LED DRIVER · RGBW · DMX512/RDM · DALI-2 DT8 · PUSH · CONSTANT VOLTAGE

WS-RGBW-150

150 W, 24 VDC 4-channel RGBW LED driver · DMX512/RDM, DALI-2 DT8 and Push W / RGB



150 W	RGBW	DMX·DALI	0.1–100 %	93 %	Flicker-free
max., 4 × 1.56 A	4 channels, 24 VDC	and Push control	dimming range	efficiency, typ.	IEEE 1789

1 Features

- Three control interfaces in one driver: DMX512/RDM, DALI-2 DT8 (RGBW colour) and Push W / Push RGB.
- 4 output channels R, G, B, W with common +; full-colour and white control.
- Dimming 0 – 100 %, down to 0.1 %; flicker-free (IEEE 1789 high-frequency exemption).
- Efficiency 93 %, PF > 0.98, THD < 6 % at full load; standby < 0.5 W (EU ErP).
- Isolated signal inputs for safe, reliable operation.
- Intelligent thermal management; over-temperature, over-voltage, overload and short-circuit protection with automatic recovery.
- Compact, light V0 flame-retardant PC housing, screwless strain relief, removable end caps. Class II.
- Up to 50,000 h lifetime.

Load type. For constant-voltage LED loads with resistor current limiting (e.g. 24 V RGBW strip). LED fixtures with built-in constant-current ICs cause very high inrush current and trigger overload protection (flicker). For such loads, ask Wonder Smart for a driver with a special setting.

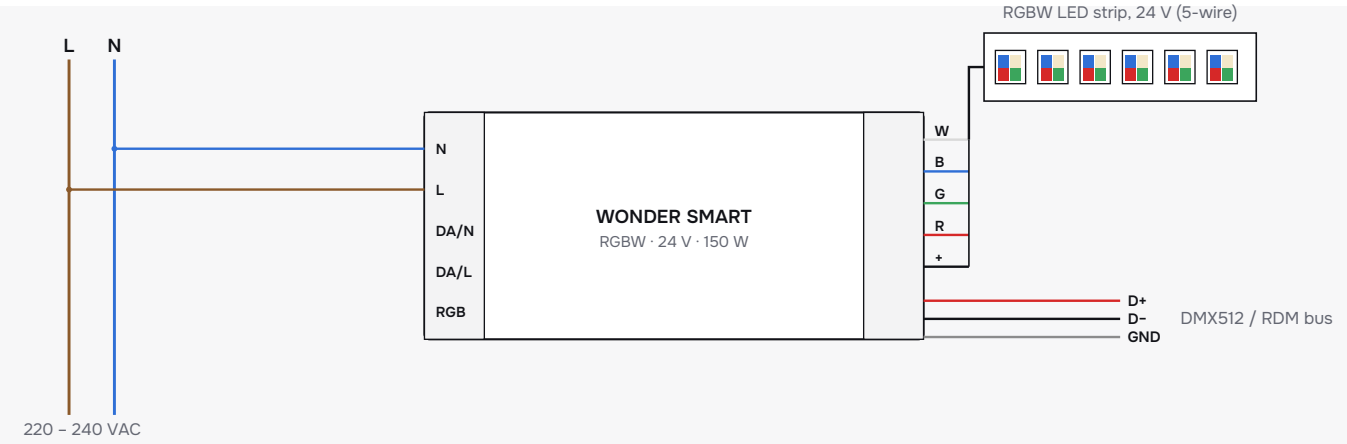
2 Specification

Model		WS-RGBW-150 · 150 W RGBW LED driver, 24 VDC
OUTPUT	Output voltage	24 VDC ± 0.5 V
	Output current	max. 6.25 A (4 × 1.56 A)
	Output power	max. 150 W (range 0 – 150 W)
	Ripple / noise	Switching ripple max. 150 mV, noise max. 300 mV
	Output type	Constant voltage, 4 channels R, G, B, W, common +
	PWM frequency	3600 Hz
	Dimming range	0 – 100 %, down to 0.1 %
	Flicker	High-frequency exemption level (IEEE 1789)
INPUT	Rated voltage	220 – 240 VAC
	AC voltage range	198 – 264 VAC, 50/60 Hz
	DC voltage range	200 – 280 VDC (Push W / RGB not available on DC input)
	Input current	max. 0.75 A at 230 VAC
	Efficiency (typ.)	93 %
	Power factor	> 0.98 at 230 VAC, full load
	THD	< 6 % at 230 VAC, full load
	Inrush current	Cold start 45 A (0.84 ms at 50 % Ipeak), 230 VAC
	Leakage current	max. 0.5 mA
	Surge	L–N: 2 kV
	Standby power	< 0.5 W
CONTROL	Dimming interfaces	DMX512/RDM, DALI-2 DT8, Push W / RGB (DALI-2 DT6 version on request)
	Priority	DMX512/RDM first, then DALI-2 DT8, then Push W / RGB
	DMX address	Default 1; set with an RDM programmer
PROTECTION	Over-voltage	Output off at no-load voltage of 28 V and above, automatic recovery
	Overload	Output off at 102 % load and above, automatic recovery
	Short circuit	Hiccup mode, automatic recovery
	Over-temperature	Output reduced or off at PCB 110 °C and above, automatic recovery
ENVIRONMENT	Operating temperature	ta -20 … +50 °C; tc 85 °C
	Humidity	20 – 95 % RH, non-condensing
	Storage	-40 … +80 °C, 10 – 95 % RH
	Temperature coefficient	±0.03 %/°C (0 – 50 °C)
	Vibration	10 – 500 Hz, 2 G, 72 min per axis
SAFETY & EMC	Withstand voltage	I/P – O/P: 3750 VAC
	Isolation resistance	I/P – O/P: 100 MOhm / 500 VDC
	Safety standards	EN 61347-1, EN 61347-2-13
	EMC	EN 55015, EN 61000-3-2, EN 61000-3-3, EN 61547, EN 61000-4-2/3/4/5/6/8/11
GENERAL	Protection class	Class II, suitable for class I / II / III luminaires
	Ingress protection	IP20
	Dimensions	352 × 43 × 30 mm
	Weight	430 g ± 10 g
	Wire size	Input 0.75 – 1.5 mm², strip 8 – 9 mm · Output 1.0 – 1.5 mm², strip 5 – 6 mm
	Lifetime	up to 50,000 h

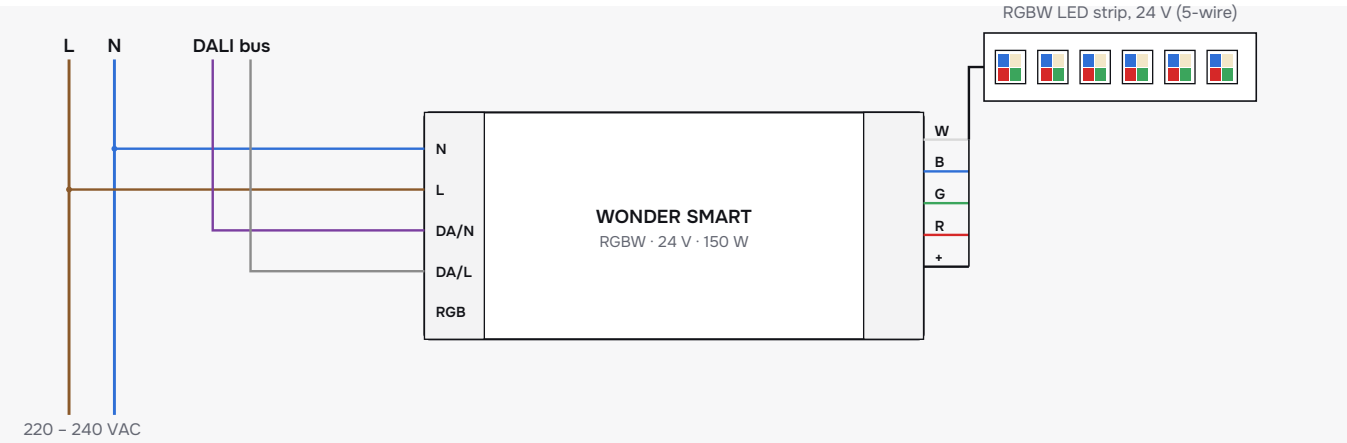
Specifications are subject to change without notice.

3 Wiring

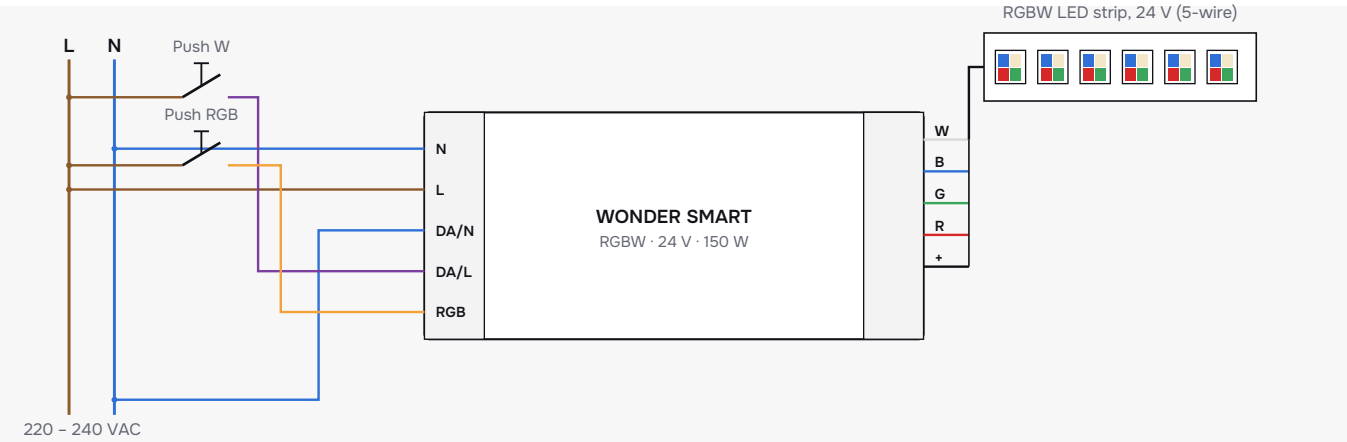
3.1 DMX512 / RDM



3.2 DALI-2 DT8



3.3 Push W / Push RGB



LED output is 5-wire: W, B, G, R and common +. Interface priority: DMX512/RDM, then DALI-2 DT8, then Push W / RGB. Push control does not work on DC input.

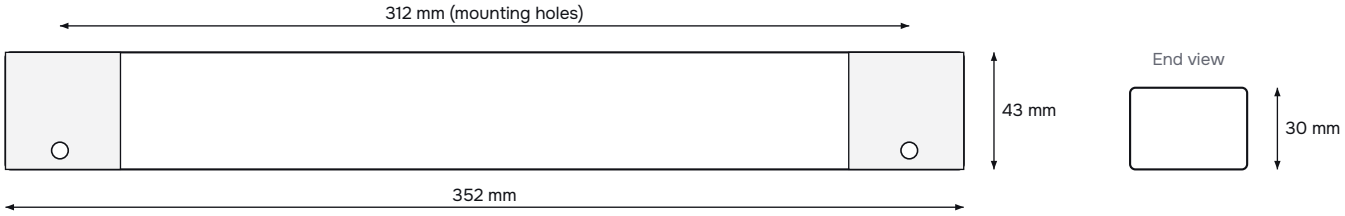
4 Push W / Push RGB operation

A push button on the DA/L terminal (Push W) and one on the RGB terminal (Push RGB) adjust the brightness of the white and the colour channels. Brightness of W and of RGB can be adjusted separately; a double press toggles between W and RGB brightness adjustment.

5 DMX address setting

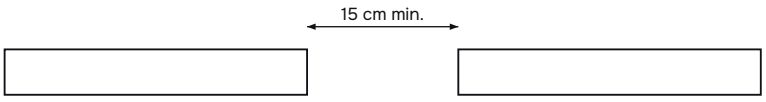
The driver supports RDM. Set the DMX start address with any DMX programmer that follows the standard RDM protocol, for example a Wi-Fi RDM programmer with a phone app: find the driver in the device list, edit its address, identify it and test the output. The default DMX address is 1.

6 Dimensions

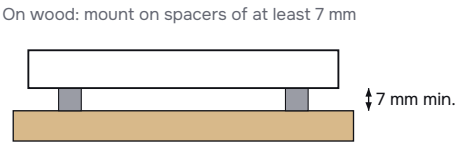


7 Installation

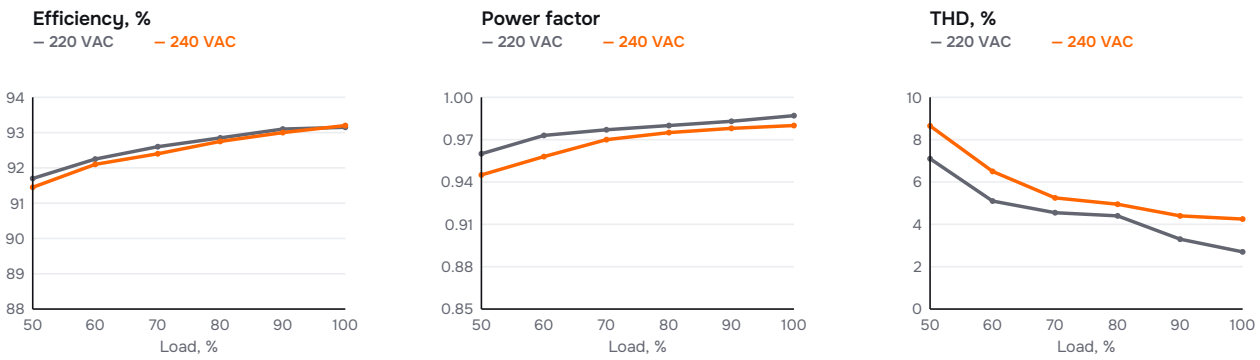
Terminal cover. Pry up the cover at the side plate with a tool; or pull the housing left and right from the bottom to remove it. Connect the wires with a screwdriver as shown, press down the tension plate to fix the wires, then close the cover.



Keep at least 15 cm between drivers and from other power supplies. Do not stack.



8 Performance



Overload: output voltage stays at 24 V up to about 6.9 A total, then the driver shuts down.

9 Support

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Install by qualified personnel only. Specifications are subject to change without notice. © Wonder Smart.