**LV(30-250)W24CG2 DALI**

## Constant Voltage Driver

**Model:LV(30-250)W24CG2 DALI**

| Model | Rated Input Voltage | Input Power | Input Current | PF | Output Power Range | Output Voltage | Output Current | Efficiency (typ.) |
|---|---|---|---|---|---|---|---|---|
| LV30W24CG2 DALI | 220-240VAC | ≤38W | ≤0.19A | ≥0.95 | 12-30W | 24V | 0.5-1.25A | 86% |
| LV60W24CG2 DALI | | ≤72W | ≤0.35A | | 24-60W | | 1-2.5A | 87% |
| LV100W24CG2 DALI | | ≤115W | ≤0.6A | | 30-100W | | 1.25-4.17A | 92% |
| LV150W24CG2 DALI | | ≤168W | ≤0.9A | | 45-150W | | 1.875-6.25A | 92% |
| LV250W24CG2 DALI | | ≤275W | ≤1.5A | | 75-250W | | 3.12-10.42A | 92% |

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

## 1. Parameters

| Category | Item | Technical Norm | | |
|---|---|---|---|---|
| Features | Output Type | Constant Voltage | | |
| | Dimming Type | DALI-2 | | |
| | Output Features | Isolation SELV | | |
| | IP Grade | IP20 | | |
| | Insulation Class | Class II | | |
| Input | Rated Input Voltage | 220-240VAC | | |
| | Range of AC Input Voltage | 198-264VAC | | |
| | Range of DC Input Voltage | 198-280VDC（EMI not evaluated） | | |
| | Frequency | Rate:50/60Hz, Range:47~63Hz | | |
| | Power Factor | ⩾0.95, 220-240VAC, Rated Load, see graphs | | |
| | THD | 30W/60W | ⩽10% | 230VAC，Rated Load, see graphs |
| | | 100W/150W/250W | ⩽7% | 230VAC，Rated Load, see graphs |
| | Standby Power Consumption | ⩽0.5W, @230VAC,Dim to OFF | | |
| Output | Output Voltage | 24VDC+5% | | |
| | No load Voltage | 24VDC+5% | | |
| | Output Voltage Ripple | <240mVPK-PK (0.5%) | | |
| | Line Regulation | ±1% | | |
| | Load Regulation | ±2% | | |
| | Overshoot | <105%Vo | | |
| | Start-up Time | Start-up time <0.5s @ power switch on without DALI control.<br>Start-up time <1s @ DALI system on. | | |

| | | | | | |
|---|---|---|---|---|---|
| | Hold-up time & Turn off time | Model | Hold-up time(mS) | Turn-off time(mS) | 230VAC, LED Rated Load, Hold-up time measure from AC input turn-off to output voltage drop to 90%, turn-off time measure from AC input turn-off to output voltage drop to 90% |
| | | 30W | 30 | 72.3 | |
| | | 60W | 22.8 | 62.8 | |
| | | 100W | 9.2 | 69.6 | |
| | | 150W | 10 | 384 | |
| | | 250W | 16.2 | 676 | |
| | Efficiency | 30W | ≥85% | 86% typ. | 230VAC, Rated Load, at output terminals, see graphs |
| | | 60W | ≥86% | 87% typ. | |
| | | 100W | ≥91% | 92% typ. | |
| | | 150W | ≥91% | 92% typ. | |
| | | 250W | ≥91% | 92% typ. | |
| Protection | Short Circuit Protection | Auto Recovery | | | |
| | Over Current Protection | 120%-180%Io, Auto Recovery | | | |
| | Over Voltage Protection | 110%-150%Vo, Auto Recovery | | | |
| | Over Temperature Protection | 90<Tc<110℃, Auto Recovery（Only for 100W/150W/250W） | | | |
| | Insulation voltage | I/P to O/P,3KVac/5mA/1min | | | |
| | Insulation resistance | >100M ohm @ 500VDC | | | |
| | Leakage current | I/P to O/P <0.7mA | | | |
| Control Method | PUSH dimming | PUSH dimming (Max. lead wire length：20m,same port of DALI） | | | |
| | PUSH-button | Max parallel connection qty for Push-dim 15 | | | |
| | DALI function | DALI dimming (Max. lead wire length： 300m ） logarithm or linear dimming curve selectable<br>DALI-2 certified incl. Parts 251, 252, 253, CLO | | | |
| | Dimming range | DALI dimming: 1%-100% | | | |
| | Dimming frequency | 2KHz | | | |
| Environment | Ta/Operation Temperature | -25…+45℃ | | | |
| | Ts/Storage Temperature | -40…+85℃ | | | |
| | Tc/Enclosure Temperature For | 30W | | 80℃ | |
| | Safety | 60W/100W/150W/250W | | 90℃ | |
| | Humidity | 5%85%RH | | | |
| | Atmosphere | 86-108KPa | | | |
| Construction | Connection Method | Terminal | | | |
| | Cable Terminals | Input | | 1 terminal block | |
| | | Output | | 2 terminals block | |
| | | Dimming | | 1terminals block | |
| | Installation | Independent | | | |
| | Input Wire Cross Section | 30W/60W/100W/150W | | 0.5mm² -1.5 mm² | |
| | | 250W | | 0.75mm² -1.5 mm² | |
| | Output Wire Cross Section | 2*0.75mm² -1.5 mm² | | | |
| | Dimming Wire Cross Section | 0.5mm² -1.5 mm² | | | |

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| | | | | |
|---|---|---|---|---|
| | Output Cable Length | Max. 3M | | |
| | Cable diameters range | Input& Dimming | 2.2-4mm | |
| | | Output | 2.2-4mm or 9.5-10.5mm | |
| | Dimension | 30W | 300*30*16mm (L*W*H) | |
| | | 60W/100W/150W | 350*30*18mm (L*W*H) | |
| | | 250W | 400*40*22mm (L*W*H) | |
| Standards | Certification | ENEC,CE,SAA,UKCA | | |
| | 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/NZS 61347.1:2016 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,EN IEC 55015:2019/A11:2020, EN IEC 61000-3-2:2019/A1:2021,EN 61000-3-3:2013/A2:2021 EN 61547:2009,EMC for UKCA,BS EN IEC 55015:2019, BS EN IEC 55015:2019+A11:2020,BS EN 61547:2009, BS EN IEC 61000-3-2:2019/A1:2021, BS EN 61000-3-3:2013+A2:2021 | | |
| | Performance | EN62384;IEC 62386-101 Edition2.0 2014-11; BS EN 62386-102:2014 ; BS EN 62386-207:2009 DALI Part -251,-252 and -253 | | |
| | Surge | L-N:2KV | | |
| Others | RoHS | 2011/65/EU | | |
| | MTBF | ≥250KHours,Ta=25℃(MIL-HDBK-217F) | | |
| | Audible Noise | 30W/60W | <28dB @ 15cm distance, 18dB background | |
| | | 100W/150W/250W | <28dB @ 15cm distance, 18dB background | |
| | Life Time(@Ta max) | 30W | ≥80K Hrs | @230VAC , full oad, End of Life: Failure Rate<10% |
| | | 60W | ≥60K Hrs | |
| | | 100W | ≥60K Hrs | |
| | | 150W | ≥55K Hrs | |
| | | 250W | ≥52K Hrs | |
| | Warranty | 5years, End of Life: Maximum Failure Rate=10% | | |

Remark:

1.All Parameters, if not specified, are measured at 230VAC/50Hz and 25℃ 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. Output ripple should be measured at the output end which has with 0.1uF/50V ceramic capacitance and 47uF/50V Aluminum capacitance connected in parallel. Measured using oscilloscope with bandwidth limited to 20MHz.

## 2. Connected quantities of different current Breaker

| TYPE | LV30W24CG2 DALI Connected quantities of different current Breaker | | | | | | Input Voltage | Inrush Current <25A | Time |
|---|---|---|---|---|---|---|---|---|---|
| | current（A） | 10 | 13 | 16 | 20 | 25 | | | |
| | Installation wire diameter | 1.5mm² | 2.5mm² | 2.5mm² | 4mm² | 4mm² | | | |
| TYPE B | | 27 | 35 | 44 | 55 | 68 | @230VAC | 22 | 200μs |
| TYPE C | | 44 | 57 | 70 | 87 | 109 | | | |
| TYPE D | | 70 | 91 | 112 | 140 | 175 | | | |

| TYPE | LV60W24CG2 DALI Connected quantities of different current Breaker | | | | | | Input Voltage | Inrush Current <30A | Time |
|---|---|---|---|---|---|---|---|---|---|
| | current（A） | 10 | 13 | 16 | 20 | 25 | | | |
| | Installation wire diameter | 1.5mm² | 2.5mm² | 2.5mm² | 4mm² | 4mm² | | | |
| TYPE B | | 23 | 30 | 37 | 46 | 58 | @230VAC | 26 | 220μs |
| TYPE C | | 37 | 48 | 59 | 74 | 92 | | | |
| TYPE D | | 59 | 77 | 95 | 118 | 148 | | | |

| TYPE | LV100W24CG2 DALI Connected quantities of different current Breaker | | | | | | Input Voltage | Inrush Current <50A | Time |
|---|---|---|---|---|---|---|---|---|---|
| | current（A） | 10 | 13 | 16 | 20 | 25 | | | |
| | Installation wire diameter | 1.5mm² | 2.5mm² | 2.5mm² | 4mm² | 4mm² | | | |
| TYPE B | | 13 | 17 | 21 | 27 | 33 | @230VAC | 45 | 250μs |
| TYPE C | | 21 | 28 | 34 | 43 | 53 | | | |
| TYPE D | | 34 | 44 | 55 | 68 | 85 | | | |

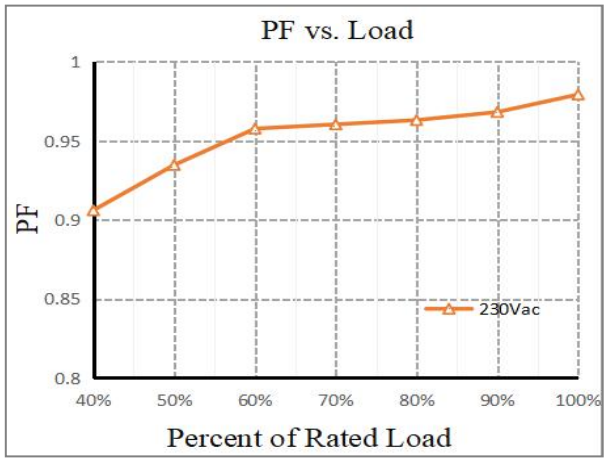
| TYPE | LV150W24CG2 DALI Connected quantities of different current Breaker | | | | | | Input Voltage | Inrush Current <60A | Time |
|---|---|---|---|---|---|---|---|---|---|
| | current（A） | 10 | 13 | 16 | 20 | 25 | | | |
| | Installation wire diameter | 1.5mm² | 2.5mm² | 2.5mm² | 4mm² | 4mm² | | | |
| TYPE B | | 11 | 14 | 17 | 21 | 27 | @230VAC | 56 | 185μs |
| TYPE C | | 17 | 22 | 27 | 34 | 43 | | | |
| TYPE D | | 27 | 36 | 44 | 55 | 69 | | | |

| TYPE | LV250W24CG2 DALI Connected quantities of different current Breaker | | | | | | Input Voltage | Inrush Current <80A | Time |
|---|---|---|---|---|---|---|---|---|---|
| | current（A） | 10 | 13 | 16 | 20 | 25 | | | |
| | Installation wire diameter | 1.5mm² | 2.5mm² | 2.5mm² | 4mm² | 4mm² | | | |
| TYPE B | | 8 | 10 | 13 | 16 | 20 | @230VAC | 76 | 310μs |
| TYPE C | | 13 | 16 | 20 | 25 | 32 | | | |
| TYPE D | | 20 | 26 | 32 | 40 | 51 | | | |

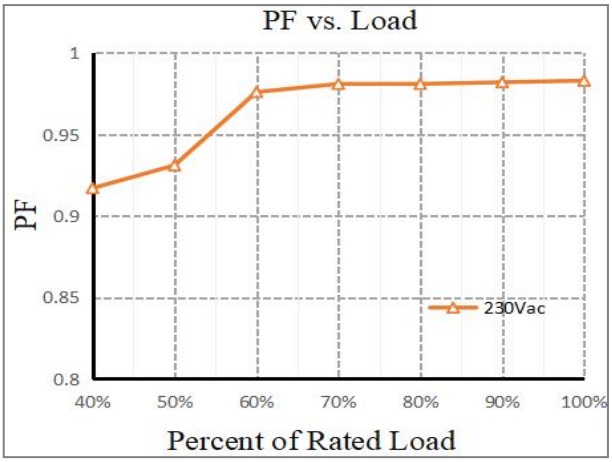
## 3. Graph

### PF VS LOAD Curve

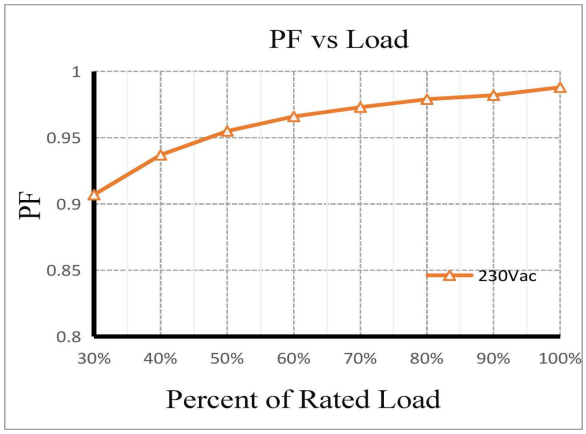
30W



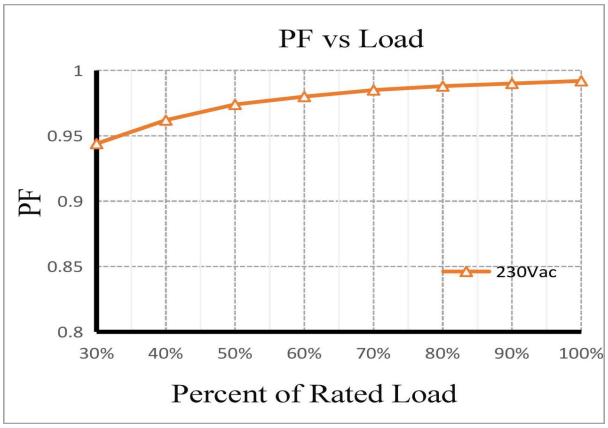

60W



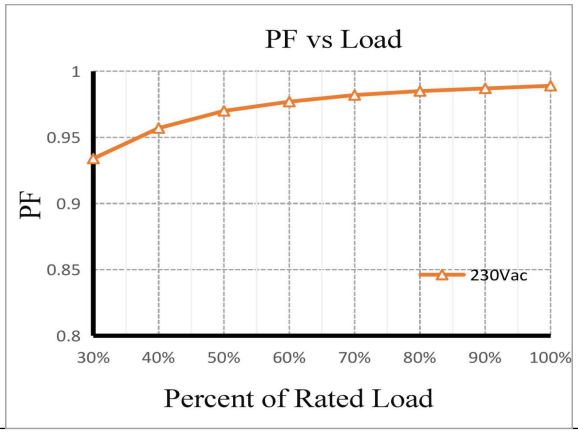

100W




150W

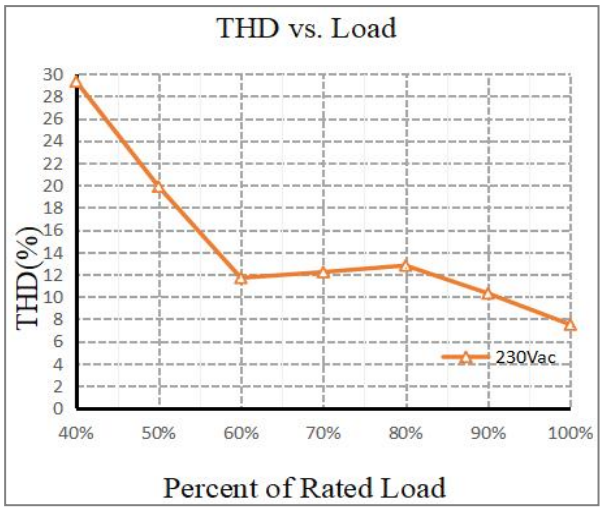



250W

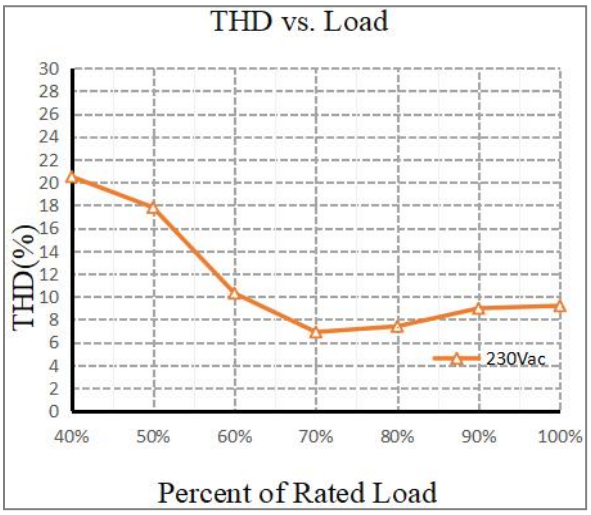


## THD VS LOAD Curve

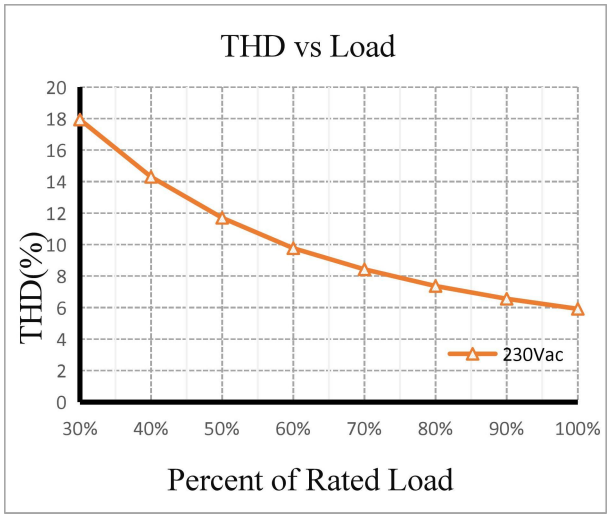
30W



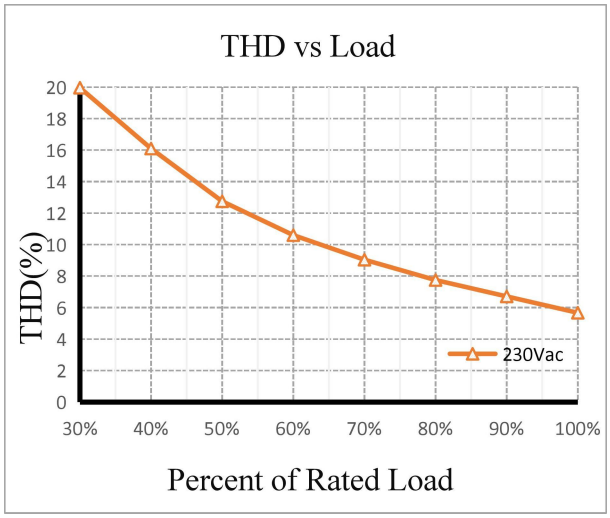

60W



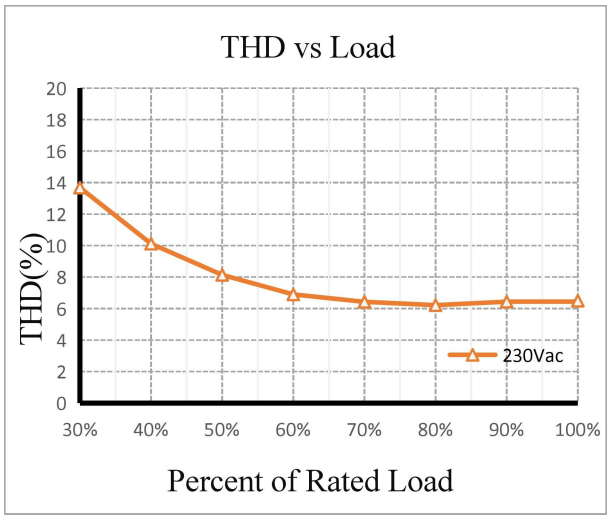

100W




150W

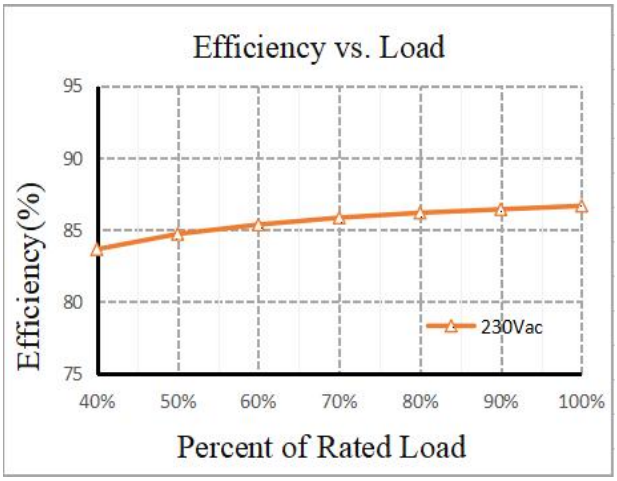



250W

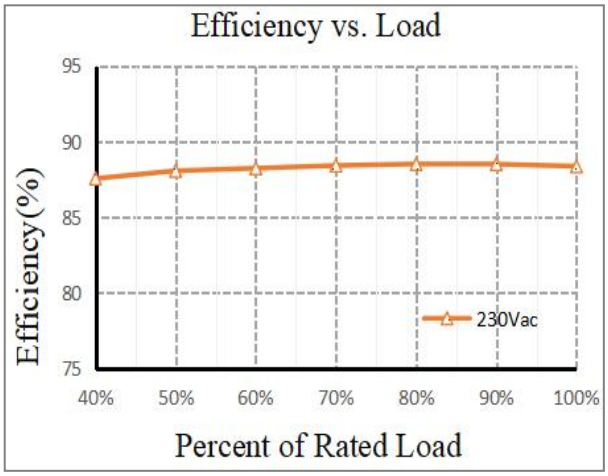


## Efficiency VS LOAD Curve

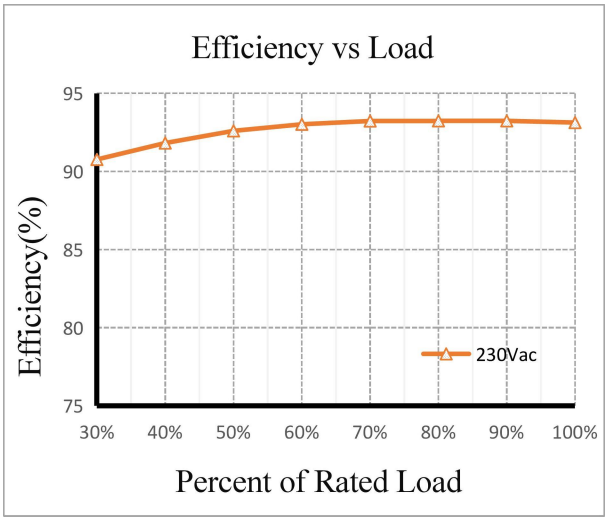
30W



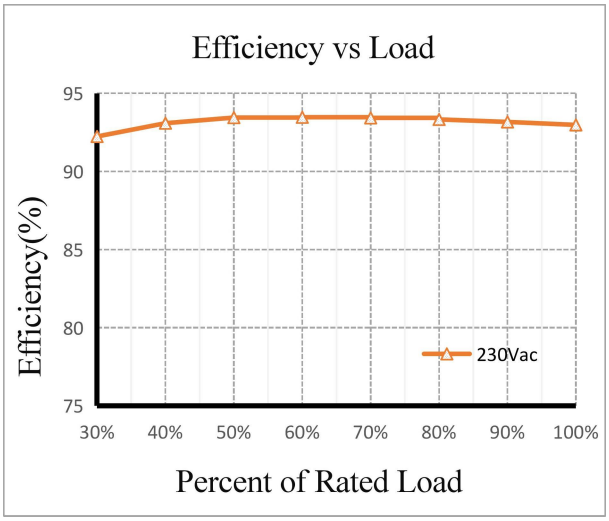

60W



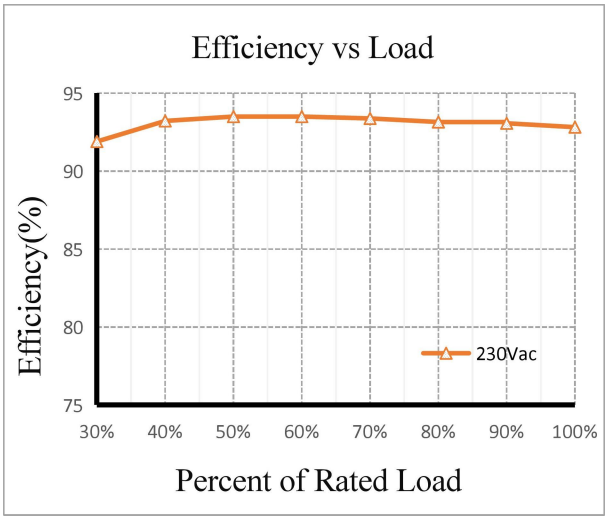

100W



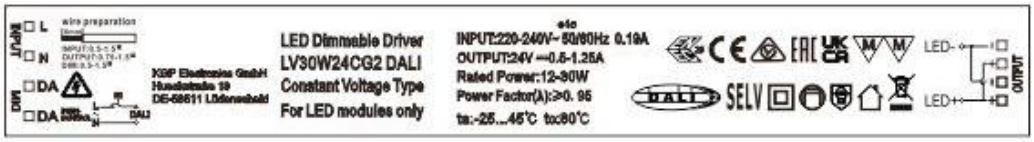

150W

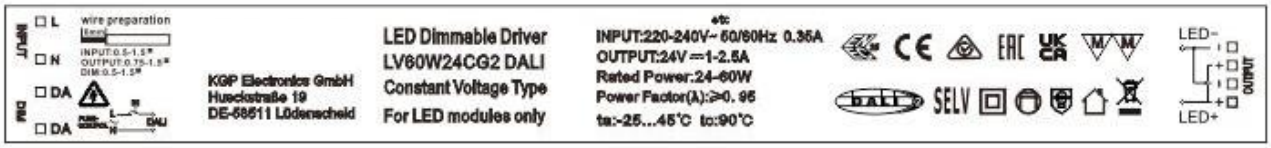


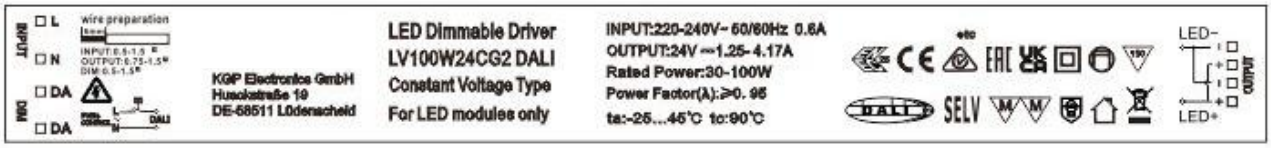

250W

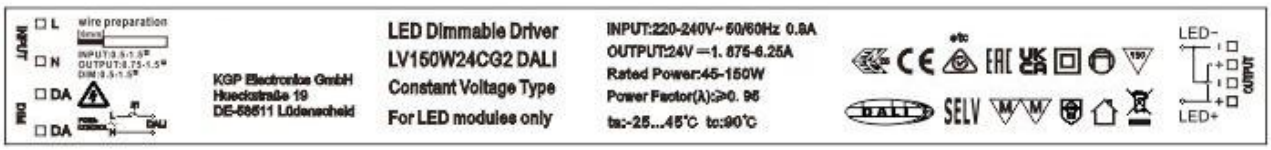


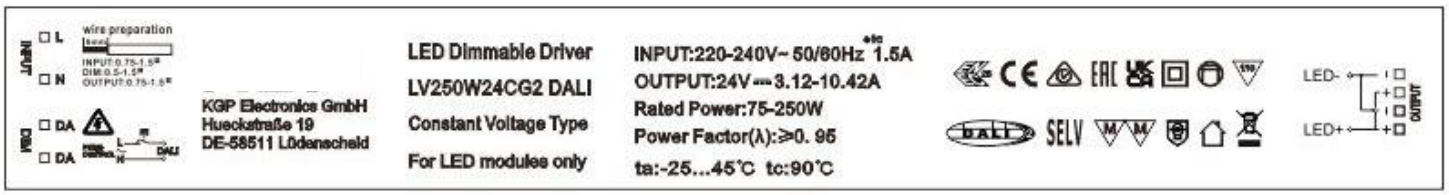
## 4. Label



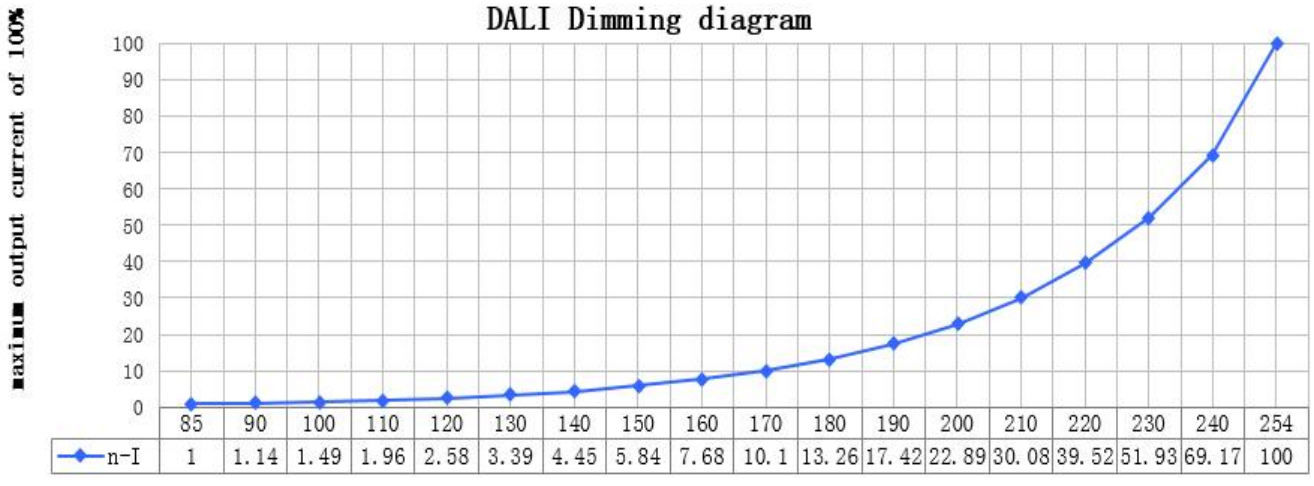

## 5. DALI dimming curve

5.1 formula for DALI dimming.

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

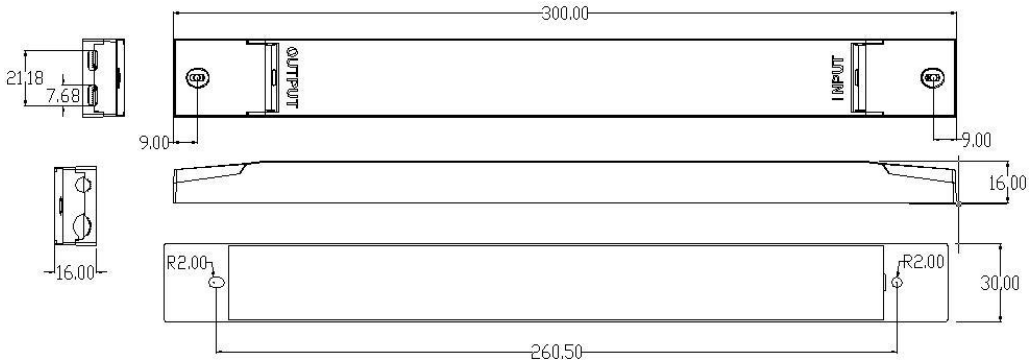
Here,n means the target dimming stage of the total 254 stages.

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

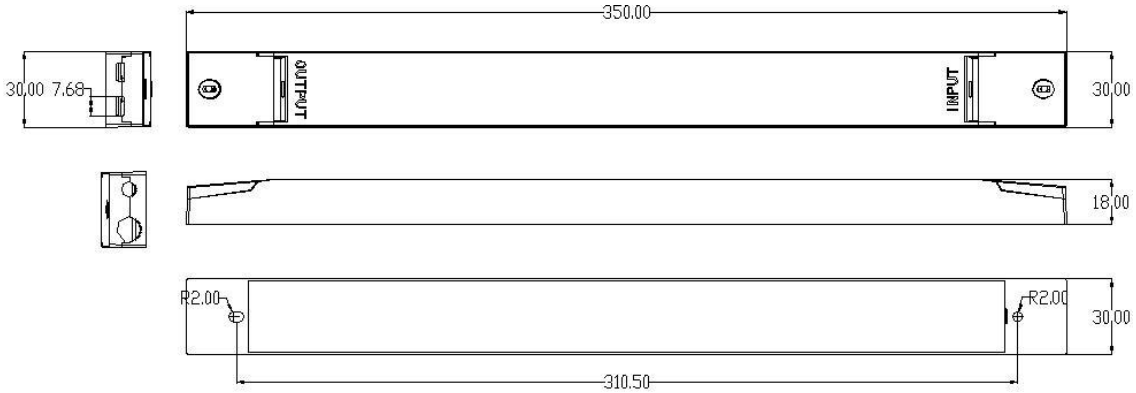


## 6. Dimension （Unit：mm）

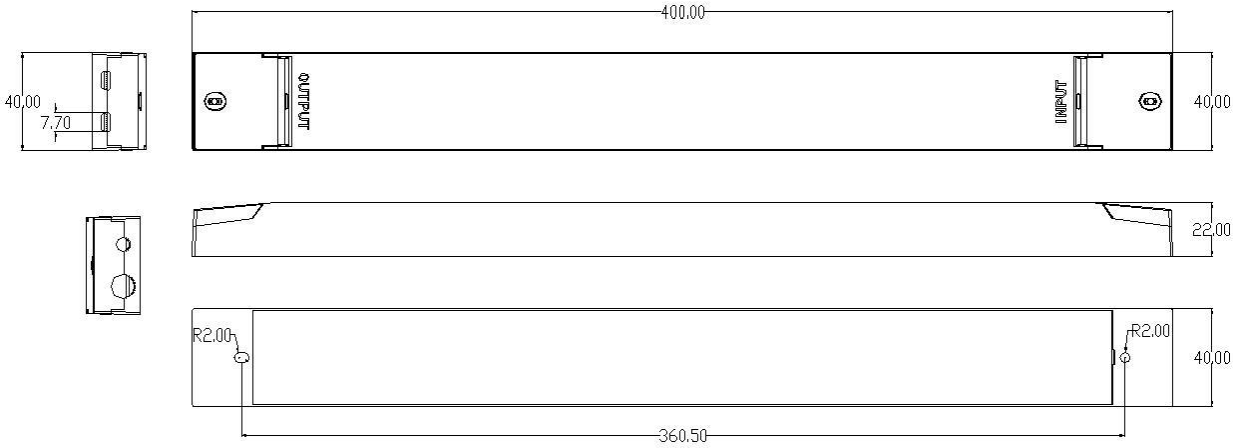
### LV30W24CG2 DALI




### LV60W24CG2 DALI&LV100W24CG2 DALI & LV150W24CG2 DALI:

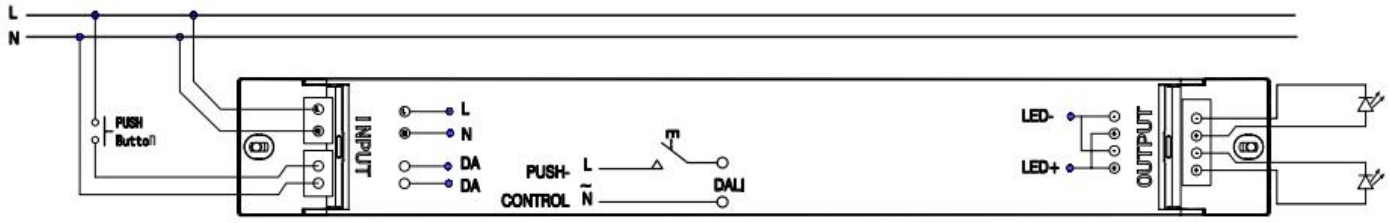



### LV250W24CG2 DALI:

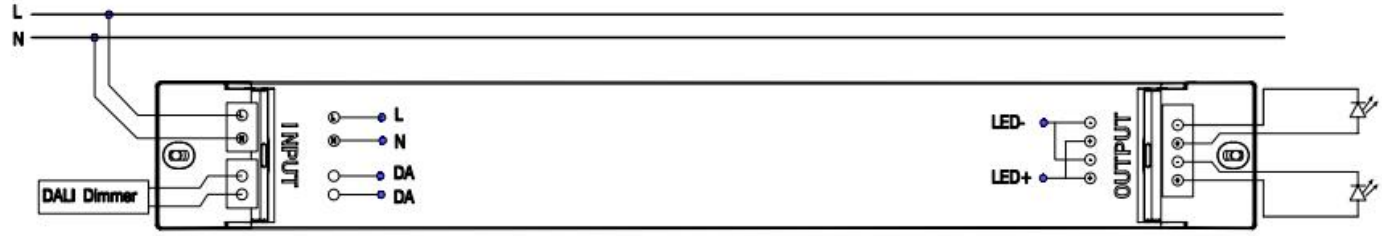


## 7. Wiring Diagram

### Fig. A: Push Dimming




### Fig. B: DALI Dimming




## 8. Packing information

| Packing way | Model | Carton L*W*H(mm) | Pcs/Carton | Net weight/ Pcs(kg) | Net weight/ Carton(kg) | Gross weight /Carton(kg) |
|---|---|---|---|---|---|---|
| With white box and manual | LV30W24CG2 DALI | 320*230*195 | 50 | 0.143 | 7.15 | 7.78 |
| | LV60W24CG2 DALI | 375*235*195 | 50 | 0.23 | 11.5 | 12.2 |
| | LV100W24CG2 DALI | | | 0.27 | 13.5 | 14.3 |
| | LV150W24CG2 DALI | | | 0.29 | 14.5 | 15.3 |
| | LV250W24CG2 DALI | 420*230*160 | 25 | 0.53 | 13.25 | 13.94 |
| Without white box and manual | LV30W24CG2 DALI | 440*345*155 | 60 | 0.125 | 7.5 | 8.12 |
| | LV60W24CG2 DALI | 440*345*155 | 40 | 0.25 | 10 | 10.7 |
| | LV100W24CG2 DALI | | | 0.27 | 10.8 | 11.5 |
| | LV150W24CG2 DALI | | | 0.28 | 11.2 | 11.9 |
| | LV250W24CG2 DALI | 440*300*155 | 25 | 0.5 | 12.5 | 13.84 |

## 9. 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.)

## 10. REVISION HISTORY

| DATE | REV. | REMARK |
|---|---|---|
| 2023-3-20 | V1.0 | Initial release. |
| 2023-10-31 | V1.1 | Update the screen printing, packaging information |
| 2024-8-19 | V1.2 | 1.Update the dimming frequency<br>2.Add the product wiring diagram |
| | | |
| | | |
| | | |
| | | |
| | | |