

LDM DALI-2 NFC Range

The ELP LDM DALI-2 NFC range of emergency LED control gear allows maintained operation of high-power LED modules, when used in conjunction with the standard mains voltage LED control gear. The control gear also provides an integrated DALI power supply for connection to other DALI devices, which can be optionally activated using a NFC programmer.

The emergency control gear incorporates a module/charger and a high temperature Lithium Iron Phosphate battery. In the event of a mains failure an integral 2-pole relay disconnects the LED lighting load from the mains control gear and then connects it to the emergency control gear which operates the LED module at an optimum light output for the rated duration.

Microprocessor enabled features

- The Near Field Communication (NFC) interface allows for the optional activation of an integrated DALI power supply and also the downloading of diagnostics to assist in any site issues.
- An App is available that can be downloaded onto a phone or tablet which can read stored operating parameters including information such operating hours, how many tests have been performed, module thermals , etc. This is a unique feature that highlights installation conditions and aids fault diagnostics.
- The LED current in emergency mode is automatically adjusted for maximum light output and is constant for the entire rated duration.
- Smart charging of the Lithium Iron Phosphate batteries which have protection circuit fitted including thermal sensing. NB: Lithium Iron Phosphate batteries offer long life (up to 8 years)
- The LDM range is available with fully interoperable DALI control and reporting function and comes with an integrated DALI PSU. Automatic Self-Test is enabled when no DALI bus is connected.



It is important to note that some LED mains control gear should not be operated with an open circuit load, to overcome this problem when first powering up the LDM range features a live in/ live out relay which ensures the load is in place before the mains driver is powered up.

In Self-test mode the function and duration tests will take place at randomized times. If required, duration testing can be programmed by turning the unswitched supply off and on 3 times in 10 seconds at the required time. Note the function test will occur weekly at the same time.

LDM emergency control gear

To ensure the correct operation of each type of LED module the correct LDM equipment should be selected. The total forward operating voltages of the LED module / arrays connected should be used to determine the appropriate LDM control gear.

As default, the integral DALI power supply will be disabled. Please see the order codes on the last page if you would like this to be enabled or for the appropriate battery, indicator LED etc.

Total Forward Operating Voltages

12V - 55V	LDM60D, LDM60MOD & LDM60HOD
15V - 55V	LDM606WD
50V - 300V	LDM300MOD, LDM300HOD & LDM3006WD

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LED Module Emergency Control Gear

LDM DALI-2 NFC Range

SPECIFICATION

Section	Subject	Plastic housed module
Environmental	Ingress protection	IP20
	Module rated operating ambient temperature	-20°C to 50°C
	Battery rated operating ambient temperature	0°C to 55°C
	Maximum case temperature	70°C
Mains Operation	Rated voltage supply	220/240V AC
	Mains frequency	50/60 Hz
	Mains supply current LDM60D, LDM60MOD, LDM60HOD, LDM300MOD, LDM300HOD LDM606WD, LDM3006WD	<27mA <30mA
	Mains supply power / with integrated DALI power supply enabled	4W / 5W
	Power factor (with integrated DALI power supply enabled)	0.7C
	Mains overvoltage protection	320V for 1 hour
	Indicator LED	2 wire red/green colour
	Maximum power that can be switched via relay contacts	150W
	Maximum current that can be switched via relay contacts	2A
	Maximum voltage that can be switched via relay contacts	450VDC
	The use of different phases for switched live and unswitched live is allowed	Note the unswitched live must fail if the switched live fails
Emergency Operation	Emergency duration	1 or 3 hours
	Battery chemistry type	LiFePO ₄
	Number and type of high temperature cells LDM60D LDM60MOD, LDM300MOD LDM60HOD, LDM300HOD LDM606WD, LDM3006WD	2 x LiFePO ₄ 1.8Ah 18650 cells 2 x LiFePO ₄ 2.3Ah 22650 cells 2 x LiFePO ₄ 3.4Ah 26650 cells 3 x LiFePO ₄ 3.4Ah 26650 cells
	Battery recharge period	<24 hours
	Time to full illuminance	<0.5 seconds
	Short-circuit-proof battery connection, over charge protection, over discharge protection, polarity reversal protection, deep discharge protection and thermal protection	Battery is fitted with 3 wires/connector to enable the thermal protection
	Battery charge current LiFePO ₄ 1.8Ah, 2.3Ah & 3.4Ah cells – voltage dependent, constant current	0-160mA
	Battery discharge current range (at nominal battery voltage) LiFePO ₄ 1.8Ah 18650 cells LiFePO ₄ 2.3Ah 22650 cells LiFePO ₄ 3.4Ah 26650 cells	325mA to 500mA (375mA) 475mA to 735mA (550mA) 650mA to 1000mA (750mA)
	Module operating current – see graphs on following pages LDM60D LDM60MOD LDM60HOD LDM606WD LDM300MOD LDM300HOD LDM3006WD	167mA to 38mA ±10% 226mA to 54mA ±10% 312mA to 76mA ±10% 380mA to 114mA ±10% 50mA to 9mA ±10% 66mA to 13mA ±10% 96mA to 21mA ±10%
	Module output voltage range (nominal power) LDM60D LDM60MOD LDM60HOD LDM606WD LDM300MOD LDM300HOD LDM3006WD	12V to 55V (2.0W) 12V to 55V (2.9W) 12V to 55V (4.0W) 15V to 55V (6.0W) 50V to 300V (2.7W) 50V to 300V (4.0W) 50V to 300V (6.0W)
	Integrated DALI power supply minimum/maximum output current	50mA/60mA
	The NFC interface allows for optional activation of the DALI power supply	Default is disabled
DALI Power Supply	No other DALI power supply is to be connected in parallel and the maximum volt drop for the DALI wires is 2V	
	DALI terminals are proof against mains voltage	
Insulation	Insulation between mains and battery, LED module, indicator LED	Double or reinforced insulation
	Insulation between mains and DALI	Basic insulation
	Output voltage from LDM60D, LDM60MOD, LDM60HOD and LDM606WD is SELV	< 60 V DC
Black Box Recording	A record is kept of the number and length of emergency/mains operations and control gear/battery temperatures.	This information can be downloaded via the NFC interface or a DALI controller
Mechanical	Module outside dimensions	L178mm x W30mm x H21mm
	Fixing centers	170mm
	Electrical connections	Push wire terminals
Standards Compliance	IEC 61347-1, IEC 61347-2-7, IEC 61347-2-13 & IEC 60598-2-22	Yes
	IEC 62034, IEC 62386-101*, IEC 62386-102*, IEC 62386-202* & IEC 62386-250	Yes
	IEC 55015 & IEC 61547	Yes
	Marks UKCA, CE	Yes

* DALI Standard version 2

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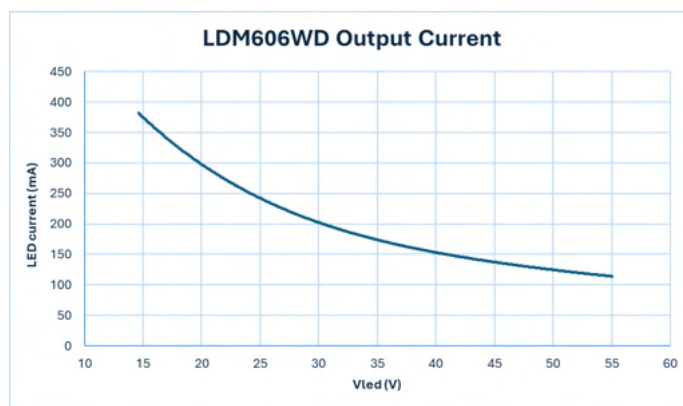
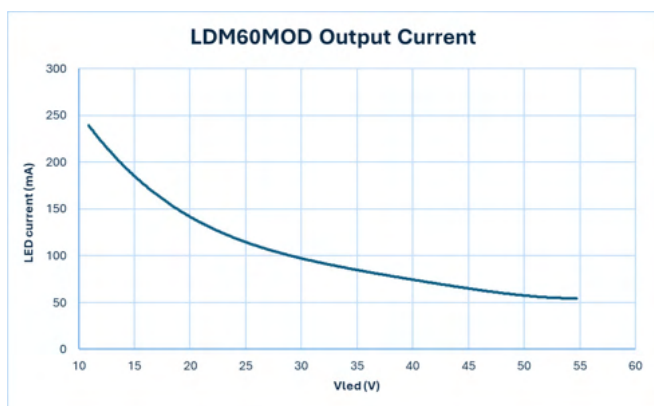
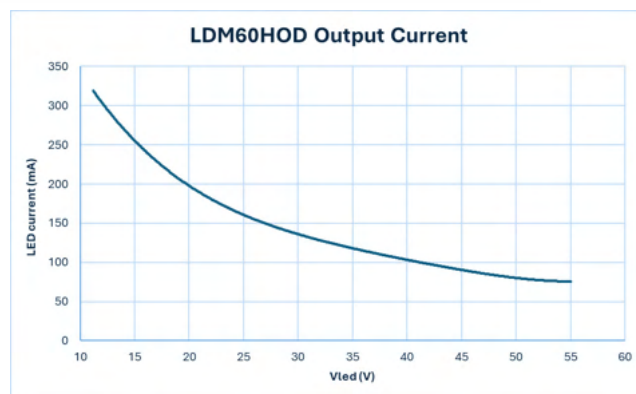
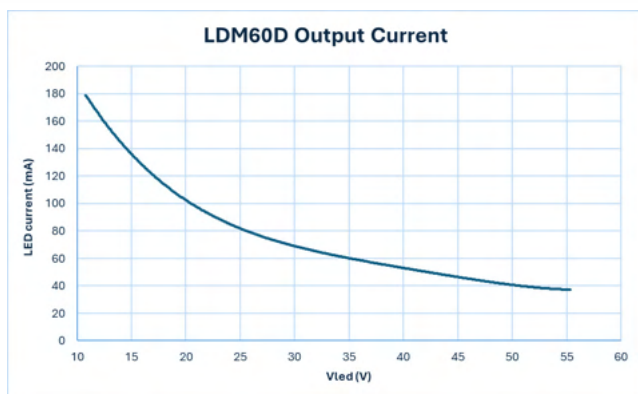
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LDM DALI-2 NFC Range

EMERGENCY LIGHTING PERFORMANCE FOR LED MODULES WITH DIFFERENT OPERATING VOLTAGES

NB: EOFI (Emergency output factor of the forward voltage) is given by: Emergency LED current / Rated mains LED current

LEDs WITH FORWARD OPERATING VOLTAGES 12V - 55V



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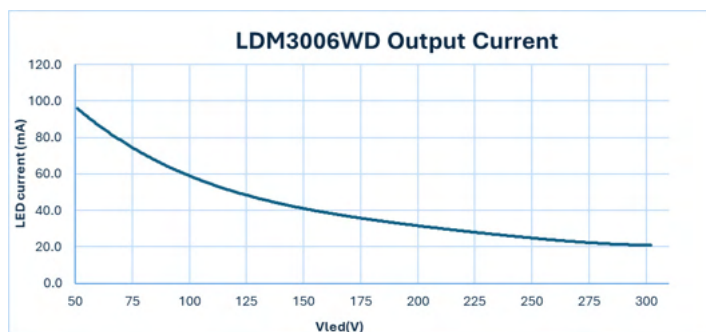
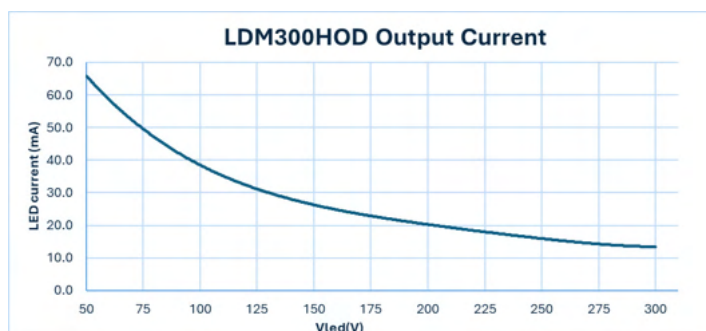
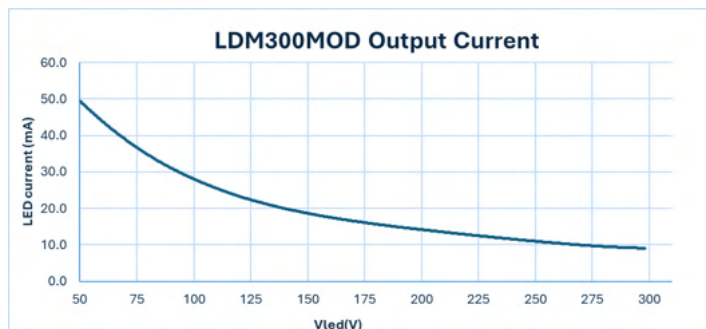
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EMERGENCY LIGHTING PERFORMANCE FOR LED MODULES WITH DIFFERENT OPERATING VOLTAGES

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LEDs WITH FORWARD OPERATING VOLTAGES

50V - 300V



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	Order Codes	Description
Emergency lighting control gear	LDM60D	12V to 55V DALI/Self-test standard output module with DALI PSU
	LDM60MOD	12V to 55V DALI/Self-test medium output module with DALI PSU
	LDM60HOD	12V to 55V DALI/Self-test high output module with DALI PSU
	LDM606WD	15V to 55V DALI /Self-test high output module with DALI PSU
	LDM300MOD	50V to 300V DALI /Self-test medium output module with DALI PSU
	LDM300HOD	50V to 300V DALI /Self-test high output module with DALI PSU
	LDM3006WD	50V to 300V DALI /Self-test high output module with DALI PSU
	Options: /PS	Integrated DALI power supply enabled
	Kit options: /K	Geartray kit including LED indicator, clip, battery, battery lead, battery end-caps & terminal covers
	/K/NC	Geartray kit including LED indicator, clip, battery, battery lead & battery end-caps
Batteries	/K/TU	Remote kit including LED indicator, clip, battery in protective tube, battery lead, battery end-caps & terminal covers
	B091T (for LDM60D)	1 x 2 cell stick - LiFePO ₄ 1.8Ah 18650 cells (EN 62620 designation – lfpR1865[1P2S]E060NA)
	B092T (for LDM60MOD & LDM300MOD)	1 x 2 cell stick - LiFePO ₄ 2.3Ah 22650 cells (EN 62620 designation – lfpR2265[1P2S]E060NA)
	B093T (for LDM60HOD & LDM300HOD)	1 x 2 cell stick - LiFePO ₄ 3.4Ah 22650 cells (EN 62620 designation – lfpR2265[1P2S]E060NA)
	B099T (for LDM606WD & LDM3006WD)	1 x 3 cell stick - LiFePO ₄ 3.4Ah 26650 cells (EN 62620 designation – lfpR2665[1P3S]E060NA)
	Options: /TU	Battery housed in remote polycarbonate tube
Battery Connectors	BL018/T	500mm battery connector for use with LiFePO ₄ 18650, 22650 & 26650 cells
	BL019/T	100mm battery connector for use with LiFePO ₄ 18650, 22650 & 26650 cells
Battery End-caps	B040	18650 cell end-cap (Note: 2 end-caps are required for B091T)
	B050	22650 cell end-cap (Note: 2 end-caps are required for B092T)
	B035	26650 cell end-cap (Note: 2 end-caps are required for B093T & B099T)
Indicator LED	LED1000/GRN/RED	1000m high brightness bi-colour green/red charge indicator LED
	S066	Indicator LED clip
Options for independent control gear		
	H222	Terminal covers / clamp set (2 supplied)

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