

PTo 70/220...240 3DIM

POWERTRONIC OUTDOOR PTo | ECG for HID lamps, for outdoor lighting



Areas of application

- Suitable for luminaires of protection classes I and II
- Suitable for outdoor applications in fixtures with IP > 54

Product benefits

- Energy savings up to 30 % (compared to CCG operation) thanks to 3DIM (except PTo 35)
- High surge protection: up to 3 kV (L-N) / 4 kV (L/N-PE)
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EoL)
- Excellent thermal behavior for very high limit temperatures t_c and t_a

Product features

- 3DIM functionality (StepDIM/AstroDIM/DALI)
- Energy Efficiency Index EEI: A2
- Lightning protection: up to 10 kV
- Line voltage: 198...264 V
- Line frequency: 50...60 Hz
- Line harmonics according to EN 61000-3-2
- Immunity according to EN 61547
- RI suppression: to EN 55015 (A1: 2007) up to 300 MHz
- Safety: to EN 61347-2-12
- Luminous flux factor 1 compared with CCG operation
- Not suitable for DC operation

Technical data

Electrical data

Lamp wattage	73 W
Line current	0.35 A ¹⁾
Ignition voltage	4.5 kVp
Operating frequency	0.165 kHz
System wattage	80.00 W
Power loss in stand-by mode	<0.5 W ²⁾
ECG efficiency	91 % ³⁾
Input voltage	220...240 V
Voltage range	198...264 V
Mains frequency	50...60 Hz Hz
Power factor λ	0.95 ⁴⁾
Inrush current	45 A ⁵⁾
Max. no. of ECGs on circuit breaker 10 A	7 ⁶⁾
Max. no. of ECGs on circuit breaker 16 A	13 ⁶⁾
Max. no. of ECGs on 16A MCB with EBN-OS	32 ⁶⁾
Protective conductor current	0.1 mA
U-OUT	250 V
Max. working voltage between LH and LL	250 V
Max. working voltage betw. LL/LH & earth	250 V
Max. capacitance of wire ECG/lamp	120 pF
Surge capability (L-N)	3 kV
Surge capability (L/N-Ground)	4 kV

¹⁾ At 230 V_{AC}

²⁾ Only in DALI operation mode

³⁾ Approximately

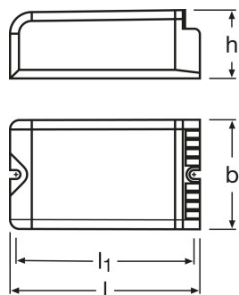
⁴⁾ Minimum

⁵⁾ $t_{width} = 250 \mu s$ (measured at 50 % I_{peak})

⁶⁾ Type B

Dimensions & weight

Product datasheet



Product line drawing

Length	133.0 mm
Width	77.0 mm
Height	48.0 mm
Mounting hole spacing, length	123.0 mm
Cable cross-section, input side	0.5...2.5 mm ²
Cable cross-section, output side	0.5...2.5 mm ²
Wire preparation length, input side	10...11 mm
Wire preparation length, output side	10...11 mm
Product weight	730.00 g

Colors & materials

Casing material	Plastic
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Temperatures

Ambient temperature range	-25...+55 °C
Maximum temperature at tc test point	75 °C

Lifespan

ECG lifetime	60000 h ¹⁾
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¹⁾ At maximum T_c / 8 % failure rate

Additional product data

Required IP rating of luminaire	≥ 54
Design / version	ECG outdoor
Encapsulated	Yes ¹⁾
System guarantee level	3c

¹⁾ PCB fully encapsulated + dust proof plastic housing

Product datasheet

Capabilities

Dimming interface	DALI / StepDIM / AstroDIM
Dimming range	60...100 %
Maximum wiring length ECG/lamp	1.5 m
Burn-in time prior to dimming operation	10 min
Overheating protection	Power reduction and switch off at T > 75 °C at the tc point
ECG reset time	> 0.5 s
Dimmable	Yes ¹⁾
Restriction on ignition time	20 min
Suitable for fixtures with prot. class	I / II
Lightning stroke protection	With connected equipotentiality-terminal 10 surges with 10 kV acc. to IEC 61000-4-5

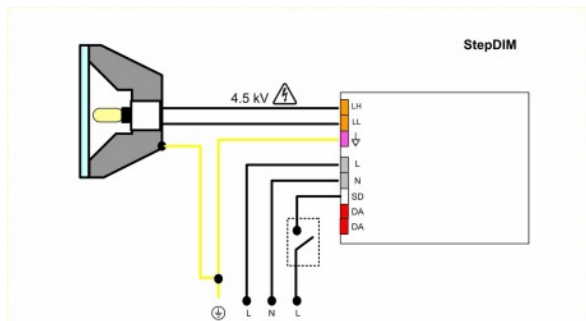
¹⁾ HQI lamps excluded from dimming

Certificates & standards

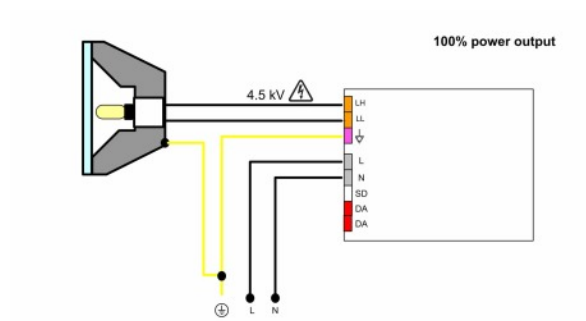
Approval marks – approval	ENEC 10 / VDE / VDE-EMC / GOST / C-Tick
Type of protection	IP20
EEI – Energy Label	A2
Standards	acc. to EN 61347-2-12/acc. to EN 55015/acc. to EN 61000-3-2/acc. to EN 61547/acc. to EN 62386-101/acc. to EN 62386-102/acc. to EN 62386-103

Wiring Diagram

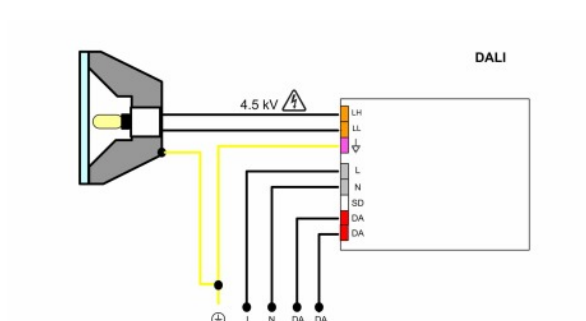
Product datasheet



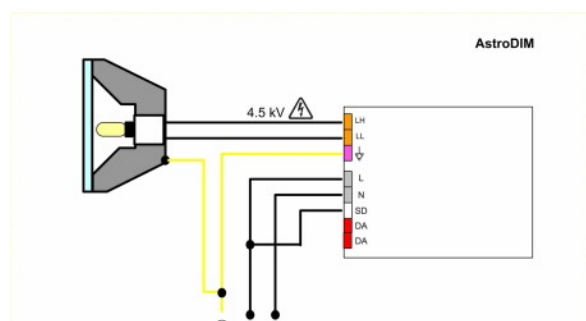
Wiring diagram



Wiring diagram



Wiring diagram



Wiring diagram



Guarantee

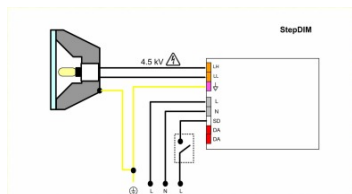
Guarantee

Thermal characteristics

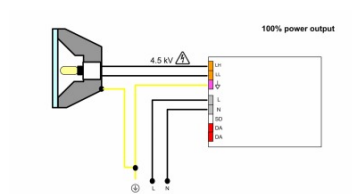
Ballast losses and lamp heat radiation can lead to heat accumulation in a completely closed case. Therefore it is necessary to ensure that the temperature at the measuring point t_c of the ECG does not exceed the maximum value.

Attention!

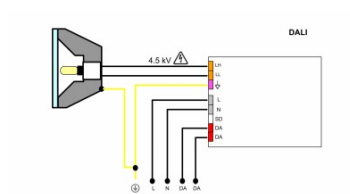
For safety reasons disconnect the device before replacing the lamp!



Wiring diagram

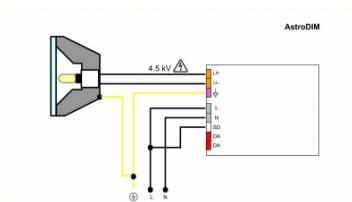


Wiring diagram



Wiring diagram

Product datasheet



Wiring diagram

Download Data

File	
	Tender Documents Tender Document for POWERTRONIC EVG.eng
	Brochures LMS 3 DIM Flyer (GB)
	Brochures 3DIM - controll gears - Reliable, durable and efficient (G)
	Brochures 3DIM Application Guide (GB)
	Brochures 3DIM application guide (DE)
	Brochures 3DIM Application guide (Fr)
	Certificates EMC-Marks approval
	Declarations of conformity Declaration of conformity PTo 50 3DIM, PTo 70 3DIM
	Declarations of conformity VDE Declaration of conformity
	Declarations of conformity PTi - PTo - PTg VDE-ENEC-Cert
	Installation/Operation notice Technical guide - POWERTRONIC for HID-lamps (GB)
	CAD data 3-dim PTo70 3DIM PTo50 3DIM
	CAD data 3-dim PTo70 3DIM PTo50 3DIM
	CAD data 3-dim PTo70 3DIM PTo50 3DIM

Product datasheet



Product movie
3DIM Astro, StepDIM, DALI Video

Logistical Data

Product code	Product description	Packaging unit (Pieces/Unit)	Dimensions (height x width x length)	Volume	Gross weight
4008321959355	PTo 70/220...240 3DIM	Shipping carton box 20	285 mm x 167 mm x 483 mm	22.99 dm ³	15571.00 g

The mentioned product code describes the smallest quantity unit which can be ordered. One shipping unit can contain one or more single products. When placing an order, for the quantity please enter single or multiples of a shipping unit.

Disclaimer

Subject to change without notice. Errors and omission excepted. Always make sure to use the most recent release.

Product datasheet

Lamp-ECG combination (System)

Product name	Lamp group
PTo_70/220-240 3DIM	HCI-E/P 70W
	HCI-ET 70W
	HCI-TT 70W
	HQI-E 70W
	HQI-E/P 70W
	NAV 70
	NAV-E 70
	NAV-T 70
	NAV-TS 70