



LDT 210312 4-Fold Switch Decoder Instruction Manual

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LDT 210312 4-Fold Switch Decoder



Compatible to Märklin-Motorola-Format:

(e.g. Märklin-Digital~ [Control Unit, Central Station 1 und 2], Intellibox, EasyControl, ECoS, KeyCom-MM, DiCoStation, EDiTS, EDiTS pro and others)

For digital control of:

- **consumers up to 2 Ampere on each output**
(e.g. illumination, disconnection of track sections from power).
- **jammed turnout- and signal drives**
(drives with integrated end switch).

This product is not a toy! Not suitable for children under 14 years of age! The kit contains small parts, which should be kept away from children under 3! Improper use will imply danger of injuring due to sharp edges and tips! Please store this instruction carefully.

Connecting the decoder to your digital model railway layout:

- Attention: Before starting the installation switch off the drive voltage by pushing the stop button from the command station or disconnecting the main supply.

The decoder receives the digital information via the clamp KL2. Connect the clamp with a rail or even better connect the clamp directly to the command station or to a booster assuring the supply of digital information free from any interference. Pay attention to the mark at clamp KL2. The color markings 'Black/Schwarz' and 'Red/Rot' next to the clamp are used for Arnold-Digital (old) and Märklin-Digital=. Other systems are using the letters 'J' and 'K'. If you use the decoder for a Märklin-Digital~ respectively Märklin-Motorola installation please attend to the colors marks 'red/rot' and 'brown/braun'. The decoder receives the voltage supply via the two-pole clamp KL1. The voltage shall be in the range of 12 to 18V~ (alternating voltage output of a model railway transformer) or 15 to 24Volt = (direct voltage output of an insulated power supply unit). Now connect the consumers (e.g. illumination, motors or turnout and signal coils) to the outputs 1 to 4. The contact marked 'COM' is the common connection for the bistable relay.

Introduction/Safety instruction

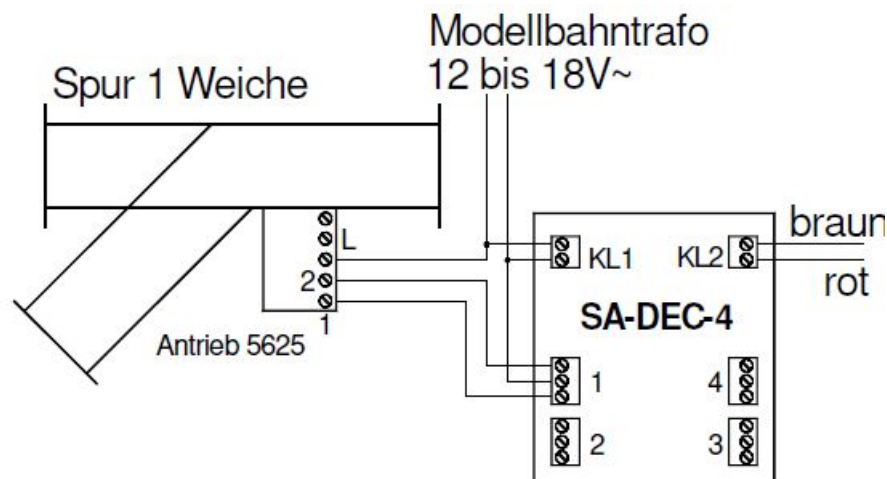
You have purchased the 4-fold switch decoder SA-DEC-4 for your model railway as a kit or as a finished module. The SA-DEC-4 is a high-quality product that is supplied within an assortment of Littfinski DatenTechnik (LDT). We wish you having a good time using this product. The switch decoder SA-DEC-4 of the Digital-Professional- Series can be easily installed and used on your digital railway. The colored point on the receiver device indicates to which digital system the decoder can be adapted. In case the receiver device is marked red the decoder is suitable for Märklin-Digital~ respectively for Märklin-Motorola layouts. In case the receiver device is marked yellow the SA-DEC-4 will be suitable for the DCC Data format, used for instance at the systems of Lenz-Digital Plus, Arnold-, Märklin-Digital=, Intellibox, TWIN-CENTER, Roco-Digital, EasyControl, ECoS, KeyCom-DC, Digitrax, DiCoStation and Zimo. The decoder SA-DEC-4 is multi-digital and can be installed to the Intellibox without any problems. The finished module comes with 24 month's warranty.

- Please read the following instructions carefully. The warranty will expire due to damages caused by disregarding the operating instructions. LDT will also be not liable for any consequential damages caused by improper use or installation.

Programming the decoder address:

For programming the decoder address you have to connect a consumer to output 1. As it is possible to hear the switching of the bistable relay the connection of a consumer is not mandatory.

Besides the switching of illumination and motors, there is an excellent application for the decoder SA-DEC-4 of digital switching the Märklin gauge 1 drives (e.g. 5625). As an advantage large current consuming drives will not unnecessarily overload the expensive digital power supply. The following draft shows the wiring.



Feed the SA-DEC-4 via KL1 with AC from the model railway transformer. Further, connect one cable of the transformer with clamp 'L' at the turnout drive. Connect the second cable of the transformer with the clamp marked with 'COM' on the respective decoder output. Now, connect the two remaining clamps of the decoder output with outputs 1 and 2 of the turnout drive. Further examples can be found on the website (www.ldt-infocenter.com) in the download section. A solid low-cost housing is available for the decoder SA-DEC-4. Please consult our website for further details.

Troubleshooting

What to do if something is not working as described above?

If you have purchased the decoder as a kit, please carefully check all parts and soldered joints. Here are some possible functional errors and possible solutions:

1. During programming of the decoder addresses the relay on output moves within 1.5 seconds, but does not confirm the programming with faster movement by depressing any key.
 - Change cable connections at KL2.
 - The interfered digital information at KL2 respectively lost of voltage at the tracks! Connect the decoder directly with cables to the digital control unit or to the booster instead to the tracks.
 - Eventually, the clamps have been tightened to strong and therefore the clamps got loose at the soldering to the pc board. Check the soldering connection of the clamps at the lower side of the pc-board and re-solder them if required.
 - For kits: Is IC5 correctly inserted into the socket? Value of R6 actually 220kOhm or mixed up with R5 18kOhm?
2. The programming of the decoder address functions as described, nevertheless, the connected consumers will not be activated.
 - Interfered digital information on KL2 respectively larger lost of voltage at the tracks result to unsafe data transfer! Connect the decoder directly with cables to the command station or the booster.
 - For kits: Is IC4 correctly inserted into the socket?

Further products within the Digital-Professional- Series:

- **S-DEC-4**

4-fold turnout decoder for 4 magnet accessories with free programmable decoder addresses and possible external power supply.

- **M-DEC**

4-fold decoder for motor-driven turnouts. For motors up to 1A. With free programmable decoder addresses. Drives can be connected directly with the decoder output.

- **LS-DEC**

Light signal decoder for up to 4 LED train signals. Signal aspects will be originally dimmed up and down and directly positioned via the decoder address.

- **RM-88-N / RM-88-N-O**

16-fold feedback modules (also with integrated Opto-couplings) for the s88-feedback bus and the connection to Memory and Interface (Märklin / Arnold), Central Station 1 and 2, ECoS, Intellibox respectively TWIN-CENTER, EasyControl, DiCoStation, and HSI-88.


- **RM-GB-8-N**

8-fold feedback module with integrated track occupancy detectors for the s88-feedback bus. All components can be purchased as easy-to-assemble complete kits, as finished modules or as ready finished modules in a case.

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Documents / Resources

	<p>LDT 210312 4-Fold Switch Decoder [pdf] Instruction Manual 210312 4-Fold Switch Decoder, 210312, 4-Fold Switch Decoder</p>
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References

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