

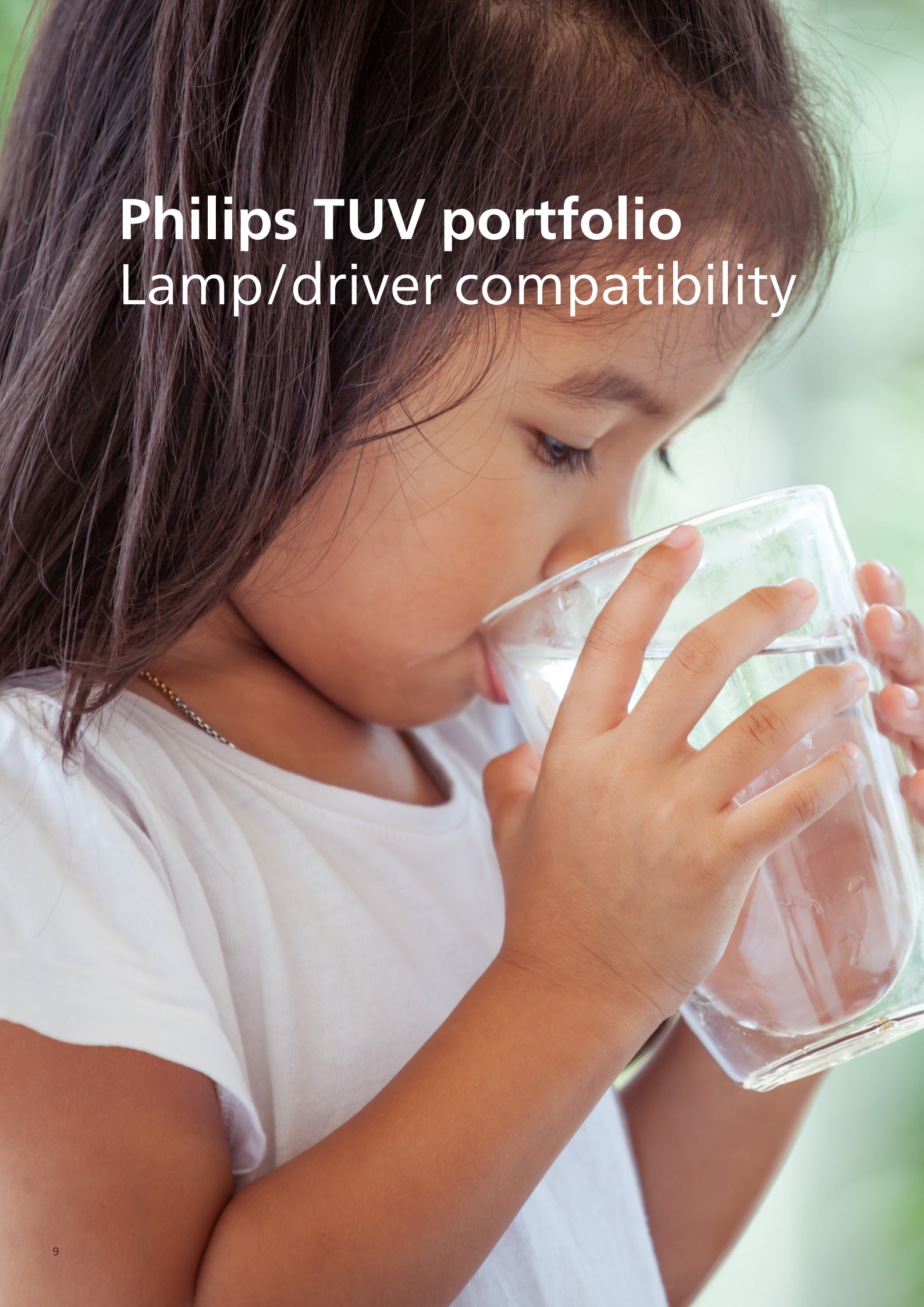


PHILIPS

UV-C lamps

Lamp-driver compatibility overview

Working together to deliver
cleaner water, air and surfaces,
today and tomorrow



Philips TUV portfolio

Lamp/driver compatibility

This lamp-driver compatibility list provides an overview of which Philips drivers are suitable to be used with all lamps in the Philips TUV portfolio

Current controlled drivers

The Philips TUV lamp portfolio consists of low-pressure mercury lamps in various wattages and dimensions. The most important feature of these lamps is the UV-C radiation, which is defined by the combination of glass used, filling gas and pressure, lamp and ambient temperature and the current of the lamp.

For these lamps it is key that the driver provides the right current to the lamps, as this defines the performance and lifetime behavior of the lamp.

- Low current gives lower UV-C output and can negatively influence the lifetime of the lamp as it damages the coil.
- High current gives higher UV-C output and can negatively influence the lifetime, as this damages the coil rapidly.

Most important is that the current provided by the driver stays within $\pm 20\%$ of the defined current of the lamp.

Philips does not offer a UV specific driver portfolio, as the TUV lamps can also work on some of the existing fluorescent general lighting drivers. These drivers can be a good match while the UV lamp has a different lamp power than the general lighting lamp, it all depends on current. This also means that a driver for a fluorescent general lighting lamp with a similar power as the UV lamp is not by definition a good match with the UV lamp.

For this reason, we tested all our drivers with the UV lamps to make sure we offer the right fit. Most drivers are current controlled and will give only the correct power in combination with the lamp for which the driver is designed. This depends mainly on the dimensions and coil of the lamps. Power driven drivers can support these lamps but only if the manufacturer is aware of the specification of the lamps that will use this driver.

Pre-heat

The pre-heat of a driver supports a good switching behavior and therefore supports a good lifetime of the lamp.

- Low pre-heat can give a cold start which easily damages the coil and therefore shortens the lifetime of the lamp.
- High pre-heat can rapidly damage the coil which can result in a dramatically shorter lifetime.

This is the reason why certain drivers are not suitable for high switching applications. High switching is within this overview defined as more than 8 times ON/OFF per day, based on IEC spec.

The end caps on the linear lamps do not influence the driver selection, which means that lamps with G5 (2 pins on both ends) and 4P SE (4 pins on one end and a blind cap on the other side) can be used on a similar driver.

UV-C output

The influence on the final output of the lamp depends on lamp design but mainly on driver used. For all drivers that are listed in this compatibility overview we guarantee a minimum lamp UV-C output of 90% versus lamp specification.

The specification and connection schemes of all drivers can be found on **www.lighting.philips.com/main/prof/lighting-electronics/fluorescent#pfpath=0-GE01_GR**



Philips TUV PL-S

Lamptype	Driver	12nc	USA	Europe /Asia	Only suitable for <8 switches per day*	Lamps on Driver
TUV PL-S 5W/2P	No Philips driver available - lamps work only on EM Drivers, not part of Philips portfolio					
TUV PL-S 7W/2P						
TUV PL-S 9W/2P						
TUV PL-S 11W/2P						
TUV PL-S 13W/2P						
TUV PL-S 5W/4P						
TUV PL-S 7W/4P	HF-M RED 109 SH TL/PL-S 230-240V	913700422866		X		1
TUV PL-S 9W/4P	ICF2S13H1LD	913710207502	X		X	2
	HF-S 3_414 TL5 II 220-240V 50_60Hz	913713033066		X		4
TUV PL-S 11W/4P	HF-M RED 114 SH TL/TL5/PL-C/S	913700423266		X	X	1
TUV PL-S 13W/4P						
TUV PL-S 40W/4P	HF-S 158 TL-D II 220-240V 50/60Hz	913713032266		X		1
	HF-S 258 TL-D II 220-240V 50/60Hz	913713032566		X	X	2

*Driver is suitable tested on 2 3/4h ON - 1/4h OFF switching schedule



Philips TUV T5 mini

Lamptype	Driver	12nc	USA	Europe /Asia	Only suitable for <8 switches per day*	Lamps on Driver
TUV 4W FAM	HF-M RED 109 SH TL/PL-S 230-240V	913700422866		X	X	1
TUV 6W FAM	HF-M RED 109 SH TL/PL-S 230-240V	913700422866		X	X	1
TUV 8W FAM	HF-M RED 109 SH TL/PL-S 230-240V	913700422866		X	X	1
TUV 10W FAM						
TUV 11W FAM	HF-S 158 TL-D II 220-240V 50/60Hz				X	1
TUV 16W FAM	HF-S 118_136 TL-D II 220-240V 50_60Hz	913713032166		X	X	1
	HF-S 218/236 TL-D II 220-240V 50/60Hz	913713032466		X	X	2
	HF-S 154 TL5 II 220-240V	913713033666		X	X	1
	HF-S 158 TL-D II 220-240V 50/60Hz	913713032266		X	X	1
	EB-Ci 2 36W_3-4 18W 100-240V	913713043314		X	X	1
	EB-Ci 2 36W_3-4 18W 100-240V 50_60Hz	913713043314		X	X	1
TUV 20W FAM	ICN2S39N	913701248802	X		X	1
	ICN2S39T	913701253202	X		X	1
	ICN2S39T	913701253202	X			2
	HF-S 154 TL5 II 220-240V	913713033666		X	X	1
	HF-S 158 TL-D II 220-240V 50/60Hz	913713032266		X	X	1
TUV 25W FAM	ICN2S39N	913701248802	X		X	1
	HF-S 154 TL5 II 220-240V	913713033666		X	X	1
	HF-S 158 TL-D II 220-240V 50/60Hz	913713032266	X		X	1
	EB-Ci 2 36W_3-4 18W 100-240V	913713043314		X	X	1

*Driver is suitable tested on 2 3/4h ON - 1/4h OFF switching schedule

All drivers specified for our UV lamps are current driven, as this defines the UV output of the lamps. Only with the specified current of the lamp reached, the UV output can be 100% according to spec.

Specification and connection schemes of the drivers can be found on www.lighting.philips.com/main/prof/lighting-electronics/fluorescent#pfpfpath=0-GE01_GR



Philips TUV Amalgam XPT System

Lamptype	Driver	12nc	USA	Europe /Asia	Only suitable for <8 switches per day**	Lamps on Driver
TUV 130W XPT	TUV 180W/200W XPT driver	913710054695				
TUV 180W XPT SE	TUV 180W/200W XPT driver	913710054695	X	X		1
TUV 200W XPT SE	TUV 180W/200W XPT driver	913710054695	X	X		1
TUV 325W XPT HO SE	TUV 325W XPT driver	913710054995	X	X		1
TUV 800W XHO SE*						
TUV 330W XPT DE*						

*Contact Signify for driver recommendation

**Driver is suitable tested on 2 3/4h ON - 1/4h OFF switching schedule



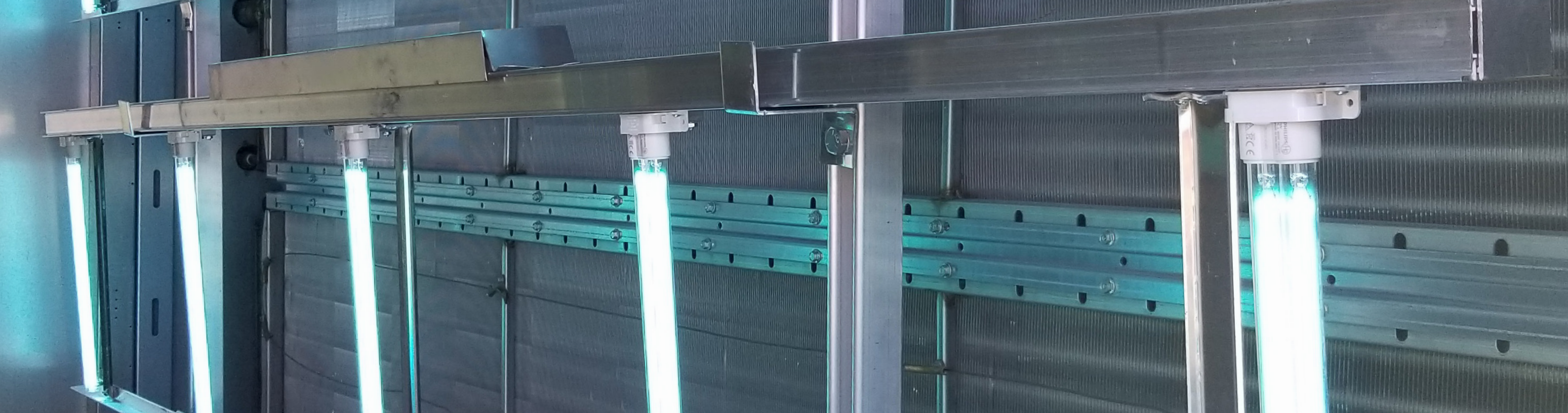
Philips TUV T5

Lamptype	Driver	12nc	USA	Europe /Asia	Only suitable for <8 switches per day*	Lamps on Driver
TUV 24T5 HE	ICN2S5490CN	913701246102	X			2
	ICN2S5490CN	913701246102	X		X	1
	HF-S 158 TL-D II 220-240V 50/60Hz	913713032266		X		1
	HF-P 154/155 TL5 HO/PLL III 220-240V IDC	913713028266		X		1
TUV 24T5 HO	IUV2S60M4LD	913710260202	X	X	X	1
TUV 36T5 HE	ICN2S5490CN	913701246102	X		X	1
	ICN2S5490CN	913701246102	X			2
	ICN2S54T	913701253302	X			2
	HF-S 158 TL-D II 220-240V 50/60Hz	913713032266		X		1
TUV 36T5 HO	IUV2S60M4LD	913710260202	X	X	X	1
TUV 48T5 HE	ICN2S5490CN	913701246102	X		X	1
	HF-S 158 TL-D II 220-240V 50/60Hz	913713032266		X		1
	HF-P 154/155 TL5 HO/PLL III 220-240V IDC	913713028266		X		1
TUV 48T5 HO	IUV2S60M4LD	913710260202	X	X	X	
TUV 64T5 HE	HF-P 180 TL5 III 220-240V	913713034266		X	X	1
	ICN2S5490CN	913701246102	X		X	1
TUV 64T5 HO	IUV2S60M4LD	913710260202	X	X	X	1

*Driver is suitable tested on 2 3/4h ON - 1/4h OFF switching schedule

All drivers specified for our UV lamps are current driven, as this defines the UV output of the lamps. Only with the specified current of the lamp reached, the UV output can be 100% according to spec.

Specification and connection schemes of the drivers can be found on www.lighting.philips.com/main/prof/lighting-electronics/fluorescent#pfpfpath=0-GE01_GR



Philips TUV PL-L

Lamptype	Driver	12nc	USA	Europe /Asia	Only suitable for <8 switches per day*	Lamps on Driver
TUV PL-L 18W/4P	ICN2S39N	913701248802	X			2
	HF-P 2 22-42 PL-T_C_L_TL5C EII 220-240V	913700630866		X		3
	HF-P 218/236 TL-D III 220-240V 50/60Hz	913713031666		X		2
	HF-Pi 3_4 14_24 TL5_PL-L EII 220-240V	913700657666		X		3
	HF-Pi 3_4 14_24 TL5_PL-L EII 220-240V L4	913700657666		X		4
	HF-P 118/136 TL-D II 220-240V 50/60Hz	913713031566		X	X	1
	EB-Ci 2 36W_3-4 18W 100-240V	913713043314		X	X	2
TUV PL-L 24W/4P	ICN2S39N	913701248802	X		X	2
	HF-M RED 124 SH TL/TL5/PL-L 230-240V	913700420666		X	X	1
	HF-S 218/236 TL-D II 220-240V 50/60Hz	913713032466		X		2
	HF-S 118_136 TL-D II 220-240V 50_60Hz	913713032166		X	X	1
TUV PL-L 36W/4P	HF-P 218/236 TL-D III 220-240V 50/60Hz	913713031666		X		2
	HF-S 118_136 TL-D II 220-240V 50_60Hz	913713032166		X		1
	HF-S 218/236 TL-D II 220-240V 50/60Hz	913713032466		X	X	2
TUV PL-L 55W/4P	ICN2S5490CN	913701246102	X		X	1 or 2
TUV PL-L 35W/4P	IUV2S60M4LD	913710260202	X	X	X	1 or 2
TUV PL-L 60W/4P	IUV2S60M4LD	913710260202	X	X	X	1 or 2
TUV PL-L 95W/4P	IUV2S60M4LD	913710260202	X	X	X	1

*Driver is suitable tested on 2 3/4h ON - 1/4h OFF switching schedule

All drivers specified for our UV lamps are current driven, as this defines the UV output of the lamps. Only with the specified current of the lamp reached, the UV output can be 100% according to spec.

Specification and connection schemes of the drivers can be found on www.lighting.philips.com/main/prof/lighting-electronics/fluorescent#pfpfpath=0-GE01_GR



Philips TUV T8

Lamptype	Driver	12nc	USA	Europe /Asia	Only suitable for <8 switches per day*	Lamps on Driver
TUV 15W	HF-P 118/136 TL-D II 220-240V 50/60Hz	913713031566		X	X	1
	HF-P 218/236 TL-D III 220-240V 50/60Hz	913713031666		X	X	2
	HF-S 118_136 TL-D II 220-240V 50_60Hz	913713032666		X	X	1
	HF-S 218/236 TL-D II 220-240V 50/60Hz	913713032466		X	X	2
TUV F17 T8	ICN2S39N	913701248802	X			1
	HF-P 118/136 TL-D II 220-240V 50/60Hz	913713031566		X		1
	HF-P 218/236 TL-D III 220-240V 50/60Hz	913713031666		X		2
	HF-S 118_136 TL-D II 220-240V 50_60Hz	913713032666		X	X	1
	HF-S 218/236 TL-D II 220-240V 50/60Hz	913713032466		X		2
TUV 25W	Driver to be tested					
TUV 30W	HF-P 118/136 TL-D II 220-240V 50/60Hz	913713031566		X		1
	HF-P 218/236 TL-D III 220-240V 50/60Hz	913713031666		X		2
	HF-S 118_136 TL-D II 220-240V 50_60Hz	913713032666		X		1
	HF-S 218/236 TL-D II 220-240V 50/60Hz	913713032466		X		2
	EB-Ci 2 36W_3-4 18W 100-240V	913713043314		X		1
TUV 36W	ICN2S39N	913701248802	X			1
	ICN2S5490CN	913701246102	X			2
	HF-P 118/136 TL-D II 220-240V 50/60Hz	913713031566		X		1
	HF-P 218/236 TL-D III 220-240V 50/60Hz	913713031666		X		2
	HF-S 118_136 TL-D II 220-240V 50_60Hz	913713032666		X		1
	HF-S 218/236 TL-D II 220-240V 50/60Hz	913713032466		X	X	2
	EB-Ci 2 36W_3-4 18W 100-240V	913713043314		X		1 or 2
	EB-Ci 1-2 36W_1-4 18W 220-240V 50/60Hz	913713043180		X**		1
TUV 55W HO	HF-S 258 TL-D II 220-240V 50/60Hz	913713032566		X	X	2
TUV 75W HO	Driver to be tested					

*Driver is suitable tested on 2 3/4h ON - 1/4h OFF switching schedule

**For Asia only

All drivers specified for our UV lamps are current driven, as this defines the UV output of the lamps. Only with the specified current of the lamp reached, the UV output can be 100% according to spec.

Specification and connection schemes of the drivers can be found on www.lighting.philips.com/main/prof/lighting-electronics/fluorescent#pfpfpath=0-GE01_GR



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For further information visit
www.philips.com/uv-c
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