

PS-LMWV-100-12/24

Product description

- Constant voltage LED power supply 12 / 24 V
- Low profile design 20 mm
- Metal casing, encapsulated
- High efficiency, low power loss
- Type of protection IP67
- Short-circuit shutdown feature with automatic
- Overtemperature and overload protection
- Nominal life-time up to 50,000 h at t_a 50 °C with a failure rate max. 0.2 % per 1,000 h
- 5-year guarantee
- Complies with CLASS C according to EN 61000-3



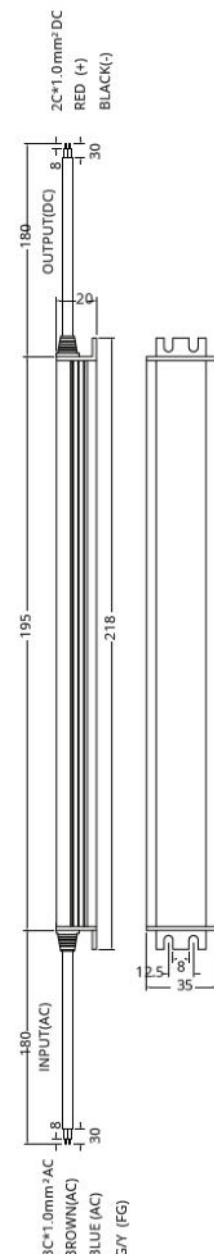
Illustration 1: PS-LMWV-100-12/24S LED driver

Applications

- Optimized for use in flat light boxes and channel letters
- Channel letters with narrow to medium beam width
- Contours and lines
- Accent lighting

Technical data

parameter	value
Rated supply voltage	200 VAC - 240 VAC
Rated current (at 230 V, 50 Hz, full load)	≤ 0,7 A
Mains frequency	50 - 60 Hz
Efficiency (at 230 V 50 Hz, full load)	90 %
λ (at 230 V, 50 Hz, full load)	0,95
Output voltage tolerance 12 V	11,5 - 12,5 V
Output voltage tolerance 24 V	23,5 - 24,5 V
Output power ($t_a \leq 50$ °C)	100 W
Output power range	10 - 100 W (min. 0,1 A)
Output voltage	12 V / 24 V
Rated output current 12 V	8,3 A
Rated output current 24 V	4,15 A
Ripple	≤ 600 mV
Ambient temperature t_a	-25 bis +50 °C
Relative ambient humidity	10 bis +95 %



Storage temperature t_s	-35 to +65 °C
Type of protection ¹	IP67
Vibration	10 bis 500Hz, 1,0mm, 15 Min (für X, Y, Z axes)
Dimensions L x W x H	218 x 35 x 20 mm
Hole spacing	25 mm
Dielectric strength (Hi-Pot)	3,75 KVAC / 10 mA / 3S (I/P-O/P) 1,75 KVAC / 10 mA / 3S (I/P-Case)
insulation resistance	100 MΩ / 500 VDC / 3S
Earthing resistance	≤ 0,5 Ω
MTBF	50.000 h MIL-HDBK-217F (25 °C)
Weight	0,33 kg

Ordering data

type	packaging	packaging over carton	weight per pc
PS-LMWV-100-12S	1 pcs	50 Stk (5 layer á 10 Stk)	0,33 kg
PS-LMWV-100-24S	1 pcs	50 Stk (5 layer á 10 Stk)	0,33 kg

- Single pc carton: 260 x 50 x 30 mm (0,33 kg Nettogewicht)
- Over carton: 350 x 320 x 205 mm (17,0 kg Bruttogewicht)

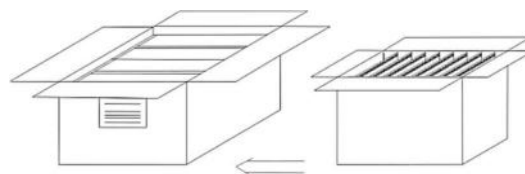


Illustration 3: 1 over carton = 50 single pc cartons

Specific technical data

type	max.casing temperature t_c	output voltage	max. input power	output voltage range	max. output voltage at failure mode
PS-LMWV-100-12S	75 °C	12 V	116 W	0,1 - 8,7 A	12,5 V
PS-LMWV-100-24S	75 °C	24 V	116 W	0,1 - 4,3 A	24,5 V

Type code

- E.g.: PS-LMWV-100-12/24S

parameter	value
PS	Power Supply (driver)
LMWV	Constant voltage DC
100	Rated output power
12/24S	DC output voltage

Norms & Standards

- EN 55015:2013+A1:2015
- EN 61547:2009
- EN 61000-3-2:2014
- EN 61000-3-3:2013
- EN 61347-1 :2015+A1:2016
- EN 61347-2-13:2014

¹ According DIN EN 60529: 1. digit: 6 / dustproof; 2. digit: 7 / Protection against temporary submergence. Not suitable for underwater applications or permanent immersion.

Maximum load of automatic circuit breakers / inrush current

circuit breaker	C10	C13	C16	C20	B10	B13	B16	B20	inrush current	
cable diameter mm ²	1,5	1,5	1,5	2,5	1,5	1,5	1,5	2,5	I max	pulse duration
PS-LMWV-100-12S	5	7	8	10	3	4	5	6	40 A	0,52 ms
PS-LMWV-100-24S	5	7	8	10	3	4	5	6	40 A	0,52 ms

Harmonic content of mains supply

Typ	THD	3	5	7	9	11
PS-LMWV-100-12S	2	2	2	3	2	4.6
PS-LMWV-100-24S	2	5	2	3	2	2

 (at 230 V / 50 Hz and full load) in %

Expected lifetime

type	output voltage	ambient temperature ta	25 °C	40 °C	50 °C
PS-LMWV-100-12S	12 V	life time	100.000h	66.667h	50.000h
PS-LMWV-100-24S	24 V	life time	100.000h	66.667h	50.000h

Cable cross-sections

type	input (PRI)	output (SEC)
PS-LMWV-100-12S	3 x 0,75mm ²	2 x 1 mm ²
PS-LMWV-100-24S	3 x 0,75mm ²	2 x 0,75 mm ²

Product behavior in failure mode

Overload protection

Automatic shutdown of the LED Driver if the maximum output current is exceeded. Automatic restart if the output current is below the limit.

No-load operation

The LED Driver is not damaged in no-load operation. The max. output voltage (see page1) can be obtained during no-load operation.

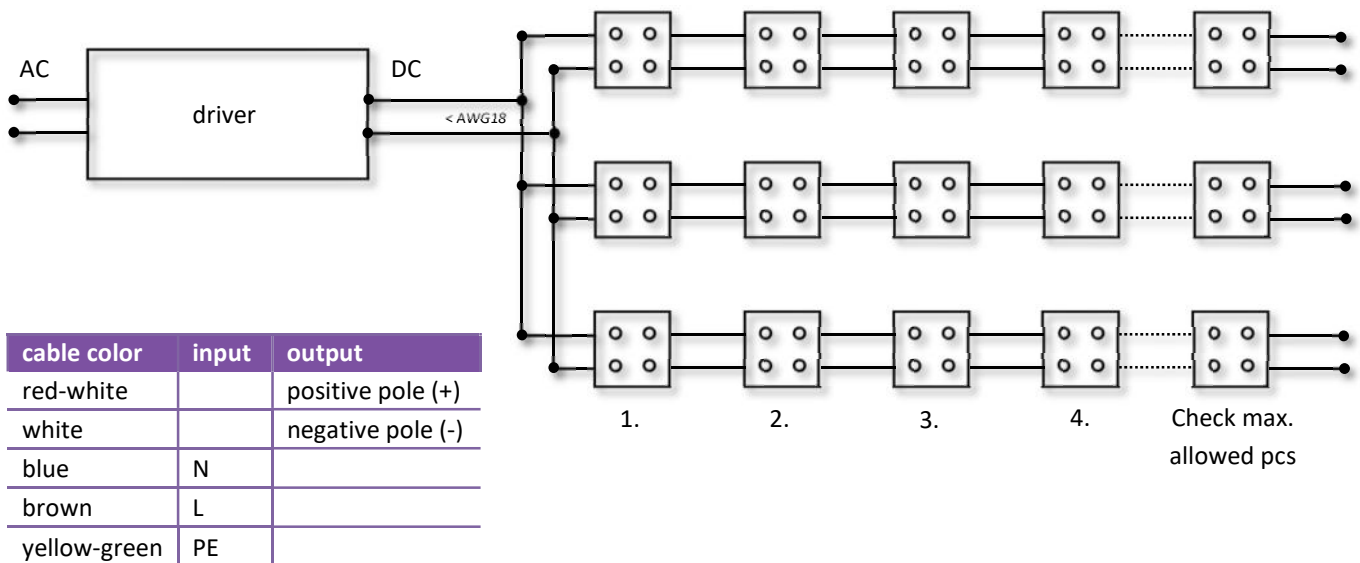
Over temperature protection

Automatic shutdown of the LED Driver if the temperature limit is exceeded. Automatic restart if the temperature falls below the limit.

Short-circuit behaviour

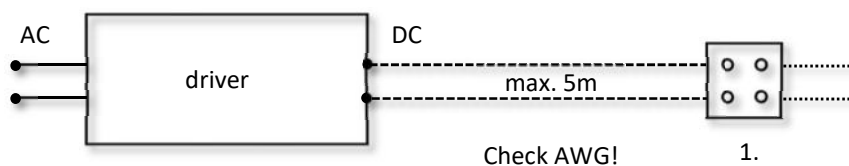
In case of a short circuit on the secondary side (LED) the LED Driver switches into hiccup mode. After removal of the short-circuit fault the LED Driver will recover automatically.

Wiring example



- Check maximum allowed pcs of LED-Module per strand
- Apply supply voltage only to one side per strand ²
- Reverse polarity can lead to the defect of the product
- Ensure the correct cable cross-section of the connecting cables between the LED modules
- Connect the cables to the individual strings with a larger cable cross-section (<AWG18)
- Do not connect 2 or more drivers in parallel on the output side! (do not operate 1 LED module with 2 drivers in parallel)
- The secondary-side switching of the LEDs is not permitted.
- The proper operation of the LED driver in conjunction with third party dimming devices (e.g., PWM) cannot be guaranteed.

Recommendation cable cross section for secondary supply cable to 1st LED module



- The length of the supply line from the output side of the driver to the first LED module must not exceed 5 m.
- The exact calculation of the cable section must be carried out by a licensed electrician.
- To calculate the cross-section, please use the following table as a non-binding recommendation:

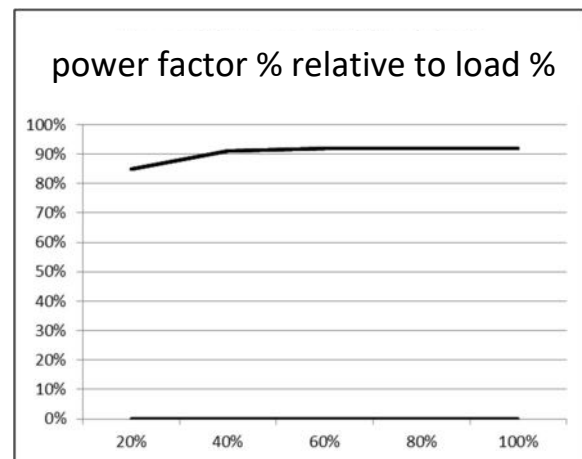
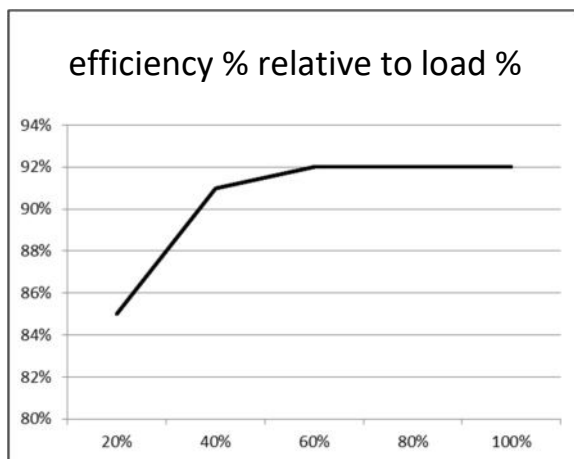
power	current	cable cross-section
12 W	1 A	0,75 mm ²
24 W	2 A	1,0 mm ²
48 W	4 A	1,5 mm ²
72 W	6 A	2,0 mm ²
96 W	9 A	2,5 mm ²

² Both-sided supply voltage (on both beg. and end of strand) can lead to current overflow and can result in destruction of LED modules.

⚙ Mechanical fixing / arrangement

- ⚙ Hole spacing: 25 mm
- ⚙ Max. torque for screw connection: 5 Nm
- ⚙ Only mount the product vertically or upside down.
- ⚙ Only install horizontally on the floor, if it can be excluded that no condensate or moisture can accumulate.
- ⚙ Do not use detergents containing acetone or acetic acid.
- ⚙ When using several drivers, do not fall below the minimum distance of 10 cm between the drivers! ("1 hand width" minimum distance)
- ⚙ Ensure adequate ventilation when installed in the control cabinet

⚙ Diagrams 12 V



⚙ Warranty

- ⚙ The warranty period for the product is 60 months from date of purchase. The purchase date is determined using the purchase document.
- ⚙ The guarantee covers only those defects which were identified during the warranty period and are attributable to production and construction factors.
- ⚙ In the guarantee case, the product is repaired, replaced or the manufacturer replaces the value at the manufacturer's option.
- ⚙ The guarantee obligations do not cover:
 - Mechanical damage and damage caused by the action of attacking medium and temperatures outside the permissible parameters.
 - Faults due to incorrect connection and incorrect operation. As well as for cases of improper use.
 - Incorrect power supply parameters, overvoltage including due to incorrect calculation of power supply performance or use of faulty power supply.
 - Cases where the power supplies used have an output voltage which does not meet the requirements of the product and which exceed or exceed the specified range.