# SPI Range Extender (Transmitter/Receiver)

ACL-SPI-EXT-Tx (Transmitter) | ACL-SPI-EXT-Rx (Receiver)

## Overview

Range Extender Unit tailored for LED addressable strips is well-suited for ensuring reliable, long-distance communication in challenging environments. This unit would be ideal for extending the reach of SPI-controlled LED strips in complex setups, ensuring that signals The Range Extender Unit tailored for LED addressable strips is designed to ensure reliable, long-distance communication even in challenging environments. This unit is ideal for extending the reach of SPI-controlled LED strips in complex setups, maintaining signal integrity and stability over extended distances, and ensuring consistent and responsive operation of LED displays and lighting systems.

### Features

**TTL to Differential Conversion**
Converts standard TTL SPI signals to differential signals using a dedicated transmitter, reducing noise and signal degradation over long distances.

**Differential to TTL Conversion**
Converts received differential signals back to TTL levels for standard SPI interfacing via a dedicated receiver.

**Extended Signal Range**
Extends the operational range of SPI communications from a few feet to hundreds of feet (maximum 1000 ft), depending on the environment and cable quality.

**Noise Immunity**
Uses differential signaling and Ethernet cables to minimize electromagnetic interference (EMI), ensuring reliable signal transmission in noisy environments.

**Multi-Voltage Support**
Compatible with both 3.3V and 5V TTL-SPI logic levels, providing versatility across various lighting systems and LED devices.

**High-Speed Data Transmission**
Supports SPI data rates up to several Mbps, depending on specific implemen -tations and distance.

**Compact Form Factor**
Small, lightweight design for seamless integration into existing systems with minimal space requirements.

**Plug-and-Play Operation**
Simple, intuitive installation with minimal configuration required, allowing for quick and easy setup.

**Power Supply Flexibility**
Operates on input voltages 12V DC or 24V DC, ensuring flexibility across power supply configurations.

**Reverse Polarity and Short Circuit Protection**
Integrated protection against reverse polarity and short circuits, ensuring safe operation.

**LED Power Indicator**
Provides visual feedback for power status, aiding in monitoring and troubleshooting.

**Wide Operating Temperature Range**
Designed to function in harsh environments with an operating temperature range from -20°C to +55°C.

**Outdoor Environmental Protection**
Includes protection against high humidity, making it suitable for challenging environmental conditions.

### Specifications

| | |
|---|---|
| Extended Signal Range | Max 1000ft with Cat5e / Cat6 Ethernet Cable |
| Voltage | DC 12V / 24V class 2 power supply |
| Warranty | 5 Years |
| Certifications | cULus certification |
| Part Numbers | ACL-SPI-EXT-Tx I ACL-SPI-EXT-Rx |

### Specifications: Sub-Model: ACL-SPI-EXT-Tx (Transmitter)

| | |
|---|---|
| Maximum Power | 5W each unit |
| Signal In | TTL-SPI |
| Signal Out | Differential TTL-SPI |
| Dimensions (LxWxH) | 3.0” x 1.8” x 0.88” |
| Operating Temperature | -20 °C to +55 °C |

### Wire Port Connections: ACL-SPI-EXT-Tx (Transmitter)

**Terminal Block**

| | |
|---|---|
| Power Input | Power V+, G |
| TTL-SPI Signal In | Signal S, G |
| TTL-SPI Signal Out | Data D, G (not used in this product) |
| DMX In | DMX A , B (not used in this product) |

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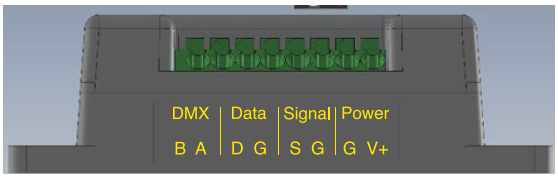
| | |
|---|---|
| Differential SPI Out | Ethernet Cable - Signal Out |

**Power Indicator**
LED on when 12V / 24V DC Power In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# SPI Range Extender (Transmitter/Receiver)

## ACL-SPI-EXT-Tx (Transmitter) | ACL-SPI-EXT-Rx (Receiver)



### Specifications: Sub-Model: ACL-SPI-EXT-Rx (Receiver)

Maximum Power..... 5W each unit
Signal In..... Differential TTL-SPI
Signal Out..... TTL-SPI
Dimensions (LxWxH)..... 3.0" x 1.8" x 0.88"
Operating Temperature..... -20 °C to +55 °C

### Wire Port Connections: ACL-SPI-EXT-Rx (Receiver)

**Terminal Block**

Power Input..... Power V+, G
TTL-SPI Signal In..... Signal S, G
TTL-SPI Signal Out..... Data D, G (not used in this product)
DMX In..... DMX A , B (not used in this product)

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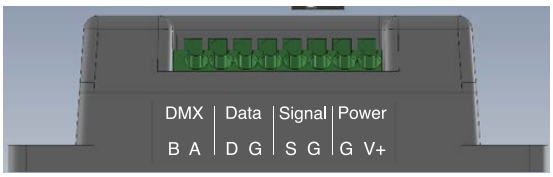
Differential SPI Out..... Ethernet Cable - Signal In

**Power Indicator**

LED on when 12V/24V DC Power In


### Compatible Power Supplies

| | Power Supply Part Number | Output Watts | Input Voltage | Output Volts DC |
|---|---|---|---|---|
| 12V | **ACV125-120-277V** | 60W | 120-277 | 12.0 |
| | **ACV2125-120-277V** | 120W (60 + 60) | 120-277 | 12.0 |
| | **ACV3125-120-277V** | 180W (60 + 60 + 60) | 120-277 | 12.0 |
| | **CVW125-120-277V*** | 60W | 120-277 | 12.0 |
| | **CVW2125-120-277V*** | 120W (60 + 60) | 120-277 | 12.0 |
| | **CVW3125-120-277V*** | 180W (60 + 60 + 60) | 120-277 | 12.0 |
| 24V | **CV244-120-277** | 96W | 120-277 | 24.0 |
| | **CVW244-120-277*** | 96W | 120-277 | 24.0 |
| | **CVW2244-120-277*** | 192W (96 + 96) | 120-277 | 24.0 |
| | **CVW3244-120-277*** | 288W (96 + 96 + 96) | 120-277 | 24.0 |

*IP68 rated

c UL us E324538 · 5 YEAR warranty · THINK GREEN