

LEDSPOTS CC

ACTIVE PLUS – 18 V GEN. 3

7.3

9.3



MODULAR LED SPOTS AND ENGINES FOR MULTIPLE OPTICS CONFIGURATIONS

One of the main characteristics of this LED spots and engines is their flexibility. The modularity of these LED engines allows you to combine different lenses and reflectors in order to get the result you expect.

Moreover, with its easy to fit technology you connect lenses or reflectors in a blink of an eye – just click it in.

New COB generation offer improved performances.

Typical applications for LEDSpots

Integration in luminaires

- Residential lighting
- Retail lighting
- Hospitality lighting
- Museum lighting



Active Plus – 18 V

- **MODULAR SYSTEM: ENGINE + REFLECTORS**
- **COLOUR RENDERING INDEX: CRI 90**
- **FULL SPECTRUM: CRI98**
- **LUMINOUS FLUX: UP TO 1010 LM (CRI 90)**
- **NARROW COLOUR TOLERANCES:
3 STEP MACADAM**
- **MADE IN ITALY**



Active 9.3 PLUS

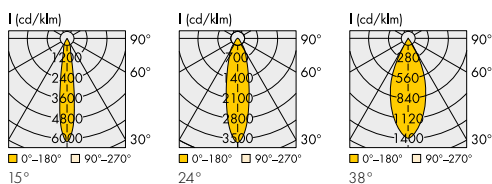
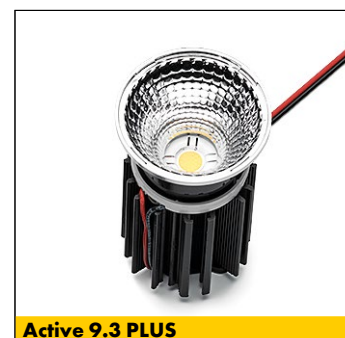
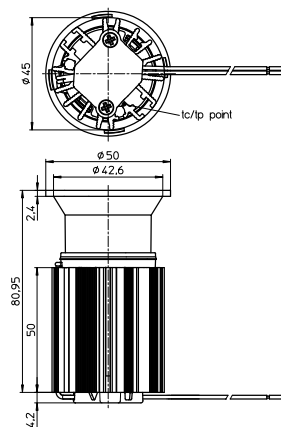
Technical notes

Reflector: Ø 50 mm, heat sink material: aluminium
 Lumen maintenance: L90/B20; 50,000 hrs. 75 °C at t_p point
 Max. operating temperature at t_c point: 90 °C
 Temperature depends on installation situation and has to be checked by the luminaire manufacturer.
 Colour accuracy initially: 3 SDCM
 Plastic clear cover to protect reflector (opaque cover on request)
 Leads: Cu tinned, stranded conductors 0.5 mm², length: 200 mm, stripped lead ends (with plug on request)
 With integrated cord grip
 Packaging unit: 45 pcs.

Electrical characteristics

Type	450 mA		500 mA	
	P _{el} (W)	V _f (V)	P _{el} (W)	V _f (V)
9.3	7.65	17.0	8.6	17.2

Voltage and power tolerance: ± 10%



Type	Ref. No.	Colour	Correlated colour temp. K	Typ. luminous flux and efficiency at				Light intensity at max. current Candela	Beam angle °	CRI R _a	
				450 mA		500 mA					
				lm	lm/W	lm	lm/W				
Warm white – 2700 K				Pel=7.6W/Vf=17.0V				Pel=8.6W/Vf=17.2V			
Active 9.3 PLUS -927	572973	warm white	2700	825	109	905	105	5520	15	90	
Active 9.3 PLUS -927	572974	warm white	2700	815	107	895	104	3260	24	90	
Active 9.3 PLUS -927	572975	warm white	2700	825	109	905	105	1270	38	90	
Warm white – 3000 K											
Active 9.3 PLUS -930	572976	warm white	3000	860	113	950	110	5830	15	90	
Active 9.3 PLUS -930	572977	warm white	3000	850	112	935	109	3400	24	90	
Active 9.3 PLUS -930	572978	warm white	3000	860	113	950	110	1330	38	90	
Neutral white – 4000 K											
Active 9.3 PLUS -940	572979	neutral white	4000	910	120	1010	117	6200	15	90	
Active 9.3 PLUS -940	572980	neutral white	4000	900	118	1000	116	3645	24	90	
Active 9.3 PLUS -940	572981	neutral white	4000	910	120	1010	117	1405	38	90	

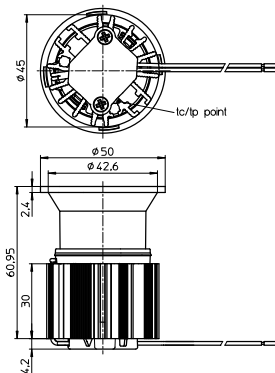
Production tolerance of luminous flux and efficiency: ± 10%

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

Active 7.3 PLUS

Technical notes

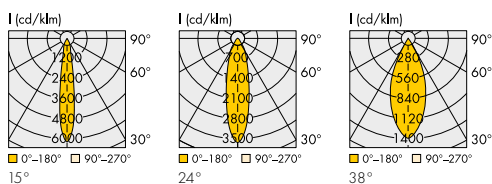
Reflector: Ø 50 mm, heat sink material: aluminium
 Lumen maintenance: L90/B20; 50,000 hrs. 75 °C at t_p point
 Max. operating temperature at t_c point: 90 °C
 Temperature depends on installation situation and has to be checked by the luminaire manufacturer.
 Colour accuracy initially: 3 SDCM
 Plastic clear cover to protect reflector (opaque cover on request)
 Leads: Cu tinned, stranded conductors 0.5 mm², length: 200 mm, stripped lead ends (with plug on request)
 With integrated cord grip
 Packaging unit: 45 pcs.



Electrical characteristics

Type	350 mA		400 mA	
	P _{el} (W)	V _f (V)	P _{el} (W)	V _f (V)
7.2	5.81	16.6	6.72	16.8

Voltage and power tolerance: ± 10%



Type	Ref. No.	Colour	Correlated colour temp. K	Typ. luminous flux and efficiency at				Light intensity at max. current Candela	Beam angle °	CRI R _a
				350 mA		400 mA				
				lm	lm/W	lm	lm/W			
Warm white – 2700 K				Pel=5,81W/Vf=16,6V		Pel=6,72W/Vf=16,8V				
Active 7.3 PLUS -927	572962	warm white	2700	655	113	740	110	4510	15	90
Active 7.3 PLUS -927	572963	warm white	2700	650	112	730	109	2660	24	90
Active 7.3 PLUS -927	572964	warm white	2700	655	113	740	110	1040	38	90
Warm white – 3000 K										
Active 7.3 PLUS -930	572965	warm white	3000	685	118	775	115	4750	15	90
Active 7.3 PLUS -930	572966	warm white	3000	675	116	765	114	2785	24	90
Active 7.3 PLUS -930	572967	warm white	3000	685	118	775	115	1085	38	90
Neutral white – 4000 K										
Active 7.3 PLUS -940	572968	neutral white	4000	725	125	820	122	5040	15	90
Active 7.3 PLUS -940	572969	neutral white	4000	715	123	810	121	2950	24	90
Active 7.3 PLUS -940	572970	neutral white	4000	725	125	820	122	1140	38	90

Production tolerance of luminous flux and efficiency: ± 10%

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LED Engines for Active PLUS and Evolve 50

LEDSpot engine equipped with LED module, holder, thermal pad, heat sink and leads but without reflector or lenses

Technical notes

For optics Evolve and reflectors PLUS

Optics fixation: click-in

Heat sink material: aluminium

Lumen maintenance:

L90/B20

50,000 hrs. at max. allowed operation current and

75 °C at t_p point

Temperature depends on installation situation and has to be checked by the luminaire manufacturer.

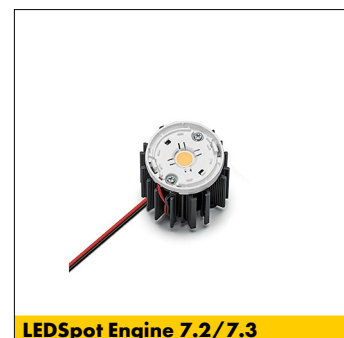
Colour accuracy initially: 3 SDCM (7.2/7.3/9.2/9.3)

Leads: Cu tinned, stranded conductors 0.5 mm²,

length: 200 mm, stripped lead ends (with plug on request)

With integrated cord grip

Packaging unit: see page 7



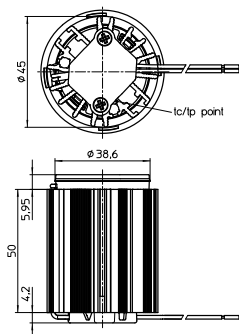
Maximum ratings

Exceeding the maximum ratings can lead to reduction of service life or destruction of the modules.

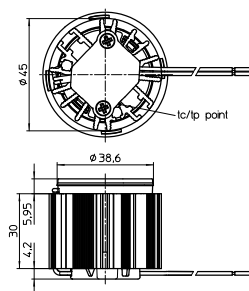
Type	Ambient temperature range (t _a)		Operation temp. at t _c point with max. current		Storage temperature range		Max. allowed repetitive peak current mA
	°C min.	°C max.	°C min.	°C max.	°C min.	°C max.	
Engine 7.3/ Active 7.3	-20	+45	-25	+90	-40	+90	1120
Engine 9.3/ Active 9.3	-20	+45	-25	+90	-40	+90	1120
Engine 7.2/ Active 7.2	-20	+45	-25	+90	-40	+90	1000
Engine 9.2/ Active 9.2	-20	+45	-25	+90	-40	+90	1000

Temperatures depend on installation situation and has to be checked by the luminaire manufacturer.

A – Engine 9.2 Engine 9.3



B – Engine 7.2 Engine 7.3



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LED Engines for Active PLUS and Evolve 50

Electrical characteristics

Type	350 mA		400 mA		450 mA		500 mA	
	P _{el} (W)	V _f (V)	P _{el} (W)	V _f (V)	P _{el} (W)	V _f (V)	P _{el} (W)	V _f (V)
Engine 7.3 / Evolve 7.3	5.81	16.6	6.72	16.8	-	-	-	-
Engine 9.3 / Active 9.3	5.81	16.6	6.72	16.8	7.65	17	8.6	17.2
Engine 7.2	6.0	17.1	6.9	17.3	-	-	-	-
Engine 9.2	6.0	17.1	6.9	17.3	7.8	17.4	8.8	17.6

Voltage and power tolerance: ± 10%

Optical characteristics

at t_p 70 °C

Type	Ref. No.	Colour	Correlated colour temperature K	Typ. luminous flux and efficiency at				CRI
				450 mA		500 mA		
				lm	lm/W	lm	lm/W	R _a
Drawing A				Pel=7.65W/Vf=17.0V		Pel=8.6W/Vf=17.2V		
Engine 9.3 -927K	572959	warm white	2700	940	124	1030	120	90
Engine 9.3 -930K	572960	warm white	3000	980	129	1080	126	90
Engine 9.3 -940K	572961	neutral white	4000	1040	137	1150	134	90

Production tolerance of luminous flux and efficiency: ± 10%

Type	Ref. No.	Colour	Correlated colour temperature K	Typ. luminous flux and efficiency at				CRI
				350 mA		400 mA		
				lm	lm/W	lm	lm/W	R _a
Drawing B				Pel=5.81W/Vf=16.6V		Pel=6.72W/Vf=16.8V		
Engine 7.3 -927K	572956	warm white	2700	745	128	840	125	90
Engine 7.3 -930K	572957	warm white	3000	780	134	880	131	90
Engine 7.3 -940K	572958	neutral white	4000	825	142	930	138	90

Production tolerance of luminous flux and efficiency: ± 10%

LED Engine: Full Spectrum

Optical characteristics Full Spectrum

at t_p 70 °C

Type	Ref. No.	Colour	Correlated colour temperature K	Typ. luminous flux and efficiency at				CRI
				450 mA		500 mA		
				lm	lm/W	lm	lm/W	R _a
Drawing A				Pel=7.8W/Vf=17.4V		Pel=8.8W/Vf=17.6V		
Engine 9.2 -927 FS	573009	warm white	2700	740	95	810	92	98
Engine 9.2 -930 FS	573010	warm white	3000	800	103	880	100	98
Engine 9.2 -940 FS	573011	neutral white	4000	870	112	960	109	98

Production tolerance of luminous flux and efficiency: ± 10%

Type	Ref. No.	Colour	Correlated colour temperature K	Typ. luminous flux and efficiency at				CRI
				350 mA		400 mA		
				lm	lm/W	lm	lm/W	R _a
Drawing B				Pel=6.0W/Vf=17.1V		Pel=6.9W/Vf=17.3V		
Engine 7.2 -927 FS	573006	warm white	2700	590	98	665	96	98
Engine 7.2 -930 FS	573007	warm white	3000	635	106	715	104	98
Engine 7.2 -940 FS	573008	neutral white	4000	695	116	785	114	98

Production tolerance of luminous flux and efficiency: ± 10%

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Reflectors PLUS for LED Engines

Technical notes

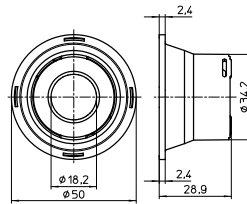
For click-in fixation on holders Easy

Diameter: 50 mm

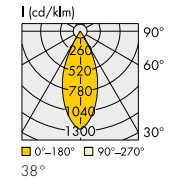
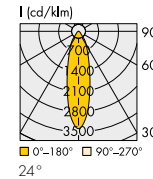
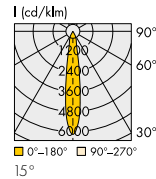
Material: PC

Operating temperature: -25 to 90 °C

Storage temperature: -40 to 90 °C



Ref. No.	For LED modules	Beam angle (°)	Cover	Optical efficiency (%)	Weight g
603685	9.2, 7.2, 9.3, 7.3	15	Clear	87	10
603687	9.2, 7.2, 9.3, 7.3	24	Clear	86	10
604919	9.2, 7.2, 9.3, 7.3	38	Clear	87	10
603686	9.2, 7.2, 9.3, 7.3	18	Frost	86	10
603688	9.2, 7.2, 9.3, 7.3	26	Frost	85	10
604920	9.2, 7.2, 9.3, 7.3	42	Frost	85	10



Lenses Evolve 50 for LED Engines

Technical notes

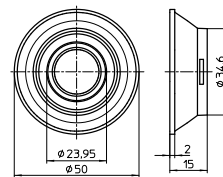
For click-in fixation on holders Easy

Diameter: 50 mm

Material: PC

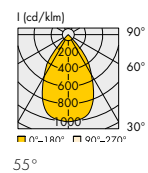
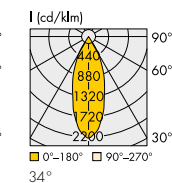
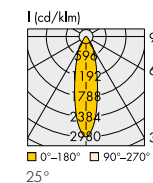
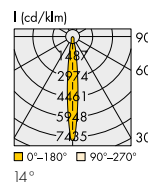
Operating temperature: -25 to 90 °C

Storage temperature: -40 to 90 °C



Ref. No.	For LED modules	Beam angle (°)	Cover	Optical efficiency (%)	Weight g
603672	9.2, 7.2, 9.3, 7.3	14	—	87	15
603673	9.2, 7.2, 9.3, 7.3	25	—	86	15
603674	9.2, 7.2, 9.3, 7.3	34	—	89	15
604879	9.2, 7.2, 9.3, 7.3	55	—	86	15

* In addition with mixing chamber

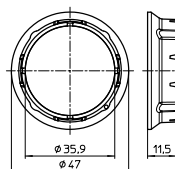


Flange Evolve

To reduce light leakage (optional)

Material: PBT, black

Ref. No.: 603681



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LEDSpots Active PLUS

General information

Performance acc. to IEC 62717: $t_p = 85\text{ °C}$; 100,000 hrs.

Packaging unit

Type	Packaging unit pcs.	Box dimensions (LxWxH) mm	Weight single (g)	Gross weight packaging unit (g)
Engine 7.2 / 7.3	90	600x400x80	80	7600
Engine 9.2 / 9.3	45	600x400x110	100	4900
Reflector PLUS	30	370x290x35	10	700
Lenses Evolve 50	30	370x290x35	15	850
Active 7.2 / 7.3 PLUS	45	600x400x80	90	4450
Active 9.2 / 9.3 PLUS	45	600x400x105	110	5350

EPREL information

Engine & Evolve 7.2/7.3/9.2/9.3 Are containing Products of LED Modules

Light Source

Containing product Engine / Evolve Type	Light Source Type	EPREL Reg. No.	EE Class
Engine/Active 7.3/9.3 - 927	BXRE-27G0800-D-8x	869189	F
Engine/Active 7.3/9.3 - 930	BXRE-30G0800-D-8x	869616	F
Engine/Active 7.3/9.3 - 940	BXRE-40G0800-D-8x	870295	F
Engine 7.2/9.2 - 927	BXRE-27S0801-D-73	869383	G
Engine 7.2/9.2 - 930	BXRE-30S0801-D-73	869837	F
Engine 7.2/9.2 - 940	BXRE-40S0801-D-73	870392	F

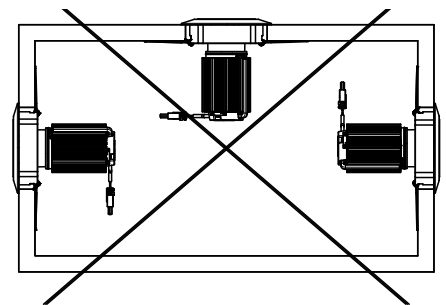
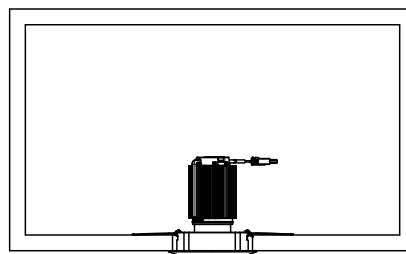
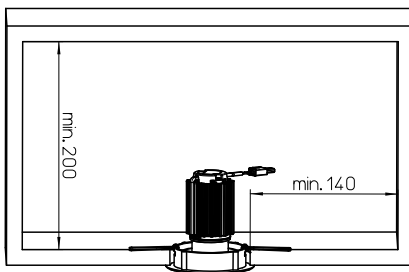
General safety and installation instructions

- VS product may only be installed and commissioned by authorised and fully qualified staff.
- These instructions must be carefully read before installing and commissioning the system, as this is the only way to ensure safe and correct handling.
- An external constant-current driver is required.
- Before any work is carried out on the equipment, it must be disconnected from the mains.
- All valid safety and accident-prevention regulations must be observed.
- The products should never be inexpertly opened. Repairs may only be undertaken by the manufacturer.

Built-in

Correct position

OK



Produktgarantie

- 5 years
- The conditions for the Products Guarantee of the Vossloh-Schwabe Group shall apply as published on our homepage (www.vossloh-schwabe.com). We will be happy to send you these conditions upon request.

LED Constant Current Drivers

Please visit our homepage for details for suitable LED constant current drivers: www.vossloh-schwabe.com

Assembly and Safety Information

Installation must be carried out under observation of the relevant regulations and standards. The LED modules are designed for operation within a casing or luminaire. Safety regulations acc. to EN 60598 has to be observed. Installation must be carried out in a voltage-free state (i.e. disconnection from the mains).

- Mains frequency: 0 Hz
- LED built-in modules must not be subjected to any undue mechanical stress, e. g.:
 - handle LED modules carefully
 - avoid shear and compressive forces onto the optics during handling and installation
 - do not carry or move the LED engines by using the wires
- When installing/screwing the module into a luminaire, please ensure that the cables are not squeezed between luminaire and LED engine.
- The LED engine must not be used in hermetically sealed casings.
- Safe operation only possible by the use of external constant current sources (I_{max} . see table "Electrical Characteristics").
- Operation is dependent on constant current drivers that should provide the following protective measures:
 - short-circuit protection
 - overload protection
 - overheating protection
 - SELV; $U_{max} \leq 60$ V
 - I_{max} must not be exceeded
- Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- The maximum output of the power supply must be observed.
- For optimal load of used constant current driver the modules can only be connected in series. The quantity of LED modules is limited by the sum of forward voltage and the capacity of used constant current driver. Safety regulations acc. to EN 60598 has to be observed if the sum of forward voltage exceed the permitted touchable value.
- A parallel connection of the LED engines is not allowed.
- Measurement tolerances:
 - luminous flux: ± 10 %
 - voltage: ± 3 %
 - CRI: ± 1 %
- Maximum allowed number of switching cycles: 15,000
- Please ensure standard ESD (electrostatic discharge) protection measures are employed when handling and installing LED modules. Electrostatic discharge can damage LEDs.
- To ensure problem-free operation, the specified maximum temperature at the t_c and t_p point (see "Operating Life") must be observed (measured in accordance with EN 60598-1). To satisfy this point, it is necessary to put measures in place to ensure any heat is dissipated from the LED engine to the environment.

- To ensure good thermal behaviour take care about "general safety and installation instructions".
- In the event of outdoor applications or applications in damp locations, care must be taken to protect LED assembly modules against humidity, splashes and jets of water. Any corrosion damage resulting from humidity or contact with condensation will not be recognised as a defect or manufacturing fault. LED assembly modules are not specially protected against foreign bodies or dust. Depending on the type of application, further protection must be ensured to prevent dust and foreign bodies from entering.
- Operating LED modules in the presence of certain chemical substances or in chemically enriched (aggressive) environments can impair module functionality or even cause total module failure. Detailed information can be found in our "Chemical Incompatibility" PDF on our website www.vossloh-schwabe.com
- The photobiological safety of the LED modules must be classified into risk groups in accordance with EN 62471 Rating in accordance with IEC / TR 62778

The following LED modules are in risk group 1:
Up to 4000 K

LED module type	Max. allowed luminous flux per module (lm)	For higher luminous flux: E threshold to RG1 (lx)
BXRE-40G0800-D-8x	2335	1983

Applied Standards

- EN 62031
LED modules for general lighting – Safety specifications
- EN 62471-2
Photobiological safety of lamps and lamp systems

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