PHILIPS

Fortimo

LED

Fortimo LED Strip 2ft 2200lm 9xx HV5

Datasheet

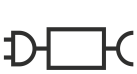
Fortimo LED Strip 2ft 2200lm 9xx HV5

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 2ft 2200lm 930 FC HV5	8718699 717254 00	9290 021 24806	84
Fortimo LED Strip 2ft 2200lm 940 FC HV5	8718699 717278 00	9290 021 24906	84

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 2ft 2200lm 9xx HV5	252	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

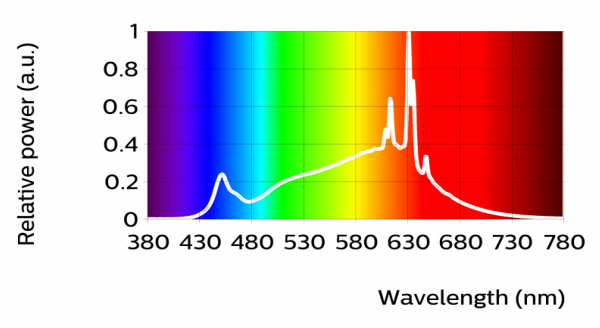
Optical characteristics - table per color (CCT)

Fortimo LED Strip 2ft 2200lm 930 FC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	1913	2090	2223	lm
Module efficacy	149	165		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.437, 0.399)		-
Color consistency			3	SDCM
CRI	90			
R9	50			
Photometric code		930/369		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	

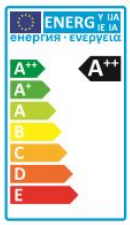
Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	930	lm	lm/W
80% I-nom 202mA	Tc 25 °C	1730	173
	Tc-nom 45 °C	1691	170
	Tc-max 80 °C	1629	166
I-nom 252mA	Tc 25 °C	2139	169
	Tc-nom 45 °C	2090	165
	Tc-max 80 °C	2014	161
I-max 600mA	Tc 25 °C	4743	144
	Tc-nom 45 °C	4631	142
	Tc-max 80 °C	4458	138



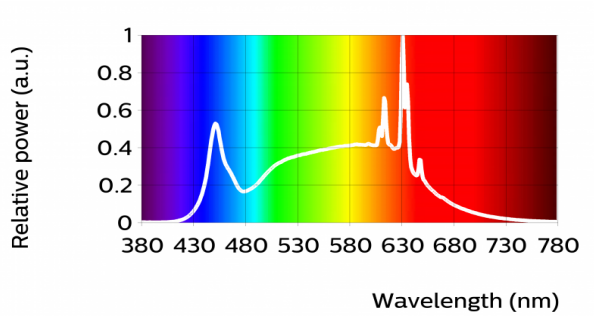
Fortimo LED Strip 2ft 2200lm 940 FC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	2035	2200	2365	lm
Module efficacy	156	174		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.384, 0.377)		-
Color consistency			3	SDCM
CRI	90			
R9	50			
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 202mA	Tc 25 °C	1824	183
	Tc-nom 45 °C	1777	180
	Tc-max 80 °C	1707	174
I-nom 252mA	Tc 25 °C	2258	178
	Tc-nom 45 °C	2200	174
	Tc-max 80 °C	2113	170
I-max 600mA	Tc 25 °C	5046	153
	Tc-nom 45 °C	4913	150
	Tc-max 80 °C	4713	146



Electrical characteristics

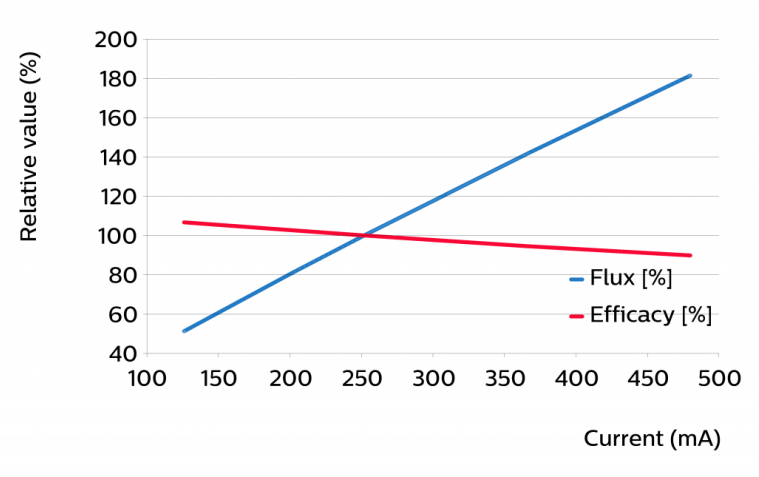
Parameter	Min	Typ	Max	Unit
Forward voltage	48.4	50.2	52.0	V
Power consumption	12.2	12.7	13.1	W = kWh/1000h
Number of modules in series per chain			5	
Number of modules in parallel			4	

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

Tuning information

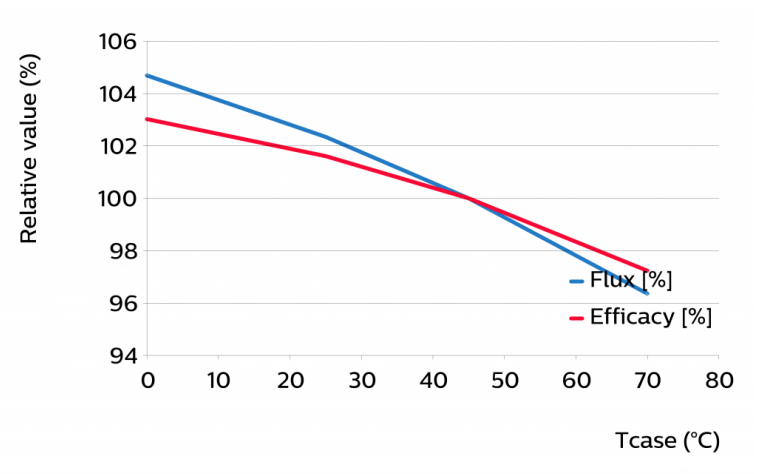
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
480	181	90
366	142	95
252	100	100
202	81	103
126	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

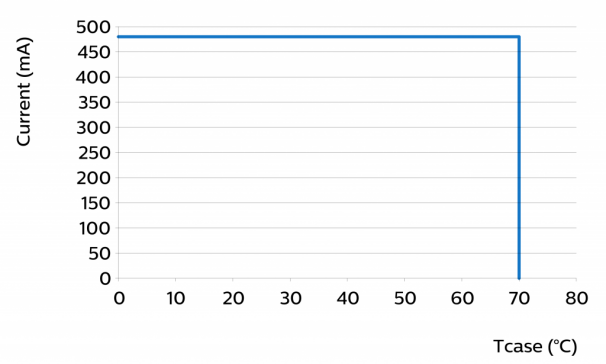
Operation point	Lumen maintenance	L70			L80			L90		
	x 1000 hours	B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I nom 202 mA	Tc 25°C	>60	>60	>60	>60	>60	>60	>60	>60	>60
	Tc nom 45°C	>60	>60	>60	>60	>60	>60	52	50	49
	Tc life 70°C	>60	>60	>60	>60	>60	>60	40	38	37
I nom 252 mA	Tc 25°C	>60	>60	>60	>60	>60	>60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

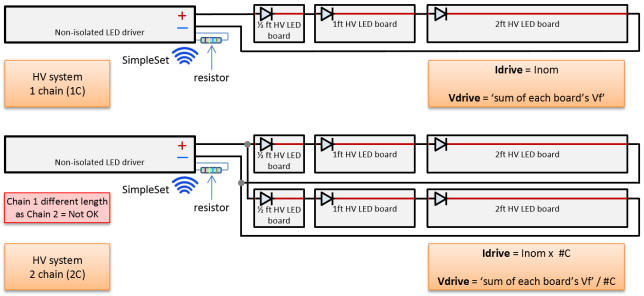
Switching cycles in accordance to EU 1194/2012: >15000

Performance Window



Wiring

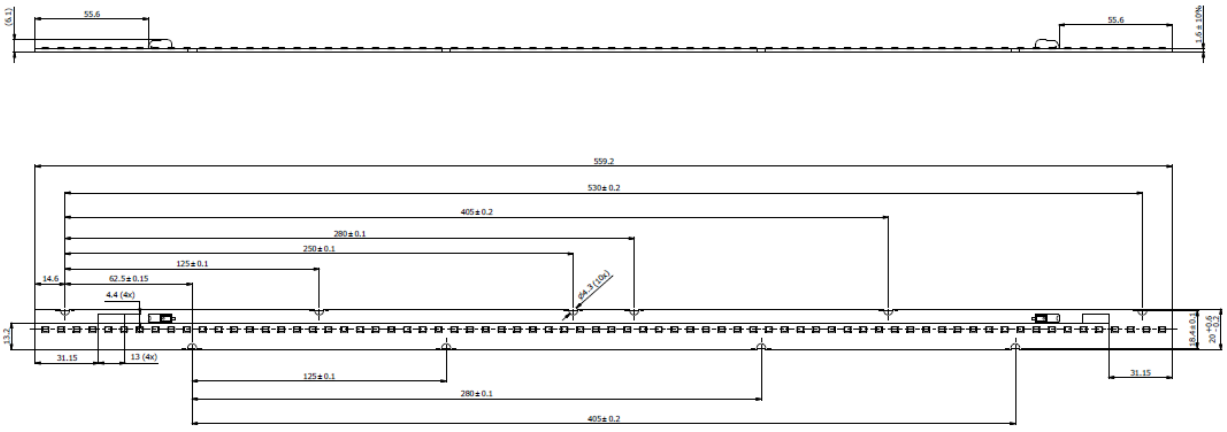
Specification item	Value	Unit	Condition
Input wire cross-section	0.25…0.75	mm²	solid wire
	18…24	AWG	solid wire
Input wire strip length	7.5…8.5	mm	
Input wire cross-section	0.33…0.5	mm²	stranded wire
	20…22	AWG	stranded wire
Input wire strip length	7.5…8.5	mm	



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

Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	558.9	559.2	559.5	mm
Width	19.8	20	20.2	mm
Height excl. connector		1.6		mm
Height incl. connector		6.1		mm
Product mass		40		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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