LEADER LIGHT
professional lighting products

USER MANUAL

LL ARC DRIVER 12
LL42 100

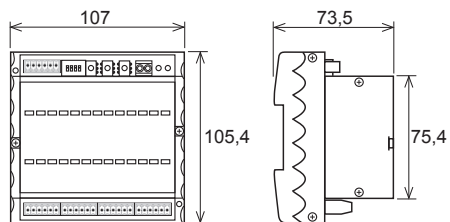## COMPLIMENTS ON YOUR PURCHASE!

All dimensions are in millimeters

107   73,5   105,4   75,4

Package includes:

- LL ARC DRIVER12   1 pc.
- 6pin line connector   5 pcs.
- User manual   1 pc.

Additional items needed:

- Data and power cables
- 24V DC power supply

Content:

ENVIRONMENTAL PROTECTION

Do not throw away the appliance with the normal household waste at the end of its life, but hand it in at an official collection point for recycling. By doing this, you help to preserve the environment.

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01   SAFETY INFORMATION

WARNING!!!

Carefully read before installing, powering or servicing. Nothing to do if anything misunderstand! Installation can be done only by a qualified professional in accordance with relevant local codes.

01.1 Safety instructions

- Shut down power before installation or maintenance of equipment or voltage /data source.
- Do not modify, alter, or attempt to service the LeaderLight appliance. Doing so will void the warranty.
- Use only the recommended DC voltage source.
- Connect the ground to the bottom of the box!
- Electrical connections, service and maintenance can be performed only by qualified professional.
- AC power supply of DC power supply must comply with local regulations.
- AC power supply must be protected against overvoltage and short circuits.

01.2 Operating restrictions

- This product is intended to operate only with Leader Light LED products.
- This product was designed for indoor use only!
- If the product has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your unit. Leave the unit switched off until it has reached room temperature.
- Do not operate the product in humid, dusty or too hot/cold environments.
- Before connecting, make sure the product is not damaged, wet, or otherwise damaged.
- Unprofessional operation creates the most damages!
- For transport use the original packaging.

Operate only with 24V DC stabilized source!

01.3 Fire protection

- Follow all safety restrictions.
- Device never cover – the minimum space around the vents must be at least 100mm (4 in.).
- Allowed maximum ambient temperature is 40°C (104°F).

02   PRODUCT SPECIFICATION

02.1 Technical specification

Power connection:	24V DC, max. 16A
Output:	12x LED PWM output 24V DC, 4 output groups
Control data:	Protocol USITT DMX-512 or RS 423/232 LL defined protocol
Ambient temp. (Ta):	0°C/+40°C
Net weight:	1,0 kg
Dimensions LxWxH:	107mm x 105,4mm x 79mm
Installation:	standard DIN installation TS35 – 6DIN

02.2 Product description

12x LED PWM output, 4 groups
4x 6pin line conector
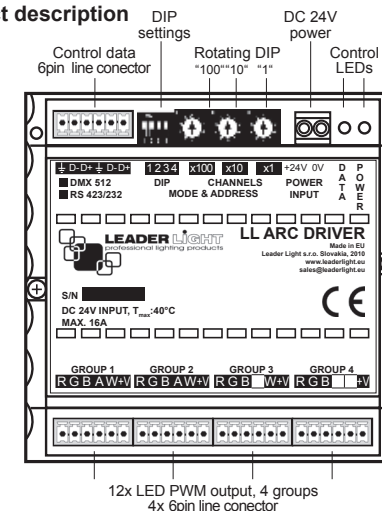
Indication of control LEDs (LED power- green,LED data - yellow)

LED	Indication	Status
LED Power	blinking - 2Hz	O.K. - device is working correct
LED Data	not lit	No DMX signal
LED Data	blinking - 4Hz	O.K. - Connected the correct DMX signal
LED Data	fast blinking	ERROR - incorrect digital signal
LED Power & LED Data	alternating blinking	function AutoTest

03 INSTALLATION

03.1 Unpacking

- Unpack carefully.
- This is electronic equipment and should be handled carefully.
- Damaged delivered package or if are any mechanical parts broken – it must be claim immediately by the transport company. Photo pictures as evidence are valuable for future claim.

03.2 Physical installation

- Loading capacity of bearing area has to be at least 10 times the weight of all device clusters.

03.3 Connection

- Respect all SAFETY INFORMATION 01!
- Connect the ground (earth) to the bottom of the module!
- LL ARC DRIVER12 device may be operated only with 24V DC stabilized source. Total input current is limited to max. 16A!
- In the case of connecting the power supply with more than a prescribed voltage you can suffer a dangerous electric shock, inflict damage equipment or fire.
- Shut down power supply from all devices before installation of LL ARC DRIVER12 to end devices.
- Maximum number of connected LED luminaries to LL DRIVER12 ARC is shown in Table 1.1.

03.4 Installation Factors

- For any indoor and outdoor installation inside the installation box must be add +100mm to each side and must be add ventilation modul.
- For outdoor installation must be add heating modul, if the outdoor temperature is less then 0°C any time!

03.5 DMX channels

These informations are subject to change, latest data are on: www.leaderlight.eu

Mode 1: DIP2=Off and DIP3=Off

channel	
channel 1 =	Red 1
channel 2 =	Green 1
channel 3 =	Blue 1
channel 4 =	Red 2
channel 5 =	Green 2
channel 6 =	Blue 2
channel 7 =	Red 3
channel 8 =	Green 3
channel 9 =	Blue 3
channel 10 =	Red 4
channel 11 =	Green 4
channel 12 =	Blue 4

Mode 2: DIP2=Off and DIP3=On

channel	
channel 1 =	Red 1
channel 2 =	Green 1
channel 3 =	Blue 1
channel 4 =	White 1
channel 5 =	Red 2
channel 6 =	Green 2
channel 7 =	Blue 2
channel 8 =	White 2
channel 9 =	Red 3
channel 10 =	Green 3
channel 11 =	Blue 3
channel 12 =	White 3

Mode 3: DIP2=On and DIP3=Off

channel	
channel 1 =	Red 1
channel 2 =	Green 1
channel 3 =	Blue 1
channel 4 =	Amber 1
channel 5 =	White 1
channel 6 =	Red 2
channel 7 =	Green 2
channel 8 =	Blue 2
channel 9 =	Amber 2
channel 10 =	White 2

Mode 4: DIP2=On and DIP3=On

Manual Mode

Features Dip

Dip4=Off, Dip1=Off =>DipBCD:	Rotary switch for setting DMX address (RS1 - "100", RS2- "10", RS3- "1") from 001 to 512
DipBCD=9xx:	Autotest: gradual fade-over RGB or RGBW or RGBAW by the Model
DipBCD=8xx:	AutoTest: all channels on 50%
Dip1=On:	Switch on Paralel mode (parallel working groups 1,2,3,4)
Dip4=On:	Switch on UltraSoft curve
Dip2=Off, Dip3=Off:	Mode 1 (12 channels) 4xRGB
Dip2=Off, Dip3=On:	Mode 2 (12 channels) 3xRGBW
Dip2=On, Dip3=Off:	Mode 3 (10 channels) 2xRGBAW
Dip2=On, Dip3=On:	Mode 4: 4xRGB parallel controlled manually by DipBCD: DipBCD RS1 -„100": all Red level 0-9 (9 = 100% Red) DipBCD RS2 -„10": all Green level 0-9 (9 = 100% Green) DipBCD RS3 - „1": all Blue level 0-9 (9 = 100% Blue)

1.1.

R G B A W +V	R G B A W +V	R G B W +V	R G B +V
Group 1	**Group 2**	**Group 3**	**Group 4**

Group 1	Group 2	Group 3	Group 4	
1,4 1,4 1,4	1,4 1,4 1,4	1,4 1,4 1,4	1,4 1,4 1,4	4 x RGB
1,4 1,4 1,4 1,4	1,4 1,4 1,4 1,4	1,4 1,4 1,4 1,4		3 x RGBW
1,4 1,4 1,4 1,4 1,4	1,4 1,4 1,4 1,4 1,4			2 x RGBAW
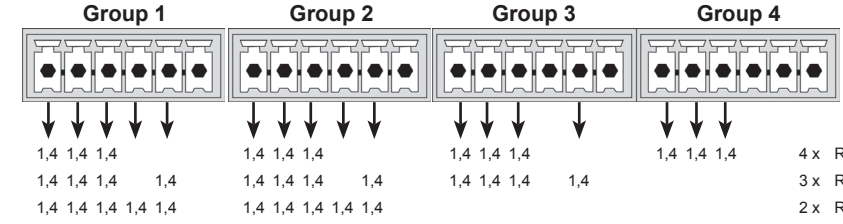
LL ARC LINE	I_c (A)*	Group 1	Group 2	Group 3	Group 4	maximum fitting amound per LL ARC DRIVER	
RGB/AWB	3x 0,35 = 1,05A	4	4	4	4	15	!max.16A
RGB/AWB	3x 0,70 = 2,10A	2	2	2	2	7	!max.16A
RGB/AWB	3x 1,40 = 4,20A	1	1	1	1	3	!max.16A
OneColour							
R/G/B/A/W/N	1x 0,35 = 0,35A	4 4 4	4 4 4	4 4 4	4 4 4	45	!max.16A
R/G/B/A/W/N	1x 0,70 = 0,70A	2 2 2	2 2 2	2 2 2	2 2 2	22	!max.16A
R/G/B/A/W/N	1x 1,40 = 1,40A	1 1 1	1 1 1	1 1 1	1 1 1	11	!max.16A
LL LED TopLED							
RGB	3x 0,02 = 0,06A	70	70	70	70	266	!max.16A
RGBW	4x 0,02 = 0,08A	70	70	70		200	!max.16A
RGBAW	5x 0,02 = 0,10A	70	70			140	!max.16A
LL ARC Point+Splitter (6 x point)							
RGB/AWB	3x 0,35 = 1,05A	6 x 4	6 x 4	6 x 4	6 x 4	15x6	!max.16A
R/A, G/B/W/N	1x 0,35 = 0,35A	6 x 12	6 x 12	6 x 12	6 x 12	45x6	!max.16A

Note.:Numbers in table indicate maximum number of the luminaries, which can be connected to individual outputs.

    * I_c (A) - current for 1 colour;

    ** for each LL ARC POINT (RGB/AWB), (R/A), (G/B/W/N) use special type of LL ARC POINT SPLITTER.

Recommended power supply by Leader Light - MW 240/24 - only 10A!

Connection conditions:

- The maximum allowable current for whole DRIVER is 16A.
- The maximum allowable current per output is 1,4 A.
- Do not operate with more luminaries than the maximum permitted number stated in Table 1.1.
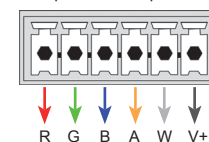- LL ARC DRIVER is designed primarily for LL LED products.

Amound of channels per LL ARC DRIVER12:

4x	RGB	12 channels
3x	RGBW	12 channels
2x	RGBAW	10 channels

Standard LL cable has following cable cores:
RGBAW+Black, or RGB+Black.
Each colour is connected to corresponding colour.
In case AWB: RGB+Black (AWB is connected to RGB).

Group connection possibility

R G B A W V+

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04 MAINTENANCE AND SERVICE

- Before any maintenance is necessary to carefully read all **SAFETY INFORMATION 01!**
- Damages caused by inadequate cleaning or maintenance are not covered by warranty.
- Requires periodic cleaning (dust, dirt ,...)

Procedure for maintenance:

- Unplug mains before maintenance and at least 10 minutes cool off.
- Appliance do not illegal open or demount.
- Clean-up dust only from outer surface. Use vacuum or dumpy duster (warm water)
- Before reinstalling make sure everything is intact and dry– no wet parts!

Service:

- Customer service provided by the manufacturer.