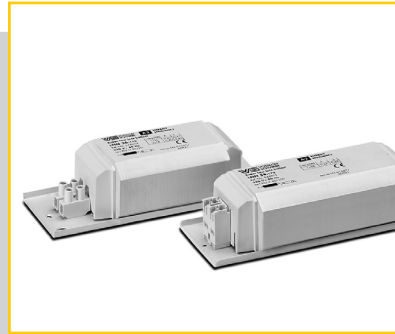


A LIFETIME OF LIGHT



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

Super-low-loss Electromagnetic Ballasts T8

For fluorescent lamps T8

Shape: 36x58 mm

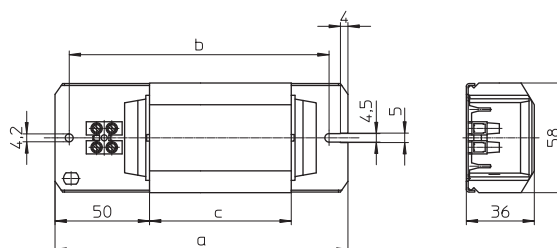
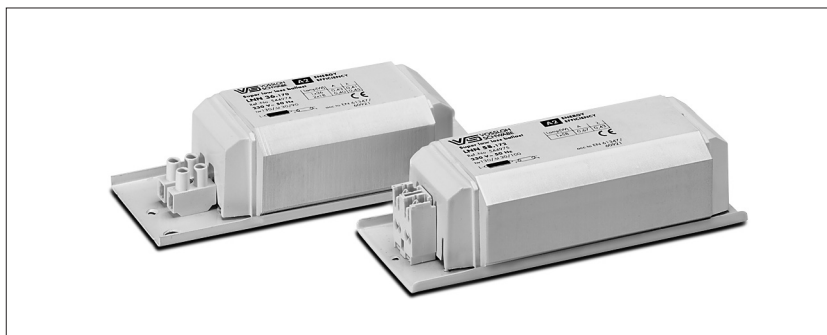
Vacuum-impregnated with polyester resin

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	$\Delta I / \Delta I_{an}$ K	EEL	C _p 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	195	178	88	1.8	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

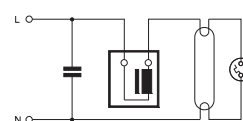
Dimensions: Ø 30 mm, length: 70 mm

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

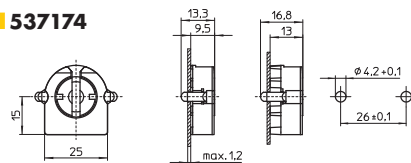
Ref. No.: 546647 with starter attachment

Further lampholders – in standard and

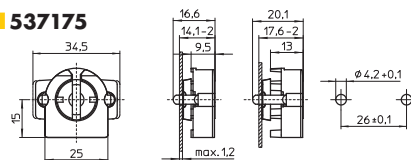
watertight versions – can be found at

www.vossloh-schwabe.com.

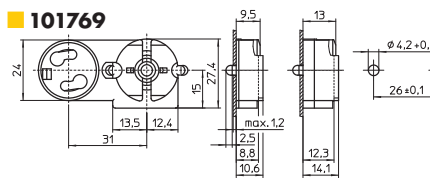
537174



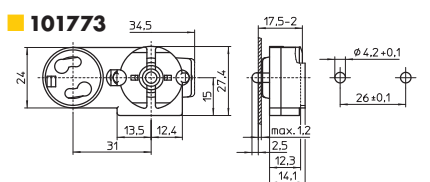
537175



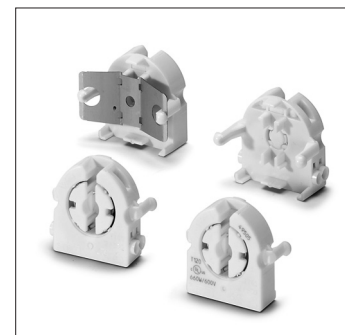
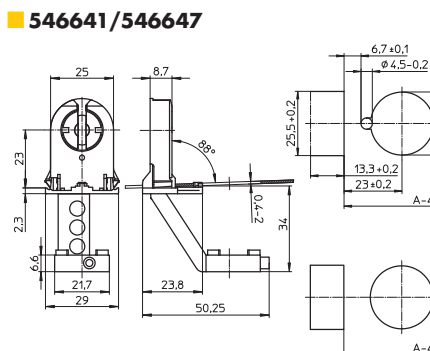
101769



101773



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.

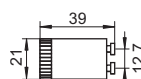
Safety shutdown: < 3 sec. at 20 °C

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 Electromagnetic 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

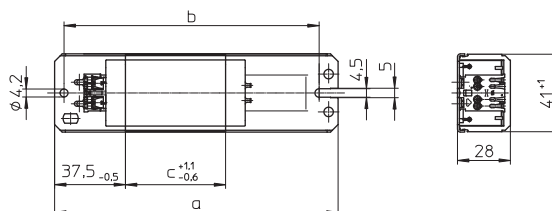
For the automatic luminaire wiring:

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	$\Delta I / \Delta I_{an}$ K	EEL	C _p μ F	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	235	220	160	1.35	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 μ F

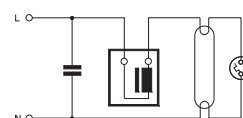
Dimensions: $\varnothing$ 25 mm, length: 57 mm

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.: 505740 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

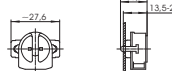
Ref. No.: 505747 lamp axis: 14 mm

Ref. No.: 505748 lamp axis: 18 mm

■ 505733



■ 505734



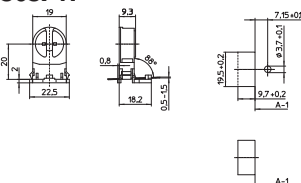
■ 505735



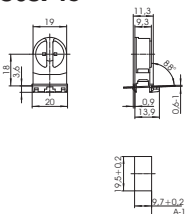
■ 505736



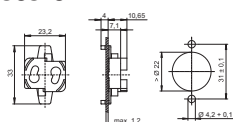
■ 505741



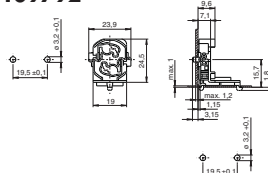
■ 505748



■ 535131



■ 109792



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.

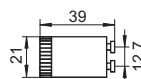
Safety shutdown: < 3 sec. at 20 °C

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 Electromagnetic 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

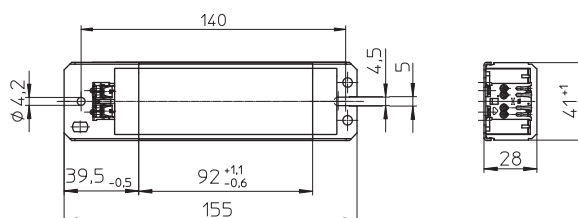
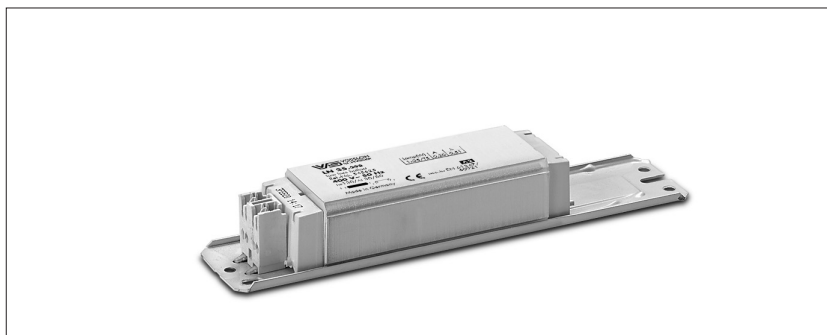
tw 130

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	$\Delta I/\Delta I_{an}$ K	EEL	C _p 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

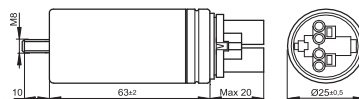
Overpressure protection

Capacity: 1.5 μF

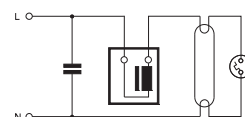
Dimensions: Ø 25 mm, length: 48 mm

Weight: 70 g

Ref. No.: 546406



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

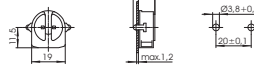
Ref. No.: 505741 lamp axis: 20 mm

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

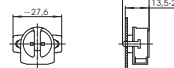
Ref. No.: 505747 lamp axis: 14 mm

Ref. No.: 505748 lamp axis: 18 mm

505733



505734



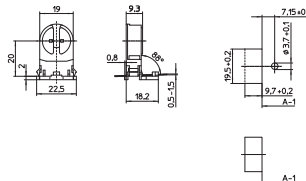
505735



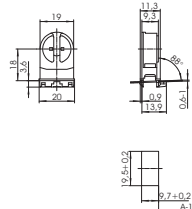
505736



505741



505748



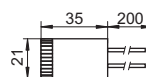
Electronic Starter ÖKO5 – 400 V

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.

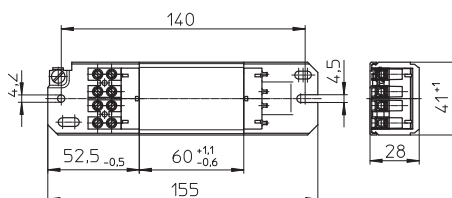
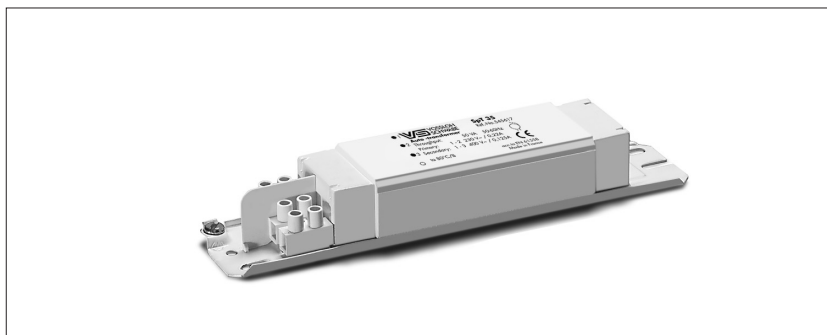
Shape: 28x41 mm

Vacuum-impregnated with polyester resin

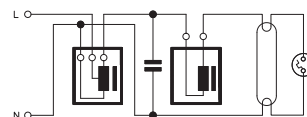
Screw terminals for leads: 0.5–2.5 mm²

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		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 VOSSLÖH-SCHWABE.
PLEASE MAKE DIRECT CONTACT
WITH YOUR LAMP SUPPLIER.**



Nominal output W	Type	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