

FL 250 B, C and F

250 W Metal halide light generator
for fibre optic lighting systems

User manual



This mounting instruction describe installation and service of the following products:

Item no.:	01700010	FL 250 B
	01700050	FL 250 F Colour Wheel
	01700055	FL 250 F Twinkle Wheel
	01700020	FL 250 C DMX Dual Wheel
	01700030	FL 250 C DMX Colour Wheel
	01700035	FL 250 C DMX Dimmer Wheel
	01700040	FL 250 C Synchron

1. Introduction

Your ROBLON Fiber Optics metal halide light generator, type FL 250 is intended for indoor use in fibre optic lighting systems using either glass or PMMA fibres. The metal halide light generator has been developed to meet the requirements of a Roblon fibre optic lighting system, where the light output intensity and efficiency is optimised in order to ensure the best performance and safety.

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

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

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IMPORTANT SAFETY INSTRUCTIONS

Lighted lamp is HOT!

WARNING - To reduce the risk of FIRE, ELECTRIC SHOCK, EXPOSURE TO EXCESSIVE UV RADIATION; OR INJURY TO PERSONS:

- 1) Turn OFF/unplug and allow to cool before replacing bulb (lamp).
- 2) Bulb (lamp) gets HOT quickly! Only contact switch/plug when turning ON.
- 3) Do not remain in light if skin feels warm.
- 4) Do not look directly at lighted bulb (lamp).
- 5) Use only with bulb (lamp) provided by/ordered from ROBLON.
- 6) Do not operate the unit unless top is closed and secured by screws.

SAVE THESE INSTRUCTIONS

2. Product Overview and Packing List

Contents of this box:

- Plastic bag
- Light generator FL250 series
- Allen key
- User manual
- Power cord



3. Technical Info

Light port size:	Ø28
Fibre type	PMMA/Glass
Supply voltage:	100-240 V (nominal) 50-60 Hz
Lamps:	250W BLV type MHR 250 N 4200K
Power consumption:	288 - 300 W
Fuse:	5 A
Power cord	Power cord W/ground
Data connection	5-pin XLR
Ballast:	Electronic
Thermal protection:	Auto reset
Cooling system:	DC axial fan
Fan noise level:	38 db(A)
Ambient temperature:	-30°C to 40°C
Lamp type	Metal halide
Lamp life time	5000 hours
Lamp colour temp. :	4200 K
Material:	Aluminium, anodised
Dimensions:	(L x W x H) 414 x 234 x 160mm
Weight:	4.5-4.8 kg
Safety approvals:	CE EMC comply FCC comply CB cUL _{us}

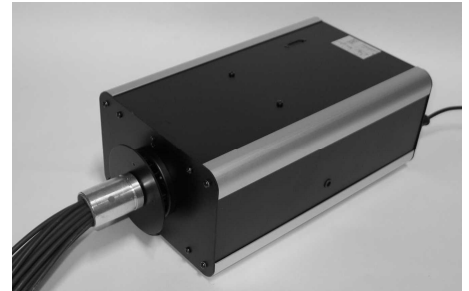
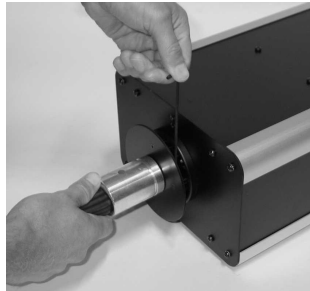
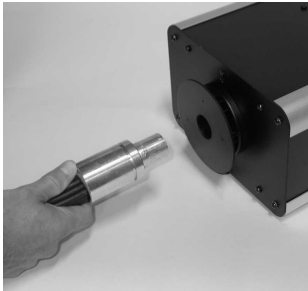
4. Installation Instructions

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.

1. Fully insert the fibre harness common end into the light port of the light generator.

2. Tighten the grille screw with the supplied Allen key.

3. Connect the power cord at the back of the light source.



NOTE!

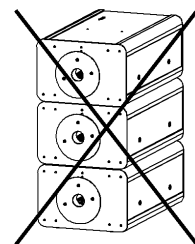
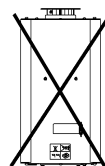
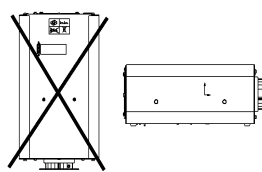
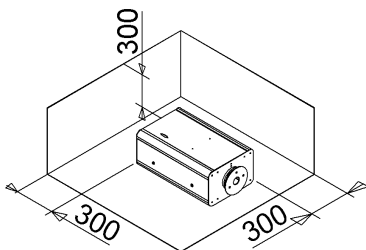
Before switching on, make sure that the requirements in the installation instructions are observed.

Place the light generator:

Do not place the light generator too close to a wall. The light generator has to get rid of the heat from the lamp.

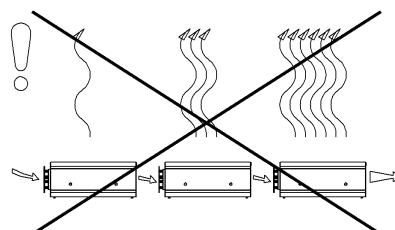
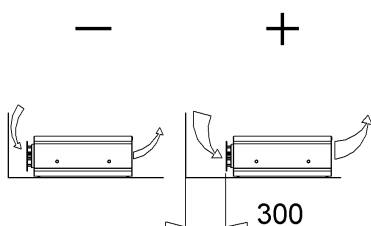
Always place the light generator on the feet.

Do not place the light generators on top of each other. The heat cannot come from the light from generator.



Do not place the front of the light generator too close to a wall.

Make sure that hot air from one light generator does not blow directly into the air intake of the light generator next to it.



5. Changing lamp

1. Remove the locking screw at the back.



2. Open the lid.



3. Release the lamp plug.



4. Loosen the thumb screw in the lamp bracket.



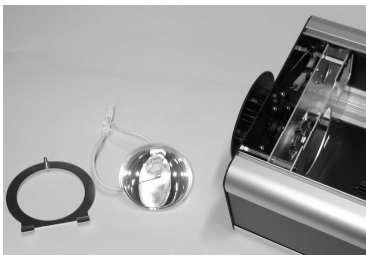
5. Tip the bracket



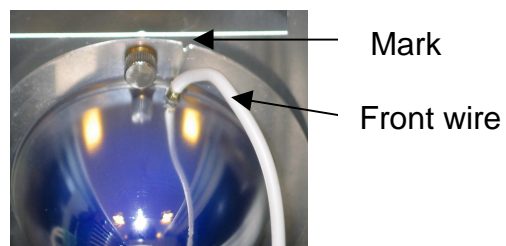
6. Remove the lamp and bracket.



7. Remove the lamp from the bracket



8. install the new lamp in reverse order.
Orient the lamp such that the front wire points upwards close to mark.



6. Changing fuse

1. Use a screwdriver to loosen the fuse holder.



2. Check the fuse.



3. Change the fuse if necessary and push the fuse holder back in place.



7. DMX Stand Alone Mode for FL250 C

Six built in programs for colour changing and choosing are available.

Code Wheel 1: Towards the light port

9 The light source is in stand alone mode.

Code Wheel 2: In the middle

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

Code Wheel 3: Towards the back

0	Not used
1	Colour changes between all the colours of the wheel.
2	Smooth (5 sec.) colour changes between all the colours of the wheel.
3	Smooth colour changes between colours green and orange. Colour changes at 50% dimming.
4	Smooth colour changes between colours blue and red. Colour changes at 50% dimming.
5	Smooth colour changes between colours green, orange, blue, red, yellow and backward. Colour changes at 50% dimming.
6	Full colour. Use code wheel 2 to change colour. 1. White, 2. Green, 3. Orange, 4. Blue, 5. Red, and 6. Yellow.
7	Not used.
8	Not used.
9	Not used.

8. Control Cabling of FL 250 C

Connections with 5-pin XLR.

Max signal cable length of the whole installation is 120 meters.

1 Connect the first light Generator to DMX controller.



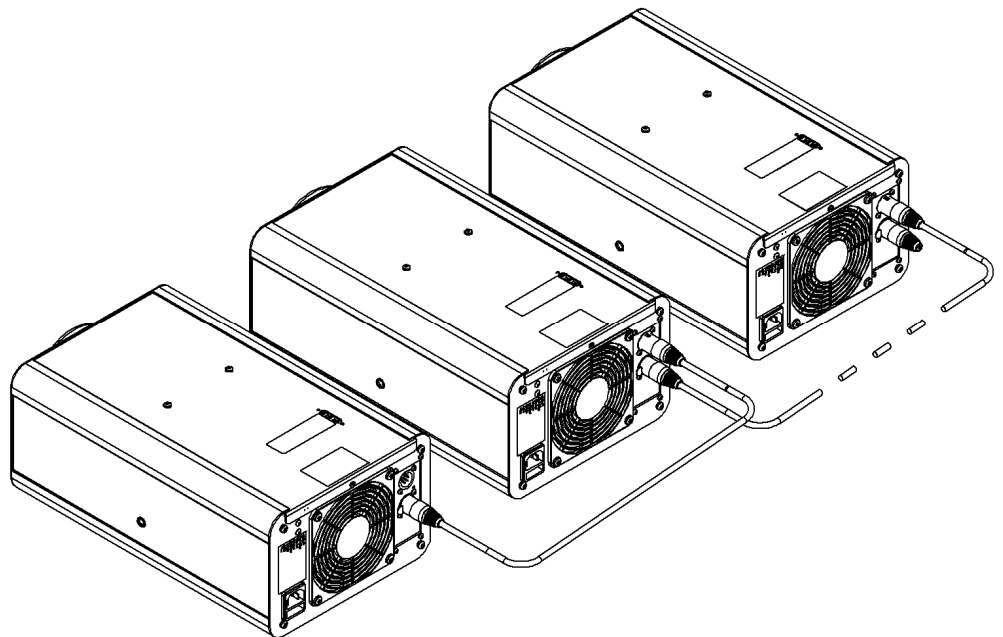
2 If there are more than one light generator they must be connected serially. (See drawing below)



2 In the last light generator a line termination must be mounted in the DMX out.



Serial data connection of light generators



9. DMX 512 Control Features for FL 250 C

When the light generator's address is defined it is possible to control it using a standard DMX console like the Linebacker or Alcorn McBride. The lists below define the available features. The numbers refer to the real-DMX values of each channel.

Address is set with three 10-digit code wheels in the lid. Each light generator take up 2 addresses and 3 addresses if they contain dimming wheel. First channel is specified with the code wheel. The second and possible third follow increasingly.

Address settings:

Code wheel 1: Towards the light port. x100
Code wheel 2: In the middle. x10
Code wheel 3: Towards the back. x1

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

Colour wheel: (2nd channel)

000 - 200 Position of colour wheel.
201 - 205 Not assigned
206 - 230 Variable speed of rotation clockwise (1 rev./min. at 217)
231 - 255 Variable speed of rotation counterclockwise (1 rev./min. at 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 no light, 167 is full light)
201 - 205 Not assigned
206 - 230 Variable speed of rotation clockwise (1 rev./min. at 217)
231 - 255 Variable speed of rotation counterclockwise (1 rev./min. at 242)

Frames 1 through 6 at	000 200	033	067	100	133	167
Intensity	0%	6%	12%	25%	50%	100%

10. Controlling the FL 250 C synchron light generators

Connect the synchron light generators into the line of light generators via a standard type DMX cable with a 5-pin male XLR plug. For instructions, see chapter 8.

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 that should be set according to the following.

Set one light generator as Master by setting **code wheel 1** to **"9"**.

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

"1" Fast (0.2 sec.) colour changes between all the colours of the wheel.

"2" Smooth (5 sec.) colour changes between all the colours of the wheel.

Pauses in programs 1 and 2:

Code wheel 2	0	1	2	3	4	5	6	7	8	9
Pause in sec.	0,8	1,7	2,5	3,3	4,2	5	5,8	6,7	7,5	8,3

"3" Smooth colour changes between colours green and orange.

"4" Smooth colour changes between colours blue and red.

"5" Smooth colour changes between colours green, orange, blue, red, yellow and backward.

Pauses in programs 3, 4 and 5:

Code wheel 2	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

"6" Fixed colour

Colours in program 6:

Code wheel 2	0	1	2	3	4	5	6	7	8	9
Colour	White	White	Green	orange	blue	red	yellow	White	White	white

"7" Not used. (White light)

"8" Constant rotation clockwise

"9" Constant rotation counter clockwise

In programs 8 and 9 the speeds are equivalent to:

Code wheel 2	0	1	2	3	4	5	6	7	8	9
RPM	0,1	0,2	0,4	0,6	0,8	1	1,2	1,5	2	3

"0" Not used. (White light)

11. Troubleshooting

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 lid closed and the lock screw completely tightened (interlock will be activated)?	Tighten the screw completely.
	Is the light generator too hot?	Check with the installation instructions. Let it cool off for approx. 5 minutes and try again.
No light, fan running	Is the lamp blown?	Replace the lamp with a new one.
	Was the power away shortly?	Let light generator cool off for 5 minutes before switching OFF and then ON. *
Light switches ON and OFF	Is the light generator too hot while operating?	Check with the installation instructions.
	Is the fan blocked?	Clear the airways.
	Is the fan not running?	Replace the fan with a new one.
The light output has diminished	Is the lamp old?	Replace the lamp with a new one.
	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.

* Note:

When taking the power away shortly, the light generator's ballast will try to reignite the lamp only once. This means that if the lamp is too hot the lamp will not start immediately. It will be necessary to let the lamp cool off for about 5 minutes then take the power from the light generator and reinsert the power again to ignite the lamp.

Warning.

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

12. Spare parts and accessories

Description	Model designation	Roblon item no.:
Lamp	BLV 250W, MHR 250N	6525 0003
Fan	Papst 4212 NM	6412 0012
Colour filter	Dichroic Yellow colour filter, with bracket Dichroic Green colour filter, with bracket Dichroic Blue colour filter, with bracket Dichroic Red colour filter, with bracket	7800 0390 7800 0391 7800 0392 7800 0393
CTC filter	CTC filter –500K CTC filter –900K CTC filter –1200K	7800 0397 7800 0399 7800 0398
Colour wheel Dimmer wheel Twinkle Wheel	Standard colour wheel Standard dimming wheel Standard Twinkle wheel	5100 0078 5100 0088 5100 0084
Electronic ballast	250W, 100-240 VAC 50/60 Hz	6708 0065
Motor for C DMX models Gear motor for F models	Stepper motor 1,8° 1 rpm/50sec. 110 Vac	6400 4000 6400 1215
DMX 512 control unit	LineBacker Alcorn McBride	0160 0300 0160 0301
DMX 512, Splitter	Y-distributor in a DMX system	0160 0310
Synchron control unit		0160 0325
DMX and Synchron Cable Incl. 2 plugs, male and female	Length 2.5 m Length 5 m Length 10 m Length 51-100 m Please state required length	9903 0056 9903 0052 9903 0057 9903 0058
Synchron Line Termination	Female	9903 0066
DMX and Synchron line Termination	Male	9903 0065

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