

# PRODUCT DATASHEET DR DALI - P -60/220-240/1A4

LED DRIVER DALI PERFORMANCE G2 | Compact constant current LED driver with DALI dimming interface



#### Areas of application

- Luminaires of protection class I and II
- Indoor SELV installations
- Emergency lighting systems (DC capable)
- Attachment and installation in furniture
- Cove lighting
- Offices
- Education
- Storage areas
- Retail

#### **Product benefits**

- Flexible dip switch current settings on device in 50mA steps
- Push DIM application for easy control
- Low flickering enables high light quality as well as good visual comfort
- High-quality dimming of 1...100 %
- Toolless installation
- 5 years guarantee

#### **Product features**

- 1 channel DALI-2 certified LED driver
- Supply voltage: 220...240 V
- Operated with Safety extra-low voltage (SELV): < 60 V
- Available with output current range: up to 1,400 mA
- Type of installation: independent and built-in
- Suitable for emergency lighting fixtures acc.to EN 60598-2-2 with emergency output factor EOFI=15%
- Suitable for use in furnitures

## **TECHNICAL DATA**

## Electrical data

Nominal output power   60 W   Nominal output power   60 W   Nominal output voltage   220240 V   Nominal output voltage   952 V   Input voltage AC   198254 V   Input voltage DC   176280 V   U-OUT (working voltage)   60 V   Type of current   DC   DC   DC   DC   DC   DC   DC   D	Nominal wattage	60.20 W
Nominal votage         220240 V           Nominal output votage         952 V           Input vottage AC         198254 V <sup>1)</sup> Input vottage DC         176280 V           U-OUT (working vottage)         60 V           Type of current         DC           Nominal current         340 mA           Nominal output current         1400 mA <sup>2)</sup> Inrush current         30 A           Output current (100 Hz)         +/- 5 %           Mains frequency         0/50/60 Hz           Total harmonic distortion         6.2 % <sup>3)</sup> Power factor λ         0.95 <sup>3)</sup> ECG efficiency         88 % <sup>4)</sup> Device power loss         8 W           Max. ECG no. on circuit breaker 10 A (8)         21           Max. ECG no. on circuit breaker 16 A (8)         43           Max. ECG no. on circuit breaker 15 A (C)         28           Max. ECG no. on circuit breaker 16 A (C)         43           Max. ECG no. on circuit breaker 16 A (C)         43           Max. ECG no. on circuit breaker 25 A (C)         43           Surge capability (L/N-Ground)         2 kV           Surge capability (L/N-Ground)         2 kV           Surge capability (L/N)         > 1 kV		
Nominal output voltage         952 V           Input voltage AC         198254 V <sup>1)</sup> Input voltage DC         176280 V           U-OUT (working voltage)         60 V           Type of current         DC           Nominal current         340 mA           Nominal output current         1400 mA <sup>2)</sup> Inrush current         30 A           Output current tolerance         +/- 5 %           Output ripple current (100 Hz)         +/- 3 %           Mains frequency         0/50/60 Hz           Total harmonic distortion         6.2 % <sup>3)</sup> Power factor λ         0.95 <sup>3)</sup> ECG efficiency         88 W           Max. ECG no. on circuit breaker 10 A (B)         21           Max. ECG no. on circuit breaker 16 A (B)         43           Max. ECG no. on circuit breaker 13 A (C)         28           Max. ECG no. on circuit breaker 16 A (C)         34           Max. ECG no. on circuit breaker 16 A (C)         43           Surge capability (L/N-Ground)         2 kV           Surge capability (L/N)         > 1 kV           Galvanic isolation         SELV           Operating frequency         0/50/60 Hz		
Input voltage AC         198254 V ¹¹           Input voltage DC         176280 V           U-OUT (working voltage)         60 V           Type of current         DC           Nominal current         340 mA           Nominal output current         1400 mA ²¹           Inrush current         30 A           Output current tolerance         */* 5 %           Output ripple current (100 Hz)         */* 3 %           Mains frequency         0/50/60 Hz           Total harmonic distortion         6.2 % ³¹           Power factor λ         0.95 ³¹           ECG efficiency         88 % ⁴¹           Device power loss         8 W           Max. ECG no. on circuit breaker 10 A (8)         21           Max. ECG no. on circuit breaker 16 A (8)         43           Max. ECG no. on circuit breaker 10 A (C)         21           Max. ECG no. on circuit breaker 13 A (C)         28           Max. ECG no. on circuit breaker 15 A (C)         34           Max. ECG no. on circuit breaker 25 A (C)         43           Surge capability (L/N-Ground)         2 kV           Surge capability (L/N-Ground)         2 kV           Surge capability (L/N-Ground)         2 kV           Surge capability (L/N)         1 kV </td <td></td> <td></td>		
Input voltage DC         176280 V           U-OUT (working voltage)         60 V           Type of current         DC           Nominal current         340 mA           Nominal output current         1400 mA <sup>2)</sup> Inrush current         30 A           Output current tolerance         +/- 5 %           Output ripple current (100 Hz)         +/- 3 %           Mains frequency         0/50/60 Hz           Total harmonic distortion         6.2 % <sup>3)</sup> Power factor λ         0.95 <sup>3)</sup> ECG efficiency         88 % <sup>4)</sup> Device power loss         8 W           Max. ECG no. on circuit breaker 10 A (B)         21           Max. ECG no. on circuit breaker 16 A (B)         43           Max. ECG no. on circuit breaker 10 A (C)         21           Max. ECG no. on circuit breaker 13 A (C)         28           Max. ECG no. on circuit breaker 16 A (C)         34           Max. ECG no. on circuit breaker 25 A (C)         43           Surge capability (L/N-Ground)         2 kV           Surge capability (L/N)         > 1 kV           Galvanic isolation         O/50/60 Hz		
U-OUT (working voltage)         60 V           Type of current         DC           Nominal current         340 mA           Nominal output current         1400 mA ²)           Inrush current         30 A           Output current tolerance         +/- 5 %           Output ripple current (100 Hz)         +/- 3 %           Mains frequency         0/50/60 Hz           Total harmonic distortion         6.2 % ³)           Power factor λ         0.95 ³)           ECG efficiency         88 % ⁴)           Device power loss         8 W           Max. ECG no. on circuit breaker 10 A (B)         21           Max. ECG no. on circuit breaker 10 A (B)         34           Max. ECG no. on circuit breaker 25 A (B)         43           Max. ECG no. on circuit breaker 10 A (C)         21           Max. ECG no. on circuit breaker 13 A (C)         28           Max. ECG no. on circuit breaker 16 A (C)         34           Max. ECG no. on circuit breaker 25 A (C)         43           Surge capability (L-N)-Ground)         2 kV           Surge capability (L-N)         > 1 kV           Galvanic isolation         950/60 Hz	Input voltage AC	198254 V <sup>1)</sup>
Type of current         DC           Nominal current         340 mA           Nominal output current         1400 mA <sup>2)</sup> Inrush current         30 A           Output current tolerance         +/- 5 %           Output ripple current (100 Hz)         +/- 3 %           Mains frequency         0/50/60 Hz           Total harmonic distortion         6.2 % <sup>3)</sup> Power factor λ         0.95 <sup>3)</sup> ECG efficiency         88 % <sup>4)</sup> Device power loss         8 W           Max. ECG no. on circuit breaker 10 A (B)         21           Max. ECG no. on circuit breaker 16 A (B)         34           Max. ECG no. on circuit breaker 10 A (C)         21           Max. ECG no. on circuit breaker 13 A (C)         28           Max. ECG no. on circuit breaker 16 A (C)         34           Max. ECG no. on circuit breaker 16 A (C)         34           Max. ECG no. on circuit breaker 25 A (C)         43           Surge capability (L/N-Ground)         2 kV           Surge capability (L-N)         > 1 kV           Galvanic isolation         SELV           Operating frequency         0/50/60 Hz	Input voltage DC	176280 V
Nominal current 340 mA  Nominal output current 1400 mA 2)  Inrush current 30 A  Output current tolerance +/- 5 %  Output ripple current (100 Hz) +/- 3 %  Mains frequency 0/50/60 Hz  Total harmonic distortion 6.2 % 3)  Power factor \( \lambda \) 0.95 3)  ECG efficiency 88 % 4)  Device power loss 8 W  Max. ECG no. on circuit breaker 10 A (B) 21  Max. ECG no. on circuit breaker 16 A (B) 43  Max. ECG no. on circuit breaker 10 A (C) 21  Max. ECG no. on circuit breaker 10 A (C) 21  Max. ECG no. on circuit breaker 13 A (C) 43  Max. ECG no. on circuit breaker 15 A (C) 43  Max. ECG no. on circuit breaker 25 A (C) 43  Surge capability (L/N-Ground) 2 kV  Surge capability (L-N) 51 kV  Galvanic isolation 5ELV  Operating frequency 0/50/60 Hz	U-OUT (working voltage)	60 V
Nominal output current1400 mA 2)Inrush current30 AOutput current tolerance+/- 5 %Output ripple current (100 Hz)+/- 3 %Mains frequency0/50/60 HzTotal harmonic distortion6.2 % 3)Power factor λ0.95 3)ECG efficiency88 % 4)Device power loss8 WMax. ECG no. on circuit breaker 10 A (B)21Max. ECG no. on circuit breaker 16 A (B)34Max. ECG no. on circuit breaker 10 A (C)21Max. ECG no. on circuit breaker 13 A (C)28Max. ECG no. on circuit breaker 16 A (C)34Max. ECG no. on circuit breaker 16 A (C)34Max. ECG no. on circuit breaker 16 A (C)43Surge capability (L/N-Ground)2 kVSurge capability (L-N)> 1 kVGalvanic isolationSELVOperating frequency0/50/60 Hz	Type of current	DC
Inrush current30 AOutput current tolerance+/- 5 %Output ripple current (100 Hz)+/- 3 %Mains frequency0/50/60 HzTotal harmonic distortion6.2 % 3)Power factor λ0.95 3)ECG efficiency88 % 4)Device power loss8 WMax. ECG no. on circuit breaker 10 A (B)21Max. ECG no. on circuit breaker 16 A (B)34Max. ECG no. on circuit breaker 10 A (C)21Max. ECG no. on circuit breaker 13 A (C)28Max. ECG no. on circuit breaker 16 A (C)34Max. ECG no. on circuit breaker 25 A (C)43Surge capability (L/N-Ground)2 kVSurge capability (L-N)Galvanic isolation5ELVOperating frequency0/50/60 Hz	Nominal current	340 mA
Output current tolerance+/- 5 %Output ripple current (100 Hz)+/- 3 %Mains frequency0/50/60 HzTotal harmonic distortion6.2 % 3)Power factor λ0.95 3)ECG efficiency88 % 4)Device power loss8 WMax. ECG no. on circuit breaker 10 A (B)21Max. ECG no. on circuit breaker 16 A (B)34Max. ECG no. on circuit breaker 10 A (C)21Max. ECG no. on circuit breaker 10 A (C)21Max. ECG no. on circuit breaker 13 A (C)28Max. ECG no. on circuit breaker 16 A (C)34Max. ECG no. on circuit breaker 25 A (C)43Surge capability (L/N-Ground)2 kVSurge capability (L-N)> 1 kVGalvanic isolationSELVOperating frequency0/50/60 Hz	Nominal output current	1400 mA <sup>2)</sup>
Output ripple current (100 Hz)+/- 3 %Mains frequency0/50/60 HzTotal harmonic distortion6.2 % 3)Power factor λ0.95 3)ECG efficiency88 % 4)Device power loss8 WMax. ECG no. on circuit breaker 10 A (B)21Max. ECG no. on circuit breaker 16 A (B)34Max. ECG no. on circuit breaker 25 A (B)43Max. ECG no. on circuit breaker 13 A (C)21Max. ECG no. on circuit breaker 13 A (C)28Max. ECG no. on circuit breaker 16 A (C)34Max. ECG no. on circuit breaker 25 A (C)43Surge capability (L/N)-Ground)2 kVSurge capability (L-N)> 1 kVGalvanic isolationSELVOperating frequency0/50/60 Hz	Inrush current	30 A
Mains frequency0/50/60 HzTotal harmonic distortion6.2 % 3)Power factor λ0.95 3)ECG efficiency88 % 4)Device power loss8 WMax. ECG no. on circuit breaker 10 A (B)21Max. ECG no. on circuit breaker 16 A (B)34Max. ECG no. on circuit breaker 25 A (B)43Max. ECG no. on circuit breaker 10 A (C)21Max. ECG no. on circuit breaker 13 A (C)28Max. ECG no. on circuit breaker 16 A (C)34Max. ECG no. on circuit breaker 25 A (C)43Surge capability (L/N-Ground)2 kVSurge capability (L-N-Ground)2 kVGalvanic isolationSELVOperating frequency0/50/60 Hz	Output current tolerance	+/- 5 %
Total harmonic distortion 6.2 % <sup>3)</sup> Power factor λ 0,95 <sup>3)</sup> ECG efficiency 88 % <sup>4)</sup> Device power loss 8 W  Max. ECG no. on circuit breaker 10 A (B) 21  Max. ECG no. on circuit breaker 16 A (B) 43  Max. ECG no. on circuit breaker 25 A (B) 43  Max. ECG no. on circuit breaker 10 A (C) 21  Max. ECG no. on circuit breaker 13 A (C) 28  Max. ECG no. on circuit breaker 16 A (C) 43  Max. ECG no. on circuit breaker 25 A (C) 43  Surge capability (L/N-Ground) 2 kV  Surge capability (L-N) 5 1 kV  Galvanic isolation Operating frequency 0/50/60 Hz	Output ripple current (100 Hz)	+/- 3 %
Power factor λ0.95 ³)ECG efficiency88 % ⁴)Device power loss8 WMax. ECG no. on circuit breaker 10 A (B)21Max. ECG no. on circuit breaker 16 A (B)34Max. ECG no. on circuit breaker 25 A (B)43Max. ECG no. on circuit breaker 10 A (C)21Max. ECG no. on circuit breaker 13 A (C)28Max. ECG no. on circuit breaker 16 A (C)34Max. ECG no. on circuit breaker 25 A (C)43Surge capability (L/N-Ground)2 kVSurge capability (L-N)> 1 kVGalvanic isolationSELVOperating frequency0/50/60 Hz	Mains frequency	0/50/60 Hz
ECG efficiency  B8 % 4)  Device power loss  BW  Max. ECG no. on circuit breaker 10 A (B)  Max. ECG no. on circuit breaker 16 A (B)  Max. ECG no. on circuit breaker 25 A (B)  Max. ECG no. on circuit breaker 25 A (C)  Max. ECG no. on circuit breaker 13 A (C)  Max. ECG no. on circuit breaker 13 A (C)  Max. ECG no. on circuit breaker 16 A (C)  Max. ECG no. on circuit breaker 16 A (C)  Max. ECG no. on circuit breaker 25 A (C)  Max. ECG no. on circuit breaker 25 A (C)  Max. ECG no. on circuit breaker 25 A (C)  Surge capability (L/N-Ground)  2 kV  Surge capability (L-N)  Sellv  Operating frequency  O/50/60 Hz	Total harmonic distortion	6.2 % <sup>3)</sup>
Device power loss  Max. ECG no. on circuit breaker 10 A (B)  Max. ECG no. on circuit breaker 16 A (B)  Max. ECG no. on circuit breaker 25 A (B)  Max. ECG no. on circuit breaker 10 A (C)  Max. ECG no. on circuit breaker 13 A (C)  Max. ECG no. on circuit breaker 13 A (C)  Max. ECG no. on circuit breaker 16 A (C)  Max. ECG no. on circuit breaker 16 A (C)  Max. ECG no. on circuit breaker 25 A (C)  Surge capability (L/N-Ground)  2 kV  Surge capability (L-N)  Surge capability (L-N)  SELV  Operating frequency  0/50/60 Hz	Power factor $\lambda$	0.95 3)
Max. ECG no. on circuit breaker 10 A (B)  Max. ECG no. on circuit breaker 16 A (B)  Max. ECG no. on circuit breaker 25 A (B)  Max. ECG no. on circuit breaker 25 A (C)  Max. ECG no. on circuit breaker 13 A (C)  Max. ECG no. on circuit breaker 13 A (C)  Max. ECG no. on circuit breaker 16 A (C)  Max. ECG no. on circuit breaker 16 A (C)  Max. ECG no. on circuit breaker 25 A (C)  Surge capability (L/N-Ground)  2 kV  Surge capability (L-N)  Selvanic isolation  Selva  Operating frequency  O/50/60 Hz	ECG efficiency	88 % <sup>4)</sup>
Max. ECG no. on circuit breaker 16 A (B)  Max. ECG no. on circuit breaker 25 A (B)  Max. ECG no. on circuit breaker 10 A (C)  Max. ECG no. on circuit breaker 13 A (C)  Max. ECG no. on circuit breaker 13 A (C)  Max. ECG no. on circuit breaker 16 A (C)  Max. ECG no. on circuit breaker 25 A (C)  Surge capability (L/N-Ground)  2 kV  Surge capability (L-N)  Selvanic isolation  SELV  Operating frequency  0/50/60 Hz	Device power loss	8 W
Max. ECG no. on circuit breaker 25 A (B)  Max. ECG no. on circuit breaker 10 A (C)  Max. ECG no. on circuit breaker 13 A (C)  Max. ECG no. on circuit breaker 16 A (C)  Max. ECG no. on circuit breaker 16 A (C)  Max. ECG no. on circuit breaker 25 A (C)  Surge capability (L/N-Ground)  2 kV  Surge capability (L-N)  Surge capability (L-N)  Selv  Operating frequency  O/50/60 Hz	Max. ECG no. on circuit breaker 10 A (B)	21
Max. ECG no. on circuit breaker 10 A (C)  Max. ECG no. on circuit breaker 13 A (C)  Max. ECG no. on circuit breaker 16 A (C)  Max. ECG no. on circuit breaker 25 A (C)  Surge capability (L/N-Ground)  Surge capability (L-N)  Surge capability (L-N)  Selv  Operating frequency  O/50/60 Hz	Max. ECG no. on circuit breaker 16 A (B)	34
Max. ECG no. on circuit breaker 13 A (C)  Max. ECG no. on circuit breaker 16 A (C)  Max. ECG no. on circuit breaker 25 A (C)  Surge capability (L/N-Ground)  Surge capability (L-N)  Galvanic isolation  SELV  Operating frequency  28  43  44  54  C)  Structure breaker 25 A (C)  At the control of the control	Max. ECG no. on circuit breaker 25 A (B)	43
Max. ECG no. on circuit breaker 16 A (C)  Max. ECG no. on circuit breaker 25 A (C)  Surge capability (L/N-Ground)  Surge capability (L-N)  Surge capability (L-N)  Selv  Galvanic isolation  Selv  Operating frequency  O/50/60 Hz	Max. ECG no. on circuit breaker 10 A (C)	21
Max. ECG no. on circuit breaker 25 A (C)  Surge capability (L/N-Ground)  2 kV  Surge capability (L-N)  5 1 kV  Galvanic isolation  SELV  Operating frequency  0/50/60 Hz	Max. ECG no. on circuit breaker 13 A (C)	28
Surge capability (L/N-Ground)2 kVSurge capability (L-N)> 1 kVGalvanic isolationSELVOperating frequency0/50/60 Hz	Max. ECG no. on circuit breaker 16 A (C)	34
Surge capability (L-N) > 1 kV  Galvanic isolation SELV  Operating frequency 0/50/60 Hz	Max. ECG no. on circuit breaker 25 A (C)	43
Galvanic isolation SELV Operating frequency 0/50/60 Hz	Surge capability (L/N-Ground)	2 kV
Operating frequency 0/50/60 Hz	Surge capability (L-N)	> 1 kV
	Galvanic isolation	SELV
Power loss in stand-by mode 0.5 W	Operating frequency	0/50/60 Hz
	Power loss in stand-by mode	0.5 W

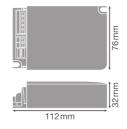
<sup>1)</sup> Permitted voltage range

# Dimensions & Weight

<sup>2) +/- 5 %</sup> 

<sup>3)</sup> Full load at 230 V/50 Hz / see graphs

<sup>4)</sup> Full load at 230 V/50 Hz / Typical / see graphs



Length	112.00 mm
Mounting hole spacing, length	100 mm
Width	76.00 mm
Height	32.00 mm
Cable cross-section, input side	0.751.5 mm <sup>2</sup>
Cable cross-section, output side	0.51.5 mm <sup>2</sup>
Prewired	No
Wire preparation length, input side	67 mm
Wire preparation length, output side	67 mm
Product weight	345.00 g

## Colors & materials

Product color	White
Casing material	Plastic
Body material	Plastic

# Temperatures & operating conditions

Ambient temperature range	-20+50 °C
Maximum temperature at tc test point	90 °C
Max.housing temperature in case of fault	110 °C
Temperature range in operation	-20+50 °C
Permitted rel. humidity during operation	2090 %

# Lifespan

ECG lifetime	50000 h <sup>1)</sup>
Number of switching cycles	60000

<sup>1)</sup>  $T_a = 50$ °C, $T_c$  max, 10 % failure rate

# Additional product data

Encapsulated	Yes
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## **Capabilities**

Dimmable	Yes
Dimming interface	DALI-2
Dimming range	1100 %
Overheating protection	Yes
Overload protection	Yes
No-load proof	Yes
Short-circuit protection	Yes
Max. cable length to lamp/LED module	2,0 m
Suitable for fixtures with prot. class	1/11
Suitable for emergency lighting	Yes
Type of connection, output side	Push terminal

### Certificates & Standards

Approval marks – approval	CE / CB / ENEC / EL / MM		CE / CB / ENEC / EL / MM	
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			
Protection class	П			
Type of protection	IP20			

#### **LOGISTICAL DATA**

Temperature range at storage	-25+60 °C
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### **DOWNLOAD DATA**

	Documents and certificates
POF	User instruction
POF	Declarations Of Conformity CE

## **LOGISTICAL DATA**

Product code	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Gross weight	Volume
4058075779662	Folding box 1	117 mm x 83 mm x 38 mm	365.00 g	0.37 dm <sup>3</sup>
4058075779679	Shipping box 10	466 mm x 167 mm x 116 mm	4150.00 g	9.03 dm³

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.

# **DISCLAIMER**

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