



Mehregan

Intuitive architectural lighting controller

Ordercode: 10088

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Picture

1.1 General

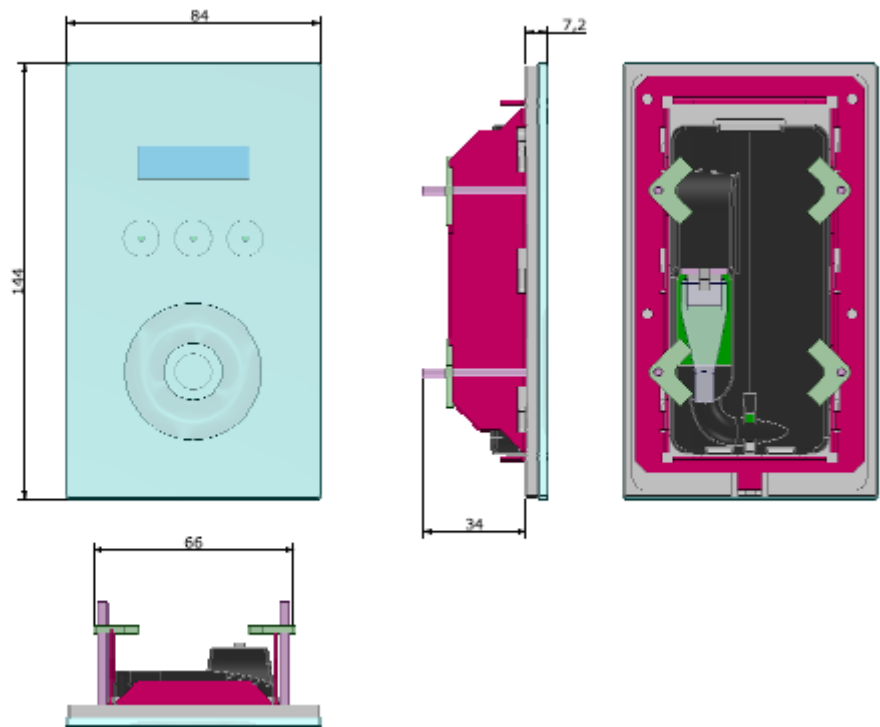


1.2 Power supply



Dimensions

2.1 *Dimensions controller*



2.2 *Dimensions power supply module*

Please note, dimensions given are din-rail included.

Dimensions: 88 x 90 x 58mm (W x H x D)

Safety information

Before installing, powering up, or servicing this controller, it is highly recommended that you read this manual and ensure yourself that you completely understand its content. Observe the safety precautions in this manual. Install and operate the controller only as described in this manual, and in conformity with local regulations. If you have any questions how to operate this product safely, please contact your point of sale.

3.1 Symbols

Following symbols are used to identify important safety information on the product and in this manual.



DANGER!
Safety hazard. Risk of severe injury or death.



Warning!
Hazardous voltage. Risk of lethal or severe electric shock.



Warning!
LED light emission. Risk of eye injury.



Warning!
Burn hazard. Hot surface. Do not touch



Warning!
Refer to user manual.

3.2 Protection from electric shock



The controller exists of two parts:

- The control panel, not carrying mains voltage
- The power supply, carrying mains voltage.

Although the controller itself does not carry main parts, ensure yourself that no power is applied to the power supply board during servicing.

The power supply board carries the mains voltage, which can be lethal.

Ensure yourself that the supply line is installed and connected according to local regulations.

For any additional servicing, not described in this manual, please contact your point of sale.

3.3 Protection from injury



Ensure yourself that all components, covers and cables are securely fastened. Verify that the power supply card is firmly clicked on a standard din rail.

In case of broken glass or damaged glass of the controller, do not use it, and start the RMA procedure, described in item 9.2 of this manual.

3.4 Disposing of this product



This controller is manufactured in compliance with directive of the European community: waste electrical and electronically equipment. Please help to preserve our environment and ensure that this product will be recycled properly at the end of its life.

Physical installation

Thank you for selecting this Mehregan controller as best solution in your setup.



Warning! Read the safety precautions in this manual before integrating this controller into your installation.

Installation must be carried out by qualified professionals only.

4.1 Unpacking

The following items are included in your package:

- Controller with glass touch panel
- Power supply board
- Plastic building in box
- Metal bridge, to fit between controller and building in box
- Plastic bag with screws and small accessories
- Carton box package
- Three manuals:
 - Daily use manual
 - Installation manual
 - Programming manual

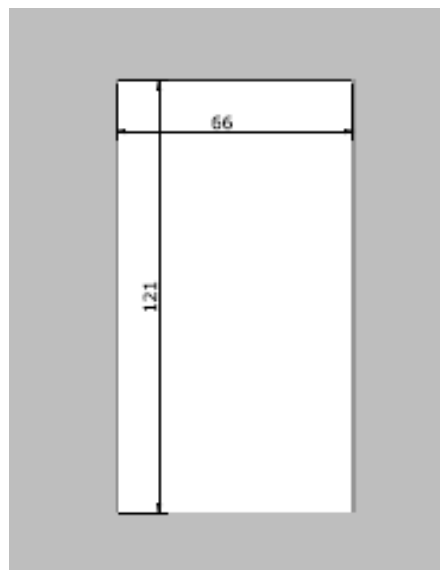
4.2 Installation on Gypsum or wooden surface

Cut-out dimensions in the surface

The cutout needs to be 66 x 121 mm.

The minimum thickness of the plate material is 6 mm.

The maximum thickness of the plate material is 20 mm.



Procedure

Parts needed:

- 1 pcs Metal bridge
- 4 pcs M 3 x 40 screws
- 4 pcs L shaped clamps
- 4 pcs blocking nut

Step 1:

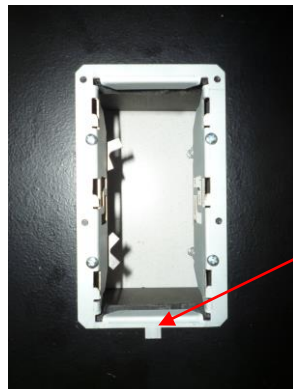
Assemble the 4 screws with the L-clamps, and blocking nuts on the metal bridge part like indicated on the picture below:



Step 2:

Insert the metal bridge-part in the hole with specified cutout.

Please note, the metal lip is downside!!



Metal lip downside

Step 3:

Hold the L-part, like indicated on the picture below, and screw the screw, till the lip is blocked.



Step 4:

Verify that the bridge is firmly fixed, and flush with the mounting surface.

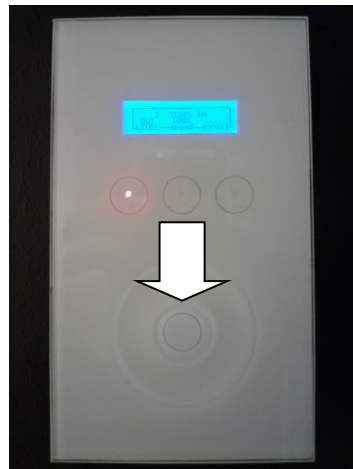
Step 5:

Connect the UTP cable from the power supply board, and strap it like indicated here:



Step 6:

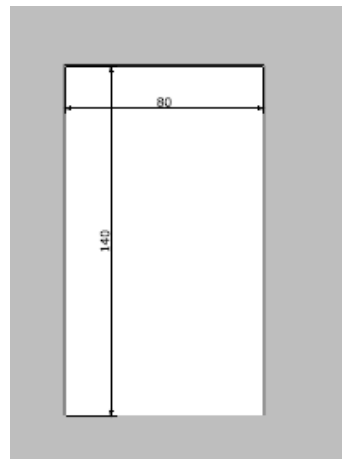
Put the control module in the metal bridge, and slide it approx 10 mm downwards.



4.3 Building in concrete or brick wall

Cut-out in wall:

Cutout should be minimum 140 x 80x50 (deep) mm



Procedure:

Parts needed:

- Plastic building in box
- Metal bridge
- 4 screws

Step 1:

Plaster the plastic building in box in your wall.

Step 2:

Attach the metal bridge to the plaster box with the 4 screws from the plaster box.



Step 3:

Connect the UTP cable from the power supply board, and strap it like indicated here:



Step 4:

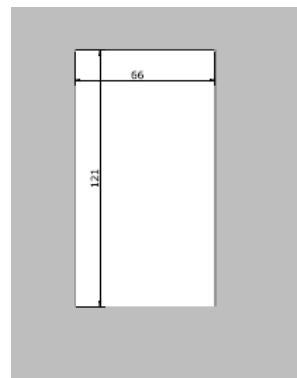
Put the control module in the metal bridge, and slide it approx 10 mm downwards.



4.4 Building in massive wooden surface

Cut-out in surface:

Cutout should be 121 x 66 x 45 (deep) mm.



Procedure:

Parts needed:

- 4 wood screws
- metal bridge

Step 1:

Put the metal bridge in the cutout, and use the 4 wood-screws to attach it as in following picture.



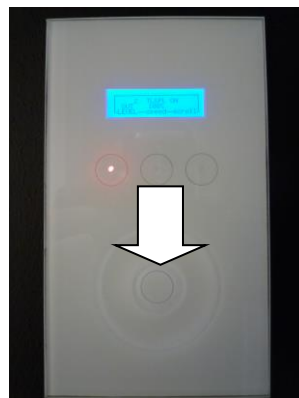
Step 2:

Connect the UTP cable from the power supply board, and strap it like indicated here:



Step 3:

Put the control module in the metal bridge, and slide it approx 10 mm downwards.



4.5 Uninstalling the controller

This procedure should be applied to uninstall the controller:

Lift the lip gently with a screwdriver and slide the controller approx 10 mm upwards:



4.6 Installation of the power supply unit

Location and orientation of power supply board

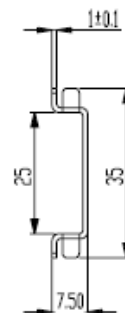
This power supply is not to be used without additional housing. The housing protects the user against electrical shocks, and it is protecting the card against climatologically influences.

Please assure yourself that the cabinet, which houses the power supply card is according to local regulations and laws of the country of installation.

It is advised to install the card in horizontal position on the din-rail.

Mounting

The power supply board can be mounted on a standard 35 mm top hat din-rail. A typical section of this din-rail can be found here:



Please note: use end blocking clamps if necessary in your application.

The power supply card is designed for architectural purposes in fixed installation.

5

External connections

5.1 Power supply board

Safety precautions

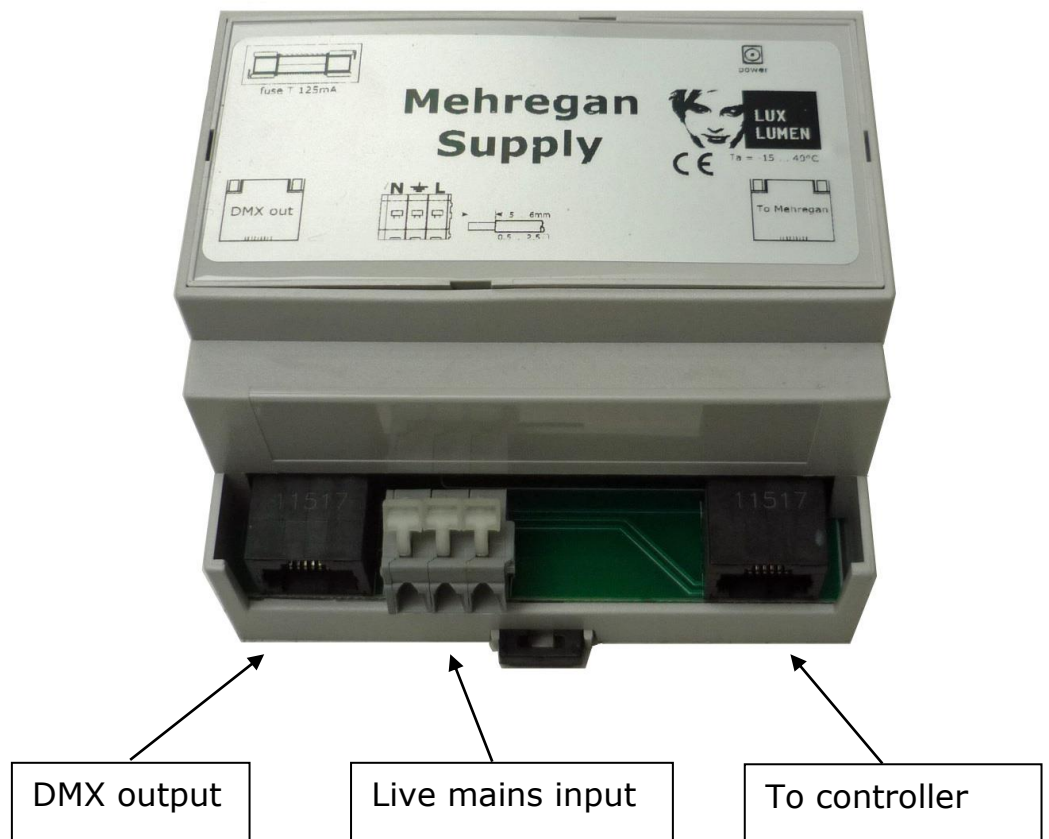
Be aware that the power supply board is connected to live mains. In case of installation, maintenance or other works, please verify that no power is present.

Physical connections

At the power supply board, 3 connections are available:

- Mains voltage input on Cage clamp®
- DMX out on UTP
- To controller panel on UTP

These connections can be found below:





Requirements power supply: Rated voltage

The rated voltage of the power supply board is 220 volt AC 50/60Hz.

Use of ground at input and output-terminals

The DMX standard requires that the driving device is providing an earth connection for the DMX line.

Although not for safety reasons, PE has to be connected.

Fusing at AC input

A fuse of 125 mA T protects the transformer in case of short circuit.

Please replace with same rating.

If the fuse needs to be replaced more as one time, please send the product to the manufacturer, for checkup.



5.2 DC power to Mehregan

At pins 3 and 6 of the UTP connector, a 5 V DC is applied, which acts as power feed for the controller board.

5.3 DMX in and output

Precautions

Never connect other devices as a DMX receiver to the DMX output.

In case of doubts, contact your point of sale.

Specifications

The use of Cat.5 or Cat.6 cable with according connectors is conformal the DMX 2004 by USITT in fixed installations. For more detailed information:

www.usitt.org



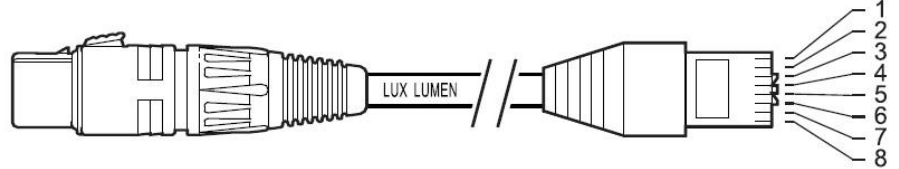
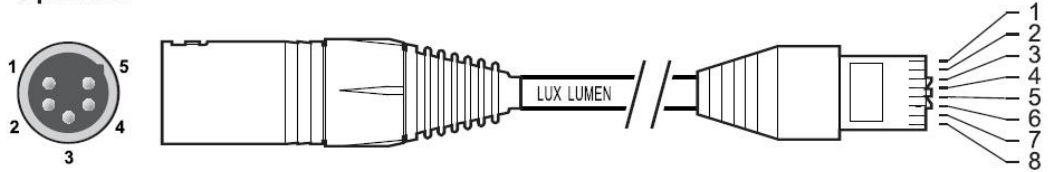
Pin layout of UTP to XLR connectors

XLR pin 1 wired to UTP contacts 7 and 8. UTP wire color usually brown and brown/white for shielding.

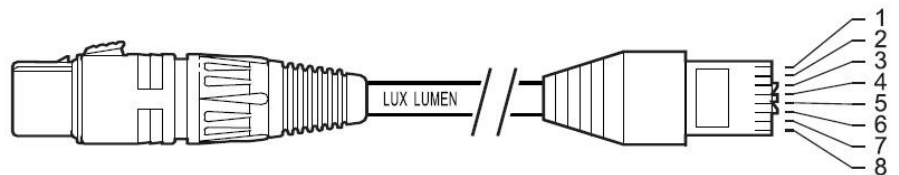
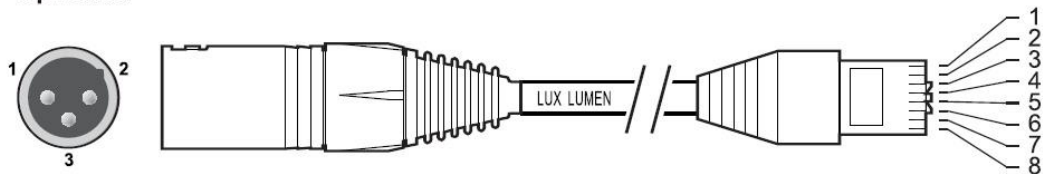
XLR pin 2 wired to UTP contact 2. UTP wire color usually orange for data negative connection.

XLR pin 3 wired to UTP contact 1. UTP wire color usually orange/white for data positive connection.

5 pin XLR



3 pin XLR



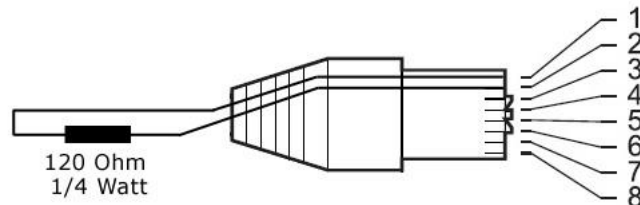
*XLR connectors
front shown*

*Tap on RJ45 connectors
facing away from observer*

Termination of the DMX signal

To avoid disturbance of the DMX-signal it is recommended to terminate the DMX-line at the last open 'through' connector at each physical DMX-line. This is done with an 'end plug'. This end plug consists of a 0.25 watt resistor of 120 ohm between pins 1 and 2 of the connector.

Typical schematic of the end plug can be found below:



*Tap on RJ45 connectors
facing away from observer*

EMC and safety requirements

The Mehregan controller is fully compliant to the LVD and EMC directive of the European council, if used in a properly designed setup.

EMC requirements of the power supply:

The Mehregan controller is only intended to be used in lighting applications, and as such, the complete assembly of led unit and power supply needs to be fully compliant with the harmonized standards.

Immunity according to:

- EN 61547:2009 (General EMC immunity requirements lighting eq.)
- EN 61000-4-1:2006 (General immunity testing techniques)
- EN 61000-4-2:2008 (ESD immunity test)
- EN 61000-4-3:2006 + A1:2007 (Radiated immunity test)
- EN 61000-4-4:2004 (Fast transients and burst immunity)
- EN 61000-4-5:2005 (Surge immunity test)
- EN 61000-4-6:2008 (Conducted immunity test)
- EN 61000-4-8:1993 (Magnetic field immunity test)
- EN 61000-4-11:2004 (Voltage variations immunity test)
- EN 61000-6-1:2005 (Generic standards for immunity)

Emission according to:

- EN 61000-3-2:2005+A1:2008+A2:2009 (Harmonics emission test<16A)
- EN 61000-3-3:2008 (Flicker+ voltage changes limits< 16A)
- EN 55015:2006+A2:2009 (Conducted + radiated emission lighting equipment)

To achieve this compliance, a proper power supply must be supplied. In case of doubts, contact your point of sale.

LVD requirements of the power supply:

The Mehregan controller is only intended to be used in lighting applications, and as such, the complete assembly of led unit and power supply needs to be fully compliant with following harmonized standards:

- EN 60598: general requirements of lighting equipment.



Service and maintenance

7.1 Safety precautions

Read carefully the safety information in this manual. Lock out the power on the entire system and allow all electronic devices to discharge, and cool down, before executing any service or maintenance.

7.2 Cleaning

The controller

The glass panel of the controller can be cleaned with all products, suitable for cleaning windows.

Please take care no water or any other liquid is leaking behind the cover.

Power supply board

No cleaning is allowed

7.3 Monitoring

On the power supply board, a red led is indicating the DC power status.

7.4 Software updates

Availability of software updates

At moment of publishing this manual, January 2012 the latest available firmware version = v1.1

Date	Soft version	Changes
November 2011	1.1	None

Specifications

8.1 Electrical

Inputs

220 volt AC 50/60 Hz

Power consumption is 5 Watt.

Outputs

1 DMX output generating 128 DMX channels

8.2 Environmental

- IP rating: IP 20
- Humidity: 30% to 95%
- Ta (max): +40 °C (104 °F)
- Ta (min): -15 °C (+5 °F)
- Tc (max) : +55 °C (131 °F)

8.3 Mechanical

Physical dimensions of the power supply module is given here:

Dimensions power supply	88 x 90 x 58mm (W x H x D)
Dimensions controller	145 X 85 X 120
Dimensions packaging	240 X 240 X 120
Weight packaging	xx kg

Warranty

9.1 Application of warranty

Warranty period

Warranty service is valid for one year from the date of purchase by the consumer, as evidenced by invoice date given out by your point of sale.

Warranty service

Service under warranty can only be done by Lux Lumen.

Coördinaties:

Lux Lumen
Kernenergiestraat 53 A
2610 Wilrijk
Belgium

Any cost of secure transportation of the product to and from Lux Lumen service department, will be borne by the customer.

Limitations

Lux Lumen will not warrant the following:

- Periodic check-ups, maintenance and repair or replacement of parts due to normal wear and tear.
- Consumables
- Any software
- Defects caused by modifications carried out without Lux Lumen's approval.
- Damage resulting from the fact that a product is not conforming to country specific standards or specifications in another country than the country of purchase.

Costs incurred by Lux Lumen's service center in making any adoptions or modifications of a product necessary for country specific technical or safety standards or specifications, or any other cost to adjust the product as a result of any specifications which have changed since the delivery of the product.

Damage resulting from the fact that a product is not conforming to country specific standards or specifications in another country than the country of purchase.

Warranty service is excluded if damage or defects have been caused by:

Improper use, extensive use, handling or operation of the product as referred to in the users' or operators' manual and/or relevant user documents, including without limitation, incorrect storage, dropping, excessive shocks, corrosions, dirt, water, or sand damage, if the product is not rated to be used in severe conditions, indicated by its IP and IK degree, mentioned in the product specifications in this manual.

Repairs, modifications or cleaning carried out by a non Lux Lumen service centre.

Use of spare parts, software or consumables, which are not compatible with the product.

Connecting the product to equipment not intended to be used with this product.

Defects caused by improper condition of the power supply network.

Inadequate packaging of the product when returning it under the RMA procedure.

Accidents or disasters or any cause beyond the control of Lux Lumen, including but not limited to lightning, water, fire, public disturbances, improper ventilation, and acts of god.

Others

It is the responsibility of the customer to backup and save any software files and programs before repair and to restore the same after such repair.

This warranty does not affect the consumer's statutory rights under applicable national legislation in force, nor the consumer's rights against the retailer arising from the sales/purchase contract. In the absence of applicable national legislation, this warranty will be the consumer's sole and exclusive remedy, and Lux Lumen cannot be liable for any incidental or consequential damages for breach of any express or implied warranty of this product.

For full details of the warranty offered on this product, please contact Lux Lumen's service center.

9.2 RMA procedure

To send material back to Lux Lumen, you need a RMA (Return Material Authorization) document that you will receive from Lux Lumen.

Without the RMA document, we cannot accept the material.

The procedure to obtain a RMA:

Step 1:

Customer contacts Lux Lumen about warranty, defects if material has to be returned.

Step 2:

Lux Lumen sends the customer a filled out RMA document (using a unique RMA number)

Step 3:

Customer sends material (include a copy of the RMA document with the material)

Step 4:

Lux Lumen evaluates the problem, and informs the client if repair is done under warranty, or makes an offer to the client for repair.

Step 5:

The procedure related to lux lumen quality procedures, according ISO 9001 is started up.

Used list of abbreviations

- DMX: digital multiplexed data signal to according to USITT
- PCB: printed circuit board.
- PWM: Pulse width modulation.
- CAT 5: category 5 cable
- CAT 6: category 6 cable.
- U_f : Forward voltage of the LED junction.
- AC: Alternating current.
- DC: Direct current.
- °F: Temperature in degrees Fahrenheit.
- °C: Temperature in degrees Celsius.
- Din-rail: rail used in electrical installation, according to 'Deutsche Industry Norm' specifications.
- LED: Light Emitting Diode.