

85 - 240 VAC V, **Dimmable Freedom AC driver**

Product code: 5658

0.65 A, 85 - 240 VAC

- Alternating current driver for output phase-cut control
- Optimal fit for trailing edge dimmable LED driver and LED bulb applications
- Integrated surge protection up to 2 kV (L-GND)
- Stand-by power < 0.3 W
- Integrated nRF52832 radio unit for wireless control
- Last gasp functionality (500 ms) after power off
- Extremely compact mechanics (40.8 mm x 36.7 mm x 15.9 mm) for various built-in installation types e.g inside junction box, electrical outlet box or luminaire casing



The ACD-FD dimmable AC driver is designed to be used with the trailing edge dimmable LED drivers and LED bulbs, as well as with other bulb types, creating now wirelessly controllable solution for applications designed for e.g. phase-cut control rotary switches. The product includes the wireless nRF52832 radio unit for effortless wireless modification of the AC driver parameters.

Input Characteristics

Voltage range	85 VAC – 240 VAC
Mains current at full load	0.65 A
Frequency	50 Hz – 60 Hz
No-load standby power	< 0.3 W
Tested surge protection	1 kV L-N, 2 kV L-GND (IEC 61000-4-5)
Tested fast transient protection	4 kV (IEC 61000-4-4)

Wireless connectivity

Frequency range	2.402 – 2.480 GHz
-----------------	-------------------

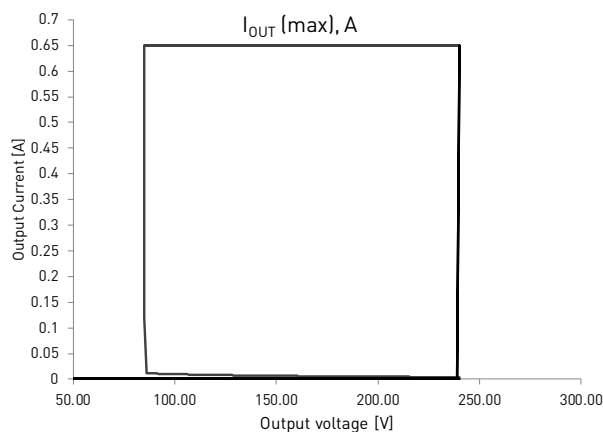
Insulation between circuits & driver case

Input - Output	Non-isolated
Input and output - Casing	Double/reinforced insulation

Load Output

Max. output power	150 VA @ 230 VAC* 75 VA @ 120 VAC*
Output current	Max. 0.65 A
Max. allowed inrush current	10 A, 100 ms
Dimming	Trailing-edge phase control
Load types and ratings	Please see detailed full list of supported loads on page 3.

Operating window



*The minimum load limit is 1 W

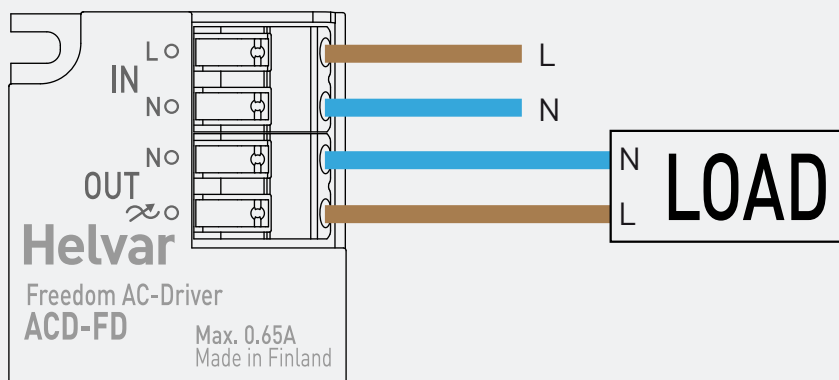
Operating Conditions and Characteristics

Max. temperature at t_c point	70 °C
Ambient temperature range	-20...+45 °C
Storage temperature range	-40...+80 °C
Maximum relative humidity	no condensation
Lifetime (90 % survival rate)	50 000 h, at $t_c = 70$ °C

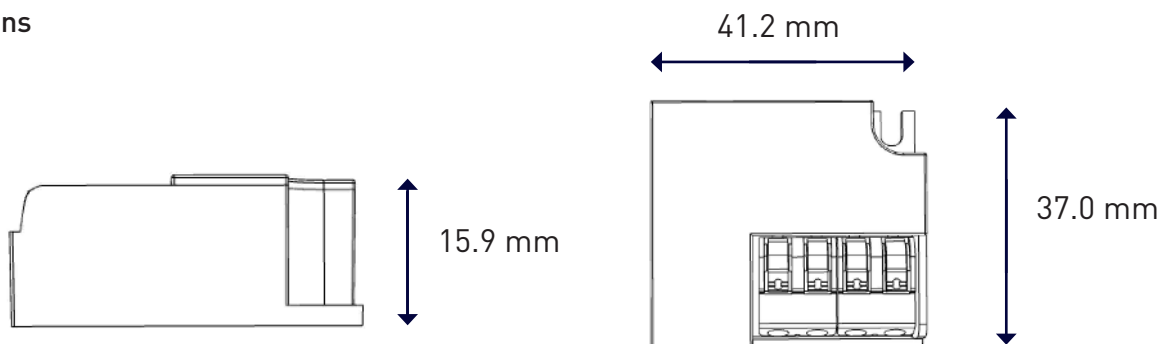
Connections and Mechanical Data

Wire size	0.5 - 1.5 mm ²
Wire type	Solid core and fine-stranded
Wire insulation	According to EN 60598
Weight	16 g

Connections



Dimensions



ACD-FD LED is suited for built-in / box usage. In order to have safe and reliable AC driver operation, the installation destination (e.g led luminaire, joint box) will need to comply with the relevant standards and regulations (e.g. IEC/EN 60598-1). The installation destination shall be designed to adequately protect the ACD-FD from dust, moisture and pollution. Operating conditions of the ACD-FD may never exceed the specifications as per the product datasheet.

Installation & operation

Maximum ambient and t_c temperature:

- The t_a ambient temperature range is a guideline given for the optimum operating environment. However, integrator must always ensure proper thermal management (i.e. mounting base of the driver extension, air flow etc.) so that the t_c point temperature does not exceed the t_c maximum limit in any circumstance.
- Reliable operation and lifetime is only guaranteed if the maximum t_c point temperature is not exceeded under the conditions of use.

Installation considerations

- The ACD-FD must be used in built-in use, installed inside either luminaire casing or in joint box.

Conformity & standards

Particular requirements for miscellaneous electronic circuits used with luminaires	EN 61347-2-11
Equipment for general lighting purposes - EMC immunity requirements	EN61547
Switches for household and similar fixed electrical installations	EN 60669-1
Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment	EN55015
EMC standard for radio equipment and services; Specific conditions for Broadband Data Transmission Systems	EN301489-17
Data transmission equipment operating in the 2,4 GHz band; Harmonised Standard for access to radio spectrum	EN300328
Compliant with relevant EU directives	
RoHS/REACH compliant	
CE marked	

Compatible load types

Only the following load types and max. values are supported by the product.

Incandescent and high voltage halogens	150 VA*
High quality dimmable LED bulbs	150 VA*
High quality dimmable CFL bulbs	150 VA*
Trailing edge dimmable LED drivers	150 VA*

*With 230 VAC input voltage. With 120 VAC the maximum load is 75 VA.