LEDONARDO 1

USER MANUAL

BROTHER, BROTHER & SONS ApS

user manual rev. 1.06

INTRO

Brother, Brother & Sons ApS
The information in this manual is subject to change without notice.
Go to www.brothers-sons.dk for the latest version.
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User Manual Version: December 2011

Customer and Warranty service:
Contact your regional dealer. Contact information for your area can be found at www.brothers-sons.dk

RMA:
When returning an item please enclose
a.: Model and Serial number.
b.: A description of the problem
c.: The name of the owner of the equipment.
d.: If available please include a copy of your invoice to establish the date of sale and the beginning of the warranty period.

Disposing of this product:
Help preserve the environment! Ensure that this product is recycled at the end of its life.
This product is in compliance with the RoHS and WEEE directives.

CE

In compliance with EMC standards:
EN 55103-1 & EN 55103-2:
EN 55022, EN 55103-1 Annex A, EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55103-1 EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 55103-1 Annex B, EN 55103-1 Annex A, EN 61000-4-11

CONTENTS

SAFETY

Safety Notice:
It is important to read ALL safety information and instructions in this manual before installing and operating the product described.
Safety symbol used in this manual:

WARNING: Potential injury or damage to persons or product.

WARNING:
It is important to read ALL safety and installation instructions to avoid any damage to the product and potential injury to yourself and others.
This product is for professional use only and has been designed for indoor use. Exposure to moisture may cause damage to the product and will void your warranty.
This fixture is designed for use with a specific LED only. Use of any other type LED may be hazardous and may void warranty.
Do not operate the product if the ambient temperature exceeds 35°C / 95°F
Provide a minimum clearance of 0,1m (4 in.) around fans and air vents.
Do not mount on flammable surfaces.
Ensure that the fixture is electrically connected to ground (earth)
Only use this product if all cables, connectors and the product itself are undamaged.
Damage caused by inadequate cleaning or maintenance is not covered by the product warranty.
This is a product using High power LEDs. Do not stare directly into the LED at extended periods of time, at a short distance, without suitable protective eyewear. Do not look directly at the LED with optical instruments that concentrate the light output.
No matter the light source, blue light, depending on the wavelength, can be harmful to your eyes.

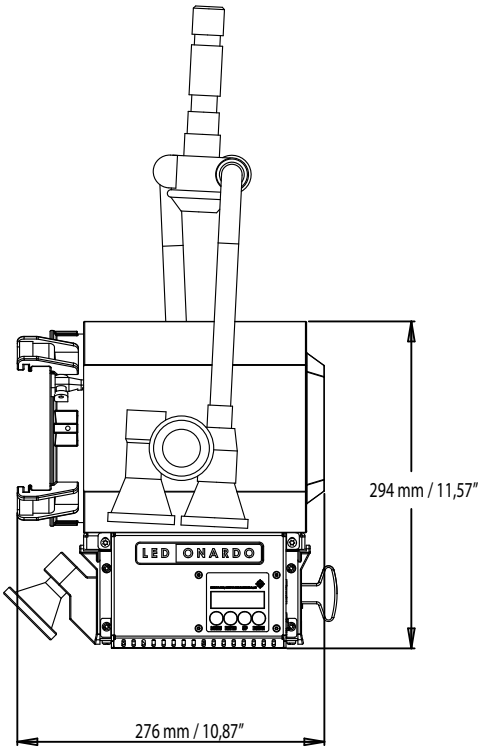
SERVICE:
Servicing is to be performed only by qualified personnel. Take precautions to avoid ESD damage during service.
Disconnect the power before servicing the product.

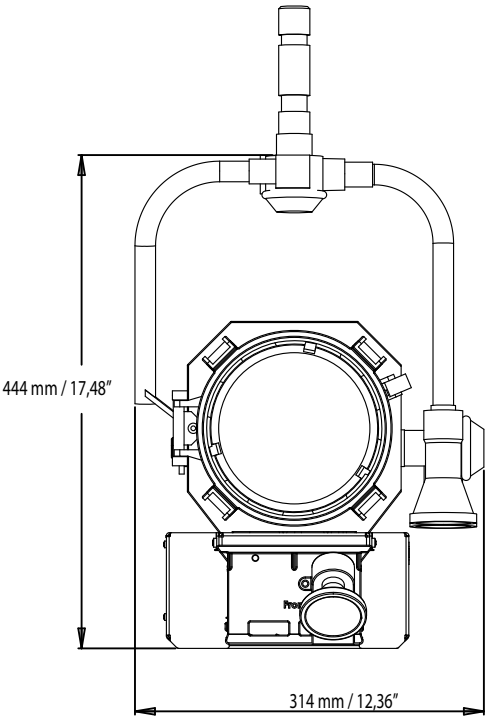
MAINTENANCE:
This product requires very little routine maintenance, if any, but has special cleaning instructions:

Disconnect fixture from power and allow it to cool for 10 min.
Vacuum or gently blow away any dust from fan blades and grills
Very gently clean the LED with Isopropyl alcohol.
Clean the lenses with a soft damp cloth.

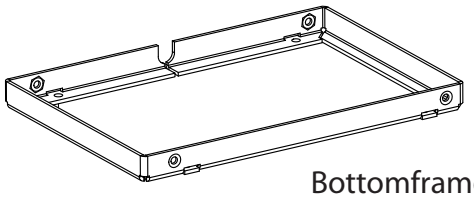
POWER:
Never connect to dimmer power.

PRODUCT OVERVIEW

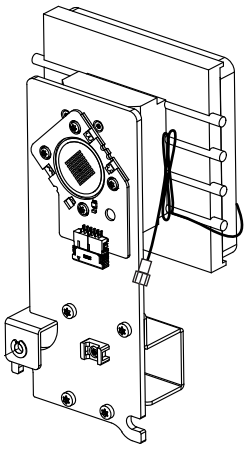




Complete

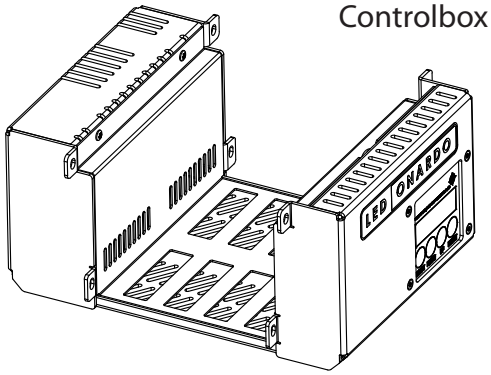


Bottomframe



LED assembly

Controlbox assembly



12 x Philips PH2 Screws

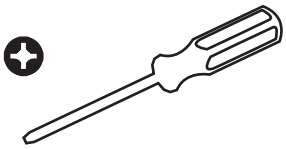
12 x Serrated washers

LEDonardo 1 - LED Light Engine

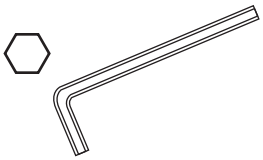
RETROFITTING

CAUTION !!
To avoid damage to equipment take electrostatic precautions when performing the conversion.
Disconnect fixture from power and allow it to cool for 10 min.
Conversion should only be performed by qualified personel.

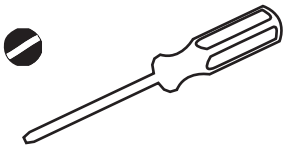
Tools needed to perform the conversion:



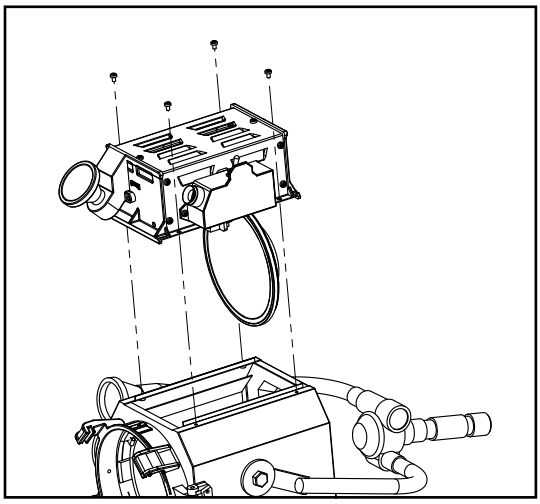
Phillips PH2 screwdriver



Allen/Umbraco key size 2

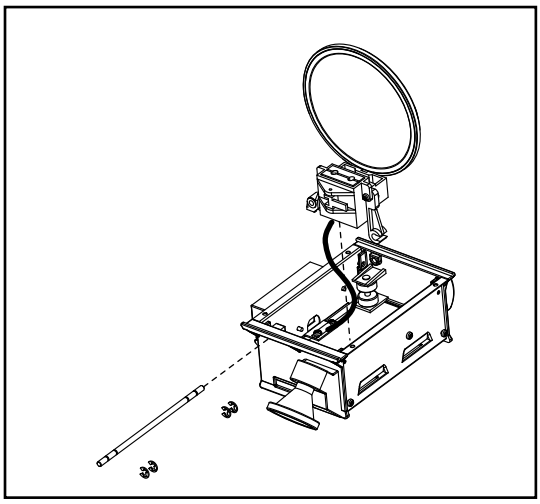


Slotted srewdriver size 3-3,5



1

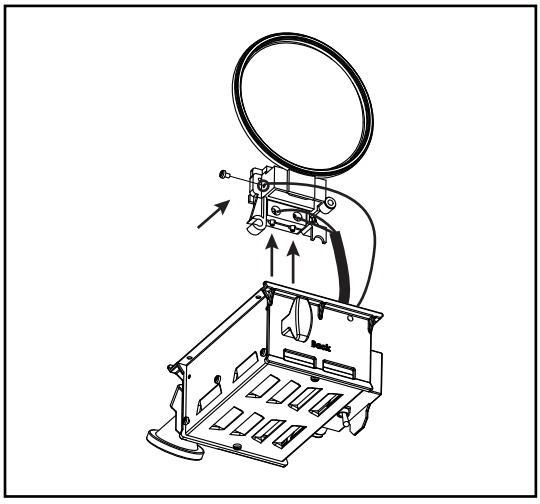
Unscrew the four screws as illustrated.
Note: You need to turn the lamp housing 90º when taking it out.



2

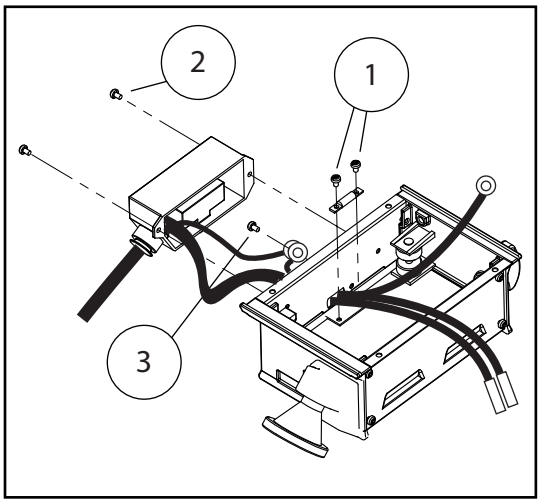
NOTE:
The guide bar is not symmetrical, so it is recommended to mark one end, to make sure that you remount it correctly.
Not doing so will affect the optical system.

Using a screwdriver, remove the four locking rings on the guide bar.
Slide the guide bar out and lift up the lampsocket / reflector part. Be carefull not to loose the locking rings as you will need them later.



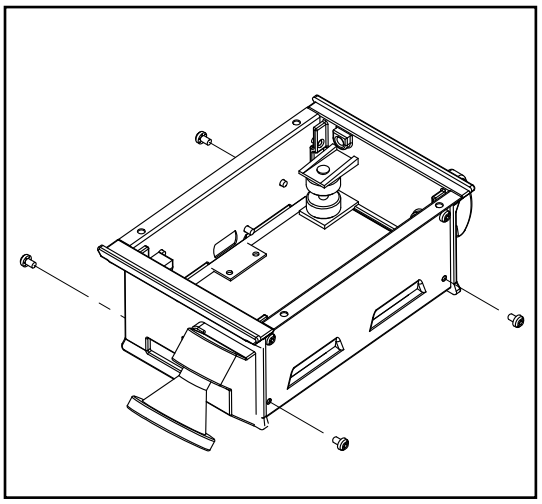
3

Remove the screw on the side of the socket to detach the earth/ground wire.
Loosen the to screws in the bottom of the socket to detach the power cable.



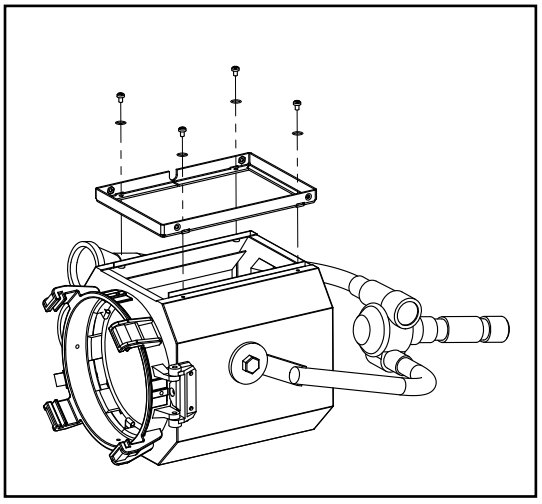
4

1. Remove the two screws holding the cable strain relief and pull the cable thorugh the side of the lamp housing.
2. Remove the two srews holding the on/off switch box.
3. Remove the screw holding the two earth/ground wires on the side of the lamp housing.



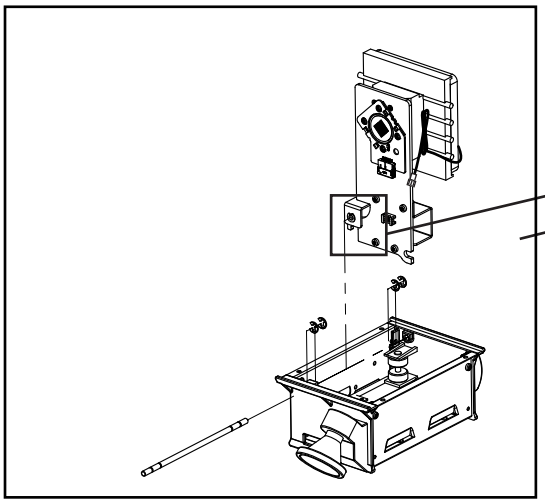
5

Remove the four screws on the side near the bottom of the lamp housing.

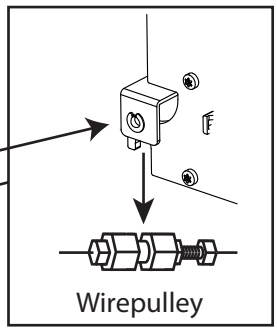


6

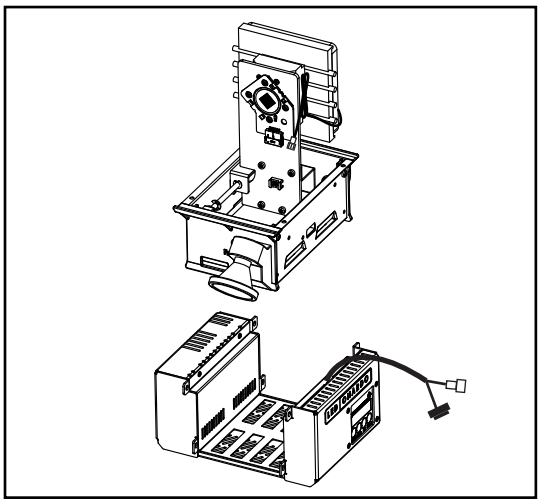
Mount the bottom frame with four Philips PH2 screws and 4 serrated washers as shown.
Note: the notch in the bottom frame is on the same side as the focus handles.



7

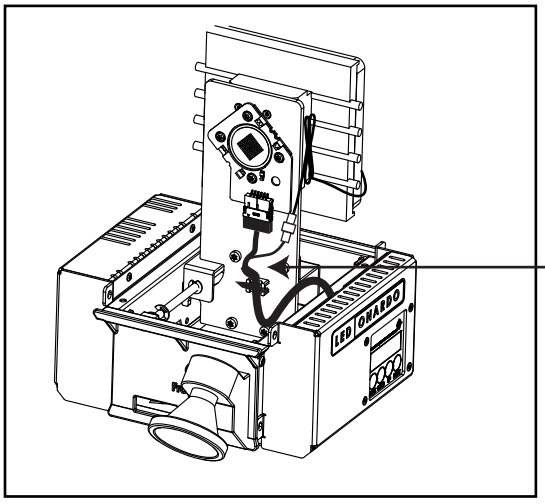


Note:
Remember to insert the guide bar with the correct orientation. Place the LED / Heatsink part on the remaining guide bar and the wirepulley. Insert the guide bar we took out in step 2 and apply the 4 locking rings again.



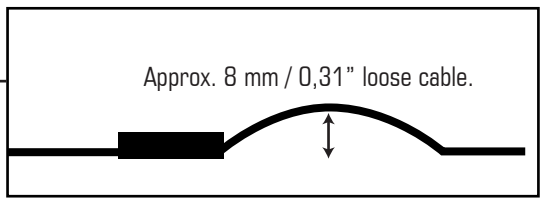
8

With the cable assembly hanging to the side, place the LED assembly in the controlbox assembly as shown.

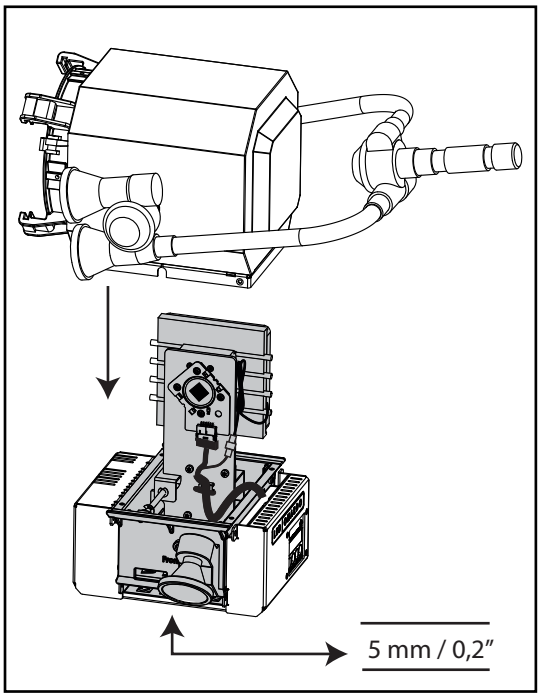


9

Connect the LED cable and the fan cable as shown.

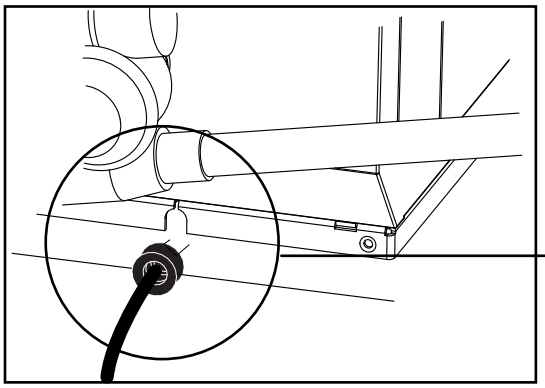


Strap them on to the LED assembly with the supplied cable tie as shown, leaving a small amount of slack on LED side of the cable tie.



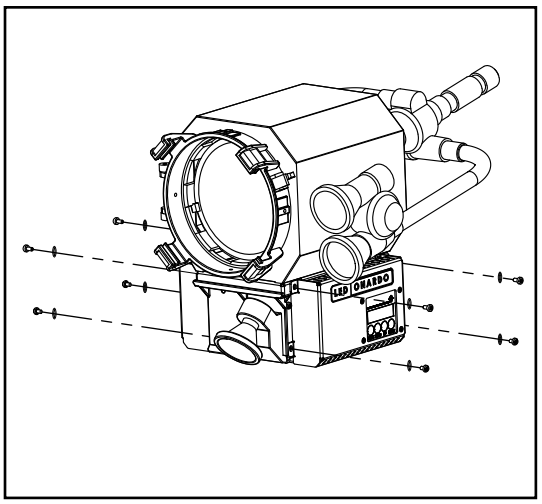
10

Raise the LED assembly approx. 5 mm / 0,2" by inserting e.g. a screwdriver in both ends.
Lower the Main housing on to the Ledonardo as shown and turn it 90º counter clockwise.
Remove whatever you used to raise the LED assembly.



11

When lowering the Main housing on to the Ledonardo, make sure to fit the cabels rubber grommet, into the notch on the side of the Main housing.



12

Mount Ledonardo on the main housing, using eight Philips PH2 screws and eight serrated washers, as shown.
Assuming you did as instructed the conversion is done.
Think of all the birds sitting in the tree top, with a clear blue sky as the backdrop, singing your praise for saving the environment, so their kids can grow up in a safer world.
....listen.... you can almost hear them singing: "what a wonderful world".

INSTALLATION

Do not operate the product if the ambient temperature exceeds 35° C

Provide a minimum clearance of 0,1m (4 in.) around fans and air vents.

This fixture must be connected to ground.
This fixture is for indoor use only.

Remove plastic protection from the LED before applying power !

Read the "Safety" and "Specifications" chapters first.

Applying power:

Never connect to dimmer power.

Install a power plug on the power cable using the following pin assigment:
1 : Neutral
2 : Live
Green/Yellow : Ground - This fixture must be connected to ground.

Make sure the local power voltage is within the range specified.
If so; connect the power cable and turn the power on.

Standalone operation:

Using the navigation buttons and display readout (refer to the "Software Menu" chapter) navigate to Manual and set the desired intensity.
(additional operations see "Software Menu" chapter)

DMX operation:

Connect a DMX cable

Navigate to Address mode (Addr) and set the desired address, resolution, response, strobe, curve settings and in Personality (PErS) set the desired Fan, No DMX and Display settings.
(refer to the "Software Menu" and "DMX Protocol" chapters)

Connect to DMX controller.
(refer to the "DMX Protocol" chapter)

Use it.

AC Power

This fixture must be connected to ground.
Electrical:
AC Power: 100 – 240 V nominal, 50/60 Hz
Powersupply: Electronic switchmode
Max power consumption: 132 w

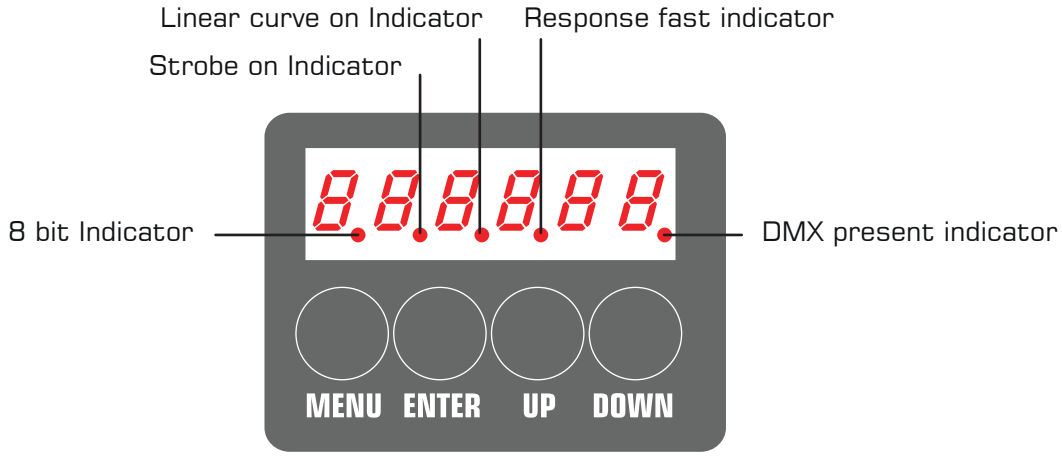
DMX Data link

This product uses a 5-pin XLR for dmx input and output.
Use a shielded data cables.
Do not overload the daisy chain. Up to a maximum of 32 devices can be used on a single dmx chain.

DMX Channels:
1 at 8bit: Dimmer
2 at 8bit: Dimmer w. strobe
2 at 16bit: Dimmer
3 at 16bit: Dimmer w. strobe
Protocol: USITT DMX512-A

SOFTWARE UPDATE

Software can be updated via DMX512 with UPLOADER from Brother, Brother & Sons ApS and the latest software version can be found on www.brothers-sons.dk.



MENU	Open menu / Go back
ENTER	Select / Confirm
UP	Scrolling UP / Increase value
DOWN	Scrolling DOWN / Decrease value

DMX Channels

Mode	Channel	Parameter	Value	Percent	Function
8 Bit	1	Dimmer	0 - 255	0 - 100	Coarse dimming
8 Bit w. Strobe	1	Dimmer	0 - 255	0 - 100	Coarse Dimming
	2	Strobe mode	0 - 5	0	Open
			6 - 125	1 - 49	Slow to Fast Strobe
			126 - 130	50	Open
			131 - 250	51 - 99	Slow to Fast Random
			251 - 255	100	Open
	3	Strobe length	0	0 - 100	Short to Long Flash
16 Bit	1	Dimmer	0 - 255	0 - 100	Coarse dimming
	2	Dimmer	0 - 255	0 - 100	Fine dimming
16 Bit w. Strobe	1	Dimmer	0 - 255	0 - 100	Coarse dimming
	2	Dimmer	0 - 255	0 - 100	Fine dimming
	3	Strobe mode	0 - 5	0	Open
			6 - 125	1 - 49	Slow to Fast Strobe
			126 - 130	50	Open
			131 - 250	51 - 99	Slow to Fast Random
			251 - 255	100	Open
	3	Strobe length	0	0 - 100	Short to Long Flash

Note: Beware, when using Strobe Lenght, that if the Strobe Lenght is egual to or longer than the flash and interval between flashes, the unit will not strobe.
If maximum strobe length is used the fastest strobe possible will be 17 (7%)

SOFTWARE MENU

Default values indicated by **bold** font

Addr Addr		1	DMX adress value **1** - 512
Mode ModE	Resolution rESoLu		8 bit resolution **16 bit resolution**
	Response rESPon	SLoU FASt	**Slow** (fade between values) Fast (snap between values)
	Strobe StrobE	oFF on	**OFF** On - (adds 2 strobe channels)
	Curve CurVE	S9wArE LInEAr	**Square** dimmer curve Linear dimmer curve
	Fan FAn	HIGH Lo	**HIGH** - No fan speed limit LOW - Fan speed limited (Silent)
	noDMX no dMH	HoLd oFF MAn	*Action when loss of DMX signal:* **HOLD** - last received DMX value OFF - Sets output to zero MAN - Go to Manual DMX value
	Display dISP	oFF 2n on	**OFF 2n** - Display off after 2 minutes ON - Display always on
Tools toolS	Ver UEr		Shows software version - *READOUT ONLY*
	HW Ver HU UEr		Shows hardware version - *READOUT ONLY*
	Temp tEnP		LED temperature - *READOUT ONLY*
	DMX In dMH In		3 first digits shows DMX adress - *READOUT ONLY* 3 last digits shows DMX value - *READOUT ONLY*
	Reset rESEt	ConFIr	Confirm (Reset unit by pressing enter)
	test Fan tStFAn		Fan test First 2 digits - set fan speed level 0 - 31 Last 3 digits - RPS (rounds per second) - *READOUT ONLY*
	test display tStdSP		Display test - all seven segments of each digit on - *READOUT ONLY*

....continues on next page

SOFTWARE MENU ....continued

Default values indicated by **bold** font

Log		nAHFAn	Max Fan	Maximum fan speed logged. (in RPS) - *READOUT ONLY*
LoG		FAnrPS	Fan RPS	Current fan speed (in RPS) - *READOUT ONLY*
		EEProM	EEProm	Developer info
		LEd U	LED U	LED voltage in Volts - *READOUT ONLY*
		PSu U	PSU U	PSU voltage in Volts - *READOUT ONLY*
		LEdInt	LED int	for troubleshooting - *READOUT ONLY*
		LoG C°	Log C°	Minimum and maximum logged temperature in °C UP and DOWN scrolls min. and max.
		ontIME	on time	PSU on time in hours - *READOUT ONLY*
		on LEd	on LED	LED on time in hours - *READOUT ONLY*
		dEMo	Demo	Developer info
		dMX HZ	DMX HZ	DMX refresh rate - *READOUT ONLY*
		dMX CH	DMX CH	No. of DMX ch. transmitted by controller. - *READOUT ONLY*
		dMX br	DMX br	Break lenght of DMX in microseconds - *READOUT ONLY*
		LEd EE	LED EE	Developer info

Manual MAnuAL	0	Manual intensity **0** - 100% Intensity saved when pressing ENTER (Display is always on in manual mode)

SPECIFICATIONS

Physical:
Depth: 210 mm / 8,27" (additional depth when mounted 0 mm / 0")
Width: 220 mm / 8,66" (additional width when mounted 0 mm / 0")
Height: 260 mm / 10,23" (additional height when mounted 10 mm / 0,39")
Weight: (additional weight when mounted 1,5 kg / 3,3 lbs)

Data:
DMX Channels:
1 or 2 at 8bit:
2 or 3 at 16bit:
Protocol: USITT DMX512-A

Electrical:
Never connect to dimmer power.
AC Power: 100 – 240 V nominal, 50/60 Hz
Powersupply: Electronic switchmode
Max. power consumption: 132 W.
This fixture must be connected to ground.

Thermal:
Maximum ambient temperature - t.Amb: 35° C / 95° F
Cooling t.Case (temperature as shown in display):
Below 64° C / 147,2° F Convection cooled
Above 64° C / 147,2° F Forced silent fan cooling
Above 70° C / 158° F Forced dimming
Above 73° C / 163,4° F Forced Lamp Off

Accessories:
Uploader: BBS Software Uploader

Specifications subject to change without notice. For the latest specifications see www.brothers-sons.dk