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.

philips.com/ledtube



An LED tube for every application

Simplicity and ultra-efficiency make Philips LED tubes the quickest and easiest way to upgrade to LED 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 more 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 a 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 great majority of 600, 1200 and 1500mm versions.

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

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 the light where needed.

Switch to LED now

LED tubes are the future. They have no start-up delay, have a long lifetime of up to 100,000 hours compared to fluorescent tubes which have a life of 5,000 - 20,000 hours. Though LED tubes seem more expensive in the start, they end up paying for themselves in the first year due to their lower energy consumption. Make the switch to LED tubes now at https://www.lighting.philips. com/main/products/led-conversion

Fluorescent lights are soon going to be a thing of the past. 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 August 2023.

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





LEDtube wins in every way

Light quality

LEDtube

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

Fluorescent

- Optically inefficient light needs to be reflected and redirected
- Flicker upon power-up

Efficiency and robustness

LEDtube

- Highest efficacy up to 210lm/W
- Up to 75% less energy compared to fluorescent
- Low failure rate
- Up to 10 years warranty
- Long lifetime of up to 100,000 hours

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 between 5,000 to 20,000 hours

Cost of ownership

LEDtube

- Relatively high initial costs but low lifetime costs
- Less maintenance needed low frequency to change a tube after installation
- Payback time typically 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

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.



https://www.lighting.philips.com/ main/products/led-conversion

Real pros choose Philips LED tubes for:



Fast and easy installation

Philips LED tubes are true retrofit, making it the fastest-to-install solution.

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

- has industry leading ballast compatibility performance that supports:
- fixed output ballast
- intelligent/multi-watt ballast
- dimming ballast (DALI, 1-10V)

Philips LEDtube T8

Value and features

- Breakthrough design with >10 IPs that give best-in-class compatibility with **High-Frequency ballast**
- >45 compatible ballasts per product
- Meets UL and IEC pin

Pin safety

safety requirements



MasterConnect For an easy step into smart lighting.

For top performance and sustainability.

Price

• Safe to touch the end cap when installing • Integrated driver isolated from touchable parts



Trusted performance

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

Product overview



 Scalable and upgradable from stand-alone to cloud-based solutions

MASTER LEDtube InstantFit HF T8



• Industry-leading HF ballast compatibility

Value and features:

- Up to 155lm/W energy efficiency
- Shatterproof solution thanks to plastic design according to IEC 61549
- Rotatable end-cap for various applications
- Higher flux through smaller beam angle

Click here to see all products

MASTER LEDtube InstantFit HF T5



Value and reatures:

Click here to see all products

Always compliant, always up-to-date

New regulations for more sustainability

As of September 2021, the EU is implementing 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.

- The Ecodesign Regulation (SLR): Aims to improve product performance and sustainability
- Products that fail to meet requirements will be phased out
- The Energy Labelling Regulation: Introduces a new consumer-friendly energy label to empower end users to choose energy efficient products
- The new scale reflects how efficient a product is the definition of A to G is changed based on the new efficacy requirements

The RoHS1 ban

- The RoHS1 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 included 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, energy efficient LED lighting: With the implementation of EU Ecodesign (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.

New regulation for optimized light guality

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 gualities and stroboscobic effect will be governed and further regulated until 2024. With Philips LED tubes you are well prepared for the upcoming regulations: all our MASTER LEDtubes meet the 2024 requirements already!

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 glare³.

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



Sufficient light

Unified Glare Rating (UGR)

The amount of glare, annoyance or reflection created by high or non-uniform brightness must be kept to a minimum



Discomfort glare

nount of glare is indicated in EN 12464-andard by Unified Glare Rating (UGR).

Real pros choose light that looks good on camera

Introducing the new camera friendly feature for MASTER LEDtube EM/Mains T8¹ and InstantFit HF T8². This innovative product design ensures no visible flicker on camera, giving you assurance of a dependable light source when working with cameras³

New camera friendly feature in detail

You may have experienced this occasionally -- the light looks perfect to your eyes but flickers on the screen when filming a video. In high power factor LED product, the ripple current through LEDs brings fast change in light, which will not be detected by human eyes. However in case the light and camera shutter are out of sync, it might be captured on the screen.

The use of cameras (phone/digital camera/webcam/security camera etc.) has become part of our daily lives and now more than ever, means that we need light that also looks good on camera. Perfect for use in office, retail, industry or education. The Philips MASTER range brings light guality to a next level. With this update you can still rely on the top performance features for this range.

Key Benefits:

- Up to 3700lm ultra light output with best-in-class energy efficiency
- Truly shatterproof according to IEC 61549 thanks to plastic design
- Rotatable end-caps for maximized installation flexibility
- Higher flux through smaller beam angle
- Up to 75,000 hrs lifetime which greatly reduce replacement cycles

¹ SVM = stroboscopic effect visibility measure

² Exemptions: light sources for outdoor, industry and other uses with a color rendering CRI \leq 80

³ Final light quality, besides the LED tube, also depends on application circumstances like e.g. type of luminaire used and amount of daylight



 $VM^1 < 0.9^2$

 $P_{\rm el} \, {\rm M} < 1$

ow-flicker qualitie

eptember 202

Stroboscopic effect: $5VM^{1} \le 0,4^{2}$

ENERG^{*}

SUPPLIER'S NAME

Product highlight





Real pros help their customers realize ultra energy savings

Introducing the Philips MASTER LEDtube Ultra Efficient T8: our most energy efficient LED tube yet.

Are your customers worried about their energy costs?

With energy cost going through the roof, many companies are more aware of their energy consumption than ever. Lighting on average represents up to 25% of electricity consumption in buildings2, so there is much to gain. Did you know there is great potential to save energy, even if you already have LED lights?

With the new Philips Ultra Efficient LEDtube you have the perfect retrofit lamp to help your customers save energy and money with high-quality, long-lasting and ultra energyefficient LED.

Unbeatable arguments for your customers

- Saves up to 44% in energy costs compared to standard LED tubes3
- Ultra long lifetime of 100,000 hours more than 3x longer than standard LED tube
- Less than 5 months payback time compared with fluorescent tubes
- 10 years warranty

The Philips MASTER LEDtube Ultra Efficient is also available with a class B energy rating 1. To learn more visit: www.philips.com/ledtube

1 According to the updated European Energy Labelling Regulation (09/2021) 2 According to Signify modeling and market intelligence data 3 Standard LED tubes' refers to Philips CorePro LEDtube EM/mains Ultra Output operating on direct mains

The Philips MASTER LEDtube Ultra Efficient

All the benefits of LED lighting and more.



*According to the updated European Energy Labelling Regulation (09/2021)

Cost and CO₂ savings right from the start

When updating from fluorescent tubes, your customers can expect a full return on investment in only 5 months. A a typical small warehouse will save 13.661 Euro by replacing 100 x 58W fluorescent tubes with 17.6W Ultra Efficient A-class LED tubes.¹

		Standard LED tube ²	MASTER	LEDtube UE	Fluorescent tube	MASTER L	.EDtube UE
Lifetime		30,000 hrs	100,	000 hrs	20,000 hrs	100,0	000 hrs
Lamp wattage		31.5W	17	7.6W	58W	17	.6W
Total savings/year			3,5	644 €		13,6	61€
Payback period			1.5	years		0.4	years
Number of lamps	100	Energy costs	0.29 €/kWh ³	Lamp cost/year	4.65€	Total costs/year/lamp	49.80€
Burning hours per year	8760 hrs ²	Replacement cost/year/la	mp 0.44€	Energy costs/year/lam	np 44.71€		

Compared to a fluorescent tube, a new Philips MASTER LEDtube UE can reduce CO, emissions by up to 2,285 kg over its lifetime³ – equivalent to the emissions absorbed by more than 103 trees.⁴

Compared to a standard LED tube, a new Philips MASTER LED tube UE can reduce CO, emissions by up to 584 kg over its lifetime³ – equivalent to the emissions absorbed by more than 26 trees.⁴

¹ Calculation for a typical warehouse based on 100 x 58W fluorescent lamps with a lifetime of 20000 hours vs 100 x 17.6W Ultra Efficient A-class LED tubes with a lifetime of 100.000 hours 0.29 Euro energy cost/hour; 5 euro replacement cost per lamp; 8760 burning hours per year ² Standard LED tube refers to Philips CorePro LEDtube EM/mains Ultra Output operating on direct main

³ Calculation based on CO₂ gas emissions of 0.42kg/kWh.

⁴ Based on multiple scientific literature, an average fully grown tree can absorb 22 kg CO, per yea

Sustainability meets profitability

With Philips MASTER LEDtube Ultra Efficiency 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!

Designed or vou and the planet



210lm/W ultra efficiency achieve an incredible class A energy efficiency rating*

Reliable performance with 10 years warranty

Real pros choose Dimmable lights

Philips MASTER LEDtube InstantFit HF T5 is equipped with our latest technology breakthrough.

IP protected 'Super Compatibility' design enables compatibility with various ballast types, including dimming ballast!

Product highlights



Typical use cases



Office Space

Office space with dimming capability for comfortable light at any moment.



Increase your energy saving

without any hassle.

Industry

Classroom

Optimize comfort by adjusting the light level for every task.



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Retail

Optimize shelf lighting hassle free with LED lighting.

PHILIPS

LED tubes

Real pros change to **LEDtubes now**

The new, easy-to-install Philips CorePro LEDtube Ultra Output T8.

With the new Philips CorePro LEDtube Ultra Output T8, making the switch from fluorescent to energy- and costsaving LED is fast, easy, and hassle-free. Plus there are plenty of additional good reasons to switch:

Fluorescent tubes to be banned soon

- Fluorescent T8 tubes will be phased out from August 24, 2023 due to EU regulations¹
- Be best prepared for the switch to LED with Philips LED tubes!

Save money straight away

- Saves up to 56% energy compared to a conventional fluorescent equivalence
- · Philips LEDtubes pay for themselves within a few months
- · Twice the lifetime of fluorescent means less maintenance and with that an even better overall TCO

Hassle-free 1-to-1 replacement

- · True retrofit, making it the fastest-to-install solution saving you time and money
- · Designed for EM ballast operation, and if needed on direct mains
- · Fits straight into existing luminaires



2.

3.

Scan the code for more information on product details, EU regulations and TCO calculations or visit: www.philips.com/ledtube

¹ According to the RoHS (Reduction of Hazardous Substances) directive and European Single Lighting Regulation. Products already placed on the market may still be sold after these dates but they may not be placed on the market





Switching to LED tubes always pays off

Philips LED tubes provide you with unbeatable quality, easy-to-install solutions for every application. It was never easier to switch to LED.

- · Available in many sizes
- Substantial energy savings
- Long lifetime and low maintenance
- Ultra bright, flicker-free output
- Various color temperatures available
- No toxic materials, e.g. mercury



7

Choose the right LED tube for every application

		T8 fixture							T5 fixture			
		CorePro LEDtube SO UO	MASTER Value LEDtube HO	Corepro LEDtube UO	MASTER Value LEDtube UO	MASTER LEDtube HO	MASTER LEDtube UO	MASTER LEDtube UE	MasterConnect LEDtube	MASTER LEDtube HE	MASTER LEDtube HO	MASTER LEDtube UO
		up to 2200 Im up to 3500lm	up to 3100 lm	up to 3500lm	up to 3700 Im	up to 3100 lm	up to 3700 lm	up to 3700 lm	up to 3700 lm	up to 3000 lm	up to 3900 lm	up to 5600 lm
Application areas	Value and features:	ŶŶŶŶŶ					ĬĬŢŢŢŢŢŢŢŢ		****	¥. ₽	ŢŢŢŢ	
	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 00	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**





Watch out for the rings!



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 higher 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 3100 lumen they provide maximum visibility and safety.

	Fluorescent TL-D 1500 mm	CorePro LEDtube SO 1500 mm	CorePro LEDtube UO 1500 mm	MASTER Value LEDtube HO 1500 mm	MASTER LEDtube UO 1500 mm
Lifetime	20,000 hrs	30,000 hrs	30,000 hrs	60,000 hrs	75,000 hrs
Lamp wattage	58W 💙	20W	31.5W	20.5W	18.2W
Total costs/year/lamp*	186.41€ >	55.14€	85.25€	55.35 €	50.10€
Number of lamps		1	00		
Burning hours/year		8,7	60 hrs		
Total savings/year		13,128 €	10,117 €	13,107 €	13,631 €
Payback period		0.9 months	1.5 months	1.6 months	2.5 months
Total CO ₂ reduction over LED lifetime		65520 kg	51030 kg	129780 kg	169470 kg
Equivalent to emissions absorbed by		2978 trees	2320 trees	5899 trees	7703 trees



Industry

per watt efficiency.

	Fluorescent TL-D 1500 mm	CorePro LEDtube UO 1500 mm	MASTER Value LEDtube UO 1500 mm	MASTER LEDtube UO 1500 mm	MASTER LEDtube UE Class A 1500 mm
Lifetime	20,000 hrs	30,000 hrs	60,000 hrs	75,000 hrs	100,000 hrs
Lamp wattage	58W	31.5W	23W	21.7W	17.6W
Total costs/year/lamp*	93.21€	42.62 €	30.99€	29.68 €	49.80 €
Number of lamps			1	00	
Burning hours/year			4,380 hrs		8,760 hrs
Total savings/year		5,058 €	6,221 €	6,353 €	13,661 €
Payback period		3.1months	3.7 months	5.9 months	4.7 months
Total CO ₂ reduction over LED lifetime		51030 kg	123480 kg	158445 kg	228480 kg
Equivalent to emissions absorbed by		2320 trees	5613 trees	7202 trees	10385 trees



Office

and still saves on energy.

	Fluorescent TL-D 1500 mm	CorePro LEDtube UO 1500 mm	MASTER Value LEDtube HO 1500 mm	MASTER LEDtube HO 1500 mm	MASTER Value LEDtube UO 1500 mm	MASTER LEDtube UO 1500 mm
Lifetime	20,000 hrs	30,000 hrs	60,000 hrs	75,000 hrs	60,000 hrs	75,000 hrs
Lamp wattage	58W	31.5W	20.5W	18.2W	23W	21.7W
Total costs/year/lamp*	63.84€	29.19€	18.95€	17.16€	21.23€	20.33€
Number of lamps				100		
Burning hours/year				3,000 hrs		
Total savings/year		3,465 €	4,489 €	4,668 €	4,261 €	4,351 €
Payback period		4.5 months	4.6 months	7.2 months	5.5 months	8.6 months
Total CO ₂ reduction over LED lifetime		51030 kg	129780 kg	169470 kg	123480 kg	158445 kg
Equivalent to emissions absorbed by		2320 trees	5899 trees	7703 trees	5613 trees	7202 trees

Retail

Beautiful lighting brings out the best in the 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 1500 mm	CorePro LEDtube UO 1500 mm	MASTER Value LEDtube HO 1500 mm	MASTER LEDtube HO 1500 mm	MASTER Value LEDtube UO 1500 mm	MASTER LEDtube UO 1500 mm	MASTER UE Class B 1500 mm	
Lifetime	20,000 hrs 💙	30,000 hrs	60,000 hrs	75,000 hrs	60,000 hrs	75,000 hrs	70,000 hrs	
Lamp wattage	58W 💙	31.5W	20.5W	18.2W	23W	21.7W	21W	
Total costs/year/lamp*	85.12€ >	38.93€	25.27 €	22.88 €	28.30€	27.11€	41.40€	
Number of lamps				100				
Burning hours/year	ning hours/year 4,000 hrs							
Total savings/year		4,619 €	5,985 €	6,224 €	5,682 €	5,801 €	9,649 €	
Payback period		3.3 months	3.5 months	5.4 months	4.1 months	6.5 months	4.9 months	
Total CO ₂ reduction over LED lifetime		51030 kg	129780 kg	169470 kg	123480 kg	158445 kg	163800 kg	
Equivalent to emissions absorbed by		2320 trees	5899 trees	7703 trees	5613 trees	7202 trees	7445 trees	

In ultra-demanding applications, 24/7 operations can run up expensive energy bills. With a super bright light output of up to 3700 lumen our Ultra Output and Ultra Efficiency LED tubes combine both the best light output for maximum visibility AND the highest lumen

With a light output of up to 3100 lumen, our High Output LED tubes provide brilliant light guality with the best lumen per watt. Ultra Output LED tubes shine with impressive, high quality light to create the most comfortable ambience that complies with all office norms



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.

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

The Philips brand stands for guality 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.

You and Signify – a reliable partnership

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 Signify Lighting Academy offers a comprehensive range of educational resources for you to grow your expertise and get certified.

Brighter lives, better world

Signify is 100% carbon neutral since September 2020.

We recycle up to 90% of our manufacturing waste.

We use 100% renewable electricity.

Our paper packaging for LED lamps and luminaires is saving over 500,000 kilos of plastic waste per year.

Thank you for choosing Philips products offered by Signify and joining us on our mission!



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www.philips.com/ledtube