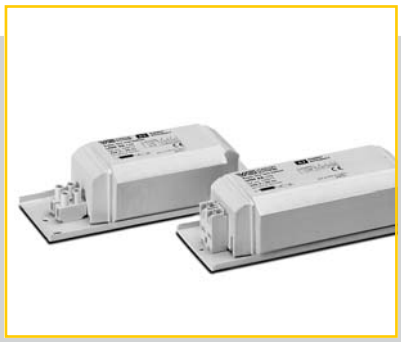
A LIFETIME OF LIGHT



VS SYSTEMS FOR T5 AND T8 FLUORESCENT LAMPS – LOW-LOSS BALLASTS (A2) WITH AN ELECTRONIC STARTER

The new, extremely low-loss VS system consists of a magnetic ballast made by Vossloh-Schwabe and an electronic starter made by PALM STEP.

The completely new cross-sectional design of the low-loss ballasts for T8 lamps and the standard cross-section for T5 lamps both already meet the A2 energy efficiency requirements of the 3rd step of the ErP Directive (due to become effective in 2017). With the aim of creating particularly energy-efficient systems with a long service life, VS is starting out with ballasts for standard 36 W and 58 W T8 lamps as well as ballasts specifically developed to suit the high-quality, long-life T5 lamps made by AURA with an output of 21, 35 and 54 W. Development work has already begun on further models to suit almost all T5 lamp outputs.

Some examples of typical applications:

- Stations, multi-level car parks
- Industrial buildings, supermarkets
- Heat-sensitive luminaires and luminaires used in aggressive environments

System Benefits

LONG SERVICE LIFE
VS ballast plus starter: > 100,000 hours
AURA T5 lamp: approx. 50,000 hours

EXTREMELY RELIABLE
due to the control gear's ultra-low failure rate of only 0.025% per 1,000 operating hours

LOW MAINTENANCE COSTS
thanks to the extremely long service life of the components

VOSSLOH SCHWABE

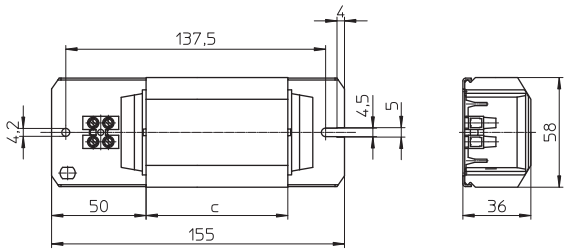
A Member of the Panasonic Group Panasonic

Vossloh-Schwabe Deutschland GmbH · Hohe Steinert 8 · 58509 Lüdenscheid · Germany · Phone +49 23 51/10 10 · Fax +49 23 51/10 12 17 · www.vossloh-schwabe.com

Super-low-loss Electromagentic Ballasts T8

For fluorescent lamps T8

Shape: 36x58 mm
Vacuum-impregnated with polyester resin
Push-in terminal for leads: 0.5–1 mm²
tw 130
Protection class I
Energy efficiency class A2



Lamp				Ballast									Capacitor	
Nominal output W	Type	Base	Current mA	Type	**Ref. No.**	Voltage V, Hz	a mm	b mm	c mm	Weight kg	Δt/Δtan. K	EEI	Cp µF	Current mA
2x18	T8	G13	0.40	LNN 36.170	**544974**	230, 50	155	137.5	54	1.2	25/50	A2	4.5	210
36	T8	G13	0.43	LNN 36.170	**544974**	230, 50	155	137.5	54	1.2	25/50	A2	4.5	210
58	T8	G13	0.67	LNN 58.172	**544975**	230, 50	155	137.5	75	1.6	20/55	A2	7.0	320

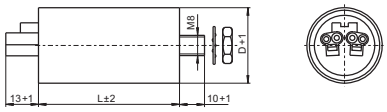
Parallel Capacitor 250 V, 50/60 Hz

Capacitor type A

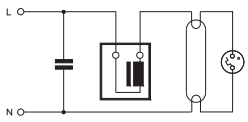
Casing: plastics, white
Push-in twin terminals: 0.5–1 mm²
Temperature range: –40 to 85 °C
Fastening: male nipple M8x10
with nut and washer included
Discharge resistance

Capacity: 4.5 µF
Dimensions: Ø 25 mm, length: 70 mm
Weight: 29 g
Ref. No.: 500303

Capacity: 7 µF
Dimensions: Ø 30 mm, length: 70 mm
Weight: 35 g
Ref. No.: 506495



PARALLEL-COMPENSATED SINGLE CIRCUIT



G13 Lampholders

For fluorescent lamps T8 (T26), T12 (T38)

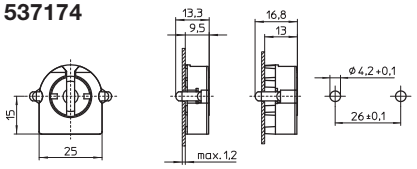
Pin support for reliable contact
Max. permitted temperature T_m
on the rear side of the lampholder: 110 °C

G13 built-in lampholders for lamps T8 and T12
Casing: PC, white, rotor: PBT GF, white
Nominal rating: 2/500
Lampholder thickness: 9.5 mm
Base push-in terminals: 0.5–1 mm²
Rear split pins for wall thickness up to 1.2 mm
Weight: 5/5.5/8/8.5 g
Type: 49505/49506 T-Marking: T140
Ref. No.: 537174
Ref. No.: 537175 with spring adjustment
Type: 47605/47606
With starter attachment, T-Marking: T130
Ref. No.: 101769
Ref. No.: 101773 with spring adjustment

G13 push-through lampholders
for lamps T8 and T12
Lamp axis: 23 mm
Casing: PC, white, frontplate: PBT GF, white
T140, nominal rating: 2/500
Push-in terminals: 0.5–1 mm²
Lateral fixing clips for wall thickness 0.4–2 mm
Weight: 6/10.4 g
Type: 27700/27800 with stop
Ref. No.: 546641
Ref. No.: 546647 with starter attachment

Further lampholders – in standard and
watertight versions – can be found at
www.vossloh-schwabe.com.

537174



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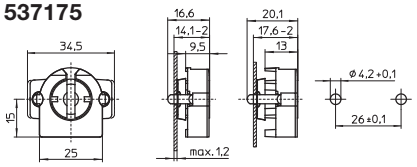

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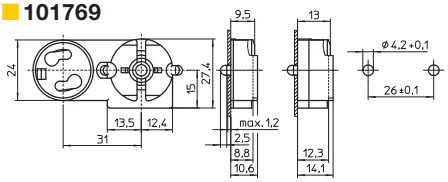

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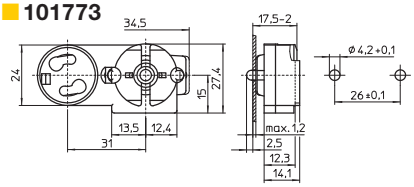
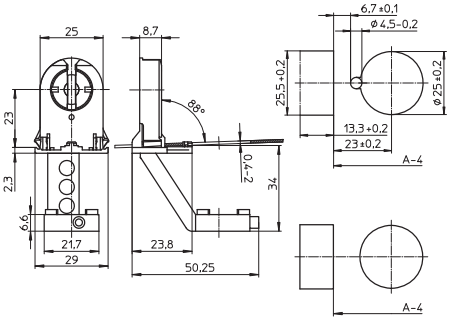


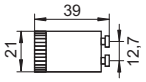
546641/546647



Electronic Starter ÖKO6 – 230 V

For fluorescent lamps T5 and T8
4 to 125 W single circuit

Casing: polycarbonate, translucent-green
Printing: gold, contact plate:
polycarbonate, contacts: nickel-plated brass
Voltage: 200–250 V AC, 50/60 Hz
Preheat time: 2.3 sec. at 20 °C
Pulse height: 1500 V max.
Safety shutdown: < 3 sec. at 20 °C
Operating temperature: –20 to +100 °C
Storage temperature: –50 to +105 °C
Type: ELST4-125-230
Ref. No.: 509235

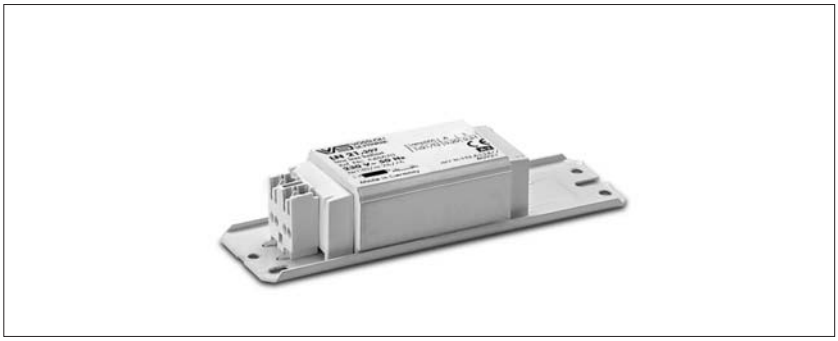


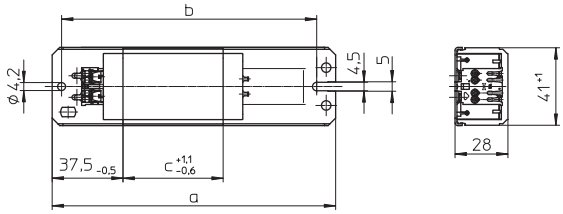
Additional information on the starter
is available at www.palmstep.com

Super-low-loss Electromagentic Ballasts T5

For fluorescent lamps T5 ECO SAVER

Shape: 28x41 mm
Vacuum-impregnated with polyester resin
Push-in terminal for leads: 0.5–1 mm²
For the automatic luminaire wiring:
IDC terminals for leads H05V-U 0.5
tw 130
Protection class I
Energy efficiency class A2





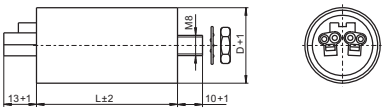
Lamp				Ballast									Capacitor	
Nominal output W	Type	Base	Current mA	Type	**Ref. No.**	Voltage V, Hz	a mm	b mm	c mm	Weight kg	Δt/Δtan. K	EEI	CP µF	Current mA
21	T5	G5	0.20	LN 21.297	**545620**	230, 50	150	135	53	0.46	25/75	A2	2.5	0.10
54	T5	G5	0.20	LN 54.299	**547194**	230, 50	150	135	92	0.79	40/80	A2	2.5	0.10

Parallel Capacitor 250 V, 50/60 Hz

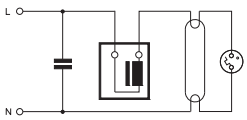
Capacitor type A

Casing: plastics, white
Push-in twin terminals: 0.5–1 mm²
Temperature range: –40 to 85 °C
Fastening: male nipple M8x10
with nut and washer included
Discharge resistance

Capacity: 2.5 µF
Dimensions: Ø 25 mm, length: 57 mm
Weight: 22 g
Ref. No.: 500299



PARALLEL-COMPENSATED SINGLE CIRCUIT



G5 Lampholders

For fluorescent lamps T5 (T16)

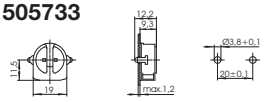
Casing: PBT GF, white, rotor: PBT GF, white
T140, nominal rating: 2/500
Push-in twin terminals: 0.5–1 mm²
Max. permitted temperature T_m
on the rear side of the lampholder: 110 °C

G5 built-in lampholders
Rear split pins for wall thickness up to 1.2 mm
Weight: 2.9/3.3 g
Type: 09405/09406 and 09415/09416
Ref. No.: 505733
Ref. No.: 505734 with spring adjustment
Ref. No.: 505735
Ref. No.: 505736 with spring adjustment

G5 push-through lampholders
With stop
Lateral fixing clips for wall thickness 0.5–1.5 mm
Weight: 3.5/3.7 g, type: 09420/09422
Ref. No.: 505737 lamp axis: 15 mm
Ref. No.: 505741 lamp axis: 20 mm

G5 push-fit lampholders
Rear fixing clips for wall thickness 0.6–1 mm
Base or lateral wiring
Weight: 3.3/3.5 g, type: 09440/09441
Ref. No.: 505747 lamp axis: 14 mm
Ref. No.: 505748 lamp axis: 18 mm

505733



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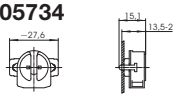

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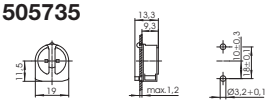

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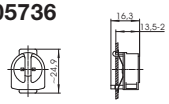

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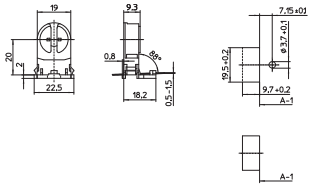

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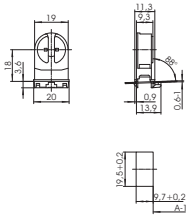

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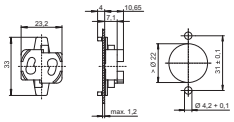

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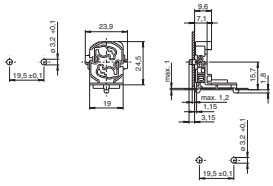


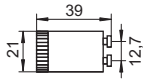
Starter Holders

For starters acc. to DIN VDE 0712 part 101, IEC 60155
Material: PC, white, T110, nominal rating: 2/250
Push-in terminals: 0.5–1 mm²
Rear split pins for wall thickness up to 1.2 mm
Weight: 2.1/3.7 g, type: 02113/43210
Ref. No.: 535131
Ref. No.: 109792

Electronic Starter ÖKO6 – 230 V

For fluorescent lamps T5 and T8
4 to 125 W single circuit

Casing: polycarbonate, translucent-green
Printing: gold, contact plate:
polycarbonate, contacts: nickel-plated brass
Voltage: 200–250 V AC, 50/60 Hz
Preheat time: 2.3 sec. at 20 °C
Pulse height: 1500 V max.
Safety shutdown: < 3 sec. at 20 °C
Operating temperature: –20 to +100 °C
Storage temperature: –50 to +105 °C
Type: ELST4-125-230
Ref. No.: 509235



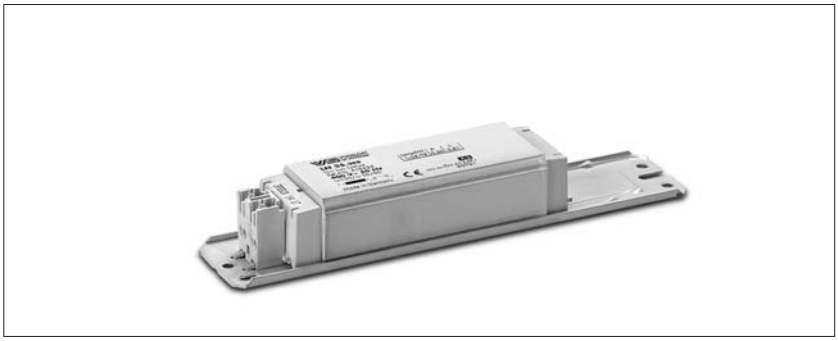
Additional information on the starter is available at www.palmstep.com

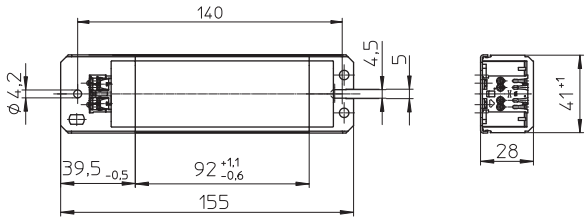
Super-low-loss Electromagentic Ballasts T5

For fluorescent lamps T5 ECO SAVER HE

Shape: 28x41 mm
Vacuum-impregnated with polyester resin
Push-in terminal for leads: 0.5–1 mm²
For the automatic luminaire wiring:
IDC terminals for leads H05V-U 0.5
tw 130
Protection class I
Energy efficiency class A2

The VS auto-transformer (No. 545617, p. 8) is available for 230-V circuits.





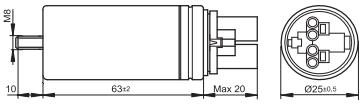
Lamp				Ballast									Capacitor	
Nominal output W	Type	Base	Current mA	Type	**Ref. No.**	Voltage V, Hz	a mm	b mm	c mm	Weight kg	Δt/Δtan. K	EEI	CP µF	Current mA
35	T5	G5	0.20	LN 35.298	**545625**	400, 50	155	140	92	0.80	30/80	A2	1.5	0.10

Parallel Capacitor mit FPU-Schutz 380–450 V, 50/60 Hz

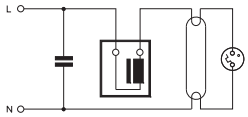
Capacitor type B

Casing: aluminium
Filling material: based on vegetable oil
Push-in twin terminals: 0.5–1 mm²
Temperature range: –40 to 85 °C
Fastening: male nipple M8x10
Discharge resistance
Overpressure protection

Capacity: 1.5 µF
Dimensions: Ø 25 mm, length: 48 mm
Weight: 70 g
Ref. No.: 545406



PARALLEL-COMPENSATED SINGLE CIRCUIT



G5 Lampholders

For fluorescent lamps T5 (T16)

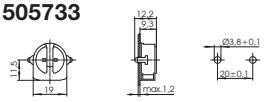
Casing: PBT GF, white, rotor: PBT GF, white
T140, nominal rating: 2/500
Push-in twin terminals: 0.5–1 mm²
Max. permitted temperature T_m
on the rear side of the lampholder: 110 °C

G5 built-in lampholders
Rear split pins for wall thickness up to 1.2 mm
Weight: 2.9/3.3 g
Type: 09405/09406 and 09415/09416
Ref. No.: 505733
Ref. No.: 505734 with spring adjustment
Ref. No.: 505735
Ref. No.: 505736 with spring adjustment

G5 push-through lampholders
With stop
Lateral fixing clips for wall thickness 0.5–1.5 mm
Weight: 3.5/3.7 g, type: 09420/09422
Ref. No.: 505737 lamp axis: 15 mm
Ref. No.: 505741 lamp axis: 20 mm

G5 push-fit lampholders
Rear fixing clips for wall thickness 0.6–1 mm
Base or lateral wiring
Weight: 3.3/3.5 g, type: 09440/09441
Ref. No.: 505747 lamp axis: 14 mm
Ref. No.: 505748 lamp axis: 18 mm

505733



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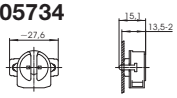

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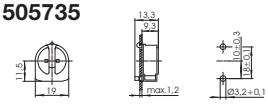

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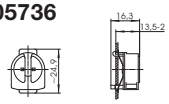

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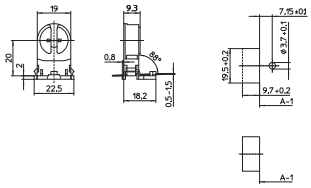

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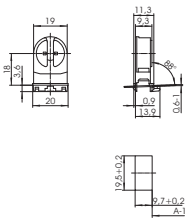
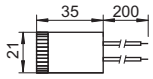


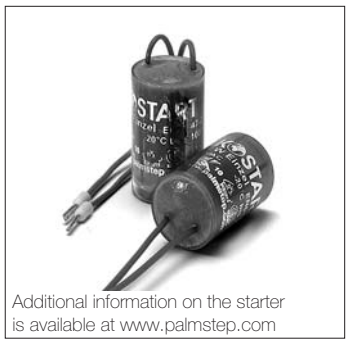
Electronic Starter ÖKO5 – 400 V

For fluorescent lamps T5 and T8
4 to 125 W single circuit

Casing: polycarbonate, blue
Printing: gold, grouting: epoxy resin UL-V0
Leads: PTFE (red), Li5Y, AWG20
Voltage: 400 V AC, 50/60 Hz
Preheat time: 2.3 sec. at 20 °C

Pulse height: 1500 V max.
Safety shutdown: < 3 sec. at 20 °C
Operating temperature: –20 to +70 °C
Storage temperature: –40 to +85 °C
Type: ELST4-125-400
Ref. No.: 546237



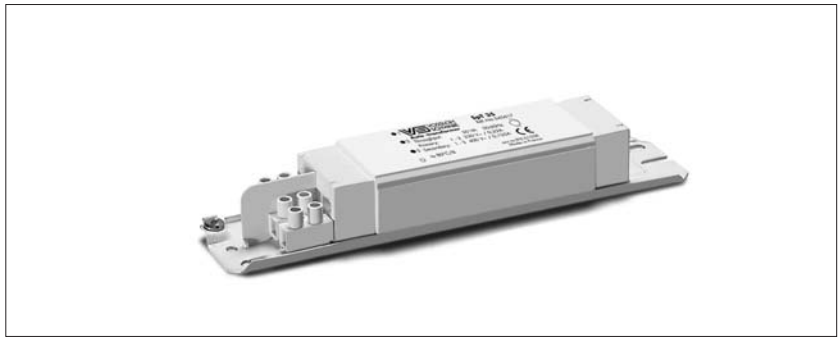


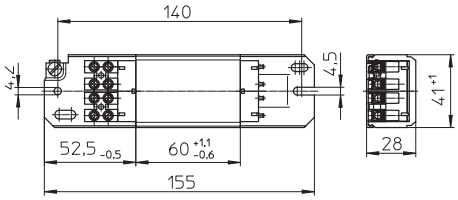
Additional information on the starter is available at www.palmstep.com

Auto-transformer for T5 Lamps 35 W

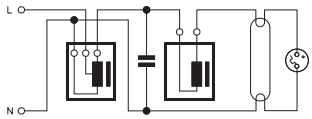
For fluorescent lamps T5 ECO SAVER HE

By converting 230-V mains voltage to 400 V, the auto-transformer enables 35 W T5 lamps (400 V) to be operated in 230-V circuits.
In addition, VS ballast No. 545625 and starter No. 546237 (p. 7 of this brochure) are also needed to operate the lamp.
Shape: 28x41 mm
Vacuum-impregnated with polyester resin
Screw terminals for leads: 0.5–2.5 mm²
tw 130
Protection class I





PARALLEL-COMPENSATED SINGLE CIRCUIT WITH TRANSFORMER



Lamp				Auto-Transformer								
Nominal output W	Type	Base	Current mA	Type	**Ref. No.**	Voltage V, 50/60 Hz prim.	sec.	a mm	b mm	c mm	Weight kg	Ambient temperature t_a (°C)
35	T5	G5	0.20	SpT 35	**545617**	230	400	155	140	50	0.61	80/B

T5 Lamps – 21, 35 and 54 W

Fluorescent lamps T5 ECO SAVER LONG LIFE

Specifically developed for luminaires operated in high ambient temperatures, the T5 ECO SAVER LONG LIFE fluorescent lamp stands out by teaming energy-efficiency with a long service life and high brightness.
Colours: 830 Warm white, 840 white
Colour rendering index: R_a 85
Lamp diameter: Ø 16 mm
The lamp is operated using an electromagnetic ballast plus electronic starter
Lamp service life: approx. 50.000 hrs (at 12 operation hours per day)
Dimming of the lamp is possible
IEC/EN 60081

Further information on the lamp is available at www.auralight.com.

THE LAMP IS NOT AVAILABLE FROM VOSSLOH-SCHWABE. PLEASE MAKE DIRECT CONTACT WITH YOUR LAMP SUPPLIER.

Nominal output W	Type T5 ECO SAVER	Base	**Ref. No. Aura**	Colour	Colour temperature K	Luminous flux at 35 °C lm/100h	Luminous efficacy lm/W	Luminous flux at 25 °C lm/100h	Luminous efficacy lm/W	Length without pins mm
21	HE – 19 W (=21W) 830	G5	**554023**	Warm white	3000	2100	111	1900	100	849
21	HE – 19 W (=21W) 840	G5	**554024**	White	4000	2100	111	1900	100	849
35	HE – 32 W (=35W) 830	G5	**554053**	Warm white	3000	3650	114	3300	103	1449
35	HE – 32 W (=35W) 840	G5	**554054**	White	4000	3650	114	3300	103	1449
54	HO – 50 W (=54W) 830	G5	**557033**	Warm white	3000	5000	100	4450	89	1449
54	HO – 50 W (=54W) 840	G5	**557034**	White	4000	5000	100	4450	89	1449

VOSSLOH SCHWABE
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