

ActivePAQ Linear Performer II 2 ft.
w/ ultra-low light flicker of Pst LM < 0.2 & SVM < 0.2

DATASHEET

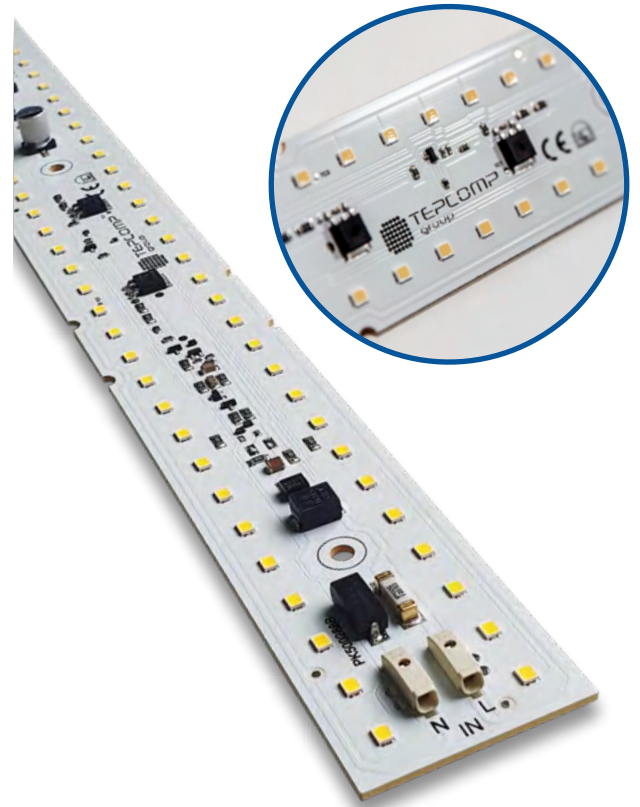
ActivePAQ Linear Performer II 2 ft. 4000lm ActivePAQ Linear Performer II 2 ft. 3000lm

PRODUCT DESCRIPTION

DA-Group's ActivePAQ Linear Performer II modules combine advanced integrated driver technology with best-in-class LEDs and sophisticated in-house manufacturing capabilities. The result is an affordable 2 ft. LED module that can directly be operated on mains voltage (230 Vac). Driver components are positioned in-between 2 rows of LED's over the total length of the module and on the same side of the board as LEDs, thus providing a single sided LED module for simplest possible integration into luminaire mechanics.

These ActivePAQ Linear Performer II modules are designed to be attached with Avdel Rivscrew®. Rivscrew® rivets ensure that the ActivePAQ attachment method is optimized for true high-volume assembly processes.

With an in- and output connector the ActivePAQ Linear Performer II module supports loop through functionality. This combination makes it perfectly suitable for use of multiple modules in a compact linear luminaire or light line systems. With its high-quality light, ultra-low flicker and compact form factor the ActivePAQ Linear Performer II module is the ideal light source for linear Office-, Shop- and Industrial applications.



CERTIFICATES, STANDARDS AND PRECAUTIONS



- CE / ENEC (pending)
- EN 55015:2019/A11:2020 | EN 61547:2009 | EN 61000-3-2:2019/A1:2020 | EN 61000-3-3:2013/A1:2017 | EN 62031:2018 | EN 61347-1:2015/A1:2017 | EN 62471:2008

3 YEARS LIMITED WARRANTY

DA-Group takes pride in the quality of its products. We not only develop all products in house, they are also produced and tested in our own manufacturing plants to ensure guaranteed reliability and performance. DA-Group's ActivePAQ Linear modules come with the assurance of 3 year warranty. After all, with typical LED lifetimes of > 72.000 hours, it is critical to have an integrated power supply with equal reliability.

KEY FEATURES

- Compact form factor
- No need for separate bulky drivers
- Perfect light distribution
- Supports light-line systems
- Single sided board for simple construction
- In- and output connectors for 230 V loop-through
- Beam angle 120 deg
- Small color tolerance (SDCM <3)
- Ultra-low light flicker < 5 % (≥ 100 Hz)
- CRI > 80 and CRI > 90 (subject to LED availability)
- Various CCT's available 2700K, 3000K, 3500K, 4000K, 5000K, 5700K, 6500K (subject to LED availability)
- > 72.000hrs lifetime
- Simple and fast installation of modules with Avdel Rivscrews® for true high volume production

TECHNICAL DATA

Parameter	Unit	Linear Performer II 2 ft. / 4000 lm	Linear Performer II 2 ft. / 3000 lm
Module length	ft. / mm	2 / 560	2 / 560
Module length	mm	40	40
Integrated driver		Yes	Yes
CRI		> 80	> 80
CCT ⁰⁾	K	4000	4000
Lumen output	lm	4000 ± 5%	3000 ± 5%
System efficiency	lm / W	> 145	> 145
Maximum input voltage range	Vac	230 ± 10%	230 ± 10%
Nominal voltage range ¹⁾	Vac	220...240	220...240
Input frequency	Hz	50/60	50/60
Nominal current	A ac	< 0.125	< 0.095
Nominal wattage	W	28	21
Standby power ²⁾	W	0	0
Starting time	s	< 0.5	< 0.5
Flicker frequency	Hz	≥ 100	≥ 100
Flicker percent ³⁾	%	< 5	< 5
Flicker index		< 0.01	< 0.01
Pst LM (Short-Term Perceptibility of Light Modulation)		< 0.2	< 0.2
SVM (Stroboscopic Visual Measure)		< 0.2	< 0.2
Power Factor		> 0.99	> 0.99
THD ⁴⁾	%	< 6	< 7
Standard deviation of color matching	MacAdam SDCM	< 3	< 3
Beam angle	deg	120	120
No. of LEDs / module	pcs	100	100
No. of Rows		2	2
Connector type		BJB 46.131.1001.50	BJB 46.131.1001.50
Weight	gr	< 100	< 100
Module height incl. components	mm	< 16	< 16
Storage temp range ⁵⁾	degC	-40...+85	-40...+85
Tc max	degC	110	110
Tc life ⁶⁾	degC	100	100
Dimmable		No	No
Surge protection	kV	2	2
Fast transient protection	kV	4	4
No. of switching cycles ⁷⁾	qty	> 65.000	> 65.000

⁰⁾ Various CCT's available: 2700K, 3000K, 3500K, 4000K, 5000K, 5700K and 6500K (subject to LED availability). Above table's performance values are for 4000K CRI80.

¹⁾ Rated Voltage Un = 230 Vac.

²⁾ LED module itself does not have a specific standby mode and instead the mains feeding the module needs to be switched off to turn the lights off. Thus, the standby power is zero.

³⁾ Complying with IEEE 1789-2015 recommended operating area.

⁴⁾ Measured according to EN61000-3-2.

⁵⁾ Non-condensing. These conditions are for short term storage and transportation. For long-term storage, the temperature should be kept at +25 +/-10C and humidity at < 75%. In these long-term storage conditions, the maximum shelf life is 24 months and short term means 10 % of this shelf life. Absolute Maximum Operating Temperature range is also -40C...+85C. However, the highest achievable operating temperature limit is likely to be limited by the maximum allowed temperatures of the Tc-points on the board. Therefore, please refer to the "ActivePAQ Linear Basic and Performer II modules Design-in Guide" for more details about the Tc-point limits. This Design-in Guide can be downloaded from www.da-group.fi.

⁶⁾ See 'Design-in guide' for lifetime defining components to be measured during design-in of the ActivePAQ module.

⁷⁾ Tested at room temperature and with 230 Vac 50 Hz input with cycle times of 30 seconds ON and 30 seconds OFF.

ActivePAQ Linear Performer II 2 ft. lifetime 4000lm and 3000lm

TC3 °C	L90B10	L90B20	L90B50	L80B10	L80B20	L80B50	L70B10	L70B20	L70B50
55	>62	>66	>72	>72	>72	>72	>72	>72	>72
60	>59	>62	>72	>72	>72	>72	>72	>72	>72
65	>55	>59	>67	>72	>72	>72	>72	>72	>72
70	>52	>55	>62	>72	>72	>72	>72	>72	>72
75	>49	>52	>58	>72	>72	>72	>72	>72	>72
80	>46	>49	>54	>72	>72	>72	>72	>72	>72
85	>43	>46	>50	>50	>50	>50	>50	>50	>50

Minimum lifetime estimation in thousand hours versus TC3-point (LED) temperature. TC2- and TC4-point (ELCAP's) temperatures estimated to be approximately 5 °C less than TC3. TC1-point (FET) maximum temperature 100 °C.

LED lifetime data based on 12 000 hour LM-80 data from LED manufacturer.

Module lifetime estimation limited to 6 times LM-80 test time, 72 000 hour.

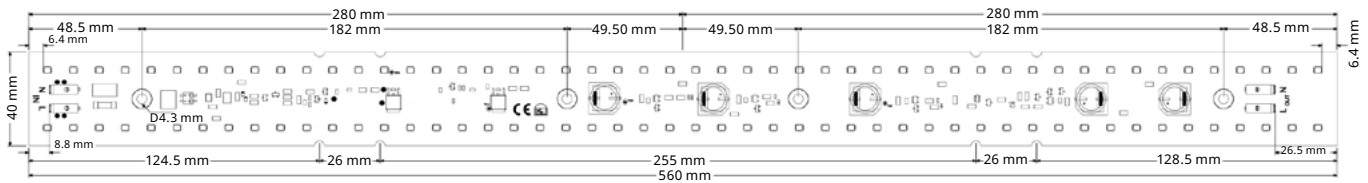
Module lifetime estimation limited by ELCAP's estimated lifetime.

ORDERING DATA

Product description	CCT	Model description	Ordering code & model identifier	Box quantity = MoQ (pcs)	Pallet qty max. (pcs) ~ 475 kg	Brutto weight (150 pcs)	Netto weight (150 pcs)
ActivePAQ Linear Performer II 2 ft. 4000lm	4000K	ActivePAQ-L-2F40-MSA2-2R-4K-840-3-5	VP400210	150	3600	18.5 kg	15 kg
	3000K	TBD	TBD	150	3600	18.5 kg	15 kg
ActivePAQ Linear Performer II 2 ft. 3000lm	4000K	TBD	TBD	150	3600	18.5 kg	15 kg
	3000K	TBD	TBD	150	3600	18.5 kg	15 kg

MECHANICAL DRAWINGS

ActivePAQ Linear 2Ft



ENERGY EFFICIENCY CLASS CALCULATION AND ENERGY LABEL

Model identifier: VP400210

$$\eta_{TM} = \left(\frac{\phi_{use}}{P_{on}} \right) \times F_{TM}$$

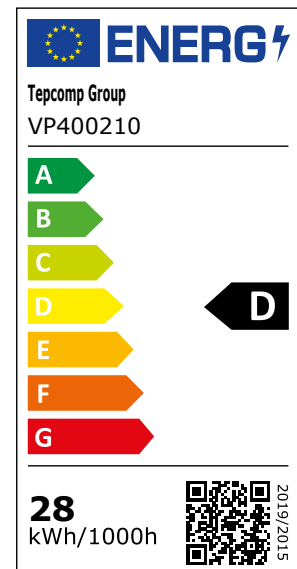
$$\eta_{TM} = \text{total mains efficacy}$$

$$\phi_{use} = 4000 \text{ lm}$$

$$P_{on} = 28 \text{ W}$$

$F_{TM} = 1.000$ for non - directional light sources (NDLS)
operating on mains (MLS)

Above shown formula with the above provided input values results a value of 143 lm/W, thus leading to an energy efficiency class D, according to the Commission delegated regulation (EU) 2019/2015 definitions. Below is the energy label according to this for the above-mentioned model identifier generated from EPREL database.



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