



Component Systems

For Lighting Applications

**For Asia
2013/14**

LIGHT TECHNOLOGY PRODUCTS



Vossloh-Schwabe is not merely a manufacturer of top-quality components for the lighting industry, but above all makes a competent and innovative contribution to setting market trends in the field of LED lighting.

Numerous VS project solutions implemented on the basis of entire LED systems are currently satisfying the high requirements placed on energy-efficient lighting all over the world.

Employing approximately 1000 people in more than 20 countries, Vossloh-Schwabe is represented all over the world. As a subsidiary of the Japanese Panasonic Group, VS can draw on extensive resources for R&D as well as for international expansion activities.

A highly motivated workforce, comprehensive market knowledge, profound industry expertise as well as eco-awareness and environmental responsibility show Vossloh-Schwabe to be a reliable partner for the provision of optimum and cost-effective LED lighting solutions. But Vossloh-Schwabe naturally also continues to provide all components needed in the field of conventional lighting technology.

Vossloh-Schwabe's dedication to delivering superior quality is reflected in its ISO 9001 certification.

Vossloh-Schwabe is ready to embark on a collaborative journey into an economically illuminated LED future.

Fullerton Bay Hotel, Singapore

Lighting Designer: Light Cibles

VS products: LEDLine Flex modules encapsulated in aluminium profile

Photo: Vossloh-Schwabe

1

LED Lamps and Converter

4-9

MR16 – 5.5 W, 7 W	5
AR111 – 12 W	6
Electronic Converter for LED Lamps 12 V	7
PAR30 – 12 W, PAR38 – 17 W	8
GU10 – 5.5 W, 7 W	9

2

LED Downlights

10-21

Pro Series	11
Prime Series L	12
Prime Series H	13
DecoLED 5 W, 7 W, 15 W	17
LED Constant Current Drivers	18
Dimmable LED Constant Current Drivers	19
Electronic Dimmer	20
LEDspot ActiveLine 600/LUGA	21

3

LED Strips 24 V DC

22-35

AluLED IP20	23
AluLED IP64	24
LEDLine Flex SMD Professional RGB CA Indoor	28
LEDLine Flex SMD Professional RGB CA Outdoor	29
LEDLine Flex SMD Professional Indoor White	30
LEDLine Flex SMD Professional Outdoor White	31
Electronic Converters for LED Modules	32
Colour Control Modules DigiLED CA	34-35

4

Components for Discharge Lamps

36-56

Electronic HID Ballasts	37-39
Magnetic HID Packages	40-46
Power Reduction Packages	47-49
Circuit Diagrams for HID Lamps	50
Lampholders for HID Lamps	51-56

5

Components for Fluorescent Lamps

58-90

Electronic Ballasts for CFL Lamps	59-62
ELXc – Warm Start	59
ELXd – Dimmable	60-61
ELXc – Eco EffectLine	62
Electronic Ballasts for TC-F, TC-L Lamps	63-65
ELXc – Warm Start	63
ELXd – Dimmable	64-65
Electronic Ballasts for CFL Lamps	66
ELXs – Warm Start	66
Electronic Ballasts for T8 Lamps	67-69
ELXc – Eco EffectLine	67
ELXc – Warm Start	68
ELXd – Dimmable	69
Electronic Ballasts for T5 Lamps	70-74
ELXc – Eco EffectLine	70
ELXc – Warm Start	71
FBD – Dimmable	72
ELXd – Dimmable	73-74
Electronic Ballasts for T8, T5 Lamps	75-75
ELXs – Warm Start	75
Magnetic Packages for CFL Lamps	79
Magnetic Ballasts for T8 Lamps	80
Lampholders & Accessories for CFL Lamps	81-82
Lampholders & Accessories for T8 Lamps	83-84
Starter Holders	85
Lampholders & Accessories for T5 Lamps	86-89
Technical Details	90

6

Compact and Tubulare Fluorescent Lamps

91-95

CFL, TC-L & T5 Lamps	91-95
----------------------	-------

7

Components for Domestic Applications

96-104

Transformers for Low-voltage Halogen Lamps	97
Lampholders for Low-voltage Halogen Lamps	98
Lampholders for Incandescent Lamps	99-104

8

LED Constant Current Drivers

106-130

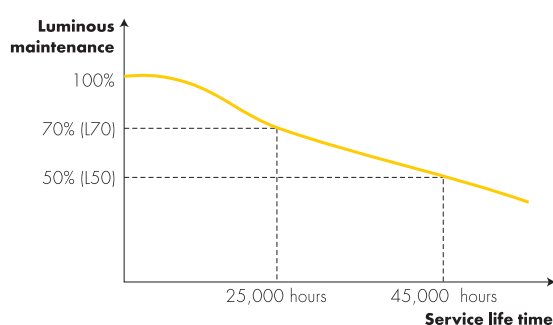
LED Constant Current Drivers	107-130
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LED LAMPS

FUTURE LIGHTING

- **PLUG & PLAY**
- **HIGHLY EFFICIENT LIGHTING REDUCES CARBON FOOTPRINT**
- **AVAILABLE IN DIFFERENT COLOUR TEMPERATURES AND FIELD ANGLES**
- **INTEGRATED SUPERIOR THERMAL MANAGEMENT**
- **LONG SERVICE LIFE OF UP TO 45,000 HOURS (>50% OUTPUT)**
- **LOW MAINTENANCE**
- **NO UV AND IR RADIATION**

Service life expectation (lumen degradation)



LED LIGHT – THE EASY WAY TO RETROFIT

LEDs contain no mercury and are low on energy consumption, as a result of which they lead the field when it comes to "green lighting". Thanks to their eco-friendly properties, they can make a valid contribution to reducing your carbon footprint and countering the greenhouse effect. Moreover, LEDs start instantaneously at full brightness and are available in many colours.

In addition to providing UV- and IR-free light, LEDs are vibration-proof and have a very long service life that further increases the overall efficiency of any lighting system. As LED lamps are now powerful enough to replace both incandescent and low-voltage halogen lamps, they are becoming increasingly popular beyond the field of decorative lighting.

What VS LED lamps can do for you?

VS has launched a range of high-efficiency, plug-and-play LED lamps with a long service life that can replace both incandescent and halogen lamps with minimum effort and without having to change existing casings. This not only saves time and money, but also immediately delivers energy-saving benefits. The new range of highly efficient VS LED lamps is suitable for both residential and commercial applications.

In addition, VS LED lamps are available with a wide range of bases to suit many luminaires. The simplicity and convenience with which existing lighting systems can now be converted to LED mean saving energy and going greener have never been easier.

Typical applications

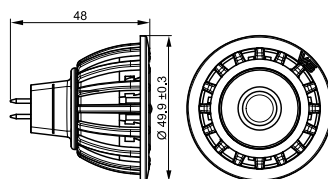
- Residential lighting
- Commercial lighting
- Spot lighting
- Window display lighting
- Show case lighting
- Entertainment lighting

Low-voltage LED Lamps

Suitable for magnetic halogen transformers, electronic halogen converters (12 V AC) and electronic LED drivers (12 V DC)

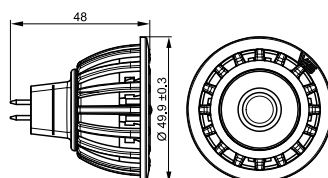
MR16, 5.5 W

Design style: COB lens
Operating temperature: 0 to 40 °C
Storage temperature: -20 to 60 °C
Input voltage: 12 V AC/DC
Non dimmable
Base: GU5.3



MR16, 7.0 W

Design style: COB reflector
Operating temperature: 0 to 40 °C
Storage temperature: -20 to 60 °C
Input voltage: 12 V AC/DC
Dimmable (Magnetic with leading edge dimmers/
Electronic preferred with trailing edge dimmers)
Base: GU5.3



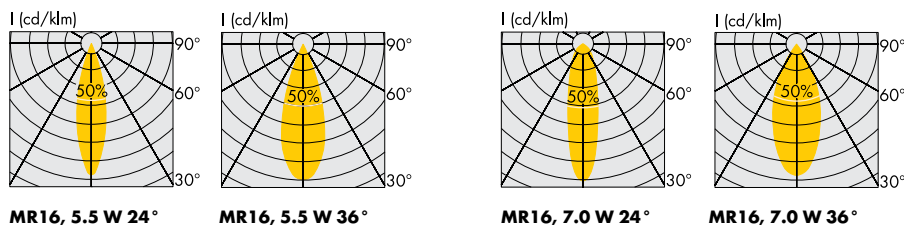
Type	Ref. No.	Colour	Colour temperature K	CRI R _a	Luminous flux lm	Light intensity cd	Beam angle °	Field angle °	Power factor	Power W	Energy efficiency
MR16, 5.5 W											
MR16-5-3000-24-III	553212	warm white	3000	≥ 80	350	1300	24	48	0.7	5.5	A+
MR16-5-3000-36-III	553213	warm white	3000	≥ 80	350	700	36	72	0.7	5.5	A+
MR16, 7.0 W											
MR16-7-3000-24-III	553214	warm white	3000	≥ 80	410	1250	24	48	0.9	7.0	A
MR16-7-3000-36-III	553215	warm white	3000	≥ 80	410	680	36	72	0.9	7.0	A

Note: Further colour temperatures are available upon request.

Typical luminance at 1, 2 and 3 meters

Intensity (lux)												
Colour temperature K	MR16, 5.5 W						MR16, 7.0 W					
	24°			36°			24°			36°		
	1 m	2 m	3 m	1 m	2 m	3 m	1 m	2 m	3 m	1 m	2 m	3 m
Warm White 3000 K	1300	325	140	700	175	80	1250	310	140	680	170	75

Typical light distribution curves



Low-voltage LED Lamps

Suitable for magnetic halogen transformers (12 V AC) and electronic LED drivers (12 V DC)

Not suitable for electronic converters (12 V AC)

AR111, 12 W

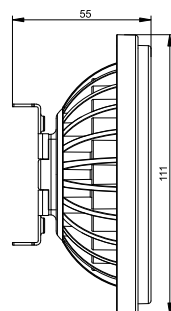
Operating temperature: -20 to 40 °C

Storage temperature: -40 to 60 °C

Input voltage: 12 V AC/DC

Not dimmable

Base: G53

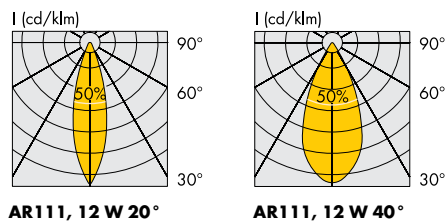


Type	Ref. No.	Colour	Colour temperature K	CRI R _a	Luminous flux lm	Light intensity cd	Beam angle °	Field angle °	Power W	Energy efficiency
AR111-12-2700-38-II	566031	warm white	2700	≥ 80	450	3000	20	38	12	A
AR111-12-3000-38-II	566032	warm white	3000	≥ 80	500	3350	20	38	12	A
AR111-12-4000-38-II	566033	neutral white	4000	≥ 75	550	3800	20	38	12	A
AR111-12-6000-38-II	566034	cool white	6000	≥ 70	680	4800	20	38	12	A
AR111-12-2700-60-II	566035	warm white	2700	≥ 80	450	900	40	60	12	A
AR111-12-3000-60-II	566036	warm white	3000	≥ 80	500	1000	40	60	12	A
AR111-12-4000-60-II	566037	neutral white	4000	≥ 75	550	1100	40	60	12	A
AR111-12-6000-60-II	566038	cool white	6000	≥ 70	680	1360	40	60	12	A

Typical luminance of AR111 at 1, 2 and 3 meters

Intensity (lux)						
Colour temperature K	AR111, 12 W 20°			40°		
	1 m	2 m	3 m	1 m	2 m	3 m
Warm White 2700 K	3000	750	333	900	225	100
Warm White 3000 K	3350	837	372	1000	250	111
Neutral White 4000 K	3800	950	422	1100	275	122
Cool White 6000 K	4800	1200	533	1360	340	151

Typical light distribution curves



Electronic Converter and Dimmer for LED Lamps 12 V

LEDLine EDXe 112

Vossloh-Schwabe's LEDLine EDXe 112/12 V converter is a control component with a voltage output of DC 12 V and an output of up to 12 W to operate LED applications.

The converter is electronically protected against overload, overheating and short-circuiting.

Shape: 103.5x36x22 mm

Weight: 60 g

Mains voltage: 220/240 V

Mains frequency: 50-60 Hz

Protection against "no load" operation

Protection class II

SELV-equivalent

Degree of protection: IP20

Power factor: 0.57

EN 61347-1; EN 61347-2-13 (Safety)

EN 61000-3-2 (Mains Harmonics)

EN 55015 (Non radio disturbance)

EN 61547 (EMC Immunity Requirements)

EN 62384 (Performance)

Service life time: 50,000 hrs

permanent operation when maximum temperature

t_c max. at t_c point will not be exceeded;

failure rate: < 0.2% per 1000 hrs

Converter EDXe 112

Output: 0.1 – 12 W

Voltage output: 12 V ± 0.6 V

Output current: 0.1 – 1 A

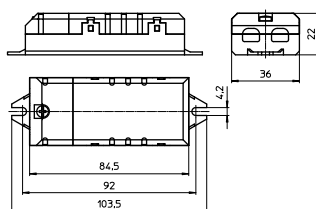
Ambient temperature t_a : -20 to 50 °C

Casing temperature t_c : 75 °C

Connections:

prim.: 2 x screw terminals 2.5 mm²

sec.: 2 x screw terminals 2.5 mm²



Ref. No.: 186204

Electronic phase-cutting trailing-edge Dimmers

Material: PC, white

Max. load depends on the

type of light source

Weight: 85 g, unit: 25 pcs.

Ref. No.: 554591 capacity/dimming range: 5-250 W,
max. load: 250 W

(165 W for LED lamps)

Ref. No.: 554592 capacity/dimming range: 5-500 W,
max. load: 500 W
(300 W for LED lamps)



Important notice

Low-voltage LED lamps

- Do not connect more than one unit to one transformer
- Do not use in ambient temperatures of more than 40 °C
- Unsuitable for installation in enclosed or airtight luminaires
- For indoor use only
- Unsuitable for use outdoors or in high-moisture environments

Caution

- Always disconnect equipment from the mains before replacing lamps

Mains voltage LED lamps

- Unsuitable for operation with an additional driver
- Integrated high-frequency driver
- Do not use in ambient temperatures of more than 40 °C
- Unsuitable for installation in enclosed or airtight luminaires
- For indoor use only
- Unsuitable for use outdoors or in high-moisture environments
- Dimmable with phase-cut dimmers (E27 PAR lamps and GU10 7 W only); minimum dimmer load has to be respected. The compatibility of the lamp to the dimmer has to be confirmed prior to installation to avoid flickering and/or noises. Trailing-edge dimmers are preferred.

■ PLEASE CONTACT US FOR FURTHER COLOUR TEMPERATURES, LIGHT COLOURS OR BEAM ANGLES THAT ARE NOT LISTED IN THIS BROCHURE.

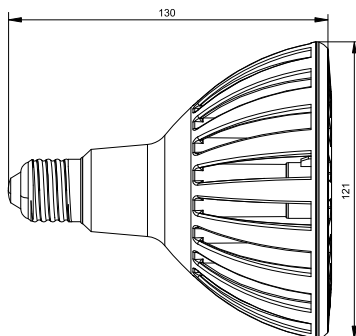
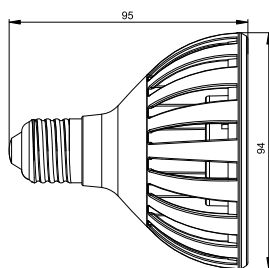
Mains Voltage LED Lamps

With integrated driver

LED lamps made by Vossloh-Schwabe will fit most standard E27 and GU10 bases. These low-power, high-brightness and highly eco-friendly lamps are sure to improve the overall efficiency of your lighting system.

PAR30, 12 W

Operating temperature: -20 to 40 °C
Storage temperature: -40 to 60 °C
Input voltage: 220-240 V AC
Phase cut dimmable (trailing edge preferred)
Base: E27



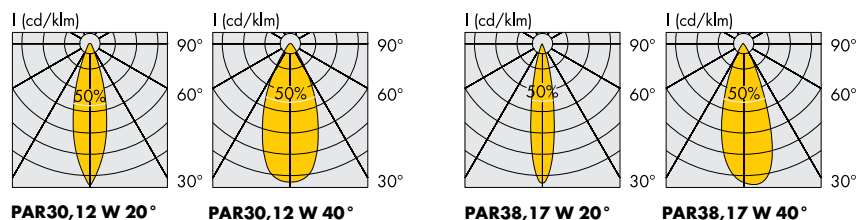
PAR38, 17 W

Operating temperature: -20 to 40 °C
Storage temperature: -40 to 60 °C
Input voltage: 220-240 V AC
Phase cut dimmable (trailing edge preferred)
Base: E27

Type	Ref. No.	Colour	Colour temperature K	CRI R _a	Luminous flux lm	Light intensity cd	Beam angle °	Field angle °	Power W	Energy efficiency
PAR30, 12 W										
PAR30-12-2700-38-II	549107	warm white	2700	≥ 80	420	3320	20	38	12	A
PAR30-12-3000-38-II	549108	warm white	3000	≥ 80	460	3670	20	38	12	A
PAR30-12-4000-38-II	549109	neutral white	4000	≥ 75	570	4530	20	38	12	A
PAR30-12-6000-38-II	549110	cool white	6000	≥ 70	680	5400	20	38	12	A
PAR30-12-2700-60-II	549111	warm white	2700	≥ 80	420	980	40	60	12	A
PAR30-12-3000-60-II	549112	warm white	3000	≥ 80	460	1200	40	60	12	A
PAR30-12-4000-60-II	549113	neutral white	4000	≥ 75	570	1325	40	60	12	A
PAR30-12-6000-60-II	549114	cool white	6000	≥ 70	680	1580	40	60	12	A
PAR38, 17 W										
PAR38-17-2700-38-II	549131	warm white	2700	≥ 80	560	4425	20	38	17	A
PAR38-17-3000-38-II	549133	warm white	3000	≥ 80	630	5000	20	38	17	A
PAR38-17-4000-38-II	549134	neutral white	4000	≥ 75	720	5700	20	38	17	A
PAR38-17-6000-38-II	549136	cool white	6000	≥ 70	790	6300	20	38	17	A
PAR38-17-2700-60-II	549138	warm white	2700	≥ 80	560	1350	40	60	17	A
PAR38-17-3000-60-II	549140	warm white	3000	≥ 80	630	1500	40	60	17	A
PAR38-17-4000-60-II	549141	neutral white	4000	≥ 75	720	1770	40	60	17	A
PAR38-17-6000-60-II	549142	cool white	6000	≥ 70	790	1900	40	60	17	A

Intensity (lux)												
Colour temperature K	PAR30, 12 W						PAR38, 17 W					
	20°			40°			20°			40°		
	1 m	2 m	3 m	1 m	2 m	3 m	1 m	2 m	3 m	1 m	2 m	3 m
Warm White 2700 K	3320	830	368	980	245	108	4425	1106	491	1350	337	150
Warm White 3000 K	3670	918	408	1200	300	133	5000	1250	566	1500	375	167
Neutral White 4000 K	4530	1133	503	1325	331	147	5700	1425	633	1770	443	197
Cool White 6000 K	5400	1350	600	1580	395	176	6300	1575	700	1900	475	211

Typical light distribution curves

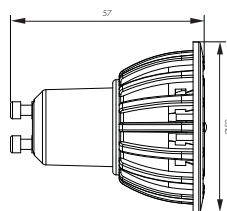


Mains Voltage LED Lamps

With integrated driver

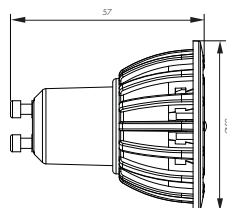
GU10, 5.5 W

Design style: COB lens
 Operating temperature: -20 to 40 °C
 Storage temperature: -40 to 60 °C
 Input voltage: 220-240 V AC
 Non dimmable
 Base: GU10



GU10, 7.0 W

Design style: COB reflector
 Operating temperature: -20 to 40 °C
 Storage temperature: -40 to 60 °C
 Input voltage: 220-240 V AC
 Phase cut dimmable (trailing edge preferred)
 Base: GU10



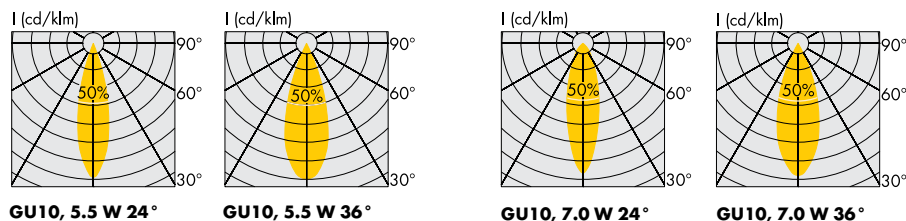
Type	Ref. No.	Colour	Colour temperature K	CRI R _a	Luminous flux lm	Light intensity cd	Beam angle °	Field angle °	Power factor	Power W	Energy efficiency
GU10, 5.5 W											
GU10-5-3000-24-III	553218	warm white	3000	≥ 80	350	1300	24	48	0.5	5.5	A+
GU10-5-3000-36-III	553219	warm white	3000	≥ 80	350	700	36	72	0.5	5.5	A+
GU10, 7.0 W											
GU10-7-3000-24-III	553220	warm white	3000	≥ 80	450	1000	24	48	0.9	7.0	A+
GU10-7-3000-36-III	553221	warm white	3000	≥ 80	450	800	36	72	0.9	7.0	A+

Note: Further colour temperatures are available upon request.

Typical luminance at 1, 2 and 3 meters

Intensity (lux)													
Colour temperature K	GU10, 5.5 W						GU10, 7 W						
	24°			36°			24°			36°			
	1 m	2 m	3 m	1 m	2 m	3 m	1 m	2 m	3 m	1 m	2 m	3 m	3 m
Warm White 3000 K	1300	325	140	700	175	80	1000	250	120	800	200	90	

Typical light distribution curves



DOWNLIGHTS

PRO SERIES / PRIME SERIES



FOR BRILLIANT AMBIENT LIGHTING

LED Recessed Mounted Downlight

The integration of solid state lighting technology to conventional down light provides optimal light distribution and extended lifetime, all at an affordable price. LED downlights are fully compatible with existing conventional downlight infrastructure, and are the perfect choice for both new and replacement markets.

■ PRO SERIES

- Slim design for easy installation in low false ceiling
- Integrated driver, direct connection to mains without additional connectors and /or junction box
- Dimmable with regular phase-cut dimmer (Pro Series)
- Tunable white-option to regulate white colour temperature by simple switch of the mains via wall switch (Pro Tune Series)

■ PRIME SERIES

- Very high efficiency of up to 100 lm/W
- Slim design for easy installation in low false ceiling
- High CRI ≥ 85
- Dimmable with external dimmable drivers



Pro Series

4 inches 12 W / 6 inches 18 W

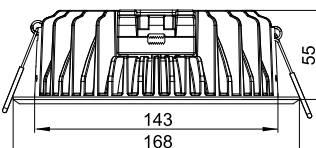
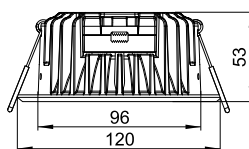
Advanced dimmable design (Pro Series)
or tunable white function (Pro Tune Series)
Voltage supply: 220–240 V AC
Integrated driver for direct connection to mains
Allowed operating temperature: –10 to 50 °C
Allowed storage temperature: –10 to 50 °C
Screw terminals: 2.5 mm²
Quantity of screw terminals: 1x2-poles primary

Protection class II

SELV

Degree of protection: IP20

Service life time: > 50,000 hours (L50)

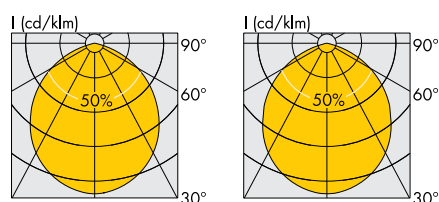


Type	Ref. No.	Colour	Colour temperature K	CRI	Luminous flux lm	Beam angle °	Power factor	Dimming	Efficiency lm/W	System power W
Pro Series 4 inches										
DL-PRO-12-3000-110	550880*	warm white	3000	≥ 80	850	110	> 0.9	Yes	71	12
DL-PRO-12-4000-110	550882*	neutral white	4000	≥ 80	880	110	> 0.9	Yes	73	12
DL-PRO-12-6000-110	550884*	cool white	6000	≥ 75	910	110	> 0.9	Yes	76	12
Pro Series 6 inches										
DL-PRO-18-3000-110	550885*	warm white	3000	≥ 80	1350	110	> 0.9	Yes	75	18
DL-PRO-18-4000-110	550886*	neutral white	4000	≥ 80	1450	110	> 0.9	Yes	80	18
DL-PRO-18-6000-110	550887*	cool white	6000	≥ 75	1500	110	> 0.9	Yes	85	18
Pro Tune Series*										
DL-PROTUNE-12-110	550888	warm/neutral/cool white	3000/4000/6000	≥ 80	730/870/860	110	> 0.9	No	61/73/72	12
DL-PROTUNE-18-110	550889	warm/neutral/cool white	3000/4000/6000	≥ 80	1200/1480/1420	110	> 0.9	No	67/82/79	18

Test standards: IEC/EN 60598-1, IEC/EN 60598-2-2, IEC/EN 62493, IEC/EN 55015, IEC/EN 61000-3-2, IEC/EN 61000-3-3, IEC/EN 61547

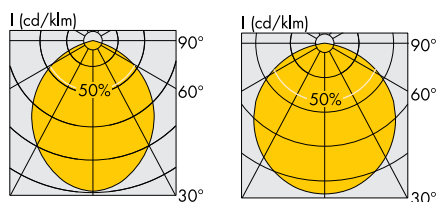
* For suitable dimmer, please refer to pg. 20

Typical light distribution curves



**Pro Series
4 inches 12 W**

**Pro Series
6 inches 18 W**



**Pro Tune Series
4 inches 12 W**

**Pro Tune Series
6 inches 18 W**

Prime L Series

4 inches / 6 inches

Current supply

4 inches: 350 mA DC

6 inches: 700 mA DC

Allowed operating temperature: -40 to 45 °C

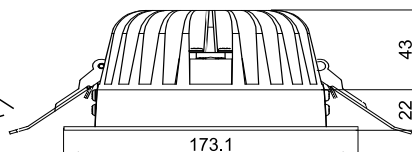
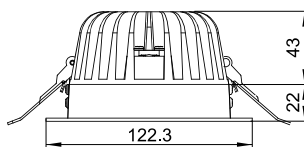
Allowed storage temperature: -40 to 60 °C

Primary lead: PVC insulation, length: 200 mm

Protection class III

Degree of protection: IP20

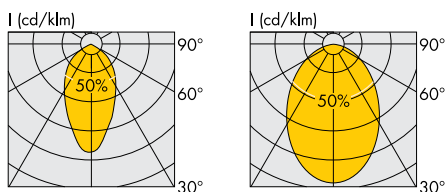
Service life time: > 50,000 hours (L50)



Type	Ref. No.	Colour	Colour temperature K	CRI	Luminous flux lm	Beam angle °	LED power W	Efficiency lm/W	Front plate transparency
Prime L Series 4 inches									
DL-PRIME-L-12-3000-60-C	550890	warm white	3000	≥ 85	1300	60	12	108	99% clear glass
DL-PRIME-L-12-3000-80-D	550891	warm white	3000	≥ 85	1200	80	12	100	87% diffusion panel
DL-PRIME-L-12-4000-60-C	550892	neutral white	4000	≥ 85	1300	60	12	108	99% clear glass
DL-PRIME-L-12-4000-80-D	550893	neutral white	4000	≥ 85	1200	80	12	100	87% diffusion panel
Prime L Series 6 inches									
DL-PRIME-L-24-3000-45-C	550894	warm white	3000	≥ 85	2500	45	24	104	99% clear glass
DL-PRIME-L-24-3000-80-D	550895	warm white	3000	≥ 85	2300	80	24	96	87% diffusion panel
DL-PRIME-L-24-4000-45-C	550896	neutral white	4000	≥ 85	2500	45	24	104	99% clear glass
DL-PRIME-L-24-4000-80-D	550897	neutral white	4000	≥ 85	2300	80	24	96	87% diffusion panel

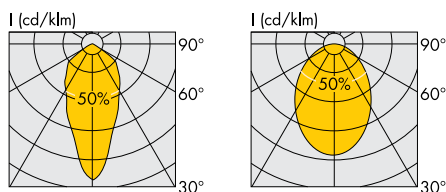
Test standards: IEC/EN 60598-1, IEC/EN 60598-2-2, IEC/EN 62031, IEC/EN 62471, IEC/EN 55015, IEC/EN 61000-3-2, IEC/EN 61000-3-3, IEC/EN 61547
For suitable dimmer, please refer to pg. 20

Typical light distribution curves



**Prime L Series
4 inches 12 W
99% Clear glass**

**Prime L Series
4 inches 12 W
87% Diffusion panel**



**Prime L Series
6 inches 24 W
99% Clear glass**

**Prime L Series
6 inches 24 W
87% Diffusion panel**

Prime H Series

4 inches / 6 inches / 8 inches

Current supply

4 inches: 350 mA DC

6 inches: 700 mA DC

8 inches: 1050 mA DC

Allowed operating temperature: -40 to 45 °C

Allowed storage temperature: -40 to 60 °C

Primary lead: PVC insulation, length:

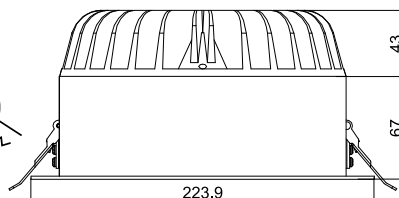
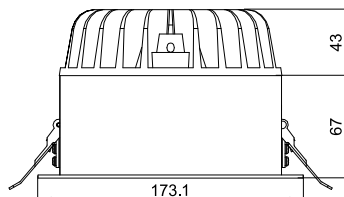
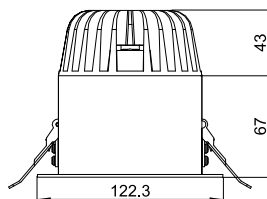
200 mm (4 inches and 6 inches)

300 mm (8 inches)

Protection class III

Degree of protection: IP20

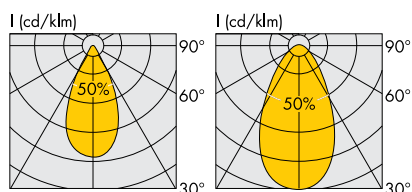
Service life time: > 50,000 hours (L50)



Type	Ref. No.	Colour	Colour temperature K	CRI	Luminous flux lm	Beam angle °	LED power W	Efficiency lm/W	Front plate transparency
Prime H Series 4 inches									
DL-PRIME-H-12-3000-50-C	550898	warm white	3000	≥ 85	1030	50	12	86	99% clear glass
DL-PRIME-H-12-3000-60-D	550899	warm white	3000	≥ 85	890	60	12	75	87% diffusion panel
DL-PRIME-H-12-4000-50-C	550900	neutral white	4000	≥ 85	1130	50	12	95	99% clear glass
DL-PRIME-H-12-4000-60-D	550901	neutral white	4000	≥ 85	920	60	12	76	87% diffusion panel
Prime H Series 6 inches									
DL-PRIME-H-24-3000-40-C	550902	warm white	3000	≥ 85	2050	40	24	85	99% clear glass
DL-PRIME-H-24-3000-70-D	550903	warm white	3000	≥ 85	1760	70	24	72	87% diffusion panel
DL-PRIME-H-24-4000-40-C	550904	neutral white	4000	≥ 85	2340	40	24	98	99% clear glass
DL-PRIME-H-24-4000-70-D	550905	neutral white	4000	≥ 85	2020	70	24	84	87% diffusion panel
Prime H Series 8 inches									
DL-PRIME-H-36-3000-40-C	550906	warm white	3000	≥ 85	3380	40	36	93	99% clear glass
DL-PRIME-H-36-3000-65-D	550907	warm white	3000	≥ 85	2800	65	36	77	87% diffusion panel
DL-PRIME-H-36-4000-40-C	550908	neutral white	4000	≥ 85	3400	40	36	94	99% clear glass
DL-PRIME-H-36-4000-65-D	550909	neutral white	4000	≥ 85	2880	65	36	80	87% diffusion panel

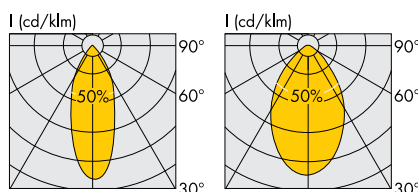
Test standards: IEC/EN 60598-1, IEC/EN 60598-2-2, IEC/EN 62031, IEC/EN 62471, IEC/EN 55015, IEC/EN 61000-3-2, IEC/EN 61000-3-3, IEC/EN 61547
For suitable LED driver, please refer to pg. 20

Typical light distribution curves



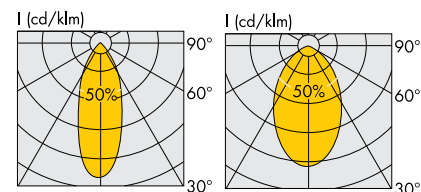
Prime H Series 4 inches 12 W
99% Clear glass

Prime H Series 4 inches 12 W
87% Diffusion panel



Prime H Series 6 inches 24 W
99% Clear glass

Prime H Series 6 inches 24 W
87% Diffusion panel



Prime H Series 8 inches 36 W
99% Clear glass

Prime H Series 8 inches 36 W
87% Diffusion panel

Typical Luminance / Replacements

Pro Series at 1, 2 and 3 meters

Intensity (lux)												
Colour temperature K	Pro Series 4 inches			Pro Series 6 inches			Pro Tune Series 4 inches			Pro Tune Series 6 inches		
	1 m	2 m	3 m	1 m	2 m	3 m	1 m	2 m	3 m	1 m	2 m	3 m
Warm White 3000 K	335	80	35	510	125	55	260	65	25	435	105	45
Neutral White 4000 K	380	90	40	620	150	65	310	75	30	525	130	55
Cool White 6000 K	425	105	45	680	170	75	320	80	35	545	135	60

Type	Suitable replacement
Pro Series 4 inches	
DL-PRO-12-3000-110	1 x 26 W CFL downlight, 1 x 18 W CFL downlight
DL-PRO-12-4000-110	
DL-PRO-12-6000-110	
Pro Series 6 inches	
DL-PRO-18-3000-110	2 x 18 W CFL downlight, 1 x 32 W CFL downlight
DL-PRO-18-4000-110	
DL-PRO-18-6000-110	
Pro Tune Series 4 inches	
DL-PROTUNE-12-110	2 x 10 W CFL downlight, 1 x 18 W CFL downlight
Pro Tune Series 6 inches	
DL-PROTUNE-18-110	1 x 26 W CFL downlight, 2 x 13 W CFL downlight

Typical Luminance / Replacements

Prime L Series / Prime H Series at 1, 2 and 3 meters

Intensity (lux)						
Colour temperature K	Prime L Series 4 inches			Prime L Series 6 inches		
	1 m	2 m	3 m	1 m	2 m	3 m
Warm White 3000 K 99% clear glass	1070	270	120	2300	575	255
Warm White 3000 K 87% diffusion panel	630	160	70	1160	290	130
Neutral White 4000 K 99% clear glass	1120	280	125	2370	590	260
Neutral White 4000 K 87% diffusion panel	627	157	70	1180	295	130

Intensity (lux)									
Colour temperature K	Prime H Series 4 inches			Prime H Series 6 inches			Prime H Series 8 inches		
	1 m	2 m	3 m	1 m	2 m	3 m	1 m	2 m	3 m
Warm White 3000 K 99% clear glass	1440	360	160	3620	900	400	5746	1435	640
Warm White 3000 K 87% diffusion panel	750	190	83	1345	336	150	2100	525	233
Neutral White 4000 K 99% clear glass	1550	390	173	4210	1050	470	6090	1523	677
Neutral White 4000 K 87% diffusion panel	770	193	86	1540	385	172	2142	535	238

Type	Suitable replacement
Prime L Series 4 inches	
DL-PRIME-L-12-3000-60-C	2 x 13 W CFL downlight, 1 x 26 W CFL downlight
DL-PRIME-L-12-3000-80-D	
DL-PRIME-L-12-4000-60-C	
DL-PRIME-L-12-4000-80-D	
Prime L Series 6 inches	
DL-PRIME-L-24-3000-45-C	2 x 32 W CFL downlight
DL-PRIME-L-24-3000-80-D	
DL-PRIME-L-24-4000-45-C	
DL-PRIME-L-24-4000-80-D	

Type	Suitable replacement
Prime H Series 4 inches	
DL-PRIME-H-12-3000-50-C	2 x 13 W CFL downlight , 1 x 26 W CFL downlight, 20 W HI downlight
DL-PRIME-H-12-3000-60-D	
DL-PRIME-H-12-4000-50-C	
DL-PRIME-H-12-4000-60-D	
Prime H Series 6 inches	
DL-PRIME-H-24-3000-40-C	2 x 26 W CFL downlight, 1 x 42 W CFL downlight, 35 W HI downlight
DL-PRIME-H-24-3000-70-D	
DL-PRIME-H-24-4000-40-C	
DL-PRIME-H-24-4000-70-D	
Prime H Series 8 inches	
DL-PRIME-H-36-3000-40-C	2 x 42 W CFL downlight, 70 W HI downlight
DL-PRIME-H-36-3000-65-D	
DL-PRIME-H-36-4000-40-C	
DL-PRIME-H-36-4000-65-D	

DECOLED

LIGHTING FOR DECORATIVE APPLICATIONS



DECOLED – ECO-FRIENDLY LIGHTING FOR INDOOR APPLICATIONS

DecoLED, a highly efficient LED downlight, is the perfect solution for commercial and residential applications. The die-cast casing is fitted with an easy adjustment function that allows the light to be positioned at the desirable angle. The adaptable spring clip makes installation quick, easy and hassle-free, and is suitable for all types of ceiling.

Thanks to the high light output of DecoLED, a 5 W downlight can now replace a 35 W halogen lamp. DecoLED 15 W is an ideal replacement for a PAR38 lamp 120 W and the reflector design of DecoLED 7 W is a perfect 50 W dichroic halogen retrofit. This results in an energy saving of more than 87% and reduces CO₂ emissions, all of which makes DecoLED the more environmentally sustainable option.

VS DecoLED comes in different beam angles, wattages and white colours to suit any application.

Going greener has never been easier – for further energy-efficient and highly eco-friendly lighting options, VS provides a full range of LED modules to suit your every need.

Typical applications

- Commercial lighting
- Showcase lighting
- Bathroom and kitchen lighting
- Residential lighting
- Entertainment lighting



VS DecoLEDs

A slim and compact design with integrated thermal management and high-efficiency output, making it ideal for many lighting applications.

Allowed operating temperature: -20 to 40 °C

Allowed storage temperature: -40 to 60 °C

Protection class III

Degree of protection: IP20

Service life time: > 35,000 hrs (L50)



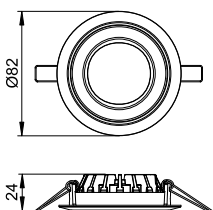
DecoLED, 5 W

Design style: lens

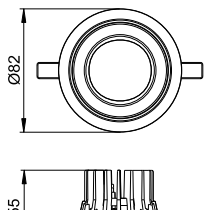
Current supply: 350 mA DC

Beam angle: 20° and 40°

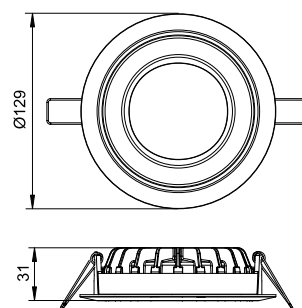
Adjustable angle: 0 to 45°



DecoLED 5 W



DecoLED 7 W



DecoLED 15 W

DecoLED, 7 W

Design style: reflector

Current supply: 350 mA DC

Beam angle: 36°

Adjustable angle: 0 to 30°



Typical light distribution curves

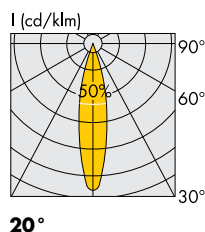
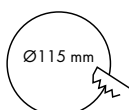
DecoLED, 15 W

Design style: lens

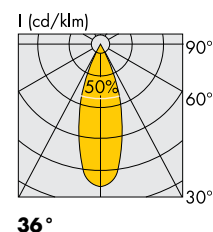
Current supply: 700 mA DC

Beam angle: 20° and 40°

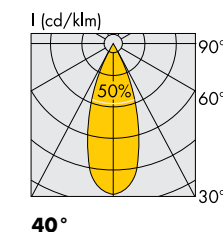
Adjustable angle: 0 to 45°



20°



36°



40°

Type	Ref. No.	Colour	Colour temperature K	CRI R _a	Luminous flux lm	Light intensity cd	Beam angle °	Field angle °	Power W	Energy efficiency
DecoLED, 5 W										
DecoLED-5-2700-38-II	549143	warm white	2700	80	225	1600	20	38	5	A
DecoLED-5-3000-38-II	554576	warm white	3000	80	250	1800	20	38	5	A+
DecoLED-5-4000-38-II	554577	neutral white	4000	75	300	2500	20	38	5	A+
DecoLED-5-6000-38-II	554578	cool white	6000	70	330	3000	20	38	5	A+
DecoLED-5-2700-60-II	554579	warm white	2700	80	225	580	40	60	5	A
DecoLED-5-3000-60-II	554580	warm white	3000	80	250	650	40	60	5	A+
DecoLED-5-4000-60-II	554581	neutral white	4000	75	300	750	40	60	5	A+
DecoLED-5-6000-60-II	554582	cool white	6000	70	330	940	40	60	5	A+
DecoLED, 7 W										
DecoLED-7-2700-36	552096	warm white	2700	85	600	1150	36	72	7	A+
DecoLED, 15 W										
DecoLED-15-2700-38-II	554583	warm white	2700	80	630	1500	20	38	15	A
DecoLED-15-3000-38-II	554584	warm white	3000	80	700	1650	20	38	15	A
DecoLED-15-4000-38-II	566041	neutral white	4000	75	820	2300	20	38	15	A
DecoLED-15-6000-38-II	566042	cool white	6000	70	900	2550	20	38	15	A
DecoLED-15-2700-60-II	566043	warm white	2700	80	630	1500	40	60	15	A
DecoLED-15-3000-60-II	566044	warm white	3000	80	700	1650	40	60	15	A
DecoLED-15-4000-60-II	566045	neutral white	4000	75	820	2300	40	60	15	A
DecoLED-15-6000-60-II	566046	cool white	6000	70	900	2550	40	60	15	A

For suitable LED driver, please refer to pg. 18 - 19

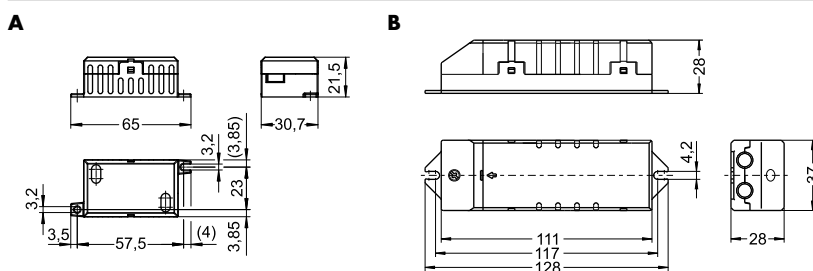
Typical luminance of DecoLED at 1, 2 and 3 meters

Intensity (lux)															
Colour temperature K	DecoLED 5 W						DecoLED 7 W			DecoLED 15 W					
	20°			40°			36°			20°			40°		
	1 m	2 m	3 m	1 m	2 m	3 m	1 m	2 m	3 m	1 m	2 m	3 m	1 m	2 m	3 m
Warm White 2700 K	1800	450	200	650	163	72	1200	300	133	5000	1250	556	1650	413	183
Warm White 3000 K	1800	450	200	650	163	72	–	–	–	5000	1250	556	1650	413	183
Neutral White 4000 K	2500	625	278	750	188	83	–	–	–	6500	1625	722	2300	575	256
Cool White 6000 K	3000	750	333	940	235	104	–	–	–	7000	1750	778	2550	638	283

LED Constant Current Drivers

Non dimmable

Mains voltage: 220–240 V ±10 %
 Mains frequency: 0 Hz, 50–60 Hz
 Electronic short-circuit protection
 Overload protection
 Protection against "no load" operation
 Degree of protection: IP20
 Protection class II
 SELV equivalent
 Power factor: 0.6
 Screw terminals: 2.5 mm²
 Quantity of screw terminals:
 1x2-poles primary
 1x2-poles secondary
 Service life time: 50,000 hrs



Max. output W	Type	Ref. No.	Mains current mA	Output current DC mA	Voltage output DC V	Ambient temperature t_a °C	Casing temperature t_c °C	Drawing	Weight g
Driver for DecoLED, 5 W & 7 W									
8	ECXe 350mA/8W	186180	60/40	350 ±5%/-10%	2–24	–20 to 50	80	A	33
11	ECXe 350mA/11W	186157	122/117	350 ±5%	2–32	–20 to 50	70	B	71
Driver for DecoLED, 15 W									
17	ECXe 700mA/17W	186159	188/178	700 ±5%	2–25	–20 to 50	70	B	71

Dimmable LED Constant Current Drivers

The constant current driver of the ECXd series features a dimming range of 1 to 100%. If no dimming interface is connected, brightness will stay at 100%.

Dimmable with phase-cutting leading- and trailing-edge dimmer (phase-cutting trailing-edge is recommended). Minimum dimmer load has to be observed.

The compatibility of the driver and the dimmer has to be confirmed prior to installation to avoid flickering and/or noises.

Mains voltage: 220–240 V $\pm 10\%$

Mains frequency: 50–60 Hz

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

SELV

Power factor: > 0.9

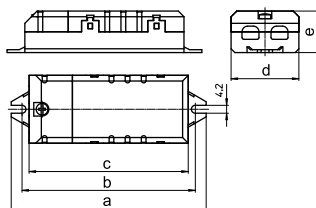
Screw terminals: 2.5 mm²

Quantity of screw terminals:

2x2-poles primary

2x2-poles secondary

Service life time: 35,000 hrs



Max. output W	Type	Ref. No.	Mains current mA	Output current DC mA	Voltage output DC V	Ambient temperature t_a °C	Casing temperature t_c °C	Dimensions mm					Weight g	Efficiency
								a	b	c	d	e		
10	ECXd 350.048	186286	70	350 $\pm 5\%$	25–35	–10 to 45	80	110	103	95	40	24	71	78
	ECXd 500.050	186288	60	500 $\pm 5\%$	12–20	–10 to 50	80	110	103	95	40	24	69	78
15	ECXd 350.049	186287	90	350 $\pm 5\%$	45–55	–10 to 40	80	120	112	105	42	27	101	81
18	ECXd 700.051	186289	100	700 $\pm 5\%$	15–23	–10 to 40	80	120	112	105	42	27	101	81
27	ECXd 700.052	186290	120	700 $\pm 5\%$	25–35	–10 to 40	80	120	112	105	42	27	102	83
36	ECXd 700.053	186291	160	700 $\pm 5\%$	35–45	–10 to 40	80	122	115	109	50	29	135	85

DecoLED – Eco-friendly Lighting

Vossloh-Schwabe's new DecoLED downlight is ideal for many indoor applications and offers numerous advantages:

■ INSTANTANEOUS LIGHT

Starts with immediate full brightness

■ GENTLE ON PRODUCTS AND USERS

UV- and IR-free light

■ LONG SERVICE LIFE

Up to 35,000 hours

■ ADJUSTABLE LUMINAIRE FOCUS

Up to 45° rotation

■ HIGHLY ENERGY EFFICIENCY

■ DIMMABLE BY USING DIMMABLE CONSTANT CURRENT DRIVER

Highly flexible to suit many applications

The compact design allows the luminaire to be mounted at very low ceiling depths. DecoLED is available with 20°, 36° and 40° beam angles and colour temperatures of 2700, 3000, 4000 and 6000 K to meet different applications.

DecoLED is also dimmable when driven by a dimmable constant current driver.

Reduction of failure rate

The integrated thermal management ensures that components are subjected to less thermal stress, thus helping to minimise the failure rate and prolong service life.

Type	DecoLED 5 W	Halogen lamp 35 W
Brightness at 1 m	2,500 lux	2,400 lux
Service life time	35,000 hrs. (L50)	2,000 hrs.
System power (incl. driver/transformer)	7 W	40 W
12 hrs operation per day	31 kWh/year	175 kWh/year
Energy savings	144 kWh/year	

Electronic Dimmer

Phase-cutting trailing-edge dimmer

Dimensions: 84.3 x 84.3 x 46.2 mm

Push-button switch and rotary dimming

Ambient temperature t_a : -20 to 40 °C

Not suitable for electromagnetic ballasts and incandescent lamps

Electronic Dimmers

Material: PC, white

Max. load depends on the type of light source

Max. 250 W

Max. 165 W for LED lamps

Weight: 85 g, unit: 25 pcs.

Ref. No.: 554591 capacity/dimming range: 5–250 W,
max. load: 250 W
(165 W for LED lamps)

Ref. No.: 554592 capacity/dimming range: 5–500 W,
max. load: 500 W
(300 W for LED lamps)



LEDSpot ActiveLine 600/LUGA

Built-in LEDSpot equipped with a reflector, heat sink, leads and optional plug (MR16 replacement)

Technical notes

Reflector diameter: 50 mm

Heat sink material: aluminium

Allowed operating temperature at t_c point:

-40 to 85 °C (L70/B30) ActiveLine 600

-40 to 80 °C (L90/B10) ActiveLine LUGA

Use of external LED constant-current drivers required

The ceramic PCB ensures optimum thermal management (ActiveLine LUGA)

Plastic clear cover to protect reflector

(opaque cover on request)

Leads: Cu tinned, stranded conductors AWG22,

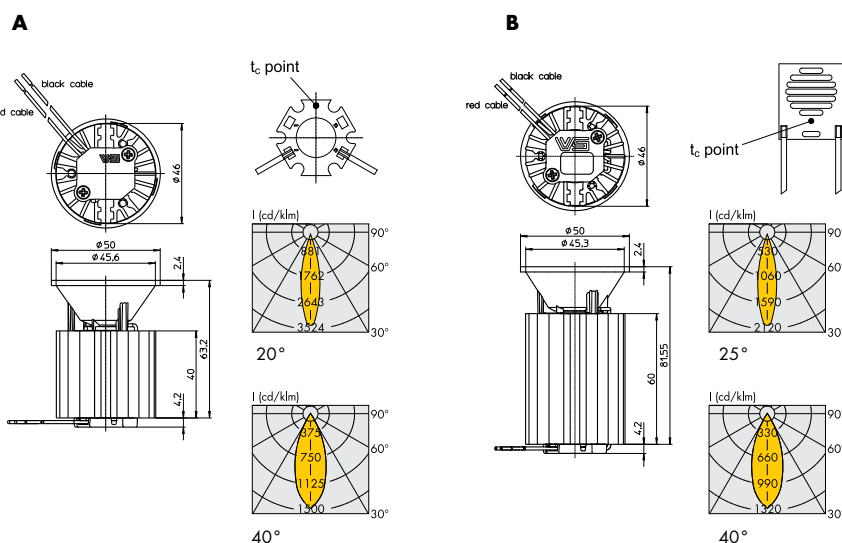
PVC-insulation, length: 200 mm,

(with plug on request)

With integrated cord grip

Weight: 107 g / 145 g

Packaging unit: 45 pcs.



ActiveLine 600

Type	Ref. No. without plug	Ref. No. with plug	Colour	Correlated colour temperature K	CRI Ra	Drawing	Luminous flux* (lm) at 350 mA ($P_{el} = 6.6$ W)		Light intensity 350 mA Candela	Beam angle °
							min.	typ.		
Narrow beam angle: 20°										
Spot COB 600lm 3000K	551258	551259	warm white	2870...3220	> 80	A	489	525	1850	20
Spot COB 600lm 4000K	551379	551380	neutral white	3700...4250	> 80	A	521	560	2000	20
Medium beam angle: 40°										
Spot COB 600lm 3000K	551260	551261	warm white	2870...3220	> 80	A	489	525	790	40
Spot COB 600lm 4000K	551381	551382	neutral white	3700...4250	> 80	A	521	560	850	40

* Measurement tolerance of luminous flux: $\pm 7\%$ | Emission data at $t_c = 70$ °C

ActiveLine LUGA

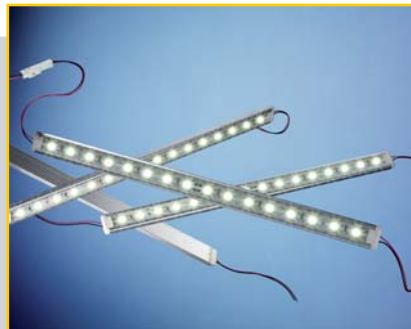
Type	Ref. No. without plug	Ref. No. with plug	Colour	Correlated colour temperature K	CRI Ra	Drawing	Luminous flux* (lm) at						Light intensity 700 mA Candela	Beam angle °
							350 mA ($P_{el} = 4.9$ W)		500 mA ($P_{el} = 7.1$ W)		700 mA ($P_{el} = 10.2$ W)			
							min.	typ.	min.	typ.	min.	typ.		
Narrow beam angle: 25°														
LugaSpot COB 1000lm 2700K	551309	551310	warm white	2700 -75/+125	> 80	B	489	536	671	734	932	1015	2050	25
LugaSpot COB 1000lm 3000K	551311	551312	warm white	3000 -75/+165	> 80	B	505	562	692	770	953	1062	2250	25
LugaSpot COB 1000lm 4000K	551313	551314	neutral white	4000 -215/+185	> 80	B	520	578	718	796	995	1098	2400	25
Medium beam angle: 40°														
LugaSpot COB 1000lm 2700K	550046	550348	warm white	2700 -75/+125	> 80	B	489	536	671	734	932	1015	1300	40
LugaSpot COB 1000lm 3000K	550047	550349	warm white	3000 -75/+165	> 80	B	505	562	692	770	953	1062	1400	40
LugaSpot COB 1000lm 4000K	550048	550350	neutral white	4000 -215/+185	> 80	B	520	578	718	796	995	1098	1500	40

* Measurement tolerance of luminous flux: $\pm 7\%$ | Emission data at $t_j = 85$ °C

CRI > 90 on request

AluLED IP20/IP64

HIGHLY EFFICIENT PLUG & PLAY
LED PROFILE



AluLED, THE IDEAL LED MODULES

Thanks to being both vibration- and shock-proof, the highly efficient AluLED IP20 and IP64 modules are ideal for both indoor and protected outdoor applications. A key advantage of AluLED is the extremely slim and flat design, which makes it suitable for illuminating complex structures or places where space is too limited to permit traditional light sources to be installed.

AluLED is available in different lengths to allow easy customisation. Its long service life of up to 45,000 hours will effectively cut necessary maintenance costs. AluLED's extreme durability efficiency will help you to significantly reduce CO₂ emissions and counter greenhouse effect. Clear or diffused covers are available to achieve desired lighting effect and mood.

Typical applications for AluLED IP20

- Indoor contour lighting
- Handrail illumination
- Kitchen lighting

Typical applications for AluLED IP64

- Outdoor protected border lighting
- Outdoor protected architectural illumination
- Outdoor protected illuminated path markings
- Bathrooms and rooms with high humidity
- Refrigerated food counters



AluLED IP20

AluLED IP20 is ideal for indoor applications and the slim & flat design is extremely convenient for low profile lighting design mounting. It is available in neutral white (4000 K). Further white tones on request.

Technical notes

Voltage supply: 24 V DC

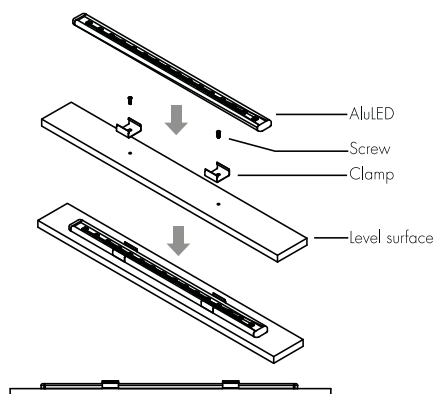
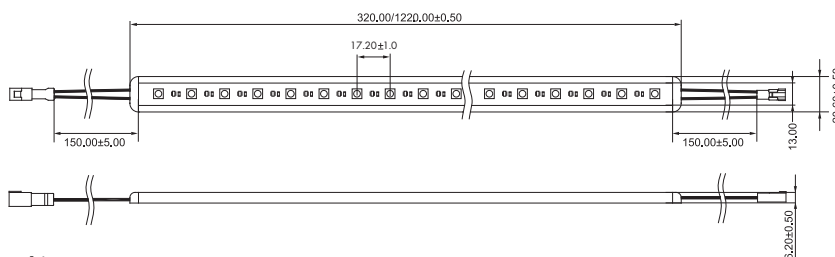
Beam angle: 120°

Allowed ambient temperature: -20 to 40 °C

Allowed storage temperature: -40 to 85 °C

Degree of protection: IP20

Maximum bridging current load: 3 A



White Modules											
Type	Ref. No.	Length mm	No. of LEDs	Current mA	Colour	Colour temperature K	Luminous flux lm	Beam angle °	Power W	Cover	Packing unit pcs.
AluLED-320-4000-IP20 - D	552092	320	18	180	neutral white	4000	220	120	4.3	Diffuse	1
AluLED-320-4000-IP20 - C	552093	320	18	180	neutral white	4000	240	120	4.3	Clear	1
AluLED-1220-4000-IP20 - D	552094	1220	72	720	neutral white	4000	870	120	17.3	Diffuse	1
AluLED-1220-4000-IP20 - C	552095	1220	72	720	neutral white	4000	950	120	17.3	Clear	1

Note: Further white tones and other CCT available on request.

AluLED IP64

AluLED IP64 is ideal for outdoor protected applications under humid conditions (excluding direct UV and water exposure) and the slim & flat design is extremely flexible for low profile lighting design mounting.

It is available in different CCTs and RGB to suit different application needs.

Technical notes

Voltage supply: 24 V DC

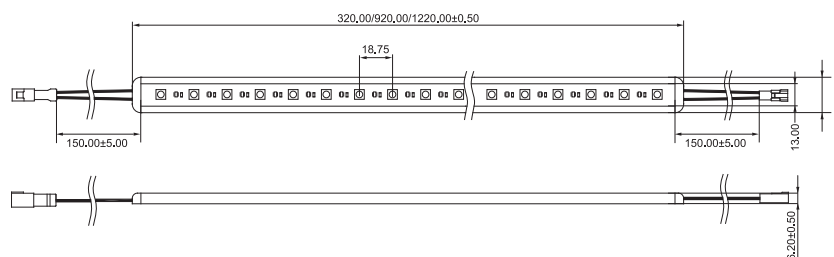
Beam angle: 120°

Allowed ambient temperature: -30 to 85 °C

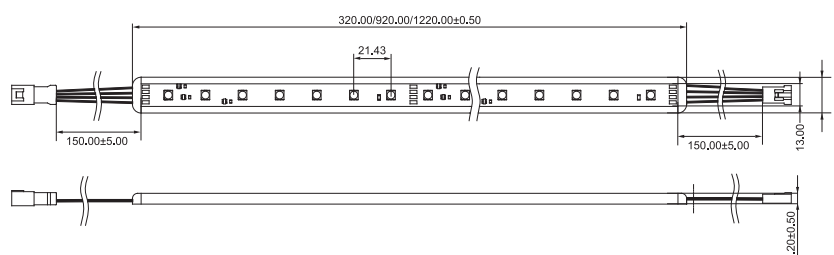
Allowed storage temperature: -40 to 85 °C

Degree of protection: IP64

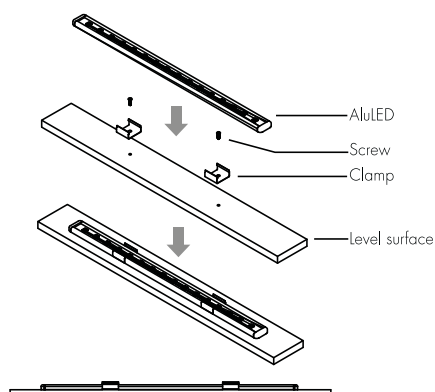
Maximum bridging current load: 3 A



White



RGB



White Modules										
Type	Ref. No.	Length mm	No. of LEDs	Current mA	Colour	Colour temperature K	Luminous flux lm	Beam angle °	Power W	Packing unit (pcs.)
AluLED-320-3000	543314	320	16	160	warm white	3000	160	120	3.8	1
AluLED-920-3000	543315	920	48	480	warm white	3000	490	120	11.5	1
AluLED-1220-3000	543316	1220	64	640	warm white	3000	630	120	15.3	1
AluLED-320-6000	543317	320	16	160	cool white	6000	192	120	3.8	1
AluLED-920-6000	543318	920	48	480	cool white	6000	576	120	11.5	1
AluLED-1220-6000	543319	1220	64	640	cool white	6000	768	120	15.3	1

RGB Modules													
Type	Ref. No.	Length mm	No. of LEDs	Current mA	Luminous flux (lm)			Dom. wavelength (nm)			Beam angle °	Power W	Packing unit (pcs.)
					red	green	blue	red	green	blue			
AluLED-320-RGB	543320	320	14	120	16.8	38.1	11.2	620-630	520-535	465-475	120	2.8	1
AluLED-920-RGB	543321	920	42	360	50.4	114.2	33.6	620-630	520-535	465-475	120	8.6	1
AluLED-1220-RGB	543322	1220	56	480	67.2	152.3	44.8	620-630	520-535	465-475	120	11.5	1

Note: Further colours for AluLED are available upon request

AluLED – LED Connecting Technology

All components of the AluLED series can be connected by the use of VS Easy connect system. With this, a simple, cost-effective and solderless assembly is possible.

EasyConnect Cable

Max. permissible current: 3 A

Number of strands: 2/4

(Strand diameter: 0.35 mm²/22 AWG)

For monochrome modules with 2 strands

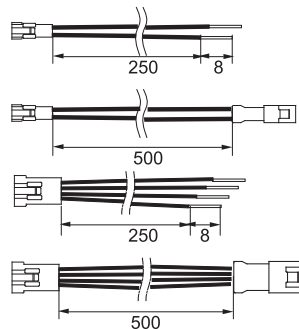
Ref. No.: 543426 25 cm, male connector

Ref. No.: 543427 50 cm, male/female connector

For RGB modules with 4 strands

Ref. No.: 543428 25 cm, male connector

Ref. No.: 543429 50 cm, male/female connector



AluLED Wiring Layout

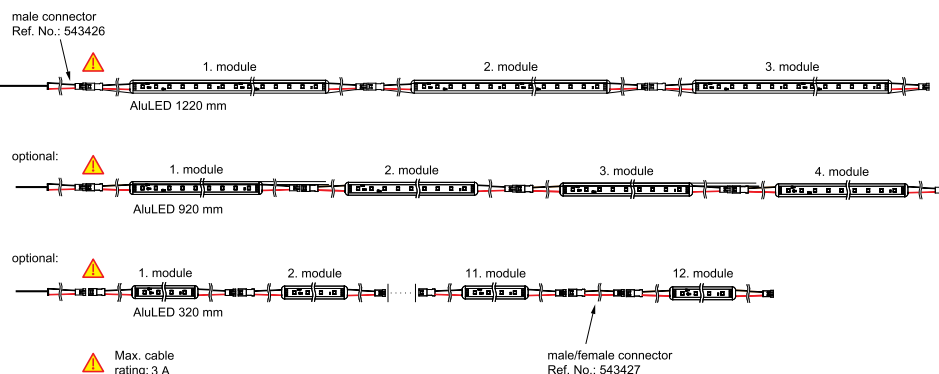
Wiring layout for white modules

When selecting LED converters, care must be taken to observe the technical specifications and comply with the maximum power rating of the converters to avoid overload.

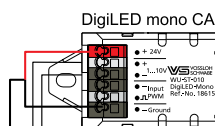
Non-dimmable wiring layout

Converter LEDLine EDX

LEDLine EDXe 120 (Ref. No.: 186129)
LEDLine EDXe 150 (Ref. No.: 186218 – Built-in)
LEDLine EDXe 170 (Ref. No.: 186219 – Independent)
LEDLine EDXe 170 (Ref. No.: 186129 – Built-in)
LEDLine EDXe 1130 (Ref. No.: 186104 – Independent)
LEDLine EDXe 1130 (Ref. No.: 186105 – IP67)
LEDLine EDXe 1130 (Ref. No.: 186131 – Built-in)
LEDLine EDXe 1130 (Ref. No.: 186132 – Independent)
LEDLine EDXe 1130 (Ref. No.: 186133 – IP67)



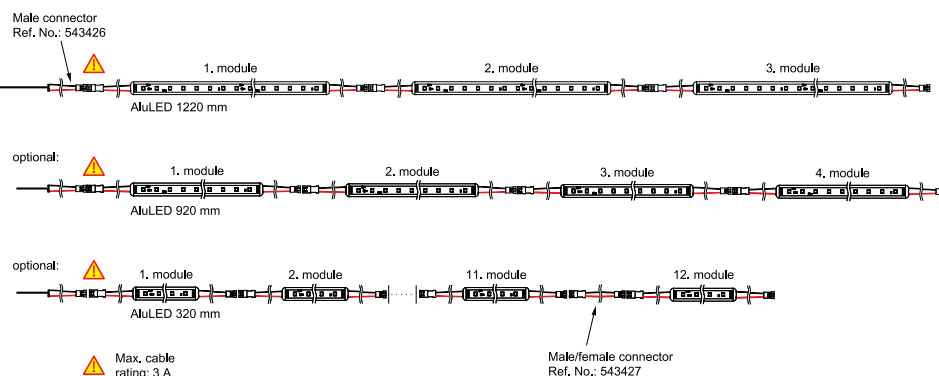
1–10 V dimmable wiring layout



Converter LEDLine EDX

LEDLine EDXe 120 (Ref. No.: 186129)
LEDLine EDXe 150 (Ref. No.: 186218 – Built-in)
LEDLine EDXe 170 (Ref. No.: 186219 – Independent)
LEDLine EDXe 170 (Ref. No.: 186129 – Built-in)
LEDLine EDXe 1130 (Ref. No.: 186104 – Independent)
LEDLine EDXe 1130 (Ref. No.: 186105 – IP67)
LEDLine EDXe 1130 (Ref. No.: 186131 – Built-in)
LEDLine EDXe 1130 (Ref. No.: 186132 – Independent)
LEDLine EDXe 1130 (Ref. No.: 186133 – IP67)

1-10 V Dimmer



AluLED IP20					
Type	Ref. No.	Length mm	Power W	Current mA	Max. number of modules per output/slave
AluLED-320-4000-IP20 - D	552092	320	4.3	180	16
AluLED-320-4000-IP20 - C	552093	320	4.3	180	16
AluLED-1220-4000-IP20 - D	552094	1220	17.3	720	4
AluLED-1220-4000-IP20 - C	552095	1220	17.3	720	4

AluLED IP64 – White modules					
Type	Ref. No.	Length mm	Power W	Current mA	Max. number of modules per output/slave
AluLED-320-3000	543314	320	3.8	160	18
AluLED-920-3000	543315	920	11.5	480	6
AluLED-1220-3000	543316	1220	15.3	640	4
AluLED-320-6000	543317	320	3.8	160	18
AluLED-920-6000	543318	920	11.5	480	6
AluLED-1220-6000	543319	1220	15.3	640	4

RGB wiring layout with DigiLED colour control modules

The wiring diagram shows the typical wiring layout of the AluLED module with 24 V converters, DigiLED colour control modules and a slave (CA) to increase system performance.

The passive slave (CA) enables system extension without needing to amplify the signal.

Converter LEDLine EDX

LEDLine EDXe 120 (Ref. No.: 186129)
LEDLine EDXe 150 (Ref. No.: 186218 – Built-in)
LEDLine EDXe 170 (Ref. No.: 186219 – Independent)
LEDLine EDXe 170 (Ref. No.: 186129 – Built-in)
LEDLine EDXe 1130 (Ref. No.: 186131 – Built-in)
LEDLine EDXe 1130 (Ref. No.: 186132 – Independent)
LEDLine EDXe 1130 (Ref. No.: 186133 – IP67)

DigiLED colour control

DigiLED CA Manual (Ref. No.: 186138)
DigiLED CA DALI (Ref. No.: 186138)
DigiLED CA Push (Ref. No.: 186144)
DigiLED CA DMX (Ref. No.: 186153)

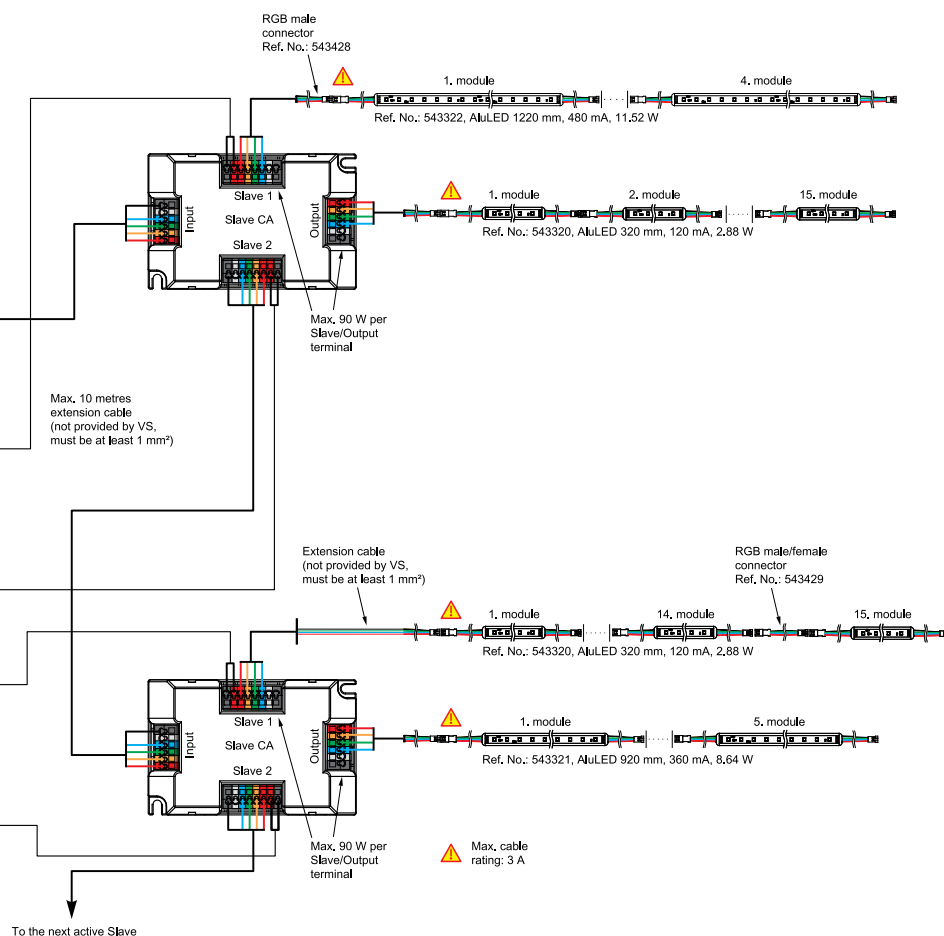
(Layout of connection terminals depend on colour control unit)

Converter LEDLine EDX

LEDLine EDXe 120 (Ref. No.: 186129)
LEDLine EDXe 150 (Ref. No.: 186218 – Built-in)
LEDLine EDXe 170 (Ref. No.: 186219 – Independent)
LEDLine EDXe 170 (Ref. No.: 186129 – Built-in)
LEDLine EDXe 1130 (Ref. No.: 186131 – Built-in)
LEDLine EDXe 1130 (Ref. No.: 186132 – Independent)
LEDLine EDXe 1130 (Ref. No.: 186133 – IP67)

Converter LEDLine EDX

LEDLine EDXe 120 (Ref. No.: 186129)
LEDLine EDXe 150 (Ref. No.: 186218 – Built-in)
LEDLine EDXe 170 (Ref. No.: 186219 – Independent)
LEDLine EDXe 170 (Ref. No.: 186129 – Built-in)
LEDLine EDXe 1130 (Ref. No.: 186131 – Built-in)
LEDLine EDXe 1130 (Ref. No.: 186132 – Independent)
LEDLine EDXe 1130 (Ref. No.: 186133 – IP67)



RGB Modules

Type	Ref. No.	Length mm	Power W	Current mA	Max. no. of modules per output/slave
AluLED-320-RGB	543320	320	2.8	120	25
AluLED-920-RGB	543321	920	8.6	360	8
AluLED-1220-RGB	543322	1220	11.5	480	6

LEDLine Flex SMD Professional RGB CA Indoor

Built-in PCB lighting modules

The LEDLine Flex SMD Professional RGB CA is a "common anode" design variant. This permits the user to operate high-power RGB modules together with the new LEDLine Flex SMD Professional RGB CA.

The LEDLine Flex SMD Professional RGB CA is fitted with SMD LEDs on a flexible printed circuit board of only approx. 0.4 mm thickness. Even the most complex structures can be illuminated thanks to the use of an extremely pliable foil. LEDLine Flex SMD Professional can be separated into segments of 100 mm without loss of function.

This product is available in continuous lengths of 4.5 m. Installation is achieved via double-sided adhesive tape affixed to the rear of the PCB.

Technical notes

Dimensions of LEDLine Flex SMD Professional RGB CA

LxW mm	SMDs pcs.	Single steps	Length mm	SMDs pcs.
4500x10	270	45	100	6

Allowed operating temperature at t_c point:

-20 to t.b.d. °C

Wide beam angle (115°)

Voltage supply: 24 V DC

Power consumption per step (100 mm): 1.08 W

Each SMD contains 3 LED-Chips

in the colours red, green and blue

Typical applications

Architectural lighting

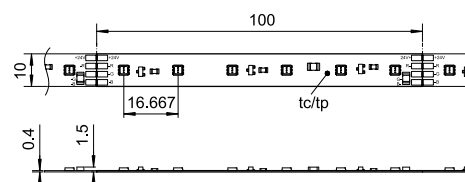
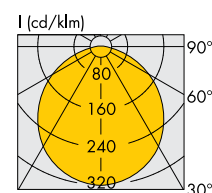
Lighting of complex structures

Entertainment, shop design

Marking paths, stairs, etc.

Furniture lighting

Light advertising



Type	Ref. No.	Colour	Dom. wave length*			Current*			Typ. luminous flux*			Beam angle*	Power*		
			mm	red	green	blue	A	red	green	blue	lm	red	green	blue	W
VU-M-456-RGB-CA	550536	RGB	622	528	469	0.68	0.68	0.68	590	1250	235	115	16.3	16.3	16.3

Preliminary data

* The values mentioned above represent only statistical variables on account of the complex manufacturing process of light emitting diodes.

The values do not necessarily correspond exactly to the actual parameters of every single product, which can vary from the typical specifications.

LEDLine Flex SMD Professional RGB CA Outdoor

Built-in PCB lighting modules

The LEDLine Flex SMD Professional RGB CA Outdoor is an extremely flexible linear module for applications with high moisture or dust burden conditions.

Due to the flexible and compact design, the illumination of complex structures and flat designs can be realised. The IP67 protected LEDLine Flex SMD Professional RGB CA Outdoor is available in 3 different lengths (see below). The installation is achieved via double-sided adhesive tape affixed to the rear of the PCB.

The colour blend of LEDLine Flex SMD Professional RGB CA Outdoor can be adjusted using DigiLED control modules. To increase the number of LED modules DigiLED-Slave can be used.

Technical notes

Dimensions of PCB: 200x10 mm,
500x10 mm, 2000 x10 mm

Encapsulated dimensions (see drawing)

PCB 200 mm: A = 206 +3/-2 mm

PCB 500 mm: A = 506 +3/-2 mm

PCB 2000 mm: A = 2006 +4/-3 mm

Degree of protection: IP67

Allowed operating temperature at t_c point:

-20 to t.b.d. °C

Allowed handling temperature:

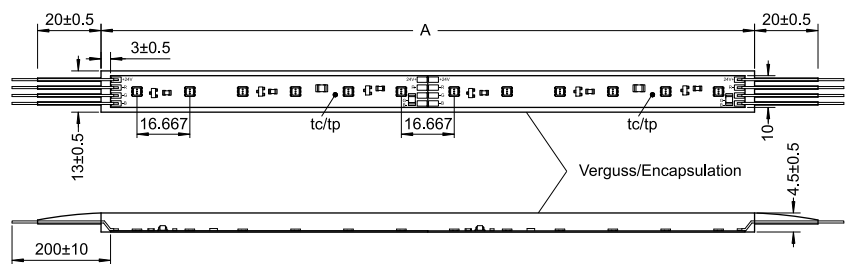
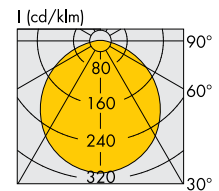
10 to 50 °C

Minimum bend radius: 70 mm,

flexible in longitudinal direction only

Pre-assembled with 4 wires on either side

Voltage supply: 24 V DC



Typical applications

Lighting of complex structures
with high moisture or dust burden
Outdoor marking of paths, stairs, etc.
Outdoor light advertising
Outdoor entertainment, shop design
Architectural lighting
Outdoor border lighting

Type	Ref. No.	Number of SMDs pcs.	Colour	Dom. wavelength*			Current*			Typ. luminous flux* (lm)			Beam angle* °	Power*		
				red	green	blue	red	green	blue	red	green	blue		red	green	blue
WU-M-456-RGB-CA-Outdoor 200mm	550529	12	RGB	622	528	469	30	30	30	23	50	9	115	0.72	0.72	0.72
WU-M-456-RGB-CA-Outdoor 500mm	550530	30	RGB	622	528	469	75	75	75	59	125	23	115	1.8	1.8	1.8
WU-M-456-RGB-CA-Outdoor 2000mm	550531	120	RGB	622	528	469	300	300	300	236	500	94	115	7.24	7.24	7.24

Preliminary data

* The values mentioned above represent only statistical variables on account of the complex manufacturing process of light emitting diodes.

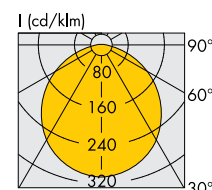
The values do not necessarily correspond exactly to the actual parameters of every single product, which can vary from the typical specifications.

LEDLine Flex SMD Professional Indoor White

Built-in PCB lighting modules

The LEDLine Flex SMD Professional Indoor is fitted with SMD LEDs on a flexible printed circuit board of only approx. 0.4 mm thickness. Even the most complex structures can be illuminated thanks to the use of an extremely pliable foil. LEDLine Flex SMD Professional Indoor can be separated into segments of 100 mm lengths without loss of function. This product is available in a continuous length of up to 10 m.

Installation is achieved via double-sided adhesive tape affixed to the rear of the PCB.



Technical notes

Dimensions LEDLine Flex SMD Professional Indoor

LxW mm	SMDs pcs.	Single steps	Length mm	SMDs pcs.
10000x10	600	100	100	6

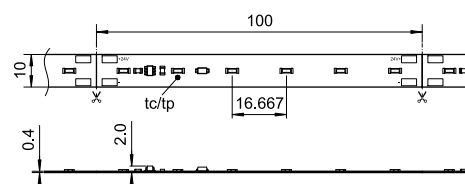
Allowed operating temperature at t_c point:

-20 to 85 °C

Wide beam angle (120°)

Voltage supply: 24 V

Power consumption per step (100 mm): 0.53 W



Typical applications

Architectural lighting

Illumination of complex structures

Entertainment, shop design

Marking paths, stairs, etc.

Furniture lighting

Light advertising

Type	Ref. No.	Colour	Correlated colour temperature K	Current A	Typ. luminous flux* lm	Beam angle °	Max. power W	CRI R _a
WU-M-456-27K	551700	warm white	2700 -120/+170	2.2	4100	120	53	> 80
WU-M-456-30K	550532	warm white	3000 -130/+220	2.2	4200	120	53	> 80
WU-M-456-40K	550533	neutral white	4000 -290/+260	2.2	4600	120	53	> 80
WU-M-456-50K	550534	cool white	5000 -255/+310	2.2	4900	120	53	> 80
WU-M-456-65K	550535	cool white	6500 -480/+540	2.2	5200	120	53	> 80

* The values mentioned above represent only statistical variables on account of the complex manufacturing process of light emitting diodes
The values do not necessarily correspond exactly to the actual parameters of every single product which can vary from the typical specification.

LEDLine Flex SMD Professional Outdoor White

Built-in PCB lighting modules

The LEDLine Flex SMD Professional Outdoor is an extremely flexible linear module for applications with high moisture or dust burden conditions. Due to the flexible and compact design, the illumination of complex structures and flat designs can be realised. The IP67 protected LEDLine Flex SMD Professional Outdoor is available in 3 different lengths (see below). The installation is achieved via double-sided adhesive tape affixed to the rear of the PCB.

Technical notes

Dimensions of PCB: 200x10 mm,
500x10 mm, 2000 x10 mm

Encapsulated dimensions (see drawing)

PCB 200 mm: A = 206 +3/-2 mm

PCB 500 mm: A = 506 +3/-2 mm

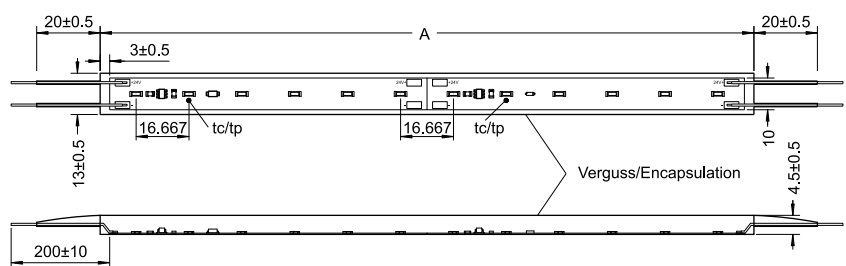
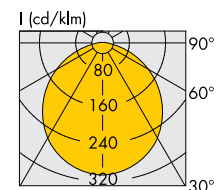
PCB 2000 mm: A = 2006 +4/-3 mm

Degree of protection: IP67

Allowed operating temperature at t_c point:
-20 to 50 °C

Minimum bend radius: 70 mm,
flexible in longitudinal direction only

Pre-assembled each with 2 strands on either side
Voltage supply: 24 V



Typical applications

Illumination of complex structures
with high moisture or dust burden
Outdoor marking of paths, stairs, etc.
Outdoor Light advertising
Outdoor entertainment, shop design, architectural illumination
Outdoor border lighting

Type	Ref. No.	Number of LEDs	Colour	Correlated colour temperature* (K)	Current A	Typ. luminous flux* lm	Beam angle °	Max. power W
WU-M-456-33K-Outdoor 200mm	550517	12	warm white	3300 -130/+220	44	67	120	1.06
WU-M-456-33K-Outdoor 500mm	550518	30	warm white	3300 -130/+220	110	168	120	2.65
WU-M-456-33K-Outdoor 2000mm	550519	120	warm white	3300 -130/+220	440	670	120	10.6
WU-M-456-40K-Outdoor 200mm	550520	12	neutral white	4000 -290/+260	44	74	120	1.06
WU-M-456-40K-Outdoor 500mm	550521	30	neutral white	4000 -290/+260	110	184	120	2.65
WU-M-456-40K-Outdoor 2000mm	550522	120	neutral white	4000 -290/+260	440	740	120	10.6
WU-M-456-48K-Outdoor 200mm	on request	12	cool white	4800 -255/+310	44	79	120	1.06
WU-M-456-48K-Outdoor 500mm	on request	30	cool white	4800 -255/+310	110	195	120	2.65
WU-M-456-48K-Outdoor 2000mm	on request	120	cool white	4800 -255/+310	440	785	120	10.6
WU-M-456-62K-Outdoor 200mm	550526	12	cool white	6200 -480/+540	44	83	120	1.06
WU-M-456-62K-Outdoor 500mm	550527	30	cool white	6200 -480/+540	110	210	120	2.65
WU-M-456-62K-Outdoor 2000mm	550528	120	cool white	6200 -480/+540	440	830	120	10.6

Preliminary data

* The values mentioned above represent only statistical variables on account of the complex manufacturing process of light emitting diodes
The values do not necessarily correspond exactly to the actual parameters of every single product which can vary from the typical specification.

Electronic Converters for LED Modules 24 V

Short circuit protection

Overload and temperature protection

Protection against "no load" operation

Electronic converter											
Max. output W	Type	Ref. No.	Mains voltage 50/60 Hz V	Voltage output V	Mains current mA	Output current A	Ambient temperature t_a °C	Casing temperature t_c °C	Power factor	With cord grip	Weight g
Degree of protection: IP20											
0.1-20	EDXe 120/24 V	186129	220-240	24 ±0.5	230/210	0.85	-20 to 45	75	0.5	–	155
0.0-50	EDXe 150/24 V	186218	220-240	24 ±0.72	260/235	0.0-2.1	-40 to 45	70	0.97	–	290
0.0-50	EDXe 150/24 V	186219	220-240	24 ±0.72	260/235	0.0-2.1	-40 to 45	70	0.97	•	320
0.0-70	EDXe 170/24 V	186103	220-240	24 ±0.48	360/310	0.0-2.9	-20 to 45	70	0.97	–	340
0.0-70	EDXe 170/24 V	186104	220-240	24 ±0.48	360/310	0.0-2.9	-20 to 45	70	0.97	•	360
0.0-130	EDXe 1130/24 V	186131	220-240	24 ±0.48	640/585	0.0-5.4	-20 to 45	75	0.98	–	370
0.0-130	EDXe 1130/24 V	186132	220-240	24 ±0.48	640/585	0.0-5.4	-20 to 45	75	0.98	•	390
Degree of protection: IP67											
0.0-70	EDXe 170/24 V	186105	220-240	24 ±0.48	360/330	0.0-2.9	-20 to 45	70	0.97	•	515
0.0-130	EDXe 1130/24 V	186133	220-240	24 ±0.48	640/585	0.0-5.4	-20 to 45	70	0.97	•	545

Converter EDXe 120/24 V IP20

Shape (LxWxH): 182x42x18 mm

Degree of protection: IP20

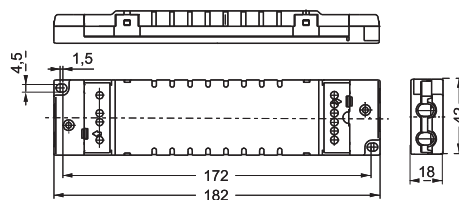
SELV-equivalent

Connections/leads:

prim.: mains connection cable, length: 1.48 m

sec.: screw terminals 1.5 mm²

Ref. No.: **186129**



Converters EDXe 150, 170, 1130/24 V IP20

Degree of protection: IP20

SELV

Push-in terminals with push button:

2.5 mm² solid lead

Without cord grip

Shape (LxWxH): 187x60x36 mm

Fixing distance: 178 mm

Type: EDXe 150/24 V

Ref. No.: 186218 output: 0–50 W

Shape (LxWxH): 200x61x49 mm

Fixing distance: 191 mm

Type: EDXe 170/24 V

Ref. No.: 186103 output: 0–70 W

Type: EDXe 1130/24 V

Ref. No.: 186131 output: 0–130 W

With cord grip

Cord grip approved for mains leads:

H03VV-F 3X0.75 mm² or NYM 3X1.5 mm²

Cord grip approved for output leads:

SIHY-Cu 4X1 mm² or SIHSI-Cu 4X1 mm²

Shape (LxWxH): 224x60x36 mm

Fixing distance: 210 mm

Type: EDXe 150/24 V

Ref. No.: 186219 output: 0–50 W

Shape (LxWxH): 245x61x49 mm

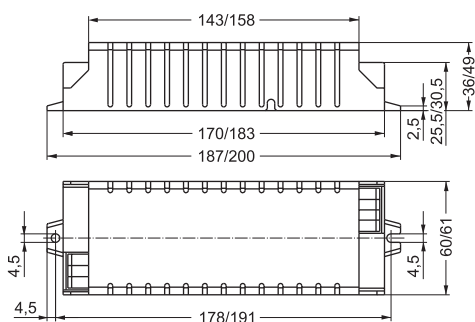
Fixing distance: 231 mm

Type: EDXe 170/24 V

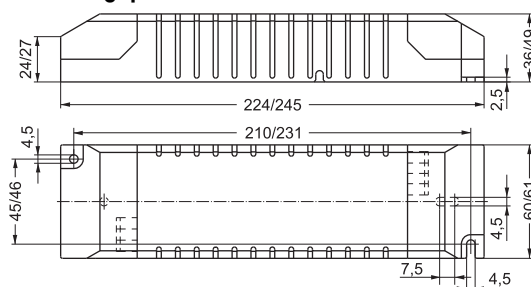
Ref. No.: 186104 output: 0–70 W

Type: EDXe 1130/24 V

Ref. No.: 186132 output: 0–130 W



With cord grip



Converter EDXe 170/24 V IP67

Shape (LxWxH): 275x79.1x51 mm

Fixing distance: 235 mm

Degree of protection: IP67, SELV

Pre-assembled connection:

prim.: 3x1 mm², H05RN-F, length: 500 mm

sec.: 2x2 mm², SO7RN-F, length: 500 mm

Ref. No.: 186105 output: 0–70 W



Converter EDXe 1130/24 V IP67

Shape (LxWxH): 275x79.1x51 mm

Fixing distance: 235 mm

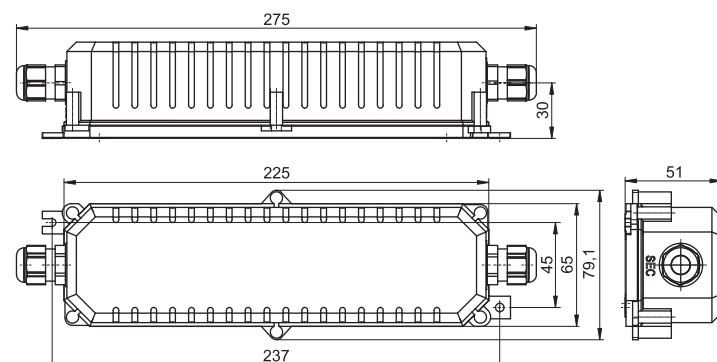
Degree of protection: IP67, SELV

Pre-assembled connection:

prim.: 3x1 mm², H05RN-F, length: 500 mm

sec.: 2x2 mm², SO7RN-F, length: 500 mm

Ref. No.: 186133 output: 0–130 W



Colour Control Modules – DigiLED CA

The DigiLED CA series is based on a system design that combines simplicity, flexibility and reliability. The DigiLED CA series is suitable for operating both high-power RGB CA modules and low-power RGB CA modules.

In the simplest case, a keypad enables manual colour control. In addition to custom colour control, it is also possible to call up pre-set colour programs for example colour sequences.

Technical notes

Dimensions: 93x58 x29 mm

Ambient temperature t_a : 0 to 45 °C

Operating voltage: 24 V

Max. current on the supply line: 5 A

Push-in terminals: 0.25–1.5 mm²,

grid: 3.5 mm

All DigiLED not suitable for the US market

DigiLED Manual CA

Colour controls via key pads (6 keys)

Individual colour control or selection of

pre-set programs

t_c = 55 °C max.

Max. current per control channel: 1.25 A

Type: WU-ST-001-Digi-manuell-CA

Ref. No.: 186136

DigiLED DALI CA

Digital colour controls via DALI light management

t_c = 60 °C max.

Max. current per control channel: 1.25 A

Type: WU-ST-004-Digi-DALI-CA

Ref. No.: 186138

DigiLED DMX CA

Digital colour controls via DMX light management

t_c = 60 °C max.

Max. current per control channel: 1.25 A

Type: WU-ST-003-Digi-DMX-CA

Ref. No.: 186153

DigiLED IR CA

Colour adjustment by a portable remote control

Call up of pre-adjusted setting possible

Data transfer via infra-red

t_c = 55 °C max.

Max. current per control channel: 1.25 A

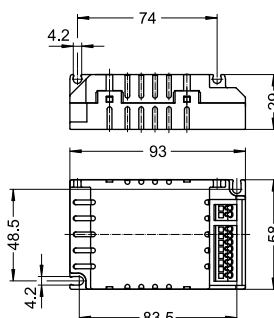
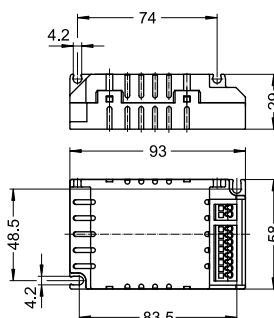
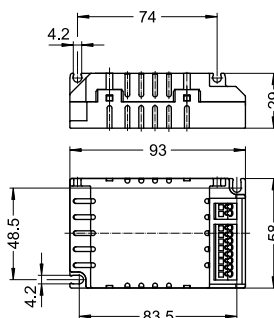
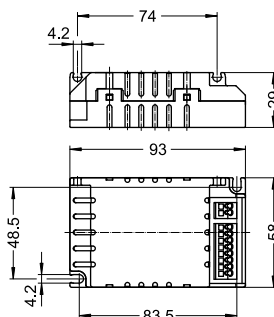
Type: WU-ST-005-Digi-IR-CA

Ref. No.: 186154

The CA series of VS colour control modules are available with both a manual operating pad and a DALI interface or "PUSH" or DMX variant.

Furthermore the DigiLED Mono is available.

The DigiLED Mono enables the dimming of single-colour (e. g. white) LED modules.



DigiLED Manual CA



DigiLED Dali CA



DigiLED DMX CA



DigiLED IR CA

DigiLED RF CA

Easy operation possible via radio frequency (RF) and a keypad with 7 buttons. The operation via radio frequency (RF) enables a flexible installation. Optical "line of sight" or cables are not necessary due to RF operation.

Dimensions: 93x58x29 mm

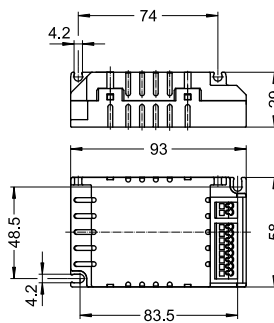
Ambient temperature t_a : -20 to 45 °C

Operating voltage: 24 V DC

Max. current per control channel: 1.25 A

Type: WU-ST-012-DigiLED-RF CA

Ref. No.: 186181



Walltransmitter

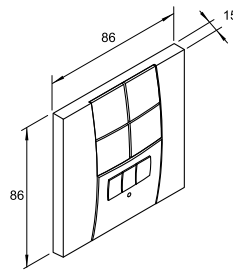
Required to activate the programs in the DigiLED RF

Dimensions: 86x86x15 mm

Colour: white

Type: WU-ST-009-Walltransmitter

Ref. No.: 536843



DigiLED Push CA

Colour adjustment by separate push button

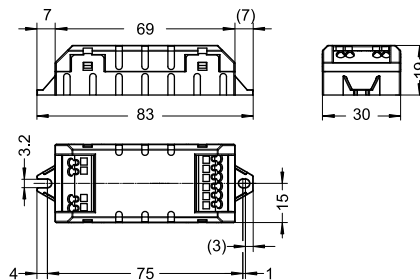
Permits retrieval of pre-set programs

$t_c = 55$ °C max.

Max. current per control channel: 1.25 A

Type: WU-ST-006-DigiLED-Push CA

Ref. No.: 186144



DigiLED Mono CA

For dimming of single-colour LED modules

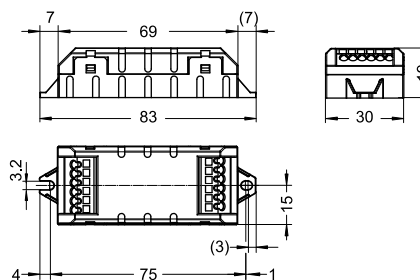
Dimming via 1 - 10 V interface or external PWM signal

$t_c = 55$ °C max.

Max. current per control channel: 5 A

Type: WU-ST-010-DigiLED-Mono CA

Ref. No.: 186155



DigiLED Slave CA

Increase of the system performance

for 24 V CA LED built-in system

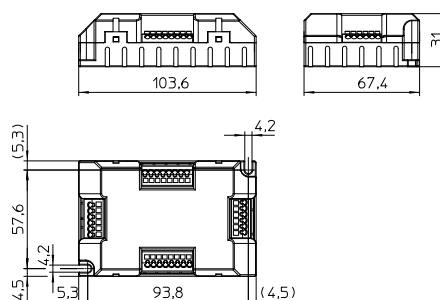
Signal amplification on channels RGB(W)

$t_c = 65$ °C max.

Max. current per control channel per slave: 1.25 A

Type: WU-ST-002-DigiLED-Slave CA

Ref. No.: 186122



COMPONENTS FOR DISCHARGE LAMPS



ELECTRONIC AND ELECTROMAGNETIC OPERATING DEVICES

For high-pressure sodium lamps (HS), metal halide lamps (HI) and mercury vapour lamps (HM)

Electronic ballasts

Modern discharge lamps operate very efficiently in combination with electronic ballasts. The numerous advantages of using electronic ballasts to operate high-pressure discharge lamps are listed in more detail on the product pages.

With the help of temperature and service-life tests, VS electronic ballasts guarantee a high degree of reliability. The quality of the electronic ballasts is ensured by continuous in-circuit tests and function tests like burn-in tests.

Magnetic ballasts

The electrical specifications of VS' range of ballasts comply with lamp-specific requirements. Vossloh-Schwabe attaches great importance to ensuring the impedance value of electromagnetic ballasts is kept within particularly narrow tolerances. This advantage, which is achieved by individual adjustment of the air gap during the automated production and testing process of every ballast, decisively contributes to optimising light output, light colour and service life of discharge lamps.

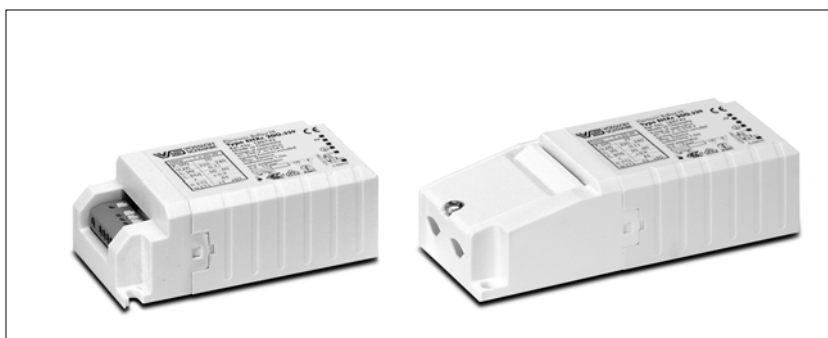
The range includes ballasts with variable voltage tapping points and varying degrees of inherent heating as well as encapsulated devices.



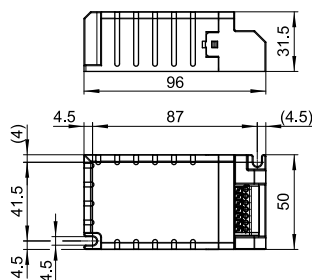
Compact Electronic Ballasts for HI Lamps 20 and 35 W

Shape: K35

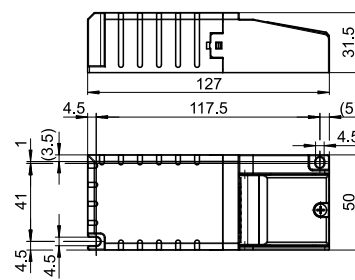
Casing: heat-resistant polyamide,
encapsulated with polyurethane
(EHXc 35G.327 B and EHXc 35G.327 I)
For ceramic discharge tube lamps (C-HI)
Power factor: > 0.9
Operation frequency: 135 Hz
Push-in terminals: 0.5 – 1.5 mm²
Constant power consumption
Protection against "no load" operation
For luminaires of protection class I and II
Degree of protection: IP20
Permissible load capacity: 120 pF
RFI-suppressed
Fixing brackets for screws M4
for base mounting
No flickering of defective lamps



K35



K35 with cord grip



Lamp				Electronic ballast									System
Output	Type	Base	Power consumption	Type	Ref. No.	Voltage AC	Mains current	Energy efficiency	Ambient temperature	Casing temperature	Ignition voltage	Weight	Output
W			W			50, 60 Hz V - 10%+6%	A		t _a [°C]	t _c [°C]	kV	g	W
Electronic built-in ballasts													
20	HI	GU6.5, G8.5, GX8.5, GX10	1 x 20	EHXc 20.329 B	188991	220-240	0.11	A2	- 15 to 60	max. 75	2-4	130	23
35	HI	GU6.5, G8.5, GX8.5, GX10, G12	1 x 39	EHXc 35G.327 B	188993	220-240	0.2	A2	- 15 to 45	max. 80	2-4	180	43.5
Independent electronic ballasts with cord grip													
20	HI	GU6.5, G8.5, GX8.5, GX10	1 x 20	EHXc 20.329 I	188992	220-240	0.11	A2	- 15 to 60	max. 75	2-4	145	23
35	HI	GU6.5, G8.5, GX8.5, GX10, G12	1 x 39	EHXc 35G.327 I	188994	220-240	0.2	A2	- 15 to 45	max. 80	2-4	195	43.5

Electronic Ballasts for HI Lamps 35 and 70 W

Shape: M3 EffectLine

Casing: metal

For ceramic discharge tube lamps (C-HI)

Power factor: 0.95

Ignition voltage: max. 5 kV

Operation frequency: 173 Hz

Push-in terminals with push-button: 0.5 - 1.5 mm²

Total harmonic distortion: < 10%

Temperature protection

Constant power consumption

Protection against "no load" operation

For luminaires of protection class I and II

Degree of protection: IP20

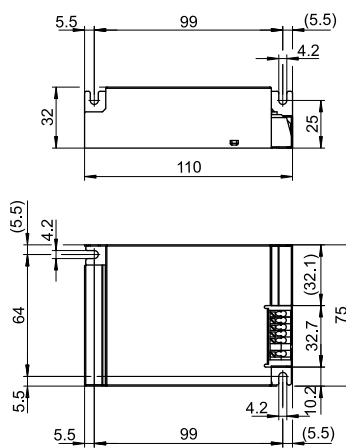
Permissible load capacity: 20 - 120 pF

RFI-suppressed

Service life time at t_c max. = 30,000 hrs

Fixing brackets for screws M4

for base mounting



Lamp				Electronic ballast								System
Output W	Type	Base	Power consumption W	Type	Ref. No.	Voltage AC 50, 60 Hz V ±10%	Mains current A	Energy efficiency	Ambient temperature t_a (°C)	Casing temperature t_c (°C)	Weight g	Output W
35	HI	GU6.5, G8.5, GU8.5, GX8.5, G12, E27	1 x 39	EHXe 35.356	183026	220-240	0.20-0.18	A2	-15 to 65	max. 80	220	43
70	HI	G8.5, GU8.5, GX8.5, G12, PG12-2, E27, RX7s	1 x 73	EHXe 70.357	183027	220-240	0.36-0.34	A2	-15 to 50	max. 80	220	80

Electronic Ballasts for HI Lamps

Casing: heat-resistant polycarbonate
 Power factor: 0.98
 Ignition voltage: max. 5 kV
 Push-in terminals with push-button: 0.75–2.5 mm²
 Total harmonic distortion: < 10%
 Constant power consumption
 Protection against "no load" operation
 For luminaires of protection class I and II
 Degree of protection: IP20
 RFI-suppressed
 Fixing brackets for screws M4
 for base mounting

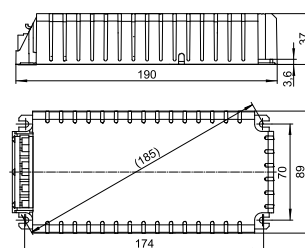


For metal halide lamps (HI)

2-Lamp version: 35–70 W

Operation frequency: 176 Hz
 Temperature protection: one lamp is switched off
 in the event of overheating
 Permissible load capacity: 20–100 pF
 Separate ignition channels enable
 independent lamp operation

K32



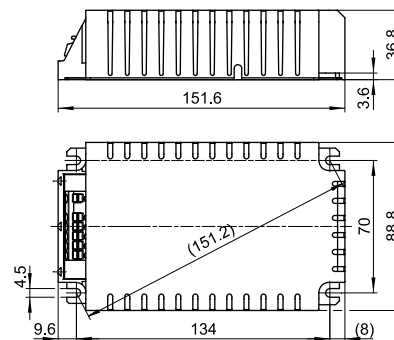
Lamp				Electronic ballast								System
Output W	Type	Base	Power consumption W	Type	Ref. No.	Voltage AC 50, 60 Hz V - 10%+6%	Mains current A	Ambient temperature t _a (°C)	Casing temperature t _c (°C)	Casing	Weight g	Output W
2x35	HI	G12, PG12-2 G8.5/E27	2 x 39	EHXc 235.316	188223	220–240	0.40–0.36	–25 to 50	max. 75	K32	405	86
2x70	HI	G12, PG12-2 G8.5/GX8.5 E27, RX7s	2 x 73	EHXc 270.317	188224	220–240	0.74–0.68	–25 to 50	max. 80	K32	440	160

For metal halide lamps (HI)

1-Lamp version: 150 W

Operation frequency: 170 Hz
 Temperature protection
 Permissible load capacity: 20–240 pF

K31



Lamp				Electronic ballast								System
Output W	Type	Base	Power consumption W	Type	Ref. No.	Voltage AC 50, 60 Hz V - 10%+6%	Mains current A	Ambient temperature t _a (°C)	Casing temperature t _c (°C)	Casing	Weight g	Output W
150	HI	G12, PG12-2 E40, RX7s	1x147	EHXc 150G.334	188690	220–240	0.73–0.67	–20 to 45	max. 85	K31	420	160

HID Packages for HS and HI Lamps 35–400 W 220 V, 50 Hz

Electromagnetic ballasts

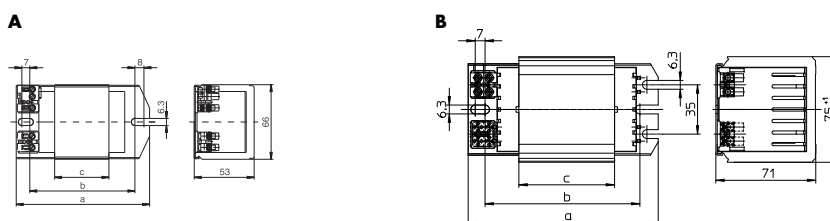
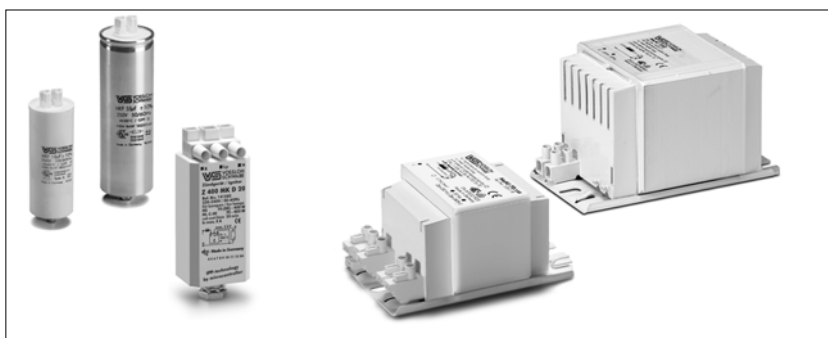
Shape: 53x66/71x75 mm

Vacuum-impregnated with polyester resin

Screw terminals: 0.5–2.5 mm²

Protection class I, $\text{tw}130$

EN 61347 (Safety), EN 60923 (Performance)



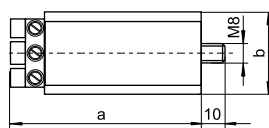
Lamp			Ballast										Capacitor	
Output W	Type	Current A	Type	Ref. No.	Voltage AC V, Hz	Drawing	a mm	b mm	c mm	Weight g	Δt K	Power factor λ	C_p μF	I_N A
35	HS, HI	0.53	NaHJ 35.485	526517	220/230, 50	A	108	86	28	0.91	60	0.40	6	0.22/0.21
70	HS, HI	1.00	NaHJ 70.300	174961	220, 50	A	108	86	36	1.07	75	0.40	12	0.40
100	HS, HI	1.20	NaHJ 100.126	507671	220, 50	A	108	86	42	1.24	75	0.44	12	0.55
150	HS, HI	1.80	NaHJ 150.159	533602	220, 50	A	145	120	64	1.80	75	0.41	20	0.80
250	HS, HI	3.00	NaHJ 250.204	529087	220, 50	A	160	135	95	2.50	80	0.42	32	1.32
400	HS, HI	4.45	NaHJ 400.743	536142	220, 50	B	165	145	103	4.1	70	0.44	50	2.00

Electronic superimposed ignitors for HS lamps 35 to 400 W and for HI lamps 35 to 400 W

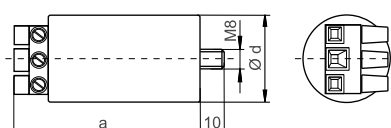
Max. permitted casing temperature: 105 °C

Screw terminals: 0.75–4 mm²

PC casing



AL casing



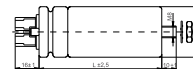
Ignitor								Casing					
Type	Ref. No.	Voltage AC 50–60 Hz V	Max. lamp current A	Internal loss W	Inherent heating K	Ignition voltage kV	Load capacity pF	Drawing	d Ø mm	a mm	b mm	c mm	Weight g
Z 70 S	140413	220–240	2	< 0.6	< 5	1.8–2.3	20–200	AL	35	76	–	–	135
Z 400 M	140594	220–240	5	< 3	< 35	4–5	20–50	AL	35	76	–	–	140
Z 400 M K	140597	220–240	5	< 3	< 35	4–5	20–50	PC	–	78	34	27	130

Parallel connected capacitors 250 V, 50/60 Hz

PC



AL



Type	Ref. No.	Capacity μF	Temperature range (°C)	Casing	\varnothing (D) mm	Length (L) mm	Male nipple/length (mm)	Push-in twin terminals	Weight g	Unit pcs.
40937	500305	6	–40 to 85	PC	25	70	M8x10	0.5–1.0 mm ²	29	450
41008	506366	12	–40 to 85	PC	30	94	M8x10	0.5–1.0 mm ²	43	260
41001	500316	20	–40 to 85	PC	35	94	M8x10	0.5–1.5 mm ²	62	190
41058	503258	32	–40 to 85	AL	45	90	M8x10	0.5–1.5 mm ²	126	32
41059	503259	50	–40 to 85	AL	55	95	M8x10	0.5–1.5 mm ²	21	36

HID Packages for HS and HI Lamps 35–400 W 230 V, 50 Hz

Electromagnetic ballasts

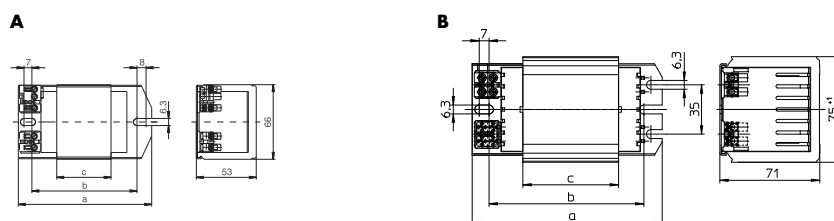
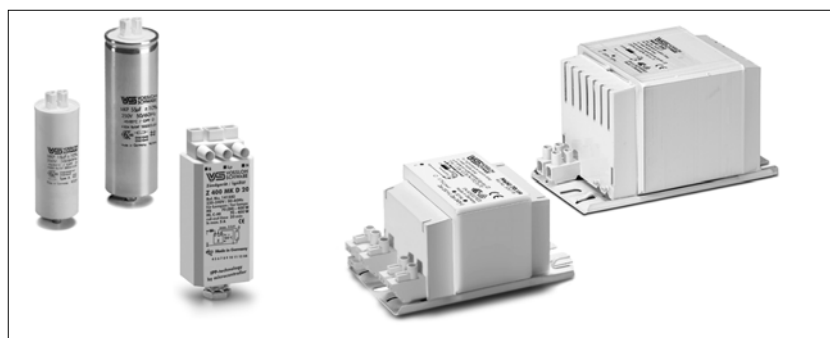
Shape: 53x66/71x75 mm

Vacuum-impregnated with polyester resin

Screw terminals: 0.5-2.5 mm²

Protection class I, tw130

EN 61347 (Safety), EN 60923 (Performance)

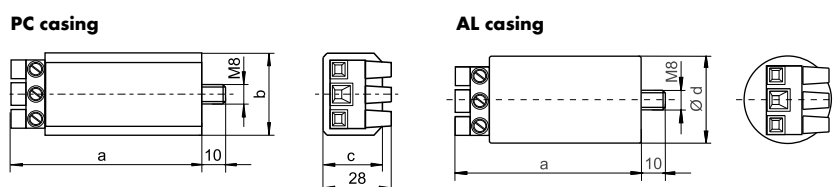


Lamp			Ballast										Capacitor	
Output W	Type	Current A	Type	Ref. No.	Voltage AC V, Hz	Drawing	a mm	b mm	c mm	Weight g	Δt K	Power factor (λ)	C _p μF	I _N A
35	HS, HI	0.53	NaHJ 35.485	161367	230/240, 50	A	108	86	28	0.91	60	0.40	6	0.22/0.21
70	HS, HI	1.00	NaHJ 70.128	533568	230, 50	A	108	86	36	1.07	70	0.36	12	0.38
100	HS, HI	1.20	NaHJ 100.941	161707	230/240, 50	A	108	86	42	1.24	75/80	0.42	12	0.55/0.53
150	HS, HI	1.80	NaHJ 150.620	533565	230, 50	A	145	120	64	1.80	70	0.40	20	0.77
250	HS, HI	3.00	NaHJ 250.915	161686	230, 50	A	180	155	110	2.84	80	0.40	32	1.26
400	HS, HI	4.45	NaHJ 400.743	535142	230, 50	B	165	145	103	4.1	70	0.44	50	1.95

**Electronic superimposed ignitors
for HS lamps 35 to 400 W
and for HI lamps 35 to 400 W**

Max. permitted casing temperature: 105 °C

Screw terminals: 0.75–4 mm²



Ignitor								Casing					
Type	Ref. No.	Voltage AC 50-60 Hz V	Max. lamp current A	Internal loss W	Inherent heating K	Ignition voltage kV	Load capacity pF	Drawing	d Ø mm	a mm	b mm	c mm	Weight g
Z 70 S	140413	220-240	2	< 0.6	< 5	1.8-2.3	20-200	AL	35	76	—	—	135
Z 400 M	140594	220-240	5	< 3	< 35	4-5	20-50	AL	35	76	—	—	140
Z 400 M K	140597	220-240	5	< 3	< 35	4-5	20-50	PC	—	78	34	27	130

Parallel connected capacitors

250 V, 50/60 Hz



Type	Ref. No.	Capacity µF	Temperature range (°C)	Casing	Ø (D) mm	Length (L) mm	Male nipple/ length (mm)	Push-in twin terminals	Weight g	Unit pcs.
40937	500305	6	-40 to 85	PC	25	70	M8x10	0.5-1.0 mm ²	29	450
41008	506366	12	-40 to 85	PC	30	94	M8x10	0.5-1.0 mm ²	43	260
41001	500316	20	-40 to 85	PC	35	94	M8x10	0.5-1.5 mm ²	62	190
41058	503258	32	-40 to 85	AL	45	90	M8x10	0.5-1.5 mm ²	126	32
41059	503259	50	-40 to 85	AL	55	95	M8x10	0.5-1.5 mm ²	21	36

HID Packages for HS and HI Lamps 35–400 W 240 V, 50 Hz

Electromagnetic ballasts

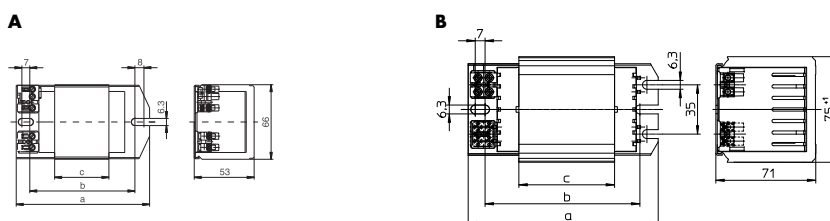
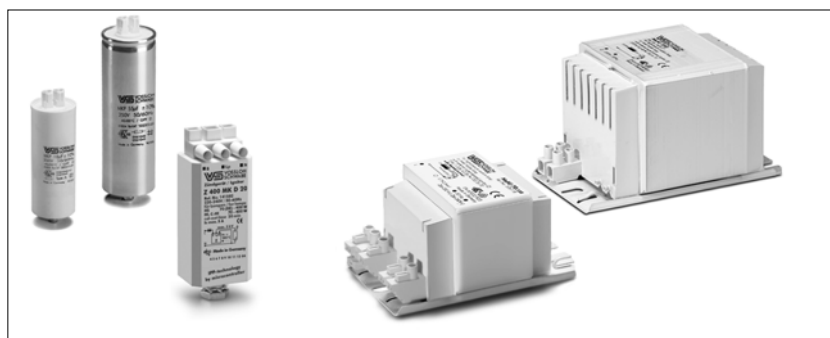
Shape: 53x66/71x75 mm

Vacuum-impregnated with polyester resin

Screw terminals: 0.5–2.5 mm²

Protection class I, tw 130

EN 61347 (Safety), EN 60923 (Performance)



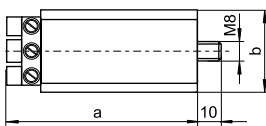
Lamp			Ballast										Capacitor	
Output W	Type	Current A	Type	Ref. No.	Voltage AC V, Hz	Drawing	a mm	b mm	c mm	Weight g	Δt K	Power factor (λ)	C _P μF	I _N A
35	HS, HI	0.53	NaHJ 35.485	161367	230/240, 50	A	108	86	28	0.91	60	0.40	6	0.22/0.21
70	HS, HI	1.00	NaHJ 70.128	538407	240, 50	A	108	86	36	1.23	70	0.36	12	0.37
100	HS, HI	1.20	NaHJ 100.941	161707	230/240, 50	A	108	86	42	1.24	75/80	0.42	12	0.55/0.53
150	HS, HI	1.80	NaHJ 150.625	534540	240, 50	A	145	120	64	1.80	75	0.40	20	0.74
250	HS, HI	3.00	NaHJ 250.340	178177	240, 50	A	180	155	110	2.84	80	0.39	32	1.21
400	HS, HI	4.45	NaHJ 400.743	536143	240, 50	B	165	145	103	4.1	75	0.43	50	1.90

Electronic superimposed ignitors for HS lamps 35 to 400 W and for HI lamps 35 to 400 W

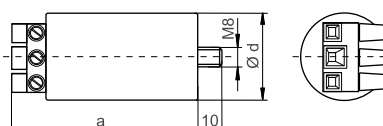
Max. permitted casing temperature: 105 °C

Screw terminals: 0.75–4 mm²

PC casing

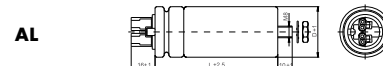
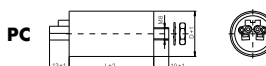


AL casing



Ignitor								Casing					
Type	Ref. No.	Voltage AC 50-60 Hz V	Max. lamp current A	Internal loss W	Inherent heating K	Ignition voltage kV	Load capacity pF	Drawing	d mm	a mm	b mm	c mm	Weight g
Z 70 S	140413	220–240	2	< 0.6	< 5	1.8–2.3	20–200	AL	35	76	—	—	135
Z 400 M	140594	220–240	5	< 3	< 35	4–5	20–50	AL	35	76	—	—	140
Z 400 M K	140597	220–240	5	< 3	< 35	4–5	20–50	PC	—	78	34	27	130

Parallel connected capacitors 250 V, 50/60 Hz



Type	Ref. No.	Capacity μF	Temperature range (°C)	Casing	Ø (D) mm	Length (L) mm	Male nipple/length (mm)	Push-in twin terminals	Weight g	Unit pcs.
40937	500305	6	–40 to 85	PC	25	70	M8x10	0.5–1.0 mm ²	29	450
41008	506366	12	–40 to 85	PC	30	94	M8x10	0.5–1.0 mm ²	43	260
41001	500316	20	–40 to 85	PC	35	94	M8x10	0.5–1.5 mm ²	62	190
41058	503258	32	–40 to 85	AL	45	90	M8x10	0.5–1.5 mm ²	126	32
41059	503259	50	–40 to 85	AL	55	95	M8x10	0.5–1.5 mm ²	21	36

HID Packages for HS and HI Lamps 35–400 W 220 V, 60 Hz

Electromagnetic ballasts

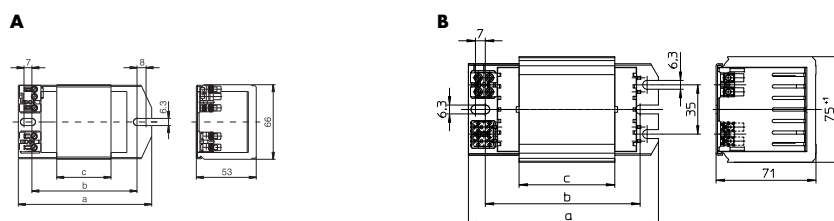
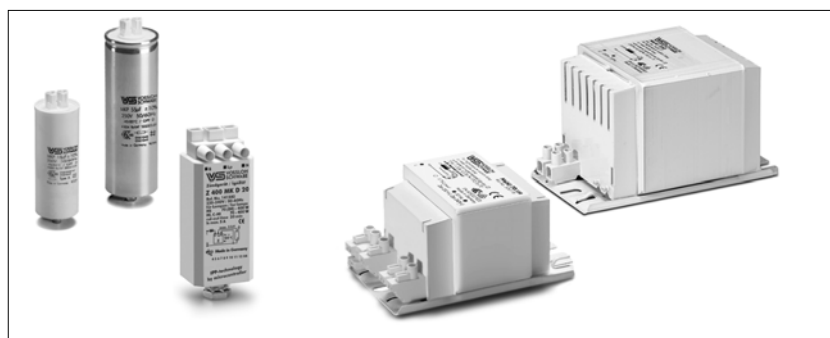
Shape: 53x66/71x75 mm

Vacuum-impregnated with polyester resin

Screw terminals: 0.5–2.5 mm²

Protection class I, tw 130

EN 61347 (Safety), EN 60923 (Performance)



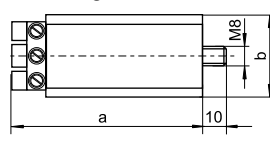
Lamp			Ballast										Capacitor	
Output W	Type	Current A	Type	Ref. No.	Voltage AC V, Hz	Drawing	a mm	b mm	c mm	Weight g	Δt K	Power factor (λ)	C _p μF	I _n A
35	HS, HI	0.53	NaHJ 35.638	161371	220, 60	A	108	86	28	0.91	50	0.41	5	0.23
70	HS, HI	1.00	NaHJ 70.653	161392	220, 60	A	108	86	36	1.07	60	0.42	10	0.40
100	HS, HI	1.20	NaHJ 100.271	530195	220, 60	A	108	86	42	1.24	75	0.45	10	0.57
150	HS, HI	1.80	NaHJ 150.679	526196	220, 60	A	145	120	55	1.55	75	0.44	16	0.80
250	HS, HI	3.00	NaHJ 250.163	160604	220, 60	A	180	155	95	2.50	70	0.42	25	1.35
400	HS, HI	4.45	NaHJ 400.744	536144	220, 60	B	165	145	103	4.1	70	0.44	40	2.00

Electronic superimposed ignitors for HS lamps 35 to 400 W and for HI lamps 35 to 400 W

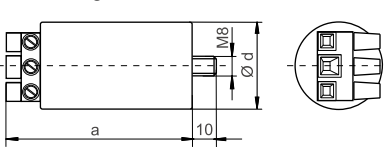
Max. permitted casing temperature: 105 °C

Screw terminals: 0.75–4 mm²

PC casing

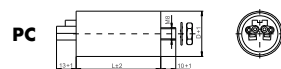


AL casing



Ignitor								Casing					
Type	Ref. No.	Voltage AC 50–60 Hz V	Max. lamp current A	Internal loss W	Inherent heating K	Ignition voltage kV	Load capacity pF	Drawing	d Ø mm	a mm	b mm	c mm	Weight g
Z 70 S	140413	220–240	2	< 0.6	< 5	1.8–2.3	20–200	AL	35	76	–	–	135
Z 400 M	140594	220–240	5	< 3	< 35	4–5	20–50	AL	35	76	–	–	140
Z 400 M K	140597	220–240	5	< 3	< 35	4–5	20–50	PC	–	78	34	27	130

Parallel connected capacitors 250 V, 50/60 Hz



AL



Type	Ref. No.	Capacity μF	Temperature range (°C)	Casing	Ø (D) mm	Length (L) mm	Male nipple/length (mm)	Push-in twin terminals	Weight g	Unit pcs.
40936	500304	5	–40 to 85	PC	25	70	M8x10	0.5–1.0 mm ²	29	450
41056	508667	10	–40 to 85	PC	30	70	M8x10	0.5–1.0 mm ²	39	320
40957	508668	16	–40 to 85	PC	30	94	M8x10	0.5–1.5 mm ²	48	260
41057	503257	25	–40 to 85	AL	45	70	M8x10	0.5–1.5 mm ²	91	32
41059	503259	50	–40 to 85	AL	55	95	M8x10	0.5–1.5 mm ²	21	36

HID Packages for HS and HI Lamps 35–400 W 230/240 V, 50 Hz

Ballast with thermal protection

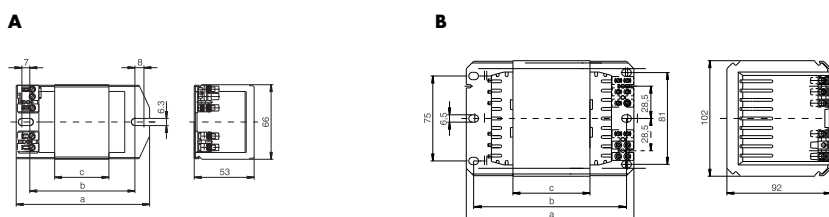
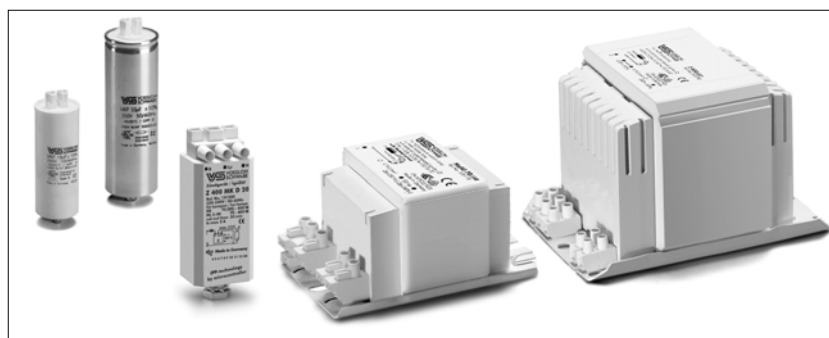
Shape: 53x66/92x102 mm

Vacuum-impregnated with polyester resin

Screw terminals: 0.5–2.5 mm²

Protection class I, tw 130

EN 61347 (Safety), EN 60923 (Performance)



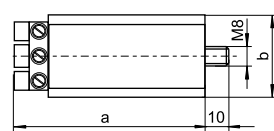
Lamp			Ballast										Capacitor	
Output W	Type	Current A	Type	Ref. No.	Voltage AC V, Hz	Drawing	a mm	b mm	c mm	Weight g	Δt K	Power factor (λ)	C _p μF	I _N A
35	HS, HI	0.53	NaHJ 35.485	503010	230/240, 50	A	108	86	28	0.91	60	0.40	6	0.22/0.21
70	HS, HI	1.00	NaHJ 70.158	169722	230/240, 50	A	108	86	42	1.23	70	0.36	12	0.38/0.37
100	HS, HI	1.20	NaHJ 100.941	502799	230/240, 50	A	108	86	42	1.23	75/80	0.42	12	0.55/0.53
150	HS, HI	1.80	NaHJ 150.995	169721	230/240, 50	A	145	120	75	2.10	70	0.40	20	0.77/0.74
250	HS, HI	3.00	NaHJ 250.340	542349	230/240, 50	A	180	155	110	2.84	80	0.39	32	1.26
400	HS, HI	4.45	NaHJ 400.737	179424	230/240, 50	B	148	135	68	5.20	70/75	0.43	50	1.95/1.90

Electronic superimposed ignitors for HS lamps 35 to 400 W and for HI lamps 35 to 400 W

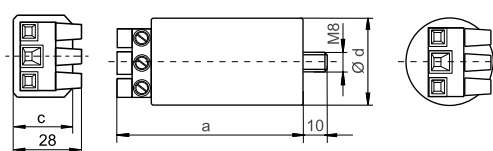
Max. permitted casing temperature: 105 °C

Screw terminals: 0.75–4 mm²

PC casing



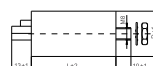
AL casing



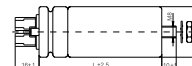
Ignitor								Casing					
Type	Ref. No.	Voltage AC 50–60 Hz V	Max. lamp current A	Internal loss W	Inherent heating K	Ignition voltage kV	Load capacity pF	Drawing	d Ø mm	a mm	b mm	c mm	Weight g
Z 70 S	140413	220–240	2	< 0.6	< 5	1.8–2.3	20–200	AL	35	76	—	—	135
Z 400 M	140594	220–240	5	< 3	< 35	4–5	20–50	AL	35	76	—	—	140
Z 400 M K	140597	220–240	5	< 3	< 35	4–5	20–50	PC	—	78	34	27	130

Parallel connected capacitors 250 V, 50/60 Hz

PC



AL



Type	Ref. No.	Capacity μF	Temperature range (°C)	Casing	Ø (D) mm	Length (L) mm	Male nipple/ length (mm)	Push-in twin terminals	Weight g	Unit pcs.
40937	500305	6	–40 to 85	PC	25	70	M8x10	0.5–1.0 mm ²	29	450
41008	506366	12	–40 to 85	PC	30	94	M8x10	0.5–1.0 mm ²	43	260
41001	500316	20	–40 to 85	PC	35	94	M8x10	0.5–1.5 mm ²	62	190
41058	503258	32	–40 to 85	AL	45	90	M8x10	0.5–1.5 mm ²	126	32
41053	500322	50	–40 to 85	AL	45	135	M8x10	0.5–1.5 mm ²	154	32

HID Packages for HS and HI Lamps 1000, 2000 W

Electromagnetic ballasts

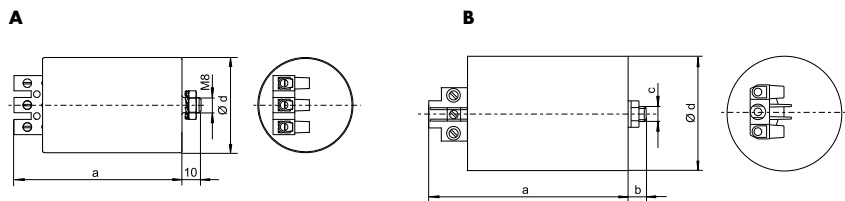
Shape: 92x102/150x155 mm

Vacuum-impregnated with polyester resin

Screw terminals: 0.75-2.5 mm² / 0.75-4 mm²

For luminaires of protection class I, tw 130

EN 61347 (Safety), EN 60923 (Performance)



Lamp			Ballast										Capacitor	
Output W	Type	Current A	Type	Ref. No.	Voltage AC V, Hz	Drawing	a mm	b mm	c mm	Weight g	Δt K	Power factor (λ)	C _p μF	I _N A
1000	HS	10.30	NaHJ 1000.089	534487	220, 50	A	203	188	124	8.9	80	0.47	100	5.1
	HI	9.50										0.51	85	5.0
1000	HS	10.30	NaHJ 1000.089	528548	230, 50	A	203	188	124	8.9	80	0.45	100	5.1
	HI	9.50										0.49	85	5.0
1000	HS	10.30	NaHJ 1000.089	536140	240, 50	A	203	188	124	8.9	85	0.42	100	4.8
	HI	9.50										0.46	85	4.9
1000	HS	10.30	NaHJ 1000.089	528536	220, 60	A	203	188	124	8.9	75	0.46	100	5.1
	HI	9.50										0.50	85	5.0
2000	HI	8.80	J 2000.35	531010	380/400/415, 50	B	125	150	150	14.0	75	0.58	37	6.0
2000	HI	10.30	JD 2000.36	531011	380/400/415, 50	B	125	150	175	17.5	80	0.50	60	6.0
2000	HI	16.50	JD 2000.1.48	531448	220/230, 50	B	125	150	175	17.5	80	0.57	125	10.0
2000	HI	10.30	JD 2000.1.58	531465	380, 60	B	125	150	150	14.0	70	0.53	60	6.0

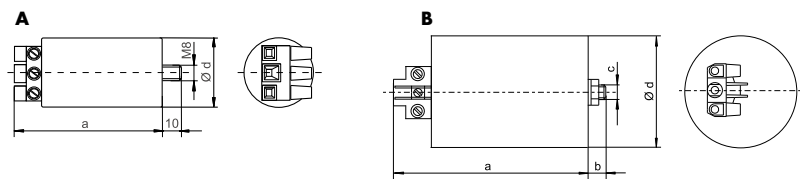
Electronic superimposed ignitors

for HS lamps 250 to 1000 W

and for HI lamps 1000 and 2000 W

Max. permitted casing temperature: 105 °C

Screw terminals: 0.75-2.5 mm² (Z 1000 S: 0.75-4 mm²)



Ignitor								Casing					
Type	Ref. No.	Voltage AC 50-60 Hz V	Max. lamp current A	Internal loss W	Inherent heating K	Ignition voltage kV	Load capacity pF	Drawing	d Ø mm	a mm	b mm	c mm	Weight g
Z 1000 S	140430	220-240	12	< 6	< 35	4-5	20-100	A	50	80	10	M8	340
Z 2000 S	140432	220-240	20	< 6	< 30	4-5	20-100	B	65	96	12	M12	640
Z 2000 S/ 400 V	140497	380-415	12	< 5	< 32	4-5	20-2000	A	50	98	10	M8	340

Parallel connected capacitors

280 V, 50/60 Hz, 380-450 V, 50/60 Hz



Type	Ref. No.	Capacity μF	Voltage V, Hz	Temperature range (°C)	Casing	Ø (D) mm	Length (L) mm	Male nipple/ length (mm)	Push-in twin terminals	Weight g	Unit pcs.
42104	536401	37	380-450, 50/60	-40 to 85	AL 2	45	124	M8x10	double spade	207	32
41207	536404	60	380-450, 50/60	-40 to 85	AL 2	60	124	M12x16	double spade	250	18
41071	506360	85	280, 50/60	-40 to 85	AL 1	55	148	M12x16	0.5-1.5 mm ²	342	18
41073	506363	100	280, 50/60	-40 to 85	AL 1	55	148	M12x16	0.5-1.5 mm ²	350	18
41106	500330	125	280, 50/60	-40 to 85	AL 2	60	148	M12x16	blade connector	350	18

HID Packages for HM and HI Lamps 250, 400 & 1000 W

Electromagnetic ballasts

Shape: 53x66/92x102 mm

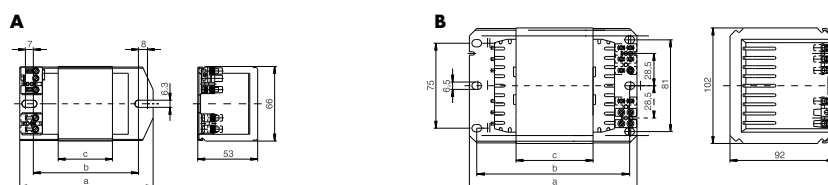
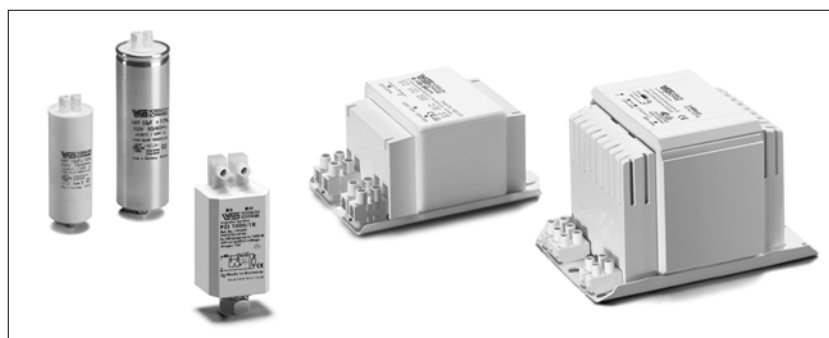
For mercury vapour lamps (HM) and
metal halide lamps (HI)

Vacuum-impregnated with polyester resin

Screw terminals: 0.5–2.5 mm²

Protection class I, tw 130

EN 61347 (Safety), EN 60923 (Performance)



Lamp			Ballast										Capacitor	
Output W	Type	Current A	Type	Ref. No.	Voltage AC V, Hz	Drawing	a mm	b mm	c mm	Weight g	Δt K	Power factor (λ)	C _p μF	I _n A
250	HI, HM	2.10/2.13	Q250.513	167144	220, 50	A	145	120	75	2.10	75	0.58	18	1.30/1.26
250	HI, HM	2.10/2.13	Q250.528	167367	230, 50	A	145	120	75	2.10	75	0.56	18	1.30/1.20
250	HI, HM	2.10/2.13	Q250.703	507256	240, 50	A	145	120	75	2.10	75	0.53	18	1.20/1.15
250	HI, HM	2.10/2.13	Q250.606	167320	220, 60	A	145	120	75	2.10	65	0.58	18	1.30/1.20
400	HI, HM	3.40/3.25	Q400.616	528236	220, 50	A	160	135	95	2.50	80	0.60	25	2.00
400	HI, HM	3.40/3.25	Q400.612	167330	230, 50	A	180	155	110	2.88	85/75	0.46/0.56	30/25	1.80/1.90
400	HI, HM	3.40/3.25	Q400.669	506449	240, 50	A	180	155	110	2.88	85/75	0.53/0.54	30/25	1.95/1.85
400	HI, HM	3.40/3.25	Q400.618	526966	220, 60	A	160	135	95	2.50	75/65	0.48/0.60	30/25	2.00/2.00
1000	HI, HM	8.25/7.50	Q1000.097	537103	220, 50	B	173	160	96	6.90	90/75	0.54/0.61	85/60	4.70/4.80
1000	HI, HM	8.25/7.50	Q1000.096	528761	230, 50	B	173	160	96	6.90	90/75	0.54/0.61	85/60	4.70/4.80
1000	HI, HM	8.25/7.50	Q1000.145	528886	240, 50	B	173	160	96	6.90	09/75	0.52/0.56	85/60	4.50/4.60
1000	HI, HM	8.25/7.50	Q1000.311	526715	220, 60	B	173	160	96	6.90	75/70	0.56/0.61	75/50	4.70/5.00

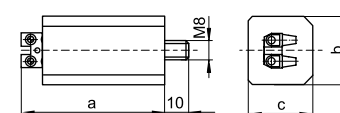
Pulse ignitors for HI lamps 250 to 2000 W, ignition voltage up to 1 kV

For metal halide lamps (HI) with ignition voltage of 0.9 kV

Max. permitted casing temperature: 95 °C

Screw terminals: 0.5–2.5 mm²

PC casing



Pulse ignitor							Casing				
Type	Ref. No.	Voltage AC 50–60 Hz V	Number of ignition pulses per mains period	Ignition voltage (kV)	Load capacity pF	Programmed switch-off time sec.	Drawing	a mm	b mm	c mm	Weight g
PZI 1000/1 K	140617	220–240	≥ 1	0.7–0.9	max. 10000	–	PC	57	28	27	50

Parallel connected capacitors 250 V, 50/60 Hz



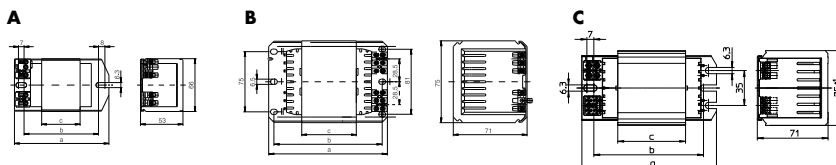
Type	Ref. No.	Capacity μF	Temperature range (°C)	Casing	Ø (D) mm	Length (L) mm	Male nipple/ length (mm)	Push-in twin terminals	Weight g	Unit pcs.
41000	500315	18	–40 to 85	PC	35	94	M8x10	0.5–1.5 mm ²	55	190
41057	503257	25	–40 to 85	AL	45	70	M8x10	0.5–1.5 mm ²	91	32
41003	500318	30	–40 to 85	PC	40	94	M8x10	0.5–1.5 mm ²	72	36
41059	503259	50	–40 to 85	AL	55	95	M8x10	0.5–1.5 mm ²	21	36
41060	503260	60	–40 to 85	AL	55	119	M8x10	0.5–1.5 mm ²	232	18

HID Packages for Power Reduction of HS Lamps 70–1000 W 220 V, 50 Hz



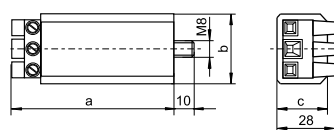
Electromagnetic ballasts

Shape: 52x66/ 71x75/92x102 mm
Vacuum-impregnated with polyester resin
Screw terminals: 0.5-2.5 mm²
Protection class I, tw 130
EN 61347 (Safety), EN 60923 (Performance)

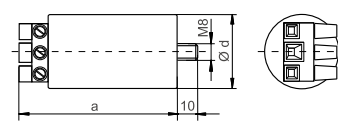


Lamp Output W	Current A	Ballast				Drawing					Δt K	Power factor (λ)	Capacitor	
		Type	Ref. No.	Voltage AC V, Hz			a mm	b mm	c mm	Weight g			C _p μF	I _n A
70 (44)	1.00	UNaH 70/40%.501	534128	220,50		A	108	86	42	1.23	65	0.39	12	0.40
150 (101)	1.80	UNaH 150/40%.453	533948	220,50		A	145	120	75	2.10	75	0.42	20	0.77
250 (149)	3.00	UNaH 250/40%.454	533949	220,50		A	180	155	110	2.88	80	0.42	32	1.26
400 (246)	4.45	UNaH 400/40%.892	538592	220,50		C	165	145	103	4.13	75	0.44	50	2.00
1000 (600)	10.30	UNaH 1000/600TD1.960	538818	220,50		B	203	188	124	9.00	80	0.48	100	5.10
		UNaH 1000/600TD2.961	538817			B	133	120	44	3.60	70	0.48		

PC casing



AL casing



Electronic superimposed ignitors for HS lamps 70 (DE) to 1000 W

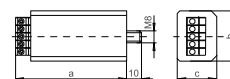
Max. permitted casing temperature: 105 °C
Screw terminals: 0.75-4 mm²

Ignitor								Casing					
Type	Ref. No.	Voltage AC 50-60 Hz V	Max. lamp current A	Internal loss W	Inherent heating K	Ignition voltage kV	Load capacity pF	Drawing	d mm	a mm	b mm	c mm	Weight g
Z 400 M	140594	220-240	5	< 3	< 35	4-5	20-50	AL	35	76	—	—	140
Z 400 M K	140597	220-240	5	< 3	< 35	4-5	20-50	PC	—	78	34	27	130
Z 1000 S	140430	220-240	12	< 6	< 35	4-5	20-100	AL	50	80	—	—	340

Electronic power switches for HS lamps up to 600 W

Max. permitted casing temperature: 80 °C
Screw terminals: 0.75-2.5 mm²

PU12 K/PR 12 KD/PW 12 K



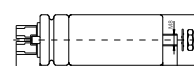
Electronic power switch							Casing			
Type	Ref. No.	Voltage AC V, Hz	Max. contact current [A/λ]	Inherent heating (K)	Integrated delay switching	Control phase for power reduction	a mm	b mm	c mm	Weight g
PR 12 KD	142150	220-230, 50; 220, 60	8/0.5; 12/1	< 12	selectable	without control phase	76	34	31	100
PU 12 K	140621	230, 50 / 220, 60	8/0.5; 12/1	< 25	—	disconnect or connect	74	34	27	100
PW 12 K	140662	220-230 ±10%	8/0.5; 12/1	< 25	—	disconnect or connect	74	34	27	100

Parallel connected capacitors 250 V, 50/60 Hz

PC

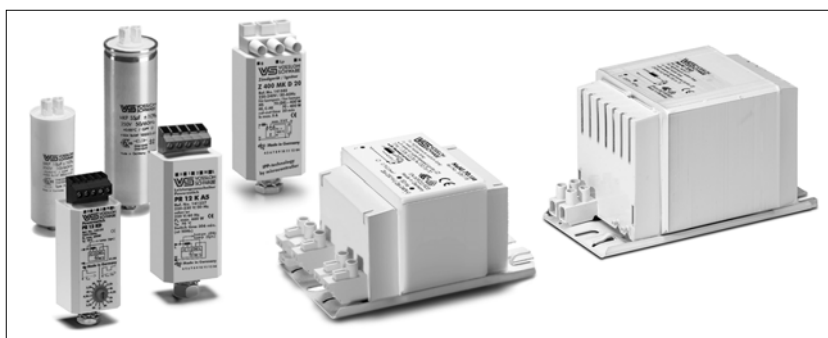


AL



Type	Ref. No.	Capacity μF	Temperature range (°C)	Casing	Ø (D) mm	Length (L) mm	Male nipple/ length (mm)	Push-in twin terminals	Weight g	Unit pcs.
41008	506366	12	-40 to 85	PC	30	94	M8x10	0.5-1.0 mm ²	43	260
41001	500316	20	-40 to 85	PC	35	94	M8x10	0.5-1.5 mm ²	62	190
41058	503258	32	-40 to 85	AL	45	90	M8x10	0.5-1.5 mm ²	126	32
41059	503259	50	-40 to 85	AL	55	95	M8x10	0.5-1.5 mm ²	21	36
41073	506363	100	-40 to 85	AL	55	148	M12x16	0.5-1.5 mm ²	350	18

HID Packages for Power Reduction of HS Lamps 70–400 W 230 V, 50 Hz



Electromagnetic ballasts with thermal cut-out

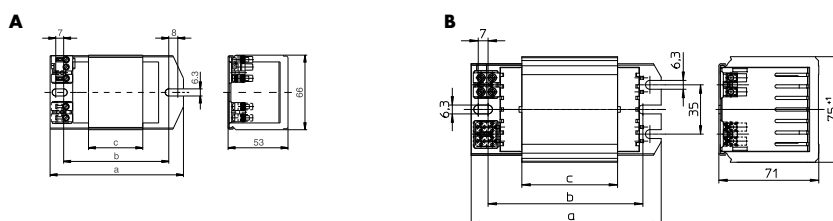
Shape: 53x66/71x75 mm

Vacuum-impregnated with polyester resin

Screw terminals: 0.5–2.5 mm²

Protection class I, tw 130

EN 61347 (Safety), EN 60923 (Performance)



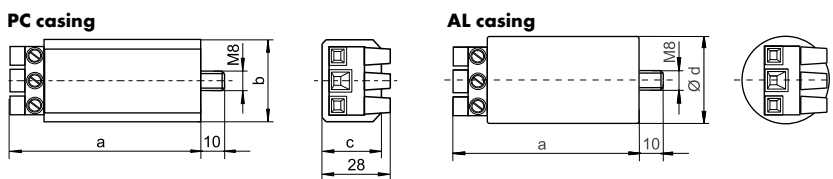
Lamp		Ballast										Capacitor	
Output W	Current A	Type	Ref. No.	Voltage AC V, Hz	Drawing	a mm	b mm	c mm	Weight g	Δt K	Power factor (λ)	C _p μF	I _N A
70 (44)	1.00	NaHJ 70/50.695	503136	230,50	A	108	86	48	1.34	70/50	0.37	12	0.38
150 (101)	1.80	NaHJ 150/100.973	504135	230,50	A	145	120	75	2.10	75/55	0.41	20	0.77
250 (149)	3.00	UNaH 250/40%.936	538711	230,50	B	135	115	68	0.41	65	0.40	32	1.26
400 (246)	4.45	UNaH 400/40%.906	538710	230,50	B	165	145	103	4.13	75	0.42	50	1.95

Remark: 1000 W power reduction ballasts on request.

Electronic superimposed ignitors for HS lamps 70 (DE) to 400 W

Max. permitted casing temperature: 105 °C

Screw terminals: 0.75–4 mm²



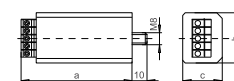
Ignitor								Casing					
Type	Ref. No.	Voltage AC 50–60 Hz V	Max. lamp current A	Internal loss W	Inherent heating K	Ignition voltage kV	Load capacity pF	Drawing	d mm	a mm	b mm	c mm	Weight g
Z 400 M	140594	220–240	5	< 3	< 35	4–5	20–50	AL	35	76	–	–	140
Z 400 M K	140597	220–240	5	< 3	< 35	4–5	20–50	PC	–	78	34	27	130

Electronic power switches for HS lamps 70–600 W

Max. permitted casing temperature: 80 °C

Screw terminals: 0.75–2.5 mm²

PU12 K/PR 12 KD



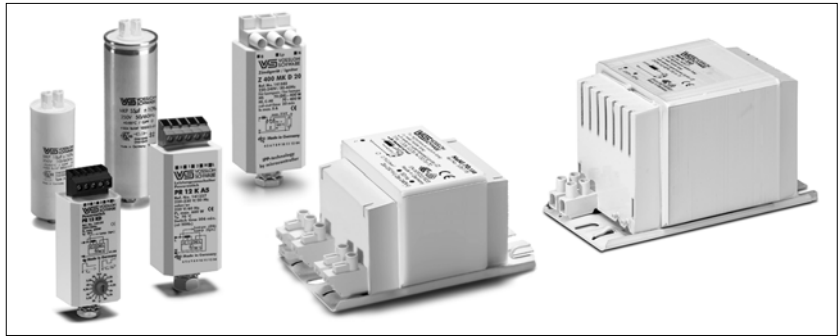
Electronic power switch							Casing			
Type	Ref. No.	Voltage AC V, Hz	Max. contact current (A/λ)	Inherent heating (K)	Integrated delay switching	Control phase for power reduction	a mm	b mm	c mm	Weight g
PR 12 KD	142150	220–230, 50; 220, 60	8/0.5; 12/1	< 12	selectable	without control phase	76	34	31	100
PU 12 K	140621	230, 50 / 220, 60	8/0.5; 12/1	< 25	–	disconnect or connect	74	34	27	100

Parallel connected capacitors 250 V, 50/60 Hz



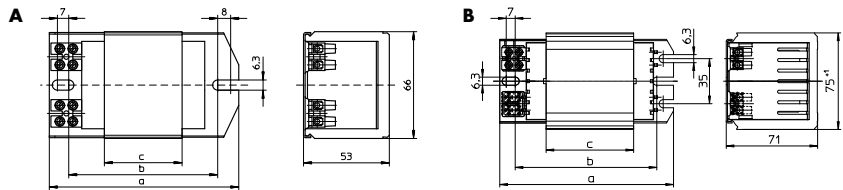
Type	Ref. No.	Capacity μF	Temperature range (°C)	Casing	Ø (D) mm	Length (L) mm	Male nipple/ length (mm)	Push-in twin terminals	Weight g	Unit pcs.
41008	506366	12	–40 to 85	PC	30	94	M8x10	0.5–1.0 mm ²	43	260
41001	500316	20	–40 to 85	PC	35	94	M8x10	0.5–1.5 mm ²	62	190
41058	503258	32	–40 to 85	AL	45	90	M8x10	0.5–1.5 mm ²	126	32
41059	503259	50	–40 to 85	AL	55	95	M8x10	0.5–1.5 mm ²	21	36

HID Packages for Power Reduction of HS Lamps 70–400 W 220 V, 60 Hz



Electromagnetic ballasts

Shape: 53x66/71x75 mm
Vacuum-impregnated with polyester resin
Screw terminals: 0.5–2.5 mm²
Protection class I, tw 130
EN 61347 (Safety), EN 60923 (Performance)



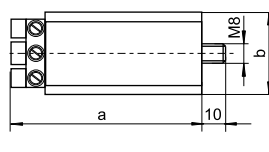
Lamp		Ballast										Capacitor	
Output W	Current A	Type	Ref. No.	Voltage AC V, Hz	Drawing	a mm	b mm	c mm	Weight g	Δt K	Power factor (λ)	C _p μF	I _N A
70 (42)	0.98	UNaHJ 70/40%.695	161460	220, 60	A	108	86	48	1.39	60	0.42	10	0.40
150 (90)	1.80	UNaH 150/40%.717	161475	220, 60	A	145	120	75	2.03	70	0.44	20	0.77
250 (149)	3.00	UNaH 250/150.983	169892	220, 60	A	180	155	110	3.88	75	0.40	25	1.26
400 (246)	4.45	UNaH 400/40%.937	538715	220, 60	B	165	145	103	4.13	75	0.44	40	2.05

Remark: 1000 W power reduction ballasts on request.

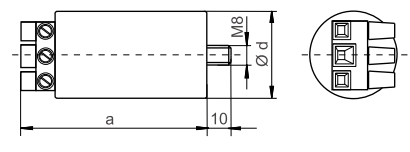
Electronic superimposed ignitors for HS lamps 70 (DE) to 400 W

Max. permitted casing temperature: 105 °C
Screw terminals: 0.75–4 mm²

PC casing



AL casing

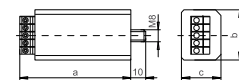


Ignitor								Casing					
Type	Ref. No.	Voltage AC 50–60 Hz V	Max. lamp current A	Internal loss W	Inherent heating K	Ignition voltage kV	Load capacity pF	Drawing	d Ø mm	a mm	b mm	c mm	Weight g
Z 400 M	140594	220–240	5	< 3	< 35	4–5	20–50	AL	35	76	–	–	140
Z 400 M K	140597	220–240	5	< 3	< 35	4–5	20–50	PC	–	78	34	27	130

Electronic power switches for HS lamps 70–600 W

Max. permitted casing temperature: 80 °C
Screw terminals: 0.75–2.5 mm²

PU12 K/PR 12 KD



Electronic power switch								Casing			
Type	Ref. No.	Voltage AC V, Hz	Max. contact current (A/λ)	Inherent heating (K)	Integrated delay switching	Control phase for power reduction		a mm	b mm	c mm	Weight g
PR 12 KD	142150	220–230, 50; 220, 60	8/0.5; 12/1	< 12	selectable	without control phase		76	34	31	100
PU 12 K	140621	230, 50 / 220, 60	8/0.5; 12/1	< 25	–	disconnect or connect		74	34	27	100

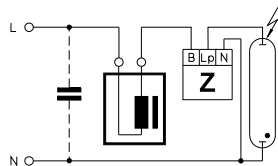
Parallel connected capacitors 250 V, 50/60 Hz



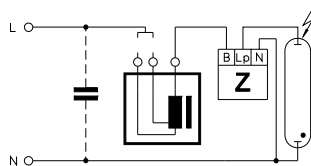
Type	Ref. No.	Capacity μF	Temperature range (°C)	Casing	Ø (D) mm	Length (L) mm	Male nipple/length (mm)	Push-in twin terminals	Weight g	Unit pcs.
41056	508667	10	–40 to 85	PC	30	70	M8x10	0.5–1.0 mm ²	39	320
40957	508668	16	–40 to 85	PC	30	94	M8x10	0.5–1.5 mm ²	48	260
41057	503257	25	–40 to 85	AL	45	70	M8x10	0.5–1.5 mm ²	66	32
41061	504543	40	–40 to 85	Al	45	90	M8x10	0.5–1.5 mm ²	139	32

Circuit Diagrams for HID Lamps

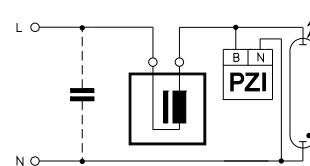
Electromagnetic ballasts and ignitors for high-pressure sodium (HS) and metal halide (HI) lamps



Superimposed ignition of HS and HI lamps

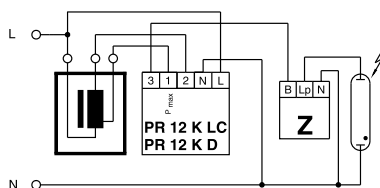


Superimposed ignition of HS and HI lamps
(ballasts with two alternative voltage tapping points)

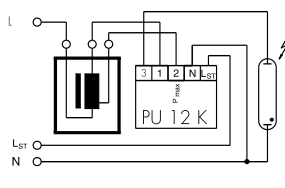


Pulse ignition of HI lamps, ignition voltage 0.9 kV

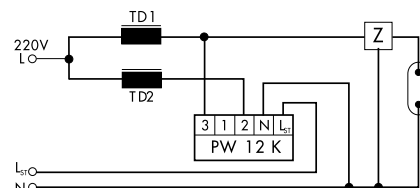
Electromagnetic ballasts for power reduction of high-pressure sodium (HS) lamps



Electronic power reduction without control phase

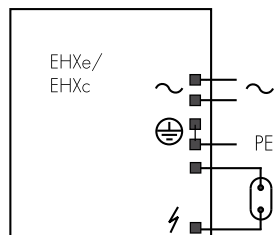


Electronic power reduction with control phase

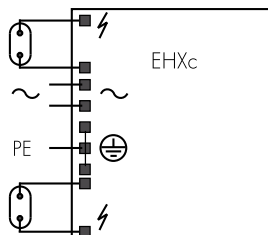


Electronic power reduction with control phase for 1000 W HS lamp

Electronic ballasts for metal halide (HI) lamps



EHXe 35.337
EHXe 70.338
EHXc 150G.334



EHXc 235.336
EHXc 270.317



EHXc 20G.329B

Porcelain HID Lampholders

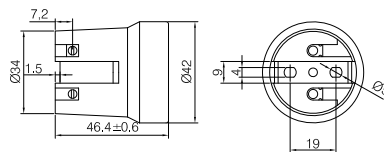
E27 porcelain lampholders

Casing: porcelain, white, T210
 Fixing oblong holes for screws M4
 Nominal rating: 4/250/5 kV
 Screw terminals: 0.5-2.5 mm²
 Spring loaded central contact
 Weight: 59 g, unit: 240 pcs.
 Type: 63050

Ref. No.: 538885

Type: 63010 with lamp safety catch

Ref. No.: 544074



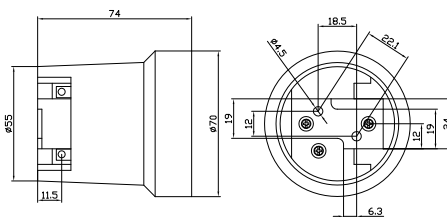
E40 porcelain lampholders

Casing: porcelain, white, T250
 Fixing holes for screws M4
 Nominal rating: 16/500/5 kV
 Screw terminals: 1.5-4 mm²
 Spring loaded central contact
 Weight: 221 g, unit: 60 pcs.
 Type: 13100

Ref. No.: 538886

Type: 13101 with lamp safety catch

Ref. No.: 544068



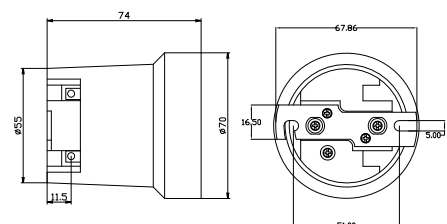
E40 porcelain lampholders

Casing: porcelain, white, T250
 Fixing brackets with slots for screws M4
 Nominal rating: 16/500/5 kV
 Screw terminals: 1.5-4 mm²
 Spring loaded central contact
 Weight: 232 g, unit: 60 pcs.
 Type: 13110

Ref. No.: 544069

Type: 13111 with lamp safety catch

Ref. No.: 544070



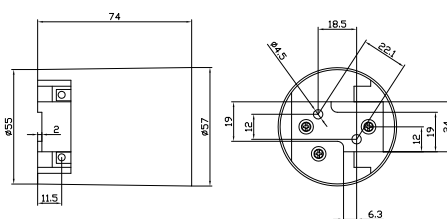
E40 porcelain cylindrical lampholders

Casing: porcelain, white, T250
 Fixing holes for screws M4
 Nominal rating: 16/500/5 kV
 Screw terminals: 1.5-4 mm²
 Spring loaded central contact
 Weight: 192 g, unit: 75 pcs.
 Type: 13200

Ref. No.: 538887

Type: 13201 with lamp safety catch

Ref. No.: 544071



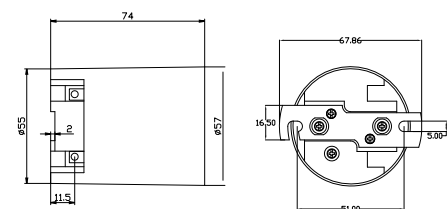
E40 porcelain cylindrical lampholders

Casing: porcelain, white, T250
 Fixing brackets with slots for screws M4
 Nominal rating: 16/500/5 kV
 Screw terminals: 1.5-4 mm²
 Spring loaded central contact
 Weight: 203 g, unit: 75 pcs.
 Type: 13210

Ref. No.: 544072

Type: 13211 with lamp safety catch

Ref. No.: 544073



GU6.5 Lampholders

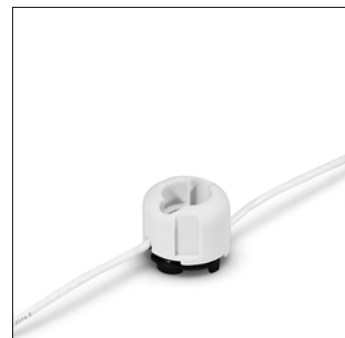
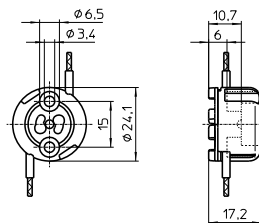
For discharge lamps with base GU6.5

Suitable for luminaires of protection class II

Casing: ceramic, cover: PPS, T250

Nominal rating: 2/250/5 kV

Leads: Cu nickel-plated, stranded conductors 0.75 mm², double PTFE-insulation, length: 250 mm



GU6.5 lampholders

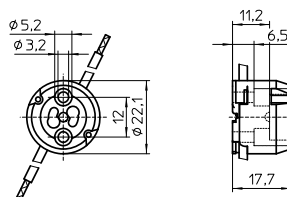
Weight: 13.8 g, unit: 100 pcs.

Type: 34510 fixing holes for screws M3

Ref. No.: 533957

Type: 34511 threaded bushes for screws M3

Ref. No.: 534220



GU6.5 lampholder

Fixing holes for screws M3

Identical mounting hole layout and lamp focus of the PGJ5 lampholder 34120 offer an effortless interchangeability of both lamp technologies.

Weight: 15 g, unit: 100 pcs.

Type: 34520

Ref. No.: 539497

PGJ5 Lampholders

For discharge lamps with base PGJ5

Nominal rating: 2/300/2.5 kV

Fixing holes for screws M3

PGJ5 lampholder

Suitable for luminaires of protection class II

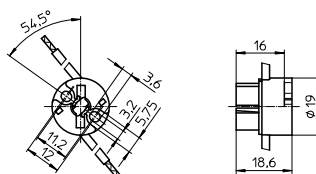
Casing: ceramic, cover plate: LCP, T270

Leads: Cu nickel-plated, stranded conductors 0.75 mm², double PTFE-insulation, length: 250 mm

Identical mounting hole layout and lamp focus like for GU6.5 lampholder 34520 offer an effortless interchangeability of both lamp technologies.

Weight: 11.5 g, unit: 100 pcs., type: 34120

Ref. No.: 534979



PGJ5 lampholders with cover plate

Suitable for luminaires of protection class II

Casing: ceramic, cover plate: LCP, T270

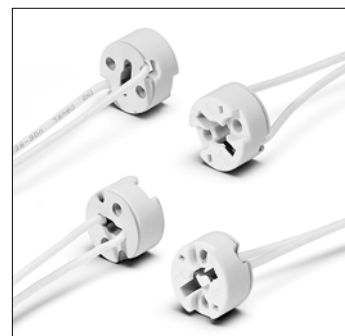
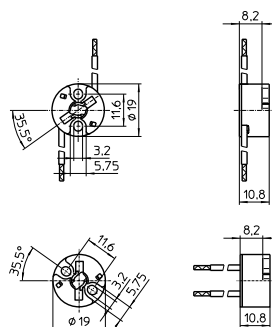
Leads: Cu nickel-plated, stranded conductors 0.75 mm², double PTFE-insulation, length: 250 mm

Weight: 10.6 g, unit: 100 pcs.

Type: 34110/34111

Ref. No.: 534016 lateral lead exit

Ref. No.: 534017 central lead exit



GU8.5, G12 Lampholders

For discharge lamps with base GU8.5 or G12

GU8.5 lampholder

Casing: ceramic, cover plate: LCP

T250, nominal rating: 2/250/5 kV

Welded leads: Cu tinned, stranded conductors

1 mm², Si-insulation, white, length: 300 mm

Fixing holes for screws M3

Weight: 38 g, unit: 25 pcs.

Type: 34700

Ref. No.: 544895

GU8.5 lampholders

Casing: ceramic, cover plate: LCP

T250, nominal rating: 2/250/5 kV

Welded leads: Cu tinned, stranded conductors

1 mm², Si-insulation, white, length: 300 mm

Identical mounting hole layout and lamp focus like for G12 lampholder type 42200/10 offer an effortless interchangeability of both lamp technologies.

Weight: 51 g, unit: 25 pcs.

Type: 34720/34730

Ref. No.: 544896 threaded bushes M3

Ref. No.: 546161 fixing holes for screws M3

G12 lampholder

Casing: LCP, black

T250, nominal rating: 2/500/5 kV

Contacts: CrNi

Push-in terminals for leads with

ferrule bare end of cores max. Ø 1.8 mm

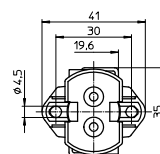
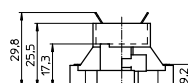
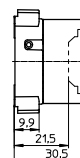
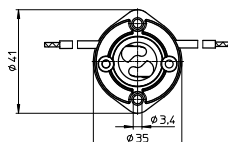
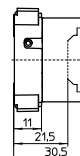
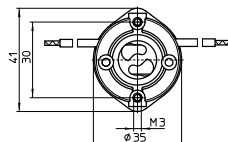
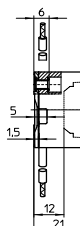
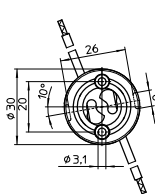
For tinned lead ends: 0.5 - 1 mm²

Fixing holes for screws M4

Weight: 13.6 g, unit: 250 pcs.

Type: 42000

Ref. No.: 509213



GX10 Lampholder

For discharge lamps with base GX10

GX10 lampholder

For luminaires of protection class II

Casing: steatite, cover plate: PPS

T240, nominal rating: 2/500/5 kV

Push-in terminals for stranded conductors

with ferrule bare end of cores \varnothing 1.5-1.8 mm

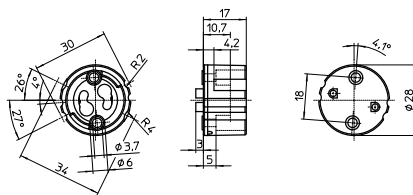
For leads with outer diameter: max. 3 mm

Fixing holes for screws M3

Weight: 14 g, unit: 100 pcs.

Type: 31500

Ref. No.: 536469



RX7s Lampholders

If the central hole on the bracket is used for fixing it has to be ensured by an additional support within the luminaire that the bracket cannot be deformed. If the lampholders are used for lamps with ignition voltage max. 20 kV the luminaire manufacturer is responsible for sufficient creepage distances and clearances.

Remark on lampholders type 323 and 343:

The luminaire design must ensure protection from electric shock as well as sufficient creepage distances and clearances from live parts on the back of lampholder.

RX7s lampholder

Casing: PPS, black, T220

Contact pin: Cu, silver bulb

Nominal rating: 2/250/5 kV

Lead: Cu tinned, stranded conductors 1 mm²,

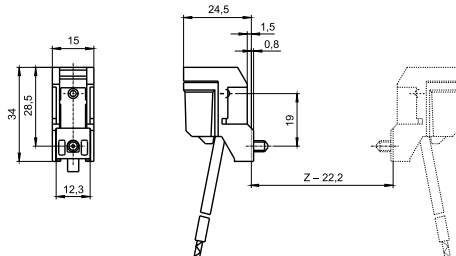
Si-insulation max. Ø 3.6 mm, length: 200 mm

With screw M4

Weight: 14 g, unit: 300 pcs.

Type: 34301

Ref. No.: 509117



Partly enclosed RX7s lampholder

Casing: ceramic, T350

Contact pin: Cu, silver bulb

Nominal rating: 4/1000/5 kV

Lead: Cu tinned, stranded conductors 1 mm²,

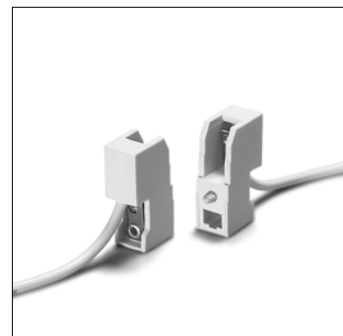
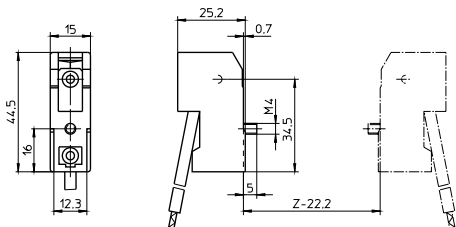
Si-insulation max. Ø 3.6 mm, length: 200 mm

Fixing screw M4

Weight: 26.2 g, unit: 300 pcs.

Type: 32301

Ref. No.: 100913



K12s-7 Support

For metal halide lamps 1000 and 2000 W
Type Osram HQI TS and Radium HRI TS

The luminaire design must ensure protection from electric shock as well as sufficient creepage and clearance distances.

K12s-7 support

Cable connection on cable lug for lead
 0.75-2.5 mm²

Casing: ceramic, T300

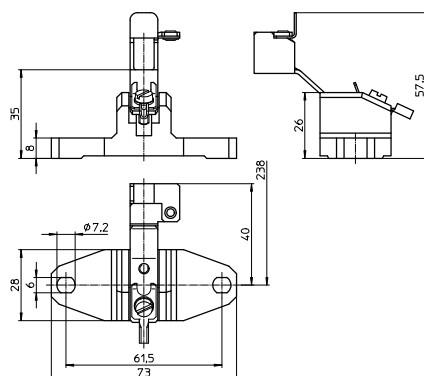
Support: stainless steel, heat-resistant

Oblong holes for screws M5

Weight: 70 g, unit: 25 pcs.

Type: 21100

Ref. No.: 107677



Fc2 Lampholders

For discharge lamps with base Fc2

If the lampholders are used for lamps with ignition voltage max. 20 kV the luminaire manufacturer is responsible for sufficient creepage distances and clearances.

Casing: ceramic, T250

Nominal rating: 10/250/5 kV, contacts: Ni

Lead: Cu tinned, stranded conductors 1 mm²,

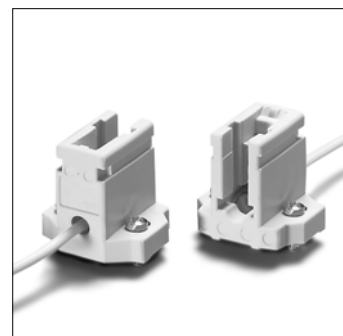
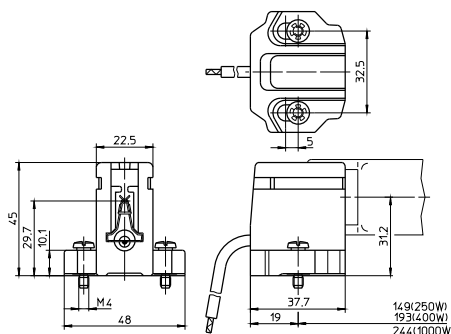
Si-insulation max. Ø 3.6 mm, length: 300 mm

Fixing screws M4, captive

Weight: 102 g, unit: 25 pcs.

Type: 02575 adjustable fixing

Ref. No.: 100098



Lampholders for High-pressure Discharge Lamps

Metal halide and high-pressure sodium lamps feature extremely different bases, which include RX7s, Fc2, G8.5, GX8.5, GU8.5, GX10, G12, GX12, PG12, PGJ5, GU6.5, E27 and E40, depending on whether the lamp is single- or double-ended. All lampholders are subject to the same typical conditions found with discharge lamps: high ignition voltages and temperatures. The high start-up currents deserve particular attention in lampholder design. This is also reflected by the insulation materials, which are usually solid ceramics or heat-resistant plastic (e.g. PPS – polyphenylene sulphide). Depending on the lamp's requirements (voltage, current, temperature, etc.), silver, nickel and copper alloys with thick nickel coatings are used as conductors. The luminaire regulation EN 60598-1 (VDE 0711 part 1), defines the safety requirements with regard to ignition voltages in connection with creepage and air clearance distances. Special care must be taken to ensure that lampholders are approved for discharge lamps when using high-pressure lamps with E27 and E40 Edison bases. Lampholders that are suitable for this purpose are marked with a maximum value of "5 kV" and comply with the increased creepage and air clearance distances specified by the lampholder requirements in EN 60238 (VDE 0616 part 1). The lampholder regulations governing special lampholders, EN 60838-1 (VDE 0616 part 5), apply analogously to all other base systems. The high ignition voltage pulses also place special demands on the conductors. In practice, silicone-insulated conductors with an outer diameter of 3.6 mm have proved to be suitable for discharge lamps. Silicone-insulated conductors with a glass-silk lining with a diameter of 7 mm should be used for lamps with an instant hot restart (20 kV) function.

When connecting lampholders to push-in terminals of ballasts, the diameter of the conductor and the length of the stripped cables must be taken into account to ensure correct operation of the installed components. To this end, Vossloh-Schwabe can make additional versions available with compacted cable ends as further options.

When using compacted cable ends, the reduction of the cable diameter at the end of the cable must be taken into account, which means that the respective ballast push-in terminal has to be capable of taking the next-smaller cable diameter (see table with examples).

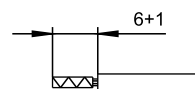
When using screw terminals to connect a ballast, it is recommended to use a ferrules on the bare end of core.

Cable cross-section mm ²	Push-in terminal range on the ballast when using compacted cable ends mm ²
0.75	≥ 0.5
1	≥ 0.75

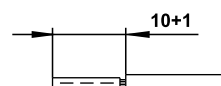
VS lampholders for the UL market and UL approved leads are available for all common lamp types.

Further information can be found at www.unvlt.com.

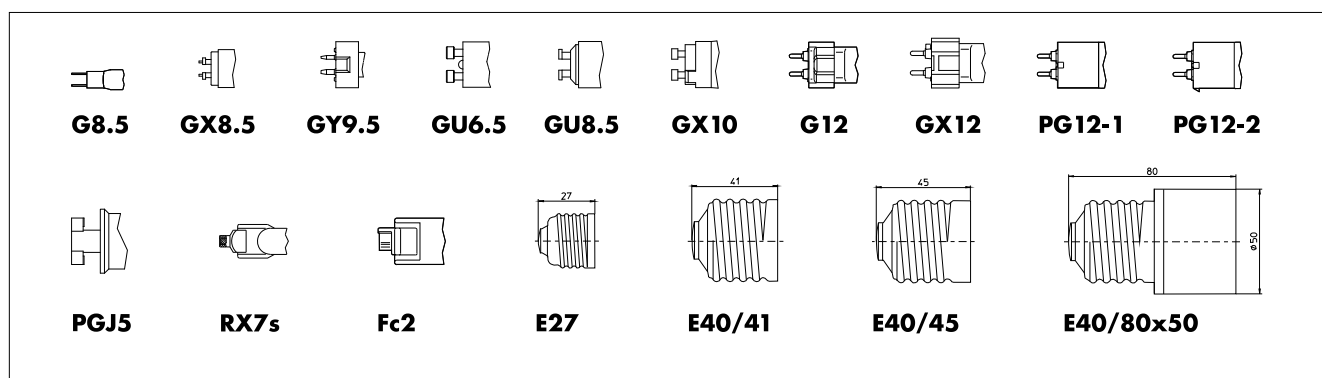
Ferrule on bare end of core



Compacted cable ends



Bases for the most commonly used HI and HS lamps



Note: For additional sockets please refer to VS Main Catalogue

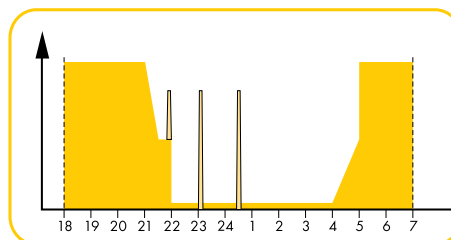
STREET LIGHT MANAGEMENT SYSTEM



LiCS Outdoor

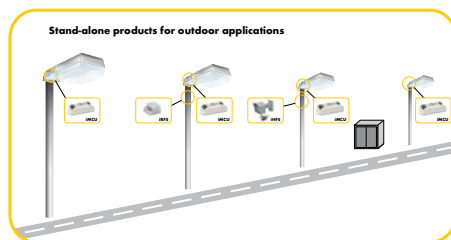
■ SAVE UP TO 50% OF ENERGY BY INTELLIGENT STREET LIGHT CONTROL

By intelligent dimming profiles and sensor based light on demand solutions up to 50% of energy can be saved only by Street Light Control.



■ SMART NIGHT

The preprogrammed iMCU controller works in stand-alone operation. By using a smart software tool it can be programmed individually.

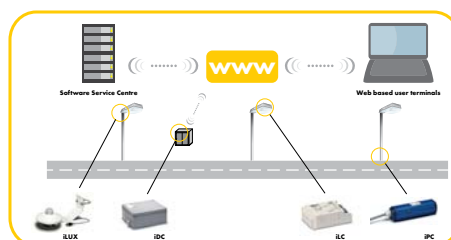


■ FLEX NIGHT

Adding FlexNight masters to the system the dimming schedule of the iMCU can be reprogrammed in the installation.

■ MANAGED NIGHT

Monitor your complete street light online by using ManagedNight LON Powerline Controllers of Vossloh-Schwabe.



WARMSTART, DIMMABLE AND INSTANT START



ELECTRONIC BALLASTS

Operating fluorescent lamps with electronic ballasts yields numerous advantages with regard to efficiency and convenience. Further details are provided on the respective product pages and the technical appendix.

The brightness of fluorescent lamps can also be regulated with the help of dimmable electronic ballasts. Adjusting lamp wattage leads to a further reduction of energy consumption and of the associated costs. The corresponding ELXd units from Vossloh-Schwabe enable conventional 1 – 10 V control units to be connected via a bipolar 1 – 10 V dimmer interface.

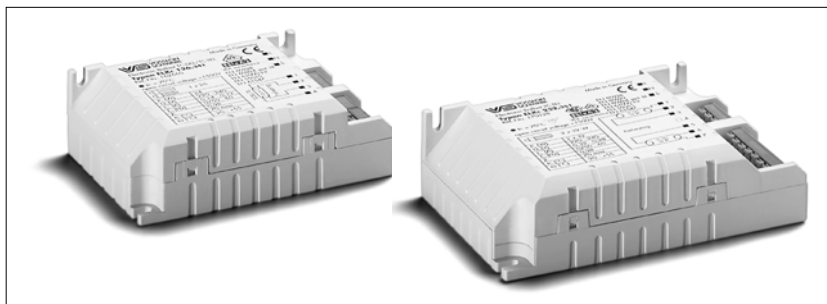
Moreover, Vossloh-Schwabe's product range also contains electronic ballasts that can be dimmed using conventional light sensors or polarity independent dimmer interfaces via DALI-compatible control units. Both interfaces (1 – 10 V and DALI) were developed in accordance with EN 60929. Under consideration of the maximum current of the respective control unit, it is also possible to operate several electronic ballasts in parallel.



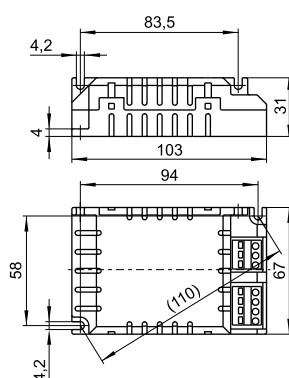
Electronic Ballasts for Compact Fluorescent Lamps

ELXc – Warm start for compact fluorescent lamps

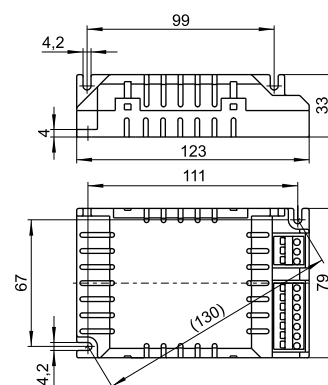
Electronic built-in ballasts
Casing: heat-resistant polyamide
Power factor: ≥ 0.95
Push-in terminals: 0.5-1.5 mm²
RFI-suppressed
Degree of protection: IP20
Fixing brackets for screws M4
for lateral or base mounting
EOL shut down approved acc. to
EN 61347



K2



K3



Lamp				Electronic ballast							System	
Output	Type	Base	Power consumption	Type	Ref. No.	Voltage AC	Energy efficiency	Ambient temperature	Casing temp.	Casing	Output	Luminous factor
W			W			50, 60 Hz		t _a (°C)	t _c (°C)		W	%
1x18	TC-DEL/-TEL	G24q-2/GX24q-2	1 x 16.5	ELXc 218.871	188699	220-240	A2	-20 to 50	max. 65	K2	21.0	104.8
2x18	TC-DEL/-TEL	G24q-2/GX24q-2	2 x 16.5	ELXc 218.871	188699	220-240	A2	-20 to 50	max. 65	K2	38.0	100.7
1x26	TC-DEL/-TEL	G24q-3/GX24q-3	1 x 24.0	ELXc 142.872	188700	220-240	A2	-20 to 50	max. 65	K2	26.0	104.0
2x26	TC-DEL/-TEL	G24q-3/GX24q-3	2 x 24.0	ELXc 142.872	188700	220-240	A2	-20 to 50	max. 65	K2	53.0	105.0
1x32	TC-TEL	GX24q-3	1 x 32.0	ELXc 142.872	188700	220-240	A2	-20 to 50	max. 65	K2	33.0	102.0
2x32	TC-TEL	GX24q-3	2 x 32.0	ELXc 242.837	188643	220-240	A2	-20 to 55	max. 65	K3	70.5	104.8
1x42	TC-TEL	GX24q-4	1 x 42.0	ELXc 142.872	188700	220-240	A2	-20 to 50	max. 65	K2	45.0	99.0
2x42	TC-TEL	GX24q-4	2 x 43.0	ELXc 242.837	188643	220-240	A2	-20 to 50	max. 65	K3	70.5	104.8

ELXd – Dimmable for TC-DEL, TC-TEL Lamps

Electronic ballasts

Casing: heat-resistant polycarbonate

Dimming range:

approx. 3-100% of lamp power

Push-in terminals with push-button: 0.5-1.5 mm²

RFI-suppressed

Degree of protection: IP20

For luminaires of protection class I

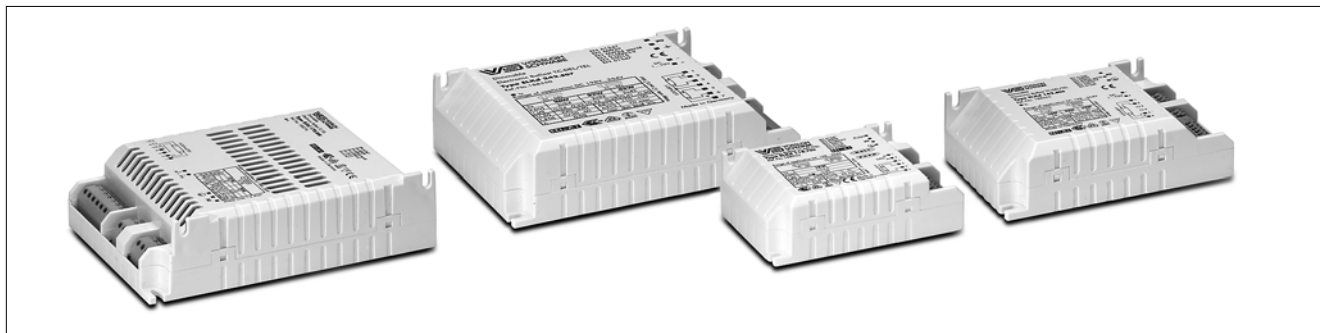
Fixing brackets for screws M4

for lateral or base mounting

For lighting systems with
high switching frequency (> 5/day)

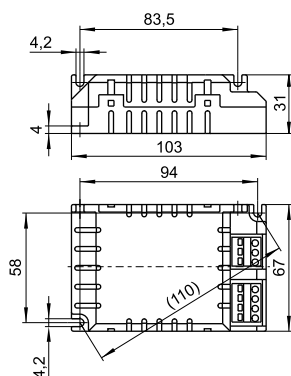
EOL shut down approved

acc. to EN 61347 Test 2

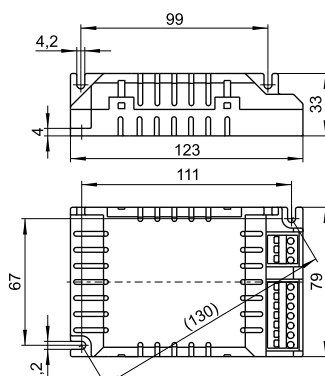


Electronic built-in ballasts

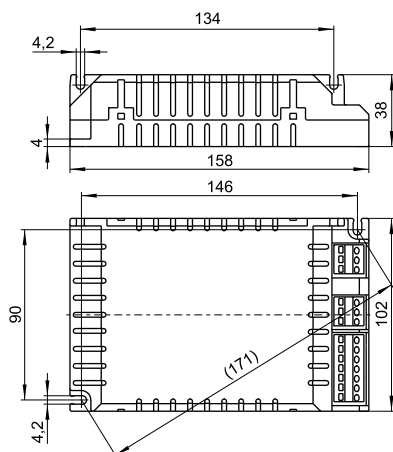
K2



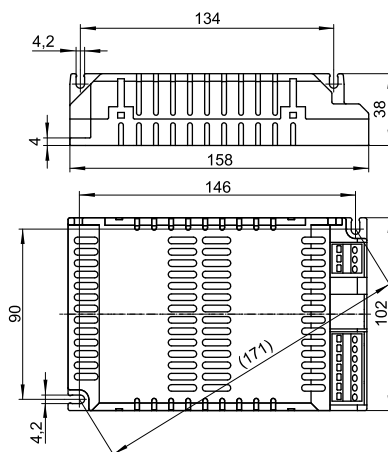
K3



K4



K4+ with venting slits



Components for Fluorescent Lamps

ELXd – Dimmable 1–10 V for TC-DEL, TC-TEL lamps

Electronic built-in ballasts

Casing: K3, K4 and K4+ with venting slits

Control voltage: DC 1–10 V acc. to

EN 60929 with earth leakage current 0.5 mA

(protected if connected to mains voltage)

For use with open- or closed-loop control units

Power factor: 0.98 at 100% operation

DC voltage

for operation: 176–264 V

for ignition: 198–264 V

Lamp				Electronic ballast							System	
Output W	Type	Base	Power consumption W	Type	Ref. No.	Voltage AC 50, 60 Hz V±10%	Energy efficiency	Ambient temperature t _a [°C]	Casing temp. t _c [°C]	Casing	Output W	Luminous factor %
18	TC-DEL/-TEL	G24q-2/GX24q-2	1 x 16.5	ELXd 118.802	188564	220–240	A1 BAT	5 to 55	max. 70	K3	21.0	100.0
2 x 18	TC-DEL/-TEL	G24q-2/GX24q-2	2 x 16.5	ELXd 218.803	188549	220–240	A1 BAT	5 to 55	max. 70	K4	38.0	100.0
26	TC-DEL/-TEL	G24q-3/GX24q-3	1 x 24.0	ELXd 142.806	188565	220–240	A1 BAT	10 to 50	max. 70	K3	27.0	100.0
2 x 26	TC-DEL/-TEL	G24q-3/GX24q-3	2 x 24.0	ELXd 242.807	188550	220–240	A1 BAT	10 to 50	max. 70	K4	53.0	100.0
				ELXd 226.801	188431	220–240	A1 BAT	10 to 50	max. 70	K3	54.0	100.0
32	TC-TEL	GX24q-3	1 x 32.0	ELXd 142.806	188565	220–240	A1 BAT	10 to 50	max. 70	K3	36.0	100.0
2 x 32	TC-TEL	GX24q-3	2 x 32.0	ELXd 242.807	188550	220–240	A1 BAT	10 to 50	max. 70	K4	71.0	100.0
42	TC-TEL	GX24q-4	1 x 43.0	ELXd 142.806	188565	220–240	A1 BAT	10 to 50	max. 70	K3	46.0	100.0
2 x 42	TC-TEL	GX24q-4	2 x 43.0	ELXd 242.807	188550	220–240	A1 BAT	10 to 50	max. 70	K4	92.0	100.0
57	TC-TEL	GX24q-5	1 x 57.0	ELXd 170.808	188276	220–240	A1 BAT	10 to 55	max. 60	K4+	62.0	100.0
70	TC-TEL	GX24q-6	1 x 70.0	ELXd 170.808	188276	220–240	A1 BAT	10 to 55	max. 60	K4+	77.0	100.0

ELXc – ECO EffectLine Warm Start for TC Lamps

Electronic built-in ballasts

Casing: PC, white

Mains voltage: 198–264 V

Push-in terminals: 0.5–1.5 mm²

RFI-suppressed

For luminaires of protection class I

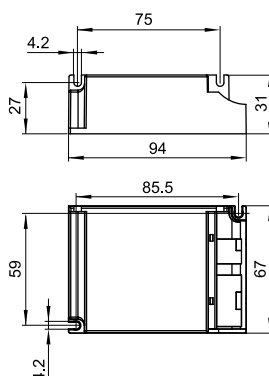
Degree of protection: IP20

For lighting systems with
high switching frequency (> 5/day)

EOL shut down approved acc. to EN 61347 Test 1



ECO EffectLine



Lamp				Electronic ballast							System	
Output	Type	Base	Power consumption	Type	Ref. No.	Voltage AC 50, 60 Hz V ±10%	Energy efficiency	Power factor	Ambient temperature t _a (°C)	Casing temperature t _c (°C)	Output W	Luminous factor %
For TC lamps												
18	TC-DEL/-TEL	G24q-2/GX24q-2	1 x 16.5	ELXc 118.879	183134	220-240	A3	> 0,95	-10 to 50	max. 70	19.5	100
2 x 18	TC-DEL/-TEL	G24q-2/GX24q-2	2 x 16.5	ELXc 218.881	183136	220-240	A2	> 0,95	-15 to 50	max. 75	38.0	100
26	TC-DEL/-TEL	G24q-3/GX24q-3	1 x 24.0	ELXc 126.880	183135	220-240	A3	> 0,95	-10 to 50	max. 75	28.0	100
2 x 26	TC-DEL/-TEL	G24q-3/GX24q-3	2 x 24.0	ELXc 226.882	183137	220-240	A2	> 0,95	-15 to 50	max. 80	53.5	100

ELXc – Warm Start for TC-L Lamps

Electronic built-in ballasts

Casing: metal

Power factor: > 0.96

DC voltage

for operation: 176-264 V

for ignition: 198-264 V

(ELXc 180.866, 280.538: DC voltage

cannot be reduced to 176 V)

Push-in terminals: 0.5-1 mm²

For the automatic luminaire wiring:

IDC terminals for leads H05V-U 0.5

RFI-suppressed

For luminaires of protection class I

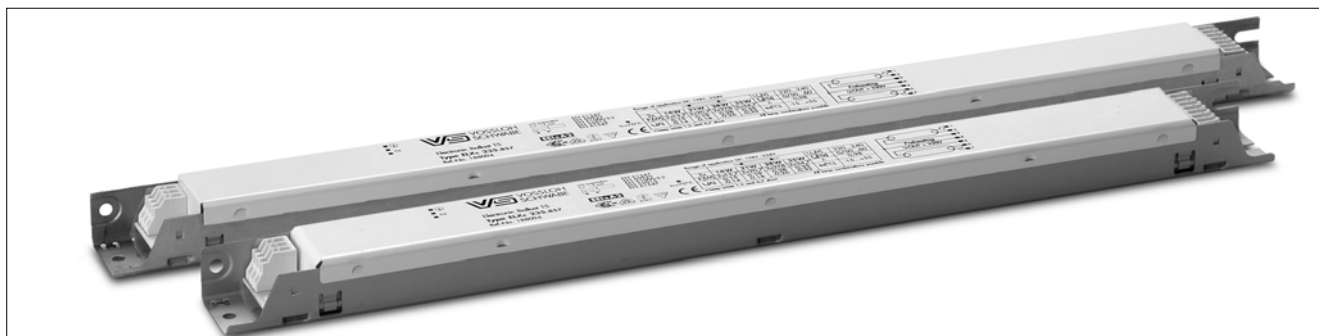
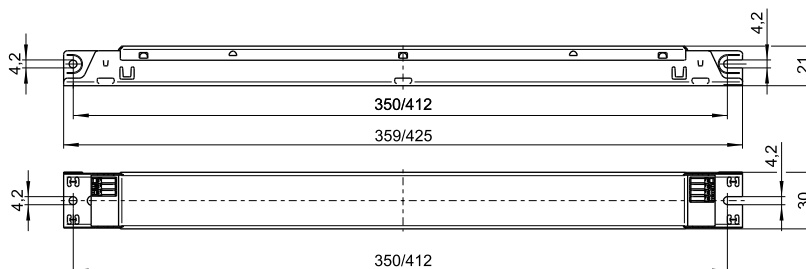
Degree of protection: IP20

For lighting systems with

high switching frequency (> 5/day)

EOL shut down approved acc. to EN 61347 Test 2

M10/M11



Lamp				Electronic ballast							System	
Output W	Type	Base	Power consumption W	Type	Ref. No.	Voltage AC 50, 60 Hz V ±10%	Energy efficiency	Ambient temperature t _a (°C)	Casing temperature t _c (°C)	Casing	Output W	Luminous factor %
18	TC-L	2G11	1 x 16.0	ELXc 140.862	188140	220-240	A2	-15 to 55	max. 70	M10	19.0	109.0
2x18	TC-L	2G11	2 x 16.0	ELXc 240.863	188616	220-240	A2 BAT	-15 to 55	max. 70	M10	35.0	105.3
24	TC-L	2G11	1 x 22.0	ELXc 140.862	188140	220-240	A2 BAT	-15 to 55	max. 70	M10	27.0	109.0
2x24	TC-L	2G11	2 x 22.0	ELXc 240.863	188616	220-240	A2 BAT	-15 to 55	max. 70	M10	51.0	106.8
36	TC-L	2G11	1 x 32.0	ELXc 140.862	188140	220-240	A2	-15 to 55	max. 70	M10	35.0	101.0
2x36	TC-L	2G11	2 x 32.0	ELXc 240.863	188616	220-240	A2 BAT	-15 to 55	max. 70	M10	71.0	98.7
40	TC-L	2G11	1 x 40.0	ELXc 140.862	188140	220-240	A2	-15 to 55	max. 70	M10	46.0	104.0
2x40	TC-L	2G11	2 x 40.0	ELXc 240.863	188616	220-240	A2 BAT	-15 to 55	max. 70	M10	89.0	103.6
55	TC-L	2G11	1 x 55.0	ELXc 180.866	188144	220-240	A2 BAT	-15 to 55	max. 70	M10	62.0	107.3
2x55	TC-L	2G11	2 x 50.0	ELXc 254.865	188618	220-240	A2 BAT	-15 to 50	max. 70	M10	112.0	92.9
			2 x 55.0	ELXc 280.538	188619	220-240	A2 BAT	-15 to 50	max. 70	M11	120.0	100.0

ELXd – Dimmable for TC-F, TC-L Lamps

Electronic built-in ballasts

Casing: metal

Dimming range:

approx. 1–100% of lamp power

Power factor: 0.95 at 100% operation

DC voltage

for operation: 154–276 V (M22, M23, M24)

for operation: 176–264 V (M9)

for ignition: 198–264 V

Push-in terminals: 0.5–1 mm²

For the automatic luminaire wiring:

IDC terminals for leads H05V-U 0.5

RFI-suppressed

For luminaires of protection class I

Degree of protection: IP20

Fixing holes for screws M4

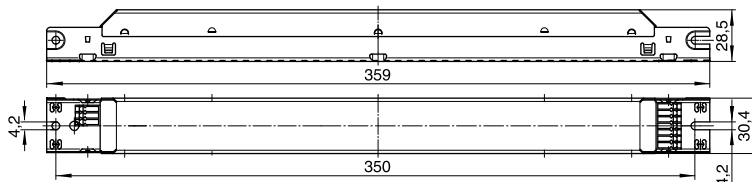
for lateral or base mounting

For lighting systems with

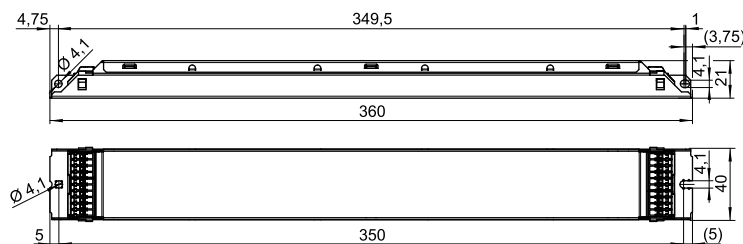
high switching frequency (> 5/day)

EOL shut down approved acc. to EN 61347 Test 2

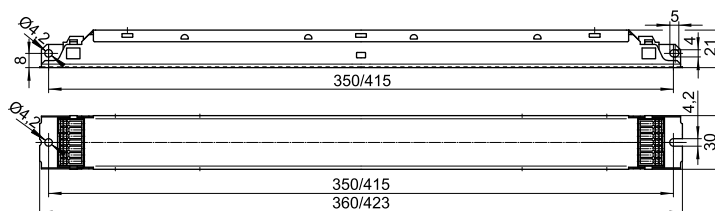
M9



M23



M22/M24



Components for Fluorescent Lamps

ELXd – Dimmable 1–10 V for TC-F, TC-L lamps

Control voltage: DC 1–10 V

acc. to EN 60929 with earth leakage current 0.5 mA

(protected if connected to mains voltage)

For use with open- or closed-loop control units

Lamp				Electronic ballast							System	
Output W	Type	Base	Power consumption W	Type	Ref. No.	Voltage AC 50, 60 Hz V±10%	Energy efficiency	Ambient temperature t _a (°C)	Casing temperature t _c (°C)	Casing	Output W	Luminous factor %
18	TC-F/L	2G10/2G11	1 x 16.0	ELXd 118.718	188873	220–240	EEI=A1	10 to 50	max. 70	M9	18.0	94.0
2x18	TC-F/L	2G10/2G11	2 x 16.0	ELXd 218.719	188874	220–240	EEI=A1	10 to 50	max. 70	M9	36.0	90.6
24	TC-F/L	2G10/2G11	1 x 22.0	ELXd 118.718	188873	220–240	EEI=A1	10 to 50	max. 70	M9	27.0	96.6
			1 x 23.0	ELXd 124.607	188336	220–240	A1 BAT	10 to 50	max. 75	M22	26.0	100.0
2x24	TC-F/L	2G10/2G11	2 x 22.0	ELXd 218.719	188874	220–240	EEI=A1	10 to 50	max. 70	M9	52.0	100.8
			2 x 23.0	ELXd 224.608	188337	220–240	A1 BAT	10 to 50	max. 75	M24	49.0	100.0
3x24	TC-F/L	2G10/2G11	3 x 24.0	ELXd 324.623	188597	220–240	A1 BAT	10 to 50	max. 75	M23	73.4	100.0
4x24	TC-F/L	2G10/2G11	4 x 24.0	ELXd 424.624	188598	220–240	A1 BAT	10 to 50	max. 75	M23	97.6	100.0
36	TC-F/L	2G10/2G11	1 x 32.0	ELXd 136.720	188875	220–240	A1 BAT	10 to 50	max. 70	M9	37.3	93.5
2x36	TC-F/L	2G10/2G11	2 x 32.0	ELXd 236.721	188876	220–240	EEI=A1	10 to 50	max. 70	M9	72.0	92.6
40	TC-L	2G11	1 x 38.0	ELXd 139.609	188338	220–240	A1 BAT	10 to 50	max. 75	M22	42.0	100.0
2x40	TC-L	2G11	2 x 38.0	ELXd 239.610	188339	220–240	A1 BAT	10 to 50	max. 75	M24	82.0	100.0
55	TC-L	2G11	1 x 51.0	ELXd 158.722	188877	220–240	EEI=A1	10 to 50	max. 70	M9	56.0	92.5
			1 x 54.0	ELXd 154.611	188340	220–240	A1 BAT	10 to 50	max. 75	M22	59.0	100.0
2x55	TC-L	2G11	2 x 54.0	ELXd 254.612	188341	220–240	A1 BAT	10 to 50	max. 75	M24	115.0	100.0
80	TC-L	2G11	1 x 80.0	ELXd 180.613	188342	220–240	A1 BAT	10 to 50	max. 75	M22	88.0	100.0

ELXs –Warm Start for Compact Fluorescent Lamps

Electronic built-in ballasts

Casing: heat-resistant polyamide

Power factor: approx. 0.6

(depending on the lamp output)

DC voltage operation: 198–264 V

Push-in terminals with push-button: 0.5–1.5 mm²

RFI-suppressed

For luminaires of protection class I and II

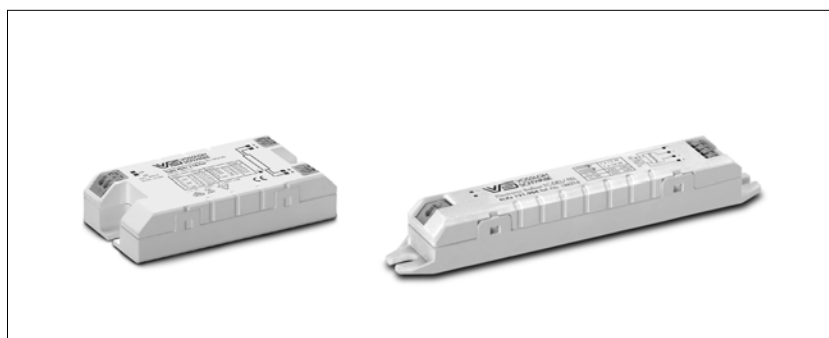
Degree of protection: IP20

Fixing slots for screws M4

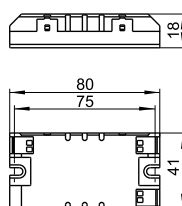
For lighting systems with
high switching frequency (> 5/day)

EOL shut down approved

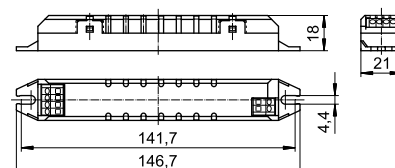
acc. to EN 61347 Test 2



K20



K21



Lamp				Electronic ballast							System
Output W	Type	Base	Power consumption W	Type	Ref. No.	Voltage AC 50, 60 Hz V±10%	Energy efficiency	Ambient temperature t _a (°C)	Casing temperature t _c (°C)	Casing	Output W
5	TC-SEL	2G7	1 x 5.0	ELXs 116.900	188661	220–240	A3	–15 to 55	max. 75	K20	6.1
				ELXs 116.903	188662	220–240	A3	–15 to 55	max. 75	K21	6.1
7	TC-SEL	2G7	1 x 6.4	ELXs 116.900	188661	220–240	A2	–15 to 55	max. 75	K20	7.5
				ELXs 116.903	188662	220–240	A2	–15 to 55	max. 75	K21	7.5
9	TC-SEL	2G7	1 x 8.0	ELXs 116.900	188661	220–240	A2	–15 to 55	max. 75	K20	8.8
				ELXs 116.903	188662	220–240	A2	–15 to 55	max. 75	K21	8.8
10	TC-DEL	G24q-1	1 x 9.3	ELXs 116.900	188661	220–240	A2	–15 to 55	max. 75	K20	10.2
	TC-DD	GR10q	1 x 9.3	ELXs 116.900	188661	220–240	A2	–15 to 55	max. 75	K20	10.3
	TC-DEL	G24q-1	1 x 9.3	ELXs 116.903	188662	220–240	A2	–15 to 55	max. 75	K21	10.2
	TC-DD	GR10q	1 x 9.3	ELXs 116.903	188662	220–240	A2	–15 to 55	max. 75	K21	10.3
11	TC-SEL	2G7	1 x 10.8	ELXs 116.900	188661	220–240	A2	–15 to 55	max. 75	K20	11.8
				ELXs 116.903	188662	220–240	A2	–15 to 55	max. 75	K21	11.8
13	TC-DEL/-TEL	G24q-1/GX24q-1	1 x 12.5	ELXs 121.901	188663	220–240	A2	–15 to 55	max. 80	K20	15.5
				ELXs 121.904	188664	220–240	A2	–15 to 55	max. 80	K21	15.5
16	TC-DD	GR10q	1 x 13.2	ELXs 116.900	188661	220–240	A3	–15 to 55	max. 75	K20	15.1
				ELXs 116.903	188662	220–240	A3	–15 to 55	max. 75	K21	15.1
18	TC-DEL/-TEL	G24q-2/GX24q-2	1 x 15.3	ELXs 121.901	188663	220–240	A2	–15 to 55	max. 80	K20	16.9
				ELXs 121.904	188664	220–240	A2	–15 to 55	max. 80	K21	16.9
	TC-F/-L	2G10/2G11	1 x 16.0	ELXs 124.902	188665	220–240	A2	–15 to 55	max. 85	K20	17.9
				ELXs 124.905	188666	220–240	A2	–15 to 55	max. 85	K21	17.9
22	T-R5	2GX13	1 x 19.1	ELXs 124.902	188665	220–240	A2	–15 to 55	max. 85	K20	21.2
				ELXs 124.905	188666	220–240	A2	–15 to 55	max. 85	K21	21.2
24	TC-F/-L	2G10/2G11	1 x 20.0	ELXs 124.902	188665	220–240	A2	–15 to 55	max. 85	K20	21.4
				ELXs 124.905	188666	220–240	A2	–15 to 55	max. 85	K21	21.4
			1 x 20.8	ELXs 126.906	188667	220–240	A2	–15 to 55	max. 85	K20	22.9
				ELXs 126.907	188668	220–240	A2	–15 to 55	max. 85	K21	22.9
26	TC-DEL/-TEL	G24q-3/GX24q-3	1 x 21.5	ELXs 126.906	188667	220–240	A2	–15 to 55	max. 85	K20	23.4
				ELXs 126.907	188668	220–240	A2	–15 to 55	max. 85	K21	23.4

ELXc – ECO EffectLine Warm Start for T8 Lamps

Electronic built-in ballasts

Casing: PC, white

Mains voltage: 198–264 V

Push-in terminals: 0.5–1.5 mm²

RFI-suppressed

For luminaires of protection class I

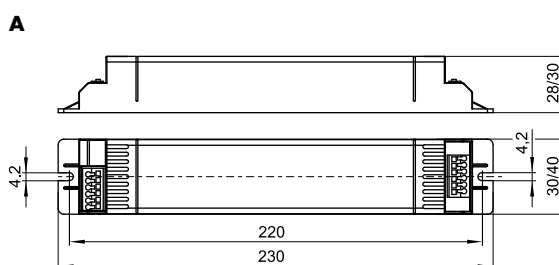
Degree of protection: IP20

For lighting systems with

high switching frequency (> 5/day)

EOL shut down approved acc. to EN 61347 Test 1

(for T8 lamps)



Lamp				Electronic ballast										System	
Output W	Type	Base	Power consumption W	Type	Ref. No.	Voltage AC 50, 60 Hz V ±10%	Energy efficiency	Power factor	Ambient temperature t _a (°C)	Casing temperature t _c (°C)	Casing	W mm	H mm	Output W	Luminous factor %
For T8 lamps															
18	T8	G13	1 x 15.5	ELXc 118.243	183127	220–240	A2	> 0.95	–15 to 50	max. 70	A	30	28	18.5	98
2 x 18	T8	G13	2 x 15.5	ELXc 218.246	183130	220–240	A2	> 0.96	–15 to 50	max. 70	A	30	28	35.0	98
4 x 18	T8	G13	4 x 15.5	ELXc 418.249	183133	220–240	A2	> 0.98	–15 to 50	max. 70	A	40	30	69.0	97
36	T8	G13	1 x 30.5	ELXc 136.244	183128	220–240	A2	> 0.96	–15 to 50	max. 70	A	30	28	34.0	95
2 x 36	T8	G13	2 x 31.0	ELXc 236.247	183131	220–240	A2	> 0.98	–15 to 50	max. 70	A	40	30	68.0	97
58	T8	G13	1 x 48.0	ELXc 158.245	183129	220–240	A2	> 0.96	–15 to 50	max. 70	A	30	28	53.5	96
2 x 58	T8	G13	2 x 49.5	ELXc 258.248	183132	220–240	A2	> 0.98	–15 to 50	max. 80	A	40	30	107.0	100

Electronic Ballasts for Linear Fluorescent Lamps

ELXc – Warm start for T8 lamps

Electronic built-in ballasts

Casing: metal

Power factor: ≥ 0.95

Push-in terminals: 0.5–1 mm²

RFI-suppressed

For luminaires of protection class I

Degree of protection: IP20

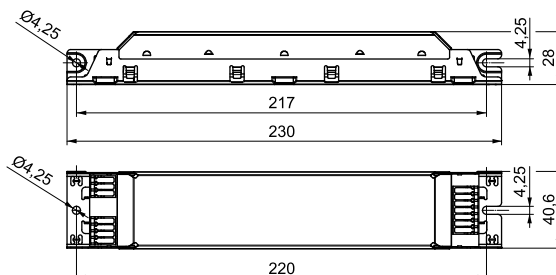
For Lighting systems with
high switching frequency (> 5/day)

EOL shut down approved acc. to

EN 61347



M8



Lamp				Electronic ballast							System	
Output W	Type	Base	Power consumption W	Type	Ref. No.	Voltage AC 50, 60 Hz V \pm 10%	Energy efficiency	Ambient temperature t _a (°C)	Casing temperature t _c (°C)	Casing	Output W	Luminous factor %
1x18	T8	G13	1 x 16.0	ELXc 136.207	188704	220–240	A2	–20 to 55	max. 60	M8	19.8	105.0
2x18	T8	G13	2 x 16.0	ELXc 236.208	188705	220–240	A2	–20 to 50	max. 60	M8	38.0	106.0
3x18	T8	G13	3 x 16.0	ELXc 418.204	188744	220–240	A2	–15 to 55	max. 70	M8	56.0	100.0
4x18	T8	G13	4 x 16.0	ELXc 418.204	188744	220–240	A2	–15 to 55	max. 70	M8	71.5	98.9
1x36	T8	G13	1 x 32.0	ELXc 136.207	188704	220–240	A2	–20 to 55	max. 60	M8	34.4	97.0
2x36	T8	G13	2 x 32.0	ELXc 236.208	188705	220–240	A2	–20 to 50	max. 60	M8	71.9	98.0
3x36	T8	G13	3 x 32.0	ELXc 336.214	188595	220–240	A2	–15 to 50	max. 65	M8	105.0	99.4
1x58	T8	G13	1 x 50.0	ELXc 158.209	188706	220–240	A2	–20 to 50	max. 60	M8	56.9	106.0
2x58	T8	G13	2 x 50.0	ELXc 258.210	188707	220–240	A2	–20 to 50	max. 65	M8	111.0	105.0

Dimmable Electronic Ballast for Fluorescent Lamps

ELXd – Dimmable 1–10 V for T8 lamps

Electronic built-in ballasts

Dimming range

approx. 1–100% of lamp power

Control voltage: DC 1–10 V acc. to EN 60929

Casing: metal, white lacquered

Power factor: ≥ 0.95 at 100% operation

Push-in terminals: 0.5–1 mm²

RFI-suppressed

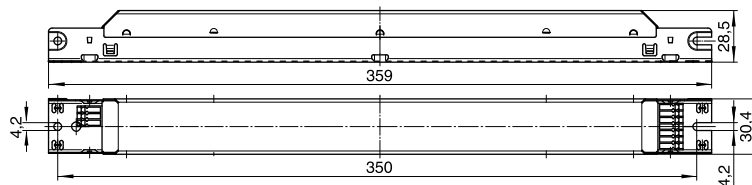
For luminaires of protection class I

Degree of protection: IP20

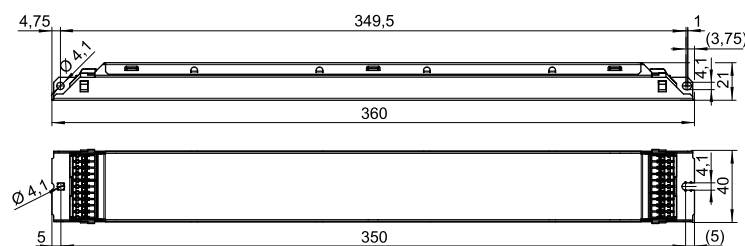
EOL shut down approved acc. to

EN 61347

M9



M23



Lamp				Electronic ballast							System	
Output W	Type	Base	Power consumption W	Type	Ref. No.	Voltage AC 50, 60 Hz V \pm 10%	Energy efficiency	Ambient temperature t _a (°C)	Casing temperature t _c (°C)	Casing	Output W	Luminous factor %
1x18	T8	G13	1 x 16.0	ELXd 118.718	188873	220–240	A1	10 to 50	max. 70	M9	21.0	100
2x18	T8	G13	2 x 16.0	ELXd 218.719	188874	220–240	A1	10 to 50	max. 70	M9	41.5	100
3x18	T8	G13	3 x 16.0	ELXd 318.622	188596	220–240	A1	–20 to 50	max. 75	M23	53.6	100
4x18	T8	G13	4 x 16.0	ELXd 418.625	188599	220–240	A1	–20 to 50	max. 75	M23	69.3	100
1x36	T8	G13	1 x 32.0	ELXd 136.720	188875	220–240	A1	10 to 50	max. 70	M9	37.3	100
2x36	T8	G13	2 x 32.0	ELXd 236.721	188876	220–240	A1	10 to 50	max. 70	M9	72.0	100
1x58	T8	G13	1 x 50.0	ELXd 158.722	188877	220–240	A1	10 to 50	max. 70	M9	55.0	100
2x58	T8	G13	2 x 50.0	ELXd 258.723	188878	220–240	A1	10 to 50	max. 75	M9	109.0	100

ELXc – ECO EffectLine Warm Start for T5 Lamps

Electronic built-in ballasts

Casing: PC, white

Mains voltage: 198–264 V

Push-in terminals: 0.5–1.5 mm²

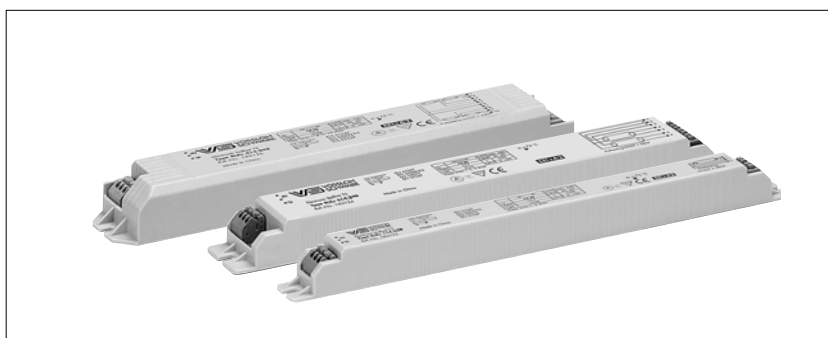
RFI-suppressed

For luminaires of protection class I

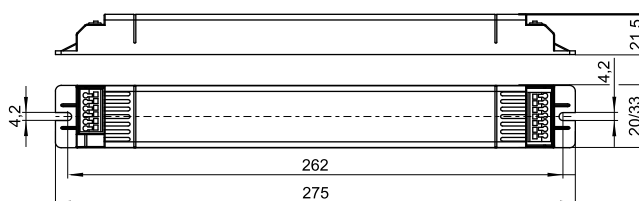
Degree of protection: IP20

For lighting systems with
high switching frequency (> 5/day)

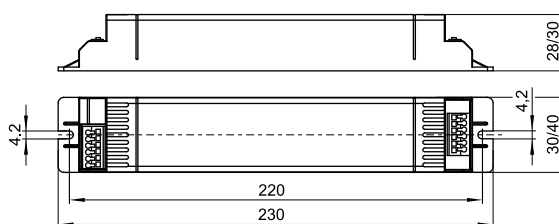
EOL shut down approved acc. to EN 61347 Test 1
(for T5 lamps)



A



B



Lamp				Electronic ballast										System	
Output	Type	Base	Power consumption	Type	Ref. No.	Voltage AC	Energy	Power	Ambient	Casing	Casing	W	H	Output	Luminous
W			W			50, 60 Hz	efficiency	factor	temperature	temperature		mm	mm	W	factor
						V ±10%			t _a (°C)	t _c (°C)					%
For T5 lamps															
14	T5 HE	G5	1 x 14.8	ELXc 114.238	183122	220–240	A2	> 0.95	0 to 50	max. 75	A	20	21.5	17.0	100
2 x 14	T5 HE	G5	2 x 14.5	ELXc 214.240	183124	220–240	A2	> 0.95	0 to 50	max. 75	A	33	21.5	33.0	100
4 x 14	T5 HE	G5	4 x 14.0	ELXc 414.242	183126	220–240	A2	> 0.95	0 to 50	max. 75	B	40	30	64.0	100
28	T5 HE	G5	1 x 28.5	ELXc 128.239	183123	220–240	A2	> 0.95	0 to 50	max. 75	A	20	21.5	31.5	100
2 x 28	T5 HE	G5	2 x 26.5	ELXc 228.241	183125	220–240	A2	> 0.95	0 to 50	max. 75	A	33	21.5	59.0	95

Electronic Ballasts for Linear Fluorescent Lamps

ELXc – Warm start for T5 lamps

Electronic built-in ballasts

Casing: metal

Power factor: ≥ 0.95

Push-in terminals: 0.5–1 mm²

RFI-suppressed

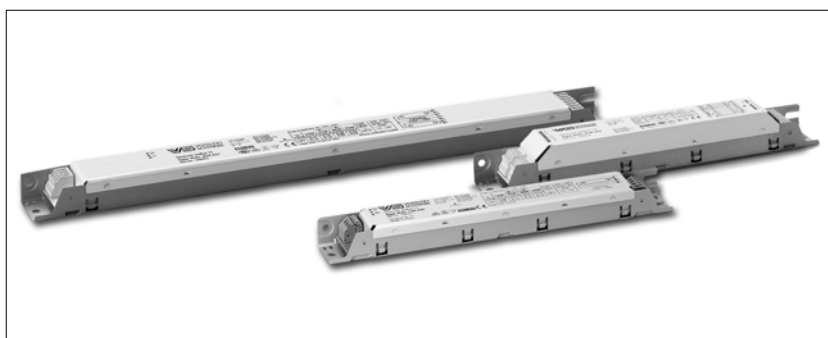
For luminaires of protection class I

Degree of protection: IP20

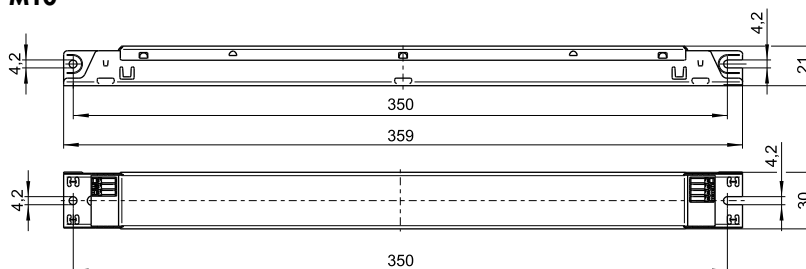
For Lighting systems with
high switching frequency (> 5/day)

EOL shut down approved acc. to

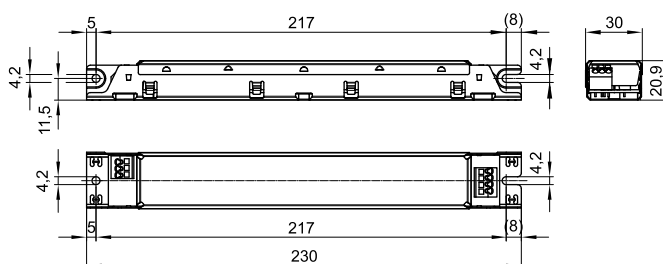
EN 61347



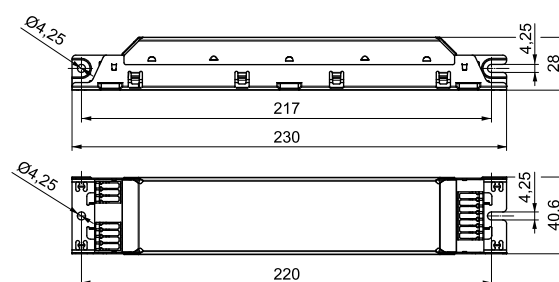
M10



M6.1



M8

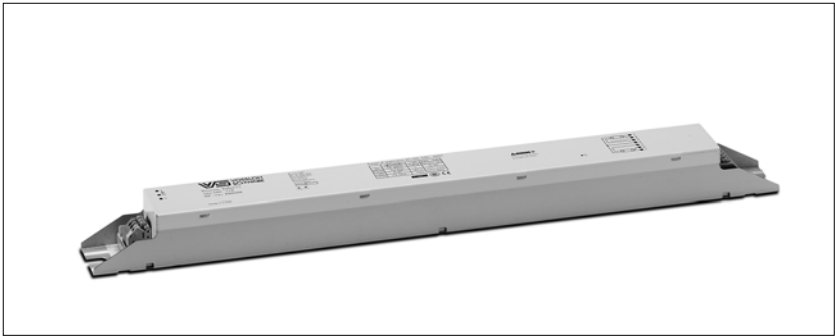


Lamp				Electronic ballast							System	
Output W	Type	Base	Power consumption W	Type	Ref. No.	Voltage AC 50, 60 Hz V \pm 10%	Energy efficiency	Ambient temperature t _a (°C)	Casing temperature t _c (°C)	Casing	Output W	Luminous factor %
1x14	T5	G5	1 x 14.3	ELXc 135.220	188921	220–240	A2	–15 to 55	max. 70	M6.1	17.0	104.8
2x14	T5	G5	2 x 14.3	ELXc 235.221	188922	220–240	A2	–15 to 55	max. 70	M10	34.5	101.9
3x14	T5	G5	3 x 14.3	ELXc 414.868	188438	220–240	A2	–15 to 55	max. 70	M8	49.0	105.4
4x14	T5	G5	4 x 14.0	ELXc 414.868	188438	220–240	A2	–15 to 55	max. 70	M8	64.0	102.3
1x21	T5	G5	1 x 20.4	ELXc 135.220	188921	220–240	A2	–15 to 55	max. 70	M6.1	23.3	106.8
2x21	T5	G5	2 x 21.4	ELXc 235.221	188922	220–240	A2	–15 to 55	max. 70	M10	48.3	104.9
1x28	T5	G5	1 x 26.7	ELXc 135.220	188921	220–240	A2	–15 to 55	max. 70	M6.1	29.2	107.6
2x28	T5	G5	2 x 28.7	ELXc 235.221	188922	220–240	A2	–15 to 55	max. 70	M10	63.0	109.1
1x35	T5	G5	1 x 32.6	ELXc 135.220	188921	220–240	A2	–15 to 55	max. 70	M6.1	37.8	102.9
2x35	T5	G5	2 x 35.6	ELXc 235.221	188922	220–240	A2	–15 to 55	max. 70	M10	78.2	100.8

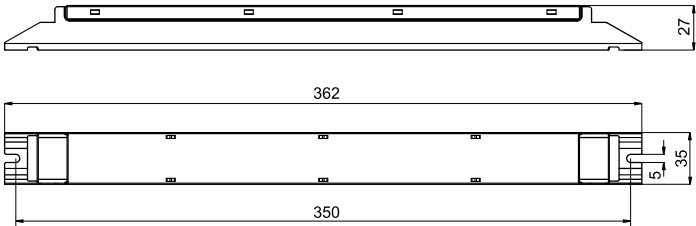
Dimmable Electronic Ballasts for Fluorescent Lamps

FBD – Dimmable for T5 lamps

Electronic built-in ballasts
Casing: metal, grey and white lacquered
Dimming range:
approx. 5–100% of lamp power
Control voltage: DC 1–10 V
acc. to EN 60929
Power factor: ≥ 0.97
Push-in terminals: 0.5–1 mm²
RFI-suppressed
For luminaires of protection class I
Degree of protection: IP20
30,000 hours service life
EOL shut down approved acc. to
EN 61347



M80



Lamp				Electronic ballast							System	
Output W	Type	Base	Power consumption W	Type	Ref. No.	Voltage AC 50, 60 Hz V±10%	Energy efficiency	Ambient temperature t _a (°C)	Casing temperature t _c (°C)	Casing	Output W	Luminous factor %
1x14	T5	G5	1 x 14.0	FBD-114135	540432	220–240	A1	10 to 50	max. 75	M80	1x17.0	> 95
1x21	T5	G5	1 x 21.0	FBD-114135	540432	220–240	A1	10 to 50	max. 75	M80	1x24.0	> 95
1x28	T5	G5	1 x 28.0	FBD-114135	540432	220–240	A1	10 to 50	max. 75	M80	1x32.0	> 95
1x35	T5	G5	1 x 35.0	FBD-114135	540432	220–240	A1	10 to 50	max. 75	M80	1x39.0	> 95

ELXd – Dimmable for T5 Lamps

Electronic built-in ballasts

Casing: metal

Power factor: 0.95 at 100% operation

DC voltage

for operation: 154–276 V (M22, M23, M24)

for ignition: 198–264 V

For the automatic luminaire wiring:

IDC terminals for leads H05V-U 0.5

RFI-suppressed

For luminaires of protection class I

Degree of protection: IP20

For lighting systems with

high switching frequency (> 5/day)

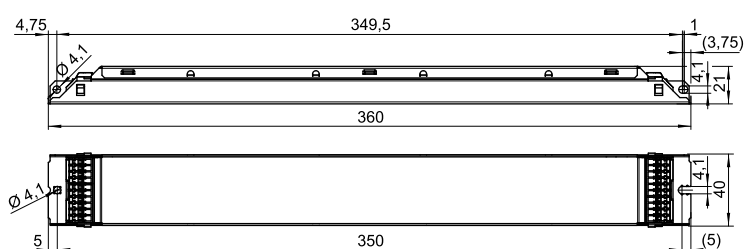
Suitable for use in luminaires for emergency

lighting systems acc. to VDE 0108

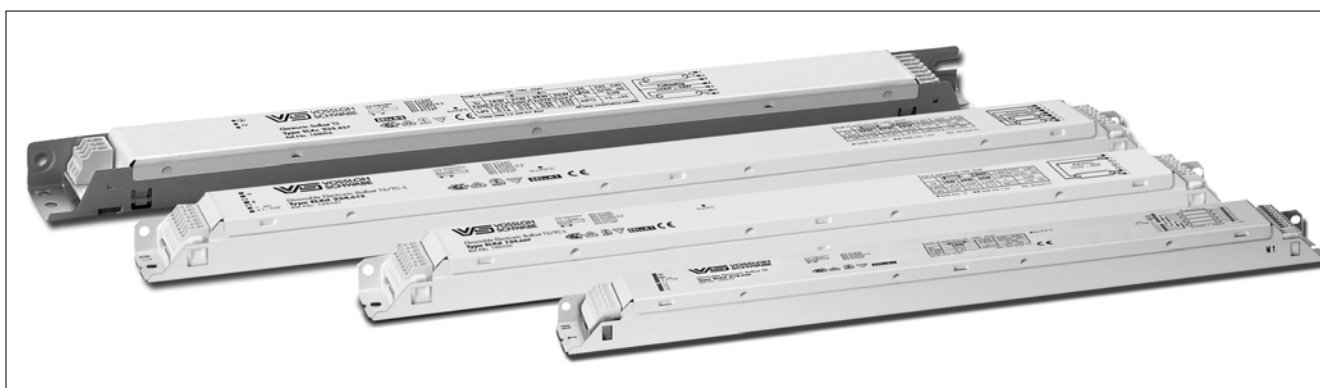
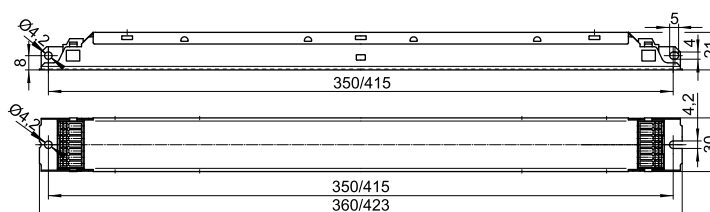
M10



M23



M22/M24



ELXd – Dimmable 1–10 V

Dimming range:

approx. 1–100% of lamp power

Control voltage: DC 1–10 V acc. to EN 60929

with earth leakage current 0.6 mA

(protected if connected to mains voltage)

For use with open- or closed-loop control units

Push-in terminals: 0.5–1 mm²

EOL shut down approved

acc. to EN 61347 Test 2

Lamp				Electronic ballast							System	
Output W	Type	Base	Power consumption W	Type	Ref. No.	Voltage AC 50, 60 Hz V±10%	Energy efficiency	Ambient temperature t _a [°C]	Casing temperature t _c [°C]	Casing	Output W	Luminous factor %
14	T5	G5	1 x 14.0	ELXd 135.823	188717	220–240	A1 BAT	10 to 55	max. 65	M10	17.0	99.5
				ELXd 124.607	188336	220–240	A1 BAT	10 to 50	max. 75	M22	16.0	100.0
2x14	T5	G5	2 x 14.0	ELXd 224.608	188337	220–240	A1 BAT	10 to 50	max. 75	M24	31.0	100.0
3x14	T5	G5	3 x 14.0	ELXd 324.623	188597	220–240	A1 BAT	10 to 50	max. 75	M23	45.3	100.0
4x14	T5	G5	4 x 14.0	ELXd 424.624	188598	220–240	A1 BAT	10 to 50	max. 75	M23	60.4	100.0
21	T5	G5	1 x 21.0	ELXd 135.823	188717	220–240	A1 BAT	10 to 50	max. 65	M10	24.0	99.0
	T5			ELXd 139.609	188338	220–240	A1 BAT	10 to 50	max. 75	M22	23.0	100.0
2x21	T5	G5	2 x 21.0	ELXd 239.610	188339	220–240	A1 BAT	10 to 50	max. 75	M24	45.0	100.0
24	T5	G5	1 x 23.0	ELXd 124.607	188336	220–240	A1 BAT	10 to 50	max. 75	M22	26.0	100.0
2x24	T5	G5	2 x 23.0	ELXd 224.608	188337	220–240	A1 BAT	10 to 50	max. 75	M24	50.0	100.0
3x24	T5	G5	3 x 23.0	ELXd 324.623	188597	220–240	A1 BAT	10 to 50	max. 75	M23	73.4	100.0
4x24	T5	G5	4 x 23.0	ELXd 424.624	188598	220v240	A1 BAT	10 to 50	max. 75	M23	97.6	100.0
28	T5	G5	1 x 28.0	ELXd 135.823	188717	220–240	A1 BAT	10 to 50	max. 65	M10	32.0	198.6
	T5			ELXd 154.611	188340	220–240	A1 BAT	10 to 50	max. 75	M22	31.0	100.0
2x28	T5	G5	2 x 28.0	ELXd 254.612	188341	220–240	A1 BAT	10 to 50	max. 75	M24	61.0	100.0
35	T5	G5	1 x 35.0	ELXd 135.823	188717	220–240	A1 BAT	10 to 50	max. 65	M10	38.0	95.0
	T5			ELXd 180.613	188342	220–240	A1 BAT	10 to 50	max. 75	M22	38.0	100.0
2x35	T5	G5	2 x 35.0	ELXd 249.614	188343	220–240	A1 BAT	10 to 50	max. 75	M24	75.0	100.0
	T5			ELXd 280.630	188604	220–240	A1 BAT	10 to 50	max. 75	M24	75.0	100.0
39	T5	G5	1 x 38.0	ELXd 139.609	188338	220–240	A1 BAT	10 to 50	max. 75	M22	42.0	100.0
2x39	T5	G5	2 x 38.0	ELXd 239.610	188339	220–240	A1 BAT	10 to 50	max. 75	M24	82.0	100.0
49	T5	G5	1 x 49.0	ELXd 180.613	188342	220–240	A1 BAT	10 to 50	max. 75	M22	54.0	100.0
2x49	T5	G5	2 x 49.0	ELXd 249.614	188343	220–240	A1 BAT	10 to 50	max. 75	M24	104.0	100.0
	T5			ELXd 280.630	188604	220–240	A1 BAT	10 to 50	max. 75	M24	104.0	100.0
54	T5	G5	1 x 54.0	ELXd 154.611	188340	220–240	A1 BAT	10 to 50	max. 75	M22	59.0	100.0
2x54	T5	G5	2 x 54.0	ELXd 254.612	188341	220–240	A1 BAT	10 to 50	max. 75	M24	115.0	100.0
80	T5	G5	1 x 80.0	ELXd 180.613	188342	220–240	A1 BAT	10 to 50	max. 75	M22	88.0	100.0
2x80	T5	G5	2 x 80.0	ELXd 280.630	188604	220–240	A1 BAT	10 to 50	max. 75	M24	165.0	100.0

ELXs – Warm Start for T5 and T8 Lamps

Electronic built-in ballasts

Casing: heat-resistant polyamide

Power factor: approx. 0.6

(depending on the lamp output)

DC voltage operation: 198–264 V

Push-in terminals with push-button: 0.5–1.5 mm²

RFI-suppressed

For luminaires of protection class I and II

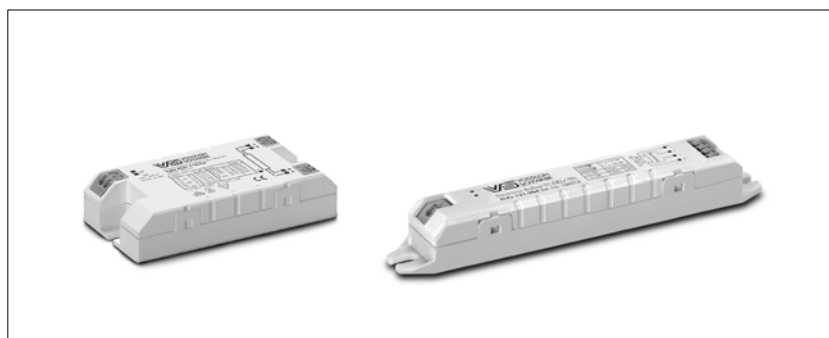
Degree of protection: IP20

Fixing slots for screws M4

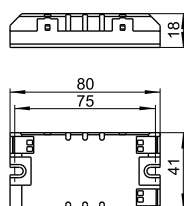
For lighting systems with high switching frequency (> 5/day)

EOL shut down approved

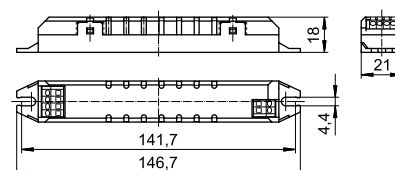
acc. to EN 61347 Test 2 (for T5)



K20



K21



Lamp				Electronic ballast							System
Output W	Type	Base	Power consumption W	Type	Ref. No.	Voltage AC 50, 60 Hz V±10%	Energy efficiency	Ambient temperature t _a (°C)	Casing temperature t _c (°C)	Casing	Output W
4	T5	G5	1 x 4.6	ELXs 116.900	188661	220–240	A3	–15 to 55	max. 75	K20	5.9
			1 x 4.6	ELXs 116.903	188662	220–240	A3	–15 to 55	max. 75	K21	5.9
6	T5	G5	1 x 6.0	ELXs 116.900	188661	220–240	A2	–15 to 55	max. 75	K20	7.5
			1 x 6.0	ELXs 116.903	188662	220–240	A2	–15 to 55	max. 75	K21	7.5
8	T5	G5	1 x 7.1	ELXs 116.900	188661	220–240	A2	–15 to 55	max. 75	K20	8.6
			1 x 7.1	ELXs 116.903	188662	220–240	A2	–15 to 55	max. 75	K21	8.6
13	T5	G5	1 x 12.0	ELXs 116.900	188661	220–240	A2	–15 to 55	max. 75	K20	13.1
			1 x 12.0	ELXs 116.903	188662	220–240	A2	–15 to 55	max. 75	K21	13.1
14	T5	G5	1 x 14.1	ELXs 121.901	188663	220–240	A2	–15 to 55	max. 80	K20	16.3
			1 x 14.1	ELXs 121.904	188664	220–240	A2	–15 to 55	max. 80	K21	16.3
	T8	G13	1 x 13.5	ELXs 121.902	188665	220–240	A2	–15 to 55	max. 85	K20	16.2
			1 x 13.5	ELXs 121.905	188666	220–240	A2	–15 to 55	max. 85	K21	16.2
15	T8	G13	1 x 14.1	ELXs 124.902	188665	220–240	A2	–15 to 55	max. 85	K20	17.6
			1 x 14.1	ELXs 124.905	188666	220–240	A2	–15 to 55	max. 85	K21	17.6
16	T8	G13	1 x 12.0	ELXs 116.900	188661	220–240	A2	–15 to 55	max. 75	K20	13.4
			1 x 12.0	ELXs 116.903	188662	220–240	A2	–15 to 55	max. 80	K21	13.4
18	T8	G13	1 x 15.9	ELXs 124.902	188665	220–240	A2	–15 to 55	max. 85	K20	18.5
			1 x 15.9	ELXs 124.905	188666	220–240	A2	–15 to 55	max. 85	K21	18.5
21	T5	G5	1 x 19.1	ELXs 121.901	188663	220–240	A2	–15 to 55	max. 80	K20	21.8
			1 x 19.1	ELXs 121.904	188664	220–240	A2	–15 to 55	max. 80	K21	21.8
24	T5	G5	1 x 20.1	ELXs 124.902	188665	220–240	A2	–15 to 55	max. 85	K20	21.5
			1 x 20.1	ELXs 124.905	188666	220–240	A2	–15 to 55	max. 85	K21	21.5

Components for Fluorescent Lamps

Electronic ballast for fluorescent lamps

Vossloh-Schwabe electronic ballasts are developed on the basis of the latest technological and component standards and are produced using state-of-the-art technology, ensuring high quality and reliability.

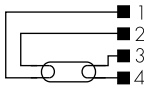
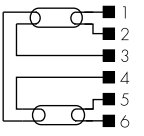
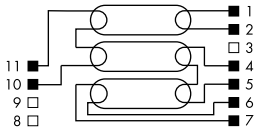
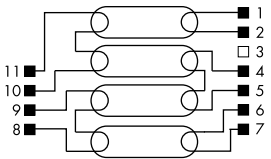
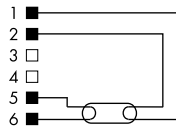
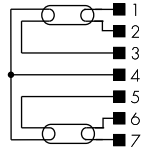
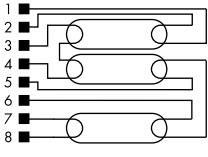
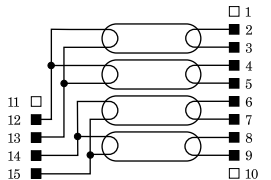
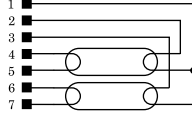
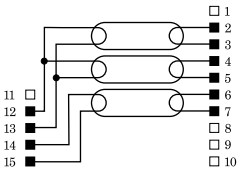
ELXc (warm start)

ELXc ballasts can be used for applications with high switching frequencies like in hotels and offices. The average service life of ELXc Eco Effectline range of ballasts is 30,000 hours and the remaining ELXc series of ballasts is 50,000 hours.

ELXd (dimmable/warm start)

These are warm start ballasts with an additional dimming function that is controlled via an interface fitted to the ballast. The analogue 1 - 10 Volt interface enables lighting to be ideally adjusted to suit the needs. Local control and system can be used so long they comply with the IEC/EN 60929 standard. The power factor for these ballasts is > 0.95 at 100% lamp operation. When using ELXd ballasts in a lighting system, an energy saving of 75% can be achieved coupling with movement detectors and light sensors. The average service life of ELXc is 50,000 hours.

Wiring diagrams for electronic ballasts

1 lamp	2 lamps	3 lamps	4 lamps
 <p>ELXc T5/T8 ELXd T8</p>	 <p>ELXc CFL/T8</p>	 <p>ELXc T5/T8</p>	 <p>ELXc T5/T8</p>
 <p>ELXc CFL</p>	 <p>ELXc T5</p>	 <p>ELXc T8</p>	 <p>ELXd T8</p>
	 <p>ELXd T8</p>	 <p>ELXd T8</p>	

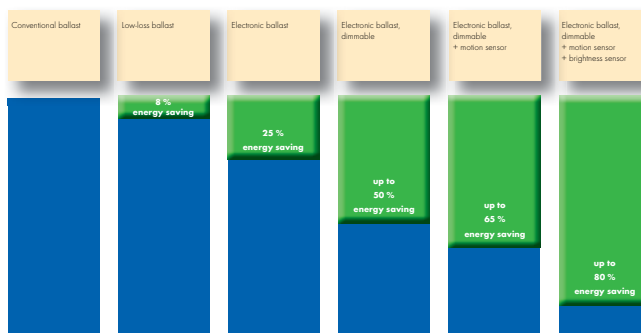
INDOOR LIGHT MANAGEMENT SYSTEM



LiCS Indoor

■ SAVE UP TO 55% OF ENERGY BY INTELLIGENT LIGHT CONTROL

By intelligent daylight harvesting with brightness sensors and presence control sensors up to 50% of energy can be saved. By the installation of the latest high efficient lighting technology the saving can even sum up to 80%.



■ DALI LIGHT CONTROLLERS

Vossloh-Schwabe offers you the full range of DALI controllers: Multiple room controller with EnOcean interface, single room controller and a luminaire controller. Designing the controllers, Vossloh-Schwabe followed a plug and play approach so that all controllers can be configured easily without any additional device.

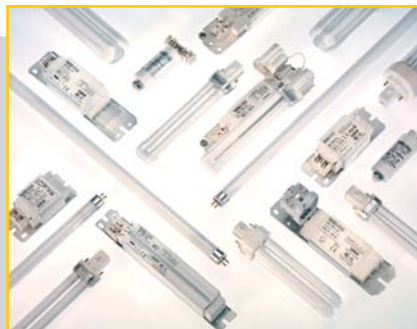


■ MULTISENSORS

The VS MultiSensors can be connected directly to all VS light controllers via the DALI Bus. The MultiSensor can be used for daylight control, presence control in offices as well as movement sensor for applications up to 5m height. The sensor is available for surface mount, ceiling flush mount and as luminaire integration version.



RELIABLE AND
DURABLE



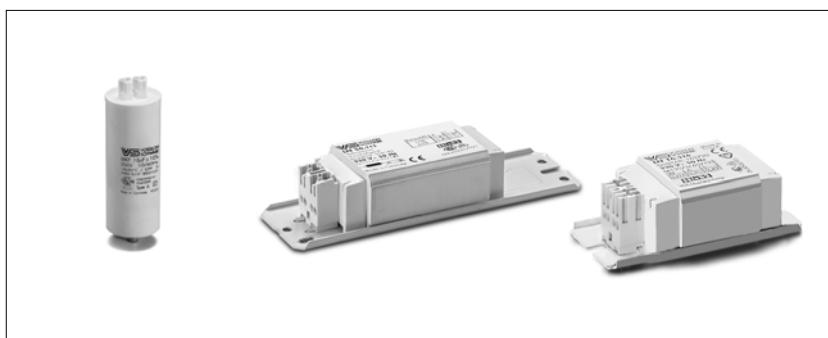
ELECTROMAGNETIC BALLASTS

The following chapter presents Vossloh-Schwabe's broad range of electromagnetic ballasts for compact fluorescent lamps and tubular fluorescent lamps. The variety of available performance properties and shapes satisfies the most diverse design requirements.

Vossloh-Schwabe's electromagnetic ballasts are characterized by extremely tight impedance-value tolerances, which are achieved by individual adjustment of the air gap during the automated production and testing process of the ballasts. This optimises both light output as well as the service life of fluorescent lamps.



Magnetic Packages for Compact Fluorescent Lamps 7–26 W Standard Ballasts



Electromagnetic built-in ballasts for compact fluorescent lamps

Vacuum-impregnated with polyester resin

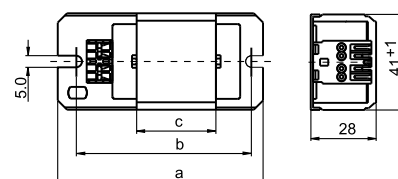
Push-in terminals for leads: 0.5–1 mm²

For the automatic luminaire wiring:

IDC terminals for leads H05V-U 0.5

tw 130, Protection class I

EN 61347 (Safety), EN 60921 (Performance)



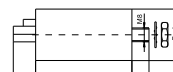
Lamp				Ballast									Capacitor	
Output W	Type	Base	Current mA	Type	Ref. No.	V, Hz	a mm	b mm	c mm	Weight kg	Δt K	EEl	C _P μF	Current mA
Electromagnetic ballasts														
7	TC-S	G23	175	L7/9/11.881	509257	220, 50	85	75	27	0.29	50	—	2.0	80
9	TC-S	G23	170	L7/9/11.101	509257	220, 50	85	75	27	0.29	50	—	2.0	60
11	TC-S	G23	155	L7/9/11.101	509257	220, 50	85	75	27	0.29	50	—	2.0	80
13	TC-D/T	G24d-1/GX24d-1	175	LN 13.879	509253	220, 50	85	75	27	0.29	50	—	2.0	80
18	TC-D/T	G24d-2/GX24d-2	220	LN 181.880	509261	220, 50	85	75	27	0.29	55	—	2.0	110
26	TC-D/T	G24d-3/GX24d-3	325	L 18.933	534624	220, 50	150	140	45	0.49	70	—	3.5	140
7	TC-S	G23	175	L7/9/11.851	503875	230, 50	85	75	27	0.29	65	B2	2.0	50
9	TC-S	G23	170	L7/9/11.851	503875	230, 50	85	75	27	0.29	65	B2	2.0	60
11	TC-S	G23	155	L7/9/11.851	503875	230, 50	85	75	27	0.29	65	B2	2.0	80
13	TC-D/T	G24d-1/GX24d-1	175	L 13.849	503868	230, 50	85	75	27	0.29	65	B2	2.0	80
18	TC-D/T	G24d-2/GX24d-2	220	LN 181.850	503871	230, 50	85	75	27	0.29	65	B2	2.0	110
26	TC-D/T	G24d-3/GX24d-3	325	LN 26.813	509502	230, 50	110	100	45	0.42	55	B2	3.5	140
7	TC-S	G23	175	L7/9/11.245	538588	240, 50	85	75	27	0.32	60	B2	2.0	50
9	TC-S	G23	170	L7/9/11.245	538588	240, 50	85	75	27	0.32	60	B1	2.0	60
11	TC-S	G23	155	L7/9/11.245	538588	240, 50	85	75	27	0.32	60	B1	2.0	80
13	TC-D/T	G24d-1/GX24d-1	175	LN 13.413	164342	240, 50	85	75	34	0.32	60	B1	2.0	80
18	TC-D/T	G24d-2/GX24d-2	220	LN 181.418	538572	240, 50	85	75	27	0.32	65	B2	2.0	110
26	TC-D/T	G24d-3/GX24d-3	325	LN 26.238	545405	240, 50	105	95	45	0.43	55	B2	3.5	140
7	TC-S	G23	175	L7/9/11.832	538567	220, 60	85	75	27	0.28	55	—	2.0	70
9	TC-S	G23	170	L7/9/11.832	538567	220, 60	85	75	27	0.28	55	—	2.0	70
11	TC-S	G23	155	L7/9/11.832	538567	220, 60	85	75	27	0.28	55	—	2.0	70
13	TC-D/T	G24d-1/GX24d-1	175	L 13.235	538576	220, 60	85	75	27	0.28	50	—	2.0	110
18	TC-D/T	G24d-2/GX24d-2	220	L 181.236	538577	220, 60	85	75	27	0.28	50	—	2.0	110
26	TC-D/T	G24d-3/GX24d-3	325	L 18.121	532145	220, 60	110	100	45	0.41	65	—	3.0	160

Parallel connected capacitors

for 250 V, 50/60 Hz

EN 61347 (Safety), EN 60921 (Performance)

PC



Capacity μF	Ref. No.	Temperature range °C	Ø (D) mm	Length (L) mm	Male nipple/ length (mm)	Push-in twin terminals	Weight g	Unit pcs.
Parallel connected capacitors								
2.0	500296	–40 to 85	25	57	M8x10	0.5–1 mm ²	22	530
3.0	500300	–40 to 85	25	57	M8x10	0.5–1 mm ²	22	530
3.5	500301	–40 to 85	25	57	M8x10	0.5–1 mm ²	22	530

Magnetic Packages for T8 Fluorescent Lamps 18–36 W

Standard ballasts for fluorescent lamps

Vacuum-impregnated with polyester resin

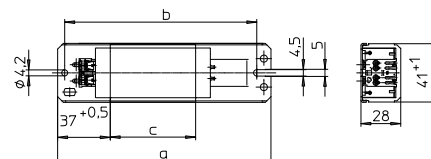
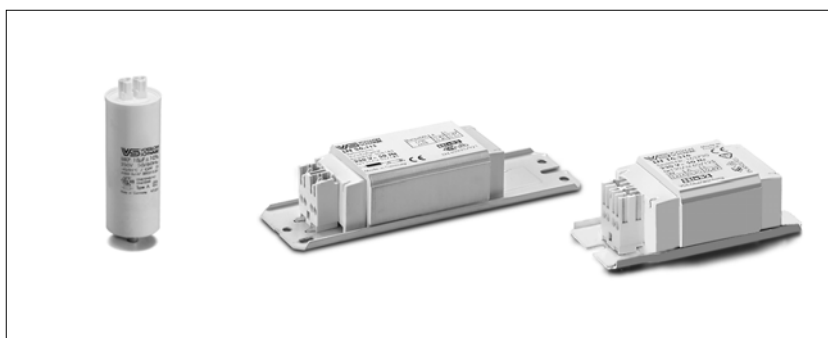
Push-in terminals for leads: 0.5–1 mm²

For the automatic luminaire wiring:

IDC terminals for leads H05V-U 0.5

tw 130, Protection class I

EN 61347 (Safety), EN 60921 (Performance)



Lamp				Ballast									Capacitor	
Output W	Type	Base	Current mA	Type	Ref. No.	V, Hz	a mm	b mm	c mm	Weight kg	Δt K	EEI	C _P μF	Current mA
Electromagnetic ballasts														
18	T8 (T26)	G13	370	L18.933	534624	220, 50	150	140	45	0.43	70	—	4.5	120
36	T8 (T26)	G13	430	L36.158	530252	220, 50	150	140	45	0.43	60	—	4.5	210
18	T8 (T26)	G13	370	L18.934	534621	230, 50	150	140	45	0.43	70	—	4.5	120
36	T8 (T26)	G13	430	L36.132	535977	230, 50	150	140	45	0.43	65	—	4.5	210
18	T8 (T26)	G13	370	LN18.569	169822	230, 50	155	140	92	0.76	40	B1	4.5	120
36	T8 (T26)	G13	430	LN36.570	169779	230, 50	155	140	92	0.79	35	B1	4.5	210
18	T8 (T26)	G13	370	L18.936	534827	240, 50	150	140	45	0.42	70	—	4.5	120
36	T8 (T26)	G13	430	L36.124	534292	240, 50	150	140	45	0.42	65	—	4.5	210
18	T8 (T26)	G13	370	LN18.162	538849	240, 50	150	130	60	0.55	55	B2	4.5	120
36	T8 (T26)	G13	430	LN36.201	534007	240, 50	155	140	60	0.56	60	B2	4.5	210
18	T8 (T26)	G13	370	L18.249	538801	220, 60	150	140	34	0.32	75	—	4.0	220
36	T8 (T26)	G13	430	L36.120	509373	220, 60	150	140	45	0.42	60	—	4.0	220

Parallel connected capacitors

for 250 V, 50/60 Hz

EN 61347 (Safety), EN 60921 (Performance)



Capacity μF	Ref. No.	Temperature range °C	Ø (D) mm	Length (L) mm	Male nipple/ length (mm)	Push-in twin terminals	Weight g	Unit pcs.
Parallel connected capacitors								
4.0	500302	-40 to 85	25	70	M8x10	0.5–1.0 mm ²	29	450
4.5	500303	-40 to 85	25	70	M8x10	0.5–1.0 mm ²	29	530

Lampholders with Base G24, GX24

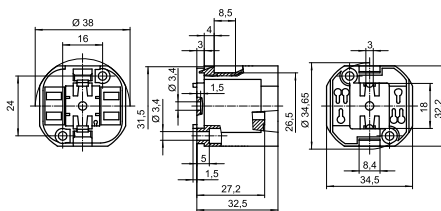
Plain casing – key / keyless version

Casing: PBT GF, white, T140

Push in terminals: 0.5–1 mm²

Front fixing hole for screw M3

Central hole for screw M3



Type	Ref. No.	Base	Lamp	Output (W)	Weight (g)	Unit (pcs.)
Key						
71501	527735	G24d-1 / GX24d-1	TC-D/TC-T	8, 10, 13 /13	11.8	500
71502	527736	G24d-2 / GX24d-2	TC-D/TC-T	18/18	11.8	500
71503	527737	G24d-3 / GX24d-3	TC-D/TC-T	26/26	14.3	500
71503	527739	G24q-1 / GX24q-1	TC-DEL/TC-TEL	10, 13/13	14.3	500
71512	527740	G24q-2 / GX24q-2	TC-DEL/TC-TEL	18/18	14.3	500
71513	527741	G24q-3 / GX24q-3	TC-DEL/TC-TEL	26/26,32	14.3	500
71514	527742	GX24q-4	TC-TEL	42	14.3	500
Keyless						
71500	534289	G24d / GX24d	TC-D/TC-T	8, 10, 13, 18, 26/13, 18, 26	13.0	500
71510	527738	G24q / GX24q	TC-DEL/TC-TEL	10, 13, 18, 26/13, 18, 26, 32, 42	14.8	500

External thread – key / keyless version

External thread 40x2.5 IEC 60399

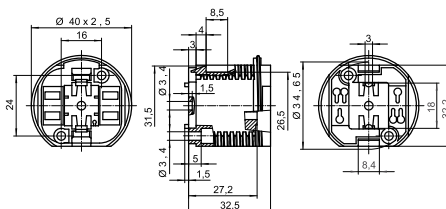
Casing: PBT GF, white, T140

Push in terminals: 0.5–1 mm²

Front fixing hole for screw M3

Central hole for screw M3

For screw rings



Type	Ref. No.	Base	Lamp	Output (W)	Weight (g)	Unit (pcs.)
Key						
71001	527502	G24d-1 / GX24d-1	TC-D/TC-T	8, 10, 13 /13	13.0	500
71002	527503	G24d-2 / GX24d-2	TC-D/TC-T	18/18	13.0	500
71003	527504	G24d-3 / GX24d-3	TC-D/TC-T	26/26	13.0	500
71011	527506	G24q-1 / GX24q-1	TC-DEL/TC-TEL	10, 13/13	14.8	500
71012	527507	G24q-2 / GX24q-2	TC-DEL/TC-TEL	18/18	14.8	500
71013	527508	G24q-3 / GX24q-3	TC-DEL/TC-TEL	26/26,32	14.8	500
71019	527512	GX24q-4	TC-TEL	42	14.8	500
Keyless						
71000	534288	G24d / GX24d	TC-D/TC-T	8, 10, 13, 18, 26/13, 18, 26	13.4	500
71010	527505	G24q / GX24q	TC-DEL/TC-TEL	10, 13, 18, 26/13, 18, 26, 32, 42	15.0	500

Lampholders

2G11 Surface-mounted lampholder

Casing: PBT GF, white, T140, nominal rating: 2/500

Push-in twin terminals: 0.5–1 mm² (lamp circuit)

Push-in terminals: 0.5–1 mm² (starter circuit)

Lateral pivots for bracket 105824

Base fixing holes for screws M4

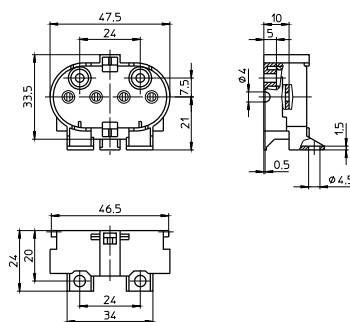
Rear fixing holes for self-tapping screws

acc. to ISO 1481/7049-ST4.2-C/F

Front fixing holes for screws M3

Weight: 14 g, unit: 500 pcs., type: 36050

Ref. No.: 101485



2G11 Surface-mounted lampholder

Casing: PBT GF, white, T140, nominal rating: 2/500

Push-in twin terminals: 0.5–1 mm² (lamp circuit)

Push-in terminals: 0.5–1 mm² (starter circuit)

Lateral pivots for bracket 105824

Rear fixing holes for self-tapping screws

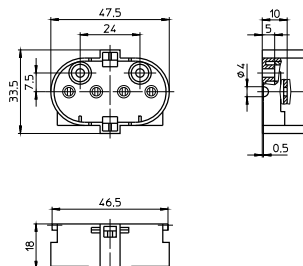
acc. to ISO 1481/7049-ST4.2-C/F

Front fixing holes for screws M3

Weight: 14 g, unit: 500 pcs.

Type: 36051

Ref. No.: 101489



Lamp supports for TC-F, TC-L lamps

Material: stainless steel

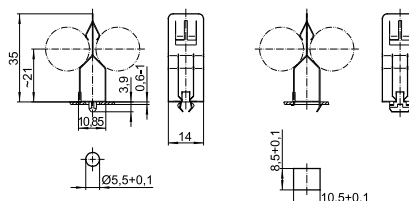
Weight: 1.5 g, unit: 500 pcs.

Type: 93058 push-fit foot for Ø 5.5 mm

Ref. No.: 509520

Type: 93059 push-fit foot for 8.5x10.5 mm

Ref. No.: 509519



G23 Lampholder

For push-fit on track

Casing: PBT GF, white, T140, nominal rating: 2/250

Push-in twin terminals: 0.5–1 mm²

Lateral fixing holes for self-tapping screws

acc. to ISO 1481/7049-ST2.9-C/F

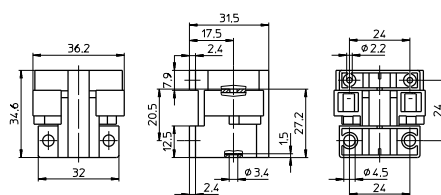
Fixing holes for screws M4

Central fixing hole for screw M3

Weight: 14 g, unit: 500 pcs.

Type: 35007

Ref. No.: 101310



G10q Push-fit lampholder

Casing: PC, white, T110

Spring bracket Ø 32 mm: CrNi-steel

Nominal rating: 2/500

Push-in terminals: 0.5–1 mm²

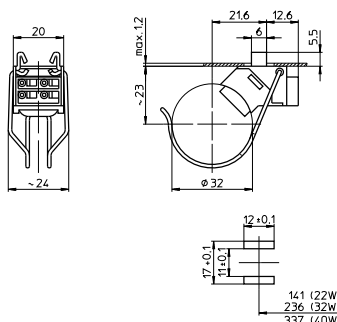
Lamp axis: 23 mm

Push-fit foot for wall thickness up to 1.2 mm

Weight: 9 g, unit: 500 pcs.

Type: 40100

Ref. No.: 101528



G13 Lampholders for Linear Fluorescent Lamps T8

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

Pin support for reliable contact

Lampholders with integrated starter holder have push-in twin terminals for the lamp circuit and push-in terminals for the starter circuit.

Max. permitted temperature T_m
on the rear side of the lampholder: 110°C

G13 Built-in lampholder for lamps T8 and T12

Lampholder thickness: 10.7 mm

Casing: PC, white, rotor: PBT GF, white, T130

Nominal rating: 2/500

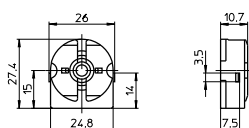
Push-in terminals: 0.5 – 1 mm²

Lateral fixing clips

Weight: 5 g, unit: 1000 pcs.

Type: 47504

Ref. No.: 101745



G13 Built-in lampholder for lamps T8 and T12

With starter attachment

Lampholder thickness: 9.5 mm

Casing: PC, white, rotor: PBT GF, white, T130

Nominal rating: 2/500

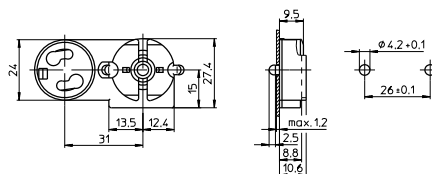
Push-in terminals: 0.5 – 1 mm²

Rear split pins for wall thickness up to 1.2 mm

Weight: 8 g, unit: 1000 pcs.

Type: 47605

Ref. No.: 101769



G13 Rotoclic built-in lampholders for lamps T8 and T12

T140, nominal rating: 2/500

Base push-in terminals: 0.5 – 1 mm²

Rear split pins for wall thickness up to 1.2 mm

Weight: 5.1/5.9/5/5.5 g, unit: 1000 pcs.

Type: 49105/49106 lampholder thickness: 13 mm

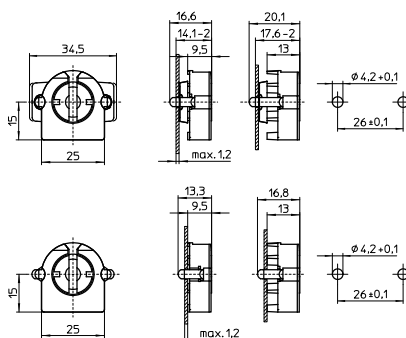
Ref. No.: 537166

Ref. No.: 537167 with spring adjustment

Type: 49505/49506 lampholder thickness: 9.5 mm

Ref. No.: 537174

Ref. No.: 537175 with spring adjustment



G13 Rotoclic 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

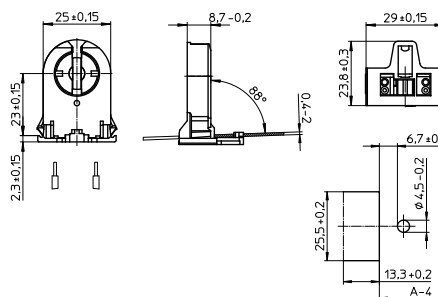
Lateral fixing clips for wall thickness 0.4 – 2 mm

Weight: 6.8 g, unit: 1000 pcs.

Type: 27700/27701

Ref. No.: 546641 with stop

Ref. No.: 546642 without stop



G13 Rotoclic push-through lampholders for lamps T8, with starter attachment

Lamp axis: 23 mm

Casing: PC, white, frontplate: PBT GF, white

T140, nominal rating: 2/500

Push-in terminals: 0.5–1 mm²

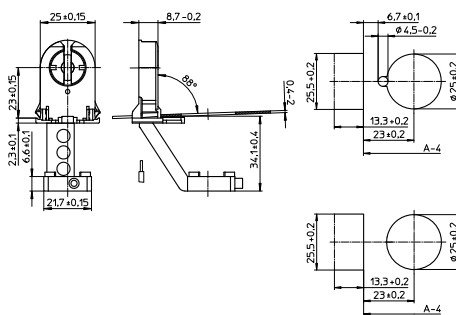
Lateral fixing clips for wall thickness 0.4–2 mm

Weight: 10.4 g, unit: 500 pcs.

Type: 27800/27801

Ref. No.: 546647 with stop

Ref. No.: 546648 without stop



G13 Push-through lampholders for lamps T8 and T12

Lamp axis: 31 mm

Casing: PC, white, frontplate: PBT GF, white

T140, nominal rating: 2/500

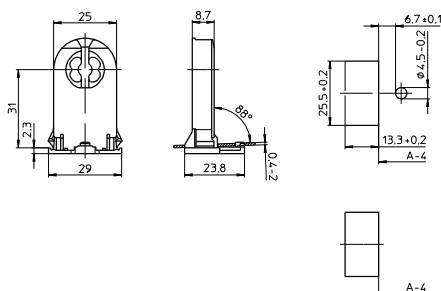
Push-in terminals: 0.5–1 mm²

Lateral fixing clips for wall thickness 0.4–2 mm

Weight: 7.8 g, unit: 1000 pcs. type: 28500/28501

Ref. No.: 109338 with stop

Ref. No.: 109339 without stop



G13 Push-through lampholders for lamps T8 and T12

With starter attachment

Lamp axis: 31 mm

Casing: PC, white, frontplate: PBT GF, white

T140, nominal rating: 2/500

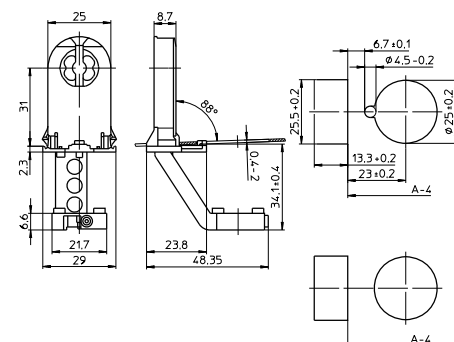
Push-in terminals: 0.5–1 mm²

Lateral fixing clips for wall thickness 0.4–2 mm

Weight: 10.1 g, unit: 500 pcs. type: 28600/28601

Ref. No.: 109340 with stop

Ref. No.: 109341 without stop



G13 Twin lampholders for lamps T8 and T12

Lamp axis: 25 mm, distance between two lamp axes: 76 mm, casing: PC, white, rotor: PBT GF,

white, T130, nominal rating: 2/500

Base wiring

Push-in terminals: 0.5–1 mm²

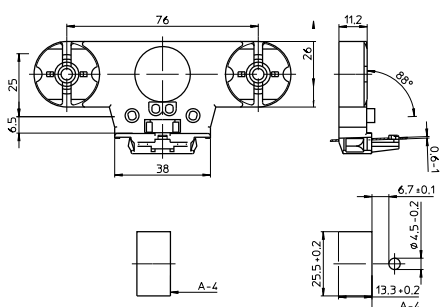
Push-fit foot for wall thickness 0.6–1 mm

Weight: 21 g, unit: 200 pcs.

Type: 22604/22602

Ref. No.: 108816 with stop

Ref. No.: 100487 without stop



G13 Twin lampholders

With starter attachment

Lamp axis: 25 mm, distance between two lamp axes: 76 mm, casing: PC, white, rotor: PBT GF,

white, T130, nominal rating: 2/500

Base wiring

Push-in terminals: 0.5–1 mm²

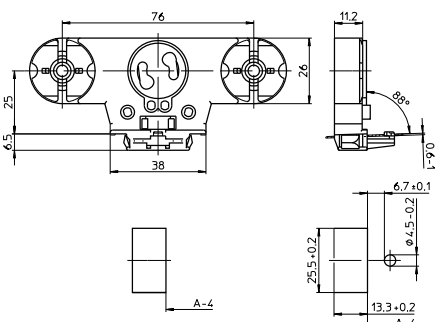
Push-fit foot for wall thickness 0.6–1 mm

Weight: 21 g, unit: 200 pcs.

Type: 22600/22601

Ref. No.: 100484 with stop

Ref. No.: 100486 without stop



Starter Holders

**For starters acc. to DIN VDE 0712 part 101,
IEC 60155**

Starter holders with central stud are suitable
for luminaires of protection class II.

Starter holders

Material: PC, white, T110, nominal rating: 2/250

Push-in terminals: 0.5 – 1 mm², solid

Front and rear split pins for wall thickness up to 1.2 mm

Rear of starter holders/luminaire: IP40

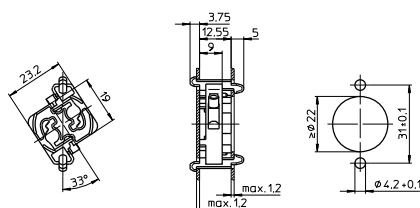
Weight: 2.7g, unit: 1000 pcs.

Type: 02110

Ref. No.: 109784

Type: 02111 with central stud

Ref. No.: 109785



Starter holder with integrated extension piece

Material: PC, white, T110, nominal rating: 2/250

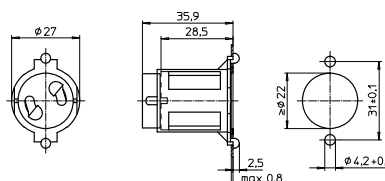
Push-in terminals: 0.5 – 1 mm²

Front split pins for wall thickness up to 0.8 mm

Weight: 6 g, unit: 1000 pcs.,

Type: 43300

Ref. No.: 101636



G5 Lampholders for Linear Fluorescent Lamps T5

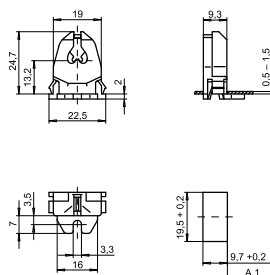
For fluorescent lamps T5 (T16)

Max. permitted temperature T_m
on the rear side of the lampholder: 110 °C

G5 Push-through/surface-mounted lampholder

Lamp axis push-through lampholder: 13.2 mm
Lamp axis surface-mounted lampholder: 15.2 mm
Casing: PC, white, T110
Nominal rating: 2/500
Push-in terminals: 0.5–1 mm²
Lateral fixing clips for wall thickness 0.5–1.5 mm
Fixing slot for screw M3
Weight: 3.2 g, unit: 1000 pcs.
Type: 09105

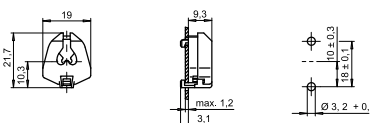
Ref. No.: 100305



G5 Built-in lampholder

Casing: PC, white, T110
Nominal rating: 2/500
Push-in terminals: 0.5–1 mm²
Rear split pins for wall thickness up to 1.2 mm
Weight: 2.5 g, unit: 1000 pcs.
Type: 09205

Ref. No.: 100310



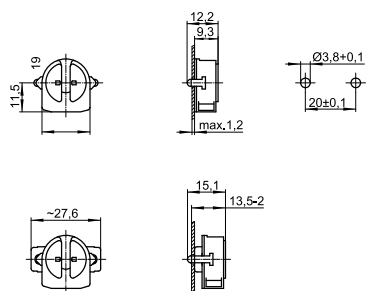
G5 Built-in lampholders

Casing: PBT GF/PC, white, rotor: PBT GF, white
T140, nominal rating: 2/500
Push-in twin terminals: 0.5–1 mm²
Rear split pins for wall thickness up to 1.2 mm
Weight: 2.9/3.3 g, unit: 1000 pcs.
Type: 09405

Ref. No.: 505733

Type: 09406 with glossy galvanized steel

Ref. No.: 542989

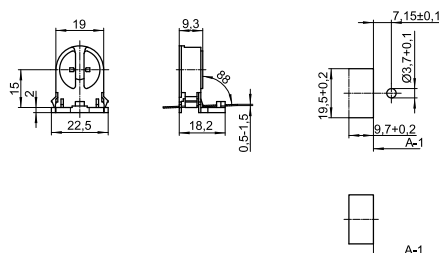


G5 Push-through lampholders

Lamp axis: 15 mm
Casing: PBT GF/PC, white, rotor: PBT GF, white
T140, nominal rating: 2/500
Push-in twin terminals: 0.5–1 mm²
Lateral fixing clips for wall thickness 0.5–1.5 mm
Weight: 3.4/3.3 g, unit: 1000 pcs.
Type: 09420/09421

Ref. No.: 505737 with stop

Ref. No.: 505739 without stop



G5 push-through lampholders

Lamp axis: 20 mm

Casing: PBT GF, white, rotor: PBT GF, white

T140, nominal rating: 2/500

Push-in twin terminals: 0.5 – 1 mm²

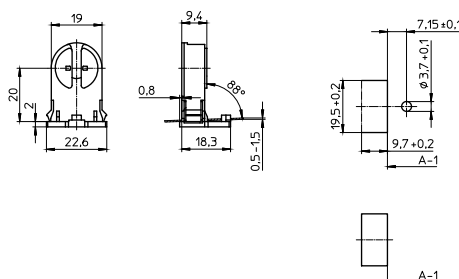
Lateral fixing clips for wall thickness 0.5 – 1.5 mm

Weight: 4.1 g, unit: 1000 pcs.

Type: 09432/09433

Ref. No.: 545933 with stop

Ref. No.: 545935 without stop



G5 push-through lampholders

Lamp axis: 25 mm

Casing: PBT GF, white, rotor: PBT GF, white

T140, nominal rating: 2/500

Push-in twin terminals: 0.5 – 1 mm²

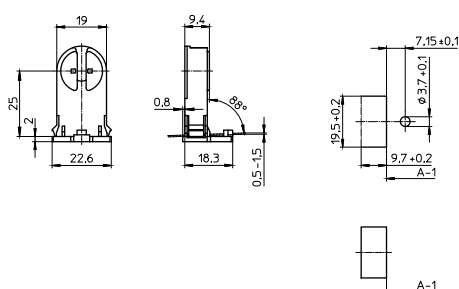
Lateral fixing clips for wall thickness 0.5 – 1.5 mm

Weight: 4.5 g, unit: 1000 pcs.

Type: 09434/09435

Ref. No.: 545937 with stop

Ref. No.: 545939 without stop



G5 Push-fit lampholder

Lamp axis: 14 mm

Casing: PBT GF/PC, white, rotor: PBT GF, white

T140, nominal rating: 2/500

Push-in twin terminals: 0.5 – 1 mm²

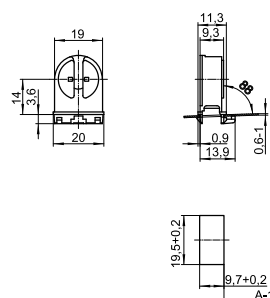
Base fixing clips for wall thickness 0.6 – 1 mm

Base or lateral wiring

Weight: 3.3 g, unit: 1000 pcs.

Type: 09440

Ref. No.: 505747



G5 Lampholder

For push-fit onto the lamp

Casing: PBT GF, white, T130

Nominal rating: 2/500

Push-in twin terminals: 0.5 – 1 mm²

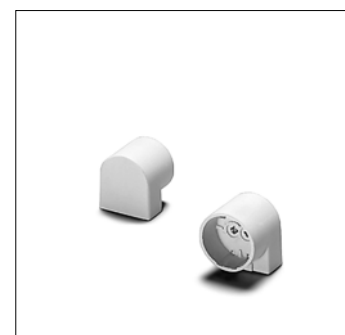
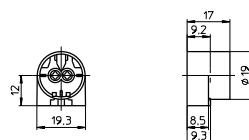
Pin support for reliable contact

For lamp support 109685

Weight: 3.7 g, unit: 1000 pcs.

Type: 09170

Ref. No.: 109686



Lamp support

Lamp support for lamps Ø 16 mm

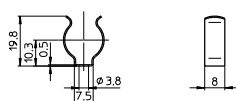
Material: zinc-coated polished steel

Fixing hole for screw M3.5

Weight: 1.4 g, unit: 1000 pcs.

Type: 94088

Ref. No.: 109685



2GX13 surface-mounted lampholder

Lamp axis: 15 mm

Casing: PC, white, T110

Nominal rating: 2/500

Push-in terminals: 0.5–1 mm²

Rear fixing holes for self-tapping screws

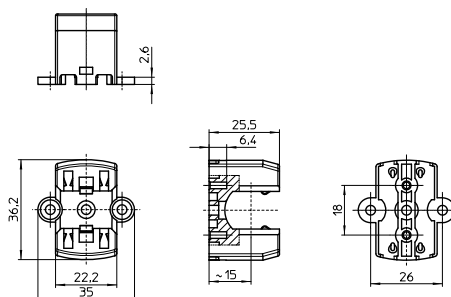
acc. to ISO 1481/7049-ST2.9-C/F

Lateral fixing holes for screws M3

Weight: 10.6 g, unit: 500 pcs.

Type: 58100

Ref. No.: 546655



Lamp support for lamps Ø 16 mm

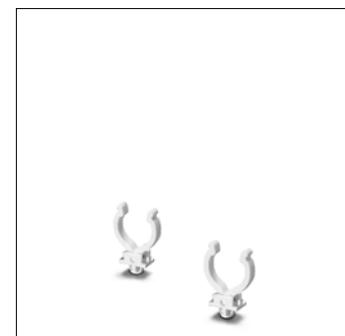
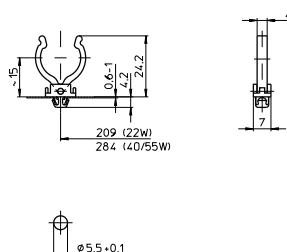
Material: PC, white, UV-stabilised

Push-fit foot for cut-out Ø 5.5 mm

Weight: 1 g, unit: 500 pcs.

Type: 84001

Ref. No.: 500757



G5 Built-in lampholder

Casing: PBT GF/PC, white, rotor: PBT GF, white

T140, nominal rating: 2/500

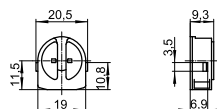
Push-in twin terminals: 0.5–1 mm²

Lateral fixing clips

Weight: 2.8 g, unit: 1000 pcs.

Type: 09404

Ref. No.: 505732



Push-fit bracket

For two G5 built-in lampholders 505732

Material: PC, white

Lamp axis: 20 mm

Distance between two lamp axes: 24 mm

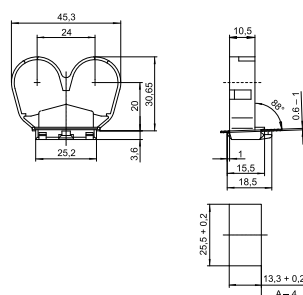
Push-fit foot for wall thickness 0.6–1 mm

Lateral fixing clips

Weight: 3.5 g, unit: 1000 pcs.

Type: 97677

Ref. No.: 507562



G5 Lampholders, Degree of Protection IP54/IP67

For fluorescent lamps T5 (T16)

For luminaires of protection class I and II

Lampholders protected against dust and
splashing water (IP54)

Dust and watertight lampholders (IP67)

Max. permitted temperature T_m
on the rear side of the lampholder: 110 °C

G5 Push-fit lampholder for metal casing

Casing: PC, white, interior part: PBT GF

T140, nominal rating: 2/500

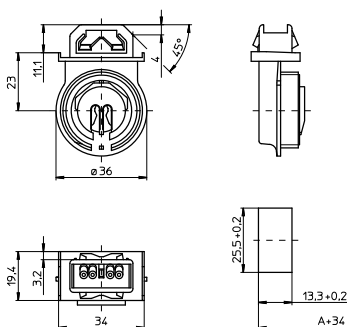
Push-in twin terminals: 0.5–1 mm²

Push-fit foot for wall thickness: 1.4–2 mm

Weight: 11.2 g, unit: 250 pcs.

Type: 84101 system 153

Ref No.: 529832



G5 Push-fit lampholder for plastic casing

Casing: PC, white, interior part: PBT GF

T140, nominal rating: 2/500

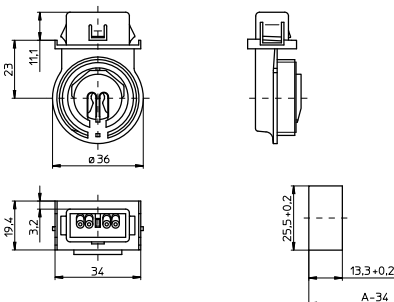
Push-in twin terminals: 0.5–1 mm²

Push-fit foot for wall thickness: 0.4–1 mm

Weight: 11.2 g, unit: 250 pcs.

Type: 84104 system 154

Ref No.: 530535



Foot gaskets for systems 153 and 154

Weight: 0.04/0.2/0.7 g

Unit: 1000 pcs.

Type: 98002 degree of protection IP67

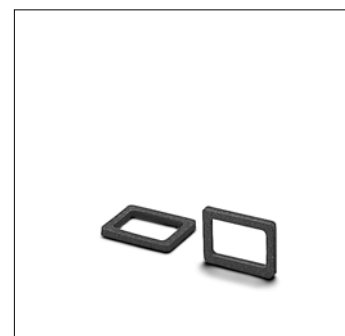
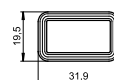
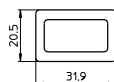
Ref No.: 108947 material: PE foam

Type: 98087 degree of protection IP67

Ref No.: 503773 material: EPDM, black

Type: 98003 degree of protection IP54

Ref No.: 108266 material: EPDM, black



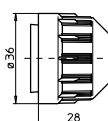
Screw ring for system 153 and 154

Ring: PBT GF, white, gasket: silicone

Weight: 12.5 g, unit: 250 pcs.

Type: 84103

Ref No.: 529836



Lampholders for Fluorescent Lamps

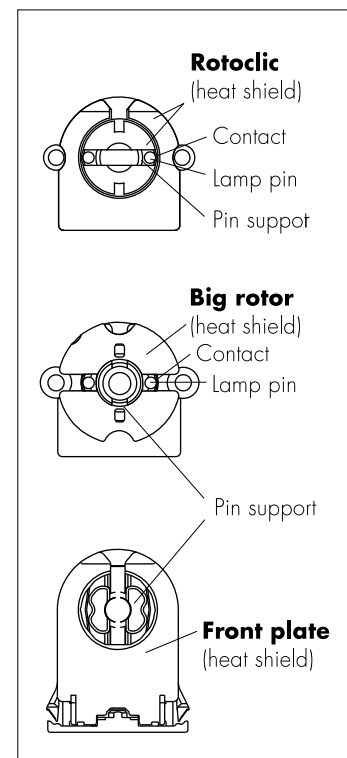
Lampholders for double-ended fluorescent lamps

VS lampholders for T lamps are characterised by a number of technical features that guarantee a high degree of reliability and safety. The heat-resistant PBT rotor with which most VS lampholders are fitted is a recognised trademark. In addition to the lampholders with the field-tested large rotor, VS also provides a new generation of lampholders featuring innovative "Rotoclic" rotor technology. This new VS technology constitutes a further milestone in the development of highly heat-resistant rotor systems.

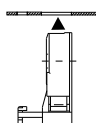
Among the special features of this new technology is a T140 temperature rating thanks to a front plate made entirely of PBT as well as a clearly audible click when the lamp is inserted or replaced. As a result, the motion of turning the lamp from "replacement" to "operating" position is aided acoustically.

In addition to this, VS produces a further series of lampholders with a rotor-like function, whose front plates are also made of highly heat-resistant PBT and have similarly been given a T140 temperature rating.

The maximum permissible temperature at the back of all lampholders is $T_m 110\text{ }^{\circ}\text{C}$. Another key feature common to all VS lampholders is a highly effective support for the lamp pin that reliably prevents any base pin deflection, even with older lamps, and guarantees a durable and firm contact.



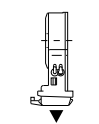
Push-through Lampholder



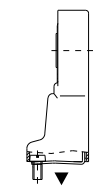
Built-in Lampholder



Push-fit Lampholder



Surface-mounted Lampholder



Compact Fluorescent Lamps TC-DEL and TC-TEL

TC-DEL – Double tube

Available in amber white, warm white and white

Wide variety of outputs: 13–26 W

Rated average life: 12,000 hrs.

RoHS compliant

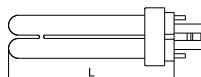
"VS"-branded

Suitable for G24q lampholder

Lamp diameter: 12 mm



TC-DEL



G24q-1 -2 -3



TC-TEL – Triple tube

Available in amber white, warm white and white

Wide variety of outputs: 26–57 W

Rated average life: 12,000 hrs.

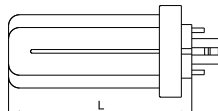
RoHS compliant

"VS"-branded

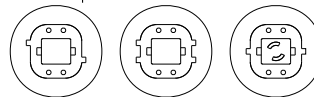
Suitable for GX24q lampholder

Lamp diameter: 12 mm

TC-TEL



GX24q-3



Lamp											
Output W	Base	Type	Ref. No.	Colour temperature K	CRI R _a	Voltage V	Current mA	Lumen lm	Length mm	Energy efficiency	Packaging Qty./Carton
13	G24q-1	TCDEL-13-2700	541054	2700	> 82	91	175	900	112	A	50
13	G24q-1	TCDEL-13-3000	541055	3000	> 82	91	175	900	112	A	50
13	G24q-1	TCDEL-13-4000	541056	4000	> 82	91	175	900	112	A	50
18	G24q-2	TCDEL-18-2700	541057	2700	> 82	100	220	1200	127.5	A	50
18	G24q-2	TCDEL-18-3000	541058	3000	> 82	100	220	1200	127.5	A	50
18	G24q-2	TCDEL-18-4000	541059	4000	> 82	100	220	1200	127.5	A	50
26	G24q-3	TCDEL-26-2700	541060	2700	> 82	105	325	1780	147.5	A	50
26	G24q-3	TCDEL-26-3000	541061	3000	> 82	105	325	1780	147.5	A	50
26	G24q-3	TCDEL-26-4000	541062	4000	> 82	105	325	1780	147.5	A	50
26	GX24q-3	TCTEL-26-2700	541063	2700	> 82	105	325	1790	112	A	50
26	GX24q-3	TCTEL-26-3000	541064	3000	> 82	105	325	1790	112	A	50
26	GX24q-3	TCTEL-26-4000	541065	4000	> 82	105	325	1790	112	A	50
32	GX24q-3	TCTEL-32-2700	541066	2700	> 82	100	320	2400	125	A	50
32	GX24q-3	TCTEL-32-3000	541067	3000	> 82	100	320	2400	125	A	50
32	GX24q-3	TCTEL-32-4000	541068	4000	> 82	100	320	2400	125	A	50
42	GX24q-4	TCTEL-42-2700	541069	2700	> 82	135	320	3200	148	A	50
42	GX24q-4	TCTEL-42-3000	541070	3000	> 82	135	320	3200	148	A	50
42	GX24q-4	TCTEL-42-4000	541071	4000	> 82	135	320	3200	148	A	50
57	GX24q-5	TCTEL-57-2700	541072	2700	> 82	182	320	4250	179	A	50
57	GX24q-5	TCTEL-57-3000	541073	3000	> 82	182	320	4250	179	A	50
57	GX24q-5	TCTEL-57-4000	541074	4000	> 82	182	320	4250	179	A	50

Compact Fluorescent Lamps TC-D and TC-T

TC-D – Double tube

Available in amber white, warm white
and white

Wide variety of outputs: 13–26 W

Rated average life: 12,000 hrs.

RoHS compliant

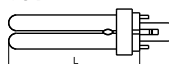
"VS"-branded

Suitable for G24d lampholder

Lamp diameter: 12 mm



TC-D



G24d-1 -2 -3



Lamp											
Output W	Base	Type	Ref. No.	Colour temperature K	CRI R _a	Voltage V	Current mA	Lumen lm	Length mm	Energy efficiency	Packaging Qty./Carton
13	G24d-1	TCD-13-2700	541075	2700	> 82	91	175	900	112	A	50
13	G24d-1	TCD-13-3000	541076	3000	> 82	91	175	900	112	A	50
13	G24d-1	TCD-13-4000	541077	4000	> 82	91	175	900	112	A	50
18	G24d-2	TCD-18-2700	541078	2700	> 82	100	220	1200	127.5	A	50
18	G24d-2	TCD-18-3000	541079	3000	> 82	100	220	1200	127.5	A	50
18	G24d-2	TCD-18-4000	541080	4000	> 82	100	220	1200	127.5	A	50
26	G24d-3	TCD-26-2700	541081	2700	> 82	105	325	1780	147.5	A	50
26	G24d-3	TCD-26-3000	541082	3000	> 82	105	325	1780	147.5	A	50
26	G24d-3	TCD-26-4000	541083	4000	> 82	105	325	1780	147.5	A	50

Compact Fluorescent Lamps TC-L

TC-L Single tube

Available in amber white, warm white
and white

Wide variety of outputs: 18–55 W

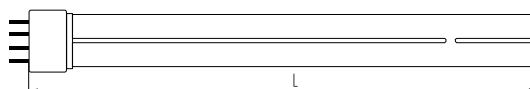
Rated average life: 12,000 hrs.

RoHS compliant

"VS"-branded

Suitable for 2G11 lampholder

Lamp diameter: 17 mm



Lamp										
Output W	Type	Ref. No.	Colour temperature K	CRI R _a	Voltage V	Current mA	Lumen lm	Length mm	Energy efficiency	Packaging Qty./Carton
18	TCL-18-2700	541036	2700	> 82	58	375	1300	221	A	50
18	TCL-18-3000	541037	3000	> 82	58	375	1300	221	A	50
18	TCL-18-4000	541038	4000	> 82	58	375	1300	221	A	50
24	TCL-24-2700	541039	2700	> 82	87	345	1800	316	A	50
24	TCL-24-3000	541040	3000	> 82	87	345	1800	316	A	50
24	TCL-24-4000	541041	4000	> 82	87	345	1800	316	A	50
36	TCL-36-2700	541042	2700	> 82	106	435	2920	411	A	50
36	TCL-36-3000	541043	3000	> 82	106	435	2920	411	A	50
36	TCL-36-4000	541044	4000	> 82	106	435	2920	411	A	50
40	TCL-40-2700	541045	2700	> 82	126	320	3320	531	A+	50
40	TCL-40-3000	541046	3000	> 82	126	320	3320	531	A+	50
40	TCL-40-4000	541047	4000	> 82	126	320	3320	531	A+	50
55	TCL-55-2700	541051	2700	> 82	101	550	4700	531	A	50
55	TCL-55-3000	541052	3000	> 82	101	550	4700	531	A	50
55	TCL-55-4000	541053	4000	> 82	101	550	4700	531	A	50

T5 Lamps

T5 HE – High Efficiency

Available in amber white, warm white, white and daylight

Wide variety of outputs: 14–35 W

Rated average life: 20,000 hrs.

RoHS compliant

"VS"-branded

Suitable for G5 lampholder

Lamp diameter: 16 mm

Unit: 40 pcs./carton



Lamp										
Output W	Type	Ref. No.	Colour temperature K	CRI R _a	Voltage V	Current mA	Lumen lm	Length mm	Energy efficiency	Packaging Qty./Carton
14	T5HE-14-2700	541000	2700	> 82	82	170	1250	549	A+	40
14	T5HE-14-3000	541001	3000	> 82	82	170	1250	549	A+	40
14	T5HE-14-4000	541002	4000	> 82	82	170	1250	549	A+	40
14	T5HE-14-6500	541003	6500	> 80	82	170	1150	549	A+	40
21	T5HE-21-2700	541004	2700	> 82	123	170	2000	849	A+	40
21	T5HE-21-3000	541005	3000	> 82	123	170	2000	849	A+	40
21	T5HE-21-4000	541006	4000	> 82	123	170	2000	849	A+	40
21	T5HE-21-6500	541007	6500	> 80	123	170	1900	849	A+	40
28	T5HE-28-2700	541008	2700	> 82	167	170	2600	1149	A+	40
28	T5HE-28-3000	541009	3000	> 82	167	170	2600	1149	A+	40
28	T5HE-28-4000	541010	4000	> 82	167	170	2600	1149	A+	40
28	T5HE-28-6500	541011	6500	> 80	167	170	2400	1149	A+	40
35	T5HE-35-2700	541012	2700	> 82	209	170	3300	1449	A+	40
35	T5HE-35-3000	541013	3000	> 82	209	170	3300	1449	A+	40
35	T5HE-35-4000	541014	4000	> 82	209	170	3300	1449	A+	40
35	T5HE-35-6500	541015	6500	> 80	209	170	3000	1449	A	40

T5 Lamps

T5 HO – High Output

Available in amber white, warm white, white and daylight

Wide variety of outputs: 24–80 W

Rated average life: 20,000 hrs.

RoHS compliant, "VS"-branded

Suitable for G5 lampholder

Lamp diameter: 16 mm



Lamp										
Output W	Type	Ref. No.	Colour temperature K	CRI R _a	Voltage V	Current mA	Lumen lm	Length mm	Energy efficiency	Packaging Qty./Carton
24	T5HO-24-2700	541016	2700	> 82	75	300	1750	549	A	40
24	T5HO-24-3000	541017	3000	> 82	75	300	1750	549	A	40
24	T5HO-24-4000	541018	4000	> 82	75	300	1750	549	A	40
24	T5HO-24-6000	541019	6500	> 80	75	300	1650	549	A	40
39	T5HO-39-2700	541020	2700	> 82	112	340	3100	849	A	40
39	T5HO-39-3000	541021	3000	> 82	112	340	3100	849	A	40
39	T5HO-39-4000	541022	4000	> 82	112	340	3100	849	A	40
39	T5HO-39-6500	541023	6500	> 80	112	340	2950	849	A	40
49	T5HO-49-2700	541024	2700	> 82	191	250	4300	1449	A+	40
49	T5HO-49-3000	541025	3000	> 82	191	250	4300	1449	A+	40
49	T5HO-49-4000	541026	4000	> 82	191	250	4300	1449	A+	40
49	T5HO-49-6500	541027	6500	> 80	191	250	4100	1449	A+	40
54	T5HO-54-2700	541028	2700	> 82	118	460	4900	1149	A+	40
54	T5HO-54-3000	541029	3000	> 82	118	460	4900	1149	A+	40
54	T5HO-54-4000	541030	4000	> 82	118	460	4900	1149	A+	40
54	T5HO-54-6500	541031	6500	> 80	118	460	4700	1149	A+	40
80	T5HO-80-2700	541032	2700	> 82	145	555	6250	1449	A	40
80	T5HO-80-3000	541033	3000	> 82	145	555	6250	1449	A	40
80	T5HO-80-4000	541034	4000	> 82	145	555	6250	1449	A	40
80	T5HO-80-6500	541035	6500	> 80	145	555	6000	1449	A	40

ELECTRONIC AND ELECTROMAGNETIC TRANSFORMERS



FOR LOW-VOLTAGE HALOGEN INCANDESCENT LAMPS

The operating voltage of low-voltage halogen lamps is normally 12 V (6 and 24 V are also used for special applications). As a result, transformers are required in order to connect such lamps to the normal mains supply within buildings, whereby international requirements governing building installations specify that safety transformers or converters (electronic transformers) be exclusively used for such purposes nowadays. These devices are designed in such a way as to prevent both personal injury and the outbreak of fire should the lighting system malfunction.

Electronic converters

The following chapter provides an overview of the VS range of electronic converters that feature a whole range of advantages: light and compact, superior efficiency (approx. 95%), short-circuit protection, integrated overheating and overload protection, soft start for longer lamp life, broad part-load range and dimmability.

Electromagnetic safety transformers

The following chapter also provides an overview of Vossloh- Schwabe's range of electromagnetic transformers. The range is split into protection class II transformers and protection class I built-in transformers whose ultra-flat design make them particularly user-friendly. Lamp brightness can be regulated using conventional phase dimmers for low-voltage halogen lamps.



Electromagnetic Built-in Transformers

Shape: 28x41 mm

Electromagnetic safety halogen transformers

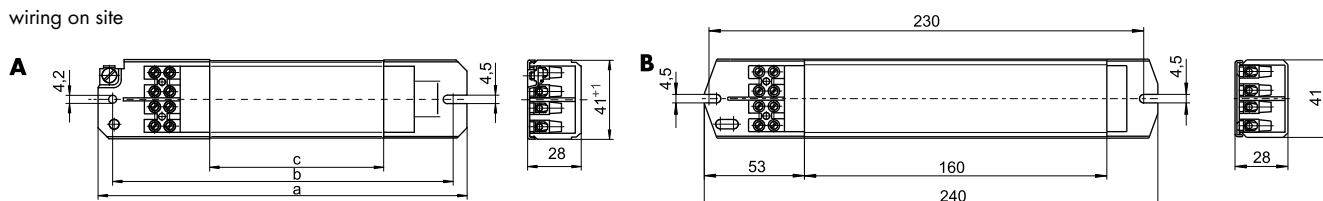
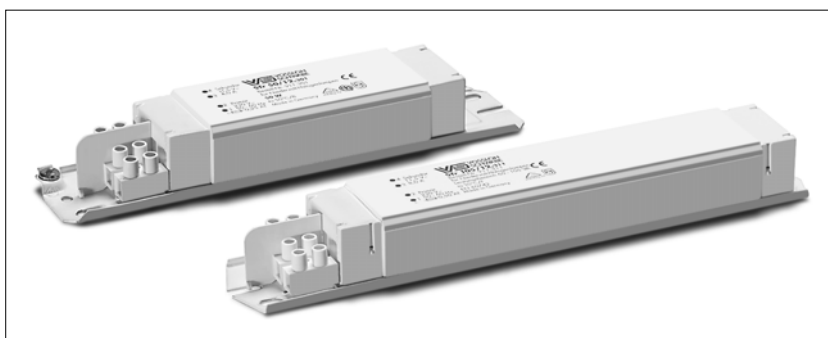
For low-voltage halogen lamps 12 V

Vacuum-impregnated with polyester resin

Screw terminals: 0.5–2.5 mm²

Protection class I

For these transformers without thermal cut-out a slow-acting fuse should be installed in the wiring on site



Safety transformers										Primary fuse
Type	Ref. No.	Capacity range [W]	50, 60 Hz V prim. V sec.	Ambient temperature t _a (°C)	Drawing	a mm	b mm	c mm	Weight kg	AT
230 V/50, 60 Hz										
STr 50/12.342	507181	35–50	230 11.5	40/B	A	175	165	83	0.73	0.250
STr 105/12.311	170002	60–105	230 11.5	30/F	B	240	230	160	1.33	0.500

Independent Electronic Converters – Lite Line

Electronic safety converters

For low-voltage halogen lamps 12 V

Casing: heat-resistant polyamide

Mains frequency: 50–60 Hz

Protection against "no load" operation

Protection against short-circuit:

Suitable for installation in furniture

and on combustible surfaces

Power factor: > 0.95, Efficiency: ≥ 94%

Dimming: optional with phase-cutting or leading-edge

Screw terminals: 2.5 mm²

Quantity of screw terminals:

1x2-poles primary, 1x2-poles secondary

With integrated cord grip

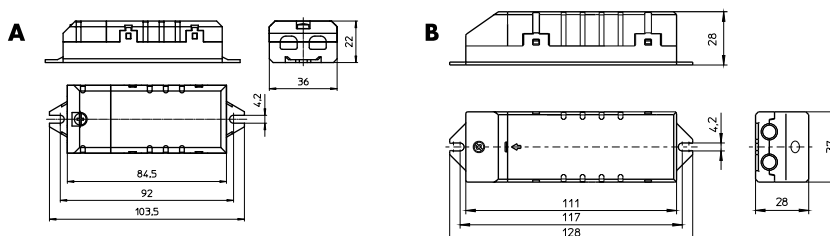
Protection class II

EST 60/12.636: SELV

EST 105/12.381: SELV-equivalent

Degree of protection: IP20

RFI-suppressed



Electronic converter									
Type	Ref. No.	Voltage (V) prim. (±10%) sec.	Nominal current A	Capacity range (W)	Ambient temperature t _a (°C)	Casing temperature t _a (°C)	Drawing	Weight g	
EST 60/12.636	186174	220–240 10.2–12.0	0.258–0.260	10–60	–20 to 45	max. 85	A	70	
EST 105/12.381	186077	230–240 11.2–11.7	0.435–0.445	20–105	–20 to 40	max. 85	B	95	

G4, GZ4, G5.3, GX5.3, G6.35, GY6.35 Lampholders

For low-voltage halogen incandescent lamps

The lampholders listed in this chapter permit the use of lamps with different bases. It is important to ensure that under no circumstances a lamp with a smaller pin diameter is used if a lamp with a larger pin diameter has already been used.

G/GZ4, G/GX5.3, G/GY6.35 Lampholder

Casing: LCP, natural, T270

Nominal rating: 8/24 (for G4/GZ4 lamps: 4/24)

Multipoint contacts: CuNiZn

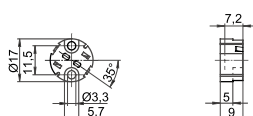
Push-in terminals for stranded conductors with ferrule on bare end of core Ø 1.4 - 1.8 mm

Fixing holes for screws M3

Weight: 2.2 g, unit: 1000 pcs.

Type: 33300

Ref. No.: 109547



G/GZ4, G/GX5.3, G/GY6.35 Lampholder

Casing: ceramic, cover plate: mica, T300

Nominal rating: 10/24

Contacts: Ni

Leads: Cu nickel-plated, stranded conductors

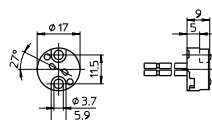
0.75 mm², PTFE-insulation, length: 140 mm

Fixing holes for screws M3

Weight: 6.6 g, unit: 1000 pcs.

Type: 32400

Ref. No.: 100939



G/GZ4, G/GX5.3, G/GY6.35 Lampholder

Casing: LCP, natural, T270

Nominal rating: 8/24 (for G4/GZ4 lamps: 4/24)

Multipoint contacts: CuNiZn

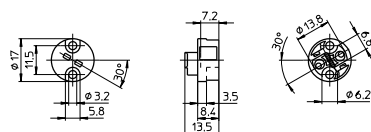
Push-in terminals for stranded conductors with ferrule on bare end of core Ø 1.4 - 1.8 mm

Fixing holes for screws M3

Weight: 2.8 g, unit: 1000 pcs.

Type: 33400

Ref. No.: 109674



G/GZ4, G/GX5.3, G/GY6.35 Lampholder

Casing: ceramic, cover plate: mica, T300

Nominal rating: 10/24

Multipoint contacts: CuNiZn

Leads: Cu nickel-plated, stranded conductors

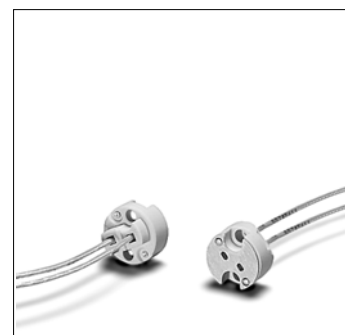
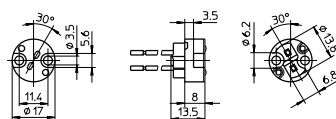
0.75 mm², PTFE-insulation, length: 140 mm

Fixing holes for screws M3

Weight: 7 g, unit: 1000 pcs.

Type: 32700

Ref. No.: 101258



E14 Thermoplastic Lampholders, One-piece

E14 Lampholders, for cover caps

Plain casing

Casing: PET GF, T210, normal rating: 2/250

Push-in terminals: 0.5–1.5 mm²

Rear fixing holes for self-tapping screws

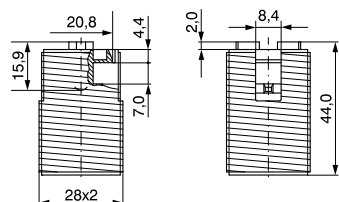
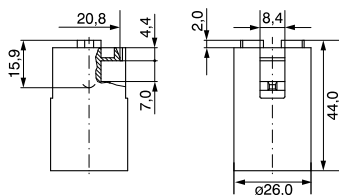
acc. to ISO 1481/7049-ST2.9-C/F

Weight: 11.8 g, unit: 1000 pcs.

Type: 64001 (ENEC), 640 (CQC)

Ref. No.: 109384 white

Ref. No.: 109383 black



E14 Lampholders, for cover caps

External thread 28x2 IEC 60399

Casing: PET GF, T210, normal rating: 2/250

Push-in terminals: 0.5–1.5 mm²

Rear fixing holes for self-tapping screws

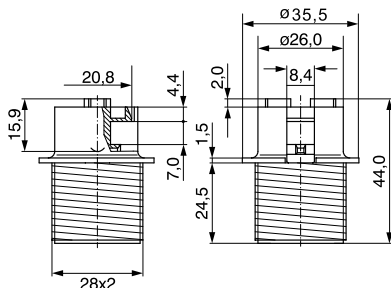
acc. to ISO 1481/7049-ST2.9-C/F

Weight: 13.1 g, unit: 1000 pcs.

Type: 64101 (ENEC), 641 (CQC)

Ref. No.: 109387 white

Ref. No.: 109386 black



E14 Lampholders, for cover caps

External thread 28x2 IEC 60399, with flange

Casing: PET GF, T210, normal rating: 2/250

Push-in terminals: 0.5–1.5 mm²

Rear fixing holes for self-tapping screws

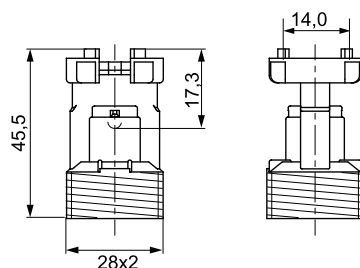
acc. to ISO 1481/7049-ST2.9-C/F

Weight: 14.1 g, unit: 1000 pcs.

Type: 64201 (ENEC), 642 (CQC)

Ref. No.: 503924 white

Ref. No.: 503923 black



E14 Lampholders, for cover caps

Profiled shape, short external thread 28x2 IEC 60399

Casing: PET GF, T210

Normal rating: 2/250

Push-in terminals: 0.5–1.5 mm²

Rear fixing holes for self-tapping screws

acc. to ISO 1481/7049-ST2.9-C/F

Weight: 9.4 g, unit: 1000 pcs.

Type: 64370 (ENEC/CQC)

Ref. No.: 506241 white

Ref. No.: 506243 black

E14 Lampholders

Profiled shape, short external thread 28x2 IEC 60399

Casing: PET GF, T210, nominal rating: 2/250

Push-in twin terminals: 0.5–1.5 mm²

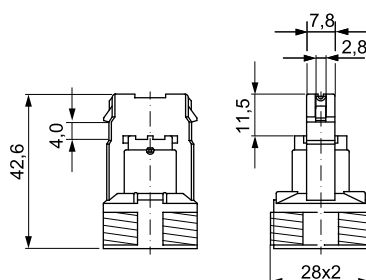
For clipping-in

Weight: 7.6 g, Unit: 1000 pcs.

Type: 64360 (ENEC), 643 (CQC)

Ref. No.: 535521 white

Ref. No.: 535292 black



E14 Lampholders

Profiled shape

Casing: PET GF, T210, nominal rating: 2/250

Push-in twin terminals: 0.5–1.5 mm²

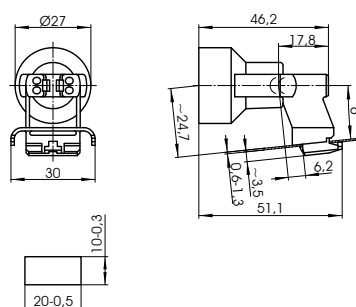
Lateral push-fit foot for cut-out 10x20 mm for wall thickness 0.5–0.8 mm

Tilt of lamp axis: 10°

Weight: 12 g, Unit: 1000 pcs.

Type: 64307 (ENEC/CQC)

Ref. No.: 535207 natural



Cover caps

Material: PA GF

Moulded thread: M10x1

Rotation stop: external

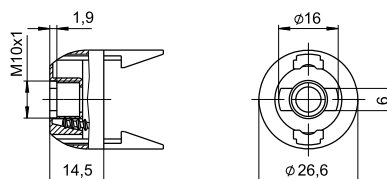
With locking screw

Weight: 3.1 g, unit: 1000 pcs.

Type: 85076

Ref. No.: 400818 white

Ref. No.: 400817 black



Cover caps

Height: 19 mm

Material: PA GF

Moulded thread: M10x1

Rotation stop: external

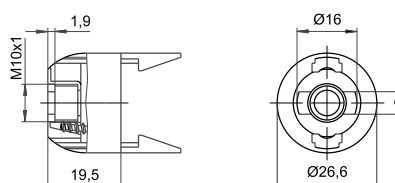
With locking screw

Weight: 3.7 g, unit: 1000 pcs.

Type: 85074

Ref. No.: 520735 white

Ref. No.: 520736 black



Cover caps

Height: 19 mm

Material: PA GF

Profiled hole: Ø 10.4 mm

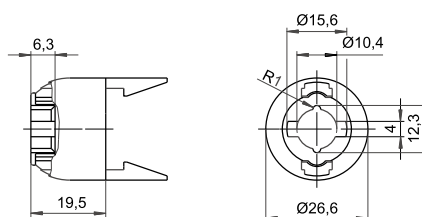
Rotation stop: internal and external

Weight: 2.7 g, unit: 1000 pcs.

Type: 97708

Ref. No.: 520759 white

Ref. No.: 520760 black



Plastic screw rings for E14 lampholders

With external thread: 28x2 IEC 60399

Weight: 3.5/2 g, unit: 1000 pcs.

Type: 05202 Ø 34 mm, height: 7.5 mm

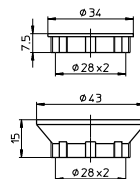
Ref. No.: 107154 PET GF white

Ref. No.: 109166 PA GF black

Type: 03210 Ø 43 mm, height: 15 mm

Ref. No.: 100125 PET GF white

Ref. No.: 109162 PA GF black



E27 Thermoplastic Lampholders, One-piece

E27 Lampholders, for cover caps

Plain casing

Casing PET GF, T210, nominal rating: 4/250

Push-in twin terminals: 0.5–2.5 mm²

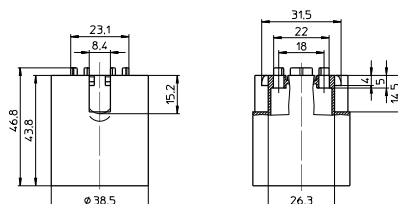
Fixing holes for screws M4

Weight: 21.9 g, unit: 500 pcs.

Type: 64401 (ENEC/CQC)

Ref. No.: 108936 white

Ref. No.: 500810 black



E27 Lampholders, for cover caps

External thread 40x2.5 IEC 60399

Casing: PET GF, T210

Nominal rating: 4/250

Push-in twin terminals: 0.5–2.5 mm²

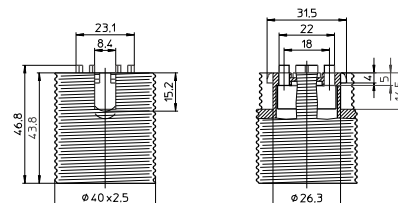
Fixing holes for screws M4

Weight: 24.5 g, unit: 500 pcs.

Type: 64501 (ENEC/CQC)

Ref. No.: 108965 white

Ref. No.: 109429 black



E27 Lampholders, for cover caps

External thread 40x2.5 IEC 60399, with flange

Casing: PET GF, T210

Nominal rating: 4/250

Push-in twin terminals: 0.5–2.5 mm²

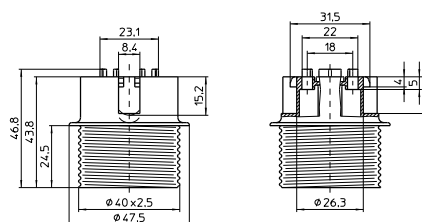
Fixing holes for screws M4

Weight: 25 g, unit: 500 pcs.

Type: 64601 (ENEC/CQC)

Ref. No.: 501358 white

Ref. No.: 501356 black



E27 Lampholders, for cover caps

Profiled shape, external thread 40x2.5 IEC 60399

Casing: PET GF, T210, nominal rating: 4/250

Push-in twin terminals: 0.5–2.5 mm²

Fixing holes for screws M3

Rear fixing holes for self-tapping screws

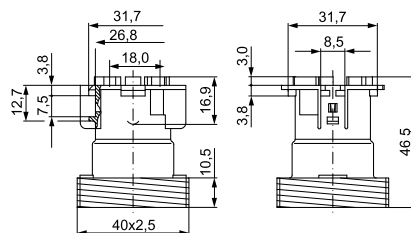
acc. to ISO 1481/7049-ST3.9-C/F

Weight: 16.6 g, unit: 500 pcs.

Type: 64719 (ENEC/CQC)

Ref. No.: 504303 white

Ref. No.: 504302 black



E27 Lampholders

Profiled shape for snap-in fixing, plain

Casing: PET GF, T210, nominal rating: 4/250

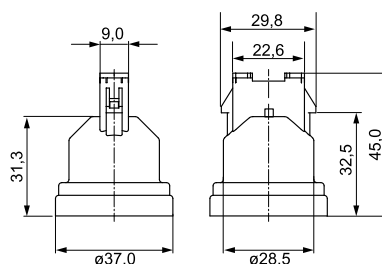
Push-in twin terminals: 0.5–2.5 mm²

Weight: 9.8 g, unit: 500 pcs.

Type: 64730 (ENEC)

Ref. No.: 538144 white

Ref. No.: 538146 black



Cover caps

Material: PA GF

Moulded thread: M10x1

With locking screw

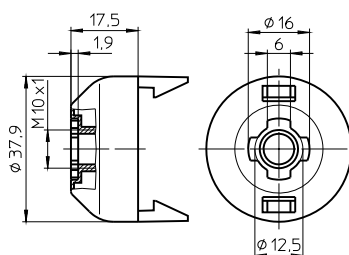
Cross groove: external

Weight: 4.9 g, unit: 500 pcs.

Type: 85077

Ref. No.: 400819 white

Ref. No.: 400820 black



Plastic screw rings

For E27 and B22d lampholders

Weight: 5.4/3.2 g, unit: 500 pcs.

Type: 08610 Ø 58 mm, height: 13 mm

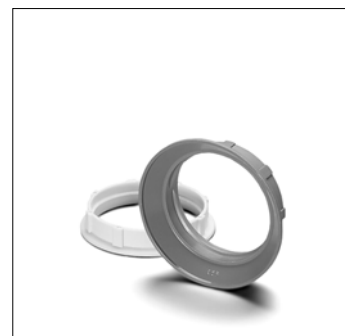
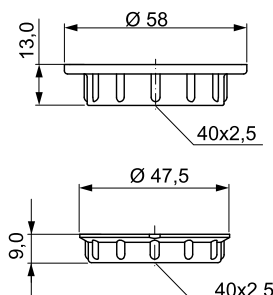
Ref. No.: 534152 PET GF white

Ref. No.: 534153 PA GF black

Type: 08701 Ø 47.5 mm, height: 9 mm

Ref. No.: 100273 PET GF white

Ref. No.: 109291 PA GF black



E27 Thermoplastic Lampholders, Three-piece

For incandescent lamps with base E27

Nominal rating: 4/250

Temperature marking: T190

Plain casings

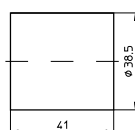
Material: PET GF

Weight: 14.5/14.3 g, unit: 500 pcs.

Type: 83000

Ref. No.: 103468 white

Ref. No.: 103467 black



Threaded casings 40x2.5 IEC 60399

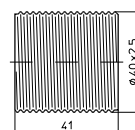
Material: PET GF

Weight: 17/16.1 g, unit: 500 pcs.

Type: 83002

Ref. No.: 103484 white

Ref. No.: 103483 black



Threaded casings 40x2.5 IEC 60399

With flange

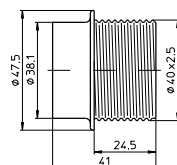
Material: PET GF

Weight: 16.7/17 g, unit: 500 pcs.

Type: 83173

Ref. No.: 103570 white

Ref. No.: 103569 black



Inserts

Material: PET GF, black

Casing lock

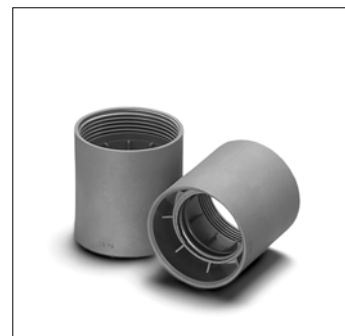
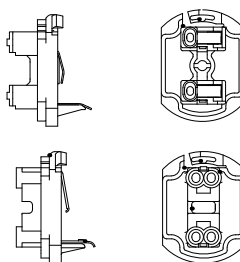
Weight: 5.7/6.1 g, unit: 500 pcs.

Type: 83285 (ENEC) push-in terminals: 0.5–1.5 mm²

Ref. No.: 103643

Type: 83013 (ENEC) push-in twin terminals: 0.5–1.5 mm²

Ref. No.: 546004



Insert

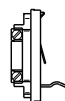
Material: PET GF, black

Casing lock

Weight: 6.1 g, unit: 500 pcs.

Type: 83011 screw terminals: 0.5–2.5 mm²

Ref. No.: 103520



Cover caps

Conical shape

Material: PA GF

Round hole: Ø 10.5 mm

Rotation stop: internal

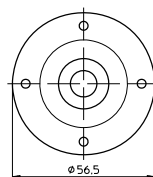
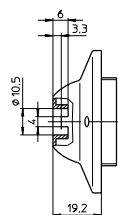
Height: 19.2 mm

Weight: 10.4/10.6 g, unit: 500 pcs.

Type: 96172

Ref. No.: 109060 white

Ref. No.: 109044 black



Caps

Material: PA GF

Female nipple: M10x1

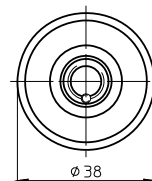
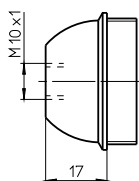
Height: 17 mm

Weight: 9.8/10.1 g, unit: 500 pcs.

Type: 83007

Ref. No.: 109052 white

Ref. No.: 109039 black



Caps

Material: PA GF

Moulded thread: M10x1

Rotation stop: external

With locking screw

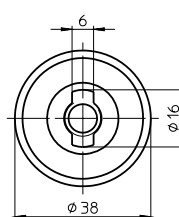
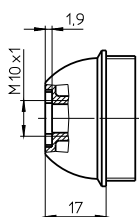
Height: 17 mm

Weight: 7.1/7.3 g, unit: 500 pcs.

Type: 83293

Ref. No.: 109087 white

Ref. No.: 109074 black



HEARTBEAT CITY

D-CUBE CITY MALL
SEOUL, KOREA



D-Cube City, Korea

■ D-CUBE CITY

The brand-new D-Cube City Mall in Seoul, Korea, opened its doors at the end of August 2011. With its exceptional size and spectacular design, the latest landmark in the south-west of Seoul stands out from all other buildings in the proximity.

The complex consists of a 51-storey apartment building as well as a 42-storey mega-mall, which is home to a hotel, office space, department stores, an arts and culture centre, restaurants, relaxing green spaces, a theatre as well as a theme park for children. A park-like outdoor area, designed with much attention to detail, is available for everyone to enjoy.

The challenge of harmoniously blending traditional, Korean elements with a modern ambience was readily accepted by the architecture firm, The Jerde Partnership. The architects succeeded in creating something that really stands out from the crowd: a 6-storey indoor waterfall. The mall's "nature and culture" theme is reflected throughout the entire huge complex. Far from being another conventional shopping centre, the D-Cube City Mall is an experience in itself for young and old.

■ VOSSLOH-SCHWABE ADDS THAT SPECIAL TOUCH

Without doubt, the lighting concept inside the mall also adds to the experience. The possibility of blending two white tones (2700 K and 4500 K) to create numerous different colour temperatures was decisive for using Vossloh-Schwabe's DualWhite AluLED modules. 1,320 AluLED dual white modules were used to generate the indirect lighting effect. Warm white begins the day in the mornings, cool white takes over around midday and warm white finishes the day in the evenings.

Along with the dual white AluLED modules for indirect ceiling lighting, 410 15 W DecoLED downlight modules with a 3000 K colour temperature and a 40° beam angle were installed to light up the corridors on every floor, which not only serves generate a welcoming environment, but also succeeds in providing optimum lighting levels right down to the floor.

Customer: Daesung Industrial co., LTD.

Architects: Jerde Partnership, Samwoo Architects & Engineers

Light planning: Design Luna

VS distributor: JK Lighting

Photos: Daesung Industrial co., LTD and Design Luna

LED_{LINE} ECX

DIMMABLE AND
NON-DIMMABLE ELECTRONIC
STABILISED POWER SUPPLIES



LED CONSTANT CURRENT DRIVERS

Electronic converters for LED modules operated with constant current drivers

To ensure the safe operation of LEDs that are wired in series, the operating current must be limited to a constant value by the ballast.

Light-emitting diodes are semiconductor devices with a light-emitting p-n junction. Due to the specific diode characteristics, the current can only flow through an LED in one direction. Coupled with the special properties of a semiconductor, this non-linear behaviour can increase the current and power uptake of an LED as it heats up.

If this effect is not limited, uncontrolled heating can finally destroy the semiconductor junction. For this reason, VS recommends using an external constant current driver to operate all constant current driven LED modules. To ensure that the same current flows through every LED, constant current driven LED modules can only be wired in series.

The constant current source has to be selected to suit the respective application, i.e. it must supply the required current and also provide sufficient voltage for the LED string.

The number of VS LED modules that can be connected to a single operating device is dependent on the forward voltage of the respective modules.

LEDLine ECX

- **OVERLOAD PROTECTION**
- **SHORT CIRCUITING PROTECTION**
- **SELV OR SELV EQUIVALENT**
- **35,000 HRS OR 50,000 HRS SERVICE LIFE TIME**



LED Constant Current Drivers

350 mA / 8 W to 1050 mA / 20 W

The electronic constant current drivers are optimised to operate constant current driven LED modules.

Primary side switching only.

Before connecting LED modules ensure that the power supply is disconnected from mains.

Mains voltage: 220-240 V $\pm 10\%$

Mains frequency: 0 Hz, 50-60 Hz

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

SELV equivalent

Power factor: 0.6

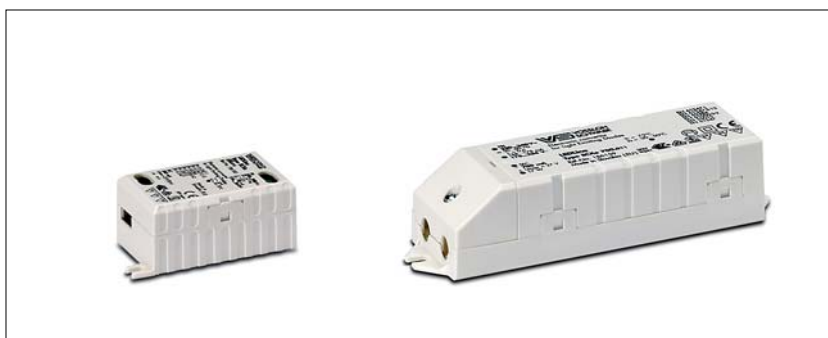
Screw terminals: 2.5 mm²

Quantity of screw terminals:

1x2-poles primary

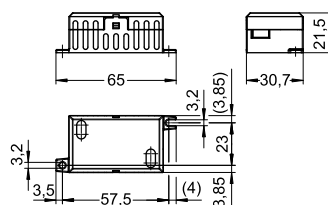
1x2-poles secondary

With integrated cord grip (except 186180)

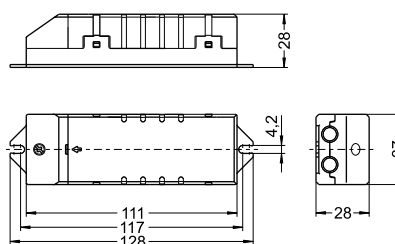


The converters are designed for DC-operation (mains frequency: 0 Hz) and can be used for emergency power supplies.

A



B



Service life time: 50,000 hrs

permanent operation when maximum temperature t_{cmax} at t_c point will not be exceeded;

failure rate: < 0.2% per 1000 hrs

Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50-60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Ambient temperature t_a °C	Casing temperature t_c °C	Drawing	Weight g
Dimensions: 65 x 30.7 x 21.5 mm											
8	ECXe 350.018	186180	176/264 220/240	60/40 91/88	350 $\pm 5\%$	2-24	25	-20 to 50	80	A	33
Dimensions: 128 x 37 x 28 mm											
11	ECXe 350.009	186157	176/264 220/240	75/51 122/117	350 $\pm 5\%$	2-32	34	-20 to 50	70	B	71
16	ECXe 500.010	186158	176/264 220/240	106/72 160/155	500 $\pm 5\%$	2-32	34	-20 to 50	75	B	71
17	ECXe 700.011	186159	176/264 220/240	117/79 188/178	700 $\pm 5\%$	2-25	27	-20 to 50	75	B	71
20	ECXe 1050.012	186160	176/264 220/240	137/92 210/202	1050 $\pm 5\%$	2-19	21	-20 to 45	75	B	71

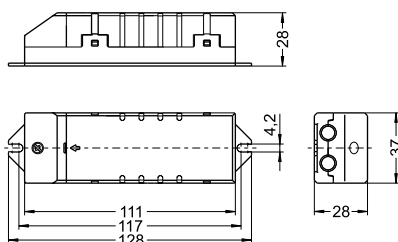
The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification. Please find further detailed information www.vossloh-schwabe.com.

LED Constant Current Drivers

**For cooker hood applications,
acc. to EN 60335**

The electronic stabilised power supplies ECXe are optimised to drive VS High Power LED modules. Primary side switching only. Before connecting LED modules ensure that the power supplier is isolated.

Mains voltage: 220-240 V $\pm 10\%$
Mains frequency: 0 Hz, 50-60 Hz
Electronic short-circuit protection
Overload protection
Protection against "no load" operation
Degree of protection: IP20, protection class II
SELV-equivalent
Power factor: 0.6
Screw terminals: 2.5 mm²
Quantity of screw terminals:
1x2-poles primary
1x2-poles secondary
With integrated cord grip



Service life time: 50,000 hrs
permanent operation when maximum temperature t_{cmax} at t_c point will not be exceeded;
failure rate: < 0.2% per 1000 hrs

Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50-60 Hz V	Mains current mA	Output current mA	Voltage output V	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
Dimensions: 128x37x28 mm									
17	ECXe 700.041	186277	176/264 220/240	119-80 188-178	700 $\pm 5\%$	2-25	-20 to 50	75	81

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification. Please find further detailed information www.vossloh-schwabe.com.

LED Constant Current Drivers

350 mA / 19.6 W to 700 mA / 22.4 W

The electronic constant current drivers are optimised to operate constant current driven LED modules.

Primary side switching only.

Before connecting LED modules ensure that the power supply is disconnected from mains.

Mains voltage: 220-240 V $\pm 10\%$

Mains frequency: 50-60 Hz

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

With integrated through-wiring

SELV

Power factor: > 0.9

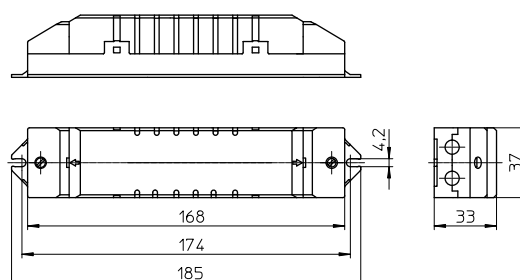
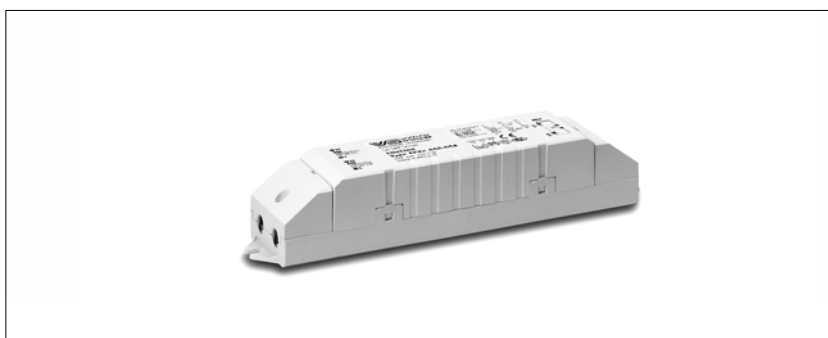
Screw terminals: 2.5 mm²

Quantity of screw terminals:

2x 2-poles primary

1x2-poles secondary

With integrated cord grip



Service life time: 50,000 hrs

permanent operation when maximum temperature t_{cmax} at t_c point will not be exceeded;

failure rate: $< 0.2\%$ per 1000 hrs

Max. output W	Type	Ref. No.	Mains voltage 50-60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
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Dimensions: 185 x 37 x 33 mm

19.6	ECXe 350.054	186294	220/240	98/108	350 $\pm 5\%$	15-54	56	-25 to 50	70	102
20	ECXe 500.055	186295	220/240	100/110	500 $\pm 5\%$	12-40	42.5	-25 to 50	70	102
22.4	ECXe 700.056	186296	220/240	110/120	700 $\pm 5\%$	12-31	32	-25 to 50	70	102

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.
Please find further detailed information www.vossloh-schwabe.com.

LED Constant Current Drivers

350 mA / 7.7 W to 700 mA / 6.3 W

The electronic constant current drivers are optimised to operate constant current driven LED modules.

Primary side switching only.

Before connecting LED modules ensure that the power supply is disconnected from mains.

Mains voltage: 220-240 V $\pm 10\%$

Mains frequency: 50-60 Hz

Electronic short-circuit protection

Overload and overcurrent protection

Protection against "no load" operation

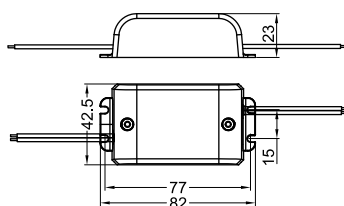
Degree of protection: IP20

Protection class II

SELV

Power factor: 0.5

Efficiency: 0.7



Service life time: 30,000 hrs
permanent operation when maximum temperature t_{cmax} at t_c point will not be exceeded;
failure rate: < 0.25% per 1000 hrs

Product under development; preliminary technical datas

Max. output W	Type	Ref. No.	Mains voltage 50-60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
Dimensions: 68x35x21 mm										
7.7	ECXe 350.079	186342	220/240	70	350 $\pm 5\%$	8.6-22	< 60	-15 to 45	75	52
6.3	ECXe 700.081	186348	220/240	70	700 $\pm 5\%$	2.8-9	< 60	-15 to 45	75	52

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.
Please find further detailed information www.vossloh-schwabe.com.

LED Constant Current Drivers

**350 mA / 13.3 W, 500 mA / 15 W,
700 mA / 20 and 25 W**

The electronic constant current drivers are optimised to operate constant current driven LED modules for downlight systems.

Primary side switching only.

Before connecting LED modules ensure that the power supply is disconnected from mains.

Mains voltage: 220–240 V $\pm 10\%$

Mains frequency: 50–60 Hz

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

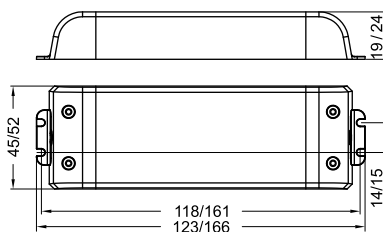
Degree of protection: IP20

Protection class II

SELV

Power factor: > 0.5 (25 W: > 0.95)

Efficiency: > 0.83 (25 W: > 0.88)



Service life time: 30,000 hrs
permanent operation when maximum
temperature t_{cmax} at t_c point will not
be exceeded;
failure rate: $< 0.1\%$ per 1000 hrs

Product under development; preliminary technical datas

Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Ambient temperature t_a °C	Casing temperature t_c °C	Dimensions LxWxH mm	Weight g
13.3	ECXe 350.078	186341	220/240	120	350 $\pm 5\%$	8.4–38	< 60	–15 to 45	75	123x45x19	69
15	ECXe 500.082	186349	220/240	150	500 $\pm 5\%$	8–30	< 60	–15 to 45	75	123x45x19	69
20	ECXe 700.083	186350	220/240	180	700 $\pm 5\%$	8–29	< 60	–15 to 45	75	123x45x19	69
25	ECXe 700.086	186353	220/240	130	700 $\pm 8\%$	18–36	< 60	–15 to 45	70	166x52x24	140

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.
Please find further detailed information www.vossloh-schwabe.com.

LED Constant Current Drivers

1050 mA / 31.5 W

The electronic constant current drivers are optimised to operate constant current driven LED modules for downlight systems.

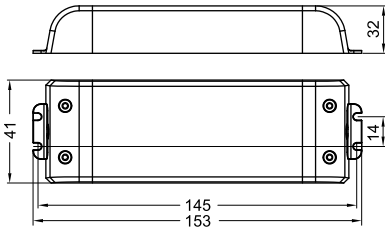
Primary side switching only.

Before connecting LED modules ensure that the power supply is disconnected from mains.

- Mains voltage: 220-240 V ±10%
- Mains frequency: 50-60 Hz
- Electronic short-circuit protection
- Overload protection
- Protection against "no load" operation
- Degree of protection: IP20

Protection class II

- SELV
- Power factor: > 0.98
- Efficiency: > 0.88



Service life time: 30,000 hrs
permanent operation when maximum temperature t_{cmax} at t_c point will not be exceeded;
failure rate: < 0.1% per 1000 hrs

Product under development; preliminary technical datas

Max. output	Type	Ref. No.	Mains voltage	Mains current	Current output	Voltage output	Max. voltage without load	Ambient temperature	Casing temperature	Weight
W			50-60 Hz		DC	DC	DC	t_a	t_c	
			V	mA	mA	V	V	°C	°C	g
Dimensions: 153x41x32 mm										
31.5	ECXe 1050.084	186351	220/240	150	1050 ±6 %	20-30	< 60	-15 to 45	75	134

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.
Please find further detailed information www.vossloh-schwabe.com.

Dimmable LED Constant Current Drivers

350–700 mA / 10–36 W

The constant current driver of the ECXd series features a dimming range of 1 to 100%. If no dimming interface is connected, brightness will stay at 100%.

Dimmable with phase-cutting leading- and trailing-edge dimmer (phase-cutting trailing-edge is recommended). Minimum dimmer load has to be observed.

The compatibility of the driver and the dimmer has to be confirmed prior to installation to avoid flickering and/or noises.

Mains voltage: 220–240 V $\pm 10\%$

Mains frequency: 50–60 Hz

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

SELV

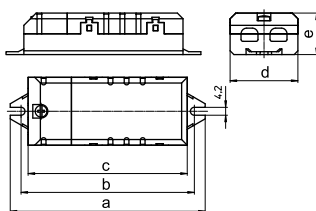
Power factor: > 0.9

Screw terminals: 2.5 mm²

Quantity of screw terminals:

2x2-poles primary

2x2-poles secondary



Service life time: 35,000 hrs
permanent operation when maximum
temperature t_{cmax} at t_c point will not
be exceeded;
failure rate: < 0.3% per 1000 hrs



Products under development; preliminary technical datas

Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Ambient temperature t_a °C	Casing temperature t_c °C	Dimensions mm					Weight g	Efficiency
										a	b	c	d	e		
10	ECXd 350.048	186286	220–240	70	350 $\pm 5\%$	25–35	40	–10 to 45	80	110	103	95	40	24	71	78
	ECXd 500.050	186288	220–240	60	500 $\pm 5\%$	12–20	25	–10 to 50	80	110	103	95	40	24	69	78
15	ECXd 350.049	186287	220–240	90	350 $\pm 5\%$	45–55	65	–10 to 40	80	120	112	105	42	27	101	81
18	ECXd 700.051	186289	220–240	100	700 $\pm 5\%$	15–23	30	–10 to 40	80	120	112	105	42	27	101	81
27	ECXd 700.052	186290	220–240	120	700 $\pm 5\%$	25–35	40	–10 to 40	80	120	112	105	42	27	102	83
36	ECXd 700.053	186291	220–240	160	700 $\pm 5\%$	35–45	50	–10 to 40	80	122	115	109	50	29	135	85

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.
Please find further detailed information www.vossloh-schwabe.com.

LED Constant Current Drivers

350 mA / 42 W

The electronic constant current drivers are optimised to operate constant current driven LED modules.

Primary side switching only.

Before connecting LED modules ensure that the power supply is disconnected from mains.

Mains voltage: 220-240 V $\pm 10\%$

Mains frequency: 50-60 Hz

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

SELV equivalent

Power factor: 0.97

Efficiency: > 0.9

Push-in terminals: 2.5 mm²

Quantity of push-in terminals:

1x2-poles + earth terminal primary

1x2-poles secondary

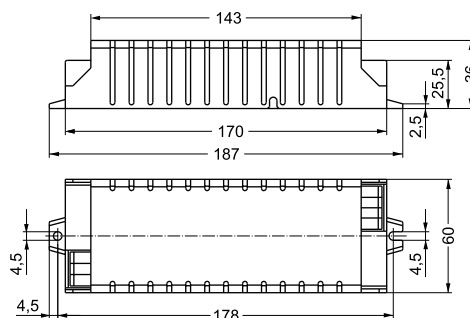
When using ECXe 350mA/42W together with LED modules in luminaires care must be taken to ensure safety according to EN 60598.



Additional Technical Features



The electronic converter is protected against transient main peaks up to 3 kV (between L and N) and up to 4 kV (between L, N and PE).



Service life time: 50,000 hrs
permanent operation when maximum temperature t_{cmax} at t_c point will not be exceeded;
failure rate: $< 0.2\%$ per 1000 hrs

Max. output W	Type	Ref. No.	Mains voltage 50-60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
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Dimensions: 187 x 60 x 36 mm

42	ECXe 350.015	186175	220/240	210/190	350 $\pm 5\%$	40-115	120	-30 to 60	65	270
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The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification. Please find further detailed information www.vossloh-schwabe.com.

LED Constant Current Drivers

700 mA/ 24 and 40 W, 1050 mA / 60 W

The electronic constant current drivers are optimised to operate constant current driven LED modules.

Secondary side switching of LED modules is allowed (hot wiring).

Before connecting LED modules ensure that the power supply is disconnected from mains. The fan interface of the 1050 mA driver allows the optional connection of 5 V or 12 V fan with a maximum power of 2 W.

Mains voltage: 220-240 V $\pm 10\%$

Mains frequency: 0 Hz, 50-60 Hz

Temporary electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

Compact casing shape with integrated cord grip optional for built-in or independent operation

With integrated through-wiring

SELV

Power factor: > 0.9

Efficiency: > 0.85

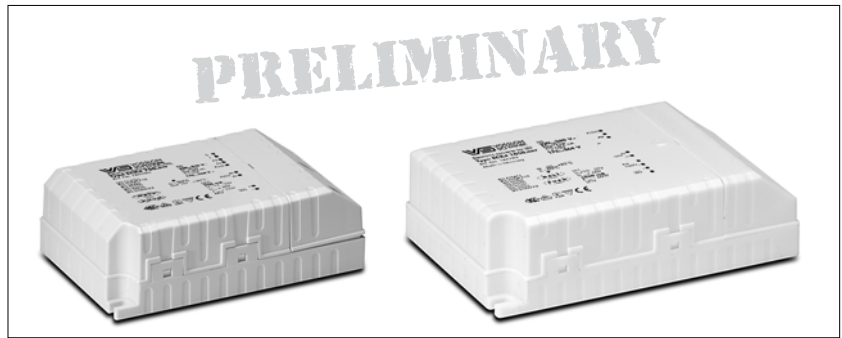
Push-in terminals: 0.5-1.5 mm²

Quantity of push-in terminals:

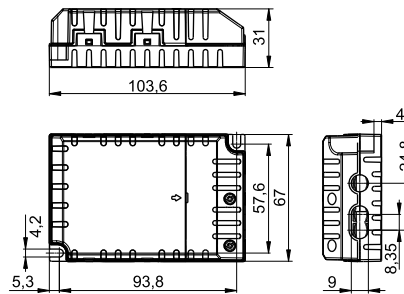
4x1-poles primary (L, N)

2x1-poles secondary

1x3-poles 5 V/12 V interface (ECXe 1050)

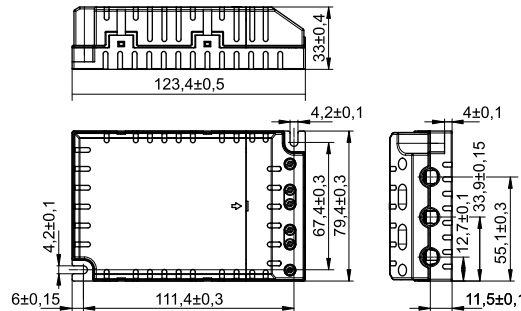


K2.1



Service life time: 50,000 hrs
permanent operation when maximum temperature t_{cmax} at t_c point will not be exceeded;
failure rate: $< 0.2\%$ per 1000 hrs

K3.2



Products under development; preliminary technical datas

Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50-60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	5 V/12 V interface max. 2 W	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
K2.1 – Dimensions: 103.6 x 67 x 31 mm											
24	ECXe 700.042	186278	198/264 220/240	130/120	700 $\pm 5\%$	14-34	< 45	no	-25 to 50	80	135
K3.2 – Dimensions: 123.4 x 79.4 x 33 mm											
40	ECXe 700.062	186306	176/264 220/240	t.b.d.	700 $\pm 5\%$	27-57	< 60	no	-25 to 50	75	t.b.d.
60	ECXe 1050.045	186281	176/264 220/240	t.b.d.	1050 $\pm 5\%$	30-57	< 60	yes	-25 to 50	75	t.b.d.

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Dimmable LED Constant Current Drivers

700 mA / 24 and 40 W, 1050 mA / 60 W

The dimmable electronic constant current drivers are optimised to operate constant current driven LED modules and features a dimming range of 1 to 100%. The drivers will be in stand-by mode at a setting of under 1%. During dimming operations, the driver can be controlled via DALI-compatible controllers or conventional light switches (PUSH). The dimming function is achieved by applying a PWM signal to the nominal current. If no DALI interface is connected, brightness will stay at 100%.

Secondary side switching of LED modules is allowed (hot wiring).

Before connecting LED modules ensure that the power supply is disconnected from mains. The fan interface of the 1050 mA driver allows the optional connection of 5 V or 12 V fan with a maximum power of 2 W.

Mains voltage: 220-240 V $\pm 10\%$

Mains frequency: 0 Hz, 50-60 Hz

Temporary electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

Compact casing shape with integrated cord grip

optional for built-in or independent operation

With integrated through-wiring

SELV, Power factor: 0.9, Efficiency: > 0.85

Stand-by losses: < 0.5 W

Push-in terminals: 0.5-1.5 mm²

Quantity of push-in terminals:

1x7-poles primary

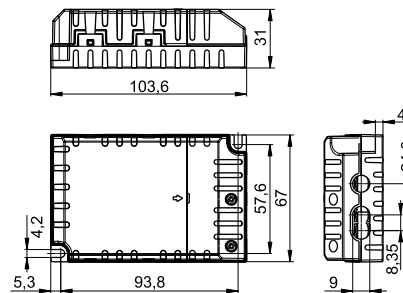
(4x1-pole L/N, 1x1-pole PUSH, 1x 2-poles DALI)

1x2-poles secondary

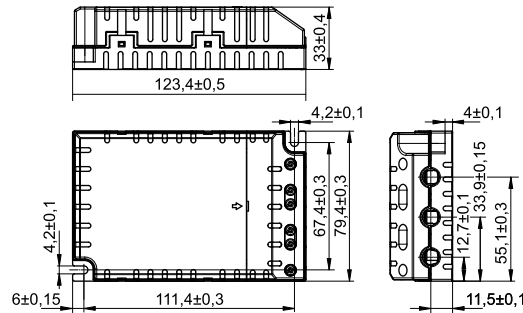
1x3-poles 5 V/12 V interface (ECXd 1050)



K2.1



K3.2



Service life time: 50,000 hrs
permanent operation when maximum
temperature t_{cmax} at t_c point will not
be exceeded;
failure rate: $< 0.2\%$ per 1000 hrs



Products under development; preliminary technical datas

Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50-60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	5 V/12 V interface max. 2 W	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
K2.1 – Dimensions: 103.6x67x31 mm											
24	ECXd 700.049	186280	198/264 220/240	130/120	700 $\pm 5\%$	14-34	< 60	no	-20 to 50	75	
K3.2 – Dimensions: 123.4x79.4x33 mm											
40	ECXd 700.063	186308	176/264 220/240	t.b.d.	700 $\pm 5\%$	27-57	< 60	no	-20 to 50	75	t.b.d.
60	ECXd 1050.047	186283	176/264 220/240	t.b.d.	1050 $\pm 5\%$	30-57	< 60	yes	-20 to 50	75	t.b.d.

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Please find further detailed information www.vossloh-schwabe.com.

Dimmable LED Constant Current Drivers

700 mA / 24 and 40 W, 1050 mA / 60 W

The dimmable electronic constant current drivers are optimised to operate constant current driven LED modules and features a dimming range of 1 to 100%. The drivers will be in stand-by mode at a setting of under 1%. The dimming function is achieved by applying a PWM signal to the nominal current. If no dimming interface is connected, brightness will stay at 100%.

Secondary side switching of LED modules is allowed (hot wiring).

Before connecting LED modules ensure that the power supply is disconnected from mains. The fan interface of the 1050 mA driver allows the optional connection of 5 V or 12 V fan with a maximum power of 2 W.

Mains voltage: 220-240 V $\pm 10\%$

Mains frequency: 0 Hz, 50-60 Hz

Temporary electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

Compact casing shape with integrated cord grip

optional for built-in or independent operation

With integrated through-wiring

SELV

Power factor: 0.9, Efficiency: > 0.85

Stand-by losses: < 0.5 W

Push-in terminals: 0.5-1.5 mm²

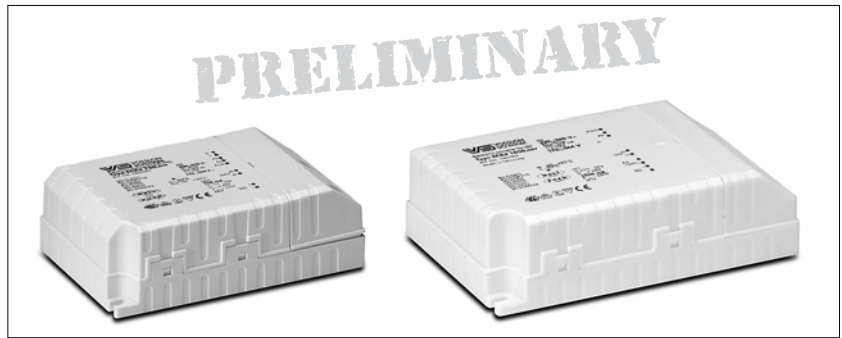
Quantity of push-in terminals:

1x7-poles primary

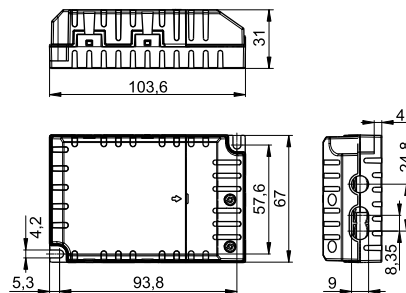
(4x1-pole L/N, 1x1-pole PUSH, 1x 2-poles 1-10 V)

1x2-poles secondary

1x3-poles 12 V interface (ECXd 1050)



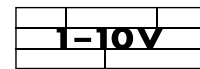
K2.1



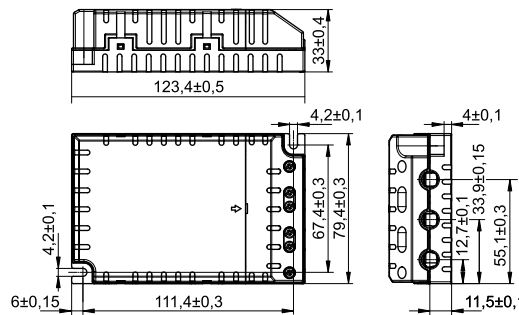
Service life time: 50,000 hrs

permanent operation when maximum temperature t_{max} at t_c point will not be exceeded;

failure rate: $< 0.2\%$ per 1000 hrs



K3.2



Products under development; preliminary technical datas

Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50-60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	5 V/12 V interface max. 2 W	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
K2.1 – Dimensions: 103.6 x 67 x 31 mm											
24	ECXd 700.043	186279	198/264 220/240	130/120	700 $\pm 5\%$	14-34	< 45	no	-20 to 50	80	145
K3.2 – Dimensions: 123.4 x 79.4 x 33 mm											
40	ECXd 700.064	186307	176/264 220/240	t.b.d.	700 $\pm 5\%$	27-57	< 60	no	-20 to 50	75	t.b.d.
60	ECXd 1050.046	186282	176/264 220/240	t.b.d.	1050 $\pm 5\%$	30-57	< 60	yes	-20 to 50	75	t.b.d.

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LED Constant Current Drivers

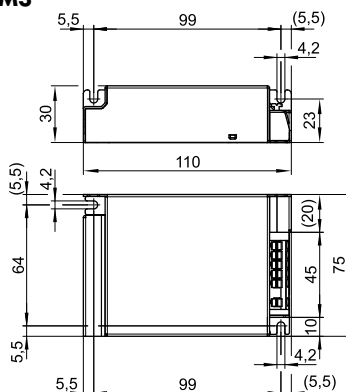
700 mA/ 40 W and 1050 mA / 60 W

The electronic constant current drivers are optimised to operate constant current driven LED modules.
Primary side switching only.
Before connecting LED modules ensure that the power supply is disconnected from mains.

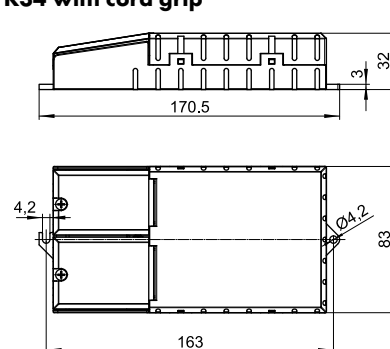
Mains voltage: 220-240 V $\pm 10\%$
Mains frequency: 0 Hz, 50-60 Hz
Temporary electronic short-circuit protection
Overload and overtemperature protection
Protection against "no load" operation
Degree of protection: IP20
Protection class I
With integrated through-wiring
SELV equivalent
Power factor: 0.98
Efficiency: > 0.88
Push-in terminals: 0.2-1.5 mm²
Quantity of push-in terminals:
6x1-poles primary (L, N, PE)
2x1-poles secondary



M3



K34 with cord grip



Service life time: 50,000 hrs
permanent operation when maximum temperature t_{max} at t_c point will not be exceeded;
failure rate: < 0.2% per 1000 hrs

Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50-60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
M3 – Dimensions: 110x75x30 mm										
40	ECXe 700.022	186200	176/264 220/240	250/160 200/180	700 $\pm 5\%$	20-57	60	-20 to 60	75	210
60	ECXe 1050.021	186198	176/264 220/240	391/261 308/286	1050 $\pm 5\%$	20-58	60	-20 to 60	80	226
K34 with cord grip – Dimensions: 170.5x83x32 mm										
40	ECXe 700.022	186201	176/264 220/240	250/160 200/240	700 $\pm 5\%$	20-57	60	-20 to 60	75	257
60	ECXe 1050.021	186199	176/264 220/240	391/261 308/286	1050 $\pm 5\%$	20-58	60	-20 to 50	80	273

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Please find further detailed information www.vossloh-schwabe.com.

LED Constant Current Drivers - EffectLine

700 mA/ 40 W and 1050 mA / 60 W

The electronic constant current drivers are optimised to operate constant current driven LED modules.

Primary side switching only.

Before connecting LED modules ensure that the power supply is disconnected from mains.

Mains voltage: 220-240 V $\pm 10\%$

Mains frequency: 0 Hz, 50-60 Hz

Temporary electronic short-circuit protection

Overload protection

No shut-down in case of overheating

Protection against "no load" operation

Degree of protection: IP20

Protection class I

With integrated through-wiring

SELV equivalent

Power factor: 0.98

Efficiency: > 0.88

Push-in terminals: 0.2-1.5 mm²

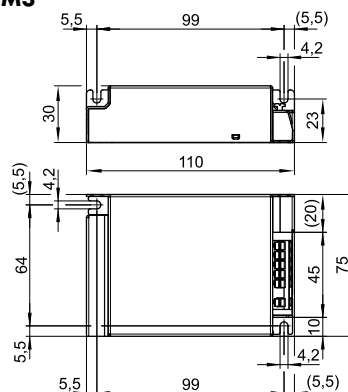
Quantity of push-in terminals:

6x1-poles primary (L, N, PE)

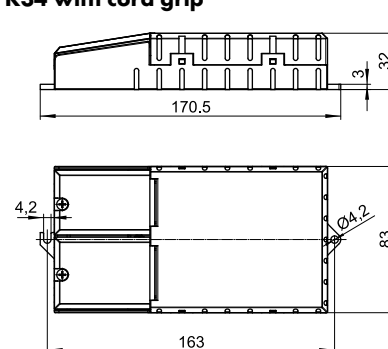
2x1-poles secondary



M3



K34 with cord grip



Service life time: 50,000 hrs
permanent operation when maximum temperature t_{cmax} at t_c point will not be exceeded;
failure rate: < 0.2% per 1000 hrs

Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50-60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
M3 – Dimensions: 110 x 75 x 30 mm										
40	ECXe 700.022	186330	176/264 220/240	250/160 200/180	700 $\pm 5\%$	20-57	60	-20 to 60	75	210
60	ECXe 1050.021	186328	176/264 220/240	391/261 308/286	1050 $\pm 5\%$	20-58	60	-20 to 60	80	226
K34 with cord grip – Dimensions: 170.5 x 83 x 32 mm										
40	ECXe 700.022	186331	176/264 220/240	250/160 200/240	700 $\pm 5\%$	20-57	60	-20 to 60	75	257
60	ECXe 1050.021	186329	176/264 220/240	391/261 308/286	1050 $\pm 5\%$	20-58	60	-20 to 50	80	273

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LED Constant Current Drivers

**700 mA / 40 W and 1050 mA / 60 W
With 12 V interface**

The electronic constant current drivers are optimised to operate constant current driven LED modules.

Primary side switching only.

Before connecting LED modules ensure that the power supply is disconnected from mains.

Mains voltage: 220-240 V $\pm 10\%$

Mains frequency: 0 Hz, 50-60 Hz

Electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

SELV equivalent

Power factor: 0.98

Efficiency: > 0.85

Push-in terminals: 0.5-1.5 mm²

(12 V interface: 0.2-0.5 mm²)

Quantity of push-in terminals:

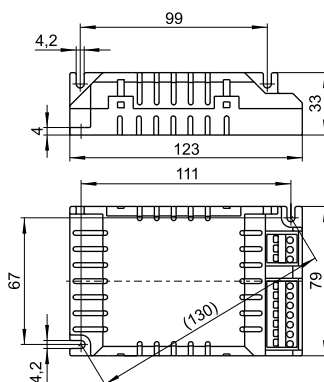
1x3-poles primary

1x2-poles secondary

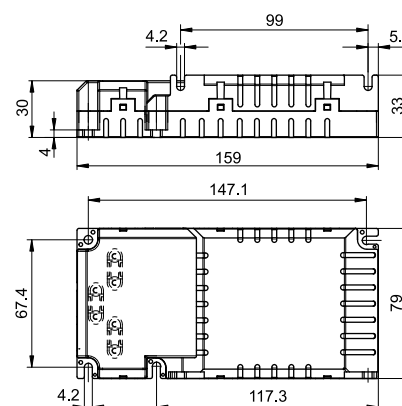
1x2-poles 12 V interface



K3



K3 with cord grip



Service life time: 50,000 hrs
permanent operation when maximum temperature t_{cmax} at t_c point will not be exceeded;
failure rate: < 0.2% per 1000 hrs

Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50-60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	12 V interface max. 2 W	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
K3 – Dimensions: 123x79x33 mm											
40	ECXe 700.034	186266	176/264 220/240	280/185 230/200	700 $\pm 5\%$	20-57	60	yes	-20 to 50	75	182
60	ECXe 1050.035	186268	176/264 220/240	380/252 305/275	1050 $\pm 5\%$	20-57	60	yes	-20 to 50	80	213
K3 with cord grip – Dimensions: 159x79x33 mm											
40	ECXe 700.034	186267	176/264 220/240	280/185 230/200	700 $\pm 5\%$	20-57	60	yes	-20 to 50	75	220
60	ECXe 1050.035	186269	176/264 220/240	380/252 305/275	1050 $\pm 5\%$	20-57	60	yes	-20 to 50	80	248

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Please find further detailed information www.vossloh-schwabe.com.

Dimmable LED Constant Current Drivers

**700mA / 34 W and 40 W,
1050 mA / 60 W**

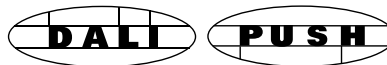
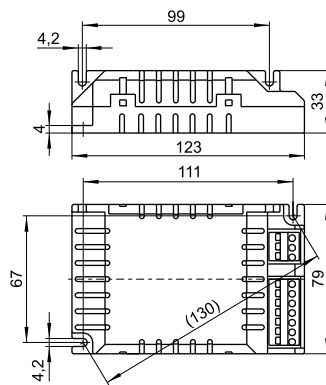
The constant current driver of the ECXd series features a dimming range of 0.5 to 100%. The driver will be in stand-by mode at a setting of under 0.5%. Primary side switching only. Before connecting LED modules ensure that the power supply is disconnected from mains. During dimming operations, the driver can be controlled via DALI-compatible controllers or conventional light switches (PUSH). The dimming function is achieved by applying a PWM signal to the nominal current. If no DALI interface is connected, brightness will stay at 100%.

Mains voltage: 220-240 V $\pm 10\%$
Mains frequency: 0 Hz, 50-60 Hz
Electronic short-circuit protection
Overload protection
Protection against "no load" operation
Degree of protection: IP20
Protection class I
SELV-equivalent
Power factor: 0.97
Efficiency: > 0.85
Stand-by losses: < 0.5 W
Push-in terminals: 0.5-1.5 mm²
(12 V interface: 0.2-0.5 mm² for 1050 mA)

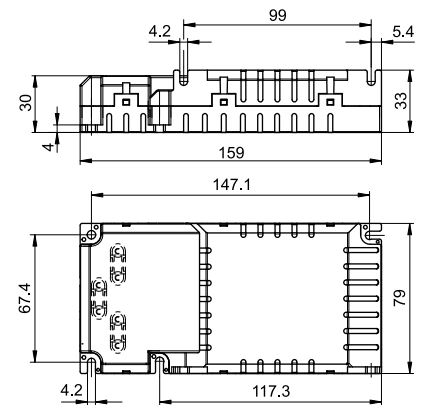
Quantity of push-in terminals:

- 1x3-poles primary
- (1x1-pole PUSH, 1x 2-poles DALI)
- 1x2-poles secondary
- 1x2-poles 12 V interface (ECXd 700.026 und ECXd 1050)

K3



K3 with cord grip



Service life time: 50,000 hrs
permanent operation when maximum temperature t_{cmax} at t_c point will not be exceeded;
failure rate: < 0.2% per 1000 hrs

Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50-60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	12 V interface max. 2 W	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
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K3 – Dimensions: 123x79x33 mm

34	ECXd 700.017	186177	176/264 220/240	230/160 190/170	700 $\pm 5\%$	9-48	52	no	-20 to 50	75	180
40	ECXd 700.026	186221	176/264 220/240	280/185 230/200	700 $\pm 5\%$	20-57	60	yes	-20 to 50	75	186
60	ECXd 1050.020	186196	176/264 220/240	380/252 305/275	1050 $\pm 5\%$	20-57	60	yes	-20 to 50	80	220

K3 with cord grip – Dimensions: 159x79x33 mm

34	ECXd 700.017	186195	176/264 220/240	230/160 190/170	700 $\pm 5\%$	9-48	52	no	-20 to 50	75	215
40	ECXd 700.026	186222	176/264 220/240	280/185 230/200	700 $\pm 5\%$	20-57	60	yes	-20 to 50	75	223
60	ECXd 1050.020	186197	176/264 220/240	380/252 305/275	1050 $\pm 5\%$	20-57	60	yes	-20 to 50	80	250

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Adjustable and Dimmable LED Constant-current Drivers

350, 500, 600, 700 mA / 40 W

The constant-current drivers of the ECXd series feature a dimming range of 3 to 100%.

The dial can be used set the nominal current to 350 mA, 500 mA, 600 mA or 700 mA.

The dimming function is achieved by the use of a PWM signal. If no 1-10 V interface is connected, brightness will stay at 100%.

Primary side switching only.

Before connecting LED modules ensure that the power supply is disconnected from mains.

The LEDs are thermally protected by the driver's NTC interface, which ensures the current will be reduced when a critical temperature is reached.

Mains voltage: 220-240 V $\pm 10\%$

Mains frequency: 0 Hz, 50-60 Hz

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

SELV

Power factor: 0.95

Efficiency: > 0.85

Push-in terminals: 0.5-1.5 mm²

(NTC interface: 0.2-0.5 mm²)

Quantity of push-in terminals:

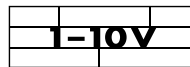
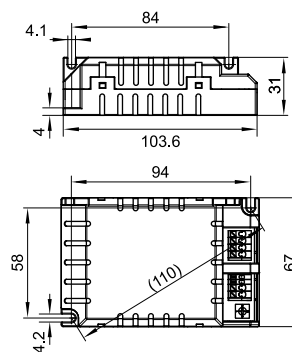
1x2-poles primary

1x2-poles 1-10 V

1x2-poles secondary

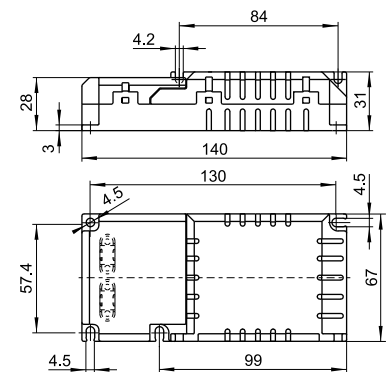
1x2-poles NTC connection

K2



Adjustment	Nominal current mA
1	350
2	500
3	600
4	700

K2 with cord grip



Service life time: 50,000 hrs

permanent operation when maximum temperature t_{cmax} at t_c point will not be exceeded;

failure rate: < 0.2% per 1000 hrs

NTC of LED module 220 k Ω	
R (k Ω)	Nominal current (%)
34	100
27	60
16	0 (off)

Max. output W	Type	Ref. No.	Voltage 50/60 Hz V	Mains current mA	Output current DC mA	Voltage output DC V	Max. voltage without load DC V	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
K2 – Dimensions: 103.6x67x31 mm										
40	ECXd 700.024	186326	176/264 220/240	265/175 220/200	350 +5/-10% 500 +5/-10% 600 +5/-10% 700 +5/-10%	20-57	60	-20 to 50	75	190
K2 with cord grip – Dimensions: 140x67x31 mm										
40	ECXd 700.024	186327	176/264 220/240	265/175 220/200	350 +5/-10% 500 +5/-10% 600 +5/-10% 700 +5/-10%	20-57	60	-20 to 50	75	220

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Adjustable and Dimmable LED Constant-current Drivers

900, 1050, 1200, 1400 mA / 60 W

The constant-current drivers of the ECXd series feature a dimming range of 3 to 100%.

The dial can be used set the nominal current to 900 mA, 1050 mA, 1200 mA or 1400 mA.

The dimming function is achieved by the use of a PWM signal. If no 1 – 10 V interface is connected, brightness will stay at 100%.

Primary side switching only.

Before connecting LED modules ensure that the power supply is disconnected from mains.

The LEDs are thermally protected by the driver's NTC interface, which ensures the current will be reduced when a critical temperature is reached.

Mains voltage: 220–240 V $\pm 10\%$

Mains frequency: 0 Hz, 50–60 Hz

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

SELV

Power factor: 0.95

Efficiency: > 0.85

Push-in terminals: 0.5 – 1.5 mm²

Quantity of push-in terminals:

1x2-poles primary

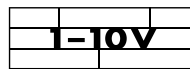
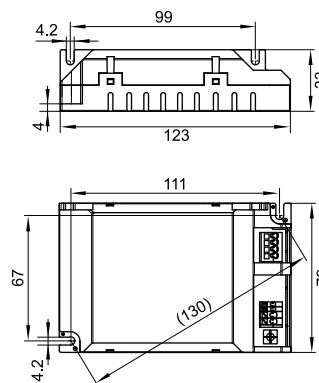
1x2-poles 1 – 10V

1x2-poles secondary

1x2-poles NTC connection

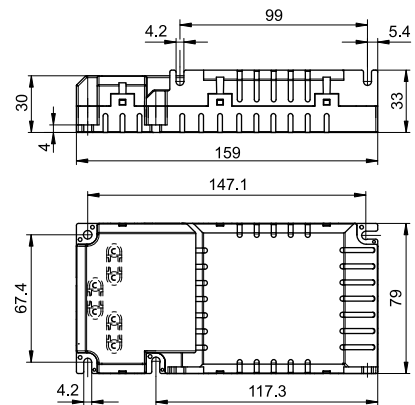


K3



Stellung	Nominal current mA
1	900
2	1050
3	1200
4	1400

K3 with cord grip



Service life time: 50,000 hrs
permanent operation when maximum temperature t_{cmax} at t_c point will not be exceeded;
failure rate: < 0.2% per 1,000 hrs

NTC of LED module 220 k Ω	
R (k Ω)	Nominal current (%)
34	100
27	60
16	0 (off)

Max. output W	Type	Ref. No.	Voltage 0 Hz, 50/60 Hz V	Mains current mA	Output current DC mA	Voltage output DC V	Max. voltage without load DC V	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
K3 – Dimensions: 123x79x33 mm										
60	ECXd 1400.025	186208	198/264 220/240	315/290 350/265	900 +5/-10% 1050 +5/-10% 1200 +5/-10% 1400 +5/-10%	20–43	< 52	–20 to 50	85	230
K3 with cord grip – Dimensions: 159x79x33 mm										
60	ECXd 1400.025	186209	198/264 220/240	315/290 350/265	900 +5/-10% 1050 +5/-10% 1200 +5/-10% 1400 +5/-10%	20–43	< 52	–20 to 50	85	270

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LED Constant Current Drivers

700 mA / 112 W and 1050 mA / 126 W

These electronic constant current sources are designed for use in industrial hall lighting systems. Primary side switching only.

Before connecting LED modules ensure that the power supply is disconnected from mains. The LED modules are thermally protected by the driver's NTC interface, which ensures the current is reduced when a critical temperature is reached.

Mains voltage: 220-240 V $\pm 10\%$

Mains frequency: 0 Hz, 50-60 Hz

DC operation: 198-264 V DC

(176-264 V DC possible, with reduced service life)

Electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

Power factor: > 0.95

Efficiency: > 0.91

Push-in terminals: 0.5-1.5 mm²

Quantity of push-in terminals:

1x3-poles primary

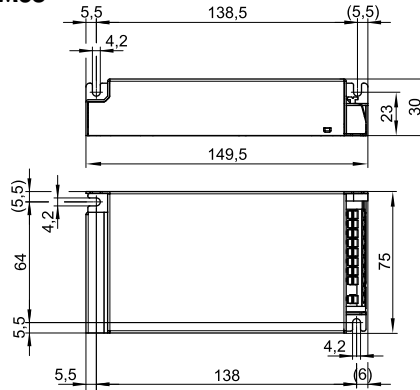
1x2-poles secondary

1x2-poles NTC connection

1x2-poles 12 V interface



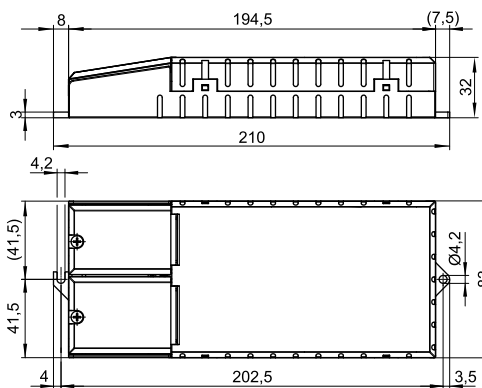
M36



Service life time: 50,000 hrs
permanent operation when maximum temperature t_{cmax} at t_c point will not be exceeded;
failure rate: $< 0.2\%$ per 1000 hrs

NTC on LED module 10 k Ω (Type Nurata NCP18XH103J03RB)	
R (k Ω)	Nominal current (%)
10	100
< 1.49	60
< 1.13	0 (off)

K38



Products under development; preliminary technical datas

Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50-60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	12 V interface max. 2 W	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
M36 – Dimensions: 149.5 x 75 x 30 mm											
112	ECXe 700.057	186297	198/264 220/240	550-510	700 $\pm 5\%$	85-160	< 450	yes	-25 to 50	70	288
126	ECXe 1050.059	186301	198/264 220/240	630-590	1050 $\pm 5\%$	85-120	< 450	yes	-25 to 50	90	288
K38 – Dimensions: 210 x 83 x 32 mm											
112	ECXe 700.057	186298	198/264 220/240	550-510	700 $\pm 5\%$	85-160	< 450	ja	-25 to 50	80	335
126	ECXe 1050.059	186302	198/264 220/240	630-590	1050 $\pm 5\%$	60-120	< 450	yes	-25 to 50	90	335

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LED Constant Current Drivers

700 mA / 112 W and 1050 mA / 126 W

These dimmable electronic constant current sources are designed for use in industrial hall lighting systems and features a dimming range of 3 to 100%. The driver will be in stand-by mode at a setting of under 3%.

Primary side switching only.

Before connecting LED modules ensure that the power supply is disconnected from mains.

The dimming function is achieved by applying a PWM signal to the nominal current. If no DALI interface is connected, brightness will stay at 100%.

The LED modules are thermally protected by the driver's NTC interface, which ensures the current is reduced when a critical temperature is reached.

Mains voltage: 220-240 V $\pm 10\%$

Mains frequency: 0 Hz, 50-60 Hz

DC operation: 198-264 V DC

(176-264 V DC possible, with reduced service life)

Electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20, Protection class I

Power factor: > 0.95, Efficiency: > 0.91

Push-in terminals: 0.5-1.5 mm²

Quantity of push-in terminals:

1x3-poles primary

(1x1-pole PUSH, 1x 2-poles DALI)

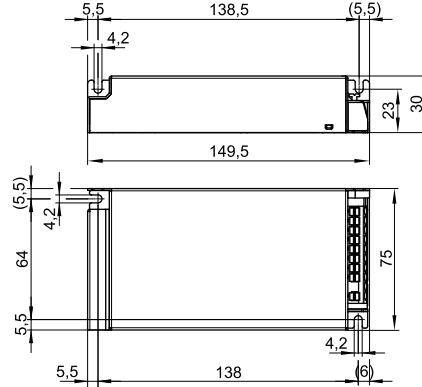
1x2-poles secondary

1x2-poles NTC connection

1x2-poles 12 V interface



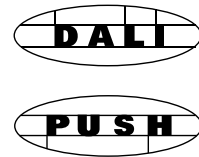
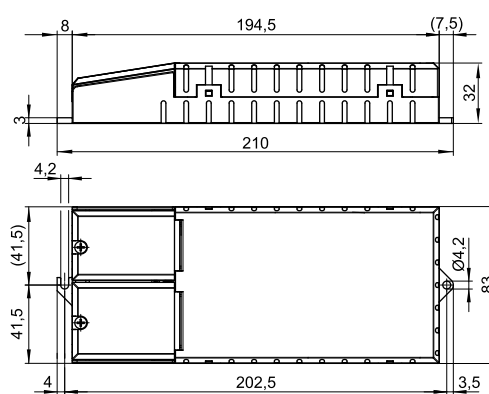
M36



Service life time: 50,000 hrs
permanent operation when maximum temperature t_{cmax} at t_c point will not be exceeded;
failure rate: < 0.2% per 1000 hrs

NTC on LED module 10 k Ω (Type Nurate NCP18XH103J03RB)	
R (k Ω)	Nominal current (%)
10	100
< 1.49	60
< 1.13	0 (off)

K38



Products under development; preliminary technical datas

Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50-60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	12 V interface max. 2 W	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
M36 – Dimensions: 149.5 x 75 x 30 mm											
112	ECXd 700.058	186299	198/264 220/240	550-510	700 $\pm 5\%$	85-160	< 450	yes	-25 to 50	70	288
126	ECXd 1050.060	186303	198/264 220/240	630-590	1050 $\pm 5\%$	85-120	< 450	yes	-25 to 50	90	288
K38 – Dimensions: 210 x 83 x 32 mm											
112	ECXd 700.058	186300	198/264 220/240	550-510	700 $\pm 5\%$	60-112	< 450	yes	-25 to 50	80	335
126	ECXd 1050.060	186304	198/264 220/240	630-590	1050 $\pm 5\%$	85-160	< 450	yes	-25 to 50	90	335

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Dimmable LED Constant Current Drivers

700, 1000, 1400 mA / 90 W

These dimmable electronic constant current sources are designed for use in street lighting systems and features a dimming range of 3 to 100%. The driver will be in stand-by mode at a setting of under 3%. Primary side switching only. Before connecting LED modules ensure that the power supply is disconnected from mains. The dimming function is achieved by applying a PWM signal to the nominal current. If no DALI interface is connected, brightness will stay at 100%.

Mains voltage: 220-240 V \pm 10%
Mains frequency: 50-60 Hz
Electronic short-circuit protection
Overload protection
Protection against "no load" operation
Degree of protection: IP20 or IP65
Protection class I
Power factor: > 0.98
Efficiency: > 0.85

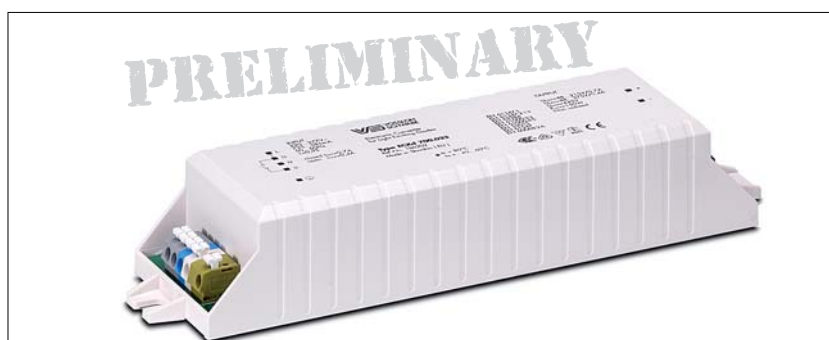
Service life time: 50,000 hrs
permanent operation when maximum temperature t_{cmax} at t_c point will not be exceeded;
failure rate: < 0.2% per 1000 hrs

IP20 version

Push-in terminals: 0.75-2.5 mm²
Quantity of push-in terminals:
4x1-poles primary
2x1-poles secondary

IP65 version

In preparation

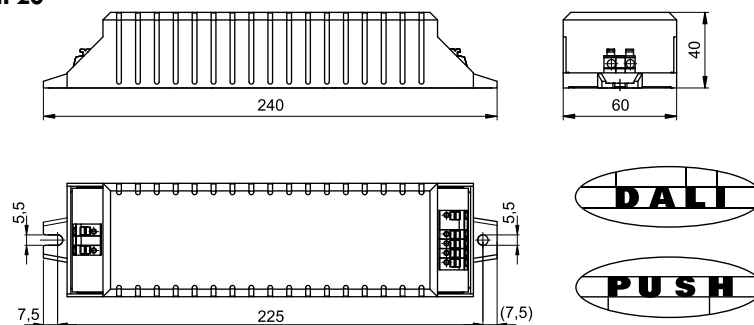


Additional Technical Features



The electronic converter is protected against transient main peaks up to 3 kV (between L and N) and up to 4 kV (between L, N and PE).

IP20



Max. output W	Type	Ref. No.	Mains voltage 50-60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
IP20 – Dimensions: 240 x 60 x 40 mm										
82	ECXd 1400	on request	220-240	450/150	700 \pm 5%	43-117	< 120	-40 to 50	70	t.b.d.
90					1000 \pm 5%	33-91		-40 to 45		
90					1400 \pm 5%	22-64		-40 to 40		
IP65 – In preparation										
82	ECXd 1400	on request	220-240	450/150	700 \pm 5%	43-117	< 120	-40 to 50	80	t.b.d.
90					1000 \pm 5%	33-91		-40 to 45		
90					1400 \pm 5%	22-64		-40 to 40		

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Dimmable LED Constant Current Drivers

2x700 mA / 150 W (2-channel)
1x 700 mA / 75 W

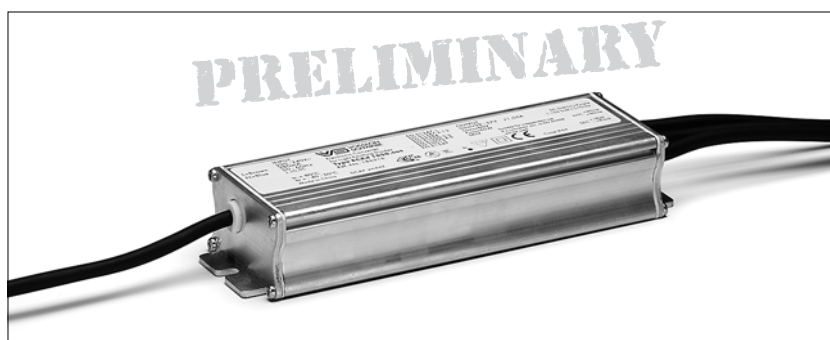
These electronic constant current sources are especially designed for use in street lighting systems. Primary side switching only. Before connecting LED modules ensure that the power supply is disconnected from mains. The dimming function is achieved by applying an analogue dimming signal to the nominal current. If no 1 - 10 V interface is connected, brightness will stay at 100%.

Mains voltage: 220-240 V $\pm 10\%$
Mains frequency: 50-60 Hz
Electronic short-circuit protection
Overload protection
Protection against "no load" operation
Degree of protection: IP67

Protection class II

SELV
Power factor: > 0.96
Efficiency: > 0.88
Pre-assembled connection leads:
primary: 2 x 0.75 mm²
secondary: 6 x 0.75 mm²

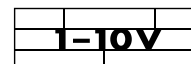
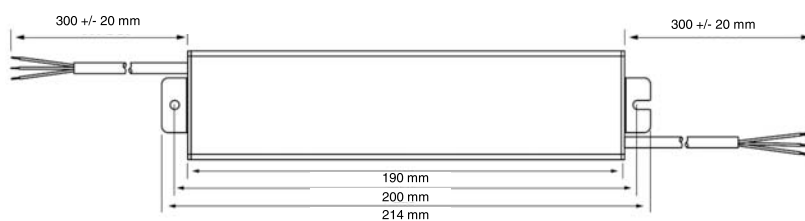
Service life time: 50,000 hrs
permanent operation when maximum temperature
 t_{cmax} at t_c point will not be exceeded;
failure rate: < 0.2% per 1000 hrs



Additional Technical Features



The electronic converter is protected against transient main peaks up to 4 kV (between L and N).



Products under development; preliminary technical datas

Max. output W	Type	Ref. No.	Mains voltage 50-60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
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Dimensions: 180x60x34 mm

60	ECXd 1050.069	186316	220-240	380	1050 $\pm 5\%$	28-57	< 60	-40 to 50	80	
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LED Constant Current Drivers

2x700 mA / 150 W (2-channel)
1x 700 mA / 75 W

These electronic constant current sources are especially designed for use in street lighting systems. Primary side switching only. Before connecting LED modules ensure that the power supply is disconnected from mains.

Mains voltage: 220–240 V $\pm 10\%$
 Mains frequency: 50–60 Hz
 Electronic short-circuit protection
 Asymmetrical load possible (2-channel version)
 Overload protection
 Protection against "no load" operation
 Degree of protection: IP67
Protection class II
 Power factor: > 0.96
 Efficiency: > 0.88

Service life time: 50,000 hrs
 permanent operation when maximum temperature t_{cmax} at t_c point will not be exceeded;
 failure rate: $< 0.2\%$ per 1000 hrs

IP67-Version

Pre-assembled connection leads:
 primary: 2 x 0.75 mm²
 secondary: 2 x 0.75 mm²

Dimmable version

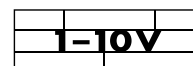
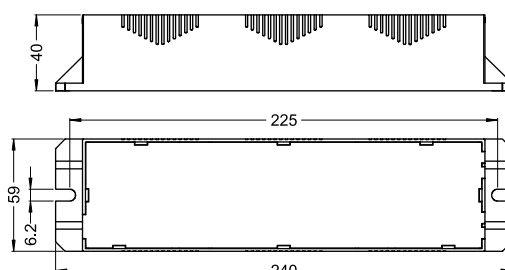
The dimming function is achieved by applying a PWM signal to the nominal current and features a dimming range of 10 to 100%. If no 1–10 V interface is connected, brightness will stay at 100%.



Additional Technical Features



The electronic converter is protected against transient main peaks up to 4 kV (between L and N).



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	SELV	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
Dimensions: 240 x 59 x 40 mm											
75	ECXe 700.065	186309	198–264	400–360	700 $\pm 5\%$	60–110	< 135	–	–25 to 50	70	710
150	ECXe 700.036	186270	198–264	760–690	700 $\pm 5\%$	60–110	120	SELV	–25 to 50	75	650
Dimmable Version – Dimensions: 240 x 59 x 40 mm											
75	ECXd 700.066	186310	198–264	400–360	700 $\pm 5\%$	60–110	< 135	–	–25 to 50	70	770
150	ECXd 700.040	186274	198–264	760–690	700 $\pm 5\%$	60–110	120	SELV	–25 to 50	75	650

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LED Constant Current Drivers

400, 700 mA / 150 W

These electronic constant current sources are especially designed for use in street lighting systems. They provide a simple power-reduction option by connecting a further phase, which makes it possible to switch between 400 mA and 700 mA.

Primary side switching only.

Before connecting LED modules ensure that the power supply is disconnected from mains.

Mains voltage: 220–277 V $\pm 10\%$

Mains frequency: 50–60 Hz

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20 or IP66

Protection class I

Power factor: 0.95

Efficiency: > 0.93

Service life time: 50,000 hrs

permanent operation when maximum temperature

t_{cmax} at t_c point will not be exceeded;

failure rate: < 0.2% per 1000 hrs

IP20 version

Push-in terminals: 0.75–2.5 mm²

Quantity of push-in terminals:

5x1-poles primary

2x1-poles secondary

IP66 version

Pre-assembled connection leads:

primary: 5 x 1 mm², 200 mm

secondary: 2 x 1,5 mm², 200 mm

Suitable for independent operation when capable connector acc. to EN 60598 is used.

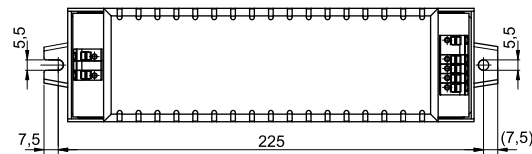
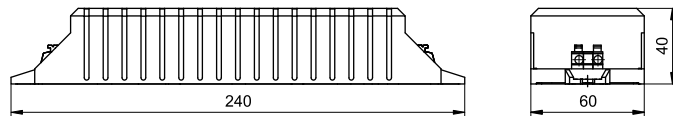


Additional Technical Features

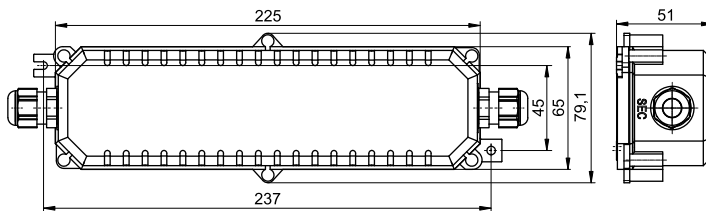
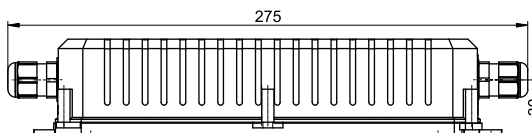


The electronic converter is protected against transient main peaks up to 3 kV (between L and N) and up to 4 kV (between L, N and PE).

IP20



IP66



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
IP20 – Dimensions: 240x60x40 mm										
150	ECXd 700.023	186202	220–277	735/585	700 +5/-10% 400 +5/-10%	48–215 48–375	445	–40 to 60	75	440
IP66 – Dimensions: 275x79.1x51 mm										
150	ECXd 700.023	186203	220–277	735/585	700 +5/-10% 400 +5/-10%	48–215 48–375	445	–40 to 60	75	560

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Linear LED Constant Current Drivers

350mA / 15 W, 2x20 W, 75 W
500/700 mA / 2x40 W
4x60 mA / 4x9W

The linear LED constant-current drivers are designed for use in office and retail lighting. The linear design is particularly suitable for luminaire concepts to replace T5/T8 fluorescent lamps with LEDs.

Primary side switching only.

Before connecting LED modules ensure that the power supply is disconnected from mains.

Mains voltage: 220-240 V $\pm 10\%$

Mains frequency: 0 Hz, 50-60 Hz

Electronic short-circuit protection

Overload protection, Protection against "no load" operation, Degree of protection: IP20

Push-in terminals: 0.5-1.5 mm²

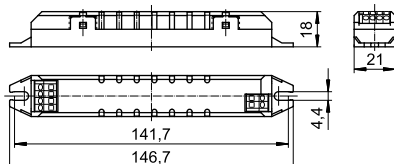
Service life time: 50,000 hrs

permanent operation when maximum temperature

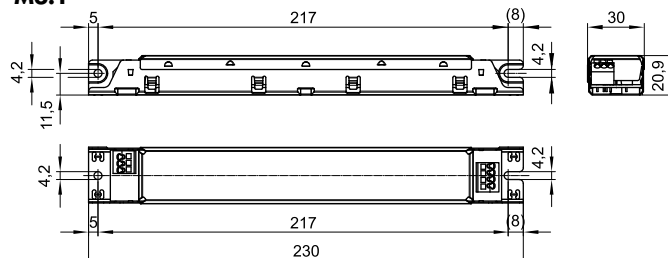
t_{cmax} at t_c point will not be exceeded;

failure rate: < 0.2% per 1000 hrs

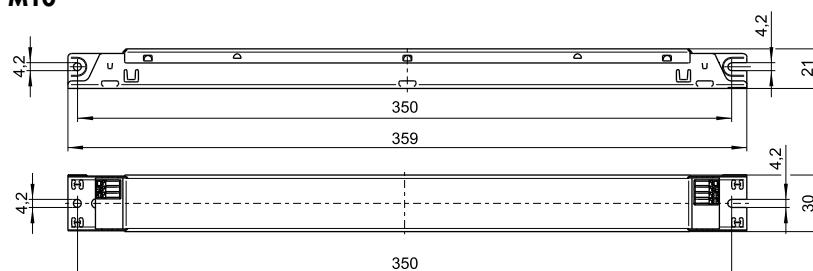
K21



M6.1



M10



* Products under development; preliminary technical datas

Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50-60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Protection class	SELV	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
K21 – Dimensions: 146.7x21x18 mm												
15	ECXe 350.031	186229	176/264 220/240	140	350 $\pm 5\%$ / -10%	2-40	42	II	SELV	-20 to 50	80	49
M6.1 – Dimensions: 230x30x20.9 mm												
2x20	ECXe 2350.037	186271	198/264 220/240	210-190	350 $\pm 5\%$ / -10%	17-56	60	I	SELV	-20 to 50	75	160
4x9	ECXe 460.061	186305	– 220/240	180-165	60 $\pm 5\%$ / -10 %	110-150	450	I	–	-25 to 60	70	156
M10 – Dimensions: 359x30x21 mm												
75	ECXe 350.028	186226	176/264 220/240	364-334	350 $\pm 5\%$ / -10%	90-215	420	I	–	-20 to 50	70	215
2x40	ECXe 2700.038	186272*	198/264 220/240	405-370	500 $\pm 5\%$ / -10% 700 $\pm 5\%$ / -10%	17-56	60	I	SELV	-20 to 50	75	280
107	ECXe 500.068	186135*	176/264 220/240		500 $\pm 5\%$ / -10 %	90-215	420	I	–	-25 to 50		
M10 DALI – Dimensions: 359x30x21 mm												
75	ECXd 350.029	186227	176/264 220/240	364-334	350 $\pm 5\%$ / -10%	90-215	420	I	–	-20 to 50	70	215

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China

Vossloh-Schwabe Electrical
Appliances Trading (Shanghai) Co., Ltd.
Wiselogic International Center
Room 2603, #66 North Shannxi Road
Shanghai, P.C. 200041/China
Phone: +86/21/62 18 55 99
Fax: +86/21/62 67 07 81
sean.yang@vscn.vossloh-schwabe.com

Singapore

Vossloh-Schwabe Pte. Ltd.
Vertex, 33 Ubi Avenue 3
Lobby A #06-72
Singapore 408868
Phone: +65/62 75 75 33
Fax: +65/62 75 76 33
vssing@singnet.com.sg

Hong Kong

Vossloh-Schwabe Hong Kong Ltd.
Flat A & B, 26/F., West Gate Tower
7 Wing Hong Street, Cheung Sha Wan
Kowloon, Hong Kong
Phone: +852/28779688
Fax: +852/28779933
linda.li@vshk.vossloh-schwabe.com

Taiwan

Vossloh-Schwabe Pte. Ltd.
Taiwan Branch
9. Fl-2, No. 80
Sung Chiang Road, Taipei, Taiwan
Phone: +886/(0)2/25 68 36 22
Fax: +886/(0)2/25 68 36 20
betty.ho@vstw.vossloh-schwabe.com

Korea

Vossloh-Schwabe Korea
#602 Olympia Center Building
828-10, Yeoksam-Dong, Gangnam-Gu
Seoul 135-935, Korea
Phone: +82/2/62 04 87 81/4
Fax: +82/2/62 04 87 85
j.y.maeng@vs.vossloh-schwabe.com

Thailand

Vossloh-Schwabe Trading Ltd.
3rd Floor (Unit 1) BUI Building 1
175-177 Soi Anumarnratchathon 1
Surawong Road, Kwaeng Suriyawongse
Khet Bangrak, Bangkok 10500, Thailand
Phone: +66/(0)2/63 473 11
Fax: +66/(0)2/63 473 13
sales.vstf@vstf.vossloh-schwabe.com



Whenever an electric light goes on around the world, Vossloh-Schwabe is likely to have made a key contribution to ensuring that everything works at the flick of a switch.

Headquartered in Germany, Vossloh-Schwabe has been a member of the global Panasonic group since 2002 and counts as a technology leader within the lighting sector. Top-quality, high-performance products form the basis of the company's success.

Whether cost-effective standard components or tailor-made product developments are needed, Vossloh-Schwabe can satisfy even the most diverse market and customer requirements. Vossloh-Schwabe's extensive product portfolio covers all lighting components: LED systems with matching control gear units, OLEDs and state-of-the-art control systems (LiCS) as well as electronic and magnetic ballasts and lampholders.



A member of the Panasonic group **Panasonic**

Vossloh-Schwabe Pte. Ltd.

33 Ubi Avenue 3, Lobby A #06-72 · Singapore 408868
Phone +65/62 75 75 33 · Fax +65/62 75 76 33

www.vossloh-schwabe.com

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