

FEICHAO Z29548

FEICHAO DIY SBUS to 16-Channel PWM Converter User Manual

MODEL: Z29548

Brand: FEICHAO

1. Introduction

The FEICHAO DIY SBUS to 16-Channel PWM Converter is a versatile decoder designed to convert SBUS signals into up to 16 individual PWM/PPM channels. This device is essential for remote control systems where a receiver outputs an SBUS signal but requires multiple PWM outputs for servos, ESCs, or other components.

Key Features:

- SBUS to PWM/PPM decoding with 16 channels of full output.
- Supports computer settings for flexible configuration.
- Any port can output arbitrary channel data.
- Multi-port output of one or more signals.
- Customizable output order for all channels.
- Compatible with SBUS signals from Futaba, Orange, FrSky, and similar receivers.
- Enables 16 PWM channel outputs from a single SBUS receiver, eliminating the need for frequency dual receivers in certain setups.

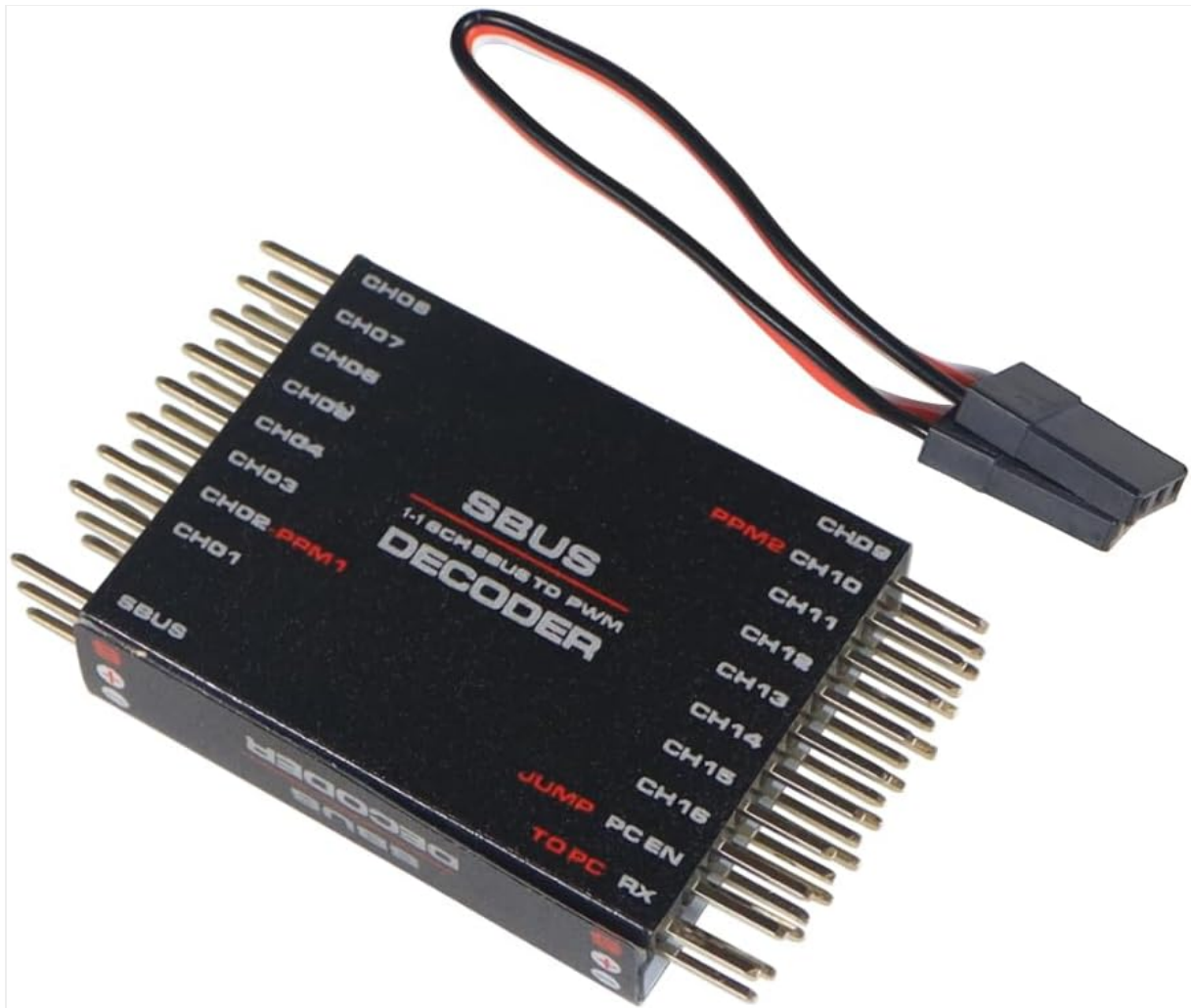


Figure 1: The FEICHAO SBUS to 16-Channel PWM Converter module, showing its compact design and multiple pin headers for channel outputs and SBUS input.

2. Setup

This section details the physical connections and initial setup required to use your SBUS to PWM converter.

2.1 Physical Connections

1. **SBUS Input:** Connect the SBUS output from your receiver to the 'SBUS' input pin on the converter. Ensure correct polarity (Signal, VCC, GND).
2. **PWM Outputs:** Connect your servos, ESCs, or other PWM-controlled devices to the 'CH01' through 'CH16' output pins. Each pin corresponds to a specific channel.
3. **Power Supply:** The converter typically draws power from the SBUS input or a dedicated VCC/GND connection. Ensure your receiver or external power source provides adequate voltage (e.g., 5V).

2.2 Connecting to PC for Configuration

To customize channel mapping and other settings, the converter must be connected to a computer using a USB-to-TTL serial adapter (e.g., FTDI module).

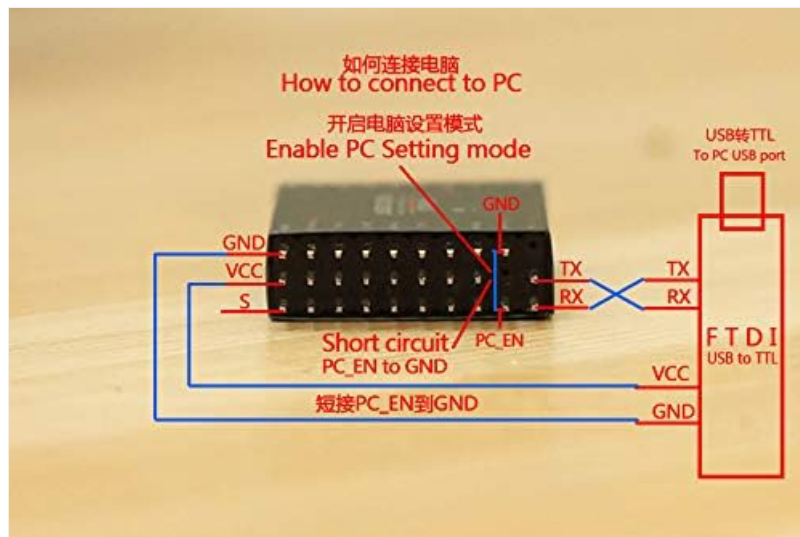


Figure 2: Connection diagram for PC configuration. Short circuit the 'PC_EN' pin to 'GND' to enable PC setting mode. Connect the USB-to-TTL adapter's TX to the converter's RX, and RX to TX. Ensure VCC and GND are also connected.

Connection Steps:

- Connect the USB-to-TTL adapter's TX pin to the converter's 'TO PC RX' pin.
- Connect the USB-to-TTL adapter's RX pin to the converter's 'TO PC TX' pin.
- Connect the USB-to-TTL adapter's VCC (5V or 3.3V, depending on your module and converter's requirements) to the converter's VCC.
- Connect the USB-to-TTL adapter's GND pin to the converter's GND.
- **Crucially, short circuit the 'PC_EN' pin to 'GND' on the converter to enable PC setting mode.** This is often done with a jumper cap.
- Plug the USB-to-TTL adapter into your computer's USB port.

3. Operating Instructions

Once connected to your PC, you can use the dedicated configuration software to customize the converter's behavior.

3.1 Software Configuration

The configuration software allows you to map SBUS channels to specific PWM output pins, set frame rates, and define the number of active channels.

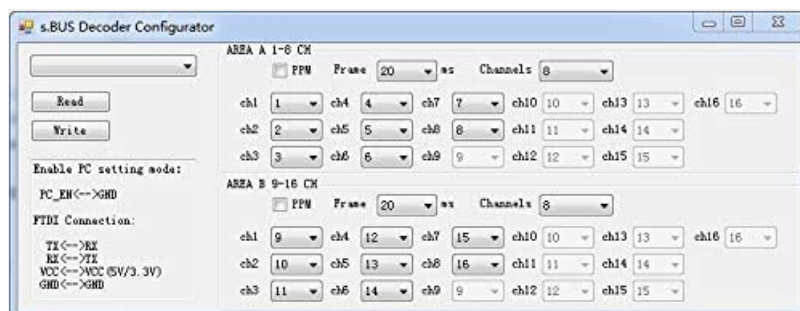


Figure 3: The s.BUS Decoder Configurator software interface. This screen allows users to select the COM port, read current settings, write new settings, and configure channel mapping for both Area A (channels 1-8) and Area B (channels 9-16).

Software Usage:

1. **Install Drivers:** Ensure drivers for your USB-to-TTL adapter are installed on your computer.
2. **Launch Software:** Open the 's.BUS Decoder Configurator' application.
3. **Select COM Port:** From the dropdown menu (e.g., 'COM1'), select the serial port corresponding to

your USB-to-TTL adapter.

4. **Read Settings:** Click the 'Read' button to retrieve the current configuration from the converter.

5. **Configure Channels:**

- **PPM/Frame/Channels:** You can adjust the PPM output settings, frame rate (e.g., 20ms), and the total number of channels for each area (Area A for CH1-8, Area B for CH9-16).
- **Channel Mapping:** For each output channel (ch1 through ch16), select the desired input SBUS channel from the dropdown menu. This allows you to reorder or duplicate channels as needed.

6. **Write Settings:** After making your desired changes, click the 'Write' button to save the new configuration to the converter.

7. **Exit PC Setting Mode:** Once configuration is complete, remove the jumper from 'PC_EN' to 'GND' to exit PC setting mode. The converter will then operate with the new settings.

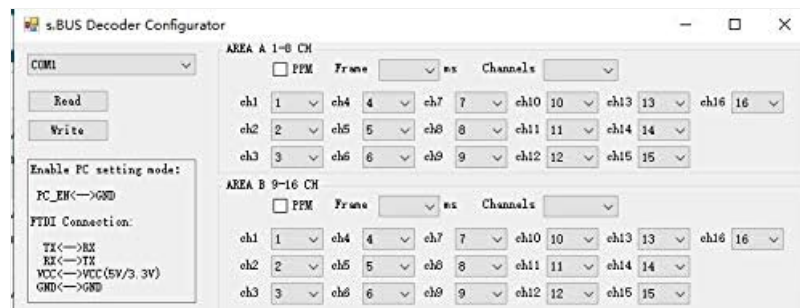


Figure 4: Detailed view of the s.BUS Decoder Configurator, highlighting the individual channel assignment dropdowns for precise control over output mapping.

4. Maintenance

The FEICHAO SBUS to PWM Converter is a robust electronic device that requires minimal maintenance. Follow these guidelines to ensure its longevity:

- **Keep Dry:** Protect the module from moisture and liquids, which can cause short circuits and damage.
- **Avoid Extreme Temperatures:** Operate and store the device within recommended temperature ranges to prevent component degradation.
- **Clean Gently:** If cleaning is necessary, use a soft, dry cloth. Avoid harsh chemicals or abrasive materials.
- **Secure Connections:** Periodically check all wire connections to ensure they are secure and free from corrosion or damage.
- **Firmware Updates:** Check the manufacturer's website (if available) for any firmware updates that may improve performance or add features.

5. Troubleshooting

If you encounter issues with your SBUS to PWM converter, refer to the following troubleshooting steps:

- **No PWM Output:**
 - Verify the SBUS input signal is present and correctly connected from the receiver.
 - Check power supply to the converter and receiver.
 - Ensure the converter is not in PC setting mode (jumper removed from PC_EN to GND).
 - Confirm channel mapping in the configuration software is correct.
- **Incorrect Channel Response:**

- Re-check the channel mapping in the configuration software.
 - Ensure the SBUS signal from the receiver is stable and correctly configured.
- **Cannot Connect to PC:**
 - Verify USB-to-TTL adapter drivers are installed.
 - Ensure the correct COM port is selected in the software.
 - Confirm the 'PC_EN' pin is shorted to 'GND' on the converter.
 - Check all wiring between the converter and the USB-to-TTL adapter for correct connections (TX-RX, RX-TX, VCC-VCC, GND-GND).
- **Intermittent Operation:**
 - Check for loose connections or damaged wiring.
 - Ensure adequate power supply to the entire system.
 - Inspect the module for any visible damage or signs of overheating.

6. Specifications

Feature	Specification
Model Number	Z29548
Input Signal	SBUS
Output Signal	PWM / PPM (16 Channels)
Dimensions (Package)	4.92 x 4.25 x 0.47 inches
Item Weight	0.704 ounces
Manufacturer Recommended Age	15 years and up
Manufacturer	FEICHAO

7. Warranty and Support

For specific warranty information, please refer to the terms and conditions provided by your retailer at the time of purchase. In most cases, electronic components like this converter come with a limited manufacturer's warranty against defects in materials and workmanship.

For technical support, product inquiries, or to report issues, please contact the seller or visit the official FEICHAO store on Amazon: [FEICHAO Store](#).