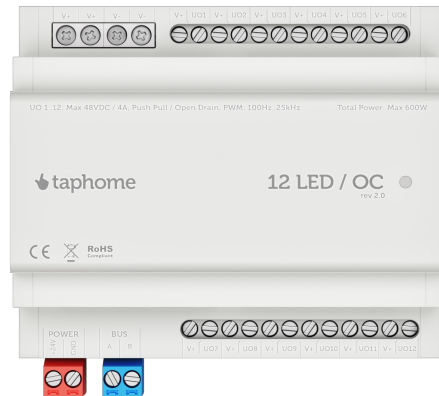


12 LED / OC


TapHome 12 LED/OC module for LED strip dimming. 12 channels for 4 RGBW strips, max 25 A total, 4 A per channel, PWM 100 Hz–25 kHz.



Quick Facts

Dimensions	107 × 59 × 58 mm
Operating temperature	-20 ... 55 °C
IP rating	IP20
Power consumption	1 W

Module tailored for LED strips dimming. 12 channels are enough to support 4 RGBW strips from a single module. The module allows control of long LED strips due to its high total load capacity.

Order Code	TH-12LED/OC-DIN-2.1
EAN	 8586022930041

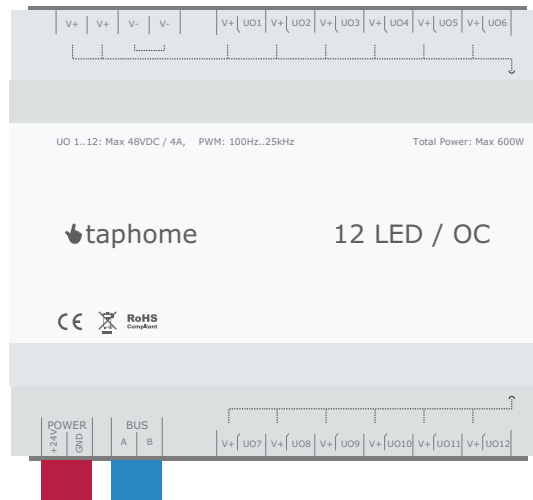
Technical Specifications

ELECTRICAL	
Power supply	24 VDC \pm 10%
Power consumption (idle)	7 W (all outputs on)
Bus	TapHome Bus
OUTPUTS	
Open collector outputs	12× universal open-collector
Max. current per channel	4 A
Max. voltage per channel	48 V
Max. total load	25 A

Terminal Connectors

Connector	Pins	Wire range	Strip length
● Outputs	V+/UO1, V+/UO2, V+/UO3, V+/UO4, V+/UO5, V+/UO6, V+/UO7, V+/UO8, V+/UO9, V+/UO10, V+/UO11, V+/UO12	0.34–4.0 mm ² (26–10 AWG)	7.2 mm
● LED Supply	V+, V+, V-, V-	0.2–2.5 mm ² (24–12 AWG)	6.0 mm
● Power	+24V, GND	0.2–4 mm ² (30–12 AWG)	6.5–7.5 mm
● Bus	Bus A, Bus B	0.2–4 mm ² (30–12 AWG)	6.5–7.5 mm

Wiring Diagram



Features

- 12 LED / OC outputs configurable for:
 - Switch – open collector digital outputs
 - LED Dimmer – works with constant voltage LED lights, typically LED strips
 - Pulse-width modulation (PWM) – output frequency configurable from 100 Hz to 25 kHz
 - Output properties:
 - Maximum current 4 A DC per channel
 - Maximum total load 25 A
 - Maximum voltage 48 VDC per channel
 - Recommended cable lengths between the LED strip and the module:
 - 30 meters for 1.5 mm² cable
 - 45 meters for 2.5 mm² cable
 - Protection IP20, operating temperature: -20 °C to +55 °C
 - Maximum power dissipation 3 W
 - Power supply 24 VDC ±10%
 - DIN rail, 6 modules wide (107 mm), height 59 mm

Load calculation example

For a 24 V LED strip with 12 W/m:

1. **Load per channel calculation:**
2. 12 W / 24 V = 0.5 A for every meter of LED strip
3. Maximum load per output is 4 A
4. 4 A / 0.5 A/m = 8 meters is the maximum LED strip length per output

5. Longer strips can be split and controlled with multiple outputs
 6. For RGB strips divide W/m by 3, for RGBW by 4
 7. **Total module load calculation:**
 8. Total module load: 25 A
 9. For 24 V: $25 \text{ A} \times 24 \text{ V} = 600 \text{ W}$
 10. $600 \text{ W} / 12 \text{ W/m} = 50 \text{ meters}$ is the total maximum length of all strips
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Product page

<https://hardware.taphome.com/12-led-oc/>

