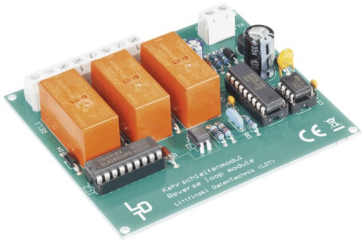


LDT 210212 4-Fold Switch Decoder Instruction Manual

Littfinski DatenTechnik (LDT)
Operating Instruction
4-fold switch decoder from the Digital-Professional-Series!
SA-DEC-4-DC-F Part-No.: 210212
>> finished module <<

Compatible with the DCC Format: (e.g. Lenz Digital Plus, Arnold-, Märklin-Digital=, Intellibox, TWIN-CENTER, Roco-Digital, EasyControl, ECoS, KeyCom-DC, Digitrax, DiCoStation, Zimo, and others) (switching via Lokmaus 2® and R3® is possible)

For the digital control of:
⇒ consumers up to 2 Ampere on each output (e.g. illumination, switching track sections voltage free).
⇒ 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 the danger of injury due to sharp edges and tips! Please store this instruction carefully.

Contents

Introduction / Safety instruction:

You have purchased the 4-fold switch decoder SA-DEC-4 for your model railway supplied within the assortment of Littfinski DatenTechnik (LDT).
We wish you having a good time using this product.
The SA-DEC-4-DC (the receiver device is marked yellow) is 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-DC can not only switch turnouts via the turnout addresses but also responds to loc-addresses.
Therefore is it possible to switch consumers with the keys F1 to F4 of the Lokmaus 2® or R3®?
The decoder SA-DEC-4-DC is multi-digital and can be installed on the Intellibox and on the TWIN-CENTER 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.

Connecting the decoder to your digital model railway layout:

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

  The decoder receives the digital information via the clamp KL2.

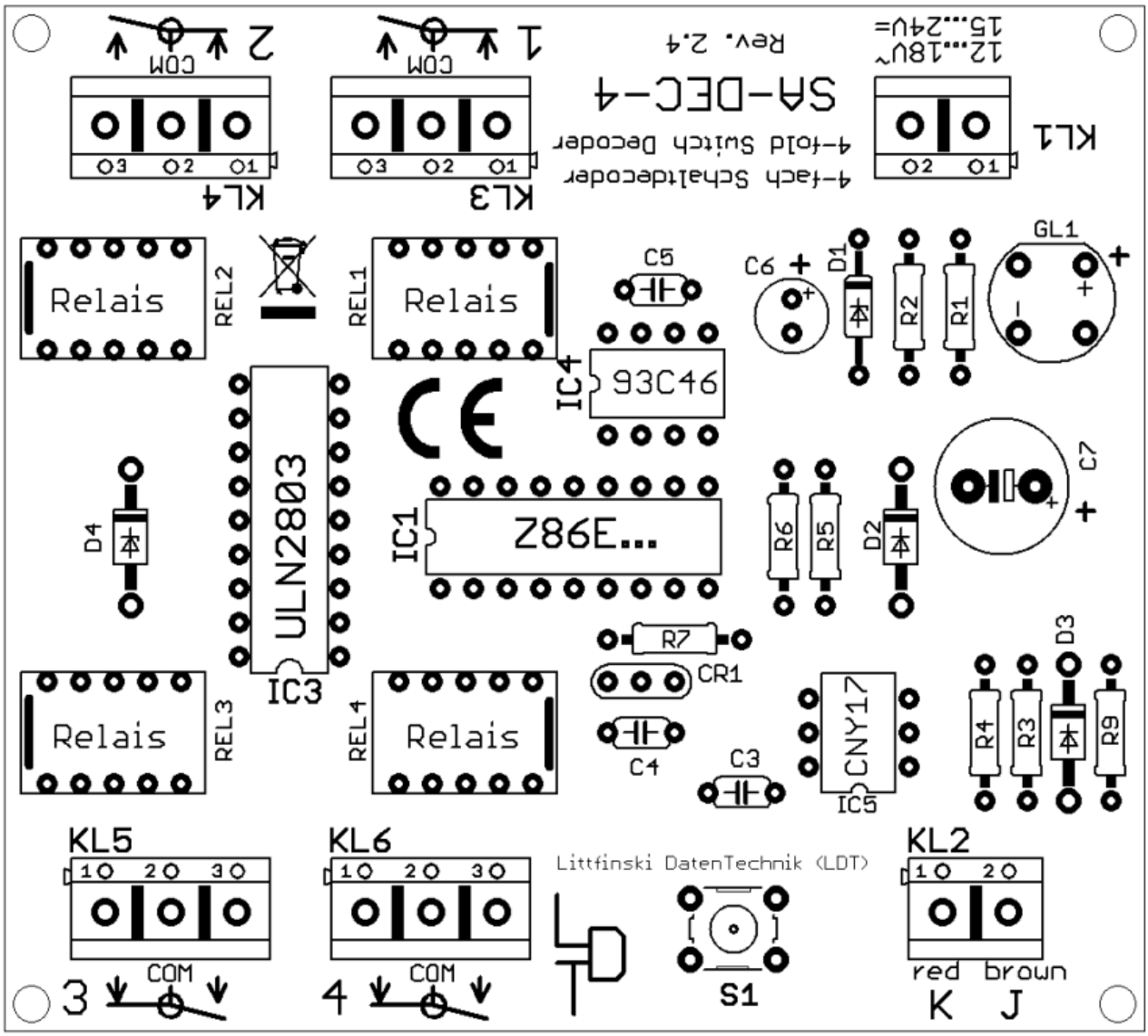
  Connect the clamp directly to the command station or to a booster assuring the supply of digital information is free from any interference.

The DCC-Digital-Systems uses different color codes respectively indications for the two digital cables. Those markings are indicated next to the clamp KL2. These markings have not necessarily to be maintained correctly as the decoder converts the signal automatically to be correct.
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 with end-switch) to the outputs 1 to 4. The clamp marked 'COM' is the common connection for the respective switch-over contact.

Programming the decoder address:
For programming the decoder address you can 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.

- Switch on the power supply of your model railway.
- Adjust the speed of all connected speed controllers to zero.
- Press the programming key S1.
- The relay connected to output 1 will now automatically switch over every 1.5 seconds.

  This indicates that the decoder is in the programming mode.
- Switch now one turnout of a group of four assigned to the decoder via the keyboard of the control unit or via a remote control unit. For programming the decoder address you can also release a turnout switch signal via PC software.



Remarks: The decoder addresses for magnet accessories are combined in groups of four. The address 1 to 4 build the first group. The address 5 to 8 build the second group etc.
Each SA-DEC-4 decoder can be assigned to any of these groups. Which of the 4 turnouts of a group will be activated for the addressing does not matter.

- If the decoder has recognized the assignment correctly the relay will move a little faster. Afterward, the movement slows down to the initial 1.5 seconds interval again.
- Leave the programming mode by depressing the programming key S1 again. The decoder address is now permanently stored but can be changed at any time by repeating the programming as described above.
- If you press the first key of the programmed group of keys or you send a switch signal for this address from a PC the addressed bistable relay should now switch the connected consumer on or off.

Switching consumers via loc-addresses (e.g. Lokmaus 2® or R3®):
The decoder SA-DEC-4-DC makes it possible to switch consumers via loc-addresses. For example, switching the function keys F1 to F4 of the Lokmaus 2® or R3®.
The function key F1 will switch the consumer at output 1 and the key F2 will switch the consumer at output 2 etc.
Each stroke on a function key will switch over the respective relay. Therefore can the connected consumer switched on and off.
For programming the decoder address you can 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.

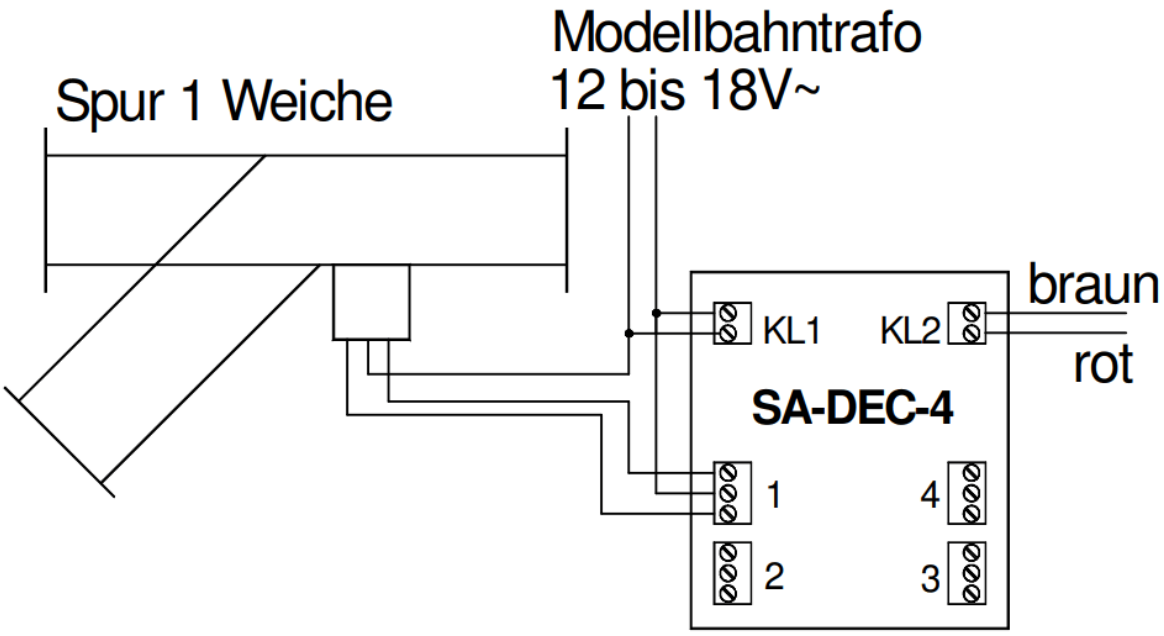
- Switch the power supply of your model railway on.
- Adjust the speed of all connected speed controllers to zero.
- Press the programming key S1.
- The relay at output 1 shall move now automatically every 1.5 seconds. This indicates that the decoder is in the programming mode.
- Adjust now on one of the Lokmauses the required address and turn the speed adjusting dial off from the center position. If the decoder has recognized the assignment correctly the connected turnout drive will move now a little faster. The decoder SA-DEC-4-DC will accept locaddresses between 1 and 99.
- Adjust the speed now to zero again. The relay at output 1 will switch now a little slower.
- Press the programming key S1 again for leaving the programming mode.
- With each stroke of the function key F1, you can switch the connected consumer at the output 1 on or off. If there are consumers connected to the output 2 to 4 of the decoder SA-DEC-4-DC you can shift the respective registered turnouts with the programmed loc-addresses with each stroke of the function keys F2 to F4.

Please attend to the following:

- All 4 outputs can switch consumers with up to 2 Ampere each.

Decoder application:

Besides the switching of illumination and motors, there is an excellent application for the decoder SA-DEC-4 for digital shifting of jammed turnouts with an end switch.
As an advantage large current consuming drives will not unnecessarily overload the expensive digital power supply.



Feed the SA-DEC-4 via clamp KL1 witch AC from the model railway transformer. Further, connect one ac-cable of the transformer with clamp ‘L’ on the turnout drive. Connect the second cable of the transformer with the clamp marked ‘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 application examples can be found on the Internet on our Web-Site (**www.ldt-infocenter.com**) in the section downloads/sample connections.
A solid low-cost housing is available for the decoder SA-DEC-4-DC (Part Number LDT-01). 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, 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.
   • 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 of the tracks.
   • Eventually the clamps have been tightened too 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 IC4 and IC5 correctly inserted into the socket?
   Value of R6 actually 220kOhm or mixed up with R5 18kOhm?
2. The turnout connected to output 1 will move always at a faster sequence after activating the programming key S1.
   • Start programming the switch decoder SA-DEC-4-DC immediately after switching on the digital central unit before any loc is traveling on the track.
   • Perform a RESET of the digital central unit. All stored data will be preserved but the address-repeating-memory will be deleted. For Intellibox and TWIN-CENTER please switch on the unit and press the keys GO and STOP simultaneously until the report “reset” can be read on the display.

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 positioned directly via the decoder address.

RM-GB-8-N
8-fold feedback module with integrated occupancy detectors for the s88 feedback bus.

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Documents / Resources

	LDT 210212 4-Fold Switch Decoder [pdf] Instruction Manual 210212 4-Fold Switch Decoder, 210212, 4-Fold Switch Decoder

References

- de:ldt-infocenter [LDT]