

PHILIPS

Fortimo

LED HBMt

4000/840 31W Gen3



Datasheet

Setting the standard in **LED modules**

Benefits

- LED “lamp” – high lumen output from a small area
- Cost-effective LED light engine
- Luminaire design is based on traditional reflector optics
- Reduced time to market and simplified supply chain
- Interchangeability of light engines from different manufacturers

Features

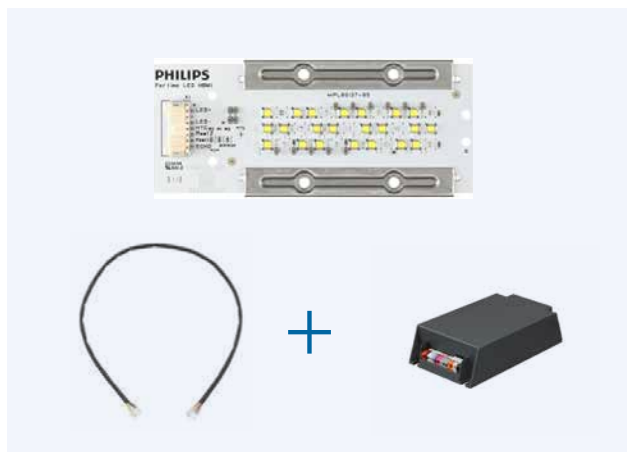
- Module efficiency up to 130 lm/W
- Fixed light emitting area, lumen package and mechanical interface
- Color temperature 4000 K
- Color rendering index CRI 80
- Compliant to IEC edition 8

Application

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

Logistical data

Specification item	Value
Product name	Fortimo LED HBMt 4000/840 31W Gen3
European order code	8718696 437360 00
Logistic code 12NC	9290 009 40306
Pieces per box	10



To operate a LED HBMt system you need one

- Fortimo LED HBMt Gen3 module
- Specified cable (depending on driver type, see driver datasheet)
- Compatible Xitanium LED driver (see included table)

Operating Conditions

Specification item	Value	Unit	Condition
Default output current	530	mA	Current setting via Rset1 or Rset2 connection
Case temperature	85	°C	Max
Ambient temperature	25	°C	Temperature inside luminaire
Min driver current	100	mA	
Max driver current	700	mA	

Released system combinations

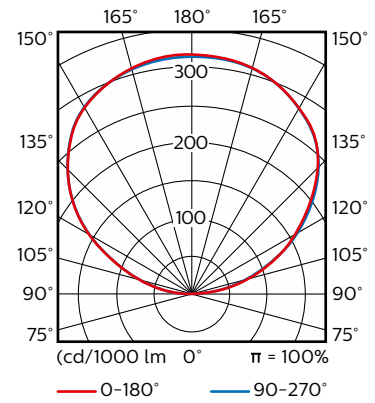
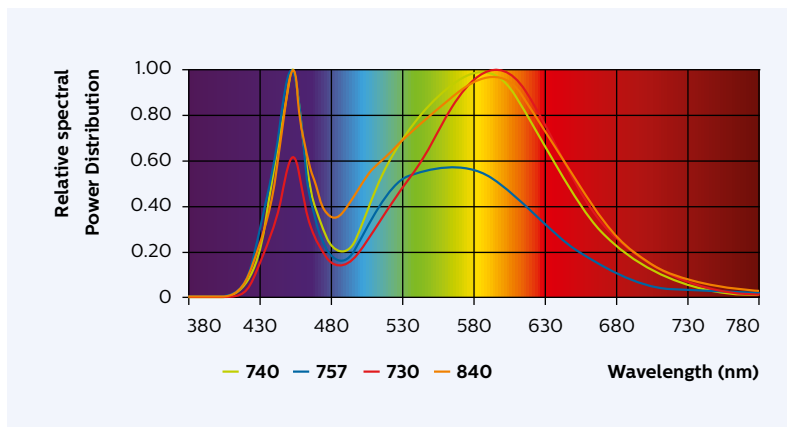
	Drivers/Modules	12NC	HBMt Gen3 4000 lm /757
Xtreme	Xitanium 40W 0.53A Prog+ GL-J sXt	9290 007 10303	1x
Programmable	Xitanium 40W 0.7A Prog+ GL-J sXt	9290 007 08803	1x
	Xitanium 75W 0.7A Prog+ GL-Z sXt	9290 007 18603	1x
	Xitanium 100W 0.53A Prog+ GL-Z sXt	9290 007 10403	2x
	Xitanium 100W 0.7A Prog+ GL-Z sXt	9290 007 08703	2x
	Xitanium 75W 0.35-0.7A GL Prog+ sXt	9290 007 04903	2x
	Xitanium 75W 0.35-0.7A GL Prog sXt	9290 007 02302	2x
	Xitanium Full Prog 35W 1000 NLx C150 Xt	9290 008 84606	1x
		9290 008 84706	
	Xitanium Full Prog 70W 1000 NLx C150 X	9290 008 84306	1x
		9290 008 84406	
	Xitanium Lite Prog 70W 1000 NL C150 sXt	9290 008 84506	1x
	Xitanium Full Prog 110W 1000 NLx C150 Xt	9290 008 83906	2x
		9290 008 84006	
	Xitanium Lite Prog 110W 1000 NL C150 sXt	9290 008 84106	2x
AOC	Xitanium 75W 0.53A AOXM 1-10V 230V-Y	9290 007 12403	2x
Solar	Xitanium 40W 0.2-0.7A LS 12-24VDC	9290 006 11903	1x
	Xitanium 70W 0.2-0.7A LS 12-24VDC	9290 006 12003	2x

Performance Characteristics (under typical operating $I_f=530\text{ mA}$ and $T_{case}=85\text{ }^\circ\text{C}$)

Specification item	Min	Typ	Max	Unit
Lumen output	3600	4000	4800	lm
Efficacy	110	130	-	lm/W
Power consumption		31	33.5	W
Forward voltage			60	V
Correlated Color Temperature (CCT)	-	4000	-	K
Color Rendering Index (CRI)	80	-	-	Ra
Initial color accuracy	-		7	SDCM
Lumen maintenance B50L70	-	>50,000	-	h
Product lifetime, 90% survivals	-	50,000	-	h

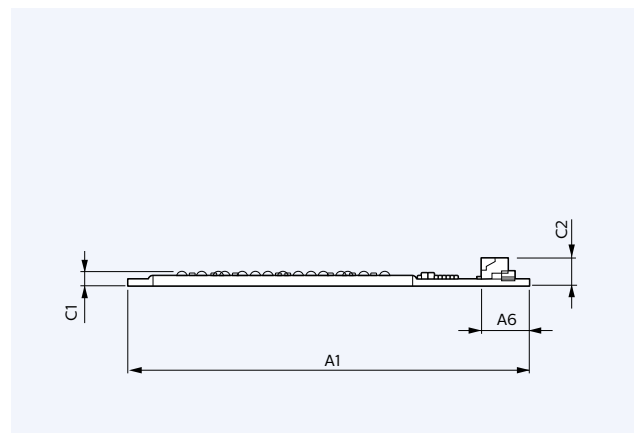
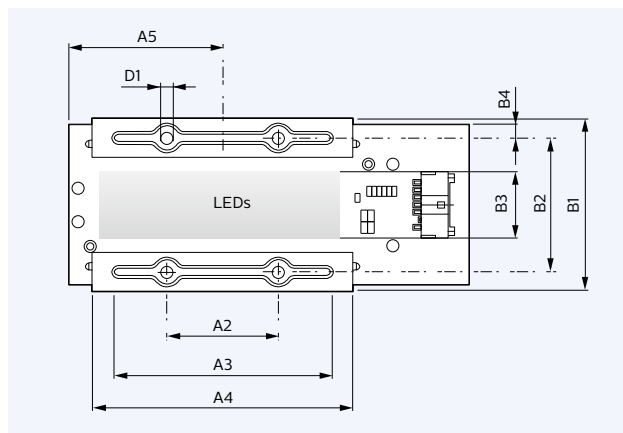
Driver current (mA)	Typ Luminous flux (lm)	Typ efficacy (lm/W)	Typ thermal power	Typ power (W)	Max power (W)
530	4000	130	19.5	31	33.5

Optical Characteristics



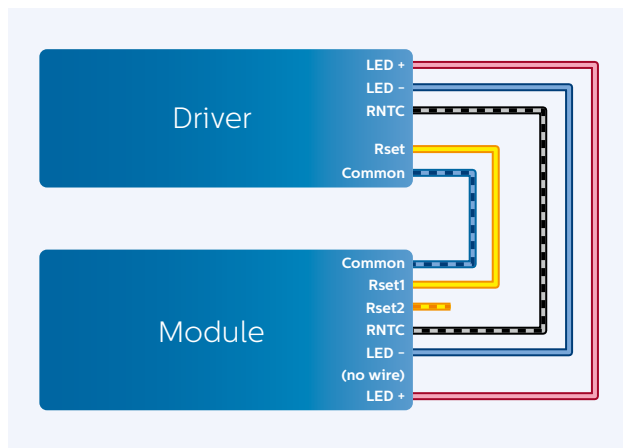
Mechanical Characteristics

Dimensions in mm (nominal $\pm 0.4\text{ mm}$)	A1	A2	A3	A4	A5	A6	A7	B1	B2	B3	C1	C2
LED HBMT Gen3	107.8	30	58.8	70	41.5	13	3.5	46	36	20	4	7.5



Electrical Characteristics (wiring)

Connection between driver and HBMt-module



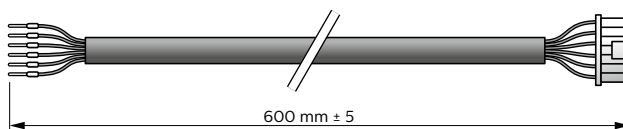
Pin numbering depending on type of driver

* The Rset2 wire should be left unconnected when Rset1 drivers are used, and vice versa.

The unused Rset wire should be shortened and the end wrapped with an insulating material,

Connector	Signal	Description
Pin 1	IDC	LED driver current input (+)
Pin 2	(HV spacer)	Not connected
Pin 3	PGND	Power ground (-)
Pin 4	NTC	Temp sensor resistor in series, NTC value
Pin 5	Rset2	Resistor for current setting of LED driver 2
Pin 6	Rset1	Resistor for current setting of LED driver 1
Pin 7	SGND	Signal ground

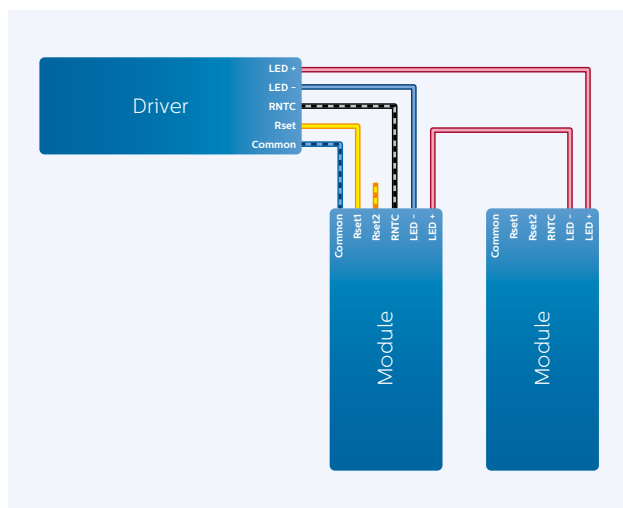
Connection between driver and HBMt-module



Cable Fortimo 7 PA to 6 wire - 600 mm (929000803903)

Connector pin	Function	Color coding driver/cable
Pin 1	LED+	Red
Pin 2	-	No wire
Pin 3	LED -	Blue
Pin 4	RNTC	Black/White
Pin 5	Rset2	Yellow/Black
Pin 6	Rset1	Yellow
Pin 7	Common	Blue /White

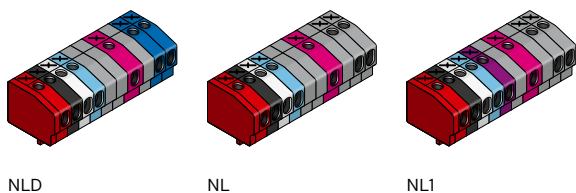
Multiple boards on one driver.



If a system consists of multiple HBMt modules connected to a single driver:

- the first module connected to the driver is the master
- only this module is monitored by the NTC and RSET

Connector of the Xitanium FULL/LITE Prog LED driver

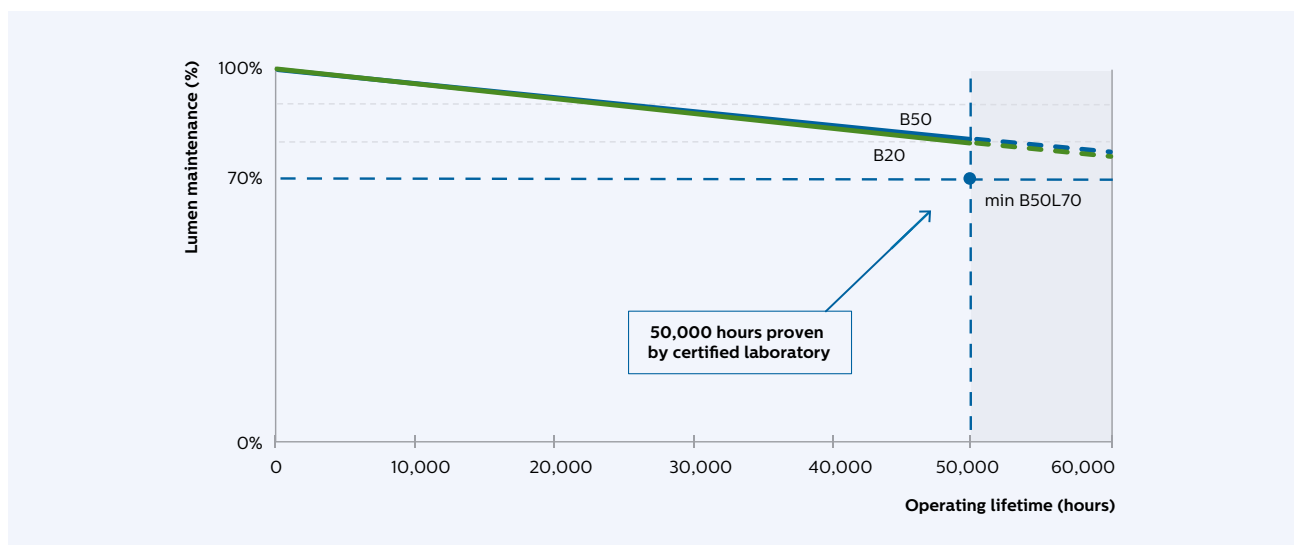


Connector pin name (alternative name)	Colour	Alternative Colour
DALI1 (PROG1)	Blue (NLD)	Grey (NL/NL1)
DALI2 (PROG2)	Blue (NLD)	Grey (NL/NL1)
[Spacer]	Grey	(all)
Functional Earth	Pink	(all)
1-10 V [-] (not used)	Grey (NL1)	Grey spacer (NL/NLD)
1-10 V [+] (not used)	Purple (NL1)	Grey spacer (NL/NLD)
NTC	Light blue	(all)
NTC common	White	(all)
LED [-]	Black	(all)
LED [+]	Red	(all)

Remark: with the Xitanium FULL/LITE Prog LED driver, you need to set the current via the MultiOne Configurator. Default setting on this driver is 700 mA.

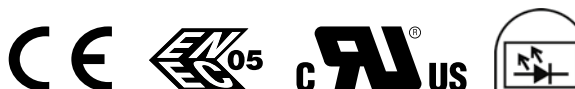
Lifetime

Specification item	Value	Unit	Condition
Lifetime characteristics	50,000	hours	Measured @ Tcase-life, with min 90% survival
Lifetime performance	See graphs		Measured in a system without the CLO feature



Certificates and standards

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





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