

A photograph of a modern office interior. The ceiling is white with several long, recessed linear LED light fixtures. The walls are also white, and there are large windows with dark frames. The overall aesthetic is clean and minimalist.

iX-led

Edition 2

Linear LED-modules

The practical solution for your creative kit

You will find a complete overview of our **iX-led family** in our catalog. But what is „iX-led“ anyway? iX-led is our **LED module system** for your individual lighting solution. And iX-led is **quickly available**.

Thanks to the variously diverse, practical iX-led formats, the numerous light colors and color renderings, we provide you with a creative construction kit for your luminaire development and lighting applications. In the **iX-led product family**, you will find the right LED module for almost any task.

You want more?

We will be happy to equip our LED modules with more powerful, more efficient LEDs at short notice. Or with other terminals. Or with other light colors. Even CRI 95 is possible on request. You prefer to glue the LED modules instead of screwing them? We can make it possible.

That's not enough?

Our LED modules can be customized specifically for your application. In addition, we are happy to optimize our modules so that they add value to your application: e.g. through optimal mounting and design to your driver portfolio. We are also familiar with standards and certifications. Thus we can carry out the Eprel entry for you or obtain the ENEC mark for you.

From the idea to the finished product and beyond - our team at **m.a.l.** develops and produces everything in Germany.





modern.art.of.light.

For more than 30 years, our company **modern.art.of.light.**, in short: m.a.l., stands for experience and sophisticated technology in the field of high-performance LED concepts and efficient LED lighting systems. On May 2, 1994 our company was founded in Bebra by Markus Vockenroth. Quickly we specialized on the production of lighting technology. The main focus was especially on effect technology and lighting for water slides and leisure facilities.

In 2008 our company moved into the business premises in Tromagstraße in Bebra and the development, production and marketing of LED technology developed into the core business. But the will to grow further could not be realized in the Tromagstraße. So in March 2016, the new building in Wiesenweg in Bebra began. Since 2017 our new location shines and the **m.a.l.** Grand Opening was celebrated in May 2017.

Since then, we have been working on our projects with a lot of heart and soul. We support demanding customers in the development of new circuits, luminaires, modules and components. On request, we develop an individual product from layout to serial production and find a tailor-made solution for every challenge.

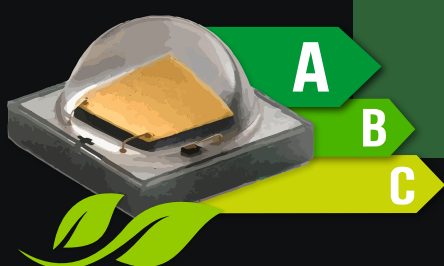
But we as a team of **modern.art.of.light.** do not only offer the pure production: Our services go far beyond the actual production. With experience, creativity and qualified employees as well as an attractive price-performance ratio, **m.a.l.** has become one of the leading partners of well-known manufacturers in the field of LED competence and electronic systems.






Made in Germany

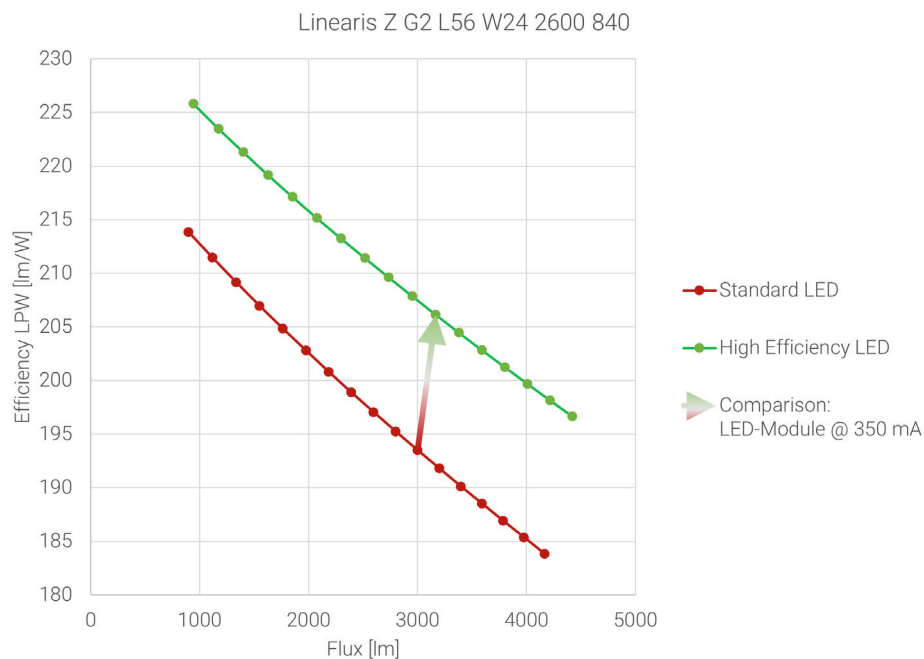
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Smart efficiency

360° Efficiency

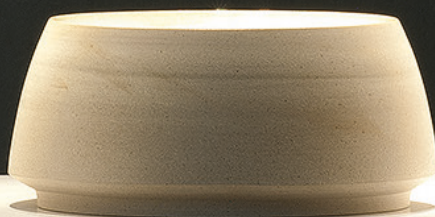
For us, efficiency means reducing the resources and energy required for the production of our LED modules. Also by keeping transport routes as short as possible. We bring efficiency to the overall product by working with you to develop solutions that, for example, enable resource-saving assembly. For us, efficiency also means that we design LED modules so that the driver you have chosen, used operates in the most efficient range. We also see efficiency in our quality. For us, quality comes before profit. We optimize the costs of our LED modules only as far as quality allows without compromising. A long service life means fewer replacements and better material efficiency.



An example of the possibilities we offer you with iX-led: Increased efficiency in the blink of an eye! Of course, our high quality and also the ENEC mark remain unchanged. This allows us - based on operation at 350 mA - to increase efficiency from 193 lm/W to 206 lm/W. The luminous flux also increases from 3000 lm to 3170 lm. With the current development of electricity prices, this investment will pay for itself after a short time.



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Linearis Z - Industry standard linear modules

Standard redefined: Our standard modules in the Linearis Z range are Zhaga-compliant LED modules with ENEC certification, available at short notice and ideal for installation in luminaires.

There is a choice of six different lengths in frames from 70 mm to 1400 mm and three widths from 16 mm to 24 mm. The modules are available in two luminous flux packages. The distance between the LEDs is either 11.7 mm or 23.3 mm. Color rendering values of CRI 80, CRI 90 and, on request, CRI 95 are possible with white LED modules.

NEW: Linearis Z LED modules in CRI 90 are fitted with LEDs in KSF technology. This means maximum efficiency even with high color rendering.

Choose from a variety of eight light colors: 2200 K, 2700 K, 3000 K, 3500 K, 4000 K, 5000 K, 5700 K and 6500 K. The photometric range extends up to 216 lm/W or a good 10000 lm. By selecting LEDs with a color consistency of 3 Step MacAdam, a high level of color homogeneity is achieved in the module.

Our modules are designed for series connection. Modules of different lengths can also be easily combined with each other. The spacing of the LEDs is selected to ensure that they are evenly distributed across all modules.

In addition to modules with white LEDs, you can also choose from a range of modules with colored LEDs.

The Linearis Z LV variants in lengths of 1120 mm and 1400 mm are a special feature. These are designed for higher operating currents and are therefore suitable for SELV operation. You can find more detailed information in the Linearis Z LV chapter from page 50.

Choose your individual solution from our wide range of components.

Our iX-led standard modules are also available in small quantities at short notice and are very advantageous in the overall concept.

Standard does not mean rigid and unchangeable!

Do you need different light colors, different color rendering or slightly shorter/longer versions of the modules? Do you need to fit solder nuts as spacers or a threaded insert to simplify module installation? No problem. Other terminals or soldered cables are also possible. With the **iX-led product family**, we can adapt and customize the standard to your needs.

Explore our exclusive module series with more than 1000 lighting options.

LED module with mid-power LEDs for installation in luminaires.

Extremely versatile with **over 500 variants**:

- ✓ 6 lengths: 70 mm, 140 mm, 280 mm, 560 mm, 1120 mm and 1400 mm
- ✓ 3 widths: 16 mm, 20 mm and 24 mm
- ✓ 2 luminous flux packages: pitch distance 23.3 mm and 11.7 mm
- ✓ 2 color renderings: CRI 80 and CRI 90, CRI 95 on request
- ✓ 8 light colors: 2200 K, 2700 K, 3000 K, 3500 K, 4000 K, 5000 K, 5700 K and 6500 K
- ✓ 2 circuit types for extra-long modules in SELV - see page 42.

Excellent color consistency in the module: 3 Step MacAdam LEDs.

Plug-in terminals for easy and quick mounting.

For operation on suitable constant current drivers.

ENEC-mark	yes
Maximum working voltage	250 V
Ambient temperature	-20... +50 °C
Max. perm. operating temperature (T _c)	80 °C
EPREL database entry	yes
Beam angle	120°

Connections:

	W16	W20	W24
Terminals	2	2	2
Connection typ	rigid	rigid/flexible	rigid/flexible
Conductor cross section AWG	AWG 22-26	AWG 18-24	AWG 18-24
Conductor cross section	min 0.14 mm ²	0.2 mm ²	0.2 mm ²
	max 0.34 mm ²	0.75 mm ²	0.75 mm ²
Stripping length	4 - 5,5 mm	8 - 9 mm	8 - 9 mm

Also available with other terminals on request.

Did you know? Our **Linearis-Z modules** are **ENEC** certified! 

Description	Type	Length	Width			Pitch distance	
			16 mm	20 mm	24 mm	23,3 mm	11,7 mm
Linearis Z G2	L7	70 mm	W16	W20	W24	165	325
Linearis Z G2	L14	140 mm	W16	W20	W24	325	650
Linearis Z G2	L28	280 mm	W16	W20	W24	650	1300
Linearis Z G2	L56	560 mm	W16	W20	W24	1300	2600
Linearis Z G2	L112	1120 mm	-x-	W20	-x-	2600	5200
Linearis Z G2	L140	1400 mm	-x-	W20	-x-	3250	6500

Type designation Composition and variant overview

The type designation is composed as follows for the Linearis Z:

Linearis Z

Describes the LED module family.

Linearis Z **G2**

We are now at generation 2.

Linearis Z G2 **L28**

L7 to L140 describes the rounded length of the LED module in cm. In the example it is 28 cm length.

Linearis Z G2 L28 **W24**

There are three widths available: W16, W20 and W24.
The specification refers to the width of the LED module in mm.
In the example it is 24 mm width.

Linearis Z G2 L28 W24 **650**

Two pitch distances are available in each length.
We distinguish the two variants by their rounded luminous flux values in lm. In the example the 650 in the L28 corresponds to a pitch distance of 23.3 mm.

Linearis Z G2 L28 W24 650 **840**

The 840 includes light color and color rendering. In the example, 8xx stands for CRI 80 and x40 for 4000 K.

Linearis Z L7 165 - Industry standard linear modules

- ✓ linear module in three widths for installation in luminaires
- ✓ 3 Mid-Power-LEDs
- ✓ pitch distance 23.3 mm
- ✓ length 70 mm
- ✓ width 16 mm, 20 mm, 24 mm

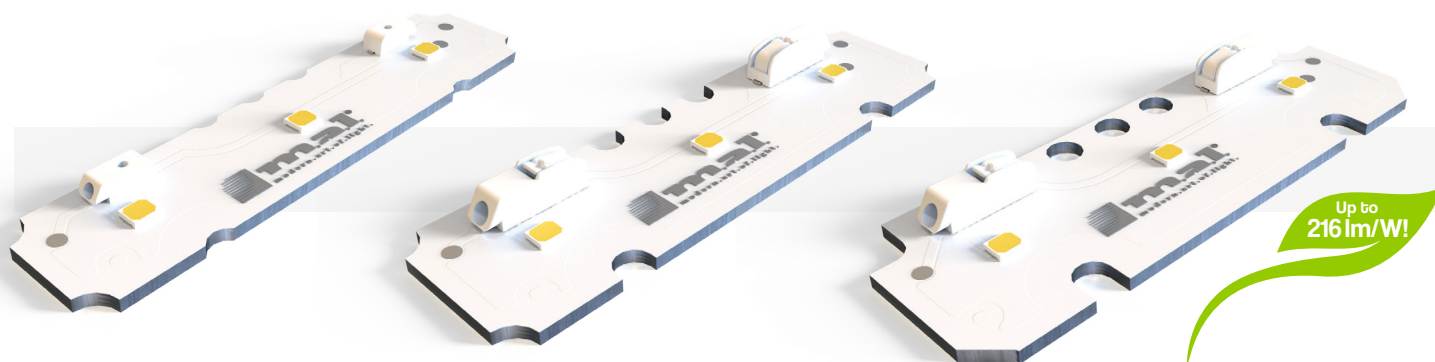
- ✓ 2 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 500 mA
- ✓ maximum forward voltage 3.1 V
- ✓ meets the well-known industry standard



Please also refer to the technical data of the Linearis Z family on page 12. Further technical data and drawings from page 34.

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	width	order-nr.	Linearis Z G2 L7...
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C				
≥80	2200	33 lm	170 lm/W	145 lm	152 lm/W	202 lm	144 lm/W	16 mm	7517-10000	...W16 165 822
								20 mm	7517-10016	...W20 165 822
								24 mm	7517-10032	...W24 165 822
	2700	38 lm	192 lm/W	169 lm	172 lm/W	235 lm	164 lm/W	16 mm	7517-10001	...W16 165 827
								20 mm	7517-10017	...W20 165 827
								24 mm	7517-10033	...W24 165 827
	3000	41 lm	206 lm/W	181 lm	184 lm/W	251 lm	175 lm/W	16 mm	7517-10002	...W16 165 830
								20 mm	7517-10018	...W20 165 830
								24 mm	7517-10034	...W24 165 830
	3500	41 lm	206 lm/W	181 lm	184 lm/W	251 lm	175 lm/W	16 mm	7517-10003	...W16 165 835
								20 mm	7517-10019	...W20 165 835
								24 mm	7517-10035	...W24 165 835
	4000	42 lm	216 lm/W	188 lm	193 lm/W	260 lm	184 lm/W	16 mm	7517-10004	...W16 165 840
								20 mm	7517-10020	...W20 165 840
								24 mm	7517-10036	...W24 165 840
	5000	42 lm	216 lm/W	188 lm	193 lm/W	260 lm	184 lm/W	16 mm	7517-10005	...W16 165 850
								20 mm	7517-10021	...W20 165 850
								24 mm	7517-10037	...W24 165 850
	5700	42 lm	216 lm/W	188 lm	193 lm/W	260 lm	184 lm/W	16 mm	7517-10006	...W16 165 857
								20 mm	7517-10022	...W20 165 857
								24 mm	7517-10038	...W24 165 857
	6500	42 lm	216 lm/W	188 lm	193 lm/W	260 lm	184 lm/W	16 mm	7517-10007	...W16 165 865
								20 mm	7517-10023	...W20 165 865
								24 mm	7517-10039	...W24 165 865

Up to
260 lm!



16 mm

20 mm

24 mm

NEW:
CRI 90 IN
KSF-Techno-
logy

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	width	order-nr.	Linearis Z G2 L7...
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C				
≥ 90	2200	28 lm	141 lm/W	124 lm	126 lm/W	172 lm	120 lm/W	16 mm	7517-10008	...W16 165 922
								20 mm	7517-10024	...W20 165 922
								24 mm	7517-10040	...W24 165 922
	2700	38 lm	194 lm/W	171 lm	174 lm/W	237 lm	166 lm/W	16 mm	7517-10009	...W16 165 927
								20 mm	7517-10025	...W20 165 927
								24 mm	7517-10041	...W24 165 927
	3000	39 lm	198 lm/W	174 lm	178 lm/W	242 lm	169 lm/W	16 mm	7517-10010	...W16 165 930
								20 mm	7517-10026	...W20 165 930
								24 mm	7517-10042	...W24 165 930
	3500	40 lm	203 lm/W	179 lm	182 lm/W	248 lm	173 lm/W	16 mm	7517-10011	...W16 165 935
								20 mm	7517-10027	...W20 165 935
								24 mm	7517-10043	...W24 165 935
	4000	41 lm	205 lm/W	180 lm	184 lm/W	250 lm	175 lm/W	16 mm	7517-10012	...W16 165 940
								20 mm	7517-10028	...W20 165 940
								24 mm	7517-10044	...W24 165 940
	5000	41 lm	205 lm/W	180 lm	184 lm/W	250 lm	175 lm/W	16 mm	7517-10013	...W16 165 950
								20 mm	7517-10029	...W20 165 950
								24 mm	7517-10045	...W24 165 950
	5700	41 lm	205 lm/W	180 lm	184 lm/W	250 lm	175 lm/W	16 mm	7517-10014	...W16 165 957
								20 mm	7517-10030	...W20 165 957
								24 mm	7517-10046	...W24 165 957
	6500	40 lm	203 lm/W	179 lm	182 lm/W	248 lm	173 lm/W	16 mm	7517-10015	...W16 165 965
								20 mm	7517-10031	...W20 165 965
								24 mm	7517-10047	...W24 165 965

Up to
250 lm!

Linearis Z L7 325 - Industry standard linear modules

- ✓ linear module in three widths for installation in luminaires
- ✓ 6 Mid-Power-LEDs
- ✓ pitch distance 11.7 mm
- ✓ length 70 mm
- ✓ width 16 mm, 20 mm, 24 mm

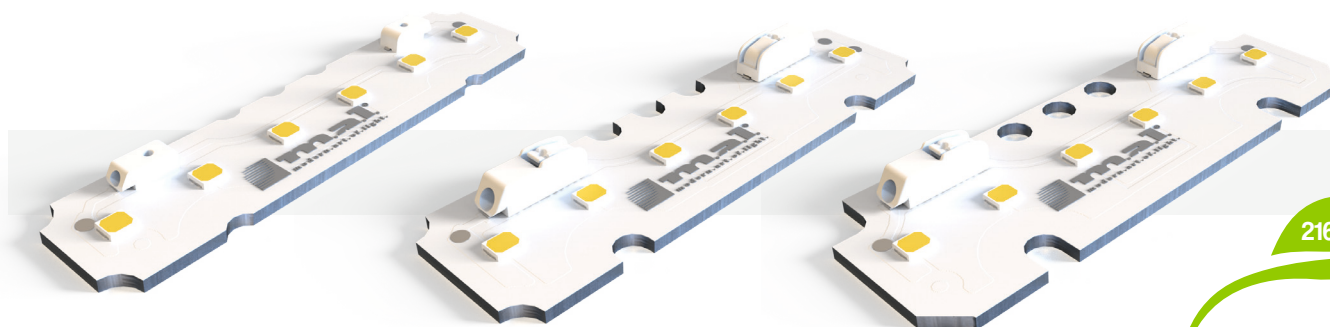
- ✓ 2 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 500 mA
- ✓ maximum forward voltage 6.2 V
- ✓ meets the well-known industry standard



Please also refer to the technical data of the Linearis Z family on page 12. Further technical data and drawings from page 34.

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	width	order-nr.	Linearis Z G2 L7...
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C				
≥80	2200	66 lm	170 lm/W	290 lm	152 lm/W	403 lm	144 lm/W	16 mm	7517-10048	...W16 325 822
								20 mm	7517-10064	...W20 325 822
								24 mm	7517-10080	...W24 325 822
	2700	76 lm	192 lm/W	339 lm	172 lm/W	470 lm	164 lm/W	16 mm	7517-10049	...W16 325 827
								20 mm	7517-10065	...W20 325 827
								24 mm	7517-10081	...W24 325 827
	3000	81 lm	206 lm/W	361 lm	184 lm/W	501 lm	175 lm/W	16 mm	7517-10050	...W16 325 830
								20 mm	7517-10066	...W20 325 830
								24 mm	7517-10082	...W24 325 830
	3500	81 lm	206 lm/W	361 lm	184 lm/W	501 lm	175 lm/W	16 mm	7517-10051	...W16 325 835
								20 mm	7517-10067	...W20 325 835
								24 mm	7517-10083	...W24 325 835
	4000	85 lm	216 lm/W	375 lm	193 lm/W	521 lm	184 lm/W	16 mm	7517-10052	...W16 325 840
								20 mm	7517-10068	...W20 325 840
								24 mm	7517-10084	...W24 325 840
	5000	85 lm	216 lm/W	375 lm	193 lm/W	521 lm	184 lm/W	16 mm	7517-10053	...W16 325 850
								20 mm	7517-10069	...W20 325 850
								24 mm	7517-10085	...W24 325 850
	5700	85 lm	216 lm/W	375 lm	193 lm/W	521 lm	184 lm/W	16 mm	7517-10054	...W16 325 857
								20 mm	7517-10070	...W20 325 857
								24 mm	7517-10086	...W24 325 857
	6500	85 lm	216 lm/W	375 lm	193 lm/W	521 lm	184 lm/W	16 mm	7517-10055	...W16 325 865
								20 mm	7517-10071	...W20 325 865
								24 mm	7517-10087	...W24 325 865





Up to
216 lm/W!

NEW:
CRI 90 IN
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logy

16 mm

20 mm

24 mm

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	width	order-nr.	Linearis Z G2 L7...
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C				
≥ 90	2200	56 lm	141 lm/W	248 lm	126 lm/W	344 lm	120 lm/W	16 mm	7517-10056	...W16 325 922
								20 mm	7517-10072	...W20 325 922
								24 mm	7517-10088	...W24 325 922
	2700	77 lm	194 lm/W	341 lm	174 lm/W	474 lm	166 lm/W	16 mm	7517-10057	...W16 325 927
								20 mm	7517-10073	...W20 325 927
								24 mm	7517-10089	...W24 325 927
	3000	78 lm	198 lm/W	349 lm	178 lm/W	484 lm	169 lm/W	16 mm	7517-10058	...W16 325 930
								20 mm	7517-10074	...W20 325 930
								24 mm	7517-10090	...W24 325 930
	3500	80 lm	203 lm/W	357 lm	182 lm/W	496 lm	173 lm/W	16 mm	7517-10059	...W16 325 935
								20 mm	7517-10075	...W20 325 935
								24 mm	7517-10091	...W24 325 935
	4000	81 lm	205 lm/W	361 lm	184 lm/W	501 lm	175 lm/W	16 mm	7517-10060	...W16 325 940
								20 mm	7517-10076	...W20 325 940
								24 mm	7517-10092	...W24 325 940
	5000	81 lm	205 lm/W	361 lm	184 lm/W	501 lm	175 lm/W	16 mm	7517-10061	...W16 325 950
								20 mm	7517-10077	...W20 325 950
								24 mm	7517-10093	...W24 325 950
	5700	81 lm	205 lm/W	361 lm	184 lm/W	501 lm	175 lm/W	16 mm	7517-10062	...W16 325 957
								20 mm	7517-10078	...W20 325 957
								24 mm	7517-10094	...W24 325 957
	6500	80 lm	203 lm/W	357 lm	182 lm/W	496 lm	173 lm/W	16 mm	7517-10063	...W16 325 965
								20 mm	7517-10079	...W20 325 965
								24 mm	7517-10095	...W24 325 965

Up to
496 lm!

Linearis Z L14 325 - Industry standard linear modules

- ✓ linear module in three widths for installation in luminaires
- ✓ 6 Mid-Power-LEDs
- ✓ pitch distance 23.3 mm
- ✓ length 140 mm
- ✓ width 16 mm, 20 mm, 24 mm

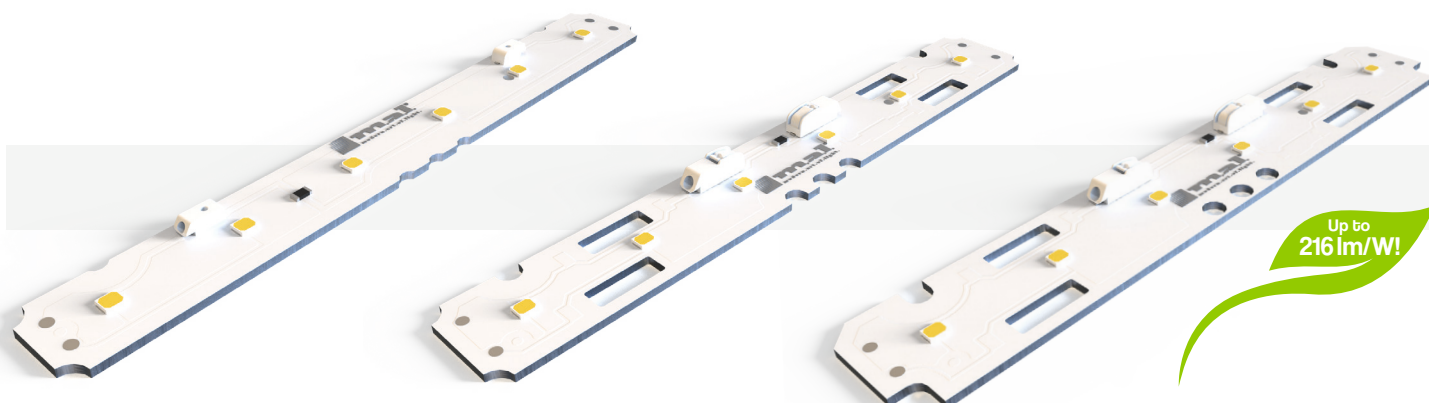
- ✓ 2 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 500 mA
- ✓ maximum forward voltage 6.2 V
- ✓ meets the well-known industry standard



Please also refer to the technical data of the Linearis Z family on page 12. Further technical data and drawings from page 34.

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	width	order-nr.	Linearis Z G2 L14...
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C				
≥80	2200	66 lm	170 lm/W	290 lm	152 lm/W	403 lm	144 lm/W	16 mm	7517-10096	...W16 325 822
								20 mm	7517-10112	...W20 325 822
								24 mm	7517-10128	...W24 325 822
	2700	76 lm	192 lm/W	339 lm	172 lm/W	470 lm	164 lm/W	16 mm	7517-10097	...W16 325 827
								20 mm	7517-10113	...W20 325 827
								24 mm	7517-10129	...W24 325 827
	3000	81 lm	206 lm/W	361 lm	184 lm/W	501 lm	175 lm/W	16 mm	7517-10098	...W16 325 830
								20 mm	7517-10114	...W20 325 830
								24 mm	7517-10130	...W24 325 830
	3500	81 lm	206 lm/W	361 lm	184 lm/W	501 lm	175 lm/W	16 mm	7517-10099	...W16 325 835
								20 mm	7517-10115	...W20 325 835
								24 mm	7517-10131	...W24 325 835
	4000	85 lm	216 lm/W	375 lm	193 lm/W	521 lm	184 lm/W	16 mm	7517-10100	...W16 325 840
								20 mm	7517-10116	...W20 325 840
								24 mm	7517-10132	...W24 325 840
	5000	85 lm	216 lm/W	375 lm	193 lm/W	521 lm	184 lm/W	16 mm	7517-10101	...W16 325 850
								20 mm	7517-10117	...W20 325 850
								24 mm	7517-10133	...W24 325 850
	5700	85 lm	216 lm/W	375 lm	193 lm/W	521 lm	184 lm/W	16 mm	7517-10102	...W16 325 857
								20 mm	7517-10118	...W20 325 857
								24 mm	7517-10134	...W24 325 857
	6500	85 lm	216 lm/W	375 lm	193 lm/W	521 lm	184 lm/W	16 mm	7517-10103	...W16 325 865
								20 mm	7517-10119	...W20 325 865
								24 mm	7517-10135	...W24 325 865





16 mm

20 mm

24 mm

Up to
216 lm/W!

NEW:
CRI 90 IN
KSF-Techno-
logy

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	width	order-nr.	Linearis Z G2 L14...
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C				
≥ 90	2200	56 lm	141 lm/W	248 lm	126 lm/W	344 lm	120 lm/W	16 mm	7517-10104	...W16 325 922
								20 mm	7517-10120	...W20 325 922
								24 mm	7517-10136	...W24 325 922
	2700	77 lm	194 lm/W	341 lm	174 lm/W	474 lm	166 lm/W	16 mm	7517-10105	...W16 325 927
								20 mm	7517-10121	...W20 325 927
								24 mm	7517-10137	...W24 325 927
	3000	78 lm	198 lm/W	349 lm	178 lm/W	484 lm	169 lm/W	16 mm	7517-10106	...W16 325 930
								20 mm	7517-10122	...W20 325 930
								24 mm	7517-10138	...W24 325 930
	3500	80 lm	203 lm/W	357 lm	182 lm/W	496 lm	173 lm/W	16 mm	7517-10107	...W16 325 935
								20 mm	7517-10123	...W20 325 935
								24 mm	7517-10139	...W24 325 935
	4000	81 lm	205 lm/W	361 lm	184 lm/W	501 lm	175 lm/W	16 mm	7517-10108	...W16 325 940
								20 mm	7517-10124	...W20 325 940
								24 mm	7517-10140	...W24 325 940
	5000	81 lm	205 lm/W	361 lm	184 lm/W	501 lm	175 lm/W	16 mm	7517-10109	...W16 325 950
								20 mm	7517-10125	...W20 325 950
								24 mm	7517-10141	...W24 325 950
	5700	81 lm	205 lm/W	361 lm	184 lm/W	501 lm	175 lm/W	16 mm	7517-10110	...W16 325 957
								20 mm	7517-10126	...W20 325 957
								24 mm	7517-10142	...W24 325 957
	6500	80 lm	203 lm/W	357 lm	182 lm/W	496 lm	173 lm/W	16 mm	7517-10111	...W16 325 965
								20 mm	7517-10127	...W20 325 965
								24 mm	7517-10143	...W24 325 965

Up to
501 lm!

Linearis Z L14 650 - Industry standard linear modules

- ✓ linear module in three widths for installation in luminaires
- ✓ 12 Mid-Power-LEDs
- ✓ pitch distance 11.7 mm
- ✓ length 140 mm
- ✓ width 16 mm, 20 mm, 24 mm

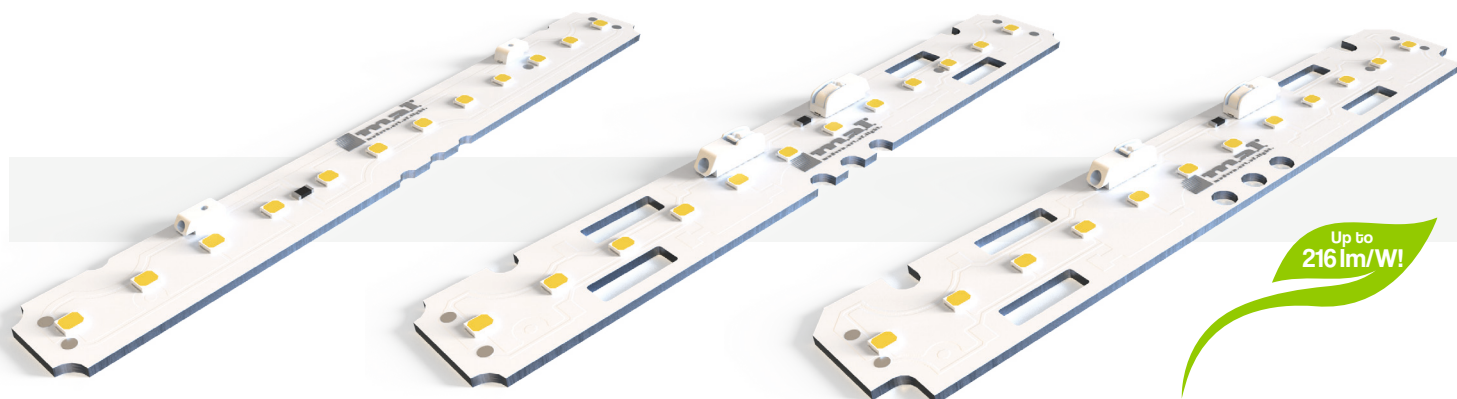
- ✓ 2 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 500 mA
- ✓ maximum forward voltage 12.4 V
- ✓ meets the well-known industry standard



Please also refer to the technical data of the Linearis Z family on page 12. Further technical data and drawings from page 34.

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	width	order-nr.	Linearis Z G2 L14...
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C				
≥80	2200	131 lm	170 lm/W	580 lm	152 lm/W	806 lm	144 lm/W	16 mm	7517-10144	...W16 650 822
								20 mm	7517-10160	...W20 650 822
								24 mm	7517-10176	...W24 650 822
	2700	153 lm	192 lm/W	678 lm	172 lm/W	941 lm	164 lm/W	16 mm	7517-10145	...W16 650 827
								20 mm	7517-10161	...W20 650 827
								24 mm	7517-10177	...W24 650 827
	3000	163 lm	206 lm/W	722 lm	184 lm/W	1002 lm	175 lm/W	16 mm	7517-10146	...W16 650 830
								20 mm	7517-10162	...W20 650 830
								24 mm	7517-10178	...W24 650 830
	3500	163 lm	206 lm/W	722 lm	184 lm/W	1002 lm	175 lm/W	16 mm	7517-10147	...W16 650 835
								20 mm	7517-10163	...W20 650 835
								24 mm	7517-10179	...W24 650 835
	4000	169 lm	216 lm/W	750 lm	193 lm/W	1042 lm	184 lm/W	16 mm	7517-10148	...W16 650 840
								20 mm	7517-10164	...W20 650 840
								24 mm	7517-10180	...W24 650 840
	5000	169 lm	216 lm/W	750 lm	193 lm/W	1042 lm	184 lm/W	16 mm	7517-10149	...W16 650 850
								20 mm	7517-10165	...W20 650 850
								24 mm	7517-10181	...W24 650 850
	5700	169 lm	216 lm/W	750 lm	193 lm/W	1042 lm	184 lm/W	16 mm	7517-10150	...W16 650 857
								20 mm	7517-10166	...W20 650 857
								24 mm	7517-10182	...W24 650 857
	6500	169 lm	216 lm/W	750 lm	193 lm/W	1042 lm	184 lm/W	16 mm	7517-10151	...W16 650 865
								20 mm	7517-10167	...W20 650 865
								24 mm	7517-10183	...W24 650 865

Up to
1042 lm!



16 mm

20 mm

24 mm

Up to
216 lm/W!

NEW:
CRI 90 IN
KSF-Techno-
logy

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	width	order-nr.	Linearis Z G2 14...
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C				
≥ 90	2200	112 lm	141 lm/W	495 lm	126 lm/W	688 lm	120 lm/W	16 mm	7517-10152	...W16 650 922
								20 mm	7517-10168	...W20 650 922
								24 mm	7517-10184	...W24 650 922
	2700	153 lm	194 lm/W	682 lm	174 lm/W	947 lm	166 lm/W	16 mm	7517-10153	...W16 650 927
								20 mm	7517-10169	...W20 650 927
								24 mm	7517-10185	...W24 650 927
	3000	157 lm	198 lm/W	697 lm	178 lm/W	967 lm	169 lm/W	16 mm	7517-10154	...W16 650 930
								20 mm	7517-10170	...W20 650 930
								24 mm	7517-10186	...W24 650 930
	3500	160 lm	203 lm/W	714 lm	182 lm/W	991 lm	173 lm/W	16 mm	7517-10155	...W16 650 935
								20 mm	7517-10171	...W20 650 935
								24 mm	7517-10187	...W24 650 935
	4000	162 lm	205 lm/W	722 lm	184 lm/W	1002 lm	175 lm/W	16 mm	7517-10156	...W16 650 940
								20 mm	7517-10172	...W20 650 940
								24 mm	7517-10188	...W24 650 940
	5000	162 lm	205 lm/W	722 lm	184 lm/W	1002 lm	175 lm/W	16 mm	7517-10157	...W16 650 950
								20 mm	7517-10173	...W20 650 950
								24 mm	7517-10189	...W24 650 950
	5700	162 lm	205 lm/W	722 lm	184 lm/W	1002 lm	175 lm/W	16 mm	7517-10158	...W16 650 957
								20 mm	7517-10174	...W20 650 957
								24 mm	7517-10190	...W24 650 957
	6500	160 lm	203 lm/W	714 lm	182 lm/W	991 lm	173 lm/W	16 mm	7517-10159	...W16 650 965
								20 mm	7517-10175	...W20 650 965
								24 mm	7517-10191	...W24 650 965

Up to
1002 lm!

Linearis Z L28 650 - Industry standard linear modules

- ✓ linear module in three widths for installation in luminaires
- ✓ 12 Mid-Power-LEDs
- ✓ pitch distance 23.3 mm
- ✓ length 280 mm
- ✓ width 16 mm, 20 mm, 24 mm

- ✓ 2 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 500 mA
- ✓ maximum forward voltage 12.4 V
- ✓ meets the well-known industry standard



Please also refer to the technical data of the Linearis Z family on page 12. Further technical data and drawings from page 34.

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	width	order-nr.	Linearis Z G2 L28...
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C				
≥80	2200	131 lm	170 lm/W	580 lm	152 lm/W	806 lm	144 lm/W	16 mm	7517-10192	...W16 650 822
								20 mm	7517-10208	...W20 650 822
								24 mm	7517-10224	...W24 650 822
	2700	153 lm	192 lm/W	678 lm	172 lm/W	941 lm	164 lm/W	16 mm	7517-10193	...W16 650 827
								20 mm	7517-10209	...W20 650 827
								24 mm	7517-10225	...W24 650 827
	3000	163 lm	206 lm/W	722 lm	184 lm/W	1002 lm	175 lm/W	16 mm	7517-10194	...W16 650 830
								20 mm	7517-10210	...W20 650 830
								24 mm	7517-10226	...W24 650 830
	3500	163 lm	206 lm/W	722 lm	184 lm/W	1002 lm	175 lm/W	16 mm	7517-10195	...W16 650 835
								20 mm	7517-10211	...W20 650 835
								24 mm	7517-10227	...W24 650 835
	4000	169 lm	216 lm/W	750 lm	193 lm/W	1042 lm	184 lm/W	16 mm	7517-10196	...W16 650 840
								20 mm	7517-10212	...W20 650 840
								24 mm	7517-10228	...W24 650 840
	5000	169 lm	216 lm/W	750 lm	193 lm/W	1042 lm	184 lm/W	16 mm	7517-10197	...W16 650 850
								20 mm	7517-10213	...W20 650 850
								24 mm	7517-10229	...W24 650 850
	5700	169 lm	216 lm/W	750 lm	193 lm/W	1042 lm	184 lm/W	16 mm	7517-10198	...W16 650 857
								20 mm	7517-10214	...W20 650 857
								24 mm	7517-10230	...W24 650 857
	6500	169 lm	216 lm/W	750 lm	193 lm/W	1042 lm	184 lm/W	16 mm	7517-10199	...W16 650 865
								20 mm	7517-10215	...W20 650 865
								24 mm	7517-10231	...W24 650 865

Up to
1042 lm!



16 mm

20 mm

24 mm

Up to
216 lm/W!

NEW:
CRI 90 IN
KSF-Techno-
logy

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	width	order-nr.	Linearis Z G2 L28...
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C				
≥ 90	2200	112 lm	141 lm/W	495 lm	126 lm/W	688 lm	120 lm/W	16 mm	7517-10200	...W16 650 922
								20 mm	7517-10216	...W20 650 922
								24 mm	7517-10232	...W24 650 922
	2700	153 lm	194 lm/W	682 lm	174 lm/W	947 lm	166 lm/W	16 mm	7517-10201	...W16 650 927
								20 mm	7517-10217	...W20 650 927
								24 mm	7517-10233	...W24 650 927
	3000	157 lm	198 lm/W	697 lm	178 lm/W	967 lm	169 lm/W	16 mm	7517-10202	...W16 650 930
								20 mm	7517-10218	...W20 650 930
								24 mm	7517-10234	...W24 650 930
	3500	160 lm	203 lm/W	714 lm	182 lm/W	991 lm	173 lm/W	16 mm	7517-10203	...W16 650 935
								20 mm	7517-10219	...W20 650 935
								24 mm	7517-10235	...W24 650 935
	4000	162 lm	205 lm/W	722 lm	184 lm/W	1002 lm	175 lm/W	16 mm	7517-10204	...W16 650 940
								20 mm	7517-10220	...W20 650 940
								24 mm	7517-10236	...W24 650 940
	5000	162 lm	205 lm/W	722 lm	184 lm/W	1002 lm	175 lm/W	16 mm	7517-10205	...W16 650 950
								20 mm	7517-10221	...W20 650 950
								24 mm	7517-10237	...W24 650 950
	5700	162 lm	205 lm/W	722 lm	184 lm/W	1002 lm	175 lm/W	16 mm	7517-10206	...W16 650 957
								20 mm	7517-10222	...W20 650 957
								24 mm	7517-10238	...W24 650 957
	6500	160 lm	203 lm/W	714 lm	182 lm/W	991 lm	173 lm/W	16 mm	7517-10207	...W16 650 965
								20 mm	7517-10223	...W20 650 965
								24 mm	7517-10239	...W24 650 965

Up to
1002 lm!

Linearis Z L28 1300 - Industry standard linear modules

- ✓ linear module in three widths for installation in luminaires
- ✓ 24 Mid-Power-LEDs
- ✓ pitch distance 11.7 mm
- ✓ length 280 mm
- ✓ width 16 mm, 20 mm, 24 mm

- ✓ 2 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 500 mA
- ✓ maximum forward voltage 24.8 V
- ✓ meets the well-known industry standard



Please also refer to the technical data of the Linearis Z family on page 12. Further technical data and drawings from page 34.

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	width	order-nr.	Linearis Z G2 L28...
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C				
≥80	2200	262 lm	170 lm/W	1161 lm	152 lm/W	1612 lm	144 lm/W	16 mm	7517-10240	...W16 1300 822
								20 mm	7517-10256	...W20 1300 822
								24 mm	7517-10272	...W24 1300 822
	2700	306 lm	192 lm/W	1355 lm	172 lm/W	1882 lm	164 lm/W	16 mm	7517-10241	...W16 1300 827
								20 mm	7517-10257	...W20 1300 827
								24 mm	7517-10273	...W24 1300 827
	3000	326 lm	206 lm/W	1444 lm	184 lm/W	2005 lm	175 lm/W	16 mm	7517-10242	...W16 1300 830
								20 mm	7517-10258	...W20 1300 830
								24 mm	7517-10274	...W24 1300 830
	3500	326 lm	206 lm/W	1444 lm	184 lm/W	2005 lm	175 lm/W	16 mm	7517-10243	...W16 1300 835
								20 mm	7517-10259	...W20 1300 835
								24 mm	7517-10275	...W24 1300 835
	4000	339 lm	216 lm/W	1501 lm	193 lm/W	2084 lm	184 lm/W	16 mm	7517-10244	...W16 1300 840
								20 mm	7517-10260	...W20 1300 840
								24 mm	7517-10276	...W24 1300 840
	5000	339 lm	216 lm/W	1501 lm	193 lm/W	2084 lm	184 lm/W	16 mm	7517-10245	...W16 1300 850
								20 mm	7517-10261	...W20 1300 850
								24 mm	7517-10277	...W24 1300 850
	5700	339 lm	216 lm/W	1501 lm	193 lm/W	2084 lm	184 lm/W	16 mm	7517-10246	...W16 1300 857
								20 mm	7517-10262	...W20 1300 857
								24 mm	7517-10278	...W24 1300 857
	6500	339 lm	216 lm/W	1501 lm	193 lm/W	2084 lm	184 lm/W	16 mm	7517-10247	...W16 1300 865
								20 mm	7517-10263	...W20 1300 865
								24 mm	7517-10279	...W24 1300 865

Up to
2084 lm!



16 mm

20 mm

24 mm

Up to
216 lm/W!

NEW:
CRI 90 IN
KSF-Techno-
logy

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	width	order-nr.	Linearis Z G2 L28...
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C				
≥ 90	2200	224 lm	141 lm/W	991 lm	126 lm/W	1376 lm	120 lm/W	16 mm	7517-10248	...W16 1300 922
								20 mm	7517-10264	...W20 1300 922
								24 mm	7517-10280	...W24 1300 922
	2700	306 lm	194 lm/W	1365 lm	174 lm/W	1894 lm	166 lm/W	16 mm	7517-10249	...W16 1300 927
								20 mm	7517-10265	...W20 1300 927
								24 mm	7517-10281	...W24 1300 927
	3000	313 lm	198 lm/W	1394 lm	178 lm/W	1935 lm	169 lm/W	16 mm	7517-10250	...W16 1300 930
								20 mm	7517-10266	...W20 1300 930
								24 mm	7517-10282	...W24 1300 930
	3500	321 lm	203 lm/W	1429 lm	182 lm/W	1983 lm	173 lm/W	16 mm	7517-10251	...W16 1300 935
								20 mm	7517-10267	...W20 1300 935
								24 mm	7517-10283	...W24 1300 935
	4000	324 lm	205 lm/W	1443 lm	184 lm/W	2003 lm	175 lm/W	16 mm	7517-10252	...W16 1300 940
								20 mm	7517-10268	...W20 1300 940
								24 mm	7517-10284	...W24 1300 940
	5000	324 lm	205 lm/W	1443 lm	184 lm/W	2003 lm	175 lm/W	16 mm	7517-10253	...W16 1300 950
								20 mm	7517-10269	...W20 1300 950
								24 mm	7517-10285	...W24 1300 950
	5700	324 lm	205 lm/W	1443 lm	184 lm/W	2003 lm	175 lm/W	16 mm	7517-10254	...W16 1300 957
								20 mm	7517-10270	...W20 1300 957
								24 mm	7517-10286	...W24 1300 957
	6500	321 lm	203 lm/W	1429 lm	182 lm/W	1983 lm	173 lm/W	16 mm	7517-10255	...W16 1300 965
								20 mm	7517-10271	...W20 1300 965
								24 mm	7517-10287	...W24 1300 965

Up to
2003 lm!

Linearis Z L56 1300 - Industry standard linear modules

- ✓ linear module in three widths for installation in luminaires
- ✓ 24 Mid-Power-LEDs
- ✓ pitch distance 23.3 mm
- ✓ length 560 mm
- ✓ width 16 mm, 20 mm, 24 mm

- ✓ 2 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 500 mA
- ✓ maximum forward voltage g 24.8 V
- ✓ meets the well-known industry standard



Please also refer to the technical data of the Linearis Z family on page 12. Further technical data and drawings from page 34.

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	width	order-nr.	Linearis Z G2 L56...
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C				
≥80	2200	262 lm	170 lm/W	1161 lm	152 lm/W	1612 lm	144 lm/W	16 mm	7517-10288	...W16 1300 822
								20 mm	7517-10304	...W20 1300 822
								24 mm	7517-10320	...W24 1300 822
	2700	306 lm	192 lm/W	1355 lm	172 lm/W	1882 lm	164 lm/W	16 mm	7517-10289	...W16 1300 827
								20 mm	7517-10305	...W20 1300 827
								24 mm	7517-10321	...W24 1300 827
	3000	326 lm	206 lm/W	1444 lm	184 lm/W	2005 lm	175 lm/W	16 mm	7517-10290	...W16 1300 830
								20 mm	7517-10306	...W20 1300 830
								24 mm	7517-10322	...W24 1300 830
	3500	326 lm	206 lm/W	1444 lm	184 lm/W	2005 lm	175 lm/W	16 mm	7517-10291	...W16 1300 835
								20 mm	7517-10307	...W20 1300 835
								24 mm	7517-10323	...W24 1300 835
	4000	339 lm	216 lm/W	1501 lm	193 lm/W	2084 lm	184 lm/W	16 mm	7517-10292	...W16 1300 840
								20 mm	7517-10308	...W20 1300 840
								24 mm	7517-10324	...W24 1300 840
	5000	339 lm	216 lm/W	1501 lm	193 lm/W	2084 lm	184 lm/W	16 mm	7517-10293	...W16 1300 850
								20 mm	7517-10309	...W20 1300 850
								24 mm	7517-10325	...W24 1300 850
	5700	339 lm	216 lm/W	1501 lm	193 lm/W	2084 lm	184 lm/W	16 mm	7517-10294	...W16 1300 857
								20 mm	7517-10310	...W20 1300 857
								24 mm	7517-10326	...W24 1300 857
	6500	339 lm	216 lm/W	1501 lm	193 lm/W	2084 lm	184 lm/W	16 mm	7517-10295	...W16 1300 865
								20 mm	7517-10311	...W20 1300 865
								24 mm	7517-10327	...W24 1300 865

Up to
2084 lm!

iX-led



16 mm

20 mm

24 mm

Up to
216 lm/W!

NEW:
CRI 90 IN
KSF-Techno-
logy

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	width	order-nr.	Linearis Z G2 L56...
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C				
≥ 90	2200	224 lm	141 lm/W	991 lm	126 lm/W	1376 lm	120 lm/W	16 mm	7517-10296	...W16 1300 922
								20 mm	7517-10312	...W20 1300 922
								24 mm	7517-10328	...W24 1300 922
	2700	306 lm	194 lm/W	1365 lm	174 lm/W	1894 lm	166 lm/W	16 mm	7517-10297	...W16 1300 927
								20 mm	7517-10313	...W20 1300 927
								24 mm	7517-10329	...W24 1300 927
	3000	313 lm	198 lm/W	1394 lm	178 lm/W	1935 lm	169 lm/W	16 mm	7517-10298	...W16 1300 930
								20 mm	7517-10314	...W20 1300 930
								24 mm	7517-10330	...W24 1300 930
	3500	321 lm	203 lm/W	1429 lm	182 lm/W	1983 lm	173 lm/W	16 mm	7517-10299	...W16 1300 935
								20 mm	7517-10315	...W20 1300 935
								24 mm	7517-10331	...W24 1300 935
	4000	324 lm	205 lm/W	1443 lm	184 lm/W	2003 lm	175 lm/W	16 mm	7517-10300	...W16 1300 940
								20 mm	7517-10316	...W20 1300 940
								24 mm	7517-10332	...W24 1300 940
	5000	324 lm	205 lm/W	1443 lm	184 lm/W	2003 lm	175 lm/W	16 mm	7517-10301	...W16 1300 950
								20 mm	7517-10317	...W20 1300 950
								24 mm	7517-10333	...W24 1300 950
	5700	324 lm	205 lm/W	1443 lm	184 lm/W	2003 lm	175 lm/W	16 mm	7517-10302	...W16 1300 957
								20 mm	7517-10318	...W20 1300 957
								24 mm	7517-10334	...W24 1300 957
	6500	321 lm	203 lm/W	1429 lm	182 lm/W	1983 lm	173 lm/W	16 mm	7517-10303	...W16 1300 965
								20 mm	7517-10319	...W20 1300 965
								24 mm	7517-10335	...W24 1300 965

Up to
2003 lm!

Linearis Z L56 2600 - Industry standard linear modules

- ✓ linear module in three widths for installation in luminaires
- ✓ 48 Mid-Power-LEDs
- ✓ pitch distance 11.7 mm
- ✓ length 560 mm
- ✓ width 16 mm, 20 mm, 24 mm

- ✓ 2 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 500 mA
- ✓ maximum forward voltage 49.6 V
- ✓ meets the well-known industry standard



Please also refer to the technical data of the Linearis Z family on page 12. Further technical data and drawings from page 34.

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	width	order-nr.	Linearis Z G2 L56...
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C				
≥80	2200	524 lm	170 lm/W	2322 lm	152 lm/W	3224 lm	144 lm/W	16 mm	7517-10336	...W16 2600 822
								20 mm	7517-10352	...W20 2600 822
								24 mm	7517-10368	...W24 2600 822
	2700	612 lm	192 lm/W	2710 lm	172 lm/W	3763 lm	164 lm/W	16 mm	7517-10337	...W16 2600 827
								20 mm	7517-10353	...W20 2600 827
								24 mm	7517-10369	...W24 2600 827
	3000	652 lm	206 lm/W	2888 lm	184 lm/W	4010 lm	175 lm/W	16 mm	7517-10338	...W16 2600 830
								20 mm	7517-10354	...W20 2600 830
								24 mm	7517-10370	...W24 2600 830
	3500	652 lm	206 lm/W	2888 lm	184 lm/W	4010 lm	175 lm/W	16 mm	7517-10339	...W16 2600 835
								20 mm	7517-10355	...W20 2600 835
								24 mm	7517-10371	...W24 2600 835
	4000	677 lm	216 lm/W	3001 lm	193 lm/W	4167 lm	184 lm/W	16 mm	7517-10340	...W16 2600 840
								20 mm	7517-10356	...W20 2600 840
								24 mm	7517-10372	...W24 2600 840
	5000	677 lm	216 lm/W	3001 lm	193 lm/W	4167 lm	184 lm/W	16 mm	7517-10341	...W16 2600 850
								20 mm	7517-10357	...W20 2600 850
								24 mm	7517-10373	...W24 2600 850
	5700	677 lm	216 lm/W	3001 lm	193 lm/W	4167 lm	184 lm/W	16 mm	7517-10342	...W16 2600 857
								20 mm	7517-10358	...W20 2600 857
								24 mm	7517-10374	...W24 2600 857
	6500	677 lm	216 lm/W	3001 lm	193 lm/W	4167 lm	184 lm/W	16 mm	7517-10343	...W16 2600 865
								20 mm	7517-10359	...W20 2600 865
								24 mm	7517-10375	...W24 2600 865

Up to
4167 lm!

iX-led



16 mm

20 mm

24 mm

Up to
216 lm/W!

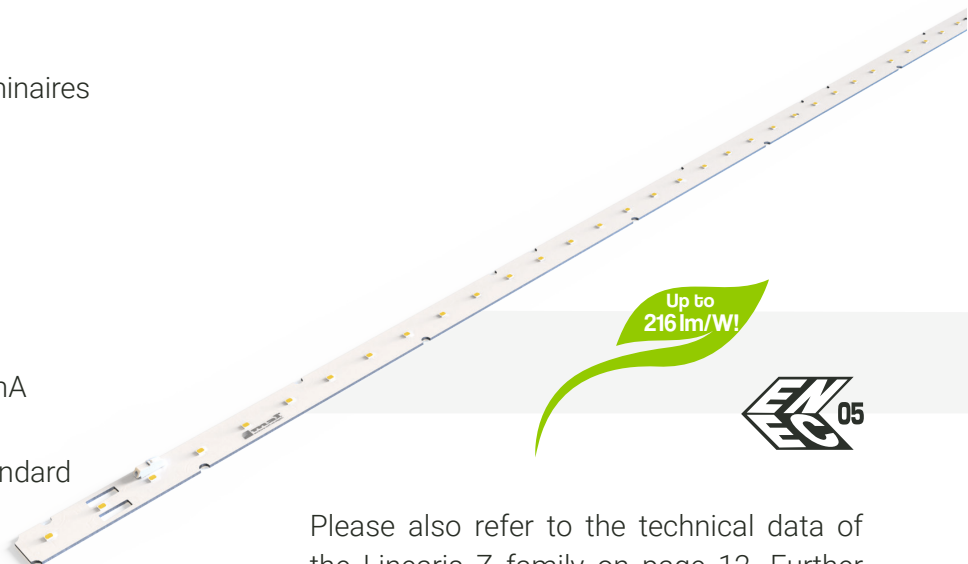
NEW:
CRI 90 IN
KSF-Techno-
logy

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	width	order-nr.	Linearis Z G2 L56...
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C				
≥ 90	2200	447 lm	141 lm/W	1982 lm	126 lm/W	2752 lm	120 lm/W	16 mm	7517-10344	...W16 2600 922
								20 mm	7517-10360	...W20 2600 922
								24 mm	7517-10376	...W24 2600 922
	2700	613 lm	194 lm/W	2729 lm	174 lm/W	3788 lm	166 lm/W	16 mm	7517-10345	...W16 2600 927
								20 mm	7517-10361	...W20 2600 927
								24 mm	7517-10377	...W24 2600 927
	3000	626 lm	198 lm/W	2788 lm	178 lm/W	3870 lm	169 lm/W	16 mm	7517-10346	...W16 2600 930
								20 mm	7517-10362	...W20 2600 930
								24 mm	7517-10378	...W24 2600 930
	3500	642 lm	203 lm/W	2857 lm	182 lm/W	3965 lm	173 lm/W	16 mm	7517-10347	...W16 2600 935
								20 mm	7517-10363	...W20 2600 935
								24 mm	7517-10379	...W24 2600 935
	4000	648 lm	205 lm/W	2887 lm	184 lm/W	4006 lm	175 lm/W	16 mm	7517-10348	...W16 2600 940
								20 mm	7517-10364	...W20 2600 940
								24 mm	7517-10380	...W24 2600 940
	5000	648 lm	205 lm/W	2887 lm	184 lm/W	4006 lm	175 lm/W	16 mm	7517-10349	...W16 2600 950
								20 mm	7517-10365	...W20 2600 950
								24 mm	7517-10381	...W24 2600 950
	5700	648 lm	205 lm/W	2887 lm	184 lm/W	4006 lm	175 lm/W	16 mm	7517-10350	...W16 2600 957
								20 mm	7517-10366	...W20 2600 957
								24 mm	7517-10382	...W24 2600 957
	6500	642 lm	203 lm/W	2857 lm	182 lm/W	3965 lm	173 lm/W	16 mm	7517-10351	...W16 2600 965
								20 mm	7517-10367	...W20 2600 965
								24 mm	7517-10383	...W24 2600 965

Up to
4006 lm!

Linearis Z L112 2600 - Industry standard linear modules

- ✓ linear module for installation in luminaires
- ✓ 48 Mid-Power-LEDs
- ✓ pitch distance 23.3 mm
- ✓ length 1120 mm
- ✓ width 20 mm
- ✓ 2 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 500 mA
- ✓ maximum forward voltage 49.6 V
- ✓ meets the well-known industry standard



Please also refer to the technical data of the Linearis Z family on page 12. Further technical data and drawings from page 34.

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C			
≥80	2200	524 lm	170 lm/W	2322 lm	152 lm/W	3224 lm	144 lm/W	7517-10384	Linearis Z G2 L112 W20 2600 822
	2700	612 lm	192 lm/W	2710 lm	172 lm/W	3763 lm	164 lm/W	7517-10385	Linearis Z G2 L112 W20 2600 827
	3000	652 lm	206 lm/W	2888 lm	184 lm/W	4010 lm	175 lm/W	7517-10386	Linearis Z G2 L112 W20 2600 830
	3500	652 lm	206 lm/W	2888 lm	184 lm/W	4010 lm	175 lm/W	7517-10387	Linearis Z G2 L112 W20 2600 835
	4000	677 lm	216 lm/W	3001 lm	193 lm/W	4167 lm	184 lm/W	7517-10388	Linearis Z G2 L112 W20 2600 840
	5000	677 lm	216 lm/W	3001 lm	193 lm/W	4167 lm	184 lm/W	7517-10389	Linearis Z G2 L112 W20 2600 850
	5700	677 lm	216 lm/W	3001 lm	193 lm/W	4167 lm	184 lm/W	7517-10390	Linearis Z G2 L112 W20 2600 857
	6500	677 lm	216 lm/W	3001 lm	193 lm/W	4167 lm	184 lm/W	7517-10391	Linearis Z G2 L112 W20 2600 865

Up to
4167 lm!

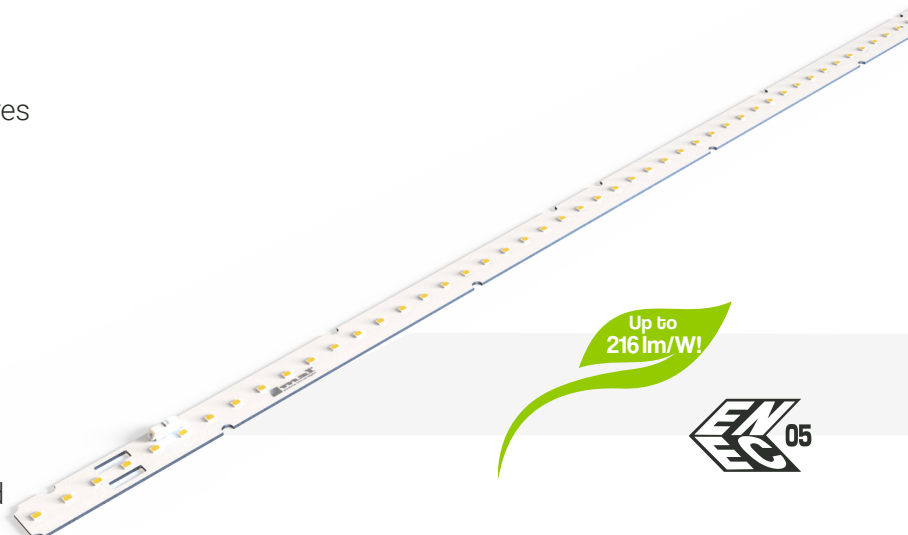
CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C			
≥90	2200	447 lm	141 lm/W	1982 lm	126 lm/W	2752 lm	120 lm/W	7517-10392	Linearis Z G2 L112 W20 2600 922
	2700	613 lm	194 lm/W	2729 lm	174 lm/W	3788 lm	166 lm/W	7517-10393	Linearis Z G2 L112 W20 2600 927
	3000	626 lm	198 lm/W	2788 lm	178 lm/W	3870 lm	169 lm/W	7517-10394	Linearis Z G2 L112 W20 2600 930
	3500	642 lm	203 lm/W	2857 lm	182 lm/W	3965 lm	173 lm/W	7517-10395	Linearis Z G2 L112 W20 2600 935
	4000	648 lm	205 lm/W	2887 lm	184 lm/W	4006 lm	175 lm/W	7517-10396	Linearis Z G2 L112 W20 2600 940
	5000	648 lm	205 lm/W	2887 lm	184 lm/W	4006 lm	175 lm/W	7517-10397	Linearis Z G2 L112 W20 2600 950
	5700	648 lm	205 lm/W	2887 lm	184 lm/W	4006 lm	175 lm/W	7517-10398	Linearis Z G2 L112 W20 2600 957
	6500	642 lm	203 lm/W	2857 lm	182 lm/W	3965 lm	173 lm/W	7517-10399	Linearis Z G2 L112 W20 2600 965

NEW:
CRI 90 IN
KSF-Techno-
logy

Up to
4006 lm!

Linearis Z L112 5200 - Industry standard linear modules

- ✓ linear module for installation in luminaires
- ✓ 96 Mid-Power-LEDs
- ✓ pitch distance 11.7 mm
- ✓ length 1120 mm
- ✓ width 20 mm
- ✓ 2 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 500 mA
- ✓ maximum forward voltage 99.2 V
- ✓ meets the well-known industry standard



Please also refer to the technical data of the Linearis Z family on page 12. Further technical data and drawings from page 34.

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C			
≥80	2200	1048 lm	170 lm/W	4644 lm	152 lm/W	6448 lm	144 lm/W	7517-10400	Linearis Z G2 L112 W20 5200 822
	2700	1224 lm	192 lm/W	5421 lm	172 lm/W	7527 lm	164 lm/W	7517-10401	Linearis Z G2 L112 W20 5200 827
	3000	1304 lm	206 lm/W	5776 lm	184 lm/W	8019 lm	175 lm/W	7517-10402	Linearis Z G2 L112 W20 5200 830
	3500	1304 lm	206 lm/W	5776 lm	184 lm/W	8019 lm	175 lm/W	7517-10403	Linearis Z G2 L112 W20 5200 835
	4000	1355 lm	216 lm/W	6003 lm	193 lm/W	8334 lm	184 lm/W	7517-10404	Linearis Z G2 L112 W20 5200 840
	5000	1355 lm	216 lm/W	6003 lm	193 lm/W	8334 lm	184 lm/W	7517-10405	Linearis Z G2 L112 W20 5200 850
	5700	1355 lm	216 lm/W	6003 lm	193 lm/W	8334 lm	184 lm/W	7517-10406	Linearis Z G2 L112 W20 5200 857
	6500	1355 lm	216 lm/W	6003 lm	193 lm/W	8334 lm	184 lm/W	7517-10407	Linearis Z G2 L112 W20 5200 865

Up to
8334 lm!

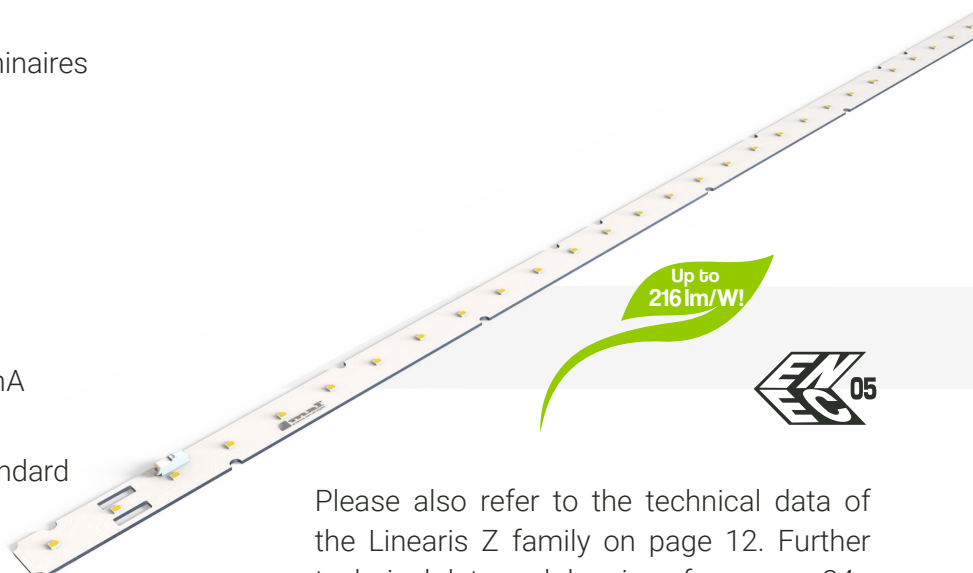
CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C			
≥90	2200	895 lm	141 lm/W	3964 lm	126 lm/W	5503 lm	120 lm/W	7517-10408	Linearis Z G2 L112 W20 5200 922
	2700	1226 lm	194 lm/W	5459 lm	174 lm/W	7576 lm	166 lm/W	7517-10409	Linearis Z G2 L112 W20 5200 927
	3000	1252 lm	198 lm/W	5577 lm	178 lm/W	7740 lm	169 lm/W	7517-10410	Linearis Z G2 L112 W20 5200 930
	3500	1283 lm	203 lm/W	5714 lm	182 lm/W	7930 lm	173 lm/W	7517-10411	Linearis Z G2 L112 W20 5200 935
	4000	1296 lm	205 lm/W	5773 lm	184 lm/W	8012 lm	175 lm/W	7517-10412	Linearis Z G2 L112 W20 5200 940
	5000	1296 lm	205 lm/W	5773 lm	184 lm/W	8012 lm	175 lm/W	7517-10413	Linearis Z G2 L112 W20 5200 950
	5700	1296 lm	205 lm/W	5773 lm	184 lm/W	8012 lm	175 lm/W	7517-10414	Linearis Z G2 L112 W20 5200 957
	6500	1283 lm	203 lm/W	5714 lm	182 lm/W	7930 lm	173 lm/W	7517-10415	Linearis Z G2 L112 W20 5200 965

Up to
8012 lm!

NEW:
CRI 90 IN
KSF-Techno-
logy

Linearis Z L140 3250 - Industry standard linear modules

- ✓ linear module for installation in luminaires
- ✓ 60 Mid-Power-LEDs
- ✓ pitch distance 23.3 mm
- ✓ length 1400 mm
- ✓ width 20 mm
- ✓ 2 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 500 mA
- ✓ maximum forward voltage 62 V
- ✓ meets the well-known industry standard



Please also refer to the technical data of the Linearis Z family on page 12. Further technical data and drawings from page 34.

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C			
≥80	2200	655 lm	170 lm/W	2902 lm	152 lm/W	4030 lm	144 lm/W	7517-10416	Linearis Z G2 L140 W20 3250 822
	2700	765 lm	192 lm/W	3388 lm	172 lm/W	4704 lm	164 lm/W	7517-10417	Linearis Z G2 L140 W20 3250 827
	3000	815 lm	206 lm/W	3610 lm	184 lm/W	5012 lm	175 lm/W	7517-10418	Linearis Z G2 L140 W20 3250 830
	3500	815 lm	206 lm/W	3610 lm	184 lm/W	5012 lm	175 lm/W	7517-10419	Linearis Z G2 L140 W20 3250 835
	4000	847 lm	216 lm/W	3752 lm	193 lm/W	5209 lm	184 lm/W	7517-10420	Linearis Z G2 L140 W20 3250 840
	5000	847 lm	216 lm/W	3752 lm	193 lm/W	5209 lm	184 lm/W	7517-10421	Linearis Z G2 L140 W20 3250 850
	5700	847 lm	216 lm/W	3752 lm	193 lm/W	5209 lm	184 lm/W	7517-10422	Linearis Z G2 L140 W20 3250 857
	6500	847 lm	216 lm/W	3752 lm	193 lm/W	5209 lm	184 lm/W	7517-10423	Linearis Z G2 L140 W20 3250 865

Up to
5209 lm!

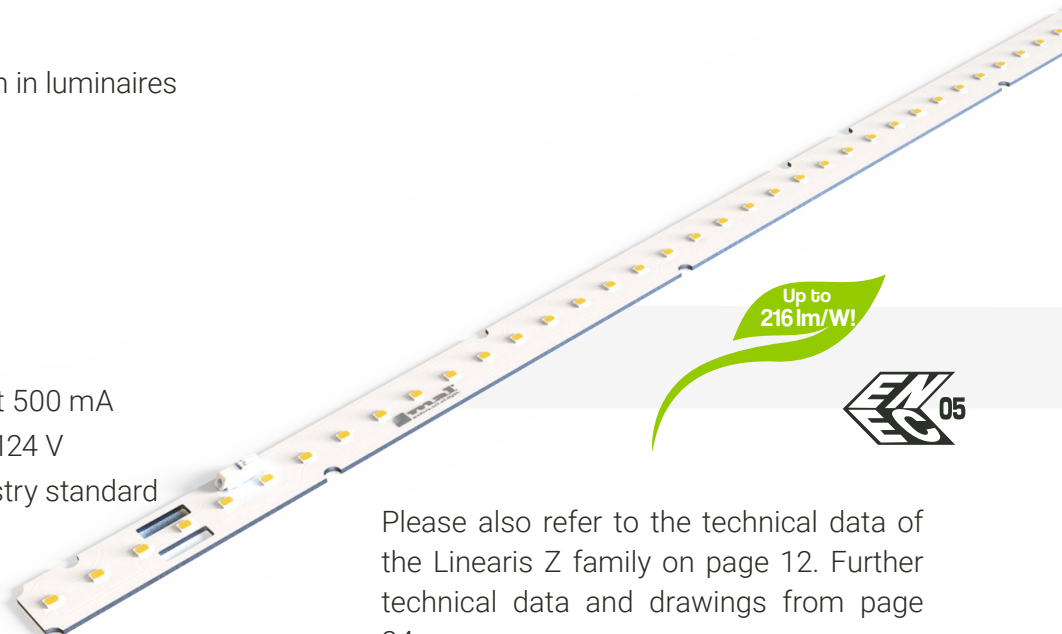
CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C			
≥90	2200	559 lm	141 lm/W	2477 lm	126 lm/W	3440 lm	120 lm/W	7517-10424	Linearis Z G2 L140 W20 3250 922
	2700	766 lm	194 lm/W	3412 lm	174 lm/W	4735 lm	166 lm/W	7517-10425	Linearis Z G2 L140 W20 3250 927
	3000	783 lm	198 lm/W	3485 lm	178 lm/W	4837 lm	169 lm/W	7517-10426	Linearis Z G2 L140 W20 3250 930
	3500	802 lm	203 lm/W	3571 lm	182 lm/W	4956 lm	173 lm/W	7517-10427	Linearis Z G2 L140 W20 3250 935
	4000	810 lm	205 lm/W	3608 lm	184 lm/W	5008 lm	175 lm/W	7517-10428	Linearis Z G2 L140 W20 3250 940
	5000	810 lm	205 lm/W	3608 lm	184 lm/W	5008 lm	175 lm/W	7517-10429	Linearis Z G2 L140 W20 3250 950
	5700	810 lm	205 lm/W	3608 lm	184 lm/W	5008 lm	175 lm/W	7517-10430	Linearis Z G2 L140 W20 3250 957
	6500	802 lm	203 lm/W	3571 lm	182 lm/W	4956 lm	173 lm/W	7517-10431	Linearis Z G2 L140 W20 3250 965

Up to
5008 lm!

NEW:
CRI 90 IN
KSF-Techno-
logy

Linearis Z L140 6500 - Industry standard linear modules

- ✓ linear module for installation in luminaires
- ✓ 120 Mid-Power-LEDs
- ✓ pitch distance 11.7 mm
- ✓ length 1400 mm
- ✓ width 20 mm
- ✓ 2 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 500 mA
- ✓ maximum forward voltage 124 V
- ✓ meets the well-known industry standard



Please also refer to the technical data of the Linearis Z family on page 12. Further technical data and drawings from page 34.

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C			
≥80	2200	1310 lm	170 lm/W	5805 lm	152 lm/W	8060 lm	144 lm/W	7517-10432	Linearis Z G2 L140 W20 6500 822
	2700	1530 lm	192 lm/W	6776 lm	172 lm/W	9408 lm	164 lm/W	7517-10433	Linearis Z G2 L140 W20 6500 827
	3000	1630 lm	206 lm/W	7220 lm	184 lm/W	10024 lm	175 lm/W	7517-10434	Linearis Z G2 L140 W20 6500 830
	3500	1630 lm	206 lm/W	7220 lm	184 lm/W	10024 lm	175 lm/W	7517-10435	Linearis Z G2 L140 W20 6500 835
	4000	1694 lm	216 lm/W	7503 lm	193 lm/W	10418 lm	184 lm/W	7517-10436	Linearis Z G2 L140 W20 6500 840
	5000	1694 lm	216 lm/W	7503 lm	193 lm/W	10418 lm	184 lm/W	7517-10437	Linearis Z G2 L140 W20 6500 850
	5700	1694 lm	216 lm/W	7503 lm	193 lm/W	10418 lm	184 lm/W	7517-10438	Linearis Z G2 L140 W20 6500 857
	6500	1694 lm	216 lm/W	7503 lm	193 lm/W	10418 lm	184 lm/W	7517-10439	Linearis Z G2 L140 W20 6500 865

Up to
10418 lm!

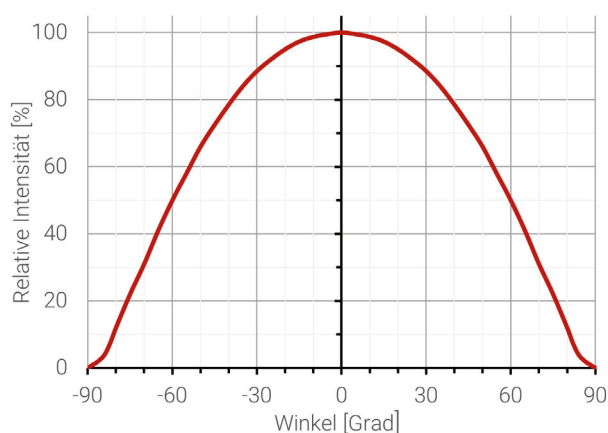
CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 75 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C			
≥90	2200	1118 lm	141 lm/W	4954 lm	126 lm/W	6879 lm	120 lm/W	7517-10440	Linearis Z G2 L140 W20 6500 922
	2700	1532 lm	194 lm/W	6824 lm	174 lm/W	9470 lm	166 lm/W	7517-10441	Linearis Z G2 L140 W20 6500 927
	3000	1565 lm	198 lm/W	6971 lm	178 lm/W	9674 lm	169 lm/W	7517-10442	Linearis Z G2 L140 W20 6500 930
	3500	1604 lm	203 lm/W	7143 lm	182 lm/W	9913 lm	173 lm/W	7517-10443	Linearis Z G2 L140 W20 6500 935
	4000	1621 lm	205 lm/W	7216 lm	184 lm/W	10015 lm	175 lm/W	7517-10444	Linearis Z G2 L140 W20 6500 940
	5000	1621 lm	205 lm/W	7216 lm	184 lm/W	10015 lm	175 lm/W	7517-10445	Linearis Z G2 L140 W20 6500 950
	5700	1621 lm	205 lm/W	7216 lm	184 lm/W	10015 lm	175 lm/W	7517-10446	Linearis Z G2 L140 W20 6500 957
	6500	1604 lm	203 lm/W	7143 lm	182 lm/W	9913 lm	173 lm/W	7517-10447	Linearis Z G2 L140 W20 6500 965

Up to
10015 lm!

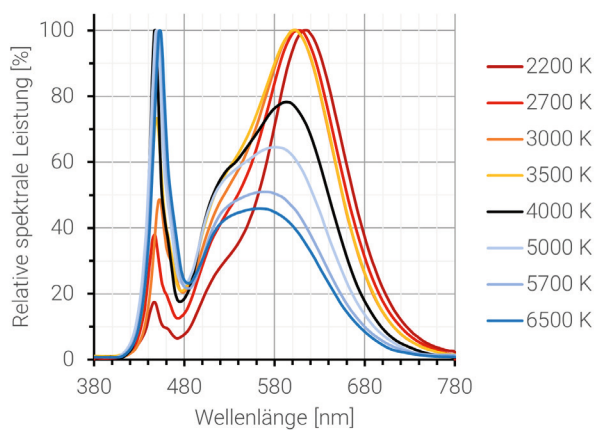
NEW:
CRI 90 IN
KSF-Techno-
logy

Technical data: Linearis Z - Industry standard linear modules

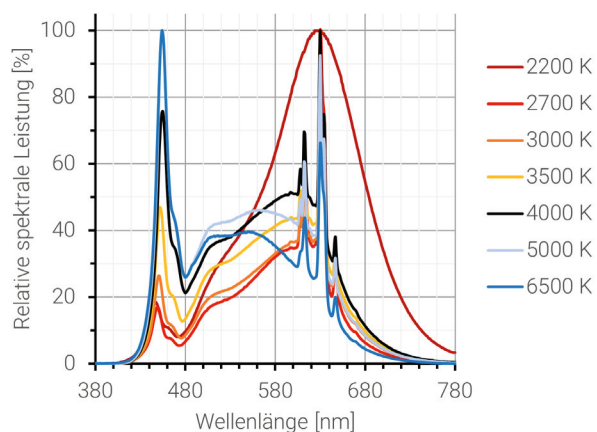
Light distribution curve



Spectrum CRI 80



Spectrum CRI 90



Lifetime of the LEDs used

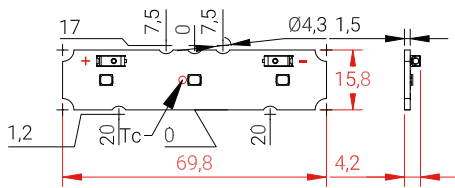
- The lifetime data is based on TM21 extrapolations of the available LM80 data of the LEDs used. They are to be regarded as purely informative data from which no warranty claim can be derived.

description	If	Tc	L70 B50	L70 B10	L80 B50	L80 B10	L90 B50	L90 B10
Linearis Z G2 L... W... ... 8/9xx	500 mA	80 °C	> 102000 h	> 102000 h	> 102000 h	> 102000 h	> 50000 h	> 50000 h

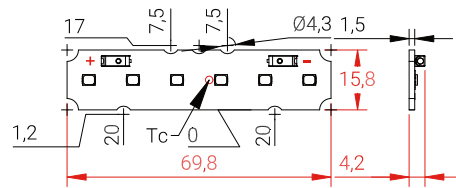
Technical drawings: Linearis Z - Industry standard linear modules

Linearis Z L7

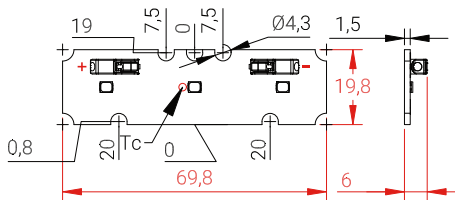
Linearis Z G2 L7 W16 165 ...



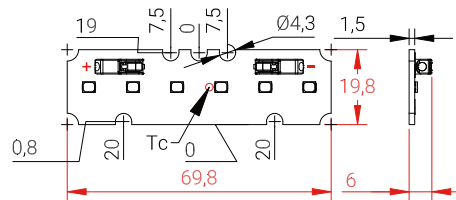
Linearis Z G2 L7 W16 325 ...



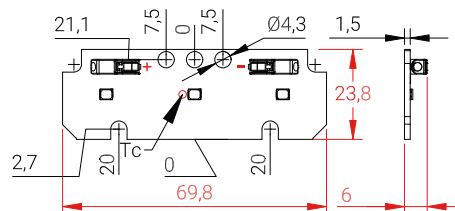
Linearis Z G2 L7 W20 165 ...



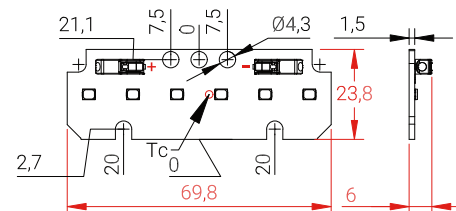
Linearis Z G2 L7 W20 325 ...



Linearis Z G2 L7 W24 165 ...

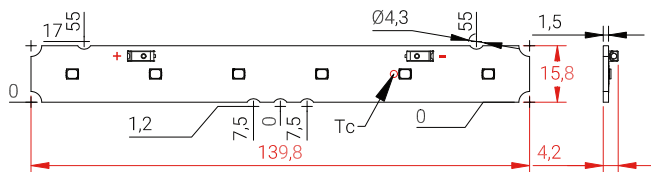


Linearis Z G2 L7 W24 325 ...

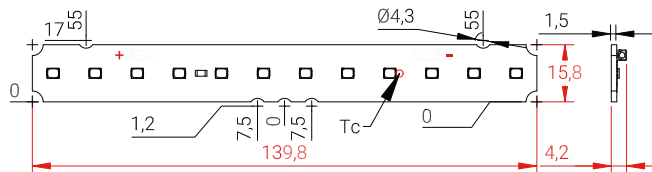


Linearis Z L14

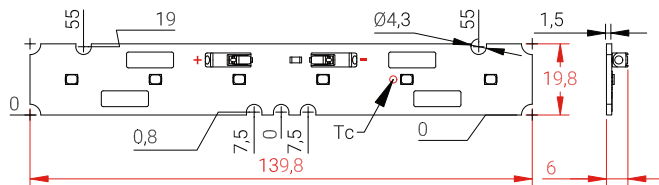
Linearis Z G2 L14 W16 325 ...



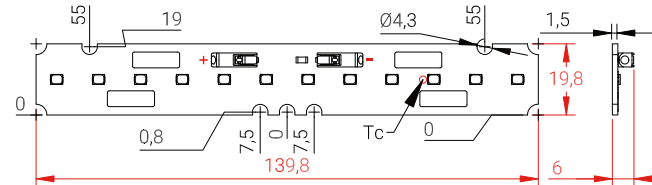
Linearis Z G2 L14 W16 650 ...



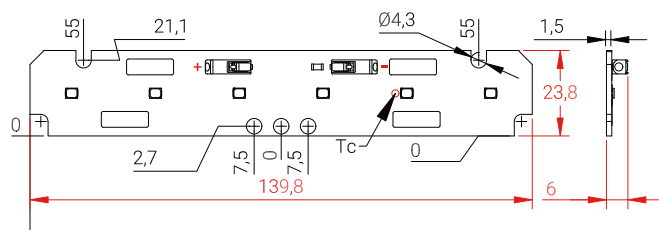
Linearis Z G2 L14 W20 325 ...



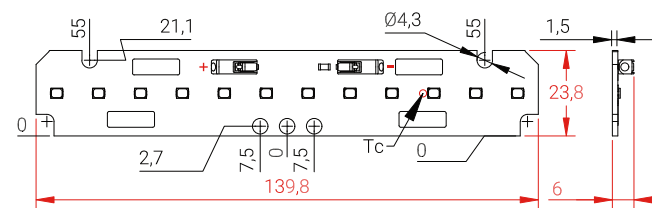
Linearis Z G2 L14 W20 650 ...



Linearis Z G2 L14 W24 325 ...

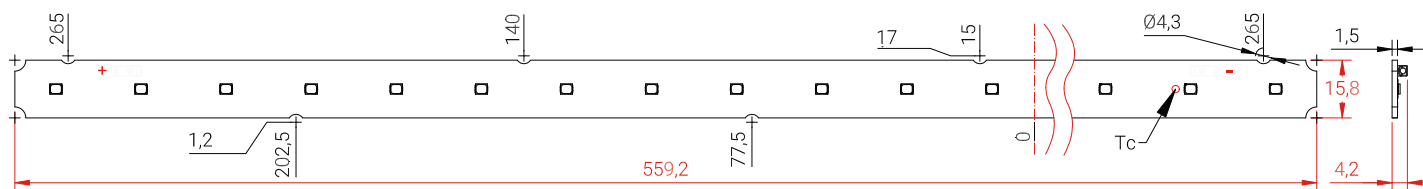


Linearis Z G2 L14 W24 650 ...

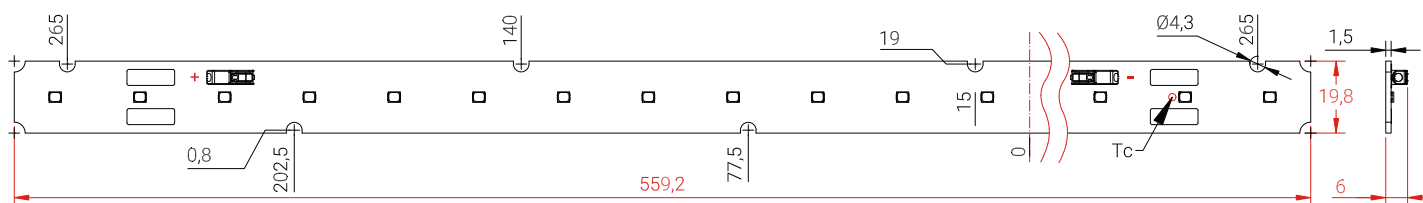


Linearis Z L56

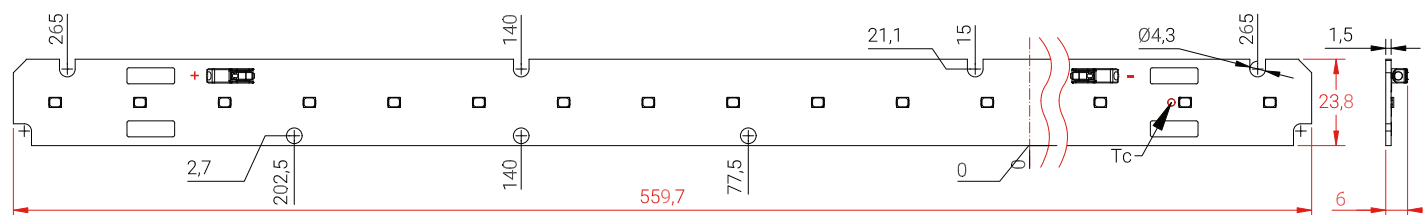
Linearis Z G2 L56 W16 1300 ...



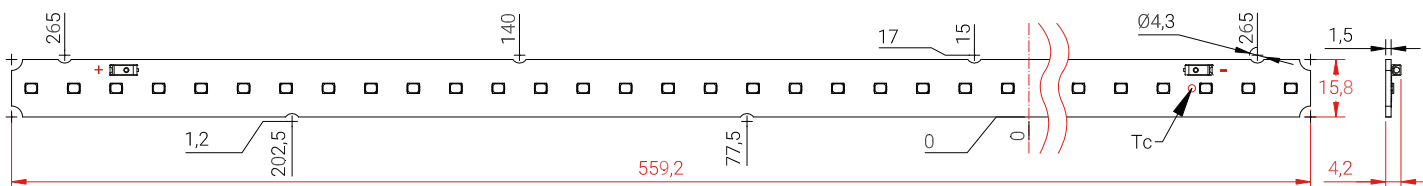
Linearis Z G2 L56 W20 1300 ...



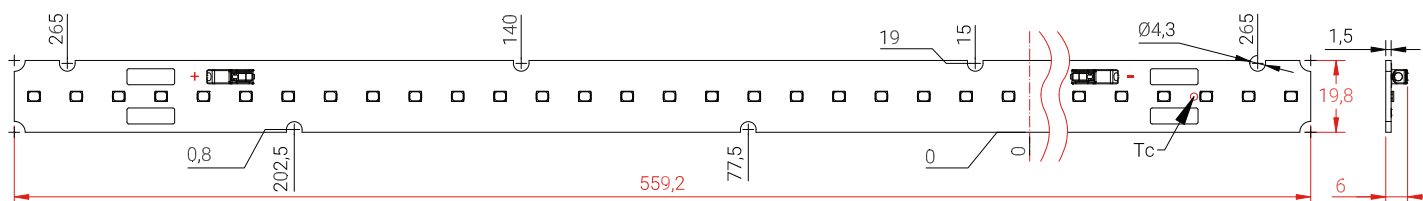
Linearis Z G2 L56 W24 1300 ...



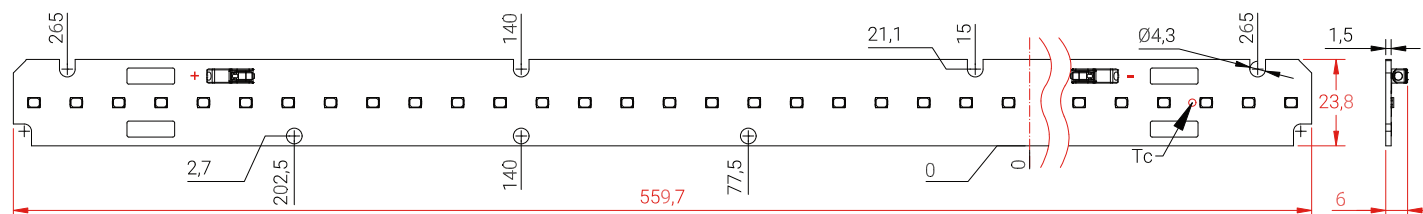
Linearis Z G2 L56 W16 2600 ...



Linearis Z G2 L56 W20 2600

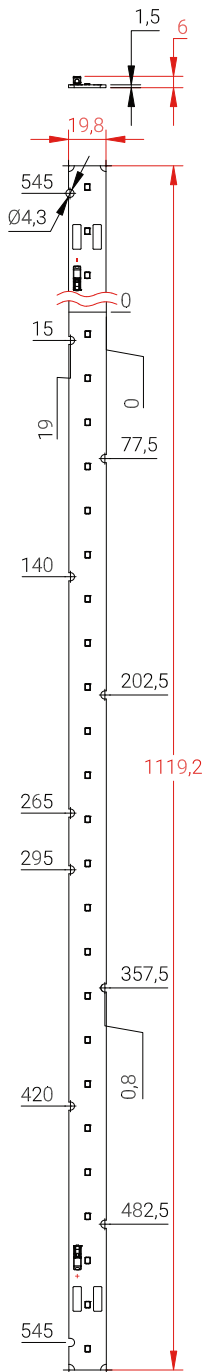


Linearis Z G2 L56 W24 2600

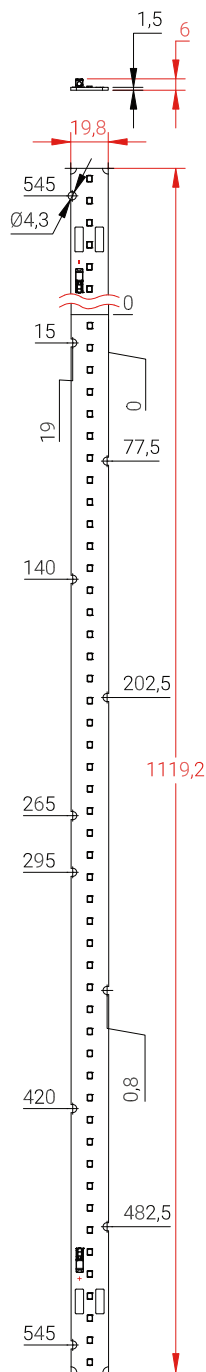


Linearis Z 112

Linearis Z G2 L112 W20 2600 ...

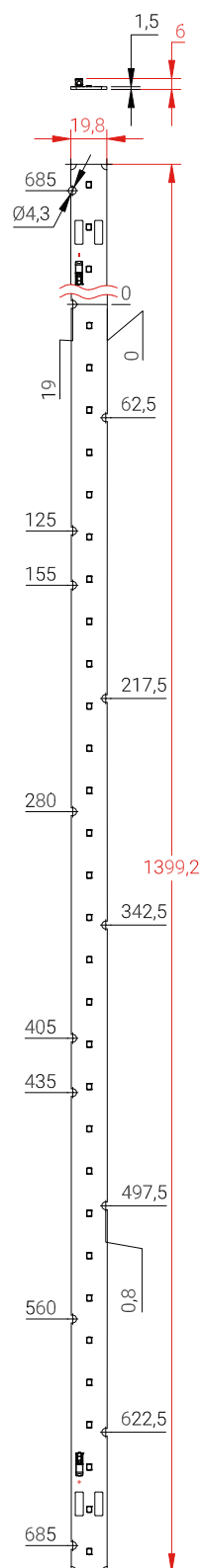


Linearis Z G2 L112 W20 5200 ...

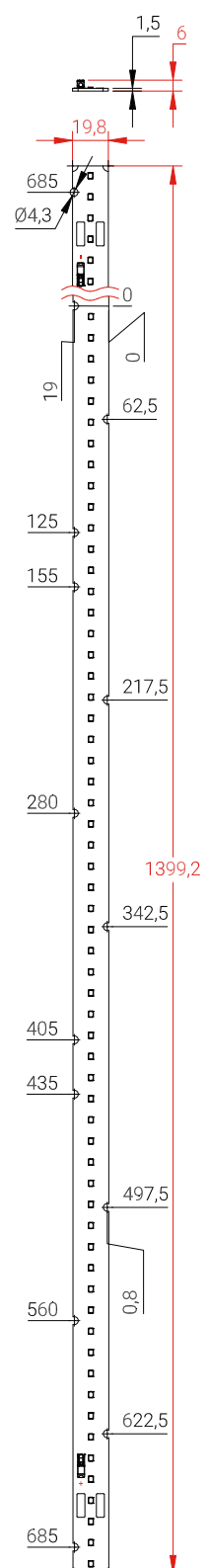


Linearis Z 140

Linearis Z G2 L140 W20 3250 ...



Linearis Z G2 L140 W20 6500 ...







A modern conference room with a large wooden table, black chairs, and large windows overlooking a city. The ceiling features a grid of linear light fixtures. A semi-transparent dark box contains the text.

Linearis Z LV - Extralong standard linear modules in SELV

Our standard modules of the iX-led Linearis Z LV series are Zhaga-compliant LED modules that are available at short notice and are ideal for installation in luminaires.

Compared to the Linearis-Z module family, the Linearis Z LV are designed for more universal connections. They have four terminals, so that a single-sided supply is possible.

Due to a special switching of the LEDs, the modules are designed for higher current. Nevertheless, they maintain a voltage of ≥ 50 V. Thus, the modules are excellently suited for installation in luminaires with SELV design.

They are available in two lengths: 1120 mm and 1400 mm, with a width of 20 mm. The modules are each available in two luminous flux packages. The LED spacing is either 23.3 mm or 11.7 mm.

Color renderings of CRI 80 and CRI 90 are possible for white-equipped LED modules, and CRI 95 is available on request.

Choose from a variety of eight light colors: 2200 K, 2700 K, 3000 K, 3500 K, 4000 K, 5000 K, 5700 K and 6500 K. With this range, almost all lighting tasks can be solved.

The photometric bandwidth extends up to 216 lm/W or almost 10000 lm. By selecting LEDs with a color consistency of 3 Step MacAdam, a high color homogeneity is achieved in the module.

Primarily our modules are developed for single applications, but can also be connected in series or parallel.

Choose your individual solution from our wide range of components.

Our iX-led standard modules are available at short notice, even in small quantities, and are very advantageous in the overall concept.

Standard does not mean rigid and unchangeable!

Do you need different light colors, different color renderings or minimally shorter/longer versions of the modules? You need the assembly of soldering nuts as spacers or a threaded insert for simplified mounting of the module? No problem. Other terminals or soldered cables are also possible. With the **iX-led product family** we can adapt and individualize the standard to your needs.

Explore our exclusive module series with more than 1000 lighting possibilities.

LED module with mid-power LEDs for installation in luminaires.

Versatile with:

✓ 2 lengths: 1120 mm und 1400 mm

✓ 2 luminous flux packages: pitch distance 23.3 mm and 11.7 mm

✓ 2 color renderings: CRI 80 and CRI 90

✓ 8 light colors: 2200 K, 2700 K, 3000 K, 3500 K, 4000 K, 5000 K, 5700 K and 6500 K

Excellent color consistency in the module: 3 Step MacAdam LEDs.

Plug-in terminals for easy and quick mounting.

For operation on suitable constant current drivers.

Maximum working voltage	250 V
Ambient temperature	-20...+50 °C
Max. perm. operating temperature (T _c)	80 °C
EPREL database entry	yes
Beam angle	120°

Connections:

Terminals	4
Connection type	rigid / flexible
Conductor cross section AWG	AWG 18-24
Conductor cross section	min 0.2 mm ²
	max 0.75 mm ²
Stripping length	8 - 9 mm

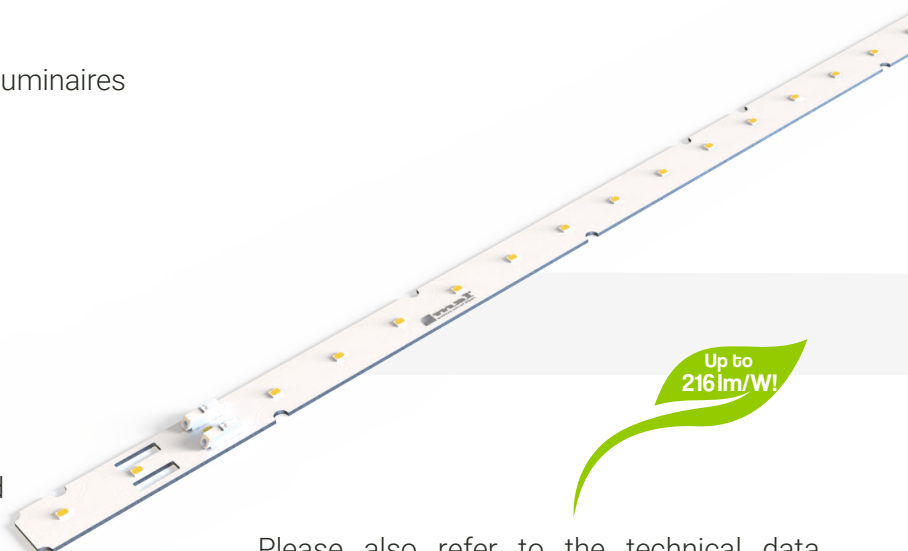
Also available with other terminals on request.

Please also refer to the technical data of the Linearis Z LV family on page 50.



Linearis Z LV L112 2600 - Extra long industry standard linear modules in SELV

- ✓ linear module in SELV for installation in luminaires
- ✓ 48 Mid-Power-LEDs
- ✓ pitch distance 23.3 mm
- ✓ length 1120 mm
- ✓ width 20 mm
- ✓ 4 connection terminals
- ✓ rated current 700 mA
- ✓ maximum operating current 1050 mA
- ✓ maximum forward voltage 24.8 V
- ✓ meets the well-known industry standard



Please also refer to the technical data of the Linearis Z LV family on page 44. Further technical data and drawings from page 50.

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 150 mA Tc = 25 °C		If = 700 mA Tc = 25 °C		If = 1050 mA Tc = 25 °C			
≥80	2200	524 lm	170 lm/W	2322 lm	152 lm/W	3369 lm	143 lm/W	7517-10448	Linearis Z LV G2 L112 W20 2600 822
	2700	612 lm	192 lm/W	2710 lm	172 lm/W	3932 lm	162 lm/W	7517-10449	Linearis Z LV G2 L112 W20 2600 827
	3000	652 lm	206 lm/W	2888 lm	184 lm/W	4191 lm	174 lm/W	7517-10450	Linearis Z LV G2 L112 W20 2600 830
	3500	652 lm	206 lm/W	2888 lm	184 lm/W	4191 lm	174 lm/W	7517-10451	Linearis Z LV G2 L112 W20 2600 835
	4000	677 lm	216 lm/W	3001 lm	193 lm/W	4355 lm	182 lm/W	7517-10452	Linearis Z LV G2 L112 W20 2600 840
	5000	677 lm	216 lm/W	3001 lm	193 lm/W	4355 lm	182 lm/W	7517-10453	Linearis Z LV G2 L112 W20 2600 850
	5700	677 lm	216 lm/W	3001 lm	193 lm/W	4355 lm	182 lm/W	7517-10454	Linearis Z LV G2 L112 W20 2600 857
	6500	677 lm	216 lm/W	3001 lm	193 lm/W	4355 lm	182 lm/W	7517-10455	Linearis Z LV G2 L112 W20 2600 865

Up to
4355 lm!

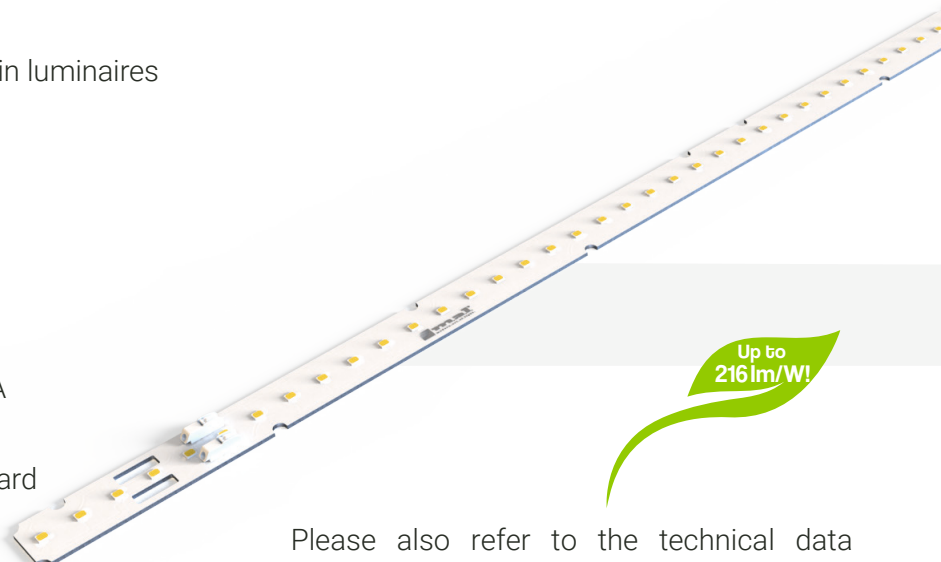
CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 150 mA Tc = 25 °C		If = 700 mA Tc = 25 °C		If = 1050 mA Tc = 25 °C			
≥90	2200	447 lm	141 lm/W	1982 lm	126 lm/W	2875 lm	119 lm/W	7517-10456	Linearis Z LV G2 L112 W20 2600 922
	2700	613 lm	194 lm/W	2729 lm	174 lm/W	3958 lm	164 lm/W	7517-10457	Linearis Z LV G2 L112 W20 2600 927
	3000	626 lm	198 lm/W	2788 lm	178 lm/W	4044 lm	168 lm/W	7517-10458	Linearis Z LV G2 L112 W20 2600 930
	3500	642 lm	203 lm/W	2857 lm	182 lm/W	4144 lm	172 lm/W	7517-10459	Linearis Z LV G2 L112 W20 2600 935
	4000	648 lm	205 lm/W	2887 lm	184 lm/W	4186 lm	174 lm/W	7517-10460	Linearis Z LV G2 L112 W20 2600 940
	5000	648 lm	205 lm/W	2887 lm	184 lm/W	4186 lm	174 lm/W	7517-10461	Linearis Z LV G2 L112 W20 2600 950
	5700	648 lm	205 lm/W	2887 lm	184 lm/W	4186 lm	174 lm/W	7517-10462	Linearis Z LV G2 L112 W20 2600 957
	6500	642 lm	203 lm/W	2857 lm	182 lm/W	4144 lm	172 lm/W	7517-10463	Linearis Z LV G2 L112 W20 2600 965

Up to
4186 lm!

NEW:
CRI 90 IN
KSF-Techno-
logy

Linearis Z LV L112 5200 - Extra long industry standard linear modules in SELV

- ✓ linear module in SELV for installation in luminaires
- ✓ 96 Mid-Power-LEDs
- ✓ pitch distance 11.7 mm
- ✓ length 1120 mm
- ✓ width 20 mm
- ✓ 4 connection terminals
- ✓ rated current 1400 mA
- ✓ maximum operating current 2100 mA
- ✓ maximum forward voltage 24.8 V
- ✓ meets the well-known industry standard



Up to
216lm/W!

Please also refer to the technical data of the Linearis Z LV family on page 44. Further technical data and drawings from page 50.

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 300 mA Tc = 25 °C		If = 1400 mA Tc = 25 °C		If = 2100 mA Tc = 25 °C			
≥80	2200	1048 lm	170 lm/W	4644 lm	152 lm/W	6739 lm	143 lm/W	7517-10464	Linearis Z LV G2 L112 W20 5200 822
	2700	1224 lm	192 lm/W	5421 lm	172 lm/W	7865 lm	162 lm/W	7517-10465	Linearis Z LV G2 L112 W20 5200 827
	3000	1304 lm	206 lm/W	5776 lm	184 lm/W	8381 lm	174 lm/W	7517-10466	Linearis Z LV G2 L112 W20 5200 830
	3500	1304 lm	206 lm/W	5776 lm	184 lm/W	8381 lm	174 lm/W	7517-10467	Linearis Z LV G2 L112 W20 5200 835
	4000	1355 lm	216 lm/W	6003 lm	193 lm/W	8710 lm	182 lm/W	7517-10468	Linearis Z LV G2 L112 W20 5200 840
	5000	1355 lm	216 lm/W	6003 lm	193 lm/W	8710 lm	182 lm/W	7517-10469	Linearis Z LV G2 L112 W20 5200 850
	5700	1355 lm	216 lm/W	6003 lm	193 lm/W	8710 lm	182 lm/W	7517-10470	Linearis Z LV G2 L112 W20 5200 857
	6500	1355 lm	216 lm/W	6003 lm	193 lm/W	8710 lm	182 lm/W	7517-10471	Linearis Z LV G2 L112 W20 5200 865

Up to
8710lm!

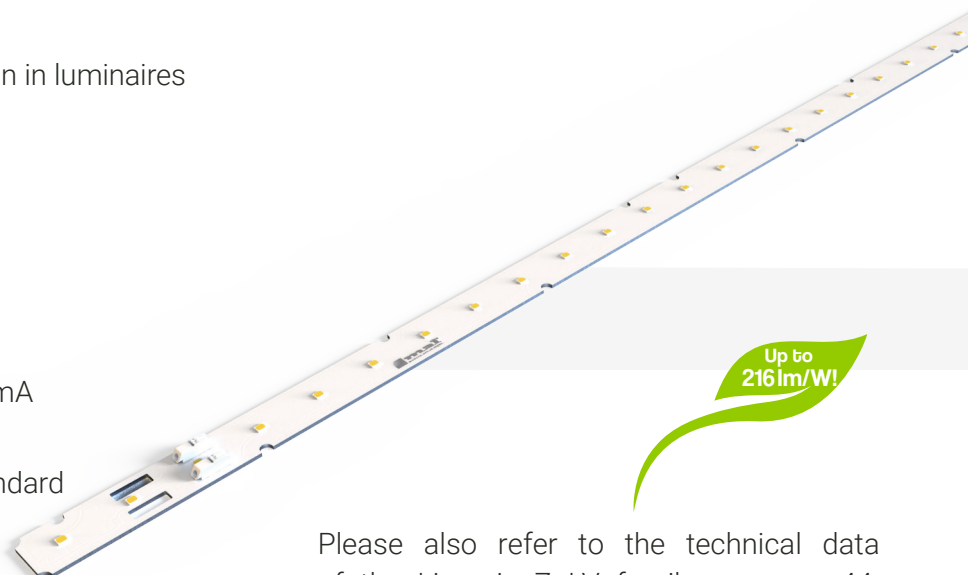
CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 300 mA Tc = 25 °C		If = 1400 mA Tc = 25 °C		If = 2100 mA Tc = 25 °C			
≥90	2200	895 lm	141 lm/W	3964 lm	126 lm/W	5751 lm	119 lm/W	7517-10472	Linearis Z LV G2 L112 W20 5200 922
	2700	1226 lm	194 lm/W	5459 lm	174 lm/W	7917 lm	164 lm/W	7517-10473	Linearis Z LV G2 L112 W20 5200 927
	3000	1252 lm	198 lm/W	5577 lm	178 lm/W	8088 lm	168 lm/W	7517-10474	Linearis Z LV G2 L112 W20 5200 930
	3500	1283 lm	203 lm/W	5714 lm	182 lm/W	8287 lm	172 lm/W	7517-10475	Linearis Z LV G2 L112 W20 5200 935
	4000	1296 lm	205 lm/W	5773 lm	184 lm/W	8372 lm	174 lm/W	7517-10476	Linearis Z LV G2 L112 W20 5200 940
	5000	1296 lm	205 lm/W	5773 lm	184 lm/W	8372 lm	174 lm/W	7517-10477	Linearis Z LV G2 L112 W20 5200 950
	5700	1296 lm	205 lm/W	5773 lm	184 lm/W	8372 lm	174 lm/W	7517-10478	Linearis Z LV G2 L112 W20 5200 957
	6500	1283 lm	203 lm/W	5714 lm	182 lm/W	8287 lm	172 lm/W	7517-10479	Linearis Z LV G2 L112 W20 5200 965

Up to
8372lm!

NEW:
CRI 90 IN
KSF-Techno-
logy

Linearis Z LV L140 3250 - Extra long industry standard linear modules in SELV

- ✓ linear module in SELV for installation in luminaires
- ✓ 60 Mid-Power-LEDs
- ✓ pitch distance 23.3 mm
- ✓ length 1400 mm
- ✓ width 20 mm
- ✓ 4 connection terminals
- ✓ rated current 700 mA
- ✓ maximum operating current 1050 mA
- ✓ maximum forward voltage 31 V
- ✓ meets the well-known industry standard



Up to
216lm/W!

Please also refer to the technical data of the Linearis Z LV family on page 44. Further technical data and drawings from page 50.

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 150 mA Tc = 25 °C		If = 700 mA Tc = 25 °C		If = 1050 mA Tc = 25 °C			
≥80	2200	655 lm	170 lm/W	2902 lm	152 lm/W	4212 lm	143 lm/W	7517-10480	Linearis Z LV G2 L140 W20 3250 822
	2700	765 lm	192 lm/W	3388 lm	172 lm/W	4915 lm	162 lm/W	7517-10481	Linearis Z LV G2 L140 W20 3250 827
	3000	815 lm	206 lm/W	3610 lm	184 lm/W	5238 lm	174 lm/W	7517-10482	Linearis Z LV G2 L140 W20 3250 830
	3500	815 lm	206 lm/W	3610 lm	184 lm/W	5238 lm	174 lm/W	7517-10483	Linearis Z LV G2 L140 W20 3250 835
	4000	847 lm	216 lm/W	3752 lm	193 lm/W	5444 lm	182 lm/W	7517-10484	Linearis Z LV G2 L140 W20 3250 840
	5000	847 lm	216 lm/W	3752 lm	193 lm/W	5444 lm	182 lm/W	7517-10485	Linearis Z LV G2 L140 W20 3250 850
	5700	847 lm	216 lm/W	3752 lm	193 lm/W	5444 lm	182 lm/W	7517-10486	Linearis Z LV G2 L140 W20 3250 857
	6500	847 lm	216 lm/W	3752 lm	193 lm/W	5444 lm	182 lm/W	7517-10487	Linearis Z LV G2 L140 W20 3250 865

Up to
5444lm!

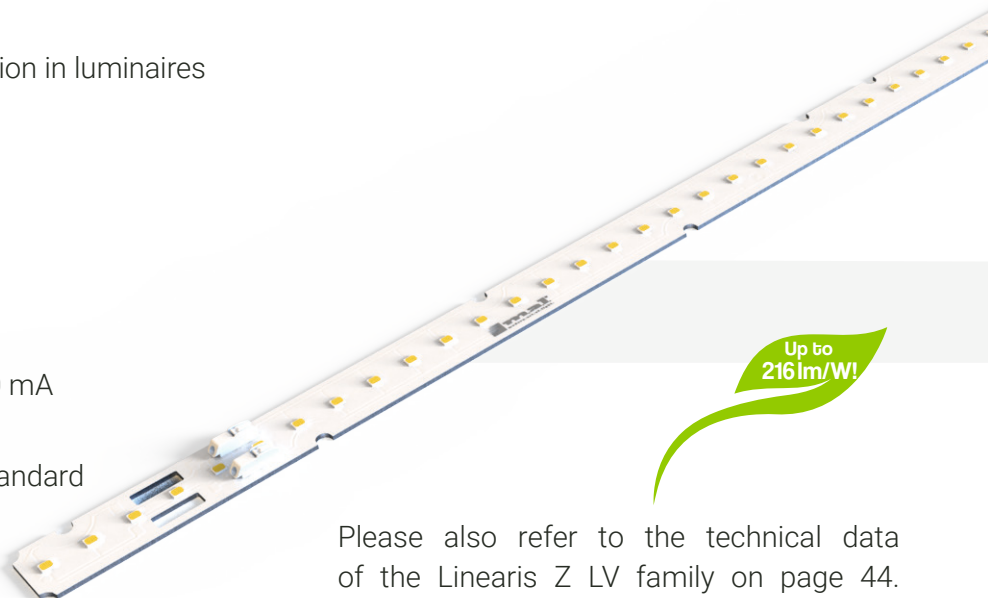
CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 150 mA Tc = 25 °C		If = 700 mA Tc = 25 °C		If = 1050 mA Tc = 25 °C			
≥90	2200	559 lm	141 lm/W	2477 lm	126 lm/W	3594 lm	119 lm/W	7517-10488	Linearis Z LV G2 L140 W20 3250 922
	2700	766 lm	194 lm/W	3412 lm	174 lm/W	4948 lm	164 lm/W	7517-10489	Linearis Z LV G2 L140 W20 3250 927
	3000	783 lm	198 lm/W	3485 lm	178 lm/W	5055 lm	168 lm/W	7517-10490	Linearis Z LV G2 L140 W20 3250 930
	3500	802 lm	203 lm/W	3571 lm	182 lm/W	5179 lm	172 lm/W	7517-10491	Linearis Z LV G2 L140 W20 3250 935
	4000	810 lm	205 lm/W	3608 lm	184 lm/W	5233 lm	174 lm/W	7517-10492	Linearis Z LV G2 L140 W20 3250 940
	5000	810 lm	205 lm/W	3608 lm	184 lm/W	5233 lm	174 lm/W	7517-10493	Linearis Z LV G2 L140 W20 3250 950
	5700	810 lm	205 lm/W	3608 lm	184 lm/W	5233 lm	174 lm/W	7517-10494	Linearis Z LV G2 L140 W20 3250 957
	6500	802 lm	203 lm/W	3571 lm	182 lm/W	5179 lm	172 lm/W	7517-10495	Linearis Z LV G2 L140 W20 3250 965

Up to
5233lm!

NEW:
CRI 90 IN
KSF-Techno-
logy

Linearis Z LV L140 6500 - Extra long industry standard linear modules in SELV

- ✓ linear module in SELV for installation in luminaires
- ✓ 120 Mid-Power-LEDs
- ✓ pitch distance 11.7 mm
- ✓ length 1400 mm
- ✓ width 20 mm
- ✓ 4 connection terminals
- ✓ rated current 1400 mA
- ✓ maximum operating current 2100 mA
- ✓ maximum forward voltage 31 V
- ✓ meets the well-known industry standard



Up to
216lm/W!

Please also refer to the technical data of the Linearis Z LV family on page 44. Further technical data and drawings from page 50.

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 300 mA Tc = 25 °C		If = 1400 mA Tc = 25 °C		If = 2100 mA Tc = 25 °C			
≥80	2200	1310 lm	170 lm/W	5805 lm	152 lm/W	8424 lm	143 lm/W	7517-10496	Linearis Z LV G2 L140 W20 6500 822
	2700	1530 lm	192 lm/W	6776 lm	172 lm/W	9831 lm	162 lm/W	7517-10497	Linearis Z LV G2 L140 W20 6500 827
	3000	1630 lm	206 lm/W	7220 lm	184 lm/W	10476 lm	174 lm/W	7517-10498	Linearis Z LV G2 L140 W20 6500 830
	3500	1630 lm	206 lm/W	7220 lm	184 lm/W	10476 lm	174 lm/W	7517-10499	Linearis Z LV G2 L140 W20 6500 835
	4000	1694 lm	216 lm/W	7503 lm	193 lm/W	10887 lm	182 lm/W	7517-10500	Linearis Z LV G2 L140 W20 6500 840
	5000	1694 lm	216 lm/W	7503 lm	193 lm/W	10887 lm	182 lm/W	7517-10501	Linearis Z LV G2 L140 W20 6500 850
	5700	1694 lm	216 lm/W	7503 lm	193 lm/W	10887 lm	182 lm/W	7517-10502	Linearis Z LV G2 L140 W20 6500 857
	6500	1694 lm	216 lm/W	7503 lm	193 lm/W	10887 lm	182 lm/W	7517-10503	Linearis Z LV G2 L140 W20 6500 865

Up to
10887lm!

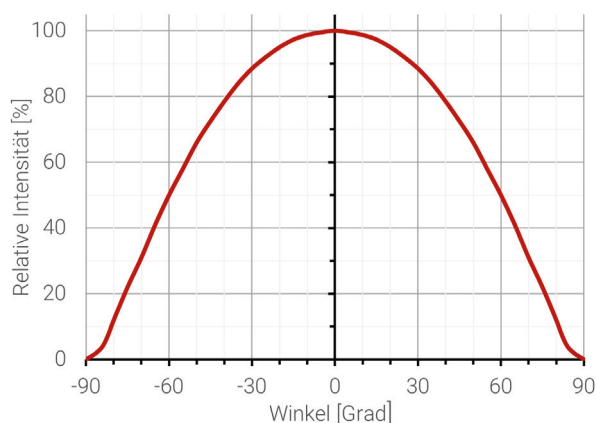
CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 300 mA Tc = 25 °C		If = 1400 mA Tc = 25 °C		If = 2100 mA Tc = 25 °C			
≥90	2200	1118 lm	141 lm/W	4954 lm	126 lm/W	7188 lm	119 lm/W	7517-10504	Linearis Z LV G2 L140 W20 6500 922
	2700	1532 lm	194 lm/W	6824 lm	174 lm/W	9896 lm	164 lm/W	7517-10505	Linearis Z LV G2 L140 W20 6500 927
	3000	1565 lm	198 lm/W	6971 lm	178 lm/W	10110 lm	168 lm/W	7517-10506	Linearis Z LV G2 L140 W20 6500 930
	3500	1604 lm	203 lm/W	7143 lm	182 lm/W	10359 lm	172 lm/W	7517-10507	Linearis Z LV G2 L140 W20 6500 935
	4000	1621 lm	205 lm/W	7216 lm	184 lm/W	10466 lm	174 lm/W	7517-10508	Linearis Z LV G2 L140 W20 6500 940
	5000	1621 lm	205 lm/W	7216 lm	184 lm/W	10466 lm	174 lm/W	7517-10509	Linearis Z LV G2 L140 W20 6500 950
	5700	1621 lm	205 lm/W	7216 lm	184 lm/W	10466 lm	174 lm/W	7517-10510	Linearis Z LV G2 L140 W20 6500 957
	6500	1604 lm	203 lm/W	7143 lm	182 lm/W	10359 lm	172 lm/W	7517-10511	Linearis Z LV G2 L140 W20 6500 965

Up to
10466lm!

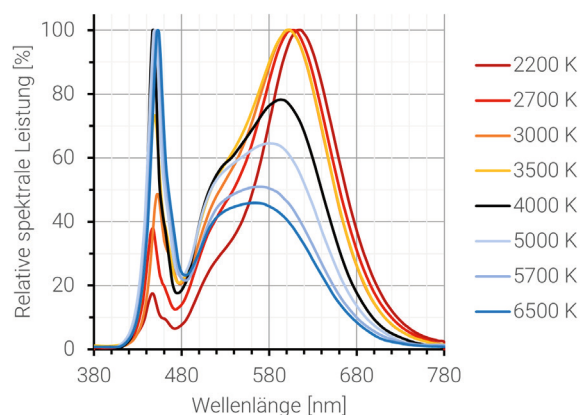
NEW:
CRI 90 IN
KSF-Techno-
logy

Technical data: Linearis Z LV - Extra long industry standard linear modules in SELV

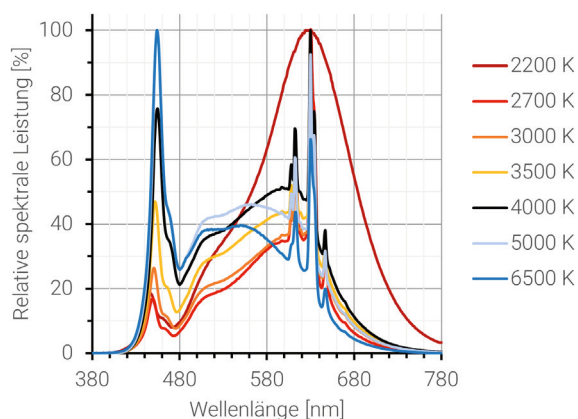
Light distribution curve



Spectrum CRI 80



Spectrum CRI 90



Lifetime of the LEDs used

- The lifetime data is based on TM21 extrapolations of the available LM80 data of the LEDs used. They are to be regarded as purely informative data from which no warranty claim can be derived.

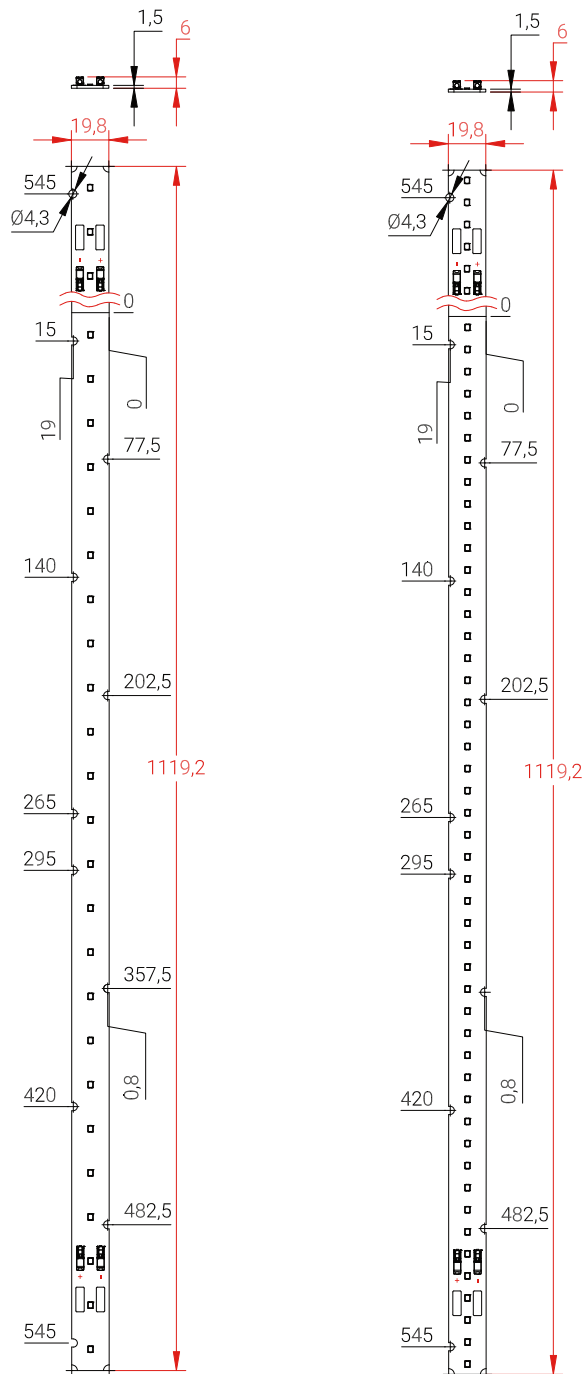
description	If	Tc	L70 B50	L70 B10	L80 B50	L80 B10	L90 B50	L90 B10
Linearis Z LV G2 L112 W20 2600 8/9xx	1050 mA	80 °C	> 102000 h	> 102000 h	> 102000 h	> 102000 h	> 50000 h	> 50000 h
Linearis Z LV G2 L112 W20 5200 8/9xx	2100 mA	80 °C	> 102000 h	> 102000 h	> 102000 h	> 102000 h	> 50000 h	> 50000 h
Linearis Z LV G2 L140 W20 3250 8/9xx	1050 mA	80 °C	> 102000 h	> 102000 h	> 102000 h	> 102000 h	> 50000 h	> 50000 h
Linearis Z LV G2 L140 W20 6500 8/9xx	2100 mA	80 °C	> 102000 h	> 102000 h	> 102000 h	> 102000 h	> 50000 h	> 50000 h

Technical drawings: Linearis Z LV - Extra long industry standard linear modules in SELV

Linearis Z LV112

Linearis Z LV G2 L112 W20 2600 ...

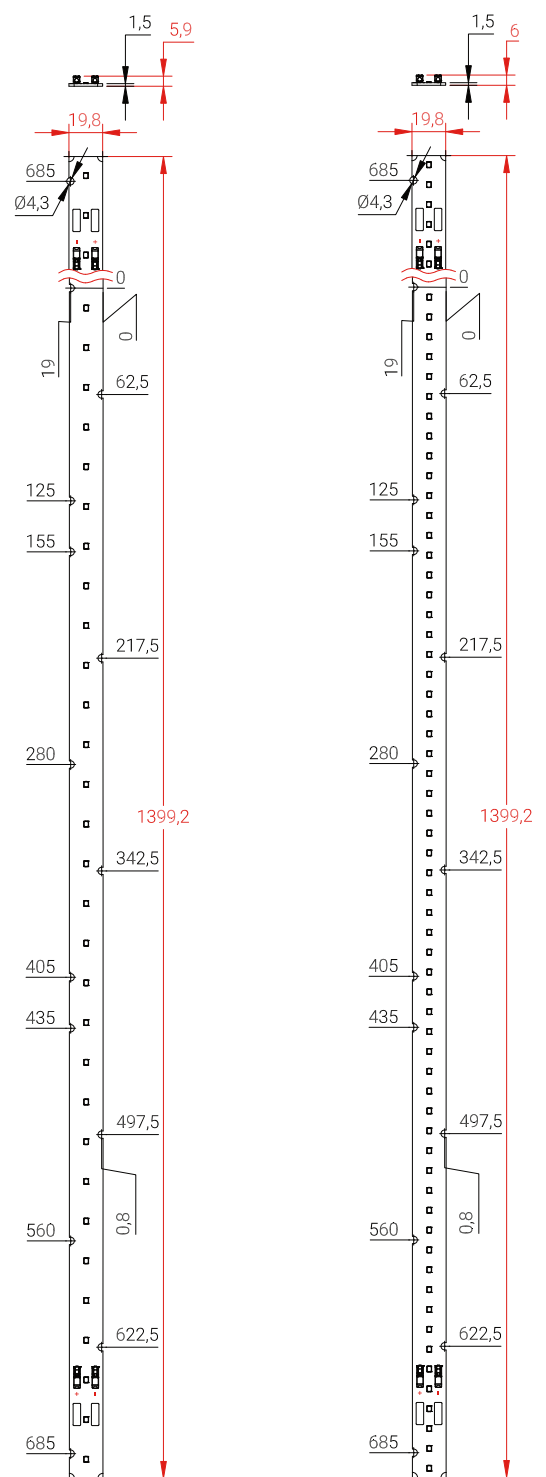
Linearis Z LV G2 L112 W20 5200 ...



Linearis Z LV140

Linearis Z LV G2 L140 W20 3250 ...

Linearis Z LV G2 L140 W20 6500 ...







The image shows the interior of a high-speed train car. The ceiling is white with a series of parallel, slightly curved slats. The walls are white and feature large windows on both sides. The floor is covered with a dark blue and white striped carpet. Rows of seats are arranged on both sides of a central aisle. The seats have a blue fabric with a white polka-dot pattern and white headrest covers. The ICE logo is visible on the side of the seats. The perspective is looking down the length of the train, towards the front. A semi-transparent dark grey rectangle is overlaid on the lower half of the image, containing the text.

Varius HCL — Industry standard linear modules

Our iX-led Varius HCL are Zhaga-compliant LED modules ideal for installation in luminaires.

There is a choice of three different lengths from 140 mm to 560 mm.

The LED modules are equipped with warm white and cool white LEDs in two separate channels.

The color rendering is CRI 80 and CRI 90, CRI 95 is available on request. As light colors 2 channels with 2700 K and 6500 K are available. In terms of lighting technology, the modules are up to date with 216 lm/W or 3000 lm. By selecting LEDs with a color consistency of 3 Step MacAdam, a high color homogeneity is achieved in the module.

Our modules are designed for series connection. Modules of different lengths can also be connected in series without any problems. The spacing of the LEDs is selected in such a way as to ensure that they are distributed as evenly as possible across all modules.

Our iX-led standard modules are available at short notice, even in small quantities, and are advantageous in the overall concept.

Standard does not mean rigid and unchangeable!

Do you need different light colors, different color renderings or minimally shorter/longer versions of the modules? You need the assembly of soldering nuts as spacers or a threaded insert for simplified mounting of the module? No problem. Other terminals or soldered cables are also possible. With the **iX-led product family** we can adapt and individualize the standard to your needs.

Explore our exclusive module series with more than 1000 lighting possibilities.

LED module with mid-power LEDs for installation in luminaires.

Versatile with:

✓ HCL linear module in 3 lengths: 140 mm, 280 mm and 560 mm x 24 mm

✓ color rendering: CRI 80

✓ light colors: 2 channels with CCT 2700 K and 6500 K

Plug-in terminals for simple and quick mounting.

For operation with suitable constant current drivers.

Maximum working voltage	250 V
Ambient temperature	-20...+50 °C
Max. perm. operating temperature (T _c)	80 °C
EPREL database entry	yes
Beam angle	120°

Connections:

Terminals	4
Connection type	rigid / flexible
Conductor cross section AWG	AWG 18-24
Conductor cross section	min 0.2 mm ²
	max 0.75 mm ²
Stripping length	8 - 9 mm

Also available with other terminals on request.

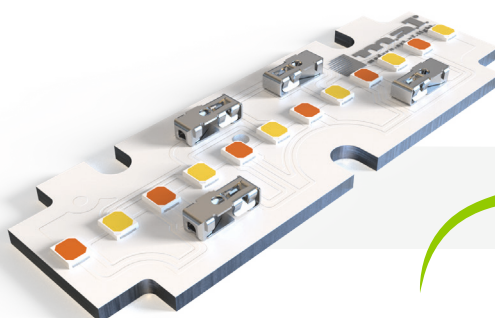
Did you already know? Our **Varius HCL-modules** are **ENEC-certified!**





Varius HCL L7 - Industry standard linear modules

- ✓ HCL linear module with 2 channels for installation in luminaires
- ✓ tunable white 2700 K to 6500 K
- ✓ 2x6 Mid-Power-LEDs
- ✓ pitch distance 5.8 mm
- ✓ length 70 mm
- ✓ width 24 mm
- ✓ 4 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 700 mA
- ✓ maximum forward voltage 3.1 V



Up to
216 lm/W!



Please also refer to the technical data of the Varius HCL family on page 56. Further technical data and drawings from page 62.

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 150 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 700 mA Tc = 25 °C			
≥80	2700	76 lm	192 lm/W	175 lm	184 lm/W	339 lm	172 lm/W	7533-00503	Varius HCL G2 L7 W24 324 827-865
	6500	85 lm	216 lm/W	194 lm	207 lm/W	375 lm	193 lm/W		

Up to
375lm!

Varius HCL L14 - Industry standard linear modules

- ✓ HCL linear module with 2 channels for installation in luminaires
- ✓ tunable white 2700 K to 6500 K
- ✓ 2x12 Mid-Power LEDs
- ✓ pitch distance 5.8 mm
- ✓ length 140 mm
- ✓ width 24 mm
- ✓ 4 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 700 mA
- ✓ maximum forward voltage 6.2 V



Please also refer to the technical data of the Varius HCL family on page 56. Further technical data and drawings from page 62.

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 150 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 700 mA Tc = 25 °C			
≥80	2700	153 lm	192 lm/W	350 lm	184 lm/W	678 lm	172 lm/W	7533-00500	Varius HCL G2 L14 W24 650 827-865
	6500	169 lm	216 lm/W	388 lm	207 lm/W	750 lm	193 lm/W		

Up to
750 lm!

Varius HCL L28 - Industry standard linear modules

- ✓ HCL linear module with 2 channels for installation in luminaires
- ✓ tunable white 2700 K to 6500 K
- ✓ 2x24 Mid-Power LEDs
- ✓ pitch distance 5.8 mm
- ✓ length 280 mm
- ✓ width 24 mm
- ✓ 4 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 700 mA
- ✓ maximum forward voltage 12.4 V



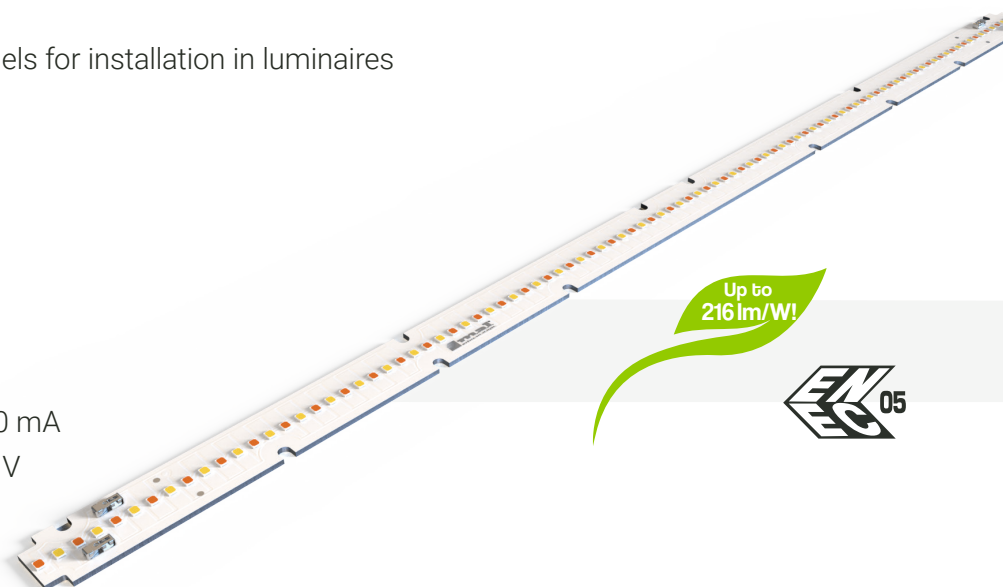
Please also refer to the technical data of the Varius HCL family on page 56. Further technical data and drawings from page 62.

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 150 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 700 mA Tc = 25 °C			
≥80	2700	306 lm	192 lm/W	700 lm	184 lm/W	1355 lm	172 lm/W	7533-00501	Varius HCL G2 L28 W24 1300 827-865
	6500	339 lm	216 lm/W	776 lm	207 lm/W	1501 lm	193 lm/W		

Up to
1501lm!

Varius HCL L56 - Industry standard linear modules

- ✓ HCL linear module with 2 channels for installation in luminaires
- ✓ tunable white 2700 K to 6500 K
- ✓ 2x48 Mid-Power LEDs
- ✓ pitch distance 5.8 mm
- ✓ length 560 mm
- ✓ width 24 mm
- ✓ 4 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 700 mA
- ✓ maximum forward voltage 24.8 V



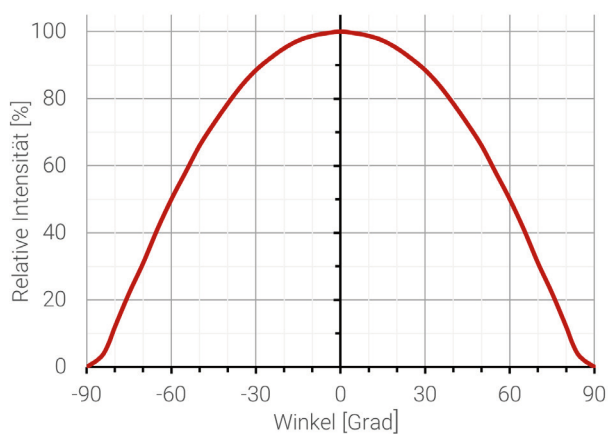
Please also refer to the technical data of the Varius HCL family on page 56. Further technical data and drawings from page 62.

CRI	CCT	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 150 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 700 mA Tc = 25 °C			
≥80	2700	612 lm	192 lm/W	1401 lm	184 lm/W	2710 lm	172 lm/W	7533-00502	Varius HCL G2 L56 W24 2600 827-865
	6500	677 lm	216 lm/W	1551 lm	207 lm/W	3001 lm	193 lm/W		

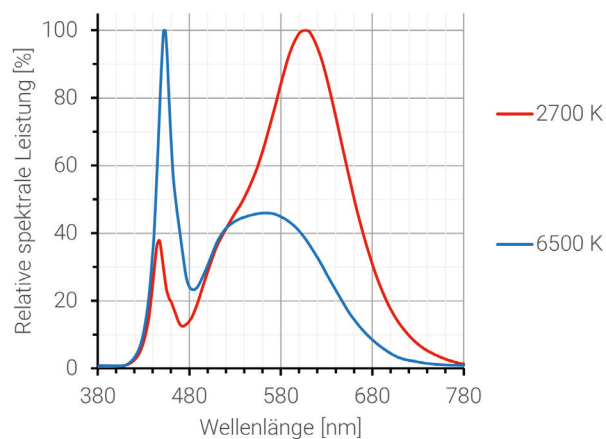
Up to
3001lm!

Technical data: Varius HCL - Industry standard linear modules

Light distribution curve



Spectrum



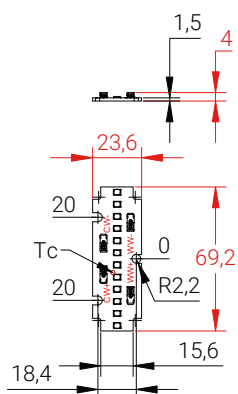
Lifetime of the LEDs used

- The lifetime data is based on TM21 extrapolations of the available LM80 data of the LEDs used. They are to be regarded as purely informative data from which no warranty claim can be derived.

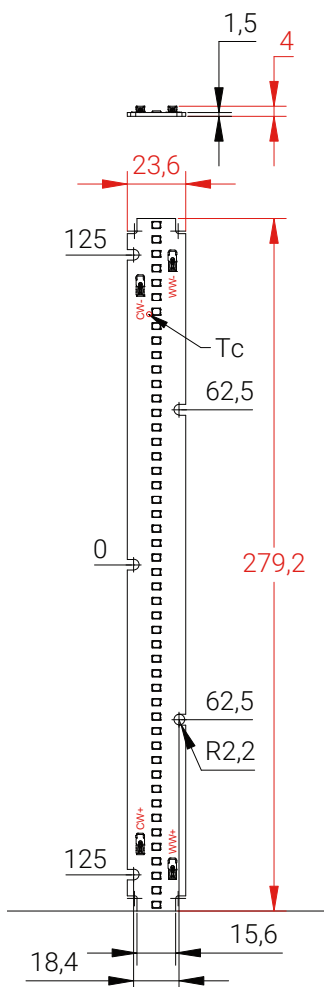
description	If	Tc	L70 B50	L70 B10	L80 B50	L80 B10	L90 B50	L90 B10
Varius HCL G2 L... W24 ... 827-865	700 mA	80 °C	> 102.000 h	> 102.000 h	> 102.000 h	> 102.000 h	> 50.000 h	> 50.000 h

Technical drawings: Varius HCL - Industry standard linear modules

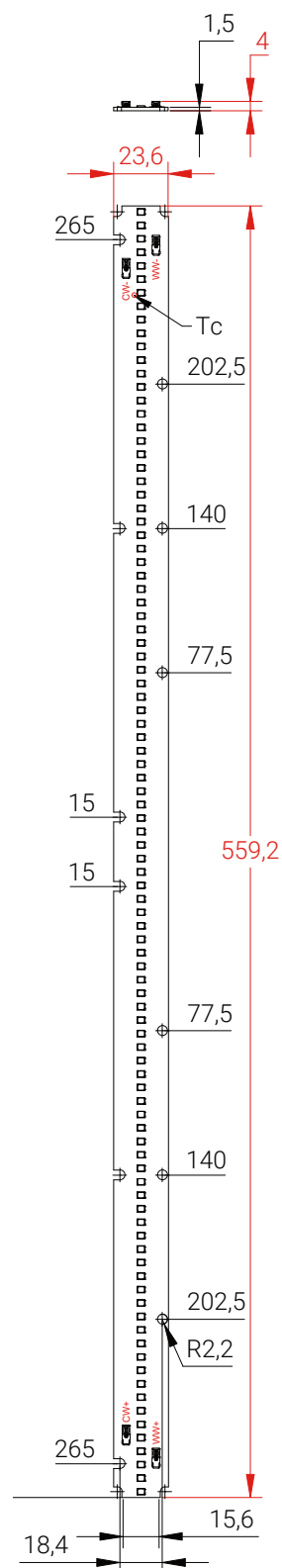
Varius HCL L7



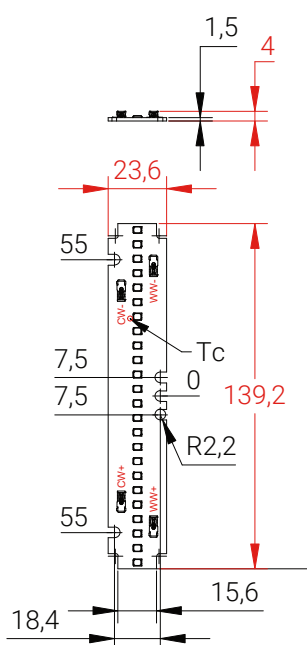
Varius HCL L28



Varius HCL L56



Varius HCL L14

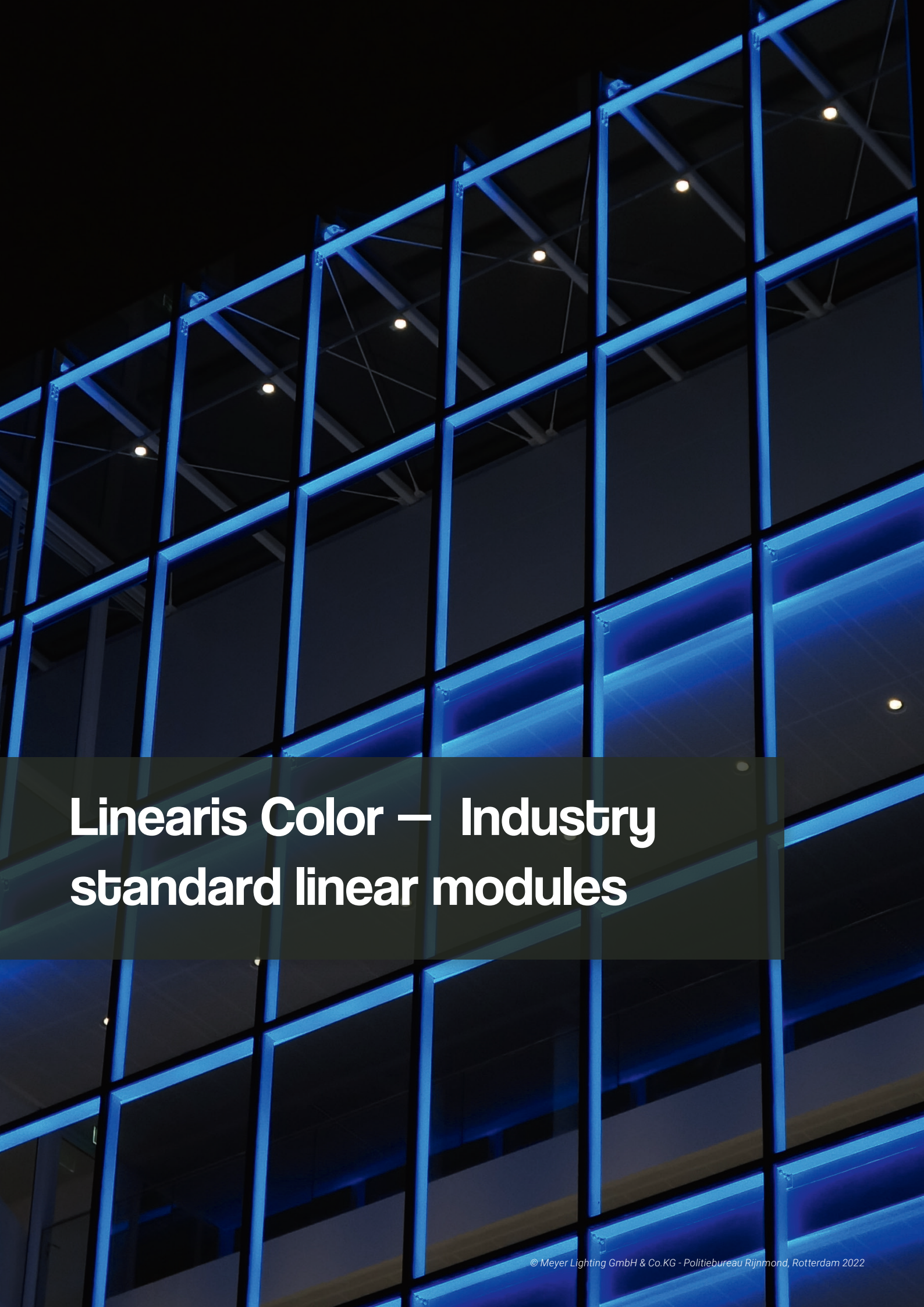


warm white lighting



cold white lighting





Linearis Color — Industry standard linear modules

Our standard modules of the iX-led series are Zhaga-compliant LED modules with mid-power LEDs, which are ideal for installation in luminaires. Our product portfolio impresses in the area of white light colors with a wide range of variants. This is supplemented by the Linearis Color series with colored LED modules.

iX-led Linearis Color

The Linearis Color series has a uniform width of 24 mm. Choose from three lengths: 140 mm, 280 mm and 560 mm.

Due to the same lengths as our modules with white LEDs, both series are mechanically fully compatible with each other.

The modules are optionally available with an LED pitch of around 11.7 mm or 23.3 mm, so that a module with the best possible performance is available for every application.

The highlight of the iX-led-Linearis Color series, however, is the variety of colors. Choose from eleven colors: Far-Red, Deep-Red, Red, Red-Orange, PC Amber, PC Mint, PC Lime, Green, Cyan, Blue and Royal-Blue.

In addition to decorative architectural and effect lighting, our iX-led Linearis Color modules are also suitable for special applications where specific wavelengths are required - e.g. horticulture applications. If you are missing a light color, please contact us.

Our iX-led standard modules are available at short notice and are cost-effective in the overall concept.

Standard does not mean rigid and unchangeable!

Do you need different light colors, different color renderings or minimally shorter/longer versions of the modules? You need the assembly of soldering nuts as spacers or a threaded insert for simplified mounting of the module? No problem. Other terminals or soldered cables are also possible. With the **iX-led product family** we can adapt and individualize the standard to your needs.

Explore our exclusive module series with more than 1000 lighting possibilities

LED module with mid-power LEDs for installation in luminaires

- ✓ linear module with 3 dimensions: 140 mm, 280 mm and 560 mm x 24 mm
- ✓ 2 light flux packages: Pitch distance 23.3 mm and 11.7 mm
- ✓ 11 light colors: Far-Red, Deep-Red, Red, Red-Orange, PC Amber, PC Mint, PC Lime, Green, Cyan, Blue and Royal-Blue

Plug-in terminals for simple and quick mounting.

For operation with suitable constant current drivers.

ENEC-mark	yes
Maximum operating current	250 V
Ambient temperature	-20...+50 °C
Max. perm. operating temperature (Tc)	80 °C
EPREL database entry	yes
Beam angle	120°

Connections:

Terminals	2
Connection type	rigid / flexible
Conductor cross section AWG	AWG 18-24
Conductor cross section	min 0.2 mm ²
	max 0.75 mm ²
Stripping length	8 - 9 mm

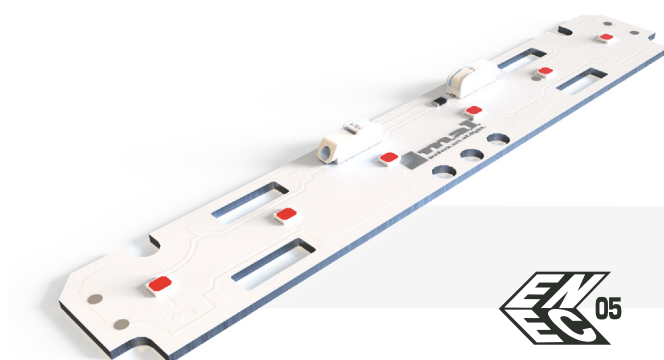
Also available with other terminals on request.

Did you know? Our **Linearis Color-Modules** are **ENEC-certified!**



Linearis Color L14 325 - Industry standard linear modules

- ✓ linear module with color LEDs
- ✓ 11 light colors from Far Red to Royal Blue
- ✓ 6 Mid-Power-LEDs
- ✓ pitch distance 23.3 mm
- ✓ length 140 mm
- ✓ width 24 mm
- ✓ 2 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 500 mA
- ✓ maximum forward voltage 5.4 ... 7.4 V
- ✓ meets the well-known industry standard

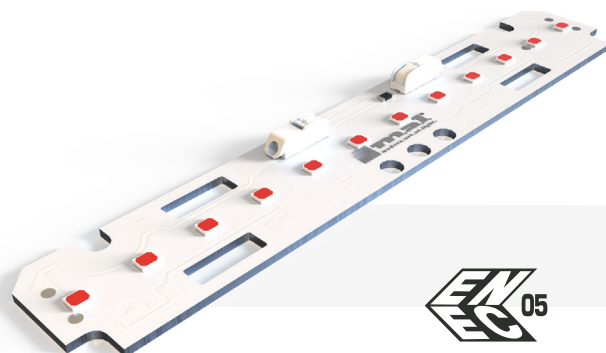


Please also refer to the technical data of the Linearis Color family on page 58. Further technical data and drawings from page 75.

light color	wavelentgh	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 150 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C			
FRD	720-740 nm	250 mW	-	567 mW	-	790 mW	-	7517-00330	Linearis Z G1 L14 W24 325 FRD
DRD	650-670 nm	280 mW	-	638 mW	-	896 mW	-	7517-00331	Linearis Z G1 L14 W24 325 DRD
RED	620-630 nm	52 lm	88 lm/W	114 lm	78 lm/W	155 lm	72 lm/W	7517-00332	Linearis Z G1 L14 W24 325 RED
RNG	610-620 nm	68 lm	118 lm/W	154 lm	105 lm/W	212 lm	97 lm/W	7517-00333	Linearis Z G1 L14 W24 325 RNG
PCA	-	140 lm	166 lm/W	300 lm	144 lm/W	406 lm	131 lm/W	7517-00334	Linearis Z G1 L14 W24 325 PCA
MNT	-	205 lm	244 lm/W	444 lm	213 lm/W	602 lm	196 lm/W	7517-00335	Linearis Z G1 L14 W24 325 MNT
LME	-	219 lm	263 lm/W	473 lm	227 lm/W	642 lm	207 lm/W	7517-00336	Linearis Z G1 L14 W24 325 LME
GRN	520-540 nm	150 lm	184 lm/W	241 lm	135 lm/W	321 lm	99 lm/W	7517-00337	Linearis Z G1 L14 W24 325 GRN
CYN	490-510 nm	93 lm	111 lm/W	175 lm	82 lm/W	223 lm	69 lm/W	7517-00338	Linearis Z G1 L14 W24 325 CYN
BLU	469-480 nm	52 lm	63 lm/W	106 lm	51 lm/W	140 lm	45 lm/W	7517-00339	Linearis Z G1 L14 W24 325 BLU
RYL	440-455 nm	606 mW	-	1328 mW	-	1822 mW	-	7517-00340	Linearis Z G1 L14 W24 325 RYL

Linearis Color L14 650 - Industry standard linear modules

- ✓ linear module with color LEDs
- ✓ 11 light colors from Far Red to Royal Blue
- ✓ 12 Mid-Power LEDs
- ✓ pitch distance 11.7 mm
- ✓ length 140 mm
- ✓ width 24 mm
- ✓ 2 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 500 mA
- ✓ maximum forward voltage 10.8 ... 14.8 V
- ✓ meets the well-known industry standard

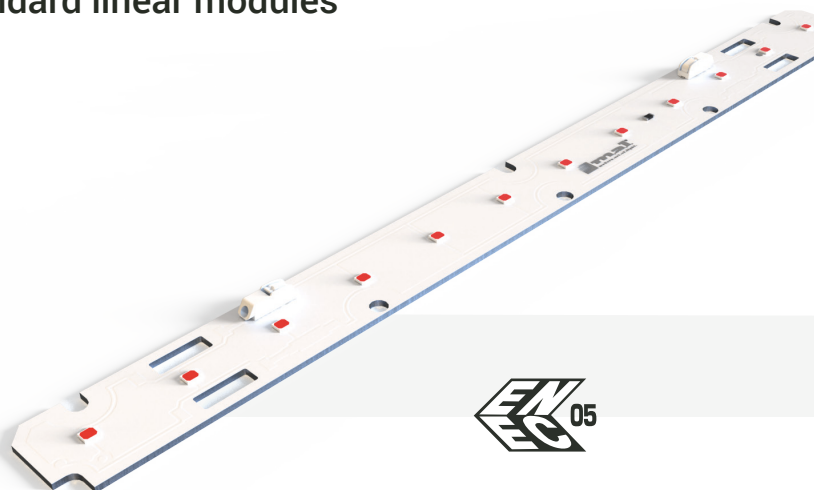


Please also refer to the technical data of the Linearis Color family on page 58. Further technical data and drawings from page 75.

light color	wavelength	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 150 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C			
FRD	720-740 nm	500 mW	-	1134 mW	-	1580 mW	-	7517-00380	Linearis Z G1 L14 W24 650 FRD
DRD	650-670 nm	559 mW	-	1276 mW	-	1792 mW	-	7517-00381	Linearis Z G1 L14 W24 650 DRD
RED	620-630 nm	103 lm	88 lm/W	227 lm	78 lm/W	309 lm	72 lm/W	7517-00382	Linearis Z G1 L14 W24 650 RED
RNG	610-620 nm	136 lm	118 lm/W	307 lm	105 lm/W	424 lm	97 lm/W	7517-00383	Linearis Z G1 L14 W24 650 RNG
PCA	-	280 lm	166 lm/W	600 lm	144 lm/W	812 lm	131 lm/W	7517-00384	Linearis Z G1 L14 W24 650 PCA
MNT	-	410 lm	244 lm/W	888 lm	213 lm/W	1204 lm	196 lm/W	7517-00385	Linearis Z G1 L14 W24 650 MNT
LME	-	438 lm	263 lm/W	946 lm	227 lm/W	1284 lm	207 lm/W	7517-00386	Linearis Z G1 L14 W24 650 LME
GRN	520-540 nm	300 lm	184 lm/W	482 lm	135 lm/W	643 lm	99 lm/W	7517-00387	Linearis Z G1 L14 W24 650 GRN
CYN	490-510 nm	186 lm	111 lm/W	351 lm	82 lm/W	446 lm	69 lm/W	7517-00388	Linearis Z G1 L14 W24 650 CYN
BLU	469-480 nm	104 lm	63 lm/W	211 lm	51 lm/W	279 lm	45 lm/W	7517-00389	Linearis Z G1 L14 W24 650 BLU
RYL	440-455 nm	1212 mW	-	2656 mW	-	3644 mW	-	7517-00390	Linearis Z G1 L14 W24 650 RYL

Linearis Color L28 650 - Industry standard linear modules

- ✓ linear module with color LEDs
- ✓ 11 light colors from Far Red to Royal Blue
- ✓ 12 Mid-Power LEDs
- ✓ pitch distance 23.3 mm
- ✓ length 280 mm
- ✓ width 24 mm
- ✓ 2 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 500 mA
- ✓ maximum forward voltage 10.8 ... 14.8 V
- ✓ meets the well-known industry standard

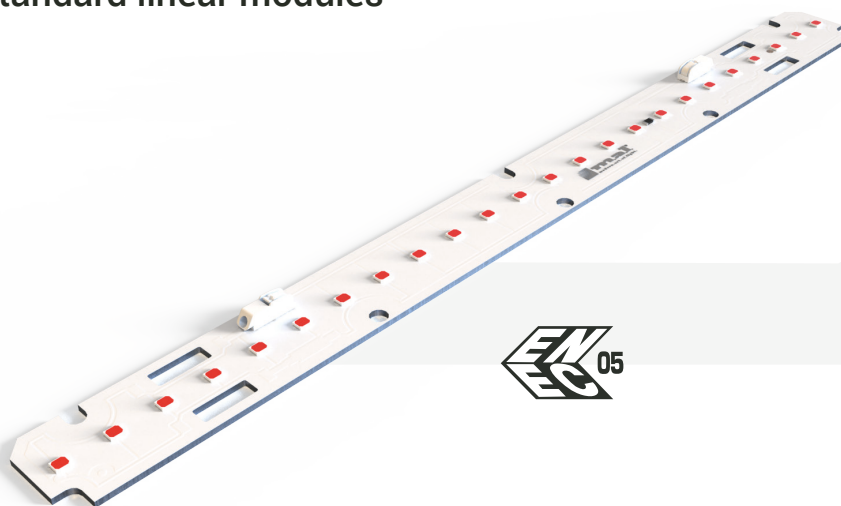


Please also refer to the technical data of the Linearis Color family on page 58.
Further technical data and drawings from page 75.

light color	wavelength	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 150 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C			
FRD	720-740 nm	500 mW	-	1134 mW	-	1580 mW	-	7517-00430	Linearis Z G1 L28 W24 650 FRD
DRD	650-670 nm	559 mW	-	1276 mW	-	1792 mW	-	7517-00431	Linearis Z G1 L28 W24 650 DRD
RED	620-630 nm	103 lm	88 lm/W	227 lm	78 lm/W	309 lm	72 lm/W	7517-00432	Linearis Z G1 L28 W24 650 RED
RNG	610-620 nm	136 lm	118 lm/W	307 lm	105 lm/W	424 lm	97 lm/W	7517-00433	Linearis Z G1 L28 W24 650 RNG
PCA	-	280 lm	166 lm/W	600 lm	144 lm/W	812 lm	131 lm/W	7517-00434	Linearis Z G1 L28 W24 650 PCA
MNT	-	410 lm	244 lm/W	888 lm	213 lm/W	1204 lm	196 lm/W	7517-00435	Linearis Z G1 L28 W24 650 MNT
LME	-	438 lm	263 lm/W	946 lm	227 lm/W	1284 lm	207 lm/W	7517-00436	Linearis Z G1 L28 W24 650 LME
GRN	520-540 nm	300 lm	184 lm/W	482 lm	135 lm/W	643 lm	99 lm/W	7517-00437	Linearis Z G1 L28 W24 650 GRN
CYN	490-510 nm	186 lm	111 lm/W	351 lm	82 lm/W	446 lm	69 lm/W	7517-00438	Linearis Z G1 L28 W24 650 CYN
BLU	469-480 nm	104 lm	63 lm/W	211 lm	51 lm/W	279 lm	45 lm/W	7517-00439	Linearis Z G1 L28 W24 650 BLU
RYL	440-455 nm	1212 mW	-	2656 mW	-	3644 mW	-	7517-00440	Linearis Z G1 L28 W24 650 RYL

Linearis Color L28 1300 - Industry standard linear modules

- ✓ linear module with color LEDs
- ✓ 11 light colors from Far Red to Royal Blue
- ✓ 24 Mid-Power LEDs
- ✓ pitch distance 11.7 mm
- ✓ length 280 mm
- ✓ width 24 mm
- ✓ 2 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 500 mA
- ✓ maximum forward voltage 21.6 ... 29.6 V
- ✓ meets the well-known industry standard

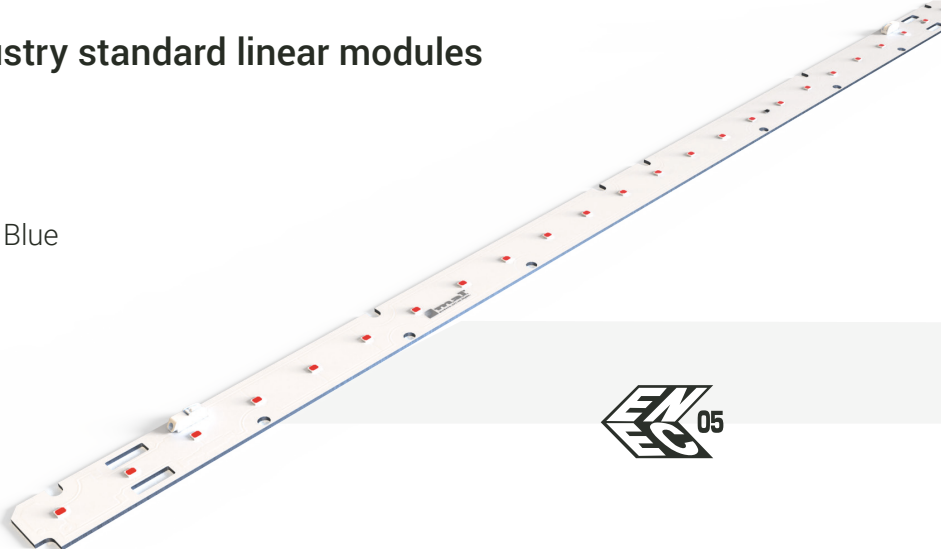


Please also refer to the technical data of the Linearis Color family on page 58. Further technical data and drawings from page 75.

light color	wavelength	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 150 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C			
FRD	720-740 nm	1001 mW	-	2269 mW	-	3160 mW	-	7517-00480	Linearis Z G1 L28 W24 1300 FRD
DRD	650-670 nm	1118 mW	-	2552 mW	-	3584 mW	-	7517-00481	Linearis Z G1 L28 W24 1300 DRD
RED	620-630 nm	207 lm	88 lm/W	454 lm	78 lm/W	618 lm	72 lm/W	7517-00482	Linearis Z G1 L28 W24 1300 RED
RNG	610-620 nm	271 lm	118 lm/W	614 lm	105 lm/W	849 lm	97 lm/W	7517-00483	Linearis Z G1 L28 W24 1300 RNG
PCA	-	559 lm	166 lm/W	1199 lm	144 lm/W	1624 lm	131 lm/W	7517-00484	Linearis Z G1 L28 W24 1300 PCA
MNT	-	821 lm	244 lm/W	1775 lm	213 lm/W	2409 lm	196 lm/W	7517-00485	Linearis Z G1 L28 W24 1300 MNT
LME	-	876 lm	263 lm/W	1891 lm	227 lm/W	2568 lm	207 lm/W	7517-00486	Linearis Z G1 L28 W24 1300 LME
GRN	520-540 nm	600 lm	184 lm/W	965 lm	135 lm/W	1286 lm	99 lm/W	7517-00487	Linearis Z G1 L28 W24 1300 GRN
CYN	490-510 nm	372 lm	111 lm/W	702 lm	82 lm/W	891 lm	69 lm/W	7517-00488	Linearis Z G1 L28 W24 1300 CYN
BLU	469-480 nm	208 lm	63 lm/W	422 lm	51 lm/W	558 lm	45 lm/W	7517-00489	Linearis Z G1 L28 W24 1300 BLU
RYL	440-455 nm	2424 mW	-	5312 mW	-	7288 mW	-	7517-00490	Linearis Z G1 L28 W24 1300 RYL

Linearis Color L56 1300 - Industry standard linear modules

- ✓ linear module with color LEDs
- ✓ 11 light colors from Far Red to Royal Blue
- ✓ 24 Mid-Power LEDs
- ✓ pitch distance 23.3 mm
- ✓ length 560 mm
- ✓ width 24 mm
- ✓ 2 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 500 mA
- ✓ maximum forward voltage 21.6 ... 29.6 V
- ✓ meets the well-known industry standard

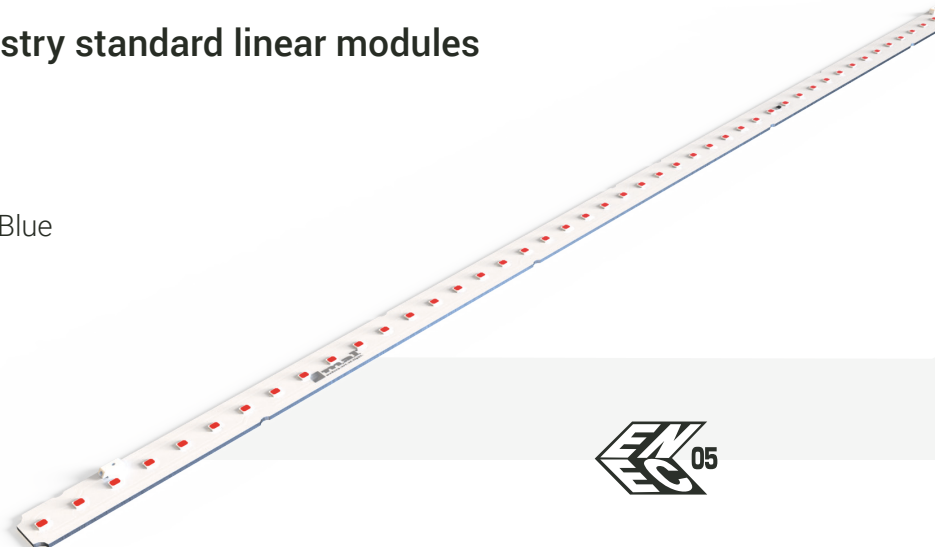


Please also refer to the technical data of the Linearis Color family on page 58.
Further technical data and drawings from page 75.

light color	wavelength	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 150 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C			
FRD	720-740 nm	1001 mW	-	2269 mW	-	3160 mW	-	7517-00530	Linearis Z G1 L56 W24 1300 FRD
DRD	650-670 nm	1118 mW	-	2552 mW	-	3584 mW	-	7517-00531	Linearis Z G1 L56 W24 1300 DRD
RED	620-630 nm	207 lm	88 lm/W	454 lm	78 lm/W	618 lm	72 lm/W	7517-00532	Linearis Z G1 L56 W24 1300 RED
RNG	610-620 nm	271 lm	118 lm/W	614 lm	105 lm/W	849 lm	97 lm/W	7517-00533	Linearis Z G1 L56 W24 1300 RNG
PCA	-	559 lm	166 lm/W	1199 lm	144 lm/W	1624 lm	131 lm/W	7517-00534	Linearis Z G1 L56 W24 1300 PCA
MNT	-	821 lm	244 lm/W	1775 lm	213 lm/W	2409 lm	196 lm/W	7517-00535	Linearis Z G1 L56 W24 1300 MNT
LME	-	876 lm	263 lm/W	1891 lm	227 lm/W	2568 lm	207 lm/W	7517-00536	Linearis Z G1 L56 W24 1300 LME
GRN	520-540 nm	600 lm	184 lm/W	965 lm	135 lm/W	1286 lm	99 lm/W	7517-00537	Linearis Z G1 L56 W24 1300 GRN
CYN	490-510 nm	372 lm	111 lm/W	702 lm	82 lm/W	891 lm	69 lm/W	7517-00538	Linearis Z G1 L56 W24 1300 CYN
BLU	469-480 nm	208 lm	63 lm/W	422 lm	51 lm/W	558 lm	45 lm/W	7517-00539	Linearis Z G1 L56 W24 1300 BLU
RYL	440-455 nm	2424 mW	-	5312 mW	-	7288 mW	-	7517-00540	Linearis Z G1 L56 W24 1300 RYL

Linearis Color L56 2600 - Industry standard linear modules

- ✓ linear module with color LEDs
- ✓ 11 light colors from Far Red to Royal Blue
- ✓ 48 Mid-Power LEDs
- ✓ pitch distance 11.7 mm
- ✓ length 560 mm
- ✓ width 24 mm
- ✓ 2 connection terminals
- ✓ rated current 350 mA
- ✓ maximum operating current 500 mA
- ✓ maximum forward voltage 43.2 ... 59.2 V
- ✓ meets the well-known industry standard

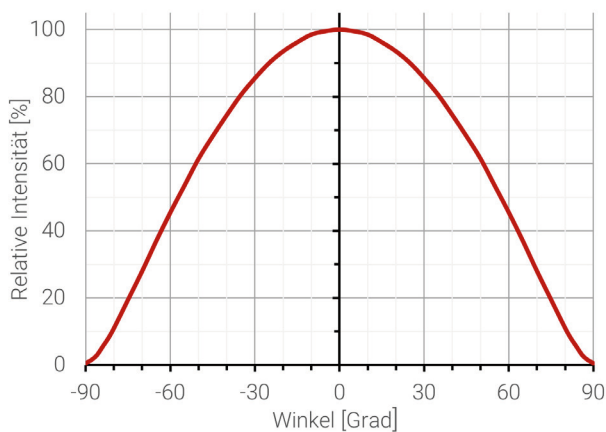


Please also refer to the technical data of the Linearis Color family on page 58. Further technical data and drawings from page 75.

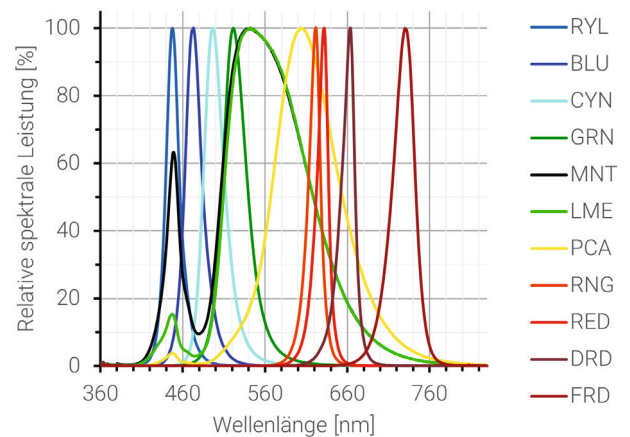
light color	wavelength	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
		If = 150 mA Tc = 25 °C		If = 350 mA Tc = 25 °C		If = 500 mA Tc = 25 °C			
FRD	720-740 nm	2002 mW	-	4538 mW	-	6320 mW	-	7517-00830	Linearis Z G1 L56 W24 2600 FRD
DRD	650-670 nm	2237 mW	-	5104 mW	-	7168 mW	-	7517-00831	Linearis Z G1 L56 W24 2600 DRD
RED	620-630 nm	414 lm	88 lm/W	909 lm	78 lm/W	1237 lm	72 lm/W	7517-00832	Linearis Z G1 L56 W24 2600 RED
RNG	610-620 nm	542 lm	118 lm/W	1229 lm	105 lm/W	1698 lm	97 lm/W	7517-00833	Linearis Z G1 L56 W24 2600 RNG
PCA	-	1118 lm	166 lm/W	2398 lm	144 lm/W	3248 lm	131 lm/W	7517-00834	Linearis Z G1 L56 W24 2600 PCA
MNT	-	1642 lm	244 lm/W	3550 lm	213 lm/W	4818 lm	196 lm/W	7517-00835	Linearis Z G1 L56 W24 2600 MNT
LME	-	1752 lm	263 lm/W	3782 lm	227 lm/W	5136 lm	207 lm/W	7517-00836	Linearis Z G1 L56 W24 2600 LME
GRN	520-540 nm	1200 lm	184 lm/W	1930 lm	135 lm/W	2571 lm	99 lm/W	7517-00837	Linearis Z G1 L56 W24 2600 GRN
CYN	490-510 nm	744 lm	111 lm/W	1403 lm	82 lm/W	1782 lm	69 lm/W	7517-00838	Linearis Z G1 L56 W24 2600 CYN
BLU	469-480 nm	416 lm	63 lm/W	845 lm	51 lm/W	1117 lm	45 lm/W	7517-00839	Linearis Z G1 L56 W24 2600 BLU
RYL	440-455 nm	4848 mW	-	10624 mW	-	14576 mW	-	7517-00840	Linearis Z G1 L56 W24 2600 RYL

Technical data: Linearis Color - Industry standard linear modules

Light distribution curve



Spectrum



Lifetime of the LEDs used

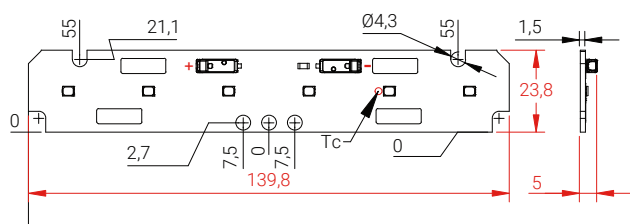
- The lifetime data is based on TM21 extrapolations of the available LM80 data of the LEDs used. They are to be regarded as purely informative data from which no warranty claim can be derived.

Description	If	Tc	L70 B50	L70 B10	L80 B50	L80 B10	L90 B50	L90 B10
Linearis Z G1 L... W24 ... FRD	500 mA	80 °C	> 50.000 h	> 50.000 h	48.000 h	43.000 h	20.000 h	18.000 h
Linearis Z G1 L... W24 ... DRD			> 50.000 h	> 50.000 h	> 50.000 h	> 50.000 h	25.000 h	24.000 h
Linearis Z G1 L... W24 ... RED			> 50.000 h	> 50.000 h	> 50.000 h	> 50.000 h	> 50.000 h	> 50.000 h
Linearis Z G1 L... W24 ... RNG			> 50.000 h	> 50.000 h	> 50.000 h	> 50.000 h	22.000 h	21.000 h
Linearis Z G1 L... W24 ... PCA			> 50.000 h	> 50.000 h	> 50.000 h	> 50.000 h	22.000 h	21.000 h
Linearis Z G1 L... W24 ... MNT			> 50.000 h	> 50.000 h	> 50.000 h	> 50.000 h	45.000 h	42.000 h
Linearis Z G1 L... W24 ... LME			> 50.000 h	> 50.000 h	> 50.000 h	> 50.000 h	45.000 h	42.000 h
Linearis Z G1 L... W24 ... GRN			> 50.000 h	> 50.000 h	> 50.000 h	> 50.000 h	33.000 h	32.000 h
Linearis Z G1 L... W24 ... CYN			> 50.000 h	> 50.000 h	> 50.000 h	> 50.000 h	49.000 h	47.000 h
Linearis Z G1 L... W24 ... BLU			> 50.000 h	> 50.000 h	> 50.000 h	> 50.000 h	49.000 h	47.000 h
Linearis Z G1 L... W24 ... RYL			22.000 h	20.000 h	14.000 h	13.000 h	7.000 h	6.000 h

Technical drawings: Linearis Color - Industry standard linear modules

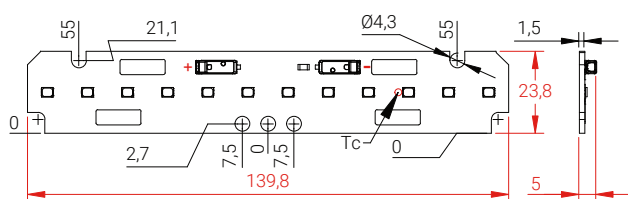
Linearis Color L14 325

Linearis Z G1 L14 W24 325 ...



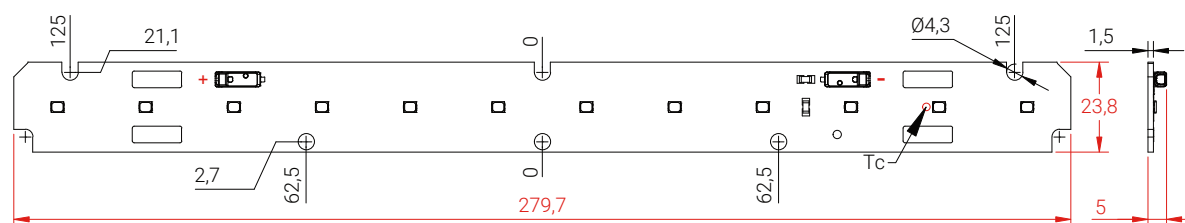
Linearis Color L14 650

Linearis Z G1 L14 W24 650 ...



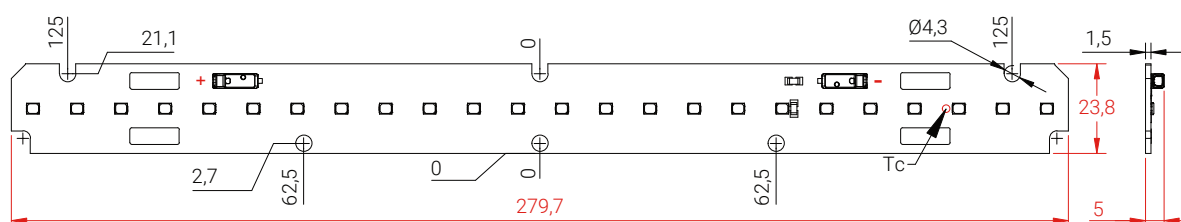
Linearis Color L28 650

Linearis Z G1 L28 W24 650 ...



Linearis Color L28 1300

Linearis Z G1 L28 W24 1300 ...









Varius RGBW — Industry standard linear modules

Our iX-led Varius RGBW modules are Zhaga-compliant LED modules that are ideal for installation in luminaires. Choose from two different lengths.

The LED modules are equipped with RGBW LEDs that can be controlled in four separate channels. The color rendering is CRI 80.

You can choose between the light colors 3000 K, 4000 K and 5700 K.

Our modules are designed for series connection. Modules of different lengths can also be lined up without any problems. The spacing of the LEDs is chosen to ensure that they are distributed as evenly as possible across all modules.

Our iX-led standard modules are also available in small quantities at short notice and are very advantageous in the overall concept.

Standard does not mean rigid and unchangeable!

Do you need different light colors, different color renderings or minimally shorter/longer versions of the modules? You need the assembly of soldering nuts as spacers or a threaded insert for simplified mounting of the module? No problem. Other terminals or soldered cables are also possible. With the **iX-led product family** we can adapt and individualize the standard to your needs.

Explore our exclusive module series with more than 1000 lighting possibilities.

LED module with mid-power LEDs for installation in luminaires.

Versatile with:

✓ RGBW linear module in 2 lengths: 280 mm and 560 mm x 24 mm

✓ color rendering: CRI 80

✓ light colors: 2 Channels with 3000 K, 4000 K and 5700 K

Plug-in terminals for simple and quick mounting.

For operation with suitable constant current drivers.

Maximum working voltage	250 V
Ambient temperature	-20...+50 °C
Max. perm. operating temperature (Tc)	80 °C
EPREL database entry	yes
Beam angle	120°

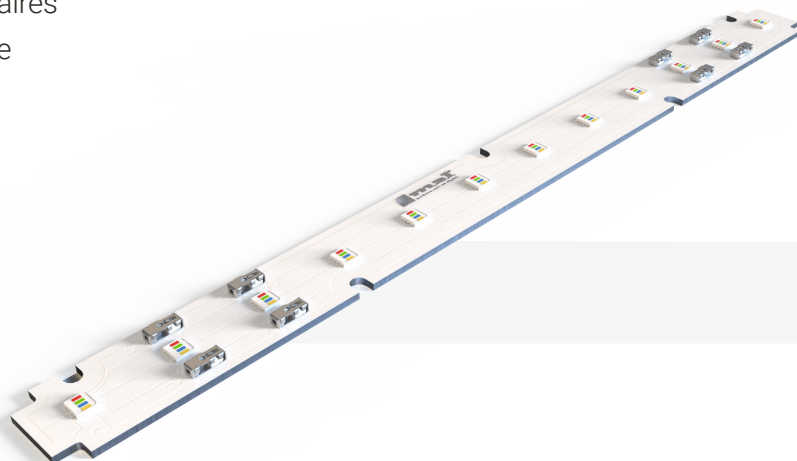
Terminals:

Terminals	8
Connection type	rigid / flexible
Conductor cross section AWG	AWG 18-24
Conductor cross section	min 0.2 mm ²
	max 0.75 mm ²
Stripping length	8 - 9 mm

Also available with other terminals on request.

Varius RGBW L28 320 - Industry standard linear modules

- ✓ RGBW linear module for installation in luminaires
- ✓ RGBW: four channels individually controllable
- ✓ 12 RGBW LEDs
- ✓ pitch distance 23.3 mm
- ✓ length 280 mm
- ✓ width 24 mm
- ✓ eight connection terminals
- ✓ rated current 250 mA
- ✓ maximum operating current 350 mA
- ✓ maximum forward voltage 11.4 V



Please also refer to the technical data of the Varius RGBW family on page 82. Further technical data and drawings from page 87.

light color	channel	wavelength	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
			If = 125 mA Tc = 25 °C		If = 250 mA Tc = 25 °C		If = 350 mA Tc = 25 °C			
RGBW830	R	619-624 nm	56 lm	80 lm/W	107 lm	71 lm/W	144 lm	66 lm/W	7533-00010	Varius RGBW G2 L28 W24 320 RGBW830
	G	520-535 nm	140 lm	153 lm/W	249 lm	123 lm/W	323 lm	107 lm/W		
	B	460-475 nm	42 lm	41 lm/W	75 lm	34 lm/W	98 lm	31 lm/W		
	W	3000 K	163 lm	161 lm/W	319 lm	153 lm/W	440 lm	148 lm/W		
RGBW840	R	619-624 nm	56 lm	80 lm/W	107 lm	71 lm/W	144 lm	66 lm/W	7533-00005	Varius RGBW G2 L28 W24 320 RGBW840
	G	520-535 nm	140 lm	153 lm/W	249 lm	123 lm/W	323 lm	107 lm/W		
	B	460-475 nm	42 lm	41 lm/W	75 lm	34 lm/W	98 lm	31 lm/W		
	W	4000 K	163 lm	161 lm/W	319 lm	153 lm/W	440 lm	148 lm/W		
RGBW857	R	619-624 nm	56 lm	80 lm/W	107 lm	71 lm/W	144 lm	66 lm/W	7533-00004	Varius RGBW G2 L28 W24 320 RGBW857
	G	520-535 nm	140 lm	153 lm/W	249 lm	123 lm/W	323 lm	107 lm/W		
	B	460-475 nm	42 lm	41 lm/W	75 lm	34 lm/W	98 lm	31 lm/W		
	W	5700 K	163 lm	161 lm/W	319 lm	153 lm/W	440 lm	148 lm/W		

Varius RGBW L28 640 - Industry standard linear modules

- ✓ RGBW linear module for installation in luminaires
- ✓ RGBW: four channels individually controllable
- ✓ 24 RGBW LEDs
- ✓ pitch distance 11.7 mm
- ✓ length 280 mm
- ✓ width 24 mm
- ✓ eight connection terminals
- ✓ rated current 500 mA
- ✓ maximum operating current 700 mA
- ✓ maximum forward voltage 11.4 V

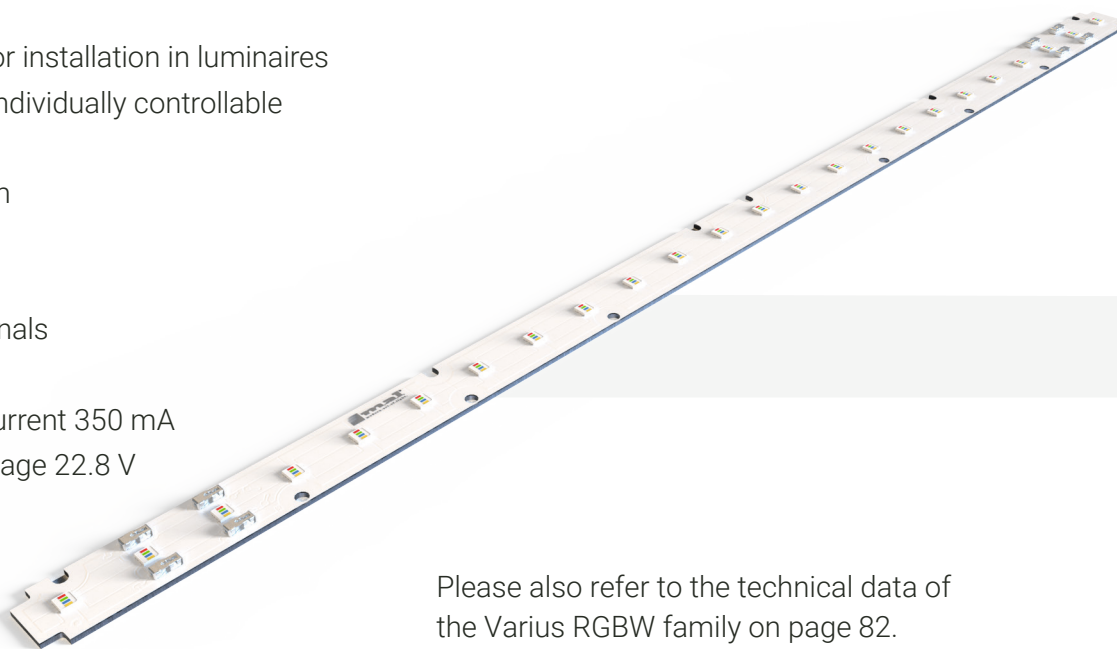


Please also refer to the technical data of the Varius RGBW family on page 82. Further technical data and drawings from page 87.

light color	channel	wavelength	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
			If = 250 mA Tc = 25 °C		If = 500 mA Tc = 25 °C		If = 700 mA Tc = 25 °C			
RGBW857	R	619-624 nm	112 lm	80 lm/W	213 lm	71 lm/W	287 lm	66 lm/W	7533-00000	Varius RGBW G2 L28 W24 640 RGBW857
	G	520-535 nm	281 lm	153 lm/W	498 lm	123 lm/W	646 lm	107 lm/W		
	B	460-475 nm	83 lm	41 lm/W	149 lm	34 lm/W	196 lm	31 lm/W		
	W	3000 K	327 lm	161 lm/W	638 lm	153 lm/W	881 lm	148 lm/W		
RGBW840	R	619-624 nm	112 lm	80 lm/W	213 lm	71 lm/W	287 lm	66 lm/W	7533-00001	Varius RGBW G2 L28 W24 640 RGBW840
	G	520-535 nm	281 lm	153 lm/W	498 lm	123 lm/W	646 lm	107 lm/W		
	B	460-475 nm	83 lm	41 lm/W	149 lm	34 lm/W	196 lm	31 lm/W		
	W	4000 K	327 lm	161 lm/W	638 lm	153 lm/W	881 lm	148 lm/W		
RGBW830	R	619-624 nm	112 lm	80 lm/W	213 lm	71 lm/W	287 lm	66 lm/W	7533-00008	Varius RGBW G2 L28 W24 640 RGBW830
	G	520-535 nm	281 lm	153 lm/W	498 lm	123 lm/W	646 lm	107 lm/W		
	B	460-475 nm	83 lm	41 lm/W	149 lm	34 lm/W	196 lm	31 lm/W		
	W	5700 K	327 lm	161 lm/W	638 lm	153 lm/W	881 lm	148 lm/W		

Varius RGBW L56 640 - Industry standard linear modules

- ✓ RGBW linear module for installation in luminaires
- ✓ RGBW: four channels individually controllable
- ✓ 24 RGBW LEDs
- ✓ pitch distance 23.3 mm
- ✓ length 560 mm
- ✓ width 24 mm
- ✓ eight connection terminals
- ✓ rated current 250 mA
- ✓ maximum operating current 350 mA
- ✓ maximum forward voltage 22.8 V

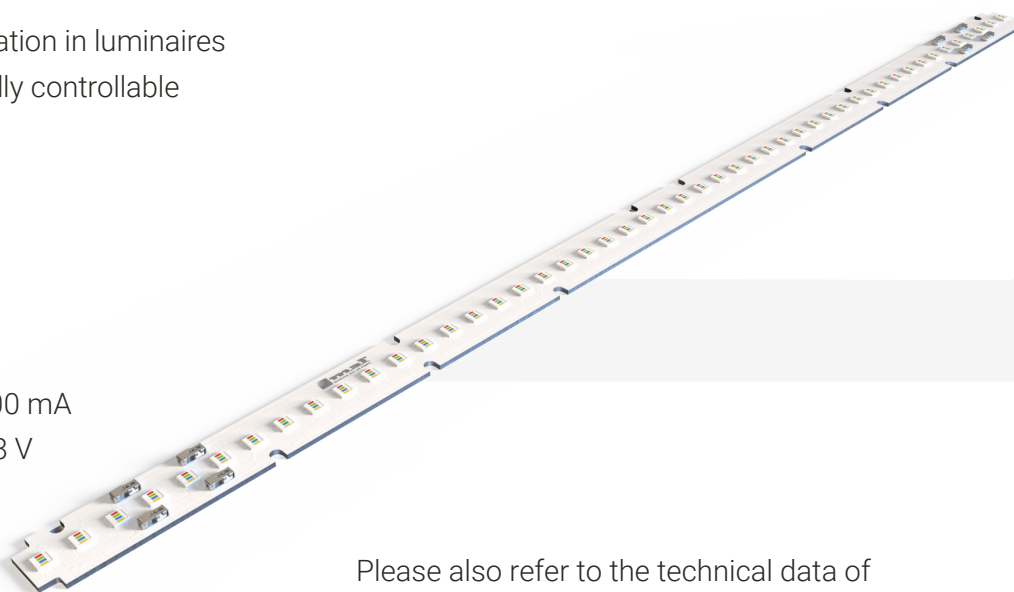


Please also refer to the technical data of the Varius RGBW family on page 82. Further technical data and drawings from page 87.

light color	channel	wavelength	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
			If = 125 mA Tc = 25 °C		If = 250 mA Tc = 25 °C		If = 350 mA Tc = 25 °C			
RGBW857	R	619-624 nm	112 lm	80 lm/W	213 lm	71 lm/W	287 lm	66 lm/W	7533-00006	Varius RGBW G2 L56 W24 640 RGBW857
	G	520-535 nm	281 lm	153 lm/W	498 lm	123 lm/W	646 lm	107 lm/W		
	B	460-475 nm	83 lm	41 lm/W	149 lm	34 lm/W	196 lm	31 lm/W		
	W	3000 K	327 lm	161 lm/W	638 lm	153 lm/W	881 lm	148 lm/W		
RGBW840	R	619-624 nm	112 lm	80 lm/W	213 lm	71 lm/W	287 lm	66 lm/W	7533-00007	Varius RGBW G2 L56 W24 640 RGBW840
	G	520-535 nm	281 lm	153 lm/W	498 lm	123 lm/W	646 lm	107 lm/W		
	B	460-475 nm	83 lm	41 lm/W	149 lm	34 lm/W	196 lm	31 lm/W		
	W	4000 K	327 lm	161 lm/W	638 lm	153 lm/W	881 lm	148 lm/W		
RGBW830	R	619-624 nm	112 lm	80 lm/W	213 lm	71 lm/W	287 lm	66 lm/W	7533-00011	Varius RGBW G2 L56 W24 640 RGBW830
	G	520-535 nm	281 lm	153 lm/W	498 lm	123 lm/W	646 lm	107 lm/W		
	B	460-475 nm	83 lm	41 lm/W	149 lm	34 lm/W	196 lm	31 lm/W		
	W	5700 K	327 lm	161 lm/W	638 lm	153 lm/W	881 lm	148 lm/W		

Varius RGBW L56 1280 - Industry standard linear modules

- ✓ RGBW linear module for installation in luminaires
- ✓ RGBW: four channels individually controllable
- ✓ 48 RGBW LEDs
- ✓ pitch distance 11.7 mm
- ✓ length 560 mm
- ✓ width 24 mm
- ✓ eight connection terminals
- ✓ rated current 500 mA
- ✓ maximum operating current 700 mA
- ✓ maximum forward voltage 22.8 V

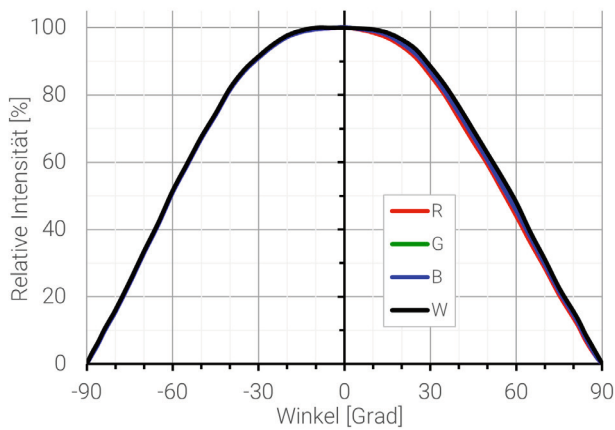


Please also refer to the technical data of the Varius RGBW family on page 82. Further technical data and drawings from page 87.

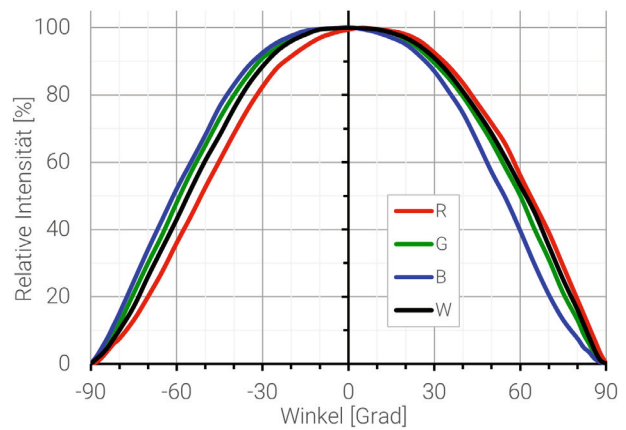
light color	channel	wavelength	Flux typ.	LPW typ.	Flux typ.	LPW typ.	Flux typ.	LPW typ.	order-nr.	description
			If = 250 mA Tc = 25 °C		If = 500 mA Tc = 25 °C		If = 700 mA Tc = 25 °C			
RGBW857	R	619-624 nm	224 lm	80 lm/W	426 lm	71 lm/W	574 lm	66 lm/W	7533-00002	Varius RGBW G2 L56 W24 1280 RGBW857
	G	520-535 nm	562 lm	153 lm/W	997 lm	123 lm/W	1291 lm	107 lm/W		
	B	460-475 nm	166 lm	41 lm/W	298 lm	34 lm/W	391 lm	31 lm/W		
	W	3000 K	654 lm	161 lm/W	1277 lm	153 lm/W	1762 lm	148 lm/W		
RGBW840	R	619-624 nm	224 lm	80 lm/W	426 lm	71 lm/W	574 lm	66 lm/W	7533-00003	Varius RGBW G2 L56 W24 1280 RGBW840
	G	520-535 nm	562 lm	153 lm/W	997 lm	123 lm/W	1291 lm	107 lm/W		
	B	460-475 nm	166 lm	41 lm/W	298 lm	34 lm/W	391 lm	31 lm/W		
	W	4000 K	654 lm	161 lm/W	1277 lm	153 lm/W	1762 lm	148 lm/W		
RGBW830	R	619-624 nm	224 lm	80 lm/W	426 lm	71 lm/W	574 lm	66 lm/W	7533-00009	Varius RGBW G2 L56 W24 1280 RGBW830
	G	520-535 nm	562 lm	153 lm/W	997 lm	123 lm/W	1291 lm	107 lm/W		
	B	460-475 nm	166 lm	41 lm/W	298 lm	34 lm/W	391 lm	31 lm/W		
	W	5700 K	654 lm	161 lm/W	1277 lm	153 lm/W	1762 lm	148 lm/W		

Technical data: Varius RGBW - Industry standard linear modules

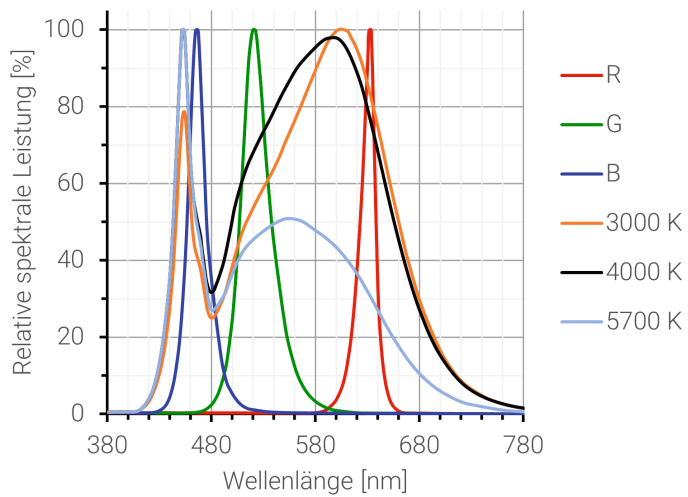
Light distribution curve x-Axis



Light distribution curve y-Axis

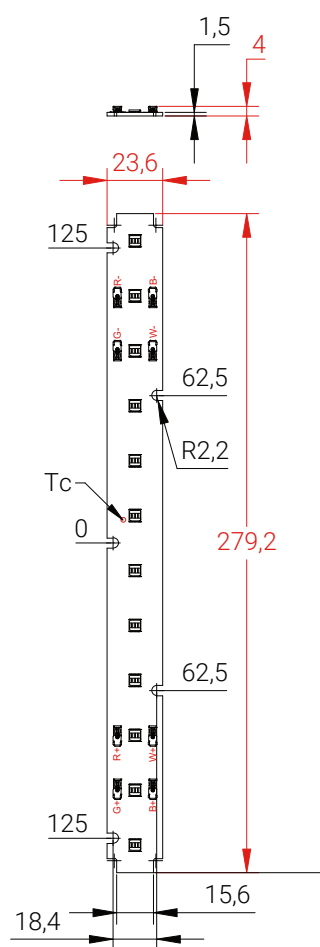


Spectrum

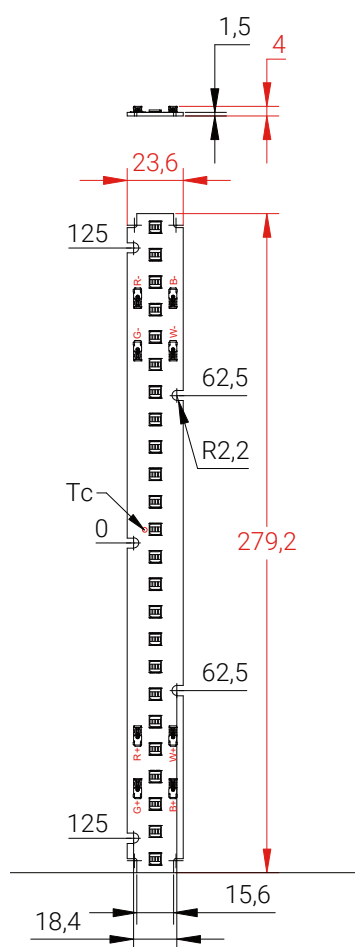


Technical drawings: Varius RGBW - Industry standard linear modules

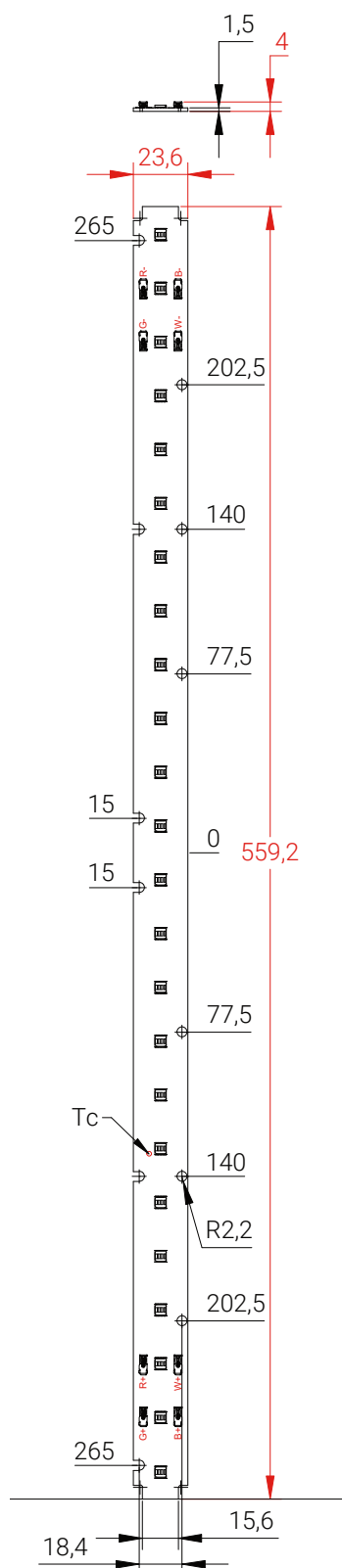
Varius RGBW L28 320



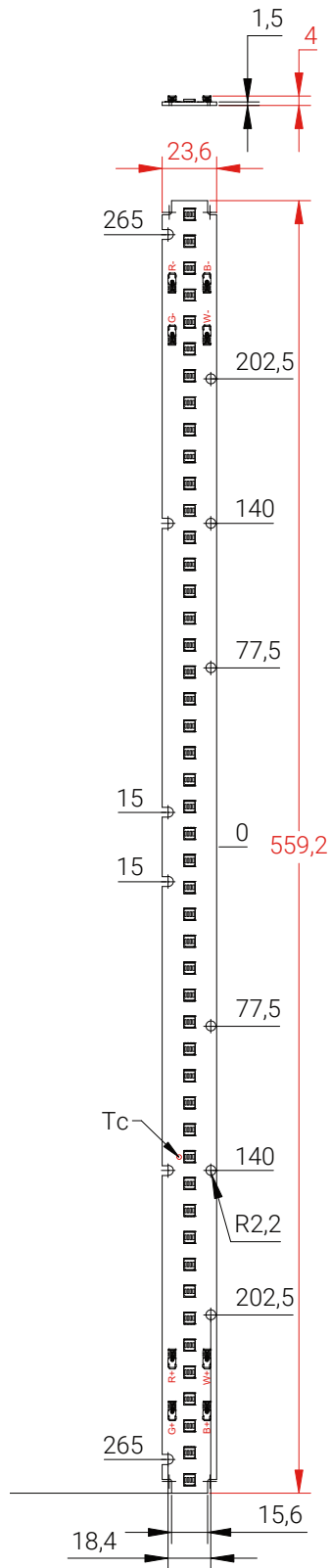
Varius RGBW L28 640



Varius RGBW L56 640

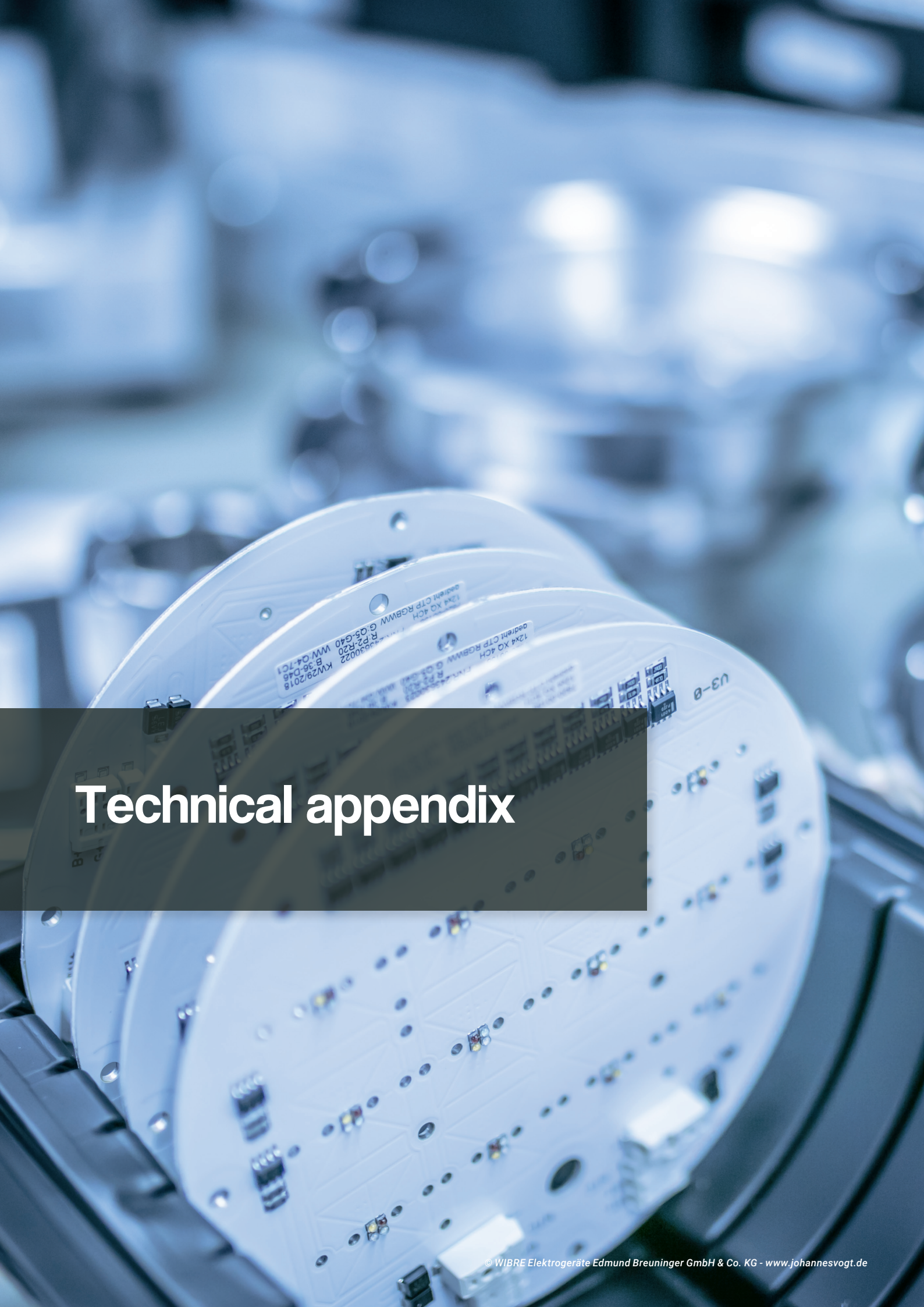


Varius RGBW L56 1280









Technical appendix

Sorry, there is not always enough space for all the values... You need more data? We will gladly provide you with our data sheets.

For quick solutions: On this way you can calculate more data by yourself:

Power input LED-Modul P_{mod} [W]:

$$P_{mod} [W] = \frac{Flux [lm]}{LPW [lm/W]}$$

Forward voltage V_f [V]:

$$V_f [V] = \frac{Flux [lm]}{LPW [lm/W]} * \frac{1000}{I_f [mA]}$$

Agenda:

<i>CCT</i>	Color temperature, the color of light. Unit Kelvin (K) Example: 2700 K
<i>CRI</i>	Designates the color rendering index Ra. The value range is 0 to 100. Sunlight has CRI 100. A good color rendering is achieved with CRI 80, a very good color rendering is CRI 90. Some LEDs can even achieve a color rendering of CRI 95.
<i>Flux</i>	Luminous flux. Unit lumen (lm)
<i>I_f</i>	(Forward) current. Unit ampere (A). We express this value in milliamperes (mA).
<i>V_f</i>	Forward voltage. Unit Volt (V)
<i>P_{mod}</i>	Power consumption of the LED module. Unit Watt (W).
<i>LPW</i>	Abbreviation for lumens per watt. It is also called efficiency or luminous efficacy. Unit lumens per watt (lm/W).

The specified maximum operating currents are informative and must be verified in the application and luminaire by measuring the temperature at the T_c point.

Service life specifications

- ! The service life specifications are defined via statistical values and calculations.
- ! The luminous flux of LEDs decreases over time. The L70 value indicates the point in time at which the luminous flux has reduced to 70% of the initial luminous flux. L80 and L90 define the 80% and 90% values respectively.
- ! The B value, usually B10 or B50, defines how many LEDs fall below the L value. L80B10 thus means that 10% of the LEDs have fallen below and 90% above the 80% value of the initial luminous flux.
- ! L80B10 50.000h defines e.g. with it:
After 50,000h, 90% of the LEDs produce more than 80% of the initial luminous flux.

General mounting and securing instructions

Handling of the LED modules



- ! iX-led LED modules are sensitive electronic components that can be damaged or destroyed by improper handling!
- ! The modules may only be mounted in an electrostatic protected area (EPA). Dissipative tools and bases must be used for mounting. The grounding of persons must be ensured by means of suitable ESD footwear, as well as standard-compliant ESD flooring and/or standard-compliant grounding by means of a wrist strap.
- ! LED modules may only be touched at the edges of the circuit board. Do not touch the surface of the circuit board.
- ! The LEDs themselves must never be touched with pointed objects or fingers, as this may destroy or damage the silicone and alter the light image.
- ! If necessary, cleaning may only be carried out with pure isopropyl alcohol/isopropanol (IPA).
- ! If possible, the modules should not come into contact with chemicals during storage, operation or installation, as this can lead to destruction or massive reduction in luminous flux. This applies in particular, but not exclusively, to:
 - Cyanoacrylate adhesives ("super glue")
 - Solvents containing acetone and solvents in general
 - Various, unsuitable cleaners, such as petroleum ether, glass cleaner, etc.
 - Products containing sulfur (this may include cardboard boxes)
 - All substances from which volatile organic compounds (VOC) may be emitted.
- ! Any modification of the modules that has not been approved by **m.a.l.** is not permitted.
- ! If possible, the modules are to be stored only in the sealed original packaging. If this is not possible, it must at least be ensured that the modules are packaged in an ESD-compliant manner and are protected from dust and moisture.
- ! Direct storage in cardboard boxes without additional outer packaging can lead to damage to the LEDs, depending on the LED installed.

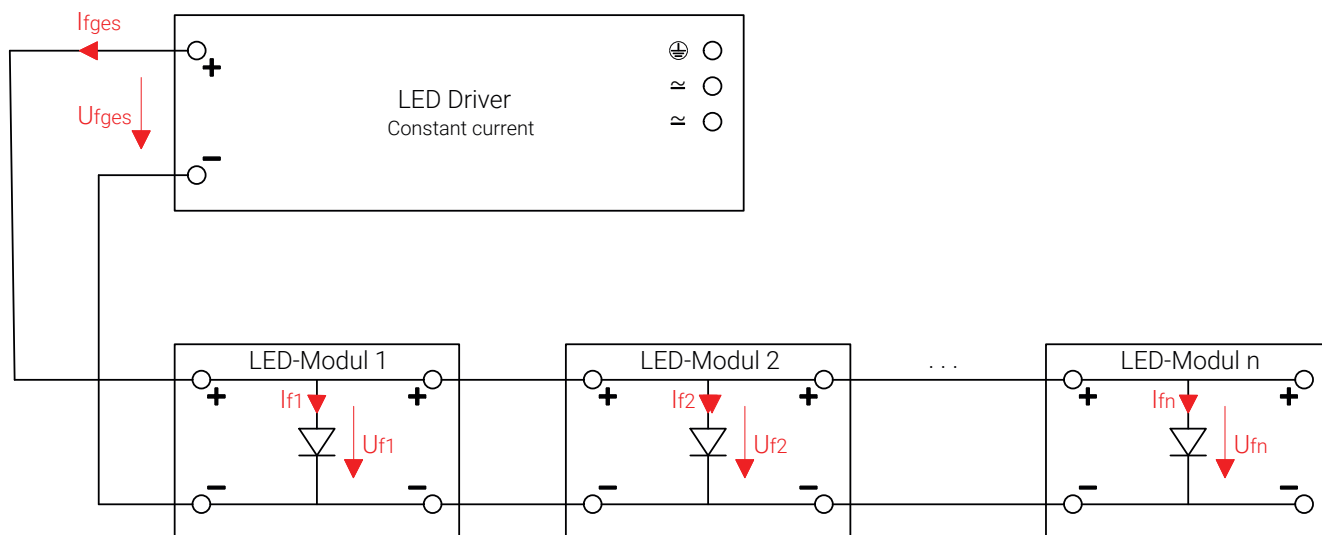
Mounting of LED modules

- ! Use a suitable heat-conducting material to ensure good heat transfer between the LED module and the heat sink.
- ! Mounting must only be carried out using suitable screws or other fastening elements.
- ! When selecting screws and other fastening elements, it must be ensured that the air and creepage distances of the screw heads or other conductive elements do not fall below clearance and creepage distances. In case of doubt, plastic washers with suitable dimensions or plastic screws must be used.
- ! As an alternative or in addition to a screw connection, the assembly can be carried out with suitable thermally conductive adhesive tapes. In this case, it is essential to check the material compatibility!
- ! Any mechanical stress on the module must be avoided, as this can lead to damage or destruction.
- ! Sufficient heat dissipation must be ensured by the luminaire design and correct mounting. The maximum temperature at the Tc point must not be exceeded during operation. For this purpose, measurements must be carried out with the complete luminaire and the permissible operating temperature range of the finished luminaire must be determined accordingly.

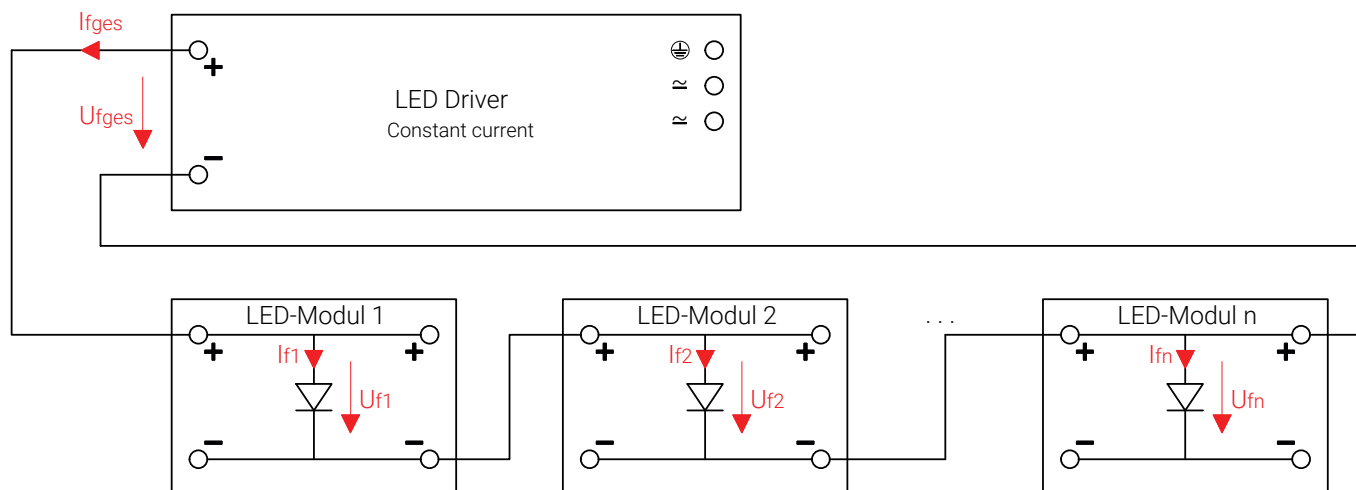
Connection of LED modules

- ! All LED modules listed in this catalog are intended for connection to a constant current LED driver. Safe operation can only be ensured with an LED driver that complies with all relevant regulations. Operation with constant voltage LED drivers is not permitted and can lead to the destruction of the LED module.
- ! Please refer to the data sheet of your LED driver and check if the current and voltage range fits to the LED modules.
- ! Reversing the polarity of the LED module (swapping plus and minus) can damage the LED module.
- ! Multiple LED modules can be connected in series or parallel. The following must be observed:
 - Parallel connection:
A parallel connection of the modules is not recommended, because due to manufacturing tolerances and different thermal loads different module currents and thus differences in brightness up to overload of modules can occur. Exceptions are modules of the Opticus Daisy T series. In the event of a fault such as an electrical interruption to a module, there is a higher current to the remaining modules. This leads to a reduction in lifetime up to failure.
 - Series connection:
In a series connection, the forward voltages of the individual modules add up. Please consider the necessary measures in your luminaire design if they leave the SELV range. If the resulting voltage is >60 V, the modules must be installed isolated and protected against accidental contact.
 - The maximum working voltage of the insulation (see data sheets) must never be exceeded even by series connection.

Parallel connection



Series connection



- ! In any case, compliance with the applicable standards and regulations must be ensured.
- ! Before connecting the modules, the operating device must be disconnected from the mains.
- ! Connecting modules under voltage will destroy the modules.

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! You can find our current privacy policy at: www.mal-effekt.de/datenschutz

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Technical data available for download

The data shown are excerpts. The complete data sheets are available on our website www.mal-effekt.de.

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