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### Roco 10836

## Roco 10836 Z21switch Decoder User Manual

Model: 10836

### PRODUCT OVERVIEW

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The Roco 10836 Z21switch Decoder is a robust and durable building block designed for digital control in model railway systems. It functions as a switch decoder, enabling the control of turnouts, signals, and other accessories via a digital command station, such as the Z21 system. This decoder is built to withstand various conditions, featuring an IP66 rating for international protection.



**Figure 1:** Front view of the Roco 10836 Z21switch Decoder. The image displays the main unit with various connection terminals labeled for zLink, Prog, PWR DCC, and numbered outputs (1-8). Status indicators for Status, Error, Data, and Program are visible on the left side. The model number "10836" and "Roco" branding are prominently displayed.

## SETUP AND INSTALLATION

Proper installation is crucial for the optimal performance of your Roco 10836 Z21switch Decoder. The device comes with necessary installation hardware.

### Connecting the Decoder

- Power Connection (PWR DCC):** Connect your digital command station's DCC track output to the PWR DCC terminals (+ and -) on the decoder. Ensure correct polarity.
- Accessory Outputs (A+B / B+A):** The decoder features multiple output pairs (1-8). Connect these outputs to your turnouts, signals, or other accessories. Refer to the specific wiring diagram for your accessory type. Outputs 1-4 are labeled A+B, and outputs 5-8 are labeled B+A.
- zLink Connection:** If your digital system supports zLink, connect the decoder to your Z21 central unit using the zLink port for advanced configuration and integration.
- Programming (Prog):** The "Prog" port is used for initial setup and configuration of the decoder's address and output

functions. Consult your Z21 system's manual for detailed programming instructions.

## Mounting

Secure the decoder in a dry, accessible location within your model railway layout. Use the provided installation hardware to mount the unit securely, ensuring it is protected from physical damage and excessive heat.

## OPERATING THE DECODER

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Once installed and programmed, the Roco 10836 Z21switch Decoder allows for digital control of your model railway accessories.

### Status Indicators

- **Status:** Indicates normal operation.
- **Error:** Lights up if an error occurs (e.g., short circuit, overload).
- **Data:** Flashes when data is being received from the command station.
- **Program:** Indicates the decoder is in programming mode.

### Controlling Accessories

Use your digital command station (e.g., Z21) to send commands to the decoder's assigned address. Each output pair (A+B or B+A) can be configured to control a specific accessory, such as a turnout motor or a signal light. Refer to your command station's manual for instructions on sending accessory commands.

## MAINTENANCE

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The Roco 10836 Z21switch Decoder is designed to be durable and robust, requiring minimal maintenance. Its IP66 rating ensures protection against dust ingress and powerful water jets.

- **Cleaning:** Periodically clean the exterior of the decoder with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Environmental Conditions:** While robust, avoid exposing the decoder to extreme temperatures, direct sunlight, or excessive humidity.
- **Connection Integrity:** Regularly check all cable connections to ensure they are secure and free from corrosion.

## TROUBLESHOOTING

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If you encounter issues with your Roco 10836 Z21switch Decoder, consider the following troubleshooting steps:

- **No Response from Accessory:**
  - Check all wiring connections to the decoder and the accessory.
  - Verify the decoder's address and the command sent from your digital station.
  - Ensure the accessory itself is functioning correctly (test with direct power if possible).
- **Error Light On:**
  - This often indicates a short circuit or overload on one of the outputs. Disconnect accessories one by one to identify the faulty connection or accessory.
  - Check for any stray wires causing a short.
- **Decoder Not Powering On:**

- Verify the power connection from your digital command station to the PWR DCC terminals.
- Ensure your command station is powered on and functioning.

#### • Programming Issues:

- Ensure the decoder is correctly connected to the programming track or port.
- Follow the programming procedure outlined in your digital command station's manual precisely.

If problems persist, consult the Roco support resources or a qualified model railway technician.

## SPECIFICATIONS

Feature	Detail
Brand	Roco
Model Number	10836
Product Dimensions	10.4 x 10.4 x 2.5 cm
Item Weight	200 g
Special Features	Durable and robust with IP66 rating
International Protection Rating	IP66 (Dust tight and protected against powerful water jets)
Water Resistance Level	Waterproof
Number of Channels	8 (4 A+B, 4 B+A)
Included Components	Installation hardware
Batteries Included	No
Colour	Various
Date First Available	30 January 2024

## WARRANTY AND SUPPORT

Roco provides support for its products. For the Roco 10836 Z21switch Decoder, an EU Spare Part Availability Duration of 1 year is specified from the date of first availability.

For technical assistance, warranty claims, or further information, please refer to the official Roco website or contact your authorized Roco dealer. Keep your proof of purchase for warranty purposes.

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This manual is for informational purposes only.

## Related Documents - 10836

	<p><b>Z21 Signal Decoder: Roco Model Train DCC Signal Configuration Guide</b></p> <p>Learn how to set up and configure your Roco Z21 Signal Decoder (10837) with this concise guide. Covers LED indicators, programming modes, signal output options, and power requirements for DCC model train systems.</p>
	<p><b>Roco MS490N DCC Decoder for BR 120 Locomotive - Functional Data Sheet</b></p> <p>Technical specifications and function key mapping for the Roco MS490N DCC decoder, compatible with BR 120 diesel locomotives, detailing CV parameters and operational functions.</p>
	<p><b>Roco MX658N18 DCC Decoder Functional Data Sheet</b></p> <p>Functional data sheet for the Roco MX658N18 DCC/Motorola sound decoder, designed for steam locomotives (BR 44). Details function key assignments and configuration variables (CVs) for digital model train operation.</p>
	<p><b>Roco MX645P22 DCC Diesel Locomotive Decoder - Functional Data Sheet</b></p> <p>Detailed functional data sheet for the Roco MX645P22 DCC diesel locomotive decoder, outlining function key assignments and configuration variables (CVs) for digital model train operation.</p>
	<p><b>Z21 Signal Decoder: Quick Start Guide &amp; Technical Overview   Roco</b></p> <p>A quick guide to the Roco Z21 Signal Decoder (model 10837) for model train enthusiasts. Learn about setup, LED indicators, programming options, and signal connections for DCC systems. Features universal DCC decoding for 2-4 light signals.</p>
	<p><b>Z21 Signal Decoder 10837 - Roco Modellbahnsteuerung</b></p> <p>Bedienungsanleitung und technische Informationen für den Roco Z21 Signal Decoder (Modell 10837). Erfahren Sie, wie Sie Signale auf Ihrer Modellbahnanlage steuern, konfigurieren und mit DCC-Zentralen verbinden.</p>