

# OT DMX DIM 5CH

12-24-48 V LED DMX dimmer

## Benefits

- 5 independent channel outputs
- 12, 24, 48 W DC input
- DMX controls with RDM functionality
- High power handling in slim form factor
- Smooth and fast dimming operation



## Applications

Hospitality, museums, shops, residential.  
 Suitable for indoor CLASS I and CLASS II luminaires.

Housing material: plastic, white

\* image for information purpose only

## Approvals



When not printed on product label, they are under evaluation.

L	186.2 mm	Total length
B	28.8 mm	Width
H	21 mm	Height
L1	174 mm	Holes interaxis

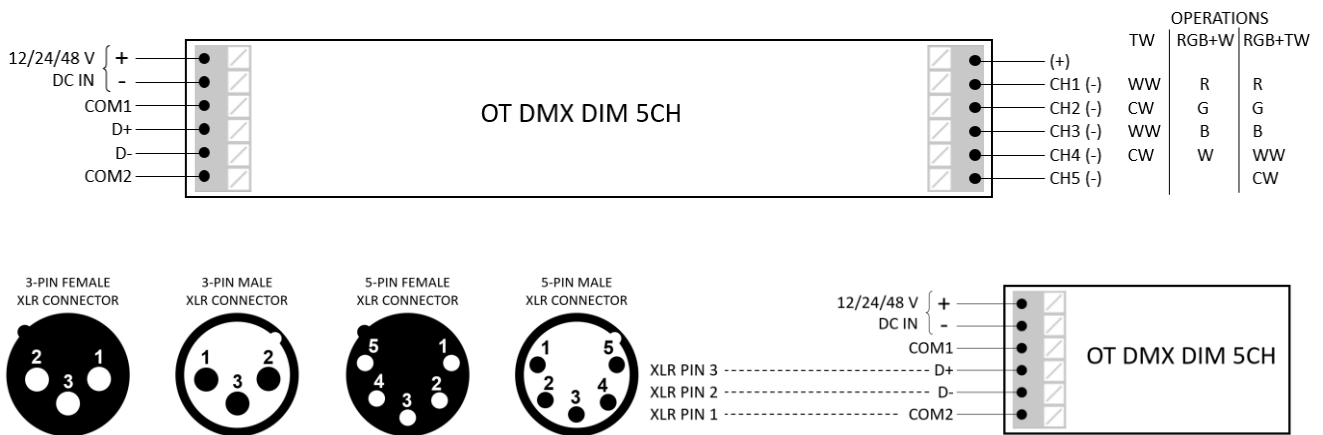
## Product Features

- 5 independent channels
- Very small and linear shape
- 5 A/ch max (max 12 A in multichannel)
- 12, 24, 48 V DC input compatible
- Settable PWM dimming frequency
- 50'000 h lifetime at max T<sub>C</sub>: 90°C
- 5 years guarantee
- IP20 independent housing (with cable clamps)
- Ambient temperature -10...+50°C

## Electrical specifications

	Item	Value	Unit	Remarks
INPUT	Nominal voltage	12 - 24 - 48	V <sub>DC</sub>	
	Mains frequency	0	Hz	
	Maximum voltage	48	V <sub>DC</sub>	
	Efficiency in full load	>95	%	At 230 V, 50 Hz – full load
	Networked stand-by power	<0,50	W	
	Protection class	III		
	Suitable for fixtures with prot Class	I / II		
OUTPUT	Nominal output voltage	12 - 24 - 48	V	
	Nominal output power	240 W per channel @48 V 120 W per channel @24 V 60 W per channel @12 V		576 W max @48 V (5 A max per CH) 288 W max total @24 V (5 A max per CH) 144 W max total @12 V (5 A max per CH)
	Galvanic isolation	n/a		
	U-OUT (working voltage)	48	V	
	Dimming interface	DMX512 protocol		With RDM functionality
DIMMING	Dimming range	0 - 1...100	%	
	Dimming method	PWM		
	PWM frequency	307, 667, 1333, 2000, 4000	Hz	Settable via RDM configuration, (lin, exp, quadr. curve)
	Dimming resolution	16	bit	0...255 level
	Ambient temperature range	-10...+50	°C	
ENVIRONMENTAL	Max. temperature at T <sub>c</sub> test point	90	°C	Measured on T <sub>c</sub> point indicated of the prod label, T <sub>a</sub> not exceeded
	Storage temperature range	-40...+60	°C	
	Permitted rel. humidity during operation	5 – 85	%	Not condensing
	Environmental rating	Indoor		
	IP protection class	IP 20		
	ECG lifetime	50000	h	T <sub>c</sub> = 80°C %
	Intended for no-load operation	No		
	Overheating protection	No		Check T <sub>c</sub> point on critical installations
	Overload protection	No		Available combination with OPTOTRONIC LED drivers
	Short-circuit protection	No		Available combination with OPTOTRONIC LED drivers
	Type of connection, output side	Push-in terminal		
	Length	186.2	mm	
	Width	28.8	mm	
	Height	21	mm	
	Mounting hole spacing, length	174	mm	
	Product weight	80	g	
	Cable cross-section, input side	0,5...1,5	mm <sup>2</sup>	(20...16 AWG) Push-in terminal
	Cable cross-section, output side	0,5...1,5	mm <sup>2</sup>	(20...16 AWG) Push-in terminal
	Wire preparation length, input side	9...10	mm	
	Wire preparation length, output side	9...10	mm	
Casing material	Plastic			

## Connections



Product follows DMX512+RDM BUS reference standards: ANSI E1.11 and ANSI E1.20

Connecting live parts in the D+, D- and COM terminal, will potentially damage or destroy the device.

## Programming

Enter the “DMX START ADDRESS” configuration to program device DMX channels.

The device stores information about operating hours and ON/OFF cycles; this is accessible in the DEVICE STATE menu. Information is read-only.

Within the “LAMP MENU” it is possible to set the status of the outputs when the device is switched ON: “LAMP ON MODE” allows to set if loads have to turn 100% ON or stay OFF. This is only enables in absence of DMX signals.

In the “DIMMER MENU” all dimming settings can be configured. See below for more details in available curves and PWM frequencies.

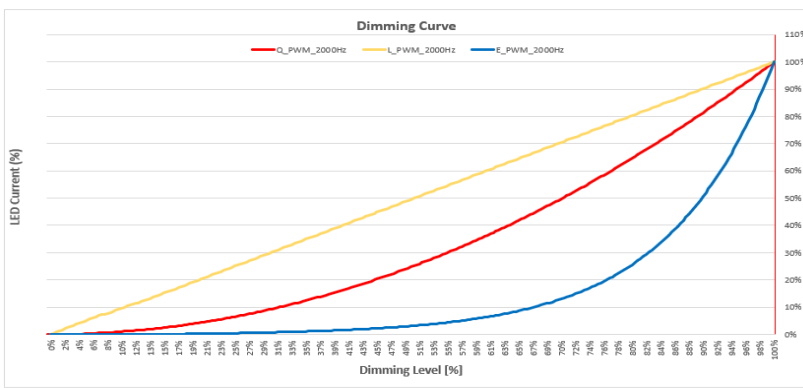
Following are the RDM commands supported by this device:

REQUESTED PARAMETERS		SUPPORTED PARAMETERS			
DISC_UNIQUE_BRANCH	✓	PRODUCT_DETAIL_ID_LIST	✓	SLOT_DESCRIPTION	✓
DISC_MUTE	✓	DEVICE_MODEL_DESCRIPTION	✓	DEFAULT_SLOT_VALUE	✓
DISC_UN_MUTE	✓	MANUFACTURER_LABEL	✓	DEVICE_HOURS	✓
SUPPORTED_PARAMETERS	✓	DEVICE_LABEL	✓	LAMP_ON-MODE	✓
PARAMETER-DESCRIPTION	✓	BOOT_SOFTWARE_VERSION_ID	✓	DIMMER_INFO	✓
DEVICE_INFO	✓	BOOT_SOFTWARE_VERSION_LABEL	✓	CURVE	✓
DMX_START_ADDRESS	✓	DMX_PERSONALITY	✓	CURVE_DESCRIPTION	✓
IDENTIFY_DEVICE	✓	DMX_PERSONALITY_DESCRIPTION	✓	MODULATION_FREQUENCY	✓
		SLOT_INFO	✓	MODULATION_FREQUENCY_DESCRIPTION	✓

Personalities are programmable via RDM with following pre-set maps stored in the device:

- 5CH Dimmer (CH1...5) – Factory default setting
- Macro Dimmer (5CH sync - CH1...5)
- Dim-to-Warm (CH1-2, CH3-4)
- Tunable White (CH1-2, CH3-4)
- Smart HSI RGB (CH1...3)
- Smart HSI RGBW (CH1...4)
- Smart HSI RGB+TW (CH1...5)
- RGB (CH1...3)
- RGBW (CH1...4)
- M+RGB+Strobe (CH1...3)
- M+RGBW+Strobe (CH1...4)

Dimming curves can be programmed as following, with different PWM frequencies:



Programmable PWM frequency:

- 307 Hz
- 667 Hz
- 1333 Hz
- 2000 Hz – Factory default setting
- 4000 Hz

Programmable dimming curve:

- Logarithmic – Factory default setting
- Quadratic
- Linear

5CH Dimmer:

DMX CHANNEL	FUNCTION	DETAIL
1	DIMMER 1	DMX LEVEL 0...255
2	DIMMER 2	DMX LEVEL 0...255
3	DIMMER 3	DMX LEVEL 0...255
4	DIMMER 4	DMX LEVEL 0...255
5	DIMMER 5	DMX LEVEL 0...255

Macro Dimmer:

DMX CHANNEL	FUNCTION	DETAIL
1	DIMMER 1	DMX LEVEL 0...255

Dim-to-Warm:

DMX CHANNEL	FUNCTION	DETAIL
1	DIMMER 1	DMX LEVEL 0...255
2	DIMMER 2	DMX LEVEL 0...255

Tunable White:

DMX CHANNEL	FUNCTION	DETAIL
1	DIMMER 1	DMX LEVEL 0...255
2	DIMMER 2	DMX LEVEL 0...255
3	DIMMER 3	DMX LEVEL 0...255
4	DIMMER 4	DMX LEVEL 0...255

Smart HSI RGB / Smart HSI RGBW:

DMX CHANNEL	FUNCTION	DETAIL																																
1	MASTER DIMMER	DMX LEVEL 0...255																																
2	COLOUR TEMP.	DMX LEVEL 0...255																																
3	HUE	DMX LEVEL 0...255																																
4	HUE ROTATION TIME	<table border="1"> <tr> <td>Hue fine</td> <td>Hold</td> <td>30 min</td> <td>15 min</td> <td>6 min</td> <td>3 min</td> <td>1 min</td> <td>30 s</td> <td>15 s</td> <td>6 s</td> <td>3 s</td> </tr> <tr> <td>0...15</td> <td>16...25</td> <td>26...51</td> <td>52...76</td> <td>77...102</td> <td>103...127</td> <td>128...153</td> <td>154...153</td> <td>180...204</td> <td>205...230</td> <td>231...255</td> </tr> </table>	Hue fine	Hold	30 min	15 min	6 min	3 min	1 min	30 s	15 s	6 s	3 s	0...15	16...25	26...51	52...76	77...102	103...127	128...153	154...153	180...204	205...230	231...255										
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5	SATURATION	DMX LEVEL 0...255																																
6	STROBO RATE	<table border="1"> <tr> <td>Fix</td> <td>Blackout</td> <td>1 fps</td> <td>2 fps</td> <td>3 fps</td> <td>4 fps</td> <td>5 fps</td> <td>6 fps</td> <td>7 fps</td> <td>8 fps</td> <td>9 fps</td> <td>10 fps</td> <td>12 fps</td> <td>14 fps</td> <td>16 fps</td> <td>Fix</td> </tr> <tr> <td>0..15</td> <td>16..31</td> <td>32..47</td> <td>48..63</td> <td>64..79</td> <td>80..95</td> <td>96..111</td> <td>112..127</td> <td>128..143</td> <td>144..159</td> <td>160..175</td> <td>176..191</td> <td>192..207</td> <td>208..223</td> <td>224..239</td> <td>240..255</td> </tr> </table>	Fix	Blackout	1 fps	2 fps	3 fps	4 fps	5 fps	6 fps	7 fps	8 fps	9 fps	10 fps	12 fps	14 fps	16 fps	Fix	0..15	16..31	32..47	48..63	64..79	80..95	96..111	112..127	128..143	144..159	160..175	176..191	192..207	208..223	224..239	240..255
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Smart HSI RGB+TW:

DMX CHANNEL	FUNCTION	DETAIL																																
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RGB:

DMX CHANNEL	FUNCTION	DETAIL
1	RED DIMMER	DMX LEVEL 0...255
2	GREEN DIMMER	DMX LEVEL 0...255
3	BLUE DIMMER	DMX LEVEL 0...255

RGBW:

DMX CHANNEL	FUNCTION	DETAIL
1	RED DIMMER	DMX LEVEL 0...255
2	GREEN DIMMER	DMX LEVEL 0...255
3	BLUE DIMMER	DMX LEVEL 0...255
4	WHITE DIMMER	DMX LEVEL 0...255

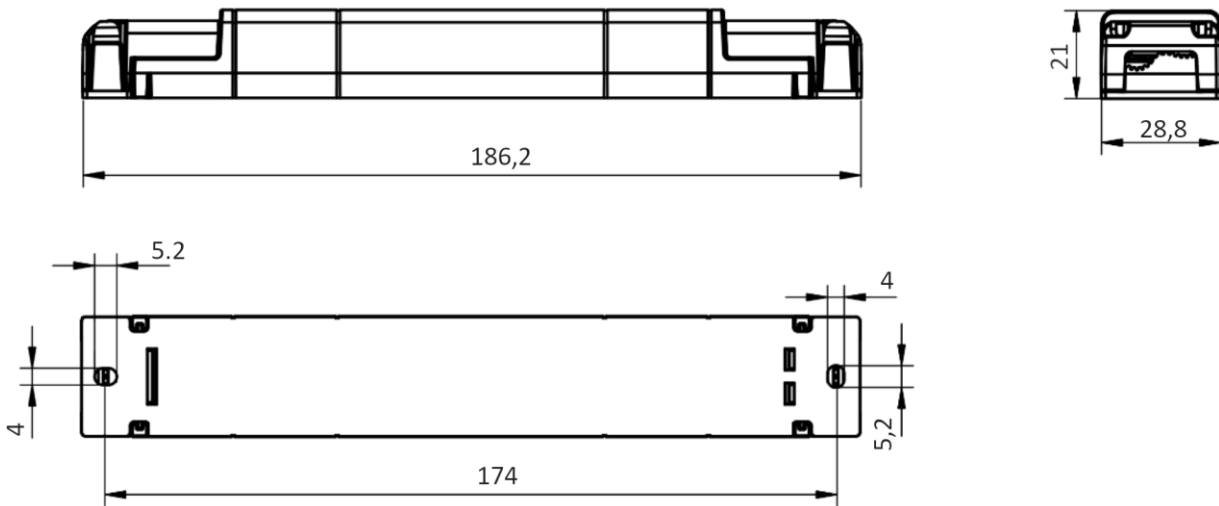
Master+RGB+Strobo:

DMX CHANNEL	FUNCTION	DETAIL															
1	MASTER DIMMER	DMX LEVEL 0...255															
2	RED DIMMER	DMX LEVEL 0...255															
3	GREEN DIMMER	DMX LEVEL 0...255															
4	BLUE DIMMER	DMX LEVEL 0...255															
5	STROBO RATE	Fix	Blackout	1 fps	2 fps	3 fps	4 fps	5 fps	6 fps	7 fps	8 fps	9 fps	10 fps	12 fps	14 fps	16 fps	Fix

Master+RGBW+Strobo:

DMX CHANNEL	FUNCTION	DETAIL															
1	MASTER DIMMER	DMX LEVEL 0...255															
2	RED DIMMER	DMX LEVEL 0...255															
3	GREEN DIMMER	DMX LEVEL 0...255															
4	BLUE DIMMER	DMX LEVEL 0...255															
5	WHITE DIMMER	DMX LEVEL 0...255															
6	STROBO RATE	Fix	Blackout	1 fps	2 fps	3 fps	4 fps	5 fps	6 fps	7 fps	8 fps	9 fps	10 fps	12 fps	14 fps	16 fps	Fix

Dimension



## Remarks

- **No load operation:** do not put a switch between OT DMX DIM 5CH and load.
- The product must be installed in a vertical or horizontal position with the label/top cover facing upwards or vertically. Other positions are not permitted.
- Keep 230Vac (LV) circuits and not SELV circuits separated from safety extra low voltage (SELV) circuit and from any connection with this product. It is absolutely forbidden to connect, for any reasons whatsoever, directly or indirectly, the 230Vac mains voltage to the product terminal blocks.
- The product must be dissipated correctly. The use of the product in harsh environments could limit the output power.
- Always ensure proper thermal management (i.e. correct mounting of the device, air flow etc.) so that the  $T_c$  point temperature does not exceed the  $T_c$  maximum limit. Product has no overheating protection.
- Only use correctly dimensioned SELV power supplies with short circuit, overvoltage and reverse polarity protection.
- In the case of power supplies equipped with ground terminals, it is mandatory to connect ALL protective ground points (PE= Protection Earth) to a properly and certified protection earth.
- The connection cables between the very low voltage power source and the product must be properly dimensioned and must be insulated from any wiring or part at non-SELV voltage. Use double insulated cables.
- Dimension the power of the power supply in relation to the load connected to the device. In case the power supply is oversized compared to the maximum absorbed current, insert a protection against over-current between the power supply and the device. OPTOTRONIC LED power supplies are strongly suggested.
- All devices and control signals connected to the buses (DMX512 or other) must be of SELV type (the connected devices must be SELV or in any case provide a SELV signal).
- Signal cable length must be shorter than 10 m. Recommended load cables length is shorter than 3 m. All cables must be properly dimensioned do avoid voltage drop and must be insulated from any wirings or circuits working at non-SELF voltages nearby. It is recommended to use double insulated cables. For load cables longer than 3 m, installer must guarantee the correct operation of the system. In any case it is not suggested to exceed the length of 30 m.
- **Ecodesign regulation information:**  
Intended for use with LED modules only. Separated 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 centers 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.

## Standards

EN 55015  
EN 61547  
EN 61347-1  
EN 61347-2-13

## Ordering information

Product name	EAN 10	EAN 40	Pieces / Box
OT DMX DIM 5CH	6977078993838	6977078993845	20

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