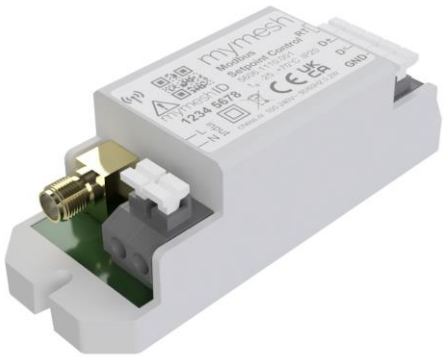
Installation Instruction

Mini BLC Modbus Setpoint Control



The Mymesh mini BLC Modbus setpoint control is a product in the Chess program for building light control. The mini BLC Modbus setpoint control is a wireless light controller by a Modbus client. One Modbus client can control multiple Modbus setpoint control devices. The mini BLC Modbus setpoint control is able to control up to eight different light control groups.

Safety

- Installation and service should be performed by qualified personnel only.
- The mains connection of the mini BLC Modbus setpoint control must be provided with a fuse or circuit breaker.
- Disconnect power at the source before installation, inspection or removal of the mini BLC Modbus setpoint control.
- Do not use the mini BLC Modbus setpoint control if it is damaged.
- The mini BLC Modbus setpoint control is suitable for use at indoor locations (IP20 protection class). Mount the mini BLC Modbus setpoint control in an IP66 housing for use at outdoor locations.
- The mini BLC Modbus setpoint control is double insulated (protection class II).
- The optional strain relief mini BLC can be used to fixate and protect wiring to the mini BLC Modbus setpoint control.

Application

Read the mini BLC Modbus setpoint control product sheet (see chess.nl) for the product specifications and environmental conditions.

Antenna mounting

The mini BLC Modbus Setpoint control is provided with an external antenna for wireless communication with other Mymesh products. It is important that the operation of the antenna is not disturbed.

- Do **not** mount the mini BLC Modbus Setpoint control inside a metal housing or directly next to a large metal object.
- Some plastic materials and glass such as safety glass, tinted glass and double glass influence the operation of an antenna.
- Use a plastic, polycarbonate or fiberglass housing **without** carbon
- Install the mini BLC Modbus Setpoint control in the direct neighbourhood of other Mymesh products.
- Connect the supplied antenna to the antenna connector.
- Mount the antenna **outside** the housing/cabinet if necessary. Ensure that the thickened part at the end of the antenna is positioned **outside** a housing plus 1.5cm of the antenna cable. Use a grommet for protection of the antenna cable.
- Depending on the installation of the antenna in the housing/cabinet the range is damped to a greater or lesser extent. The range of the antenna is divided into four categories:
    - ★★★ – 75 to 100% antenna range for situations where luminaires are installed far apart in an open space (approx. 30-50 meters) **OR**
      for situations where luminaires are installed in close proximity (approx. 20-30 meters) in complex buildings with a lot of damping through walls, partitions and ceilings
    - ★★☆ – 50 to 75% antenna range is acceptable for situations where luminaires are installed in close proximity (approximately 10-20 meters) in buildings with limited attenuation due to partitions.
    - ★☆☆ – 25 to 50% antenna range is acceptable for situations where luminaires are installed in an open space in close proximity (approximately 10-20 meters).
    - ☆☆☆ – no antenna range. Do not apply.
- The following installation examples of the antenna are for illustrative purposes. Contact Chess in case of doubt.

Antenna Mini BLC

Grommet

Antenna with grommet

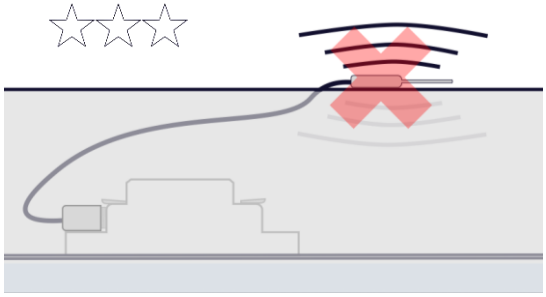


Figure 1: Do not mount the antenna flat on a metal surface.

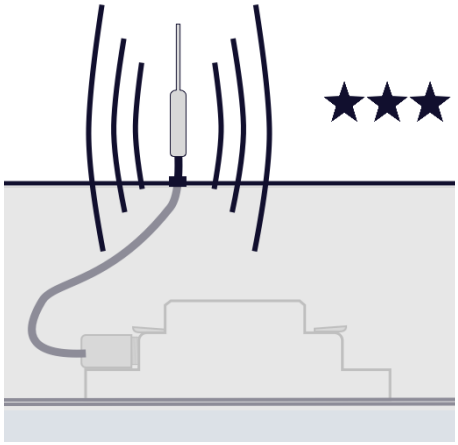


Figure 2: Route the thickened part of the antenna completely through the metal housing / cabinet plus 1.5cm of the antenna cable.

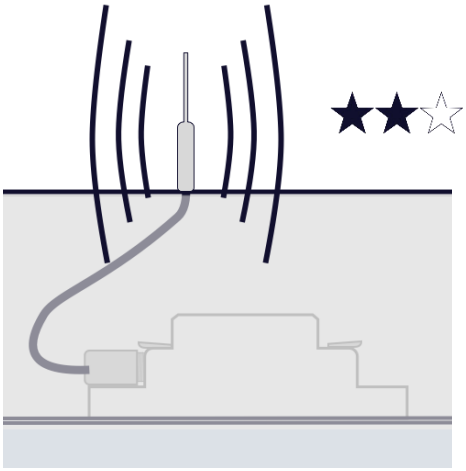


Figure 3: Route the thickened part of the antenna completely through the metal housing / cabinet

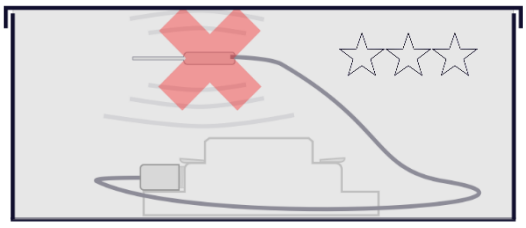


Figure 4: Do not place the antenna in a metal housing / junction box.

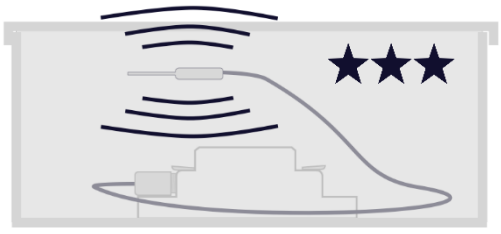
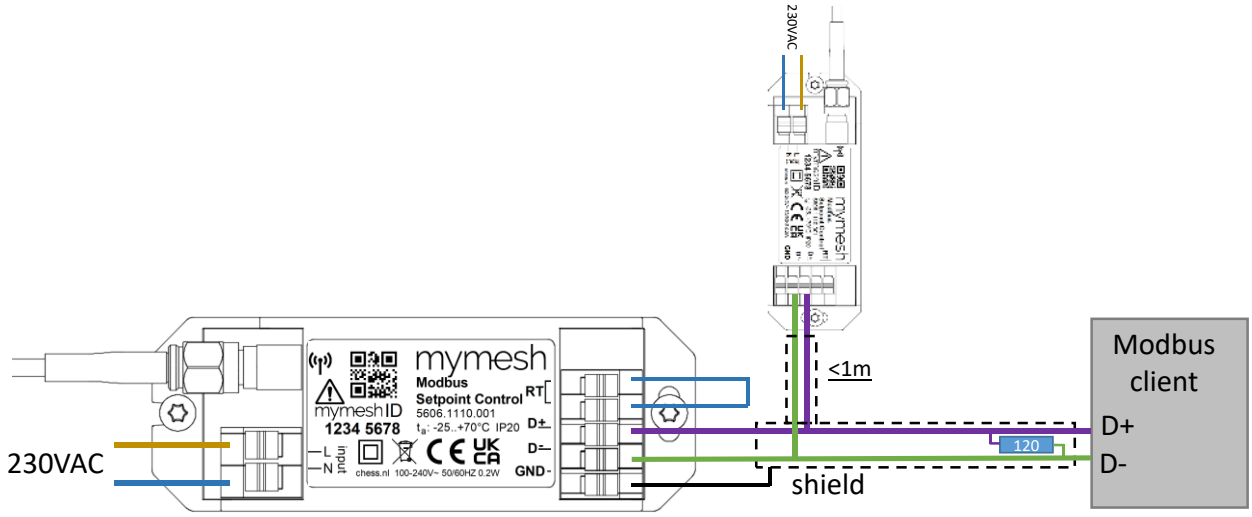


Figure 5: Freely place the antenna in a plastic junction box / housing (not against plastic)

Installation

- Mount the mini BLC Modbus Setpoint control with 2x M3 screw/bolt or double sided tape.
- Use maximal 1.5 mm² (AWG16) wiring for all connections. Push the wires completely into the terminal block. Use wire end sleeves when using flexible wires.
- Connect the 230VAC supply voltage to the mini BLC Modbus setpoint control.
- Use shielded 0.25 mm² (AWG24) cable (or better) for the Modbus connection, e.g. a CAT6 FTP cable.
- Connect the Modbus terminals of the Modbus Client with the connections of the mini BLC Modbus setpoint control(s). Pay close attention to the polarity of the connection.
- Maximum cable length is 1200m, Connections to secondary mini BLC Modbus setpoint control should be limited to 1m.
- Apply 120 Ohm termination resistors on **both** sides of the RS-485 Modbus (far ends only). Mount a wire bridge between the RT terminals to use the internal termination resistor (RT) of the mini BLC Modbus Setpoint Control. Place a 120 Ohm termination resistor at the Modbus client.
- Connect the cable shield to GND at just **one** side of the RS-485 Modbus, either the mini BLC Modbus setpoint control or the Modbus client.

Mini BLC Modbus setpoint control wiring



Configuration

Power the mini BLC Modbus setpoint control. Use the iPad Mymesh commission app for configuration of the mini BLC Modbus setpoint control.. Contact Chess for Modbus configuration documentation.

Usage

The mini BLC Modbus setpoint control will control the configured lamps.

Compliance

This product complies with the European directives and relevant standards for RED, REACH and RoHS. The mini BLC Modbus setpoint control contains a 2.4 Ghz radio. The applied frequency of the radio is within the band 2.401 – 2.482 GHz and the maximum transmit power is +4 dBm.

Hereby, Chess Wise B.V. declares that the radio equipment type mini BLC Modbus setpoint control is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at chess.nl

Repair

Do not open this product. In case of failure the mini BLC Modbus setpoint control must be replaced.

Recycling

Do not dispose this product as household waste but bring it to an appropriate collection point for recycling.