



### Constant Voltage Driver

Model: FV60W24CG DALI



| Model          | Input Current | Input Power | Output Power Range | PF    | Efficiency (full load) | Output Current | Output Voltage |
|----------------|---------------|-------------|--------------------|-------|------------------------|----------------|----------------|
| FV60W24CG DALI | ≤350mA        | ≤70W        | 15-60W             | ≥0.95 | ≥90%                   | 625-2500mA     | 24V            |

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

### 1. Parameters

| category | Item                              | Technical Norm                                    |
|----------|-----------------------------------|---------------------------------------------------|
| Features | Output Type                       | Constant Voltage                                  |
|          | Dimming Type                      | DALI-2                                            |
|          | Dimming range                     | 1-100%                                            |
|          | Output Features                   | Isolation                                         |
|          | IP Grade                          | IP20                                              |
|          | Insulation Class                  | Class II                                          |
| Input    | Rated Input Voltage               | 220-240VAC                                        |
|          | Range of Input Voltage            | 180-264VAC or 180-280VDC                          |
|          | Frequency                         | 50/60Hz                                           |
|          | Input Current                     | ≤0.35A                                            |
|          | Input Power                       | ≤70W                                              |
|          | Power Factor                      | ≥0.95                                             |
|          | THD                               | ≤15%                                              |
|          | No-load Power Consumption         | ≤0.5W                                             |
|          | Stand-by power                    | ≤0.5W                                             |
|          | Inrush Current                    | ≤18A/2.8us                                        |
|          | Connected quantity of 10A Breaker | 21pcs/type A ; 34pcs/type B; 54pcs/type C         |
|          | Connected quantity of 16A Breaker | 34pcs/type A ; 54pcs/type B; 86pcs/type C         |
|          | Connected quantity of 20A Breaker | 42pcs/type A ; 67pcs/type B; 107pcs/type C        |
| Output   | Output Voltage                    | 24VDC                                             |
|          | No Load Voltage                   | 25.2VDC Max.                                      |
|          | Output Current                    | 625-2500mA                                        |
|          | Max. Output Power                 | 60W Max.                                          |
|          | Efficiency                        | ≥90% (230VAC, full load)                          |
|          | Voltage Ripple                    | 3% (230VAC, full load (Vmax-Vmin) / (Vmax+Vmin) ) |
|          | Voltage Accuracy                  | ±3%                                               |
|          | Line Regulation                   | ±1%                                               |
|          | Load Regulation                   | ±2%                                               |
|          | Voltage Accuracy                  | ±3%                                               |

|                |                          |                                                                                                     |
|----------------|--------------------------|-----------------------------------------------------------------------------------------------------|
|                | Started Delay Time       | ≤0.65S (230VAC, full load)                                                                          |
| Control Method | Secondary PUSH dimming   | Secondary PUSH dimming (Max. lead wire length : 20m,same port of DALI)                              |
|                | DALI function            | DALI dimming (Max. lead wire length: 300m) logarithm or linear dimming curve selectable             |
|                | Dimming range            | DALI dimming: 1%-100%                                                                               |
| 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          | < 250μA, I/P to O/P or I/P to PE @230V input                                                        |
| Environment    | Ta/Operation Temperature | -20....+50℃                                                                                         |
|                | Ts/Storage Temperature   | -40....+85℃                                                                                         |
|                | Tc/Enclosure Temperature | 85℃                                                                                                 |
|                | Humidity                 | 10%....90%RH                                                                                        |
|                | Atmospheric pressure     | 86-108KPa                                                                                           |
| Construction   | Connection Method        | terminal block                                                                                      |
|                | Installation             | Independent                                                                                         |
|                | PR1 Wire preparation     | 0.75-1.5 <sup>□</sup>                                                                               |
|                | SEC Wire preparation     | 0.75-1.5 <sup>□</sup>                                                                               |
|                | Dimension                | 170*57*18mm (L*W*H)                                                                                 |
| Standards      | Certification            | CE                                                                                                  |
|                | Safety Standards         | EN61347-1:2015,EN61347-2-13:2014/A1:2017,EN62493:2015, AS61347.2.13:2018,AS/NZS 61347.1:2016 Inc A1 |
|                | EMC Standards            | EN55015:2013/A1:2015,EN61000-3-2:2014,EN61000-3-3:2013,EN61547:2009                                 |
|                | Performance              | EN62384,IEC62386-101{ed2.0}-2014, EN 62386-207{ed1.0}-2009, BS EN 62386-102{ed2.0}-2014             |
|                | Surge                    | L-N/2KV                                                                                             |
| Others         | RoHS                     | complied to 2011/65/EU                                                                              |
|                | Life Time                | 50000h @Ta/ Tc                                                                                      |
|                | Warranty                 | 5years , F.R. < 10000ppm                                                                            |

**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. Label

**KGP**  
KGP Electronics GmbH  
Hueckstraße 19  
DE-58511 Lüdenscheid

**N** Input Voltage: 220-240VAC  
☐ Input Frequency: 50/60Hz  
Power Factor( $\lambda$ ):  $\geq 0.95$   
 $I_{in} \leq 0.35A$   
**L**  $U_{rated} = 24VDC$   
 $I_{range} = 0-2500mA$   
 $P_{range} = 0-60W$   
 $t_c: 85^\circ C$   
 $t_a: -25 \text{ to } +50^\circ C$

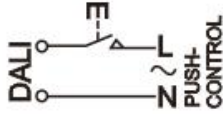
**CE SELV**

**LED Dimmable Driver**  
**FV60W24CG DALI**  
For LED modules only  
●tc

wire preparation  
8mm 0.75-1.5

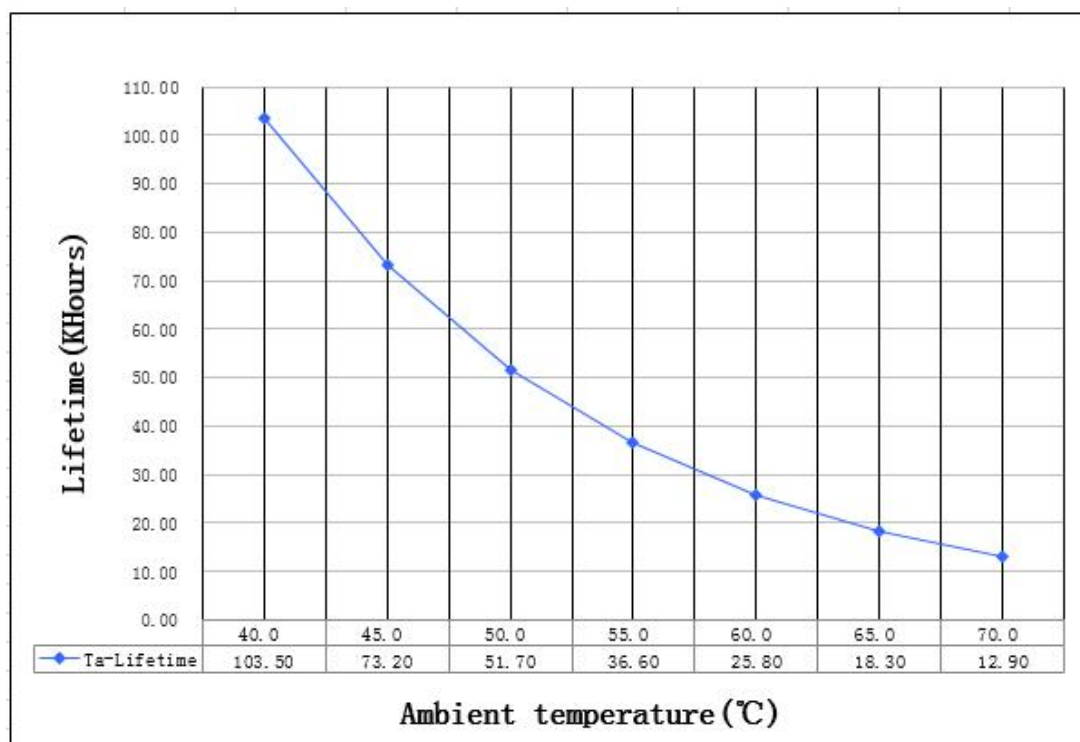
SEC+ ☐  
I ☐

DALI 

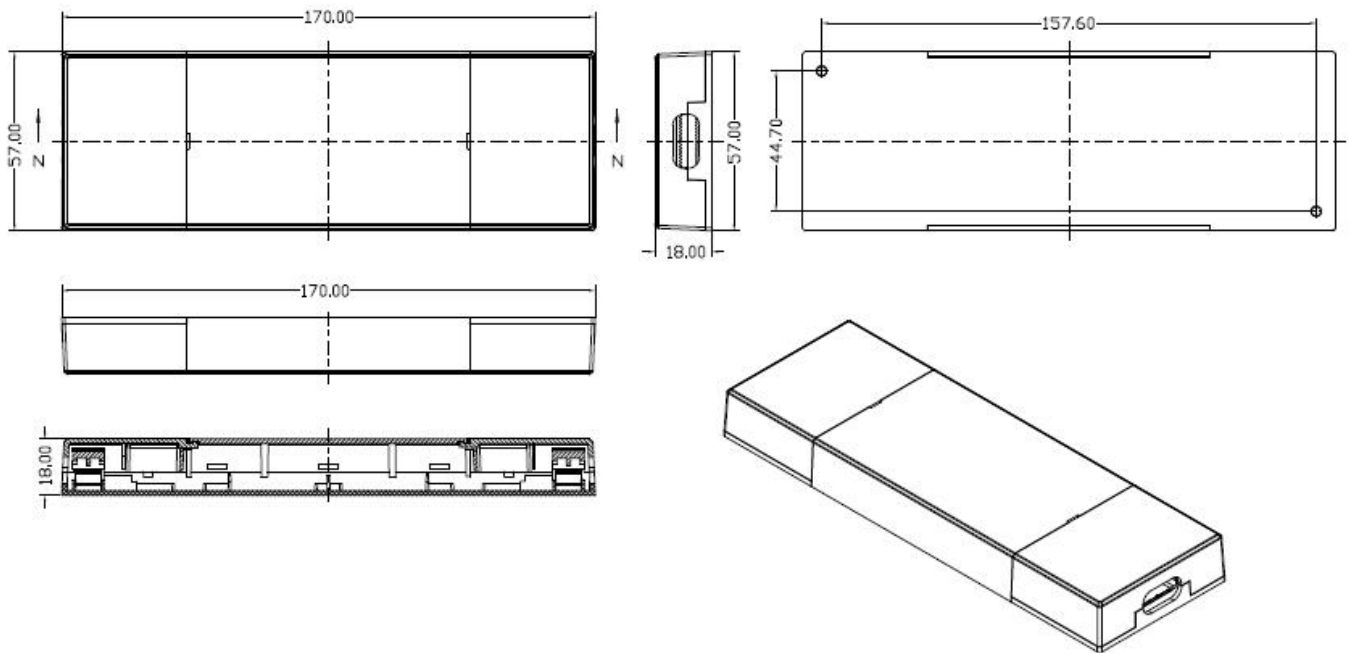
 DA ☐  
DA ☐



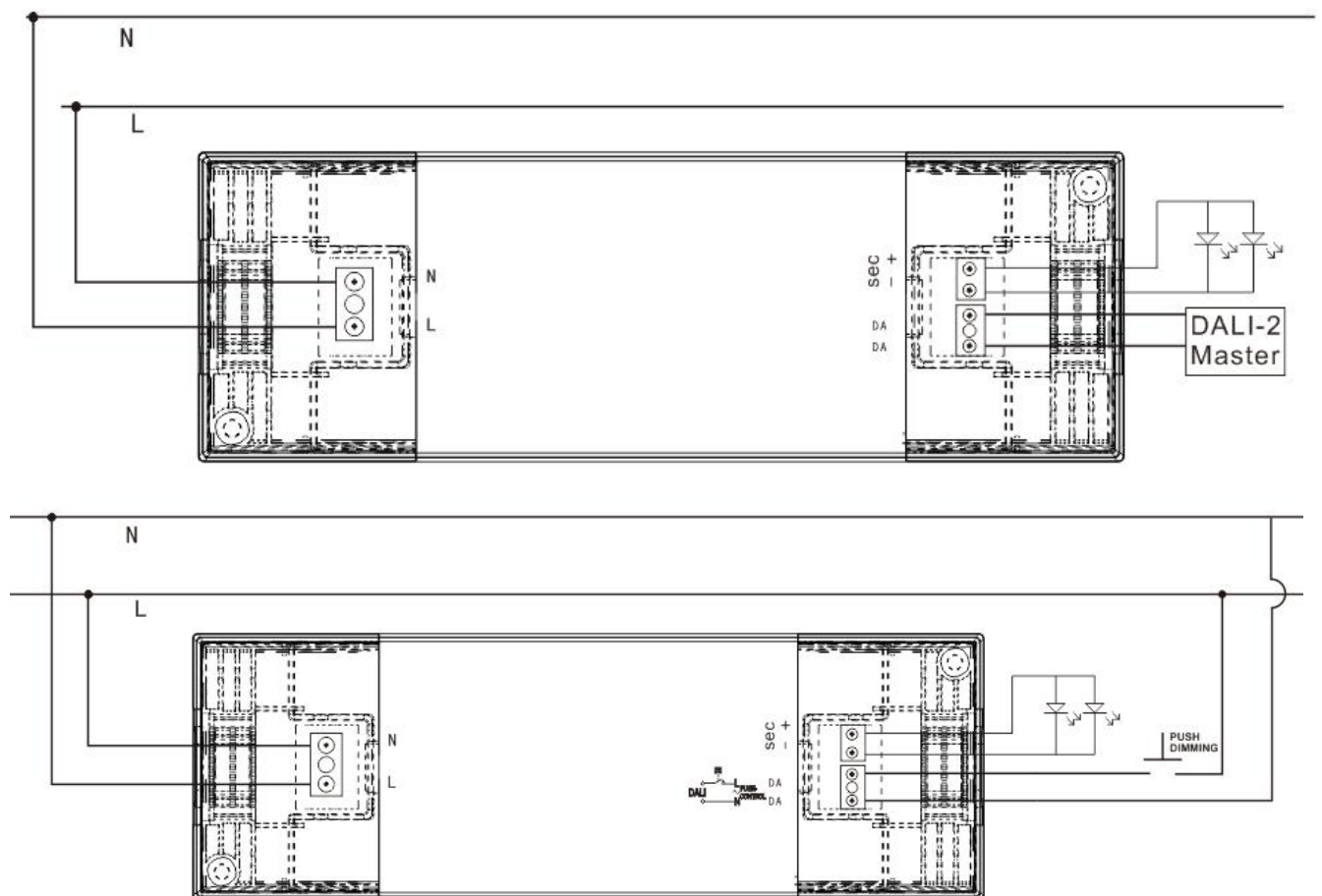
### 3. Lifetime curve



### 4. Dimension



### 5. Wiring Diagram



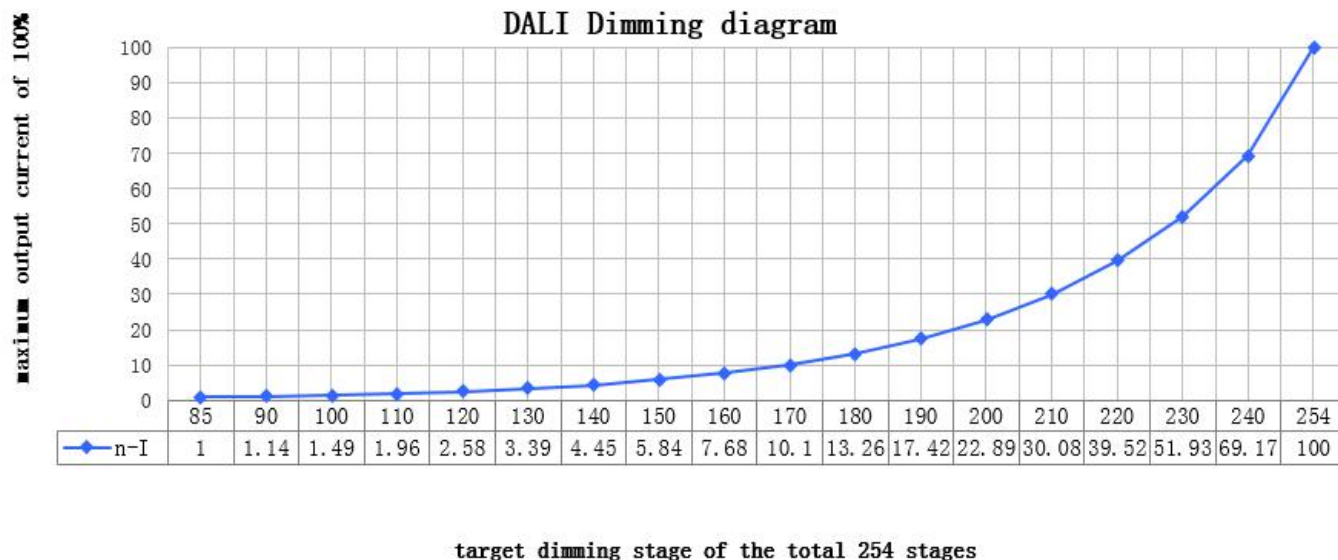
### 6. DALI dimming curve

4.1 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 current



### 7. Packing information

| Carton<br>L*W*H(mm) | Pcs/Carton | Net weight/<br>Pcs(kg) | Net weight/<br>Carton(kg) | Gross weight /<br>Carton(kg) |
|---------------------|------------|------------------------|---------------------------|------------------------------|
| 450*240*200         | 65PCS      | 0.16                   | 11.44                     | 11.97                        |