LUMAWISE DRIVE LED HOLDER TYPE Z50 DALI VERSION

TE Connectivity's (TE) LUMAWISE drive LED holder type Z50 DALI (Digital Addressable Lighting Interface) allows luminaire designers to remove driver boxes from spot and track lighting, creating a more aesthetically pleasing lighting solution. LUMAWISE drive LED holders bring integrated functionality to TE's already successful Zhaga inspired, range of LED holders. Driver on board design incorporates DC/DC driver functionality into the LED holder providing a low profile constant current driver well suited for COBs used in spot and track lighting applications. Designed for 48VDC input, LUMAWISE drive LED holders work with a wide range of readily available constant voltage power supplies meaning powering multiple fixtures off a single power supply is now possible. The LUMAWISE drive LED holder Type Z50 DALI can be controlled with the DALI protocol. DALI lamp fixtures are intelligent, dimmable and can be controlled, monitored and maintained using a two-wire global IEC 62386 open standards communication protocol. Design DALI control into your fixture today.

Applications

- Track Lighting
- Spot Lighting
- Downlights

Mechanical

- **Dimensions:** Ø50mm, 7mm height
- **Electrical connection:** 4-pin Mini CT connector 292228-4, mating connector flush with housing
- **Mechanical connection:** Mounting screws M3 or #4-4
- **Torque:** 0.4 - 0.6 Nm
- **LED Outline and LES size:** 24x24, Ø21.5mm
  20x24, Ø18.0mm
  19x19, Ø17.7mm
  16x19, Ø14.0mm
- **Form factor:** Zhaga Book 12 Inspired
- **CoB thickness:** Nominal 1mm
- **CoB types:** Both ceramic or aluminium types
- **IP rating:** IP20
- **Mating cable assembly:** **DALI version:** 1-2058943-7

Materials

- Halogen free glass filled PBT housing
- FR4 circuit board
- Copper alloy electrical contacts

Benefits

- Achieve an elegant luminaire design through a 'Driver on Board' solution
- Designed to meet the requirements of Zhaga book 12
- Provide thermal and electrical connection to four different CoB sizes:
  - 16x19mm   - 20x24mm
  - 19x19mm   - 24x24mm
- Achieve design flexibility with an LED holder available with four different current outputs:
  - 350mA   - 700mA
  - 500mA   - 1050mA
- Obtain added functionality with DALI control

Specifications

- **Standards:** EN60838-2-2
  EN61347-2-13
  UL8754
  UL8750
  IEC 61547
  IEC 62386:101
  IEC 62386:102
  IEC 62386:207
- **Product specification:** 108-133109
- **Application specification:** 114-133109
- **Environmental:** RoHS and Reach compliant

TE connectivity

Electrical

- **Input voltage:** 48VDC (European class I & II, SELV and US NEC class 2. Both with isolated output)

- **Maximum input voltage:** 60V (not recommended, contact TE)

- **Output current:** 350mA
  500mA
  700mA
  1050mA

- **Output current tolerance:** ±5%

- **Forward voltage (Vf):** 36VDC typical

- **Forward voltage (Vf) range:** **Min:** 25VDC
  Max: 38VDC with 48VDC ±10% input
  40VDC with 48VDC ±5% input
  41VDC with 48VDC ±1% input

- **Dimming:** DALI functionality

- **Dim to off:** Yes

- **Minimum dim level:** 3% of maximum output current

- **Flicker percentage:** <5%

- **Dimming curve:** Both logarithmic and linear

- **Efficiency:** Up to 93% at maximum output (see Figure 1)

- **Reverse polarity protected:** Yes

- **Under voltage lock out protection:** **Yes:** 42VDC - 37VDC

- **Input safety:** Fused. Product fails safe when 230V applied

- **Open/short circuit protection:** Yes

- **Hot pluggable:** Yes

Thermal

- **Maximum operating temperature:** 125˚C (measured at equivalent Tc point)

- **Max Tc point temperature:** 110°C (must not be exceeded)

- **Thermal protection mode:** **Yes:** Output reduces to 20% regardless of dimming level

- **Over temperature reset (dimmable versions):** After power cycle

- **Over temperature reset (on/off versions):** After cooling down

- **Thermal interface material:** **Recommended:** Use Laird PLC AS004444-25
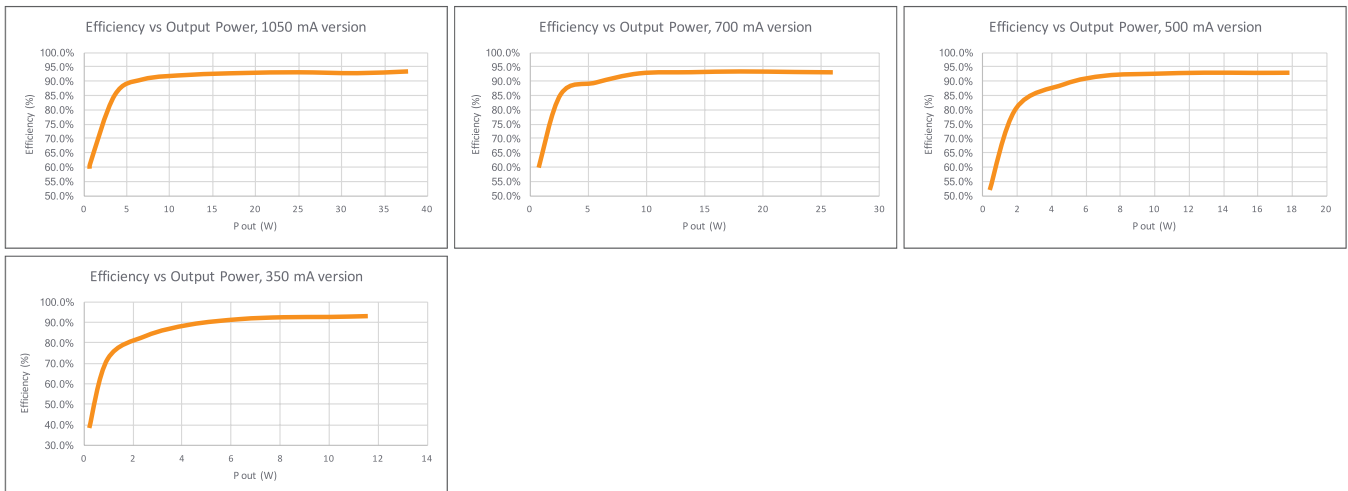
- **Storage temperature:** -20˚C to 60˚C

Optical

- **Optics:** Compatible with TE's DALI optic clip type 1 and type 2 (part numbers: 2213194-1 and 2213349-1)

- **Allowable beam angle:** 135˚

Other

- **Diagnostic information:** **Yes:** LUMAWISE Drive: DALI version will collect limited diagnostics. Including, firmware version, current output, initial temperature, over temperature event count, time to event and dimming level. This information is only accessible by TE

- **EMC:** IEC 61547, FCC title 47 (part 15 subpart B), CISPR15, EN55015

- **Vibration:** EIA 364-28, IEC 60512-6-4, IEC 60512-6-5

- **Mechanical shock:** EIA 364-27 (test condition H), IEC 60512-6-3

- **Thermal shock:** EIA-364-32 (test condition VIII), IEC 60512-11-4

- **Damp heat cycling:** EIA-364-31 (method III), IEC 60512-11-3, IEC 60512-11-12

- **Normal force:** 0.5 N at maximum deflection for LED contact, 0.2 N on the PCBA
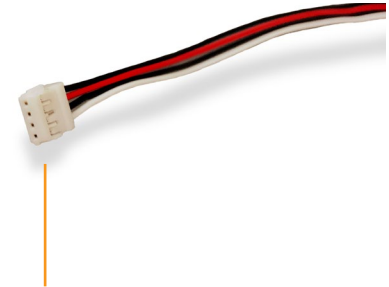
- **DALI:** IEC 62386

Figure 1: Efficiency

Efficiency vs Output Power, 1050 mA version

Efficiency vs Output Power, 700 mA version

Efficiency vs Output Power, 500 mA version

Efficiency vs Output Power, 350 mA version

Product Selection Information

Series	Output Current (mA)	Part Number	LED / COB Size (mm)	GTIN*
LUMAWISE Drive DALI 2.0	350	2316511-1	24x24	9421027422100
		2316511-2	20x24	9421027422117
		2316511-3	19x19	9421027422124
		2316511-4	16x19	9421027422131
	500	1-2316511-1	24x24	9421027422148
		1-2316511-2	20x24	9421027422155
		1-2316511-3	19x19	9421027422162
		1-2316511-4	16x19	9421027422179
	700	2-2316511-1	24x24	9421027422186
		2-2316511-2	20x24	9421027422193
		2-2316511-3	19x19	9421027422209
		2-2316511-4	16x19	9421027422216
	1050	3-2316511-1	24x24	9421027422223
		3-2316511-2	20x24	9421027422230
		3-2316511-3	19x19	9421027422247
		3-2316511-4	16x19	9421027422254

*GTIN (Global Trade Item Number) is a globally unique 14-digit number used to identify trade items, products, or services. The GTIN is a requirement to meet the DALI-2 standard and is, together with the part number, stored in Memory Bank 0 in the product, which can be read via the DALI interface.

LUMAWISE drive Interior

LED Holder
Type Z50 - DALI
Part Number: 2316511-1

DALI Series	
P1	DA
P2	DA
P3	U+
P4	U+

Cable Assembly
Part Number: 1-2058943-7

TE Connectivity is a participating member of the Zhaga Consortium, an industry-wide cooperation enabling the interchangeability of LED light sources and simplifying LED applications for general lighting.

te.com