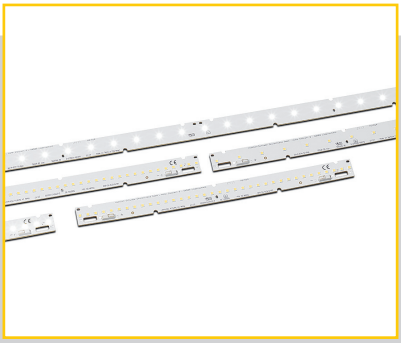
LED LINE SMD GEN. 3 L07/14/28/56/70/75/112 W2

700 lm, 1400 lm, 2100 lm



LED LINE SMD GEN. 3 L07/14/28/56/70/75/112 W2 – 700 lm, 1400 lm, 2100 lm

WU-M-615
WU-M-580/581/582, WU-M-574/575/576,
WU-M-577/578/579, WU-M-586/587/588,
WU-M-589/590/591, WU-M-583/584/585

Typical Applications
Built-in luminaires/general illumination

- Office lighting
- Retail, corridor and shelf lighting
- T5/T8 replacement as built-in module
- Furniture lighting
- Backlighting for advertising

LED Line SMD Gen. 3 – L07/14/28/56/70/75/112 W2

- **LONG SERVICE LIFE TIME: 60,000 H (L80, B10)**
- **HIGHLY EFFICIENT: UP TO 183 LM/W AT T_P = 50 °C**
- **7 LENGTHS AVAILABLE: 70 / 140 /280 / 560 / 700 / 750 / 1120 MM**
- **3 DIFFERENT LUMEN PACKAGES**
- **ZHAGA-COMPLIANT DIMENSIONS**

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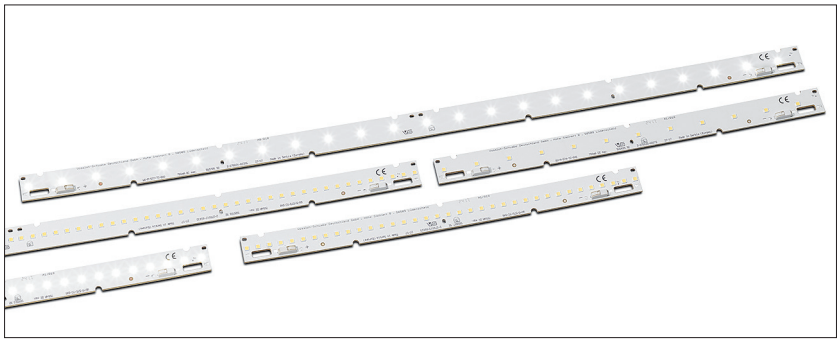
LED Line SMD Gen. 3 – L07/14/28/56/70/75/112 W2



Technical Notes

- LED built-in module for integration into luminaires
- Dimensions
  WU-M-615: 70x20 mm
  WU-M-580/581/582: 140x20 mm
  WU-M-574/575/576: 280x20 mm
  WU-M-577/578/579: 560x20 mm
  WU-M-586/587/588: 700x20 mm
  WU-M-589/590/591: 750x20 mm
  WU-M-583/584/585: 1120x20 mm
- Driving current: 250 mA / 350 mA / 500 mA / 700 mA
- On-board push-in terminals, optional on top or bottom
- Beam angle: 120°

Electrical Characteristics

at t_p = 50 °C

Type	No. of SMDs	Typ. voltage DC 250 mA V	350 mA V	500 mA V	700 mA V	Typ. power consumption 250 mA W	350 mA W	500 mA W	700 mA W
LED Line SMD Gen. 3 – L07 W2									
WU-M-615	6	5.6	5.7	5.9	6.1	1.4	2.0	3.0	4.3
LED Line SMD Gen. 3 – L14 W2									
WU-M-580	6	5.6	5.7	5.9	6.1	1.4	2.0	3.0	4.3
WU-M-581	12	11.1	11.4	11.7	12.1	2.8	4.0	5.8	8.5
WU-M-582	18	16.6	16.9	17.4	18.0	4.2	5.9	8.7	12.6
LED Line SMD Gen. 3 – L28 W2									
WU-M-574	12	11.2	11.4	11.8	12.2	2.8	4.0	5.9	8.5
WU-M-575	24	22.2	22.7	23.3	24.2	5.6	7.9	11.7	16.9
WU-M-576	36	33.2	33.8	34.8	36.0	8.3	11.8	17.4	25.2
LED Line SMD Gen. 3 – L56 W2									
WU-M-577	24	22.4	22.8	23.6	24.4	5.6	8.0	11.8	17.1
WU-M-578	48	44.4	45.4	46.6	48.4	11.1	15.9	23.3	33.9
WU-M-579	72	66.4	67.6	69.6	72.0	16.6	23.7	34.8	50.4
LED Line SMD Gen. 3 – L70 W2									
WU-M-586	30	28.0	28.5	29.5	30.5	7.0	10.0	14.8	21.4
WU-M-587	60	55.5	56.8	58.3	60.5	13.9	19.9	29.1	42.4
WU-M-588	90	83.0	84.5	87.0	90.0	20.8	29.6	43.5	63.0
LED Line SMD Gen. 3 – L75 W2									
WU-M-589	30	28.0	28.5	29.5	30.5	7.0	10.0	14.8	21.4
WU-M-590	60	55.5	56.8	58.3	60.5	13.9	19.9	29.1	42.4
WU-M-591	90	83.0	84.5	87.0	90.0	20.8	29.6	43.5	63.0
LED Line SMD Gen. 3 – L112 W2									
WU-M-583	48	44.8	45.6	47.2	48.8	11.2	16.0	23.6	34.2
WU-M-584	96	88.8	90.8	93.2	96.8	22.2	31.8	46.6	67.8
WU-M-585	144	132.8	135.2	139.2	144.0	33.2	47.3	69.6	100.8

Voltage and power consumption tolerance: ± 10%
Use of external LED constant current driver required.

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LED Line SMD Gen. 3 – L07/14/28/56/70/75/112 W2

Maximum Ratings

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

Type	Operating current (mA)	Operation temperature range at t_c point °C min.	°C max.	Storage temperature range °C min.	°C max.	Max. allowed repetitive peak current mA
All types	all	–20	+80	–20	+85	1200

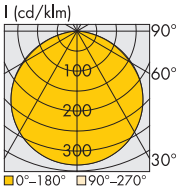
Operating Life

L80/B10 in hours at measured temperature at t_p point

	250 mA			350 mA			500 mA			700 mA		
	40 °C	50 °C	80 °C	40 °C	50 °C	80 °C	40 °C	50 °C	80 °C	40 °C	50 °C	80 °C
WU-M-574, 577, 580, 583, 586, 589	> 54,000	> 54,000	> 54,000	> 54,000	> 54,000	50,000	> 54,000	> 54,000	50,000	> 54,000	> 54,000	50,000
WU-M-615, 575, 578, 581, 584, 587, 590	> 54,000	> 54,000	50,000	> 54,000	> 54,000	50,000	> 54,000	> 54,000	50,000	> 54,000	50,000	45,000
WU-M-576, 579, 582, 585, 588, 591	> 54,000	> 54,000	50,000	> 54,000	> 54,000	50,000	> 54,000	> 54,000	45,000	> 54,000	50,000	40,000

Typical Light Distribution Curve

Data are available in .ldt format for download under www.vossloh-schwabe.com.



Without cover

Light distribution curve for LED Line SMD modules **with covers** see page 12.

Light distribution curve for LED Line SMD modules **with optics** see page 13.

Optical Characteristics

at t_p = 50 °C, CRI: R_a > 80

Type	Ref. No. Connection top (TC)	bottom (BC)	Colour	Correlated colour temperature* K	Typ. luminous flux** and typ. efficiency** at 250 mA lm	lm/W	350 mA lm	lm/W	500 mA lm	lm/W	700 mA lm	lm/W	Photometric code
LED Line SMD Gen. 3 – L07 W2													
WU-M-615-TC-830	on request	–	warm white	3000									
WU-M-615-TC-840	**567695**	–	neutral white	4000	250	180	340	172	470	162	630	149	840/349
WU-M-615-TC-850	on request	–	neutral white	5000									
WU-M-615-TC-865	on request	–	cool white	6500									
LED Line SMD Gen. 3 – L14 W2													
WU-M-580-TC/BC-830	**565937**	on request	warm white	3000	235	168	325	163	450	153	605	142	830/349
WU-M-580-TC/BC-840	**565938**	**568631**	neutral white	4000	250	179	345	173	480	163	650	152	840/349
WU-M-580-TC/BC-850	**565939**	on request	neutral white	5000	255	182	350	175	490	166	660	155	850/349
WU-M-580-TC/BC-865	**565940**	on request	cool white	6500	245	175	335	168	465	158	625	146	865/349
WU-M-581-TC/BC-830	**565941**	on request	warm white	3000	465	168	635	160	880	151	1180	139	830/349
WU-M-581-TC/BC-840	**565942**	**568633**	neutral white	4000	500	180	685	172	945	162	1265	149	840/349
WU-M-581-TC/BC-850	**565943**	on request	neutral white	5000	510	184	695	175	960	165	1285	152	850/349
WU-M-581-TC/BC-865	**565944**	on request	cool white	6500	485	175	660	166	910	156	1220	144	865/349
WU-M-582-TC/BC-830	**565945**	on request	warm white	3000	695	167	945	160	1295	149	1715	136	830/349
WU-M-582-TC/BC-840	**565946**	on request	neutral white	4000	745	180	1015	172	1390	160	1840	146	840/349
WU-M-582-TC/BC-850	**565947**	on request	neutral white	5000	755	182	1025	173	1410	162	1870	148	850/349
WU-M-582-TC/BC-865	**565948**	on request	cool white	6500	715	172	975	165	1340	154	1775	141	865/349

* Colour tolerance: 3 MacAdams | ** Production tolerance of luminous flux and efficiency: ±10% | CRI > 90 on request

Minimum order quantity (packaging unit): 150 pcs.

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LED Line SMD Gen. 3 – L07/14/28/56/70/75/112 W2

Optical Characteristics
at t_p = 50 °C
CRI: R_a > 80

Type	Ref. No. Connection top (TC)	bottom (BC)	Colour	Correlated colour temperature* K	Typ. luminous flux** and typ. efficiency ** at 250 mA lm	lm/W	350 mA lm	lm/W	500 mA lm	lm/W	700 mA lm	lm/W	Photometric code
LED Line SMD Gen. 3 – L28 W2													
WU-M-574-TC/BC-830	**565495**	**569184**	warm white	3000	470	168	645	162	895	152	1210	142	830/349
WU-M-574-TC/BC-840	**565499**	**568235**	neutral white	4000	505	180	690	173	960	163	1300	152	840/349
WU-M-574-TC/BC-850	**565500**	on request	neutral white	5000	510	182	700	175	975	165	1320	155	850/349
WU-M-574-TC/BC-865	**565501**	on request	cool white	6500	485	173	665	167	925	157	1250	146	865/349
WU-M-575-TC/BC-830	**565502**	**565789**	warm white	3000	930	168	1270	160	1760	151	2355	139	830/349
WU-M-575-TC/BC-840	**565503**	**565790**	neutral white	4000	1000	180	1365	172	1890	162	2530	149	840/349
WU-M-575-TC/BC-850	**565504**	on request	neutral white	5000	1015	183	1385	174	1915	164	2565	151	850/349
WU-M-575-TC/BC-865	**565505**	on request	cool white	6500	965	174	1315	166	1820	156	2435	144	865/349
WU-M-576-TC/BC-830	**565506**	on request	warm white	3000	1385	167	1885	159	2590	149	3425	136	830/349
WU-M-576-TC/BC-840	**565507**	on request	neutral white	4000	1490	180	2025	171	2780	160	3680	146	840/349
WU-M-576-TC/BC-850	**565508**	on request	neutral white	5000	1510	182	2050	173	2820	162	3735	148	850/349
WU-M-576-TC/BC-865	**565509**	on request	cool white	6500	1430	172	1945	164	2675	154	3545	141	865/349
LED Line SMD Gen. 3 – L56 W2													
WU-M-577-TC/BC-830	**565699**	**568622**	warm white	3000	940	168	1290	162	1790	152	2420	142	830/349
WU-M-577-TC/BC-840	**565700**	**566889**	neutral white	4000	1010	180	1380	173	1920	163	2600	152	840/349
WU-M-577-TC/BC-850	**565701**	on request	neutral white	5000	1020	182	1400	175	1950	165	2640	155	850/349
WU-M-577-TC/BC-865	**565702**	on request	cool white	6500	970	173	1330	167	1850	157	2500	146	865/349
WU-M-578-TC/BC-830	**565703**	**565798**	warm white	3000	1860	168	2540	160	3520	151	4710	139	830/349
WU-M-578-TC/BC-840	**565704**	**565799**	neutral white	4000	2000	180	2730	172	3780	162	5060	149	840/349
WU-M-578-TC/BC-850	**565705**	**569437**	neutral white	5000	2030	183	2770	174	3830	164	5130	151	850/349
WU-M-578-TC/BC-865	**565706**	on request	cool white	6500	1930	174	2630	166	3640	156	4870	144	865/349
WU-M-579-TC/BC-830	**565707**	**568526**	warm white	3000	2770	167	3770	159	5180	149	6850	136	830/349
WU-M-579-TC/BC-840	**565708**	**566931**	neutral white	4000	2980	180	4050	171	5560	160	7360	146	840/349
WU-M-579-TC/BC-850	**565709**	on request	neutral white	5000	3020	182	4100	173	5640	162	7470	148	850/349
WU-M-579-TC/BC-865	**565710**	on request	cool white	6500	2860	172	3890	164	5350	154	7090	141	865/349
LED Line SMD Gen. 3 – L70 W2													
WU-M-586-TC/BC-830	**566641**	on request	warm white	3000	1175	168	1625	163	2250	153	3025	142	830/349
WU-M-586-TC/BC-840	**566642**	on request	neutral white	4000	1250	179	1725	173	2400	163	3250	152	840/349
WU-M-586-TC/BC-850	**566644**	on request	neutral white	5000	1275	182	1750	175	2450	166	3300	155	850/349
WU-M-586-TC/BC-865	**566645**	on request	cool white	6500	1225	175	1675	168	2325	158	3125	146	865/349
WU-M-587-TC/BC-830	**566655**	on request	warm white	3000	2325	168	3175	160	4400	151	5900	139	830/349
WU-M-587-TC/BC-840	**566656**	on request	neutral white	4000	2500	180	3425	172	4725	162	6325	149	840/349
WU-M-587-TC/BC-850	**566657**	on request	neutral white	5000	2550	184	3475	175	4800	165	6425	152	850/349
WU-M-587-TC/BC-865	**566658**	on request	cool white	6500	2425	175	3300	166	4550	156	6100	144	865/349
WU-M-588-TC/BC-830	**566670**	on request	warm white	3000	3475	167	4725	160	6475	149	8575	136	830/349
WU-M-588-TC/BC-840	**566671**	on request	neutral white	4000	3725	180	5075	172	6950	160	9200	146	840/349
WU-M-588-TC/BC-850	**566672**	on request	neutral white	5000	3775	182	5125	173	7050	162	9350	148	850/349
WU-M-588-TC/BC-865	**566673**	on request	cool white	6500	3575	172	4875	165	6700	154	8875	141	865/349

* Colour tolerance: 3 MacAdams | ** Production tolerance of luminous flux and efficiency: ±10% | CRI > 90 on request
Minimum order quantity (packaging unit): 75 pcs.

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

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LED Line SMD Gen. 3 – L07/14/28/56/70/75/112 W2

Optical Characteristics
at t_p = 50 °C
CRI: R_a > 80

Type	Ref. No. Connection top (TC)	bottom (BC)	Colour	Correlated colour temperature* K	Typ. luminous flux** and typ. efficiency** at 250 mA lm	lm/W	350 mA lm	lm/W	500 mA lm	lm/W	700 mA lm	lm/W	Photometric code
LED Line SMD Gen. 3 – L75 W2													
WU-M-589-TC/BC-830	**566766**	on request	warm white	3000	1175	168	1625	163	2250	153	3025	142	830/349
WU-M-589-TC/BC-840	**566767**	on request	neutral white	4000	1250	179	1725	173	2400	163	3250	152	840/349
WU-M-589-TC/BC-850	**566768**	on request	neutral white	5000	1275	182	1750	175	2450	166	3300	155	850/349
WU-M-589-TC/BC-865	**566769**	on request	cool white	6500	1225	175	1675	168	2325	158	3125	146	865/349
WU-M-590-TC/BC-830	**566773**	on request	warm white	3000	2325	168	3175	160	4400	151	5900	139	830/349
WU-M-590-TC/BC-840	**566774**	on request	neutral white	4000	2500	180	3425	172	4725	162	6325	149	840/349
WU-M-590-TC/BC-850	**566775**	on request	neutral white	5000	2550	184	3475	175	4800	165	6425	152	850/349
WU-M-590-TC/BC-865	**566776**	on request	cool white	6500	2425	175	3300	166	4550	156	6100	144	865/349
WU-M-591-TC/BC-830	**566777**	on request	warm white	3000	3475	167	4725	160	6475	149	8575	136	830/349
WU-M-591-TC/BC-840	**566778**	on request	neutral white	4000	3725	180	5075	172	6950	160	9200	146	840/349
WU-M-591-TC/BC-850	**566779**	on request	neutral white	5000	3775	182	5125	173	7050	162	9350	148	850/349
WU-M-591-TC/BC-865	**566780**	on request	cool white	6500	3575	172	4875	165	6700	154	8875	141	865/349
LED Line SMD Gen. 3 – L112 W2													
WU-M-583-TC/BC-830	**566349**	on request	warm white	3000	1880	168	2600	163	3600	153	4840	142	830/349
WU-M-583-TC/BC-840	**566350**	**567707**	neutral white	4000	2000	179	2760	173	3840	163	5200	152	840/349
WU-M-583-TC/BC-850	**566351**	on request	neutral white	5000	2040	182	2800	175	3920	166	5280	155	850/349
WU-M-583-TC/BC-865	**566352**	on request	cool white	6500	1960	175	2680	168	3720	158	5000	146	865/349
WU-M-584-TC/BC-830	**566353**	**568477**	warm white	3000	3720	168	5080	160	7040	151	9440	139	830/349
WU-M-584-TC/BC-840	**566354**	**567055**	neutral white	4000	4000	180	5480	172	7560	162	10120	149	840/349
WU-M-584-TC/BC-850	**566355**	**569049**	neutral white	5000	4080	184	5560	175	7680	165	10280	152	850/349
WU-M-584-TC/BC-865	**566356**	on request	cool white	6500	3880	175	5280	166	7280	156	9760	144	865/349
WU-M-585-TC/BC-830	**566357**	on request	warm white	3000	5560	167	7560	160	10360	149	13720	136	830/349
WU-M-585-TC/BC-840	**566358**	on request	neutral white	4000	5960	180	8120	172	11120	160	14720	146	840/349
WU-M-585-TC/BC-850	**566359**	on request	neutral white	5000	6040	182	8200	173	11280	162	14960	148	850/349
WU-M-585-TC/BC-865	**566360**	on request	cool white	6500	5720	172	7800	165	10720	154	14200	141	865/349

* Colour tolerance: 3 MacAdams | ** Production tolerance of luminous flux and efficiency: ±10% | CRI > 90 on request
Minimum order quantity (packaging unit): 75 pcs.

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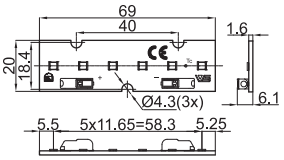
LED Line SMD Gen. 3 – L07/14/28/56/70/75/112 W2

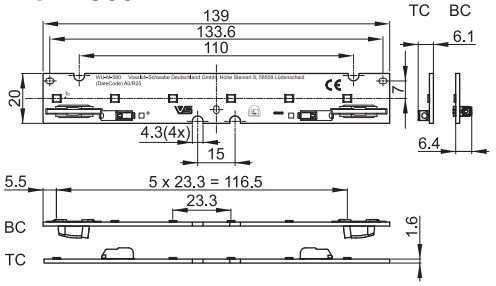
Mechanical Dimensions

TC = Top Connection
BC = Bottom Connection

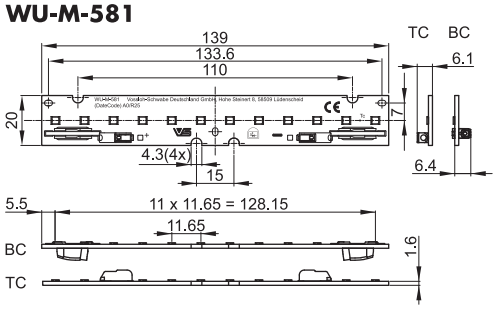
WU-M-615



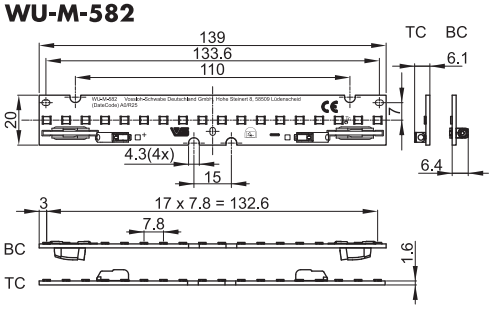
WU-M-580



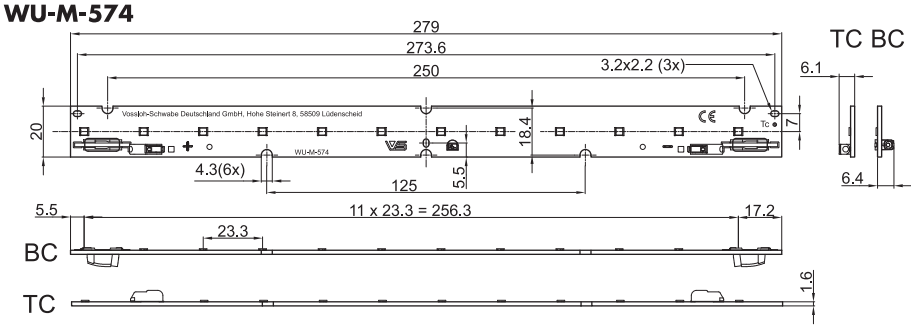
WU-M-581



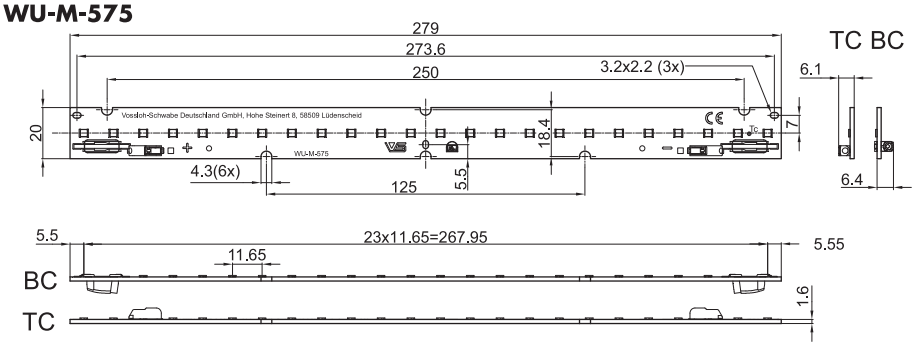
WU-M-582



WU-M-574



WU-M-575



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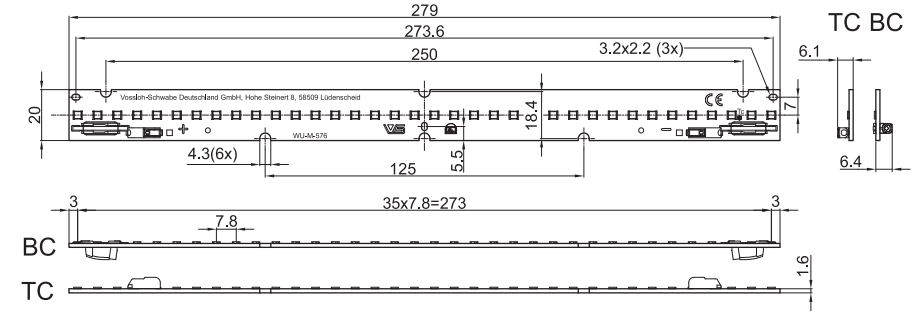
LED Line SMD Gen. 3 – L07/14/28/56/70/75/112 W2

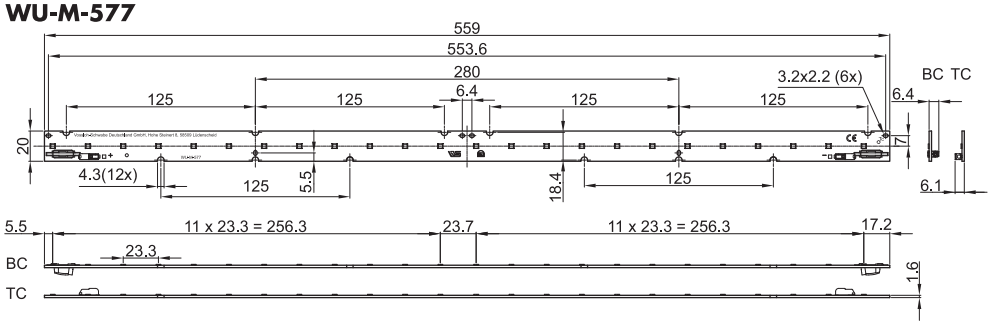
Mechanical Dimensions

TC = Top Connection
BC = Bottom Connection

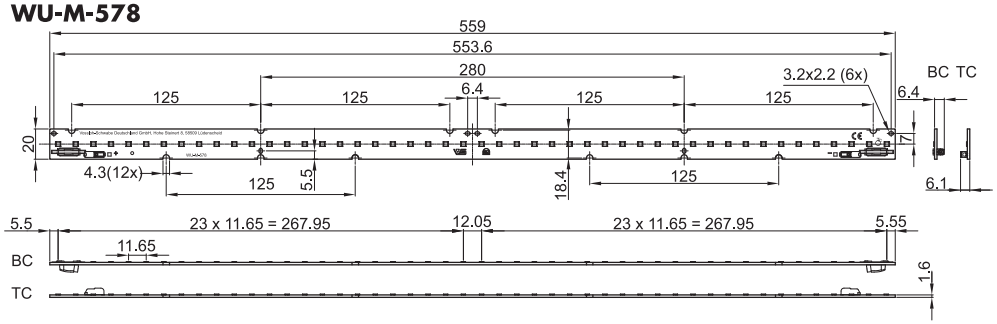
WU-M-576



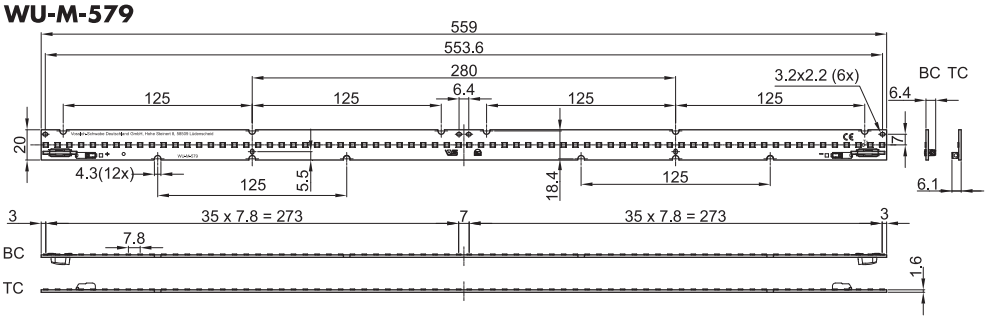
WU-M-577



WU-M-578



WU-M-579



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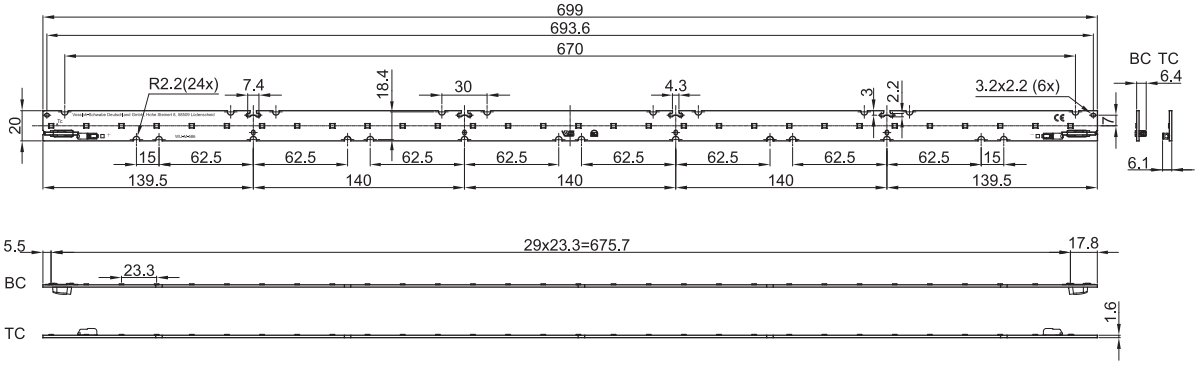
LED Line SMD Gen. 3 – L07/14/28/56/70/75/112 W2

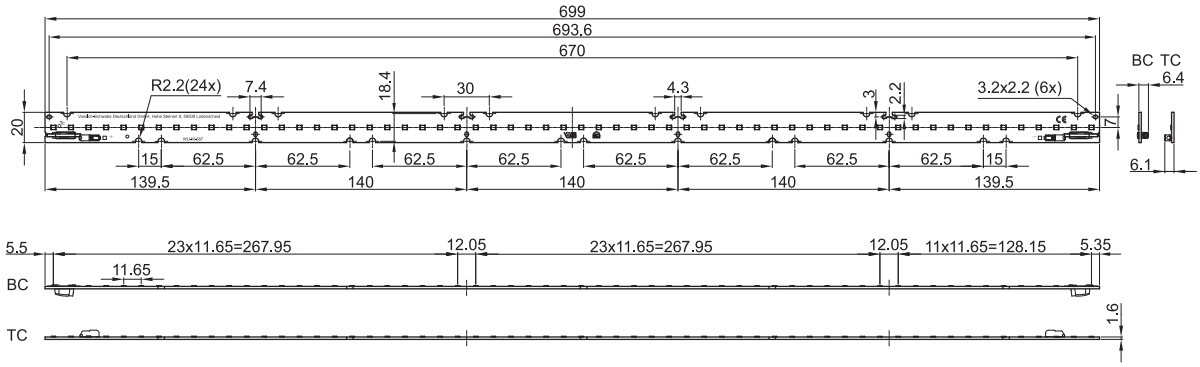
Mechanical Dimensions

TC = Top Connection
BC = Bottom Connection

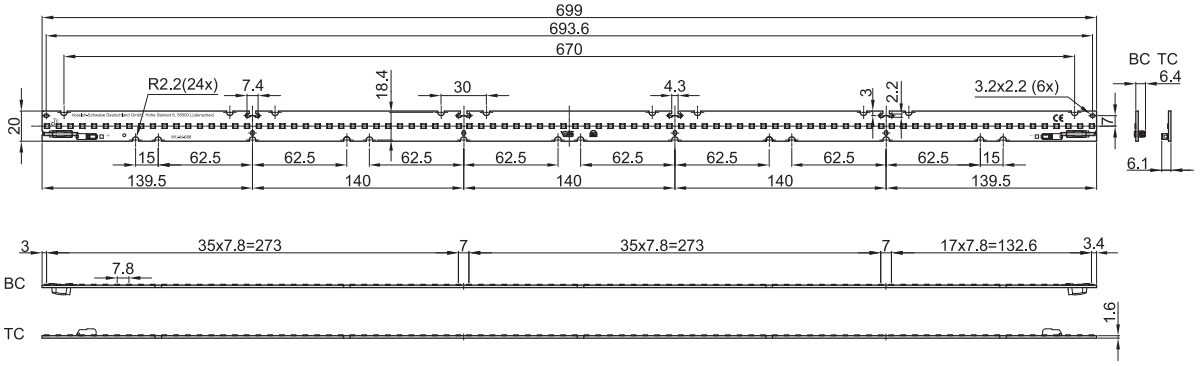
WU-M-586



WU-M-587



WU-M-588



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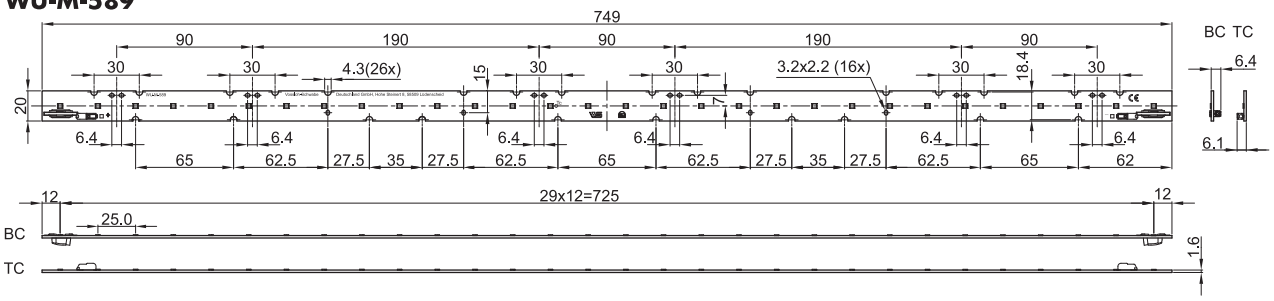
LED Line SMD Gen. 3 – L07/14/28/56/70/75/112 W2

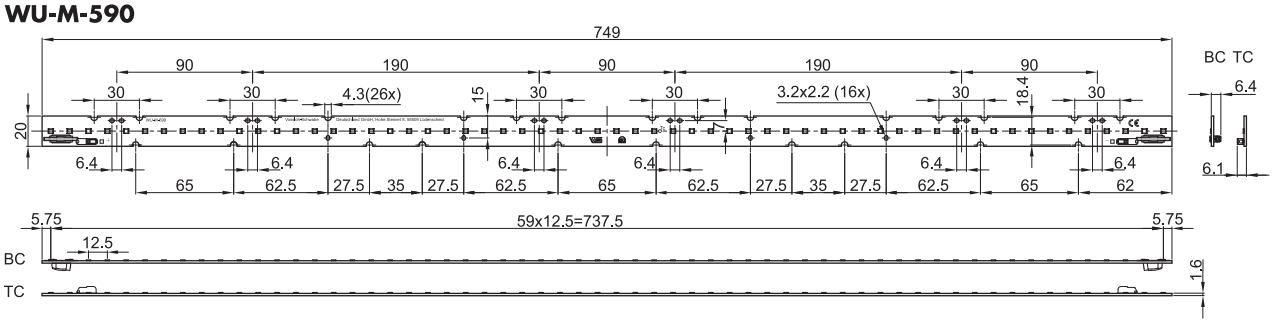
Mechanical Dimensions

TC = Top Connection
BC = Bottom Connection

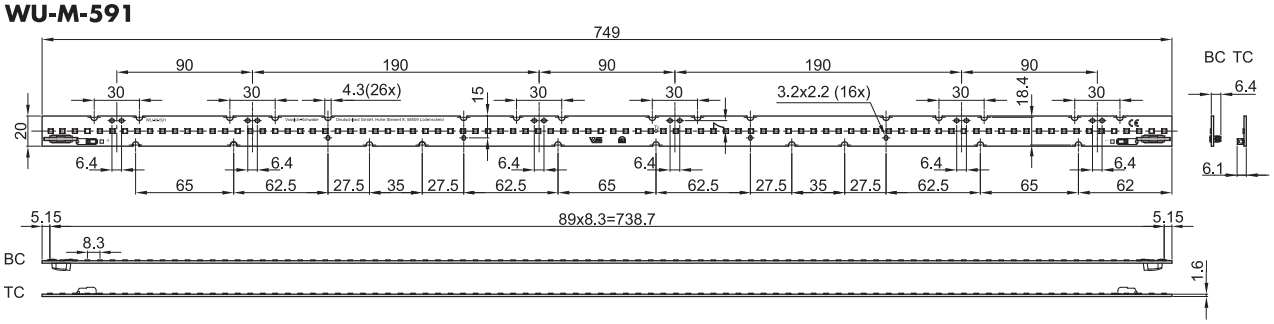
WU-M-589



WU-M-590



WU-M-591



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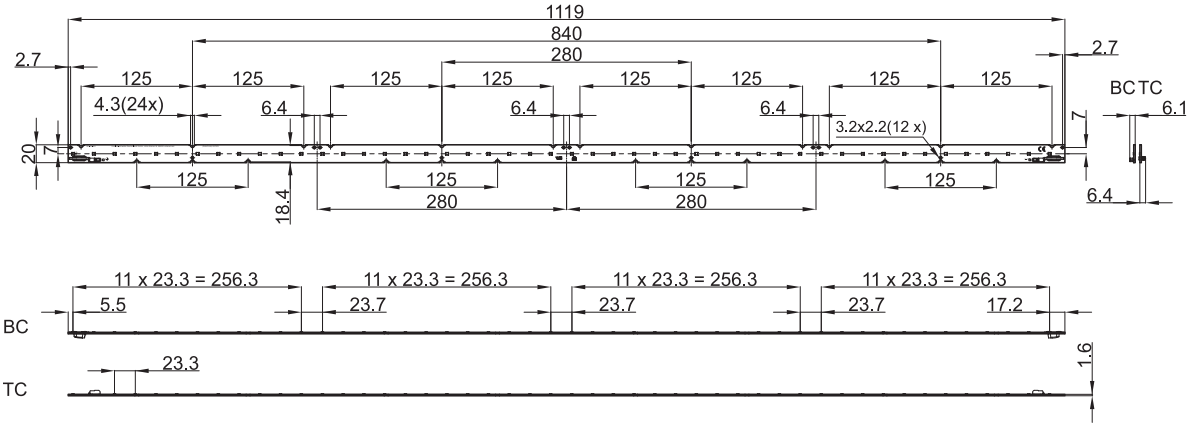
LED Line SMD Gen. 3 – L07/14/28/56/70/75/112 W2

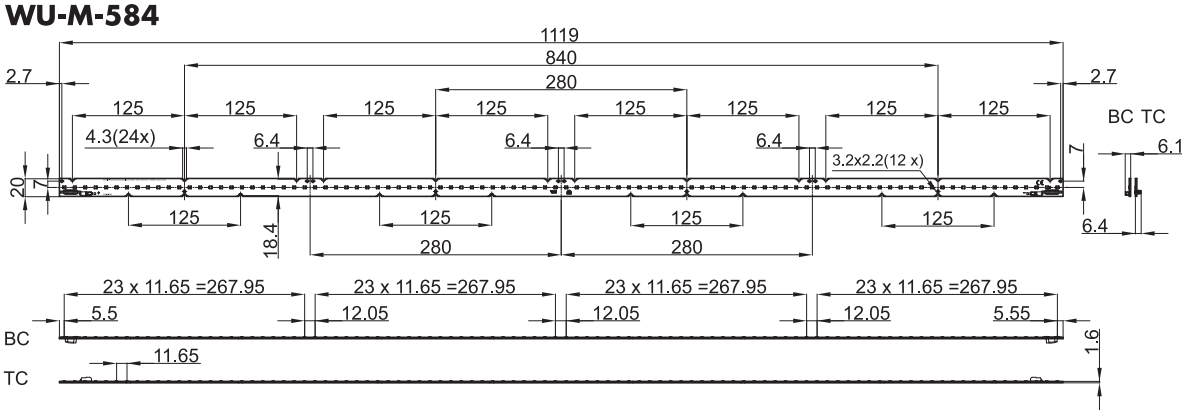
Mechanical Dimensions

TC = Top Connection
BC = Bottom Connection

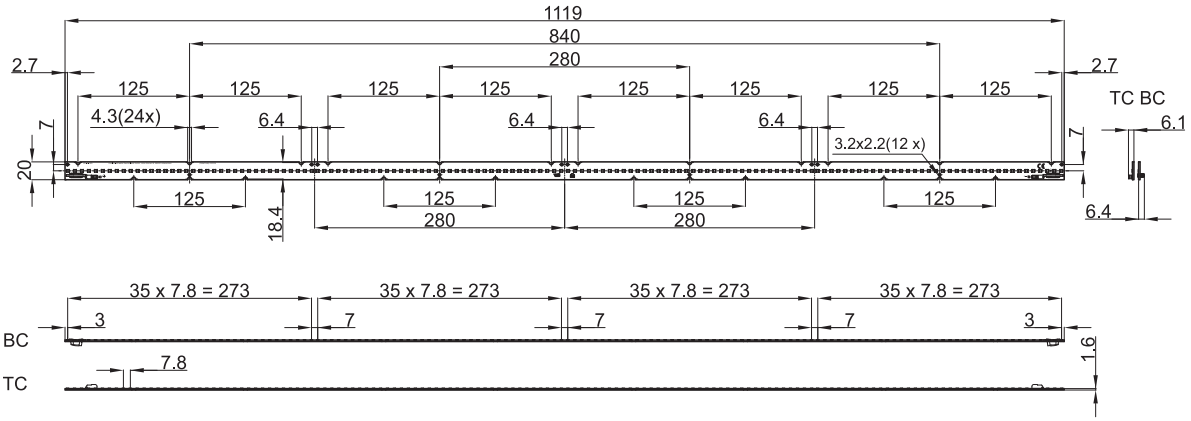
WU-M-583



WU-M-584



WU-M-585



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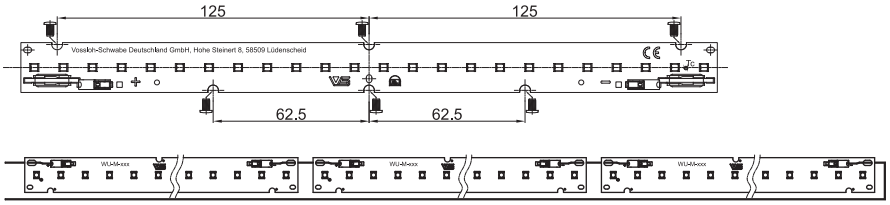
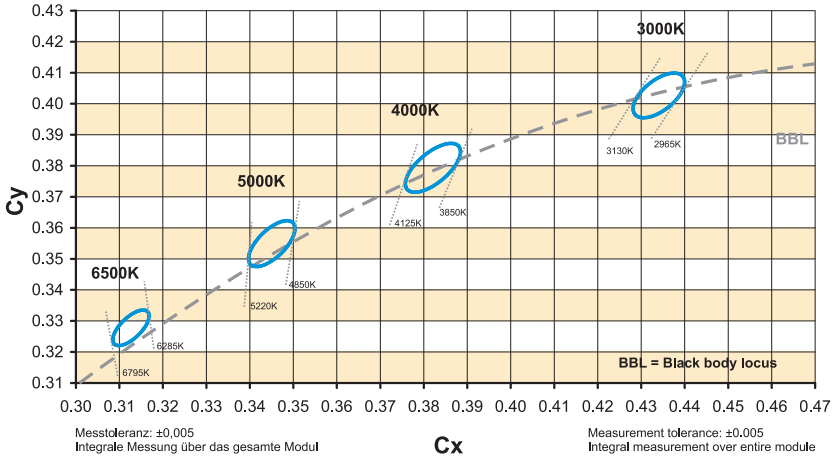
LED Line SMD Gen. 3 – L07/14/28/56/70/75/112 W2

Connection Example

- The number of modules that can be connected in series depends on the available output voltage of the LED driver.
- The clearance and creepage distances are designed for working voltages up to 350 V DC (basic insulation) and 185 V DC (reinforced insulation).
- In case of assembly of the LED modules in profiles (e.g. aluminium) where the profile touches the top edge of the PCB the clearance and creepage distances are reduced to 175 V DC (basic insulation) and 50 V DC (reinforced insulation).
- Max. diameter of screw head (M4): Ø 8 mm
- Only the marked holes are fixing holes for screws M4. Please do not use other holes for fixation!

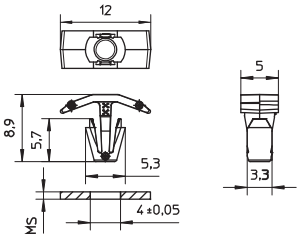


Bins



Fixing Clip

For fastening LED PCBs to luminaire sheets without needing screws
PCB hole dia.: 4.3–4.5 mm
Vibration resistant version
Material: PC, white (UL-94 V2)
Weight: 0.2 g, Packaging unit: 1000 pcs. (.11 = 10,000 pcs.)



Type	Ref. No.	For luminaire sheet thickness (MS) mm
98050	**562870**	0.5–1.0*

* PCB thickness: 1.6 mm

Linear LED Constant Current Drivers

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

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LED Line SMD Gen. 3 – L07/14/28/56/70/75/112 W2

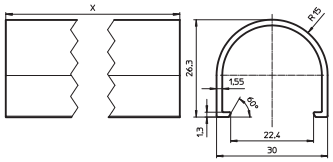
Cover W2 for clip fixing or tape fixing

A semi-transparent or a diffuse cover is available for the modules LED Line SMD W2 which protects the SMD board. The cover reduces glare and makes a homogeneous light distribution.

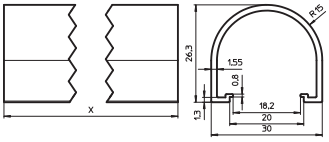
Easy assembly by clip fixing of the cover under the fixing screws of the SMD board or by tape fixing.

Technical Notes for Cover
Material: PMMA
High transmission:
92% semi-transparent
84% diffuse

For clip fixing
Recommended diameter of fixing screw head: 7 mm

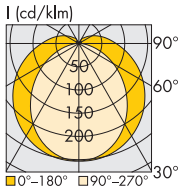


For tape fixing
No screws for PCB and cover fixing needed

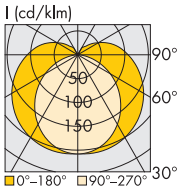


Type	Ref. No. for clip fixing	Type	Ref. No. for tape fixing	Length X mm	Version	Efficiency %	Weight g	Packaging unit pcs.
89830	**568591**	89800	**562549**	597	semi-transparent	92	81.8	240
89831	**568593**	89801	**562551**	1200	semi-transparent	92	164.4	192
89832	**568595**	89802	**562553**	1500	semi-transparent	92	205.5	192
89833	**568597**	89803	**562555**	1800	semi-transparent	92	246.6	192
89834	**568865**	–	**on request**	3000	semi-transparent	92	410	192
89830	**568592**	89800	**562550**	597	diffuse	84	81.8	240
89831	**568594**	89801	**562552**	1200	diffuse	84	164.4	192
89832	**568596**	89802	**562554**	1500	diffuse	84	205.5	192
89833	**568598**	89803	**562556**	1800	diffuse	84	246.6	192
89834	**568866**	–	**on request**	3000	diffuse	84	410	192

Length tolerance: 597 mm ± 1 mm (ends finished), 1200 / 1500 / 1800 / 3000 mm + 10 mm (ends raw)



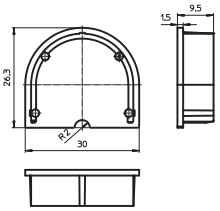
With semi-transparent cover



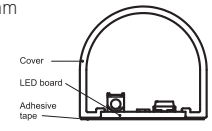
With diffuse cover

End caps for cover for clip fixing
End caps with or without wire hole for push-fit into the cover
Material: PC, transparent
Weight: 2 g, Packaging unit: 250 pcs.
Type: 898
Ref. No.: 562500 end cap with wire hole
Ref. No.: 562499 end cap without wire hole

End cap with wire hole



Preassembled module SMD board including W2 adhesive cover
The cover and PCB are fixed together with double-side adhesive assembled.
No screws for PCB and cover fixing needed!
Length: assembled 597 mm
Packaging unit: 242 pcs.



Type	Ref. No.	Cover	SMD board
89800	**on request**	semi-transparent	on request
89800	**on request**	diffus	on request

With W2 SMD boards (colour temperature and lengths) on request

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PRELIMINARY

W2 Optics

For LED Line SMD Gen. 3 – L28/56 W2

Technical Notes

Highly efficient of up to 93%
Constant Light Colour (CLC): very low colour temperature deviations over beam angle
Extended Luminous Area (ELA): light emission over the entire surface of the optics
Material: PMMA, clear or translucent (TL)
Max. allowed temperature: 80 °C
Dimensions (LxWxH): 559x43x11.6 mm
Optics can be stringed together for module chains
Single lens version for WU-M-574/575/577/578 with bottom connection (BC)
Tunnel lens version for WU-M-574/575/576/577/578/579 with bottom connection (BC)
Clip fixation for metal sheets with wall thickness of 0.6–0.8 mm or aluminium profiles

Light distribution	Optics type	Ref. No.	Weight g
Single lens			
Extra Wide 110°	97005	**568236**	124
Wide 90°	97000	**568075**	115
Wide 90° TL	97000	**568412**	115
Medium 60°	97003	**568238**	107
Narrow 30°	97002	**568239**	104
Retail SYM 1	97001	**568240**	108
Retail SYM 2	97001	**568413**	108
Retail ASYM	97004	**568237**	104
Tunnel lens			
Extra Wide 110°	97105	**568248**	130
Wide 90°	97100	**568243**	118
Medium 60°	97103	**568246**	116
Narrow 30°	97102	**568245**	114
Retail SYM 1	97101	**568244**	118
Retail ASYM	97104	**568247**	114

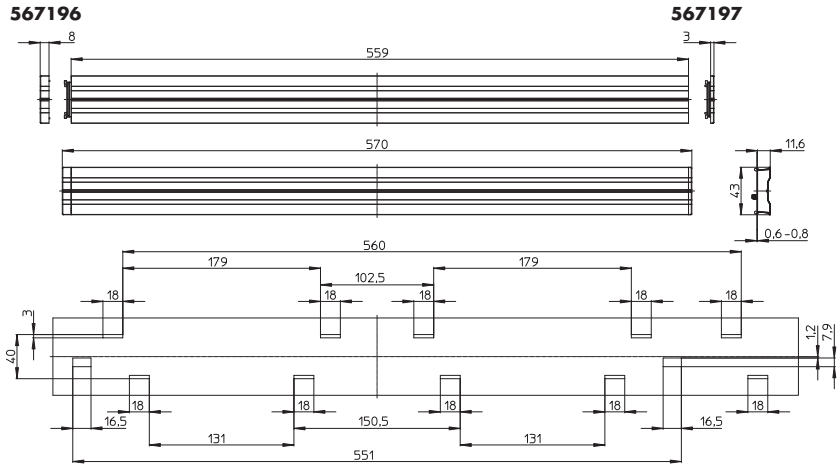
End Caps

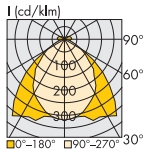
Lateral attachment on the optics (on the side of the groove or tongue)
Material: PC, clear or translucent (TL)

End cap type	For optics type	Ref. No.	Weight g
Tongue side	970	**567196**	1.85
Groove side	970	**567197**	1.45
Tongue side TL	970	**568601**	1.85
Groove side TL	970	**568602**	1.45

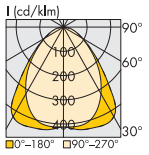
ELA CLC

567196 **567197**

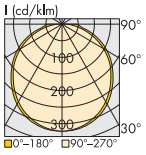




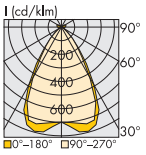
Single lens – 110° *



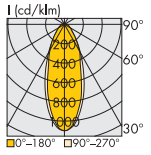
Single lens – 90°



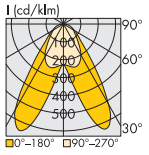
Single lens – 90° TL



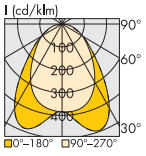
Single lens – 60°



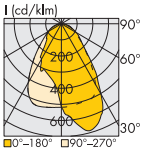
Single lens – 30°



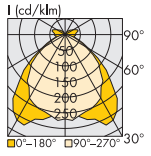
Single lens – Retail SYM 1



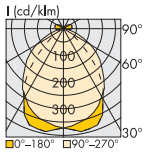
Single lens – Retail SYM 2



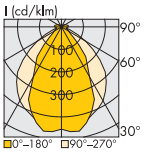
Single lens – Retail ASYM



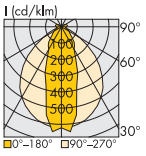
Tunnel lens – 110° *



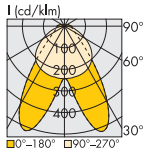
Tunnel lens – 90° *



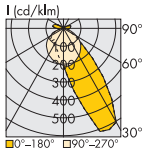
Tunnel lens – 60° *



Tunnel lens – 30° *



Tunnel lens – Retail SYM 1 *



Tunnel lens – Retail ASYM *

* Light distribution curves are preliminary, they are based on simulation

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LED Line SMD Gen. 3 – L07/14/28/56/70/75/112 W2

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. Installation must be carried out in a voltage-free state (i.e. disconnection from the mains). The following advice must be observed; non-observance can result in the destruction of the LED assembly modules, fire and/or other hazards.

- Consider safety regulations acc. EN 60598 in the luminair design, especially when the operating LED driver is not galvanic isolated.
  - In mode of operation regard to sufficient isolation.
  - Live parts must not be touched in operation mode. Danger in life!!!

- ESD (electrostatic discharge) protection measures must be observed when handling and installing the LED modules. See VS's application notes on ESD protection.
- Adequate anti-static electricity measures, including the use of conductive shoes, ionizers, work bench grounding, wrist straps, flooring and stools sould be used.
- LED assembly modules must not be subjected to any undue mechanical stress, e. g.:
  - do not treat as bulk cargo
  - avoid shear and compressive forces during handling and installation
  - do not damage circuit paths
  - avoid any pressure on the light emitting surface
- Safe operation only possible by the use of external constant current sources ($I_{max.}$ see table "Electrical Characteristics").
- Operation only with power supply units that feature the following protection:
  - Short-circuit protection
  - Overload protection
  - Overheating protection
- The module can be fixed with M4 screws. Fixation only with flat or cylinder head screws (M4) (no countersank screws)
  Max. torque: 1.2 Nm (M4)
- Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- For interconnection the LED modules is equipped with push-in terminals.
- Safety regulations acc. to EN 60598 (or further standards) has to be observed if the maximum output voltage exceed the permitted touchable value.
- Measurement tolerances:
  - luminous flux: ± 7%
  - voltage: ± 3%
  - CRI: ± 1
- The following points must be observed when connecting LED modules in parallel:
  - All LED strings that are wired in parallel must contain the same number of LEDs (symmetrical loading).
  - Owing to differing forward biases, there can be a difference of up to 10% in brightness between modules connected in parallel.
- To ensure problem-free operation, the specified maximum temperature at the t_p point (see "Operating Life") must be observed (and measured in accordance with EN 60598-1). To satisfy this point, it may be necessary to put measures in place to ensure any heat is dissipated from the PCB 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.
- Due to the manufacturing process, the PCBs of the LED assembly modules can have sharp edges and corners. Care must therefore be taken during handling and installation to avoid injury.
- 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.
- 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: 2008.
  Rating in accordance with IEC / TR 62778: risk group 1

CCT K	Max. operating current for risk group 1 mA	E threshold for higher operating currents to be risk group 1 lx
≤ 4000	846	1130
5000	537	657
6000	522	545

Applied Standards

EN 62031
LED modules for general lighting – Safety specifications

except for WU-M-615

EN 62471
Photobiological safety of lamps and lamp systems

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.

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

LIGHTING SOLUTIONS
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