

## PRODUCT DATASHEET

### 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 luminaires 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
- Supply voltage: 220...240 V
- Line frequency: 50...60 Hz
- Line harmonics according to EN 61000-3-2
- Immunity according to EN 61547
- RI suppression: to EN 55015
- 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 <sup>1)</sup>
Ignition voltage	4.5 kVp
Operating frequency	0.165 kHz
System wattage [AGGR]	80.00 W
Power loss in stand-by mode	<0.5 W <sup>2)</sup>
ECG efficiency	91 % <sup>3)</sup>
Input voltage AC	198...264 V
Nominal voltage	220...240 V
Nominal input voltage (SD port)	220...240 V <sup>4)</sup>
Mains frequency	50...60 Hz
Power factor λ	0.95 <sup>5)</sup>
Inrush current	35 A <sup>6)</sup>
Max. ECG no. on circuit breaker 10 A (B)	7 <sup>7)</sup>
Max. ECG no. on circuit breaker 16 A (B)	13 <sup>7)</sup>
Max. no. of ECGs on 16A MCB with EBN-OS	32 <sup>7)</sup>
Protective conductor current	0.1 mA
U-OUT (working voltage)	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

<sup>1)</sup> At 230 V<sub>AC</sub>

<sup>2)</sup> Only in DALI operation mode

<sup>3)</sup> Approximately

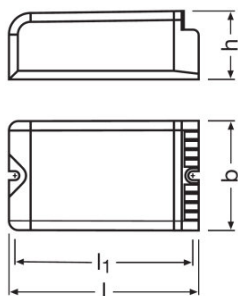
<sup>4)</sup> In relation to L/N / Active: input current > 14 mA<sub>pk</sub> / Inactive: input current < 2 mA<sub>pk</sub>

<sup>5)</sup> Minimum

<sup>6)</sup> t<sub>width</sub> = 350 μs (measured at 50 % I<sub>peak</sub>)

<sup>7)</sup> Type B

Dimensions & weight



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

Colors & materials

<b>Casing material</b>	Plastic
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Temperatures & operating conditions

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

Lifespan

<b>ECG lifetime</b>	60000 h <sup>1)</sup>
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<sup>1)</sup> At maximum T<sub>c</sub> / 8% failure rate

Additional product data

<b>Required IP rating of luminaire</b>	≥ 54
<b>Design / version</b>	ECG outdoor
<b>Encapsulated</b>	Yes <sup>1)</sup>

<sup>1)</sup> PCB fully encapsulated + dust proof plastic housing

Capabilities

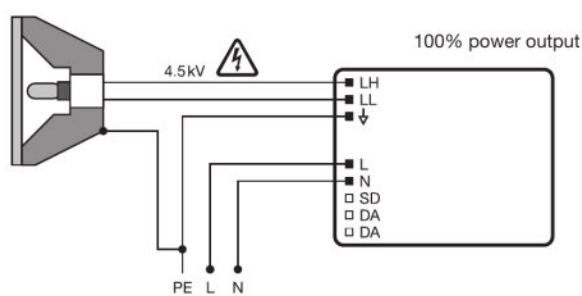
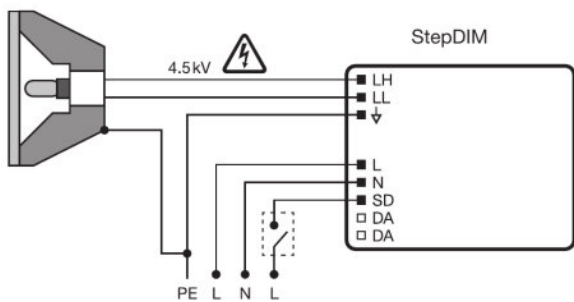
<b>Dimming interface</b>	DALI / StepDIM / AstroDIM
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<b>Dimming range</b>	60...100 %
<b>Max. cable length to lamp/LED module</b>	1.5 m
<b>Burn-in time prior to dimming operation</b>	10 min
<b>Overheating protection</b>	Power reduction and switch off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

Certificates & standards

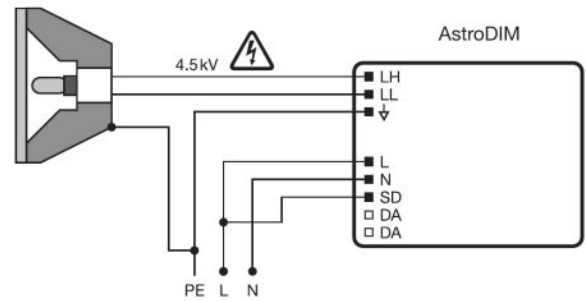
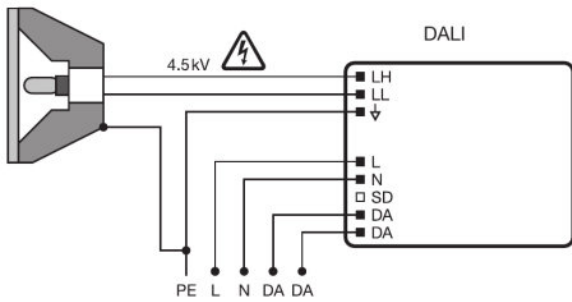
<b>Approval marks – approval</b>	ENEC 10 / VDE / VDE-EMC / EAC / C-Tick
<b>Type of protection</b>	IP20
<b>EEI – Energy Label</b>	A2
<b>Standards</b>	Acc. to EN 61347-2-12/Acc. to EN 55015/Acc. to EN 61000-3-2/Acc. to EN 61547/Acc. to EN 62386-101/Acc. to EN 62386-102/Acc. to EN 62386-103

Wiring Diagram



Wiring diagram

Wiring diagram



Wiring diagram

Wiring diagram



Guarantee

**SAFETY ADVICE**

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 of the ECG does not exceed the maximum value.














**ATTENTION!**

For safety reasons disconnect the device before replacing the lamp!

**ADDITIONAL PRODUCT INFORMATION**

- An external relay connected in front of the SD port is necessary in StepDIM installations. The relay needs to be selected in a way that it is not switched or hold by the occurring leakage currents in the installation.

**DOWNLOAD DATA**

File	
	Tender documents 339884_Tender Document for POWERTRONIC EVG.eng
	Brochures 336599_LMS 3 DIM Flyer (GB)
	Brochures 339643_3DIM Application Guide (GB)
	Certificates 554891_EAC PT family
	Certificates 335121_EMC-Marks approval
	Certificates 346461_PTi - PTo - PTg VDE-ENEC-Cert
	Declarations of conformity VD EMC Certificate 40025469
	Declarations of conformity EU Declaration of Conformity 3363432
	Installation/Operation notice 334206_Technical guide - POWERTRONIC for HID-lamps (GB)
	Operating instructions 590728_EAC-PTO
	CAD data 3-dim 325151_PTo70 3DIM PTo50 3DIM
	CAD data 3-dim 325152_PTo70 3DIM PTo50 3DIM
	CAD data 3-dim 325153_PTo70 3DIM PTo50 3DIM
	Product movie 344783_3DIM Astro, StepDIM, DALI Video

**LOGISTICAL DATA**

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