

HID-AV C 35-70W //C CDM

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9137-006-47666 sh-460 2014-09-15



Philips Lighting Electronics
GBU e-HID
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HID-AV C 35-70W /I/C CDM

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1. Introduction

With our AspiraVision drivers we introduce a new high-end range of products for the HID Indoor market. The drivers are especially designed for the 'ease of use' and optimal performance. With excellent temperature and EMC specifications as well as features like thermo-intelligence and an inrush current limiter the AspiraVision drivers are the best choice in the market.

2. Version management

This is the design-in sheet for the AspiraVision Compact 35W /I, 35W /C, 70W /I and 70W /C drivers.

Status of the product: Final
Previous status: Sampling

22-02-2010: 9137-006-476 sh-460 2010-02-22

Initial document

15-09-2014: 9137-006-476 sh-460 2014-09-15

Addition related to connector position change of Connector version

3. Ordering

Technical name:	HID-AV C 35 /I CDM	HID-AV C 70 /I CDM
12NC:	9137 006 47666	9137 006 46666
EAN3:	8727900885248	8727900885224
EOC:	872790088524800	872790088522400

Technical name:	HID-AV C 35 /C CDM	HID-AV C 70 /C CDM
12NC:	9137 006 47966	9137 006 46966
EAN3:	8727900885255	8727900885231
EOC:	872790088525500	872790088523100

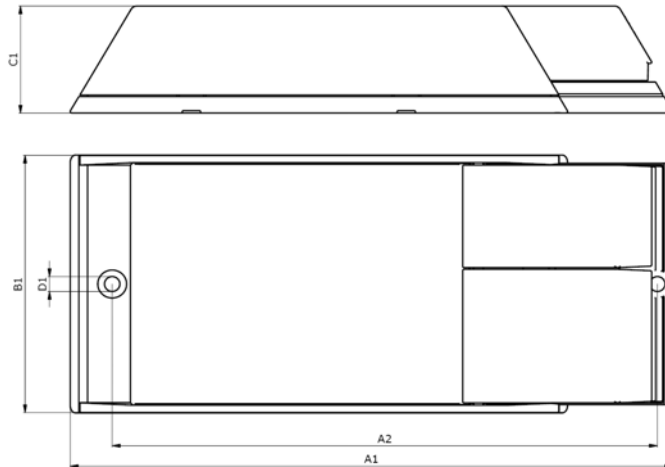
Product	Qty box/pallet	Net. weight (kg)	Box Dim. LxWxH (mm)	Pallet Dim. LxWxH (mm)
HID-AV C 35 /I CDM	12/648	0.330	244x193x266	1200x800x948
HID-AV C 70 /I CDM	12/648	0.330	244x193x266	1200x800x948
HID-AV C 35 /C CDM	12/648	0.290	244x193x266	1200x800x948
HID-AV C 70 /C CDM	12/648	0.290	244x193x266	1200x800x948

4. Dimensions

Independent version

The AspiraVision Compact 35W /I and 70W /I share the same dimensions. The dimensions are also equal to PrimaVision Independent drivers.

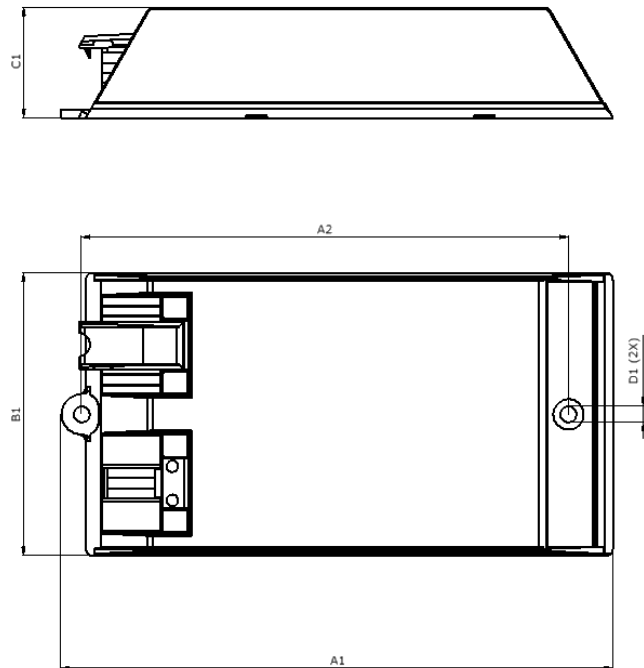
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A1 (mm)	A2 (mm)	B1 (mm)	C1 (mm)	D1 (mm)
188	170	83	34.5	4.8

Connector version

The AspiraVision Compact 35W /C and 70W /C share the same dimensions. The dimensions are also equal to PrimaVision Connector drivers.



A1 (mm)	A2 (mm)	B1 (mm)	C1 (mm)	D1 (mm)
161.7	143	83	34.5	4.8

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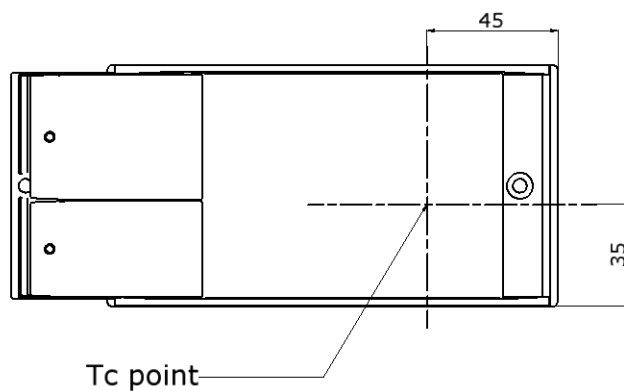
5. Temperature behaviour

T_{case}

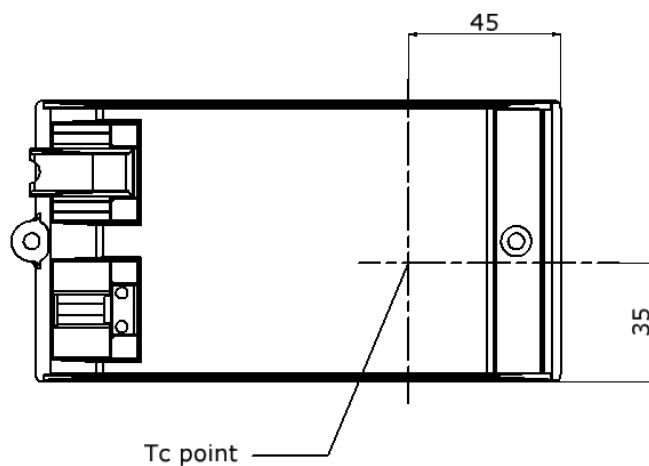
The T_{case} point is used as a reference-point, to determine the maximum allowed temperature of the housing. To guarantee safety and lifetime of the driver, it is not allowed to exceed $T_{case\ max}$.

The position is shown on the picture.

Independent version



Connector version



Lifetime 40k hours/90% survivals:

	$T_{case\ -max}$	$T_{ambient\ -max}$
HID-AV 35 /I CDM	70°C	55°C
HID-AV 70 /I CDM	80°C	55°C
HID-AV 35 /C CDM	70°C	55°C
HID-AV 70 /C CDM	80°C	55°C

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Driver losses

The AspiraVision Compact drivers have been developed to realize the highest power efficiency and operate with low losses for a long reliable lifetime.

Temperature Testing


Because the driver will regulate the lamp to a constant power, the input current will increase when the input voltage is lower. This ultimately will influence the power losses, so the worst-case temperature should therefore be measured at lowest mains voltage of 198V.

To guarantee, that the maximum value of T_{case} is not exceeded, a thermo-couple should be mounted on the T_c point of the driver.

For more information about lifetime and temperature please consult the HID application guide.

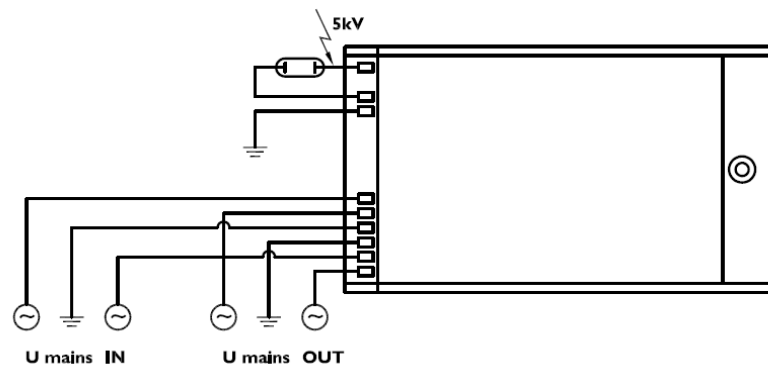
6. Wiring

The wiring should be connected according the pictures below. This driver is equipped with a safety earth connection and must be connected to the earth connection of the mains-supply.

For EMI-reasons, it is important to make the "hot" lamp-wire (indicated by the .symbol) as short as possible.

Independent version

This driver has a loop-through possibility for the mains-wiring.

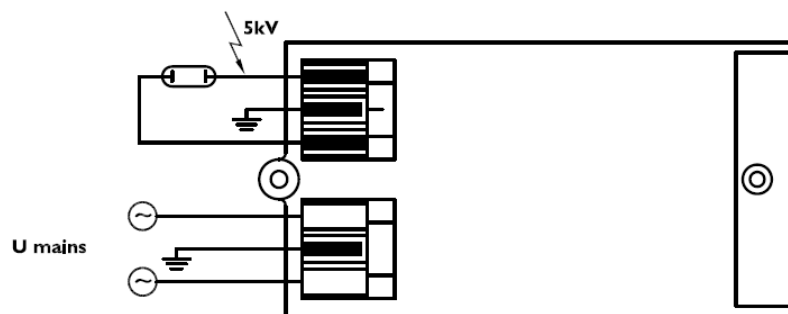


Connector type:
Wire cross section:
Strip length:
Max cable capacitance lamp-wires:
Maximum length lamp-wires:

Push-in contacts, WAGO type 804
0.75-2.5 mm² massive or stranded
10-11mm
240 pF
3.0m

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Connector version



Mains connector:

Connector type: Wieland GST18i3 Male without lock.
Color: black

Lamp connector:

Connector type: Wieland ST18/3 Female with lock
Color: red
Max cable capacitance lamp-wires: 240 pF
Maximum length lamp-wires: 3.0m

7. Electro-Magnetic Compatibility

The driver is tested and approved according CISPR 15 ed. 7.2. However the position of the wiring can negatively influence the EMC behaviour of this HID-system. Therefore it is advised to pay attention to the following:

- Place the mains-wires in such a way, that they are not in parallel with the lamp-wires.
- Make the spacing between lamp- and mains-wires as big as possible.
- Keep the mains-wires close together.
- Keep the lamp-wires close together and preferably as short as possible. However do not exceed the maximum allowed length of the lamp-wires.

8. Factory handling

Traceability

For traceability reasons year and week of production, as well as production-location, can be found on the product-label.

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Independent version

PHILIPS		PHILIPS	
HID-AspiraVision Independent HID-AV C 35 /I CDM 9137 006 476		HID-AspiraVision Independent HID-AV C 70 /I CDM 9137 006 466	
I x CDM 35W P _L : 39 W λ: 0.95 U _n : 220...240 V~ t _c : 70°C I _n : 0.22...0.17 A t _a : -20...+55°C f: 50-60 Hz U-OUT= 300 V		I x CDM 70W P _L : 73 W λ: 0.95 U _n : 220...240 V~ t _c : 80°C I _n : 0.37...0.33 A t _a : -20...+55°C f: 50-60 Hz U-OUT= 300 V	
MADE IN POLAND PLE YYWW		MADE IN POLAND PLE YYWW	

Connector version

PHILIPS		PHILIPS	
HID-AspiraVision Independent HID-AV C 35 /C CDM 9137 006 479		HID-AspiraVision Independent HID-AV C 70 /C CDM 9137 006 469	
I x CDM 35W P _L : 39 W λ: 0.95 U _n : 220...240 V~ t _c : 70°C I _n : 0.22 - 0.17 A t _a : -20...+55°C f: 50 - 60 Hz U-OUT= 300 V		I x CDM 70W P _L : 73 W λ: 0.95 U _n : 220...240 V~ t _c : 80°C I _n : 0.37...0.33 A t _a : -20...+55°C f: 50 - 60 Hz U-OUT= 300 V	
MADE IN POLAND PLE YYWW		MADE IN POLAND PLE YYWW	

The production-code consists of production year and week.

Example: If a product has been marked 0810 :

- Position 1 and 2 are the last digits from the year of production. The digits 08 indicates that the product has been made in 2008
- Position 3 and 4 indicate the week of production. The number 10 indicates that the product has been made in week 10.
- Furthermore, each product has a serial number, including barcode. (This is depending of the production-location)

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9. Installation / Mounting

Lamps that can be driven by the gear

The HID-AV C 35W /I and HID-AV C 35W /C can drive the following lamps:

- All CDM 35W lamps.
- Excluding: CDM-Tm 35W lamps.

The HID-AV C 70W /I and HID-AV C 70W /C can drive the following lamps:

- All CDM 70W lamps.

The drivers are not compatible with the following lamps:

- Metal halide quartz lamps

Suitable application for this driver

This product is designed mainly for applications that are working in an Indoor environment (IP23 or superior casing).

Typical applications are:

- Spot and accent lighting
- Downlighting and general lighting
- Mini flood lighting
- Main segment is retail (shops)
- Secondary segments are office and hospitality

The AspiraVision Compact range is not intended for Outdoor use due to the following outdoor constraints:

- High humidity and condensation risks
- Vibrations e.g. when the luminaire is mounted on a public lighting pole
- Lightning surges on the mains. Outdoor electronics gear are 4kV protected but the HID-AV C 35W/70W is protected up to 2kV.

Therefore, it is the responsibility of the luminaire manufacturer and the installer to take into account the above and implement adequate protection for the above. Here are some requirements for Outdoor applications:

- Place the gear in an IP54 or higher environment
- Avoid placing the gear or luminaire in high poles
- Place adequate Lightning protection in the lighting installation
- Planner should take it into account for Cost of Ownership calculations and maintenance plans.

If the above points are not taken into account in the design and the installation, Philips Lighting Electronics will have the option not to apply the standard guarantee.

Maximum number of gear per MCB

Since the AspiraVision Compact drivers are equipped with softstart, the maximum number of drivers per circuit breaker is not limited by the inrush-current of the driver, but only by the mains-power. (Note: observe nominal load derating for the used circuit breaker)

Driver type	Maximum number of gear per MCB					
	B16A	B10A	C16A	C10A	D16A	D10A
HID-AV C 35 /I/C CDM	58	36	58	36	58	36
HID-AV C 70 /I/C CDM	32	20	32	20	32	20

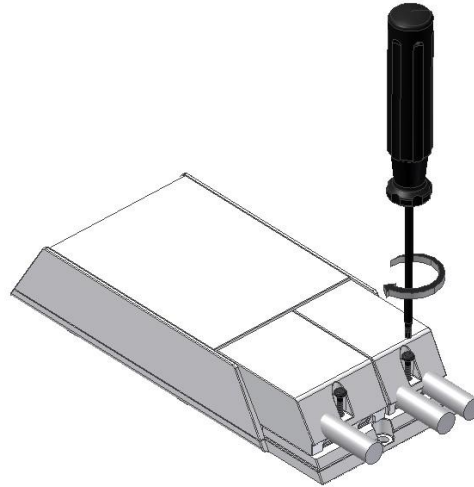
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DC-operation

This driver is not designed for DC-operation.

Mounting - Independent Version

The strain-reliefs can be closed by means of 2 (pre-assembled) slotted crosshead screws of the PZ2 type. The maximum allowed torque for mounting the screws is 1.0Nm.



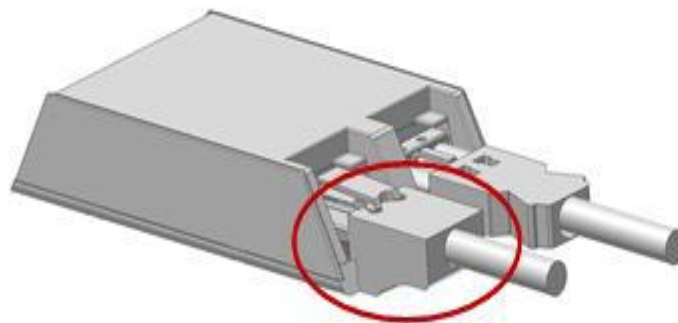
There are several methods to install the driver:

- The driver can be mounted on a solid surface by means of 2 M4 screws.
- The driver can be placed on the ceiling, without any means to fix it. (It is advised, not to place the driver upside down)
- A metal hook can be applied to one of the mounting holes of the driver, to hang it on the construction of the ceiling. (it is advised to have the wires/connectors facing down)

In all this situations, it is important not to cover the driver by any (isolating) material.

Mounting - Connector Version

Both connectors are modified however are still compatible with the previous connectors. To be inline with existing cables, the orientation of the lamp connector is changed. As a consequence of this the lamp connector has to be mounted upside down. In the new situation please take care of polarization between "hot wire" connector of the driver and hot wire inside the lamp connector (see picture below).



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10. Operating in abnormal conditions

Intelligent Thermal protection

If the driver is used at a too high ambient-temperature an internal thermal protection will protect the gear against damage; the gear will switch off the lamp. Thermal reset is done automatic, with a self learning algorithm to prevent thermal cycling

The thermal protection temperature becomes active at $T_{case} > 85^{\circ}\text{C} (\pm 5^{\circ}\text{C})$.

Mains voltage

The gear is designed to operate within a operational/safety range of 180-264V. However the performance is guaranteed within the performance range of 198-254V. Within this range, the lamp power is regulated within $\pm 3\%$ of its nominal power. (Valid for a lamp-voltage between 80 and 90V)

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Under- voltage

The driver will not start if the mains voltage is below 170V \pm 5V at the moment of switch-on.

Lightning and power surges

Protection against surges because of lightning are built in the gear. IEC61547, surge levels: 1.0kV Line to Line and 2.0kV Line to GND

End Of Life (EOL) lamp protection

The driver has a protection against an End Of Life Lamp. The driver will detect the failing lamp and switch to standby. After re-lamping, the mains has to be switched off and on, in order to reset the driver.

11. Advised communication

Philips Lighting Electronics advises to communicate the following information to your customers via your preferred media: Catalogues, brochures, Product datasheets, Mounting instructions, Internet and Intranet.

Technical

Due to lamp characteristics, this gear needs some time to re-ignite (10...15 minutes) after switch off.

When the lamp has reached end of life, the gear will switch off the lamp in order to avoid lamp overheating. After lamp replacement, the mains voltage will have to be reset and the system will work normally. The driver does not need to be replaced. The AspiraVision gear range is equipped with an internal thermal-sensor, that will prevent loss of gear lifetime due to overheating in the luminaire/installation.

Check also chapter 9 for relevant technical information

Guarantee

The guarantee of 3 and 5 years for Philips Electronics is applicable for this product. For more information about guarantee, please visit our website:

[Http://www.lampsandgear.philips.com/](http://www.lampsandgear.philips.com/)

12. Frequently Asked Questions

Is the new HID-AV Compact I and C compatible with the existing generation?

Yes. The outer dimensions of the AspiraVision Compact I and C are the same as the PrimaVision Compact 35W and 70W I and C drivers; enabling drop-in replacement

Optimal EMC performance of 10dB below the new CISPR 15 ed 7.1 norm prevents electromagnetic interference between your luminaire and other electronic devices.

Excellent temperature performance enables design in into more critical applications.

Does the HID-AV Compact Independent also offer SOFT START?

Yes , this means that the maximum number of drivers per circuit breaker is not limited by the inrush-current of the driver, but only by the mains-power. (Note: observe nominal load derating for the used circuit breaker)

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Will the HID-PV Compact remain in the portfolio?

Yes; the new HID-AV Compact is an extension of the range of HID-drivers, next to the HID-PV Compact range.

The housing is plastic. Does this give problems with EMC or temperature?

No, the gear is specially developed for the housing. Therefore, no problems with EMC and temperature occur.

Can I use the product in a 24hr-7days installation?

Yes, these drivers are suitable for 24/7 operation.

13. For more information

Please contact your local sales representative.

Check OEM application guide for general information about electronic gear.

Visit our web-site <http://www.lampsandgear.philips.com>