

# OT 20/220-240/24 DIM P

Dimmable range 1% - 100%

## Benefits

- Dimmable via 1-10V control
- DC functionality
- Suitable for installation under Sunlight
- Salt mist resistant



## Applications

- In areas as hotels, luminous Signage, cruises ship,
- Public squares and architecture lighting
- Suitable for indoor and outdoor SELV installations

L	178 mm
L1	169 mm
B	43 mm
H	25 mm

## Approvals



In preparation, if not already printed on product label

### Product Features

- Suitable for Class I/II luminaires
- SELV
- Wide  $t_a$  range -30 ... +55 °C
- Driver with output power range of up to 20 W
- High efficiency up to 83 %
- Dimmable via fully isolated 1...10V interface
- Very low dimming: 1%
- High surge protection: up to 4 kV (L-N)
- Mains voltage: 220 – 240 VAC / 176 – 250 VDC
- Overload protection
- Over temperature protection
- Short circuit protection
- $t_c$  max = 85 °C
- 50'000 h lifetime at  $t_c$
- 5 years guarantee\*
- High IP protection (IP66)

\*10% cumulated failure

## Electrical specification

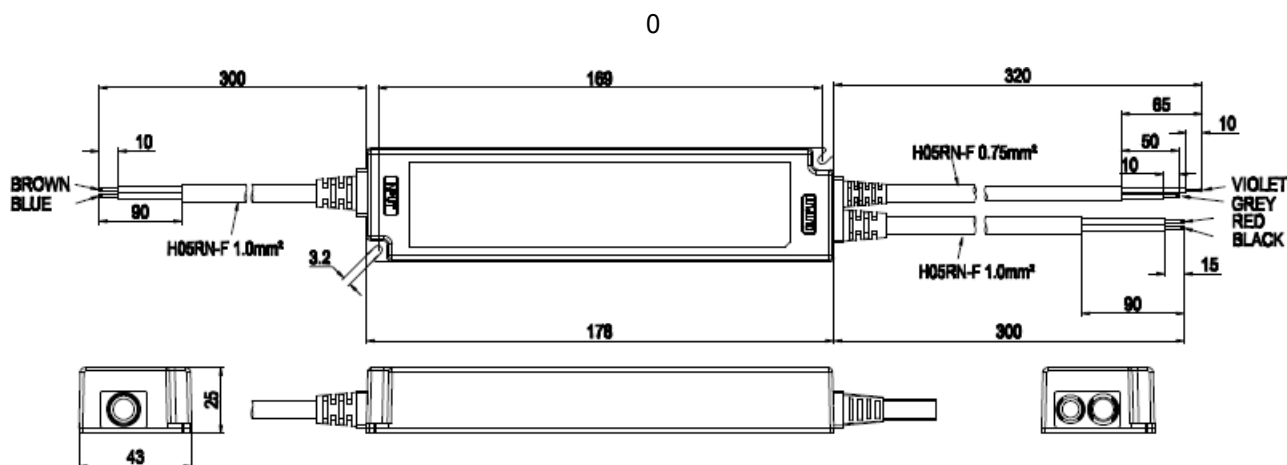
	Item	Value	Unit	Remarks
Input	Nominal voltage	220 - 240	V	
	Mains frequency	50 / 60	Hz	
	Input voltage AC	198 - 264	V	
	Input voltage DC	176 - 250	V	
	Nominal current	0.10	A	Full load, 230 Vac, 50 Hz
	Maximum input current	0.14	A	Full load, 198 Vac, 50 Hz
	Total Harmonic Distortion (THD)	< 15	%	Full load, 230 Vac, 50 Hz,
	Power factor $\lambda$	0,95		Full load, 230 Vac, 50 Hz,
	Efficiency in full load	83	%	Typical, Full load, 230Vac, 50Hz,
	Device power loss	4.1	W	Full load, 230 Vac, 50 Hz
	Protection class	II		
	Suitable for fixtures with prot. Class	I / II		
	Inrush current	20	A	Full Load, 240 Vac, Cold Start Duration = 100uS, 50%Ipk—50%Ipk
	Max. ECG no. on circuit breaker 10 A (B)	48		
	Max. ECG no. on circuit breaker 16 A (B)	77		
	Max. ECG no. on circuit breaker 25 A (B)	120		
	Max. ECG no. on circuit breaker 10 A (C)	88		
Max. ECG no. on circuit breaker 16 A (C)	115			
Output	Nominal output voltage	24,2	V	
	Voltage accuracy	+/- 5	%	
	Voltage ripple	< 10	%	Vpk-pk at 100 Hz; Full load
	Nominal output power	2 - 20	W	
	Maximum output power	20	W	At steady state
	Capacitive load	1	uF/A	Linear modules allowed
	Galvanic isolation	SELV		
	U-OUT (working voltage)	30	V	
Dimming	Dimming interface	1-10	V	Built-in internal 100uA current source
	Dimming range	1 – 100	%	
	Dimming method	PWM		
	PWM frequency	500	Hz	
	Galvanic Isolation	Basic / Supplementary		Basic Dim to Primary / Supplementary Dim to Secondary
Environmental	Ambient temperature range	-30...+55	°C	
	Max. temperature at tc test point	+85	°C	Measured on tc point indicated of the prod label, ta not exceeded
	Storage temperature range	-40...+85	°C	
	Permitted rel. humidity during operation	5 – 85	%	Not condensing
	Surge capability (L/N)	4	kV	acc to. EN 61547
	Environmental rating	Outdoor		
	IP protection class	IP 66		
	Mains switching cycles	> 100'000	cycles	At ta = 25°C
	Expected ECG lifetime	50'000	h	At ta = 55°C at 10% failure rate
	No-load proof	Yes		
	Intended for no-load operation	No		
	Overheating protection	Yes		Auto recovery

**OPTOTRONIC® LED Power Supply**
**OT 20/220-240/24 DIM P**

	Overload protection	Yes		Recovery with mains switch off-on
	Short-circuit protection	Yes		Auto recovery
	Type of connection	Cables		
Dimension	Height	25	mm	
	Length	178	mm	
	Width	43	mm	
	Weight	315	g	
	Casing material	Plastic		
	Mounting hole spacing, length	169	mm	
Input	Colour L and N	Blue / Brown		
	Cable cross selection	1.0	mm <sup>2</sup>	H05RN-F/2x1.0 mm <sup>2</sup>
	Wire preparation length	90	mm	
	Wire peeling length	10	mm	
	Lead length	300	mm	
Output	Colour + and -	Red / Black		
	Cable cross selection	1,0	mm <sup>2</sup>	H05RN-F/2x1.0 mm <sup>2</sup>
	Wire preparation length	90	mm	
	Wire peeling length	15	mm	
	Lead length	300	mm	
Dimming	Colour dim+ and dim-	Violet / Grey		
	Cable cross selection	0,75	mm <sup>2</sup>	H05RN-F/2x0.75 mm <sup>2</sup>
	Wire preparation length	50 / 65	mm	
	Wire peeling length	10	mm	
	Lead length	320	mm	

## Protection

Over temperature, Overload, Short-circuit, open-circuit. Reversible!



## Remarks

- **Output under power operation:** the output setting is still effective if the load is below the minimum output power without any safety issue, but normal performance such as THD, EMI, etc.. is not guaranteed. See typical operation window graph for details.
- **Output short circuit protection:** short circuit current is limited without damage to the unit. Be sure the load is designed to withstand the short circuit current as well. See typical operation window graph for details. The protection is self-restoring.
- **Output overload protection:** In case of heavy output power of the load (higher than about 120% of full load), the unit switches off. Recovery with mains switch off-on.
- **No load operation:** In DC condition, do not to switch on/off the load from the secondary side.
- 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.
- **Over temperature protection:** the driver is protected against temporary overheating when T<sub>c</sub> exceeds. The protection is self-restoring.
- **Touch current:** lower than 0.7 mA, according to EN 60598-1 ann. G and EN 61347-1 ann. A.
- **Dimming:** The output power of the LED drivers can be adjusted by a 1...10 V interface and an external controller or external resistor. Dimming current range 1-100 % at fixed 500 Hz frequency. When dimming below 1 %, the output is off. Dimming in DC condition is not recommended due to EMI, or additional controlled is needed, however there is not functional and safety issue if dimming in DC condition.  
Dimmer shall be basic insulated with mains supply.
- **Startup time:** The startup time to reach the set output current is less than 1 s at full load.
- **External flexible cable or cord:** The external flexible cable or cord of the LED driver cannot be replaced; if the cord is damaged, the LED driver shall be destroyed.
- **Waterproof:** the driver is designed for outdoor installation with IP66 waterproof, during and after installation, the connection of input terminal and output terminal should be enclosed to far away from water source. Terminal block need provide IP67 waterproof if IP67 application needed.

- **Installation:** The wire connection should be installed by professional person, to provide reinforced insulation between L/N terminal block and accessible part, suggest to use terminal block which conform to EN60998-2-1 or EN60998-2-2, and with effective fixing, such as buckle. The terminal block for the supply can be:
  - Screw or screwless;
  - Two terminals
  - Min. 250 V, 0.75 mm<sup>2</sup> – 2.5 mm<sup>2</sup>;
  - Skinning about 10 mm at the ends of all conductors.
- **WEEE:** Electrical products must not be thrown out with domestic waste. They must be taken to a communal collecting point for environmentally friendly disposal in accordance with local regulations. Contact your local authorities or stockiest for advice on recycling. The packaging material is recyclable. Dispose of the packaging in an environmentally friendly manner and make it available for the recyclable material collection-service.
- **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
- For further details please consult the application note.

## Standards

EN 61347-1  
 EN 61347-2-13  
 EN 55015  
 EN 61547  
 EN 61000-3-2  
 EN 61000-3-3  
 EN 60598-1  
 EN 62384

## Ordering information

Product name	EAN 10	EAN 40	Pieces / Box
OT 20/220-240/24 DIM P	6977770438347	6977770438354	20

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