NAFSCB50-120277-600-1200 010V-W

Art.168354

Product features

- Slim body design constant current LED driver
- Supports 0/1-10 V dimming
- Programmable parameters via 2-wire QuickSet
- Selectable dimming profile for 0/1-10 V dimming
- Standby power < 0.5 W
- Lifetime 50,000 h
- Flicker-free, meets requirements of IEEE 1789-2015
- Complies with Energy Star, DLC & CA Title 24 requirements



Product specifications

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Output current	Input voltage	Output voltage	Efficiency @ full load	Current accuracy	Power factor
600 … 1,200 mA	120 ... 277 VAC	15 … 52 VDC	90 % (@ 277 VAC) 88.5 % (@ 120 VAC)	± 5 % (typical)	0.9 (Output Power > 29 W)

Electrical specifications

Mains voltage supply

Rated input voltage range	120 … 277 VAC; performance range
Max. input voltage range	108 … 305 VAC; operational safety range
Rated frequency range	50 / 60 Hz
Performance/Operational safety	47 … 63 Hz
Max. input current	0.5 A @ 120 VAC
Standby Power	< 0.5 W
Starting time	120 VAC: typ. 0.4 s; max. 0.5 s / 277 VAC: typ. 0.35 s; max. 0.5 s

Protection against voltage peaks

Withstand voltage	I/p-O/p: 1.6 kVac, < 5 mA 60 sec, I/p-earth: 1.5 kVac, < 5 mA 60 sec, O/p-earth: 0.5 kVac, < 5 mA 60 sec
Mains surge immunity	L-N 1 kV, L/N-earth 2kV 2.5 kV ring wave

Total harmonic distortion (THD)

At rated input voltage range @ full load	≤ 15 %

Output data

Output current tolerance	± 5 % at rated input voltage performance range (600 … 1,200 mA)
No load output voltage	≤ 60 VDC
Ripple output current	5 % (ripple = peak/average total 120 Hz); Compliant with IEEE1789-2015

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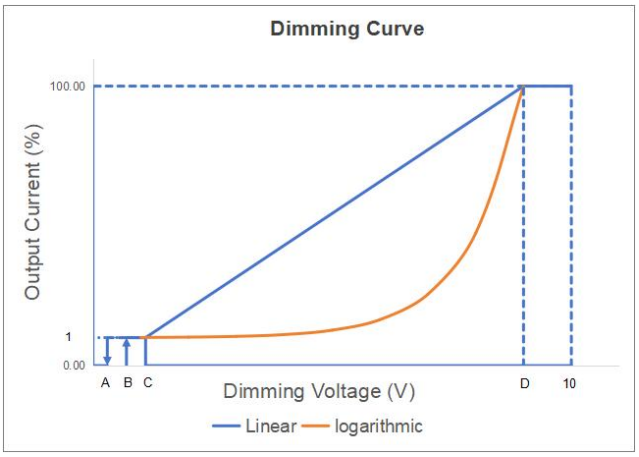
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Protection functions output side

Overvoltage protection	The output voltage is less than or equal to 60 V
Overpower protection	The output power is less than or equal to 55 W
Short circuit protection	Hiccup mode. Protection device will trigger when short circuit and will auto recover after the fault mode is removed.

Dimming operation and interface

Dimming mode	0/1-10 V input voltage 120 … 277 VAC (Programming by 2-Wire QuickSet, see sec. “Introduction to Programmable Functions” for details)
Dimming method	Amplitude dimming
Dimming current range	1.2 … 1,200 mA (brightness: 0.1 … 100 %)
Dimming profiles	Selectable 0/1-10 V dimming profile (linear, logarithmic) Default: 0-10 V, linear (1.0 V - 1 % light level, 8.0 V - 100 % light level)



Typical dimming voltage points	
Point	Voltage
A	0.7 V
B	0.9 V
C	1.0 V
D	8.0 V

Wiring

Main input wire	UL1332, 18 AWG, 300 V, 200℃, black L, white N, wire exposed 6.0 + 0.39 in (152 + 10 mm), tinplating length 0.39 ± 0.04 in (10 ± 1 mm).
Main output wire	UL1332, 20 AWG, 300 V, 200℃, red LED+, blue LED-, wire exposed 6.0 + 0.39 in (152 + 10 mm), tinplating length 0.39 ± 0.04 in (10 ± 1 mm).
DIM control wire	UL1332, 22 AWG, 300 V, 200℃, purple DIM+, pink DIM-, wire exposed 6.0 + 0.39 in (152 + 10 mm), tinplating length 0.39 ± 0.04 in (10 ± 1 mm).

Degree of protection

Protection rating	IP20

Operating data

Output current range	600 … 1,200 mA (programmable)
Default output current	1,200 mA
Output voltage range	15 … 52 VDC
Noise level	< 20 dB(A) at full load @ 100 cm distance

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Supplementary instructions

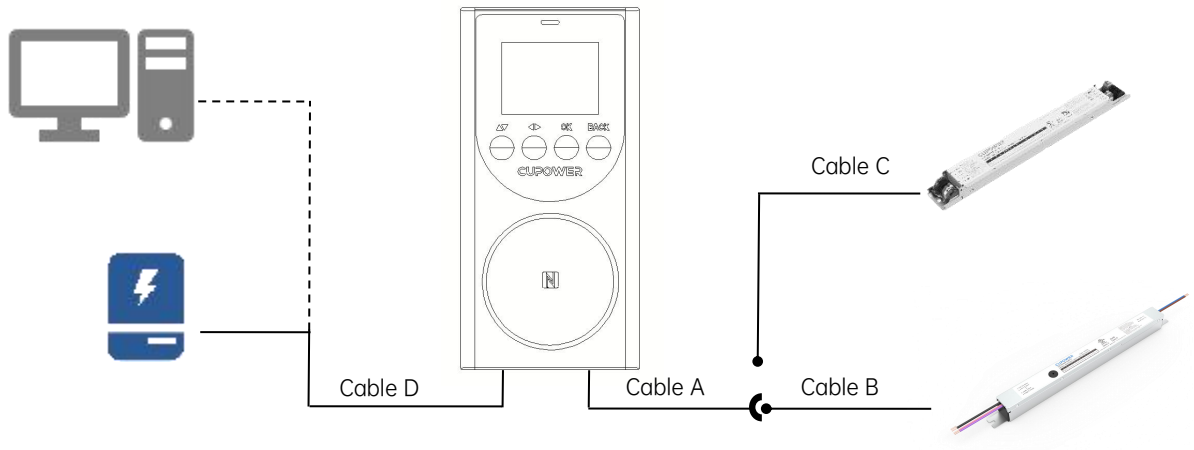
- The luminaire manufacturer is responsible for measuring and verifying the EMI compliance of the complete luminaire, as the level of radio interference will vary depending on the luminaire construction. Especially primary and secondary cable lengths and their routing may have a significant effect on radio interference.
- If the dimming depth is set too deeply, please make sure that the minimum current requirement for the LED light beads is met, and all the LED bulbs are in sync to prevent the situation where some LED bulbs fail to light up properly at lower brightness levels.

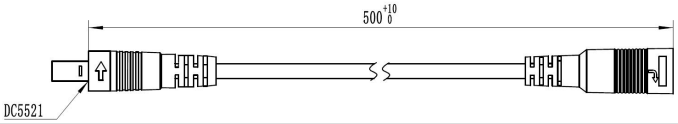
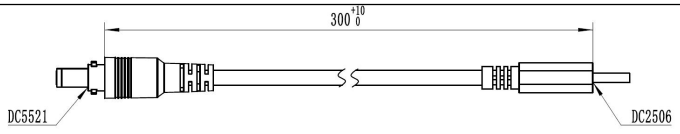
Introduction to Programmable Functions

The driver can be programmed by inserting one end of the programmer into the driver and the other end into the USB port of the computer. The driver does not need to be powered on during the programming process When ordering drivers, make sure you order the appropriate programmer.

NO.	Item
1	Program via 2-wire QuickSet
2	Support for reading product information, operating time, firmware version, number of failures
3	Dim-to-off (Default: off)
4	Customize the setting for the minimum screen brightness
5	CLO (Constant Lumen Output)
6	Modify the 0-10 V dimming curve： Linear, Logarithmic (Default: Linear)

2-Wire QuickSet



Cable A		Cable A is an adapter cable; its left side connects to the MP02-USB, and its right side connects to either cable B or C.
Cable B		Cable B is the programming cable; its left side connects to cable A, and its right side connects to the product to be programmed.

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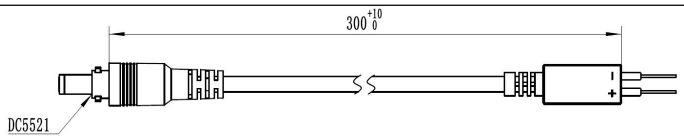
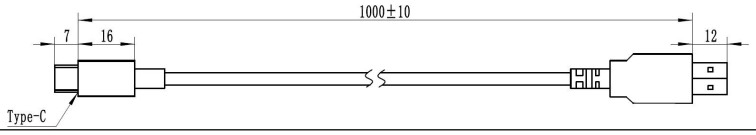
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Cable C		Cable C is the programming cable; its left side connects to cable A, and its right side connects to the product to be programmed.
Cable D		The D cable is the power and communication cable, used to connect the MP02-USB to a USB power source or a computer.

Environmental specifications

Operating temperature	-20 … +50 °C
Storage temperature	-25 … +85 °C
Working humidity	10 … 90 %
Storage humidity	5 … 95 %
Lifetime	at Tc 80 °C: 50,000 h. @ performance range (0.2 % / 1,000 h failure rate)
Maximum Tc temperature	90 °C

Safety & EMC compliance

UL (Cert. No.: E467833)
UL8750
CLASS P
CSA C22.2 NO. 250.13
CLASS 2

FCC
FCC 47 CFR Part 15 Subpart B
ICES-005 Issue 5

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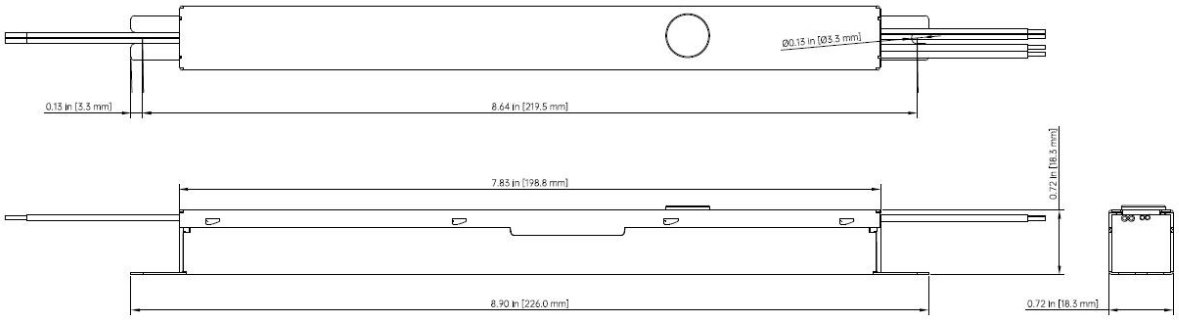
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Dimensions

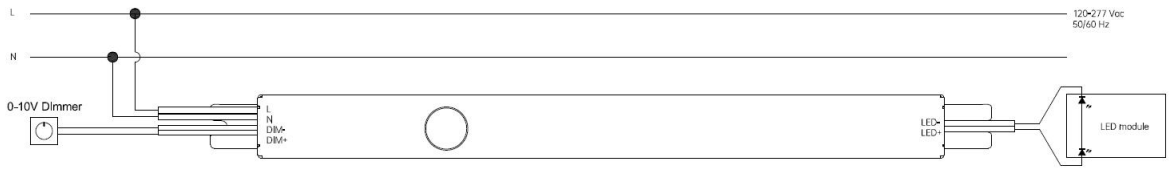
Housing dimensions	
Length (L)	8.90 in (226.0 mm)
Width (W)	0.72 in (18.25 mm)
Height (H)	0.72 in (18.25 mm)

For all dimensions: values in in/mm; tolerances: ± 0.5 mm

Packaging details	
Packing units	50 pcs
Carton size	12.60 x 9.72 x 6.81 in (320 x 247 x 173 mm)
Carton weight	7.7 kg
Product weight	0.135 kg



Wiring diagram



- All connections must be as short as possible to ensure good EMI performance.
- The luminaire wire should keep a certain distance from the LED power supply and other wires (5 … 10 cm is preferred).
- No secondary switches are allowed.
- Incorrect wiring can damage the LED.
- The wire must be well protected against short circuit.
- The product is grounded through the casing.

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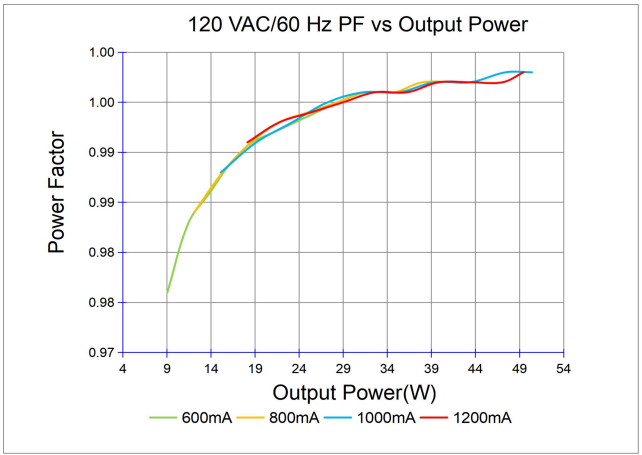
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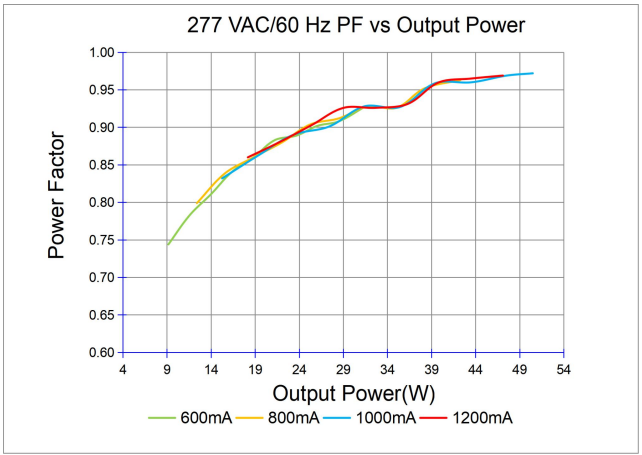
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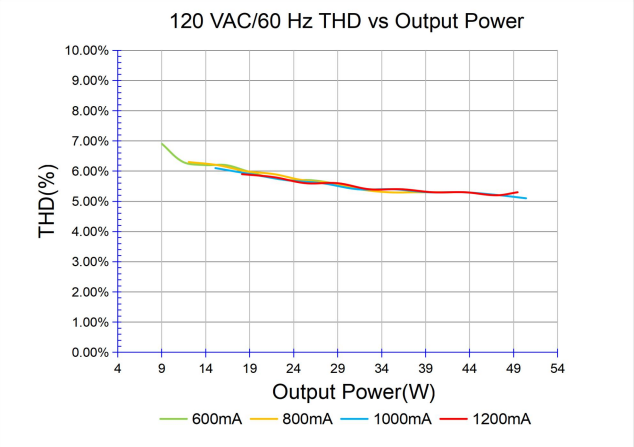
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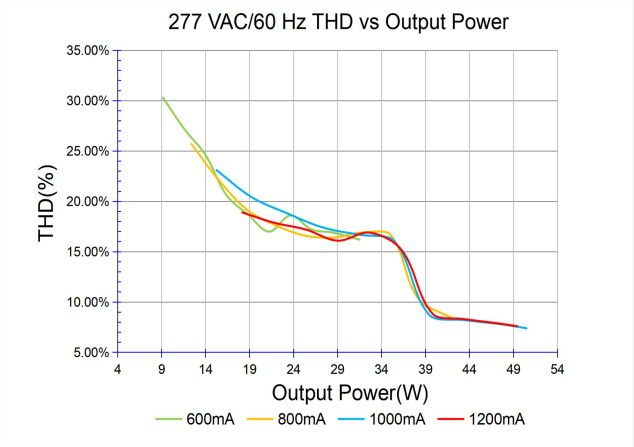
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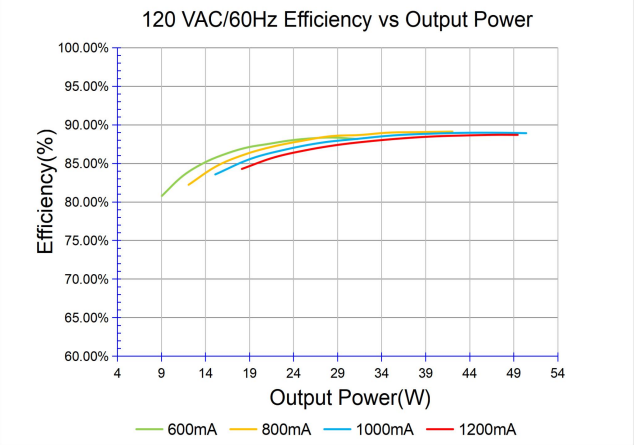
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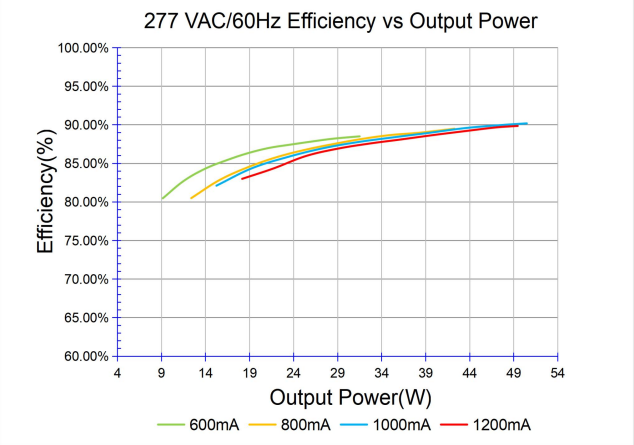












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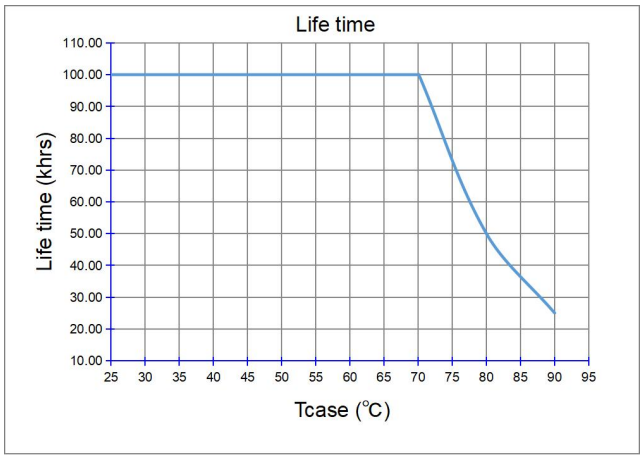
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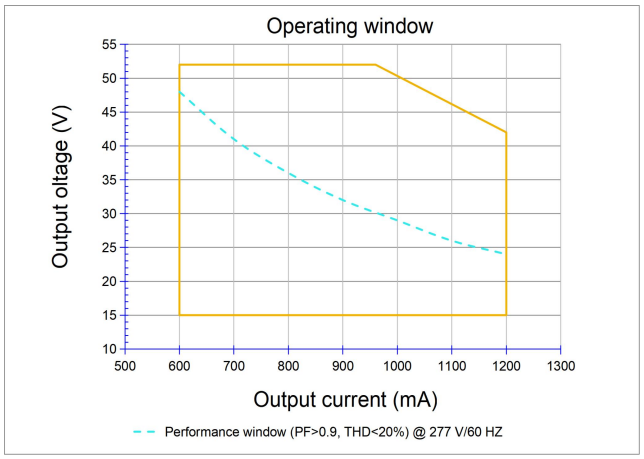
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at Tc 75 °C (0.2 % / 1,000 h failure rate)



It's important to set the output current (AOC value) according to the LED voltage and make sure the power is within 50 W + 5 %.

Example of AOC settings

V LED (Vdc)	AOC max	Pout (W)
42	1,200 mA	50.4
50	1,000 mA	50
52	961 mA	50

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