

DENCOP[®] lighting

LED modules



LED modules

Toroid LED power supplies

Rectifying modules UM

Voltage pulse LED power supplies

Current pulse LED power supplies

Our modules, your success.

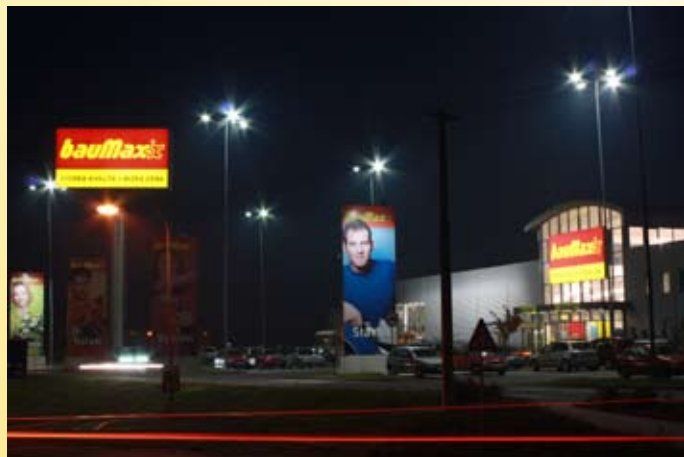
LED accessories

References - applications

LED types: Power line XP-G

Page: 9

Realization: 3 P, spol. s r.o.



LED types: DX-3

Page: 4

Realization: Česká energie a.s.



LED types: Basic line

Page: 10

Realization: Pavel Nejtek Elektro NEON



LED types: Hobby line

Page: 6

Realization: MORIS design s.r.o.



EPISTAR

DENCOP[®] lighting

CREE 

Trend line

New line of LED modules TREND brings the optimum in the field of current LED applications. The outstanding feature of these modules is their high light output with relatively low power consumption and long lifespan thanks to the CREE chips. Of course these LED modules are supplied as a connected chain = no need of soldering, easy installation by 3M tapes. Moisture resistant thanks to varnish layer

Modul 1led 20x25 mm /white/ =12 V/0,6 W CREE



Code:	200393
LED type:	3-chip SMD 5050
Color:	white 6500 K
Dimensions:	25x20x5 mm
Voltage:	12 V DC
Lumen:	40 LM
Angle:	120°
Power/Module:	0,6 W
Chip lifespan:	40,000 hours
Axial pitch:	120 mm
Decrease in intensity:	max. 13 % / year
Chip brand:	CREE

Modul 2led 30x30 mm /white/ =12 V/1,2 W CREE



Code:	200421
LED type:	3-chip SMD 5050
Color:	white 6500 K
Dimensions:	30x30x5 mm
Voltage:	12 V DC
Lumen:	40 LM
Angle:	120°
Power/Module:	1,2 W
Chip lifespan:	40,000 hours
Axial pitch:	180 mm
Decrease in intensity:	max. 13 % / year
Chip brand:	CREE

Modul 2led TR40 /white/=12 V/1,2 W CREE doublesided



Code:	200473
LED type:	3-chip
Color:	white 6500 K
Dimensions:	25x35x6 mm
Voltage:	12 V DC
Lumen:	40/40 LM
Angle:	120°
Power/Module:	1,2 W
Chip lifespan:	40,000 hours
Axial pitch:	120 mm
Decrease in intensity:	max. 13 % / year
Chip brand:	CREE

LED modules DX-3

LED MODULES with IP65 are suitable for all LED applications not only in sign industry.

Thanks to its durability against weather conditions is the use of this modules **really universal** (channel letters, panels, architectural and decorative lighting of exteriors and interiors).

Compatible for both AC and DC current.

Modules are equipped by selfsticker on the backside, nonetheless we strongly recommend to fix the modules also by means of screws or adhesive. For reliable and longlife run of this modules, make sure sufficient air circulation for cooling the chips. Overheating = shorter lifetime.

Modul DX3-1led 20x10 mm W AC 12 V/0,24 W 3-chip IP65

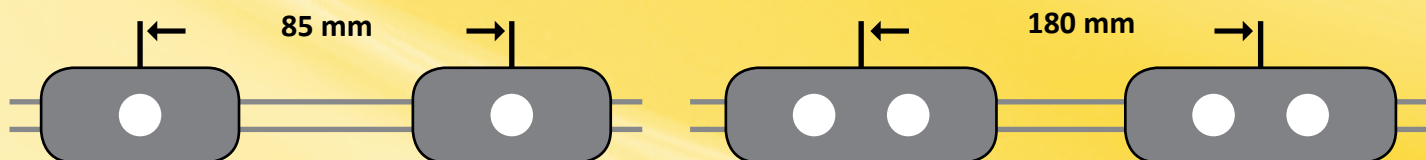


Code:	561311
LED type:	3-chip SMD 5050
Color:	white 6500-6800 K
Dimensions:	20x10x5,5 mm
Voltage:	12 V (AC i DC)
Lumen:	19-25 LM
Angle:	120°
Power/Module:	0,24 W
Protection degree:	IP65
Chip lifespan:	50,000 hours
Axial pitch:	85 mm
Decrease in intensity:	max. 15 % / year
Chip brand:	Epistar

Modul DX3-2led 50x15 mm W AC 12V/0,5 W 3-chip IP65



Code:	561312
LED type:	3-čip
Color:	bílá 6500-6800 K
Dimensions:	50x15x6 mm
Voltage:	12 V (AC i DC)
Lumen:	36-48 LM
Angle:	120°
Power/Module:	0,50 W
Protection degree:	IP65
Chip lifespan:	50,000 hodin
Axial pitch:	180 mm
Decrease in intensity:	max. 15 % / rok
Chip brand:	Epistar



**Modul DX3-3led 15x78 mm W
AC 12 V/0,8 W 3-chip IP65**

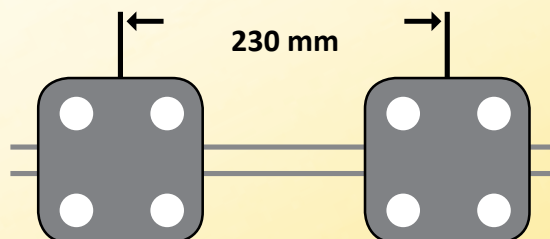
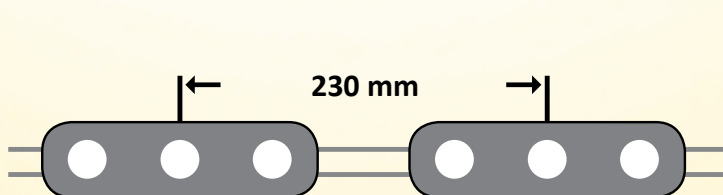


Code:	white	561313
	blue	563313
	red	562313
LED type:	3-chip SMD 5050	
Color:	white 6500-6800 K	
Dimensions:	78x15x9 mm	
Voltage:	12 V (AC i DC)	
Lumen:	54-65 LM	
Angle:	120°	
Power/Module:	0,80 W	
Protection degree:	IP65	
Chip lifespan:	50,000 hours	
Axial pitch:	230 mm	
Decrease in intensity:	max. 15 % / year	
Chip brand:	Epistar	

**Modul DX3-4led 55x40 mm W
AC 12 V/1 W 3-chip IP65**

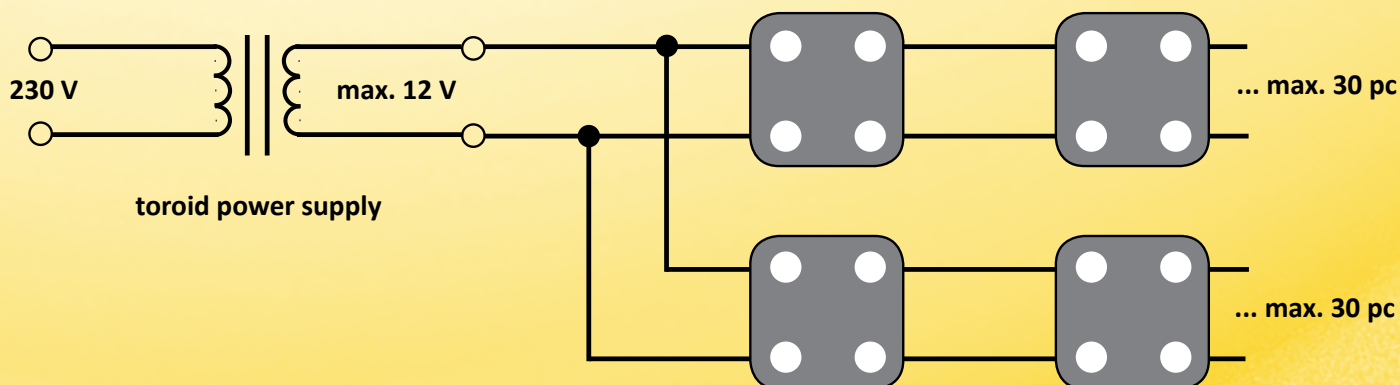


Code:	561314
LED type:	3-chip SMD 5050
Color:	white 6500-6800 K
Dimensions:	55x40x8 mm
Voltage:	12 V (AC i DC)
Lumen:	68-82 LM
Angle:	120°
Power/Module:	1,00 W
Protection degree:	IP65
Chip lifespan:	50,000 hours
Axial pitch:	230 mm
Decrease in intensity:	max. 15 % / year
Chip brand:	Epistar



Connection scheme:

DO NOT CONNET MORE THAN 30 MODULES IN 1 LINE



LED POWER SUPPLY = total sum of all connected LEDs input + minimum 5% reserve (standard is 20% reserve)!
To reach optimal light release please keep the recommended quantity – grid of modules (2/3 of the sign depth).
Before first connection we strongly recommend to check real power input to avoid LED power supply overload!!

Hobby line

LED modules for short time cheaper applications with lower light intensity. To reach higher light intensity is necessary to use more modules.

Lifespan 25000 hours with reduction of light intensity max 20% in a year.

Hobby modules are powered by 12V DC current and supplied in WHITE, RED, YELLOW and BLUE colours.

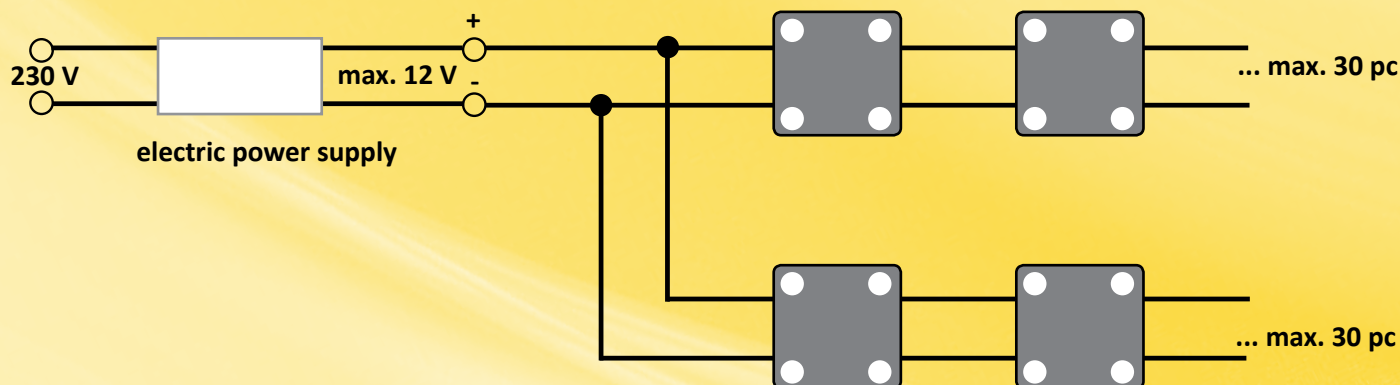
Modul 4led HOBBY 37x32 mm /12 V/0,5 W IP67



Code:	200180	200181	200182	200183
LED type:	auto LED			
Color:	white	red	yellow	blue
Dimensions:	37x32x6,5 mm			
Voltage:	12 V (AC i DC)			
Lumen:	18 LM	4 LM	4,5 LM	3 LM
Angle:	100°			
Power/Module:	0,5 W			
Protection degree:	IP67			
Chip lifespan:	25,000 hours			
Axial pitch:	115 mm			
Decrease in intensity:	max. 20 % / year			
Chip brand:	Epistar			

Connection scheme:

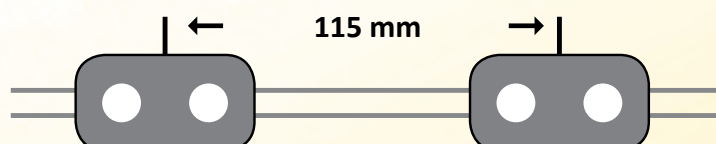
DO NOT CONNECT MORE THAN MODULES IN 1 LINE!



Modul 2led HOBBY 35x20 mm /12 V/0,24 W IP67



Code:	200280	200301	200302	200300
LED type:	auto LED			
Color:	white	red	yellow	blue
Dimensions:	35x20x6,5 mm			
Voltage:	12 V (DC)			
Lumen:	9 LM	2 LM	2,5 LM	1,5 LM
Angle:	100°			
Power/Module:	0,24 W			
Protection degree:	IP67			
Chip lifespan:	25,000 hours			
Axial pitch:	115 mm			
Decrease in intensity:	max. 20 % / year			
Chip brand:	Epistar			



Modul 2led 26x7 mm /white/ 0,36 W IP65 /micro/



Code:	551012
LED type:	3528 SMD
Color:	white 6500 K
Dimensions:	20x26x7 mm
Voltage:	12 V DC
Lumen:	10 LM
Angle:	160°
Power/Module:	0,36 W
Protection degree:	IP66
Chip lifespan:	25,000 hours
Axial pitch:	60 mm
Decrease in intensity:	max. 20 % / year
Chip brand:	Epistar

For signs with small depth.

To reach optimal light release please keep the recommended quantity – grid of modules (2/3 of the sign depth). Before first connection we strongly recommend to check real power input to avoid LED power supply overload!!

Power line

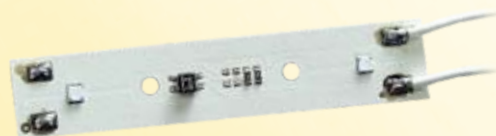
Power line modules are used for large size panels. Thanks to its high light intensity, the modules reach the same, sometimes even 2 times higher light output from power input in comparison to fluorescent tubes installation. Here we can finally see in practise the energy and money savings. Due to this fact, this modules are used for large size backlit signs and others applications.

120° degrees light emition ensures good light spread and could be used for signs with min depth 100mm.

Modul 2led 20x100 mm white ~12 V/1,2 W



Modul 2led 20x100 mm blue ~12 V/1,6 W



Code:	200367
LED type:	3-chip SMD 5050
Color:	white 6500 K
Dimensions:	100x20x5 mm
Voltage:	12 V AC/DC
Lumen:	80 LM
Angle:	120°
Power/Module:	1,2 W
Chip lifespan:	50,000 hours
Axial pitch:	240 mm
Decrease in intensity:	max. 13 % / year
Chip brand:	CREE

Code:	51687
LED type:	1-chip
Color:	blue
Dimensions:	100x20x5 mm
Voltage:	12 V AC/DC
Lumen:	15 LM
Angle:	120°
Power/Module:	1,6 W
Chip lifespan:	50,000 hours
Axial pitch:	240 mm
Decrease in intensity:	max. 13 % / year
Chip brand:	NICHIA

Moisture resistant thanks to varnish layer, must be protected from direct rain, can be used only inside the letters or signs where at least IP43 must be ensured.

**Modul 1led XP-G Al choler - chain
white 24 pc 2,5 W**



Code:	200532
LED type:	POWER 3-chip
Color:	white 6500 K
Voltage:	350-1500 mA DC
Lumen:	225LM / 700 mA
Angle:	125°
Power/Module:	700/2,2 W
Chip lifespan:	40,000 hours
Axial pitch:	250 - 350 mm
Decrease in intensity:	max. 8 % / year
Chip brand:	CREE

**Modul 1led MX-6 Al choler - chain
white 22 pc 1 W**



Code:	200511
LED type:	POWER 3-chip
Color:	white 6500 K
Voltage:	350 mA DC
Lumen:	100LM / 350 mA
Angle:	115°
Power/Module:	350/1 W
Chip lifespan:	40,000 hours
Axial pitch:	150 - 250 mm
Decrease in intensity:	max. 8 % / year
Chip brand:	CREE

**Modul 1led XR-C Al choler - chain
white 22 pc 1,1 W**



Code:	51688
LED type:	POWER 3-chip
Color:	white 6500 K
Width of the AL cooling lath:	40 mm
Voltage:	350 - 500 mA DC
Lumen:	80LM/350 mA
Angle:	90°
Power/Module:	350/1,1 W
Chip lifespan:	70,000 hours
Axial pitch:	100 - 250 mm
Decrease in intensity:	max. 8 % / year
Chip brand:	CREE

**Modul 1led XR-E Al choler - chain
white 22 pc 2,6 W**

Code:	51708
LED type:	POWER 3-chip
Color:	white 6500 K
Width of the AL cooling lath:	40 mm
Voltage:	350 - 1000 mA DC
Lumen:	150LM/700 mA
Angle:	90°
Power/Module:	700/2,6 W
Chip lifespan:	70,000 hours
Axial pitch:	100-250 mm
Decrease in intensity:	max. 8 % / year
Chip brand:	CREE

XR-C and XR-E are next step of POWER CREE technology. This Modules are used in lighting of low depth signs or double sided signs (AL boxes) where is very low depth for light spread of circle light spectrum. Thanks to help of direction.

LED flexible strips

Accessories

Led strips are supplied in version with front light emission or side light emission, in white, red, green blue or yellow colour. Strips is possible to cut required length or solder in the marked areas.

Main advantages are long lifespan, high illumination, low power consumption, maintenance free.

Examples of use: decorative and furniture lighting, lighting of edges, walls, shop racks, shop stands, guiding light lines (emergency exits, corridors, stairs), decorative outdoor laths on the facades walls or in interiors.



Accessories

For easier installation of LED modules we supply necessary accessories like, connectors, connecting clamps, terminal boards, rectifiers and so like components.



Toroid LED power supplies

Advantages of TOROID against ELECTRONIC power supply:

- absolute efficiency of toroid 99%
- reliability – long lifetime, longer than lifetime of LEDs
- failure rate in orders of per mil
- possibility of shorttime overloading up to 30%
- indoor and outdoor use at extreme temperatures
- protection degree IP 65
- Stable secondary current in case of unstable primary current
- Secure against short circuit by means of reversible thermofuse
- Safe voltage 12V
- Optimal for outdoor difficult accessible signs
- Does not interfere TV and radio broadcasting
- Possible to choose AC/DC or DC voltage
- lower price
- built in rectifier with filter



Disadvantages:

- bigger weight, bigger dimensions

80108	Toroid transformer 10 V/80 W 8 A
80110	Toroid transformer 10 V/100 W 10 A
80150	Toroid transformer 10 V/150 W 15 A
80295	Toroid transformer 11,5 V/20 W 1,7 A
80294	Toroid transformer 11,5 V/50 W 4,35 A
80268	Toroid transformer 11,5 V/100 W 8,7 A
80206	Toroid transformer 11,5 V/150 W 13,04 A
80332	Toroid transformer 11,5 V/200 W 17,39 A
81050	Toroid transformer TDB- 50 11,5V/50 W 4,35 A
81100	Toroid transformer TDB-100 11,5 V/10 0W 8,7 A
81150	Toroid transformer TDB-150 11,5V/150 W 13,04 A
82105	Toroid transformer 11,5 V/105 W
82150	Toroid transformer 11,5 V/150 W
82200	Toroid transformer 11,5 V/200 W
82250	Toroid transformer 11,5 V/250 W
82300	Toroid transformer 300 W
200731	Toroid transformer TDB-150 6 V/150 W 50°C 25 A IP67

Rectifying modules UM



Rectifying modules are used to rectify 12-60V AC voltage of toroid power supplies, which are able to supply power for LED circuits up to the input of 400W.

UM modules have inside terminal boards for each LED circuit - this replaces hub wiring boxes. Each terminal board is for 50W of LED circuit – red and yellow outgoing cables

Number of terminal boards is given by the output of the power supply

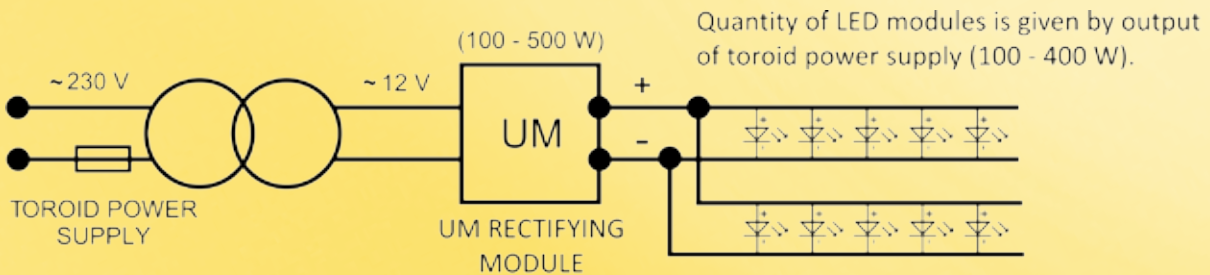
UM modules are constructed for outdoor use with IP65, LED circuits are protected by current fuse.

UM modules can be used for parallel or serio-parallel connection, when each series of LED should not exceed cca 20 LED modules in sequence to input of used LED modules.

UM RECTIFYING MODULE is registered utility model/ design !

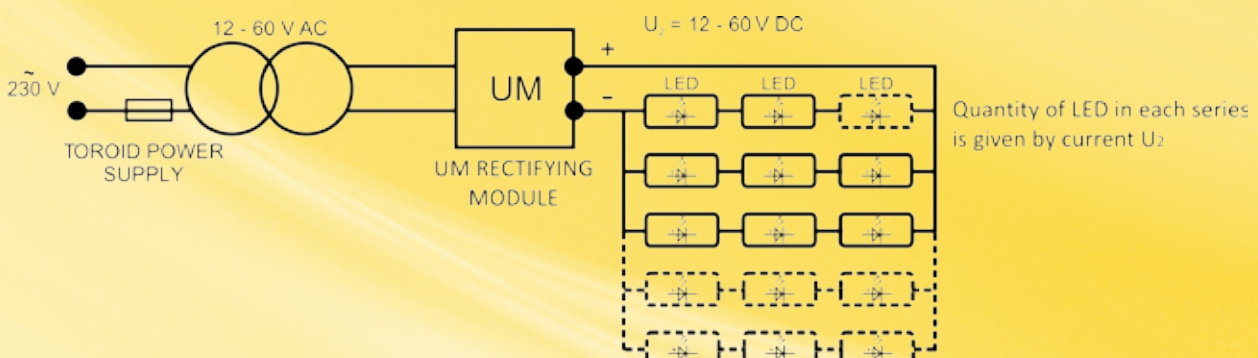
5112100	50 - 100 W (12 V) DC
5112200	150 - 200 W (12 V) DC
5112300	250 - 300 W (12 V) DC
5160200	50 - 200 W (60 V) DC
5160400	250 - 400 W (60 V) DC

Paralel connection scheme:



For max usage of the toroid output is necessary to make more parallel connections of LED circuits

Serio-parallel connection scheme:



Voltage pulse power supplies

Voltage pulse power supplies are designated for LED modules in voltage system including LED strips and so like components.

Supplied as IP68 version in AL or plastic case or as a plug power supply (like mobile phone charger) from 6W to 250W. This power supplies supply constant voltage , when overloaded, secondary circuit is switched off by means of electronic protection. Failure rate of this power supplies is cca. 2-3% and its lifetime is stated as 25.000hours. In fact it means that you have to count with one exchange of this power supplies during the lifetime of the whole system.

81473	Power supply adaptor 230 V 12 V=/ 6 W
81485	Power supply adaptor 230 V 12 V=/ 24 W

84010	Power supply plastic case 230 V / 12 V=/ 10 W
84020	Power supply plastic case 230 V / 12 V=/ 20 W
84040	Power supply plastic case 230 V / 12 V=/ 40 W

85015	Power supply AL case 230 V / 12 V=/ 15 W
85020	Power supply AL case 230 V / 12 V=/ 20 W
85030	Power supply AL case 230 V / 12 V=/ 30W
85040	Power supply AL case 230 V / 12 V=/ 40 W
85060	Power supply AL case 230 V / 12 V=/ 60 W
85080	Power supply AL case 230 V / 12 V=/ 80 W
85100	Power supply AL case 230 V / 12 V=/100 W
85150	Power supply AL case 230 V / 12 V=/150 W
85200	Power supply AL case 230V / 12 V=/200 W
85250	Power supply AL case 230 V / 12 V=/250 W



Current pulse power supplies

Current pulse power supplies are designated for chains of LED modules in current system. Thanks to constant current in the circuit, the LED chips run in optimal regime and the chips lifespan is maximal.

Failure rate of this power supplies is cca. 2-3% and its lifetime is stated as 25.000hours.

In fact it means that you have to count with one exchange of this power supplies during the lifetime of the whole system. This power supplies supply constant current to the circuit and the voltage is adapted to the electric resistance of the connected loop.

80686	Power supply - driver 12 V~/= (for one LED 350 mA)
200033	Power supply 230 V / 2-4 V=/1,4 W 350 mA IP66
200034	Power supply 230 V / 3,5-12 V=/4,2 W 350 mA IP66
200032	Power supply 230 V / 10-32 V=/11 W 350 mA IP66
200028	Power supply 230 V / 350 mA=/28 W IP66

200031	Power supply 230 V / 20-45 V=/20 W 450 mA IP66
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200364	Power supply 230 V / 6-20 V 500 mA=/10 W IP66
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80687	Power supply - driver 12 V~/= (for one LED 700 mA)
200275	Power supply 170-250 V / 6-40 V=/ 35 W 700 mA IP66
200016	Power supply 230 V / 50-85 V=/60 W 700 mA IP66



References - applications

LED types: PowerLED strip

Page: 10

Realization: IS reklama



LED types: DX-3

Page: 4

Realization: ZLINEON sdružení - Miroslav Zábojník



LED types: Power line XR-E with optics


Page: 9

Realization: NEON ZLÍN, s.r.o.



Preparation of double-sided AL lightbox.





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