# Externally steering the Maxicontroller 18-05-21

# Preface

There are 2 ways to take control over the Maxicontroller and use the Dimlux Eco system.

The first way is to use ‘Direct mode’. When direct mode is used, the Maxicontroller has no control over the steering of the lamps. This is externally done. The sensors which are connected only have a display function. (So NO overheat protection)

The second way is ‘RS485 mode. With this mode all settings of the Maxicontroller can be altered and all registers can be read out. Its the same as a user used the keyboard and display of the Maxicontroller. The control will be done by the Maxicontroller. So overheat will still function.

This is for both available models Maxicontrollers. The normal Maxicontroller, and the Maxicontroller Datalog.

# RS485 mode

In RS485 mode you can change the settings of the Maxicontroller and readout all its registers.

To make communication possible, you first have to enable ‘PC control On’ and give it an address to listen to.


Main mode screen

Press 'SET' key

Press a couple times '+' key

Press 'SET' key

Press 'SET' key

Press '+' key

Press '+' key

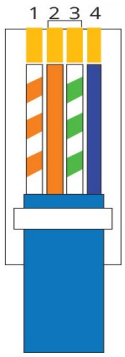
Wanted PC Control On
Address 1

press 'ESCAPE' key

The display of the Maxicontroller setting PC control onto address 1

# Connecting the Maxicontroller for RS485 control

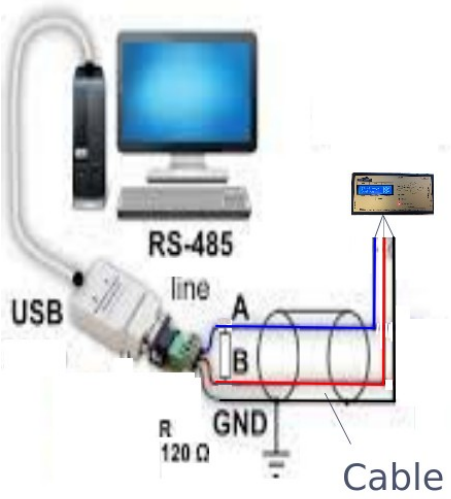
The RS485 connection is made at the ABP port of the Maxicontroller with an RS22 plug.




Pin 1. -
Pin 2. RS485 - A
Pin 2. RS485 - B
pin 3. GND

Connection to ABP bus

On the other end of the cable an USB to RS485 converter can be used. Preferable an isolated one for a stable connection.




Example of aRS485 connection

RS485 port settings:  Baud-rate: 1200 Baud,8 byte, none, parity

# ABP protocol

The ABP protocol which is communicated over the RS485lines consists of a

[abp header], master adres, slave address, length, command, [data], crc

The ABP header = -127,127,0
Master address = -128
Slave address = address entered into Maxicontroller
length = Length of the data send;
command = command to send
data = data to send
crc = crc

CRC = all data Bit-wise exclusive OR and former value, started from 0x11

example pseudo code:

```
CRC = 11;
Serial.write((byte) - 128); // send from
CRC ^= -128;
Serial.write((byte)1);    // send to
CRC ^= 1;
Serial.write((byte)1);    // command length
CRC ^= 1;
Serial.write((byte)52);   // command
CRC ^= 52;
Serial.write((byte)0);    // data...
CRC ^= 0;
Serial.write(CRC);    // crc
```

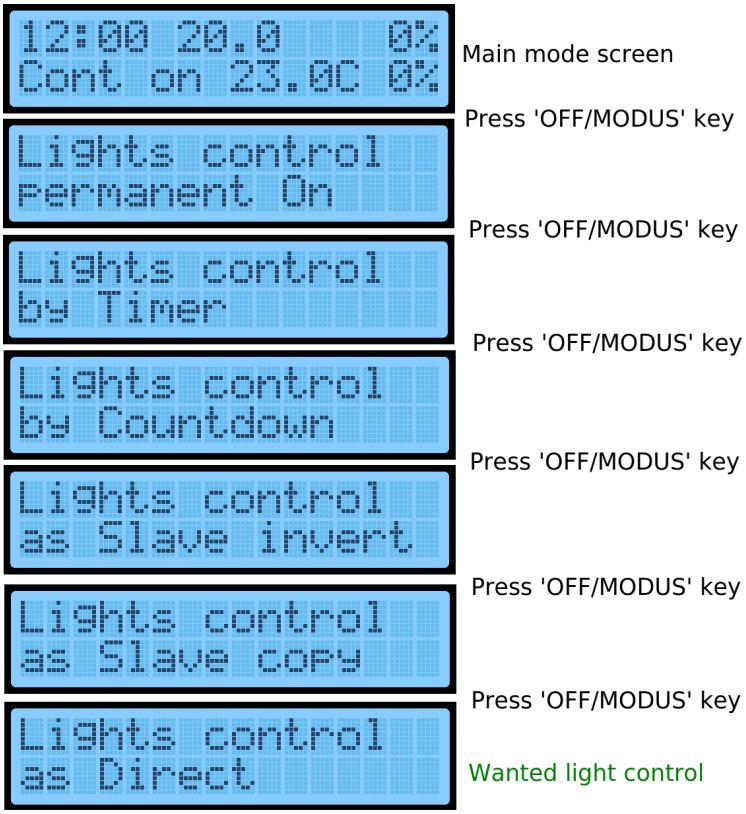
# Direct mode

It is possible to steer the Maxicontroller with an external voltage. By this way a not ‘Dimlux brand’ can steer the Dimlux lights.

The Maxi-controller will NOT ‘dim’ or ‘shutdown’ the lights when the temperature is to hot. This has to be done by the device steering the Maxi-controller

## Setting the Maxicontroller in to the ‘direct mode’

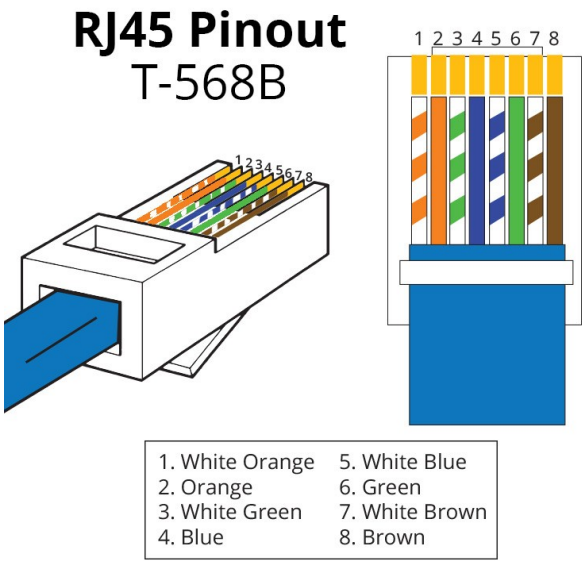
You have to set the ‘Light control’ to ‘the direct mode’  This can be done by pressing the ‘off/modus’ key a couple of times. When the setting ‘as Direct’ is in screen accept it with the ‘set’ key.




The display of the Maxicontroller setting Direct mode

# Connecting the Maxicontroller for direct control

The steer voltage has to be sourced onto the infrared port.


Pin 1. -
Pin 2. -
Pin 3. voltage for channel A
Pin 4. -
Pin 5. -
Pin 6. voltage for channel B
pin 7. GND
pin 8. GND

The is a RJ45 plug

# Steering voltage

The input-voltage may not exceed 13 volt. The load of the Maxicontroller is max. 1mA

Power percentage out, is linear with voltage in. The ballast stay OFF, below 3000 mV
See table.

Note: Below 5000 mV (= 50%) steering is off. This is done because HPS (or CMH) lamps can’t ignite below 50% of its power.

| Voltage in (mV) | Percentage steering (%) |
|---|---|
| **0** | **0** |
| 1000 | 0 |
| 2000 | 0 |
| 2500 | 0 |
| 3000 | 0 |
| 3500 | 0 |
| 4000 | 0 |
| 4500 | 0 |
| 5000 | 50 |
| 5500 | 55 |
| 6000 | 60 |
| 6500 | 65 |
| 7000 | 70 |
| 7500 | 75 |
| 8000 | 80 |
| 8500 | 85 |
| 9000 | 90 |
| 9500 | 95 |
| 10000 | 100 |
| 10500 | 105 |
| 11000 | 110 |
| 11500 | 115 |
| 12000 | 120 |
| >12000 | 120 |

Steering voltage in, power percentage out