Vlinca Beleuchtungstechnologie GmbH
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Trimless In-track Series LED Driver

SELV RoHS IP20

Product description

- Constant current / Trimless In-track LED driver
- Fixed output current
- For luminaires of protection class II
- Selectable fixed output current via DIP switch 550, 500, 450 and 400mA (pre-selected current 550mA)
- For ambient temperatures up to 35℃
- Optional accessory for mounting the luminaire head
- Compatible with Global Trac PULSE from Nordic Aluminum and OneTrack from Stucchi, see data sheet

Advantage

- Compact dimension that is beneficial to the miniaturization design of track luminaire
- Up to 92% efficiency
- Power input on stand-by <0.5W
- Life-time up to 50,000 hours
- 5-year guarantee

Functions

- Casing: polycarbonate, white, black
- Type of protection IP20

Features

- Overload protection
- Short-circuit protection
- No-load protection
- Burst protection voltage 1 kV
- Surge protection 1 kV (L to N)

Typical applications

- For spot light in retail and hospitality application

Specific Technical Data

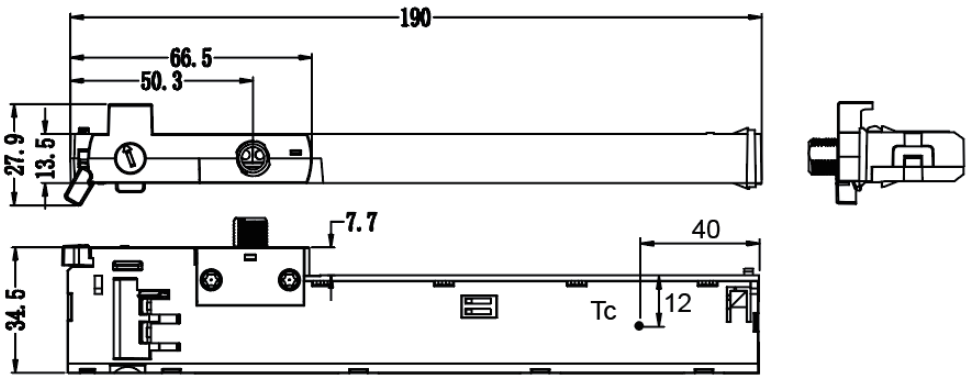
Type	Input Voltage	Output Power	Output Voltage	Output Current	Ripple	TC	Ta	Dimension
VLD 22W 400-550mA 40 OptC FRE-IT HE G3	220-240Vac	Max.22W	30-40V	400/450/500/550mA	<5%	65℃	-20...+35℃	190*27.9*34.5mm

Ordering data

Article number	Description	Dimension of product	Net Wt/pc	Package/ctn	Dimension of carton
1060800632	VLD 22W 400-550mA 40 OptC FRE-IT W HE G3	190*27.9*34.5mm	85g	50pcs	356*233*250mm
1060800633	VLD 22W 400-550mA 40 OptC FRE-IT B HE G3	190*27.9*34.5mm	85g	50pcs	356*233*250mm

Tc position

Unit:mm



Technical data

Product type	22W	
Rated supply voltage=U-IN on label	220-240	V
Input voltage range, AC, performance/safety	202-254/198-264	V
Mains frequency, performance/safety	47-63/50-60	Hz
Overvoltage protection(Input side)	320Vac,1h	
Max input current (@220-240, 50/60Hz)=I-IN on label	0.12	A
Max input power (@220-240, 50/60Hz)=I-IN on label	26.5	W
Typ.power consumption(at 230V, full load)	24	W
Max output power(@220-240,50/60Hz)=P-OUT on label	22	W
Max output voltage(V) (no load)=U-OUT from label	50	V
Output current tolerance(+/-%), (at 230V, 50Hz, full load)	±5	%
Output current tolerance(+/-%), (at 230V, 50Hz, min load)	±5	%
Output LF Current Ripple(<120Hz)	<5	%
Output P_ST_LM (in entire operating range)	<1	
Output SVM (in entire operating range)	<0.4	
Max output peak current (at 230V, 50Hz, full load)	606	mA
Leakage current（230Vac/50Hz Input, Output full load)	<450	μA
THD(at 230V, 50Hz, full load)	<10	%
Power factor(at 230V, 50Hz, full load)	0.9C-0.98	
Efficiency(at 230V, 50Hz, full load)	92	%
Starting time (at 230V, 50Hz, any load)	<0.5	S
Turn off time (at 230V, 50Hz, full load)	<0.5	S
Hold-up time at power failure(output)	20	mS
Ambient temperature ta(℃)	-20...+35	℃
Ambient temperature ta(50000 Hrs)	35	℃
Max. casing temerature tc	65	℃
Storage temperature ts	-20...+80	℃

Adjust current

Output current can be adjusted by the DIP switch

Set the current by DIP switch after mains off.
Use of DIP switch only after mains off.

550mA:Switch 1 = ON
Switch 2 = ON

450mA: Switch 1 = ON
Switch 2 = Off

500mA:Switch 1 = Off
Switch 2 = ON

400mA:Switch 1 = Off
Switch 2 = Off

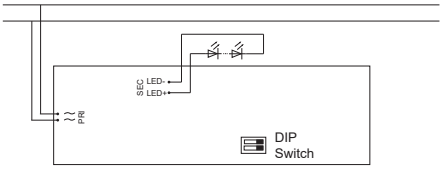
1. Standards

EN 55015
EN 61000-3-2
EN 61000-3-3
EN 61347-1
EN 61347-2-13
EN 61547
EN 62384

2. Installation and wiring

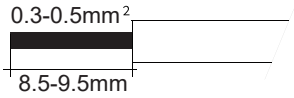
2.1 Circuit diagram

220V-240V
50/60Hz



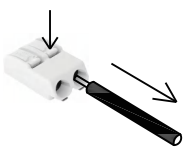
2.2 Wiring type and cross section

The wiring can be in stranded wires with ferrules or solid with a cross section of 0.3–0.5 mm². Strip 8.5–9.5 mm of insulation from the cables to ensure perfect operation of the push-wire terminals.



2.3 Release of the wiring

Press down the " push button" and remove the cable from front.



2.4 Wiring guidelines

- 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).
- The secondary wires (LED module) should be routed in parallel to ensure good EMC performance
- Incorrect wiring can damage LED modules.
- To avoid the damage of the Driver, the wiring must be protected against short circuits to earth (sharp edged metal parts, metal cable clips, louver,etc.).

2.5 Replace LED module

1. Mains off
2. Remove LED module
3. Wait for 10 seconds
4. Connect LED module again

2.6 Mounting luminaire

Max. allowed weight of complete luminaire: 5 kg (50 N)
This is valid for horizontal mounting of track system only.

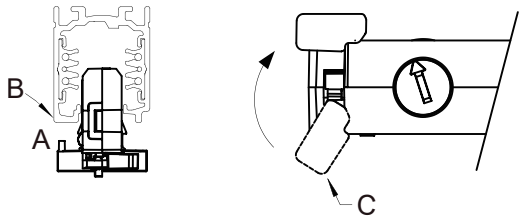
2.7 Compatible tracks

Manfacturer	Type	system	Casing colour
A.A.G. Stucchi	ONETRACK	3 Phase	White, Black
NORDIC ALUMINIUM	GLOBAL Trac Pro XTS 4xxx	3 Phase	White, Black
NORDIC ALUMINIUM	GLOBAL Trac Pro XTSF 4xxx	3 Phase	White, Black

Possible changes made by different manufactures that could affect the compatiblity between tracks and adapters.

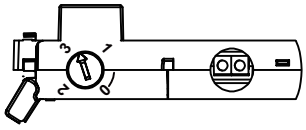
2.8 Adapter mounting into track

Insert the adapter into the track, so that the mechanical key (A) in the adaptor matches the flat side (B) on the track. Rotate of about 90° the lever of the cam (C) until it reachs the locking position.
To open rotate the lever the opposite direction.



2.9 Phase selection

When the track is connected to a three-phase system it is possible to select the phase (1, 2 or 3) to distribute the single luminaires in the system,Rotate the shaft using a single-threaded screwdriver



3. Thermal details and life-time

Expected life-time

Type			
	ta	25℃	35℃
	tc	55℃	65℃
VLD 22W 400-550mA 40 OptC FRE-IT HE G3 Life-time		>100000h	>50000h

Test result at max. output voltage.

The LED drivers are designed for a life-time based on left reference conditions and with a failure probability of less than 10%.

Life-time declarations are informative and represent no warranty claim.

4. Maximum loading of automatic circuit breakers in relation to inrush current

Maximum loading of automatic circuit breakers									Inrush current	
Automatic circuit	C10	C13	C16	C20	B10	B13	B16	B20	Imax	Time
Installation Ø	1.5mm²	1.5mm²	2.5mm²	4.0mm²	1.5mm²	1.5mm²	2.5mm²	4.0mm²		
VLD 22W 400-550mA 40 OptC FRE-IT HE G3	58	75	93	116	40	52	64	80	12A	149µs

These are Max.values calculated out of inrush current! Please consider not to exceed the maximum rated continuous current of the circuit breaker, Calculation used typical values from ABB series S200 as a reference.

Actual values may differ due to used circuit breaker types and installation environment.

4.1 Harmonic distortion in the mains supply (at 230 V / 50 Hz and full load) in %

Type	THD	3	5	7	9	11
VLD 22W 400-550mA 40 OptC FRE-IT HE G3	<10%	<12%	<10%	<7%	<5%	<3%

Acc. to EN61000-3-2. Harmonics < 5 mA or < 0.6 % (whatever is greater) of the input current are not considered for calculation of THD.

5. Functions

5.1 Short-circuit behaviour

In case of a short circuit on the secondary side (LED) the LED Driver switches off. After elimination of the short circuit the nominal operation is restored automatically.

5.2 No-load operation

The LED Driver works in burst working mode to provide a constant output voltage regulation which allows the application to be able to work safely when LED string opens due to a failure.

5.3 Overload protection

If the output voltage range is exceeded the LED Driver will protect itself by reducing the LED output current.

After elimination of the overload, the nominal operation is restored automatically.

6.For LED module use only.

7.Installation shall be done by qualified technician.

8.Do not dispose of electrical appliances as unsorted municipal waste,use separate collection facilities. Contact your local government for information regarding the collection systems available. If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain,damaging your health and well-being.

9. Miscellaneous

9.1 Insulation and electric strength testing of luminaires

Electronic devices can be damaged by high voltage. This has to be considered during the routine testing of the luminaires in production.

According to IEC 60598-1 Annex Q (informative only!) ,each luminaire should be submitted to an insulation test with 500V DC for1 second. This test voltage should be connected between the interconnected phase and neutral terminals and the earth terminal.

The insulation resistance must be at least 2MΩ.

As an alternative, IEC 60598-1 Annex Q describes a test of the electrical strength with 1500V AC (or 1.414 x 1500V DC).

To avoid damage to the electronic devices this test must not be conducted."

9.2 Conditions of use and storage

Humidity: 5 % up to max. 85 %, not condensed (40 days/year at 85 %)

Storage temperature: -20 °C up to max. +80 °C

The devices have to be within the specified temperature range (ta) before they can be operated.

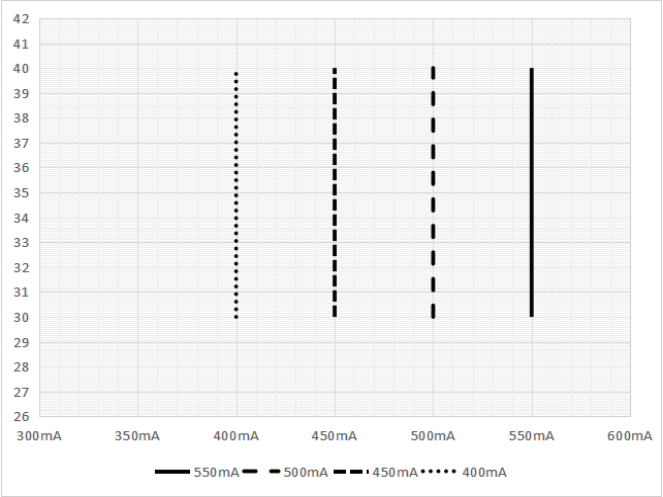
9.3 Maximum number of switching cycles

All LED Driver are tested with 50,000 switching cycles.

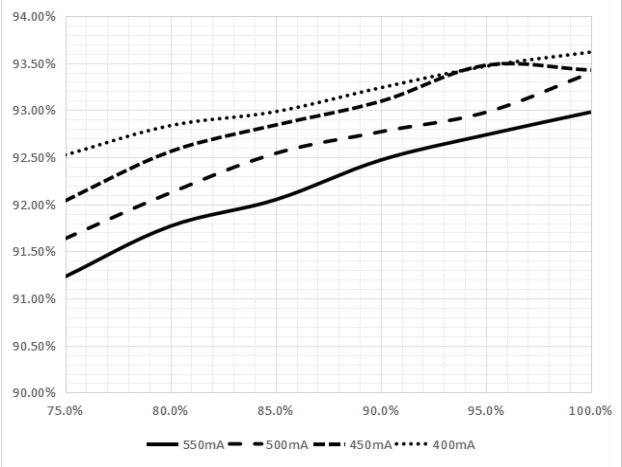
The actually achieved number of switching cycles is significantly higher.

10. Electrical values

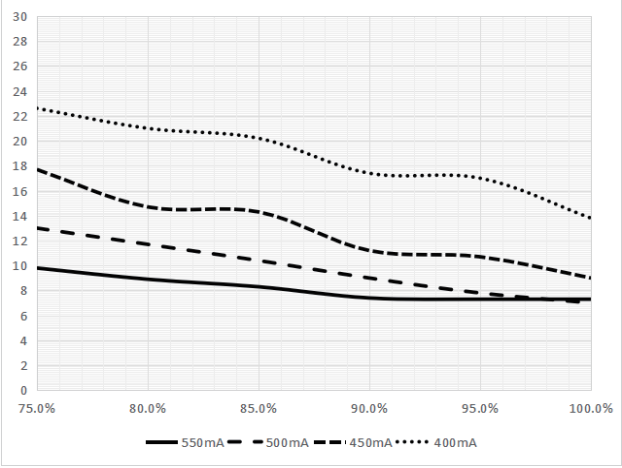
10.1 Operating window



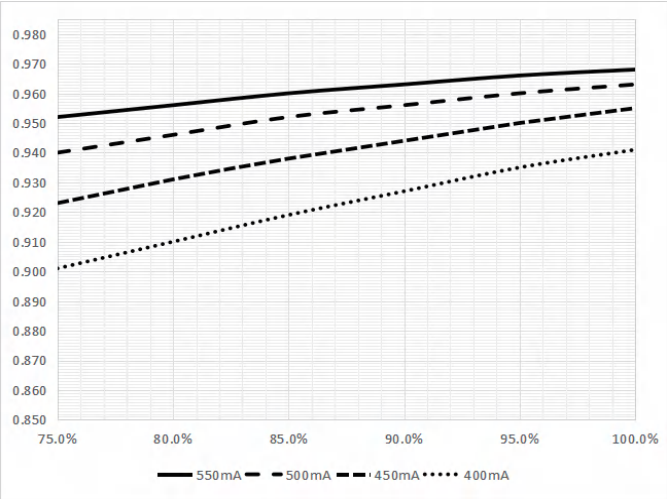
10.2 Efficiency vs load (@230VAC 50HZ)



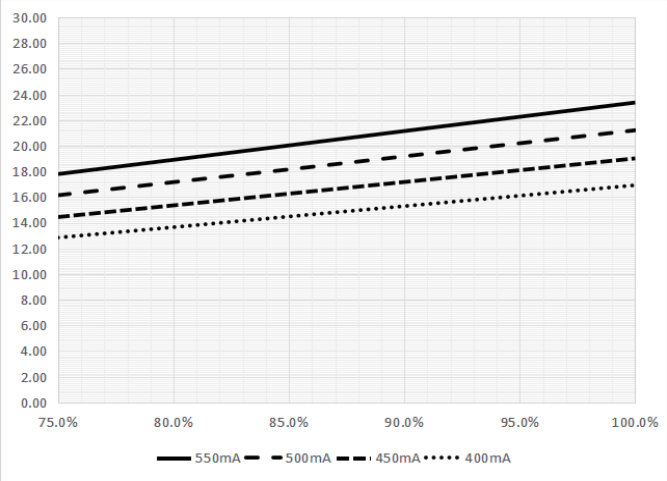
10.3 THD vs load (@230VAC 50HZ)



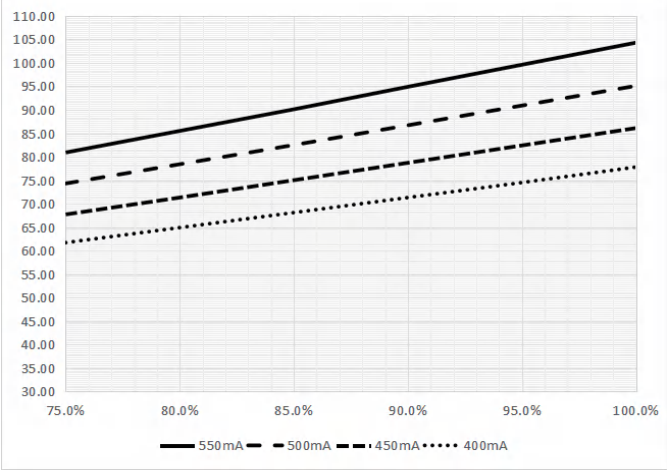
10.4 Power factor vs load (@230VAC 50HZ)



10.5 Input power vs load (@230VAC 50HZ)



10.6 Input current vs load (@230VAC 50HZ)



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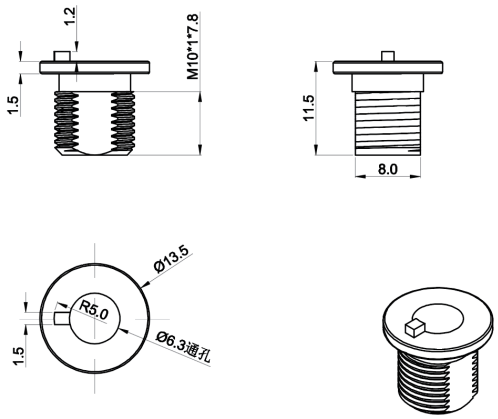
Accessory NIPPLE

Product description

- Optional threaded sleeve for luminaire mounting
- Suitable for 302000570 threaded nut as below

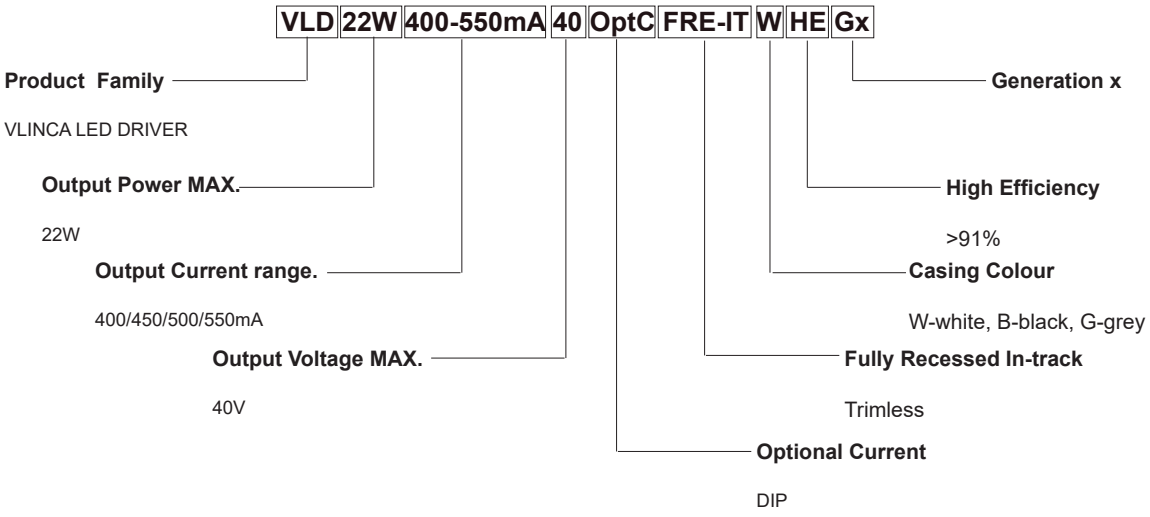
Ordering data

Article number	Description	Net Wt/pc	Package/c tn
302000570	NIPPLE M10*1.0,Length 11.5mm aluminium anodize	3.0g	50pcs



Product Nomenclature

The part number designation for VLINCA TRIMLESS IN-TRACK LED DRIVER Series LED driver is explained as follows



Version Record

Version	Remark	Issued Date
V1.0	Initial issued	2026-07-10