etiampro

CE

FEATURES

• Outputs: 4 x channels

• BUS+SEQUENCER+FADER+DIMMER+DRIVER

• Input: DC 12/24/48 Vdc

• BUS Command: DALI

• LOCAL Command: 4x N.O. push button (with or without memory), 0-10V, 1-10V

• Controls: dimmer, dim to warm, tunable white, RGB, RGBW

• Voltage outputs for R-L-C loads

• Typical efficiency > 95%

• Adjusting the brightness up to completed off (Dim to dark)

• Level minimum of brightness: 0.1% (1% in push)

• D-PWM Modulation

• Adjusting D-PWM frequency: 300 / 600 / 1200 Hz

• Adjusting output curve: Linear / Quadratic / Exponential

• Soft start and soft stop

• Soft dimming regulation

• Extended temperature range

• 100% Functional test – 5 Years warranty

Constant voltage variants (common anode)

• Application (4-channels output): Dimmer, Dim to warm, Tunable White, RGB, RGBW

CODE	Supply Voltage	Output	Channels	Command	
DLD1248-4CV-DALI	12/24/48V DC	1x20A max 4x5A max	4	DALI N.O. push button / 0-10 / 1-10	PROFESSIONAL

Protections

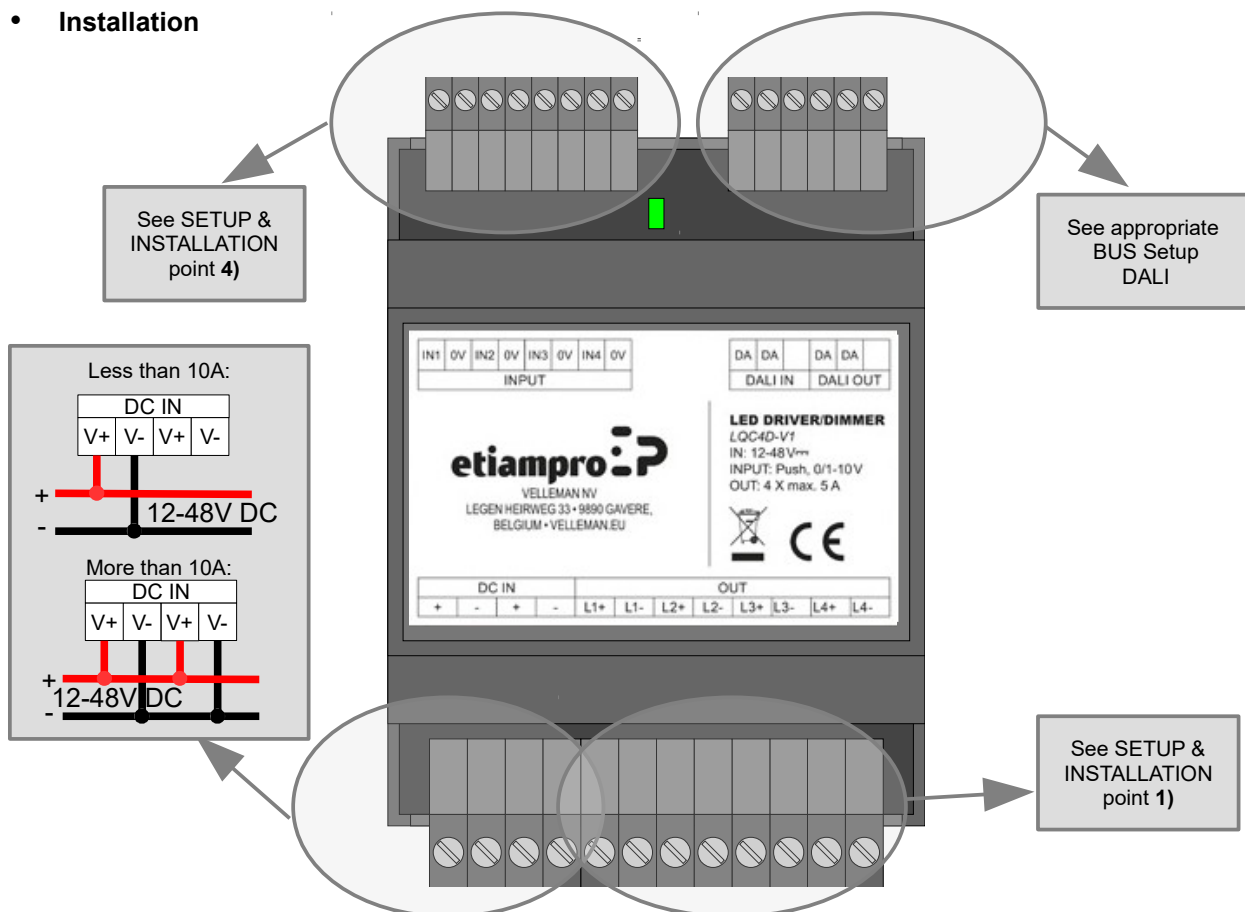|	
OTP	Over temperature protection
OVP	Over voltage protection
UVP	Under voltage protection
RVP	Reverse polarity protection
IFP	Input fuse protection
SCP	Short circuit protection
OCP	Open circuit protection
CLP	Current limit protection

Reference Standards

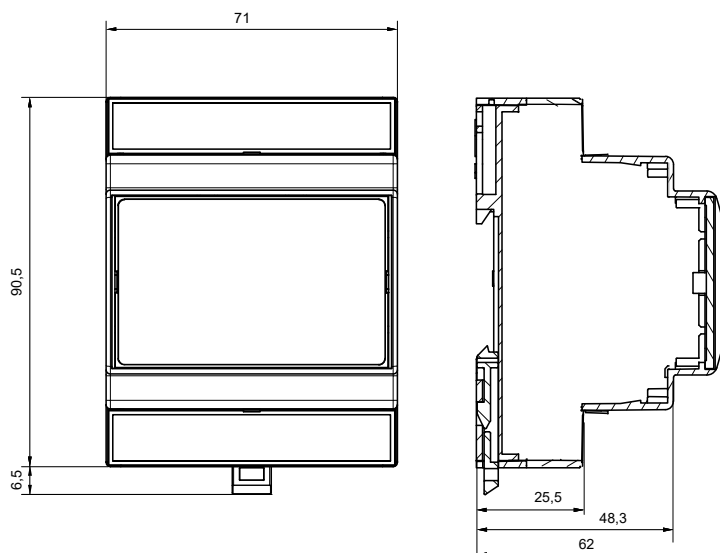| EN 61347-1:2008 +A1:2011+A2:2013	Lamp controlgear - Part 1: General and safety requirements
EN 62384:2006+A1:2009	DC or AC supplied electronic control gear for LED modules - Performance requirements
EN 55015:2013+A1:2015	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
EN 61547:2009	Equipment for general lighting purposes - EMC immunity requirements
EN 50581:2012	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances
IEC/EN 62386-101	Digital addressable lighting interface - Part 101: General requirements - System
IEC/EN 62386-102	Digital addressable lighting interface - Part 102: General requirements - Control gear
IEC/EN 62386-207	Digital addressable lighting interface - Part 207: Particular requirements for control gear - LED modules (device type 6)
IEC 60929-E.2.1	Control interface for controllable ballasts - control by d.c. voltage - functional specification
ANSI E 1.3	Entertainment Technology - Lighting Control Systems - 0 to 10V Analog Control Specification

Technical Specification

		Variants	
		Constant voltage	
Supply voltage		DC min: 10.8 Vdc .. max: 52,8 Vdc	
Output voltage		= Vin	
Output current		max 20A	
		4x max 5 A [1] // max 20 A [1]	
Nominal power[1]	@12V	240 W	
	@24V	480 W	
	@48V	960 W	
Thermal shutdown		150 °C	
D-PWM dimming frequency		300Hz – 600Hz – 1200Hz	
D-PWM resolution		16 bit	
D-PWM range		0,1% ÷ 100%	
Storage Temperature		min: -40 max: +60 °C	
Ambient Temperature[1]		min: -40 max: +60 °C	
Protection grade		IP10	
Wiring		Buttons & Bus: 1.5 mm² solid - 1 mm² stranded - 30/14 AWG Power & Leds: 2.5mm² solid - 1.5mm² stranded - 30/12 AWG	
Mechanical dimensions		72 x 92 x 62 mm - DIN RAIL 4mod.	
Packaging dimensions		124 x 85 x 71 mm	
Weight		125g	

[1] *maximum value, dependent on the ventilation conditions*

- **Installation**

See SETUP &
INSTALLATION
point **4)**

See appropriate
BUS Setup
DALI

Less than 10A:			
DC IN			
V+	V-	V+	V-

+
− 12-48V DC

More than 10A:			
DC IN			
V+	V-	V+	V-

+
− 12-48V DC

IN1	0V	IN2	0V	IN3	0V	IN4	0V
INPUT							

DA	DA		DA	DA
DALI IN			DALI OUT	

etiampro
VELLEMAN NV
LEGEN HEIRWEG 33 • 9890 GAVERE,
BELGIUM • VELLEMAN.EU

LED DRIVER/DIMMER
LQC4D-V1
IN: 12-48V⎓
INPUT: Push, 0/1-10V
OUT: 4 X max. 5 A

CE

DC IN				OUT							
+	-	+	-	L1+	L1-	L2+	L2-	L3+	L3-	L4+	L4-

See SETUP &
INSTALLATION
point **1)**

Mechanical dimension:
(without connectors)

71

90,5

6,5

25,5

48,3

62

Opening the cover

For the Dip-switch and selectors configuration it is necessary to pull up the cover of the device. See the picture.
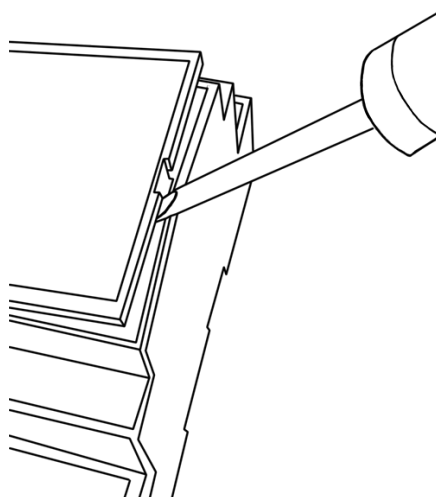
Technical notes
• Installation and maintenance must be performed only by qualified personnel in compliance with current regulations.
• The product must be installed inside an electrical panel protected against overvoltages.
• The product must be installed in a vertical or horizontal position with the cover / label upwards or vertically; other positions are not permitted. It is not permitted the bottom-up position (with the lower face plate / label).
• Keep separate the 230V circuits (LV) and not SELV circuits from safety extra low voltage (SELV) and all connections for this product. It's absolutely forbidden to connect, for any reason, directly or indirectly, the 230V mains voltage to the bus or to other parts of the circuit.
• For power supply use only SELV power supplies with limited current and short circuit protection, and of appropriately sized power. In case of power supplies provided with an earth terminal, ALL protective earthing points (PE = Protection Earth) must be connected to a valid protection earth.
• The connection cables between the power source and the product must be sized properly and should be isolated from any wiring or live parts not SELV. Use double insulated cables.
• In the event of higher than 10A total output current to plug into both power input pairs "V +" and "V-".
• Dimension the power supply for the load connected to the device. If the power supply is oversized compared to the maximum running current, insert a protection against over-current between the power supply and the device.
• For the constant current outputs, the maximum voltage drop of the LED module (Vf) must be less than the supply voltage of at least 5V.
• The length of the connecting cables between the local controls (push button, 0-10V, 1-10V, potentiometer, or other) and the product must be less than 10m; the cables must be sized properly and should be isolated from any wiring or live parts not SELV. Use double insulation shielded and twisted cables.
• The length and type of the connection cables at the BUS (DALI, Ethernet, or other) use cables as per specification of the respective protocols and regulations and they should be isolated from every wiring or parts at voltage not SELV. It is suggested to use double insulated shielded and twisted cables.
• All devices and related control signals to the bus (DALI, Ethernet or other) and to the local controls (push button, 0-10V, 1-10V, potentiometer, or other) must be SELV (connected devices must be SELV or otherwise provide a SELV signal).
• The length of the connection cables between the product and the LED module must be dimensioned correctly and they should be isolated from every wiring or parts at voltage not SELV. It is suggested to use double insulated shielded and twisted cables.

■ SETUP & INSTALLATION

A 12 way dip-switch (under the cover) can provide a rich set of possible configurations:

Note: Factory positions = all OFF

Function	1 2 3 4 5 6 7 8 9 10 11 12	
	Load // Map Curve Input Hz	• Switches from 1 to 2: **Load Type** • Switch 3: **Parallel Outputs** • Switches from 4 to 6: **Map** • Switches from 7 to 8: **Curve** • Switches from 9 to 10: **Input Type** • Switches from 11 to 12: **Output frame rate (freq.)**

**1) Select Load Type and Parallel Out depending on output connections:** Switches from 1 to 2 and Switch 3

Load Type	Description	Connections (total current 0 - 10A max)	Connections (total current 0 - 20A max)	Settings
(white circle)	White, up to 4 loads			1 2 3
	White, parallel outputs with increased current (Macro dimmer)			1 2 3
(warm/cold circles)	Tunable White, up to 2 loads			1 2 3
	Tunable White, parallel output <u>pairs</u> with increased current			1 2 3
(RGB circles)	RGB			1 2
(RGBW circles)	RGBW			1 2

Note: Set the "Select Map" according to the connected load and the function you want. See "Map Setting" page 6.
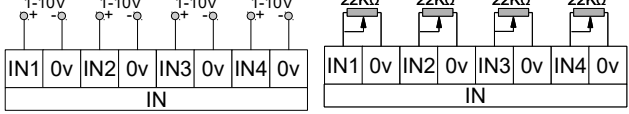
2) Select Map: Switches from 4 to 6
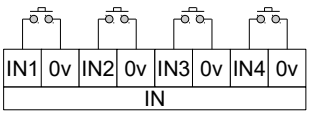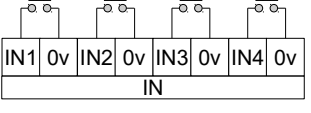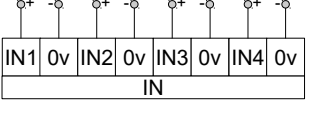
White Load	Tunable White Load	RGB Load	RGBW Load
Dimmer (4 5 6)	**Dimmer** (4 5 6)	**Dimmer** (4 5 6)	**Dimmer** (4 5 6)
	Dim to Warm (4 5 6)	**Dim to Warm** (4 5 6)	**Dim to Warm** (4 5 6)
	Tunable White (4 5 6)	**Tunable White** (4 5 6)	**Tunable White** (4 5 6)
		Smart HSV Intensity, temperature correction, color hue & rotation, saturation and strobe (4 5 6)	**Smart HSV** Intensity, temperature correction, color hue & rotation, saturation and strobe (4 5 6)
		RGB (4 5 6)	**RGB** Convert RGB → RGBW (4 5 6)
		RGBW Convert RGBW → RGB (4 5 6)	**RGBW** (4 5 6)
		Master+RGB+Strobe (4 5 6)	**Master+RGB+Strobe** Convert RGB → RGBW (4 5 6)
		Master+RGBW+Strobe Convert RGBW → RGB (4 5 6)	**Master+RGBW+Strobe** (4 5 6)

3) Select Dimming Curve: Switches from 7 to 8

Default (by bus type) (7 8)	Exponential (7 8)	Quadratic (7 8)	Linear (7 8)

4) Select Local Input Type: Switches from 9 to 10

In Type	Description	Connections	Settings
Push	N.O. Pushbutton, NO memory	IN1 0v IN2 0v IN3 0v IN4 0v — IN	(9 10)
	N.O. Pushbutton, MEMORY	IN1 0v IN2 0v IN3 0v IN4 0v — IN	(9 10)
0-10V	Analogic 0-10V	0-10V +/- (×4) — IN1 0v IN2 0v IN3 0v IN4 0v — IN	(9 10)
1-10V	Analogic 1-10V & Potentiometer	1-10V +/- (×4) — IN1 0v IN2 0v IN3 0v IN4 0v — IN ; 22KΩ (×4) — IN1 0v IN2 0v IN3 0v IN4 0v — IN	(9 10)

5) Set Output Frequency: Switches from 11 to 12

300Hz (11 12)	600Hz (11 12)	1200Hz (11 12)	Reserved (11 12)

LQC4D-V1

LED DRIVERS
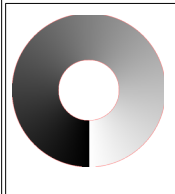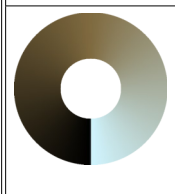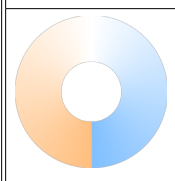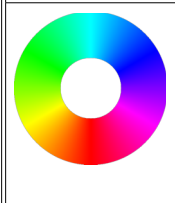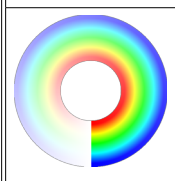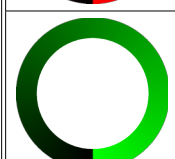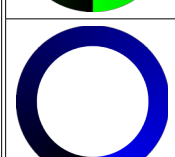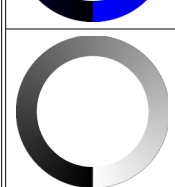
■ Local commands functionality according to the selected Map

Load Type	Map	IN 1	IN 2	IN 3	IN 4
White up to 4 loads	Dimmer	Dim1	Dim2	Dim3	Dim4
White Parallel outs	Dimmer	Dimmer			
Tunable White up to 2 loads	Dimmer	Dim1		Dim2	
Tunable White Parallel outs	Dimmer	Dimmer			
Tunable White up to 2 loads	Dim to Warm	Dim1 to Warm		Dim2 to Warm	
Tunable White Parallel outs	Dim to Warm	Dimmer to Warm			
Tunable White up to 2 loads	Tunable White	Dim1	CCT1	Dim2	CCT2
Tunable White Parallel outs	Tunable White	Dimmer	CCT		
RGB & RGBW	Dimmer	Dimmer			
RGB & RGBW	Dim to Warm	Dimmer to Warm			
RGB & RGBW	Tunable White	Dimmer	CCT		
RGB & RGBW	Smart HSV	Dimmer	CCT	Color	Saturation
RGB & RGBW	RGB	Red	Green	Blue	
RGB & RGBW	RGBW	Red	Green	Blue	White
RGB & RGBW	MRGB+	Red	Green	Blue	
RGB & RGBW	MRGBW+	Red	Green	Blue	White

■ LOCAL INPUTS

Available Functions: N.O. PUSH BUTTON memory / N.O. PUSH BUTTON no memory:

Dimmer
Dim the light following the selected dimming curve, keeping a constant color temperature.
Soft Turn On with 200ms fade time, Soft Turn Off with 1s fade time.

CLICK:	Turn ON/OFF light.
Double Click:	Turn On light at 100%
Long pressure (>1s) from OFF:	Turn on at 1% (Nighttime)
Long pressure (>1s) from ON:	Dimmer UP/DOWN

Dim to Warm
Dim the light following the selected dimming curve. The color temperature increase with intensity.
Soft Turn On with 200ms fade time, Soft Turn Off with 1s fade time.

CLICK:	Turn ON/OFF light.
Double Click:	Turn On light at 100%
Long pressure (>1s) from OFF:	Turn on at 1% (Nighttime)
Long pressure (>1s) from ON:	Dimmer UP/DOWN

CCT: Color Correction Temperature / White Balance
- Tunable White load: change the color temperature, keeping a constant intensity. Neutral white is 50% cold + 50% warm.
- RGB load: change the equivalent color temperature. Neutral white is an equal value to R,G,B.
- RGBW load: balance the white from the white output to the composite RGB output. Neutral white is 50% white + 50% R+G+B.

Double Click:	Neutral white
Long pressure (>1s):	Change Colour Temperature UP/DOWN (Cold↔Warm or White↔R+G+B).

Color rotation and selection
Change the color or color rotation speed.

CLICK:	Start/stop color rotation.
Double Click:	Change from color (or color rotation) to white and vice-versa.
Long pressure (>1s) from ON:	Change the rotation speed, selected from 4 predefined levels. The selected speed is visualized as a white strobo light.

Rotation Speed	Strobo Pulse
6 seconds	10 flashes/sec.
30 seconds	5 flashes/sec.
6 minutes	2 flashes/sec.
30 minutes	1 flash/sec.

Color saturation:
Change the color saturation: vivid colors ↔ pastel colors

CLICK:	Toggle between white and colors.
Double Click:	Maximum saturation - Vivid Colors.
Long pressure (>1s) from white:	Minimum saturation - Pastel Colors.
Long pressure (>1s) from color:	Change the saturation value..

Red: linear change red channel.

CLICK:	Turn ON/OFF channel.
Double Click:	Turn On channel at 100%
Long pressure (>1s) from OFF:	Turn on at 1%
Long pressure (>1s) from ON:	Dim UP/DOWN

Green: linear change green channel.

CLICK:	Turn ON/OFF channel.
Double Click:	Turn On channel at 100%
Long pressure (>1s) from OFF:	Turn on at 1%
Long pressure (>1s) from ON:	Dim UP/DOWN

Blue: linear change blue channel.

CLICK:	Turn ON/OFF channel.
Double Click:	Turn On channel at 100%
Long pressure (>1s) from OFF:	Turn on at 1%
Long pressure (>1s) from ON:	Dim UP/DOWN

White: linear change white channel.

CLICK:	Turn ON/OFF channel.
Double Click:	Turn On channel at 100%
Long pressure (>1s) from OFF:	Turn on at 1%
Long pressure (>1s) from ON:	Dim UP/DOWN

LQC4D-V1

LED DRIVERS

Available Functions: 0-10V / 1-10V / potentiometers:

Dimmer
Dim the light following the selected dimming curve, keeping a constant color temperature. Minimum intensity = 0.1%.

Below 1V = Turn OFF light.
10V = Maximum intensity.

Dim to Warm
Dim the light following the selected dimming curve. The color temperature increase with intensity. Minimum intensity = 0.1%.

Below 1V = Turn OFF light.
10V = Maximum intensity.

CCT: Color Correction Temperature / White Balance
-Tunable White load: change the color temperature, keeping a constant intensity. Neutral white is 50% cold + 50% warm.
- RGB load: change the equivalent color temperature. Neutral white is an equal value to R,G,B.
- RGBW load: balance the white from the white output to the composite RGB output. Neutral white is 50% white + 50% R+G+B.

Change the color temperature from warm (1V), to cold (10V).

Color rotation and selection
Change the color.

Select a color starting from red (1V), then yellow, green, cyan, blue, magenta and red again (10V).

Color saturation:
Change the color saturation: vivid colors ↔ pastel colors

Change the saturation from white (1V), to vivid colors (10V).

Red: linear change red channel.

Below 1V = Turn OFF channel.
10V = Maximum intensity.

Green: linear change green channel.

Below 1V = Turn OFF channel.
10V = Maximum intensity.

Blue: linear change blue channel.

Below 1V = Turn OFF channel.
10V = Maximum intensity.

White: linear change white channel.

Below 1V = Turn OFF channel.
10V = Maximum intensity.

■ DALI BUS SETUP

In **DALI BUS SETUP** all the leds are controlled by an external DALI controller.
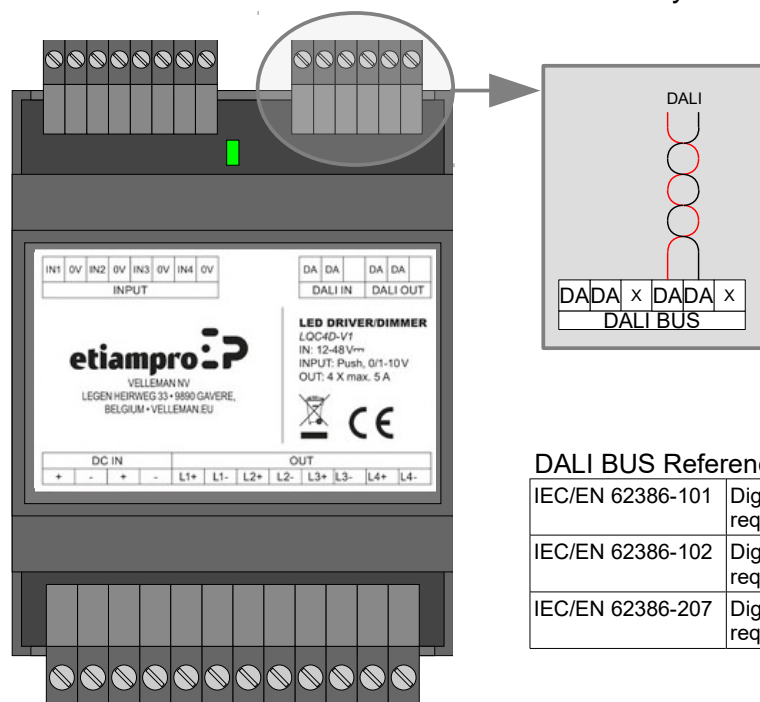
DALI BUS Reference Standards

IEC/EN 62386-101	Digital addressable lighting interface - Part 101: General requirements - System
IEC/EN 62386-102	Digital addressable lighting interface - Part 102: General requirements - Control gear
IEC/EN 62386-207	Digital addressable lighting interface - Part 207: Particular requirements for control gear - LED modules (device type 6)

Onboard led:
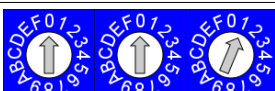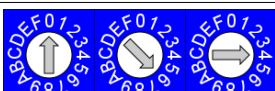
In the case of no bus power detected, or bus error, the led blinks fast (2 pulsed per second).
In the case of bus power but no data, led blinks slow (1 pulse per second).
In the case of data link active, the led stands on.

Relation with local commands

At power-up, in case of absence of connection to the BUS, local control is active.
When the BUS is detected, the control passes to the BUS. It remains to the BUS until there is signal.
In the absence of signal:
- if the local command is N.O. PUSH BUTTON, the control passes to local command in the event of a N.O. push button pressure.
- if the local command is 0-10V or 1-10V the control passes immediately to the local command.

Addressing

By selectors	✔
Simplified method (One ballast connected at a time)	✔
Random Address Allocation	✔

DALI	000 (default):			Address defined by DALI
	from 001		to 064	First channel address, form 1 to 64
	FFF			(reserved)

CHANNELS MAP – DALI

Load Type: White - up to 4 loads

Addr	Function	Map: Dimmer
+0	Dimmer 1	Dimmer (**B**rightness **V**alue) 0 .. 254
+1	Dimmer 2	Dimmer (**B**rightness **V**alue) 0 .. 254
+2	Dimmer 3	Dimmer (**B**rightness **V**alue) 0 .. 254
+3	Dimmer 4	Dimmer (**B**rightness **V**alue) 0 .. 254

Load Type: White - Parallel outs (Macro dimmer)

Addr	Function	Map: Dimmer
+0	Dimmer	Dimmer (**B**rightness **V**alue) 0 .. 254

Load Type: Tunable White – up to 2 loads

Addr	Function	Map: Dimmer
+0	Dimmer 1	Dimmer (**B**rightness **V**alue) 0 .. 254
+1	Dimmer 2	Dimmer (**B**rightness **V**alue) 0 .. 254

Addr	Function	Map: Dim to Warm
+0	Dimmer 1	Dimmer (**B**rightness **V**alue) 0 .. 254
+1	Dimmer 2	Dimmer (**B**rightness **V**alue) 0 .. 254

Addr	Function	Map: Tunable white
+0	Dimmer 1	Dimmer (**B**rightness **V**alue) 0 .. 254
+1	Color Correction 1	Color Correction Temperature 0 .. 254
+2	Dimmer 2	Dimmer (**B**rightness **V**alue) 0 .. 254
+3	Color Correction 2	Color Correction Temperature 0 .. 254

Load Type: Tunable White – Parallel outs

Addr	Function	Map: Dimmer
+0	Dimmer 1	Dimmer (**B**rightness **V**alue) 0 .. 254

Addr	Function	Map: Dim to Warm
+0	Dimmer	Dimmer (**B**rightness **V**alue) 0 .. 254

Addr	Function	Map: Tunable white
+0	Dimmer	Dimmer (**B**rightness **V**alue) 0 .. 254
+1	Color Correction	Color Correction Temperature 0 .. 254

Load Type: RGB & RGBW

Addr	Function	Map: Dimmer
+0	Master Dimmer	Dimmer (**B**rightness **V**alue) 0 .. 254

Addr	Function	Map: Dim to Warm
+0	Master Dimmer	Dimmer (**B**rightness **V**alue) 0 .. 254

Addr	Function	Map: Tunable white
+0	Master Dimmer	Dimmer (**B**rightness **V**alue) 0 .. 254
+1	Color Correction	Color Temperature Correction 0 .. 254

Addr	Function	Smart HSV									
+0	Master Dimmer	Master Dimmer (**B**rightness **V**alue) 0 .. 254									
+1	Color Correction	Color Temperature Correction 0 .. 254									
+2	Hue	Hue 0 .. 254									
+3	Hue Rotation (rainbow) Time	Hue Fine 0 … 15	**Hold 16 … 25**	30min 26 .. 51	15min 52 .. 76	6min 77 .. 102	3min 103..127	1min 128..153	30s 154..179	15s 180..204	6s 205..230	**3s 231..254**
+4	Saturation	Saturation 0 .. 254									
+5	Strobo Rate	fix 0 .. 15	blackout 16 ..31	1fps 32 .. 47	2fps 48 .. 63	3fps 64 .. 79	4fps 80 .. 95	5fps 96 .. 111	6fps 112..127	7fps 128..143	8fps 144..159	9fps 160..175	10fps 176..191	12fps 192..207	14fps 208..223	16fps 224..239	fix 240..254

Addr	Function	Map: RGB
+0	R	R 0 .. 254
+1	G	G 0 .. 254
+2	B	B 0 .. 254

Addr	Function	Map: RGBW
+0	R	R 0 .. 254
+1	G	G 0 .. 254
+2	B	B 0 .. 254
+3	W	W 0 .. 254

Addr	Function	Map: MRGB+														
+0	Master Dimmer	Master Dimmer (**B**rightness **V**alue) 0 .. 254														
+1	R	R 0 .. 254														
+2	G	G 0 .. 254														
+3	B	B 0 .. 254														
+4	Strobo Rate	fix	blackout	1fps	2fps	3fps	4fps	5fps	6fps	7fps	8fps	9fps	10fps	12fps	14fps	16fps	fix

Addr	Function	Map: MRGBW+														
+0	Master Dimmer	Master Dimmer (**B**rightness **V**alue) 0 .. 254														
+1	R	R 0 .. 254														
+2	G	G 0 .. 254														
+3	B	B 0 .. 254														
+4	W	W 0 .. 254														
+5	Strobo Rate	fix	blackout	1fps	2fps	3fps	4fps	5fps	6fps	7fps	8fps	9fps	10fps	12fps	14fps	16fps	fix

DALI COMMANDS

STANDARD COMMANDS	
DIRECT ARC POWER	✔
OFF	✔
UP	✔
DOWN	✔
STEP UP	✔
STEP DOWN	✔
RECALL MAX LEVEL	✔
RECALL MIN LEVEL	✔
STEP DOWN AND OFF	✔
ON AND STEP UP	✔
GOTO SCENE (0 to 15)	✔
RESET	✔
STORE ACTUAL LEVEL IN THE DTR	✔
STORE THE DTR AS MAX LEVEL	✔
STORE THE DTR AS MIN LEVEL	✔
STORE THE DTR AS SYSTEM FAILURE LEVEL	✔
STORE THE DTR AS POWER ON LEVEL	✔
STORE THE DTR AS FADE TIME	✔
STORE THE DTR AS FADE RATE	✔
STORE THE DTR AS SCENE (0 to 15)	✔
REMOVE FROM SCENE (0 to 15)	✔
ADD TO GROUP (0 to 15)	✔
REMOVE FROM GROUP (0 to 15)	✔
STORE DTR AS SHORT ADDRESS	✔
ENABLE WRITE MEMORY	✖
QUERY STATUS	✔
QUERY BALLAST	✔
QUERY LAMP FAILURE	✔
QUERY LAMP POWER ON	✔
QUERY LIMIT ERROR	✔
QUERY RESET STATE	✔
QUERY MISSING SHORT ADDRESS	✔
QUERY VERSION NUMBER	✔
QUERY CONTENT DTR	✔
QUERY DEVICE TYPE	✔
QUERY PHYSICAL MINIMUM LEVEL	✔
QUERY POWER FAILURE	✔
QUERY CONTENT DTR1	✔
QUERY CONTENT DTR2	✔
QUERY ACTUAL LEVEL	✔
QUERY MAX LEVEL	✔
QUERY MIN LEVEL	✔
QUERY POWER ON LEVEL	✔
QUERY SYSTEM FAILURE LEVEL	✔
QUERY FADE TIME / FADE RATE	✔
QUERY SCENE LEVEL (0 to 15)	✔
QUERY GROUPS 0-7	✔
QUERY GROUPS 8-15	✔
QUERY RANDOM ADDRESS H	✔
QUERY RANDOM ADDRESS M	✔
QUERY RANDOM ADDRESS L	✔
READ MEMORY LOCATION	✖
QUERY EXTENDED VERSION	✖

SPECIAL COMMANDS	
TERMINATE	✔
DATA TRANSFER REGISTER	✔
INITIALIZE	✔
RANDOMIZE	✔
COMPARE	✔
WITHDRAW	✔
SEARCHADDR H	✔
SEARCHADDR M	✔
SEARCHADDR L	✔
PROGRAM SHORT ADDRESS	✔
VERIFY SHORT ADDRESS	✔
QUERY SHORT ADDRESS	✔
PHYSICAL SELECTION	✖
ENABLE DEVICE TYPE	✖
DATA TRANSFER REGISTER 1	✔
DATA TRANSFER REGISTER 2	✔
WRITE MEMORY LOCATION	✖

LQC4D-V1

LED DRIVERS