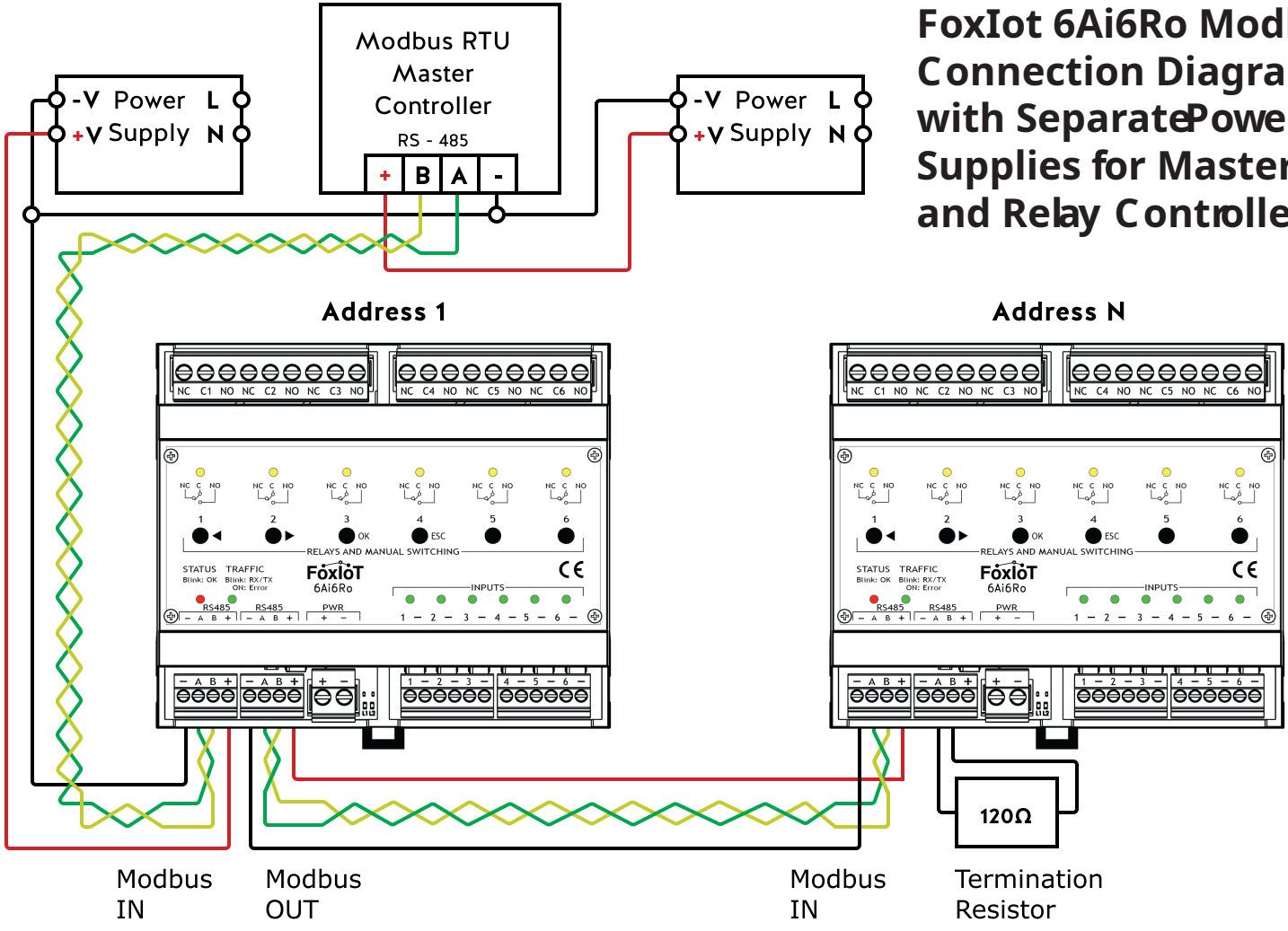
6Ai6Ro Output Connection Contents

6Ai6Ro Input Connection Contents

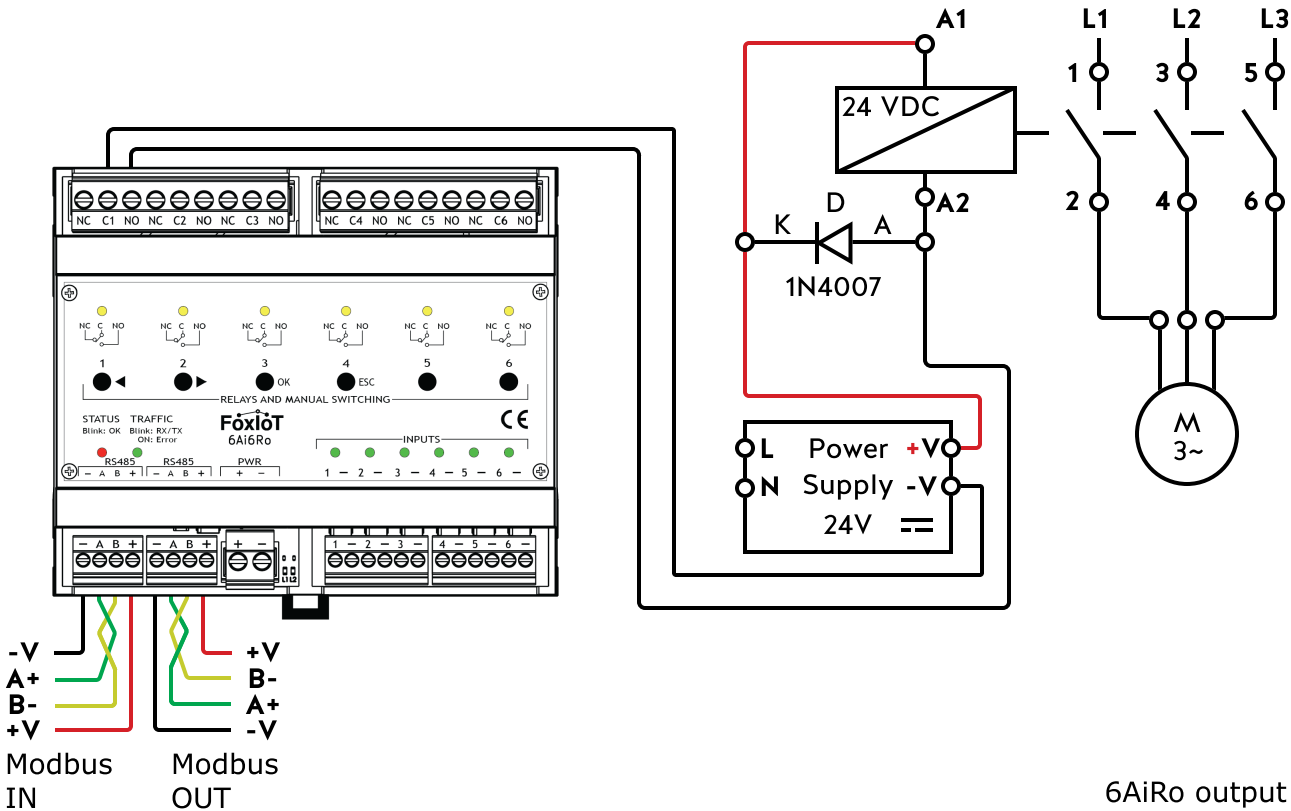
FoxIot 6Ai6Ro Modbus Connection Diagram with Shared Power Supply



FoxIot 6Ai6Ro Modbus Connection Diagram with Separate Power Supplies for Master and Relay Controllers

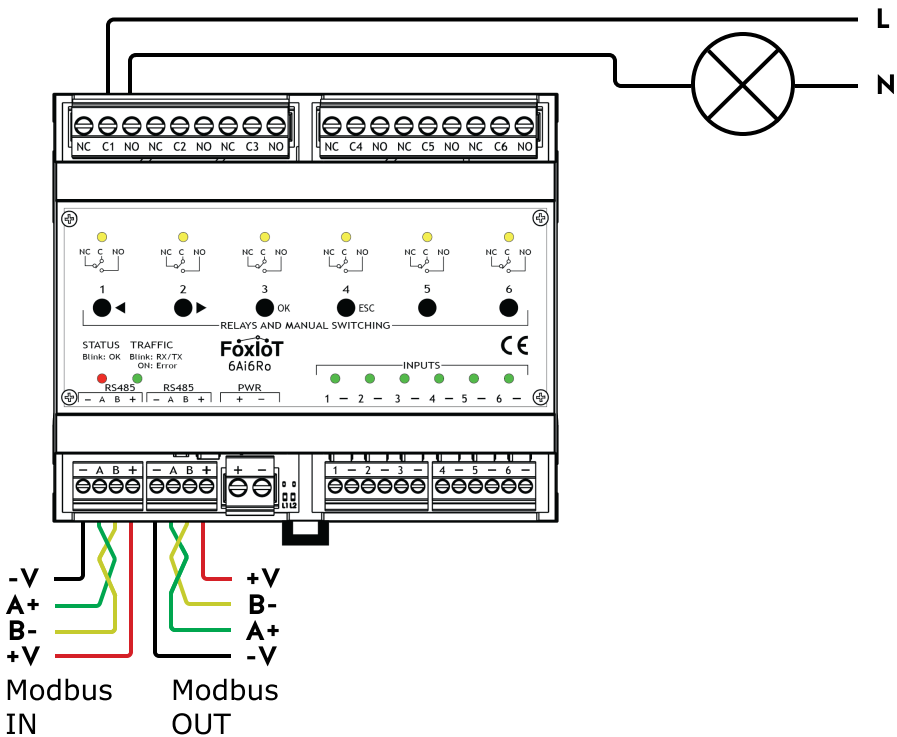


Connecting a Contactor With 24V DC Coil to Controller Output



6AiRo output connections

Connecting Lights to Controller Output

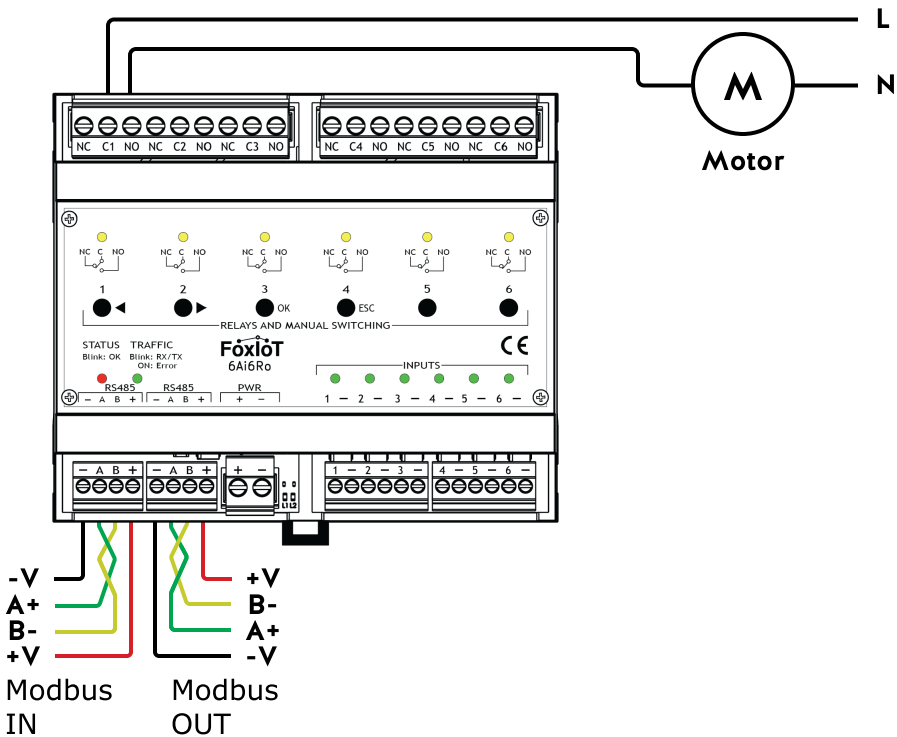


Note: Lights can be connected to any Relay port

Caution: When connecting modern LED lights, be aware of their capacitive load. Ensure the relay can handle the inrush current to avoid damage.

6AiRo output connections

Connecting Motor to Controller Output

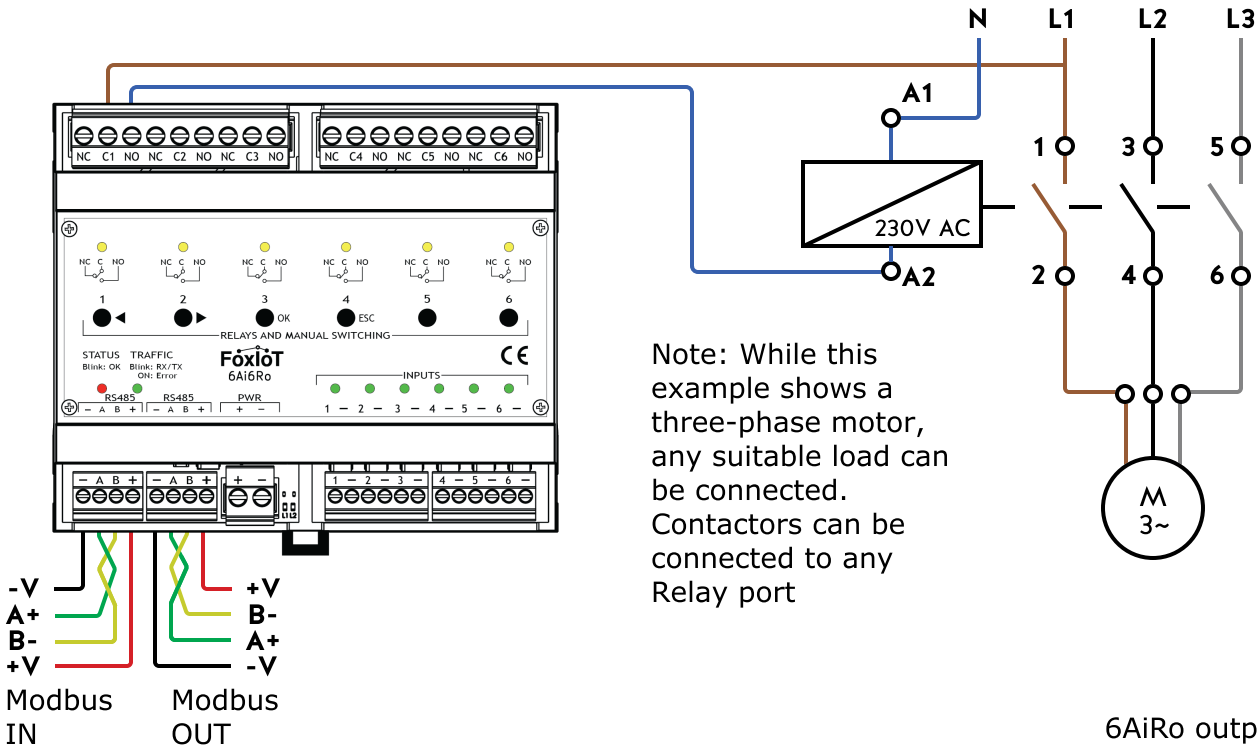


Note: Motors can be connected to any Relay port

Caution: Motors are inductive loads and can cause high inrush currents, sepecially during startup. Enusre the relay can handle the inductive load and inrush current.

6AiRo output connections

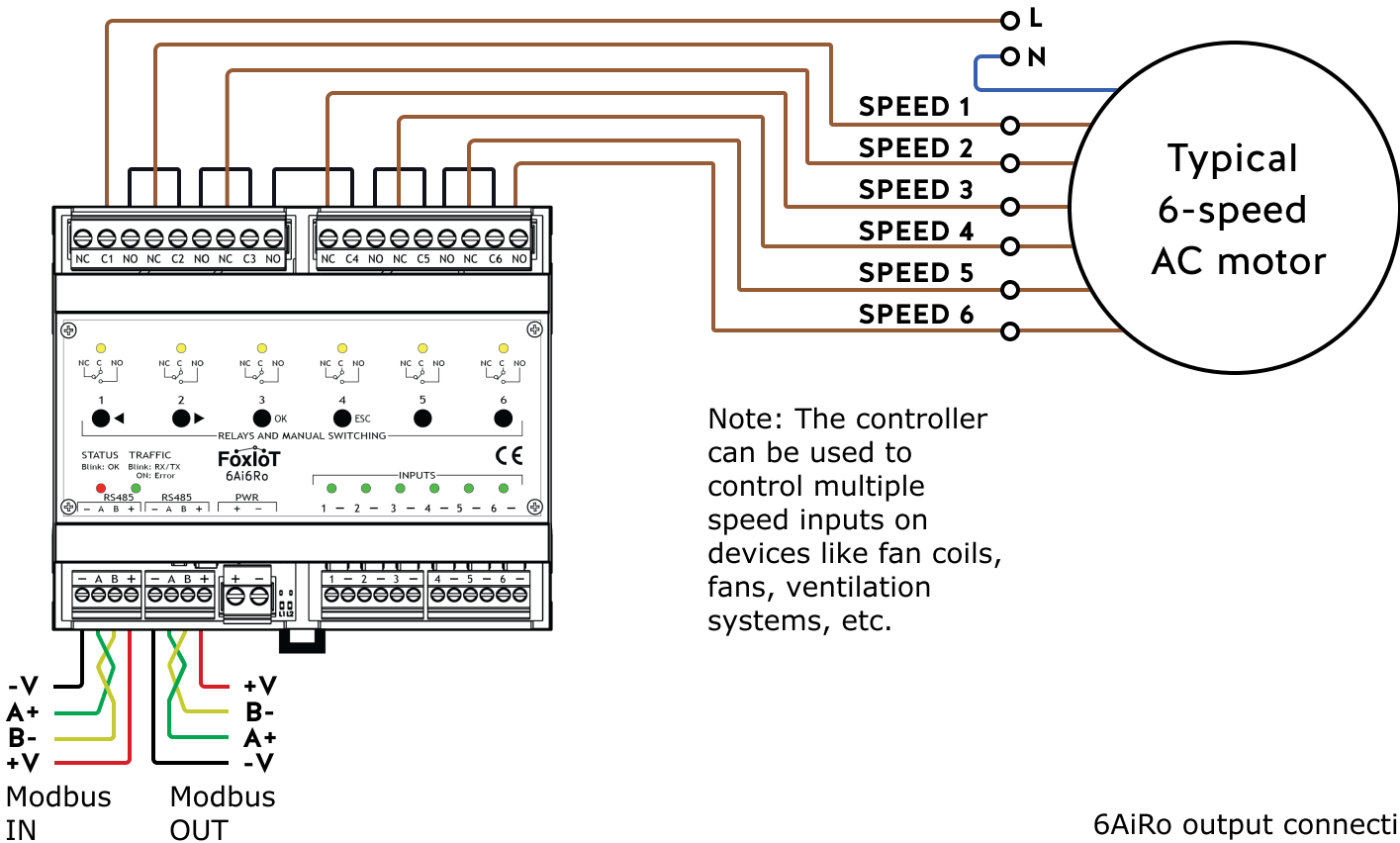
Connecting a Contactor with 230V AC coil to Controller Output



Note: While this example shows a three-phase motor, any suitable load can be connected. Contactors can be connected to any Relay port

6AiRo output connections

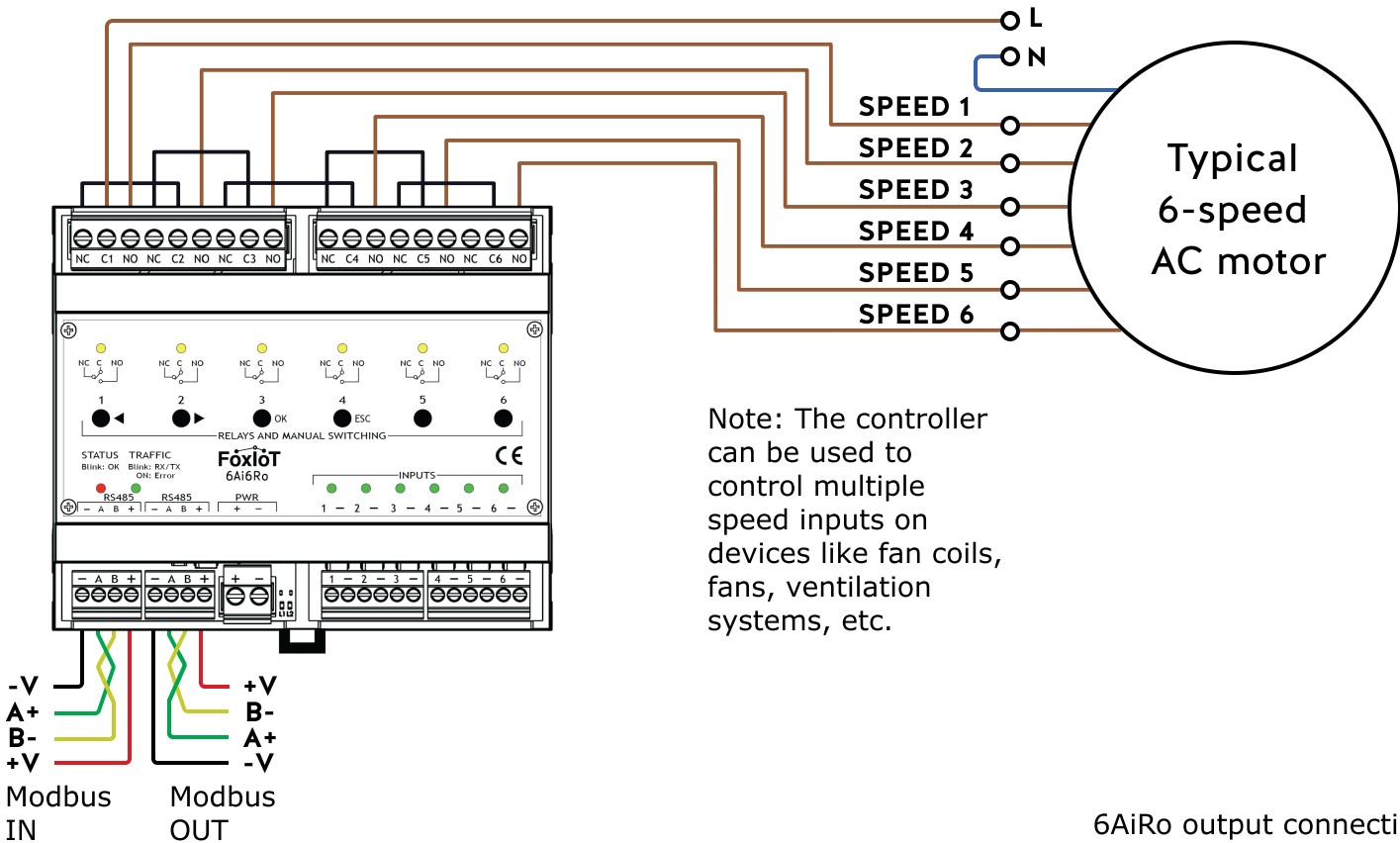
Connecting Multi-Speed AC Motors (up to 6 speeds) with Cascading Relay Logic to Controller Output



Note: The controller can be used to control multiple speed inputs on devices like fan coils, fans, ventilation systems, etc.

6AiRo output connections

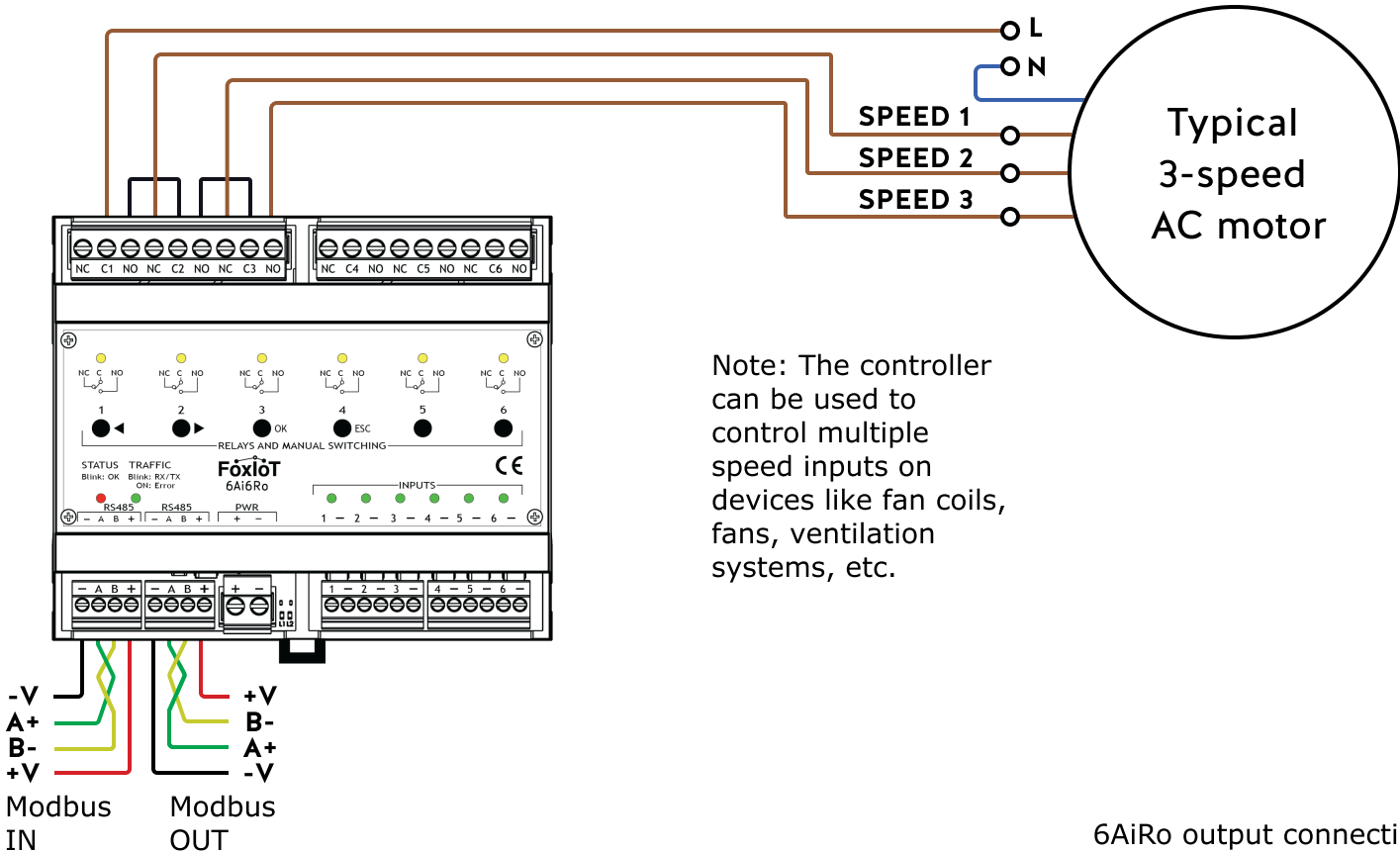
Connecting Multi-Speed AC Motors (up to 6 speeds) with Direct Relay Mapping to Controller Output



Note: The controller can be used to control multiple speed inputs on devices like fan coils, fans, ventilation systems, etc.

6AiRo output connections

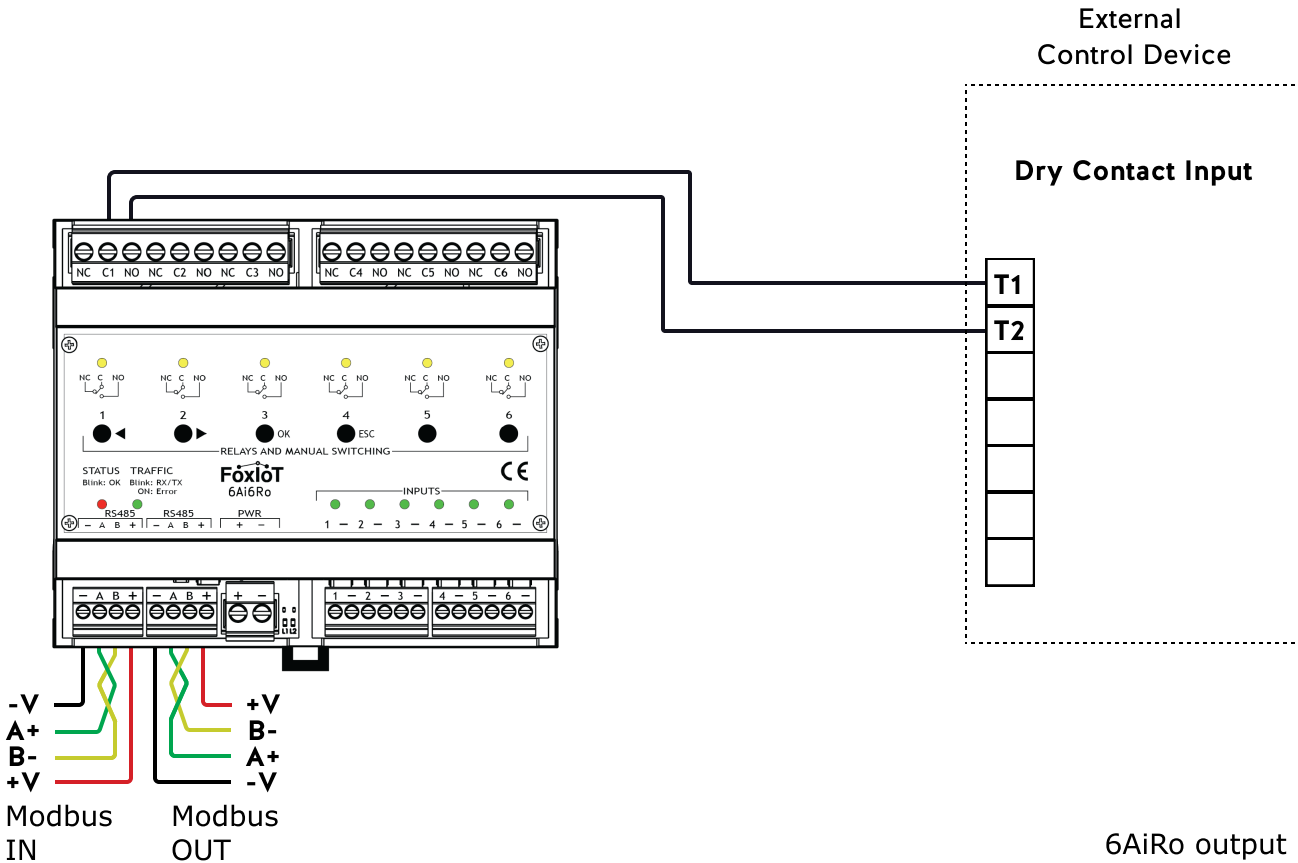
Connecting Multi-Speed AC Motors (3 speed) for Various Applications to Controller Output



Note: The controller can be used to control multiple speed inputs on devices like fan coils, fans, ventilation systems, etc.

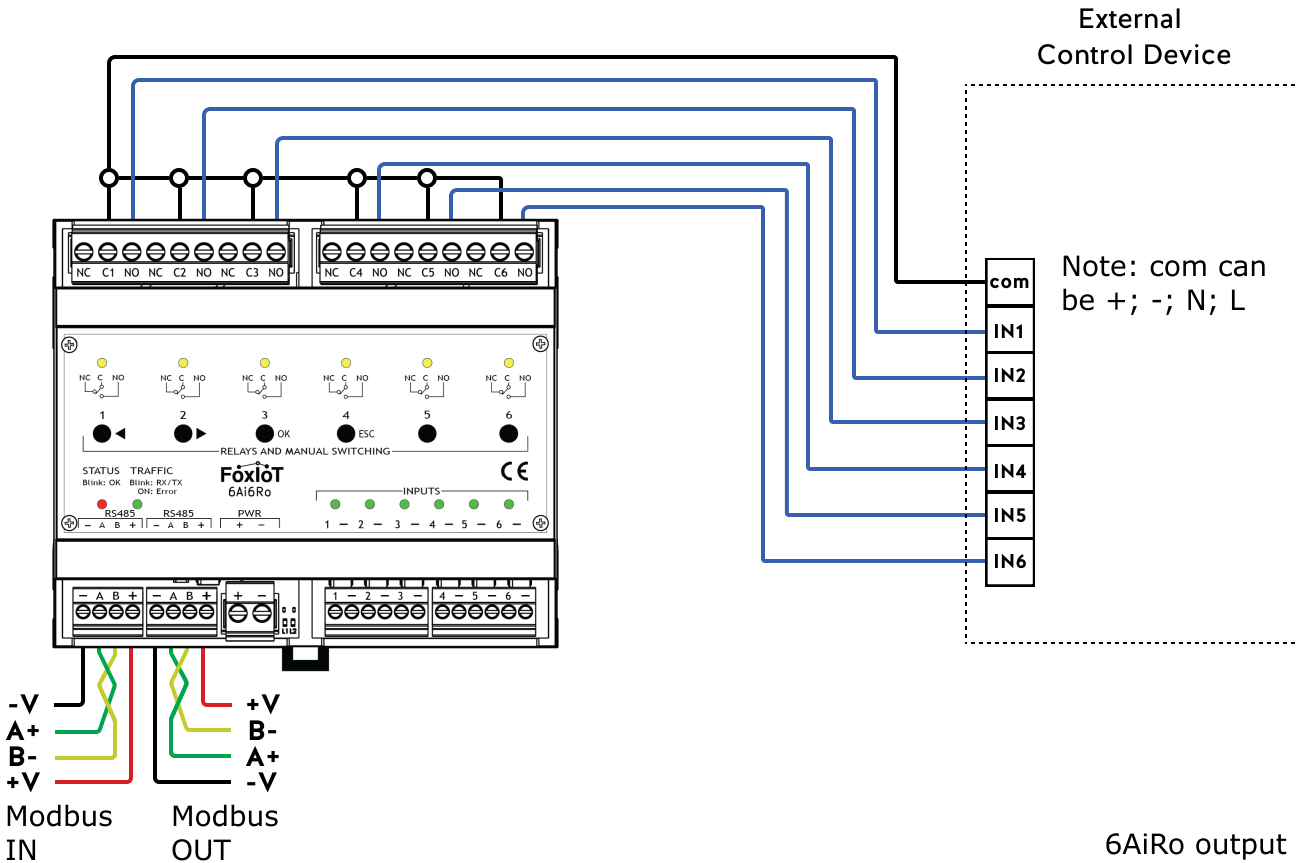
6AiRo output connections

Connecting External Automation System Inputs to Controller Outputs 1/2



6AiRo output connections

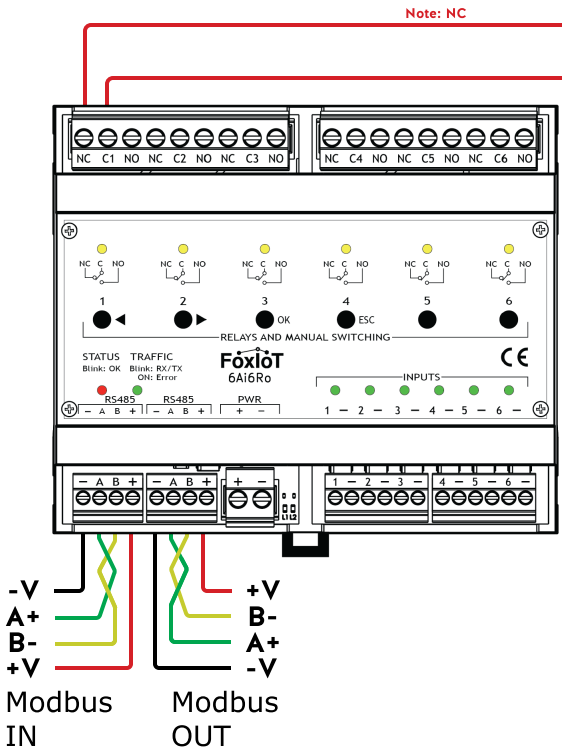
Connecting External Automation System Inputs to Controller Outputs 2/2



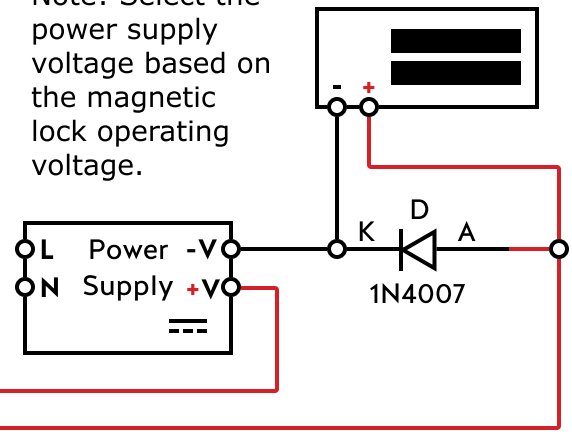
6AiRo output connections

Connecting Electromagnetic Locks and Electromagnetic Door Closers to Controller Outputs

Note: Locks can be connected to any relay port



Note: Select the power supply voltage based on the magnetic lock operating voltage.



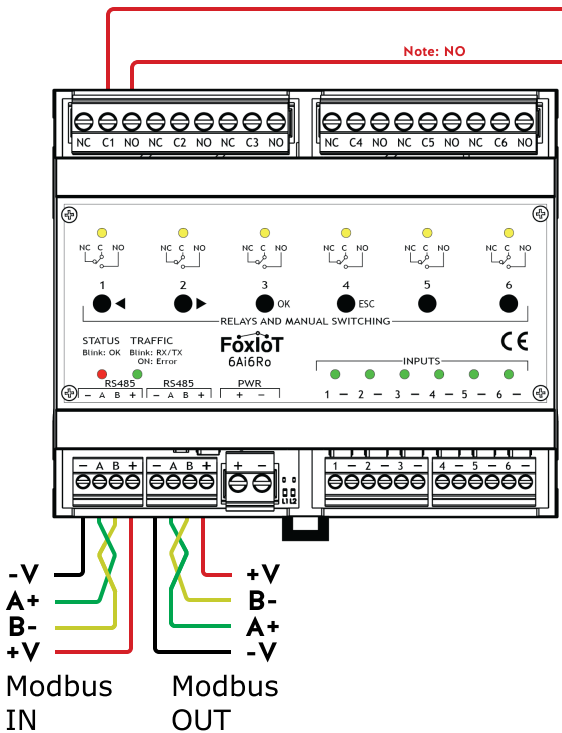
Note: To protect the relay from damage caused by voltage spikes when switching an electromagnet, place a diode across the electromagnet terminals.

Note: Door status - power on

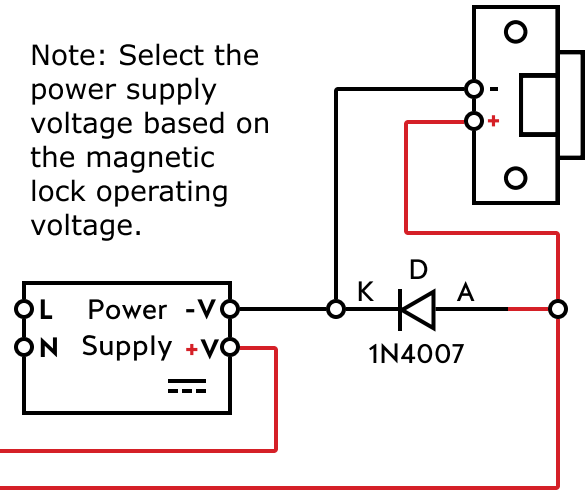
6AiRo output connections

Connecting Electric Strikes and Solenoid Door Locks to Controller Outputs for Secure Access Control

Note: Locks can be connected to any relay port



Note: Select the power supply voltage based on the magnetic lock operating voltage.

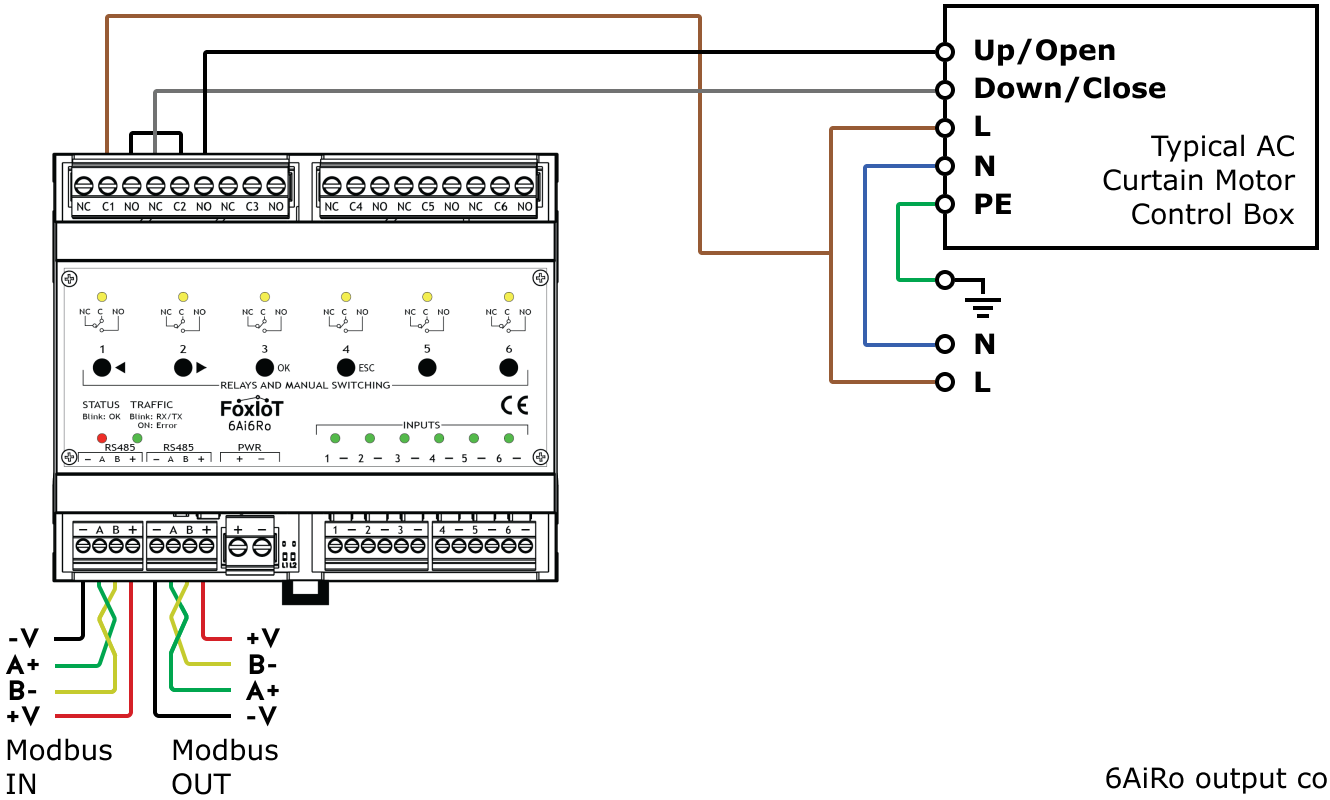


Note: To protect the relay from damage caused by voltage spikes when switching an electromagnet, place a diode across the electromagnet terminals.

Note: Locked status - power off

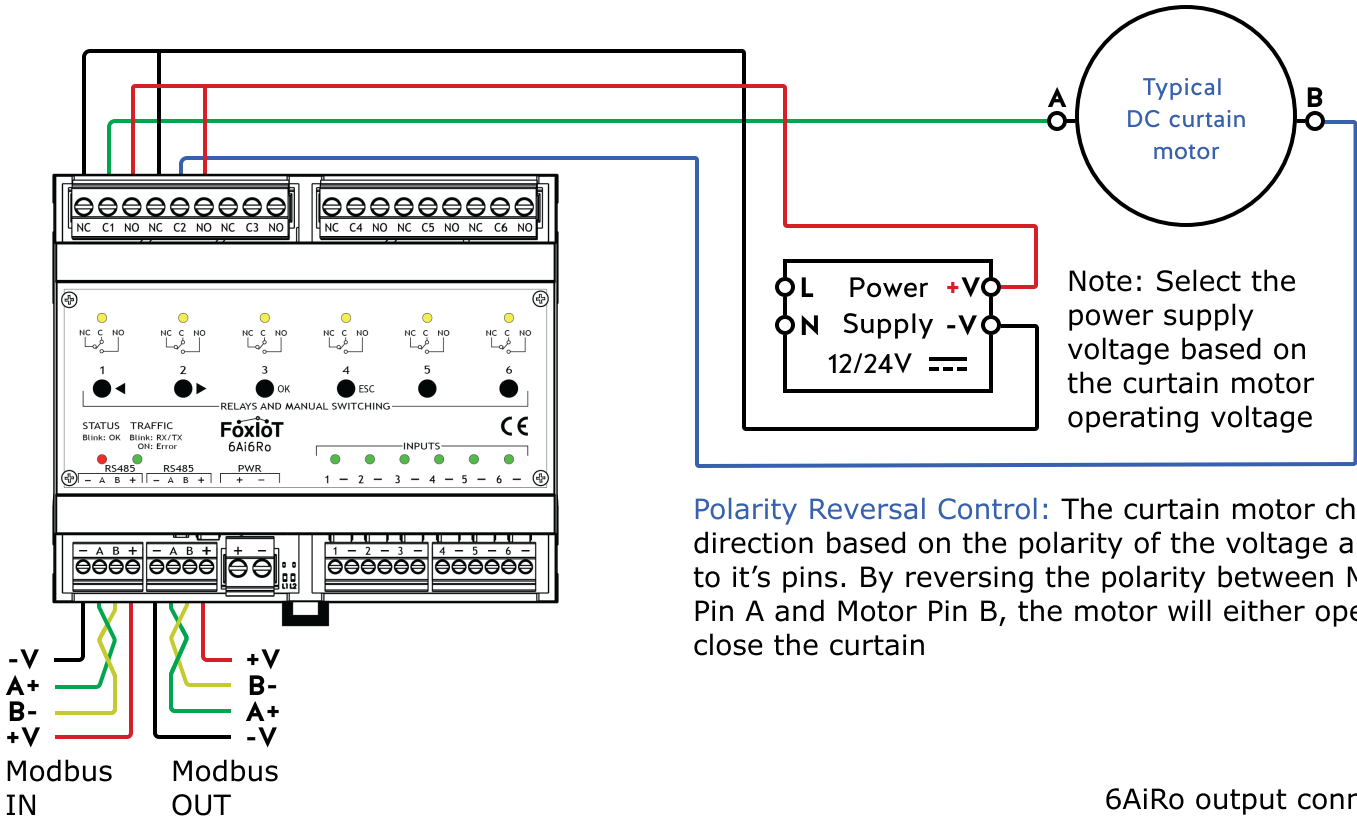
6AiRo output connections

Connecting AC Curtain Motors to Controller Outputs



6AiRo output connections

Connecting DC Curtain Motors to Controller Outputs

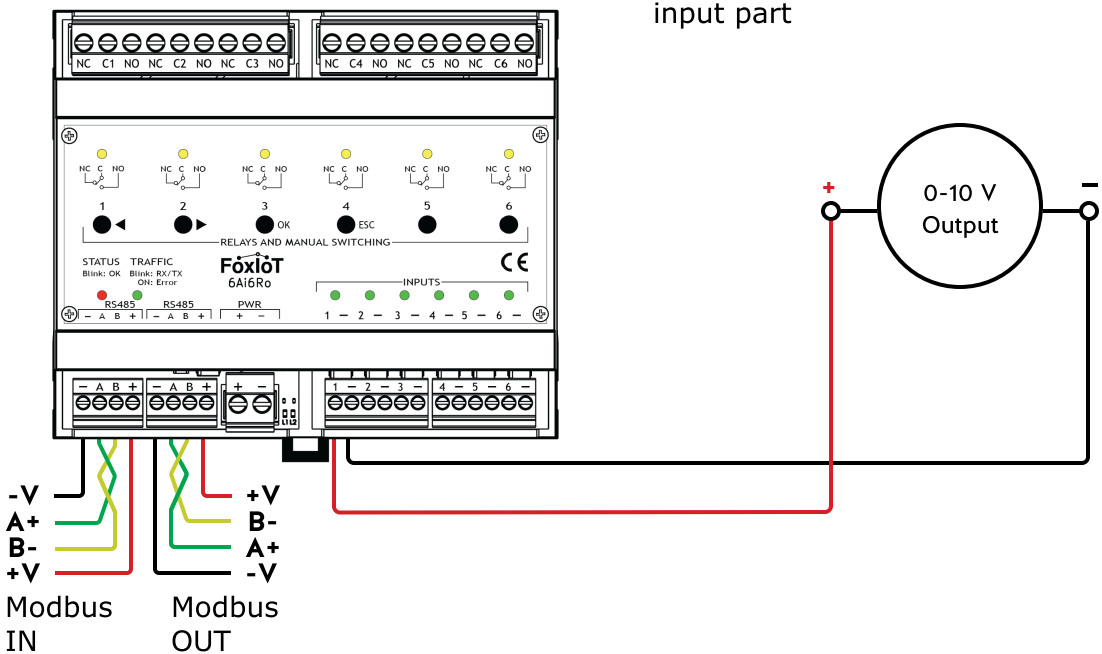


Polarity Reversal Control: The curtain motor changes direction based on the polarity of the voltage applied to it's pins. By reversing the polarity between Motor Pin A and Motor Pin B, the motor will either open or close the curtain

6AiRo output connections

Connecting 0-10V Output

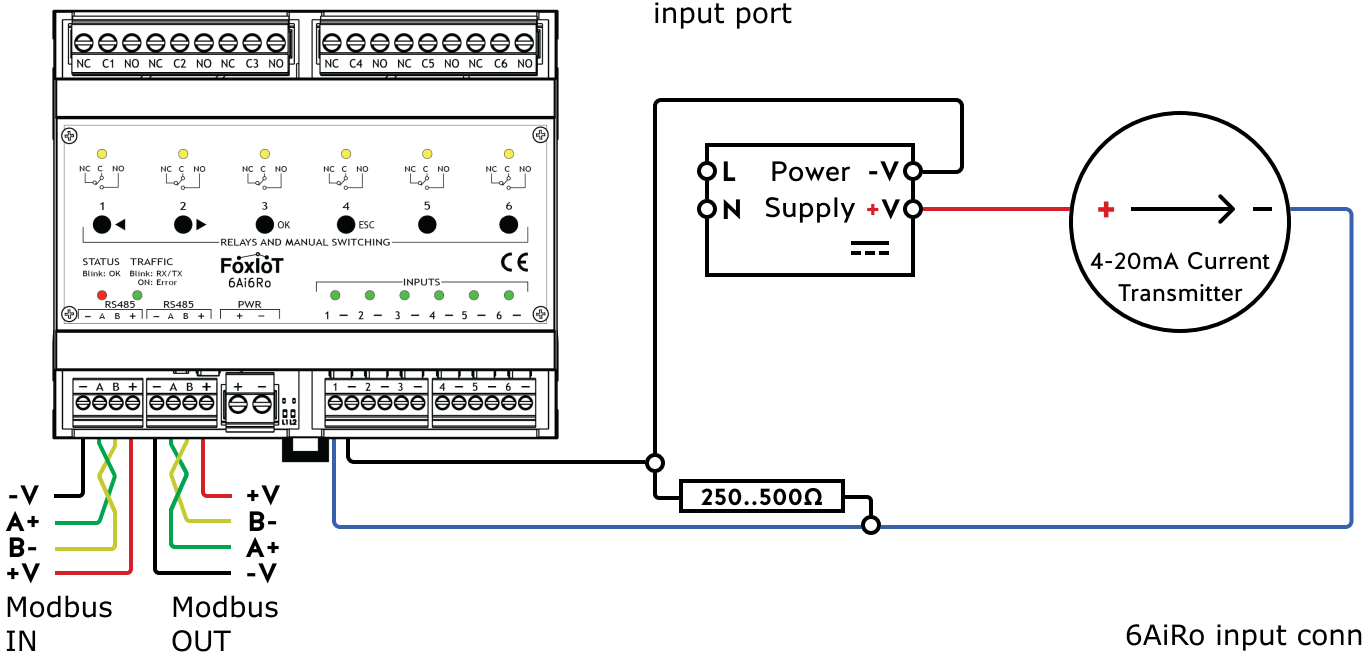
Set Port Mode 1 in Modbus Register (see datasheet)
Note: The 0-10V output can be connected to any input part



6AiRo input connections

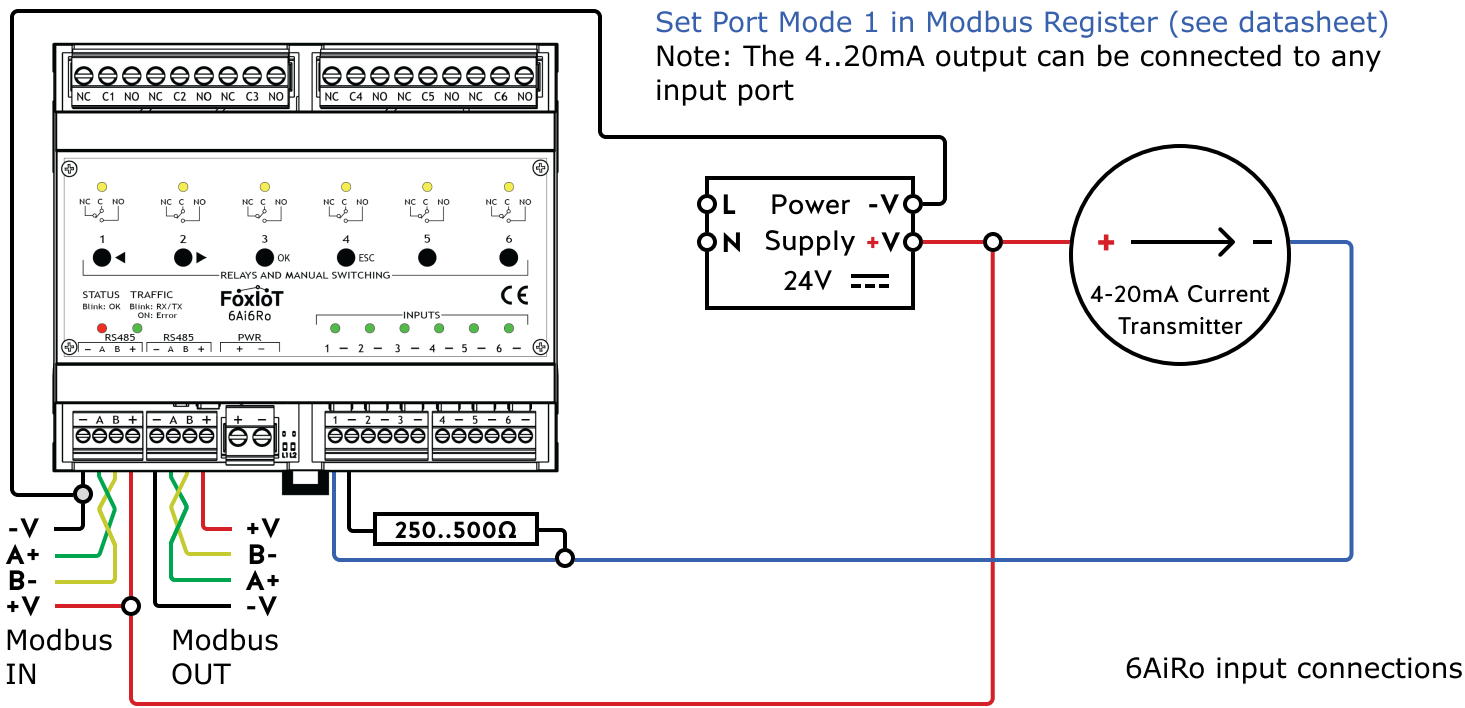
Connecting 4..20mA Output with Separate Power Supply

Set Port Mode 1 in Modbus Register (see datasheet)
Note: The 4..20mA output can be connected to any input port

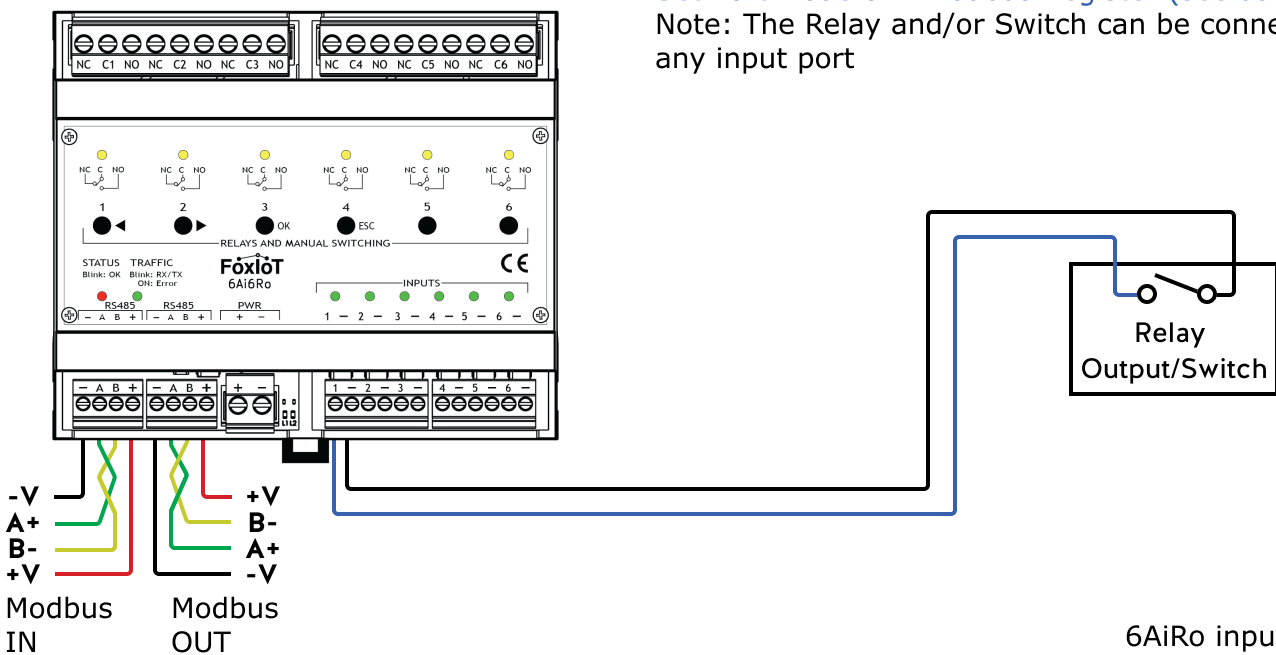


6AiRo input connections

Connecting 4..20mA Output with Shared Power Supply



Connecting a Switch or Relay Using Internal Pull-Up



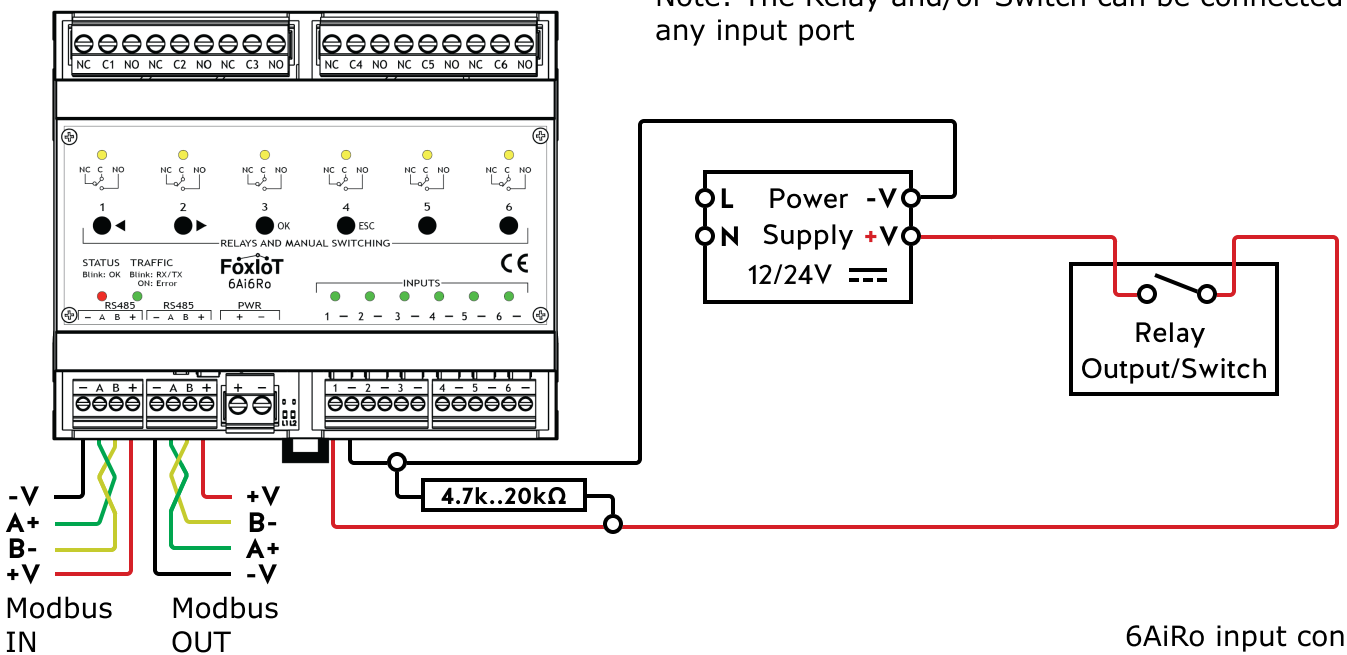
Set Port Mode 0 in Modbus Register (see datasheet)

Note: The Relay and/or Switch can be connected to any input port

6AiRo input connections

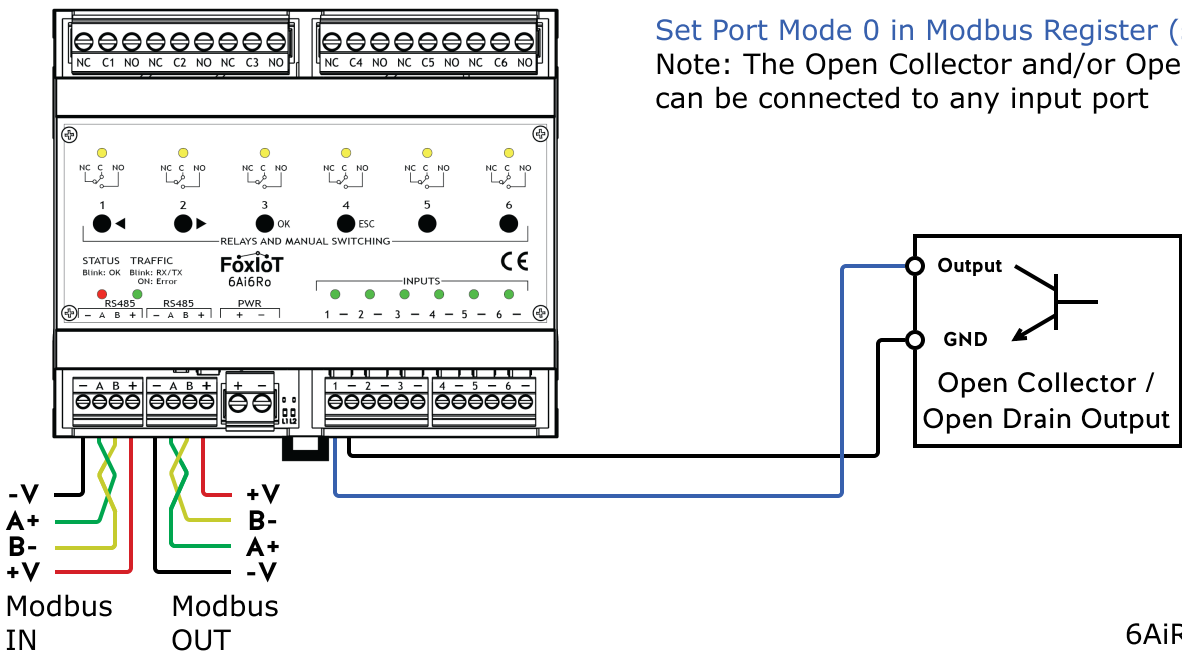
Connecting a Switch or Relay with Sourcing Signal and External Pull-Down

Set Port Mode 1 in Modbus Register (see datasheet)
Note: The Relay and/or Switch can be connected to any input port



6AiRo input connections

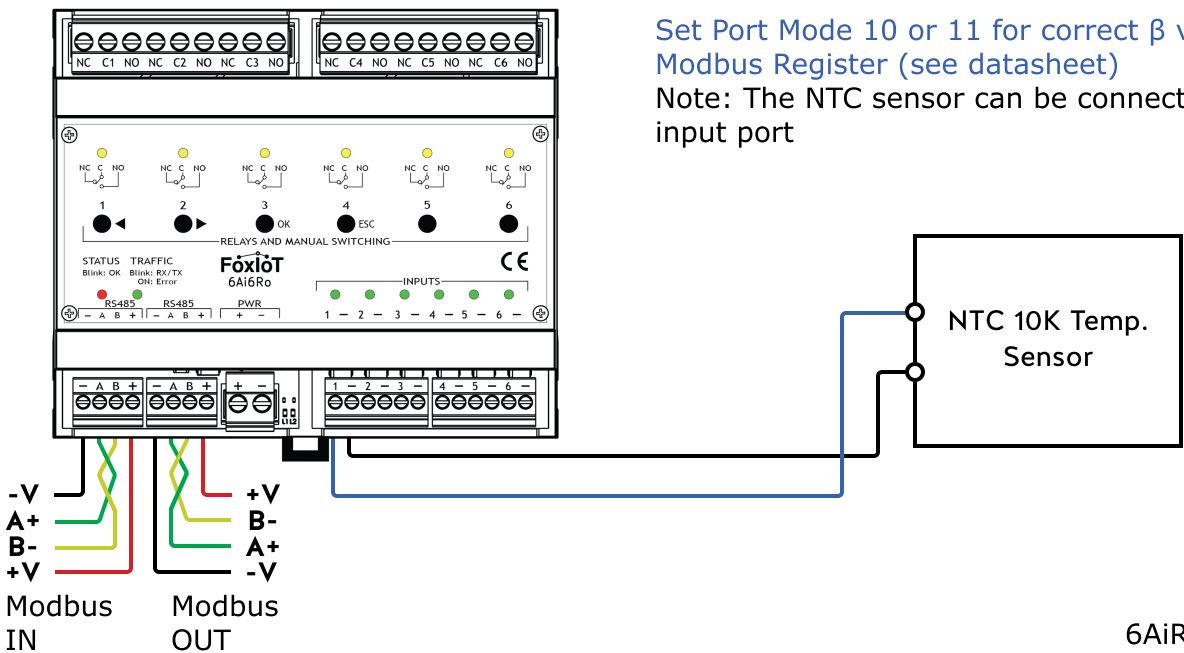
Connecting Sink-Type Outputs (Open-Collector/Open-Drain) to a Controller Input



Set Port Mode 0 in Modbus Register (see datasheet)
Note: The Open Collector and/or Open Drain output can be connected to any input port

6AiRo input connections

Connecting an NTC 10k Temperature Sensor to Controller Input



Set Port Mode 10 or 11 for correct β value in Modbus Register (see datasheet)

Note: The NTC sensor can be connected to any input port

6AiRo input connections