

IT DALI 40/220...240/1A0 E

ICUTRONIC - DALI (AstroDIM) IP20 | Constant current LED drivers



Product family features

- Supply voltage: 220...240 V
- AstroDim functionality
- Constant Lumen Output (CLO)
- Available with different wattage: 20 W, 40 W, 75 W, 110 W, 150 W, 200 W
- Output current range 350...1050 mA
- DALI-2 certified (Part 251, 252, 253)
- DALI dimming (min.10%)

Product family benefits

- Versatile DALI driver due to flexible output characteristic
- High surge protection: up to 10 kV (single pulse or more)
- Long lasting and high reliability
- Fully programmable via T4T software (DALI / AstroDIM / Constant Lumen)
- 5 years guarantee
- Great flexibility due to wide operating temperature range of up to -40...60 °C (+55°C for some products)
- Lifetime: up to 100,000 h (depending on T_c temperature, max. 10 % failure rate)
- High efficiency
- High-quality amplitude dimming



Product datasheet

Areas of application

- Street and urban lighting
- Industry
- Suitable for outdoor applications in luminaires with IP > 54
- Suitable for use in outdoor luminaires of protection class I and II

Technical data

Electrical data

| | |
|--|------------------------------|
| Nominal voltage | 220...240 V |
| Input voltage AC | 198...264 V |
| Nominal current | 0.20 A ¹⁾ |
| Mains frequency | 50/60 Hz |
| Power factor λ | 0.92C...0.99 ²⁾ |
| Total harmonic distortion | < 10 % ³⁾ |
| Device power loss | 6.5 W ⁴⁾ |
| Networked standby power | <0.50 W ⁵⁾ |
| Inrush current | 28 A ⁶⁾ |
| Max. ECG no. on circuit breaker 10 A (B) | 12 ⁷⁾ |
| Max. ECG no. on circuit breaker 16 A (B) | 19 ⁷⁾ |
| Max. ECG no. on circuit breaker 25 A (B) | 30 ⁷⁾ |
| Surge capability (L/N-Ground) | 10 kV ⁸⁾ |
| Surge capability (L-N) | 6 kV ⁹⁾ |
| Nominal output power | 40 W |
| Maximum output power | 40 W |
| Efficiency in full-load | 90.5 % ⁵⁾ |
| Nominal output current | 350...1050 mA ¹⁰⁾ |
| Default output current | 700 mA |
| Output current tolerance | ±5 % |
| Output ripple current (100 Hz) | < ±5 % ¹¹⁾ |
| Output PSTLM | ≤1 |
| Output SVM | ≤0.4 |
| Minimum output current | 70 mA ¹²⁾ |
| Galvanic isolation | SELV |
| Nominal output voltage | 29...57 V |
| U-OUT (working voltage) | 60 V |
| Max. no. of ECGs on 16A MCB with EBN-OS | 56 |

¹⁾ V_{in} 230V 50Hz

²⁾ Full load at 230 V/50 Hz

³⁾ At full load, 230 V, 50 Hz / see graphs

⁴⁾ At Full load, 230 V, 50 Hz

⁵⁾ at 230 V, 50 Hz

⁶⁾ Max, $t_h = 240\mu s$

⁷⁾ Type B

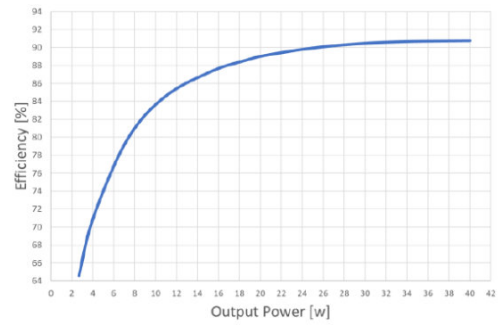
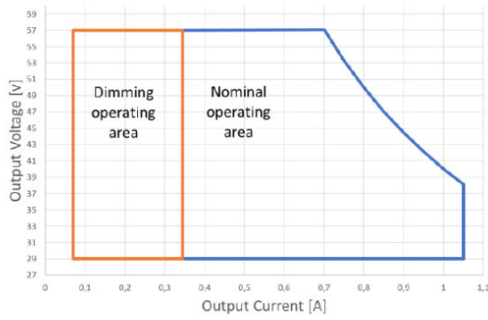
⁸⁾ EQUI @ 12 Ohm acc. to EN 61547

⁹⁾ @ 2 Ohm, acc. to EN61547

¹⁰⁾ Default 700 mA; 200...1050 mA adjustable

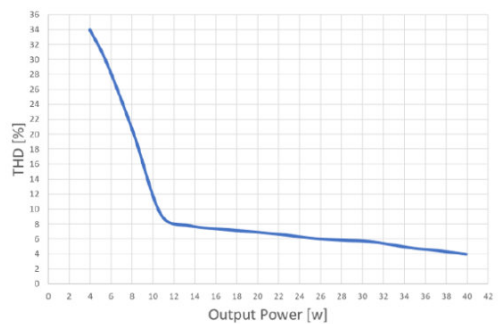
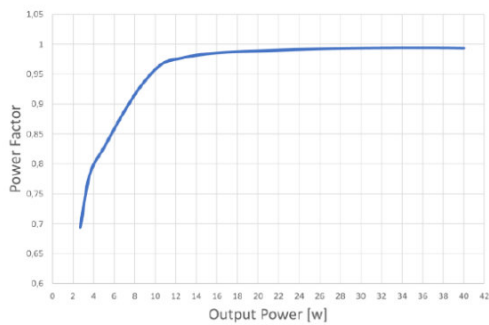
Product datasheet

- 11) Ripple average at 100 Hz
- 12) Physical Minimum Dimming Current



IT DALI 40 220-240 1A0 E Operating Window

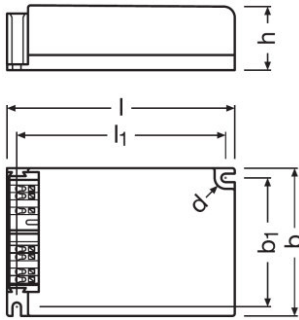
IT DALI 40 220-240 1A0 E Typical Efficiency vs. Load



IT DALI 40 220-240 1A0 E Typical Power Factor vs. Load

IT DALI 40 220-240 1A0 E Typical THD vs Load

Dimensions & weight



| | |
|--|---|
| Length | 103.1 mm |
| Width | 67.0 mm |
| Height | 29.5 mm |
| Mounting hole spacing, length | 94.0 mm |
| Mounting hole spacing, width | 58.0 mm |
| Product weight | 140.00 g |
| Cable cross-section, input side | 0.2...1.5 mm ² ¹⁾ |
| Cable cross-section, output side | 0.2...1.5 mm ² ¹⁾ |
| Wire preparation length, input side | 8.5...9.5 mm |

¹⁾ Flexible / Solid leads

Temperatures & operating conditions

| | |
|---|------------------------|
| Ambient temperature range | -40...+60 °C |
| Temperature range at storage | -25...85 °C |
| Maximum temperature at tc test point | 85 °C ¹⁾ |
| Max.housing temperature in case of fault | 120 °C |
| Permitted rel. humidity during operation | 5...85 % ²⁾ |

¹⁾ Measured on tc point indicated on the product label.

²⁾ Non-condensing

Lifespan

| | |
|---------------------|--------------------------------|
| ECG lifetime | 50000 / 100000 h ¹⁾ |
|---------------------|--------------------------------|

¹⁾ $T_c = 75^\circ\text{C}$, 0.2% / 1,000 h failure rate / $T_c = 65^\circ\text{C}$, 0.1% / 1,000 h failure rate

Capabilities

| | |
|--------------------------|-------------------|
| Dimmable | Yes |
| Dimming interface | AstroDIM / DALI-2 |
| Dimming range | 10...100 % |

Product datasheet

| | |
|--|----------------------|
| Suitable for fixtures with prot. class | I / II |
| Constant lumen function | Programmable |
| NTC input | No |
| Short-circuit protection | Yes |
| No-load proof | Yes |
| Intended for no-load operation | No |
| Max. cable length to lamp/LED module | 2.0 m ¹⁾ |
| Overload protection | Automatic reversible |
| LEDset | No |
| Number of channels | 1 |
| DALI-2 Energy Data | Yes ²⁾ |
| DALI-2 Diagnostic Data | Yes ³⁾ |

¹⁾ Output wires must be routed as close as possible to each other

²⁾ Acc. DALI part 252

³⁾ Acc. DALI part 253

Programming

| | |
|------------------------|------|
| Box programming | No |
| Tuner4TRONIC | Yes |
| Tuner4TRONIC Field App | No |
| Programming device | DALI |

Programmable features

| | |
|-----------------------|-------------------|
| Constant Lumen | Yes |
| Driver Guard | No |
| AstroDIM | Yes |
| StepDIM | No |
| MainsDIM | No |
| Emergency Mode | No |
| Configuration Lock | Yes |
| DALI-2 Luminaire Data | Yes ¹⁾ |

¹⁾ Acc. DALI part 251

Certificates & standards

| | |
|---------------------------|---|
| Type of protection | IP20 |
| Standards | Acc. to EN 61347-1/Acc. to EN 61347-2-13/Acc. to EN 55015/Acc. to EN 61547/Acc. to EN 61000-3-2/Acc. to EN 62384/Acc. to EN 62386 |
| Approval marks – approval | CCC / CE / EAC / RCM / DALI-2 / VDE / VDE-EMC / UKCA / ENEC |

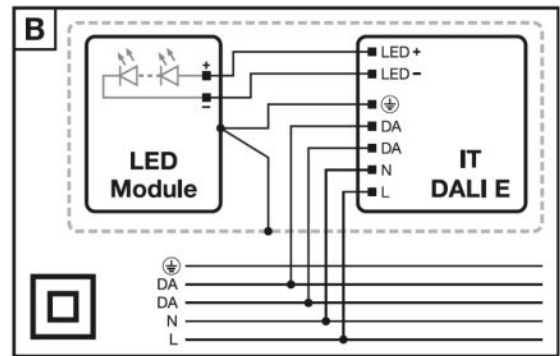
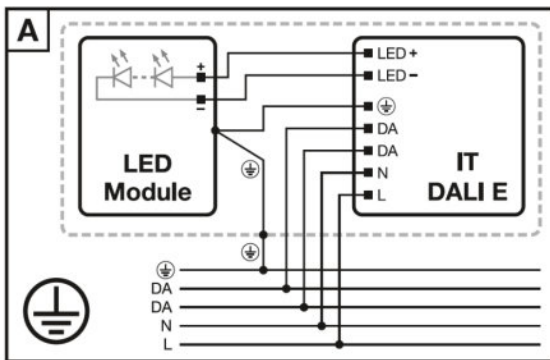
Logistical data

| | |
|----------------|-------------|
| Commodity code | 85044083900 |
|----------------|-------------|

Environmental information

| Information according Art. 33 of EU Regulation (EC) 1907/2006 (REACH) | |
|---|--|
| Date of Declaration | 10-05-2023 |
| Primary Article Identifier | 4052899620261 |
| Candidate List Substance 1 | Lead |
| CAS No. of substance 1 | 7439-92-1 |
| Safe Use Instruction | The identification of the Candidate List substance is sufficient to allow safe use of the article. |
| Declaration No. in SCIP database | 3bb6853b-1deb-450f-9d49-c49d6a601da0 |

Wiring Diagram



IT DALI 220-240 1A0 E Wiring Diagram








IT DALI 220-240 1A0 E Wiring Diagram

Product datasheet

Additional product information

- The driver withstands an input voltage of up to 300 V AC for a maximum of two hours. An output load shutdown can occur in case the supply voltage exceeds the input voltage range defined.
- Shut down of output load happens if the input voltage of the load is below the allowed minimum output voltage of the driver. The driver automatically tries to switch on the load cyclically.
- The driver automatically switches into protection mode when output voltage exceeds limit and return to normal when the fault condition is removed.
- The driver automatically reduces the output current in case the maximum allowed output power is exceeded.
- The driver automatically reduces the output current in case the maximum allowed output power is exceeded, as long as the input voltage of the load is within the declared output voltage range of the driver. In all other cases the driver may shut down the load.
- The driver is protected against temporary overheating by automatically reduction of the output current.
- The EQUI pin shall be connected to the heat sink of the LED module to improve the surge withstand capability of the system and EMI in critical luminaires.
- The constant lumen feature is disabled by default.
- If any output level is below the physical min level, the physical min level will be used.

Download Data

| File | |
|---|---|
|  | User instruction User Instruction |
|  | Certificates OT VDE ENEC 40050684 290923 |
|  | Certificates IT DALI 1A0 E CB DE1 64544 170221 |
|  | Certificates CCC certificate of IT DALI 40 220-240 1A0 E |
|  | Certificates OT EMC 40038827 300922 |
|  | Declarations of conformity IT DALI CE 4279760 120121 |
|  | CAD data IT DALI 20 40 E STEP 250821 |

Product datasheet

Ecodesign regulation information:

Intended for use with LED modules.

The forward voltage of the LED light source shall be within the defined operating window of the control gear in all operating conditions including dimming if applicable.

Separate control gear and light sources must be disposed of at certified disposal companies in accordance with Directive 2012/19/EU (WEEE) in the EU and with Waste Electrical and Electronic Equipment (WEEE) Regulations 2013 in the UK. For this purpose, collection points for recycling centres and take-back systems (CRSO) are available from retailers or private disposal companies, which accept separate control gear and light sources free of charge. In this way, raw materials are conserved and materials are recycled.

Logistical Data

| Product code | Product description | Packaging unit (Pieces/Unit) | Dimensions (length x width x height) | Volume | Gross weight |
|---------------|----------------------------|------------------------------|--------------------------------------|----------------------|--------------|
| 4052899620261 | IT DALI 40/220...240/1A0 E | Shipping carton box 20 | 345 mm x 216 mm x 86 mm | 6.41 dm ³ | 3031.00 g |

The mentioned product code describes the smallest quantity unit which can be ordered. One shipping unit can contain one or more single products. When placing an order, for the quantity please enter single or multiples of a shipping unit.

References / Links

* For more information on the multi-level guarantee and the terms and conditions of the guarantee visit <https://www.inventronics-light.com/multilevel-guarantees>

Disclaimer

Subject to change without notice. Errors and omission excepted. Always make sure to use the most recent release.
