



Constant Current Dimmable Driver

Model:T40C250-1050D-D-6X



Model	Output Current	Input Current	Input Power	Output Power Range	PF	Efficiency (*Typical)	Output Voltage	No load Voltage
T40C250-1050D-D-6W T40C250-1050D-D-6B T40C250-1050D-D-6G	250mA	0.09A	15.5W	2.50-12.00W	0.86	85%	10-48V	63V
	300mA	0.11A	18.5W	3.00-14.40W	0.86	85%	10-48V	63V
	350mA	0.12A	22.5W	4.00-17.20W	0.88	86%	10-48V	63V
	400mA	0.13A	23.5W	4.00-19.20W	0.88	87%	10-48V	63V
	450mA	0.15A	26.0W	4.50-21.60W	0.89	87%	10-48V	63V
	500mA	0.17A	29.00W	5.00-24.00W	0.90	87%	10-48V	63V
	550mA	0.18A	31.5W	5.50-26.40W	0.91	87%	10-48V	63V
	600mA	0.19A	34.0W	6.00-28.80W	0.92	89%	10-48V	63V
	650mA	0.21A	36.5W	6.50-31.20W	0.93	89%	10-48V	63V
	700mA	0.22A	39.0W	7.00-33.60W	0.94	90%	10-48V	63V
	750mA	0.23A	37.0W	7.50-31.50W	0.94	90%	10-42V	63V
	800mA	0.24A	40.5W	8.00-33.6W	0.95	90%	10-42V	63V
	850mA	0.25A	42W	8.50-35.70W	0.95	90%	10-42V	63V
	900mA	0.25A	44.0W	9.00-37.80W	0.96	90%	10-42V	63V
	950mA	0.25A	44.5W	9.50-38.00W	0.96	90%	10-40V	63V
1050mA	0.25A	46.5W	10.50-40.00W	0.97	90%	10-38V	63V	

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

1. Parameters

Category	Item	Technical Norm
Features	Output Type	Constant Current
	Dimming Type	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	≤0.25A (230VAC, full load)
	Input Power	≤46.5W (230VAC, full load)



	Power Factor	≥0.97 (230VAC, full load)
	THD	≤20% (230VAC, full load)
	Standby power(dim to off)	≤0.5W @230VAC
Output	Output Voltage Range	10-48VDC@300-700mA
		10-42VDC@750-900mA
		10-40VDC@950mA
		10-38VDC@1050mA
	No Load Voltage	63VDC Max.
	Output Current	250mA -1050mA (Max. output)
	Max. Output Power	40W
	Efficiency	≥90% (230VAC, full load)
	Current Ripple(< 120 Hz)	±5% (Imax-Imin)/(Imax+Imin)
	PstLM	≤1
	SVM	≤0.4
	Current Accuracy	±5%
	Started Delay Time	≤1S(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	DALI dimming (Max. lead wire length: 300m)logarithm or linear dimming curve selectable 251,252,253,CLO
	Dimming range	DALI dimming: 1%-100% ,Dim to off .
	Suitable for emergency escape lighting systems acc	The emergency function of this product is turned 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℃
	Ts/Storage Temperature	-35....+85℃
	Tc/Enclosure Temperature	75℃
	Humidity	10%....90%RH
	Atmosphere	86-108KPa
Construction	Connection Method	Push-in Terminal
	Installation	Independent
	SEC Wire preparation	0.5-1.5 ^φ
	Dimension	198*46*31mm (L*W*H)
Standards	Certification	CE ENEC
	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 EMC	EN IEC 55015:2019 EN 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
	Life Time	50000h @Ta/ Tc
	Warranty	5years ,F.R. < 10000ppm
	Noise	≤ 24dB @Background noise ≤18dB , Interval≥15cm

Remark:

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

2. Output Current Setting

Output Current	Dial 1	Dial 2	Dial 3	Dial 4
250mA	-	-	-	-
300mA	-	-	-	ON
350mA	-	-	ON	-
400mA	-	-	ON	ON
450mA	-	ON	-	-
500mA	-	ON	-	ON
550mA	-	ON	ON	-
600mA	-	ON	ON	ON
650mA	ON	-	-	-
700mA	ON	-	-	ON
750mA	ON	-	ON	-
800mA	ON	-	ON	ON
850mA	ON	ON	-	-
900mA	ON	ON	-	ON
950mA	ON	ON	ON	-
1050mA	ON	ON	ON	ON



3. Connected quantities of different current Breaker

TYPE	Connected quantities of different current Breaker						Input Voltage	Inrush Current (A)	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		9	12	15	18	23	@230VAC	65	200US
TYPE C		15	19	24	30	37			
TYPE D		24	31	38	47	59			

4. Label

DA

DA

KGP

LED Dimmable Driver

T40C250-1050D-D-6W

Constant Current Lighting track adaptors

PRI:220-240VAC 50/60Hz Max.0.25A
SEC:250-700mA 10-48VDC
750-900mA 10-42VDC
950mA 10-40VDC
1050mA 10-38VDC
No Load:63VDC Max.40W Fmax.50N↓

For LED modules only

0.5-1.5
8-9mm

ta: -20...+35°C
tc: 70°C

SEC

1 2 3 4 OFF

1 2 3 4 OFF

Pout [W]	Iout [mA]	λ	1	2	3	4	Pout [W]	Iout [mA]	λ	1	2	3	4
12	250	0.09/0.80C	-	-	-	-	31.2	850	0.21/0.88C	ON	-	-	-
14.4	300	0.11/0.80C	-	-	-	-	ON	33.6	700	0.22/0.88C	ON	-	-
17.2	350	0.12/0.82C	-	-	-	-	ON	31.5	750	0.23/0.89C	ON	-	-
19.2	400	0.13/0.82C	-	-	-	-	ON	ON	33.6	800	0.24/0.90C	ON	-
21.6	450	0.15/0.84C	-	-	-	-	ON	-	35.7	850	0.25/0.92C	ON	-
24	500	0.17/0.86C	-	-	-	-	ON	-	ON	37.8	900	0.25/0.96	ON
26.4	550	0.18/0.86C	-	-	-	-	ON	-	ON	38	950	0.25/0.96	ON
28.8	600	0.19/0.87C	-	-	-	-	ON	ON	ON	40	1050	0.25/0.97	ON

CE ENEC SELV

DA

DA

KGP

LED Dimmable Driver

T40C250-1050D-D-6B

Constant Current Lighting track adaptors

PRI:220-240VAC 50/60Hz Max.0.25A
SEC:250-700mA 10-48VDC
750-900mA 10-42VDC
950mA 10-40VDC
1050mA 10-38VDC
No Load:63VDC Max.40W Fmax.50N↓

For LED modules only

0.5-1.5
8-9mm

ta: -20...+35°C
tc: 70°C

SEC

1 2 3 4 OFF

1 2 3 4 OFF

Pout [W]	Iout [mA]	λ	1	2	3	4	Pout [W]	Iout [mA]	λ	1	2	3	4
12	250	0.09/0.80C	-	-	-	-	31.2	850	0.21/0.88C	ON	-	-	-
14.4	300	0.11/0.80C	-	-	-	-	ON	33.6	700	0.22/0.88C	ON	-	-
17.2	350	0.12/0.82C	-	-	-	-	ON	31.5	750	0.23/0.89C	ON	-	-
19.2	400	0.13/0.82C	-	-	-	-	ON	ON	33.6	800	0.24/0.90C	ON	-
21.6	450	0.15/0.84C	-	-	-	-	ON	-	35.7	850	0.25/0.92C	ON	-
24	500	0.17/0.86C	-	-	-	-	ON	-	ON	37.8	900	0.25/0.96	ON
26.4	550	0.18/0.86C	-	-	-	-	ON	-	ON	38	950	0.25/0.96	ON
28.8	600	0.19/0.87C	-	-	-	-	ON	ON	ON	40	1050	0.25/0.97	ON

CE ENEC SELV

DA

DA

KGP

LED Dimmable Driver

T40C250-1050D-D-6G

Constant Current Lighting track adaptors

PRI:220-240VAC 50/60Hz Max.0.25A
SEC:250-700mA 10-48VDC
750-900mA 10-42VDC
950mA 10-40VDC
1050mA 10-38VDC
No Load:63VDC Max.40W Fmax.50N↓

For LED modules only

0.5-1.5
8-9mm

ta: -20...+35°C
tc: 70°C

SEC

1 2 3 4 OFF

1 2 3 4 OFF

Pout [W]	Iout [mA]	λ	1	2	3	4	Pout [W]	Iout [mA]	λ	1	2	3	4
12	250	0.09/0.80C	-	-	-	-	31.2	850	0.21/0.88C	ON	-	-	-
14.4	300	0.11/0.80C	-	-	-	-	ON	33.6	700	0.22/0.88C	ON	-	-
17.2	350	0.12/0.82C	-	-	-	-	ON	31.5	750	0.23/0.89C	ON	-	-
19.2	400	0.13/0.82C	-	-	-	-	ON	ON	33.6	800	0.24/0.90C	ON	-
21.6	450	0.15/0.84C	-	-	-	-	ON	-	35.7	850	0.25/0.92C	ON	-
24	500	0.17/0.86C	-	-	-	-	ON	-	ON	37.8	900	0.25/0.96	ON
26.4	550	0.18/0.86C	-	-	-	-	ON	-	ON	38	950	0.25/0.96	ON
28.8	600	0.19/0.87C	-	-	-	-	ON	ON	ON	40	1050	0.25/0.97	ON

CE ENEC SELV



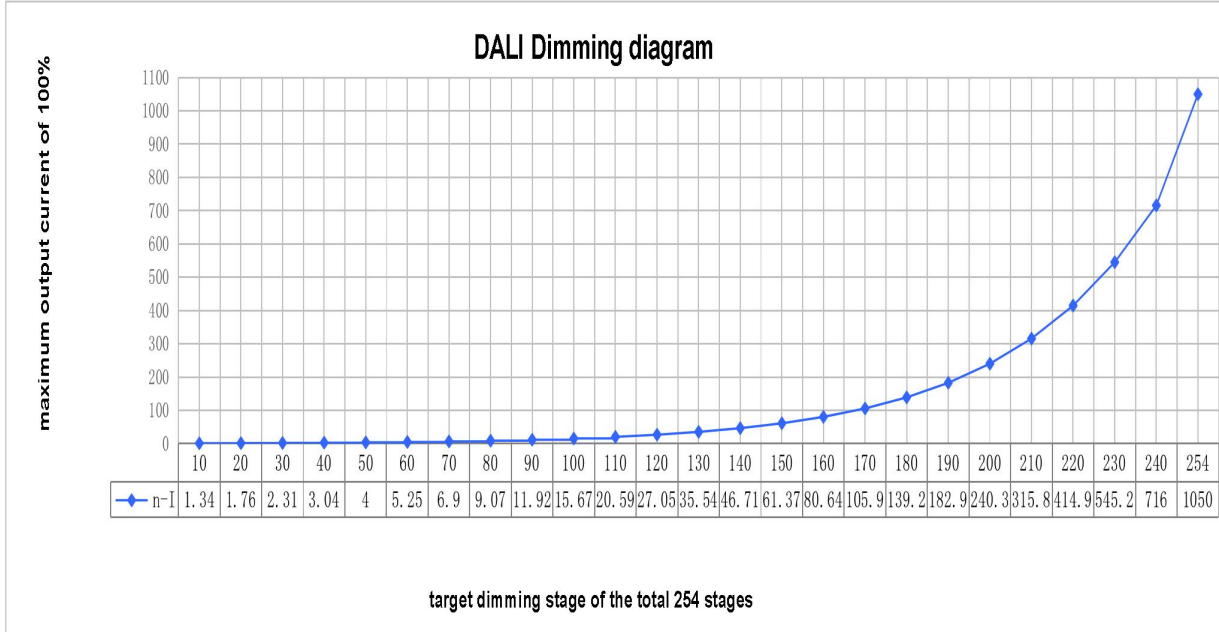
5. DALI dimming curve

formula for DALI dimming.

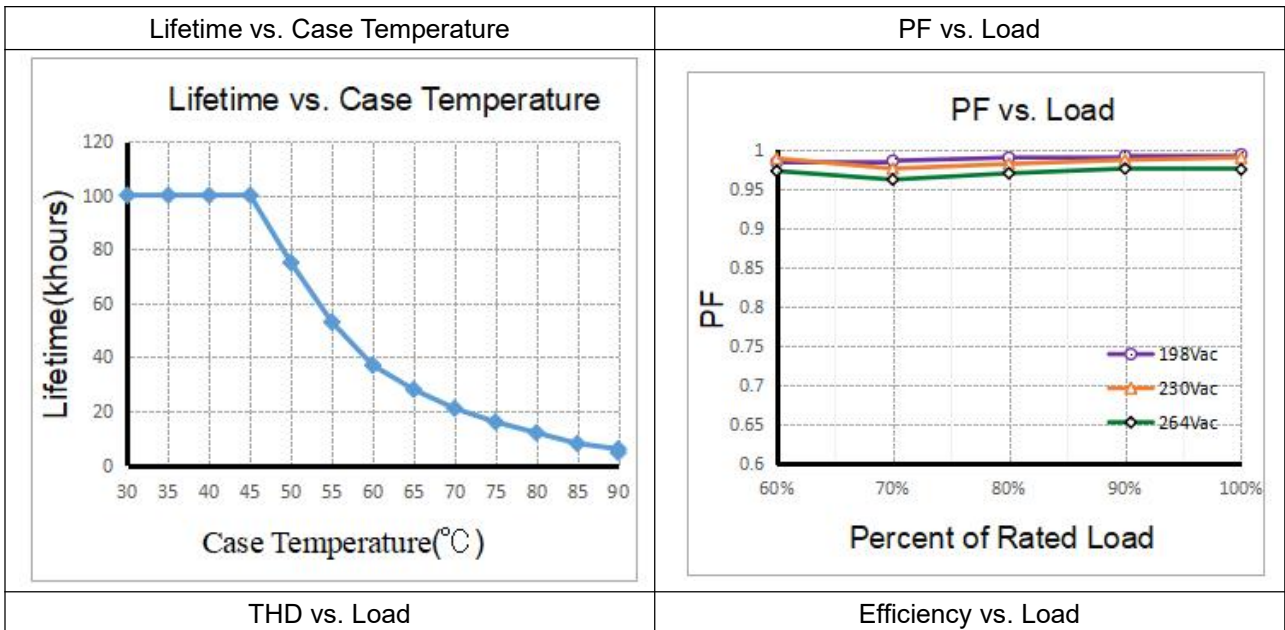
$$X(n)=10^{\{[(n-1)/(253/3)]-1\}}$$

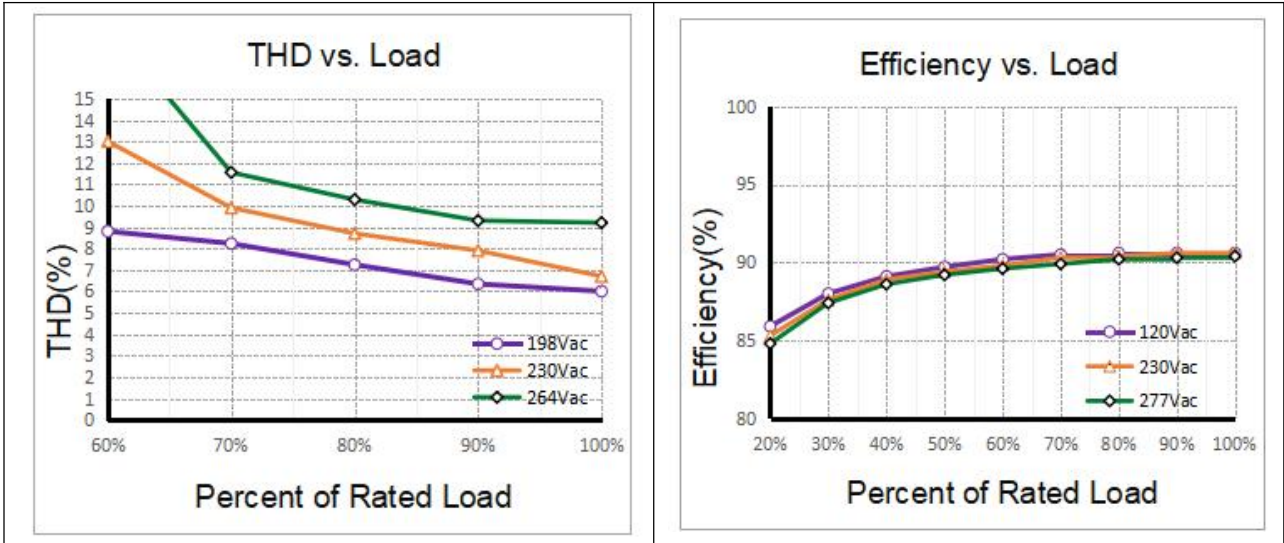
Here, n means the target dimming stage of the total 254 stages.

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

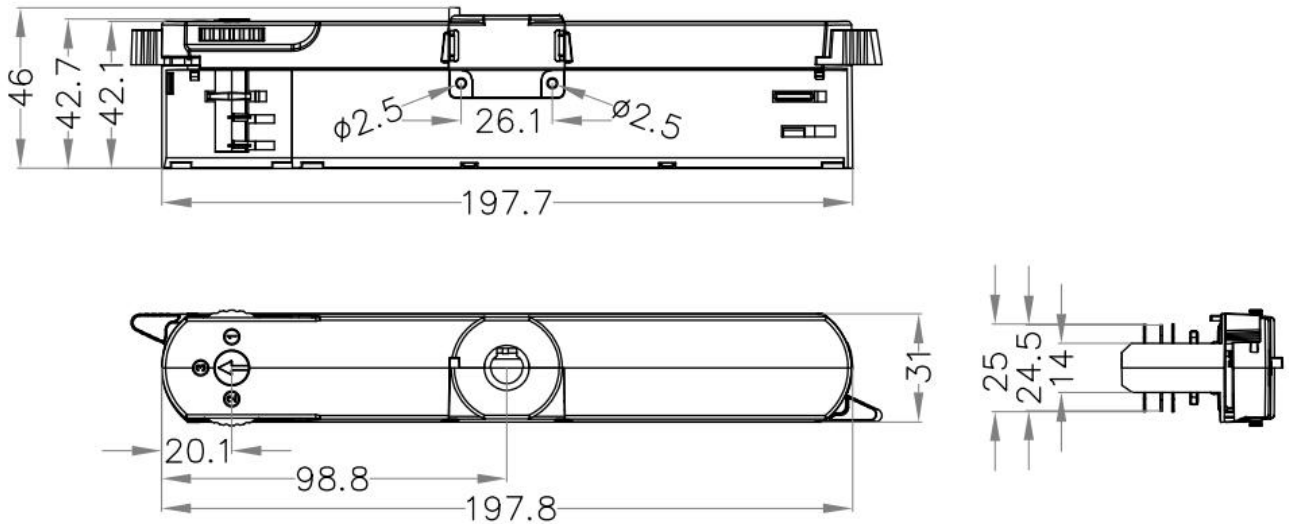


6. Electrical values





7. Dimension



8. Wiring Diagram

Fig. A: Push Dimming

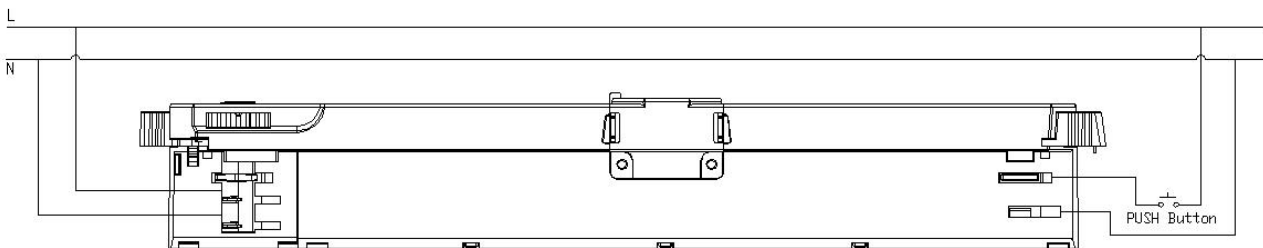
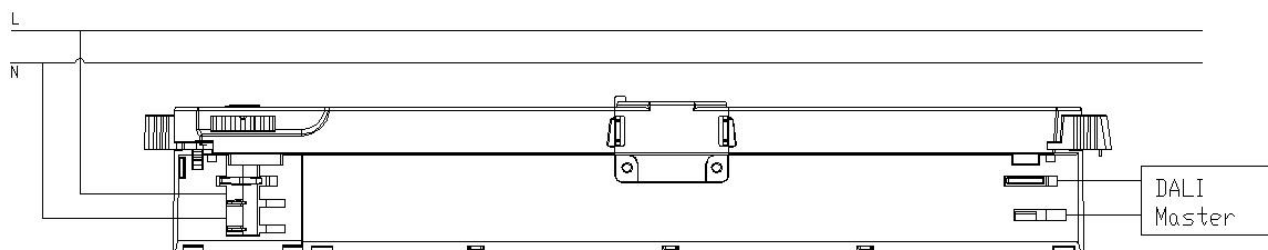


Fig. B: DALI Dimming



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	T40C250-1050D-D-6W	White	L420*W285 *H220	120	0.161	19.32	19.82
	T40C250-1050D-D-6B	Black					
	T40C250-1050D-D-6G	Grey					

10. Suitable for following tracks

Remark:

- 1.The model name is XTSC611 tracks, and its brand is Global.
- 2.The model name used is the 9000-1-ST track, and its brand is A.A.G STUCCHI.
- 3.The model name is T32B tracks, and its brand is Unipro.
- 4.The model name is Pro-D631R tracks, and its brand is PowerGEAR.

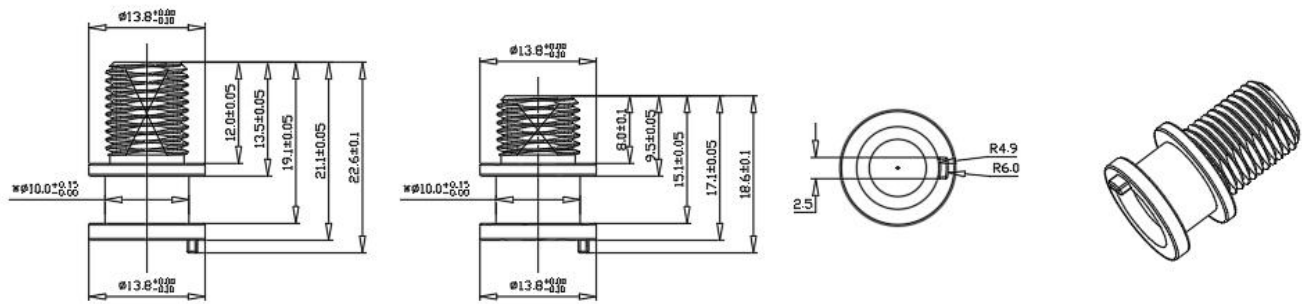
11. Lamp Screw Type

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

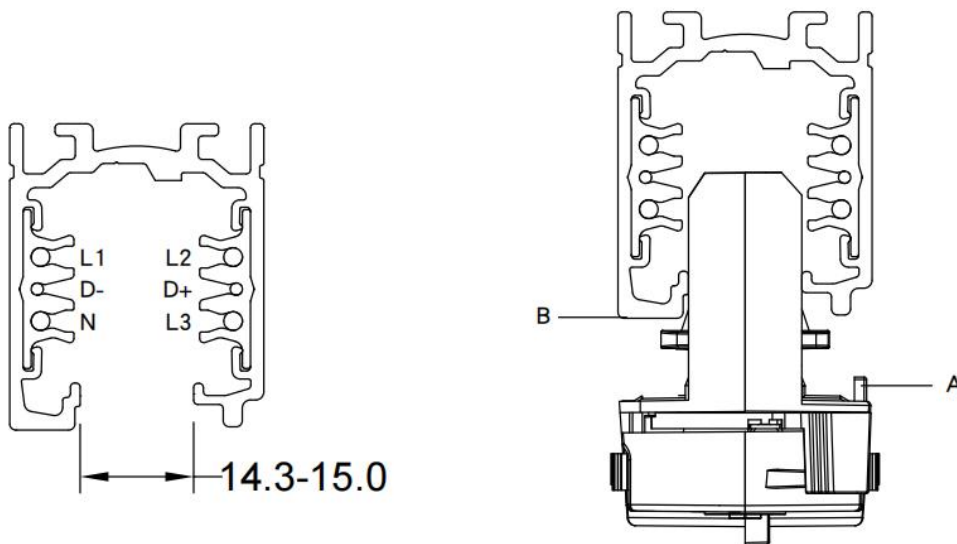
Ordering data

Type	Colour	Article number	Qty/ctn	Weight(g)/pcs
M10x8	White	ZN	PC	5.47
	Black	ZN	PC	5.47
	Gray	ZN	PC	5.47
M10x12	White	ZN	PC	6.13
	Black	ZN	PC	6.13
	Gray	ZN	PC	6.13

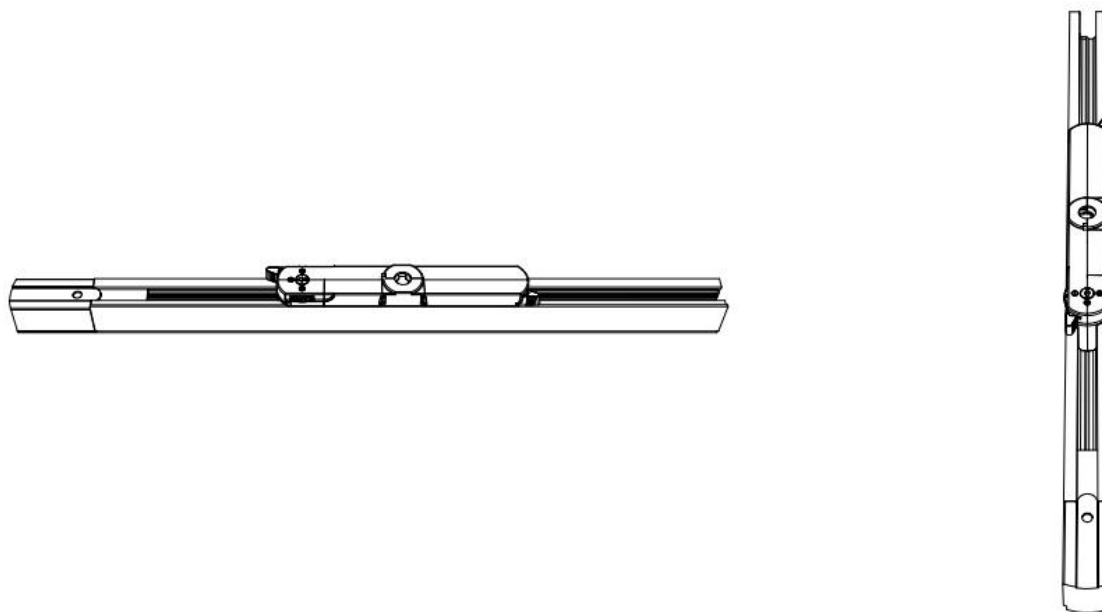




12. Phase track light rail specification:



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 3 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

1. 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
Short push five Times	<3s	Quit Corridor mode
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
Long push	>2mins	Enter Corridor mode - LED keep 100% brightness for 2mins.

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 Corridor FUNCTION

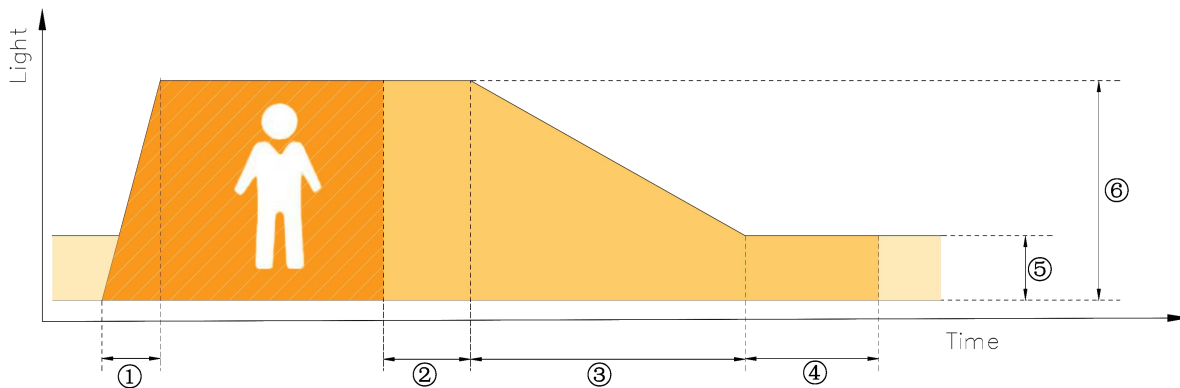
With the Corridor FUNCTION and a commercially available motion detector, it is easy to adapt the lighting in one area to its use.

That is, when the area is entered by a person, the lighting dims instantly to the desired brightness and is available in full strength.

After the area is left by the person, the brightness dims slowly to a smaller value or switches off completely.

The individual parameters of the desired profile, such as brightness values or delay times, can be adjusted flexibly and individually.





- ① Fade-in time(1s): the time that starts as soon as the presence of a person is detected. During the fade-in time the luminous intensity is faded up to the presence value.
- ② Run-on time(120s): the time that starts as soon as the presence of a person is no longer detected. If the presence of a person is detected again during the run-on time the run-on time is restarted from zero. If no presence is detected during the run-on time the fade time is started as soon as the run-on time expires.
- ③ Fade time(32s): the time during which the luminous intensity is faded from the presence value to the absence value.
- ④ Switch-off delay (Never Off): the time during which the absence value is held before the lighting is switched off. Depending on the profile selected the switch-off delay may have different values or may not be defined.
- ⑤ Absence value(default: 10 %): the luminous intensity when there is no person present.
- ⑥ Presence value (default: 100 %): the luminous intensity when persons are present.

16.7 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.

16.8 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.



16. REVISION HISTORY

DATE	REV	Modification details
2024-09-21	V1.0	Initial release.

