



LED LIGHTING





CONTENT:

Page

ABOUT COMPANY	3
PROJECTS	9
BEST SELLERS	19
4S4 Net LIGHTING MANAGEMENT SYSTEM	24
CONTACTS	26

MAIN AREAS OF ACTIVITY

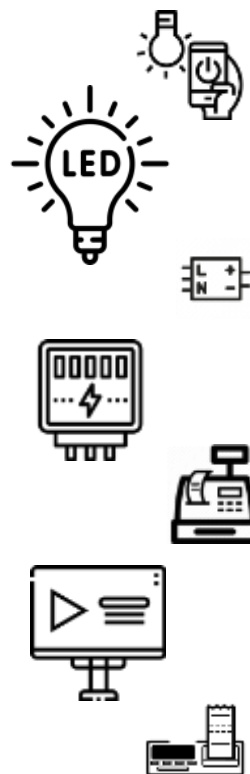
4S4 GROUP –

is an internationally renowned group dedicated to the **development and manufacturing of radio electronics**.

We are proud to be one of the leading providers of

- **electricity metering systems** and
- **energy-saving LED equipment**.

Our commitment to innovation and quality has positioned us as a trusted name in the industry.



Lighting management systems **4S4net**.

LED lighting (**4S4 Lighting**).

LED drivers **4S4** with increased reliability and exceptional 99 % efficiency.

Electricity metering systems **4S4**.

Electronic trade equipment **4S4**.

Information display systems **4S4**: video walls, video screens, information boards.

Tachographs, taximeters **4S4**.



Founded in 2006 with headquarters in Sofia, Bulgaria, EU

Main activities: design, development, production, sales and servicing of electronic devices;

Office in Sofia: development & design of the products, as well as the administrative activities, commercial departments and service area;

Production facilities in Botevgrad, located 60 km from Sofia in micro electronics industrial zone;

Highly qualified scientists, engineers, technicians;

Certificates: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, ISO/IEC 27001:2013 and others.



Production Facilities and R&D:
in Bulgaria.

Offices: Sofia and Botevgrad.

Distribution around the Globe:

- Europe
- Latin America
- Africa
- Middle Asia

From engineering developments
to the release of serial products for
sale.



GROUP PRODUCTION FACILITIES

Manufacturing company

- Main production plant in Bulgaria: Botevgrad

R&D

- Sofia



Own production equipment of the 4S4 Group

- SMT lines.
- Selective soldering lines, wave soldering lines.
- Metal and plastic painting lines;
- Robots for applying adhesive compositions and pouring;
- Metal processing centers, automated cutting machines;
- Plastic injection molding machines with injection molds, dies and other accessories. Extrusion lines from 15 m to 30 m.
- Large-format metal lasers. Laser installations on plastic.
- Testing, control and measuring equipment.



MODERN MANUFACTURING COMPLEX



Chip mounting SMT lines.

Our assembly lines are dedicated to manufacturing a diverse range of **long life LED luminaries** suitable for various applications.

From street lighting and park lighting to industrial, office, retail, architectural, sports, phyto, poultry farm, secondary room lighting, and LED lamps, we offer a **comprehensive selection to meet customer's specific lighting needs.**

Test laboratory & R&D equipment.



ADVANTAGES OF 4S4 LED LUMINARIES



Lightweight and durable construction

- Housings made of aluminum alloy and high-strength plastic
- Reduces load on the carrier
- Compact and lightweight models available (MAG10, MAG44)
- Comparable lighting characteristics
- More attractive prices



More careful heat dissipation system, which guarantees extended service life.



Patented technology for connecting housings, lenses, and panels with LEDs

- No firm fastening with screws
- Ensures integrity, tightness, and performance
- Absence of internal contamination - for long life
- Different construction compared to most lamps on the market



Guarantees durability and performance in all conditions

- Well-designed electric scheme
- LEDs used only from leading companies OSRAM, SAMSUNG, CREE
- LEDs operated at up to 50% of maximum power
- Integrated protections and compensation of LED degradation



Remote control functionality

- Lamps equipped with drivers/modems for automated functionality
- On/off control based on time of day
- Programming options for specific timing
- Light sensors and motion detection capabilities
- Maximum comfort in lighting area and production sites
- Customizable to meet user needs





• Street lighting

Installation of street and park luminaries with smart 4S4 Net lighting control system. Installed within 2019 – 2020:

Over **6 200** pcs smart luminaries MAG.3 series;

More than **1 500** pcs smart park luminaries, including:

- STREET 56 - 055;
- BALL 400-60;
- INDUSTRY.3 - luminaires with dimming in basketball courts Kakouris.



MAG series

PROJECTS IN GREECE



Ilion, Volos, Mykonos



- Street & Park

- Industrial lighting

Installation of street and park luminaires with smart 4S4 Net lighting control system. Projects in 2017-2020: **18 000** pcs. of street, park and industrial luminaires.

- MAG.3-105 & MAG.3-085 luminaires;
- MAG.3-105 & 4 pcs MAG.3-135 luminaires.



MAG series

STREET 56



BALL

PROJECTS IN LATIN AMERICA



Argentina



- Street lighting
- Industrial lighting

Street, park and industrial luminaries.

- Lighting system upgrade in the province of **Buenos Aires**.
- Lighting system at the battery factory in **Argentina**.

Argentina:

- Municipality of Lanus;
- Municipality of Bahia-Blanca;
- Municipality of Quilmes.

INDUSTRY.3



BALL



PROJECTS IN LATIN AMERICA



Argentina



• Street lighting

- Lighting system upgrade of several streets at **Buenos Aires** with Lighting Control System **4S4 Net**
- More than 4 500 street luminaries are installed in 2017-2018



MAG series



- **Street lighting**

- **Lighting system upgrade** of a central **Street Santa Cruz de la Sierra** with Lighting Control System **4S4 Net**
- As a part of participation in the project to replace over 15 000 street luminaries



MAG series

PROJECTS IN BULGARIA



Botevgrad, Pravets, Silistra, other cities



- Street lighting
- Industrial lighting

over 12 000 pcs. of street, park and industrial luminaries.

- Street lighting with Lighting Control System 4S4 Net
- Multiple indoor LED retrofit projects all over Bulgaria (hospitals, shopping & business centers).

INDUSTRY.3



MAG series



PROJECTS IN KAZAKHSTAN



- Kazakhstan National Railways
- Street lighting

- **> 23 000** outdoor LED luminaires with specialized mounting and Lighting Control System 4S4 Net.
- **> 15 000** LED luminaires were supplied in 2015 and showed excellent field-performance data.
- **> 8 200** pcs MAG2-120-248.
- **> 8 000** LED luminaires installed in October 2017.



MAG series

PROJECTS IN GERMANY



- Schools
- Warehouses
- Offices
- Shops

over 1 500 pcs. office luminaires.

- Shipped within the period 2018 – 2019 **SLIMPANEL** luminary:
- FES School in Minden;
- School in Detmold;
- Warehouses, offices, shops in Frankfurt am Main and in Munich.



SLIMPANEL lamp

600x600 mm
24 Watt

OTHER PROJECTS IN EUROPE



- Sport & trade Malls
- Supermarket retail chains

> 250 000 pcs.



SLIMPANEL lamp

600x600 mm
24 Watt

PROJECTS IN EASTERN EUROPE



- Banks
- Shopping centers

> 150 000 pcs.



SLIMPANEL lamp

600x600 mm
24 Watt

BEST SELLERS – STREET LUMINAIRES



MAG31 ZHAGA connector

W	lm
75	12 400
105	17 400
130	21 500
155	25 570



MAG44

W	lm
120	16 800
160	22 400
200	28 000



MAG10

W	lm
25	3 500
60	8 400
90	12 600



Rollamp

W	lm
30	4100
35	4725
40	5400
45	6075

Energy efficiency **>165 lm/W**
Lifetime **>80,000h**
Warranty **7 - 10 years**

- IP 66/ CRI >70 / 4000 K
- Low percent flicker <5%
- 6 kV “line–line”, 10 kV “line–ground”
- Surge protection ≥300 V
- Thermal stabilization
- Driver separated from LED cluster
- Easy installation & maintenance

Matrix-like system of LED connections along with their operation at 25% of the maximum power **ensure the durability of the luminaire** and its operability in case of failure of any LED.

Size, mm:	
585x105x104	800x105x104
695x105x104	910x105x104

Energy efficiency **>140 lm/W**
Lifetime **>50,000h**
Warranty **3 - 5 years**
Cost-effective modification of an outdoor luminaire with a lightweight housing.

- IP 65/CRI >70 / 4000 K
- Low percent flicker <5%
- 2 kV “line–line”, 4 kV “line–ground”
- Surge protection ≥300 V
- Thermal stabilization
- An AC-Direct driver is integrated into each LED module
- Constant power mode

Custom-made Options:
BLE\RF management

Size, mm:	
304x205x87	
407x205x87	

Energy efficiency **>140 lm/W**
Lifetime **>50,000h**
Warranty **3 - 5 years**
Cost-effective modification of an outdoor luminaire with a lightweight housing.

- IP 65/CRI >70 / 4000 K
- Low percent flicker <5%
- 2 kV “line–line”, 4 kV “line–ground”
- Surge protection ≥300 V
- Thermal stabilization
- An AC-Direct driver is integrated into each LED module
- Constant power mode

Custom-made Options:
BLE\RF management

Size, mm:	
229x126x34	
334x126x34	

Energy efficiency **>135 lm/W**
Lifetime **>50 000 h**
Warranty **3 years**
Cost-effective Rollamp 30/35/40/45 W – nondirectional and sector lamps with LEDs located in the 360° and 90° sector. Designed for use in park and other luminaires with a circular diagram of the luminous flux distribution.

- IP 20 / IP 54 / CRI >80 / 4000 K
- Low percent flicker <5%
- Thermal stabilization
- Easy installation maintenance
- Best decision for retrofit street luminaires with directional and park lighting.

Size, mm:
73x225; 73x245



BEST SELLERS – INDOOR LUMINARIES



SLIMPANEL

W	lm
8	1600
15	2180
24	3480
48	6960

Energy efficiency **>145 lm/W**

Lifetime **> 50,000h**

Warranty **3 years**

The thickness of the luminaire with integrated driver: 17mm

The light guide is 3 mm thick

- IP 40 / CRI >80 / 4000 K
- Low percent flicker <5%
- Custom-made Options:
- Easy control by the smartphone via Bluetooth (dimming, adjustable color temperature –on request)

Size, mm:

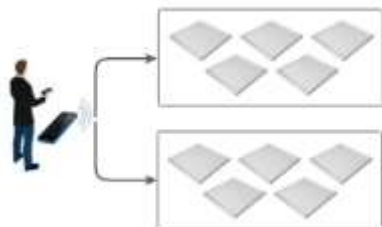
295 x 295 x 17

595 x 295 x 17

625 x 625 x 17

295 x 1195 x 17

595 x 1195 x 17



SLIM DISC

W	lm
11	1375
17	2125
40	5000

Energy efficiency **>125 lm/W**

Lifetime **> 50,000h**

Warranty **3 years**

The illumination of the diffuser plane creates a soft, comfortable light and cozy atmosphere.

- IP 20 / CRI >80 / 4000 K
- Low percent flicker <5%
- Suitable for administrative, office and retail salesroom premises and seamless in the design of restaurants, cafés, hotels and homes

Size, mm: 358x21; 508x21; 1,000x21



DELTA

W	lm
18	2340

Energy efficiency **>130 lm/W**

Lifetime **> 50,000h**

Warranty **1 - 3 years**

Reliable and energy-efficient LED luminaires of the DELTA series are equipped with microwave occupancy sensors based on the Doppler effect.

- IP 40 / CRI >80 / 4000 K
- Low percent flicker <5%
- Impact-resistant white polycarbonate
- Suitable for auxiliary rooms, corridors, halls, entrances, stairwells, elevator halls, bathrooms, residential and utility rooms.

Size, mm: 235x235x40



BEST SELLERS – INDUSTRIAL LUMINAIRES



INDUSTRY.3

W	lm
75	11 250
105	15 750
130	19 500
155	23 250



INDUSTRY.10

W	lm
60	7 500
100	12 500
120	15 000
140	17 500



LINE.PROM

W	lm
15	1 950
30	3 900
50	6 500



INDUSTRY.P

W	lm
32	3 840
44	5 280
64	7 680



Energy efficiency **150lm/W**
Lifetime > **50,000h**
Warranty **5 - 7 years**

- IP 67 / CRI >70 / 4000 K
- Low percent flicker <5%
- 2 kV "line-line", 4 kV "line-ground".
- The driver has no thermal contact through the metal with the LED module
- Custom-made Options:

1-10, **DALI** on request

Size, mm:
344x105x95
440x105x95
536x105x95
632x105x95

Energy efficiency >**130 lm/W**
Lifetime > **80 000 h**
Warranty **3 - 5 years**
Cost efficient version with a lightweight body

- IP 65/ CRI >70 / 4000 K
- Low percent flicker <5%
- 2 kV "line-line"
- Surge protection ≥300 V
- Thermal stabilization
- A unique design with an integrated AC-Direct driver.
- Weight of about 1kg

Size, mm:
316x126x35
612x126x35

Energy efficiency >**130 lm/W**
Lifetime > **50 000 h**
Warranty **3 years**
Shockproof polycarbonate body.
Vandal proof design

- IP 65 / CRI >80 / 4000 K
- Low percent flicker <5%
- A unique design with an integrated AC-Direct driver.
- Impact resistant polycarbonate housing.
- Dimming with conventional dimmer
- Opal or clear diffuser
- Mounting in one continuous luminous line
- Easy mounting using a 35 mm DIN rail

Size, mm:
300x155x90\600x155x90
1200x155x90

Energy efficiency >**120 lm/W**
Lifetime > **50 000 h**
Warranty **3 years**
Energy efficient replacement for
fluorescent luminaires

- IP65 / CRI >80 / 4000 K
- Low percent flicker <5%
- Opal diffuser, polycarbonate body
- Through wiring on request

Size, mm:
1260x120x68



BEST SELLERS – DRIVERS



STANDARD



COMPACT

Network surge protection



The **STANDARD** series LED drivers are current stabilizers that ensure the uniformity of a set parameter regardless the type of LEDs, their temperature and quantity. **IP 67** protection.

- The LED drivers allow the output current control, therefore, the brightness of the LEDs, by external signals: 0-10 V; by PWM; by resistor.
- They have protection against overheating, short circuit at the driver output and idling, as well as a standby power supply of 24 V 170 mA / 12 V 340 mA.
- ▶ Class A compliance in case of interruption/dip of input voltage (function).
- ▶ Use of a highly reliable element base, electrolytic capacitors with operating time of 10,000 hours or more at housing temperature of 105°C.
- ▶ Wide climatic range: from -50° to +85°C.
- ▶ 5 years warranty

The **COMPACT** series LED drivers are current stabilizers that ensure the uniformity of a set parameter regardless the type of LEDs, their temperature and quantity.

- The COMPACT series LED driver is designed as a printed circuit board with installed components covered with a special moisture-proof material. This eliminates the use of metal or plastic housing.
- The LED drivers are protected against overheating, short circuit at the driver output and idling.
- ▶ Designed to operate in structures without forced cooling, subject to provision of natural convection of air flows.
- ▶ Have ingress protection IP67 and designed for use in street lighting schemes and can be used indoors.

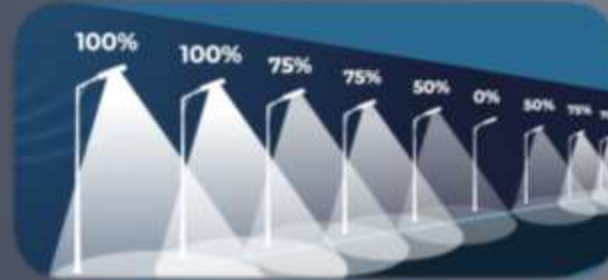
The **ISP-10KA10KV surge protector**

designed to provide additional protection for the LED driver and LED luminaire against the effects of high energy surges in the AC mains.

- ▶ Operate voltage L,N-GND, 1400 – 1600 V
- ▶ Maximum current, 13 kA
- ▶ Protection class IP65



4S4 NET LIGHTING MANAGEMENT SYSTEM



- **4S4 Net** enables **comprehensive control** and **data retrieval** from luminaries
- **Unlimited range** and scalability with proper network setup
- **Reliable offline operation** in case of system or segment failure
- **Compatibility** with various communication environments (BLE, RF, PLC, etc.)
- **Proven implementation** in multiple countries (Greece, Kazakhstan, Bulgaria, Argentina, Bolivia, etc.)



MORE THAN 200 PATENTS, LICENSES AND CERTIFICATES

4S4 Group has got more than 200 patents, including those operating in USA, India, Korea, Germany and other countries.

More than 200 licenses and certificates in Europe (EC) and other countries for individual products and product series.





Head office

2A Nedelcho Bonchev St., Sofia, BG-1528, Bulgaria

International Sales:

✉ andrey.morozov@4s4group.bg
☎ +359 8878 9979 6

✉ ruslan.ahilbaiev@4s4group.bg
☎ +359 8896 7782 8