



Product Description:

- Constant voltage LED power supply
- Universal input voltage range
- Constant output voltage
- Connection cable with stripped cable end (length approx. 500 mm)
- Polarity identifiers, secondary + red / - black
- Metal casing, encapsulated
- Nominal life-time up to 50,000 h (at Ta 50 °C with a failure rate max. 0.2 % per 1,000 h)
- 5-year guarantee
- Suitable for emergency installations according to EN 50172
- Complies with CLASS C from 70 to 100 % load according to EN 61000-3-2



Properties:

- Small design
- Low power loss
- Over-temperature and overload protection
- Short-circuit shutdown feature w/ automatic restart
- SELV
- Type of protection: IP67
- Metal casing



ORDERING GUIDE

Type 12V	LCU 60W 12V IP67 TOP
Type 24V	LCU 60W 24V IP67 TOP
Article Number 12V	28000509
Article Number 24V	28000512
Packaging Carton 12V	10 pc(s).
Packaging Carton 24V	10 pc(s).
Packaging Pallet 12V	480 pc(s).
Packaging Pallet 24V	480 pc(s).
Weight per pc. 12V	0.45 kg
Weight per pc. 24V	0.45 kg

SPECIFIC TECHNICAL DATA

Type 12V	LCU 60W 12V IP67 TOP
Type 24V	LCU 60W 24V IP67 TOP
Max. Casing Temp Tc (both)	90° C
Output Voltage 12V	12 V
Output Voltage 24V	24 V
Max. Input Power 12V	74 W
Max. Input Power 24V	74 W
Output Current Range 12V	0.5 - 5.0 A
Output Current Range 24V	0.25 - 2.5 A
Max Output Voltage ¹ 12V	13.2 V
Max. Output Voltage ¹ 24V	25.2 V

Safety	Safety Standards
UL / cUL	UL 8750, CSA-C22.2 No.207, CAN/CSA-C22.2 No.0,
Country	UL 1012, CSA-C22.2 107.1
USA & Canada	UL 879, CSA-C22.2 No.250.0,
	UL 879A, CSA-C22.2 No.250.13,
	CAN/CSA-C22.2 No. 60950-1
	CAN/CSA-C22.2 No.223

TECHNICAL DATA

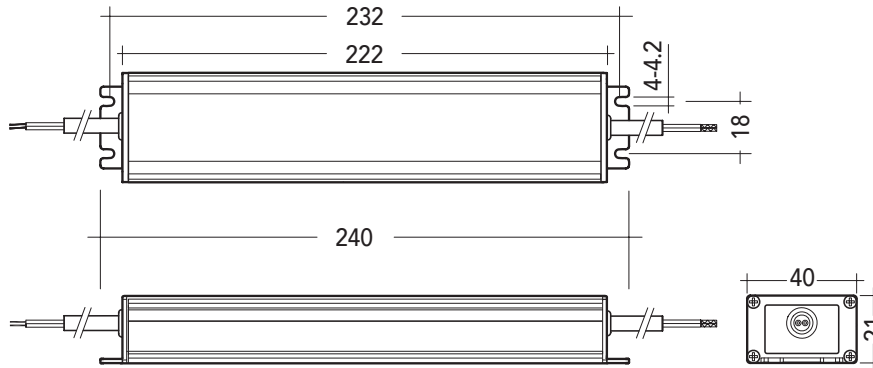
Rated Supply Voltage ²	100 - 277 V
Input Voltage, AC ²	90 - 305 V
Input Voltage, DC	176 - 288 V
Rated Current (at 230 V, 50 Hz)	0.32 A
Mains Frequency	0 / 50 / 60 Hz
Efficiency (at 230 V, 50 Hz, full load)	> 85%
λ (at 230 V, 50 Hz, full load)	0.95
Output Voltage Tolerance 12 V	-0 / +10 %
Output Voltage Tolerance 24 V	-0 / +5 %
Output Power (ta ≤ 60°C)	60 W
Output Power (ta > 60°C)	48 W
Output Power Range	6 - 60 W
Turn On Time (Output)	≤ 0.5 s
Turn Off Time (Output)	≤ 1 s
Hold on Time at Power Failure (Output)	10 ms
Ambient Temperature Ta	-25 ... +70° C
Ambient Temperature Ta (at life-time 50,000 h)	-25 ... +50° C
Storage Temperature Ts	-25 ... +85° C
Dimensions (L x W x H)	240 x 40 x 21 mm
Hole Spacing	232 x 18 mm

REV: 30MAY2019
Data sheet subject to change without notice.

¹ At failure mode (230 V, 50 Hz)
² 90 - 108 V AC; ta ≤ 60°C: max load = 48W, ta > 60°C: max load = 38W



DIMENSION DRAWINGS



EXPECTED LIFE-TIME

Type	Output Voltage	Ta	40° C	50° C	60° C
LCU 60W 12V IP67 TOP	12 V	Tc	65° C	75° C	85° C
		Life-time	> 100,000 h	> 50,000 h	> 25,000 h
		Tc	65° C	75° C	85° C
LCU 60W 24V IP67 TOP	24 V	Tc	65° C	75° C	85° C
		Life-time	> 100,000 h	> 50,000 h	> 25,000 h
		Tc	65° C	75° C	85° C

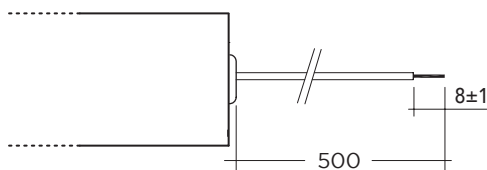
HARMONIC DISTORTION IN THE MAINS SUPPLY (AT 230 V / 50 HZ AND FULL LOAD IN %)

Type	THD	3	5	7	9	11
LCU 60W 12V IP67 TOP	10	2	1	2	1	1
LCU 60W 24V IP67 TOP	10	2	1	2	1	1

MAXIMUM LOADING OF AUTOMATIC CIRCUIT BREAKERS

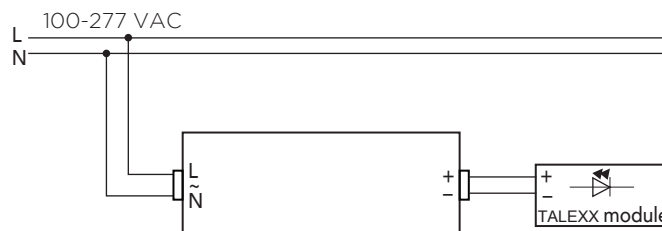
Automatic Circuit Breaker Type	C10	C13	C16	C20	B10	B13	B16	B20	Inrush Current
Installation Ø	1.5 mm ²	1.5 mm ²	1.5 mm ²	2.5 mm ²	1.5 mm ²	1.5 mm ²	1.5 mm ²	2.5 mm ²	I _{max} * time
LCU 60W 12V IP67 TOP	14	18	22	28	8	10	13	16	47 A 95 µs
LCU 60W 24V IP67 TOP	14	18	22	28	8	10	13	16	47 A 95 µs

CONNECTION



Primary Cable		Secondary Cable	
L	N	+	-
brown	blue	red	black

WIRING DIAGRAM



PRI:

Ø 7.7 ±0.2 mm; 2 x 1.04 mm² (17 AWG)

SEC:

Ø 7.7 ±0.2 mm; 2 x 1.04 mm² (17 AWG)

Installation instructions

The switching of LEDs on secondary side is not permitted. A proper functioning of the LCU in combination with third party dimming devices (e.g. PWM) cannot be guaranteed.



STANDARDS

- EN 55015
- EN 60598-1
- EN 60598-2-22
- EN 61000-3-2
- EN 61000-3-3
- EN 61347-1
- EN 61347-2-13
- EN 61547
- EN 62384
- EN 62493
- Acc. to EN 50172: suitabel for central battery systems

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 power supply is not damaged in no-load operation. The max. output voltage (see page 1) can be obtained during no-load operation.

Over temperature protection

Automatic shutdown of the LED power supply 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 power supply switches into hiccupmode. After removal of the short-circuit fault the LED power supply will recover automatically.

ISOLATION AND ELECTRIC STRENGTH TESTING OF LUMINARIES

Electronic devices can be damaged by high voltage. This has to be considered during the routine testing of the luminaires in production.

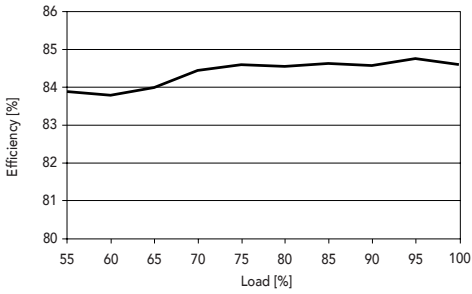
According to IEC60598-1 Annex Q (informative only!) or ENEC303-Annex A, each luminaire should be submitted to an isolation test with 500V DC for 1 second. This test voltage should be connected between the interconnected phase and neutral terminals and the earth terminal. The isolation resistance must be at least 2 Mff.

As an alternative, IEC60598-1 Annex Q describes a test of the electrical strength with 1500V AC (or 1.414x1500VDC). To avoid damage to the electronic devices this test must not be conducted.

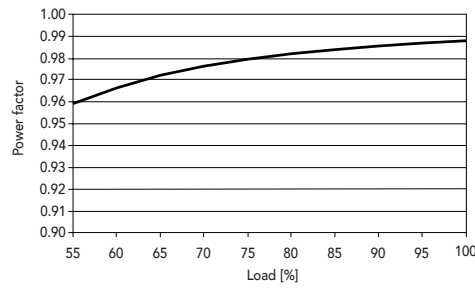


DIAGRAMS FOR 12V

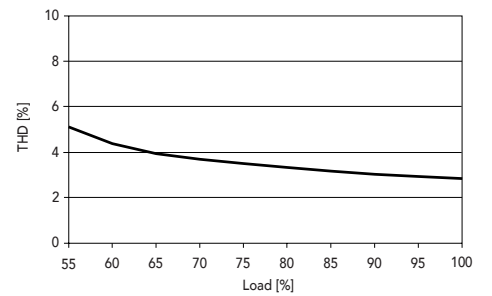
Efficiency vs load



Power factor vs load

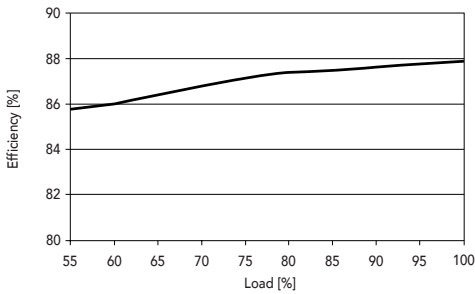


THD vs load

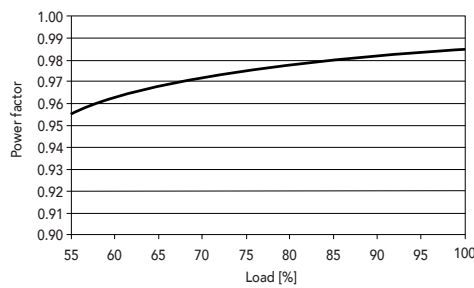


DIAGRAMS FOR 24V

Efficiency vs load



Power factor vs load



THD vs load

