PHILIPS

LED tubes

Real pros have the perfect LED tube for every job

Discover our wide portfolio of efficient LED tubes for every application area, demand and budget.

a lighting brand by (Signify



philips.com/ledtube

An LED tube for every application

PHILIPS

Simplicity and ultra-efficiency make Philips LED tubes the quickest and easiest way to upgrade to LEDs for immediate energy savings over a long and reliable lifetime.

We have an LED tube for every application: bright easy-to-fit tubes that last and last. All our LED tubes have the industry's lowest failure rates for ultra-reliable operation and lifetime.

Choose CorePro LEDtubes for everyday replacement of fluorescent tubes in general applications. The MASTER Value range offers strong performance in demanding applications with intense usage, while the MASTER range is the right choice for every project that calls for best-in-class performance. MasterConnect LEDtubes are Interact Ready and can be integrated into smart lighting systems for personal and automated light control.

Fast installation, long reliable life

Philips LED tubes offer 100% safe and hassle-free installation with simple tubefor-tube replacement. Our EM/Mains, InstantFit HF and universal tubes fit straight into existing luminaires.

Our range has the widest ballast compatibility in the market, including the majority of 600, 1,200 and 1,500 mm versions.

LED tubes have more than twice the life of fluorescents and half the maintenance cost. Even with installation and maintenance costs, our tubes pay for themselves within a few months for permanently lit sockets.

Discover our attractive energy-saving alternatives to fluorescent tubes now and get all the info you need at: philips.com/LEDtubes

High-quality professional tubes

Our LED tubes won't flicker or cause glare. They switch on instantly with excellent and uniform color consistency. Defined tube/ballast combinations can be dimmed. And rotating end caps can direct light where needed.

Switch to LEDs now

LED tubes are the future. They have no start-up delay, and they have a long lifetime of up to 100,000 hours compared to fluorescent tubes which have a life of 5,000 - 20,000 hours. Although LED tubes require a larger initial investment, they end up paying for themselves in the first year due to their lower energy consumption.

Make the switch to LED tubes now at www.philips.com/ledconversion

Fluorescent lights are soon going to be redundant. The Reduction of Hazardous Substances (RoHS) directive of the European Union restricts the use of certain hazardous substances in electrical and electronic equipment, such as the use of mercury in lighting products. In addition, due to the Single Lighting Regulation (SLR), products that fail to meet efficiency requirements are being phased out starting on 24 August 2023.



Switch to LED now!

LED tubes win in every way

Light quality

LEDtube

- Very high light quality
- Instant 100% brightness without start-up delay or flickering
- Optically efficient emits light only towards usage direction

Fluorescent

• Optically inefficient – light needs to be reflected and redirected

www.philips.com/ledconversion

• Flicker upon power-up

LEDtube

- Highest efficacy of up to 210 lm/W
- Up to 75% less energy consumption compared to conventional fluorescents
- Low failure rate
- Up to 10 years warranty • Long lifetime of up to 100,000 hrs

Fluorescent

- Lower system efficiency due to losses associated with omnidirectional light output
- Broken tubes release a small amount of toxic mercury as a gas
- Lifetime of 5.000 to 20.000 hrs

- Relatively high initial costs but low lifetime costs
- Lower frequency of maintenance and replacement
- Payback time within a year with great reduction of energy consumption

Fluorescent

- Cheap to purchase, but much shorter service life
- Will require several replacements plus monitoring and replacing aging or expired components within the lifetime of a single LED alternative

Efficiency and robustness Cost of ownership

Philips LEDtube T8

Value and featur

- Breakthrough design with >10 IPs that give bestin-class compatibility with high-frequency ballasts
- >45 compatible ballasts per product

Pin safety

- Safe to touch the end cap when installing
- Integrated driver isolated from touchable parts
- Meets UL and IEC pin safety requirements

Real pros choose Philips LED tubes for:

Fast and easy installation

Philips LED tubes are true retrofit, making them guick and easy to install

Hassle-free compatibility

- No wires to replace or drivers to change
- InstantFit solutions work with HF electronic ballasts
- Universal LED tubes available - compatible with all ballast types

Philips LEDtube T5

Industry-leading ballast compatibility performance that supports:

- Fixed output ballast
- Intelligent/multi-watt ballast
- Dimming ballast (DALI, 1-10V)



PHILIPS

MASTER Value

MASTER Value The optimal combination of value and performance.

PHILIPS

CorePro

CorePro For your everyday lighting jobs.

LEDtube



Finding the right LED tubes for different plans, needs and budgets is easy with the extensive Philips portfolio. It ensures that you always have a quality solution at the price you want.



MasterConnect



MasterConnect For an easy step into smart lighting.



MASTER For top performance and sustainability.

Price

Trusted performance

- Low early failures
- Warranty up to 10 years
- High resistance to switching cycles

Product overview



Click here to see all products

Always compliant, always up-to-date

New regulations for energy-efficiency standards

In September 2021, the EU is implemented two updated regulations, both with the goal of further expanding the lighting industry's lead in sustainability by delivering significant energy savings for lighting products and systems.

Eco-design for Sustainability Products Regulation:

Aims to improve product performance and sustainability. Products that fail to meet requirements are being phased out.

The Energy Labelling Regulation:

Introduces a consumer-friendly energy label to empower end users to choose energy-efficient products.

• Products are labelled using a new A to G scale based on the level of energy efficiency.



Regulation for optimized light quality

The Single Lighting Regulation (SLR) also aims to optimize the functional requirements for light quality – above all the stroboscopic effect and flicker of mains voltage light sources. Starting from September 1, 2021, the low-flicker qualities and stroboscopic effect will be governed and further regulated until 2024. With Philips LED tubes you are well prepared for the regulations.



Finding the right output

For ultra-output applications, our solutions meet lighting industry standards (EN12464-1) by providing high light levels without causing discomfort or glare.



Sufficient light

on the task

 Key parameter for minimum required light is indicated in EN12464-1 in lux (lumens per square meter).
EN12464-1 prescribes minimum lux values, uniformity of illumination, and color rendering index, depending

Lux Working, typing reading and data processing require sufficient light with a minimum lux level.

The RoHS ban on fluorescents

The RoHS directive of the European Union restricts the use of certain hazardous substances in electrical and electronic equipment, such as the use of mercury in lighting products. The directive includes exemptions for a series of products that have now been revised by the European Commission – with great impact on fluorescent lighting products.

The EU is convinced of the many benefits of switching to more environmentally friendly, energyefficient LED lighting. With the implementation of EU Eco-design (SLR) Regulation on September 1st, 2021 and with the amended RoHS (Reduction of Hazardous Substances) directive at the start of 2022, EU countries will phase out numerous light sources. For example CFL-ni, linear fluorescent lamps (T5/T8) may no longer be placed on the market in the European Union from February 24, 2023 and August 24, 2023 respectively.



Unified Glare Rating (UGR) The amount of glare, annoyance or reflection created by high or non-uniform brightness must be kept to a minimum.

Real pros install ultra-efficient LED that doesn't cost the earth

Welcome the new Philips MASTER Value LEDtube UltraEfficient – your solution for upgrading more price-sensitive customers to ultra-efficient LED

Many companies today are trying to reduce their energy costs and their corporate carbon footprint. Did you know that lighting on average represents up to 10% of electricity consumption in buildings?³ The new Philips MASTER Value LEDtube UltraEfficient is your solution for upgrading more price-sensitive customers to ultra-efficient LED.

Thanks to the cost-efficient design, high energy efficiency and long service life, the new LED tube can convince with a payback time of less than 2 months, when upgrading from fluorescent tubes (banned since 2023)!²

Unbeatable arguments for your customers

- Saves 69% in energy costs, compared to fluorescent tubes²
- Long lifetime of 75,000 hours (L70) more than 3× longer than fluorescent tubes²
- Less than 2 months payback time, compared to fluorescent tubes²
- 5-year warranty

Sustainability meets profitability

With Philips MASTER LEDtube Ultra Efficient you can offer your customers an innovative and value-adding product to minimize their energy consumption. And although ultra efficient LED tubes require less maintenance and replacement, the higher investment of your customer will give you a higher profit per light point!

Desianed for vou and the plane

The new Philips MASTER Value LEDtube UltraEfficient

Product highlights



Cost and CO₂ savings right from the start

When upgrading from fluorescent tubes, your customers can expect a full return on investment in less than 2 months. Any application that requires the light to be switched on all the time will save € 11,029 by replacing 100 units of 58W fluorescent tubes with 22.1W ultra-efficient MASTER Value LED tubes UE.²

	St	andard LED tu	ıbe²	MASTER Value	e LEDtube UE	Fluore	scent tube	2 ²	MASTER Value LEDtube	UE
Lifetime (L70)	50),000 hrs	>	75,00	0 hrs	20,000	hrs	>	75,000 hrs	
Lamp wattage		25.9W	>	22.1	1W	58V	V	>	22.1W	
Total installation savings/year ²				€8	43				€ 11,029	
Payback period ²				1.9 y	ears				0.1 years	
					- <u>.</u>					
Number of lamps	100	Energy costs		€0.25/kWh	Lamp cost/year		€ 1.91	Total o	costs/year/lamp €	50.89
Burning hours per year	8,760 hrs	760 hrs Replacement cost/year/la		amp € 0.58 Energy costs		ear/lamp € 48.40				

Compared to a standard LED tube², a new Philips MASTER Value LED tube UE can reduce CO, emission by 85 kg over its lifetime⁵ – and its annual energy savings can charge 2 laptops for a year!⁶

Compared to a fluorescent tube², a new Philips MASTER Value LEDtube UE can reduce CO₂ emission by 1122 kg over its lifetime⁵ – and its annual energy savings can charge 22 laptops for a year!⁶



Ultra high lumen output of up to 4,100 lm ensures bright light in various applications

This icon has been developed by Signify and is used as a self-certification for the Philips UltraEfficient lamps and luminaires meeting the standards of EU Energy Label A or B (lamps)

Fluorescent tube calculations are based on Philips MASTER Value LEDtube UE 1500mm 22.1W (operating on direct mains) compared to Philips MASTER TL-D 1500mm 58W mption, but the accuracy of which cannot be verified. The

and tier 3 in IEA 4E SSL ANNEX (luminaires)

⁽operating on electro-magnetic ballast with 14W ballast loss; banned since 2023). Standard LED tube calculations are based on Philips MSTER Value LED tube UE 1500mm 22.1W compared to Philips CorePro LED tube EM/mains Ultra Output 1500mm 25.9W (all operating on direct mains). The lights are on for an average of 24 hours per day, 365 days of the year (8,760 hours annually). The average energy cost is 0.252 €/kWh according to the latest Eurostat report, and it is calculated for the non-household consumers in Europe, valid in H12023, based on 27 countries, all taxes and levies included. The data presented is an illustrative forecast based on a proprietary model developed by Signify to help customers understand the impact of lighting on the environment. Signify's "Green Switch conventional light point conversion model" uses input from numerous sources, references, and data points (available upon request) to generate a simulated view of a given market's energy con thousand separator is a comma (,) and the decimal separator is a period (.).

³ U.S. commercial sector electricity consumption by major end uses, 2022, according to the U.S. Energy Information Administration Annual every outlook 2023 (table 5) ⁴ According to the updated European Energy Labelling Regulation (09/2021)

Based on the emission factor of 0.3 kg/kWh, Europe average. Greenhouse gases emitted per unit of generated electricity, measured in grams of CO2 equivalents per kilowatt hour as of 2023 based on Our World in Data

Under typical daily usage, laptops use 0.055 kWh per day and 20.24 kWh per year, on average

Real pros choose an affordable LED upgrade for T5 fluorescents

The new Philips CorePro LEDtube InstantFit HF T5 is all you need to replace phased-out conventional T5 tubes with LED in your everyday lighting jobs

Easy-to-install, budget-friendly and widely compatible with electronic ballasts: the Philips CorePro LEDtube InstantFit HF T5 is your first choice when it comes to upgrading T5 fluorescent tubes with energy-efficient LEDs.

PHILIPS Low investment, great savings

Product highlights



Convince your customers with these benefits

Hassle-free 1:1 replacement

- True retrofit
- Plug-and-play, no wiring needed
- Fast and easy installation saves time and money
- Available in many sizes and color temperatures

Higher efficiency and longer lifetime

- Up to 146 lm/W for 46% energy savings*
- 50,000 hrs lifetime (L70) 2 times longer than fluorescent
- High energy savings and long lifetime mean fast payback^{*}

Broad ballast compatibility

• Innovative driver design ensures compatibility with a wide range of electronic ballasts Click here for our ballast compatibility list

Excellent durability

Glass design resists bending



PHILIPS

Switching to LED tubes always pays off

Philips LED tubes offer unbeatable quality and easy-to-install solutions for any application. It's never been easier to switch to LED.

- Substantial energy savings compared with fluorescents
- Long lifetime and low maintenance
- Available in many sizes and color temperatures
- Ultra bright, low-flicker output^{**}



* This calculation compares the Philips CorePro LEDtube InstantFit HF T5 High Output (1200mm, 26.7W), operating on Philips HF-R reference ballast with 5.2W ballast loss, with a conventional TL5 High Output (1200mm, 54W), operating on the same reference ballast with 5.5W ballast loss ** According to 2024 SLR requirement ($P_{st}LM \le 1$, SVM ≤ 0.4)

Product highlight

No bending Glass design resists bending

Low flicker Low-flicker design complies with 2024 SLR requirement $(P_{ct}LM \le 1, SVM \le 0, 4)$

Choose the right LED tube for every application

						T8 fixture						T5 fixture	
		CorePro LEDtube SO	Corepro LEDtube UO	MASTER Value LEDtube HO	MASTER Value LEDtube UO	MASTER Value LEDtube UE	MASTER LEDtube HO	MASTER LEDtube UO	MASTER LEDtube UE	MasterConnect LEDtube	MASTER / CorePro LEDtube HE	MASTER / CorePro LEDtube HO	MASTER LEDtube UO
		up to 2,200 lm	up to 3,500 lm	up to 3,100 lm	up to 3,700 lm	up to 4,100 lm	up to 3,100 lm	up to 3,700 lm	up to 3,700 lm	up to 3,700 lm	up to 3,000 lm	up to 3,900 lm	up to 5,600 lm
Application areas	Value and features:		ŶŶŶŶŶ		ŶŶŶŶŶ			ŶŶŶŶŶ					
	Industry Burning hours: varies, max. 24/7 Light requirement: 200–500+ lux		~	~	~	~	~	~	~	~		~	~
	Warehouses/factories Burning hours: 12 hrs/day to 24/7 Light requirement: 200–300 lux	~	~	~	~	~	~	~	~	~		~	~
0 0 0	Car park Burning hours: 24/7 Light requirement: 200+ lux	~	~	~			~			~		~	
	Supermarket/retail Burning hours: 12 hrs/day to 24/7 Light requirement: 500+ lux		~	~	~	~	~	~	~	~		~	
	Office/school/healthcare Burning hours: usually 12 hrs/day Light requirement: 500+ lux		~	~	~	~	~	~	~	~	~		
	Public buildings Burning hours: 12 hrs/day to 24/7 Light requirement: 100–500+ lux	~	~	~			~			~	~	~	

Find the right Philips LED tube for every application and demand using our handy product finder: **philips.com/productfinder**

What type of LED tube do I need?



*It is recommended to remove the compensation capacitor to improve the power factor.

Pro tip for choosing a Philips LED tube: Watch out for the rings!



One ring: EM/Mains (Electromagnetic ballast or direct mains)



Two rings: HF (High-frequency electronic ballast)



Three rings: UN (Universal)



No ring/one ring (Direct mains)

**This method is not permitted in Switzerland.



Get ready to save energy and costs



Parking

Car parks and transportation networks need to feel bright and welcoming 24 hours a day. White LED light has a high perceived brightness and superior color rendering, so people feel safer. High Output LED tubes raise the standards in car parks even higher. With a light output of up to 3,100 lumens, they provide maximum visibility and safety.

	Fluorescent TL-I 1,500 mm	D	CorePro LEDtube SO 1,500 mm	CorePro LEDtube UO 1,500 mm	MASTER Value LEDtube HO 1,500 mm	MASTER LEDtube HO 1,500 mm
Lifetime	20,000 hrs	>	50,000 hrs	50,000 hrs	60,000 hrs	75,000 hrs
Lamp wattage	58W	>	20W	25.9W	20.5W	18.2W
Total costs/year/lamp*	€ 162.45	>	€ 46.31	€ 59.89	€ 47.81	€ 43.13
Number of lamps				100		
Burning hours/year				8,760 hrs		
Total savings/year			€ 11,614	€ 10,256	€ 11,463	€ 11,931
Payback period			0.8 months	1.2 months	1.3 months	2.0 months
Total CO ₂ reduction over LED lifetime			78,000 kg	69,150 kg	92,700 kg	121,050 kg



Retail

Beautiful lighting brings out the best in products on display and enhances the shopping experience for customers. But with lamps burning for up to 18 hours a day, food retailers want solutions that will reduce energy and maintenance costs – and show their green credentials in the best light.

	Fluorescent TL-D 1,500 mm	t	CorePro LEDtube UO 1,500 mm	MASTER Value LEDtube HO 1,500 mm	MASTER LEDtube HO 1,500 mm	MASTER Value LEDtube UO 1,500 mm	MASTER LEDtube UO 1,500 mm	MASTER UE Class B 1,500 mm		
Lifetime	20,000 hrs	>	50,000 hrs	60,000 hrs	75,000 hrs	60,000 hrs	75,000 hrs	75,000 hrs		
Lamp wattage	58W	>	25.9W	20.5W	18.2W	23W	21.7W	20W		
Total costs/year/lamp*	€ 74.18	>	€ 27.35	€ 21.83	€ 19.70	€ 24.48	€ 23.32	€ 35.32		
Number of lamps		100								
Burning hours/year				4,00	00 hrs			6,480 hrs		
Total savings/year			€ 4,683	€ 5,234	€ 5,448	€ 4,970	€ 5,085	€ 8,485		
Payback period			2.7 months	2.9 months	4.5 months	3.5 months	5.2 months	3.6 months		
Total CO ₂ reduction over LED lifetime			69,150 kg	92,700 kg	121,050 kg	88,200 kg	113,175 kg	117,000 kg		



Industry

In ultra-demanding applications, 24/7 operations can run up expensive energy bills. With a super bright light output of up to 3,700 lumens, our Ultra Output and UltraEfficient LED tubes combine both the best light output for maximum visibility and the highest efficacy.

	Fluorescent TL-D 1,500 mm		CorePro LEDtube UO 1,500 mm	MASTER Value LEDtube UO 1,500 mm	MASTER LEDtube UO 1,500 mm	MASTER LEDtube UE Class A 1,500 mm
Lifetime	20,000 hrs	>	50,000 hrs	60,000 hrs	75,000 hrs	100,000 hrs
Lamp wattage	58W	>	25.9W	23W	21.7W	17.6W
Total costs/year/lamp*	€ 81.22	>	€ 29.94	€ 26.80	€ 25.54	€ 42.93
Number of lamps				100		
Burning hours/year				4,380 hrs		8,760 hrs
Total savings/year			€ 5,128	€ 5,442	€ 5,568	€ 11,951
Payback period			2.5 months	3.2 months	4.8 months	4.2 months
Total CO ₂ reduction over LED lifetime			69,150 kg	88,200 kg	113,175 kg	163,200 kg



Office

With a light output of up to 3,100 lumens, our High Output LED tubes provide brilliant light quality with the best efficacy. Ultra Output LED tubes shine with impressive, high-quality light to create the most comfortable ambience that complies with all office norms and still saves on energy.

	Fluorescent TL-D 1,500 mm		CorePro LEDtube UO 1,500 mm	MASTER Value LEDtube HO 1,500 mm	MASTER LEDtube HO 1,500 mm	MASTER Value LEDtube UO 1,500 mm	MASTER LEDtube UO 1,500 mm			
Lifetime	20,000 hrs	>	50,000 hrs	60,000 hrs	75,000 hrs	60,000 hrs	75,000 hrs			
Lamp wattage	58W	>	25.9W	20.5W	18.2W	23W	21.7W			
Total costs/year/lamp*	€ 55.63	>	€ 20.51	€ 16.37	€ 14.77	€ 18.36	€ 17.49			
Number of lamps		100								
Burning hours/year		3,000 hrs								
Total savings/year			€ 3,512	€ 3,926	€ 4,086	€ 3,727	€ 3,814			
Payback period			3.6 months	3.8 months	6.0 months	4.6 months	7.0 months			
Total CO ₂ reduction over LED lifetime			69,150 kg	92,700 kg	121,050 kg	88,200 kg	113,175 kg			

*The average energy cost is 0.252 €/kWh according to the latest Eurostat report, and it is calculated for the non-household consumers in Europe, valid in H12023, based on 27 countries, all taxes and levies included. The data presented is an illustrative forecast based on a proprietary model developed by Signify to help customers understand the impact of lighting on the environment. Signify's "Green Switch conventional light point conversion model" uses input from numerous sources, references, and data points (available upon request) to generate a simulated view of a given market's energy consumption, but the accuracy of which cannot be verified. The thousand separator is a comma (,) and the decimal separator is a period (.). Based on the emission factor of 0.3 kg/kWh, Europe average. Greenhouse gases emitted per unit of generated electricity, measured in grams of CO₂ equivalents per kilowatt-hour as of 2023 based on <u>Our World in Data</u>.

You and Signify a reliable partnership

Signify, previously known as Philips Lighting, is the world leader in connected LED lighting systems, software and services. We proudly market the best lighting brands in the world, including Philips and Interact.

Close cooperation before, during and after projects is important to us. Our local service teams make sure you always get the competent support and information you need. We are closely working with local wholesalers to offer you flexible and on-time delivery - and product availability you can rely on.

To help you stay on top of your game the <u>Signify Lighting Academy</u> offers a comprehensive range of educational resources for you to grow your expertise and get certified.



Our global brands

PHILIPS

The Philips brand stands for quality and energy-efficiency in light. For over 125 years, Philips products have been at the forefront of innovation.

Today Philips is recognized as the leading brand in lighting.

interact

Interact is the brand of our IoT software and platform that manages smart lighting systems and the data that those systems collect.

Easy to install and set up, Interact software can be used in a wide range of application areas, from small offices to entire cities.

Signify and Mercedes-AMG PETRONAS F1 Team are driven by a shared passion for technology and the desire to push the boundaries of what is possible.

Our innovations in lighting support the team's ambition to become one of the world's most sustainable in sport, serve the well-being and performance of the team, and deliver powerful experiences for fans, trackside and at home.

Learn more at

We aim to help you work faster, better, smoother. How? Check:

Signify is Official Lighting Partner of Mercedes-AMG PETRONAS F1 Team

(s)ignify

Driven by responsible innovation



Official Lighting Partner



(s)ignif



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www.philips.com/LEDtubes