

LEDlight 20 W Universal dimmable series L05011i2 / L05011i3 / L05011i4

Lumotech®

Lumotech technology

Lumotech LED drivers are designed to efficiently power and control LED solutions for general lighting applications. System reliability is enhanced by features that protect the connected LED module, e.g. hot wiring, reduced ripple current and thermal derating. In the coming years LEDs will continue to increase in efficiency, creating new challenges for OEMs. With Lumotech LED drivers, flexibility in luminaire design is assured thanks to adjustable current outputs.



Benefits

- Designed with system reliability in mind:
 - Low inrush current
 - Low output current ripple
 - Short and open circuit protection, overload and over voltage protection
 - Thermal protection (automatic current limiter)
 - Support for hot-swapping of LEDs >3W
 - Excellent EMC behavior
- Future-proof flexibility - industry leading voltage and current range enabling seamless support of LED generations and minimizing supply chain complexity

Product features

- Wide output voltage range 6 - 42 Vdc
- Wide range of current settings 150 - 1200 mA
- 1-10V dimming and pulse dimming
- Max inrush current 0.25 A
- Low output current ripple (<1 %) at 100 Hz
- Active overcurrent protection
- Up to 85 % efficiency across a wide range of loads
- Power factor 0.97
- SELV
- ENEC certified
- Engineered and Manufactured in Europe

5 year warranty

Lumotech takes pride in the quality of its products. We not only develop all products in house, they are also produced in our own manufacturing plants to ensure guaranteed reliability and performance. Lumotech drivers come with the assurance of a 5 year warranty. After all, with typical LED lifetimes of 50,000 hours, it is critical to have a power supply with equal reliability.



Certificates and standards

- ENEC05, CE
- EN55015 / EN61000-3-2 / EN61347-2-13 / EN61347-1 / EN61547 / EN62384 / SELV

Classifications



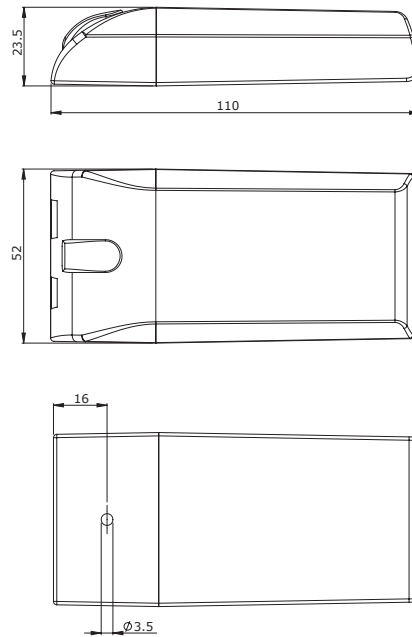
Specific technical data

Type	Efficiency at full load	Output current	Constant voltage output	Output voltage range	Open circuit output voltage	Max. output power	Dimming
L05011i2	85 %	150 - 1200 mA	6 - 42 Vdc	6 - 42 Vdc	48 Vdc	20 W	1 - 10 V, potentiometer 100K log b, pulse (SELV)
L05011i3	85 %	200 - 1200 mA (20W) 600 - 900 mA (24W)	-	6 - 42 Vdc	48 Vdc	20 W 24 W	1 - 10 V, potentiometer 100K log b (SELV)
L05011i4	85 %	200 - 1200 mA (20W) 600 - 900 mA (24W)	-	6 - 42 Vdc	48 Vdc	20 W 24 W	pulse (SELV)

Technical data

Rated supply voltage	220-240 Vac
Input voltage	180-240 Vac
Mains frequency	50/60 Hz
Output current tolerance	5 %
100 Hz ripple current at full load	<1 %
Power factor at full load	0.98
Standby power	350 mW
Nominal line current at 240 Vac	110 mA
Dimming method	linear
Minimum dim level	pulse: 15 mA - Off 1 -10V: 15 mA at 1V (<1 V = off)
Non volatile memory	Yes
Output voltage setting time	1 second
Output isolation	SELV
Surge protection (diff. / comm.)	2kV / 6kV
IP classification	IP 20
Circuit lifetime	50,000 hrs at Tc max.
Case dimensions	110 x 52 x 23.5 mm

Dimensions



Inrush current

Mains max. peak inrush at full load	0.25 A*	* Tested at 240 Vac, on phase 60° with TTI HA1600A analyzer.
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Maximum number of drivers on automatic circuit breakers

Automatic circuit breaker type	C10	C13	C16	C20	B10	B13	B16	B20
L05011i2 / L05011i3 / L05011i4	85	110	136	170	85	110	136	170

Thermal specifications

Ambient temperature range (Ta)	L05011i2: -20° to 40°C L05011i3,4: -20° to 42°C*	
Maximum case temperature (Tc)	L05011i2: <80°C L05011i3,4: < 70°C**	* -20° to 50°C when mounted on a heat conductive surface ** 80°C when mounted on a heat conductive surface at Ta 50°C
Storage temperature range	-20 to 50°C	

Ordering data

Part	Part number	Packaging carton	Multibox carton	Weight per pc.
LEDlight 20W Unidim 1-10V + Pulse dimmable 150 - 1200 mA	L05011i2	20 pieces	240 pieces	105 g
LEDlight 20W Unidim 1-10V dimmable 200 - 1200 mA	L05011i3	20 pieces	240 pieces	105 g
LEDlight 20W Pulse dimmable 200 - 1200 mA	L05011i4	20 pieces	240 pieces	105 g

Active overload protection

If the maximum output power is exceeded, the LED driver reduces the LED output to a current level within the specification of the driver. This prevents overload at all times.

Short-circuit protection

In case of a short circuit the LED driver switches to protection mode. After the removal of the short-circuit the LED driver will recover automatically.

Overtemperature protection

The LED driver is protected against thermal overload. If the temperature limit is exceeded, the output current is reduced.

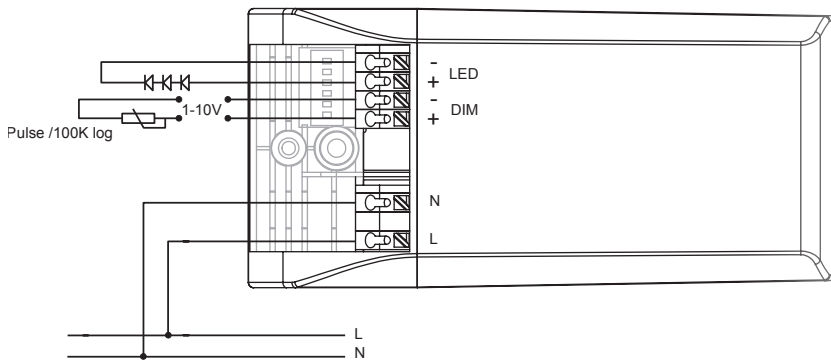
No-load operation

In no-load operation the output voltage will not exceed the specified open circuit output voltage.

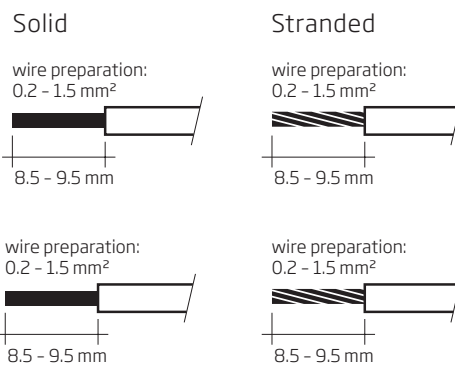
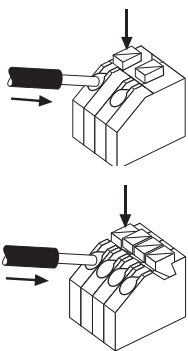
Active overcurrent protection

Active overcurrent protection to allow hotswapping of LEDs higher than 3 Watt.

Wiring diagram

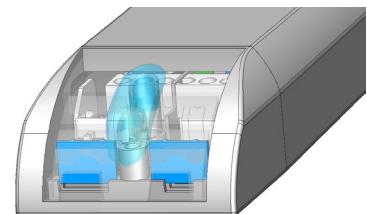


Wiring of device



Strain relief

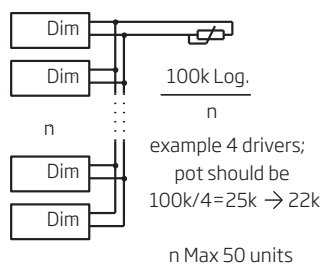
The strain relief inserts can be removed to accommodate wiring of larger diameters.



Dimming

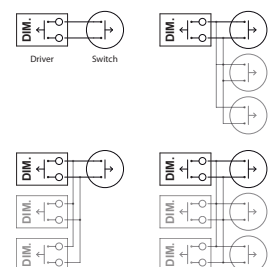
1 - 10 V dimming

In case of multiple drivers on one dimmer make sure that the wires are connected according to polarity.



Pulse dimming

In case of multiple drivers on one dimmer make sure that the wires are connected according to polarity.



L05011i3 / L05011i4 settings

Dipswitch settings

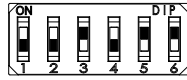
The constant current or constant voltage setting can be adjusted by using the dipswitch terminal on the driver. In these tables all the supported currents and voltages are listed down.

When the switch lever is in the up position (ON), it is seen as a '1'.
When the switch lever is in the down position (Off), it is seen as a '0'.

The examples below demonstrate two settings for the L05011i2.



1050mA 1-10V dim



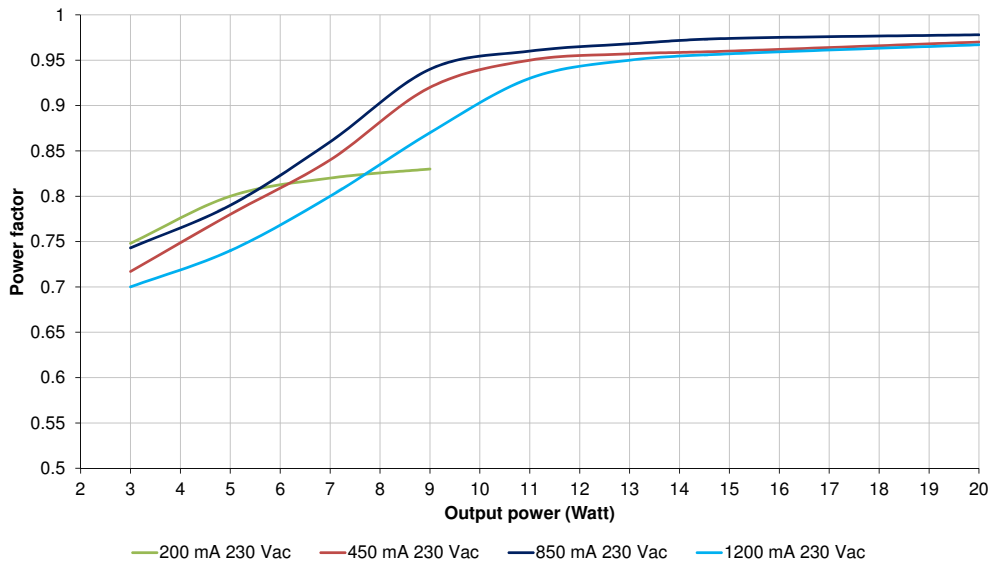
700mA 1-10V dim

L05011i2 settings

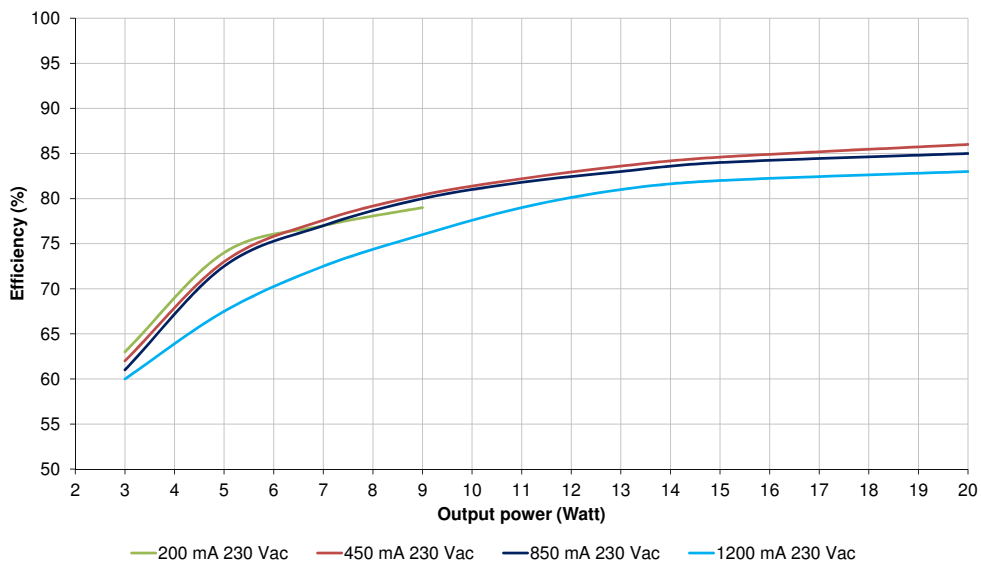
Switch No.	Dim mode	Setting					Current / voltage mode
		1	2	3	4	5	
reserved	X	1	0	0	0	0	1
150mA	X	0	1	0	0	0	1
240mA	X	1	1	0	0	0	1
350mA	X	0	0	1	0	0	1
360mA	X	1	0	1	0	0	1
480mA	X	0	1	1	0	0	1
500mA	X	1	1	1	0	0	1
550mA	X	0	0	0	1	0	1
650mA	X	1	0	0	1	0	1
700mA	X	0	1	0	1	0	1
720mA	X	1	1	0	1	0	1
900mA	X	0	0	1	1	0	1
1000mA	X	1	0	1	1	0	1
1050mA	X	0	1	1	1	0	1
1200mA	X	1	1	1	1	0	1
reserved	X	1	0	0	0	0	0
6V	X	0	1	0	0	0	0
8V	X	1	1	0	0	0	0
10V	X	0	0	1	0	0	0
12V	X	1	0	1	0	0	0
18V	X	0	1	1	0	0	0
19V	X	1	1	1	0	0	0
24V	X	0	0	0	1	0	0
28V	X	1	0	0	1	0	0
30V	X	0	1	0	1	0	0
32V	X	1	1	0	1	0	0
36V	X	0	0	1	1	0	0
38V	X	1	0	1	1	0	0
40V	X	0	1	1	1	0	0
42V	X	1	1	1	1	0	0
Pulse dim	1	X	X	X	X	X	X
1-10V dim	0	X	X	X	X	X	X

Switch no.	Setting						U Max (V)
	1	2	3	4	5	6	
200mA	0	1	0	0	0	0	42.0
220mA	1	1	0	0	0	0	42.0
240mA	0	0	1	0	0	0	42.0
260mA	1	0	1	0	0	0	42.0
280mA	0	1	1	0	0	0	42.0
300mA	1	1	1	0	0	0	42.0
320mA	0	0	0	1	0	0	42.0
340mA	1	0	0	1	0	0	42.0
360mA	0	1	0	1	0	0	42.0
380mA	1	1	0	1	0	0	42.0
400mA	0	0	1	1	0	0	42.0
420mA	1	0	1	1	0	0	42.0
440mA	0	1	1	1	0	0	42.0
460mA	1	1	1	1	0	0	42.0
480mA	0	0	0	0	1	0	41.7
500mA	1	0	0	0	1	0	40.0
520mA	0	1	0	0	1	0	38.5
540mA	1	1	0	0	1	0	37.0
560mA	0	0	1	0	1	0	35.7
580mA	1	0	1	0	1	0	34.5
600mA	0	1	1	0	1	0	33.3
620mA	1	1	1	0	1	0	32.3
640mA	0	0	0	1	1	0	31.3
660mA	1	0	0	1	1	0	30.3
680mA	0	1	0	1	1	0	29.4
700mA	1	1	0	1	1	0	28.6
720mA	0	0	1	1	1	0	27.8
740mA	1	0	1	1	1	0	27.0
760mA	0	1	1	1	1	0	26.3
780mA	1	1	1	1	1	0	25.6
800mA	0	0	0	0	0	1	25.0
820mA	1	0	0	0	0	1	24.4
840mA	0	1	0	0	0	1	23.8
860mA	1	1	0	0	0	1	23.3
880mA	0	0	1	0	0	1	22.7
900mA	1	0	1	0	0	1	22.2
920mA	0	1	1	0	0	1	21.7
940mA	1	1	1	0	0	1	21.3
960mA	0	0	0	1	0	1	20.8
980mA	1	0	0	1	0	1	20.4
1000mA	0	1	0	1	0	1	20.0
1020mA	1	1	0	1	0	1	19.6
1040mA	0	0	1	1	0	1	19.2
1060mA	1	0	1	1	0	1	18.9
1080mA	0	1	1	1	0	1	18.5
1100mA	1	1	1	1	0	1	18.2
1120mA	0	0	0	0	1	1	17.9
1140mA	1	0	0	0	1	1	17.5
1160mA	0	1	0	0	1	1	17.2
1180mA	1	1	0	0	1	1	16.9
1200mA	0	0	1	0	1	1	16.7
600mA (24W)	1	0	1	0	1	1	40.0
650mA (24W)	0	1	1	0	1	1	36.9
700mA (24W)	1	1	1	0	1	1	34.3
750mA (24W)	0	0	0	1	1	1	32.0
800mA (24W)	1	0	0	1	1	1	30.0
850mA (24W)	0	1	0	1	1	1	28.2
900mA (24W)	1	1	0	1	1	1	26.7
350mA	0	0	1	1	1	1	42.0
500mA	1	0	1	1	1	1	40.0
700mA	0	1	1	1	1	1	26.7
1050mA	1	1	1	1	1	1	19.1

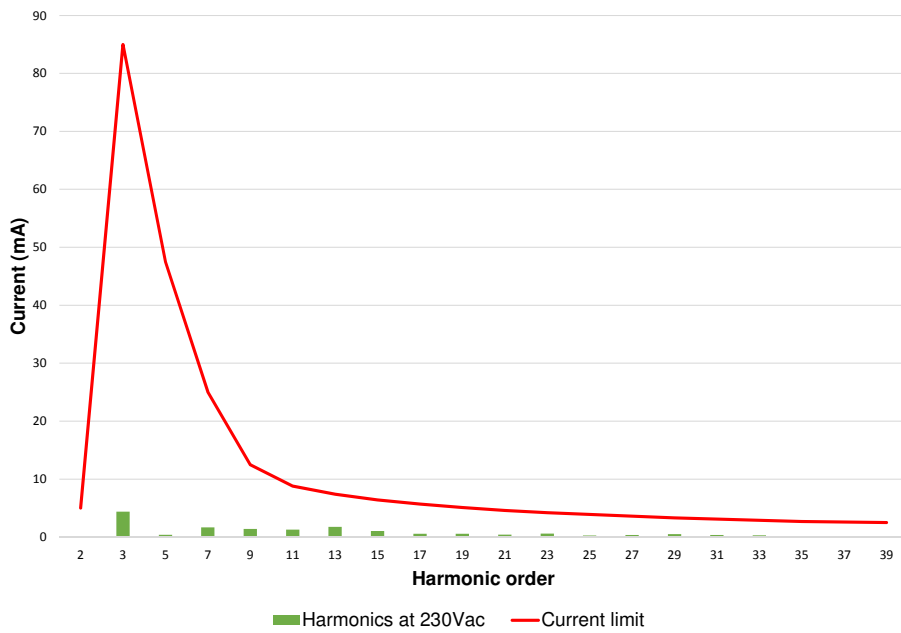
Power factor L05011i2



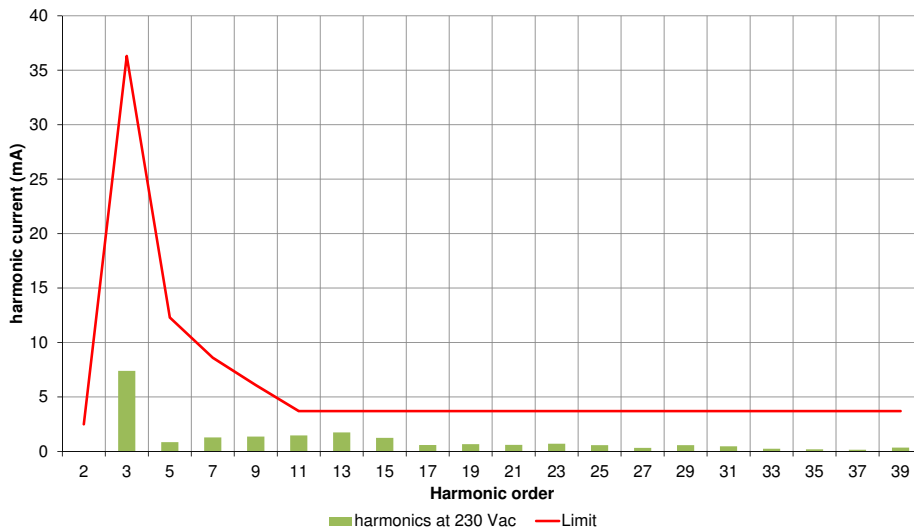
Efficiency L05011i2



Harmonics L05011i (limit according to IEC 61000-3-2 table 3)



Harmonics L05011i3/i4 (limit according to IEC 61000-3-2 table 2)



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