

PHILIPS

Fortimo

LED system

Linear



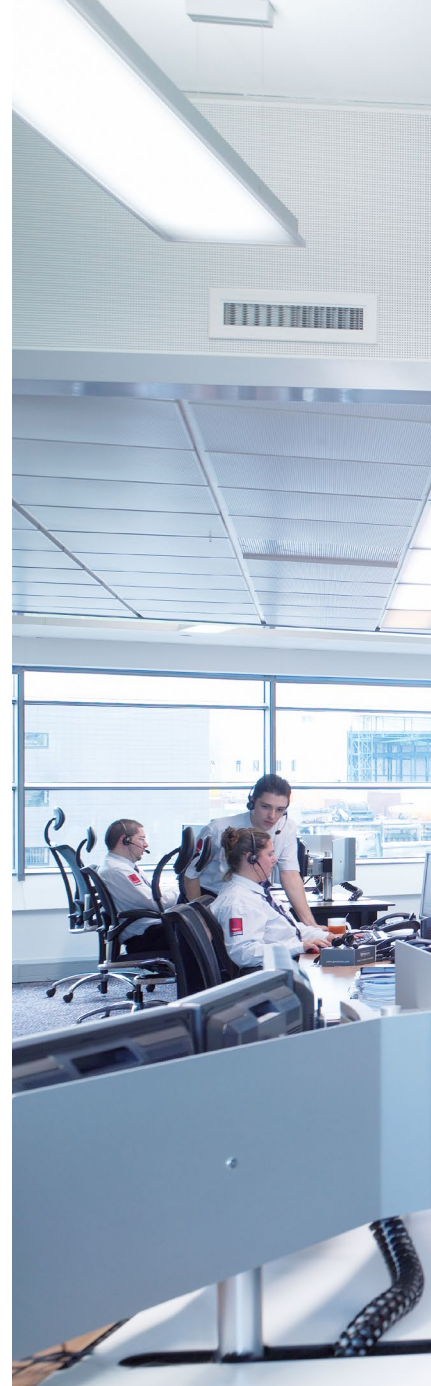
Ideal solution for **high-performance** linear LED luminaires

Fortimo LED systems offer the freedom to differentiate on lumen output, efficacy and lifetime



Fortimo Linear LED systems are the ideal solution for LED luminaires...

...which traditionally would have been equipped with fluorescent tubes. Fortimo LED Linear encompasses a wide range, offering solutions for all the different types of luminaires, from recessed and surface mounted office luminaires to trunking and profile luminaires and from retail to waterproof and high bay luminaires in industrial applications. Fortimo equals an exceptional quality of light, the highest energy efficiency and lifetime and a five year system warranty. Together with our Xitanium driver portfolio, Fortimo systems offer the freedom to tune and differentiate on lumen output, efficacy and lifetime.



Fortimo LED Line and Fortimo LED Strip – what's the difference?

Fortimo LED Line and Fortimo LED Strip offer similar options in terms of lumen output and length, as well as the choice of lumen-per-length ratios. However, LED Strip is narrower, enabling increased miniaturization and use of designer elements in luminaire design. The Fortimo LED Line system is more suited to functional applications and features easier thermal management thanks to its slightly broader dimensions.



A wide range, offering solutions for all **different types of linear luminaires**



Fortimo LED Line



Fortimo LED Line High Flux



Fortimo LED Strip



High quality of white light

CRI >80 and >90

Color Rendering Index (CRI) is a quantitative measure of a light source's ability to reveal the colors of various objects faithfully in comparison with a natural or incandescent light source. Philips LED modules are specified with a minimum CRI of 80 or 90. CRI >80 is more than adequate for general lighting applications. Light sources with a high CRI are recommended in color-critical applications, such as in hospitals or art galleries. CRI >90 lighting is slightly less efficient than CRI 80 and therefore you can expect an impact on efficacy and thus cost and energy consumption. Philips offers both options in order to give customers a choice and to ensure a balance between application needs and total cost of ownership.

3 SDCM

Standard Deviation of Color Matching (SDCM) relates to color shift and is measured in 'MacAdam Ellipses'. A 1-step MacAdam ellipse defines a zone in the color space within which the human eye cannot perceive any difference in color. The lower the number of MacAdam ellipses, the better the color quality. Fortimo linear LED systems deliver 3 SDCM, thereby minimizing differences in color that are visible to the human eye and maintaining the right balance between cost and performance.

CCT 3000 K, 3500 K, 4000 K and 5000 K

Fortimo linear LED systems are available in four color temperatures, offering a choice to cover most applications.

- Warm white (around 3000 K / 3500 K)
- Neutral white (around 4000 K)
- Cool white (around 5000 K)

“

Light sources with a high CRI are recommended in color-critical applications, **such as in hospitals or art galleries.”**



Smart Systems

Xitanium Drivers

At Philips we believe that the LED module and driver should be designed for each other, making the system even more reliable. Our Philips system warranty ensures that in the event of a failure or malfunction you only have to contact one supplier to resolve the problem. Xitanium window drivers offer the freedom to adjust current settings and to differentiate in terms of lumen output, efficacy and lifetime. The corresponding linear Xitanium driver portfolio includes isolated and non-isolated drivers, in fixed light output, 1-10 V and DALI versions.

High voltage vs low voltage

The Fortimo LED linear portfolio offers a choice of isolated (low-voltage) or non-isolated (high-voltage) systems. With non-isolated LED Line systems, the luminaire must be a Class I luminaire so that there is no possibility of any accidental contact with the live parts in the system. A non-isolated system has the advantage of being more efficient, cheaper and the driver has shorter dimensions. An isolated system allows you to make open-louvered Class II luminaires.

Compatibility

We supply our Fortimo linear modules in lengths measured in feet, as is also common practice for fluorescent lighting. One foot equals 280 mm. We have chosen a variation of lumen packages to cover the main lumen/length packages for T5 HE/HO and T8 fluorescent lamps. It is possible to combine modules in the same luminaire. A system can be made up of a combination of 1 ft and 2 ft modules.

A typical Fortimo LED system consists of:

- A number of Fortimo LED modules
- One Xitanium LED driver
- Wires from driver to module, between modules and return end wires.

Fortimo LED Line



Fortimo LED Line systems are designed to produce pure white light for general lighting applications with high efficiency levels. The Fortimo LED Line portfolio consists of 3 main ranges of products, which have been differentiated by the number of rows of LEDs on the module. The range with 1 row of LEDs is identified with 1R, the range with 2 rows of LEDs is identified with 2R and the range with 3 rows of LEDs is identified with 3R. All ranges feature a variety of different length modules, lumen packages and colour temperatures.

The Fortimo LED Line 1R system, with 1 row of LEDs on the module, is ideal for applications requiring beam shaping and where light is intended to fall on a vertical surface, such as racking or shelves. The Fortimo LED Line 2R and 3R systems have been designed to produce high efficiency, pure white light, for general lighting applications where diffuse lighting on the horizontal plane is key. The range is ideal for incorporating into luminaires for use in general office lighting, where energy efficiency and glare control are of utmost importance.

Key features and benefits:

- State-of-the-art LED module efficiency of up to 165 lm/W
- Long life-time: >50,000 hours
- High color rendering (CRI >80 and >90)
- Excellent color consistency of 3 SDCM
- Choice of color temperatures (3000 K, 4000 K and 5000 K)
- Two lumen packages: 650 lm and 1100 lm per foot/280 mm
- LED module range with 1, 2 or 3 rows of LEDs
- Tunable lumen output, efficacy and lifetime
- Push-in connectors enabling automated wiring
- Five year system warranty

“

Enabling design of
high-performance
linear LED luminaires.”



Fortimo LED Line

Product information (HV)

Type	Commercial name	Order code
EOC		
1R	Fortimo LED Line 1ft 1100lm 830 1R HV3	87186964 12589 00
	Fortimo LED Line 1ft 1100lm 840 1R HV3	87186964 12602 00
	Fortimo LED Line 1ft 1100lm 850 1R HV3	87186964 12626 00
	Fortimo LED Line 1ft 1100lm 930 1R HV3	87186964 81028 00
	Fortimo LED Line 1ft 1100lm 940 1R HV3	87186964 12664 00
	Fortimo LED Line 2ft 2200lm 830 1R HV3	87186964 12961 00
	Fortimo LED Line 2ft 2200lm 840 1R HV3	87186964 13043 00
	Fortimo LED Line 2ft 2200lm 850 1R HV3	87186964 13067 00
	Fortimo LED Line 2ft 2200lm 930 1R HV3	87186964 81066 00
	Fortimo LED Line 2ft 2200lm 940 1R HV3	87186964 81080 00
2R	Fortimo LED Line 2ft 1250lm 830 2R HV3	87186964 80908 00
	Fortimo LED Line 2ft 1250lm 840 2R HV3	87186964 80922 00
3R	Fortimo LED Line 1ft 650lm 830 3R HV3	87186964 13104 00
	Fortimo LED Line 1ft 650lm 840 3R HV3	87186964 13142 00
	Fortimo LED Line 1ft 650lm 850 3R HV3	87186964 13166 00
	Fortimo LED Line 1ft 1100lm 830 3R HV3	87186964 13555 00
	Fortimo LED Line 1ft 1100lm 840 3R HV3	87186964 13517 00
	Fortimo LED Line 1ft 1100lm 850 3R HV3	87186964 13579 00
	Fortimo LED Line 1ft 1100lm 930 3R HV3	87186964 81141 00
	Fortimo LED Line 1ft 1100lm 940 3R HV3	87186964 13616 00

Product information (LV)

Type	Commercial name	Order code
EOC		
1R	Fortimo LED Line 1ft 1100lm 830 1R LV3	87186964 12466 00
	Fortimo LED Line 1ft 1100lm 840 1R LV3	87186964 12503 00
	Fortimo LED Line 1ft 1100lm 850 1R LV3	87186964 12527 00
	Fortimo LED Line 1ft 1100lm 930 1R LV3	87186964 81042 00
	Fortimo LED Line 1ft 1100lm 940 1R LV3	87186964 12565 00
	Fortimo LED Line 2ft 2200lm 830 1R LV3	87186964 12749 00
	Fortimo LED Line 2ft 2200lm 840 1R LV3	87186964 12848 00
	Fortimo LED Line 2ft 2200lm 850 1R LV3	87186964 12862 00
	Fortimo LED Line 2ft 2200lm 930 1R LV3	87186964 81103 00
	Fortimo LED Line 2ft 2200lm 940 1R LV3	87186964 81127 00
3R	Fortimo LED Line 1ft 650lm 830 3R LV3	87186964 12787 00
	Fortimo LED Line 1ft 650lm 840 3R LV3	87186964 12947 00
	Fortimo LED Line 1ft 650lm 850 3R LV3	87186964 13029 00

Non-Isolated LED system (HV)

Type	Commercial name	LED Line 1 ft 1100 lm	LED Line 2 ft 2200 lm	LED Line 2 ft 1250 lm	LED Line 1 ft 650 lm	LED Line 1 ft 1100 lm	Order code
		1R systems	1R systems	2R systems	3R systems	3R systems	EOC
DALI	Xitanium 150W 0.2-0.7A 300V TD 230V iXt	6 - 10, 12, 14, 16, 18	3, 4, 6, 8	6, 8, 10, 12, 15, 16, 18	10, 12, 14 - 16, 18, 20, 21, 24, 25, 27, 28, 30, 32, 35	7 - 10, 12, 14, 16, 18, 20, 21	87182917 68265 00
	Xitanium 110W 0.2-0.6A 215V TD 230V iXt	5, 6, 8, 10, 12	3, 4, 6	4 - 6, 8, 10	8, 10, 12, 15, 16, 18, 20, 24	5 - 8, 10, 12, 14	87182917 36295 00
	Xitanium 75W 0.12-0.4A 215V TD 230V	4 - 6	2, 3	3 - 5	5 - 8, 10, 12	4 - 7	87182916 84022 00
	Xitanium 36W 0.12-0.4A 110V TD 230V	2, 3	1	2 - 3	3, 4, 6	2, 3	87182916 84046 00
	Xitanium 17W 0.12-0.4A 54V TD 230V	1	-	1	2	1	87182911 98048 00
1-10V	Xitanium 75W 0.12-0.4A 220V 1-10V 230V	4 - 6	2, 3	3 - 5	5 - 8, 10, 12	4 - 7	87186964 69682 00
	Xitanium 36W 0.12-0.4A 115V 1-10V 230V	2, 3	1	2 - 3	3, 4, 6	2, 3	87186964 69705 00
	Xitanium 17W 0.12-0.4A 54V 1-10V 230V	1	-	1	2	1	87182911 98062 00
Fixed output	Xitanium 75W 0.12-0.4A 220V 230V	4 - 6	2, 3	3 - 5	5 - 8, 10, 12	4 - 7	87186964 40025 00
	Xitanium 36W 0.12-0.4A 115V 230V	2, 3	1	2 - 3	3, 4, 6	2, 3	87186964 40001 00

Isolated LED system (LV)

Type	Commercial name	LED Line 1 ft 1100 lm	LED Line 2 ft 2200 lm	LED Line 1 ft 650 lm	Order code
		1R systems	1R systems	3R systems	EOC
DALI	Xitanium 75W 0.7-2A 54V TD 230V	4 - 8	2 - 4	6 - 14	87182912 11884 00
	Xitanium 36W 0.3-1A 54V TD 230V	2 - 4	1, 2	3 - 7	87182916 57422 00
1-10V	Xitanium 75W 0.7-2A 54V 1-10V 230V	4 - 8	2 - 4	6 - 14	87182916 96445 00
	Xitanium 36W 0.3-1A 54V 1-10V 230V	2 - 4	1, 2	3 - 7	87182916 84060 00
Fixed output	Xitanium 75W 0.7-2A 54V 230V	4 - 8	2 - 4	6 - 14	87186964 68890 00
	Xitanium 36W 0.3-1A 54V 230V	2 - 4	1, 2	3 - 7	87186964 68876 00

Note: The system overviews show the system configurations of the Fortimo LED Line modules with CRI80. When driven at the same current as CRI80, the same combinations for CRI90 are possible. Fortimo LED Line modules with CRI90 (930 and 940) will need higher current for comparable lumen output as the modules with CRI80, impacting system possibilities. Please consolidate the online Easy Design-in Tool for your ideal system configuration, available via philips.com/technology.



Fortimo LED Line High Flux



Fortimo LED Line High Flux systems consist of linear LED modules with high lumens per foot, high energy efficiency and a high quality of light. Fortimo LED Line High Flux systems are designed to enable LED lighting at higher application heights where more light is needed, such as trunking, battens and high-bay applications in warehouses, factories or big retail stores. These smart systems are completed with the Xitanium iXt drivers offering the flexibility to adjust current settings to differentiate on lumen output, efficacy and lifetime in extreme temperature conditions.

Key features and benefits:

- LED module efficiency of up to 158 lm/W
- Long life-time: up to >100,000 hours
- High color rendering: CRI >80
- Excellent color consistency of 3 SDCM
- High Tc life of 90 °C for usage in rough application conditions
- Tc range of -40 °C to + 95 °C enables use in extreme ambient temperatures
- Choice of color temperatures (3000 K, 3500 K, 4000 K and 5000 K)
- Lumen package: 2000 lm per foot (tunable up to 3000 lm per foot)

“

Enabling LED lighting at **higher application** heights.”

Fortimo LED Line High Flux

Product information (HV)

Type	Commercial name	Order code	
		EOC	
1R	Fortimo LED Line 1ft 2000lm 830 1R HV2	8718696 418482 00	
	Fortimo LED Line 1ft 2000lm 835 1R HV2	8718696 418512 00	
	Fortimo LED Line 1ft 2000lm 840 1R HV2	8718696 418536 00	
	Fortimo LED Line 1ft 2000lm 850 1R HV2	8718696 418550 00	
	Fortimo LED Line 2ft 4000lm 830 1R HV2	8718696 418659 00	
	Fortimo LED Line 2ft 4000lm 835 1R HV2	8718696 418673 00	
	Fortimo LED Line 2ft 4000lm 840 1R HV2	8718696 418697 00	
	Fortimo LED Line 2ft 4000lm 850 1R HV2	8718696 418710 00	
	3R	Fortimo LED Line 1ft 2000lm 830 3R HV2	8718696 480946 00
		Fortimo LED Line 1ft 2000lm 835 3R HV2	8718696 480960 00
Fortimo LED Line 1ft 2000lm 840 3R HV2		8718696 480984 00	
Fortimo LED Line 1ft 2000lm 850 3R HV2		8718696 481004 00	

Product information (LV)

Type	Commercial name	Order code
		EOC
1R	Fortimo LED Line 2ft 4000lm 830 1R LV2	8718696 418574 00
	Fortimo LED Line 2ft 4000lm 835 1R LV2	8718696 418598 00
	Fortimo LED Line 2ft 4000lm 840 1R LV2	8718696 418611 00
	Fortimo LED Line 2ft 4000lm 850 1R LV2	8718696 418635 00

Non-Isolated LED system (HV)

Type	Commercial name	LED Line 1 ft	LED Line 2 ft	LED Line 1 ft	Order code
		2000 lm*	4000 lm*	2000 lm**	
		1R systems	1R systems	3R systems	EOC
DALI	Xitanium 150W 0.2-0.7A 300V TD 230V iXt	5 - 9	3, 4	5 - 9	87182917 68265 00
	Xitanium 110W 0.2-0.6A 215V TD 230V iXt	4 - 6	2, 3	4 - 6	87182917 36295 00
	Xitanium 75W 0.12-0.4A 215V TD 230V	4 - 6	2, 3	4 - 6	87182916 84022 00
	Xitanium 36W 0.12-0.4A 110V TD 230V	2, 3	1	2, 3	87182916 84046 00
	Xitanium 17W 0.12-0.4A 54V TD 230V	1	-	1	87182911 98048 00
1-10V	Xitanium 75W 0.12-0.4A 220V 1-10V 230V	4 - 6	2, 3	4 - 6	87186964 69682 00
	Xitanium 36W 0.12-0.4A 115V 1-10V 230V	2, 3	1	2, 3	87186964 69705 00
	Xitanium 17W 0.12-0.4A 54V 1-10V 230V	1	-	1	87182911 98062 00
Fixed output	Xitanium 75W 0.12-0.4A 220V 230V	4 - 6	2, 3	4 - 6	87186964 40025 00
	Xitanium 36W 0.12-0.4A 115V 230V	2, 3	1	2, 3	87186964 40001 00

* The 17 W, 36 W and 75 W drivers limit the module up to 1835 lm/ft. The highest configurations 3 and 6 shall be driver at max with 360 mA giving 1670 lm/ft.

** The 17 W, 36 W and 75 W drivers limit the module up to 1890 lm/ft. The highest configurations 3 and 6 shall be driver at max with 370 mA giving 1740 lm/ft (36W) or 385 mA giving 1810 lm/ft (75W).

Isolated LED system (LV)

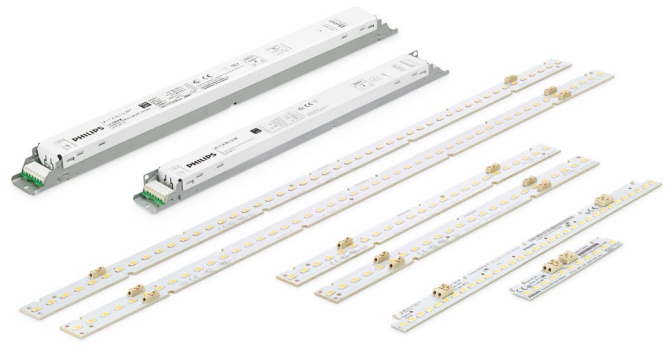
Type	Commercial name	LED Line 2 ft 4000 lm	Order code
		1R systems	EOC
DALI	Xitanium 75W 0.7-2A 54V TD 230V	1, 2	87182912 11884 00
	Xitanium 36W 0.3-1A 54V TD 230V	1	87182916 57422 00
1-10V	Xitanium 75W 0.7-2A 54V 1-10V 230V	1, 2	87182916 96445 00
	Xitanium 36W 0.3-1A 54V 1-10V 230V	1	87182916 84060 00
Fixed output	Xitanium 75W 0.7-2A 54V 230V	1, 2	87186964 68890 00
	Xitanium 36W 0.3-1A 54V 230V	1	87186964 68876 00

“

Perfect mix of design freedom and **high energy efficiency.**”



Fortimo LED Strip



Design is a major differentiator for you as a luminaire designer/manufacturer. But you cannot afford to compromise on the quality of light or to accept less than the best in terms of energy efficiency. This third generation of LED Strip makes sure you don't have to. Fortimo LED Strip allows you to design high-performance, slim linear LED luminaires without having to compromise on design freedom, quality of light, or total cost of ownership. The systems are ideal for use in luminaires for direct lighting in offices, banks, schools, public buildings, supermarkets and any applications where predominantly fluorescent lighting is used.

Key features and benefits:

- State-of-the-art LED module efficiency of up to 165 lm/W
- Long life-time: >50,000 hours
- High color rendering (CRI >80 and >90)
- Excellent color consistency of 3 SDCM
- Choice of color temperatures (3000 K, 4000 K and 5000 K)
- Two lumen packages: 650 lm and 1100 lm per foot
- Tunable lumen output, efficacy and lifetime
- Wide temperature (Tc) range from -40 °C to +80 °C
- Push-in connectors enabling automated wiring
- Five year system warranty

Fortimo LED Strip

Product information (HV)

Commercial name	Order code
	EOC
Fortimo LED Strip 1ft 1100lm 830 HV3	8718696 413753 00
Fortimo LED Strip 1ft 1100lm 840 HV3	8718696 413777 00
Fortimo LED Strip 1ft 1100lm 850 HV3	8718696 413791 00
Fortimo LED Strip 1ft 1100lm 940 HV3	8718696 413838 00
Fortimo LED Strip 2ft 2200lm 830 HV3	8718696 413975 00
Fortimo LED Strip 2ft 2200lm 840 HV3	8718696 414019 00
Fortimo LED Strip 2ft 2200lm 850 HV3	8718696 414033 00

Product information (LV)

Commercial name	Order code
	EOC
Fortimo LED Strip 102mm 375lm 830 LV3	8718291 788898 00
Fortimo LED Strip 102mm 375lm 840 LV3	8718291 788911 00
Fortimo LED Strip 1ft 650lm 830 LV3	8718291 788775 00
Fortimo LED Strip 1ft 650lm 840 LV3	8718291 788799 00
Fortimo LED Strip 1ft 1100lm 830 LV3	8718696 413630 00
Fortimo LED Strip 1ft 1100lm 840 LV3	8718696 413678 00
Fortimo LED Strip 1ft 1100lm 850 LV3	8718696 413692 00
Fortimo LED Strip 1ft 1100lm 940 LV3	8718696 413739 00
Fortimo LED Strip 2ft 2200lm 830 LV3	8718696 413852 00
Fortimo LED Strip 2ft 2200lm 840 LV3	8718696 413913 00
Fortimo LED Strip 2ft 2200lm 850 LV3	8718696 413937 00

Non-Isolated LED system (HV)

Driver type	Commercial name	LED Strip 1ft 1100lm	LED Strip 2ft 2200lm	Order code
		1R systems	1R systems	EOC
DALI	Xitanium 150W 0.2-0.7A 300V TD 230V iXt	7 - 12, 14, 16, 18, 20, 22	4-6, 8, 10	87182917 68265 00
	Xitanium 110W 0.2-0.6A 215V TD 230V iXt	5 - 9, 10, 12, 14, 16	3, 4, 6, 8	87182917 36295 00
	Xitanium 75W 0.12-0.4A 215V TD 230V	5 - 9	3 - 4	87182916 84022 00
	Xitanium 36W 0.12-0.4A 110V TD 230V	3 - 4	2	87182916 84046 00
	Xitanium 17W 0.12-0.4A 54V TD 230V	2	1	87182911 98048 00
1-10V	Xitanium 75W 0.12-0.4A 220V 1-10V 230V	5 - 9	3 - 4	87186964 69682 00
	Xitanium 36W 0.12-0.4A 115V 1-10V 230V	3 - 4	2	87186964 69705 00
	Xitanium 17W 0.12-0.4A 54V 1-10V 230V	2	1	87182911 98062 00
Fixed output	Xitanium 75W 0.12-0.4A 220V 230V	5 - 9	3 - 4	87186964 40025 00
	Xitanium 36W 0.12-0.4A 115V 230V	3 - 4	2	87186964 40001 00

Isolated LED system (LV)

Driver type	Commercial name	LED Strip 102mm 375lm	LED Strip 1ft 650lm	LED Strip 1ft 1100lm	LED Strip 2ft 2200lm	Order code
		1R systems	1R systems	1R systems	1R systems	EOC
DALI	Xitanium 75 W 0.7-2 A 54 V TD 230 V	9 - 23	6 - 13	4 - 10	2 - 5	87182912 11884 00
	Xitanium 36 W 0.3-1 A 54 V TD 230 V	4 - 11	3 - 6	2 - 4	1 - 2	87182916 57422 00
1-10 V	Xitanium 75 W 0.7-2 A 54 V 1-10 V 230 V	9 - 23	6 - 13	4 - 10	2 - 5	87182916 96445 00
	Xitanium 36 W 0.3-1 A 54 V 1-10 V 230 V	4 - 11	3 - 6	2 - 4	1 - 2	87182916 84060 00
Fixed output	Xitanium 75 W 0.7-2 A 54 V 230 V	9 - 23	6 - 13	4 - 10	2 - 5	87186964 68890 00
	Xitanium 36 W 0.3-1 A 54 V 230 V	4 - 11	3 - 6	2 - 4	1 - 2	87186964 68876 00



© 2015 Royal Philips N.V. All rights reserved. Philips reserves the right to make changes in specifications and/or to discontinue any product at any time without notice or obligation and will not be liable for any consequences resulting from the use of this publication.

www.philips.com/technology

06/2015
Data subject to change.