

PHILIPS

Fortimo

LED

Fortimo LED Strip
1120mm 4400lm 8xx
HV5



Datasheet

Fortimo LED Strip 1120mm 4400lm 8xx 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
- Wide range of CCTs available: 2700K, 3000K, 4000K, 5000K and 6500K
- 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 1120mm 4400lm 830 HV5F	8718699 759292 00	9290 021 74006	96
Fortimo LED Strip 1120mm 4400lm 840 HV5F	8718699 759315 00	9290 021 74106	96
Fortimo LED Strip 1120mm 4400lm 850 HV5F	8718699 759339 00	9290 021 74206	96
Fortimo LED Strip 1120mm 4400lm 865 HV5F	8718699 759353 00	9290 021 74306	96
Fortimo LED Strip 1120mm 4400lm 830 HV5B	8718699 759452 00	9290 021 74606	96
Fortimo LED Strip 1120mm 4400lm 840 HV5B	8718699 759476 00	9290 021 74706	96

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 1120mm 4400lm 8xx HV5	240	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 1120mm 4400lm 830 HV5F

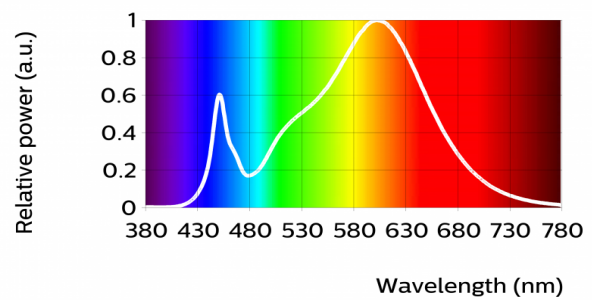
Fortimo LED Strip 1120mm 4400lm 830 HV5B

Parameter	Min	Typ	Max	Unit
Luminous flux	3866	4180	4494	lm
Module efficacy	157	173		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.436, 0.401)		-
Color consistency			3	SDCM
CRI	80			
Photometric code		830/369		
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	830	lm	lm/W
80% I-nom 192mA	Tc 25 °C	3457	181
	Tc-nom 45 °C	3376	179
	Tc-max 80 °C	3264	174
I-nom 240mA	Tc 25 °C	4279	177
	Tc-nom 45 °C	4180	173
	Tc-max 80 °C	4040	170
I-max 600mA	Tc 25 °C	10030	152
	Tc-nom 45 °C	9794	149
	Tc-max 80 °C	9461	145



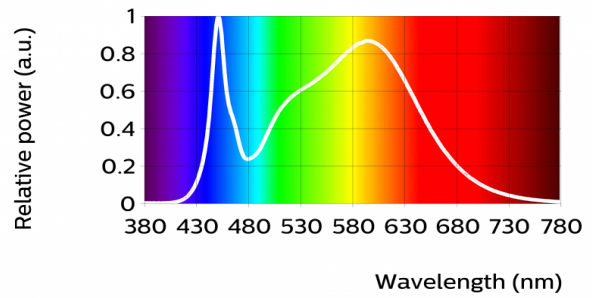
Fortimo LED Strip 1120mm 4400lm 840 HV5F
 Fortimo LED Strip 1120mm 4400lm 840 HV5B

Parameter	Min	Typ	Max	Unit
Luminous flux	4070	4400	4730	lm
Module efficacy	166	182		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.383, 0.378)		-
Color consistency			3	SDCM
CRI	80			
Photometric code		840/369		
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	840	lm	lm/W
	Tc 25 °C	3639	191
80% I-nom 192mA	Tc-nom 45 °C	3554	188
	Tc-max 80 °C	3436	184
	Tc 25 °C	4505	186
I-nom 240mA	Tc-nom 45 °C	4400	182
	Tc-max 80 °C	4253	179
	Tc 25 °C	10560	160
I-max 600mA	Tc-nom 45 °C	10311	157
	Tc-max 80 °C	9961	153



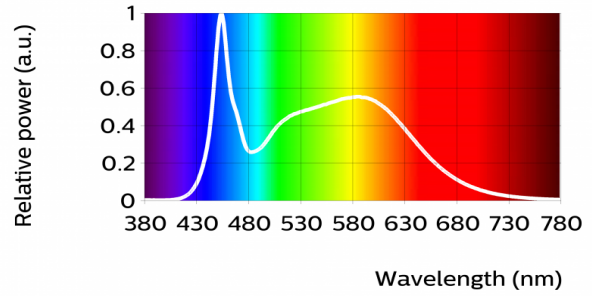
Fortimo LED Strip 1120mm 4400lm 850 HV5F

Parameter	Min	Typ	Max	Unit
Luminous flux	4070	4400	4730	lm
Module efficacy	166	182		lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.341, 0.350)		-
Color consistency			3	SDCM
CRI	80			
Photometric code		850/369		
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	850	lm	lm/W
80% I-nom 192mA	Tc 25 °C	3639	191
	Tc-nom 45 °C	3554	188
	Tc-max 80 °C	3436	184
I-nom 240mA	Tc 25 °C	4505	186
	Tc-nom 45 °C	4400	182
	Tc-max 80 °C	4253	179
I-max 600mA	Tc 25 °C	10560	160
	Tc-nom 45 °C	10311	157
	Tc-max 80 °C	9961	153



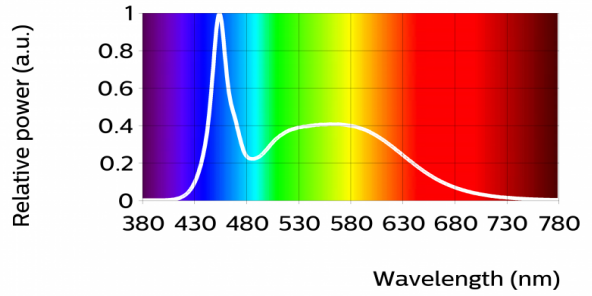
Fortimo LED Strip 1120mm 4400lm 865 HV5F

Parameter	Min	Typ	Max	Unit
Luminous flux	4070	4400	4730	lm
Module efficacy	166	182		lm/W
Correlated color temperature (CCT)		6500		K
Color coordinates (CIEx, CIEy)		(0.309, 0.322)		-
Color consistency			3	SDCM
CRI	80			
Photometric code		865/369		
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	865	lm	lm/W
80% I-nom 192mA	Tc 25 °C	3639	191
	Tc-nom 45 °C	3554	188
	Tc-max 80 °C	3436	184
I-nom 240mA	Tc 25 °C	4505	186
	Tc-nom 45 °C	4400	182
	Tc-max 80 °C	4253	179
I-max 600mA	Tc 25 °C	10560	160
	Tc-nom 45 °C	10311	157
	Tc-max 80 °C	9961	153



Electrical characteristics

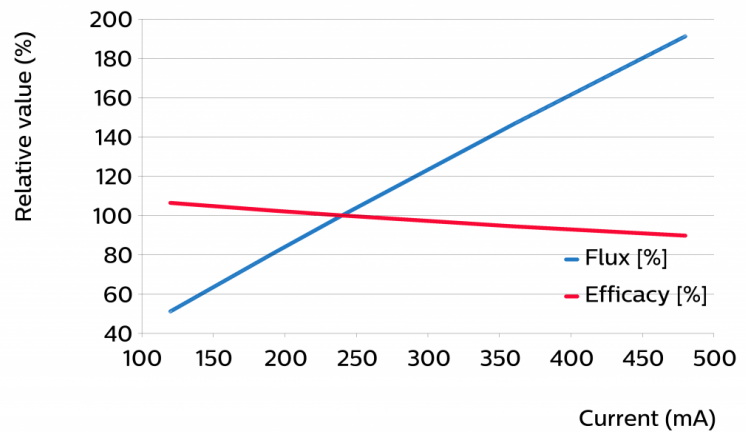
Parameter	Min	Typ	Max	Unit
Forward voltage	98.5	100.5	102.5	V
Power consumption	23.6	24.1	24.6	W = kWh/1000h
Number of modules in series per chain			3	
Number of modules in parallel			4	

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

Tuning information

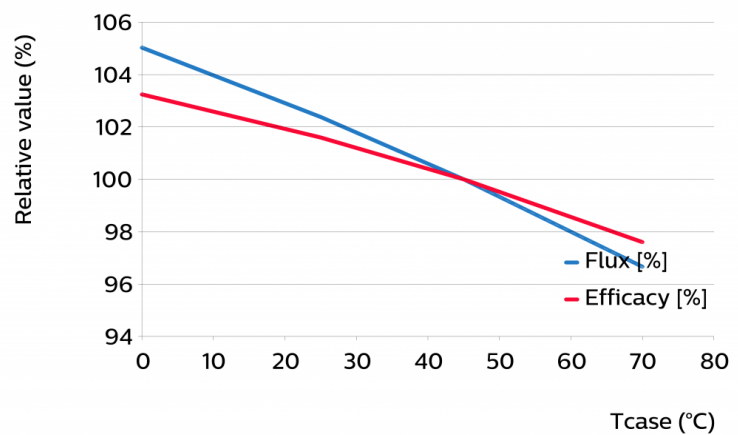
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
480	191	90
360	147	94
240	100	100
192	81	102
120	51	106



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

Tc [°C]	Flux [%]	Efficacy [%]
70	97	98
45	100	100
25	102	102
0	105	103



Lumen maintenance

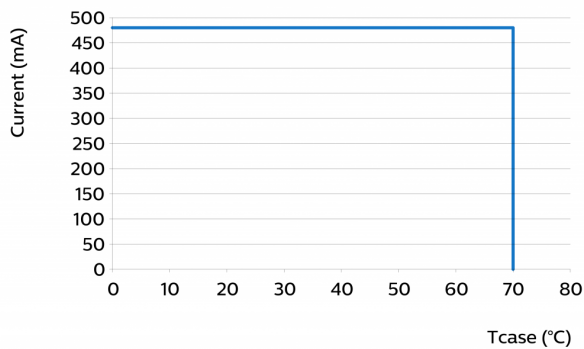
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I nom 192 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	67	64	62
	Tc nom 45°C	>70	>70	>70	>70	>70	>70	52	50	49
	Tc life 70°C	>70	>70	>70	>70	>70	>70	40	38	37
I nom 240 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	67	64	62
	Tc nom 45°C	>70	>70	>70	>70	>70	>70	52	50	49
	Tc life 70°C	>70	>70	>70	>70	>70	>70	40	38	37
I life 480 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	58	55	54
	Tc nom 45°C	>70	>70	>70	>70	>70	>70	45	43	42
	Tc life 70°C	>70	>70	>70	>70	>70	>70	35	33	32

Lifetime

Parameter	Value	Unit
M70F50 nominal	>70000	hours
M70F50 life	>70000	hours

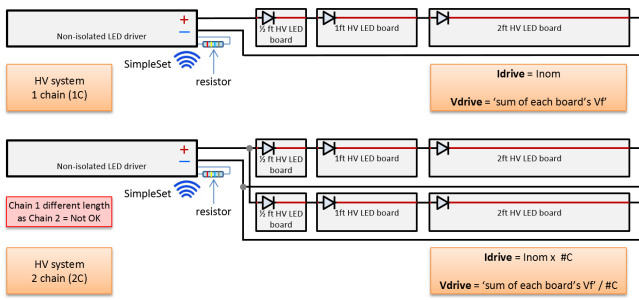
Switching cycles in accordance to EU 1194/2012: >15000

Performance Window



Wiring

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



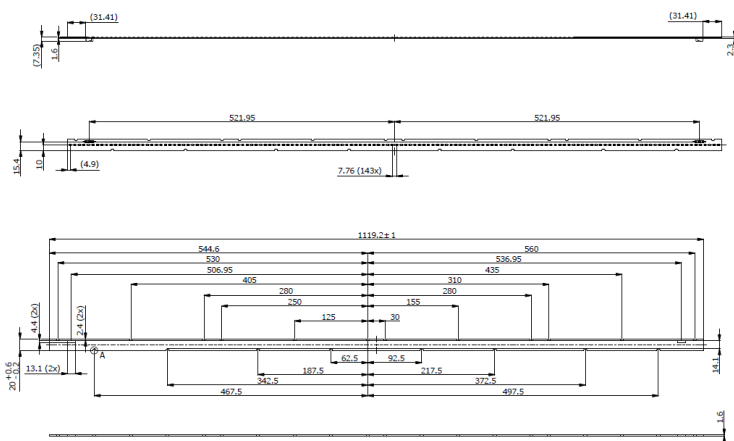
More information in the design-in guide of LED Linear modules.

Mechanical characteristics

Fortimo LED Strip 1120mm 4400lm 830 HV5B

Fortimo LED Strip 1120mm 4400lm 840 HV5B

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	7.15	7.35	7.55	mm
Product mass		74		gram



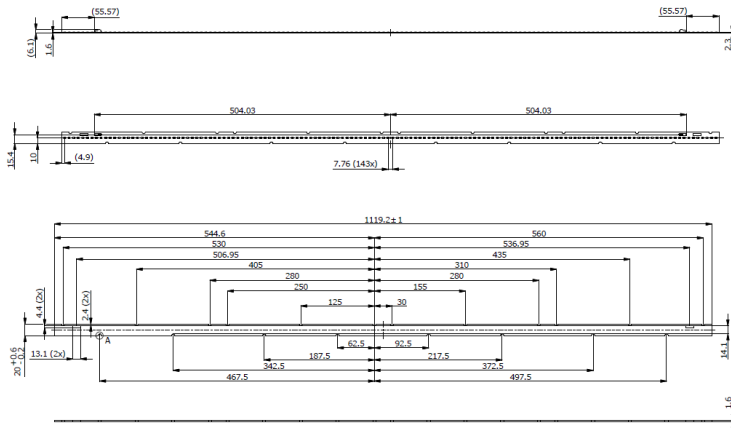
Fortimo LED Strip 1120mm 4400lm 850 HV5F

Fortimo LED Strip 1120mm 4400lm 865 HV5F

Fortimo LED Strip 1120mm 4400lm 830 HV5F

Fortimo LED Strip 1120mm 4400lm 840 HV5F

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)		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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