

PHILIPS

Fortimo

LED

Fortimo LED Strip
1400mm 5500lm 9xx
HV5



Datasheet

Fortimo LED Strip 1400mm 5500lm 9xx HV5

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

August 2020



Ordering data

Commercial product name	EOC	12NC	Box quantity
Fortimo LED Strip 1400mm 5500lm 930 HV5F	8718699 759551 00	9290 021 77106	96
Fortimo LED Strip 1400mm 5500lm 940 HV5F	8718699 759575 00	9290 021 77206	96

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 1400mm 5500lm 9xx HV5	255	480	600	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)

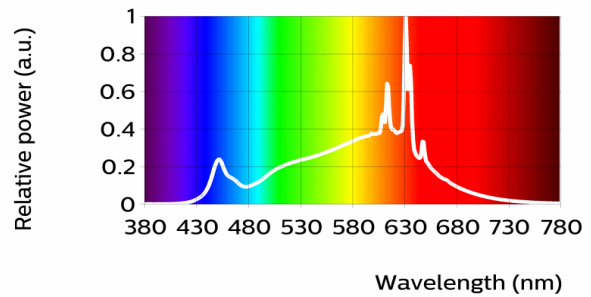
Fortimo LED Strip 1400mm 5500lm 930 HV5F

Parameter	Min	Typ	Max	Unit
Luminous flux	4833	5225	5617	lm
Module efficacy	148	162		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.437, 0.399)		-
Color consistency			3	SDCM
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	lm/W
80% I-nom 204mA	Tc 25 °C	4326	171
	Tc-nom 45 °C	4228	168
	Tc-max 80 °C	4074	163
I-nom 255mA	Tc 25 °C	5347	166
	Tc-nom 45 °C	5225	162
	Tc-max 80 °C	5034	159
I-max 600mA	Tc 25 °C	11725	142
	Tc-nom 45 °C	11450	140
	Tc-max 80 °C	11020	136



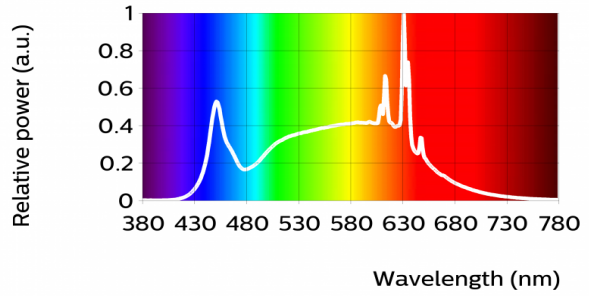
Fortimo LED Strip 1400mm 5500lm 940 HV5F

Parameter	Min	Typ	Max	Unit
Luminous flux	5088	5500	5912	lm
Module efficacy	156	171		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.384, 0.377)		-
Color consistency			3	SDCM
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
80% I-nom 204mA	Tc 25 °C	4561	180
	Tc-nom 45 °C	4443	177
	Tc-max 80 °C	4267	172
I-nom 255mA	Tc 25 °C	5646	176
	Tc-nom 45 °C	5500	171
	Tc-max 80 °C	5282	168
I-max 600mA	Tc 25 °C	12474	151
	Tc-nom 45 °C	12145	148
	Tc-max 80 °C	11651	144



Electrical characteristics

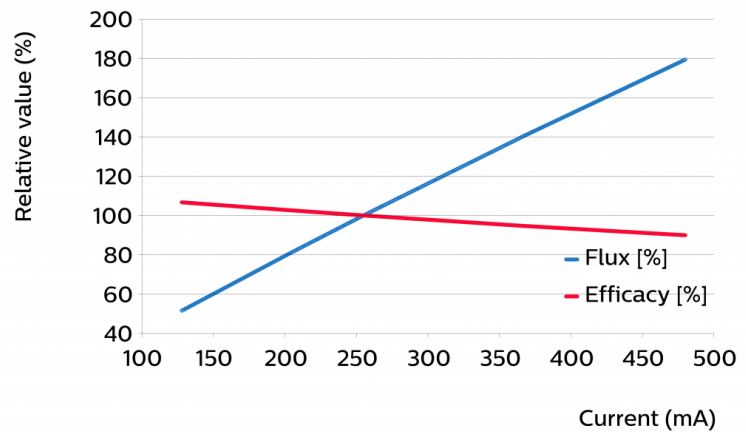
Parameter	Min	Typ	Max	Unit
Forward voltage	124.0	126.5	129.0	V
Power consumption	31.6	32.3	32.9	W = kWh/1000h
Number of modules in series per chain			2	
Number of modules in parallel			4	

Measurement precision for Vf +/- 3%. Measurement precision for power +/- 3.3%

Tuning information

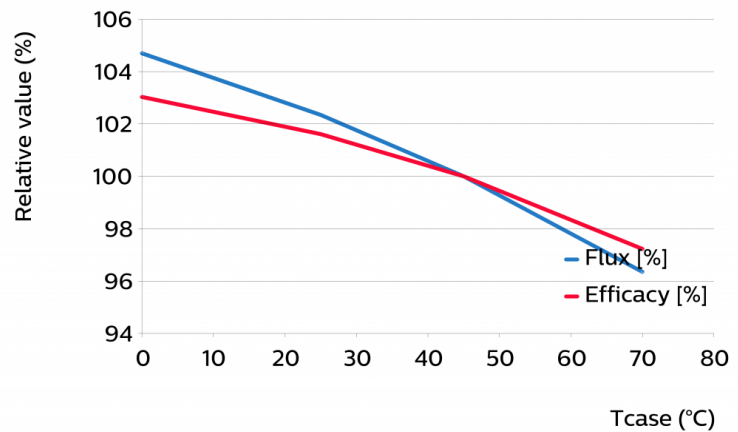
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
480	179	90
368	141	95
255	100	100
204	81	103
128	52	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

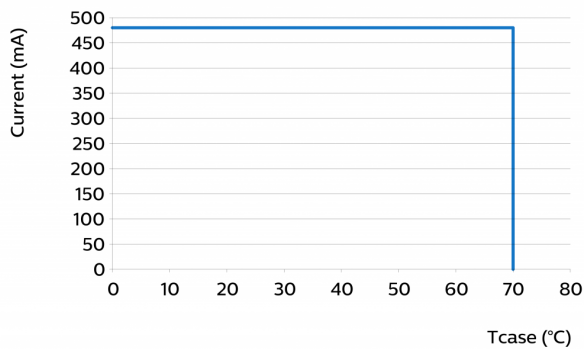
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I nom 202 mA	Tc 25°C	>60	>60	>60	>60	>60	>60	>60	>60	>60
	Tc nom 45°C	>60	>60	>60	>60	>60	>60	52	50	49
	Tc life 70°C	>60	>60	>60	>60	>60	>60	40	38	37
I nom 252 mA	Tc 25°C	>60	>60	>60	>60	>60	>60	>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 480 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

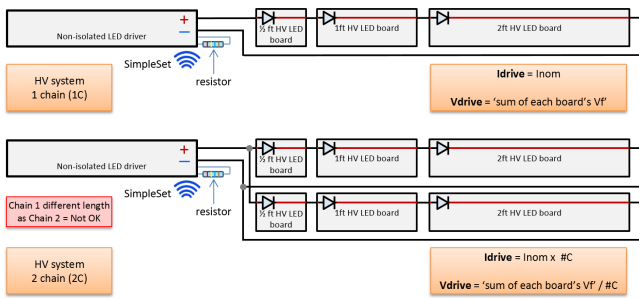
Switching cycles in accordance to EU 1194/2012: >15000

Performance Window



Wiring

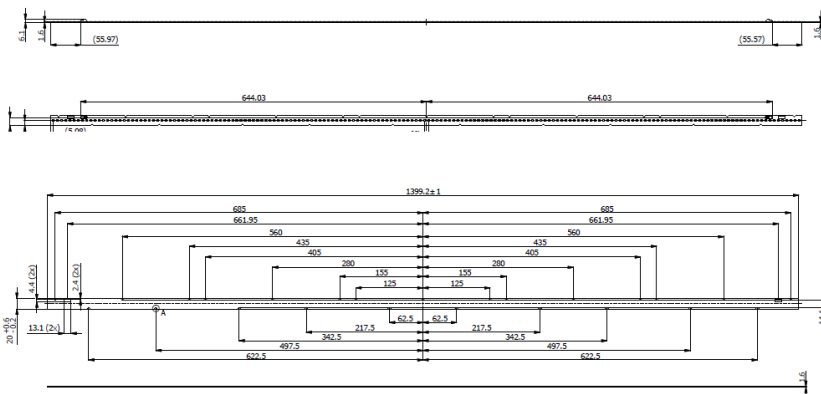
Specification item	Value	Unit	Condition
Input wire cross-section	0.33...0.5	mm ²	stranded wire
	20...22	AWG	stranded wire
Input wire strip length	7.5...8.5	mm	
Input wire cross-section	0.25...0.75	mm ²	solid wire
	18...24	AWG	solid wire
Input wire strip length	7.5...8.5	mm	



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

Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	1398.2	1399.2	1400.2	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		94		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		600	mA
Case temperature (Tc-max)		80	°C
ESD (direct contact)		8	kV
Working voltage		350	V _{dc}

Application information

Certificates and Standards

CE
ENEC
ENEC+

Environmental

RoHS/REACH

Application

Dimming

Yes



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