

PHILIPS

Fortimo

LED system

FastFlex
LED module
2x4/740 Gen3



Datasheet

Flexible system approach

Outstanding performance while enabling OEM optical differentiation in road, urban and industrial lighting applications.

Benefits

- Enables OEM optical differentiation with lenses from standard FastFlex portfolio matching every project's needs
- Unparalleled lumen per watt for fixture performance

Features

- State of the art specifications
- Temperature and driving current designed for fixture optimization
- Optical flexibility via FastFlex lenses
- Flexible lumen output
- Range of CCT and CRI versions

Applications

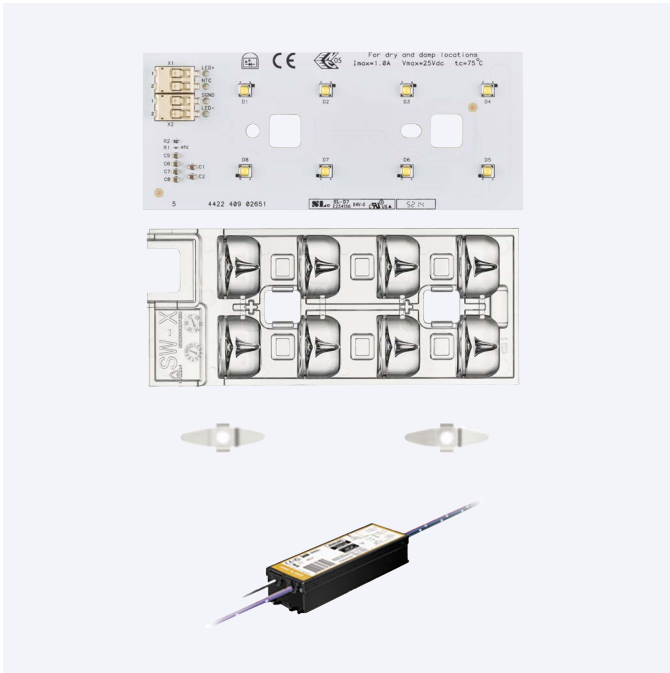
- Road lighting
- Urban street lighting
- Flood and Area lighting
- Tunnel lighting
- High bay lighting

Logistical data

Specification item	Value		
Product name	Fortimo FastFlex LED board 2x4/740 Gen3		
European order code	8718696 454558 00		
Logistic code 12NC	9290 009 55306		
Pieces per box	25		

Specification item (designed for the board)	European Order Code	12NC	Pieces/Board
Fortimo FastFlex lens 2x4/xx	See family sheet of lenses		1
Fortimo FastFlex module clip	9290 008 10003	8718291 224358 00	2

Basic configuration



To operate a system you will need one or more FastFlex LED modules, which are sold separately.

Each Fortimo FastFlex LED module consists of:

- Fortimo FastFlex LED board 2x4/740 Gen3
- Fortimo FastFlex lens 2x4 Gen2 (any type, see table above)
- Fortimo FastFlex module clips (2 pieces are necessary for 1 FastFlex LED board)
- Compatible Xitanium LED driver (see table of released system combinations for compatible drivers)

Operating Conditions

Specification item	Value	Unit	Condition
Reference output current	530	mA	
Reference case temperature	75	°C	
Ambient temperature	25	°C	Temperature outside luminaire
Min driver current	100	mA	
Max driver current	1000	mA	
Max ΔT (Tambient - Tcase)	50	°C	

Released system combinations

System mapping 2x4 versions (Class I unless otherwise indicated):						
System driver I _{max} mapping (A)	Value	Number of Fortimo Fastflex LED Boards				
Driver name / description	12NC	1x	2x	3x	4x	Class II
Xitanium 27W 1.0A Prog 230V-J sXt	9290 007 12303	1.00	-	-	-	√
Xitanium Full Prog 35W1000 NLD C150 Xt	9290 008 84606	1.00	0.70	-	-	√
Xitanium Full Prog 35W1000 NL1 C150 Xt	9290 008 84706	1.00	0.70	-	-	√
Xitanium 40W 0.70A Prog+ GL-J sXt	9290 007 08803	-	0.70	-	-	-
Xitanium 40W 0.53A Prog+ GL-J sXt	9290 007 10303	-	0.53	0.53	-	-
Xitanium Full Prog 70W1000 NLD C150 Xt	9290 008 84306	-	1.00	1.00	0.70	√
Xitanium Full Prog 70W1000 NL1 C150 Xt	9290 008 84406	-	1.00	1.00	0.70	√
Xitanium Lite Prog 70W1000 NL C150 OD	9290 008 84506	-	1.00	1.00	0.70	√
Xitanium 75W 0.35-0.70A 1-10V 230V sXt	9137 012 17502	-	-	0.70	0.70	-
Xitanium 75W 0.70A 1-10V 230V sXt	9290 007 05503	-	0.70	0.70	0.70	-
Xitanium 75W 0.7A AOCM 1-10V GL-Y sXt	9290 007 08003	-	-	0.70	0.70	-
Xitanium 75W 0.1-1.05A Prog+ sXt	9290 007 08903	-	1.00	1.00	-	-
Xitanium 75W 0.70A Prog+ GL-Z sXt	9290 007 10103	-	-	0.70	0.70	-
Xitanium 75W 0.70A Prog+ GL-Z sXt	9290 007 18603	-	-	0.70	0.70	-
Xitanium Full Prog 110W1000 NLD C150 Xt	9290 008 83906	-	-	1.00	1.00	√
Xitanium Full Prog 110W1000 NL1 C150 Xt	9290 008 84006	-	-	1.00	1.00	√
Xitanium Lite Prog 110W1000 NL C150 OD	9290 008 84106	-	-	1.00	1.00	√
Xitanium 150W 0.70A 1-10V 230V sXt	9137 012 11603	-	-	0.70	0.70	-
Xitanium 150W 0.70A 230V sXt	9137 108 59002	-	-	0.70	0.70	-
Xitanium 150W 1.05A 1-10V 230V sXt	9290 007 04712	-	1.00	1.00	1.00	-
Xitanium 150W 0.1-1.05A Prog+ sXt	9290 007 09003	-	-	-	1.00	-

Solar driver mapping - Solar driver I _{max} mapping for all 2x4 modules						
Driver name / description	Value	Number of Fortimo Fastflex LED Boards (A)				
Driver name / description	12NC	1x	2x	3x	4x	
Xitanium 40W 0.2-0.7A LS 12-24VDC	9290 006 11903	-	0.70	0.53	0.41	
Xitanium 70W 0.2-0.7A LS 12-24VDC	9290 006 12003	-	-	-	0.70	

Performance Characteristics (under reference operating If = 530 mA and Tcase = 75 °C)

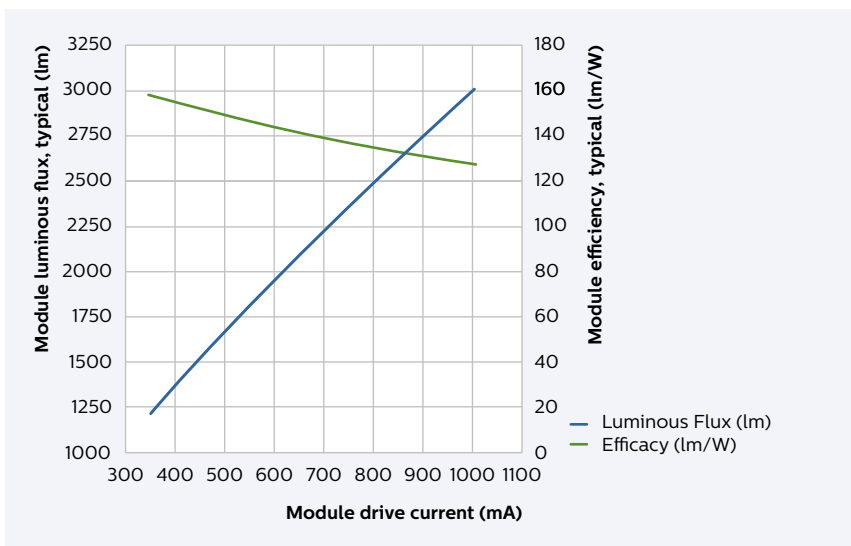
Specification item	Min	Typ	Max	Unit
Lumen output	1550	1753	1950	lm
Efficacy	117	148	-	lm/W
Power consumption	10.6	11.9	13.2	W
Forward voltage	-	22.4	25	V
Correlated Color Temperature (CCT)	-	3985	-	K
Color Rendering Index (CRI)	70	-	-	Ra
Initial color accuracy	-	4	-	SDCM
Color accuracy at 55,000 hours	-	-	7	SDCM
Lumen maintenance	>55,000 *	-	-	hour
Product lifetime	>55,000 *	-	-	hour

*Charts presenting module's Tc and current Vs expected lifetime (Up to 100,000 hours), as well as module's Tc and current Vs expected lumen depreciation (L70 and above) are available via your sales representative.

Note: The lumen output is specified at board level (lens optical losses not included). When using standard Fortimo Fastflex lenses, optical losses of 4% need to be taken into account.
Note: Philips maintains a tolerance of $\pm 7\%$ on luminous flux, ± 2 on CRI measurements and $\pm 5\%$ on CCT measurements.

Driver current (mA)	Typ Luminous flux (lm)	Typ efficacy (lm/W)	Typ thermal power (W)	Type power (W)	Max power (W)
350	1215	158	4,3	7.7	8.6
530	1753	148	7	11.9	13.2
700	2225	139	10	16	17.8
1000	3000	128	15	23.4	25.6

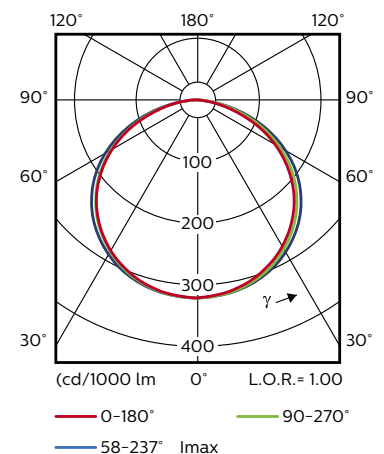
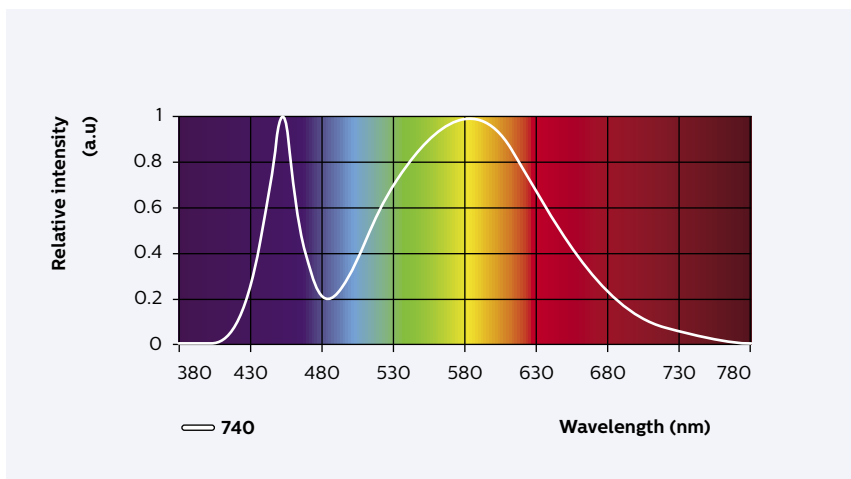
The Fortimo FastFlex Gen3 has been specified with a typical color consistency of 4 SDCMs at the beginning of its lifetime. Application conditions may affect the way how color consistency of the product changes during the given life time of the product. In the case of the Fortimo FastFlex DA an DS versions, variations at the lens of your section need to be taken into account.



Temp. T _c	55 °C	65 °C	75 °C
Current			
350 mA	✓	✓	✓
530 mA	✓	✓	✓
700 mA	✓	✓	✓
1000 mA	✓	out of spec.	out of spec.

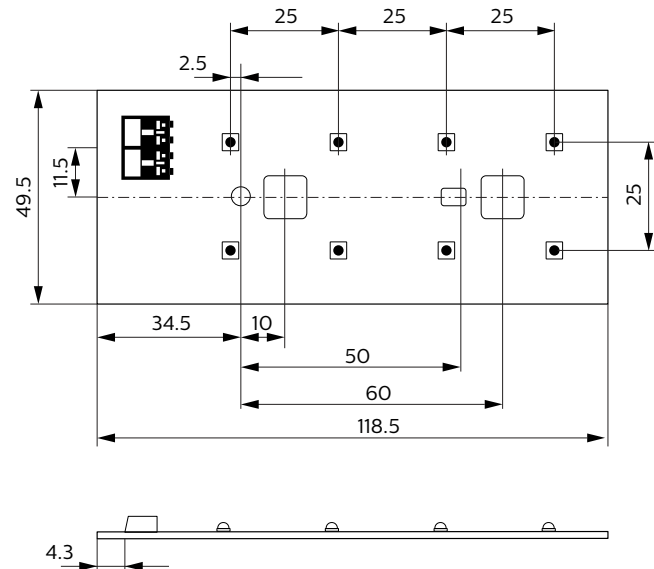
Note : Philips do not support the use of the Fortimo FastFlex Gen3 under conditions above showed as (out of spec)

Optical Characteristics



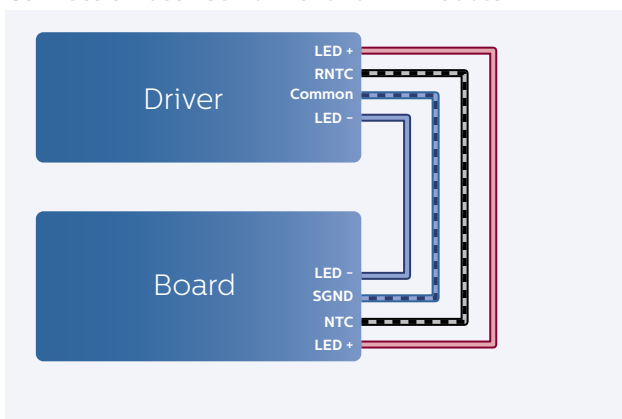
Mechanical Characteristics

Dimensions in mm



Electrical Characteristics

Connection between driver and FF-module

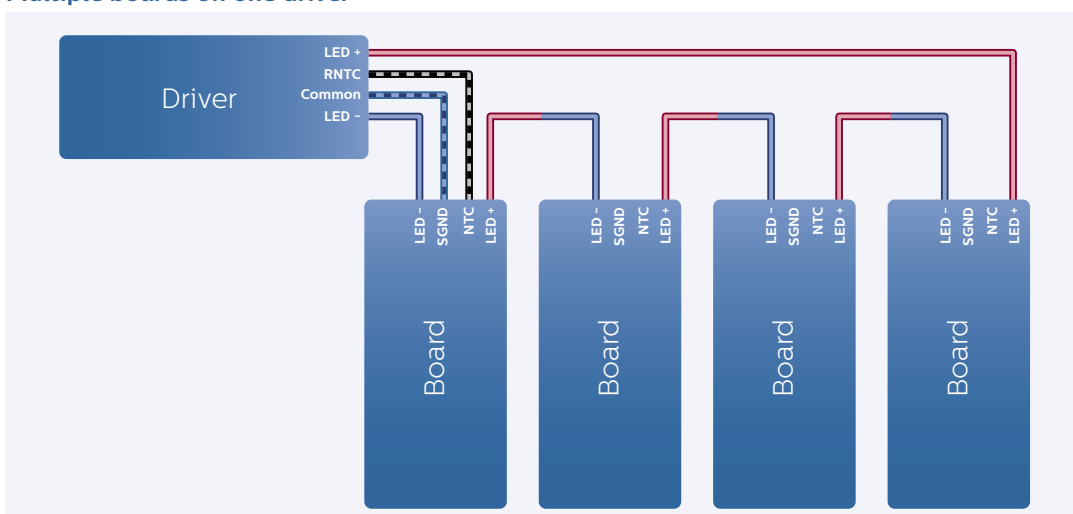


Signal	Description
LED+	LED driver current input (+)
LED-	Power ground (-)
NTC	Temperature sensor (RNTC)
SGND/Common	Signal ground

The temperature protection has been implemented with an NTC resistor in series with a fixed resistor where the fixed resistor has a value 390 Ohms and the NTC has a value of 15,000 Ohms (e.g. Murata NCP15XW153E03RC or equivalent).

It is recommended to use solid wire AWG 20-22 (0.5 mm²-0.33 mm²) with suitable isolation (depending on the application).
It is recommended to use Molex Lite-trap specification for strip length & tolerance for wiring (spec.= 8 +/-0.5 mm).

Multiple boards on one driver



If a system consists of multiple FastFlex boards connected to a single driver:

- the first board connected to the driver is the master
- only this board is monitored by the NTC

Certificates and standards

Specification item	Value
Approval marks	CE, ENEC
RoHS and Reach	Compliant with European Directives



