

radiyLED

Energy-efficient
LED
Luminares



Radiy LED LLC





Public Company “Research and Production Corporation (RPC) “Radiy” was founded in 1954. Company was the biggest USSR manufacturer of television equipment, mobile television stations, equipment of cable television. In the end of the 70-s, Company manufactured equipment for television systems that provided television and radio broadcasting of the Olympic Games of 1980-s in Moscow.



In 1982 – 1989, Company participated in the State space exploration program and supplied communication and control equipment for space facilities. Also, Radiy manufactured equipment for research vessels and navy ships.

Company’s products were exported to Europe, Asia, and Latin America.



Today, PC RPC “Radiy” is the recognized Ukrainian leading designer and supplier of up-to-date information and control systems for nuclear facilities and facilities with the increased technological danger.

Company has been in nuclear field since 1995. Within this time, PC RPC “Radiy” has taken up a stable station among suppliers of equipment for nuclear power plants and won Customers’ respect and trust.



Company’s products have been in operation in all NPPs of Ukraine, power units of the Eastern Europe, Latin and North America.

Advanced strategy and effective use of the available Company’s resources is the basis for development of PC RPC “Radiy”.



First of all, human resources are important. PC RPC “Radiy” employs about more than 1100 highly qualified people. Company has 7 design bureaus where more than 300 designers work. Moreover, 2 Doctors of Engineering and 11 PhDs work with Radiy.

Company has implemented and uses Quality Management System certified by the international certification authority TUV Rheinland Inter Cert for compliance with requirements of ISO 9001:2008.

Production facilities of PC RPC “Radiy” are equipped with up-to-date high production process and testing equipment assuring complete cycle of manufacturing, adjustment and testing of products with quality control at each production stage.

In 2011, within the State target scientific and technical program “Development and implementation of energy-saving LED luminaires and lighting systems on their base”, Company designed and now produces energy-saving LED luminaires of various application types:

- Office LED luminaires;
- Street LED luminaires;
- Industrial LED luminaires, including floodlights;
- LED luminaires for agricultural facilities.

Our Company’s experience in radio electronics allows us to produce reliable and high quality electrical and technical products, including energy-saving LED luminaires and their components.

All luminaires have UkrSEPRO certificate and positive sanitation and epidemiological expertise conclusion. At the moment, certification for compliance with the European standards is in progress.

















Luminaires use LEDs of the world leading Companies (CREE, SEOUL SEMICONDUCTOR, OSRAM, NICHIA, CITIZEN) with different color temperature.

Use of LED lighting produced by PC RPC “Radiy” sufficiently decreases electricity costs for companies, decreases lighting systems maintenance costs by several times, excludes necessity to replace luminaires and utilize them, increases production cost-effectiveness due to the efficient use of power resource of companies.

We are sure that using our luminaires you will worthily assess quality of illumination and benefits of implementation of innovative energy-saving technologies.

Technical characteristics of some luminaires may differ from parameters in catalogue.

Signs

 LED	Light source – LEDs	 5 Years	Company's warranty is 5 years
 ~ 90 V 305	Operating voltage range		Luminaire anti-vandal version
 - 155 V 270		 Eco	Luminaire does not require special utilization conditions
 1 %	Light flux fluctuation less than 1 %, eyes friendly	 - 40 + 50	Luminaire operating temperature range
 IP 67	Degree of protection against environmental effects		Volt control and Lighting protection
 10% 100%	Availability of light flux adjustment (dimming)		UkrSEPRO CE
 100 000 hours	Luminaire operation resource		
 cos f 0,99	Luminaire power factor	 > 75 Ra	Color rendering index

Benefits of LED luminaires:

- ➔ Decrease of electrical energy consumption by more than 3...5 times in comparison with other types of luminaires;
- ➔ Service life is not less than 100 000 hours (25 years at 11-hour operation mode);
- ➔ Directed light flux, absence of stroboscopic effect, wide range of color temperatures, high light efficiency, color rendering and contrast range assuring high quality of illumination;
- ➔ High mechanical stability (anti-vandal protection) and vibration stability;
- ➔ Immediate lighting and unlimited number of lighting cycles;
- ➔ Immunity to voltage fluctuation in power grids;
- ➔ Stable operability at any environmental conditions, immunity to extreme, low and high temperatures;
- ➔ Ecological safety and absence of utilization expenses.

Except for the listed benefits, luminaires manufactured by PC RPC “Radiy” have the range of peculiarities, including:

- ➔ Volt-control system which protects luminaires at excess of operating voltage;
- ➔ Over voltage protection AC280V-420V - ∞sec, DC420V- ∞sec, DC600V – 10 sec.
- ➔ Impulse over voltage protection AC420V – 2000 msec, DC600V 2000 msec.
- ➔ Power supply units with dimming function allowing to adjust luminaire light brightness smoothly;
- ➔ Use of LEDs of the world leading companies (CREE, SEOUL SEMICONDUCTOR, OSRAM, NICHIA, CITIZEN) with different color temperature;
- ➔ Power supply unit assuring stable operation of luminaire at voltage dip to 90 Volts;
- ➔ Different types of connection allowing Customer to install luminaires without any improvements of the available mounting attachments;
- ➔ Luminaires may be produced with emergency power source by agreement with the Customer.

Explosion-protected LED luminaires of SSV series

Luminaires are used for lighting of:

- ➔ Premises and areas with high explosion hazard (Fuel refiners and storage, gas stations)

Luminaires are produced in basic modifications with power varied from 15 to 225 W. Housing of luminaires is made of aluminium or rough-service polycarbonate. Spreader – polycarbonate. Luminaires have anti-vandal protection. Volt-control system can be installed into luminaires.



Technical Specifications of luminaires:

Model	Power, W,	Light flux, lm,	Dimensions, mm	Weight, kg, max	Operating temperature C°	Scattering angel, degree
SSV 2-15A	15	1950	690×120×130	2,4	from -20 to +50	120x120
SSV 4-30A	30	3900	1300×120×130	3,1		
SSV 8-60A	54	7000	1300×170×130	3,2	from -20 to +50	120x120
SSV 10-75A	79	10200		4,0	from -20 to +25	
SSV 1-40	40	3 780	300×220×130	3,5	from -40 to +50	17x17, 25x25, 60 x 60, 45 x 154, 40x40, 120x120
SSV 1-40A	79	10200		4,0	from -20 to +25	
SSV 2-80	85	7 900	320×370×140	6,4	from -40 to +50	17x17, 25x25, 60 x 60, 45 x 154, 40x40, 120x120
SSV 2-85A			500×280×130	6,7		
SSV 2-90	85	10 400	500×370×140	5,8	from -40 to +50	17x17, 25x25, 60 x 60, 45 x 154, 40x40, 120x120
SSV 2-110	110	11 350	730×280×130	7,7		
SSV 3-120	120	15 600	550×370×140	8,0	from -40 to +50	17x17, 25x25, 60 x 60, 45 x 154, 40x40, 120x120
SSV 4-170	165	16060		10,5		
SSV 4-170A	170	24 085	750×370×150	14,0	from -40 to +50	17x17, 25x25, 60 x 60, 45 x 154, 40x40, 120x120
SSV 6-255	255	24 085				
SSV 6-255A	255	24 085	750×370×150	14,0	from -40 to +50	17x17, 25x25, 60 x 60, 45 x 154, 40x40, 120x120

General technical features:

Class of protection against electrocution	I	II (A series)
Degree of protection under IP	66	
Explosion proof mark	2Ex nA nC II CT4X	
Power supply voltage, V / frequency, Hz	DC 155-245B, AC 110-242B/50Гц	
Color rendering index (Ra)	≥ 75	
Power factor	≥ 0,97	
Light flux fluctuation	≤ 1 %	
Class of light distribution	Direct (D)	
Color temperature, k	2 700 – 7 000	
Service life	60 000 hours	
Warranty	3 years	



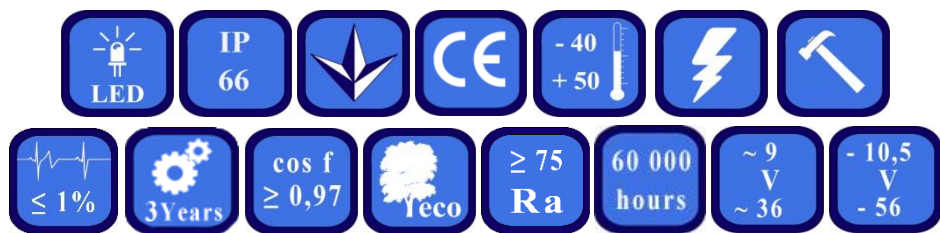
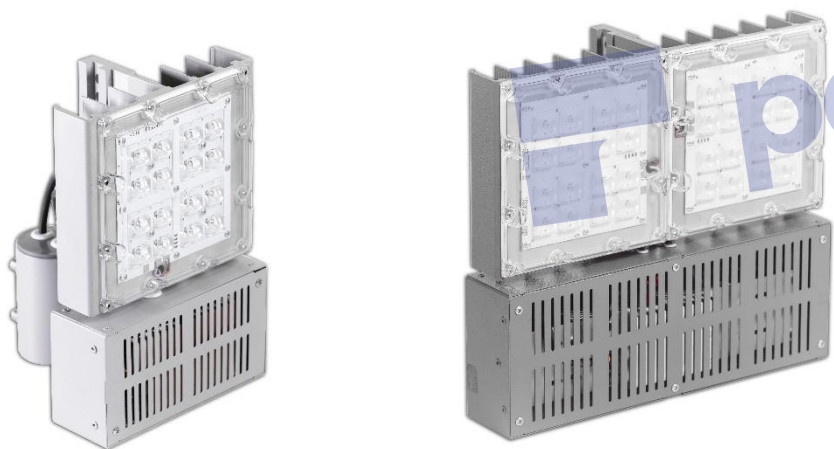
Energy-saving low voltage LED luminaires of SES series

Luminaires are used for lighting of:

- ➔ Premises with high safety standards
- ➔ Production and storage premises
- ➔ Mining and refining plants
- ➔ Rail depot
- ➔ Technological transport

Luminaires are produced in basic modifications with power varied from 40 to 204 W. Housing of luminaires is made of alluminium. Spreader and optics – polycarbonate. Luminaires are anti-vandal.

Different types of mounting allow to install luminaires without improvement of the existing mounting attachments.



Technical Specification of luminaires:

Model	Power, W, max	Light flux, lm	Dimensions, mm	Weight, kg	Electric supply parameters, V
SES 1-35B	40	3600	300×200×130	4,0	DC 30 – 56 , AC 22 – 36
SES 1-38B	51			4,5	DC 10,5 – 36, AC 9 –24
SES 2-70B	80	7200	320×370×130	5,5	DC 30 – 56, AC 22 – 36
SES 2-76B	102			7,0	DC 10,5 – 36, AC 9 – 24
SES 3-105B	120	10800	550×370×130	8,5	DC 30 – 56, AC 22 – 36
SES 3-114B	153			10,0	DC 10,5 – 36, AC 9 – 24
SES 4-140B	160				DC 30 – 56, AC 22 – 36
SES 4-152B	204	14400		11,7	DC 10,5 – 36, AC 9 – 24

General technical features:

Class of electric shock hazard protection	III
Class of protection under IP	66
Frequency, Hz	50-60
Color rendering index (Ra)	≥ 75
Color temperature, K	2 700 – 7 000
Power factor	≥ 0,97
Light flux fluctuation	≤ 1 %
Class of light distribution	Direct (D)
Service life	60 000 hours
Warranty	3 years
Scattering angel, degree	17x17, 25 x 25, 60 x 60, 120 x 120, 45 x 154, 115x115
Operating temperature, °C	from – 40 to +50

Two-phase LED luminaires of SDS series

Luminaires are used for lighting of:

- Facilities with system nominal voltage varied from 180 to 500V of AC current

Housing of luminaires is made of aluminum alloy. Optics – borosilicate glass or polycarbonate. Luminaires have anti-vandal protection. Dimming system can be installed into luminaires. Different types of mounting allow to install luminaires without improvement of the existing mounting attachments.



Technical Specifications of luminaires:

Model	Power, W	Light flux, lm	Dimensions, mm	Weight, kg,	Temperature of environment, C
SDS 1-30	27	3 915	600×370×140	11,0	120 x 120, 17x17, 40 x 40 45 x 154, 25 x 25, 60 x 60
SDS 2M1-30	41	5 740		12,0	65 x 65, 70 x 140, 90x90
SDS 2-65	56	8 345	550×400×140	13,0	120 x 120, 17x17, 40 x 40 45 x 154, 25 x 25, 60 x 60
SDS 4M1-65	68	8 930		14,0	65 x 65, 70 x 140, 90 x 90 120 x 120, 17x17, 40 x 40 45 x 154, 25 x 25, 60 x 60
SDS 2-100	78	11 000	380×370×140		15,0
SDS 4M1-100	101	13 635	600×370×140	120 x 120, 17x17, 40 x 40 45 x 154, 25 x 25, 60 x 60	
SDS 3-150	122	17 080	550×400×140	16,0	65 x 65, 70 x 140, 40 x 40
SDS 6M1-150	160	21 760	580×370×140		120 x 120, 17x17, 40 x 40 45 x 154, 25 x 25, 60 x 60
SDS 4-240	193	27 020	550×400×140	17,0	65 x 65, 70 x 140, 90 x 90
SDS 8M1-240	256	33 535	490×400×140		120 x 120, 17x17, 40 x 40 45 x 154, 25 x 25, 60 x 60
SDS 6-320	256	36 350	500×370×140	18,0	65 x 65, 70 x 140, 90 x 90
SDS 12M1-320	334	45 760	600×370×140		120 x 120, 17x17, 40 x 40 45 x 154, 25 x 25, 60 x 60 65 x 65, 70 x 140, 90 x 90

General technical features:

Class of protection against electrocution	I
Degree of protection under IP	66
Power supply voltage, V / frequency, Hz	DC 254-500V, AC 180-500V/50-60Hz
Color rendering index (Ra)	≥ 75
Color temperature	2 700 – 7 000
Power factor	≥ 0,97
Light flux fluctuation	≤ 1 %
Class of light distribution	Direct (D)
Operating temperature, °C	from - 40 °C to + 50 °C
Service life	60 000 hours
Warranty	5 years

LED luminaires with reserve power supply

Luminaires are used for lightning of:

- ➔ Outdoor and indoor lightning facilities with emergency (reserve) lightning

Housing of luminaires is made of aluminum alloy. Optics – borosilicate glass or polycarbonate. Luminaires have anti-vandal protection. Different types of mounting allow to install luminaires without improvement of the existing mounting attachments.



Technical Specification of luminaires:

Model	Power, W	Light flux, lm	Dimensions, mm	Weight, kg,	Operating temperature, °C	Scattering angel, degree	
SES 2-65P	80	8 960	480x200x150	9,0	from - 40 to + 50	65 x 65, 70 x 140, 90 x 90	
SES 4-65P			420x200x130	8,0		17x17, 25x25, 60 x 60, 45 x 154, 40x40, 120x120	
SES 4-91P	105	12 950	480x360x160	11,5		65 x 65, 70 x 140, 90 x 90	
SES 8-91P			420x360x130	11,0		17x17, 25x25, 60 x 60, 45 x 154, 40x40, 120x120	
SES 4-125P	150	17 920	480x360x160	12,0		65 x 65, 70 x 140, 90 x 90	
SES 8-125P			420x360x130	10,0		120x120	
PSS 16P	19	1 440	150x600x115	6,2			from - 10 to + 50
PSS 25P	29	2 220	300x600x115	7,2			
PSS 40P	43	3 440	300x600x115	7,4			

General technical features:

Class of protection against electrocution	I	II
	Degree of protection under IP	30
Power supply voltage, V / frequency, Hz	DC 155-270, AC 90-305B/50-60Hz	
Color rendering index (Ra)	≥ 75	
Color temperature	2 700 – 7 000	
Power factor	≥ 0,97	
Light flux fluctuation	≤ 1 %	
Class of light distribution	Direct (D)	
Service life	60 000 hours	
Warranty	3 years	

Energy-saving LED luminaires of SES series with LED matrix

Luminaires are used for lighting of:

- ➔ Streets
- ➔ Roads and open areas
- ➔ Railway platforms
- ➔ Bus stations and harbors
- ➔ Production and storage premises

Luminaires are produced in basic modifications with power varied from 45 to 380 W. Housing of luminaires is made of aluminum alloy. Optics – borosilicate glass or polycarbonate. Luminaires have anti-vandal protection. Volt-control, lightning protection and dimming system can be installed into luminaires. Different types of mounting allow to install luminaires without improvement of the existing mounting attachments.



General technical features:

Class of protection against electrocution	I
Degree of protection under IP	66
Power supply voltage, V / frequency, Hz	DC 155-270 V, AC 90-305 V/50-60 Hz
Color rendering index (Ra)	> 75
Power factor	≥ 0,97
Light flux fluctuation	≤ 1 %
Class of light distribution	Direct (D)
Service life	100 000 hours
Warranty	5 years
Color temperature, k	2 700 – 7 000

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Technical Specifications of luminaires:

Model	Power, W	Light flux, lm	Dimensions, mm	Weight, kg	Scattering angel, degree	Temperature of environment, C
SES 2-45	45	7 250	350×200×140	5,3	70x140, 65x65, 90x90	from -40 to +50
SES 4-45		6 526	300×200×130	3,5	120x120	
SES 2-50	50	7 300	410x200x140	6,0	70x140, 65x65, 90x90	
SES 2-65Y	65	9 425				
SES 3-80	80	11 600	490×280×140	6,5		
SES 4-91	90	13 461	365×370×140	7,0		
SES 8-91		13 460	315×370×130	6,4	120x120	
SES 4-100	100	15 589	600×280×140	7,7	70x140, 65x65, 90x90	
SES 8-100		14 500	500×280×130	5,8	120x120	
SES 6-155	160	23 900	820×280×140	12,5	70x140, 65x65, 90x90	
SES 12-155			680×280×130	7,2	120x120	
SES 8-156			600×370×140	11,0	70x140, 65x65, 90x90	
SES 16-156			500×370×130	9,2	120x120	
SES 8-180	200	29 500	600×370×140	11,0	70x140, 65x65, 90x90	
SES 16-180			500×370×130	9,3	120x120	
SES 12-245	260	38 250	800×370×140	15,0	70x140, 65x65, 90x90	
SES 24-245			680×370×130	11,5	120x120	
SES 2-65	65	9 425	350×200×140	5,3	70x140, 65x65, 90x90	from -40 to +45
SES 4-65			300×200×130	3,5	120x120	
SES 4-125	130	18 850	365×370×140	8,0	70x140, 65x65, 90x90	
SES 8-125			315×370×130	6,8	120x120	
SES 4-126			600×280×140	7,5	70x140, 65x65, 90x90	
SES 8-126			500×280×130	5,8	120x120	
SES 6-185	195	28 275	820×280×140	12,0	70x140, 65x65, 90x90	
SES 12-185			680×280×130	7,2	120x120	
SES 8-245	260	37 700	600×370×140	12,0	70x140, 65x65, 90x90	
SES 16-245			500×370×130	9,4	120x120	
SES 12-330	380	55 100	860×370×140	16,5	70x140, 65x65, 90x90	
SES 24-330			740×370×140	14,0	120x120	

Energy-saving LED luminaires in die casting housing of SES series

Luminaires are used for lighting of:

- ➔ Streets
- ➔ Roads

Luminaires are produced in basic modifications with power varied from 15 to 130 W. Housing of luminaires is made of aluminum. Optics – borosilicate glass or tempered glass. Volt-control, lightning protection and dimming system can be installed into luminaires. Type of mounting - console.

General technical features:	
Class of protection against electrocution	I
Degree of protection under IP	66
Power supply voltage, V / frequency, Hz	DC 155-270 V, AC 90-305 V/50-60 Hz
Color rendering index (Ra)	≥ 75
Power factor	≥ 0,97
Light flux fluctuation	≤ 1 %
Class of light distribution	Direct (D)
Service life	100 000 hours
Warranty	5 years
Color temperature, k	2700 – 7 000



Technical specifications of luminaires:

Model	Power, W	Light flux, lm	Dimensions, mm	Weight, kg	Scattering angel, degree	Temperature of environment, C
SES 1-15L4...SES 1-40L4	15...40	2 175...5 800	445x195x205	2,25	65 x 65, 70 x 140	from -40 to +50
SES 1-15L5...SES 1-40L5			540x230x130	4,2		
SES 1-25L8... SES 1-65L8	25...65	3 375...8 775	675x315x155	5,2	115x115	
SES 2-35L1... SES 2-75L1	35...75	5 075...10 875	760x300x155	5,2	65 x 65, 70 x 140	
SES 2-35L2... SES 2-75L2			860x330x160	8		
SES 3-60L6...SES 3-100L6	60...100	8 700...14 500	1005x400x210	12,5	65 x 65, 70 x 140	
SES 3-60L3...SES 3-100L3			925x365x165	7		
SES 4-100L7...SES 4-130L7	100...130	14 500...18 850	1150x450x175	12,7		



Energy-saving LED luminaires with single diodes of SES series

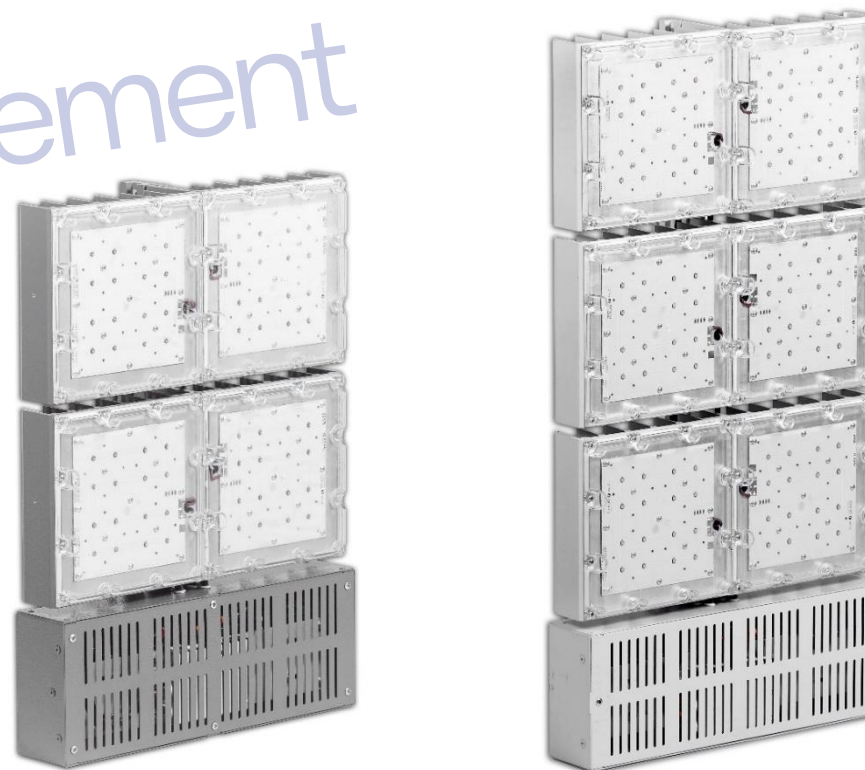
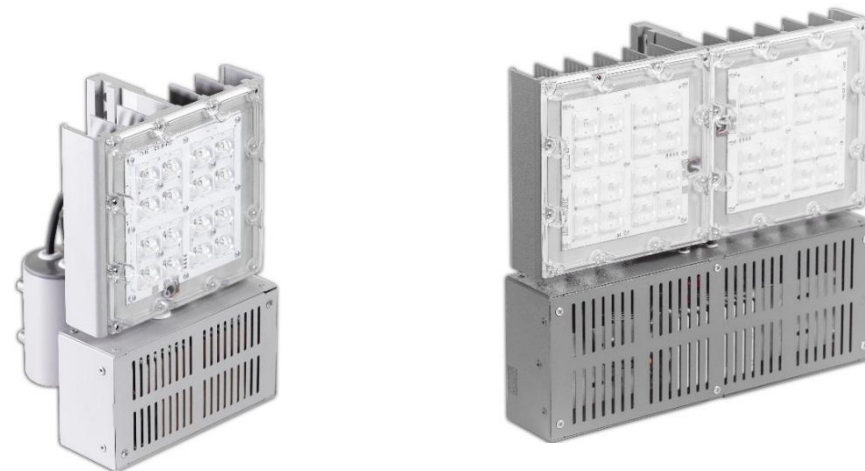
Luminaires are used for lighting of:

- Streets
- Roads and open areas
- Railway platform
- Bus station and harbours
- Production and storage premises

Luminaires are produced in basic modifications with power varied from 25 to 300 W. Housing of luminaires is made of aluminum Spreader and optics – polycarbonate. Luminaires have anti-vandal protection. Volt-control, lightning protection and dimming system can be installed into luminaires. Different types of mounting allow to install luminaires without improvement of the existing mounting attachments.

General technical features:

	I	II (A Series)
Class of protection against electrocution	I	II (A Series)
Degree of protection under IP	66	
Power supply voltage, V / frequency, Hz	DC 155-270 V , AC 90-305 V /50-60 Hz	
Color rendering index (Ra)	> 75	
Power factor	≥ 0,97	
Light flux fluctuation	< 1 %	
Class of light distribution	Direct (D)	
Service life	100 000 hours	
Warranty	5 years	
Scattering angel, degree	17x17, 25 x 25, 60 x 60, 120 x 120, 45 x 154	
Color temperature, k	2 700 – 7 000	



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Technical specification of luminaires:

Model	Power, W	Light flux, lm	Dimensions, mm	Weight, kg	Scattering angel, degree	Temperature of environment, C
SES 1-25	25	3 375	300x200x130	3,5	17 x 17 25 x 25 65 x 65 120 x 120 45 x 154	from -40 to + 50
SES 1-40	40	5 400		300x220x130		
SES 1-40A			4,0			
SES 1-60	60	8 100	300x200x130	3,5		from -40 to + 35
SES 1-60A			300x220x130	4,0		
SES 2-80	80	10 800	315x370x130	6,4		from -40 to + 50
SES 2-85A	85	11 475	320x370x140	6,7		
SES 2-115	115	15 525	315x370x130	6,8		from -40 to + 35
SES 2-120A	120	16 200	320x370x140	7,1		
SES 2-90	90	12 150	500x280x130	5,8		from -40 to + 50
SES 2-116	115	15 525	440x370x130	7,7		from -40 to + 35
SES 2-140	140	18 900				from -40 to + 50
SES 2-170	170	22 950	680x280x130	7,8		from -40 to + 35
SES 3-140	140	18 900		7,2		from -40 to + 50
SES 3-170	170	22 950	500x370x130	9,2		from -40 to + 35
SES 4-140	140	18 900				
SES 4-170	170	22 950	550x370x140	10,5	from -40 to + 50	
SES 4-170A	170		10,5			
SES 4-225	225	30 375	500x370x130	9,4	from -40 to + 35	
SES 4-300	300	40 500	760x370x130	13,3	from -40 to + 50	
SES 6-225	225	30 375	680x370x130	11,5	from -40 to + 50	
SES 6-255A	255	34 425	730x370x150	14,0		
SES 6-300	300	40 500	710x370x140		14,0	from -40 to + 35

Energy-saving LED luminaires with direct connection of SES series

Luminaires are used for lighting of:

- Streets
- Roads
- Open areas

Luminaires are produced in basic modifications with power varied from 20 to 70 W. Housing of luminaires is made of aluminum. Spreader – polycarbonate. Luminaires have anti-vandal protection. Different types of mounting allow to install luminaires without improvement of the existing mounting attachments.



Technical specification of luminaires:

Model	Power, W	Light flux, lm	Dimensions	Weight, kg, max	Scattering angle, degree
SES 1-20K	19,5	2 378	310x200x120	2,0	120 x 120, 17x17, 40 x 40 45 x 154, 25 x 25, 60 x 60
SES 1-25K	25	3 009			
SES 1-26K*	25	3 000	190x200x100		
SES 1-30K	29,5	3 450	310x200x120		
SES 1-35K	35	4 253		4,5	65 x 65, 70 x 140, 90x90
SES 2-50K	50	6 000	370x200x100		
SES 2-51K					
SES 2-70K	70	8 276			
SES 1-15...1-30KL4	15...30	1 428...3 403	450x225x90	1,7	65 x 65, 70 x 140, 90x90
SES 1-15...1-30KL5			540x235x100	2,5	
SES 2-35...2-60KL1	35...60	3 570...6 715	725x300x140	5,0	
SES 2-35...2-60KL2			820x310x150	8,5	

General technical features:

Class of protection against electrocution	I
Degree of protection under IP	67
Power supply voltage, V / frequency, Hz	AC 187-242 V/50-60 Hz
Color rendering index (Ra)	≥ 75
Color temperature	2700...7000
Power factor	≥ 0,97
Light flux fluctuation	≥ 95%
Class of light distribution	Direct (D)
Operating temperature, °C	from -40 °C to + 50 °C
Service life	60 000 hours
Warranty	3 years

*SES 1-26K - Light flux fluctuation ≤ 5%

*Luminaire may be installed at fuel station

Energy-saving LED luminaires of SES series for lighting of pedestrian

Luminaires are produced in basic modifications with power varied from 50 to 130 W. Radiator of luminaire is made of aluminum. Optics – borosilicate or polycarbonate. Luminaires have anti-vandal protection. Volt-control and dimming system can be installed into luminaires. The type of installation: on rope.



Technical specifications of luminaires:

Model	Power, W,	Light flux, lm,	Dimensions, mm	Weight, kg, max
SES 2-50D	50	5610	500x410x220	8,0
SES 2-100D	90	9 400	815×410×220	14,0
SES 2-130D	115	10 772		
SES 2-101D	105	12 555		
SES 2-131D	130	19 225		

General technical features:

Class of protection against electrocution	I
Degree of protection under IP	66
Power supply voltage, V / frequency, Hz	DC 155-270 V , AC 110-270 V /50-60 Hz
Color rendering index (Ra)	≥ 75
Color temperature	2 700 – 7 000
Power factor	≥ 0,98
Light flux fluctuation	≤ 1%
Class of light distribution	Direct (D)
Operating temperature, °C	from -40 °C to +50 °C
Service life	60 000 hours
Warranty	3 years

Energy-saving LED luminaires of SES series with forced cooling

Luminaires are used for lighting of:

- ➔ Stadiums
- ➔ Open areas
- ➔ Sports grounds
- ➔ Harbors

Luminaires are produced in basic modifications with power varied from 165 to 1200 W. Radiator of luminaire is made of aluminum. Optics – borosilicate. Luminaires have anti-vandal protection and forced cooling system. Volt-control system can be installed into luminaires. Type of installation: on ceiling/wall.



Technical specifications of luminaires:

Model	Power, W	Light flux, lm	Dimensions, mm	Weight, kg, max
SES 8-330P	330	49 154	470×245×240;	15
SES 8-500P	500	70 022		
SES 8-600P	600	81 600		
SES 24-1000P	945	136 025	610×410×260	37
SES 24-1200P	1180	160 480		

General technical features:

Class of protection against electrocution	I
Degree of protection under IP	66
Power supply voltage, V / frequency, Hz	DC 155-270 V , AC 90-305 V /50-60 Hz
Color rendering index (Ra)	≥ 75
Color temperature	2 700...7 000
Power factor	≥ 0,97
Light flux fluctuation	≥ 1%
Class of light distribution	Direct (D)
Operating temperature, °C	60 x 60, 90 x 90, 70 x 140
Service life	from -40 °C to + 50 °C (24-1200 P to +35)
Warranty	100 000 hours
Class of protection against electrocution	3 years

Energy-saving high-temperature LED luminaires of SES series

Luminaires are used for lighting of:

- Production premises with high temperatures

Luminaires are produced in basic modifications with power varied from 50 to 100 W. Housing of luminaires is made of aluminum. Optics – borosilicate glass. Luminaires have anti-vandal protection. Different types of mounting allow to install luminaires without improvement of the existing mounting attachments.



Technical specifications of luminaires:

Model	Power, W	Light flux, lm	Power supply voltage, V	Weight, kg, max	Environment temperature, C
SES 3-50KT	50	5500	AC 187 - 242	3,75	from -40 to +75
SES 3-50BT		6750	DC 30 - 37 B	4,5	from -40 to +100
SES 6-100KT	100	11000	AC 187 - 242	7,5	from -40 to +75
SES 6-100BT		13500	DC 30 - 37 B	9,0	from -40 to +100

Power supply for high-temperature LED luminaires of SES 6-100 W series is installed in adjoining room beyond the reach of high temperatures. In addition, power supply should provide direct current of 2.8 A with power 36 W. High-temperature LED luminaire of SES 6-100KT series is hooked up at A.C. voltage varied from 187 to 242 W and frequency of 50/60 Hz.

General technical features:

	I - KT	III - BT
Class of electric shock hazard protection	I - KT	III - BT
Degree of protection under IP	66	
Frequency, Hz	50-60 Hz	
Color rendering index (Ra)	≥ 75	
Power factor	≥ 0,97	
Light flux fluctuation	≤ 1 %; ≥ 0,95%	
Class of light distribution	Direct (D)	
Service life	60 000 hours	
Warranty	3 years	
Scattering angel, degree	65 x 65, 90 x 90, 70 x 140,	
Dimensions, mm	770×200×150, 385×100×75	
Color temperature , K	2 700 – 7 000	



Universal LED luminaires of USS series

Luminaires are used for lighting of:

- ➔ Farm houses
- ➔ Sales areas
- ➔ Storage premises
- ➔ Production premises
- ➔ Education establishments

Luminaires are produced in basic modifications with power varied from 15 to 70 W. Cover and housing are made of solid rough-service polycarbonate, resistant to ultra-violet radiation. Volt-control and dimming system can be installed into luminaires, as well as group power source.



Technical specification of luminaires:

Model	Power, W	Light flux, lm	Dimensions, mm	Housing type
USS 15	15	2400	661×96×103	Dismountable
			Ø85×800	Undismountable
USS 30	30	4800	1270×96×103	Dismountable
			Ø85×1600	Undismountable
USS 45	45	7200	Ø85×1600	Undismountable
			1270×96×103	Dismountable
USS 60	60	9600	1270×146×103	Dismountable
			Ø85×1600	Undismountable
USS 70	66	10560	1270×146×103	Dismountable
USS 15N	15	2250	Ø85×900	Undismountable
USS 30N	30	4500	Ø85×1300	
USS 45N	45	7200	1270×146×103	Undismountable
USS 60N	54	9600		Dismountable
USS 70N	66	10560		Dismountable

General technical features:

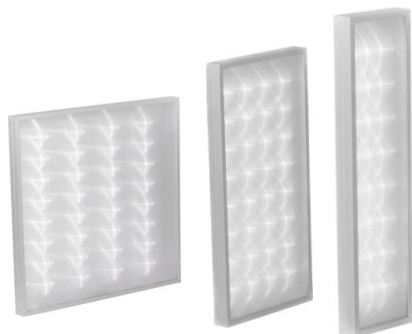
Class of electric shock hazard protection	II	III
Degree of protection under IP	66	
Power supply voltage, V / frequency, Hz	DC155-270 V, AC110-270B/50-60 Hz	
Color rendering index (Ra)	≥ 80	
Color temperature	2 700 – 7 000	
Spreader type	Matted	
Power factor	≥ 0,97	
Light flux fluctuation	≤ 1 %	
Class of light distribution	Direct (D)	
Operating temperature, °C	from -20 °C to + 50 °C	
Service life	100 000 hours	
Warranty	5 years	

USS-N Down light (with reflector)

Ceiling LED luminaires of PSS series

Luminaires are used for:

- ➔ Public facilities
- ➔ Administrative and office premises
- ➔ Sales areas
- ➔ Education establishments
- ➔ Halls and passage-ways
- ➔ Medical establishments



Luminaires are produced in basic modifications with power varied from 16 to 180 W. Luminaires of PSS series are designed for installation in false ceilings as well as for surface mounting.

General technical features:

Class of electric shock hazard protection	II
Class of protection IP	30
Power supply voltage, V / frequency, Hz	DC 155-270 V , AC 110-270B/50-60 Hz
Color rendering index (Ra)	≥ 75
Color temperature	2700...7000
Power factor	≥ 0,95
Light flux fluctuation	≤ 1 %
Class of light distribution	Direct (D)
Operating temperature, °C	from -10 °C to + 50 °C
Service life	100 000 hours
Warranty	5 years

Technical Specification of luminaires:

Model	Power, W	Light flux, lm	Dimensions, mm	Weight, kg, max
PSS 16	15,3	2 280	600x600x85; 300x600x85; 150x600x85	5,2; 3,4; 2,7.
PSS 25	23,6	3 520	600x600x85; 300x600x85; 150x1200x85.	5,5; 3,7; 4,2.
PSS 40	36,5	5 475	600x600x85; 300x600x85; 300x1200x85; 150x1200x85 150x1800x85.	5,5; 3,9; 5,8; 4,5; 5,4.
PSS 60	58	8 760	600x600x85; 300x1200x85; 300x1800x85; 150x1500x85; 150x1800x85.	5,7; 5,7; 7,4; 5,0; 5,1.
PSS 90	87	12 960	600x600x85; 600x1200x85; 300x1200x85; 300x1800x85; 150x1800x85.	5,8; 6,0; 7,7; 6,1; 8,7.
PSS 120	116	17 400	600x1200x85; 600x1800x85; 300x1800x85; 150x1500x85.	10,2; 9,0; 6,3; 13,2.
PSS 180	173	26 120	600x1200x85; 600x1800x85; 150x2250x85.	10,7; 14,0; 7,7.



Architectural backlighting floodlights of PPA series

Floodlights are used for lightning of:

- Open and closed areas
- Billboards
- Elevations of buildings
- Landmarks
- Engineering structures

Floodlights of PPA series are designed for ceiling and surface mounting. Luminaires are produced in basic modifications of power varied from 10 to 100 W. Volt-control and dimming systems may be installed.



Technical Specifications of floodlights:

Model	Power, W	Light flux, lm			Dimensions, mm	Weight, kg, max
PPA 1-18	18	460	750		240×285×130	4
PPA 1-40	40	950	2200	2400		4,3
PPA 1-55	55	115	195	680		5
PPA 2M-10L1...2M-70L1	10...70	from 1 450 to 10 150			370x360x175	4,6
PPA 1M-10L2...1M-40L2	10...40	from 1 450 to 5 800			600x380x240	5,3

General technical features:

Class of electric shock hazard protection	I
Class of protection under IP	66
Backlighting color	yellow, red, white, dark blue, green, RGB
Power supply voltage, V / frequency, Hz	DC 155-270V, AC 110-270V/50-60 Hz
Color rendering index (Ra)	≥ 75
Power factor	≥ 0,95
Light flux fluctuation	≤ 1 %
Class of light distribution	Direct (D)
Scattering angel, degree	120 x 120, 17x17, 40 x 40 45 x 154, 25 x 25, 60 x 60, 65 x 65, 70 x 140
Operating temperature, °C	from -40 °C to + 50 °C
Service life	60 000 hours
Warranty	3 years



Energy-saving industrial luminaires of SES series

Luminaires are used for lighting of:

- Sale premises
- Storage and workshop premises

Luminaires are produced in basic modifications with power varied from 40 to 150 W. Housing of luminaires is made of aluminum. Optics – borosilicate glass or polycarbonate. Volt-control and dimming systems may be installed.

Type of installation: ceiling.



Technical specifications of luminaires:

Model	Power, W	Light flux, lm	Dimensions, mm	Weight, kg, max
SES 1-40EL9...SES 1-150EL9	40..150	5800...21750	505x310x480	6,9
SES 1-40EL10...SES 1-100EL10	40..100			

General technical features:

Class of electric shock hazard protection	I
Class of protection under IP	66
Power supply voltage, V / frequency, Hz	DC 155-270 V , AC 90-305 V /50-60 Hz
Color rendering index (Ra)	≥ 75
Power factor	≥ 0,97
Light flux fluctuation	≤ 1 %
Class of light distribution	Direct (D)
Service life	60 000 hours
Warranty	3 years
Scattering angel, degree	17x17, 25 x 25, 60 x 60, 120 x 120, 45 x 154, 65 x 65, 70 x 140
Operating temperature, °C	From -40 to + 50
Color temperature, K	2 700 – 7 000



Park luminaires with indirect and stray lighting of SP series

Luminaires are used for lighting of:

- ➔ Parks
- ➔ Recreation areas
- ➔ Mini-parks
- ➔ Adjoining areas

Luminaires are produced in basic modifications with power varied from 20 to 60 W. Housing of luminaires is made of aluminum. Optics – borosilicate. Spreader - polycarbonate or tempered glass. Painted aluminum reflector serves as the reflecting surface. Luminaires have anti-vandal control.

Technical Specifications of luminaires:

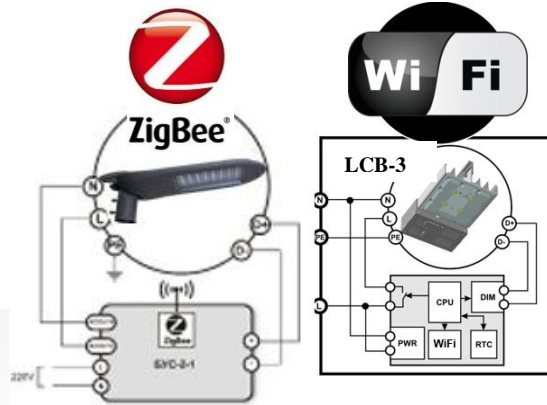
Power, V	20...60
Light flux, lm	2 700...7 000
Class of electric shock hazard protection	I
Class of protection under IP	66
Power supply voltage, V / frequency, Hz	DC 155 -270 V, AC 110 – 270 V/ 50 Hz
Color rendering index (Ra)	≥ 75
Power factor	≥ 0,87
Light flux fluctuation	≥ 95%; ≤ 5%
Class of light distribution	Direct (D) Washlight (W) Reflect (R)
Operating temperature, °C	from -40 °C to + 50 °C
Service life	60 000 hours
Warranty	3 years



Height of the luminaire – by agreement with the customer.

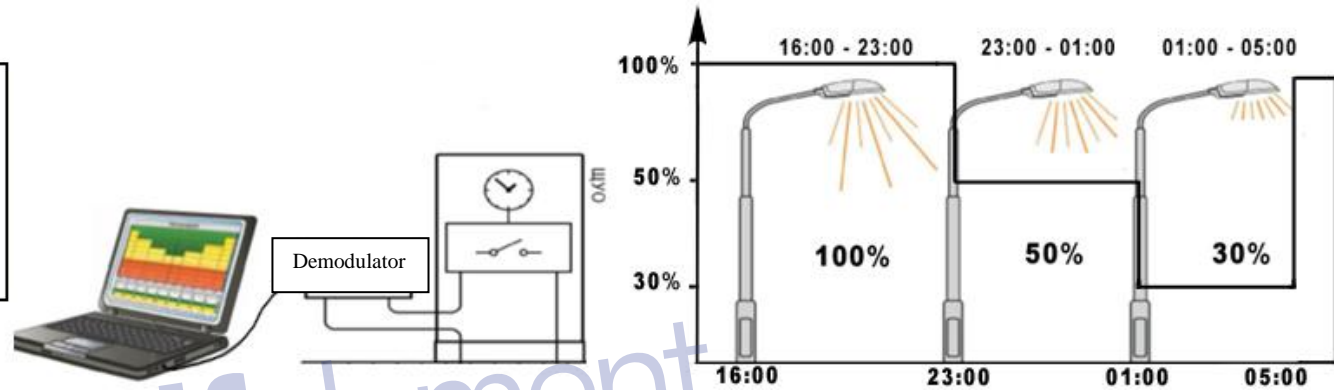
Light control system allows to save still more electricity

Wireless control system with WIFI and ZigBee technologies



The real time clock.
Dimming Graph for the year:
 - 36 segments of the graph;
 - 16 days templates;
 - 12 segments of the day.

Wire control system over power lines



- ✓ Luminaire Control Block – LCB-2-1 based on wireless ZigBee® technology and LCB-3 based on wireless WiFi technology are able to make any system “smart” without stressful constructive search and considerable financial expenses.
- ✓ The main advantage of automatic lighting control based on LCB-2-1 is the possibility to arrange the system on the base of standard power supply system.

- ✓ Applied to all types of luminaires including LED luminaires (with power input 1-10 V or DALI)
- ✓ Control over current power lines
- ✓ Control over certain luminaires, grouping of luminaires and group control
- ✓ Internal memory with power increase/decrease diagram
- ✓ Control diagram with remote monitoring of state and power consumption of each luminaire depicted on the map

- ✓ Energy saving (up to 80%)
- ✓ Energy efficiency management
- ✓ Luminaire service life extension
- ✓ Pollution control
- ✓ Absence of «light pollution» – protection of dwellers from excessive light in windows at night period
- ✓ Simple mounting
- ✓ Generality – for all luminaire types

Conventions

SES 1 - 40 L 4

Luminaire nominal voltage, W

Amount of LED matrix or modules.
Absent in USS, PSS series.

Luminaire series	
SSV	Explosion-protected LED luminaires
SES	Energy saving LED luminaires
SDS	Two-phase LED luminaires
USS	Universal LED luminaires
PSS	Ceiling LED luminaires
PPA	Architectural backlighting floodlights
SP	Park luminaires

PPA
1) Letter L – luminaires in die casting. 2) Letter M – luminaires based on LED modules.
PSS
Letter R – luminaires with reserve power supply.
SDS
Letter M – luminaires based on LED modules.
SES
1) Letter A – II class of protection against electrocution; 2) Letter Б – III class of protection against electrocution; 3) Letter D – road luminaires for crosswalks; 4) Letter I – industrial luminaires; 5) Letter K – direct switching luminaires; 6) Letter L – luminaires in die-casting housing; 7) Letters IL – industrial luminaires in die-casting housing; 8) Letters KL – direct switching luminaires in die-casting housing; 9) Letter P – luminaires with forced cooling; 10) Letter R – luminaires with reserve power supply; 11) Letter T – high-temperature luminaires; 12) Letter U – simplified luminaire construction.
USS
1) Letter B – III class of protection against electrocution; 2) Letter N – spotlight luminaire.

Luminaire die-casting modification number

SES						SP		PPA		SES IL	
1	2	3	4	5	8	1	4	1	2	9	10



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