

LED MODULES

ReadyLine COB-E

BUILT-IN MODULE
230 V



LED MODULES ReadyLine COB-E

EDC_38C_xw_yyy_230V

Typical Applications

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



LED Modules ReadyLine COB-E 230 V

- **DIRECT MAINS CONNECTION**
- **ACC. TO EU REGULATION 2019/2020 (ECODESIGN) AND 2019/2015 (ENERGY LABEL)**
- **DIMMABLE**
- **HIGH POWER FACTOR**
- **LONG SERVICE LIFETIME:
45,000 HRS (L70/B10)**

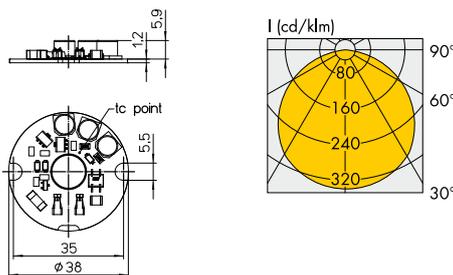
LED Modules ReadyLine COB-E

Technical Notes

- LED built-in module for integration into luminaires 
- Mains voltage: 230 V AC
- Power factor: > 0.95
- THD: < 30 %
- Colour accuracy initially: 3 MacAdam
- Dimensions (ØxH) / LES Ø
EDC_38C: Ø 38 x 7.15 mm / Ø 11,5 mm
- On-Board push-in connector



EDC_38C



Tolerance: ± 0.1 mm

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.

Applied Standards

- EN 62031
LED modules for general lighting – Safety specifications
- EN 62471 and IEC TR 62778
Photobiological safety of lamps and lamp systems
- EN 55015
Radio disturbance emissions
- EN 61000-3-2
Limits for harmonic emissions
- EN 61547
Immunity requirements
- EN 61000-3-3
Limits for voltage fluctuations and flicker

Electrical Characteristics

at $t_p = 55\text{ °C}$

Type	Typ. supply voltage AC V	Operation frequency Hz	Inrush current mA	Typ. power consumption at 230 V (W)	Total harmonic distortion (THD) %	SVM	Pstlm	Percent flicker %
EDC_38C_4W_xxx_230V	230	50/60	60	4	≤30	<0,1	<0,2	<3
EDC_38C_6W_xxx_230V	230	50/60	90	6	≤30	<0,1	<0,2	<3
EDC_38C_8W_xxx_230V	230	50/60	120	8	≤30	<0,1	<0,2	<3

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ReadyLine COB-E 230 V Gen. 3 – For Direct Connection to Mains Voltage

Maximum Ratings

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

Type	Power consumption W	Operation voltage range AC (V)		Operation temperature range at t_c point		at LES surface °C	Storage temperature range	
		min.	max.	°C min.	°C max.		°C min.	°C max.
EDC_38C_4W_xxx_230V	4	220	240	-30	+85	115	-40	+85
EDC_38C_6W_xxx_230V	6	220	240	-30	+85	115	-40	+85
EDC_38C_8W_xxx_230V	8	220	240	-30	+85	115	-40	+85

Operating Life

in hours at measured temperature at t_p point

Lumen maintenance	50 °C in hrs.	60 °C in hrs.	70 °C in hrs.	80 °C in hrs.
EDC_38C				
L90/B10	25.000	25.000	20.000	15.000
L80/B10	50.000	45.000	40.000	40.000
L70/B10	50.000	50.000	45.000	45.000

Lifetime L70/B50, >50,000 hrs at $t_p = 70$ °C

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ReadyLine COB-E 230 V Gen. 3 – For Direct Connection to Mains Voltage

Optical Characteristics

Typ. output W	Type	Ref. No.	Colour	Correlated colour temperature K	Luminous flux (lm) and typ. efficiency (lm/W)*				Typ. CRI R _a
					at t _c 25 °C		at t _c 55 °C		
					typ. lm	typ. lm/W	typ. lm	typ. lm/W	
EDC_38C									
4	EDC_38C_4W_827_230V_F302	on request	warm white	2700	415	104	400	100	80
	EDC_38C_4W_830_230V_F302	on request	warm white	3000	425	106	410	103	80
	EDC_38C_4W_840_230V_F302	on request	neutral white	4000	440	110	425	106	80
	EDC_38C_4W_927_230V_F302	573250	warm white	2700	365	91	350	88	90
	EDC_38C_4W_930_230V_F302	573251	warm white	3000	370	93	360	90	90
	EDC_38C_4W_940_230V_F302	573252	neutral white	4000	395	99	375	94	90
6	EDC_38C_6W_827_230V_F302	on request	warm white	2700	635	106	610	102	80
	EDC_38C_6W_830_230V_F302	on request	warm white	3000	650	108	625	104	80
	EDC_38C_6W_840_230V_F302	on request	neutral white	4000	670	112	650	108	80
	EDC_38C_6W_927_230V_F302	573253	warm white	2700	560	93	540	90	90
	EDC_38C_6W_930_230V_F302	573254	warm white	3000	570	95	550	92	90
	EDC_38C_6W_940_230V_F302	573255	neutral white	4000	595	99	570	95	90
8	EDC_38C_8W_827_230V_F302	on request	warm white	2700	850	106	815	102	80
	EDC_38C_8W_830_230V_F302	on request	warm white	3000	865	108	830	104	80
	EDC_38C_8W_840_230V_F302	on request	neutral white	4000	895	112	865	108	80
	EDC_38C_8W_927_230V_F302	573256	warm white	2700	745	93	720	90	90
	EDC_38C_8W_930_230V_F302	573257	warm white	3000	760	95	735	92	90
	EDC_38C_8W_940_230V_F302	573258	neutral white	4000	790	99	765	96	90

* Production tolerance of luminous flux and efficiency: ± 10% | CRI ± 3

Other colour temperature on request (3500K/5000K/5700K)

EDC_38C versions on request: minimum order quantity: 480 pcs.

Accessories for LED Modules ReadyLine COB



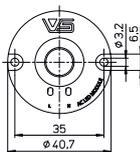
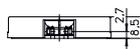
Holder

Dimensions (ØxH): 40.7x8.5 mm

Material: plastic, white

Packaging unit: 100 pcs.

Ref. No.: 573260



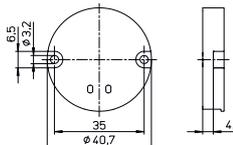
Cover

Dimensions (ØxH): 40.7x8.5 mm

Material: PC, transparent

Packaging unit: 50 pcs.

Ref. No.: 573261



Thermal Pad

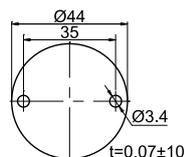
Dimensions (ØxH): 44x0.07 mm

Thermal conductivity : 2 W/mK

Adhesive on one side

Packaging unit: 100 pcs.

Ref. No.: 563995



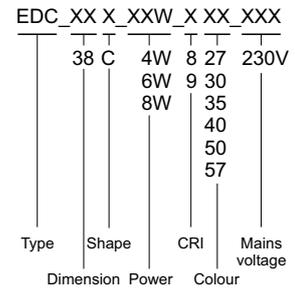
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ReadyLine COB-E 230 V Gen. 3 – For Direct Connection to Mains Voltage

Selection of automatic cut-outs

Type	Automatic cut-out type and possible no. of VS modules / pcs.)					
	B 10 A	B 16 A	B 20 A	C 10 A	C 16 A	C 20 A
EDC_38C - 4W_..._230V	165	265	332	165	265	332
EDC_38C - 6W_..._230V	110	177	221	110	177	221
EDC_38C - 8W_..._230V	83	133	165	83	133	165

Production Code



Logistics information

Type	Packaging dimensions LxWxH (mm)	Packaging unit/ minimum order quantity			Weight per pack. unit g
		pcs.	pcs./tray	trays/box	
EDC_38C_xW_..._230V	225x215x250	160	10	18	2,100
Holder for EDC_38C	-	100	-	-	-
Tape for EDC_38C	-	100	-	-	-

EPREL Information

Light source		
Type	EPREL Reg. No.	EE Class
EDC_38C_4W_927_230V_F302	2090297	F
EDC_38C_4W_930_230V_F302	2090330	F
EDC_38C_4W_940_230V_F302	2090355	F
EDC_38C_6W_927_230V_F302	2090373	F
EDC_38C_6W_930_230V_F302	2090379	F
EDC_38C_6W_940_230V_F302	2090390	F
EDC_38C_8W_927_230V_F302	2090403	F
EDC_38C_8W_930_230V_F302	2090410	F
EDC_38C_8W_940_230V_F302	2090413	F

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ReadyLine COB-E 230 V Gen. 3 – For Direct Connection to Mains Voltage

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.
- In case of applications in luminaires of protection class II the safety regulations acc. to luminaire safety standards must be observed.
- Vossloh-Schwabe generally recommends to use the thermally conductive adhesive pads (Ref. No. 563995), holders or cover (Ref.No. 573260-573261).
- 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 60598-1 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 60598-1 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!!!
- 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 60598-1).
- 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 mm²– 0.96 mm²
 - Solid: 0.324 mm² – 0.82 mm²Strip length: 5 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.

- The modules must be fixed with M3 screws. Fixation only with flat or cylinder head screws (M3) (no countersunk screws). Max. torque for PCB: 0.6 Nm (M3), max. torque with holder: 0.3 Nm (M3).
- 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 IEC TR 62778: risk group 1 unlimited

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