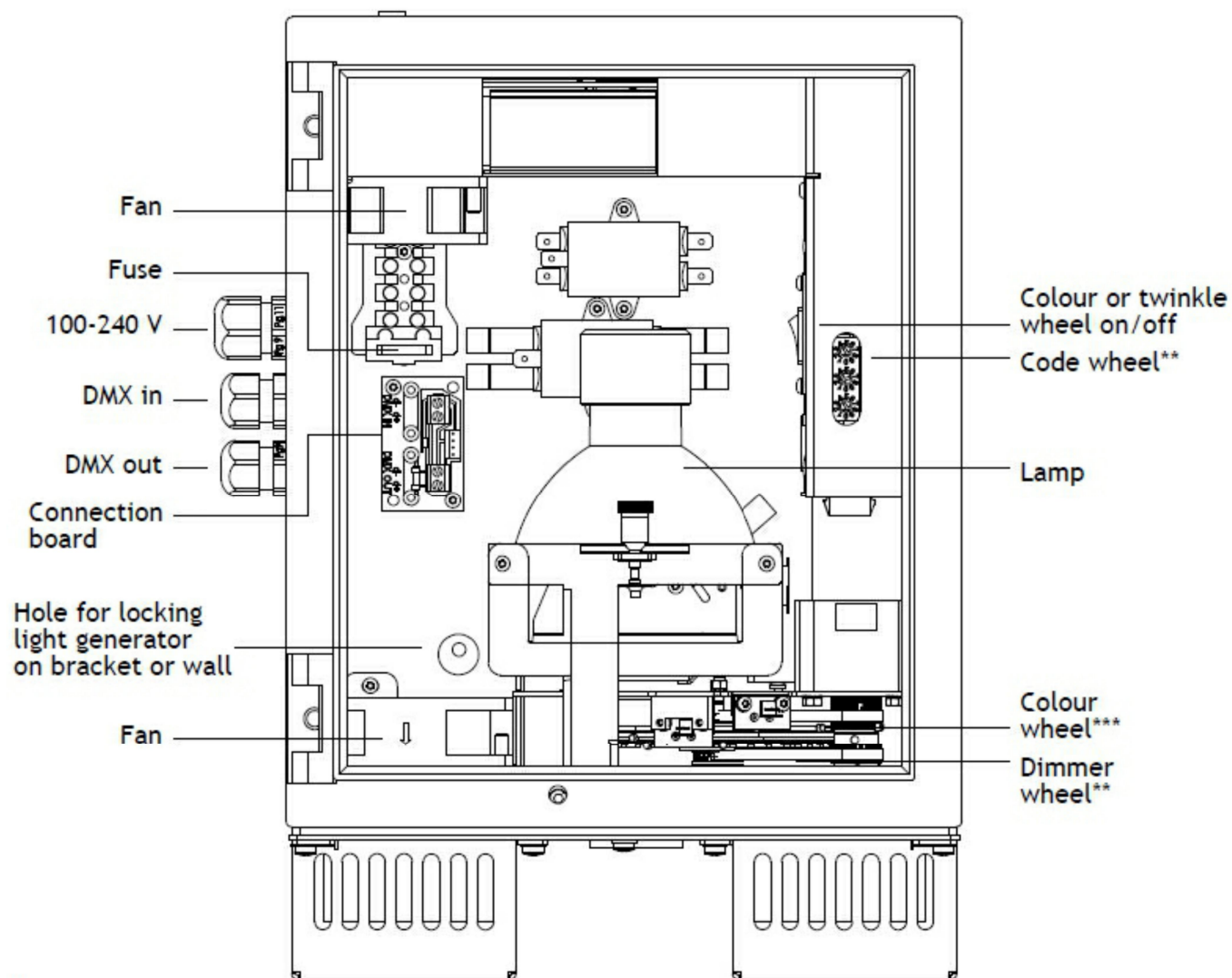# FL 150 XT-2 B, F, and C

Metal halide light generator
for Roblon Fiber Optics exterior lighting systems

This user manual describes the installation and service of the
following products :

EU	US	Product
01610211	01610220	FL 150 XT-2 B
01610210	01610221	FL 150 XT-2 F Colour Wheel
01610209	01610219	FL 150 XT-2 F Twinkle Wheel
01610215	01610230	FL 150 XT-2 C Synchron
01610200	01610222	FL 150 XT-2 C DMX Dual Wheel
01610201	01610223	FL 150 XT-2 C DMX Colour Wheel
01610202	01610224	FL 150 XT-2 C DMX Dimmer Wheel

Roblon

Fan

Fuse

100-240 V

DMX in

DMX out

Connection
board

Hole for locking
light generator
on bracket or wall

Fan

Colour or twinkle
wheel on/off

Code wheel**

Lamp

Colour
wheel***

Dimmer
wheel**

 * = only on F models,
 ** = only on C models
*** = only on F and DMX models

FL 150 XT-2 B, F and C
Metal halide light generator
for Roblon Lighting exterior lighting systems

Introduction

Your Roblon Fiber Optics metal halide light generator, type FL 150 XT-2 is intended for outdoor use in fiber optic lighting systems using either glass or PMMA fibers. The metal halide light generator has been developed to meet the requirements of a Roblon fiber optic lighting system, where the light output intensity and efficiency is optimized in order to ensure the best performance and safety.

This manual should serve as a guideline how the system is operated in the safest way. Following the recommendations in this guideline all contributes to:

- ◦ Enhanced functionality
- ◦ Extended lifetime of components
- ◦ Uninterrupted system illumination

Contents
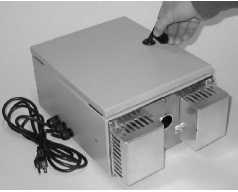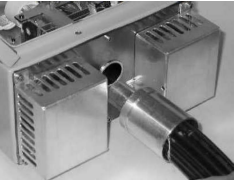
Product overview and packing list

Contents of this box:
1 light generator FL150 XT-2 series
1 key
1 allen key
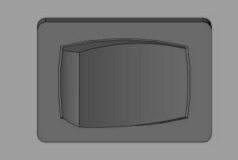4 mounting fittings
1 user manual
Screws for wall mounting

Technical information

Light port size	Ø28 mm
Fiber type	PMMA / Glass
Supply voltage	100 - 240 V (nominal) 50-60 Hz
Lamp	150 W Philips, CDM-SA/R 150/942
Power consumption	190 W
Fuse	5 A
Power cord	Lead w / 3 conductors
Data connection	Screw terminals
Ballast	Electronic
Thermal protection	Auto reset
Cooling system	DC axial fan
Fan noise level	28.5 db(A)
Ambient temperature	-30° to 40°
Lamp type	Metal halide
Lamp life time	6000 hour
Lamp colour temperature	4200 K
Material	Steel, electro galvanised and powder coated
Dimensions	(L x W x H) 250 x 355 x 165 mm
Weight	9 kg
Safety approvals	CE, EMC comply, FCC comply, CB, CSA
Degree of protection	IP 45

Installation instruction

	Unpack the unit, and make sure that the grounded power supply cord is suitable for your country. The light generator is prepared for universal power input, capable of running from 100-240 V (nominal) 50 or 60 Hz.
	Use the key to open the door.
	Insert the fiber harness' commond end fully into the output port of the light generator.
	Tighten the grille screw with the supllied Allen key and mount the plug in the hole.

Control feature for FL 150 XT-2 F (Not for US)

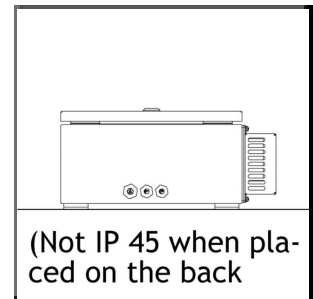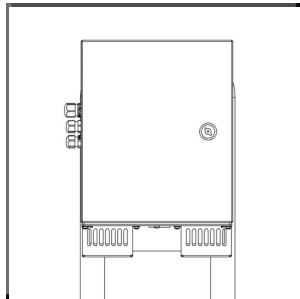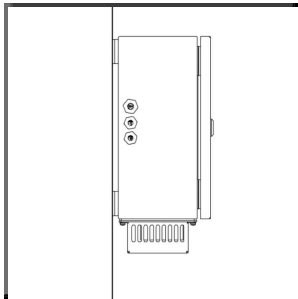|	
	Colour or twinkle wheel ON/OFF. SEE ILLUSTRATION ON PAGE 2.

External ON/OFF wiring:
Blue: N
Brown: L1, lamp + fan
Black: L2, motor
Yellow/green $\perp$

Mount the light generator
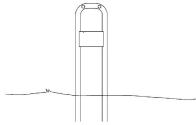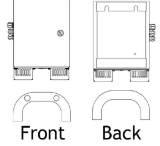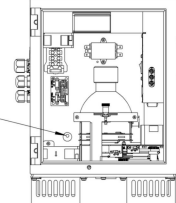
Important: Mount the light generator on a wall, place it on a mounting bracket, or lie iton the back side of the light generator.

(Not IP 45 when placed on the back
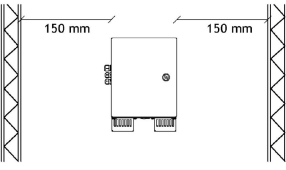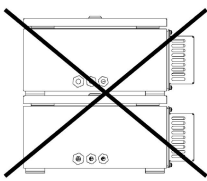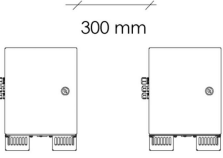
Mount the light generator on a wall

	Mark two holes with 130 mm in between.
	Drill Ø8 mm holes.
	Use rawplugs to mount the pins on the wall.
	To lock the light generator to the wall: Mark through the hole in the bottom. Remove the light generator and drill Ø6 mm hole. Mount rawplugs in the hole. SEE ILLUSTRATION ON PAGE 2
	Place the light generator on the pins and mount the screw. Mount the plug.

Mount the light generator on a mounting bracket

	Place the mounting bracket.
Front Back	Mount the light generator on the two pins.
	Mount the screw M4 x 20 to secure the light generator.

Remember

150 mm 150 mm	The space between the light generator and larger items must be more than 150 mm. The light generator has to get the heat away from the lamp.
	Do not place the two light generators on top of each other.
300 mm	Make sure that the hot air from one light generator does not blow directly into the air intake of the light generator next to it.

Air flow in tube

Light generators needs to get fresh air to keep cool.

In small rooms it will be necessary to separate air intake and air exhaust. It can be
done with a tube.

The following shows how tube is mounted on the exhaust pipe.

Use a flex tube with a 70-75 mm internal opening. Max tube length
4 m. Required air flow is ~30 m^3/h per light generator.
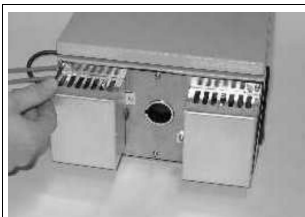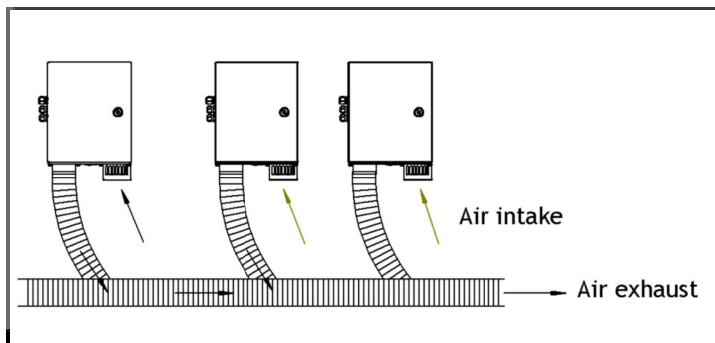
	Remove the 3 screws from the box.
	Remove the box and replace the screws.
	Place the tube and tighten screw clamp.
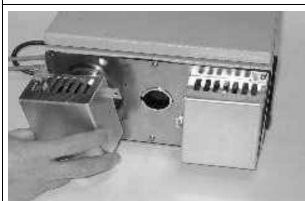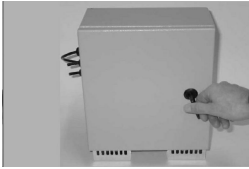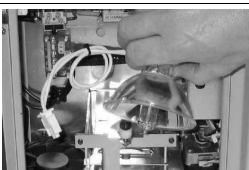
Change the lamp

	Turn off the light generator. Open the door.
	Release the lamp plug.
	Loosen the screw that holds the lamp.
	Remove the lamp The new lamp is installed in reverse order.

Change the fuse

	Turn off the light generator Open the door and take out the fuse holder. Change the fuse. Mount the fuse holder. SEE ILLUSTRATION ON PAGE 2

Change the fan

	Turn off the light generator. Release the fan plug.
	Loosen the screw.
	Tip the bracket plate in the bottom and remove the fan from the light generator.
	Remove the screws.
	Install a new fan in reverse order. Note the arrow showing the air flow through the fan. The arrow must point out of the light generator. After installing the fan, check the air flow. The air has to blow out at the side where the fan is placed.
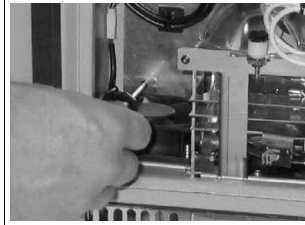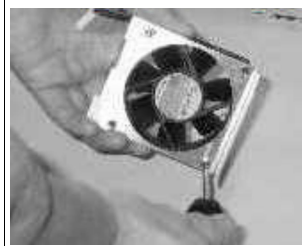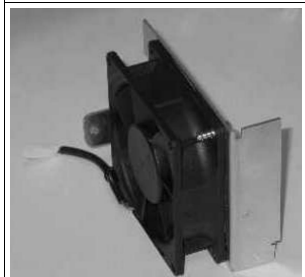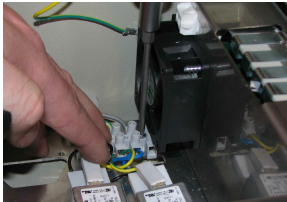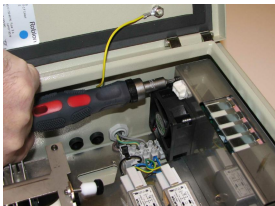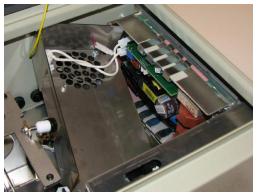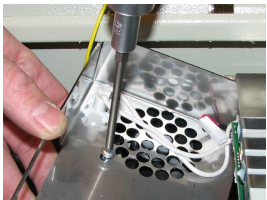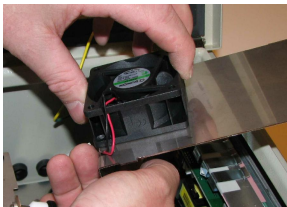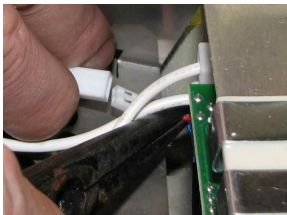
Change the fan

	Turn off the light generator. Remove the lamp.
	Loosen the terminalblok.
	Remove the screw.
	Tip the bracket plate i and remove the fan plug.
	Remove the svrews from the fan.
	Install a new fan in reverse orde. Note the arrow showing the air flow through the fan. The arrow must point out of the light generator. After installing the fan, check the air flow. The air has to blow out at the side where the fan is placed.
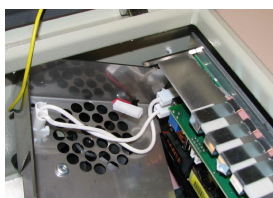
Stand alone mode for DMX models

Six built in programs for colour changing and choosing are available.
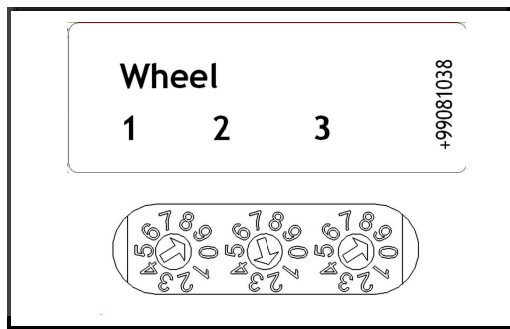
	Code Wheel 1
9	The light generator is in stand alone mode.

	Code Wheel 2
0-9	Varies the pauses between the changes. 0 is the shortest and 9 is the longest.

	Code Wheel 3
0	Not used.
1	Fast colour change between all the colours of the wheel.
2	Smooth (5 sec.) colour change between all the colours of the wheel.
3	Smooth colour change between green and orange. Colours change at 50% dimming (on models with dimming wheel).
4	Smooth colour change between blue and red. Colours change at 50% dimming (on models with dimming wheel).
5	Smooth colour change between green, orange, blue, red, yellow and backwards. Colours change at 50% dimming (on models with dimming wheel).
6	Full colour. Use code wheel 2 to change colour. 1. White, 2. Green, 3. Orange, 4. Blue, 5. Red, and 6. Yellow.
7-9	Not used.

DMX 512 feature for FL 150 XT-2 C

Connections with screw terminals.
Max signal cable length of the whole installation is 120 meters and max 30 DMX units.
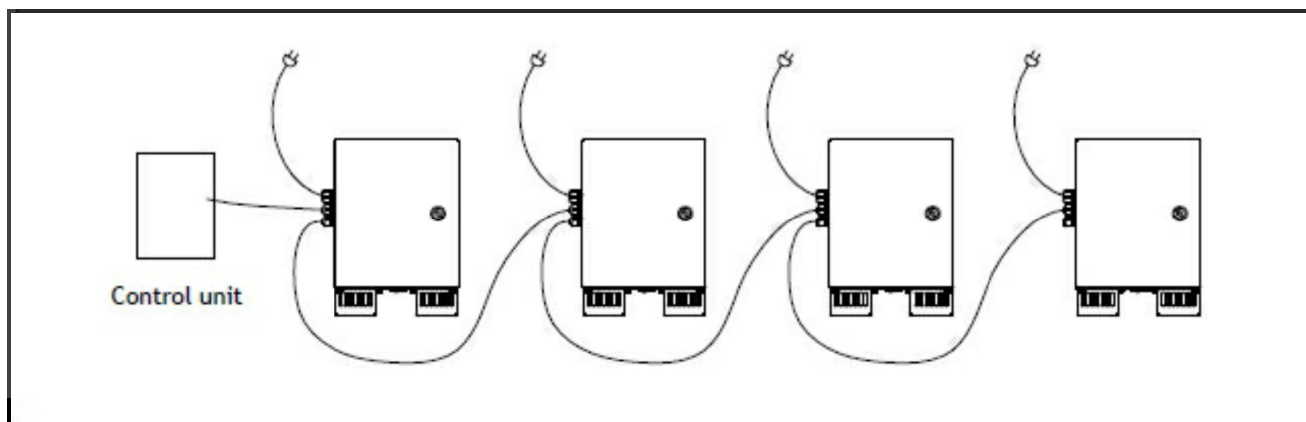
If there is more than one light generator they must be connected in a daisy chain connection.

	Mount DMX the cable from a DMX controller to the IN connection on the light generators DMX connection board. **SEE ILLUSTRATION**
	Mount the DMX cable in the first light generators OUT connection to the light next generators IN connection. **See Fig 1!**
	In the last light generator there has to be a line termination in the OUT connection(factory mounted). **See Fig 2!**
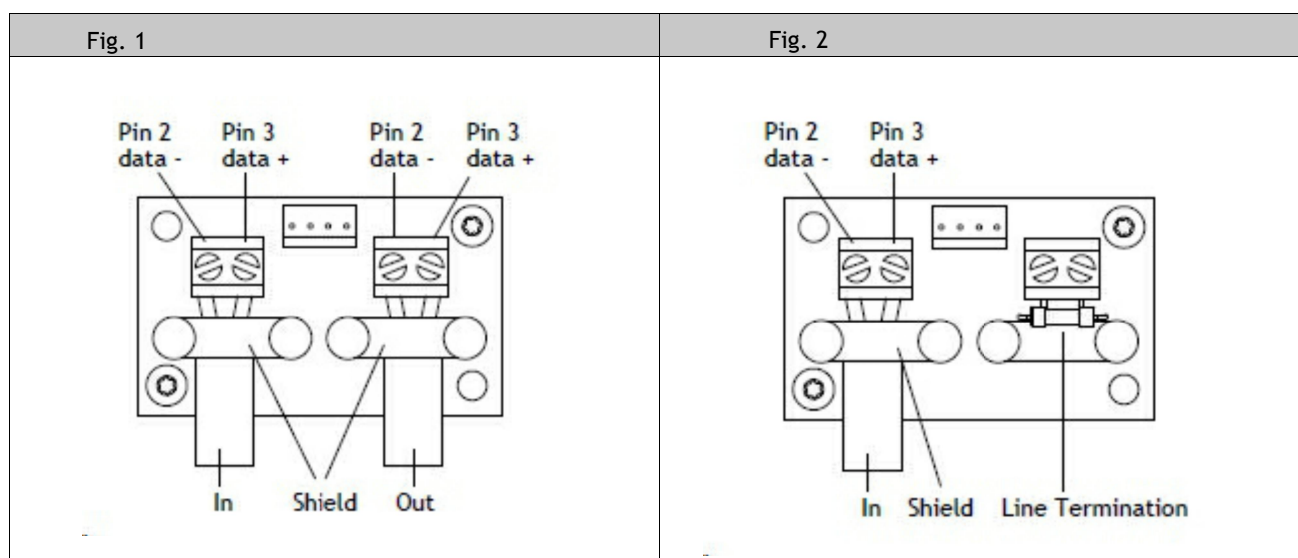
Control feature for DMX models

1. Setting the DMX channel on the light generator
The light generator is normally using 3 DMX channels.
The first is set with the code wheels 1 - 2 - 3, between 001 and
512. The next two will automatic be the two following DMX
channels.
Example: If the code wheels are set to 016 then the two next will be 017 and
018.
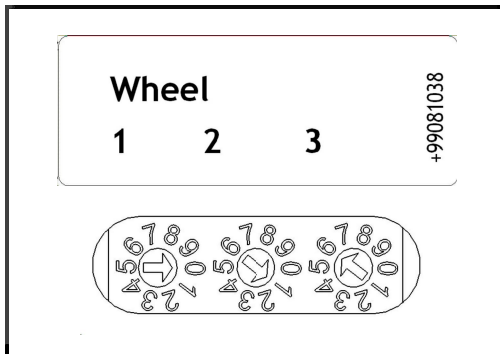
Example: The DMX channel is set to 666

2. Set the DMX control feature.
When the DMX channel is set on the code wheel it is possible to set the three channels
on a DMX control feature like the Linebacker or Alcorn McBride:

Control:	(1st channel) 5 sec. delay on all functions
000 - 018	Not assigned
019 - 039	Lamp OFF
040 - 050	Not assigned
051 - 070	Shortest mode
071 - 080	Not assigned
081 - 100	Linear mode
101 - 120	Not assigned
121 - 144	Reset colour and dimming wheels
145 - 160	Not assigned
161 - 179	Reset colour wheel
180 - 220	Not assigned
221 - 239	Lamp ON
240 - 255	Not assigned

Control feature for DMX models

Colour wheel:	(2nd channel)					
000 - 200	Position of colour wheel					
201 - 205	Not assigned					
206 - 230	Variable speed of rotation clockwise (1 rpm. on 217)					
231 - 255	Variable speed of rotation counterclockwise (1 rpm. on 242)					
Frames 1 through 6 at	000 200	033	067	100	133	167
Colour		White	Green	Orange	Blue	Red	Yellow

Dimming wheel: (3rd channel)						
000 - 200	Position of dimming wheel (000 is black out, 167 is bright light)					
201 - 205	Not assigned					
206 - 230	Variable speed of rotation clockwise (1 rev./min. on 217)					
231 - 255	Variable speed of rotation counterclockwise (1 rev./min. on 242)					
Frames 1 through 6 at	000 200	033	067	100	133	167
Intensity	0%	6%	12%	25%	50%	100%

Control features synchronized models

Controlling can be done by a master or a control unit.
Key features:
- Selection of full colour
- Selection of colour wheel rotation speed and direction.

Connect the synchron light generators into the line of light generators via a shielded twisted pair type DMX cable.
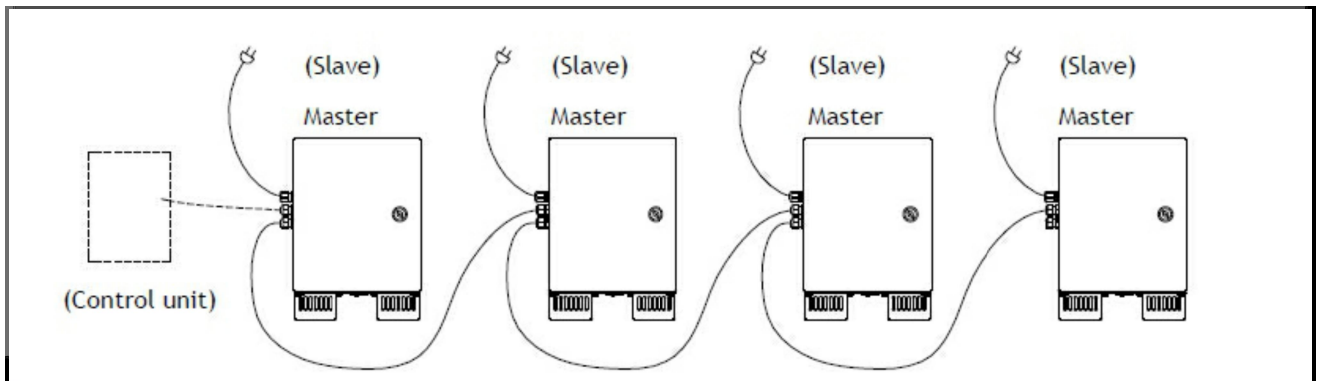
Set the light generator as Master by setting the **code wheel 1** to **"9"**.

Set all the connected Slave light generators to channel **"800"** and they will be synchronized with your choice of program on the Master light generator or control unit that should be set according to next page.

Master
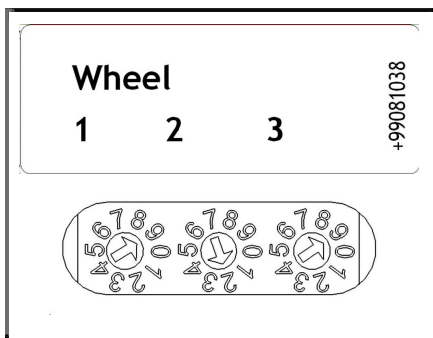
Slave
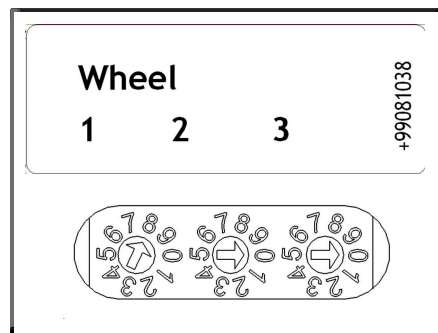
8 built in standard programs for colour changing are available.

Control features synchronized models

Programs are set with the **code wheel 3**:

Program 0 and 7 - Not used (white light)

Program 1 and 2										
1	Fast (0.2 sec.) colour change between all the colours of the wheel.									
2	Smooth (5 sec.) colour change between all the colours of the wheel.									
Pauses in program 1 and 2										
Code wheel 2 pos.	0	1	2	3	4	5	6	7	8	9
Pause in sec.	0.8	1.7	2.5	3.3	4.2	5.0	5.8	6.7	7.5	8.3

| Program 3, 4 and 5										
3	Slow colour change between green and orange.									
4	Slow colour change between blue and red.									
5	Slow colour change between green, orange, blue, red, yellow and backward.									
Pauses in program 3, 4 and 5										
Code wheel 2 pos.	0	1	2	3	4	5	6	7	8	9
Pause in sec.	7.5	10	12.5	15	17.5	20	22.5	25	27.5	30

Program 6										
1	Fixed colour.									
Colours in program 6										
Code wheel 2 pos.	0	1	2	3	4	5	6	7	8	9
Pause in sec.	White		Green	Orange	Blue	Red	Yellow		white	

Program 8 and 9										
8	Constant rotation clockwise.									
9	Constant rotation counter clockwise.									
In programs 8 and 9 the speeds are equivalent to:										
Code wheel 2 pos.	0	1	2	3	4	5	6	7	8	9
RPM	0.1	0.2	0.4	0.6	0.8	1.0	1.2	1.5	2.0	3

Trouble shooting

Symptom	Cause	Solution
No light	Is the power ON?	Turn ON the power.
	Is the supply fuse intact?	Replace the fuse.
	Is the power cord properly connected?	Reinsert the power cord.
	Is the light generator too hot?	Check with the installation instructions. Let it cool off for approx. 15 minutes and try again.
	Is the lamp blown?	Replace the lamp.
No light, fan running	Is the light generator too hot while operating?	Check with the installation instructions.
Light switches ON and OFF	Is the fan blocked?	Clear the airways.
	Is the fan malfunctioning?	Replace the fan.
	Is the lamp old?	Replace the lamp.
The light output has diminished	Is the lamp old?	Replace the lamp.
	Are the filters dirty?	Clean the filters with a damp cloth. Finish by wiping off with a dry lint-free cloth.
	Is the fiber harness common end dirty?	Clean the harness common end with a damp cloth. Finish by wiping off with a dry lint-free cloth.

Warning! Only a properly trained person should undertake the work of servicing other than the above mentioned.

Spare parts

Description	Model designation	Roblon item no.:
Lamp	Philips CDM-SA/R, 150 W	6515 0005
Fan	Sunon KDE 1208PTB3-6	6408 0124
Dichroic colour filter incl. bracket	Yellow Green Blue Red	7800 0140 7800 0141 7800 0142 7800 0143
CTC filter with bracket	CTC filter, -1200K CTC filter, - 900K CTC filter,-500K	7800 0148 7800 0149 7800 0147
Colour wheel	Standard colour wheel	5100 0085
Dimmer wheel	Standard dimmer wheel	5100 0086
Mounting Bracket	Galvanized steel	0160 0365
Electronic ballast	150 W, 100 - 240 VAC, 50/60 Hz	6708 0040
Effekt motor for DMX models	Stepper motor 1.8°	6400 4000
Gear motor for F models EU US	1 rpm. 230 VAC 1.2 rpm. 110 VAC	6400 1220 6400 1215
DMX 512 control units	LineBacker Alcorn McBride	0160 0300 0160 0301
DMX 512 Splitter	Y-distributor in a DMX system 5 outputs	0160 0310
Synchron control unit		0160 0325
DMX and Synchron Cable	Cable between DMX and Synchron light generators. Please state required length.	9903 0055
	Cable between DMX /Synchron control unit and light generators. Please state required length.	9903 0060

Roblon