Product datasheet

PTo 150/220...240 3DIM

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



Product family 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

Product family 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

Areas of application

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

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Technical data

Electrical data

Lamp wattage	147 W
Maximum output power	147 W
Line current	0.71 A [1)]
Ignition voltage	4.5 kVp
Operating frequency	0.165 kHz
System wattage	160.00 W
Efficiency in full-load	91 %
Input voltage AC	198…264 V
Nominal voltage	220…240 V
Nominal input voltage (SD port)	220…240 V [2)]
Mains frequency	50…60 Hz
Power factor λ	0.95 [3)]
Inrush current	70 A [4)]
Max. ECG no. on circuit breaker 10 A (B)	4 [5)]
Max. ECG no. on circuit breaker 16 A (B)	7 [5)]
Max. no. of ECGs on 16A MCB with EBN-OS	17 [5)]
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

1) At 230 V_{AC}

2) In relation to L/N / Active: input current > 14 mA_{pk} / Inactive: input current < 2 mA_{pk}

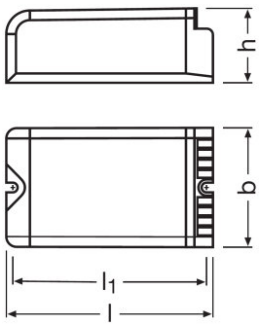
3) Minimum

4) t_{width} = 250 µs (measured at 50 % I_{peak})

5) Type B

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Dimensions & weight



Length	158.0 mm
Width	94.0 mm
Height	42.5 mm
Mounting hole spacing, length	148.0 mm
Cable cross-section, input side	0.5…2.5 mm²
Cable cross-section, output side	0.5…2.5 mm²
Wire preparation length, input side	10…11 mm
Wire preparation length, output side	10…11 mm
Product weight	900.00 g

Colors & materials

Casing material	Plastic

Temperatures & operating conditions

Ambient temperature range	-25…+55 °C
Maximum temperature at tc test point	85 °C

Lifespan

ECG lifetime	60000 h [1)]

[1)] At T_{case} = 80°C at T_c point / 10% failure rate

Expected Lifetime

Product name				
PTo 150/220…240 3DIM	ECG ambient temperature [ta]	50	55	-
	Temperature at tc-point [°C]	80	85	-
	Lifetime [h]	60000	40000	-

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Additional product data

Required IP rating of luminaire	> 54
Design / version	ECG outdoor
Suitable for lamp power (1 lamp)	147 W

Capabilities

Dimming interface	DALI / StepDIM / AstroDIM
Dimming range	60...100 %
Max. cable length to lamp/LED module	1.5 m
Burn-in time prior to dimming operation	10 min
Overheating protection	Power reduction and switch off at T > 85 °C at the tc point
ECG reset time	> 0.5 s
Dimmable	Yes
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
Intended for no-load operation	No

Certificates & standards

Approval marks – approval	ENEC 10 / VDE / VDE-EMC / EAC / 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

Logistical data

Commodity code	85041080900

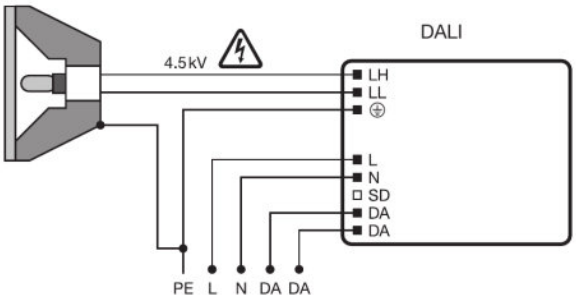
Environmental information

Information according Art. 33 of EU Regulation (EC) 1907/2006 (REACh)	
Date of Declaration	26-05-2023
Primary Article Identifier	4008321956385
Candidate List Substance 1	Lead
CAS No. of substance 1	7439-92-1
Safe Use Instruction	The identification of the Candidate List substance is sufficient to allow safe use of the article.

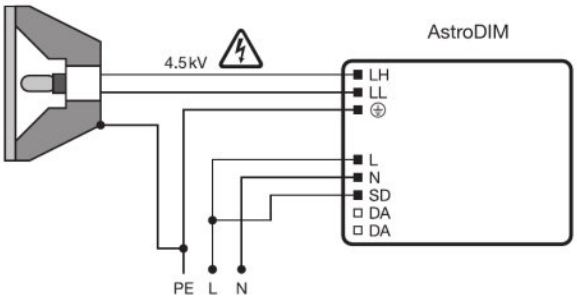
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Declaration No. in SCIP database	eb7b8c7c-7483-4cb5-b5a0-3efaac249b6d

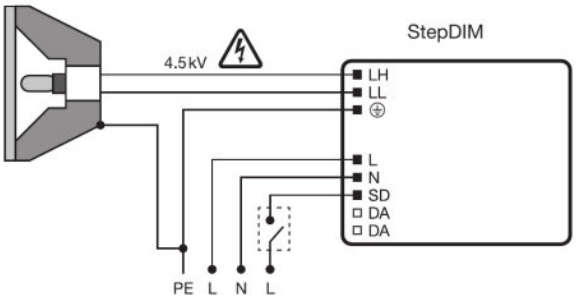
Wiring Diagram



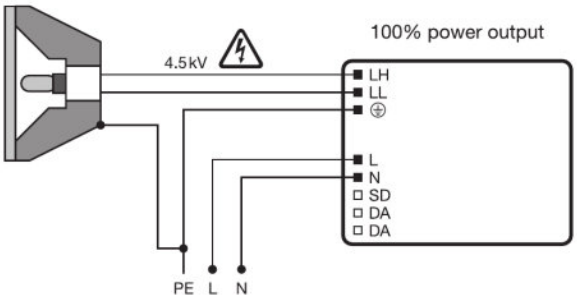
676796_PTO 100-150 DALI



676797_PTO 100-150 AstroDIM



676798_PTO 100-150 StepDIM



676799_PTO 100-150 100% power output

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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.
- In order to achieve good radio interference suppression:1. Keep the cable between ECG and lamp as short as possible.2. The single lamp wires must be routed as close as possible to each other.

Download Data

	File
	User instruction POWERTRONIC PTo
	Tender documents 339884_Tender Document for POWERTRONIC EVG.eng
	Certificates 554891_EAC PT family
	Certificates PTO PTI ENEC 40035813 020623
	Declarations of conformity PT_FIT PTi PTo CE 3363432 020823
	Declarations of conformity Pti Pto PT-FIT EMC 280722
	Operating instructions 590728_EAC-PTO
	CAD data 3-dim 341253_CAD data 3-dim – PTo100_150 IGS
	CAD data 3-dim 341254_CAD data 3-dim – PTo100_150.STEP

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Ecodesign regulation information:

Separate control gear and light sources must be disposed of at certified disposal companies in accordance with Directive 2012/19/EU (WEEE) in the EU and with Waste Electrical and Electronic Equipment (WEEE) Regulations 2013 in the UK. For this purpose, collection points for recycling centres and take-back systems (CRSO) are available from retailers or private disposal companies, which accept separate control gear and light sources free of charge. In this way, raw materials are conserved and materials are recycled.

Logistical Data

Product code	Product description	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Volume	Gross weight
4008321956385	PTo 150/220...240 3DIM	Shipping carton box 10	313 mm x 273 mm x 193 mm	16.49 dm^3	10283.00 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.

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PTo 150/220...240 3DIM

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

Product name	Lamp group
PTo 150/220...240 3DIM	HCI-E/P 150W
	HCI-TS 150W
	HCI-TT 150W
	HQI-T 150W
	HQI-T 70W
	HQI-TS 150W
	NAV-E 150
	NAV-T 150
	NAV-TS 150

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