



A New Lighting Experience



- high reliability
- improved ignition
- optimum temperature management
- standardized casing dimensions
- VS warranty

Electronic HID Ballasts

New Generation M3 and K34

Typical Applications

Integration in luminaires and independent operation for

- Shop design
- Architectural illumination

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Electronic HID Ballasts

Introduction

VS has developed a new generation of electronic ballasts for discharge lamps. Apart from the usual VS quality features like reliability, efficiency and cost-effectiveness, these extremely compact ballasts also come with improved ignition. The optimised thermal properties of these new ballasts result in a larger ambient temperature range and thus ensure the ballast is less susceptible to inherent heating. Standardised dimensions enable problem-free exchange of the devices in line with the application area and manufacturer.

Technical Data

Electronic ballast Type	188539 EHXc 70.326	188537 EHXc 35.325	188540 EHXc 70.326	188538 EHXc 35.325	188545 EHXc 70.326	188546 EHXc 35.325
Shape	M3		M3 PCB		K34	
Mains voltage AC	220–240 V (±10%)					
Mains voltage DC	—					
Power factor	≥0,95					
Ignition voltage	4–5kV					
Operating frequency	173Hz					
Casing temperature t_c	80°C		80°C		75°C	
Ambient temperature t_a	-20 to 55°C	-20 to 65°C	-20 to 55°C	-20 to 65°C	-20 to 55°C	-20 to 65°C
Permissible load capacity (secondary)	120pF Δ approx. 2m lead length for lead SIHY-Cu 3x1mm ²					
Terminals	Push-in terminals (Wago; series 804)					
Lead section	0.75–2.5mm ²					
Stripped length	10–11mm					
Max. number of electronic ballasts per automatic cut-out						
B 10A/16A	7 / 12 ballasts					
C 10A/16A	12 / 20 ballasts					

Shutdown of defective lamps

In the event of a lamp failing to ignite or of a lamp with an operating voltage of 160V (end of the lamp's service life), the electronic ballast will switch off after a defined period of time (< 20 minutes). The ballast will also shut down if the lamp fails to attain its specified rated output. The ballast can be reset by disconnecting and then reconnecting the mains voltage. Disconnect the ballast from mains voltage during lamp rechange.

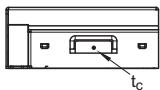
As lamps age, they can develop the so-called EOL (end-of-life or cycling) effect. In the case of high-pressure discharge lamps, the EOL effect results in a change of lamp voltage, which can, for instance, be caused by a broken burner seal or the arc discharging into the lamp. The EOL cut-out is designed to ensure the ballast is safely switched off at the end of the lamp's service life. EOL tests are intended to ensure that the lamp base cannot overheat at the end of the lamp's service life.

Temperature protection

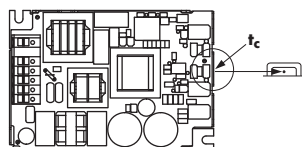
To prevent excess temperatures, ballasts are fitted with temperature protection. A ballast will restart after it has cooled down. It might be necessary to briefly interrupt the supply voltage.

The mentioned t_c temperatures have to be detected at the following defined points:

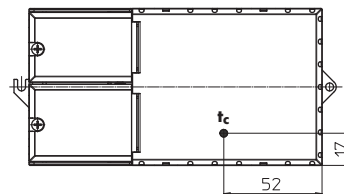
M3



M3 PCB



K34



Based on the specific t_c point temperatures,

the average service life of electronic ballasts is defined as follows:

Service life 188539, 188540, 188546:

t_c 80°C: 32.000h

t_c 75°C: 40.000h

t_c 70°C: 50.000h

Service life 188545:

t_c 75°C: 26.000h

t_c 65°C: 40.000h

t_c 60°C: 50.000h

Service life 188537, 188538:

t_c 85°C: 32.000h

t_c 80°C: 40.000h

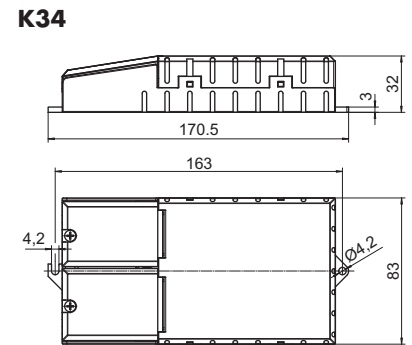
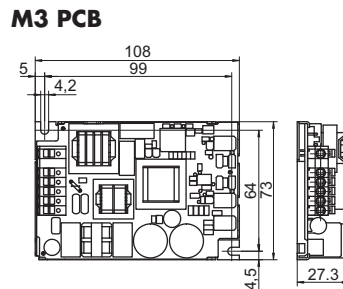
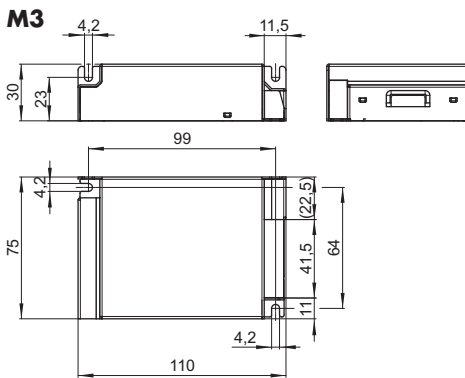
t_c 75°C: 50.000h

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

Electronic HID Ballasts

Mechanical Dimensions

Casing Ref. No.	Designation	Material	Length d (mm)	Width b (mm)	Height a (mm)	Mounting distance 1 c (mm)
188539/188537	M3	Metal	110	75	30	99
188540/188538	M3 without cap	—	108	73	27.3	99
188545/188546	K34	Plastic	170.5	83	32	163

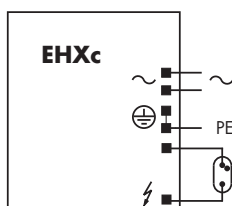


Mounting Notes

When installing electronic HID ballasts, care must generally be taken to ensure the luminaire is correctly dimensioned regarding temperature and EMC compliance.

The luminaire must be dimensioned in such a way to guarantee the casing temperature stipulated for the respective operating device, as measured at the defined t_c point, must never be exceeded, even under unfavourable operating conditions. Adequate heat transfer must be ensured upon installation in luminaires. Electronic ballasts must be mounted with the greatest possible clearance to lamps or other sources of heat. With regard to electromagnetic compatibility (EMC), the luminaire must also satisfy the applicable luminaire standard. While all VS operating devices comply with currently valid EMC limits, this does not guarantee the luminaire will do the same. This is often caused by incorrect wiring or the luminaire not being dimensioned generously enough.

Wiring



Suitable Lamps

Type	Base	Output
HI lamps	G12, RX7s, E27, PG12-2	70W / 35W
C-HI lamps	G8.5, G12, RX7s, E27, PG12-2	70W / 35W

Incompatible lamps: Sylvania BriteSpot

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Electronic HID Ballasts

Order and Packing Notes

The minimum order volume is defined as the smallest packing unit (small carton).

To keep delivery times as short as possible, you can also talk to our sales force regarding larger order volumes.

Type	Ref. No.	Casing	Packing type	
			Pieces per carton	Pieces per pallet
EHXc 35.325	188537	M3	16	960
EHXc 70.326	188539	M3	16	960
EHXc 35.325	188538	M3 without cap	14	840
EHXc 70.326	188540	M3 without cap	14	840
EHXc 35.325	188546	K34	6	480
EHXc 70.326	188545	K34	6	480

Production Code Explanations

The production date of all VS ballasts can be traced back using the production code, which is broken down as follows:

Year	Month	Day
6 <small>(last figure)</small>	F <small>(A = January)</small>	09 <small>(day of production)</small>

VS Warranty

Vossloh-Schwabe provides a warranty of 3 years on all VS products.

Vossloh-Schwabe provides an extended five-year manufacturer's warranty as long as the lighting system was designed and installed according to the respectively valid IEC standard and under observation of the technical parameters defined by VS like limiting temperatures, cable lengths, circuits, etc. in the respective luminaires.

This extended warranty only applies if the respective lighting system is registered with Vossloh-Schwabe within 90 days following the delivery (invoice) date.

You will find the registration form at

<http://vossloh-schwabe.com/eng/unternehmen/131.php>