

LED MODULES READYLINE COB

BUILT-IN MODULE



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EDC_57C_xxW_xxx_230A_VS4

Typical Applications

- Residential lighting
- Replacement for CFL downlights
- Integration in reflector luminaires
- Furniture lighting



LED Modules ReadyLine COB

- **DIRECT MAINS CONNECTION**
- **HIGH POWER FACTOR**
- **LONG SERVICE LIFETIME: 50,000 HOURS**
- **DEKRA APPROVED**



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Technical Notes

- LED built-in module for integration into luminaires
- Mains voltage: 230 V AC
- Power factor: > 0.95
- THD: < 20 %
- Dimensions (ØxH): Ø 57 x 4.7 mm
- On-Board push-in connector
- Light emitting surface (LES)
 - Ø 14 mm: 10 W, 15 W, 20 W
 - Ø 21 mm: 30 W, 40 W



Electrical Characteristics

at t_c = 55 °C

Type	Supply voltage AC typ. V ± 10%	Operation frequency Hz	Power consumption at 230 V typ. W	Power factor	Total harmonic distortion (THD) %
EDC_57C_10W_xxx_230A_VS4	220-240	50/60	10	0.95	< 20
EDC_57C_15W_xxx_230A_VS4	220-240	50/60	15	0.95	< 20
EDC_57C_20W_xxx_230A_VS4	220-240	50/60	20	0.95	< 20
EDC_57C_30W_xxx_230A_VS4	220-240	50/60	30	0.95	< 20
EDC_57C_40W_xxx_230A_VS4	220-240	50/60	40	0.95	< 20

Maximum Ratings

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

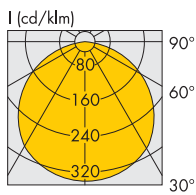
Type	Operation voltage range AC (V)		Operation temperature range at t_c point		Ambient temperature range		Storage temperature range	
	min.	max.	°C min.	°C max.	°C min.	°C max.	°C min.	°C max.
EDC_57C_10W_xxx_230A_VS4	198	264	-30	+85	-30	+60	-30	+85
EDC_57C_40W_xxx_230A_VS4	198	264	-30	+85	-30	+55	-30	+85

Operating Life

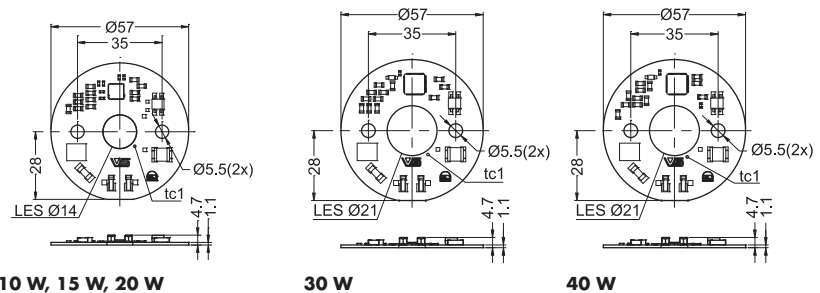
50,000 h (L70/B50)

at t_c = 55 °C

Typical Light Distribution Curve



Mechanical Dimensions



10 W, 15 W, 20 W

30 W

40 W

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LED Modules ReadyLine COB

Optical Characteristics

at $t_c = 55\text{ °C}$, at 230 V AC

Type Output W	Type	Ref. No.	Colour	Correlated colour temperature* K	Luminous flux (lm) and typ. efficiency (lm/W)**			Typ. beam angle °	Typ. CRI R _G	Energy efficiency
					min. lm	typ. lm	typ. lm/W			
10 W	EDC57C_10W827_230A_VS4	559771	warm white	2700	780	850	85	120	80	A+
	EDC57C_10W830_230A_VS4	559772	warm white	3000	830	900	90	120	80	A+
	EDC57C_10W835_230A_VS4	559773	warm white	3500	880	930	93	120	80	A+
	EDC57C_10W840_230A_VS4	559774	neutral white	4000	910	950	95	120	80	A+
	EDC57C_10W850_230A_VS4	559775	cool white	5000	930	1000	100	120	80	A+
15 W	EDC57C_15W827_230A_VS4	559776	warm white	2700	1170	1275	85	120	80	A+
	EDC57C_15W830_230A_VS4	559777	warm white	3000	1245	1350	90	120	80	A+
	EDC57C_15W835_230A_VS4	559778	warm white	3500	1290	1395	93	120	80	A+
	EDC57C_15W840_230A_VS4	559779	neutral white	4000	1320	1425	95	120	80	A+
	EDC57C_15W850_230A_VS4	559780	cool white	5000	1395	1500	100	120	80	A+
20 W	EDC57C_20W827_230A_VS4	559781	warm white	2700	1560	1700	85	120	80	A+
	EDC57C_20W830_230A_VS4	559782	warm white	3000	1660	1800	90	120	80	A+
	EDC57C_20W835_230A_VS4	559783	warm white	3500	1720	1860	93	120	80	A+
	EDC57C_20W840_230A_VS4	559784	neutral white	4000	1760	1900	95	120	80	A+
	EDC57C_20W850_230A_VS4	559785	cool white	5000	1860	2000	100	120	80	A+
30 W	EDC57C_30W827_230A_VS4	560985	warm white	2700	2340	2550	85	120	80	A+
	EDC57C_30W830_230A_VS4	560986	warm white	3000	2490	2700	90	120	80	A+
	EDC57C_30W835_230A_VS4	560987	warm white	3500	2580	2790	93	120	80	A+
	EDC57C_30W840_230A_VS4	560988	neutral white	4000	2640	2850	95	120	80	A+
	EDC57C_30W850_230A_VS4	560989	cool white	5000	2790	3000	100	120	80	A+
40 W	EDC57C_40W827_230A_VS4	560990	warm white	2700	3120	3400	85	120	80	A+
	EDC57C_40W830_230A_VS4	560991	warm white	3000	3320	3600	90	120	80	A+
	EDC57C_40W835_230A_VS4	560992	warm white	3500	3440	3720	93	120	80	A+
	EDC57C_40W840_230A_VS4	560993	neutral white	4000	3529	3800	95	120	80	A+
	EDC57C_40W850_230A_VS4	560994	cool white	5000	3720	4000	100	120	80	A+

* Colour tolerance: 3 MacAdam | ** Production tolerance of luminous flux and efficiency: $\pm 10\%$ | CRI ± 3

Minimum order quantity: 100 pcs.

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LED Modules ReadyLine COB – HiCRI

Optical Characteristics

at $t_c = 55\text{ °C}$, at 230 V AC

Type Output W	Type	Ref. No.	Colour	Correlated colour temperature* K	Luminous flux (lm) and typ. efficiency (lm/W)* **			Typ. beam angle °	Typ. CRI R _a	Energy efficiency
					min. lm	typ. lm	typ. lm/W			
10W	EDC57C_10W927_230A_VS4	563463	warm white	2700	660	730	73	120	90	A+
	EDC57C_10W930_230A_VS4	563464	warm white	3000	700	770	77	120	90	A+
	EDC57C_10W935_230A_VS4	563470	warm white	3500	720	790	79	120	90	A+
	EDC57C_10W940_230A_VS4	563477	neutral white	4000	730	810	81	120	90	A+
	EDC57C_10W950_230A_VS4	563479	cool white	5000	750	830	83	120	90	A+
15W	EDC57C_15W927_230A_VS4	563480	warm white	2700	990	1092	73	120	90	A
	EDC57C_15W930_230A_VS4	563481	warm white	3000	1050	1155	77	120	90	A+
	EDC57C_15W935_230A_VS4	563482	warm white	3500	1080	1185	79	120	90	A+
	EDC57C_15W940_230A_VS4	563483	neutral white	4000	1095	1215	81	120	90	A+
	EDC57C_15W950_230A_VS4	563484	cool white	5000	1125	1245	83	120	90	A+
20W	EDC57C_20W927_230A_VS4	563485	warm white	2700	1300	1440	72	120	90	A
	EDC57C_20W930_230A_VS4	563486	warm white	3000	1380	1520	75	120	90	A
	EDC57C_20W935_230A_VS4	563487	warm white	3500	1420	1560	76	120	90	A+
	EDC57C_20W940_230A_VS4	563488	neutral white	4000	1440	1600	80	120	90	A+
	EDC57C_20W950_230A_VS4	563489	cool white	5000	1480	1640	82	120	90	A+
30W	EDC57C_30W927_230A_VS4	563490	warm white	2700	1980	2190	73	120	90	A
	EDC57C_30W930_230A_VS4	563491	warm white	3000	2100	2310	77	120	90	A
	EDC57C_30W935_230A_VS4	563492	warm white	3500	2160	2370	79	120	90	A+
	EDC57C_30W940_230A_VS4	563493	neutral white	4000	2190	2430	81	120	90	A+
	EDC57C_30W950_230A_VS4	563494	cool white	5000	2250	2490	83	120	90	A+
40W	EDC57C_40W927_230A_VS4	563495	warm white	2700	2600	2880	72	120	90	A
	EDC57C_40W930_230A_VS4	563496	warm white	3000	2760	3040	76	120	90	A
	EDC57C_40W935_230A_VS4	563497	warm white	3500	2840	3120	78	120	90	A+
	EDC57C_40W940_230A_VS4	563498	neutral white	4000	2880	3200	80	120	90	A+
	EDC57C_40W950_230A_VS4	563499	cool white	5000	2960	3280	82	120	90	A+

* Colour tolerance: 3 MacAdam | ** Production tolerance of luminous flux and efficiency: $\pm 10\%$ | CRI ± 3

Minimum order quantity: 100 pcs.

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Accessories for LED Modules ReadyLine COB

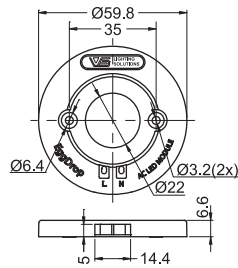


Holder

Dimensions (ØxH): 59.8x6.6 mm

Material: plastic, white

Ref. No.: 559786



Holder for EVO reflectors

For COB Type EDC57C

Cover for LES: PC, transparent

(opaque cover on request)

Dimensions (ØxH): 60 x14.65 mm

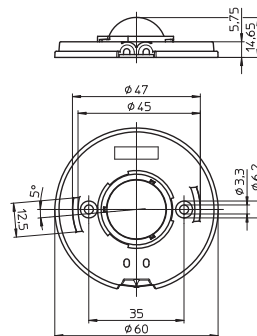
Packaging unit: 72 pcs

Material: PC, black, inner ring: metallized

Ref. No.: 561847

Material: PC, white

Ref. No.: 563095



Thermal Pad

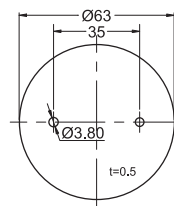
Dimensions (ØxH): 63x0.5 mm

Thermal conductivity λ :

2 W/mK (10 W, 15 W, 20 W, 30 W)

5 W/mK (40 W)

Ref. No.: 559883



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Accessories for LED Modules ReadyLine COB

Exchangeable aluminum reflectors

Technical notes

Reflectors made of aluminium with bayonet fixation

Surface: anodised

Weight: 27/17 g (D90/D75)

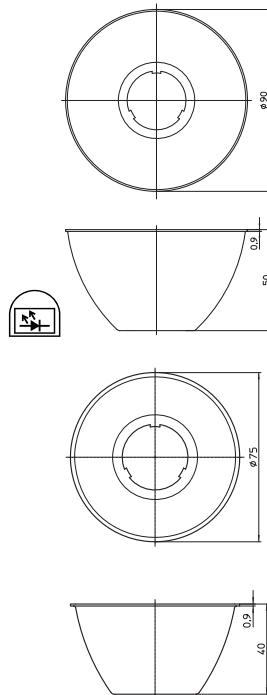
Packaging unit: 18 pcs.

Usage and maintenance

If necessary clean reflectors with mild soap, water and soft cloth.

Never use any commercial cleaning solvents on reflectors, like alcohol.

Please handle or install reflectors with wearing gloves, skin oils may damage reflector or its optical characteristic.



Ref. No.	Beam characteristic	Beam angle (°)	
		EVO 75 R 10	NEXT 111, EVO 90 R 20
Reflector D90 - H = 50			
557359	narrow	14	14
557360	medium	24	24
557361	wide	36	36
563446	extra wide	48	48
Reflector D75 - H = 40			
557152	narrow	14	14
557153	medium	24	24
557154	wide	32	32
562157	extra wide	60	60

It's possible to use all the reflectors on the same holder.

Assembly and Safety Information

The LED modules are designed for direct mains operation (230 V AC). Installation must be carried out under observation country specific relevant safety regulations and standards.

- The LED module is a built-in lighting module to assemble into luminaires.
- Suitable for luminaires of protection class I, grounding is mandatory to comply with safety standards.
- When using the 30 W and 40 W version, the thermal pad (Ref. No. 559883) and the holder (Ref. No. 559786) are mandatory to comply with applicable safety regulations. Vossloh-Schwabe recommends to use the holder (Ref. No. 559786) and the thermal pad (Ref. No. 559883), in order to comply with applicable safety regulations.

- In case of applications in luminaires of protection class II the safety regulations acc. to luminaire safety standards must be observed.
- Operation of the LED module is not allowed when it is not built-in into a luminaire. Depending on application, luminaire application specific safety standards have to be observed (e.g. EN 60598 for Europe). Depending on the use of the luminaire in different countries (export), the country specific safety standards have to be regarded (e.g. EN 60598 for Europe).
 - Regard to sufficient isolation acc. country specific standards.
 - Live parts must not be touched. Luminaire must be closed acc. country specific standards. Danger of life!!!



Die Werte in diesem Datenblatt können sich aufgrund technischer Innovationen verändern und werden ohne gesonderte Benachrichtigung vorgenommen.

LED Modules ReadyLine COB

Assembly and Safety Information

- Clearance and creepage distances of the module are designed for class I luminaires (basic insulation). For built-in of the module the required standards have to be observed (e.g. EN 60598).
- Do not exceed values given in this specification.
- Do not exceed max t_c temperature of 85 °C.
- The module must be fixed onto a thermally conductive surface. Heat sink must cover the entire backside surface of the module.
- When installing/screwing the module into a luminaire, please ensure that cables are not squeezed between luminaire/heat-sink and LED module.
- Please ensure standard ESD (electrostatic discharge) protection measures are employed when handling and installing LED modules. Electrostatic discharge can damage LEDs.
- The LED modules are connected via two on board push-in connectors for flexible or solid conductors.
Conductor section: AWG22-AWG18
 - Flexible: 0.45–0.96 mm²
 - Solid: 0.324–0.82 mm²Strip length: 6 mm ±0.5 mm
The AWG22 flexible cable has to be tinned
The AWG20 and AWG18 wires have to be twisted.
The contacts can be released with a flat-headed screwdriver with a width of 3 mm. It has to be ensured, that the used cables do not decrease clearance and creepage distance of the modules. The cable must be put in completely (as far as isolation will go) into terminal. Used cables must fulfil luminaire safety standards (EN 60598). Other country specific standards have to be regarded.
- Parallel connection is mandatory for safe electrical operation. Serial connection of LED modules is not allowed.
- Due to the used electronic parts on the module not all available phase-cutting dimmers are compatible. Dimmable with phase-cutting leading- and trailing-edge dimmer. Minimum dimmer load has to be observed. The compatibility of the dimmer and the modules has to be confirmed prior to installation to avoid flickering.
- To ensure problem-free operation, the specified maximum temperature at the t_c 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 module to the environment.
- 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. Relevant country and application specific standards have to be regarded.

- Installation by qualified electrician only
- Do not add or change wires while circuit is active
- Do not make modifications on module
- Do not use adhesives to attach that outgas organic vapour
- Do not use together with material containing sulfur
- Do not operate module with AC generators
- Do not operate modules by DC
- LED modules must not be subjected to any undue mechanical stress, e. g.: LED module
 - handle modules carefully
 - avoid shear and compressive forces onto the modules during handling and installation
 - avoid vibrations of more than 2 kHz, 40 G
- If module is used in rooms with fast moving parts as the light modulation might cause stroboscopic effects.
- This LED module might interfere with displays and cameras due to modulation.
- The photobiological safety of the LED modules is classified into risk groups in accordance with EN 62471: 2008 and IEC TR 62778: risk group 1

Applied Standards

- EN 62031
LED modules for general lighting – Safety specifications
- EN 62471
Photobiological safety of lamps and lamp systems
- EN 55015
Radio disturbance emissions
- EN 61000-3-2
Limits for harmonic emissions
- EN 61547
Immunity requirements

Product Guarantee

- 5 years
- The conditions for the Product 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.

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