

## OPTOTRONIC - ON/OFF UNV IP65

Constant current LED driver



### Areas of application

- Street and urban lighting
- Industry
- Suitable for luminaires of protection class I

### Product family benefits

- High surge protection: up to 6 kV (L-N) / 6 kV (L/N-PE)
- High efficiency
- Great flexibility due to wide operating temperature range of -40...50 °C or 55 °C
- IP rating: IP65

### Product family features

- Available with different wattage: 50 W, 100 W, 180 W, 250 W
- Input voltage: 120...277 V
- Output current: 700 mA
- Overtemperature protection

# Product family datasheet

## Technical data

### Electrical data

Product description	Nominal voltage	Input voltage AC	Nominal current	Mains frequency	Power factor $\lambda$	Total harmonic distortion
OT 50/120...277/700 P5	120...277 V	108...305 V <sup>1)</sup>	0.25 A <sup>2)</sup>	50...60 Hz	0.95/0.90 <sup>3)</sup>	10 % <sup>4)</sup>
OT 100/120...277/700 P5	120...277 V	108...305 V <sup>1)</sup>	0.49 A <sup>12)</sup>	50...60 Hz	0.95/0.90 <sup>13)</sup>	10 % <sup>4)</sup>
OT 180/120...277/700 P5	120...277 V	108...305 V <sup>1)</sup>	0.86 A <sup>15)</sup>	50...60 Hz	0.95/0.90 <sup>13)</sup>	10 % <sup>4)</sup>

Product description	Device power loss	Inrush current	Max. ECG no. on circuit breaker 10 A (B)	Max. ECG no. on circuit breaker 16 A (B)	Max. ECG no. on circuit breaker 25 A (B)
OT 50/120...277/700 P5	7.5 W <sup>5)</sup>	50 A <sup>6)</sup>	8 <sup>7)</sup>	13 <sup>7)</sup>	20 <sup>7)</sup>
OT 100/120...277/700 P5	12 W <sup>5)</sup>	100 A <sup>6)</sup>	4 <sup>7)</sup>	7 <sup>7)</sup>	12 <sup>7)</sup>
OT 180/120...277/700 P5	18 W <sup>5)</sup>	110 A <sup>6)</sup>	4 <sup>7)</sup>	7 <sup>7)</sup>	12 <sup>7)</sup>

Product description	Surge capability (L/N-Ground)	Surge capability (L-N)	Nominal output power	Maximum output power
OT 50/120...277/700 P5	6 kV	6 kV <sup>8)</sup>	50 W <sup>9)</sup>	50 W
OT 100/120...277/700 P5	6 kV	6 kV <sup>8)</sup>	100 W <sup>14)</sup>	100 W
OT 180/120...277/700 P5	6 kV	6 kV <sup>8)</sup>	180 W <sup>16)</sup>	180 W

Product description	Efficiency in full-load	Nominal output voltage	U-OUT (working voltage)	Nominal output current	Output current tolerance
OT 50/120...277/700 P5	87 % <sup>10)</sup>	24...74 V	80 V	700 mA <sup>11)</sup>	±5 %
OT 100/120...277/700 P5	90 % <sup>10)</sup>	55...152 V	220 V	700 mA <sup>11)</sup>	±5 %
OT 180/120...277/700 P5	90 % <sup>10)</sup>	115...257 V	290 V	700 mA <sup>11)</sup>	±5 %

Product description	Galvanic isolation
OT 50/120...277/700 P5	SELV
OT 100/120...277/700 P5	double/reinforced
OT 180/120...277/700 P5	basic

<sup>1)</sup> Permitted voltage range

<sup>2)</sup> At 230 V/0.50 A for 120 V<sub>AC</sub>

<sup>3)</sup> Full load at 230 V/Half load at 230 V

<sup>4)</sup> Max. output power at 230 V<sub>AC</sub>

<sup>5)</sup> Maximum / At 230 V<sub>AC</sub>

<sup>6)</sup>  $t_{width} = 200 \mu s$  (measured at 50 %  $I_{peak}$ )

<sup>7)</sup> Type B

<sup>8)</sup> @ 2 Ohm, acc. to EN61547

<sup>9)</sup> Partial Load 17...50 W

<sup>10)</sup> at 230 V, 50 Hz

<sup>11)</sup> ±5%

<sup>12)</sup> At 230 V/1.00 A for 120 V<sub>AC</sub>

<sup>13)</sup> Minimum/Full load at 230 V/Half load at 230 V

## Product family datasheet

14) Partial Load 39...100 W

15) At 230 V/1.67 A for 120 V<sub>AC</sub>

16) Partial Load 80...180 W

### Dimensions & weight

Product description	Length	Width	Height	Mounting hole spacing, length	Product weight	Cable cross-section, input side
OT 50/120...277/700 P5	168.0 mm	50.0 mm	30.0 mm	152.0 mm	500.00 g	0.5 mm <sup>2</sup>
OT 100/120...277/700 P5	168.0 mm	60.0 mm	39.0 mm	152.0 mm	665.00 g	0.5 mm <sup>2</sup>
OT 180/120...277/700 P5	251.0 mm	60.0 mm	39.0 mm	236.3 mm	1000.00 g	0.75 mm <sup>2</sup>

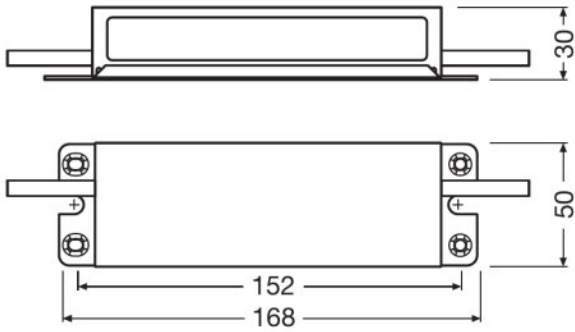
Product description	Cable cross-section, output side	Wire preparation length, input side	Cable/wire length, input side	Cable/wire length, output side
OT 50/120...277/700 P5	0.5 mm <sup>2</sup>	10 mm	280 mm <sup>1)</sup>	280 mm <sup>1)</sup>
OT 100/120...277/700 P5	0.5 mm <sup>2</sup>	10 mm	280 mm <sup>1)</sup>	280 mm <sup>1)</sup>
OT 180/120...277/700 P5	0.5 mm <sup>2</sup>	10 mm	355 mm <sup>1)</sup>	355 mm <sup>1)</sup>

Product description	Cable/wire length, control input
OT 50/120...277/700 P5	
OT 100/120...277/700 P5	-
OT 180/120...277/700 P5	

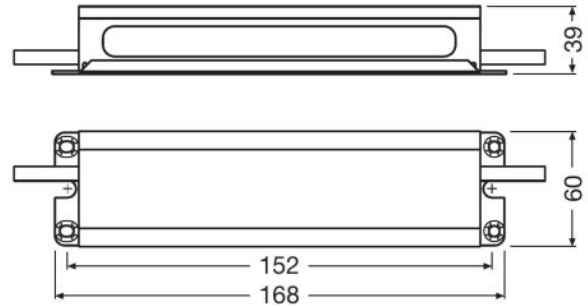
1) ± 30 mm

# Product family datasheet

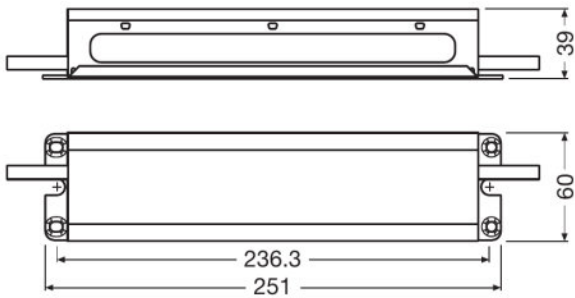
## Product line drawing



OT 50/120...277/700 P5



OT 100/120...277/700 P5



OT 180/120...277/700 P5

# Product family datasheet

## Temperatures & operating conditions

Product description	Ambient temperature range	Temperature range at storage	Maximum temperature at tc test point	Max.housing temperature in case of fault
OT 50/120...277/700 P5	-40...+55 °C	-25...80 °C	80 °C <sup>1)</sup>	120 °C
OT 100/120...277/700 P5	-40...+55 °C	-25...80 °C	85 °C <sup>1)</sup>	120 °C
OT 180/120...277/700 P5	-40...+55 °C	-25...80 °C	90 °C <sup>1)</sup>	120 °C

<sup>1)</sup> Maximum at the T<sub>c</sub>-point

## Lifespan

Product description	ECG lifetime
OT 50/120...277/700 P5	80000 h <sup>1)</sup>
OT 100/120...277/700 P5	80000 h <sup>2)</sup>
OT 180/120...277/700 P5	80000 h <sup>3)</sup>

<sup>1)</sup> At T<sub>case</sub> = 70°C at T<sub>c</sub> point / 10% failure rate

<sup>2)</sup> At T<sub>case</sub> = 75°C at T<sub>c</sub> point / 10% failure rate

<sup>3)</sup> At T<sub>case</sub> = 80°C at T<sub>c</sub> point / 10% failure rate

## Expected Lifetime

Product name				
OT 50/120...277/700 P5	ECG ambient temperature [ta]	55	50	45
	Temperature at tc-point [°C]	80	75	70
	Lifetime [h]	50000 <sup>1)</sup>	65000 <sup>1)</sup>	80000 <sup>1)</sup>
OT 100/120...277/700 P5	ECG ambient temperature [ta]	55	50	45
	Temperature at tc-point [°C]	85	80	75
	Lifetime [h]	50000 <sup>2)</sup>	65000 <sup>2)</sup>	80000 <sup>2)</sup>
OT 180/120...277/700 P5	ECG ambient temperature [ta]	55	50	45
	Temperature at tc-point [°C]	90	85	80
	Lifetime [h]	50000 <sup>3)</sup>	65000 <sup>3)</sup>	80000 <sup>3)</sup>

<sup>1)</sup> Max. 10% failure rate at tc max and input voltage 230 V<sub>AC</sub>

<sup>2)</sup> Max. 10% failure rate at tc max and input voltage 230 V<sub>AC</sub>

<sup>3)</sup> Max. 10% failure rate at tc max and input voltage 230 V<sub>AC</sub>

## Product family datasheet

### Capabilities

Product description	Dimmable	Suitable for fixtures with prot. class	Intended for no-load operation	Number of channels
OT 50/120...277/700 P5	No	I	No	1
OT 100/120...277/700 P5	No	I	No	1
OT 180/120...277/700 P5	No	I	No	1

### Certificates & standards

Product description	Type of protection	Standards	Approval marks – approval
OT 50/120...277/700 P5	IP65	Acc. to IEC 61347-1/Acc. to IEC 61347-2-13/Acc. to IEC 62384/Acc. to CISPR 15/Acc. to IEC 61547/Acc. to FCC 47 part 15 class B/Acc. to IEC 61000-3-2/Acc. to IEC 61000-3-3	CE / CQC
OT 100/120...277/700 P5	IP65	Acc. to IEC 61347-1/Acc. to IEC 61347-2-13/Acc. to IEC 62384/Acc. to CISPR 15/Acc. to IEC 61547/Acc. to FCC 47 part 15 class B/Acc. to IEC 61000-3-2/Acc. to IEC 61000-3-3	CE / CQC
OT 180/120...277/700 P5	IP65	Acc. to IEC 61347-1/Acc. to IEC 61347-2-13/Acc. to IEC 62384/Acc. to CISPR 15/Acc. to IEC 61547/Acc. to FCC 47 part 15 class B/Acc. to IEC 61000-3-2/Acc. to IEC 61000-3-3	CE / CQC

### Logistical data

Product description	Commodity code
OT 50/120...277/700 P5	85044083900
OT 100/120...277/700 P5	85044083900
OT 180/120...277/700 P5	85044083900

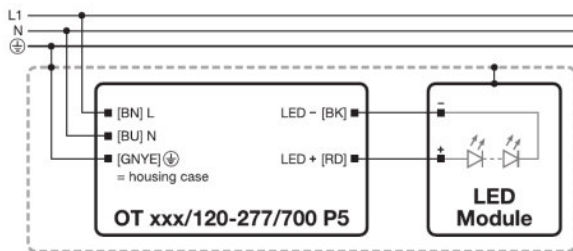
### Environmental information Information according Art. 33 of EU Regulation (EC) 1907/2006 (REACH)

Product description	Date of Declaration	Primary Article Identifier	Candidate List Substance 1
OT 50/120...277/700 P5	05-05-2023	4052899259003	Lead
OT 100/120...277/700 P5	02-06-2023	4052899259065	Lead
OT 180/120...277/700 P5	02-06-2023	4052899259027	Lead

## Product family datasheet

Product description	CAS No. of substance 1	Safe Use Instruction	Declaration No. in SCIP database
OT 50/120...277/700 P5	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.	292fca0e-33e3-4c40-9a1e-8b05ed5d8ee2
OT 100/120...277/700 P5	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.	9f8a50e8-71d3-4b8c-9e8f-6219b7c2bcee
OT 180/120...277/700 P5	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.	9cf5f668-535b-48a3-8ec1-729e5d242b5e

### Wiring Diagram



OT 50/120...277/700 P5, OT 100/120...277/700 P5, OT 180/120...277/700 P5

### Application advice

For more detailed application information and graphics please see product datasheet.

## Product family datasheet








### Additional product information

- The driver withstands an input voltage of up to 350 Vac for a maximum of two hours. Shut down of output load might occur in case the supply voltage exceeds the declared input voltage range.
- The driver may increase the output current up to a maximum of 1.5 A in case the input voltage of the load is lower than the allowed minimum output voltage until the short circuit is removed or the correct load is connected. Make sure the system is safely operated, if this event might occur.
- In case the input voltage of the load exceeds the output voltage range of the driver, it automatically reduces the output current to keep the output voltage controlled to the maximum allowed output voltage.
- The driver automatically reduces the output current in case the maximum allowed output power is exceeded.
- Hot-plug of the load or external switching on the secondary side is not allowed.
- The protective earth (GNYE/PE wire, housing) has to be connected to the heat sink of the LED module to improve the capability of the system to withstand a surge and EMI in critical luminaires.
- Time to reach the set output current upon start-up is less than 2 s.
- The driver is intended for built-in use. The luminaire manufacturer is responsible to prevent direct exposure for example to sunlight, water, snow, ice.

### Sales and Technical Support

Sales and Technical Support [www.osram.com](http://www.osram.com)

### Download Data

File	
	Brochures 4 DIM NFC G3 CE LED drivers and T4T C (EN)
	Certificates 607415_CB Certificate OT 50120-277700 P5
	Declarations of conformity OT P5 WP CE 3218662 180823
	CAD data 3-dim 730736_CAD data OT 50
	Certificates 664067_CB Certificate OT100-180-250P5
	CAD data 3-dim 730731_CAD data OT 100
	CAD data 3-dim 730732_CAD data OT 180



## Product family datasheet

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### Ecodesign regulation information:

Intended for use with LED modules.

The forward voltage of the LED light source shall be within the defined operating window of the control gear in all operating conditions including dimming if applicable.

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.

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### Logistical Data

Product code	Product description	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Volume	Gross weight
4052899259003	OT 50/120...277/700 P5	Shipping carton box 20	456 mm x 263 mm x 217 mm	26.02 dm <sup>3</sup>	11061.00 g
4052899259065	OT 100/120...277/700 P5	Shipping carton box 20	491 mm x 287 mm x 217 mm	30.58 dm <sup>3</sup>	14475.00 g
4052899259027	OT 180/120...277/700 P5	Shipping carton box 10	491 mm x 330 mm x 140 mm	22.68 dm <sup>3</sup>	11087.00 g

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- 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.
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### Disclaimer

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

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