PHILIPS

Fortimo

LED

Fortimo LED Strip 1120mm 4400lm 9xx LV5

Datasheet

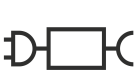
Fortimo LED Strip 1120mm 4400lm 9xx LV5

The Fortimo LED Strip is a uniquely wide portfolio which can be used in all kind of linear indoor luminaire types. It's form factor makes it easy to design-in and handle in production as it complies to Zhaga standards. Due to the availability from 0.5ft up to 5ft lengths only one product family is needed to cover a wide range of needs.

Key features and benefits

- Typical module efficacy of 185 lm/W (at 4000K CRI80)
- High performance for CRI90 of 175 lm/W (at 4000K CRI90)
- Long life-time: >50,000 hours
- Excellent color consistency of 3 SDCM
- Two lumen packages per length available
- CCTs available: 3000K and 4000K
- Available in High Voltage (HV) and Low Voltage (LV)
- Small LED module width of only 20mm
- Wide temperature (Tc) range -40°C to +80°C
- Five year system warranty

May 2020



Ordering data

Commercial product name	EOC	12NC	Box quantity
Fortimo LED Strip 1120mm 4400lm 930 LV5F	8718699 758769 00	9290 021 75206	96
Fortimo LED Strip 1120mm 4400lm 940 LV5F	8718699 759278 00	9290 021 75306	96

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 1120mm 4400lm 9xx LV5	764	1440	1800	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T_c (case temperature at T_c point)	45	70	80	°C

* Nominal value at which typical performance is specified

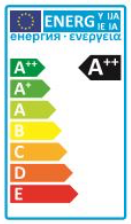
** Value at which life time is specified

*** Maximum value for safe operation, do not operate above this value

Optical characteristics - table per color (CCT)

Fortimo LED Strip 1120mm 4400lm 930 LV5F

Parameter	Min	Typ	Max	Unit
Luminous flux	3866	4180	4494	lm
Module efficacy	148	160		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.437, 0.399)		-
CRI	90			
Photometric code		930/369		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	

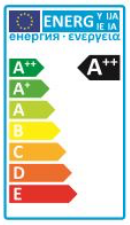


Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	930	lm	lm/W
50% I-nom 382mA	Tc 25 °C	2195	178
	Tc-nom 45 °C	2145	175
	Tc-max 80 °C	2030	168
I-nom 764mA	Tc 25 °C	4278	166
	Tc-nom 45 °C	4180	160
	Tc-max 80 °C	3955	157
I-max 1800mA	Tc 25 °C	9392	143
	Tc-nom 45 °C	9171	140
	Tc-max 80 °C	8664	134

Fortimo LED Strip 1120mm 4400lm 940 LV5F

Parameter	Min	Typ	Max	Unit
Luminous flux	4070	4400	4730	lm
Module efficacy	156	168		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.384, 0.377)		-
CRI	90			
Photometric code		940/369		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	



Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	940	lm	lm/W
50% I-nom 382mA	Tc 25 °C	2307	188
	Tc-nom 45 °C	2248	184
	Tc-max 80 °C	2119	176
I-nom 764mA	Tc 25 °C	4517	176
	Tc-nom 45 °C	4400	168
	Tc-max 80 °C	4145	165
I-max 1800mA	Tc 25 °C	9992	152
	Tc-nom 45 °C	9728	149
	Tc-max 80 °C	9151	142

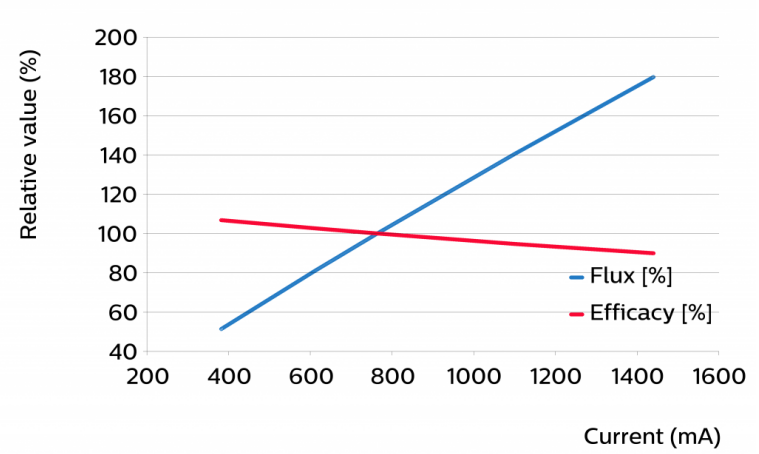
Electrical characteristics

Parameter	Min	Typ	Max	Unit
Forward voltage	33.6	34.3	35.0	V
Power consumption	25.7	26.2	26.7	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules in parallel per chain			1	

Tuning information

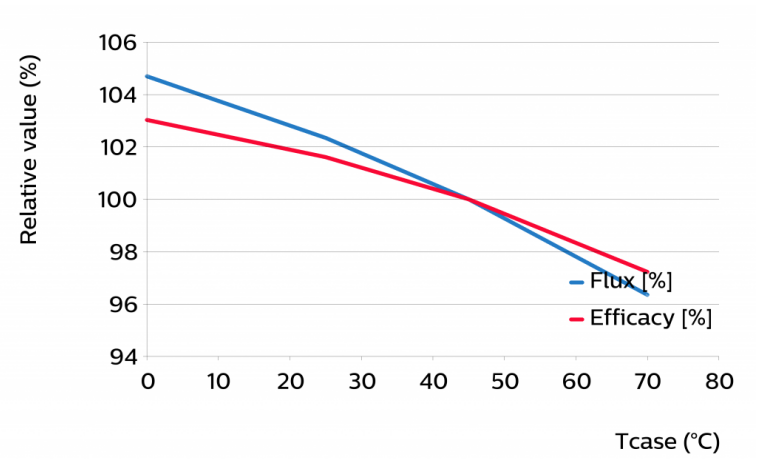
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
1440	180	90
1102	141	95
764	100	100
611	81	103
382	51	107



Flux and efficacy versus temperature at Tc (at I nominal)

Tc [°C]	Flux [%]	Efficacy [%]
70	96	97
45	100	100
25	102	102
0	105	103



Lumen maintenance

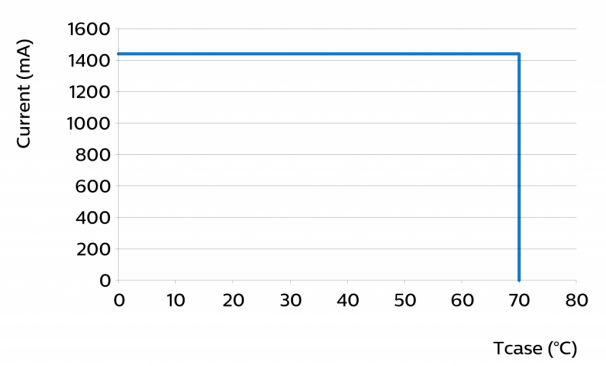
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I nom 606 mA	Tc 25°C	>60	>60	>60	>60	>60	>60	>60	>60	>60
	Tc nom 45°C	>60	>60	>60	>60	>60	>60	52	50	49
	Tc life 70°C	>60	>60	>60	>60	>60	>60	40	38	37
I nom 756 mA	Tc 25°C	>60	>60	>60	>60	>60	>60	>60	>60	>60
	Tc nom 45°C	>60	>60	>60	>60	>60	>60	52	50	49
	Tc life 70°C	>60	>60	>60	>60	>60	>60	40	38	37
I life 1440 mA	Tc 25°C	>60	>60	>60	>60	>60	>60	58	55	54
	Tc nom 45°C	>60	>60	>60	>60	>60	>60	45	43	42
	Tc life 70°C	>60	>60	>60	>60	>60	>60	35	33	32

Lifetime

Parameter	Value	Unit
M70F50 nominal	>60000	hours
M70F50 life	>60000	hours

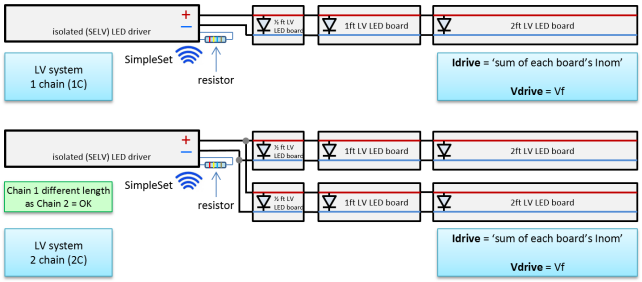
Switching cycles in accordance to EU 1194/2012: >15000

Performance Window



Wiring

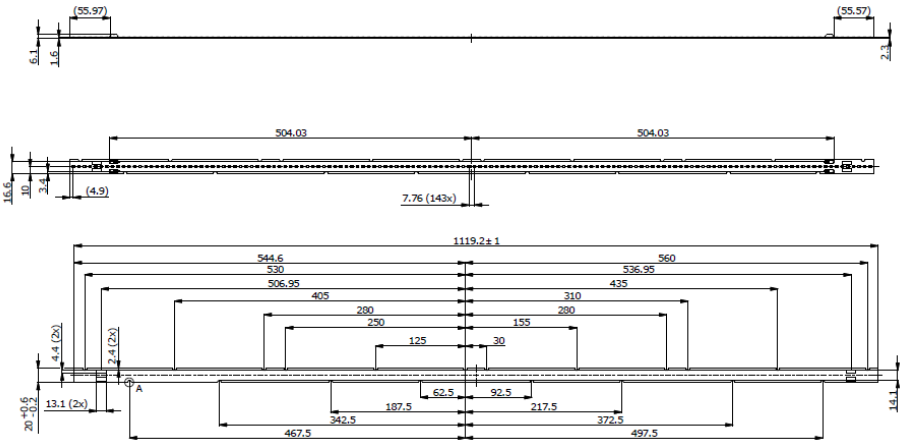
Specification item	Value	Unit	Condition
Input wire cross-section	0.25…0.75	mm²	Solid wire. Wire lenght 300mm. Tolerance +/-
	18…24	AWG	Solid wire. Wire lenght 300mm. Tolerance +/-
Input wire strip length	7.5…8.5	mm	
Input wire cross-section	0.33…0.5	mm²	stranded wire
	20…22	AWG	stranded wire
Input wire strip length	7.5…8.5	mm	



More information in the design-in guide of LED Linear modules.

Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	1118.2	1119.2	1120.2	mm
Width	19.8	20	20.6	mm
Height PCB	1.4	1.6	1.8	mm
Height incl. connector	5.9	6.1	6.3	mm
Product mass		74		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		1800	mA
Case temperature (Tc-max)		80	°C
ESD (direct contact)		8	kV
Working voltage		120	V_{dc}

Application information

Certificates and Standards
CE
ENEC
ENEC+
UL

Environmental
RoHS/REACH

Application	
Dimming	Yes

28/05/2020

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