

HID-PV C 2x70 / I CDM



HID-PV C 2x70 / I CDM

9137-006-41996 sh-460 2011-03-28

Philips Lighting Electronics
GDC Eindhoven
Author: Johan Kokx
March 2011
9137-006-41996 sh-460 2011-03-28

HID-PV C 2x70 /I CDM

Contents

1. Introduction	3
2. Version management	3
3. Ordering	3
4. Dimensions	3
5. Temperature behaviour	4
6. Wiring	4
7. Electro-Magnetic Compatibility	5
8. Factory handling	5
9. Installation / Mounting	6
10. Operating in abnormal conditions	8
11. Advised communication	8
12. Frequently Asked Questions	9
13. For more information	9

HID-PV C 2x70 /I CDM

9137-006-41996 sh-460 2011-03-28

HID-PV C 2x70 /I CDM

1. Introduction

The PrimaVision Compact TWIN 70W is the new high wattage entry to the PrimaVision compact drivers family. This driver offers high power packed in a compact package. The miniaturized PrimaVision Compact TWIN 70W will enable you to achieve maximum size reduction.

2. Version management

This is the design-in sheet for the PrimaVision Compact TWIN 70 /I CDM driver.

Status of the product: Final

Previous status: Sampling

31-01-2011: 9137-006-41996 sh-460 2011-01-31

Initial document

3. Ordering

Technical name: HID-PV C 2x70 /I CDM

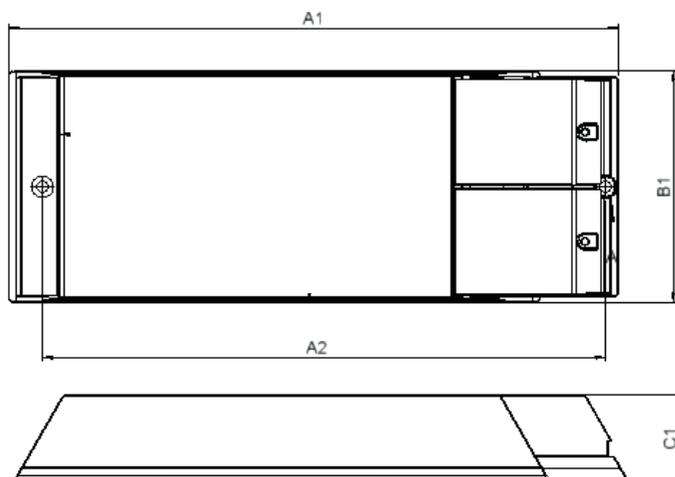
12NC: 9137 006 41996

EAN3: 8727900845808

EOC: 872790084580800

Product	Qty box/pallet	Net. weight (kg)	Box Dim. LxWxH (mm)	Pallet Dim. LxWxH (mm)
HID-PV C 2x70 /I CDM	6/360	0.625	292x278x110	1200x1000x700

4. Dimensions



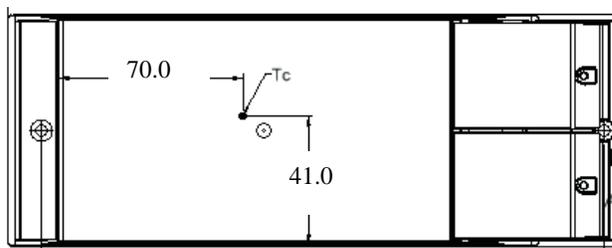
A1 (mm)	A2 (mm)	B1 (mm)	C1 (mm)
245	226	94	35

HID-PV C 2x70 /I CDM

5. Temperature behaviour

T_{case}

The T_{case} -point is the position shown on the drawing below.



Lifetime 40k hours/90% survivals:

	$T_{case-max}$	$T_{ambient-max}$
HID-PV C 2x70 /I CDM	75°C	45°C

Driver losses

The PrimaVision Compact drivers have been developed to realize high 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.

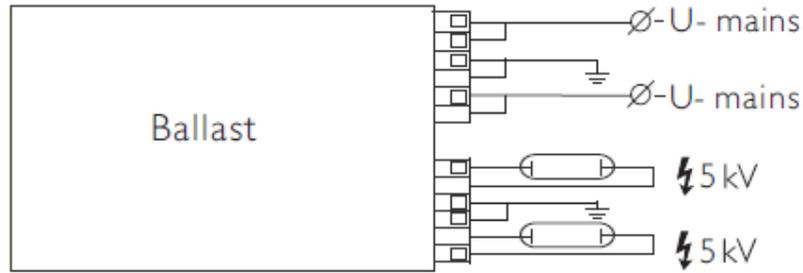
6. Wiring

The wiring should be connected according the picture 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.

This driver has a loop-through possibility for the mains-wiring. The maximum number of drivers that can be connected in this way is limited by the applied mains-wires and the connectors which are mounted on the driver.

HID-PV C 2x70 // CDM



Connector type:	Push-in contacts, WAGO type 804
Wire cross section:	0.75..2.5 mm ² massive or stranded
Strip length	10-11 mm
Max cable capacitance lamp-wires:	100 pF
Maximum length lamp-wires:	1.5m

7. Electro-Magnetic Compatibility

The driver is tested and approved according CISPR 15 ed. 7.2.

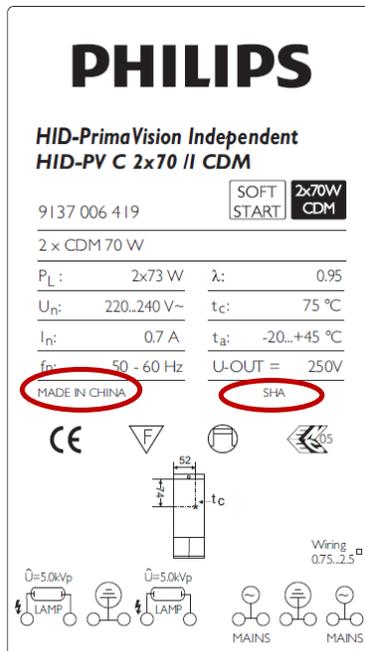
However the position of the wiring can negatively influence the EMC behaviour of this HID-system. Therefore it is advised to pay attention to the following:

- 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 and on the housing.



HID-PV C 2x70 /I CDM



The production-code consists of following info:



- CCC Factory Code
- YY Year
- WW Week
- D – Date
- Z – Production Sequence

9. Installation / Mounting

Lamps that can be driven by the driver

Driver	Lamp
HID-PV C 2x70W /I	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).

The PrimaVision 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 driver are 4kV protected but the HID-PV C 2X70 /I 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 driver in an IP54 or higher environment
- Avoid placing the driver 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.

HID-PV C 2x70 /I CDM

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 drivers per MCB

Since the HID-PV C 2x70 /I CDM 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)

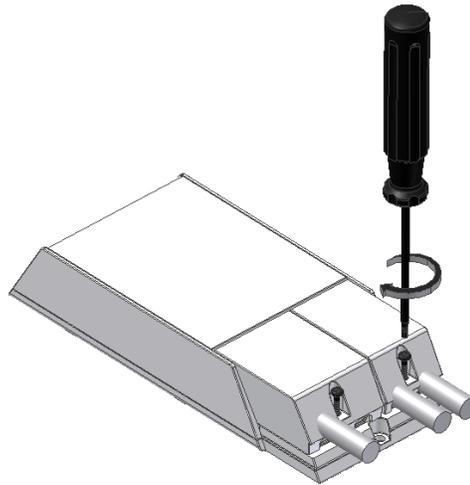
Driver type	Maximum number of drivers per MCB			
	B16A	B10A	C16A	C10A
HID-PV C 2x70 /I CDM	14	8	14	8
Relative number of drivers	100%	63%	170%	104%

DC-operation

This driver is not designed for DC-operation.

Mounting

The strain-reliefs can be closed by means of 2 (pre-assembled) slotted crosshead screws of the PZ2 type.



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.

HID-PV C 2x70 /I CDM

10. Operating in abnormal conditions

Active Thermal protection

If the driver is used at a too high temperature an internal thermal protection will protect the driver against damage; the driver will switch off the lamp. Mains voltage needs to be reset in order to reset thermal protection.

The thermal protection becomes active at $T_{case} > 100^{\circ}C$.

Mains voltage

The driver 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)

Under/Over voltage

The driver has a limited protection against over voltage, it is advised to prevent higher mains voltages than +10%. This will however negatively influence the lifetime and reliability.

Lightning and power surges

Protection against surges because of lightning are built in the driver.

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 off. 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 driver needs some time to re-ignite (10...15 minutes) after switch off.

When the lamp has reached end of life, the driver 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 PrimaVision Compact driver range is equipped with an internal thermal-sensor that will prevent loss of driver lifetime due to overheating in the luminaire/installation.

Check also chapter 9 for relevant technical information

Marketing

The use of PrimaVision Compact TWIN in your luminaire will provide your customer the following benefits:

- **Optimum system performance**
Development of CDM lamps and driver is in one hand. Every product is tested extensively, requiring a million burning hours before a system can be released. The result is an optimal light performance with Philips MASTERColour CDM lamps.

HID-PV C 2x70 /I CDM

- **Flicker free operation**
- **30 to 40% longer lamp lifetime**
- **10% energy saving compared to a Electromagnetic system**
- **Safe and comfortable behaviour when lamp reaches End of Life**

Furthermore, the PrimaVision Compact range has low losses, which guarantees maximum energy savings and limit heat generation, translating into a longer driver lifetime.

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-PV Compact TWIN Independent compatible with the existing generation?

Yes. The outer dimensions of the PrimaVision Compact TWIN are the same as the predecessor; enabling drop-in replacement.
The EMC performance is complying with the new CISPR 15 ed 7.2 requirements.

Does the HID-PV Compact 2x70W 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)

Is the HID-PV Compact 2x70W Independent also available in Connector version , with Wieland-connectors?

No, the Connector version is only available in the AspiraVision-range.

13. For more information

Please contact your local sales representative.
Check OEM application guide for general information about electronic driver.
Visit our web-site www.Philips.com/eHID