LED MODULES ReadyLine COB

BUILT-IN MODULE 230 V

LED MODULES ReadyLine COB

EDC_38C_xxW_xxx_230V
EDC_47C_xxW_xxx_230V
EDC_57C_xxW_xxx_230V

Typical Applications

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

LED Modules ReadyLine COB 230 V

- **DIRECT MAINS CONNECTION**
- **DIMMABLE**
- **HIGH POWER FACTOR**
- **LONG SERVICE LIFETIME: 45,000 HRS (L80/B10)**
- **DEKRA APPROVED**
- **WIDE RANGE OF 50 MM OPTICS (MR16)**

DEKRA

LIGHTING SOLUTIONS
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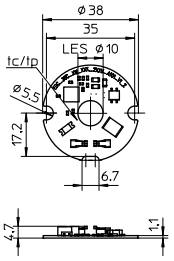
LED Modules ReadyLine COB

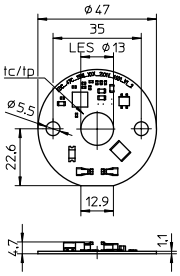
Technical Notes

- LED built-in module for integration into luminaires
- Mains voltage: 230 V AC
- Power factor: > 0.99
- THD: < 20 %
- Colour accuracy initially: 3 MacAdam
- Dimensions (ØxH) / LES Ø
  EDC_38C: Ø 38 x 4.7 mm / Ø 10 mm
  EDC_47C: Ø 47 x 4.7 mm / Ø 13 mm
  EDC_57C: Ø 57 x 4.7 mm / Ø 21 mm
- On-Board push-in connector

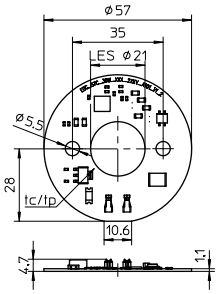
EDC_38C

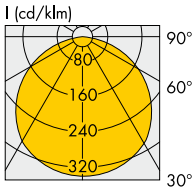


EDC_47C



EDC_57C





Tolerance: ± 0.1 mm

Electrical Characteristics

at t_c = 55 °C

Type	Typ. supply voltage AC V	Operation frequency Hz	Inrush current mA	Typ. power consumption at 230 V (W)	Power factor	Total harmonic distortion (THD) %	SVM	Flicker percent %	Flicker index
EDC_38C_4W_xxx_230V	220–240	50–60	21	4	> 0.99	< 20	< 4	100	0.33
EDC_38C_6W_xxx_230V	220–240	50–60	31	6	> 0.99	< 20	< 4	100	0.33
EDC_38C_8W_xxx_230V	220–240	50–60	41	8	> 0.99	< 20	< 4	100	0.33
EDC_38C_10W_xxx_230V	220–240	50–60	50	10	> 0.99	< 20	< 4	100	0.33
EDC_47C_12W_xxx_230V	220–240	50–60	62	12	> 0.99	< 20	< 4	100	0.33
EDC_47C_15W_xxx_230V	220–240	50–60	78	15	> 0.99	< 20	< 4	100	0.33
EDC_57C_20W_xxx_230V	220–240	50–60	104	20	> 0.99	< 20	< 4	100	0.33
EDC_57C_30W_xxx_230V	220–240	50–60	156	30	> 0.98	< 20	< 4	100	0.33

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		Ambient temperature range		Storage temperature range	
		min.	max.	°C min.	°C max.	°C min.	°C max.	°C min.	°C max.
EDC_38C_xW_xxx_230V	4, 6, 8, 10	220	250	–30	+85	–30	+55	–40	+85
EDC_47C_xW_xxx_230V	12, 15	220	250	–30	+85	–30	+55	–40	+85
EDC_57C_xW_xxx_230V	20, 30	220	250	–30	+75	–30	+50	–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.	50 °C in hrs.	60 °C in hrs.	70 °C in hrs.	80 °C in hrs.	50 °C in hrs.	60 °C in hrs.	70 °C in hrs.	75 °C in hrs.
	EDC_38C_xW_xxx_230V				**EDC_47C_xW_xxx_230V**				**EDC_57C_xW_xxx_230V**			
L90/B10	20,000	20,000	20,000	15,000	20,000	20,000	20,000	15,000	20,000	15,000	15,000	10,000
L80/B10	45,000	45,000	40,000	40,000	40,000	35,000	30,000	25,000	40,000	40,000	35,000	30,000
L70/B10	50,000	50,000	45,000	45,000	50,000	50,000	45,000	45,000	50,000	45,000	45,000	40,000

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Optical Characteristics

Typ. output W	Type	Ref. No.	Colour	Correlated colour temperature K	Luminous flux (lm) and typ. efficieny (lm/W)* at t_c 25 °C			at t_c 55 °C			Typ. beam angle °	Typ. CRI R_a	Energy efficiency
					min. lm	typ. lm	typ. lm/W	min. lm	typ. lm	typ. lm/W			
4	EDC_38C_4W_827_230V	**570983**	warm white	2700	385	428	107	368	409	102	120	80	A+
	EDC_38C_4W_830_230V	**570984**	warm white	3000	414	460	115	395	439	110	120	80	A++
	EDC_38C_4W_835_230V	**on request**	warm white	3500	424	472	118	405	450	113	120	80	A++
	EDC_38C_4W_840_230V	**570985**	neutral white	4000	439	488	122	419	466	116	120	80	A++
	EDC_38C_4W_850_230V	**on request**	cool white	5000	451	501	125	431	479	120	120	80	A++
	EDC_38C_4W_857_230V	**on request**	cool white	5700	449	499	125	429	477	119	120	80	A++
	EDC_38C_4W_927_230V	**570986**	warm white	2700	335	373	93	320	356	89	120	90	A+
	EDC_38C_4W_930_230V	**570987**	warm white	3000	364	405	101	348	387	97	120	90	A+
	EDC_38C_4W_935_230V	**on request**	warm white	3500	375	416	104	358	398	99	120	90	A+
	EDC_38C_4W_940_230V	**570988**	neutral white	4000	389	432	108	372	413	103	120	90	A++
	EDC_38C_4W_950_230V	**on request**	cool white	5000	402	446	112	384	426	107	120	90	A++
	EDC_38C_4W_957_230V	**on request**	cool white	5700	400	444	111	382	424	106	120	90	A++
6	EDC_38C_6W_827_230V	**569886**	warm white	2700	578	642	107	552	613	102	120	80	A+
	EDC_38C_6W_830_230V	**569887**	warm white	3000	621	690	115	593	659	110	120	80	A++
	EDC_38C_6W_835_230V	**on request**	neutral white	3500	637	707	118	608	675	113	120	80	A++
	EDC_38C_6W_840_230V	**569888**	neutral white	4000	658	731	122	629	698	116	120	80	A++
	EDC_38C_6W_850_230V	**on request**	cool white	5000	677	752	125	646	718	120	120	80	A++
	EDC_38C_6W_857_230V	**on request**	cool white	5700	674	749	125	643	715	119	120	80	A++
	EDC_38C_6W_927_230V	**569889**	warm white	2700	503	559	93	480	534	89	120	90	A+
	EDC_38C_6W_930_230V	**569890**	warm white	3000	546	607	101	522	580	97	120	90	A+
	EDC_38C_6W_935_230V	**on request**	neutral white	3500	562	624	104	537	596	99	120	90	A+
	EDC_38C_6W_940_230V	**569891**	neutral white	4000	584	649	108	557	619	103	120	90	A++
	EDC_38C_6W_950_230V	**on request**	cool white	5000	602	669	112	575	639	107	120	90	A++
	EDC_38C_6W_957_230V	**on request**	cool white	5700	599	666	111	572	636	106	120	90	A++
8	EDC_38C_8W_827_230V	**569892**	warm white	2700	737	818	102	703	782	98	120	80	A+
	EDC_38C_8W_830_230V	**569893**	warm white	3000	792	880	110	756	840	105	120	80	A+
	EDC_38C_8W_835_230V	**on request**	neutral white	3500	812	902	113	775	861	108	120	80	A+
	EDC_38C_8W_840_230V	**569894**	neutral white	4000	840	933	117	802	891	111	120	80	A++
	EDC_38C_8W_850_230V	**on request**	cool white	5000	863	959	120	824	916	115	120	80	A++
	EDC_38C_8W_857_230V	**on request**	cool white	5700	859	955	119	821	912	114	120	80	A++
	EDC_38C_8W_927_230V	**569895**	warm white	2700	642	713	89	613	681	85	120	90	A+
	EDC_38C_8W_930_230V	**569896**	warm white	3000	697	774	97	666	740	92	120	90	A+
	EDC_38C_8W_935_230V	**on request**	neutral white	3500	717	796	100	685	761	95	120	90	A+
	EDC_38C_8W_940_230V	**569897**	neutral white	4000	744	827	103	711	790	99	120	90	A+
	EDC_38C_8W_950_230V	**on request**	cool white	5000	768	854	107	734	815	102	120	90	A+
	EDC_38C_8W_957_230V	**on request**	cool white	5700	764	849	106	730	811	101	120	90	A+
10	EDC_38C_10W_827_230V	**569898**	warm white	2700	879	977	98	839	933	93	120	80	A+
	EDC_38C_10W_830_230V	**569899**	warm white	3000	945	1050	105	902	1003	100	120	80	A+
	EDC_38C_10W_835_230V	**on request**	neutral white	3500	969	1076	108	925	1028	103	120	80	A+
	EDC_38C_10W_840_230V	**569900**	neutral white	4000	1002	1113	111	957	1063	106	120	80	A+
	EDC_38C_10W_850_230V	**on request**	cool white	5000	1030	1145	114	984	1093	109	120	80	A+
	EDC_38C_10W_857_230V	**on request**	cool white	5700	1025	1139	114	979	1088	109	120	80	A+
	EDC_38C_10W_927_230V	**569901**	warm white	2700	765	851	85	731	812	81	120	90	A+
	EDC_38C_10W_930_230V	**569902**	warm white	3000	832	924	92	794	882	88	120	90	A+
	EDC_38C_10W_935_230V	**on request**	neutral white	3500	855	950	95	817	907	91	120	90	A+
	EDC_38C_10W_940_230V	**569903**	neutral white	4000	888	987	99	848	943	94	120	90	A+
	EDC_38C_10W_950_230V	**on request**	cool white	5000	917	1019	102	875	973	97	120	90	A+
	EDC_38C_10W_957_230V	**on request**	cool white	5700	912	1013	101	871	968	97	120	90	A+

* Production tolerance of luminous flux and efficiency: ± 10% | CRI ± 3
EDC_47C_10W types on request (minimum order quantity 540 pcs.) / on request 38mm types (minimum order quantity 600 pcs.) and 47mm (minimum order quantity 540 pcs.)

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Optical Characteristics

Typ. output W	Type	Ref. No.	Colour	Correlated colour temperature K	Luminous flux (lm) and typ. efficieny (lm/W)* at t_c 25 °C			at t_c 55 °C			Typ. beam angle °	Typ. CRI R_a	Energy efficiency
					min. lm	typ. lm	typ. lm/W	min. lm	typ. lm	typ. lm/W			
12	EDC_47C_12W_827_230V	**569904**	warm white	2700	1151	1279	107	1099	1221	102	120	80	A+
	EDC_47C_12W_830_230V	**569905**	warm white	3000	1238	1375	115	1182	1313	109	120	80	A+
	EDC_47C_12W_835_230V	**on request**	neutral white	3500	1268	1409	117	1211	1346	112	120	80	A+
	EDC_47C_12W_840_230V	**569906**	neutral white	4000	1312	1458	121	1253	1392	116	120	80	A+
	EDC_47C_12W_850_230V	**on request**	cool white	5000	1349	1499	125	1288	1431	119	120	80	A++
	EDC_47C_12W_857_230V	**on request**	cool white	5700	1343	1492	124	1282	1425	119	120	80	A++
	EDC_47C_12W_927_230V	**569907**	warm white	2700	1002	1114	93	957	1064	89	120	90	A+
	EDC_47C_12W_930_230V	**569908**	warm white	3000	1089	1210	101	1040	1156	96	120	90	A+
	EDC_47C_12W_935_230V	**on request**	neutral white	3500	1120	1244	104	1070	1188	99	120	90	A+
	EDC_47C_12W_940_230V	**569909**	neutral white	4000	1163	1293	108	1111	1234	103	120	90	A+
	EDC_47C_12W_950_230V	**on request**	cool white	5000	1200	1334	111	1146	1274	106	120	90	A+
	EDC_47C_12W_957_230V	**on request**	cool white	5700	1194	1327	111	1140	1267	106	120	90	A+
15	EDC_47C_15W_827_230V	**569910**	warm white	2700	1444	1604	107	1379	1532	102	120	80	A+
	EDC_47C_15W_830_230V	**569911**	warm white	3000	1553	1725	115	1483	1647	110	120	80	A+
	EDC_47C_15W_835_230V	**on request**	neutral white	3500	1591	1768	118	1520	1689	113	120	80	A+
	EDC_47C_15W_840_230V	**569912**	neutral white	4000	1646	1829	122	1572	1746	116	120	80	A+
	EDC_47C_15W_850_230V	**on request**	cool white	5000	1692	1880	125	1616	1796	120	120	80	A++
	EDC_47C_15W_857_230V	**on request**	cool white	5700	1684	1872	125	1609	1787	119	120	80	A++
	EDC_47C_15W_927_230V	**569913**	warm white	2700	1258	1397	93	1201	1334	89	120	90	A+
	EDC_47C_15W_930_230V	**569914**	warm white	3000	1366	1518	101	1305	1450	97	120	90	A+
	EDC_47C_15W_935_230V	**on request**	neutral white	3500	1405	1561	104	1342	1491	99	120	90	A+
	EDC_47C_15W_940_230V	**569915**	neutral white	4000	1459	1622	108	1394	1549	103	120	90	A+
	EDC_47C_15W_950_230V	**on request**	cool white	5000	1506	1673	112	1438	1598	107	120	90	A+
	EDC_47C_15W_957_230V	**on request**	cool white	5700	1498	1665	111	1431	1590	106	120	90	A+
20	EDC_57C_20W_827_230V	**569916**	warm white	2700	1925	2139	107	1838	2043	102	120	80	A+
	EDC_57C_20W_830_230V	**569917**	warm white	3000	2070	2300	115	1977	2197	110	120	80	A+
	EDC_57C_20W_835_230V	**on request**	neutral white	3500	2122	2358	118	2026	2251	113	120	80	A+
	EDC_57C_20W_840_230V	**569918**	neutral white	4000	2194	2438	122	2095	2328	116	120	80	A+
	EDC_57C_20W_850_230V	**on request**	cool white	5000	2256	2507	125	2155	2394	120	120	80	A++
	EDC_57C_20W_857_230V	**on request**	cool white	5700	2246	2496	125	2145	2383	119	120	80	A++
	EDC_57C_20W_927_230V	**569919**	warm white	2700	1677	1863	93	1601	1779	89	120	90	A+
	EDC_57C_20W_930_230V	**569920**	warm white	3000	1822	2024	101	1740	1933	97	120	90	A+
	EDC_57C_20W_935_230V	**on request**	neutral white	3500	1873	2082	104	1789	1988	99	120	90	A+
	EDC_57C_20W_940_230V	**569921**	neutral white	4000	1946	2162	108	1858	2065	103	120	90	A+
	EDC_57C_20W_950_230V	**on request**	cool white	5000	2008	2231	112	1918	2131	107	120	90	A+
	EDC_57C_20W_957_230V	**on request**	cool white	5700	1998	2220	111	1908	2120	106	120	90	A+
30	EDC_57C_30W_827_230V	**569922**	warm white	2700	2762	3069	102	2638	2931	98	120	80	A+
	EDC_57C_30W_830_230V	**569923**	warm white	3000	2970	3300	110	2836	3152	105	120	80	A+
	EDC_57C_30W_835_230V	**on request**	neutral white	3500	3044	3383	113	2907	3230	108	120	80	A+
	EDC_57C_30W_840_230V	**569924**	neutral white	4000	3148	3498	117	3007	3341	111	120	80	A+
	EDC_57C_30W_850_230V	**on request**	cool white	5000	3237	3597	120	3092	3435	115	120	80	A+
	EDC_57C_30W_857_230V	**on request**	cool white	5700	3222	3591	119	3077	3419	114	120	80	A+
	EDC_57C_30W_927_230V	**569925**	warm white	2700	2406	2673	89	2297	2553	85	120	90	A+
	EDC_57C_30W_930_230V	**569926**	warm white	3000	2614	2904	97	2496	2773	92	120	90	A+
	EDC_57C_30W_935_230V	**on request**	neutral white	3500	2688	2987	100	2567	2852	95	120	90	A+
	EDC_57C_30W_940_230V	**569927**	neutral white	4000	2792	3102	103	2666	2962	99	120	90	A+
	EDC_57C_30W_950_230V	**on request**	cool white	5000	2881	3201	107	2751	3057	102	120	90	A+
	EDC_57C_30W_957_230V	**on request**	cool white	5700	2866	3185	106	2737	3041	101	120	90	A+

* Produktionstoleranz bei der Lichtstromangabe und Effizienz: ± 10 % | CRI ± 3
EDC_57C_40W types on request (minimum order quantity: 500 pcs.) /
on request 47mm types (minimum order quantity: 540 pcs.) and 57mm (minimum order quantity: 500 pcs.)

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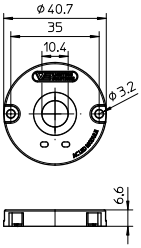
Accessories for LED Modules ReadyLine COB

Holders

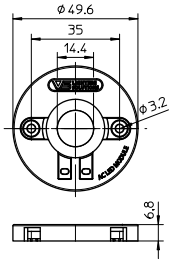
Material: plastics V2, white

Type	Ref. No.	Dimensions (ØxH) mm	Pack. unit pcs.
EDC_38C_Holder (V2)	**570143**	40.7 x 6.6	800
EDC_47C_Holder (V2)	**569930**	49.6 x 6.8	600
EDC_57C_Holder (V2)	**570141**	59.8 x 6.6	1000

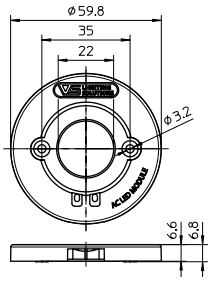
EDC_38C_Holder



EDC_47C_Holder



EDC_57C_Holder

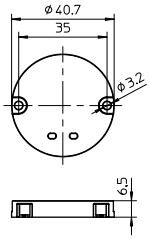


Covers

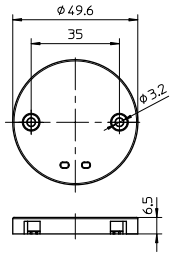
Material: PC, transparent

Type	Ref. No.	Dimensions (ØxH) mm	Pack. unit pcs.
EDC_38C_Cover (UV)	**570144**	40.7 x 6.5	800
EDC_47C_Cover (UV)	**570140**	49.6 x 6.5	600

EDC_38C_Cover

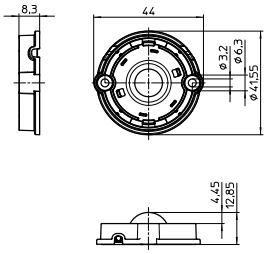


EDC_47C_Cover



Holder Easy for reflectors PLUS and lenses Evolve 50

Dimensions (ØxH): 41.55x8.3 mm
Material: PBT, white
Packaging unit: 200 pcs.
Ref. No.: 568632



LES protection

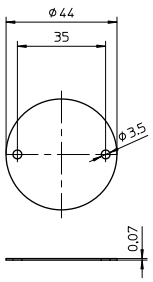
Material: PC, opaque
Fixation: click-in
Packaging unit: 1000 pcs.
Ref. No.: 604024

Thermal pads

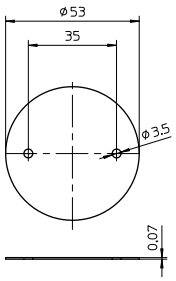
Thermal conductivity λ: 2 W/mK

Type	Ref. No.	Dimensions (ØxH) mm	Pack. unit pcs.
38C	**563995**	44 x 0.07	100
47C	**569931**	53 x 0.07	100
57C	**559883**	63 x 0.5	100

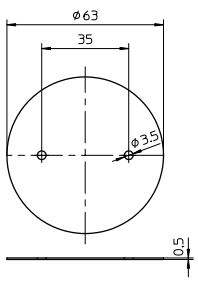
38C



47C



57C



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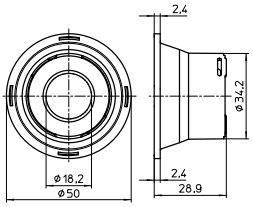
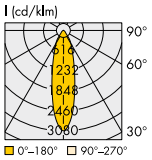
Reflectors PLUS for ReadyLine COB

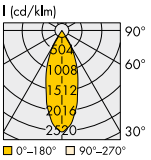
Technical notes
For click-in fixation on holders Easy
Diameter: 50 mm
Material: PC
Operating temperature: –25 to 90 °C
Storage temperature: –40 to 90 °C



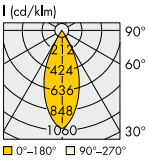
Ref. No.	For LED modules	Beam angle (°)	Cover	Optical efficiency (%)	Weight g
603686	ReadyLine COB 38 mm	20	Frost	86	10
603688	ReadyLine COB 38 mm	26	Frost	85	10
604920	ReadyLine COB 38 mm	40	Frost	84	10



20°



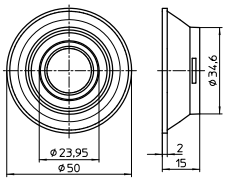
26°



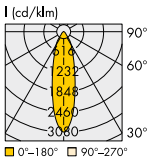
40°

Lenses Evolve 50 for ReadyLine COB

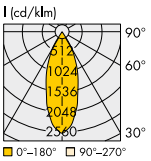
Technical notes
For click-in fixation on holders Easy
Diameter: 50 mm
Material: PC
Operating temperature: –25 to 90 °C
Storage temperature: –40 to 90 °C



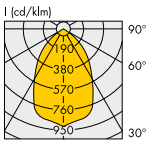
Ref. No.	For LED modules	Beam angle (°)	Cover	Optical efficiency (%)	Weight g
603673	ReadyLine COB 38 mm	20	–	87	15
603674	ReadyLine COB 38 mm	28	–	86	15
604879	ReadyLine COB 38 mm	48	–	89	15



20°



28°



48°

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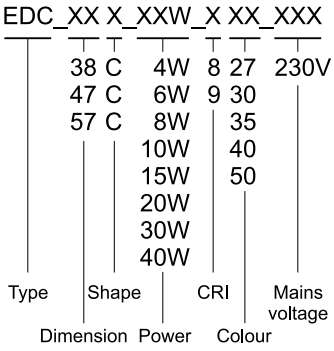
Selection of automatic cut-outs

Type	Automatic cut-out type and possible no. of VS drivers /pcs.)					
	B 10 A	B 16 A	B 20 A	C 10 A	C 16 A	C 20 A
EDC_38C_4W	561	898	1123	561	898	1123
EDC_38C_6W	369	590	738	369	590	738
EDC_38C_8W	273	437	546	273	437	546
EDC_38C_10W	219	351	439	219	351	439
EDC_47C_12W	175	280	350	175	280	350
EDC_47C_15W	140	225	281	140	225	281
EDC_57C_20W	111	177	222	111	177	222
EDC_57C_30W	75	120	150	75	120	150

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_xxx_230V	225x215x250	200	10	20	2150
EDC_47C_xW_xxx_230V	225x215x250	180	9	20	2340
EDC_57C_xW_xxx_230V	225x215x250	100	5	20	2170
EDC_38C_Holder (V2)	220x230x250	800	–	–	2500
EDC_47C_Holder (V2)	220x230x250	600	–	–	3000
EDC_57C_Holder (V2)	320x520x250	1000	–	–	8000
EDC_38C_Cover (UV)	230x220x250	800	–	–	2500
EDC_47C_Cover (UV)	230x220x250	600	–	–	3000
Reflector PLUS	370x290x35	30	–	–	700
Lenses Evolve 50	370x290x35	30	–	–	850

Tested dimmers for LED Modules ReadyLine COB

ReadyLine COB modules are dimmable with common phase-cut dimmers.
Minimum dimmer load has to be observed.
The compatibility of the dimmer and the modules has to be approved prior to installation.

- Vadsbo VD300
- Jung 225TDE Insta 51040
- Gira 030700 = Insta
- Berker 2874
- Berker 286710 Insta 5190
- Busch Jäger 6513 U-102
- Busch Jäger 6519U
- Sygonix 33595A
- Merten MEG5136-0000
- LeGrand ADW-ETL4-420VA
- Hager WUD82 + WYA920
- Merten 577899 + 570419
- Gira 2262 Anschn.
- Jung 225 NVDE Anschn.
- Berker 85421200 leading edge Anf. 2013 / equiv. Hager Anf. 2013 both Touch
- Sygonix 33596V leading edge
- Sygonix 33594C leading edge
- Sygonix 33594R leading edge
- Merten MEG5170-0300 + 343519
- Eltako EUD61NPN univ.
- Eltako EUD61M-UC univ.
- Eltako EUD61NP univ.
- Hager EVN002 univ.
- Hager EVN004 univ.
- Berker 16701 univ.
- Jung UD1255REG univ.
- Busch Jäger 6583 univ.
- Eltako EUD12D univ. / Eltako EUD12F univ. / Eltako EUD12Z univ.
- Eltako EUD12Z univ.

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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, 569931, 559883) and the holders (Ref. No. 570143, 569930, 570141) and covers (Ref. No. 570144, 570140). When using the EDC_57C_30W_XXX_230V, the thermal pad (Ref. No. 559883) and the holder (Ref. No. 570141) are mandatory to comply with applicable safety regulations.
- 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!!!
- 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 or 75 °C for EDC_57C.
- 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 mm²
  Strip 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 countersank 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 togehter 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
- EN 62471
- EN 62493
- EN 55015
- EN 61000-3-2
- EN 61000-3-3
- EN 61547
- IEC TR 62778 (RG1)

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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