

Constant Current Dimmable Driver

Model:SC28W150-700CG-6X DALI



Model	Item Code	Output Current	Output Power Range	PF	Efficiency (*Typical)	Output Voltage	No load Voltage
SC28W150-700CG-6W DALI SC28W150-700CG-6B DALI SC28W150-700CG-6G DALI	145671 145651 145661	150mA	1.50-6.00W	0.75	77%	10-40V	59V
		200mA	2.00-8.00W	0.84	80%	10-40V	59V
		250mA	2.50-10.00W	0.86	82%	10-40V	59V
		300mA	3.00-12.00W	0.88	84%	10-40V	59V
		350mA	3.50-14.00W	0.90	84%	10-40V	59V
		400mA	4.00-16.00W	0.91	85%	10-40V	59V
		450mA	4.50-18W	0.92	85%	10-40V	59V
		500mA	5.00-20W	0.94	85%	10-40V	59V
		550mA	5.50-22W	0.94	86%	10-40V	59V
		600mA	6.00-24W	0.95	86%	10-40V	59V
		650mA	6.50-26W	0.95	86%	10-40V	59V
		700mA	7.00-28W	0.95	86%	10-40V	59V

* Test result @230V, 50Hz, Full Load.

1. Parameters

Category	Item	Technical Norm
Features	Output Type	Constant Current
	Dimming Type	Amplitude (DALI-2)
	Output Features	Isolation
	IP Grade	IP20
	Insulation Class	Class II
Input	Rated Input Voltage	220-240VAC
	Range of Input Voltage	198-264VAC or 180-280VDC
	Frequency	50/60Hz
	Input Current	≤0.21A (230VAC, full load)
	Input Power	≤32.9W (230VAC, full load)
	Power Factor	≥0.95 (230VAC, full load)
	THD	≤20% (230VAC, full load)
	Standby power(dim to off)	≤0.5W @230VAC
Output	Output Voltage Range	10-40VDC

	No Load Voltage	59VDC Max.
	Output Current	150mA -700mA (Max. output)
	Max. Output Power	28W
	Efficiency	≥86% (230VAC, full load)
	Current Ripple(< 120 Hz)	±5% (Imax-Imin)/(Imax+Imin)
	PstLM	≤1
	SVM	≤0.4
	Current Accuracy	±5%
	Started Delay Time	≤0.5S (230VAC, full load)
Control Method	Secondary PUSH dimming	Secondary PUSH dimming (Max. lead wire length : 20m,same port of DALI)
	PUSH-button	Max parallel connections qty for Push-dim 15 PCS
	DALI function	DALI dimming (Max. lead wire length: 200m) logarithm or linear dimming curve selectable DALI-2 certified incl. Parts 251, 252, 253 , CLO
	Dimming range	DALI dimming: 1%-100%, Dim to off .
Protection	Short Circuit Protection	Auto Recovery
	Overload Protection	Auto Recovery
	No-load Protection	Auto Recovery
	Insulation voltage	3000V 5mA 60S between P-S
	Insulation resistance	>100M ohm @ 500VDC
	Leakage current	I/P to O/P <0.7mA
Environment	Ta/Operation Temperature	-25....+35°C
	Ts/Storage Temperature	-25....+85°C
	Tc/Enclosure Temperature	85°C
	Humidity	10%....90%RH
	Atmosphere	86-108KPa
Construction	Connection Method	Push-in Terminal
	Installation	Independent
	SEC Wire preparation	0.5-1.5□
	Dimension	198*46*31mm (L*W*H)
Standards	Certification	CE ENEC SAA UKCA EAC
	Safety Standards	EN 61347-1:2015/A1:2021 EN 61347-2-13:2014/A1:2017 EN IEC 62384:2020 EN 62493:2015 AS61347.2.13:2018 AS/NZS61347.1:2016 Inc A1 BS EN 61347-1:2015/A1:2021 BS EN 61347-2-13:2014/A1:2017 BS EN 62493:2015 BS EN IEC 62384:2020
	EMC Standards	EN IEC 55015:2019 N IEC 55015:2019/A11:2020 EN IEC 61000-3-2:2019/A1:2021 EN 61000-3-3:2013/A2:2021 EN 61547:2009

	Performance	EN62384:2020
	Surge	L-N/2KV
Others	RoHS	complied to 2011/65/EU
	REACH	EU Regulation (EC) No 1907/2006
	Life Time	50kh @ Tc = 57°C, max. failures= 10%
	Warranty	5years , F.R. < 10000ppm
	Noise	<20dB@30cmdistance,15dBbackground

Remark:

- All Parameters, if not specified, are measured at 230VAC/50Hz and 25°C ambient temperature.
- LED Driver is a component of the luminaires, Luminaires and wire layout will affect the EMC, please check the EMC with end products again.
- During the PUSH DIM test, the number of parallel connections must be less than 15PCS.

2. Output Current Setting

Output Current	1	2	3	4
150mA	-	-	-	-
200mA	-	-	-	ON
250mA	-	-	ON	-
300mA	-	-	ON	ON
350mA	-	ON	-	-
400mA	-	ON	-	ON
450mA	-	ON	ON	-
500mA	-	ON	ON	ON
550mA	ON	-	-	-
600mA	ON	-	-	ON
650mA	ON	-	ON	-
700mA	ON	-	ON	ON

3. Connected quantities of different current Breaker

TYPE	Connected quantities of different current Breaker						Input Voltage	Inrush Current	Time
	current (A)	10	13	16	20	25			
	Installation wire diameter	1.5mm ²	2.5mm ²	2.5mm ²	4mm ²	4mm ²			
TYPE B	60	78	96	120	150	@230VAC	10	2.8	
TYPE C	96	125	154	192	240				
TYPE D	154	200	246	307	384				

4. Label

KGP PRI:220-240VAC 50/60Hz Max.0.21A
 SEC:150-700mA 10-40VDC
 No Load:59VDC Max.28W Fmax.50N ↓
 For LED modules only

KGP Electronics GmbH
 Hueckstraße 19
 DE-58511 Lüdenscheid

LED Dimmable Driver ta:35°C tc:85°C
 SC28W150-700CG-6W DALI
 145671
 Constant Current Lighting track adaptors

UK
 CA
 SELV

Pout [W]	Iout [mA]	Iin [A]	λ	1	2	3	4
6	150	0.10	0.75C	-	-	-	-
8	200	0.11	0.84C	-	-	-	ON
10	250	0.12	0.86C	-	-	-	ON
12	300	0.13	0.88C	-	-	-	ON
14	350	0.14	0.90C	-	ON	-	ON
16	400	0.15	0.91C	-	ON	-	ON
18	450	0.16	0.92C	-	ON	ON	-
20	500	0.17	0.94C	-	ON	ON	ON
22	550	0.18	0.94C	ON	-	-	-
24	600	0.19	0.95	ON	-	-	ON
26	650	0.20	0.95	ON	-	ON	-
28	700	0.21	0.95	ON	-	ON	ON

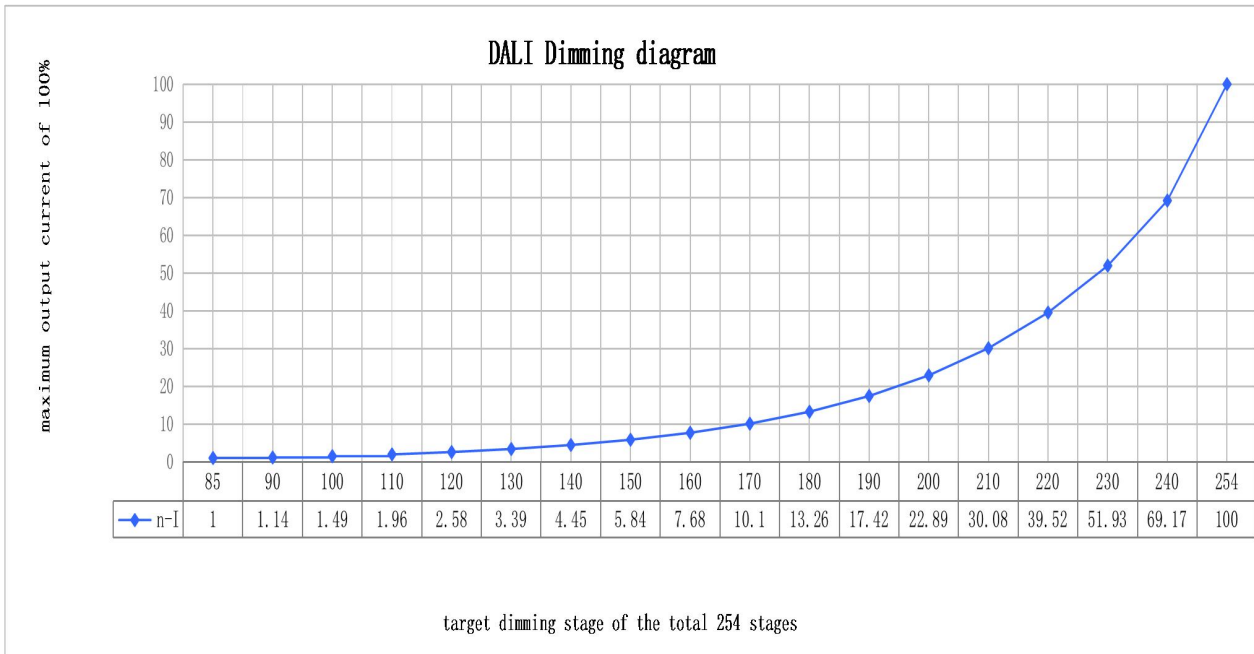
5. DALI dimming curve

formula for DALI dimming.

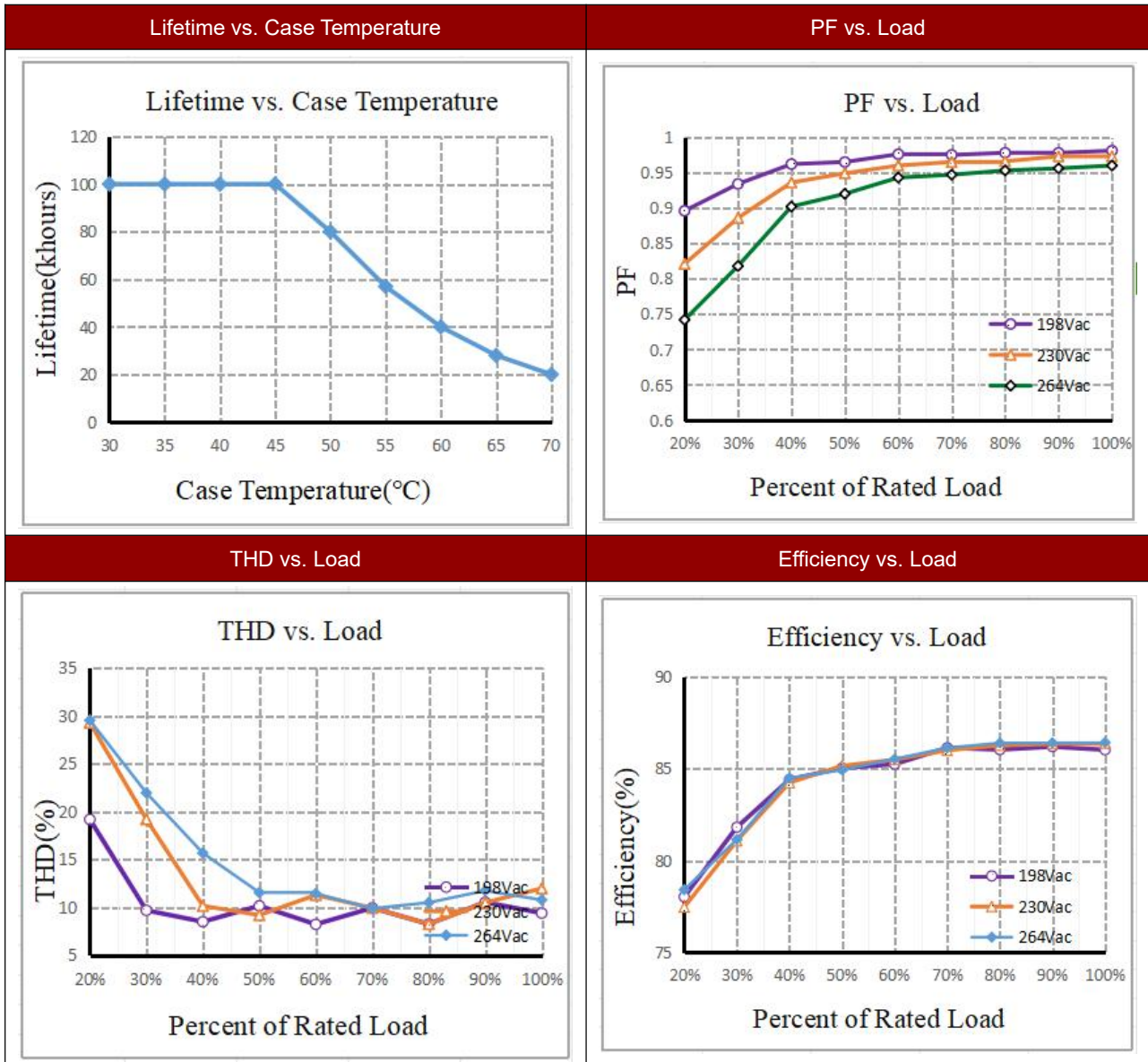
$$X(n) = 10^{\left\{ \left[\frac{(n-1)}{(253/3)} \right] - 1 \right\}}$$

Here, n means the target dimming stage of the total 254 stages.

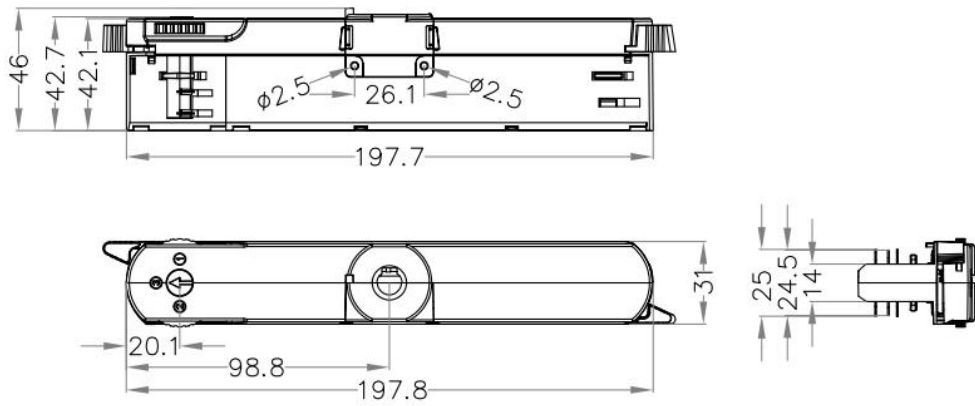
X(n) means the percent of the maximum output current



6. Electrical values



7. Dimension (Unit: mm)



8. Wiring Diagram

Fig. A: Push Dimming

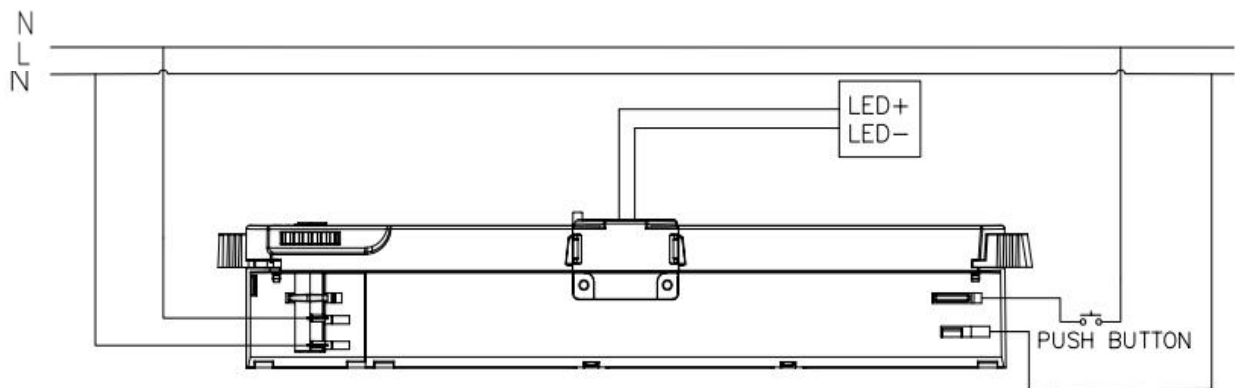
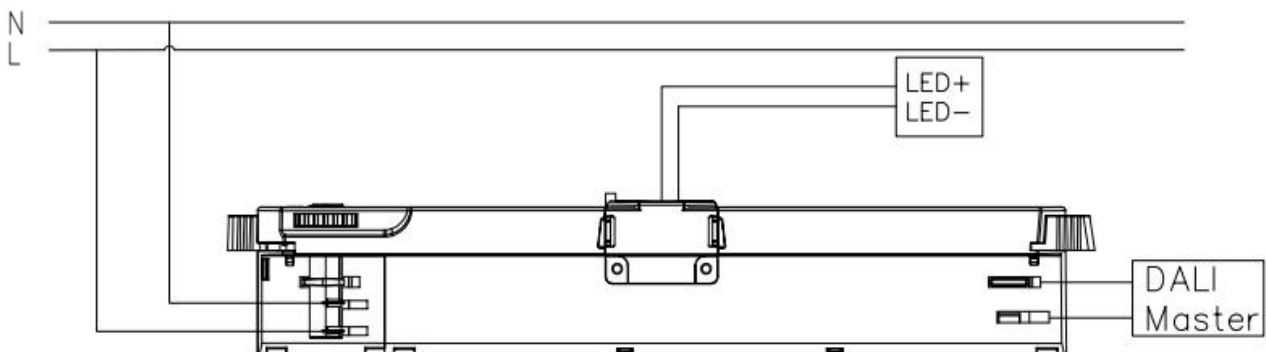


Fig. B: DALI Dimming



1. The factory default brightness is at 100%.
2. Up to 15 drivers can perform the PUSH dimming at the same time when utilizing one common push button
3. The maximum length of the cable from the push button to the last driver is 200 meters

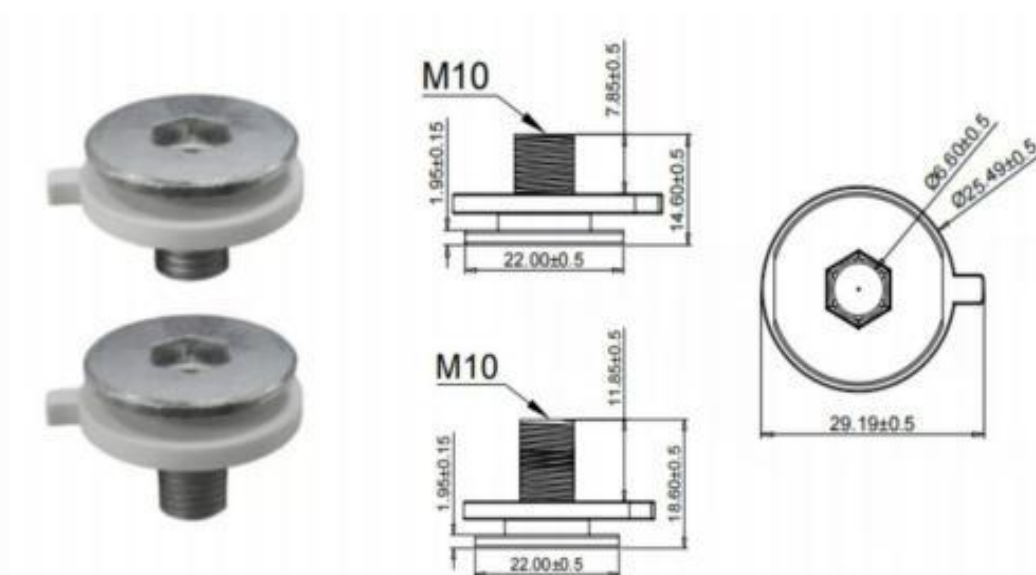
9. Packing information

Packing way	Model	Colour	Carton L*W*H(mm)	Pcs/ Carton	Net weight/ Pcs(kg)	Net weight/ Carton(kg)	Gross weight/ Carton(kg)
industrial	SC28W150-700CG-6W DALI	White	515*274*370	120	0.12	14.4	14.9
	SC28W150-700CG-6B DALI	Black					
	SC28W150-700CG-6G DALI	Grey					

10. Ordering data

- Optional threaded sleeve for luminaire mounting
- Suitable for M10x1x8 threaded nut
- Additional mounting equipment, e.g. M10x1x12
- aluminium, black, white
- further on request

Model No	Item Code	Qty/ctn	Weight/pcs
SC28W150-700CG-6W DALI	145671	120	120
SC28W150-700CG-6B DALI	145651	120	120
SC28W150-700CG-6G DALI	145661	120	120
NIP M10x1x8 B G2	142261	1600	9.31
NIP M10x1x8 G G2	142271	1600	9.31
NIP M10x1x8 W G2	142281	1600	9.31
NIP M10x1x12 B G2	142211	1600	10.01
NIP M10x1x12 G G2	142221	1600	10.01
NIP M10x1x12 W G2	142231	1600	10.01



11. Suitable for following tracks

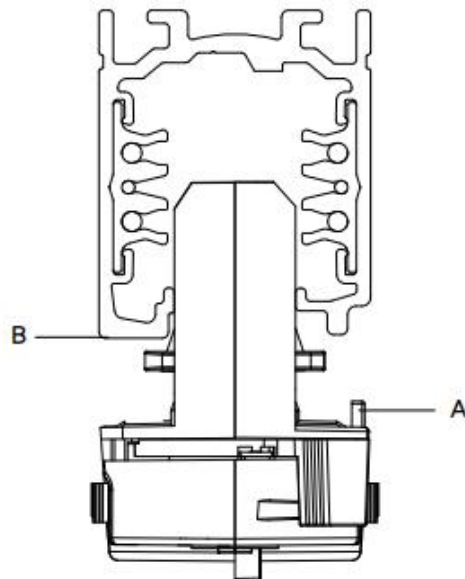
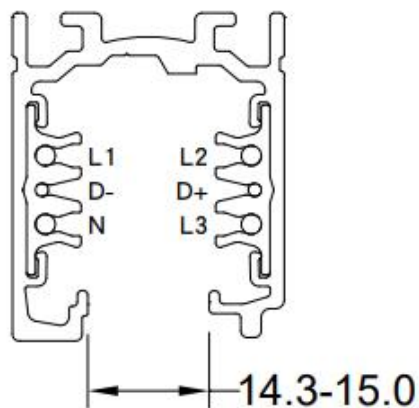
Serial number	Brand	Track model	System
1	Global	XTSC611	3P
2	A.A.G STUCCHI	9000A-2-ST	3P
3	PowerGEAR	Pro-D631R	3P
4	UNIPRO	TC312W	3P

Remark:

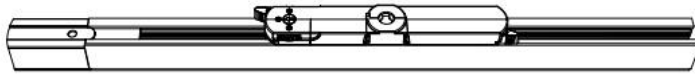
1. The model name is XTSC611 tracks, and its brand is Global.
2. The model name used is the 9000A-2-ST track, and its brand is A.A.G STUCCHI.
3. The model name is Pro-D631R tracks, and its brand is PowerGEAR.
4. The model name is TC312W tracks, and its brand is UNIPRO.
5. If other brands are suitable, please communicate and consult first

KGP does not guarantee the compatibility of the tracks and the track-adapter, because manufacturing tolerances of the tracks or changes made at the tracks by the manufacturer could affect the compatibility between the tracks and the adapter.

12. Phase track light rail specification:



13. Lighting track adapter and rail system installation diagram:



The adaptor shall be given that the use is limited to the track system specified.

14. Wiring instructions

- All connections must be kept as short as possible to ensure good EMI behaviour
- Mains leads should be kept apart from LED Driver and other leads (ideally 5 – 10 cm distance)
- Advice the maximum length of output wires is 0.5 m
- Secondary switching is not permitted (Except for constant voltage)
- Incorrect wiring can damage LED modules.
- The wiring must be protected against short circuits to earth (sharp edged metals parts, metal cable clips, louver, etc.)
- Hot plug-in is not supported due to residual output voltage of > 0 V up to mains voltage. Danger to life.
- When connecting an LED load, restart the device to activate the LED output.
- This can be done via mains reset or via interface (DALI, DSI, switch DIM).

15. Replace LED module

- Mains off
- Remove LED module
- Wait for 30 seconds
- Connect LED module again
- Hot plug-in or secondary switching of LEDs is not permitted and may cause a very high current to the LEDs

16. Functions

16.1 OEM Identification

The OEM (Original Equipment Manufacturer) can set his own identification number.

DALI Part 251: Memory bank 1 extension.

16.2 OEM GTIN

The Original Equipment Manufacturer (OEM) can set his own Global Trade Item Number (GTIN).

DALI Part 251: Memory bank 1 extension.

16.3 Luminaire data

This function provides the asset management with accurate data about the luminaire.

DALI Part 251: Memory bank 1 extension.

DALI Part 253: Luminaire maintenance data.

16.4 LED current

The LED output current must be adapted to the connected LED module.

The value is limited by the current range of the respective device.

The output current of the LED driver can be adjusted in a certain range.

More functions:

Action	Action duration	Function
Short push	<0.6s	Turn on/off
Long push	0.6-3s	Dimming up or down
Long push	10s	Sync all LEDs to be 50% brightness, and the dimming rate is changed to 3S
Long push	20s	Dimming rate is changed to 6S

16.5 Switch DIM

Integrated Switch DIM function allows a direct connection of a push button for dimming and switching.

Brief push (< 0.6 s) switches LED driver ON and OFF. The dim level is saved at power-down and restored at power-up. When the push button is held, LED modules are dimmed. After repush the LED modules are dimmed in the opposite direction.

In installations with LED drivers with different dimming levels or opposite dimming directions (e.g. after a system extension), all LED drivers can be synchronized to 50 % dimming level by a 10 s push.

Use of push button with indicator lamp is not permitted.

16.6 Constant Light Output (CLO)

With this function the light output of the LED module can be kept equal over the lifetime.

The light output of an LED module reduces over the course of its lifetime.

The Constant Light Output (CLO) function compensates for this natural decline by constantly increasing the output current of the LED driver throughout its lifetime.

CLO shall be achieved by limitation of the LED current at the commissioning of the LED driver and providing a linear interpolation of the current over the time, depending on the data points given by the user.

The user has to insert up to eight pairs of data (time, level).

The output curve is the result of connecting the user data points linear.

Detailed description for CLO see product manual.

The minimal CLO starting point is limited by the smallest output current of the LED driver.

16.7 Dimming curve

DALI: The desired dimming behaviour is selected via two different dimming curves (logarithmic or linear).

The default setting of the dimming behaviour is logarithmic.

17. Packing information

DATE	VER	REMARK
2023-06-20	V1.0	Initial release.
2023-06-21	V1.1	No load power change to Standby power(dim to off)
2024-11-04	V1.2	Update nipple and compatible track
2024-12-07	V1.3	Update nipple
2025-07-19	V1.4	Insert item code ,ordering number and update label and picture
2025-08-12	V1.5	Update compatible track
2025-08-22	V1.6	Supplement noise standards