

### Product description

- Constant current / in-track LED driver
- Fixed output current
- For luminaires of protection class II
- Selectable fixed output current via DIP switch 275, 250, 225 and 200mA
- For ambient temperatures up to 35 °C
- Optional accessory ACU ALU NIPPLE M10\*1 for mounting the luminaire head

### Advantage

- Compact dimension that is beneficial to the miniaturization design of track luminaire
- Up to 93% efficiency
- Life-time up to 50,000 hours
- 5-year guarantee

### Functions

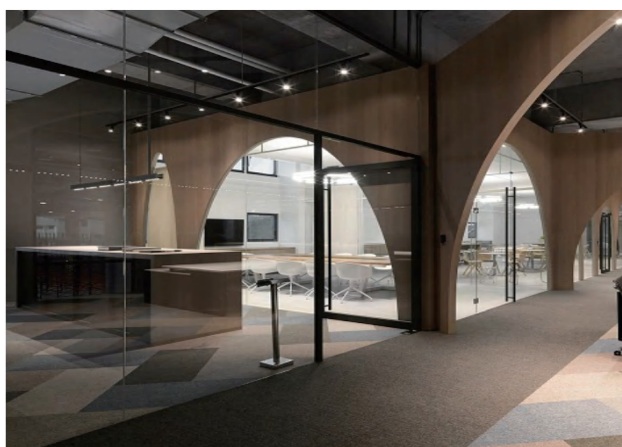
- Casing: polycarbonate, white RAL9016, black RAL9005
- Type of protection IP20

### 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 and downlight in retail and hospitality application



### Specific Technical Data

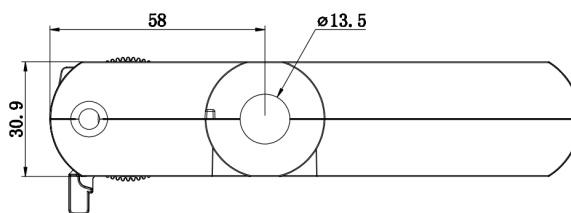
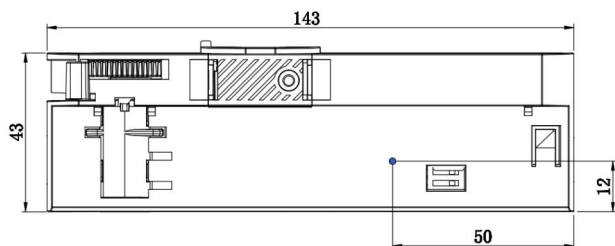
| Type                              | Input Voltage | Output Power | Output Voltage | Output Curren      | Ripple | TC   | Ta          | Dimension     |
|-----------------------------------|---------------|--------------|----------------|--------------------|--------|------|-------------|---------------|
| VLD 11W 200-275mA 40 OptC IT-R G4 | 220-240Vac    | Max.11W      | 30-40V         | 275/250/225/200 mA | <5%    | 65°C | -20...+35°C | 143*30.9*43mm |

### Ordering data

| Article number | Description                         | Dimension of product | Net Wt/pc | Package/ctn | Dimension of carton |
|----------------|-------------------------------------|----------------------|-----------|-------------|---------------------|
| 1060800481     | VLD 11W 200-275mA 40 OptC IT-R W G4 | 143*30.9*43mm        | 110g      | 50pcs       | 349*315*280mm       |
| 1060800479     | VLD 11W 200-275mA 40 OptC IT-R B G4 | 143*30.9*43mm        | 110g      | 50pcs       | 349*315*280mm       |

## Tc position

Unit:mm



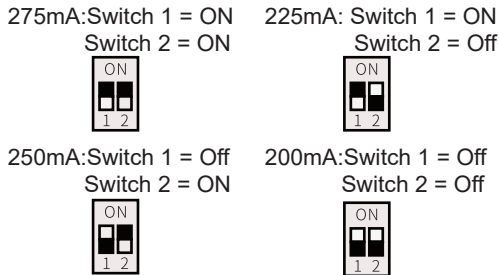
## Technical data

| Product type                                               | 11W             |    |
|------------------------------------------------------------|-----------------|----|
| 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        | 0.06            | A  |
| Max input power (@220-240, 50/60Hz)=I-IN on label          | 12.4            | W  |
| Typ.power consumption(at 230V, full load)                  | 11.8            | W  |
| Max output power(@220-240,50/60Hz)=P-OUT on label          | 11              | 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)         | 310             | mA |
| Leakage current (230Vac/50Hz Input, Output full load)      | <450            | μA |
| THD(at 230V, 50Hz, full load)                              | <20             | %  |
| Power factor(at 230V, 50Hz, full load)                     | 0.9C-0.98       |    |
| Efficiency(at 230V, 50Hz, full load)                       | 93              | %  |
| 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.

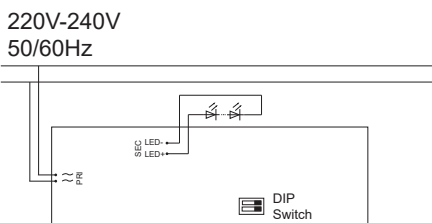


## 1. Standards

EN 55015  
EN 61000-3-2  
EN 61000-3-3  
EN 61347-1  
EN 61347-2-13  
EN 61547  
EN 62384  
EN 61643-11

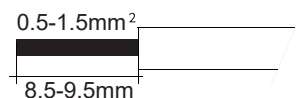
## 2. Installation and wiring

### 2.1 Circuit diagram



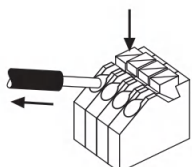
### 2.2 Wiring type and cross section

The wiring can be in stranded wires with ferrules or solid with a cross section of 0.5–1.5 mm<sup>2</sup>. 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, lower, 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

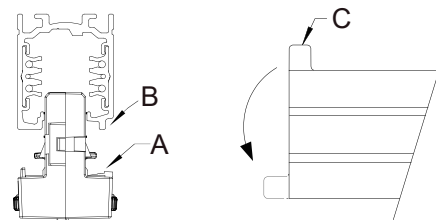
| Manufacturer     | Type                      | system  | Casing colour |
|------------------|---------------------------|---------|---------------|
| Powergear        | PRO-0410/1520/30          | 3 Phase | White, Black  |
| Powergear        | PRO-R0410/15/20/30        | 3 Phase | White, Black  |
| 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 compatibility between tracks and adapters.

### 2.8 Adapter mounting into track

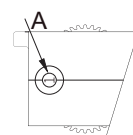
Insert the adapter into the track, so that the mechanical key (A) in the adaptor matches the groove (B) in the track. Rotate of about 90° the lever of the cam (C) until it reaches the locking position.

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, by means of the proper selector (A) of the adaptor.



### 3. Thermal details and life-time

Expected life-time

| Type                              | ta<br>tc  | 25°C<br>55°C | 35°C<br>65°C |
|-----------------------------------|-----------|--------------|--------------|
| VLD 11W 200-275mA 40 OptC IT-R G4 | Life-time | >100000h     | >50000h      |

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.

Test result at max. output voltage.

### 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                | I <sub>max</sub> | Time    |
|-----------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|------------------|---------|
| Installation Ø                    | 1.5mm <sup>2</sup> | 1.5mm <sup>2</sup> | 2.5mm <sup>2</sup> | 4.0mm <sup>2</sup> | 1.5mm <sup>2</sup> | 1.5mm <sup>2</sup> | 2.5mm <sup>2</sup> | 4.0mm <sup>2</sup> |                  |         |
| VLD 11W 200-275mA 40 OptC IT-R G4 | 51                 | 67                 | 83                 | 103                | 31                 | 40                 | 49                 | 62                 | 18A              | 128.0µs |

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 11W 200-275mA 40 OptC IT-R G4 | <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.

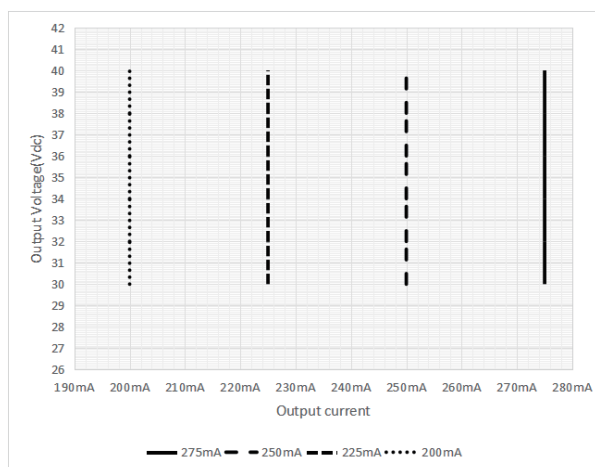
#### 9.3 Maximum number of switching cycles

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

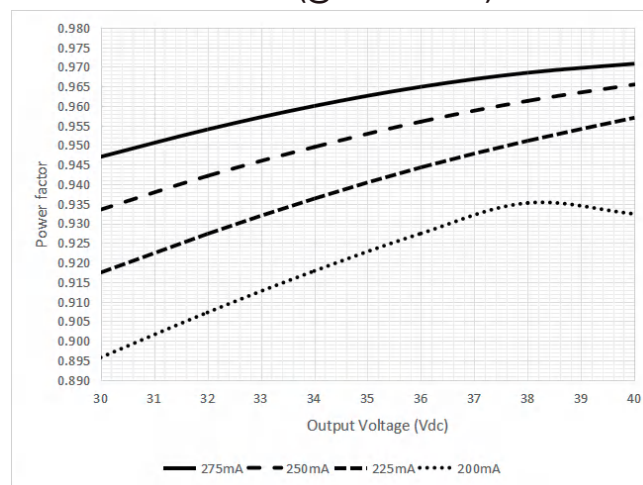
The actually achieved number of switching cycles is significantly higher.

## 10. Electrical values

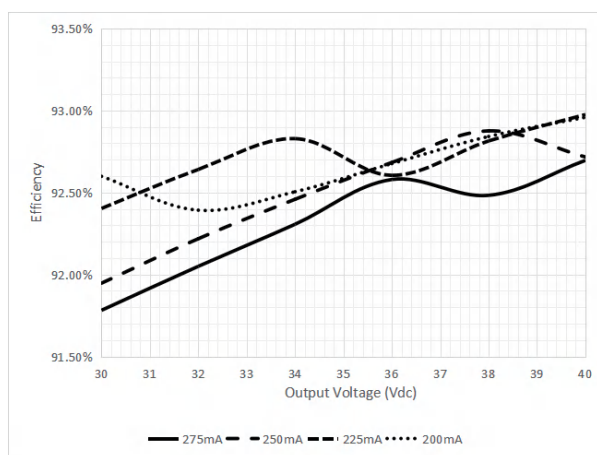
### 10.1 Operating window



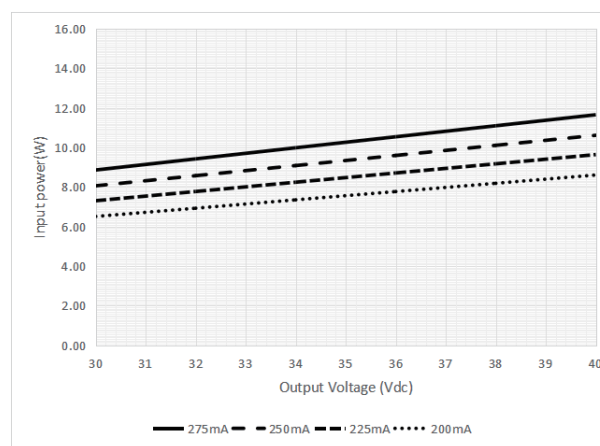
### 10.4 Power factor vs load (@230VAC 50HZ)



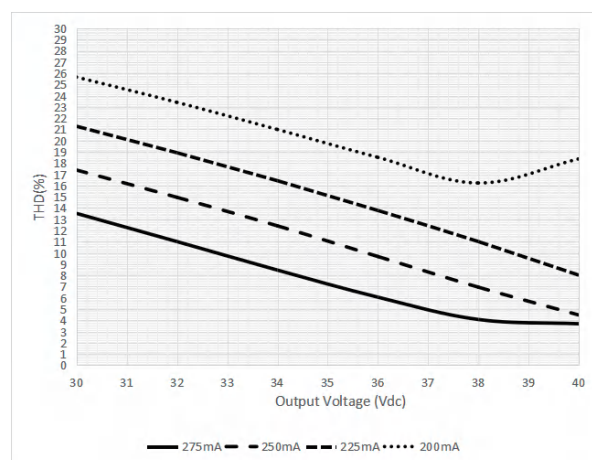
### 10.2 Efficiency vs load (@230VAC 50HZ)



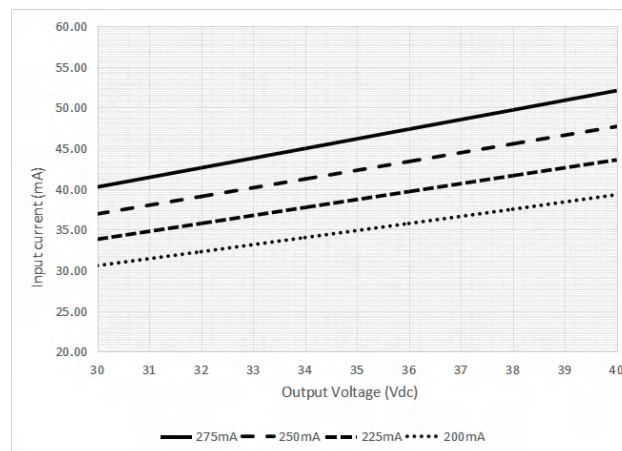
### 10.5 Input power vs load (@230VAC 50HZ)



### 10.3 THD vs load (@230VAC 50HZ)



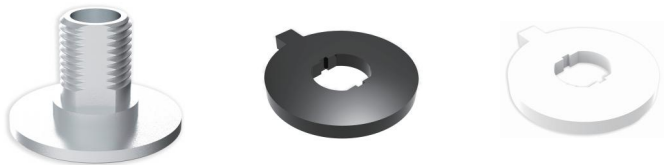
### 10.6 Input current vs load (@230VAC 50HZ)



Accessory NIPPLE

Product description

- Optional threaded sleeve for luminaire mounting
- Suitable for S-9009/D-M10 threaded nut



Ordering data

| Article number | Description                                   | Net Wt/pc | Package/c tn |
|----------------|-----------------------------------------------|-----------|--------------|
| 301000328      | NIPPLE M10*1.0,Length 9.2mm aluminium anodize | 3.0g      | 50pcs        |
| 499000196      | STOP SPACER PC BLACK                          | 1.0g      | 50pcs        |
| 499000195      | STOP SPACER PC WHITE                          | 1.0g      | 50pcs        |

