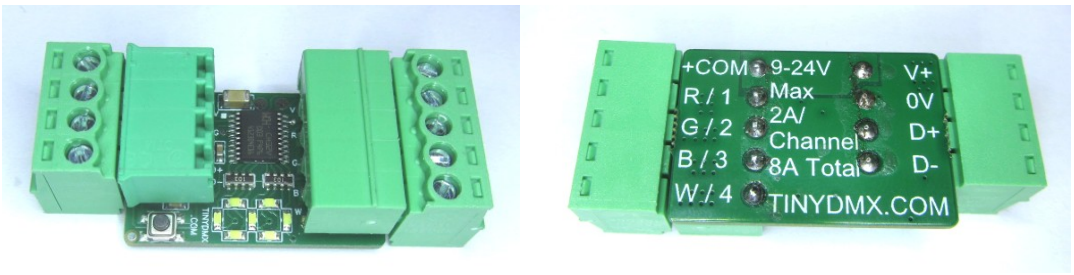
TDMX4 LED controller

www.tinydmx.com

Firmware V2.00 20 Aug 2026

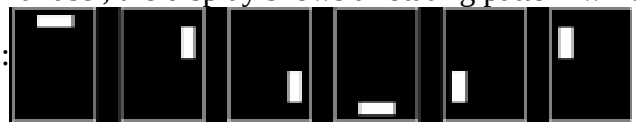


TinyDMX is a very compact solution for controlling RGB, RGBW or monochrome constant-voltage LED strips & modules from a standard DMX512 signal.
In addition to configuration via the onboard button and LED display, RDM is supported for setting the DMX address and mode.

Specification

Supply voltage 8-24V. Unit is protected against reverse polarity.
Maximum load : 3A/channel (36W @ 12v, 72W @ 24v), 8A maximum total of all channels.
Current consumption : 7mA
PWM frequency : 750Hz (Other frequency/resolution combinations may be available to special order)
PWM resolution : 13 bits (8192 levels)
Dimensions (including connectors) 45 x 19 x 11.5mm. Board only 29 x 19 x 11.5mm
(hard-wire version without connectors populated available to special order 24x19x3mm)
Connection is via 3.5mm pluggable terminal blocks (included)
RDM functionality for address and mode configuration.

Display indications

In normal use , the display shows a rotating pattern which increments on reception of each DMX frame : 

If no data is received for 10 seconds, the outputs will blank, and the display will show 

When the outputs blank, they are set to a very low level rather than completely off, to provide easy diagnosis of data vs. power problems.

Button functions

A single press shows the current DMX address and mode as a sequence of digits, for example



DMX channel 123, linear mode

A long press, until display shows  will enter setup mode.

The display cycles showing DMX address and a mode letter, with a short gap at the end, e.g.
 DMX channel 1, linear mode

Press the button when each digit or mode letter is shown to increment that digit. The digit will get brighter while adjusting, and the digit-to-digit delay will be extended to allow easier setting.
When the desired digit is shown, wait until the display resumes cycling to adjust the next digit.

To exit setup mode, press and hold the button until display shows 

The DMX address is updated on each button press, so if DMX data is active, the outputs will update immediately based on the currently displayed DMX address.

If power is lost during setup mode, the settings will NOT be updated.

Operating modes
There are four operating modes (personalities) , determining how the outputs behave :

LED pattern	Mode name	RDM personality no.	DMX channels per output / total	Description
	(L)inear	1	1 / 4	8 bit linear
	(C)urve	2	1 / 4	13 bit (8192 step) gamma-corrected from 8-bit channel value. The channel value is squared, and the top 13 bits of the result used. Recommended for use with monochrome LEDs for best low-end resolution.
	(E)xtended	3	2 / 8	13 bit (8192 step) high-resolution. Low/fine channel first. The top 13 bits out of the 16 input bits are used
	(D)emo	4	0/0	Standalone test mode. Shows cycling R/G/B/W/Off pattern, ignores any DMX input.

Firmware version (and RDM UID) display
Hold the button while power is turned on. When released, a sequence of 3 digits will show the firmware version, followed by - , followed by 12 digits of RDM Unique ID

RDM info

TinyDMX firmware V2.00 and above supports RDM for device configuration.

If the DMX address or personality is changed via RDM, the new settings will appear immediately on the LED display.

RDM parameters implemented	Notes
DISC_UNIQUE_BRANCH	UID starts 0x08A5xxxxxxxx
DISC_MUTE	
DISC_UNMUTE	
DEVICE_INFO	No. of channels as per mode table above, Product category 0x0509
DEVICE_MANUFACTURER_LABEL	“White Wing Logic”
DEVICE_MODEL_DESCRIPTION	“TinyDMX RGBW Dimmer”
DEVICE_LABEL	“TinyDMX” (Read only, Setting not supported)
DMX_PERSONALITY	1 to 4
DMX_START_ADDRESS	
DMX_PERSONALITY_DESCRIPTION	As “mode name” above
IDENTIFY_DEVICE	Flashes onboard LED rapidly, and all outputs switch between DMX values 0 and 32 at 4Hz

version history :

1.00 : initial release

2.00 ; RDM support added