

DEC-DMX-SPI

DMX512 to SPI (TTL) Signal Decoder

Product Overview

The **DEC-DMX-SPI** is a high-performance digital signal decoder engineered to bridge standard DMX512 control ecosystems with modern addressable pixel LED products. It seamlessly converts universal DMX-512 signals into SPI (TTL) digital signals, allowing for precise, individual pixel control of compatible LED tape, neon, and canvas lighting. Operating on a versatile 5-24V DC range, this decoder offers a reliable, low-profile solution for dynamic architectural displays and complex lighting installations requiring fluid color chasing, sequencing, and individual node mapping.

Key Features

- Converts universal DMX512 standard signals directly to SPI (TTL) digital signals.
- Wide operating voltage compatibility (5V to 24V DC) covering standard low-voltage systems.
- Decodes up to 512 DMX channels, supporting up to 170 RGB pixels or 128 RGBW pixels per universe.
- Compatible with a comprehensive range of industry-standard driving ICs for maximum flexibility.
- Compact, durable casing designed for discreet mounting in tight architectural spaces.
- Smooth dimming and completely flicker-free signal processing.

Technical Specifications

Item Number (SKU)	DEC-DMX-SPI
Input Voltage	5V – 24V DC
Input Signal	DMX512 (Standard Protocol)
Output Signal	SPI (Serial Peripheral Interface) / TTL Digital Signal
Channel Capacity	512 DMX Channels (Decodes up to 170 RGB Pixels / 128 RGBW Pixels)
Supported Driving ICs	WS2811, WS2812, WS2812B, UCS1903, UCS1909, UCS2903, TM1804, TM1809, SM16703 (and comparable ICs)
Wiring Terminals	Hardwire Terminal Blocks for DMX In/Out, Power In, and SPI Data Out
Operating Temperature	-30°C to 65°C (-22°F to 149°F)
Physical Weight	0.32 lbs (0.145 kg)
Environment / IP Rating	IP20 (Indoor / Dry Location)

Typical System Architecture & Integration

The DEC-DMX-SPI requires a secondary Class 2 DC power supply corresponding to the voltage